Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 9/12/2025
Facility Name: Greater El Paso Landfill
Permit or Registration No.: 2284A

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 30295149 (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☐ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☒ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☐ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☐ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☐ Other:	

September 12, 2025

Ms. Arin Anderson
Project Manager
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

RE: Response to Second Technical Notice of Deficiency (TCEQ Tracking No. 30295149)
Greater El Paso Landfill (Type I)
Major Amendment Permit Application
TCEQ Permit Number MSW 2284A
El Paso County, Texas

Dear Ms. Anderson,

On behalf of the City of El Paso, Texas, Burns & McDonnell Engineering Company, Inc. is submitting the enclosed response to the second technical Notice of Deficiency (NOD) provided via email on July 11, 2025 from the Texas Commission on Environmental Quality (TCEQ) for the Greater El Paso Landfill, MSW 2284A (Landfill) major amendment permit application. This major amendment is focused on the vertical expansion of the existing Landfill. The permit application has been revised to address the NOD comments. The NOD comments and associated responses are provided in the following NOD table. Revised sections and appendices are included as an attachment to this letter and are identified as to the appropriate replacement location in the existing application.

Enclosed is one (1) original copy and two (2) unmarked copies of the pages that were revised to address the NOD. In addition, one redline/strikeout copy of the revised pages is also attached. An additional one (1) unmarked copy will be mailed directly to the TCEQ Region 6 Office.

We appreciate your review of the enclosed materials and look forward to your comments. If you need additional clarification on anything presented in this NOD response, please do not hesitate to contact me directly to discuss your questions or concerns.

Sincerely,

Tonya Koller, PE
Project Manager
952-656-3615
[redacted]

Enclosure

cc: Nicholas Ybarra, City of El Paso
Cristian Benitez, City of El Paso

NOD 2 ID	NOD Description	Formal Response
1	The landfill footprint is located in a seismic impact zone. Provide a more detailed explanation or justification to support the conclusion that the potential for severe damage to the landfill, specifically the containment structures, due to seismic activity is anticipated to be low.	Seismic impact zone considerations were incorporated into the slope stability analysis provided in Part III, Appendix III.G, as discussed on page III.G-8. Calculations are presented in Attachment III.G.5. An initial screening-level seismic stability evaluation, using the maximum credible earthquake ground acceleration from the U.S. Geological Survey, indicated a factor of safety of less than 1.0. Accordingly, a more detailed Makdisi and Seed (1978) displacement analysis was conducted. This method accounts for yield accelerations, slope geometry, and site-specific earthquake characteristics to estimate displacements during the design seismic event. The calculated displacement was less than 15 centimeters, which is within the published allowable range for landfill containment systems. Based on these results, the potential for severe damage to the landfill containment structures due to seismic activity is anticipated to be low. Reference to this analysis in Part III, Appendix III.G has been incorporated into the Part II Form Section XI as well as Part III, Appendix III.E, Section III.E.4.1.4.
2	Revise the increased stormwater discharge rate for the post- development conditions at discharge point A, volume at discharge points A and DE, and velocity at discharge points BC and DE so that the existing drainage patterns are not altered (See RG-417).	Pre-development conditions were re-modeled utilizing NOAA Atlas 14 rainfall data to be directly comparable to the post-development conditions. As indicated in Part III, Appendix III.B, Table III.B.4-1, the discharge, volume and velocity are not increased from the pre- to post- development conditions.
3	Revise the cross-sectional drawing to indicate a foot of freeboard for the run-on control system to prevent a 24-hour, 25-year storm run-on to active face, as required by 30 TAC 330.207(b), referenced by 330.305(g).	Calculations for the run-on and run-off control systems which indicate a foot of freeboard are provided in Part III, Appendix III.B, Attachment III.B.1 "Contaminated Water Containment and Diversion Berm Calculations" starting on Page III.B-187. This berm system is detailed on Drawing III.B.5, Detail 8 in Attachment III.B.3.
4	Revise the cross-sectional drawing to indicate a foot of freeboard for run-off management system at the active face for a 24- hour, 25-year storm event, as required by 30 TAC 330.207(b), referenced by 330.305(g).	Calculations for the run-on and run-off control systems which indicate a foot of freeboard are provided in Part III, Appendix III.B, Attachment III.B.1 "Contaminated Water Containment and Diversion Berm Calculations" starting on Page III.B-187. This berm system is detailed on Drawing III.B.5, Detail 8 in Attachment III.B.3.
5	Demonstrate with calculations that the provided evaporation pond is larger than the required size for 25- year, 24-hour rainfall design storm per NOAA Atlas-14, as indicated in the first technical NOD response to Comment #27.	Eric - recreate the spreadsheet. Let's look at the HELP model numbers/comparison for leachate generation. What happens if we plug in a higher precip rate into HELP - do we get any generation then? I think that's what the previous version didn't do, consider higher leachate generation rate for the "max" rainfall condition.
6	Cross-sections depicting all drainage structures, with dimensions and specifications, were not provided. Provide cross-sectional drawings with dimensions and specifications for the proposed drainage structures (e.g. downchutes, interceptors, side slope berms, top slope berms, perimeter ditches, detention facilities, and culverts, etc.)	Cross-sectional drawings with dimensions and specifications for the proposed drainage structures are included in Appendix III.B, Attachment III.B.3.
7	Provide sample calculations to demonstrate that the existing stormwater peak flow, velocity and volume of discharge will not exceed existing values at discharge points as a result of the proposed landfill expansion. Revise Table II.B.4-1 accordingly.	Part III, Appendix III.B.4.0, Table III.B.4-1 has been revised to demonstrate that the post-development stormwater peak flow, velocity and volume of discharge do not exceed pre-development conditions. Pre-development conditions were re-modeled utilizing NOAA Atlas 14 rainfall data to be directly comparable to the post-development conditions.
8	Revise the cross-sectional drawings to include dimensions, specifications, and an engineering scale for Drawings III.B.5 through III.B.14.	Cross-sectional drawings with dimensions and specifications are included in Appendix III.B, Attachment III.B.3.
9	Identify all-weather interior access road locations for each phase, in addition to perimeter access roads on Drawing III.A.3, as stated in the first technical NOD response to Comment #36.	Drawings III.A.4, III.A.6, III.A.7, III.A.8, III.A.9, III.A.10, and III.A.11 have been revised to include the perimeter access road around Phase 2, as well as callouts referring to perimeter access roads and cell access roads in Phase 1 and Phase 2. A single cell access road has been sufficient for current facility operations.

10	a) Provide the alternative final cover design following Guidance for Requesting a Water Balance (WB) Alternative Final Cover Design for a Municipal Solid Waste Landfill (RG-494). The computer modeling input and output for water balance cover must be updated for the proposed MSW permit #2284A. The existing document for the final cover of MSW Permit #2284 may be included as an appendix for reference. b) Ensure that a final cover system consists of an appropriate thickness for an infiltration layer consistent with RG-494. c) A rock armoring layer as a final layer for erosion protection is not provided as an option in MSW Chapter 330 rules or in RG-494. Provide an erosion layer that consists of at least six inches of soil capable of sustaining native plant growth and that will be seeded or sodded immediately following the application of the final cover consistent with RG-494.	a) The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284. b) The alternative final cover system consists of a 4-inch rock armoring (erosion control) layer, 18-inch infiltration layer, and 6-inch base layer. The infiltration and base layer provide the required 2-feet of soil cover in RG-494. c) As identified in the Alternative Final Cover demonstration, a rock armoring layer will be placed as the final layer to provide erosion protection. An Equivalent Erosion Protection has been provided in Part III, Appendix III.I, Attachment III.I.1, Page III.I-28. High temperatures and low rainfall in the El Paso area make sustaining vegetative growth without irrigation extremely difficult. Therefore, the alternative final cover has been designed with no vegetative cover. The rock armor will provide more consistent, year-round erosion control. This alternative final cover design has already received approval from the TCEQ and has been successfully installed at Phase 1 for MSW Permit No. 2284 as well as sideslopes for MSW Permit No. 1482. MSW Permit No. 1482 constructed a final cover with a vegetated crown; however, the crown vegetation was unable to meet the 10% cover requirements due to the lack of precipitation in the region.
11	Demonstrate that the revised alternative final cover will achieve equivalent reduction in infiltration.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
12	Demonstrate that the revised alternative final cover will provide equivalent wind and water erosion protection.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
13	Revise the closure plan to be consistent with a revised alternative final cover design.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
14	Provide narrative in the post-closure care plan explaining that the post-closure care for the Phase-1 area will re-start with the closure of the expanded area, and the proposed post-closure care plan will be applicable for the total waste footprint of 216.4 acres upon the approval of the proposed major amendment application.	The closure construction for Phase 1 was approved by the TCEQ on July 14, 2023; however, the Phase 1 area never entered post-closure care. Part III, Appendix III.J, Section III, Tables 1 and 2 have been updated accordingly.
15	Include a final contour map in the closure plan, depicting all surface drainage features (e.g. berms, downchutes, channels, ponds, etc.) on the map.	A final contour map depicting all surface drainage features (including berms/terraces, letdowns/downchutes, ditches/channels, and ponds) has been provided as Drawing III.I.1 in Part III, Appendix III.I as page III.I.16a in accordance with 30 TAC §330.457(e)(5). References to this drawing have been updated in Appendix III.I.
16	Provide closure cost estimates for a conventional composite final cover system (see 30 TAC 330.457 and Section 2.2 of the closure cost estimate form TCEQ -20721) for hiring a third party to close the areas that have not received final cover. The alternative water balance final cover may not be constructed during the event of a forced closure.	Due to the costs associated with installing the alternative final cover being greater than the costs associated with installing the prescriptive cover option, the closure cost estimate was completed for the alternative final cover as agreed to in the August 15, 2025 meeting with the TCEQ. This description has been provided in Part IIII, Appendix III.K, Section 2.2. Further, the prescriptive final cover option was removed for this facility with the 2012 permit modification which was approved by the TCEQ. No prescriptive cover is planned for this facility.

Please replace Part I/II with the following pages

MSW AUTH NO. 2284A

PART I/II – EXISTING CONDITIONS SUMMARY AND SUPPLEMENTARY TECHNICAL REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION ~~34~~, ~~MAY 16~~SEPTEMBER 12, 2025

Landfill Permit Amendment
Part I/II – Existing Conditions Summary and Supplementary Technical Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, November 26, 2024
Revision 2, December 17, 2024
Revision 3, May 16, 2025
Revision 4, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

Part I Application Form for Permit Amendment for a Municipal Solid Waste Facility..... I/II-1
Part II Application Form for Permit Amendment for a Municipal Solid Waste Facility..... I/II-16
Appendix I-II.A – Maps & Photographs..... I/II-32
Appendix I-II.B – Facility Layout Drawing..... I/II-50
Appendix I-II.C – Waste Acceptance Plan..... I/II-59
Appendix I-II.D – Legal Description..... I/II-67
Appendix I-II.E – Affidavit and Appointments..... I/II-71
Appendix I-II.F – Evidence of Competency..... I/II-92
Appendix I-II.G – Coordination Letters..... I/II-100
Appendix I-II.H – Location Restrictions..... I/II-162
Appendix I-II.I – TPDES Permit..... I/II-185
Appendix I-II.J – Supplementary Technical Report..... I/II-188
Appendix I-II.K – Forms..... I/II-191

(f) If conducted, do the studies of differential subsidence or faulting establish the limits (both upthrown and downthrown) of the zones of influence of all active faulted areas within the site vicinity? ☐Yes ☑No. Explain No active faulted areas are within 1/2 mile.

(g) If conducted, do the studies of differential subsidence include information or data addressing the following shown below, as applicable:

Table X-1. Information included in Fault Area Studies

Information to be included, as applicable:	Yes	Not Applicable
(i) structural damage to constructed facilities (roadways, railways, and buildings);	☐	☑
(ii) scarps in natural ground;	☐	☑
(iii) presence of surface depressions (sag ponds and ponded water);	☐	☑
(iv) lineation's noted on aerial maps and topographic sheets;	☐	☑
(v) structural control of natural streams;	☐	☑
(vi) vegetation changes;	☐	☑
(vii) crude oil and natural gas accumulations;	☐	☑
(viii) electrical spontaneous potential and resistivity logs (correlation of subsurface strata to check for stratigraphic offsets);	☐	☑
(ix) earth electrical resistivity surveys (indications of anomalies that may represent fault planes);	☐	☑
(x) open cell excavations (visual examinations to detect changes in subsoil texturing and/or weathering indicating stratigraphic offsets);	☐	☑
(xi) changes in elevations of established benchmarks; and	☐	☑
(xii) references to published geological literature pertaining to area conditions.	☐	☑

(h) If the site is or will be located within a zone of influence of active geological faulting or differential subsidence, does the application provide substantial evidence that the zone of influence will not affect the site?
☐Yes ☐No Attachment No.:

Address the following statement:

3. ☑ No solid waste disposal shall be accomplished within a zone of influence of active geological faulting or differential subsidence because active faulting results in slippage along failure planes, thus creating preferred seepage paths for liquids.

4. Seismic Impact Zones

(a) Is the proposed facility located in a seismic impact zone, as defined in 30 TAC §330.557?
☑Yes ☐No
Provide information to support response. Attachment No.: See Appendix III.E, Sections III.E.4.1.4 and III.E.6, and Appendix III.G. Existing landfill, vertical expansion only.

From: [redacted]
[redacted]

Subject: TCEQ Permit Amendment: Greater El Paso Landfill, El Paso County, TX (MSW Permit Number 2284A / TPWD Project #54991)

Date: Monday, June 16, 2025 10:17:00 AM

Hi Eric,

Thank you for submitting the above-referenced project for review. Based on a review of the documentation and description provided, the Ecological & Environmental Planning Program does not anticipate significant adverse impacts to rare, threatened, or endangered species, or other fish and wildlife resources. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect fish and wildlife. Provided the project plans do not change, TPWD considers coordination to be complete.

Thanks!
Jessica

The Environmental Review Team (ERT) is seeking feedback to assist us in continuing to provide effective and meaningful service and conservation value to our customers. Please complete the 5-minute survey linked below. Feel free to reach out directly to us if you would like to provide more detailed feedback after submitting your survey response. Thank you!

https://forms.office.com/g/njnaRNCJYj

Jessica E. Schmerler, CWB
Environmental Review Biologist
Ecological & Environmental Planning Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744

Office: (512) 389-8054
Work Cell: (512) 416-0781
Jessica.Schmerler@tpwd.texas.gov

Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 9/12/2025
Facility Name: Greater El Paso Landfill
Permit or Registration No.: 2284A

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 30295149 (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☐ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☒ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☐ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☐ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☐ Other:	

September 12, 2025

Ms. Arin Anderson
Project Manager
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

RE: Response to Second Technical Notice of Deficiency (TCEQ Tracking No. 30295149)
Greater El Paso Landfill (Type I)
Major Amendment Permit Application
TCEQ Permit Number MSW 2284A
El Paso County, Texas

Dear Ms. Anderson,

On behalf of the City of El Paso, Texas, Burns & McDonnell Engineering Company, Inc. is submitting the enclosed response to the second technical Notice of Deficiency (NOD) provided via email on July 11, 2025 from the Texas Commission on Environmental Quality (TCEQ) for the Greater El Paso Landfill, MSW 2284A (Landfill) major amendment permit application. This major amendment is focused on the vertical expansion of the existing Landfill. The permit application has been revised to address the NOD comments. The NOD comments and associated responses are provided in the following NOD table. Revised sections and appendices are included as an attachment to this letter and are identified as to the appropriate replacement location in the existing application.

Enclosed is one (1) original copy and two (2) unmarked copies of the pages that were revised to address the NOD. In addition, one redline/strikeout copy of the revised pages is also attached. An additional one (1) unmarked copy will be mailed directly to the TCEQ Region 6 Office.

We appreciate your review of the enclosed materials and look forward to your comments. If you need additional clarification on anything presented in this NOD response, please do not hesitate to contact me directly to discuss your questions or concerns.

Sincerely,

Tonya Koller, PE
Project Manager
952-656-3615
[redacted]

Enclosure

cc: Nicholas Ybarra, City of El Paso
Cristian Benitez, City of El Paso

NOD 2 ID	NOD Description	Formal Response
1	The landfill footprint is located in a seismic impact zone. Provide a more detailed explanation or justification to support the conclusion that the potential for severe damage to the landfill, specifically the containment structures, due to seismic activity is anticipated to be low.	Seismic impact zone considerations were incorporated into the slope stability analysis provided in Part III, Appendix III.G, as discussed on page III.G-8. Calculations are presented in Attachment III.G.5. An initial screening-level seismic stability evaluation, using the maximum credible earthquake ground acceleration from the U.S. Geological Survey, indicated a factor of safety of less than 1.0. Accordingly, a more detailed Makdisi and Seed (1978) displacement analysis was conducted. This method accounts for yield accelerations, slope geometry, and site-specific earthquake characteristics to estimate displacements during the design seismic event. The calculated displacement was less than 15 centimeters, which is within the published allowable range for landfill containment systems. Based on these results, the potential for severe damage to the landfill containment structures due to seismic activity is anticipated to be low. Reference to this analysis in Part III, Appendix III.G has been incorporated into the Part II Form Section XI as well as Part III, Appendix III.E, Section III.E.4.1.4.
2	Revise the increased stormwater discharge rate for the post- development conditions at discharge point A, volume at discharge points A and DE, and velocity at discharge points BC and DE so that the existing drainage patterns are not altered (See RG-417).	Pre-development conditions were re-modeled utilizing NOAA Atlas 14 rainfall data to be directly comparable to the post-development conditions. As indicated in Part III, Appendix III.B, Table III.B.4-1, the discharge, volume and velocity are not increased from the pre- to post- development conditions.
3	Revise the cross-sectional drawing to indicate a foot of freeboard for the run-on control system to prevent a 24-hour, 25-year storm run-on to active face, as required by 30 TAC 330.207(b), referenced by 330.305(g).	Calculations for the run-on and run-off control systems which indicate a foot of freeboard are provided in Part III, Appendix III.B, Attachment III.B.1 "Contaminated Water Containment and Diversion Berm Calculations" starting on Page III.B-187. This berm system is detailed on Drawing III.B.5, Detail 8 in Attachment III.B.3.
4	Revise the cross-sectional drawing to indicate a foot of freeboard for run-off management system at the active face for a 24- hour, 25-year storm event, as required by 30 TAC 330.207(b), referenced by 330.305(g).	Calculations for the run-on and run-off control systems which indicate a foot of freeboard are provided in Part III, Appendix III.B, Attachment III.B.1 "Contaminated Water Containment and Diversion Berm Calculations" starting on Page III.B-187. This berm system is detailed on Drawing III.B.5, Detail 8 in Attachment III.B.3.
5	Demonstrate with calculations that the provided evaporation pond is larger than the required size for 25- year, 24-hour rainfall design storm per NOAA Atlas-14, as indicated in the first technical NOD response to Comment #27.	Eric - recreate the spreadsheet. Let's look at the HELP model numbers/comparison for leachate generation. What happens if we plug in a higher precip rate into HELP - do we get any generation then? I think that's what the previous version didn't do, consider higher leachate generation rate for the "max" rainfall condition.
6	Cross-sections depicting all drainage structures, with dimensions and specifications, were not provided. Provide cross-sectional drawings with dimensions and specifications for the proposed drainage structures (e.g. downchutes, interceptors, side slope berms, top slope berms, perimeter ditches, detention facilities, and culverts, etc.)	Cross-sectional drawings with dimensions and specifications for the proposed drainage structures are included in Appendix III.B, Attachment III.B.3.
7	Provide sample calculations to demonstrate that the existing stormwater peak flow, velocity and volume of discharge will not exceed existing values at discharge points as a result of the proposed landfill expansion. Revise Table II.B.4-1 accordingly.	Part III, Appendix III.B.4.0, Table III.B.4-1 has been revised to demonstrate that the post-development stormwater peak flow, velocity and volume of discharge do not exceed pre-development conditions. Pre-development conditions were re-modeled utilizing NOAA Atlas 14 rainfall data to be directly comparable to the post-development conditions.
8	Revise the cross-sectional drawings to include dimensions, specifications, and an engineering scale for Drawings III.B.5 through III.B.14.	Cross-sectional drawings with dimensions and specifications are included in Appendix III.B, Attachment III.B.3.
9	Identify all-weather interior access road locations for each phase, in addition to perimeter access roads on Drawing III.A.3, as stated in the first technical NOD response to Comment #36.	Drawings III.A.4, III.A.6, III.A.7, III.A.8, III.A.9, III.A.10, and III.A.11 have been revised to include the perimeter access road around Phase 2, as well as callouts referring to perimeter access roads and cell access roads in Phase 1 and Phase 2. A single cell access road has been sufficient for current facility operations.

10	a) Provide the alternative final cover design following Guidance for Requesting a Water Balance (WB) Alternative Final Cover Design for a Municipal Solid Waste Landfill (RG-494). The computer modeling input and output for water balance cover must be updated for the proposed MSW permit #2284A. The existing document for the final cover of MSW Permit #2284 may be included as an appendix for reference. b) Ensure that a final cover system consists of an appropriate thickness for an infiltration layer consistent with RG-494. c) A rock armoring layer as a final layer for erosion protection is not provided as an option in MSW Chapter 330 rules or in RG-494. Provide an erosion layer that consists of at least six inches of soil capable of sustaining native plant growth and that will be seeded or sodded immediately following the application of the final cover consistent with RG-494.	a) The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284. b) The alternative final cover system consists of a 4-inch rock armoring (erosion control) layer, 18-inch infiltration layer, and 6-inch base layer. The infiltration and base layer provide the required 2-feet of soil cover in RG-494. c) As identified in the Alternative Final Cover demonstration, a rock armoring layer will be placed as the final layer to provide erosion protection. An Equivalent Erosion Protection has been provided in Part III, Appendix III.I, Attachment III.I.1, Page III.I-28. High temperatures and low rainfall in the El Paso area make sustaining vegetative growth without irrigation extremely difficult. Therefore, the alternative final cover has been designed with no vegetative cover. The rock armor will provide more consistent, year-round erosion control. This alternative final cover design has already received approval from the TCEQ and has been successfully installed at Phase 1 for MSW Permit No. 2284 as well as sideslopes for MSW Permit No. 1482. MSW Permit No. 1482 constructed a final cover with a vegetated crown; however, the crown vegetation was unable to meet the 10% cover requirements due to the lack of precipitation in the region.
11	Demonstrate that the revised alternative final cover will achieve equivalent reduction in infiltration.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
12	Demonstrate that the revised alternative final cover will provide equivalent wind and water erosion protection.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
13	Revise the closure plan to be consistent with a revised alternative final cover design.	The Alternative Final Cover demonstration has been completed for the 2284A application and is included in Part III, Appendix III.I, Attachment III.I.1. The alternative final cover profile remains the same as approved for 2284.
14	Provide narrative in the post-closure care plan explaining that the post-closure care for the Phase-1 area will re-start with the closure of the expanded area, and the proposed post-closure care plan will be applicable for the total waste footprint of 216.4 acres upon the approval of the proposed major amendment application.	The closure construction for Phase 1 was approved by the TCEQ on July 14, 2023; however, the Phase 1 area never entered post-closure care. Part III, Appendix III.J, Section III, Tables 1 and 2 have been updated accordingly.
15	Include a final contour map in the closure plan, depicting all surface drainage features (e.g. berms, downchutes, channels, ponds, etc.) on the map.	A final contour map depicting all surface drainage features (including berms/terraces, letdowns/downchutes, ditches/channels, and ponds) has been provided as Drawing III.I.1 in Part III, Appendix III.I as page III.I.16a in accordance with 30 TAC §330.457(e)(5). References to this drawing have been updated in Appendix III.I.
16	Provide closure cost estimates for a conventional composite final cover system (see 30 TAC 330.457 and Section 2.2 of the closure cost estimate form TCEQ -20721) for hiring a third party to close the areas that have not received final cover. The alternative water balance final cover may not be constructed during the event of a forced closure.	Due to the costs associated with installing the alternative final cover being greater than the costs associated with installing the prescriptive cover option, the closure cost estimate was completed for the alternative final cover as agreed to in the August 15, 2025 meeting with the TCEQ. This description has been provided in Part IIII, Appendix III.K, Section 2.2. Further, the prescriptive final cover option was removed for this facility with the 2012 permit modification which was approved by the TCEQ. No prescriptive cover is planned for this facility.

Please replace Part I/II with the following pages

MSW AUTH NO. 2284A

PART I/II – EXISTING CONDITIONS SUMMARY AND SUPPLEMENTARY TECHNICAL REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 4, SEPTEMBER 12, 2025

Landfill Permit Amendment
Part I/II – Existing Conditions Summary and Supplementary Technical Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, November 26, 2024
Revision 2, December 17, 2024
Revision 3, May 16, 2025
Revision 4, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

Part I Application Form for Permit Amendment for a Municipal Solid Waste Facility..... I/II-1
Part II Application Form for Permit Amendment for a Municipal Solid Waste Facility..... I/II-16
Appendix I-II.A – Maps & Photographs..... I/II-32
Appendix I-II.B – Facility Layout Drawing..... I/II-50
Appendix I-II.C – Waste Acceptance Plan..... I/II-59
Appendix I-II.D – Legal Description..... I/II-67
Appendix I-II.E – Affidavit and Appointments..... I/II-71
Appendix I-II.F – Evidence of Competency..... I/II-92
Appendix I-II.G – Coordination Letters..... I/II-100
Appendix I-II.H – Location Restrictions..... I/II-162
Appendix I-II.I – TPDES Permit..... I/II-185
Appendix I-II.J – Supplementary Technical Report..... I/II-188
Appendix I-II.K – Forms..... I/II-191

(f) If conducted, do the studies of differential subsidence or faulting establish the limits (both upthrown and downthrown) of the zones of influence of all active faulted areas within the site vicinity? ☐Yes ☑No. Explain No active faulted areas are within 1/2 mile.

(g) If conducted, do the studies of differential subsidence include information or data addressing the following shown below, as applicable:

Table X-1. Information included in Fault Area Studies

Information to be included, as applicable:	Yes	Not Applicable
(i) structural damage to constructed facilities (roadways, railways, and buildings);	☐	☑
(ii) scarps in natural ground;	☐	☑
(iii) presence of surface depressions (sag ponds and ponded water);	☐	☑
(iv) lineation's noted on aerial maps and topographic sheets;	☐	☑
(v) structural control of natural streams;	☐	☑
(vi) vegetation changes;	☐	☑
(vii) crude oil and natural gas accumulations;	☐	☑
(viii) electrical spontaneous potential and resistivity logs (correlation of subsurface strata to check for stratigraphic offsets);	☐	☑
(ix) earth electrical resistivity surveys (indications of anomalies that may represent fault planes);	☐	☑
(x) open cell excavations (visual examinations to detect changes in subsoil texturing and/or weathering indicating stratigraphic offsets);	☐	☑
(xi) changes in elevations of established benchmarks; and	☐	☑
(xii) references to published geological literature pertaining to area conditions.	☐	☑

(h) If the site is or will be located within a zone of influence of active geological faulting or differential subsidence, does the application provide substantial evidence that the zone of influence will not affect the site?
☐Yes ☐No Attachment No.:

Address the following statement:

3. ☑ No solid waste disposal shall be accomplished within a zone of influence of active geological faulting or differential subsidence because active faulting results in slippage along failure planes, thus creating preferred seepage paths for liquids.

4. Seismic Impact Zones

(a) Is the proposed facility located in a seismic impact zone, as defined in 30 TAC §330.557?
☑Yes ☐No
Provide information to support response. Attachment No.: See Appendix III.E, Sections III.E.4.1.4 and III.E.6, and Appendix III.G.
Existing landfill, vertical expansion only.

From: [redacted]
To:
Subject: TCEQ Permit Amendment: Greater El Paso Landfill, El Paso County, TX (MSW Permit Number 2284A / TPWD Project #54991)
Date: Monday, June 16, 2025 10:17:00 AM

Hi Eric,

Thank you for submitting the above-referenced project for review. Based on a review of the documentation and description provided, the Ecological & Environmental Planning Program does not anticipate significant adverse impacts to rare, threatened, or endangered species, or other fish and wildlife resources. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect fish and wildlife. Provided the project plans do not change, TPWD considers coordination to be complete.

Thanks!
Jessica

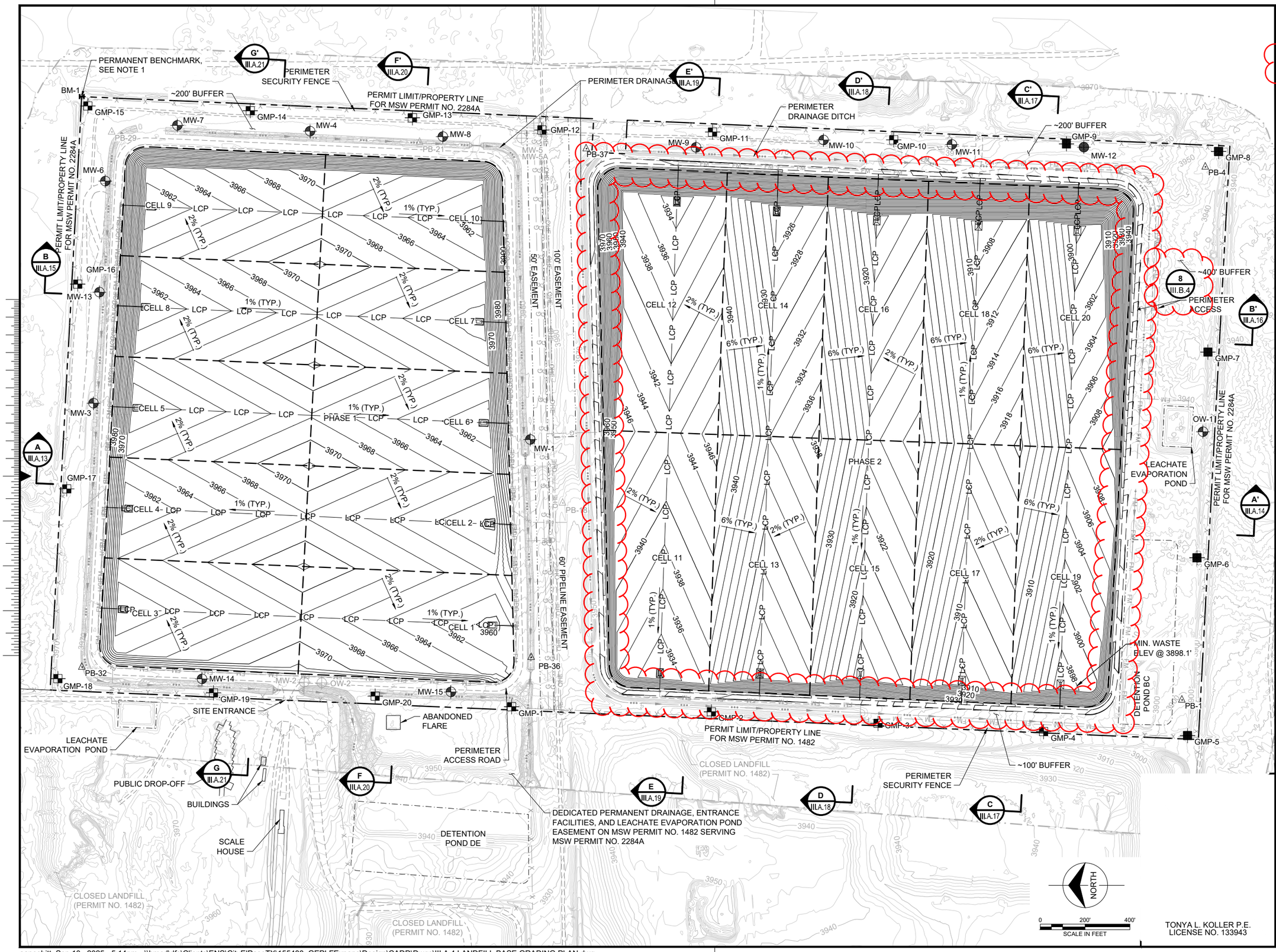
The Environmental Review Team (ERT) is seeking feedback to assist us in continuing to provide effective and meaningful service and conservation value to our customers. Please complete the 5-minute survey linked below. Feel free to reach out directly to us if you would like to provide more detailed feedback after submitting your survey response. Thank you!

https://forms.office.com/g/njnaRNCJYj

Jessica E. Schmerler, CWB
Environmental Review Biologist
Ecological & Environmental Planning Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744

Office: (512) 389-8054
Work Cell: (512) 416-0781
Jessica.Schmerler@tpwd.texas.gov

Please replace Appendix III.A with the following pages



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TLK	TCEQ NOD 1
2	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. PERMANENT BENCHMARK 3" Ø BRASS CAP SET IN CONCRETE (NAD83)
   N: 10,594,029.88 FEET
   E: 482,320.00 FEET
   ELEV:3986.67 FEET (NAVD88)
   LATITUDE: 31.602233
   LONGITUDE: -106.163511
2. INDEX CONTOUR INTERVAL, 2 FEET.
3. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11-14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
4. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
5. DESIGN CONTOURS ARE FROM 2284 PERMIT AND REPRESENT TOP OF PROTECTIVE COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

LANDFILL BASE GRADING PLAN

project	contract
155488	-

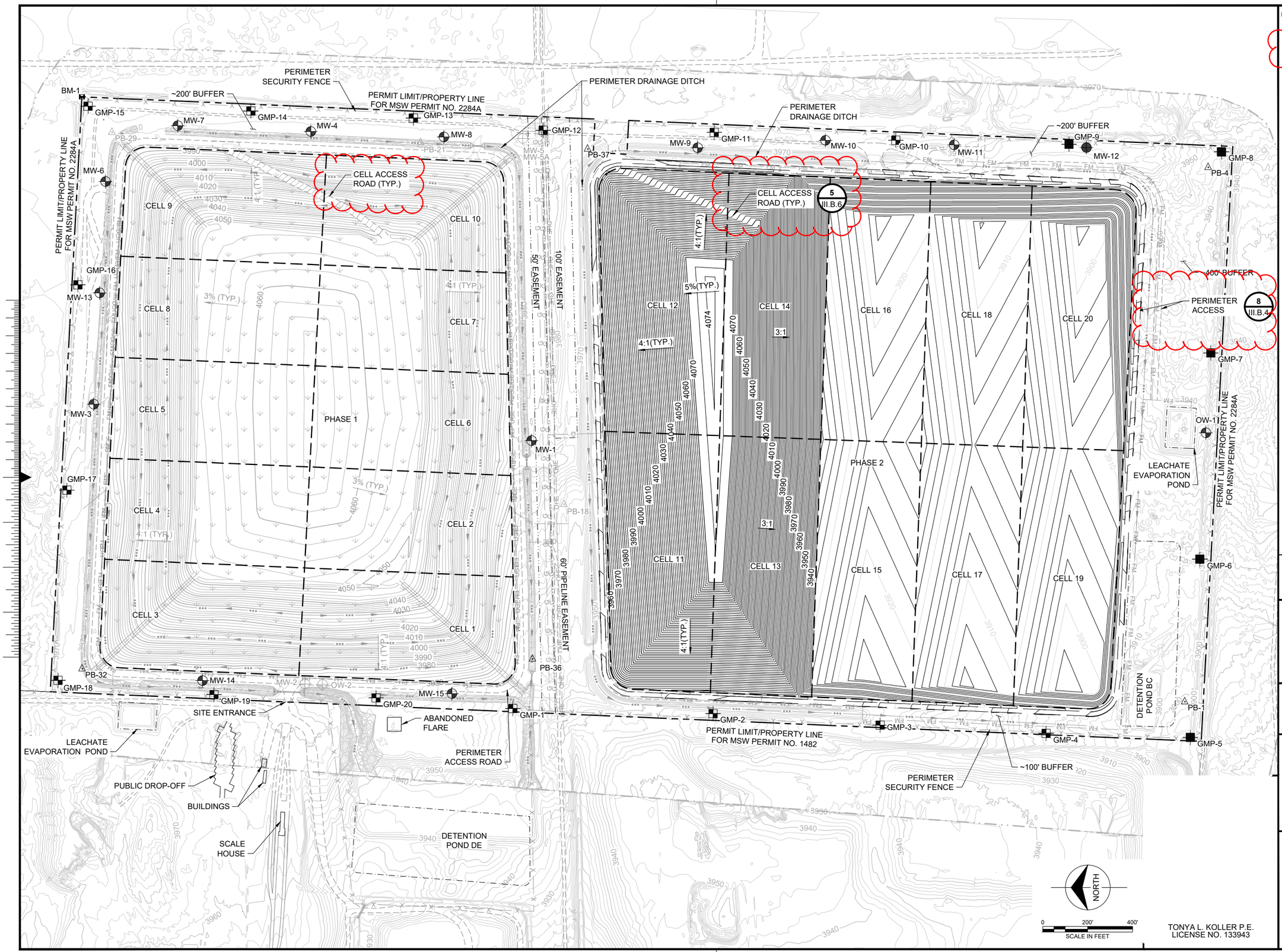
drawing **III.A.4** – rev. **2**

file III.A.4 LANDFILL BASE GRADING PLAN.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches

aanesbitt Sep 10, 2025 - 5:14pm - \\bmcd\dfs\Clients\ENS\CityElPasoTX\155488_GEPLFExpans\Design\CADD\Dwgs\III.A.4 LANDFILL BASE GRADING PLAN.dwg



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-14). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 11-14)

project	contract
155488	

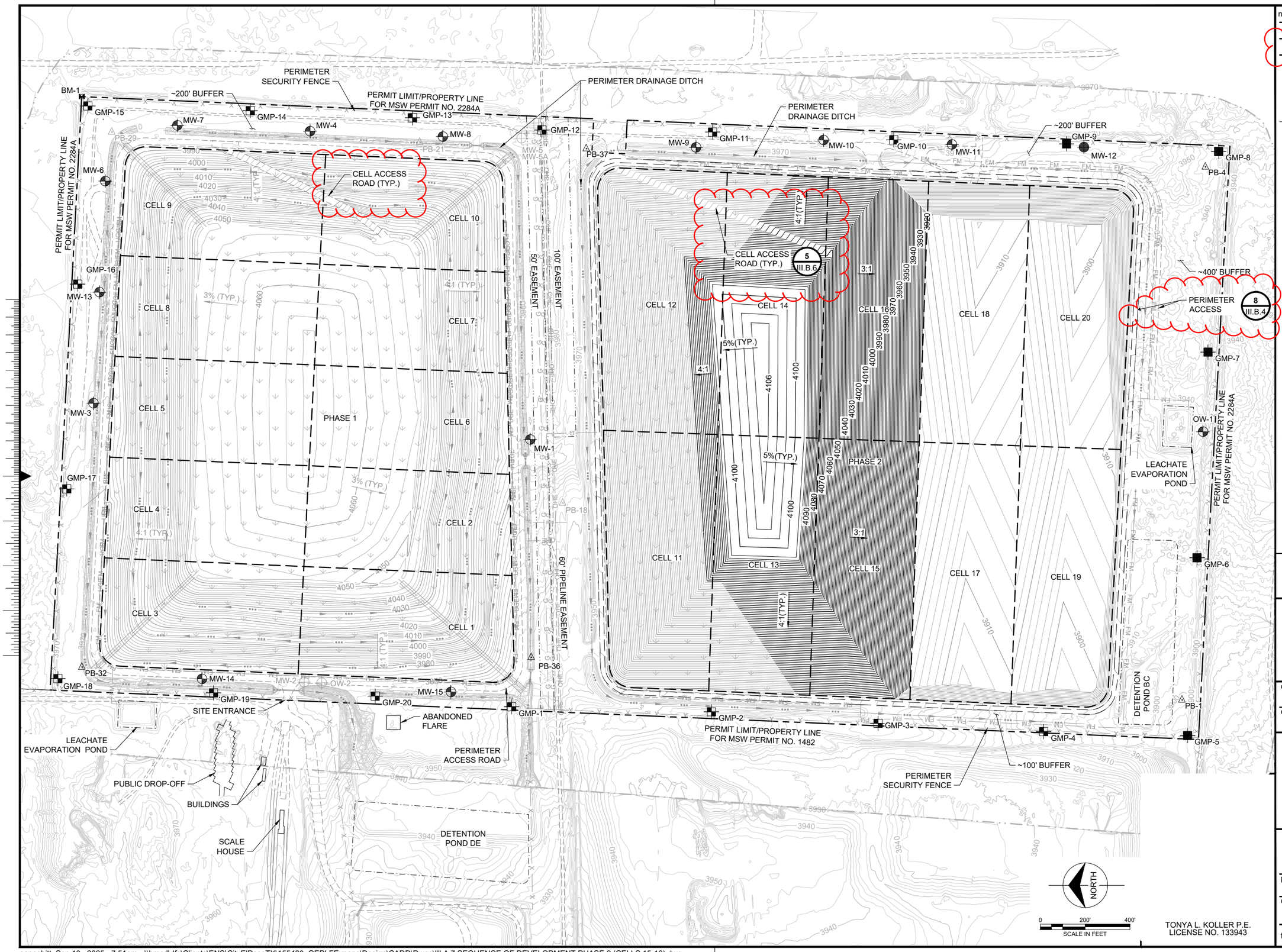
drawing **III.A.6** – rev. **1**

file III.A.6 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 11-14).dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches

aanesbitt Sep 10, 2025 - 7:25am - \\bmcd\dfs\Clients\ENS\CityElPasoTX\155488_GEPLFExpans\Design\CADD\Dwgs\III.A.6 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 11-14).dwg



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-16). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 15-16)

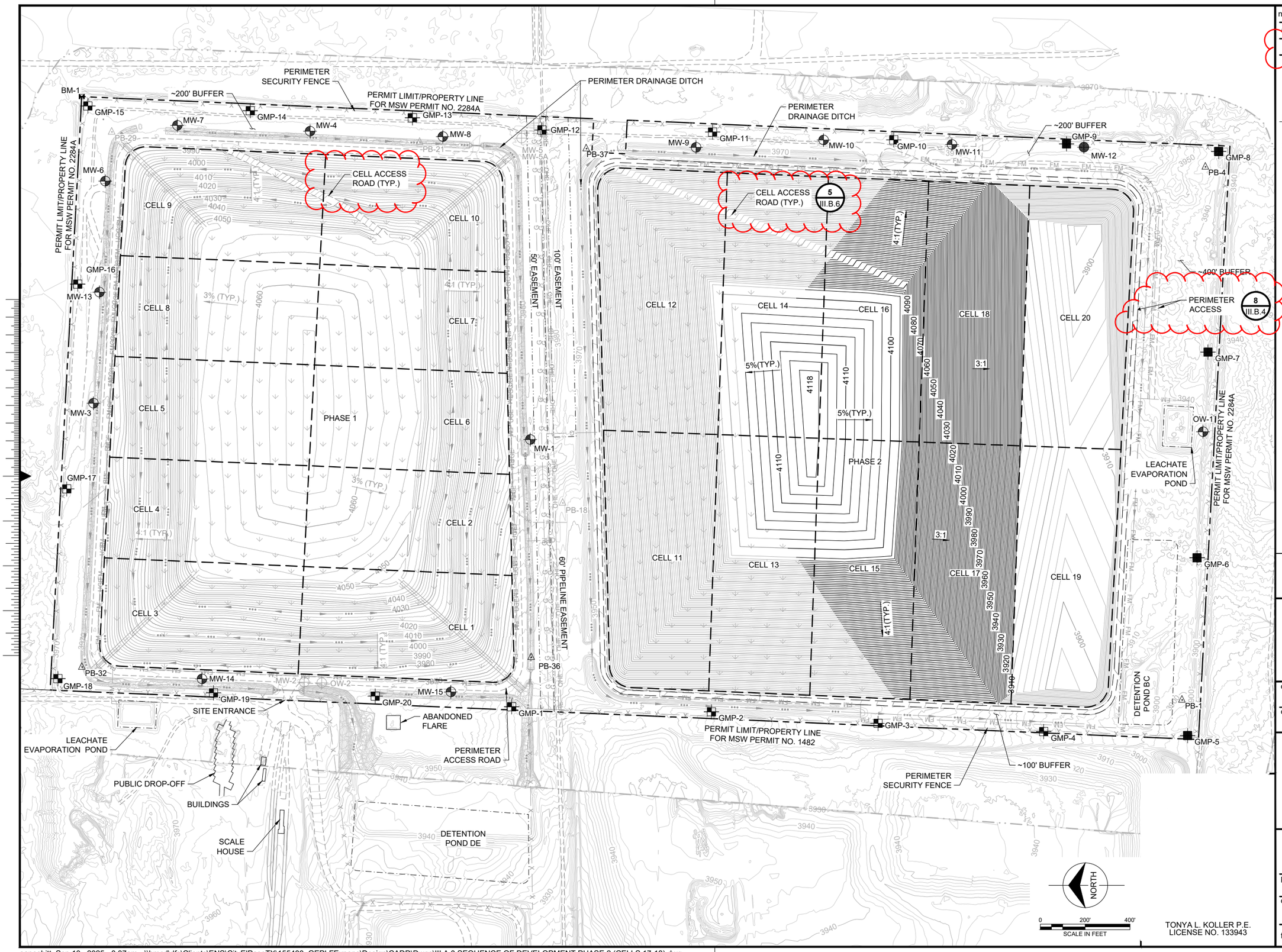
project	contract
155488	

drawing **III.A.7** rev. **1**

file III.A.7 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 15-16).dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD.
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-18). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

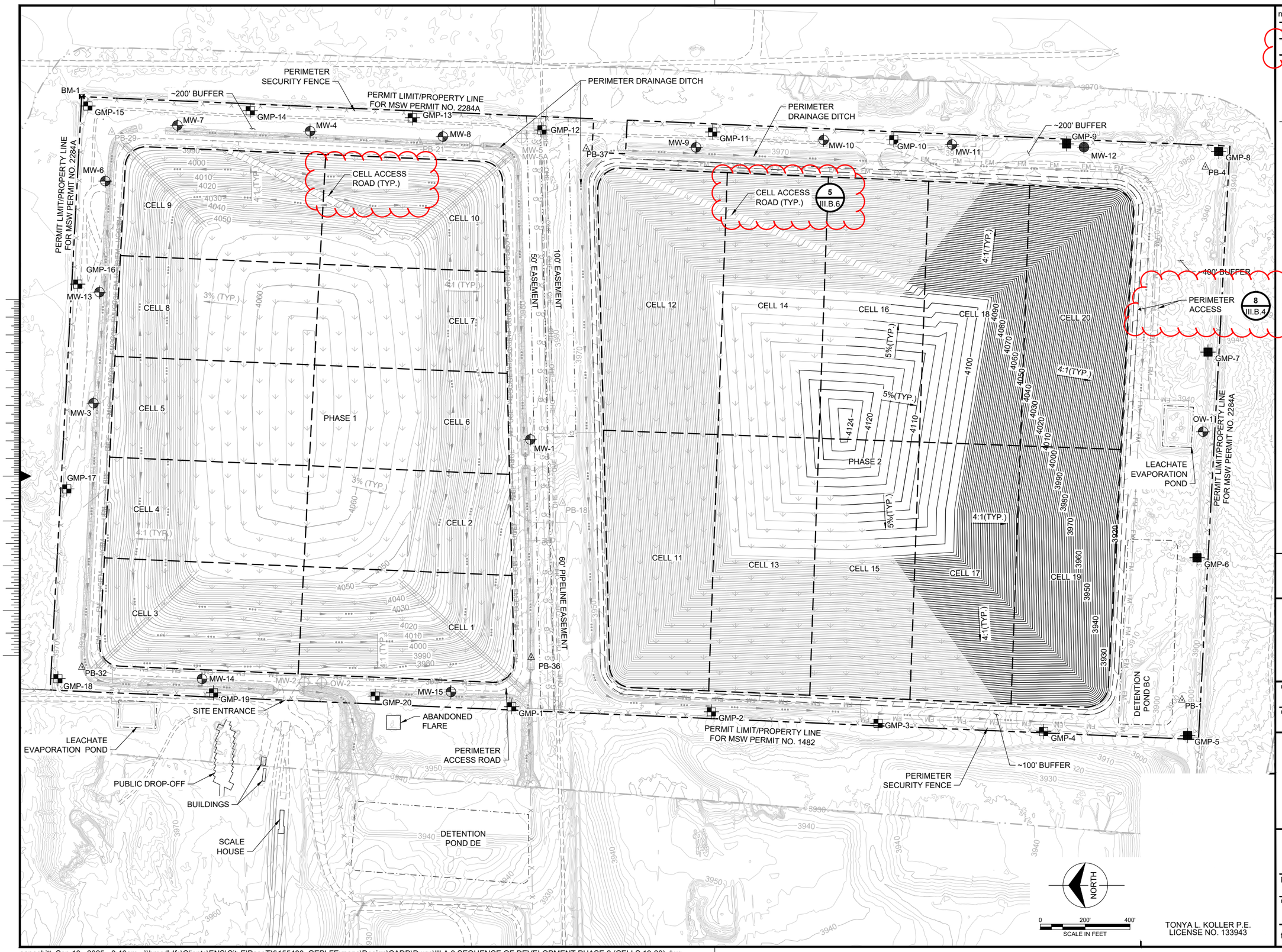
SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 17-18)

project	contract
155488	

drawing **III.A.8** – rev. **1**

file III.A.8 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 17-18).dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-20). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 19-20)

project	contract
155488	-

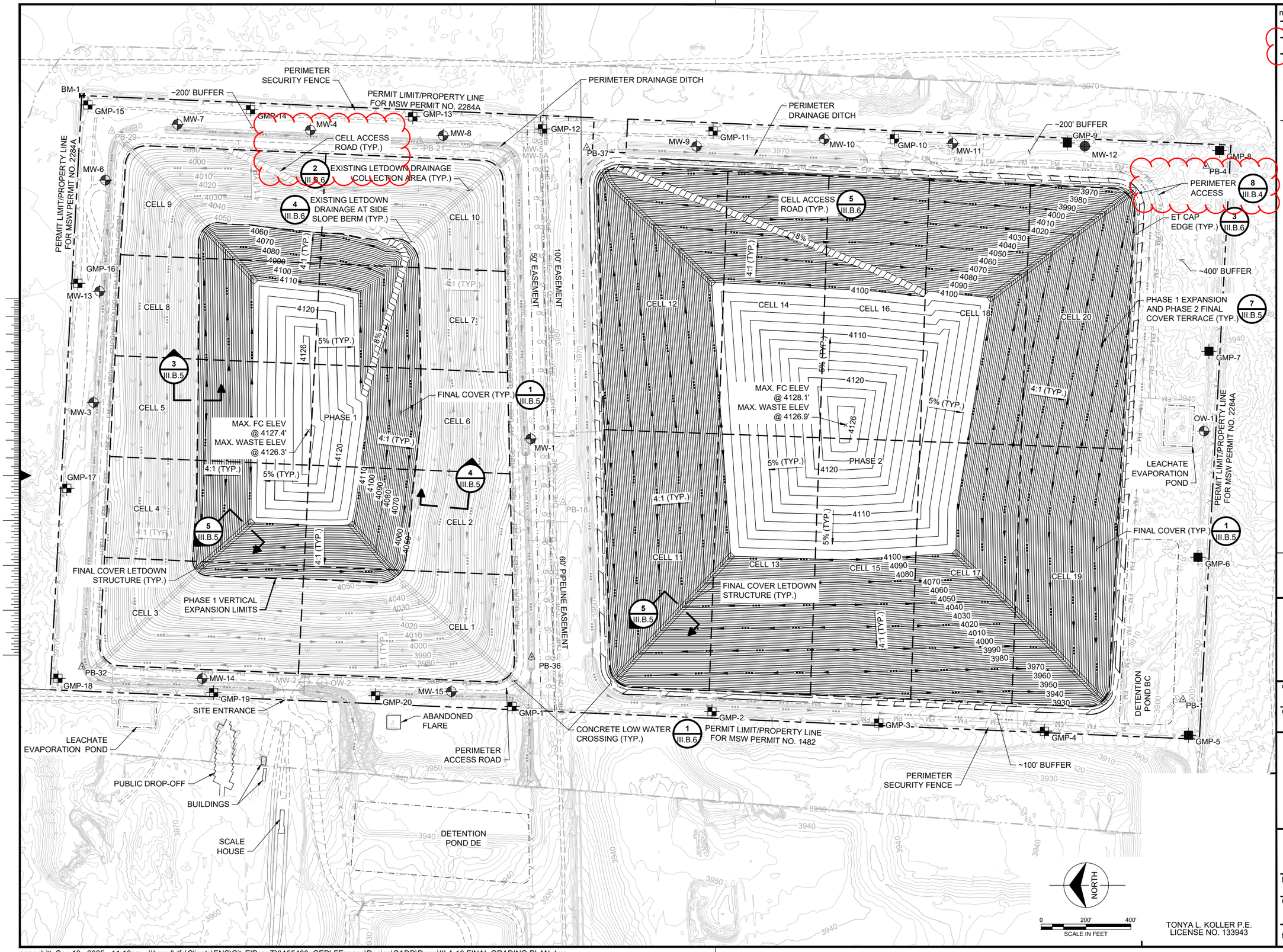
drawing **III.A.9** – rev. **1**

file III.A.9 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 19-20).dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches

aanesbitt Sep 10, 2025 - 8:46am - \\bmcd\dfs\Clients\ENS\CityElPasoTX\155488_GEPLFExpans\Design\CADD\Dwgs\III.A.9 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 19-20).dwg



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

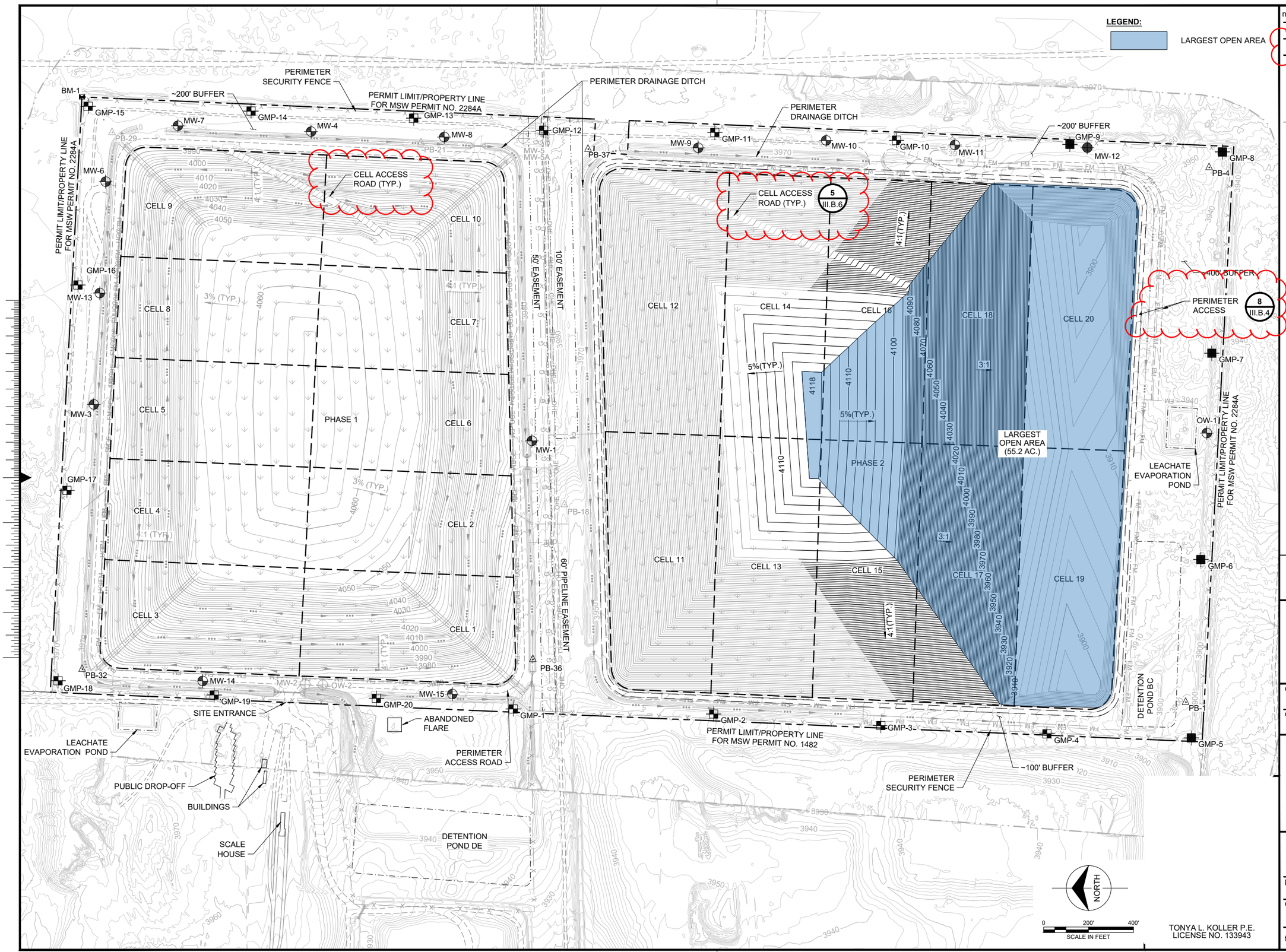
FINAL GRADING PLAN

project	contract
155488	

drawing **III.A.10** – rev. **1**

file III.A.10 FINAL GRADING PLAN.dwg

Scale For Microfilming: Millimeters / Inches



TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-18). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

LARGEST OPEN AREA

project	contract
155488	-

drawing **III.A.11** — rev. **1**

file III.A.11 LARGEST OPEN AREA.dwg

aanesbitt Sep 10, 2025 - 10:29am - \\bmcd\dfs\Clients\ENS\CityElPasoTX\155488_GEPLFExpans\Design\CADD\Dwgs\III.A.11 LARGEST OPEN AREA.dwg

Please replace Appendix III.B with the following pages

MSW AUTH NO. 2284A

APPENDIX III.B – SURFACE WATER DRAINAGE REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION ~~1~~2
~~MAY 16, 2025~~SEPTEMBER 12, 2025

Part III, Appendix B
Surface Water Drainage Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31~~2024~~, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

III.B.1.0 Introduction 1

III.B.2.0 Pre-Development Conditions 2
III.B.2.1 Pre-Development Conditions Drainage Patterns 2
III.B.2.2 Pre-Development Conditions Drainage Area Map 2
III.B.2.3 Pre-Development Conditions Modeling 2
III.B.2.3.1 Rainfall Depth/Duration 3
III.B.2.3.2 Pre-Development Rainfall Intensity 4
III.B.2.3.3 Pre-Development T_c and T_{lag} 4
III.B.2.3.4 Pre-Development Loss Rates 4
III.B.2.3.5 Pre-Development HEC-HMS Model 4

III.B.3.0 Post-Development Conditions 6
III.B.3.1 Post-Development Conditions Modeling 6
III.B.3.1.1 Post-Development Rainfall Depth/Duration 6
III.B.3.1.2 Post-Development Rainfall Intensity 6
III.B.3.1.3 Post-Development T_c and T_{lag} 6
III.B.3.1.4 Post-Development Conditions HEC-HMS Model 7
III.B.3.2 Post-Development Conditions Drainage Controls 8
III.B.3.2.1 Runoff from Landfill Slopes 8
III.B.3.2.1.1 Top Berms 8
III.B.3.2.1.2 Sideslope Interceptors 8
III.B.3.2.1.3 Down Chutes/Let Down Structures 9
III.B.3.2.2 Perimeter Ditches 9
III.B.3.2.3 Detention Ponds 9
III.B.3.3 Sequence of Development for Drainage Appurtenances 10
III.B.3.4 Maintenance of Drainage Appurtenances 10
III.B.3.5 Contaminated Water 10

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns 11
III.B.4.1 Point A 11
III.B.4.2 Point BC 11
III.B.4.3 Point DE 12

ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS
ATTACHMENT III.B.2 – EROSION AND SEDIMENTATION CONTROL PLAN
ATTACHMENT III.B.3 – DRAWINGS

III.B.1.0 Introduction 1

III.B.2.0 Pre-Development Conditions 2
III.B.2.1 Pre-Development Conditions Drainage Patterns 2
III.B.2.2 Pre-Development Conditions Drainage Area Map 2
III.B.2.3 Pre-Development Conditions Modeling 2
III.B.2.3.1 Pre-Development Precipitation 3
III.B.2.3.2 T_c and T_{lag} 4
III.B.2.3.3 Loss Rates 4
III.B.2.3.4 Pre-Development HEC-HMS Model 4

III.B.3.0 Post-Development Conditions 6
III.B.3.1 Post-Development Conditions Modeling 6
III.B.3.1.1 Post-Development Precipitation 6
III.B.3.1.2 Post-Development T_c and T_{lag} 7
III.B.3.1.3 Post-Development Conditions HEC-HMS Model 7
III.B.3.2 Post-Development Conditions Drainage Controls 8
III.B.3.2.1 Runoff from Landfill Slopes 8
III.B.3.2.1.1 Top Berms 9
III.B.3.2.1.2 Sideslope Interceptors 9
III.B.3.2.1.3 Down Chutes/Let Down Structures 9
III.B.3.2.2 Perimeter Ditches 9
III.B.3.2.3 Detention Ponds 9
III.B.3.3 Sequence of Development for Drainage Appurtenances 10
III.B.3.4 Maintenance of Drainage Appurtenances 10
III.B.3.5 Contaminated Water 10

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns 12
III.B.4.1 Point A 12
III.B.4.2 Point BC 12
III.B.4.3 Point DE 13

ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS
ATTACHMENT III.B.2 – EROSION AND SEDIMENTATION CONTROL PLAN
ATTACHMENT III.B.3 – DRAWINGS

III.B.1.0 Introduction 1

III.B.2.0 Pre-Development Conditions 2
III.B.2.1 Pre-Development Conditions Drainage Patterns 2
III.B.2.2 Pre-Development Conditions Drainage Area Map 2

III.B.2.3 Pre-Development Conditions Modeling 2
III.B.2.3.1 Pre-Development Precipitation 3
III.B.2.3.2 Tc and Tlag 3
III.B.2.3.3 Loss Rates 4
III.B.2.3.4 Pre-Development HEC-HMS Model 4

III.B.3.0 Post-Development Conditions 6
III.B.3.1 Post-Development Conditions Modeling 6
III.B.3.1.1 Post-Development Precipitation 6
III.B.3.1.2 Post-Development Tc and Tlag 7
Post-Development Conditions HEC-HMS Model 7
III.B.3.1.3 7
III.B.3.2 Post-Development Conditions Drainage Controls 8
III.B.3.2.1 Runoff from Landfill Slopes 8
III.B.3.2.1.1 Top Berms 9
III.B.3.2.1.2 Sideslope Interceptors 9
III.B.3.2.1.3 Down Chutes/Let Down Structures 9
III.B.3.2.2 Perimeter Ditches 9
III.B.3.2.3 Detention Ponds 9
III.B.3.3 Sequence of Development for Drainage Appurtenances 10
III.B.3.4 Maintenance of Drainage Appurtenances 10
III.B.3.5 Contaminated Water 10

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns 12
III.B.4.1 Point A 12
III.B.4.2 Point BC 12
III.B.4.3 Point DE 12

ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS
ATTACHMENT III.B.2 – EROSION AND SEDIMENTATION CONTROL PLAN
ATTACHMENT III.B.3 – DRAWINGS

TABLES

Table III.B.2-1: Hydro 35/TP-40 Rainfall Depth/Duration Data (Inches) 3
Table III.B.2-2: Atlas 14 Rainfall Depth/Duration Data (Inches) 3
Table III.B.2-3: Site Soil Hydrologic Groups 4
Table III.B.2-4: Pre-Development: SCS Parameters in HEC-HMS 5
Table III.B.3-1: Post-Development Conditions: SCS Parameters in HEC-HMS 7

Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison..... 11
~~Table III.B.2-1: Hydro 35/TP-40 Rainfall Depth/Duration Data (Inches)..... 3~~
~~Table III.B.2-2: Post-Development Rainfall Depth/Duration Data (Inches)..... 3~~
~~Table III.B.2-3: Site Soil Hydrologic Groups..... 4~~
~~Table III.B.2-4: Pre-Development: SCS Parameters in HEC-HMS..... 5~~
~~Table III.B.3-1: Post-Development Conditions: SCS Parameters in HEC-HMS..... 7~~
~~Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison..... 12~~
~~Table III.B.2-1: Pre-Development Rainfall Depth/Duration Data (Inches)..... 3~~
~~Table III.B.2-2: Site Soil Hydrologic Groups..... 4~~
~~Table III.B.2-3: Pre-Development: SCS Parameters in HEC-HMS..... 4~~
~~Table III.B.3-1: Post-Development Rainfall Depth/Duration Data (Inches)..... 6~~
~~Table III.B.3-2: Post-Development Conditions: SCS Parameters in HEC-HMS..... 7~~
~~Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison..... 12~~

III.B.2.3.1 ~~Pre-Development~~Rainfall Depth/Duration ~~Precipitation~~

~~Rainfall data was obtained from the NOAA Atlas 14, Volume 11 (version 2) precipitation frequency tables for the project location. A 25-year recurrence interval and 24-hour duration event were selected for a cumulative depth of 3.12 inches at the time of the permit.~~ For the previous permit, rainfall depth/duration data for durations of one hour and less were obtained from the NOAA Technical Memorandum Hydro 35. Also, rainfall depth/duration data for storm durations greater than one hour were obtained from National Weather Service Technical Paper TP-40. This data was used to create the HEC-1 and HEC-HMS models for the previous permit, which are included for reference in **Attachment III.B.1**. **Table III.B.2-1**~~**Table III.B.2-1**~~ contains the rainfall data ~~values that were used in the HEC-HMS model for 24-hour rainfall depths for pre-development conditions under the~~for the previous permit models.

Table III.B.2-1: ~~Pre-Development~~Hydro 35/TP-40 Rainfall Depth/Duration Data (Inches)

Duration	Return Period (Years)	
	25	100
5 min	0.44	0.55
10 min	0.81	1.04
15 min	1.08	1.40
30 min	1.47	1.89
60 min	1.87	2.40
2 hr	2.01	2.58
3 hr	2.15	2.75
6 hr	2.50	3.20
12 hr	2.81	3.60
24 hr	3.12	4.00

Rainfall depth and duration data for were updated using the 2025 NOAA Atlas 14, Volume 11 (Version 2) values, as shown in **Table III.B.2-2**~~**Table III.B.-**~~ for outfall comparison under Permit 2284A.

Table III.B.2-2: ~~Post-Development~~Atlas 14 Rainfall Depth/Duration Data (Inches)

Duration	Return Period (Years)	
	25	100
5 min	0.615	0.819
10 min	1.03	1.37
15 min	1.18	1.57
30 min	1.46	1.95
60 min	1.75	2.34
2 hr	2.02	2.68
3 hr	2.18	2.89
6 hr	2.47	3.28
12 hr	2.79	3.78
24 hr	3.17	4.39

III.B.2.3.2 Pre-Development Rainfall Intensity

Rainfall intensity for the rational method calculations was calculated based on the Texas Department of Transportation (TxDOT) Bridge Division Hydraulic Manual. Rainfall intensity (inches per hour [in/hr]) was computed as follows:

$$I = \frac{b}{(t+d)^e}$$

b = TxDOT factor for 25 year event in El Paso County = 60
d = TxDOT factor for 25 year event in El Paso County = 12.0
e = TxDOT factor for 25 year event in El Paso County = 0.843
t = longest time of concentration for basin being considered; minimum of 10 minutes per 30 TAC §330.305(f)(1)

~~III.B.2.3.2~~III.B.2.3.3 Pre-Development T_c and T_{lag}

Pre-development Times of Concentration (T_c) and Lag Times (T_{lag}) were developed from USGS topographic maps and the previous permit plans shown in Drawings III.B.1 and III.B.2 in **Attachment III.B.3**. The methods presented in "Urban Hydrology for Small Watersheds" (Technical Release 55 [TR-55]) developed by the Natural Resources Conservation Service (NRCS) (formerly SCS) were used to calculate T_c. The T_{lag} for each subbasin was calculated using the following equation:

$$T_{lag} = T_c \times 0.6 \text{ (Haan, 1994)}$$

Attachment III.B.1 contains calculations for T_c and T_{lag}.

~~III.B.2.3.3~~III.B.2.3.4 Pre-Development Loss Rates

According to the NRCS Web Soil Survey, site soils belong to the following hydrologic groups:

Table III.B.2-3: Site Soil Hydrologic Groups

Soil Classification	Hydrologic Soil Group
Hueco- Wink	A
Bluepoint association, rolling	A
Bluepoint gravelly association, rolling	A

CNs for Pre-development Conditions were found by combining hydrologic soil classification with existing land use. Soil classification and land use are combined to select values for each subbasin CN from Tables 2.2a —2.2d in TR-55. A CN of 63 was used for desert shrub (poor condition). The tables from TR-55 are reproduced in **Attachment III.B.1**. Curve numbers used for all subbasins modeled are provided in **Table III.B.2-4**~~Table III.B.2-4~~.

~~III.B.2.3.4~~III.B.2.3.5 Pre-Development HEC-HMS Model

The output from the HEC-HMS model is included in **Attachment III.B.1**. Pre-development flows calculated by HEC-HMS, using the 2025 storm events for comparison, are summarized in **Table III.B.2-4**~~Table III.B.2-4~~.

Table III.B.2-4: Pre-Development: SCS Parameters in HEC-HMS

Discharge	Subbasin	Area (acres)	Area (sq. mi.)	T_{lag} (hr.)	CN	Peak Discharge (cfs)	Peak Runoff (ac-ft)	Peak Velocity (fps)
	A1	5.0	0.008	0.12	63	~~34~~.57	0.25	1.61
Outfall A		**5.0**	0.008			**~~34~~.57**	**0.25**	**1.61**
	B1	17.5	0.027	0.16	96	~~44~~81.2	~~3.9~~4.22	2.31
	B2	18.1	0.028	0.16	96	~~46~~89.85	4.67~~0~~	2.31
	B3	19.3	0.030	0.16	96	~~48~~90.15	4.69~~3~~	2.31
	B4	15.3	0.024	0.07	96	~~43~~100.36	3.78~~4~~	2.39
	B5	9.9	0.015	0.08	96	~~28~~60.58	2.36~~2~~	2.39
	B6	7.4	0.012	0.07	96	~~20~~47.94	1.87~~6~~	2.39
	B7	19.4	0.030	0.57	7~~5~~	14.68~~0~~	1.74	4.46
	B8	17.9	0.028	0.24	75	~~13~~32.05	~~1.6~~2.05	4.46
	Cos	151.4	0.237	0.76	63	~~23~~43.91	~~6.1~~7.5	1.14
	C1	18.5	0.029	0.16	96	~~46~~89.55	4.66~~1~~	2.31
	C2	10.6	0.017	0.07	96	~~29~~71.03	2.67~~4~~	2.39
	C3	10.2	0.016	0.36	96	~~19~~29.66	2.~~3~~5	4.46
Inflow @ Pond BC		**315.5**	**0.493**			**~~259~~476.2**	**~~38.7~~42.5**	
Outflow @ Pond BC						**~~48~~99.1**	**~~34.5~~31.37**	**~~27.32~~55.99**
	D1	9.7	0.015	0.18	96	~~33~~42.14	2.~~2~~33	19.1
	D2	10.3	0.016	0.21	96	~~33~~41.18	2.~~3~~48	19.1
	D3	12.5	0.020	0.12	96	~~48~~68.52	~~2.8~~3.11	19.1
	D4	7.7	0.012	0.12	96	~~29~~41.11	1.86~~7~~	19.1
	D5	24.8	0.039	0.14	76	~~38~~56	2.36~~4~~	4.23
	D6	12.9	0.020	0.17	88	~~34~~45.14	2.29~~4~~	3.09
	E1	9.9	0.015	0.18	96	~~34~~42.14	2.33~~2~~	19.1
	E2	10.5	0.016	0.13	96	~~39~~52.91	2.34~~9~~	19.1
	E3	12.9	0.020	0.11	96	~~51~~70.98	~~2.9~~3.11	19.1
	E4	12.5	0.020	0.11	80	~~25~~39.7	1.63~~4~~	4.28
	E5	8.2	0.013	0.12	96	~~31~~44.54	2.02~~1.8~~	19.1
	E6	11.9	0.019	0.04	80	~~29~~50.61	1.55~~3~~	12.11
Inflow @ Pond DE		**143.8**	**0.225**			**~~357~~439.7**	**~~37~~27.61**	
Outflow @ Pond DE						**~~32~~36.4**	**~~19~~26.3**	**10.3~~9.05~~**

III.B.3.0 Post-Development Conditions

Post-development condition grading for the GEP Landfill is provided in Drawings III.B.3 and III.B.4 in **Attachment III.B.3**. Side slopes are graded at a 4H:1V and the cap is graded at a five percent slope. Sheet flow on the side slopes is cut off by "side slope interceptors" immediately above and roughly parallel to each 20-foot-wide bench constructed Phase 1 and every 100 horizontal feet for the vertical expansion of Phase 1 and for Phase 2. These interceptors reduce the erosion potential of sheet flows down the side slopes by minimizing the length of sheet flow and diverting it to armored down chutes. High points are located at the center of the north and south sections as indicated in the drawings in **Attachment III.B.3**.

III.B.3.1 Post-Development Conditions Modeling

Twenty-four sub-areas make up the post-development conditions drainage area as shown on Drawing III.B.4 in **Attachment III.B.3**. Sub-area D2, shown in the pre-development drainage map and calculations, is now included in sub-area E2 of the post-development conditions. Proposed grading and drainage controls are included in Drawings III.B.5 and III.B.6 in **Attachment III.B.3**. Post-development conditions T_c and T_{lag} were calculated using the TR-55 method, see **Table III.B.2-2**~~Table III.B.2-2~~Error! Reference source not found.. Peak flows were calculated for sub-areas and the discharge point. The output from the HEC-HMS model is included in **Attachment III.B.1**. Post-development Conditions flows calculated by HEC-HMS are in **Table III.B.3-1**~~Table III.B.3-1~~.

III.B.3.1.1 Post-Development ~~Precipitation~~Rainfall Depth/Duration

Rainfall data was obtained from the NOAA Atlas 14, Volume 11 (version 2) precipitation frequency tables for the project location. A 25-year recurrence interval and 24-hour duration event were selected for a cumulative depth of 3.37-inches at the time of the permit. **Table III.B.2-2**~~Table III.B.2-2~~ contains the values that were used in the HEC-HMS models for 24-hour rainfall depths for ~~pre-development conditions under the previous permit~~comparison of the pre-developed and post-developed conditions under Permit 2284A.~~.~~

~~**Table III.B.3-1: Post-Development Rainfall Depth/Duration Data (Inches)**~~

III.B.3.1.2 Post-Development Rainfall Intensity

Rainfall intensity for the rational method calculations was calculated based on the TxDOT Bridge Division Hydraulic Manual as shown on Page III.B-120. Rainfall intensity (in/hr) was computed as follows:

$$I = \frac{b}{(t+d)^e} = 6.12$$

b = TxDOT factor for 25 year event in El Paso County = 80.75
d = TxDOT factor for 25 year event in El Paso County = 7.36
e = TxDOT factor for 25 year event in El Paso County = 0.904
t = longest time of concentration for basin being considered; minimum of 10 minutes per 30 TAC §330.305(f)(1)

~~III.B.3.1.2~~III.B.3.1.3 Post-Development T_c and T_{lag}

Post-Development T_c and T_{lag} were developed from USGS topographic maps and the previous permit plans shown in Drawings III.B.1 and III.B.2 in **Attachment III.B.3**. The methods presented in TR-55 were used to calculate T_c. The T_{lag} for each subbasin was calculated using the following equation:

$$T_{lag} = T_c \times 0.6 \text{ (Haan, 1994)}$$

Attachment III.B.1 contains calculations for T_c and T_{lag}.

~~III.B.3.1.3~~III.B.3.1.4 Post-Development Conditions HEC-HMS Model

The output from the HEC-HMS model is included in **Attachment III.B.1.** Post-development condition flows calculated by HEC-HMS are summarized in **Table III.B.3-1~~Table III.B.3-1~~.**

Table III.B.3-1: Post-Development Conditions: SCS Parameters in HEC-HMS

Discharge	Subbasin	Area (acres)	Area (sq. mi.)	T_{lag} (hr.)	CN	Peak Discharge (cfs)	Peak Runoff (ac-ft)	Peak Velocity (fps)
	A1	5	0.01	0.12	63	4.57	0.25	1.61
@A		**5**	**0.01**			**4.57**	**0.25**	**1.61**
	B1	6.5~~17~~	0.01~~0.03~~	0.09	96	~~102.8~~38.91	~~4.3~~1.59	2.47
	B2	5.6~~18~~	0.01~~0.03~~	0.1	96	~~103.0~~32.49	~~4.4~~1.37	2.47
	B3	12.0~~19~~	0.02~~0.03~~	0.11	96	~~109.0~~66.37	~~4.3~~2.91	2.47
	B4	24.8~~13~~	0.04~~0.02~~	0.09	96	~~92.0~~147.65	~~3.7~~6.01	2.4
	B5	30.4~~10~~	0.05~~0.02~~	0.14	96	~~50.3~~151.27	~~2.4~~7.36	2.4
	B6	16.0~~7~~	0.03~~0.01~~	0.09	96	~~43.7~~95.76	~~1.8~~3.9	2.4
	B7	16.3~~19~~	0.03~~0.03~~	0.56	73	~~16.9~~12.51	1.47~~9~~	4.46
	B8	15.4~~18~~	0.02~~0.03~~	0.23	76	~~57.9~~25.96	1.8~~6~~2	4.46
	Cos	151.4~~151~~	0.24~~0.24~~	0.78	63	42.~~3~~5	7.4	1.14
	C1	7.1~~19~~	0.01~~0.03~~	0.1	96	~~108.7~~40.61	~~4.5~~1.71	2.47
	C2	20.8~~11~~	0.03~~0.02~~	0.08	96	~~65.2~~129.52	~~2.6~~5.05	2.4
	C3	9.4~~10~~	0.01~~0.02~~	0.36	96	~~16.5~~26.89	2.26~~5~~	4.46
Inflow @ Pond BC		**315.5**	**0.~~50~~493**			**~~474.75~~545.27**	**~~41.6~~42.38**	
Outflow @ Pond BC						**~~45.4~~95.71**	**~~26.2~~31.35**	**~~25.70~~54.1**
	D1	2.8~~10~~	0.004~~0.02~~	0.07	96	~~62.7~~66.08	2.49	2.47
	D2	~~-~~	~~-~~	-	-	-	-	-
	D3	19.2~~13~~	0.030~~0.02~~	0.12	96	~~66.9~~68.52	3.11~~0~~	19.1
	D4	15.0~~8~~	0.023~~0.01~~	0.12	96	~~40.7~~44.54	~~1.9~~2.02	19.1
	D5	24.8~~25~~	0.039~~0.04~~	0.14	76	56.~~8~~	2.64	4.27
	D6	12.9~~12~~	0.020~~0.02~~	0.17	88	~~46.3~~45.14	2.29~~3~~	3.08
	E1	3.2~~10~~	0.005~~0.02~~	0.08	96	~~62.1~~63.77	2.49	2.47
	E2	6.1~~11~~	0.010~~0.02~~	0.10	96	~~59.4~~62.76	2.64	2.47
	E3	20.7~~13~~	0.032~~0.02~~	0.11	96	70.98	3.11	19.1
	E4	12.5~~13~~	0.020~~0.02~~	0.11	80	~~38.5~~39.7	1.63	4.27
	E5	14.6~~8~~	0.023~~0.01~~	0.12	96	~~43.3~~44.54	2.02	19.1
	E6	11.9~~12~~	0.019~~0.02~~	0.04	80	~~49.1~~50.61	1.55	12.06
Inflow @ Pond DE		**143.8**	**0.225**			**~~383.35~~396.8**	**25.76~~2~~**	

Outflow @ Pond DE						~~18.4~~35.12	~~17.0~~24.82	**5.21**

III.B.3.2 Post-Development Conditions Drainage Controls

Drainage controls are incorporated into the site in order to reduce flooding and minimize the amount of sediment carried off the site. Drainage controls include berms, interceptor ditches, down chutes, culverts, channels, and detention ponds. Drainage controls are shown in Drawing III. B.3 in **Attachment III.B.3**, with details in Drawings III. B.5 and III.B.6 in **Attachment III.B.3**.

III.B.3.2.1 Runoff from Landfill Slopes

Sheet flows from the landfill cap will be intercepted by stormwater berms designed to channelize flows into stabilized down chutes to minimize erosion of the cap and side slopes. Flows from the down chutes enter the perimeter ditches. Sheet flows from the lowest portions of the 4H:1V side slopes collect in perimeter ditches before being routed to the detention ponds.

In accordance with 30 TAC §330.305(f)(2), calculations for peak runoff (Q) for a 25-year, 24-hour storm event were completed in HEC-HMS and can be found in **Attachment III.B.1**. The TxDOT Drainage Manual and NRCS method was used to calculate the time of concentrations and velocities for the sub-areas. The velocities for the final cover are reflected in **Attachment III.B.1.** Phase 1 sideslope interceptors below the cap were previously sized in accordance with 30 TAC §330.305(f)(1), as a part of the previous permit.

Calculations based on TxDOT Bridge Division Hydraulic Manual and provided in **Attachment III.B.1**, were computed as follows:

$$Q = cIA$$

Where: Q = Peak runoff from 25-year, 24-hour storm event, cubic feet per second (cfs)
C = Runoff coefficient, dimensionless
I = Rainfall intensity, in/hr (calculated above)
A = Area of sub-basin, acres

III.B.3.2.1.1 Top Berms

Top berms for phase 1 and phase 2 are designed in accordance with 30 TAC §330.305(f)(1). All berms are sized based on the largest calculated flow for a cap sub-area during a 24-hour, 25-year storm. Using the Rational Method for the largest runoff area contributing to a top berm, E2, the peak runoff is 18.9 cfs. Solving Manning's Equation yields a flow depth of 0.97-feet. Therefore, berms with a height of 2-feet will have a minimum 1.03-feet freeboard for the 24-hour, 25-year storm. A cross-sectional view and calculations are provided in **Attachment III.B.1.**

III.B.3.2.1.2 Sideslope Interceptors

For a 2:1 berm built on 4:1 sideslopes, Manning's equation is used to determine flow depth. The highest flow contributing to an interceptor is considered for calculating flow depth and available freeboard.

During Phase 1, under the previous permit, the maximum flow of 9.5 cfs results in a flow depth of 1.23 feet. The interceptor berms are designed to a depth of 2 feet, providing 0.77 feet of freeboard during a 24-hour, 25-year storm event.

For Phase 2, the expected flow is 13.1 cfs, yielding a flow depth of 1.39 feet during the 25-year design storm. A 2-foot interceptor berm will maintain a minimum freeboard of 0.61 feet.

III.B.3.2.1.3 Down Chutes/Let Down Structures

Down chutes (or let down structures) convey flows from the cap of the landfill or from the terrace/interceptors down the 4H:1V slopes and discharge into perimeter ditches. All down chutes will be lined with Flexamat Plus or equivalent and include a 3-foot by 3-foot gabion revetment and/or a water energy dissipator at the bottom. A plan view of a typical down chute is provided in Drawing III.B.3 in **Attachment III.B.3.** The typical section is provided in Drawings III.B.5 and III.B.6 in **Attachment III.B.3**. Down chute hydraulic calculations are included in **Attachment III.B.1**.

III.B.3.2.2 Perimeter Ditches

Perimeter ditches collect stormwater runoff from landfill slopes and buffer areas and discharge to the detention ponds. Ditches are trapezoidal with an 8-foot bottom and 3H:1V side slopes. Ditches will be lined with concrete stabilized rock riprap, gabion mattresses, concrete, or other suitable erosion control material. Table III.B.2.4-1 in **Attachment III.B.2** provides a summary of these ditches and Drawing III.B.5 in **Attachment III.B.3** provides a typical perimeter ditch section.

Supporting Manning's Equation calculations for interceptors, top berms, down chutes, and perimeter ditches, performed using Haestead Methods Flowmaster program, as well as Rational Method and HEC-HMS results, are included in **Attachment III.B.1**.

A culvert will be required to provide access across the perimeter ditches for this expansion. Culverts are shown on Drawing III.B.4 in **Attachment III.B.3**. Culvert C2 is the only culvert that has not yet been installed. Culvert C2 was sized using the HEC-HMS and HY-8 computer programs and calculations are provided in **Attachment III.B.1**.

III.B.3.2.3 Detention Ponds

Each phase of the facility will utilize a detention pond to control storm water runoff. Pond BC is located in the southern portion of the site and captures the runoff for Phase 2. Pond DE performs the same function for the northern phase; however, Pond DE is located west of the site on property owned by the City of El Paso within the permit limits of the Clint Landfill (MSW Permit No. 1482). Plan views for Ponds BC and DE are provided in Drawings III.B.11 and III.B.12 in **Attachment III.B.3**, respectively. Outfalls and Sections for Ponds BC and DE are provided on Drawings III.B.13 and III.B.14 in **Attachment III.B.3**. The purpose of the detention ponds is to attenuate post-development peak discharges at points BC and DE so as not to alter natural drainage patterns. Storage of runoff in the pond reduces peak discharge from ditches.

Pond DE has been designed to be drained by two 18-inch reinforced concrete pipe (RCP) riser barrel low-level outlets. The entrance to the low-level outlets are a minimum of 3-feet above the pond sump elevations to provide sediment storage. A concrete overflow spillway is designed to convey any overflow encountered during exceptional storm events. The pond is sized to convey the 25-year frequency storm without overtopping the spillways. Storm routing through the pond is incorporated in the HEC-HMS post-development conditions run. Stage-storage calculations for pond DE is provided in **Attachment III.B.1**.

Pond BC is designed to be drained by an 18-inch RCP riser barrel low level outlet and a concrete overflow spillway. The entrance of the low level outlet is a minimum of 3-feet above the pond sump elevation to provide sediment storage. Pond BC will be expanded upon as a part of the Phase II development. Final conditions storm routing through pond BC is incorporated in the HEC-HMS post-development conditions run included in **Attachment III.B.1**.

III.B.3.3 Sequence of Development for Drainage Appurtenances

Pond DE and the outlets to the existing landfill ditches have been constructed and will remain in place prior to beginning the vertical expansion for Phase 1. For Pond BC, the perimeter ditches adjacent to Cell 11 and 12 have been constructed along with Culverts B1 and C1. When filling operations allow, construction of interceptor ditches and down chutes can begin. Generally, top berms, down chutes, and interceptor ditches will be constructed as soon as practicable after final grades are attained.

III.B.3.4 Maintenance of Drainage Appurtenances

The landfill manager is responsible for maintaining drainage appurtenances. Refer to Table III.B.2.3-5, Structural Control Inspection Parameters in **Attachment III.B.2**, and the Site Operating Plan in Part IV, Table IV.3-3 for inspection and maintenance requirements.

III.B.3.5 Contaminated Water

The handling, storage, treatment, and disposal of contaminated surface or groundwater shall be in accordance with 30 TAC §330.207. Rainfall that shall come in contact and percolate through the working face of the waste unit shall be considered leachate, which is discussed in Appendix III.C - Leachate and Contaminated Water Plan, Section III.C.3.0.

The working face shall be maintained to prevent run on flow and to prevent runoff from leaving the landfill boundary after contacting exposed waste. Furthermore, the working face shall be enclosed within a soil diversion berm and will typically have minimal slopes, as to limit runoff and provide means for rainfall to percolate through the waste. Calculations are provided in **Attachment III.B.1** in the contaminated water containment and diversion berm calculations**.**

The leachate management system shall convey leachate collected from the bottom of each cell to evaporation ponds within the Facility. Drawings III.C.1, 5, and 7 in Attachment III.C.1 provide information on the force main layout and evaporation ponds. Additional discussion is also provided in Appendix III.C - Leachate and Contaminated Water Plan. All leachate transferred to offsite facilities will be handled in compliance with TCEQ requirements in accordance with 30 TAC §330.207(e).

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns

Final drainage patterns will not be significantly altered by construction of the landfill. ~~Like~~ Similar to ~~existing~~ pre-development conditions, stormwater runoff from the site leaves the site at points in the same location, and from direct runoff areas adjacent to the site. Updates to NOAA Atlas 14 design storm depths ~~may enhance the apparent impact of~~were applied to the pre-~~ versus post-~~development conditions in order to compare with the post-development conditions. All calculations for the outfalls are included in **Attachment III.B.1.** **Table III.B.4-1**~~**Table III.B.4-1**~~ provides a summary of the pre- and post-development conditions comparison.

Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison

	Outfall	Discharge (cfs)	Volume (acre-ft)	Velocity (fps)
Pre-	A	4.57~~3~~	0.25~~02~~	1.61
	BC	~~48~~99.1	~~34.5~~31.37	~~27.32~~55.99
	DE	~~32~~36.4	~~19~~26.3	~~9.05~~10.3
Post-	A	4.57	0.25~~49~~	1.61
	BC	~~45~~95.71	~~32.7~~31.35	~~45.25~~54.1
	DE	~~18~~35.12	~~25.2~~24.82	~~9.9~~9.9

III.B.4.1 Point A

Runoff from the far southeastern corner of the site exits at Point A. Development has minimal to no impact on the drainage area and does not significantly alter flow patterns. ~~Alterations are mostly due to the change in design rainfall intensity and depths.~~ The peak discharge for Outfall A ~~increases from 3 cfs~~remains constant for pre-development ~~to~~ and post-development conditions at 4.57 cfs ~~post-development.~~. The pre- and post-development runoff volume does not ~~rises from 0.202 acre-foot to~~change from 0.25~~49~~ acre-~~foot~~feet for both. Discharge velocity remains relatively unchanged at 1.61 fps, as overland flow characteristics are largely governed by surface conditions rather than direct precipitation inputs in the NRCS method.

III.B.4.2 Point BC

Runoff from the southern half of the tract leaves the site at point BC. The 25-year flow at discharge point BC for pre-development conditions is ~~48~~ 99.1 cfs. The 25-year flows combined at discharge point BC for the post-development conditions is ~~45~~ 95.71 cfs. ~~The geometry of the drainageway, surfacing conditions, and flow line slope remain unchanged between pre- and post-development conditions.~~ The outlet for basin BC remains the same from pre- to post-development, but the depth of the pond has been increased by 1 foot to maintain 1-foot of freeboard due to higher peak inflows. The velocity through the outlet is reduced from ~~27~~ 56 fps to ~~26~~ 54.1 fps and outfall BC has a lower runoff volume in total. Overall, point BC will not be adversely impacted due to development.

III.B.4.3 Point DE

Similar to pre-development conditions, runoff from the detention ponds exits into two pre-existing drainage ditches associated with the adjacent landfill. The combined pre-development flow leaving Pond DE is ~~32~~ 36.4 cfs, with ~~16~~ 35.12 cfs per outlet. Velocity and volume are also reduced in post-development conditions as shown in **Table III.B.4-1**~~**Table III.B.4-1**~~.

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS

HYDRO 35/TP-40
HEC-HMS Printouts
Pre-Developed Conditions

PRE-DEVELOPED CONDITIONS (ATLAS 14) HEC-HMS CALCULATIONS

Project: GEPLandfill_Balanced
Simulation Run: 2022ExistingConditions25-Yr
Simulation Start: 31 December 1999, 24:00
Simulation End: 1 January 2000, 24:00

HMS Version: 4.13
Executed: 16 September 2025, 13:20

Global Parameter Summary - Subbasin

	Area (MI2)
Element Name	Area (MI2)
B3	0.03
B6	0.01
Cos	0.24
B2	0.03
B5	0.02
B8	0.03
B7	0.03
B1	0.03
B4	0.02
C1	0.03
C2	0.02
C3	0.02
A1	0.01
D2	0.02
D4	0.01
D6	0.02
D1	0.01
D5	0.04
D3	0.02
E6	0.02
E2	0.02
E5	0.01
E4	0.02
E3	0.02
E1	0.01

Downstream

Element Name	Downstream
B3	B3 Junction
B6	B3 Junction
Cos	Ditch B1
B2	B2 Junction
B5	B2 Junction
B8	Ditch B2
B7	Ditch B2
B1	B1 Junction
B4	B1 Junction
C1	C1 Junction
C2	C1 Junction
C3	Ditch C2
A1	Outfall A
D2	D4 Junction
D4	D4 Junction
D6	Ditch D1
D1	D1 Junction
D5	Ditch D2
D3	Ditch D2
E6	Ditch D3
E2	E2 Junction
E5	E2 Junction
E4	Ditch E1
E3	E1 Junction
E1	E1 Junction

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
B3	0	96
B6	0	96
Cos	0	63
B2	0	96
B5	0	96
B8	0	76
B7	0	73
B1	0	96
B4	0	96
C1	0	96
C2	0	96
C3	0	96
A1	0	63
D2	0	96
D4	0	96
D6	0	88
D1	0	96
D5	0	76
D3	0	96
E6	0	80
E2	0	96
E5	0	96
E4	0	80
E3	0	96
E1	0	96

Transform: Scs		
Element Name	Lag	Unitgraph Type
B3	9.6	Standard
B6	4.8	Standard
Cos	45.6	Standard
B2	9.6	Standard
B5	4.8	Standard
B8	14.4	Standard
B7	34.2	Standard
B1	9.6	Standard
B4	4.2	Standard
C1	9.6	Standard
C2	4.2	Standard
C3	21.6	Standard
A1	7.2	Standard
D2	12.6	Standard
D4	7.2	Standard
D6	10.2	Standard
D1	10.8	Standard
D5	8.4	Standard
D3	7.2	Standard
E6	2.4	Standard
E2	7.8	Standard
E5	7.2	Standard
E4	6.6	Standard
E3	6.6	Standard
E1	10.8	Standard

Global Parameter Summary - Reach

Downstream	
Element Name	Downstream
Ditch B1	Ditch B2
Ditch B2	Basin BC
Ditch C1	Culvert C2
Ditch C2	Basin BC
Ditch D1	D1 Junction
Ditch D2	Junction - 2
Ditch D3	Basin DE
Ditch E1	E1 Junction
Ditch E2	Basin DE

Route: Kinematic Wave

Element Name	Method	Channel	Length (FT)	Energy Slope (FT/FT)	Mannings n	Shape	Number of Subreaches	Width (FT)	Side Slope (FT/FT)	Initial Variable	Index Parameter Type	Index Flow
Ditch B1	Kinematic Wave	Kinematic Wave	2769	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch B2	Kinematic Wave	Kinematic Wave	1596	0.03	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C1	Kinematic Wave	Kinematic Wave	2080	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C2	Kinematic Wave	Kinematic Wave	2335	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D1	Kinematic Wave	Kinematic Wave	1300	0	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D2	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D3	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E1	Kinematic Wave	Kinematic Wave	2425	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E2	Kinematic Wave	Kinematic Wave	570	0.05	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
B3	0.03	90.15	01Jan2000, 12:11	2.91
B6	0.01	47.94	01Jan2000, 12:06	2.91
Cos	0.24	43.91	01Jan2000, 12:57	0.59
B3 Junction	0.04	127.09	01Jan2000, 12:08	2.91
Ditch B1	0.28	128.75	01Jan2000, 12:18	0.93
B2	0.03	89.85	01Jan2000, 12:11	2.91
B5	0.02	60.58	01Jan2000, 12:06	2.91
B2 Junction	0.05	138.27	01Jan2000, 12:08	2.91
B8	0.03	32.05	01Jan2000, 12:17	1.27
B7	0.03	14.68	01Jan2000, 12:40	1.08
Ditch B2	0.39	248.22	01Jan2000, 12:18	1.19
B1	0.03	81.19	01Jan2000, 12:11	2.91
B4	0.02	100.36	01Jan2000, 12:05	2.91
C1	0.03	89.55	01Jan2000, 12:11	2.91
C2	0.02	71.03	01Jan2000, 12:05	2.91
C1 Junction	0.05	143.67	01Jan2000, 12:07	2.91
Ditch C1	0.05	143.19	01Jan2000, 12:12	2.9
Culvert C2	0.05	133.29	01Jan2000, 12:14	2.9
C3	0.02	29.66	01Jan2000, 12:23	2.91
Ditch C2	0.06	157.62	01Jan2000, 12:20	2.89
B1 Junction	0.05	163.93	01Jan2000, 12:07	2.91
Basin BC	0.5	99.1	01Jan2000, 13:06	1.17
Outfall BC	0.5	99.1	01Jan2000, 13:06	1.17
A1	0.01	4.57	01Jan2000, 12:10	0.6
D2	0.02	41.18	01Jan2000, 12:14	2.91
D4	0.01	41.11	01Jan2000, 12:08	2.91
D4 Junction	0.03	76.54	01Jan2000, 12:10	2.91
D6	0.02	45.14	01Jan2000, 12:12	2.15
Ditch D1	0.05	120.89	01Jan2000, 12:17	2.58
D1	0.01	42.14	01Jan2000, 12:12	2.91
D1 Junction	0.06	157.26	01Jan2000, 12:16	2.66

D5	0.04	56	01Jan2000, 12:10	1.27
D3	0.02	68.52	01Jan2000, 12:08	2.91
Ditch D2	0.12	247.17	01Jan2000, 12:14	2.25
Junction - 2	0.12	247.17	01Jan2000, 12:14	2.25
E6	0.02	50.61	01Jan2000, 12:04	1.53
Ditch D3	0.14	258.74	01Jan2000, 12:15	2.16
E2	0.02	52.91	01Jan2000, 12:09	2.91
E5	0.01	44.54	01Jan2000, 12:08	2.91
E2 Junction	0.03	97.07	01Jan2000, 12:09	2.91
E4	0.02	39.7	01Jan2000, 12:08	1.53
Ditch E1	0.05	136.59	01Jan2000, 12:16	2.33
E3	0.02	70.98	01Jan2000, 12:08	2.91
E1	0.01	42.14	01Jan2000, 12:12	2.91
E1 Junction	0.08	208.61	01Jan2000, 12:15	2.57
Culvert E2	0.08	194.13	01Jan2000, 12:18	2.55
Ditch E2	0.08	193.77	01Jan2000, 12:18	2.55
Basin DE	0.23	36.43	01Jan2000, 13:07	2.19
Outfall DE	0.23	36.43	01Jan2000, 13:07	2.19
Outfall A	0.01	4.57	01Jan2000, 12:10	0.6

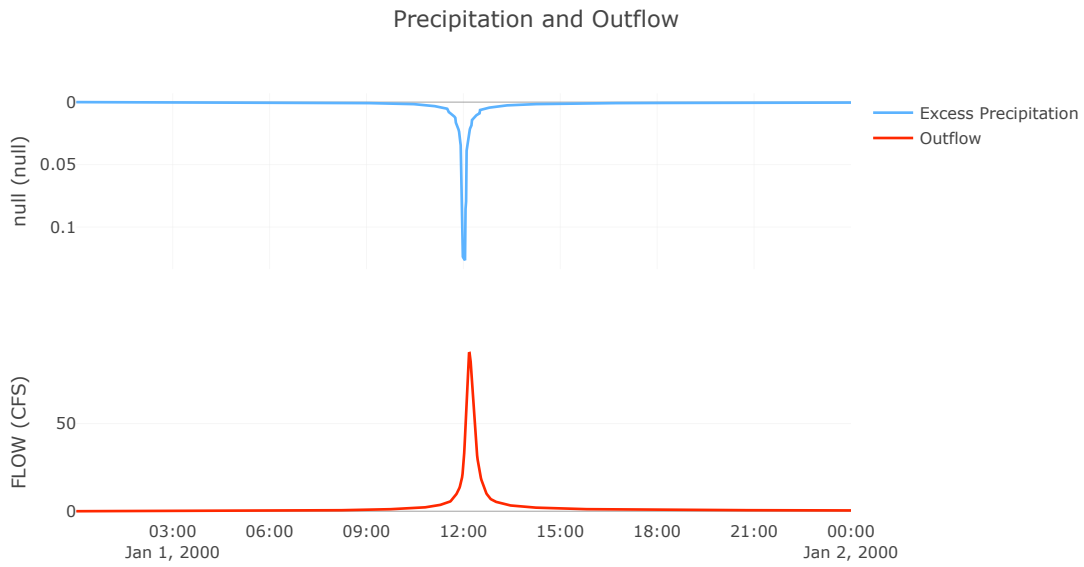
Subbasin: B3

Area (MI2) : 0.03
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B3	
Peak Discharge (CFS)	90.15
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.43
Loss Volume (AC - FT)	0.73
Excess Volume (AC - FT)	4.7
Direct Runoff Volume (AC - FT)	4.69
Baseflow Volume (AC - FT)	0



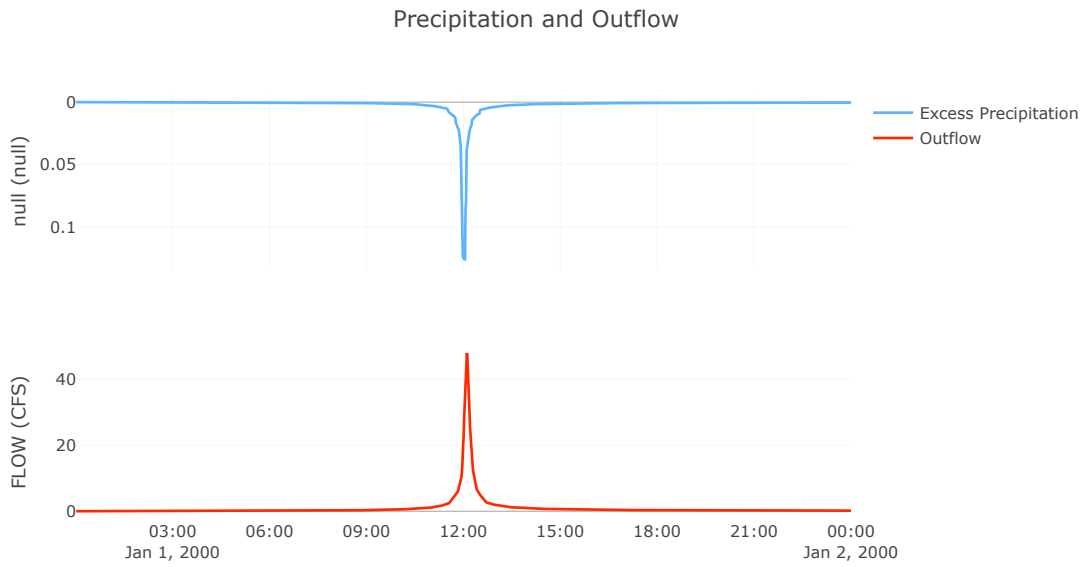
Subbasin: B6

Area (MI2) : 0.01
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: B6	
Peak Discharge (CFS)	47.94
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.16
Loss Volume (AC - FT)	0.29
Excess Volume (AC - FT)	1.87
Direct Runoff Volume (AC - FT)	1.87
Baseflow Volume (AC - FT)	0



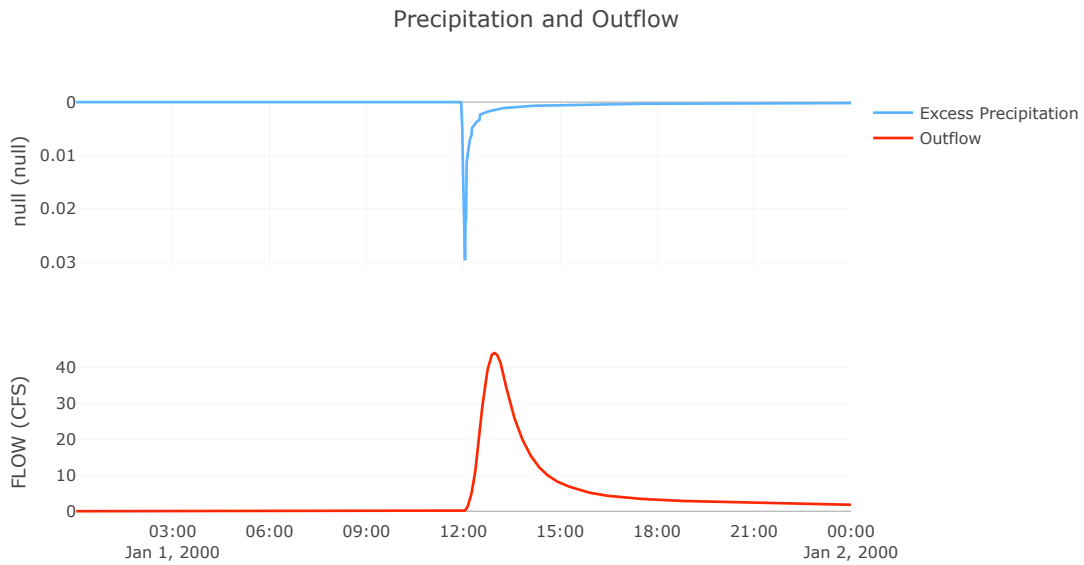
Subbasin: COS

Area (MI2) : 0.24
Downstream : Ditch B1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	45.6
Unitgraph Type	Standard

Results: COS	
Peak Discharge (CFS)	43.91
Time of Peak Discharge	01Jan2000, 12:57
Volume (IN)	0.59
Precipitation Volume (AC - FT)	43.14
Loss Volume (AC - FT)	35.49
Excess Volume (AC - FT)	7.65
Direct Runoff Volume (AC - FT)	7.5
Baseflow Volume (AC - FT)	0

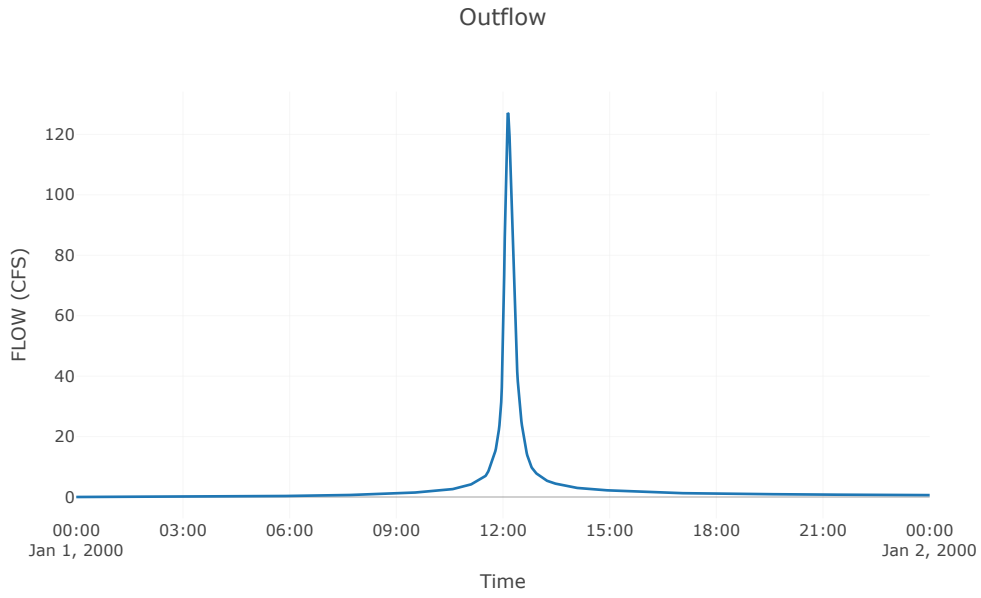


Junction: B3 Junction

Downstream : Ditch B1

Results: B3 Junction

Peak Discharge (CFS)	127.09
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91

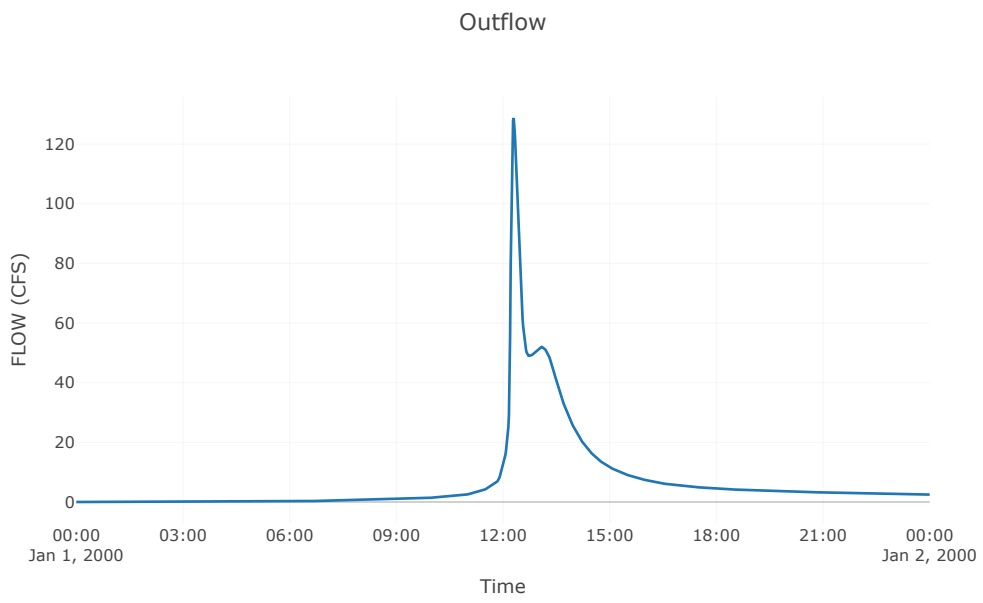


Reach: Ditch B1

Downstream : Ditch B2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2769
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B1	
Peak Discharge (CFS)	128.75
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	0.93
Peak Inflow (CFS)	128.81
Inflow Volume (AC - FT)	14.07



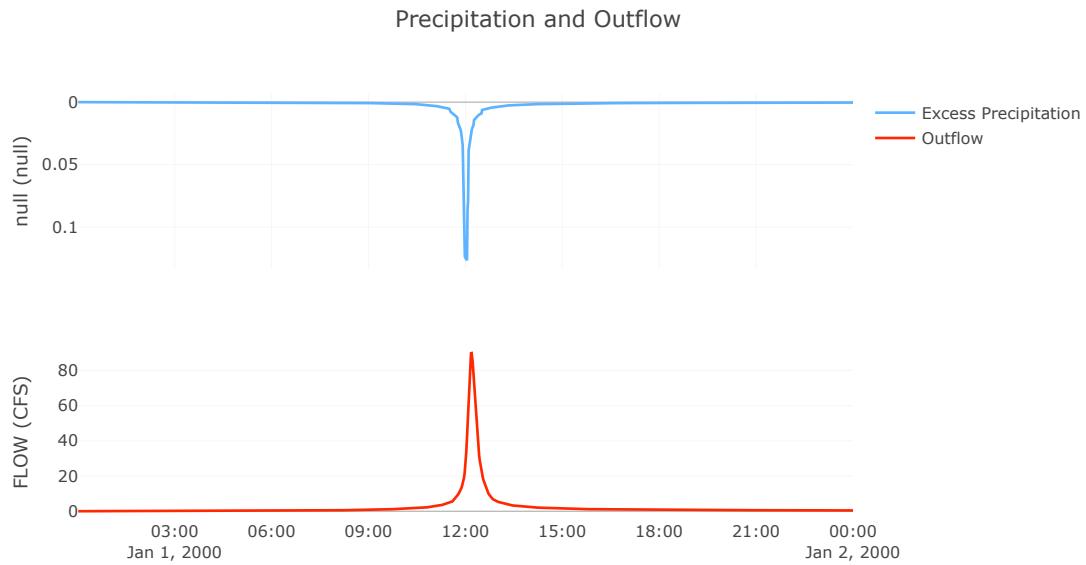
Subbasin: B2

Area (MI2) : 0.03
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B2	
Peak Discharge (CFS)	89.85
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.41
Loss Volume (AC - FT)	0.73
Excess Volume (AC - FT)	4.68
Direct Runoff Volume (AC - FT)	4.67
Baseflow Volume (AC - FT)	0



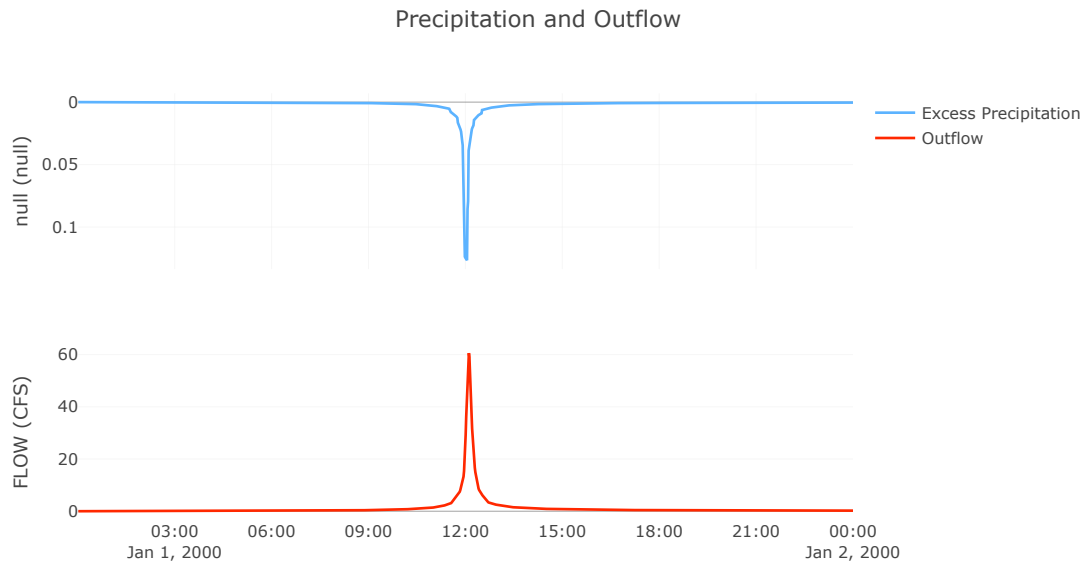
Subbasin: B5

Area (MI2) : 0.02
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: B5	
Peak Discharge (CFS)	60.58
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.73
Loss Volume (AC - FT)	0.37
Excess Volume (AC - FT)	2.36
Direct Runoff Volume (AC - FT)	2.36
Baseflow Volume (AC - FT)	0

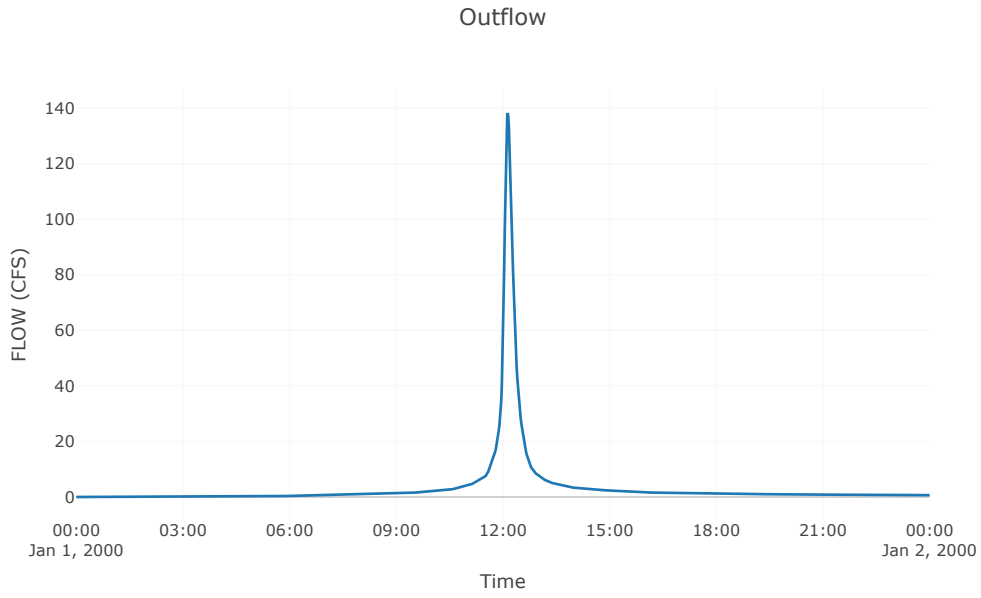


Junction: B2 Junction

Downstream : Ditch B2

Results: B2 Junction

Peak Discharge (CFS)	138.27
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91



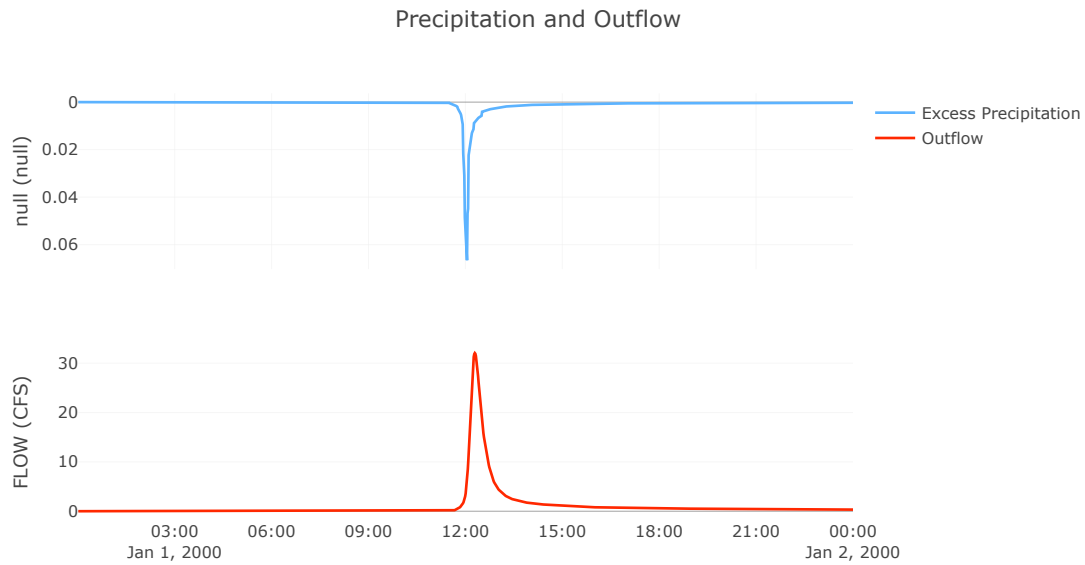
Subbasin: B8

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	14.4
Unitgraph Type	Standard

Results: B8	
Peak Discharge (CFS)	32.05
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	1.27
Precipitation Volume (AC - FT)	5.46
Loss Volume (AC - FT)	3.4
Excess Volume (AC - FT)	2.06
Direct Runoff Volume (AC - FT)	2.05
Baseflow Volume (AC - FT)	0



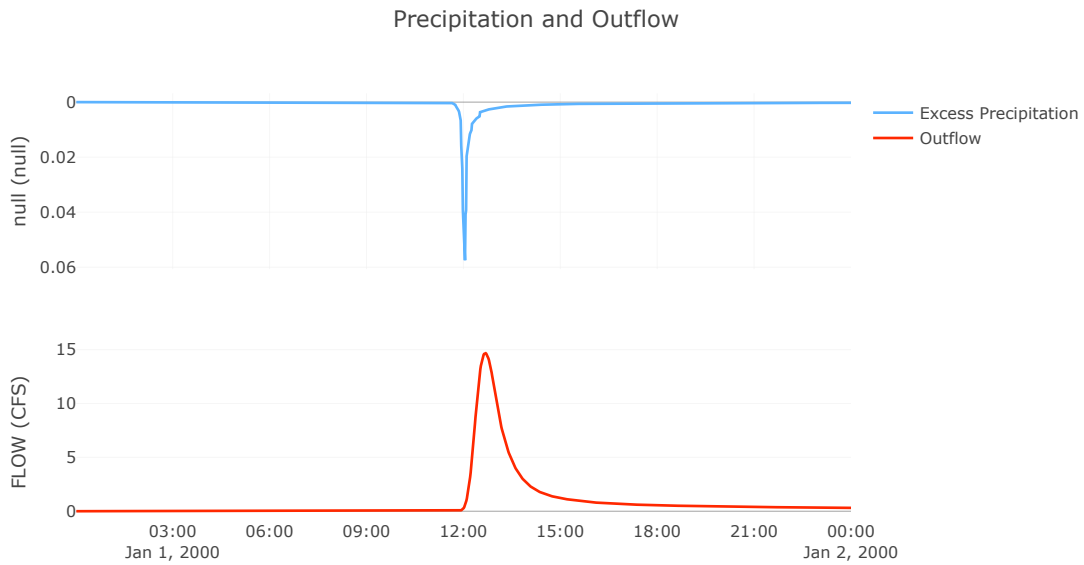
Subbasin: B7

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73

Transform: Scs	
Lag	34.2
Unitgraph Type	Standard

Results: B7	
Peak Discharge (CFS)	14.68
Time of Peak Discharge	01Jan2000, 12:40
Volume (IN)	1.08
Precipitation Volume (AC - FT)	5.43
Loss Volume (AC - FT)	3.67
Excess Volume (AC - FT)	1.76
Direct Runoff Volume (AC - FT)	1.74
Baseflow Volume (AC - FT)	0

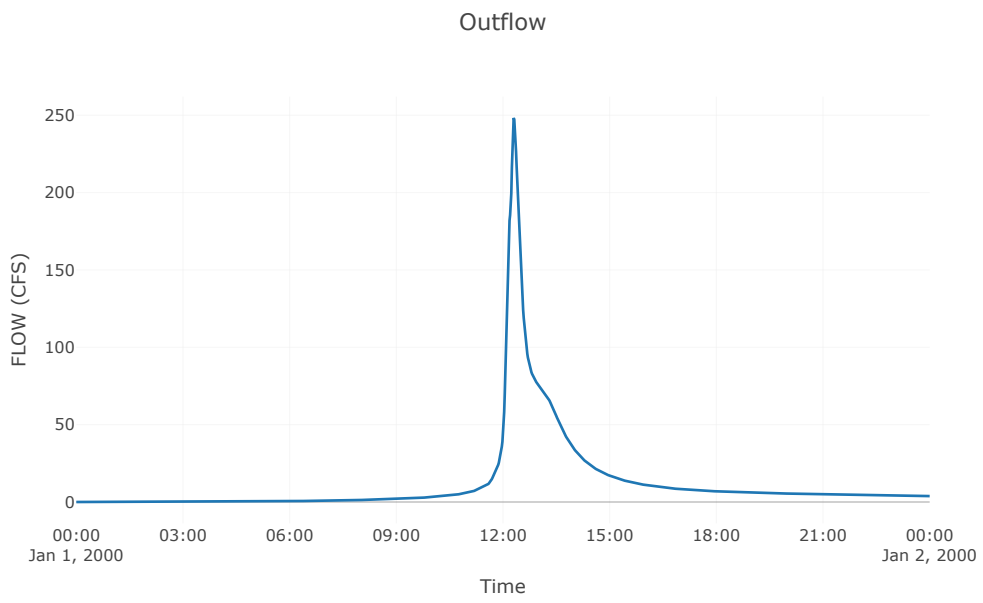


Reach: Ditch B2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1596
Energy Slope (FT/FT)	0.03
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B2	
Peak Discharge (CFS)	248.22
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	1.19
Peak Inflow (CFS)	248.98
Inflow Volume (AC - FT)	24.77



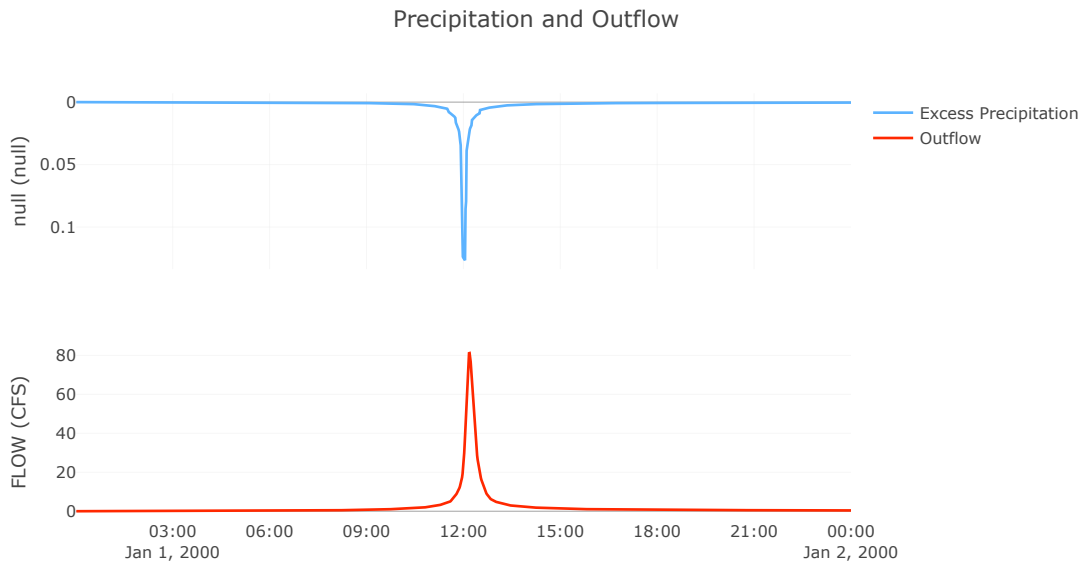
Subbasin: B1

Area (MI2) : 0.03
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B1	
Peak Discharge (CFS)	81.19
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.89
Loss Volume (AC - FT)	0.66
Excess Volume (AC - FT)	4.23
Direct Runoff Volume (AC - FT)	4.22
Baseflow Volume (AC - FT)	0



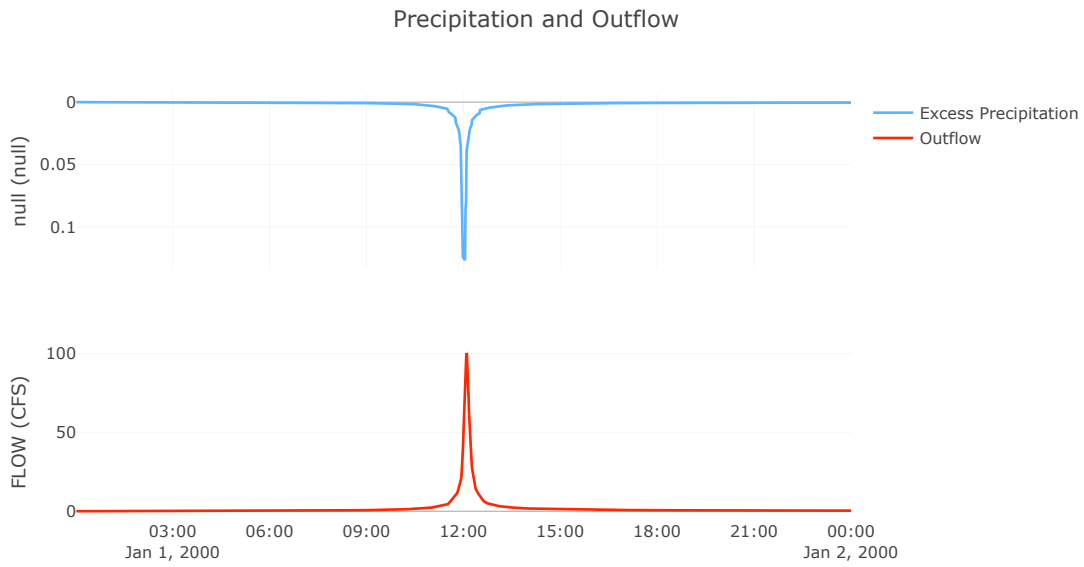
Subbasin: B4

Area (MI2) : 0.02
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

Results: B4	
Peak Discharge (CFS)	100.36
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.37
Loss Volume (AC - FT)	0.59
Excess Volume (AC - FT)	3.78
Direct Runoff Volume (AC - FT)	3.78
Baseflow Volume (AC - FT)	0



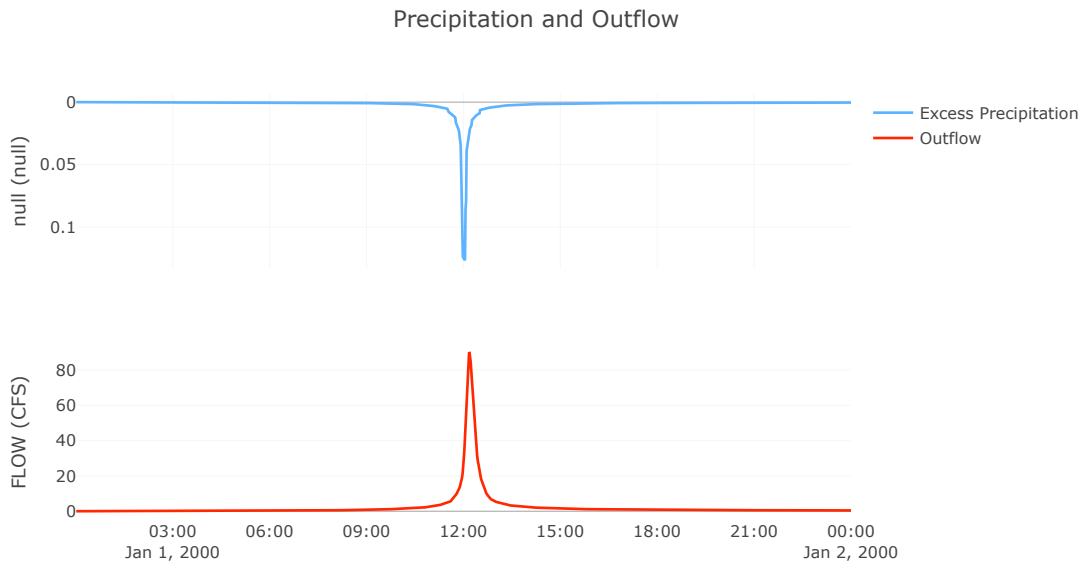
Subbasin: C1

Area (MI2) : 0.03
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: C1	
Peak Discharge (CFS)	89.55
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.39
Loss Volume (AC - FT)	0.72
Excess Volume (AC - FT)	4.67
Direct Runoff Volume (AC - FT)	4.66
Baseflow Volume (AC - FT)	0



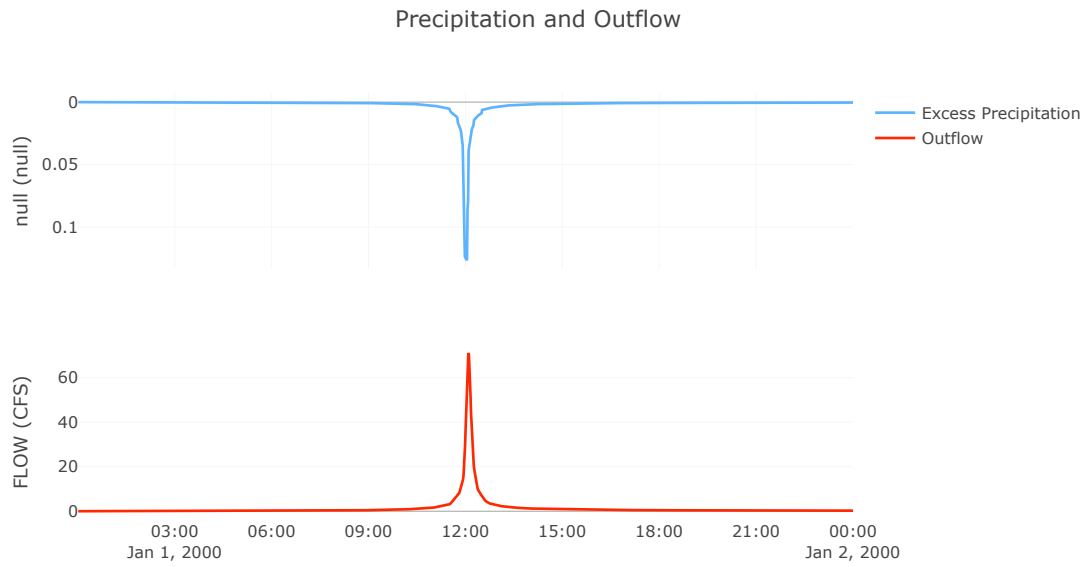
Subbasin: C2

Area (MI2) : 0.02
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

Results: C2	
Peak Discharge (CFS)	71.03
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.09
Loss Volume (AC - FT)	0.42
Excess Volume (AC - FT)	2.68
Direct Runoff Volume (AC - FT)	2.67
Baseflow Volume (AC - FT)	0

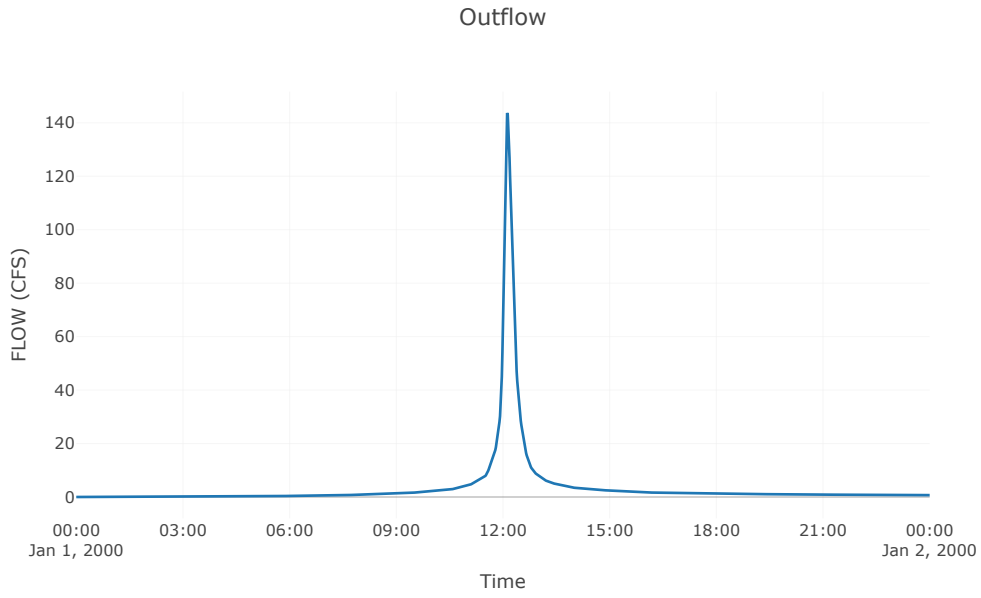


Junction: C1 Junction

Downstream : Ditch C1

Results: C1 Junction

Peak Discharge (CFS)	143.67
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91

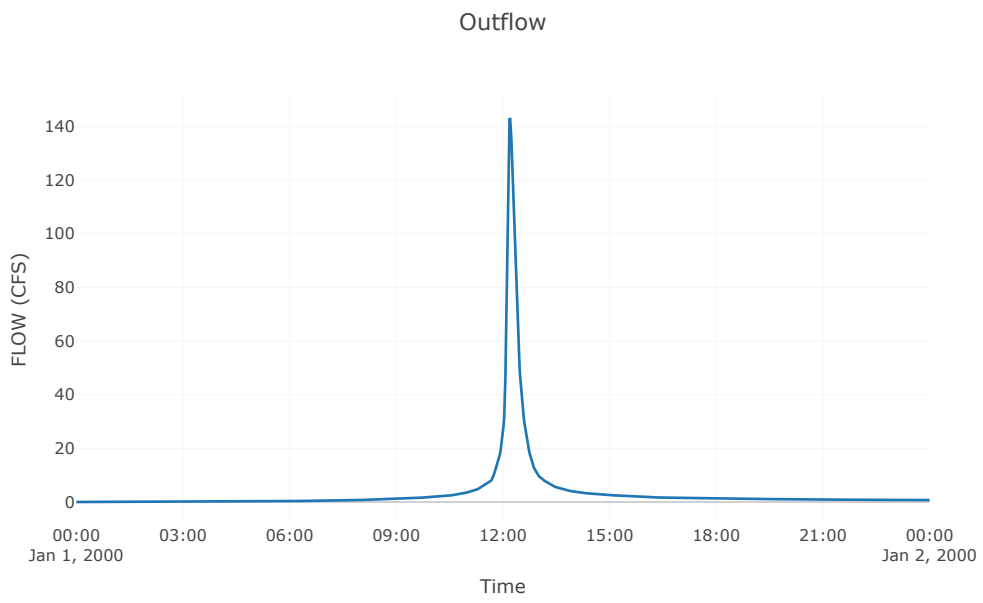


Reach: Ditch C1

Downstream : Culvert C2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2080
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

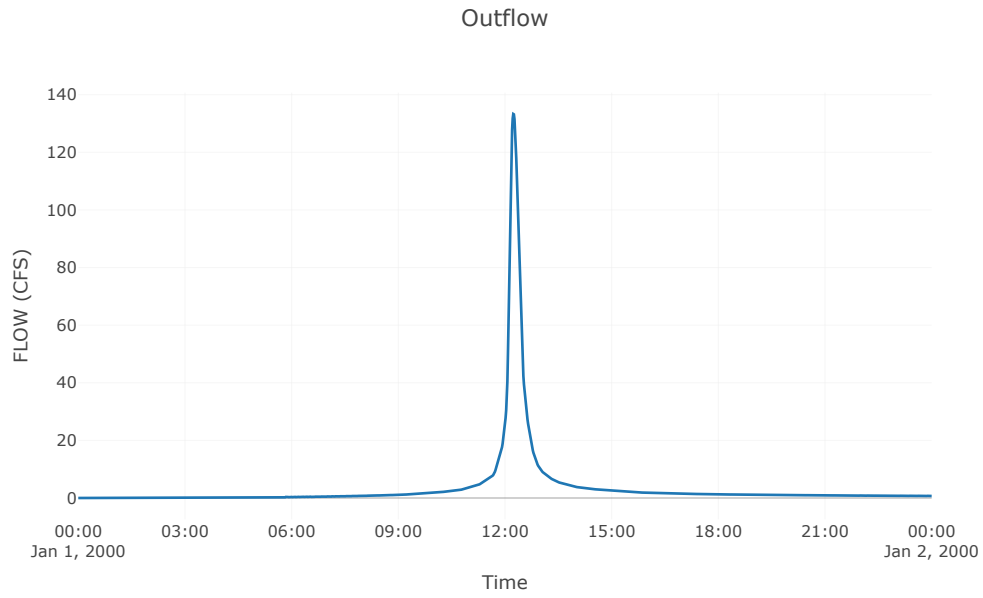
Results: Ditch C1	
Peak Discharge (CFS)	143.19
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.9
Peak Inflow (CFS)	143.67
Inflow Volume (AC - FT)	7.33



Reservoir: Culvert C2

Downstream : Ditch C2

Results: Culvert C2	
Peak Discharge (CFS)	133.29
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.9
Peak Inflow (CFS)	143.19
Time of Peak Inflow	01Jan2000, 12:12
Inflow Volume (AC - FT)	7.3
Maximum Storage (AC - FT)	0.32
Peak Elevation (FT)	3934.07
Discharge Volume (AC - FT)	7.29



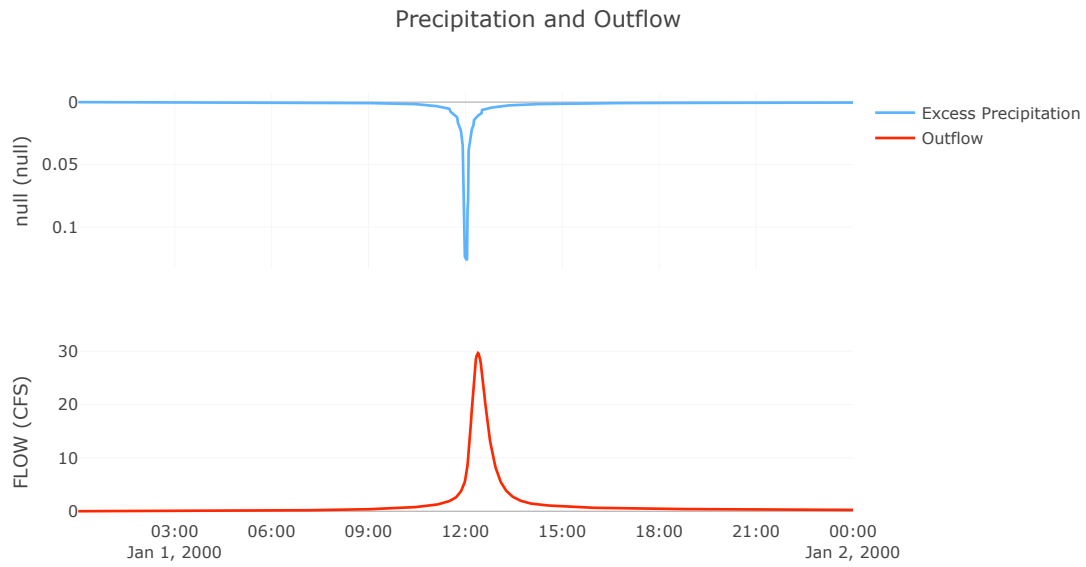
Subbasin: C3

Area (MI2) : 0.02
Downstream : Ditch C2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	21.6
Unitgraph Type	Standard

Results: C3	
Peak Discharge (CFS)	29.66
Time of Peak Discharge	01Jan2000, 12:23
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.89
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.5
Direct Runoff Volume (AC - FT)	2.5
Baseflow Volume (AC - FT)	0

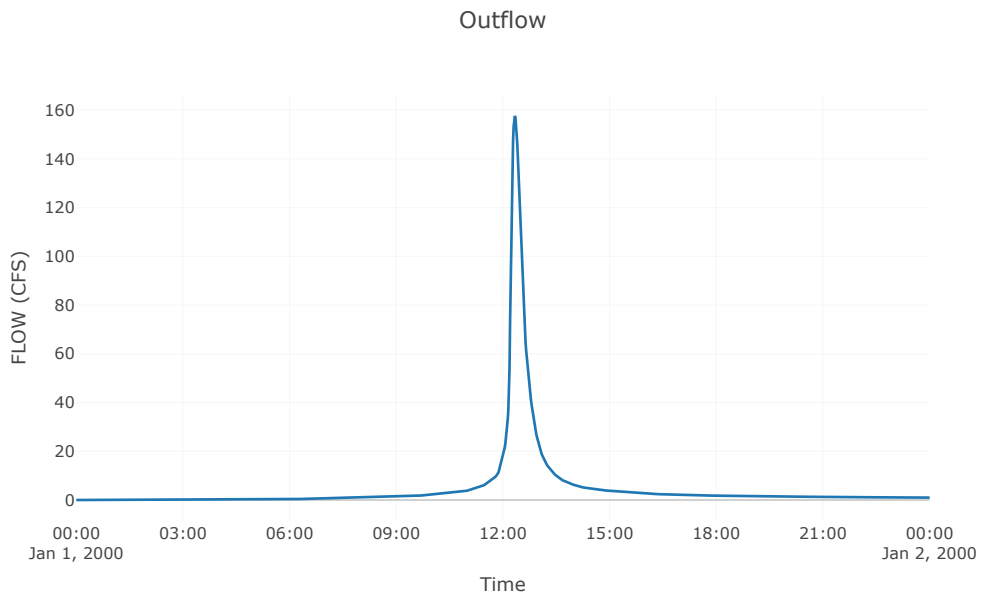


Reach: Ditch C2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2335
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch C2	
Peak Discharge (CFS)	157.62
Time of Peak Discharge	01Jan2000, 12:20
Volume (IN)	2.89
Peak Inflow (CFS)	157.65
Inflow Volume (AC - FT)	9.79

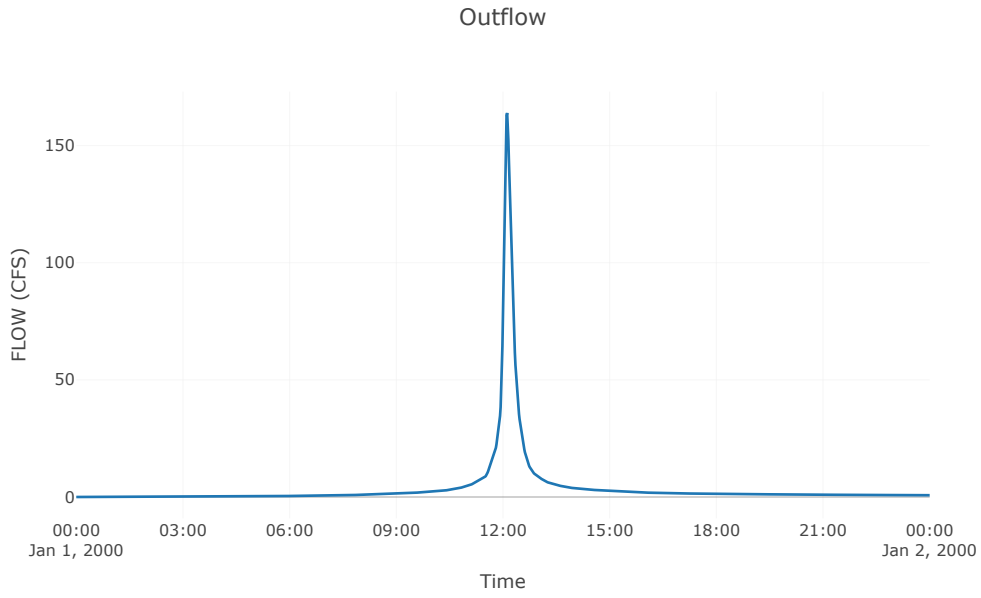


Junction: B1 Junction

Downstream : Basin BC

Results: B1 Junction

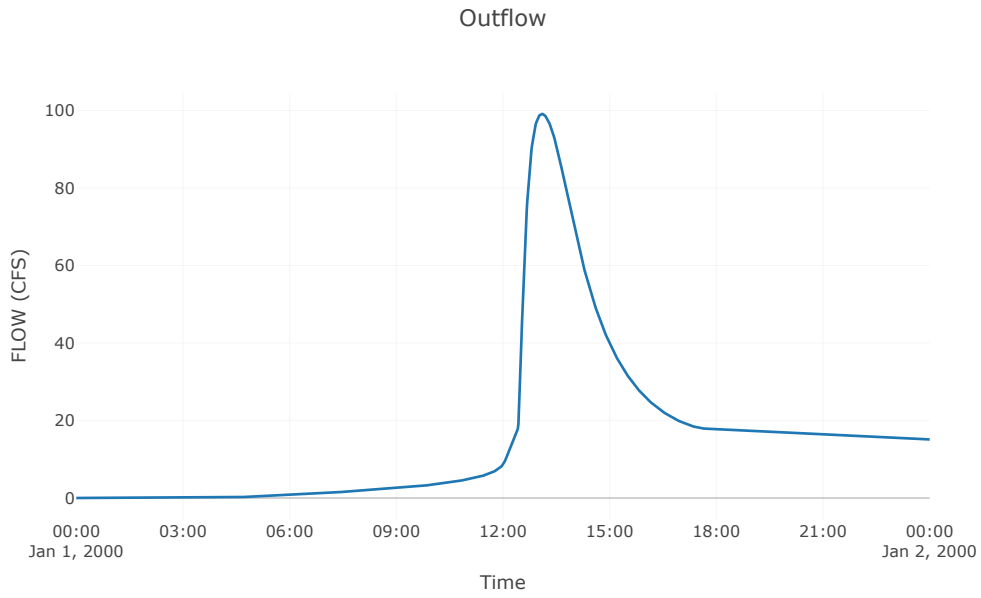
Peak Discharge (CFS)	163.93
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91



Reservoir: Basin BC

Downstream : Outfall BC

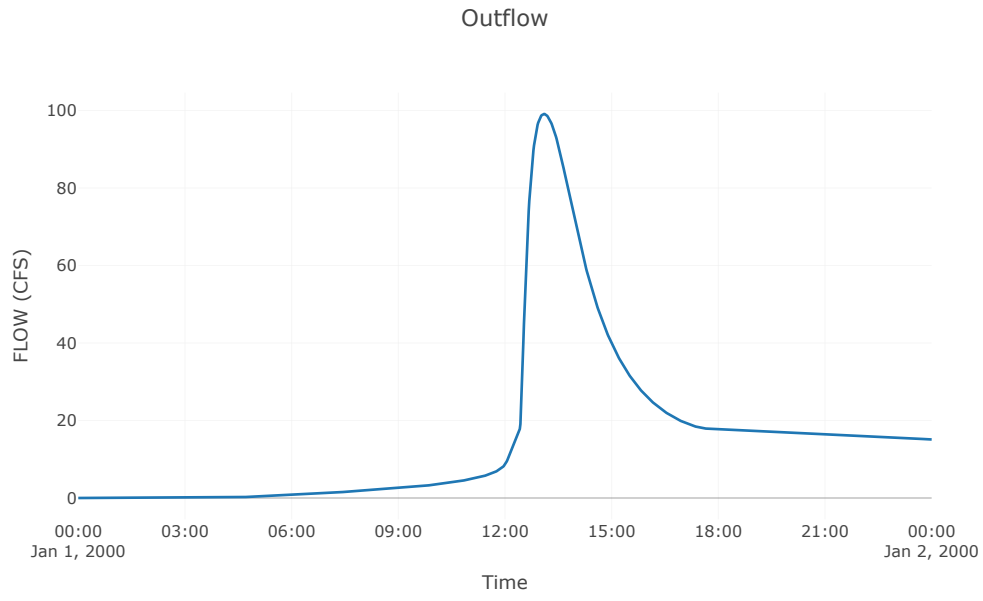
Results: Basin BC	
Peak Discharge (CFS)	99.1
Time of Peak Discharge	01Jan2000, 13:06
Volume (IN)	1.17
Peak Inflow (CFS)	476.17
Time of Peak Inflow	01Jan2000, 12:18
Inflow Volume (AC - FT)	42.47
Maximum Storage (AC - FT)	24.7
Peak Elevation (FT)	3895.03
Discharge Volume (AC - FT)	31.37



Sink: Outfall BC

Results: Outfall BC

Peak Discharge (CFS)	99.1
Time of Peak Discharge	01Jan2000, 13:06
Volume (IN)	1.17



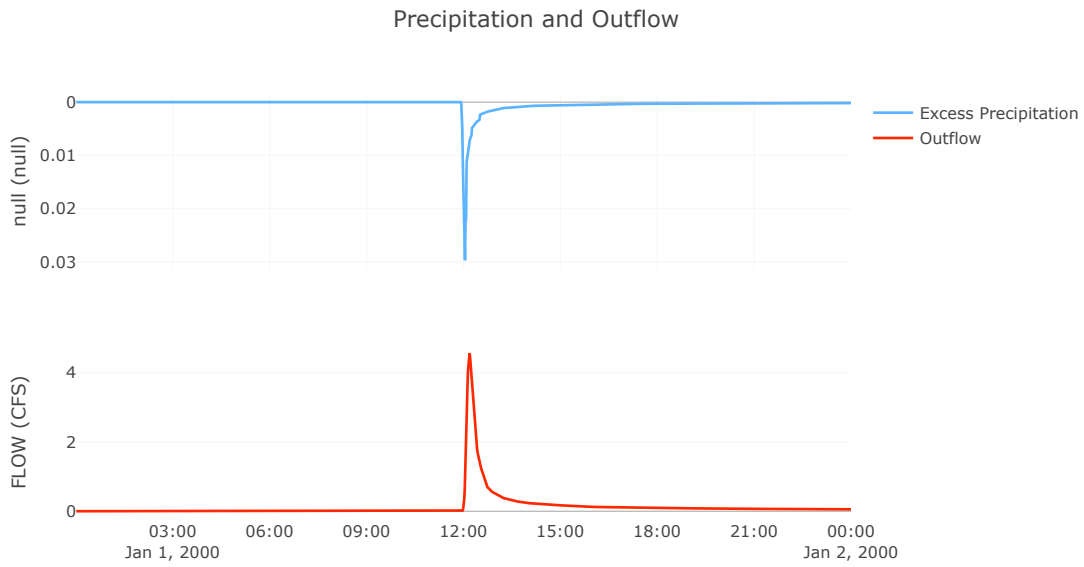
Subbasin: A1

Area (MI2) : 0.01
Downstream : Outfall A

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: A1	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6
Precipitation Volume (AC - FT)	1.4
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	0.25
Direct Runoff Volume (AC - FT)	0.25
Baseflow Volume (AC - FT)	0



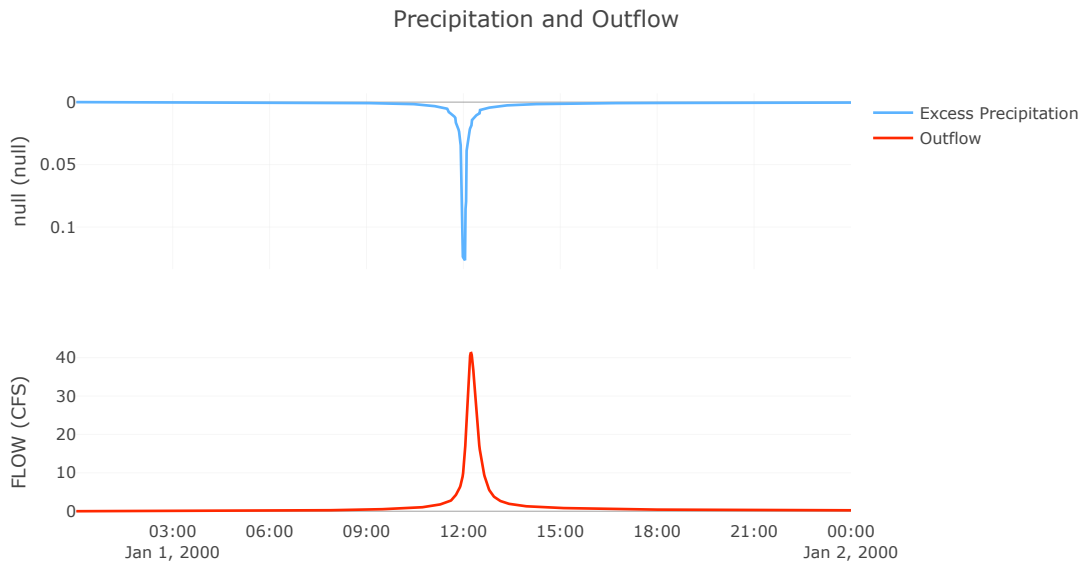
Subbasin: D2

Area (MI2) : 0.02
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	12.6
Unitgraph Type	Standard

Results: D2	
Peak Discharge (CFS)	41.18
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.48
Baseflow Volume (AC - FT)	0



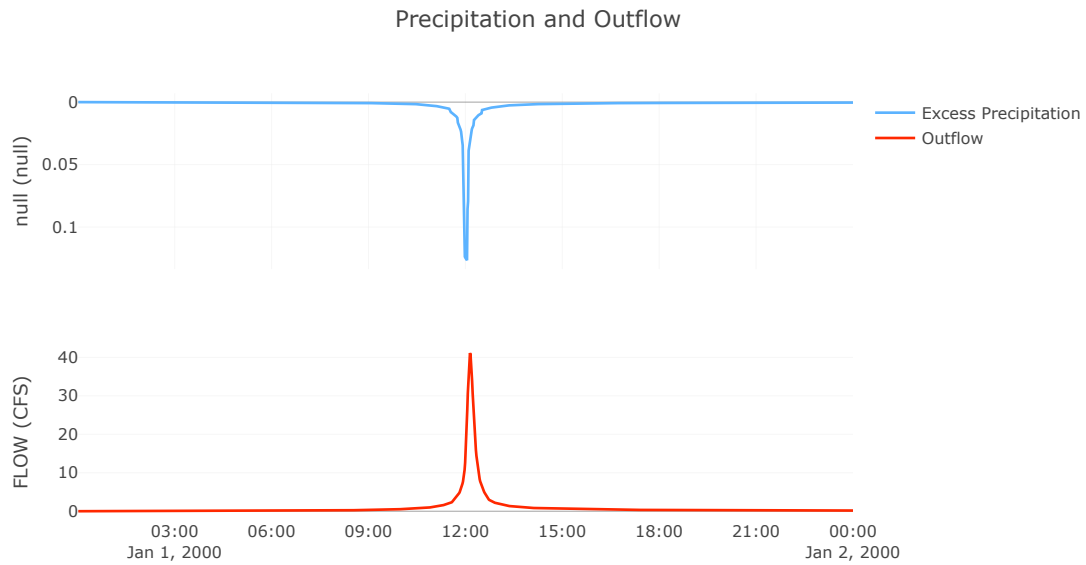
Subbasin: D4

Area (MI2) : 0.01
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D4	
Peak Discharge (CFS)	41.11
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.16
Loss Volume (AC - FT)	0.29
Excess Volume (AC - FT)	1.87
Direct Runoff Volume (AC - FT)	1.86
Baseflow Volume (AC - FT)	0

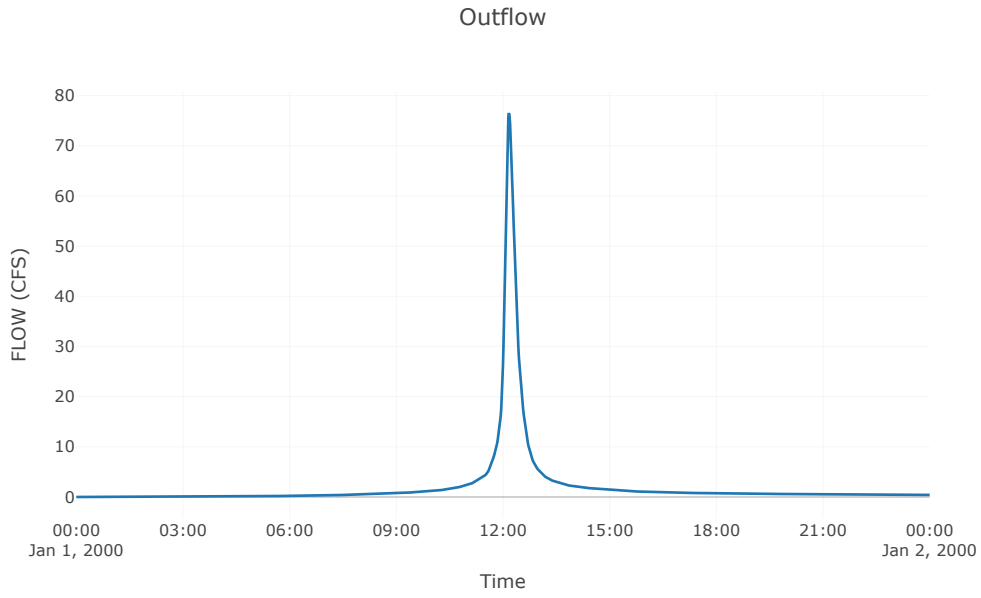


Junction: D4 Junction

Downstream : Ditch D1

Results: D4 Junction

Peak Discharge (CFS)	76.54
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	2.91



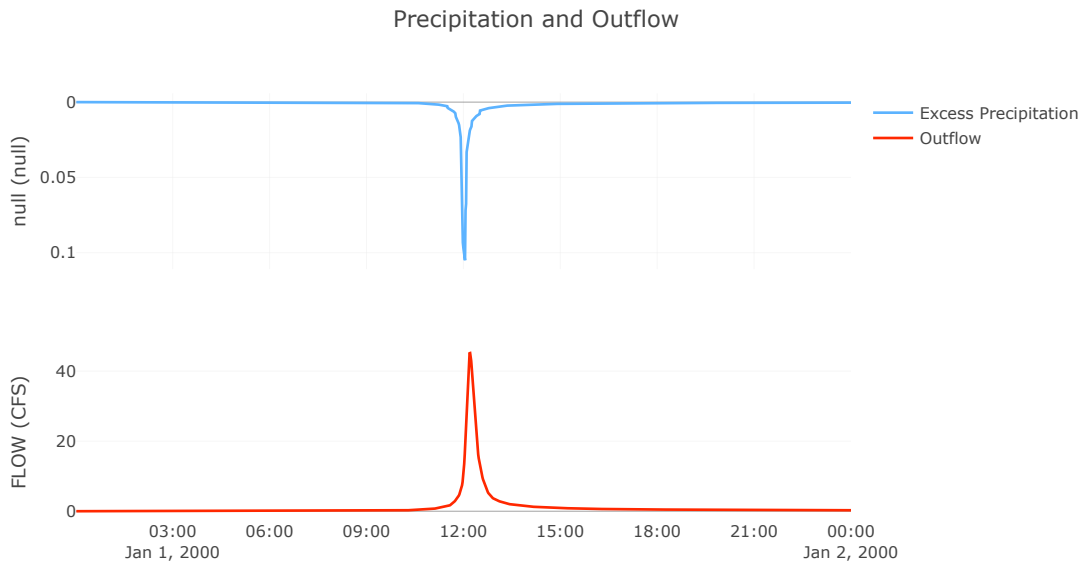
Subbasin: D6

Area (MI2) : 0.02
Downstream : Ditch D1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	88

Transform: Scs	
Lag	10.2
Unitgraph Type	Standard

Results: D6	
Peak Discharge (CFS)	45.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.15
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.3
Excess Volume (AC - FT)	2.29
Direct Runoff Volume (AC - FT)	2.29
Baseflow Volume (AC - FT)	0

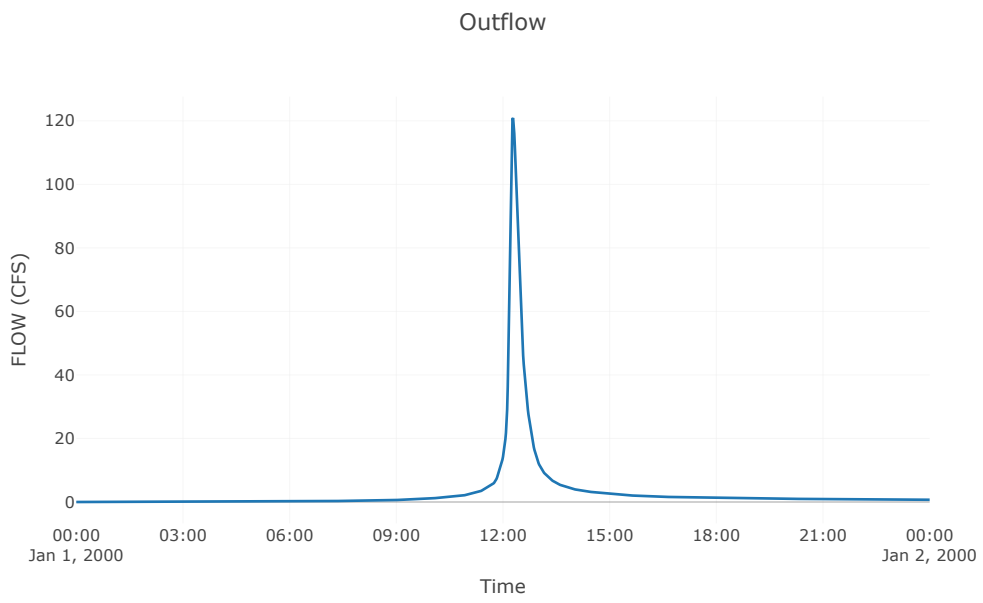


Reach: Ditch D1

Downstream : D1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1300
Energy Slope (FT/FT)	0
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D1	
Peak Discharge (CFS)	120.89
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.58
Peak Inflow (CFS)	121.06
Inflow Volume (AC - FT)	6.64



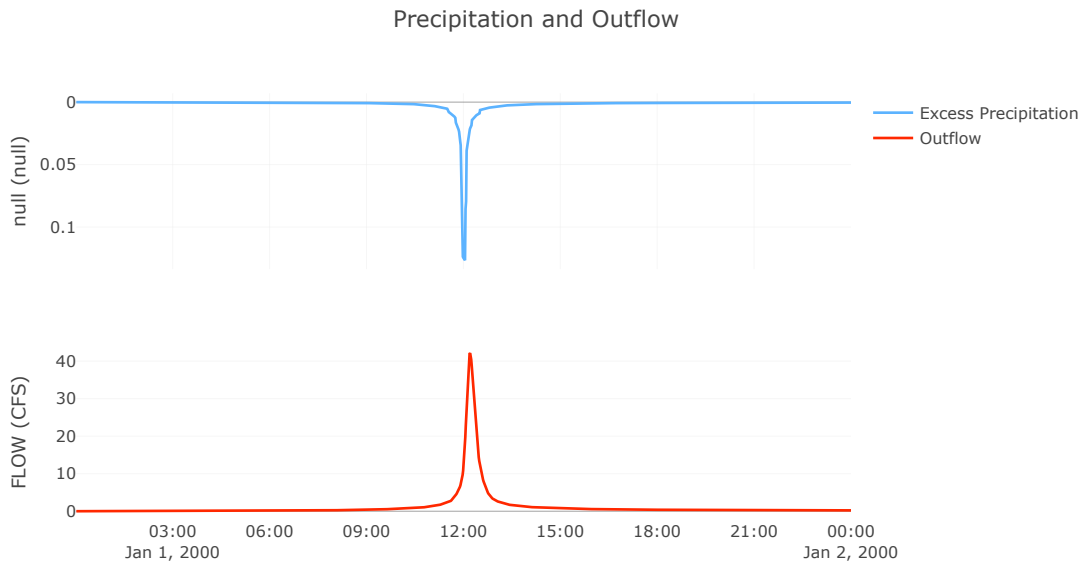
Subbasin: D1

Area (MI2) : 0.01
Downstream : D1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	10.8
Unitgraph Type	Standard

Results: D1	
Peak Discharge (CFS)	42.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.7
Loss Volume (AC - FT)	0.36
Excess Volume (AC - FT)	2.33
Direct Runoff Volume (AC - FT)	2.33
Baseflow Volume (AC - FT)	0

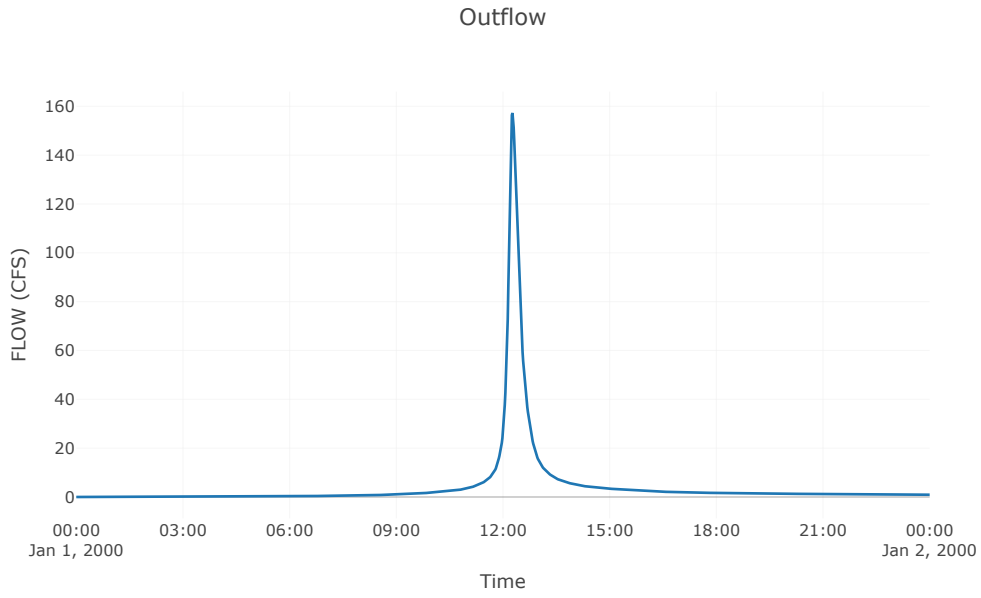


Junction: D1 Junction

Downstream : Ditch D2

Results: D1 Junction

Peak Discharge (CFS)	157.26
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.66



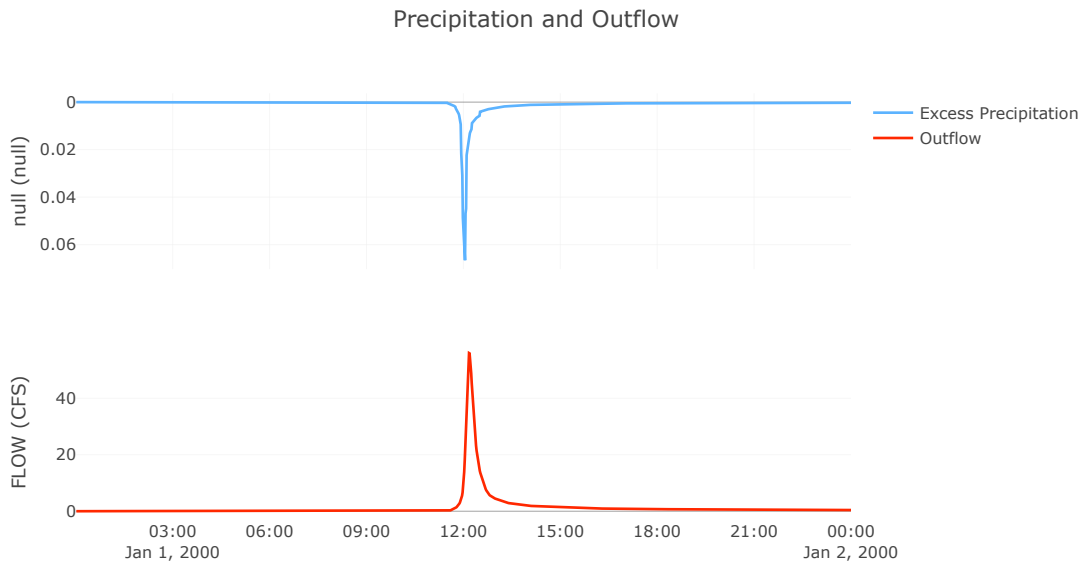
Subbasin: D5

Area (MI2) : 0.04
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: D5	
Peak Discharge (CFS)	56
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	1.27
Precipitation Volume (AC - FT)	7.01
Loss Volume (AC - FT)	4.36
Excess Volume (AC - FT)	2.65
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



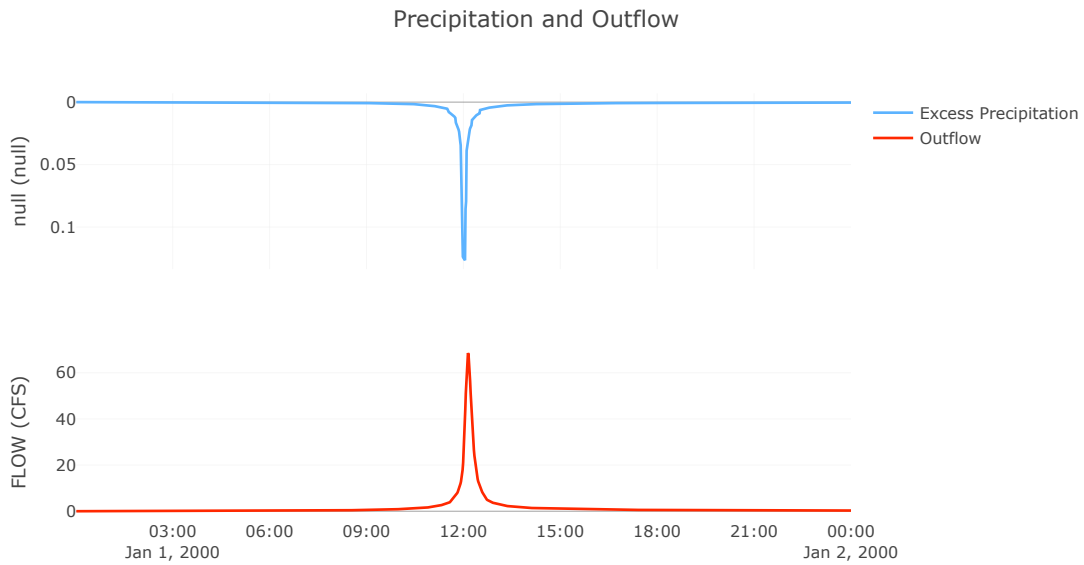
Subbasin: D3

Area (MI2) : 0.02
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D3	
Peak Discharge (CFS)	68.52
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0

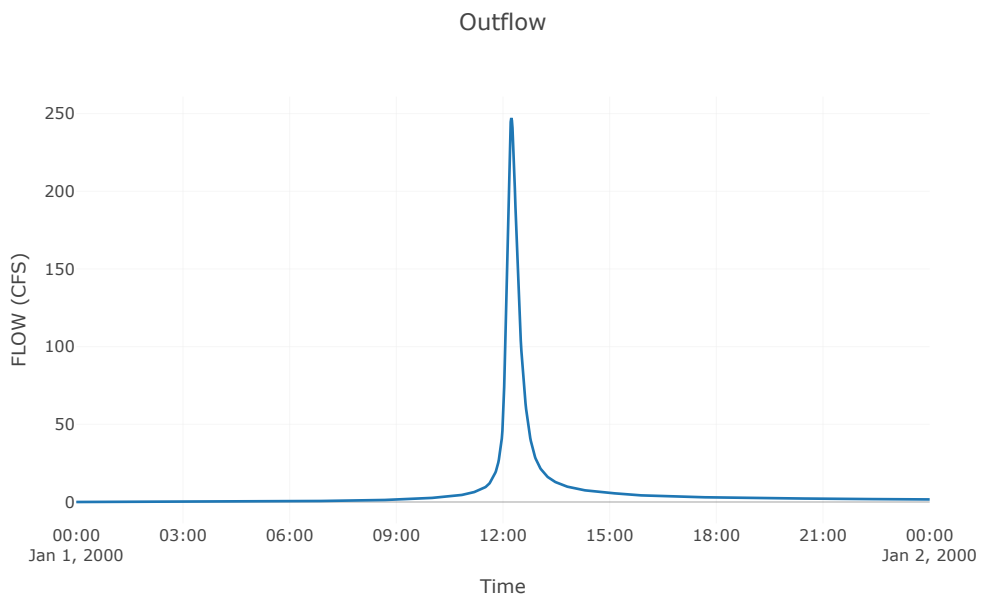


Reach: Ditch D2

Downstream : Junction - 2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

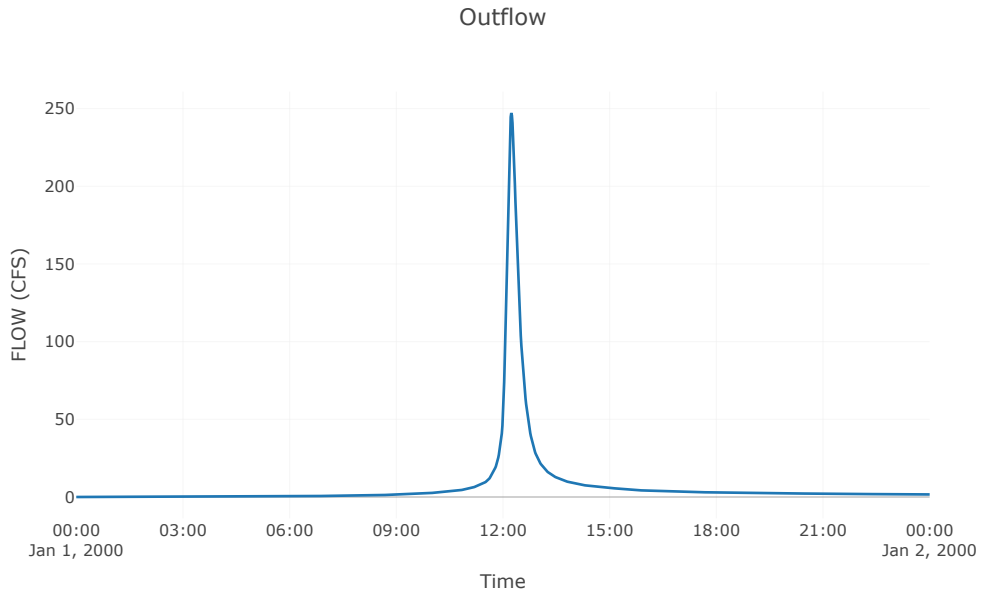
Results: Ditch D2	
Peak Discharge (CFS)	247.17
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.25
Peak Inflow (CFS)	247.31
Inflow Volume (AC - FT)	14.68



Junction: Junction-2

Downstream : Ditch D3

Results: Junction-2	
Peak Discharge (CFS)	247.17
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.25



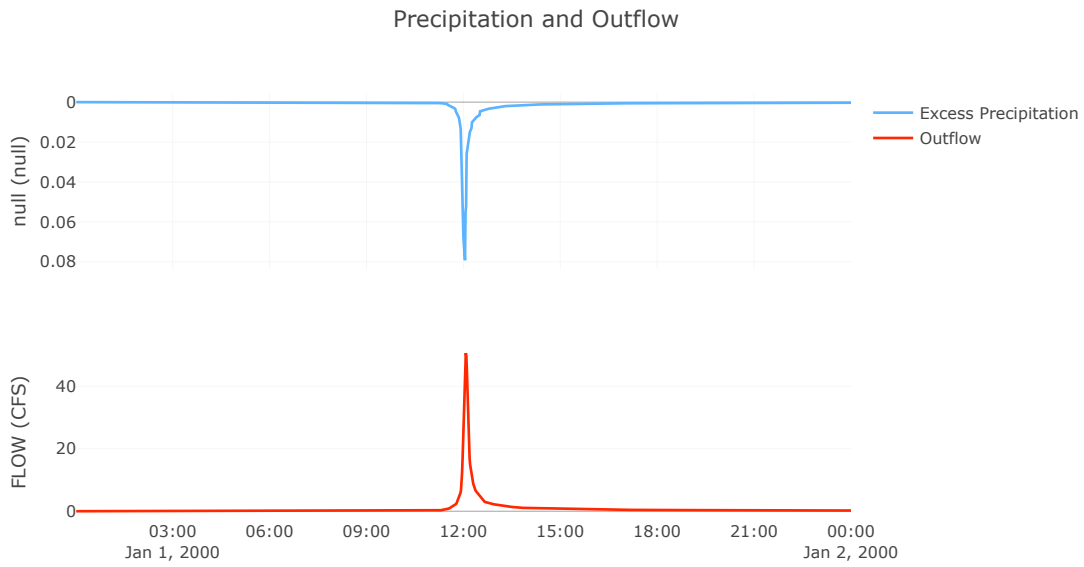
Subbasin: E6

Area (MI2) : 0.02
Downstream : Ditch D3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	2.4
Unitgraph Type	Standard

Results: E6	
Peak Discharge (CFS)	50.61
Time of Peak Discharge	01Jan2000, 12:04
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.41
Loss Volume (AC - FT)	1.86
Excess Volume (AC - FT)	1.55
Direct Runoff Volume (AC - FT)	1.55
Baseflow Volume (AC - FT)	0

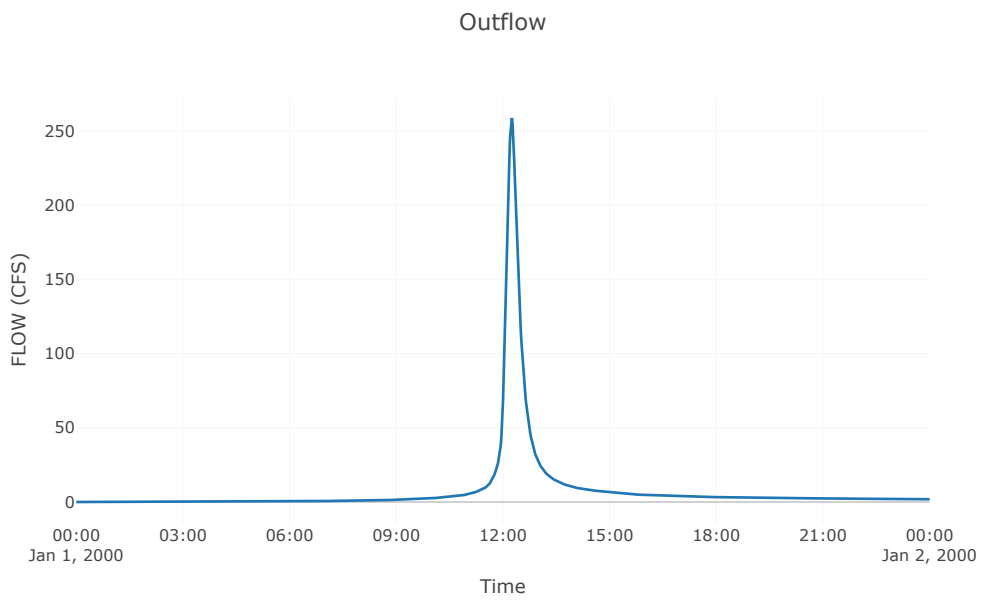


Reach: Ditch D3

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D3	
Peak Discharge (CFS)	258.74
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.16
Peak Inflow (CFS)	259.41
Inflow Volume (AC - FT)	16.22



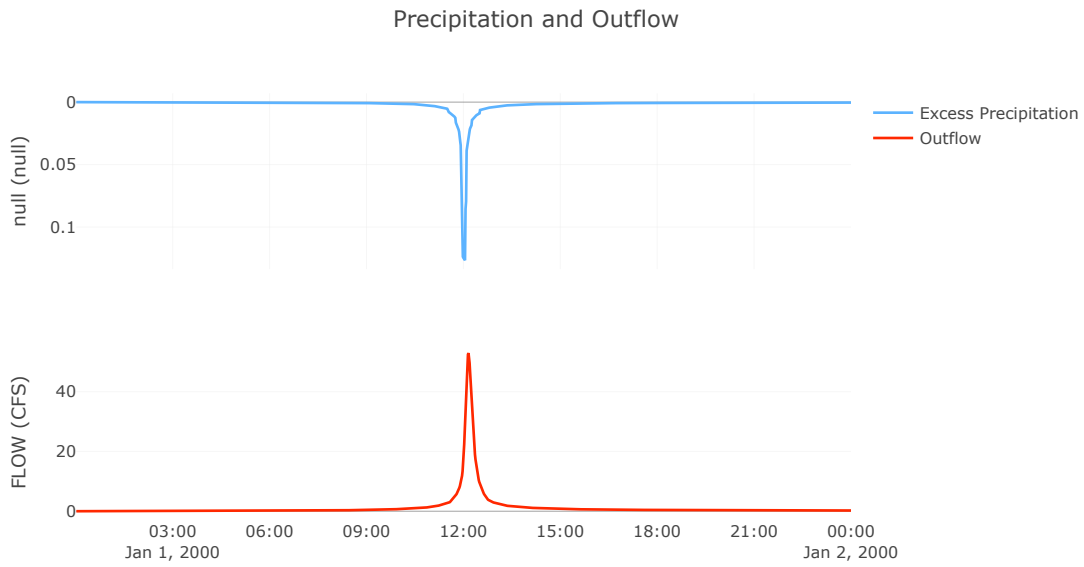
Subbasin: E2

Area (MI2) : 0.02
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.8
Unitgraph Type	Standard

Results: E2	
Peak Discharge (CFS)	52.91
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0



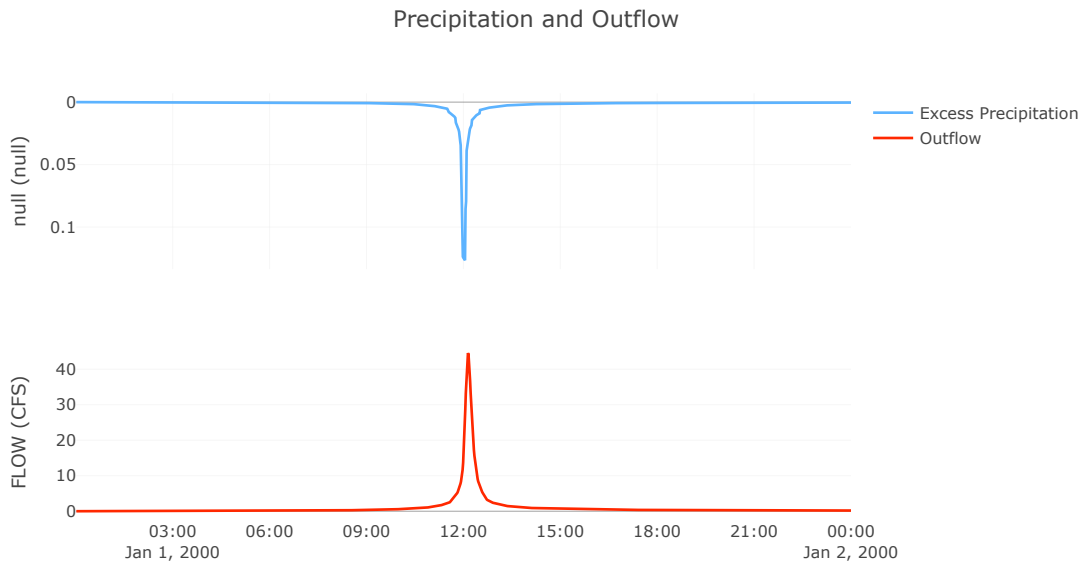
Subbasin: E5

Area (MI2) : 0.01
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: E5	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0

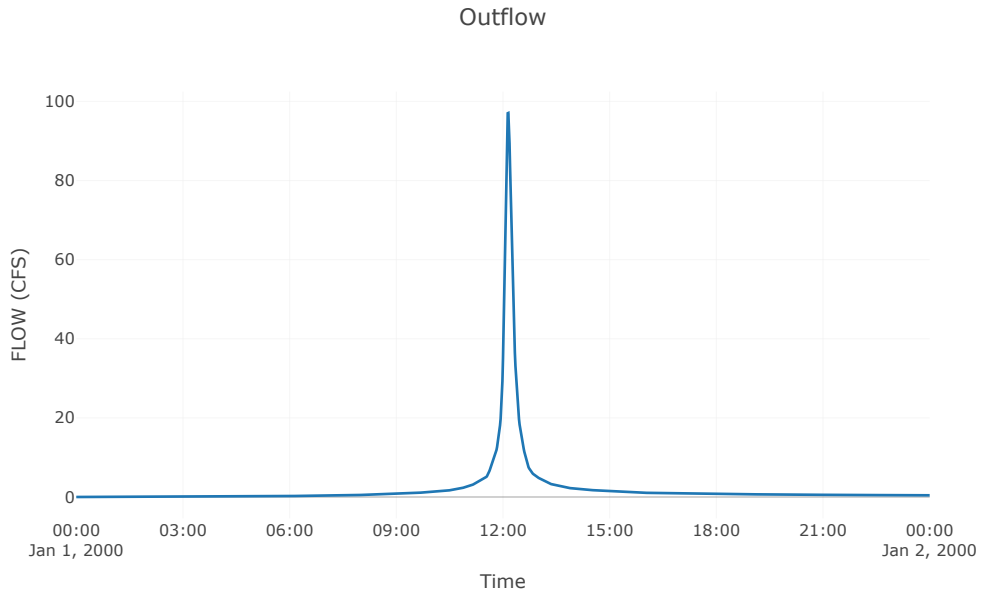


Junction: E2 Junction

Downstream : Ditch E1

Results: E2 Junction

Peak Discharge (CFS)	97.07
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91



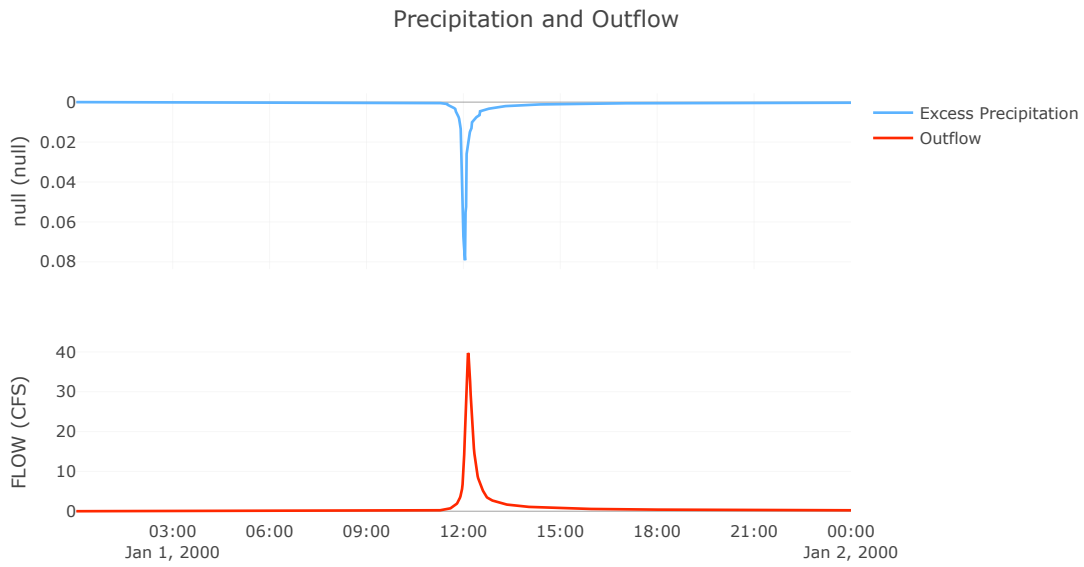
Subbasin: E4

Area (MI2) : 0.02
Downstream : Ditch E1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E4	
Peak Discharge (CFS)	39.7
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.96
Excess Volume (AC - FT)	1.64
Direct Runoff Volume (AC - FT)	1.63
Baseflow Volume (AC - FT)	0

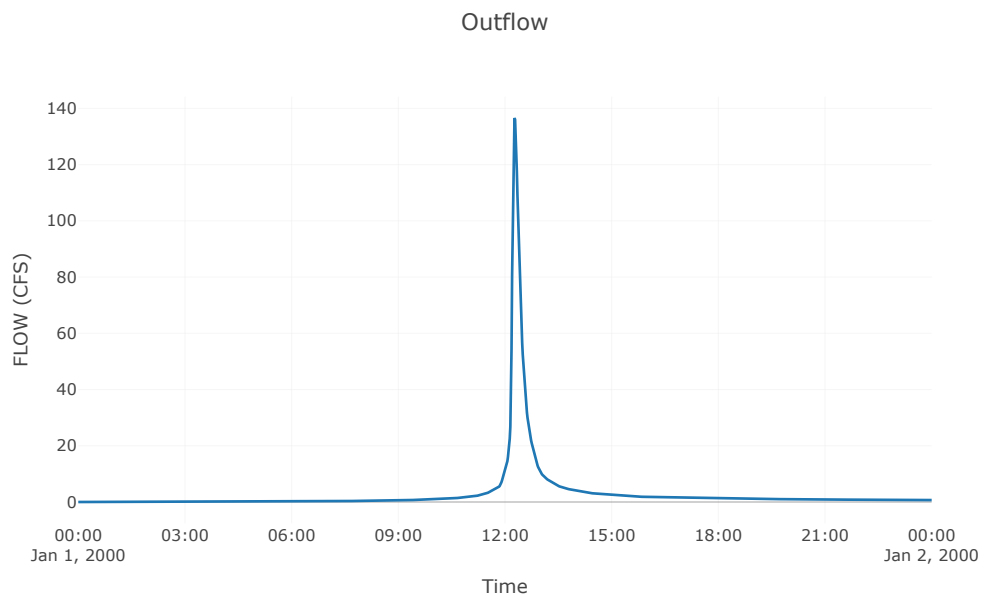


Reach: Ditch E1

Downstream : E1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2425
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch E1	
Peak Discharge (CFS)	136.59
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.33
Peak Inflow (CFS)	136.71
Inflow Volume (AC - FT)	6.14



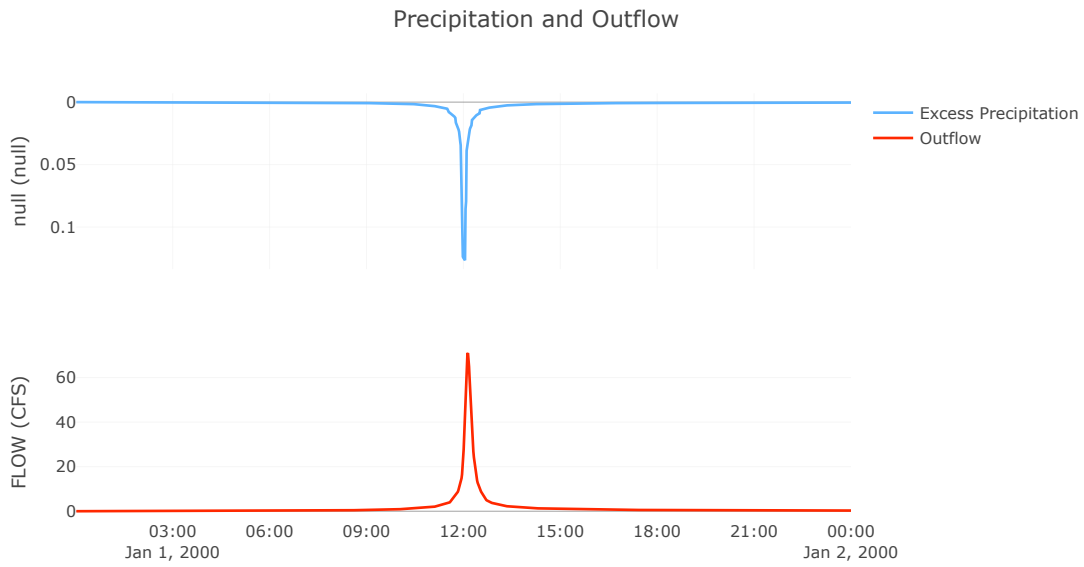
Subbasin: E3

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E3	
Peak Discharge (CFS)	70.98
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0



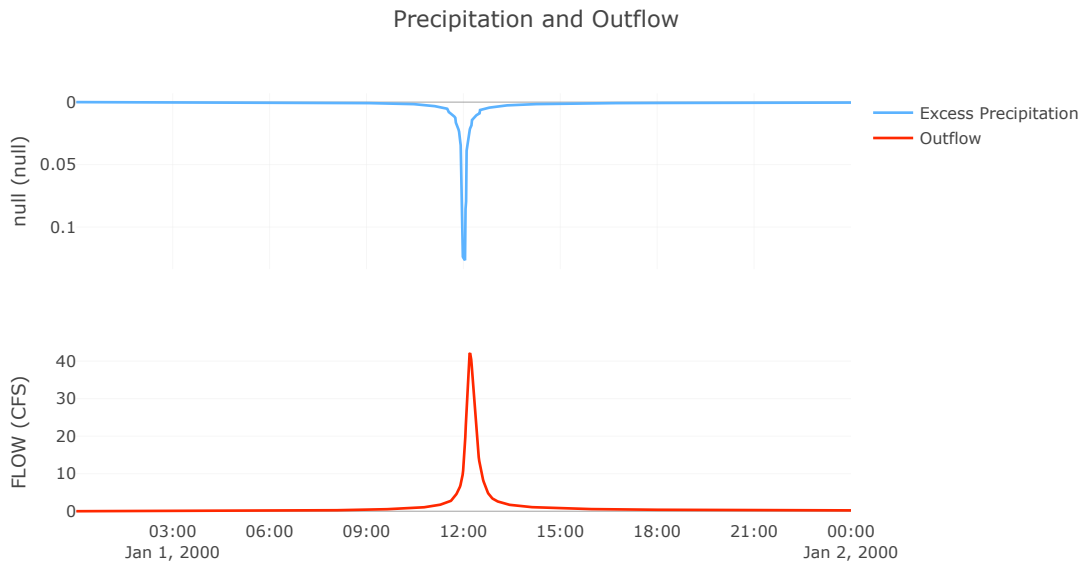
Subbasin: E1

Area (MI2) : 0.01
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	10.8
Unitgraph Type	Standard

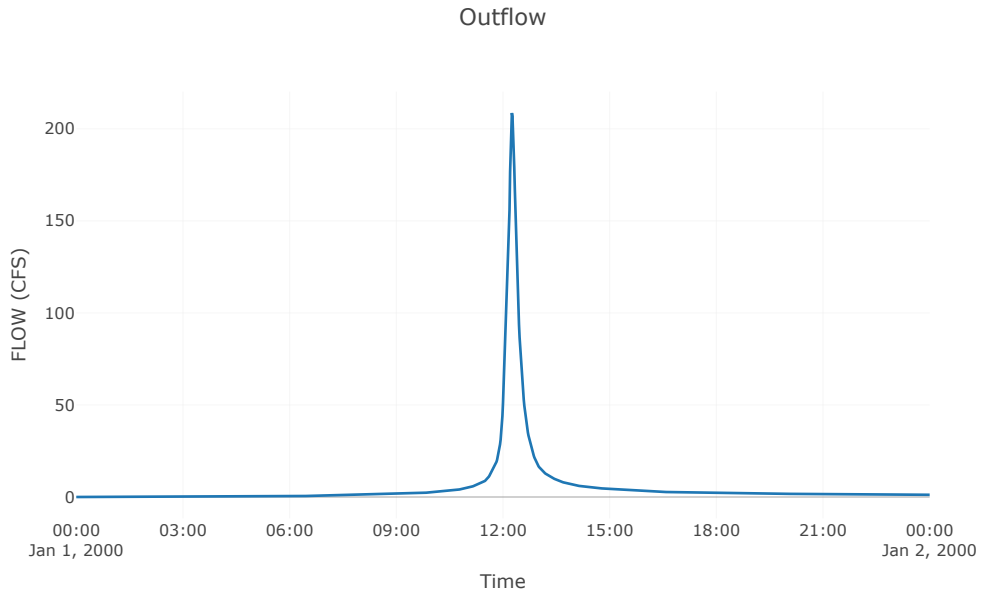
Results: E1	
Peak Discharge (CFS)	42.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.7
Loss Volume (AC - FT)	0.36
Excess Volume (AC - FT)	2.33
Direct Runoff Volume (AC - FT)	2.33
Baseflow Volume (AC - FT)	0



Junction: E1 Junction

Downstream : Culvert E2

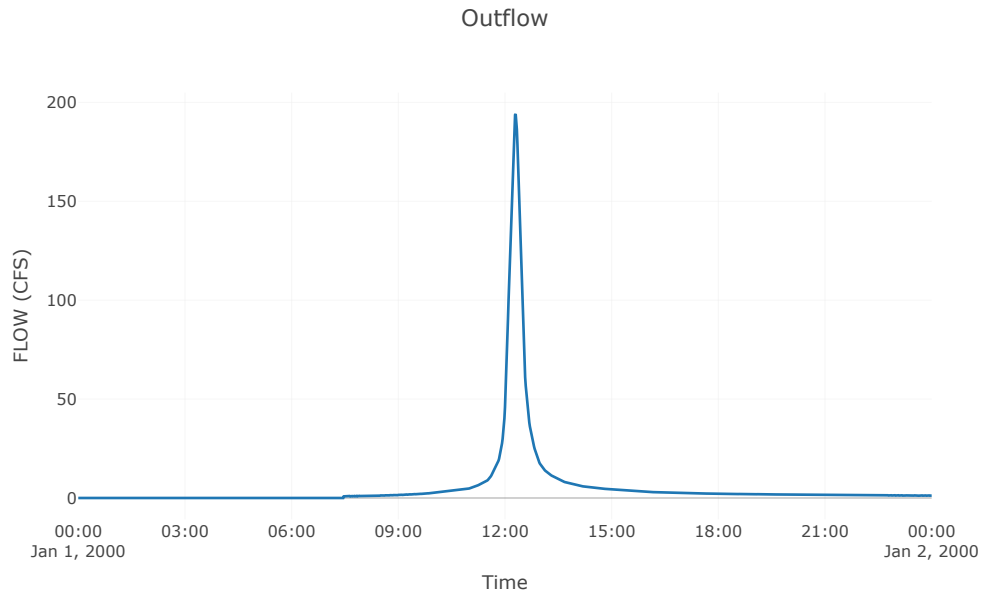
Results: E1 Junction	
Peak Discharge (CFS)	208.61
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.57



Reservoir: Culvert E2

Downstream : Ditch E2

Results: Culvert E2	
Peak Discharge (CFS)	194.13
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.55
Peak Inflow (CFS)	208.61
Time of Peak Inflow	01Jan2000, 12:15
Inflow Volume (AC - FT)	11.53
Maximum Storage (AC - FT)	1.27
Peak Elevation (FT)	3956.01
Discharge Volume (AC - FT)	11.41

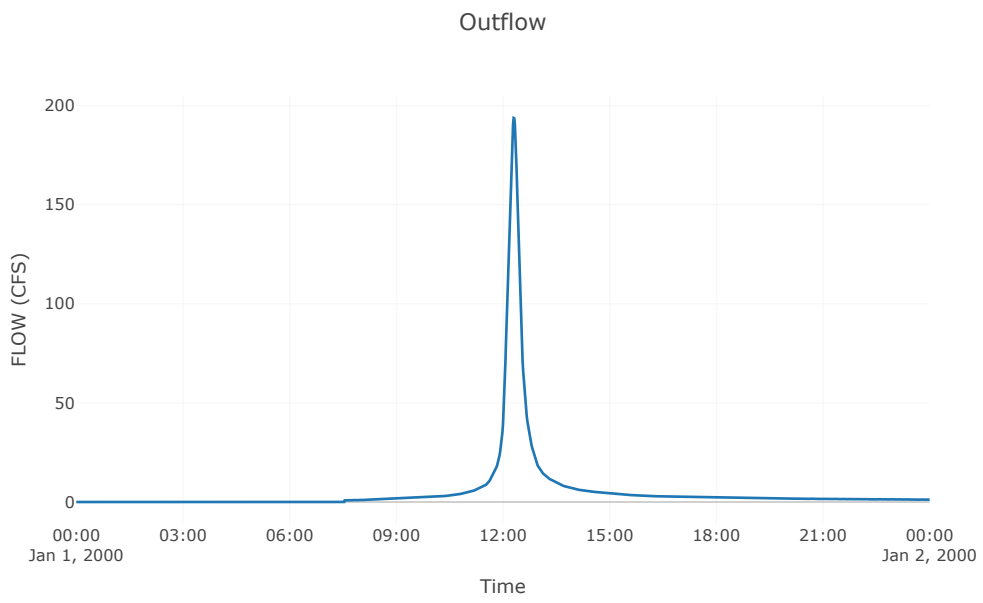


Reach: Ditch E2

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	570
Energy Slope (FT/FT)	0.05
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

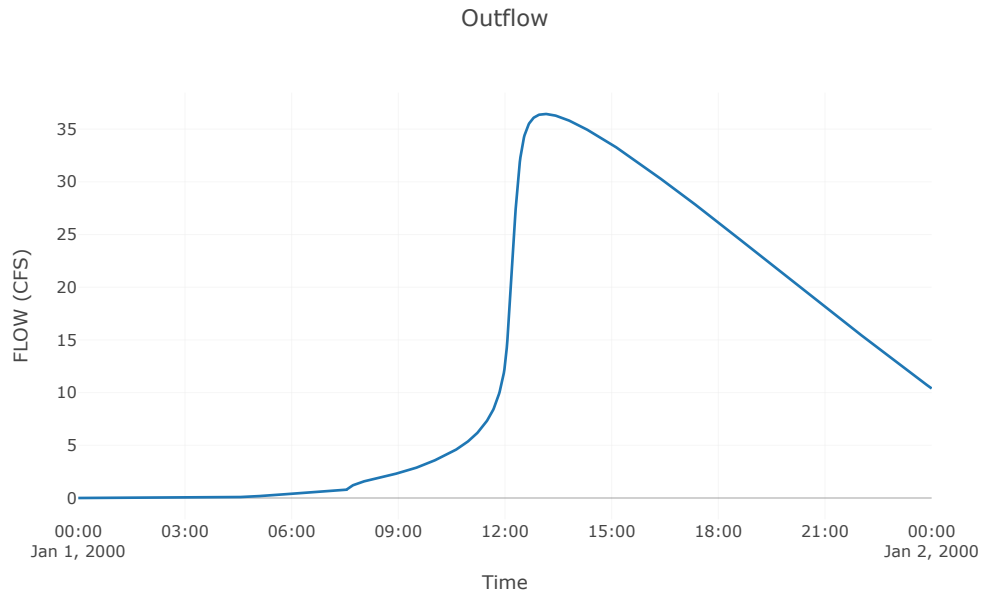
Results: Ditch E2	
Peak Discharge (CFS)	193.77
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.55
Peak Inflow (CFS)	194.13
Inflow Volume (AC - FT)	11.41



Reservoir: Basin DE

Downstream : Outfall DE

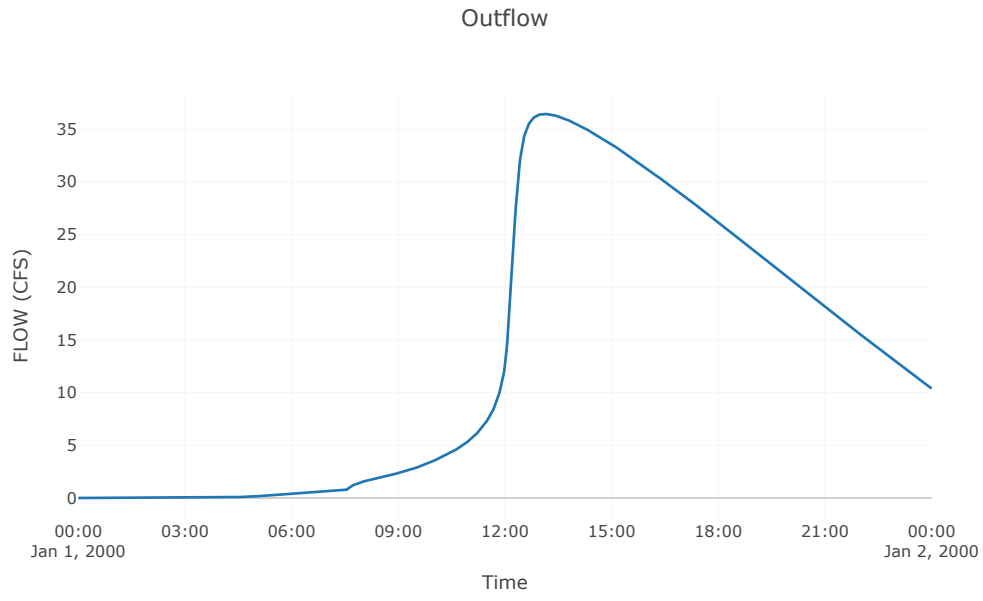
Results: Basin DE	
Peak Discharge (CFS)	36.43
Time of Peak Discharge	01Jan2000, 13:07
Volume (IN)	2.19
Peak Inflow (CFS)	439.66
Time of Peak Inflow	01Jan2000, 12:17
Inflow Volume (AC - FT)	27.61
Maximum Storage (AC - FT)	20.85
Peak Elevation (FT)	3930.44
Discharge Volume (AC - FT)	26.32



Sink: Outfall DE

Results: Outfall DE

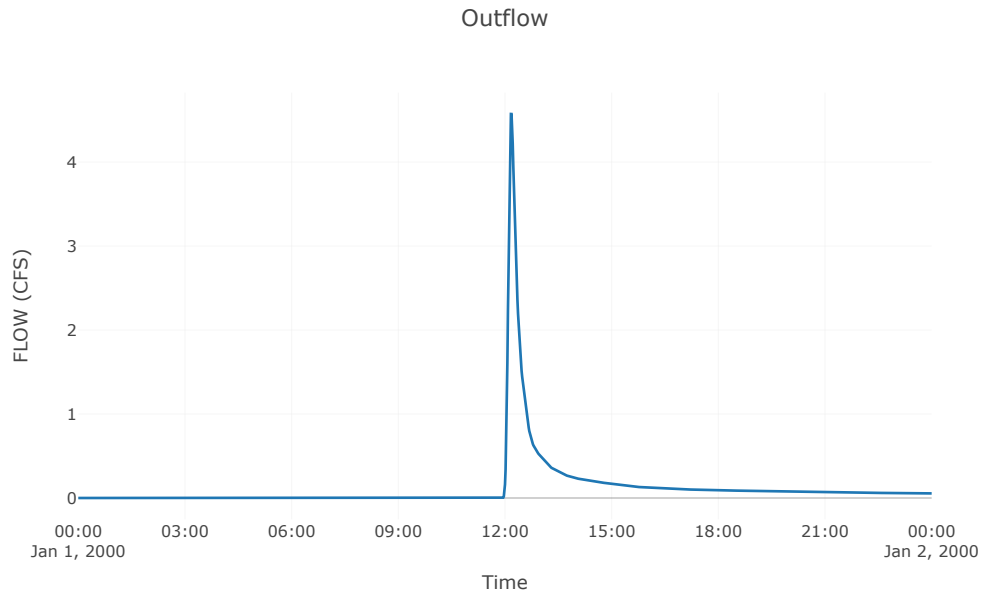
Peak Discharge (CFS)	36.43
Time of Peak Discharge	01Jan2000, 13:07
Volume (IN)	2.19



Sink: Outfall A

Results: Outfall A

Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6



DEVELOPED CONDITIONS
(ATLAS 14)
HEC-HMS CALCULATIONS

Project: GEPLandfill_Sept2025
Simulation Run: ProposedConditions25Year
Simulation Start: 31 December 1999, 24:00
Simulation End: 1 January 2000, 24:00

HMS Version: 4.13
Executed: 16 September 2025, 10:58

Global Parameter Summary - Subbasin

	Area (MI2)
Element Name	Area (MI2)
B4	0.04
B1	0.01
B6	0.03
B3	0.02
Cos	0.24
B5	0.05
B2	0.01
B7	0.03
B8	0.02
C2	0.03
C1	0.01
C3	0.01
A1	0.01
D4	0.01
D6	0.02
D1	0.02
D5	0.04
D3	0.02
E6	0.02
E2	0.02
E5	0.01
E4	0.02
E3	0.02
E1	0.02

Downstream

Element Name	Downstream
B4	B1 Junction
B1	B1 Junction
B6	B3 Junction
B3	B3 Junction
Cos	Ditch B1
B5	B2 Junction
B2	B2 Junction
B7	Ditch B2
B8	Ditch B2
C2	C1 Junction
C1	C1 Junction
C3	Ditch C2
A1	Outfall A
D4	D4 Junction
D6	Ditch D1
D1	D1 Junction
D5	Ditch D2
D3	Ditch D2
E6	Ditch D3
E2	E2 Junction
E5	E2 Junction
E4	Ditch E1
E3	E1 Junction
E1	E1 Junction

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
B4	0	96
B1	0	96
B6	0	96
B3	0	96
Cos	0	63
B5	0	96
B2	0	96
B7	0	73
B8	0	76
C2	0	96
C1	0	96
C3	0	96
A1	0	63
D4	0	96
D6	0	88
D1	0	96
D5	0	76
D3	0	96
E6	0	80
E2	0	96
E5	0	96
E4	0	80
E3	0	96
E1	0	96

Transform: Scs		
Element Name	**Lag**	**Unitgraph Type**
B4	5.4	Standard
B1	5.4	Standard
B6	5.4	Standard
B3	6.6	Standard
Cos	46.8	Standard
B5	8.4	Standard
B2	6	Standard
B7	33.6	Standard
B8	13.8	Standard
C2	4.8	Standard
C1	6	Standard
C3	21.6	Standard
A1	7.2	Standard
D4	7.2	Standard
D6	10.2	Standard
D1	4.2	Standard
D5	8.4	Standard
D3	7.2	Standard
E6	2.4	Standard
E2	6	Standard
E5	7.2	Standard
E4	6.6	Standard
E3	6.6	Standard
E1	4.8	Standard

Global Parameter Summary - Reach

Downstream	
Element Name	**Downstream**
Ditch B1	Ditch B2
Ditch B2	Basin BC
Ditch C1	Culvert C2
Ditch C2	Basin BC
Ditch D1	D1 Junction
Ditch D2	Junction - 2
Ditch D3	Basin DE
Ditch E1	E1 Junction
Ditch E2	Basin DE

Route: Kinematic Wave

Element Name	Method	Channel	Length (FT)	Energy Slope (FT/FT)	Mannings n	Shape	Number of Subreaches	Width (FT)	Side Slope (FT/FT)	Initial Variable	Index Parameter Type	Index Flow
Ditch B1	Kinematic Wave	Kinematic Wave	2769	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch B2	Kinematic Wave	Kinematic Wave	1596	0.03	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C1	Kinematic Wave	Kinematic Wave	2080	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C2	Kinematic Wave	Kinematic Wave	2335	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D1	Kinematic Wave	Kinematic Wave	1300	0	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D2	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D3	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E1	Kinematic Wave	Kinematic Wave	2425	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E2	Kinematic Wave	Kinematic Wave	570	0.05	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
B4	0.04	147.65	01Jan2000, 12:06	2.91
B1	0.01	38.91	01Jan2000, 12:06	2.91
B6	0.03	95.76	01Jan2000, 12:06	2.91
B3	0.02	66.37	01Jan2000, 12:08	2.91
Cos	0.24	42.48	01Jan2000, 12:58	0.59
B3 Junction	0.04	161.75	01Jan2000, 12:07	2.91
Ditch B1	0.28	161.62	01Jan2000, 12:16	0.94
B5	0.05	151.27	01Jan2000, 12:09	2.91
B2	0.01	32.49	01Jan2000, 12:07	2.91
B2 Junction	0.06	181.57	01Jan2000, 12:09	2.91
B7	0.03	12.51	01Jan2000, 12:39	1.08
B8	0.02	25.96	01Jan2000, 12:16	1.27
Ditch B2	0.39	318.12	01Jan2000, 12:16	1.25
C2	0.03	129.52	01Jan2000, 12:06	2.91
C1	0.01	40.61	01Jan2000, 12:07	2.91
C1 Junction	0.04	169.25	01Jan2000, 12:06	2.91
Ditch C1	0.04	168.55	01Jan2000, 12:10	2.9
Culvert C2	0.04	148.65	01Jan2000, 12:13	2.9
C3	0.01	26.89	01Jan2000, 12:23	2.91
Ditch C2	0.06	168.15	01Jan2000, 12:18	2.89
B1 Junction	0.05	186.56	01Jan2000, 12:06	2.91
Basin BC	0.49	95.71	01Jan2000, 13:02	1.19
Outfall BC	0.49	95.71	01Jan2000, 13:02	1.19
A1	0.01	4.57	01Jan2000, 12:10	0.6
D4	0.01	44.54	01Jan2000, 12:08	2.91
D6	0.02	45.14	01Jan2000, 12:12	2.15
D4 Junction	0.01	44.54	01Jan2000, 12:08	2.91
Ditch D1	0.03	86.38	01Jan2000, 12:16	2.43
D1	0.02	66.08	01Jan2000, 12:05	2.91
D1 Junction	0.05	104.3	01Jan2000, 12:15	2.59
D5	0.04	56	01Jan2000, 12:10	1.27

D3	0.02	68.52	01Jan2000, 12:08	2.91
Ditch D2	0.11	204.15	01Jan2000, 12:12	2.17
Junction - 2	0.11	204.15	01Jan2000, 12:12	2.17
E6	0.02	50.61	01Jan2000, 12:04	1.53
Ditch D3	0.13	224.54	01Jan2000, 12:08	2.07
E2	0.02	62.76	01Jan2000, 12:07	2.91
E5	0.01	44.54	01Jan2000, 12:08	2.91
E2 Junction	0.03	106.29	01Jan2000, 12:07	2.91
E4	0.02	39.7	01Jan2000, 12:08	1.53
Ditch E1	0.05	145.11	01Jan2000, 12:16	2.34
E3	0.02	70.98	01Jan2000, 12:08	2.91
E1	0.02	63.77	01Jan2000, 12:06	2.91
E1 Junction	0.09	206.41	01Jan2000, 12:14	2.58
Culvert E2	0.09	193.17	01Jan2000, 12:17	2.56
Ditch E2	0.09	193.17	01Jan2000, 12:17	2.55
Basin DE	0.21	35.12	01Jan2000, 13:03	2.18
Outfall DE	0.21	35.12	01Jan2000, 13:03	2.18
Outfall A	0.01	4.57	01Jan2000, 12:10	0.6

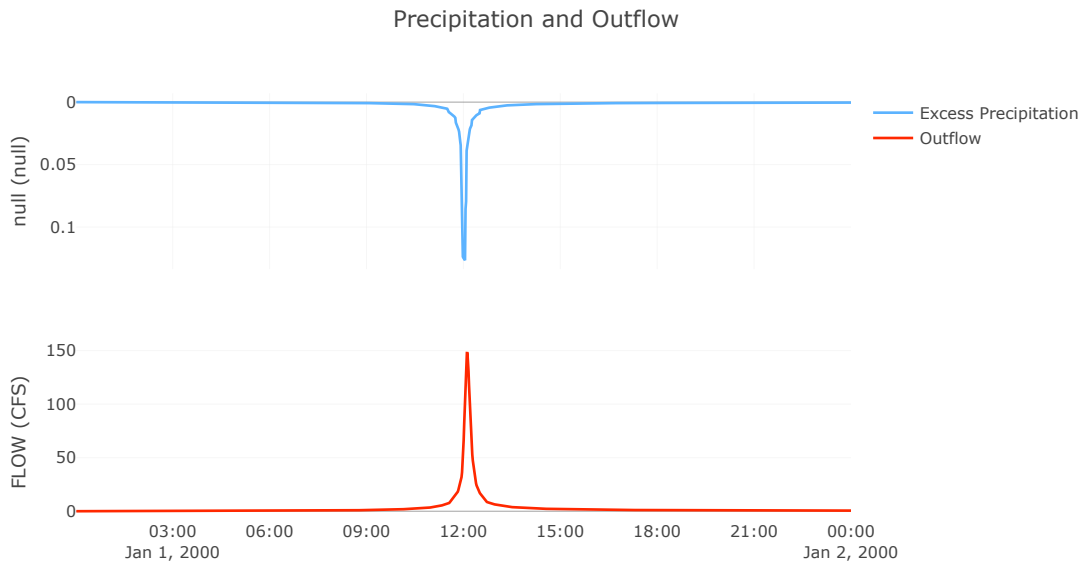
Subbasin: B4

Area (MI2) : 0.04
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B4	
Peak Discharge (CFS)	147.65
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	6.96
Loss Volume (AC - FT)	0.94
Excess Volume (AC - FT)	6.02
Direct Runoff Volume (AC - FT)	6.01
Baseflow Volume (AC - FT)	0



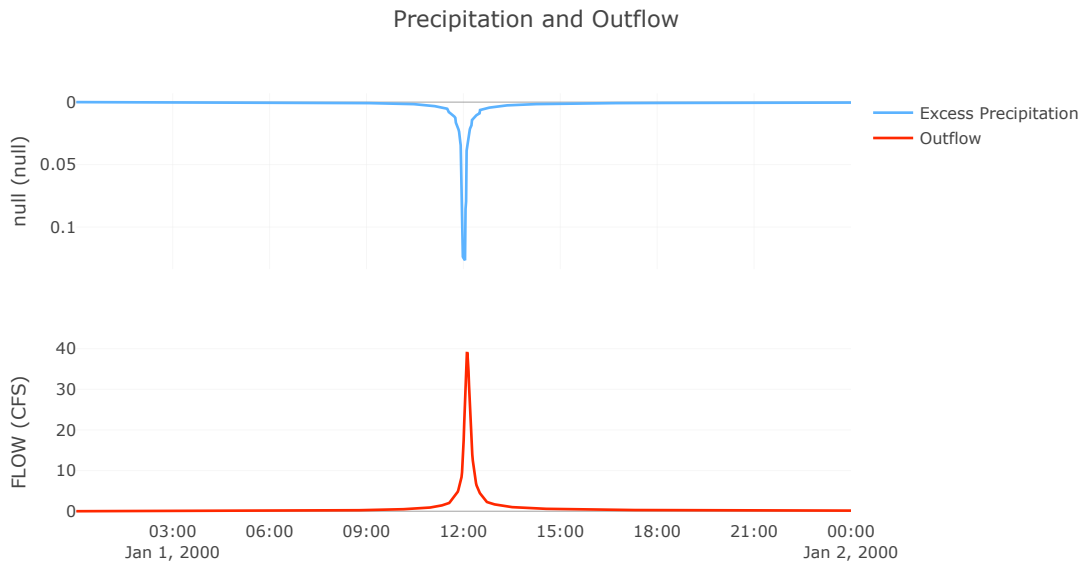
Subbasin: B1

Area (MI2) : 0.01
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B1	
Peak Discharge (CFS)	38.91
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.83
Loss Volume (AC - FT)	0.25
Excess Volume (AC - FT)	1.59
Direct Runoff Volume (AC - FT)	1.59
Baseflow Volume (AC - FT)	0



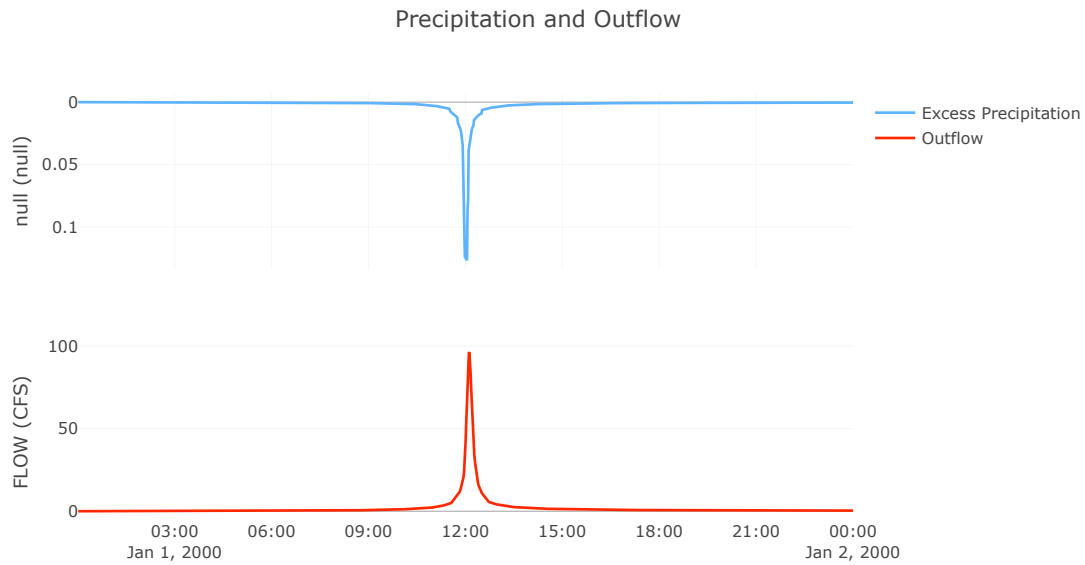
Subbasin: B6

Area (MI2) : 0.03
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B6	
Peak Discharge (CFS)	95.76
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.51
Loss Volume (AC - FT)	0.61
Excess Volume (AC - FT)	3.9
Direct Runoff Volume (AC - FT)	3.9
Baseflow Volume (AC - FT)	0



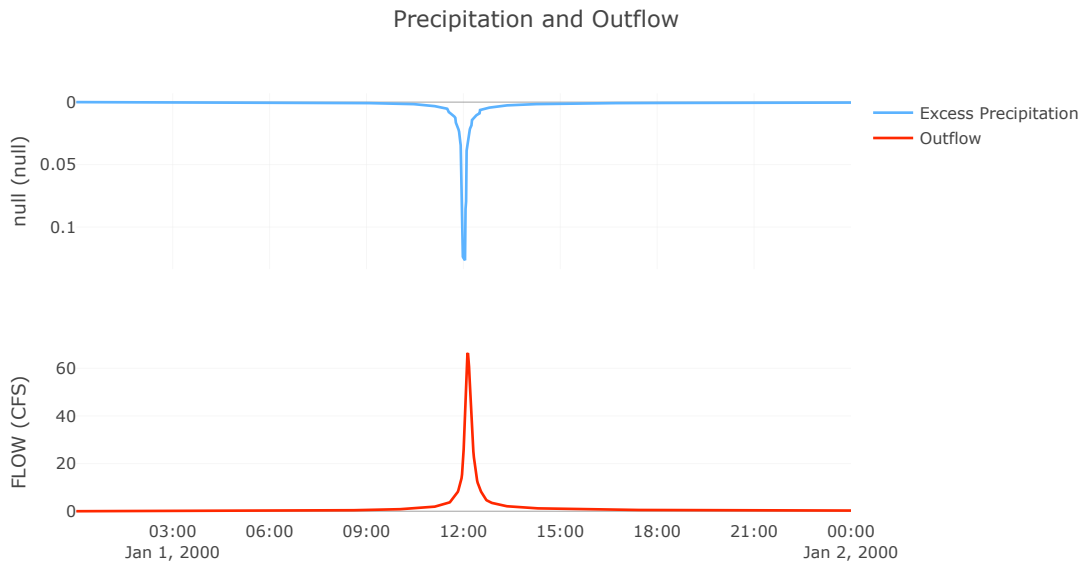
Subbasin: B3

Area (MI2) : 0.02
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: B3	
Peak Discharge (CFS)	66.37
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.36
Loss Volume (AC - FT)	0.45
Excess Volume (AC - FT)	2.91
Direct Runoff Volume (AC - FT)	2.91
Baseflow Volume (AC - FT)	0



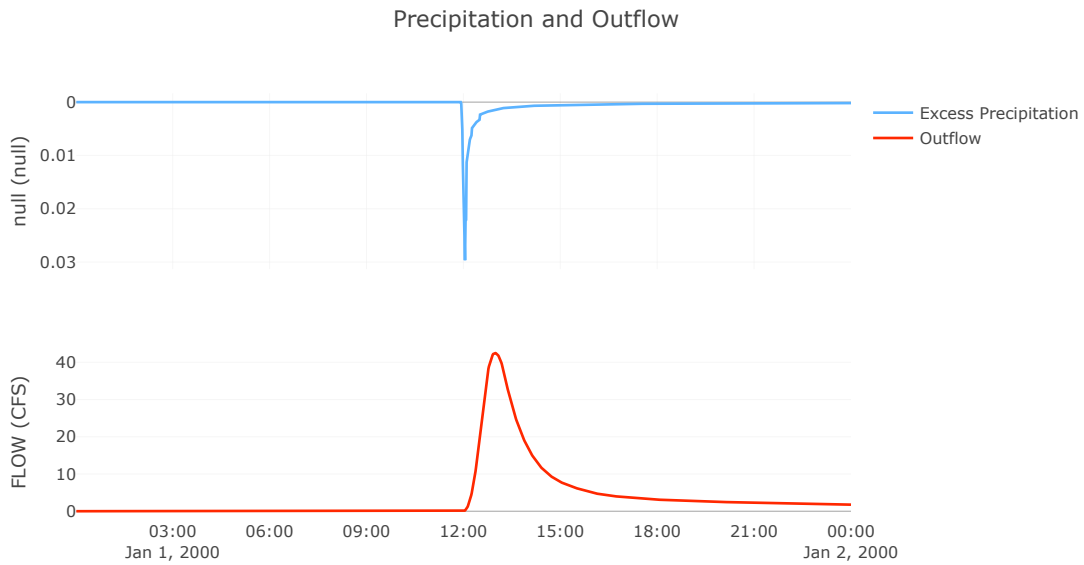
Subbasin: COS

Area (MI2) : 0.24
Downstream : Ditch B1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	46.8
Unitgraph Type	Standard

Results: COS	
Peak Discharge (CFS)	42.48
Time of Peak Discharge	01Jan2000, 12:58
Volume (IN)	0.59
Precipitation Volume (AC - FT)	42.52
Loss Volume (AC - FT)	34.99
Excess Volume (AC - FT)	7.54
Direct Runoff Volume (AC - FT)	7.39
Baseflow Volume (AC - FT)	0

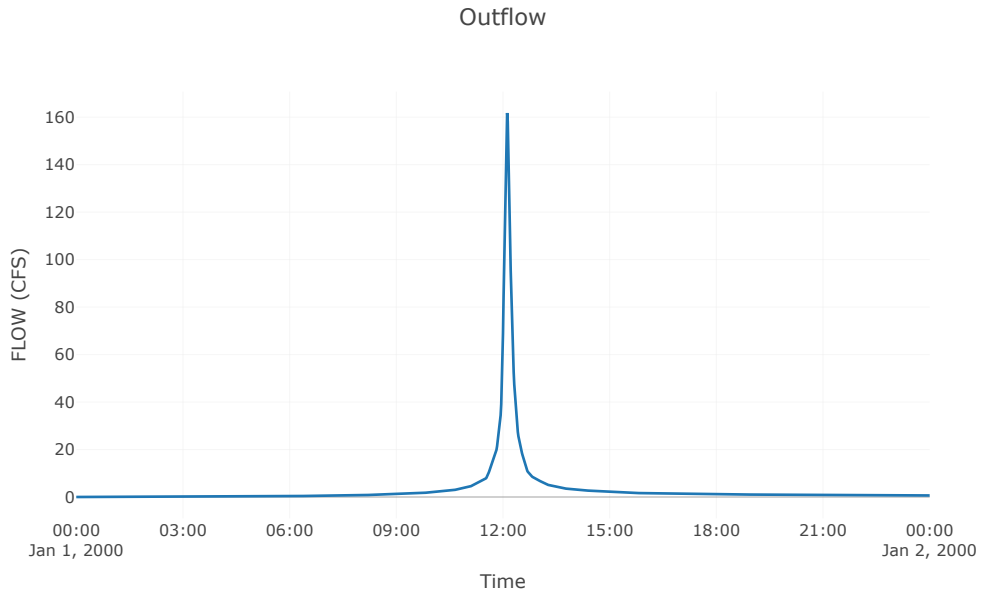


Junction: B3 Junction

Downstream : Ditch B1

Results: B3 Junction

Peak Discharge (CFS)	161.75
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91

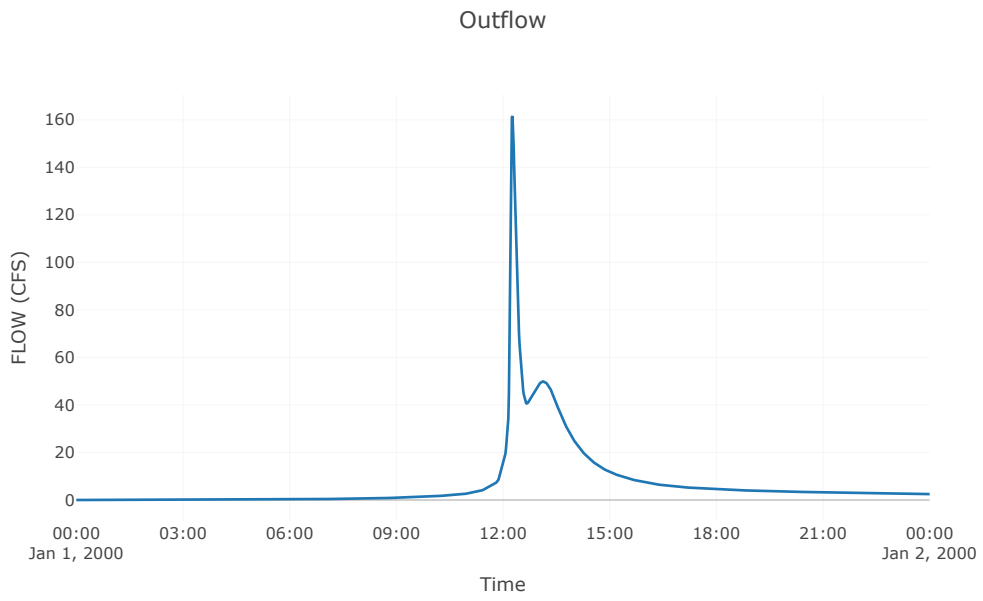


Reach: Ditch B1

Downstream : Ditch B2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2769
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B1	
Peak Discharge (CFS)	161.62
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	0.94
Peak Inflow (CFS)	162.86
Inflow Volume (AC - FT)	14.2



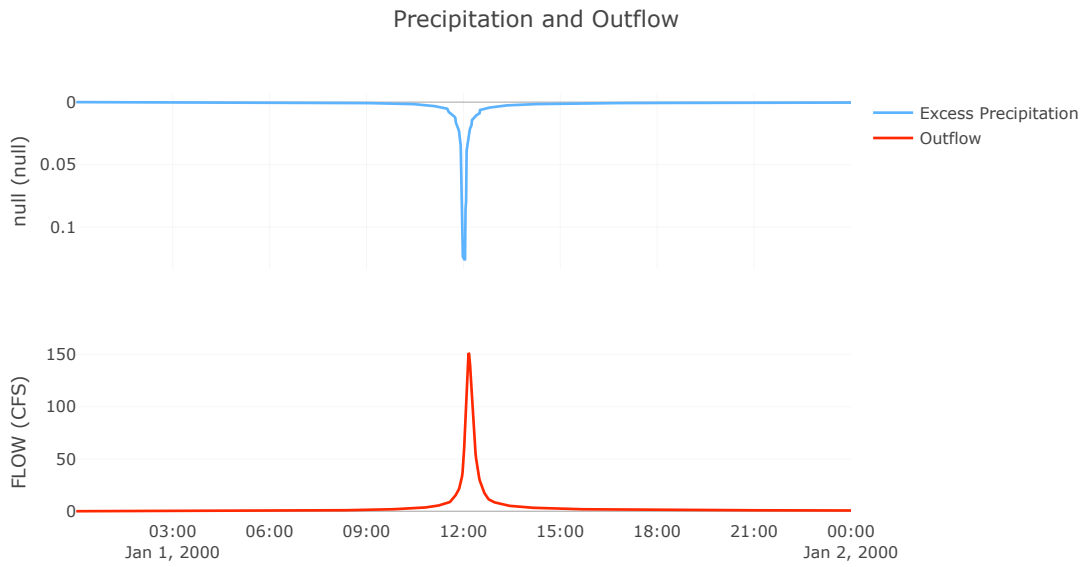
Subbasin: B5

Area (MI2) : 0.05
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: B5	
Peak Discharge (CFS)	151.27
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91
Precipitation Volume (AC - FT)	8.52
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	7.37
Direct Runoff Volume (AC - FT)	7.36
Baseflow Volume (AC - FT)	0



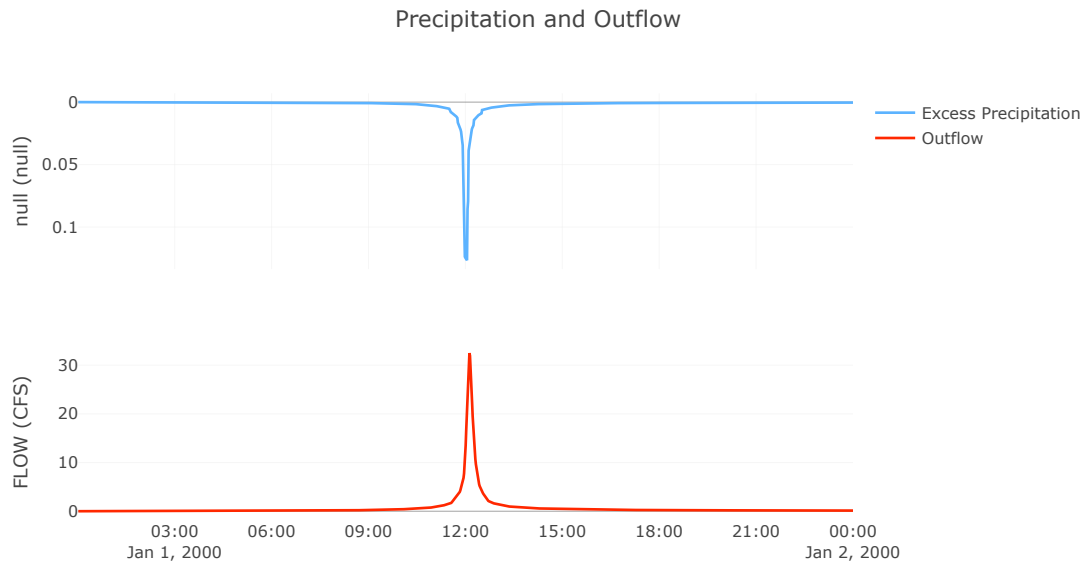
Subbasin: B2

Area (MI2) : 0.01
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: B2	
Peak Discharge (CFS)	32.49
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.58
Loss Volume (AC - FT)	0.21
Excess Volume (AC - FT)	1.37
Direct Runoff Volume (AC - FT)	1.37
Baseflow Volume (AC - FT)	0

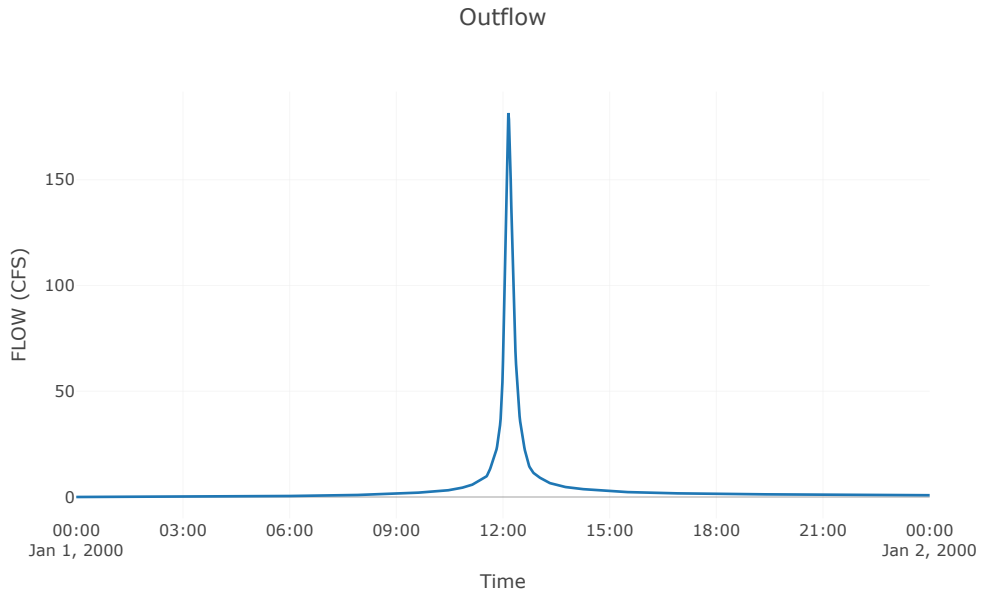


Junction: B2 Junction

Downstream : Ditch B2

Results: B2 Junction

Peak Discharge (CFS)	181.57
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91



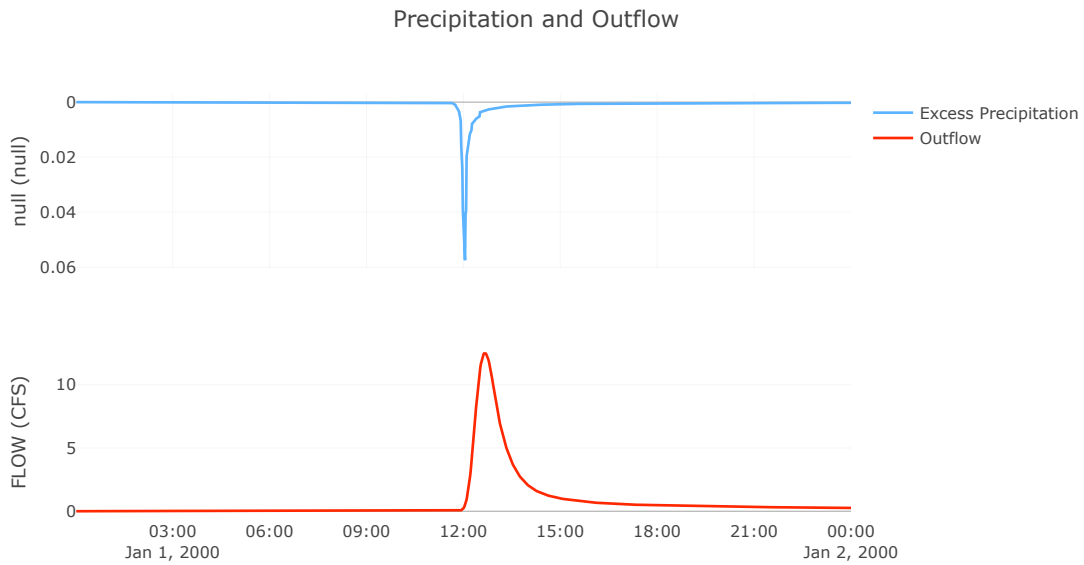
Subbasin: B7

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73

Transform: Scs	
Lag	33.6
Unitgraph Type	Standard

Results: B7	
Peak Discharge (CFS)	12.51
Time of Peak Discharge	01Jan2000, 12:39
Volume (IN)	1.08
Precipitation Volume (AC - FT)	4.57
Loss Volume (AC - FT)	3.08
Excess Volume (AC - FT)	1.48
Direct Runoff Volume (AC - FT)	1.47
Baseflow Volume (AC - FT)	0



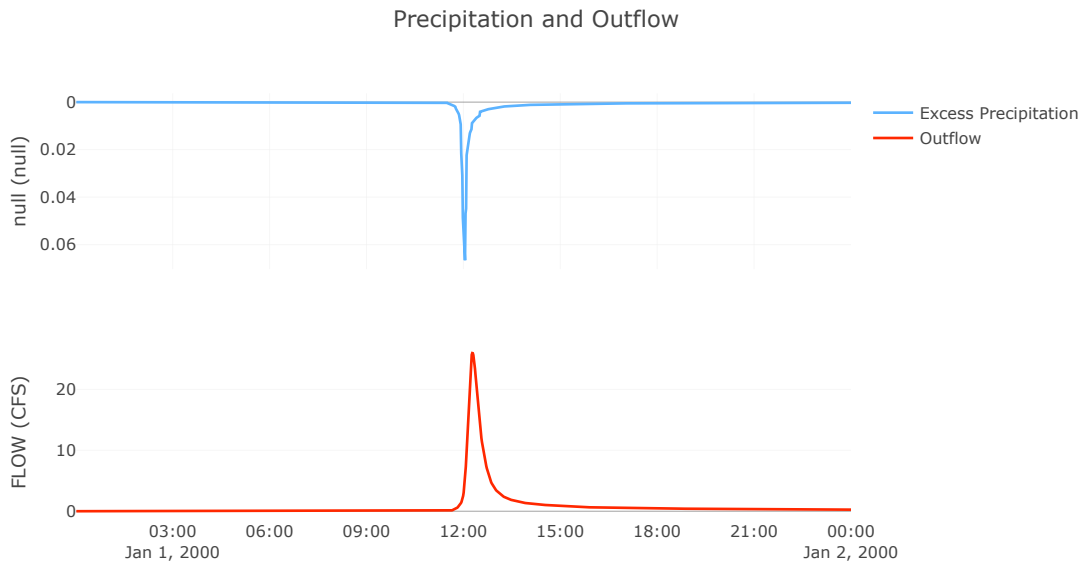
Subbasin: B8

Area (MI2) : 0.02
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	13.8
Unitgraph Type	Standard

Results: B8	
Peak Discharge (CFS)	25.96
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	1.27
Precipitation Volume (AC - FT)	4.31
Loss Volume (AC - FT)	2.69
Excess Volume (AC - FT)	1.63
Direct Runoff Volume (AC - FT)	1.62
Baseflow Volume (AC - FT)	0

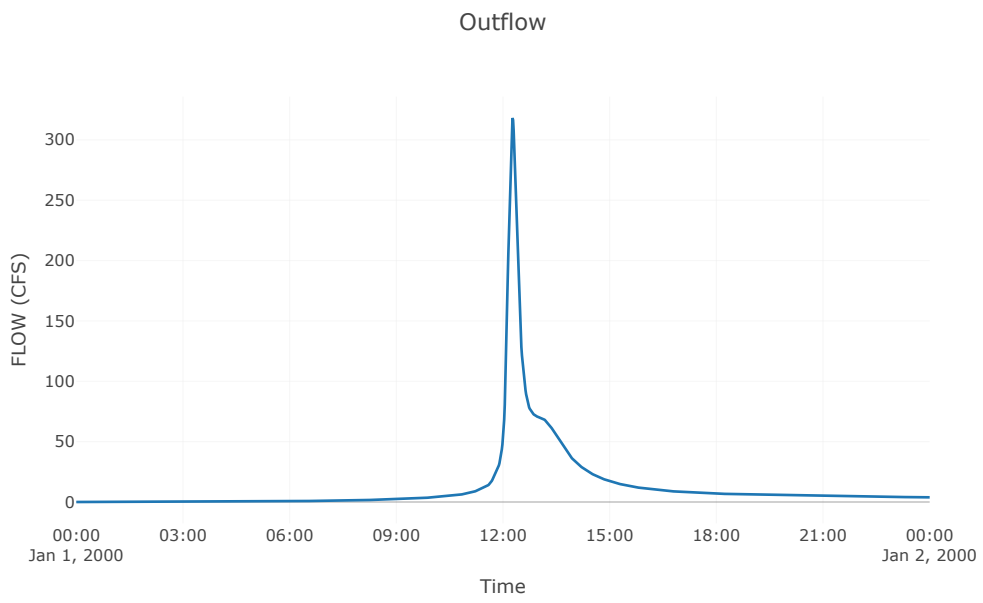


Reach: Ditch B2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1596
Energy Slope (FT/FT)	0.03
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B2	
Peak Discharge (CFS)	318.12
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	1.25
Peak Inflow (CFS)	319.25
Inflow Volume (AC - FT)	25.89



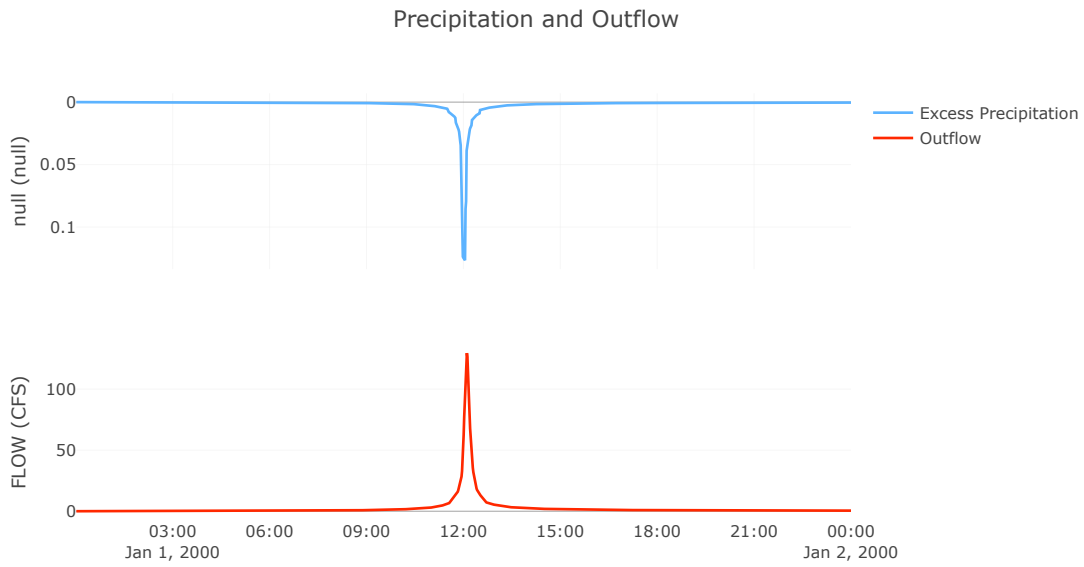
Subbasin: C2

Area (MI2) : 0.03
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: C2	
Peak Discharge (CFS)	129.52
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.84
Loss Volume (AC - FT)	0.79
Excess Volume (AC - FT)	5.06
Direct Runoff Volume (AC - FT)	5.05
Baseflow Volume (AC - FT)	0



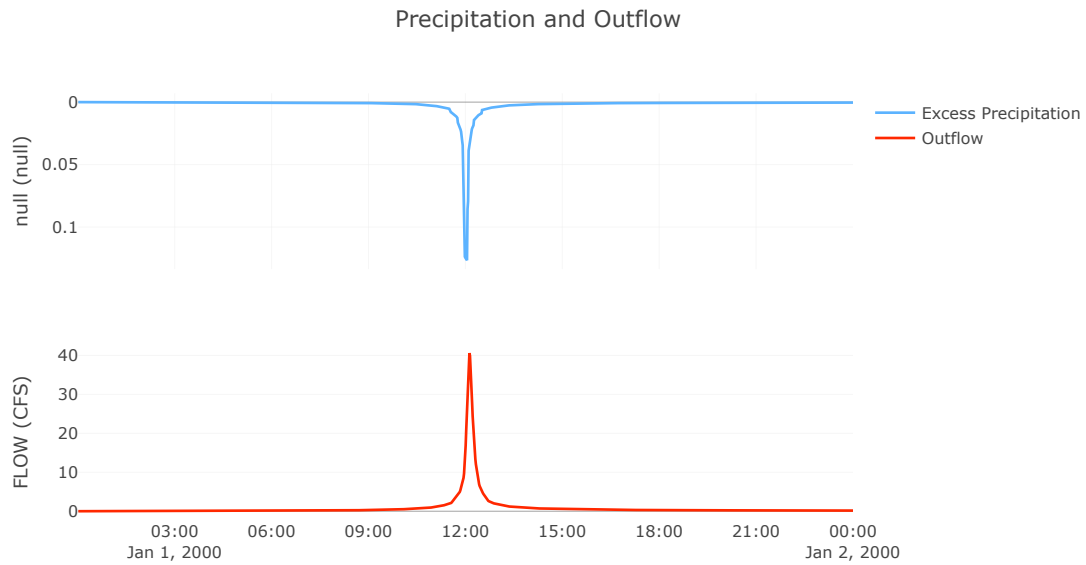
Subbasin: C1

Area (MI2) : 0.01
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: C1	
Peak Discharge (CFS)	40.61
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.98
Loss Volume (AC - FT)	0.27
Excess Volume (AC - FT)	1.71
Direct Runoff Volume (AC - FT)	1.71
Baseflow Volume (AC - FT)	0

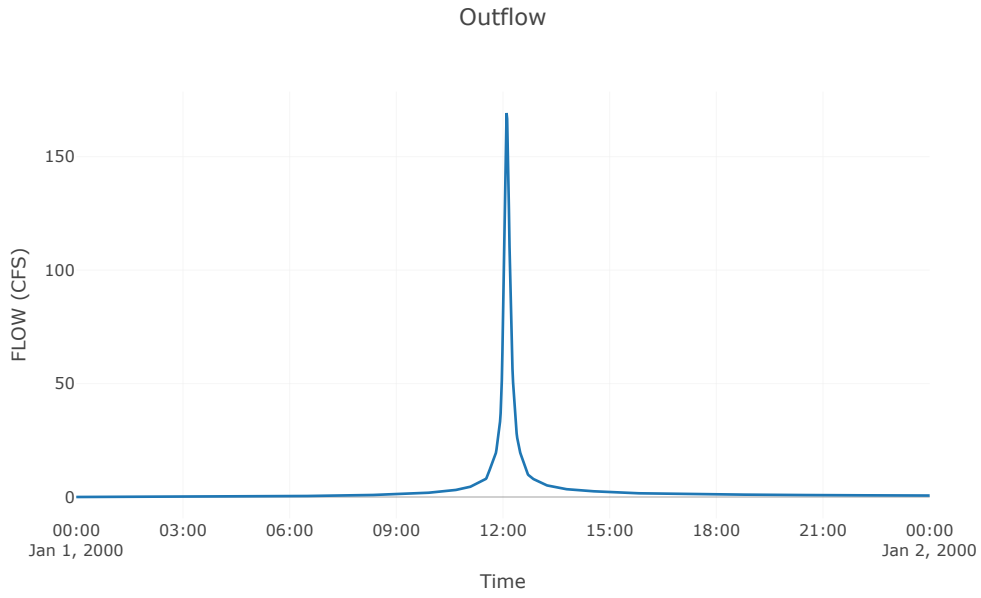


Junction: C1 Junction

Downstream : Ditch C1

Results: C1 Junction

Peak Discharge (CFS)	169.25
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91

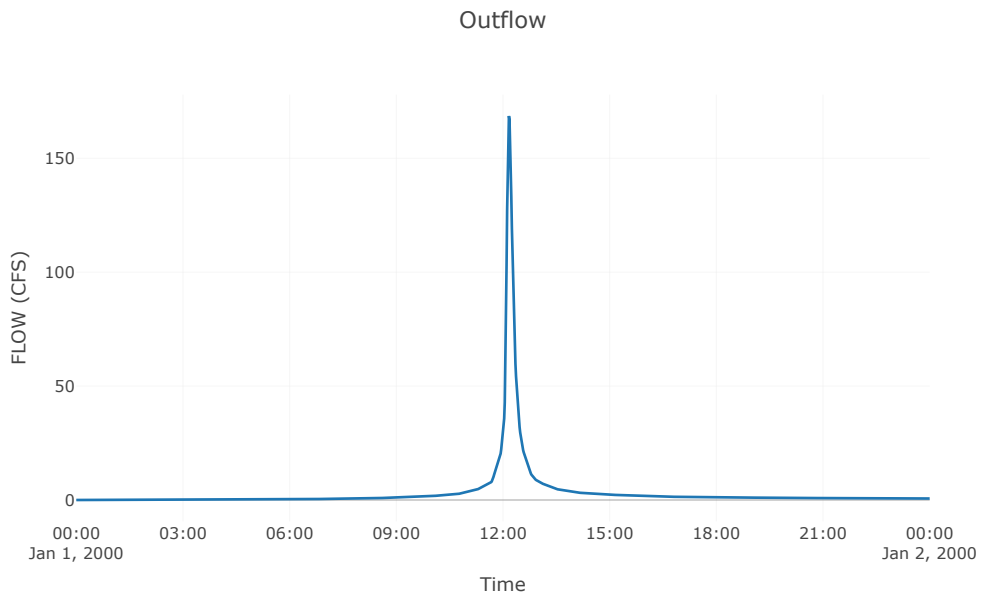


Reach: Ditch C1

Downstream : Culvert C2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2080
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

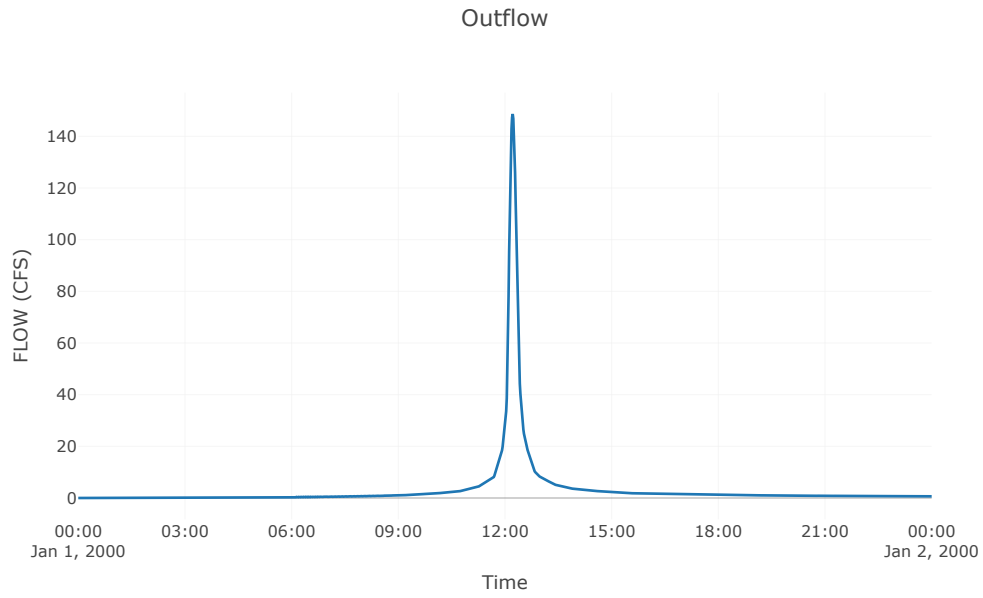
Results: Ditch C1	
Peak Discharge (CFS)	168.55
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	2.9
Peak Inflow (CFS)	169.25
Inflow Volume (AC - FT)	6.76



Reservoir: Culvert C2

Downstream : Ditch C2

Results: Culvert C2	
Peak Discharge (CFS)	148.65
Time of Peak Discharge	01Jan2000, 12:13
Volume (IN)	2.9
Peak Inflow (CFS)	168.55
Time of Peak Inflow	01Jan2000, 12:10
Inflow Volume (AC - FT)	6.73
Maximum Storage (AC - FT)	0.4
Peak Elevation (FT)	3945.14
Discharge Volume (AC - FT)	6.72



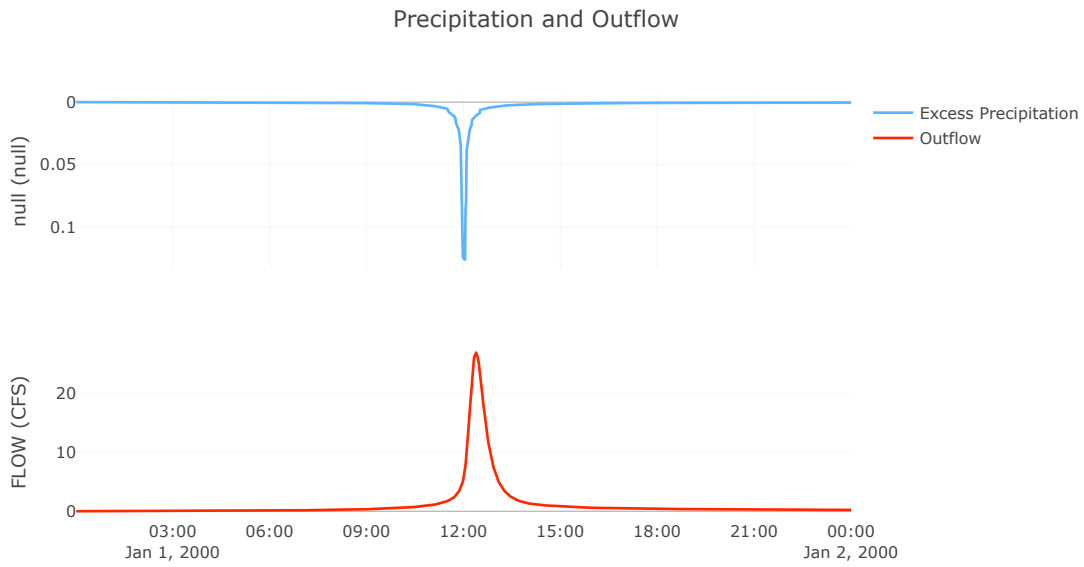
Subbasin: C3

Area (MI2) : 0.01
Downstream : Ditch C2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	21.6
Unitgraph Type	Standard

Results: C3	
Peak Discharge (CFS)	26.89
Time of Peak Discharge	01Jan2000, 12:23
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.62
Loss Volume (AC - FT)	0.35
Excess Volume (AC - FT)	2.27
Direct Runoff Volume (AC - FT)	2.26
Baseflow Volume (AC - FT)	0

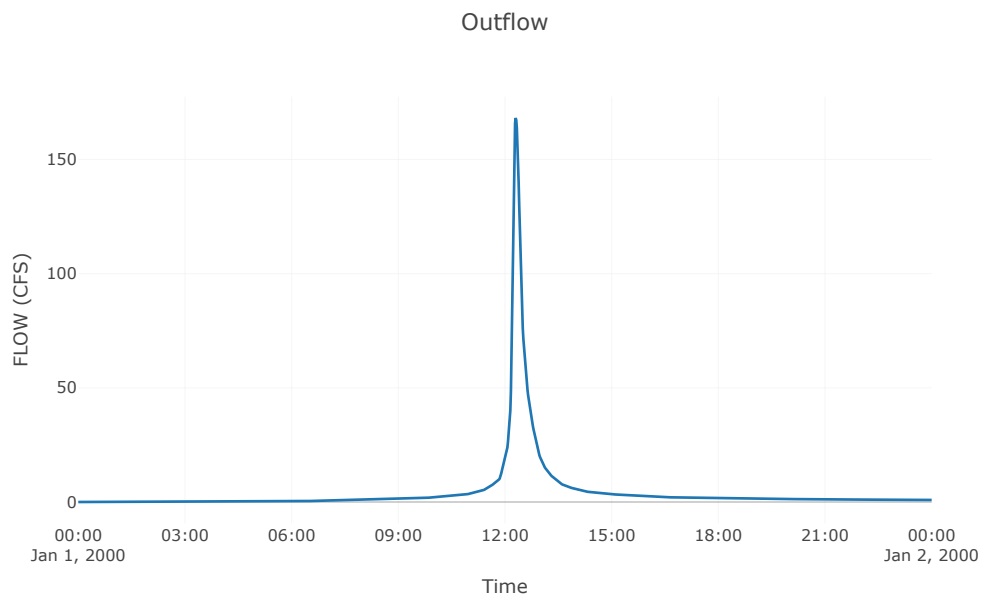


Reach: Ditch C2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2335
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch C2	
Peak Discharge (CFS)	168.15
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.89
Peak Inflow (CFS)	168.23
Inflow Volume (AC - FT)	8.98

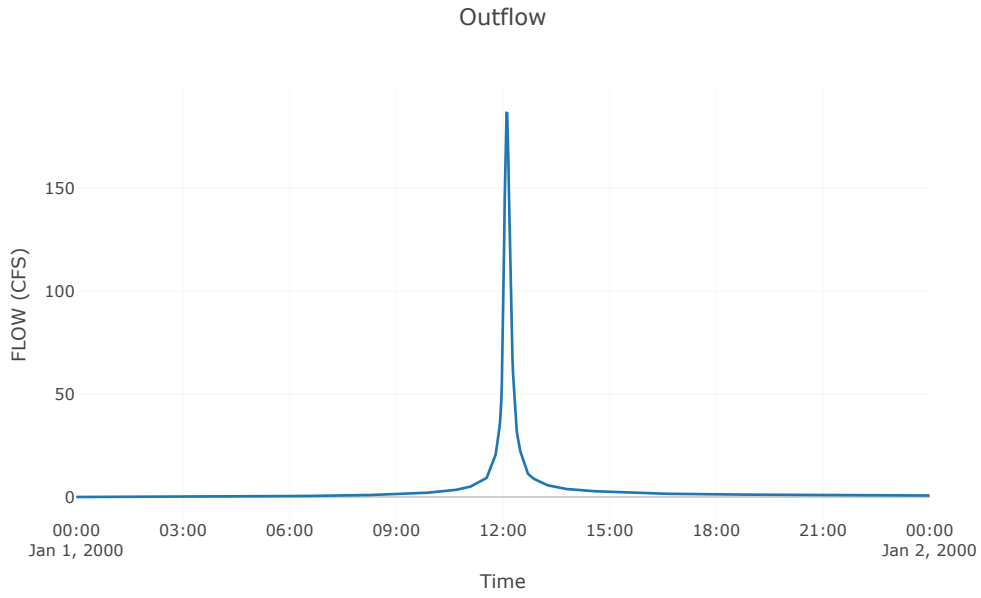


Junction: B1 Junction

Downstream : Basin BC

Results: B1 Junction

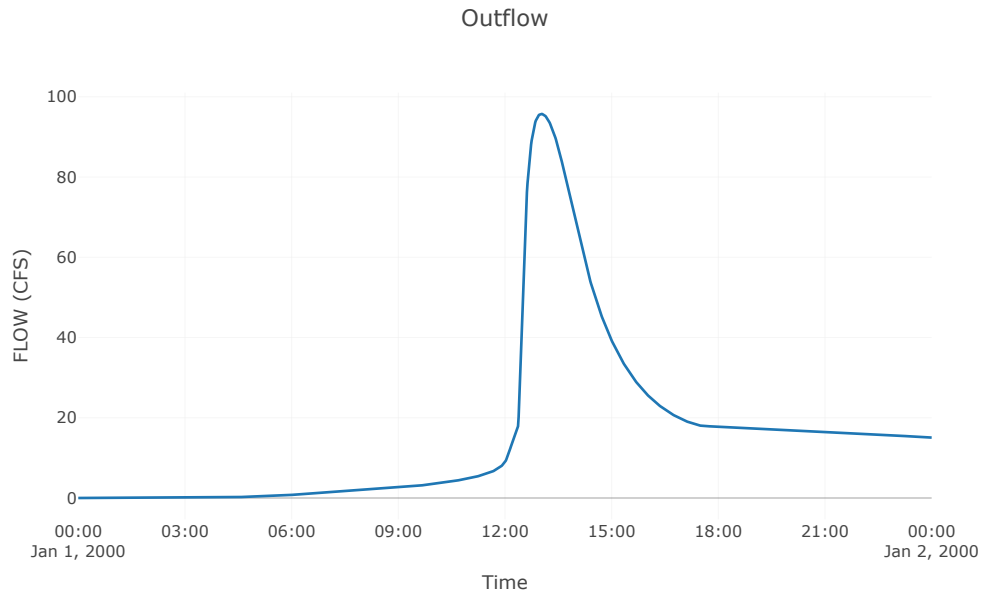
Peak Discharge (CFS)	186.56
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91



Reservoir: Basin BC

Downstream : Outfall BC

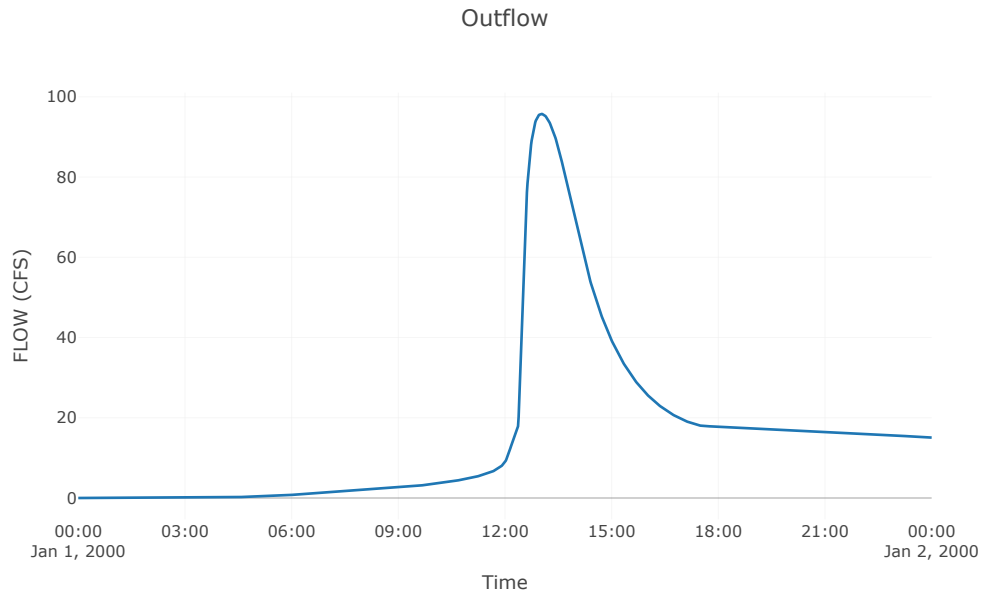
Results: Basin BC	
Peak Discharge (CFS)	95.71
Time of Peak Discharge	01Jan2000, 13:02
Volume (IN)	1.19
Peak Inflow (CFS)	545.27
Time of Peak Inflow	01Jan2000, 12:16
Inflow Volume (AC - FT)	42.38
Maximum Storage (AC - FT)	24.54
Peak Elevation (FT)	3905.39
Discharge Volume (AC - FT)	31.35



Sink: Outfall BC

Results: Outfall BC

Peak Discharge (CFS)	95.71
Time of Peak Discharge	01Jan2000, 13:02
Volume (IN)	1.19



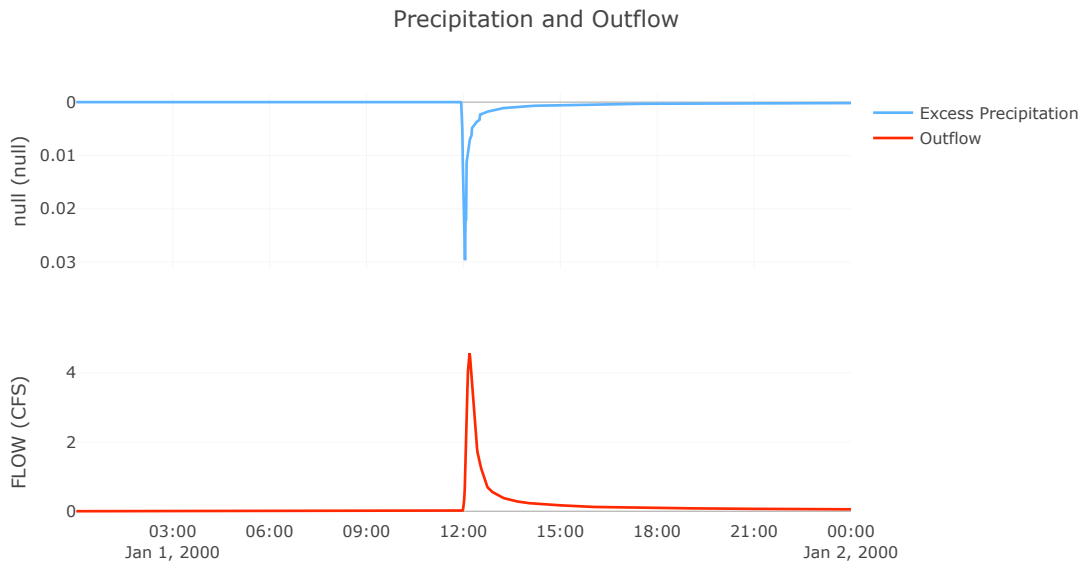
Subbasin: A1

Area (MI2) : 0.01
Downstream : Outfall A

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: A1	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6
Precipitation Volume (AC - FT)	1.4
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	0.25
Direct Runoff Volume (AC - FT)	0.25
Baseflow Volume (AC - FT)	0



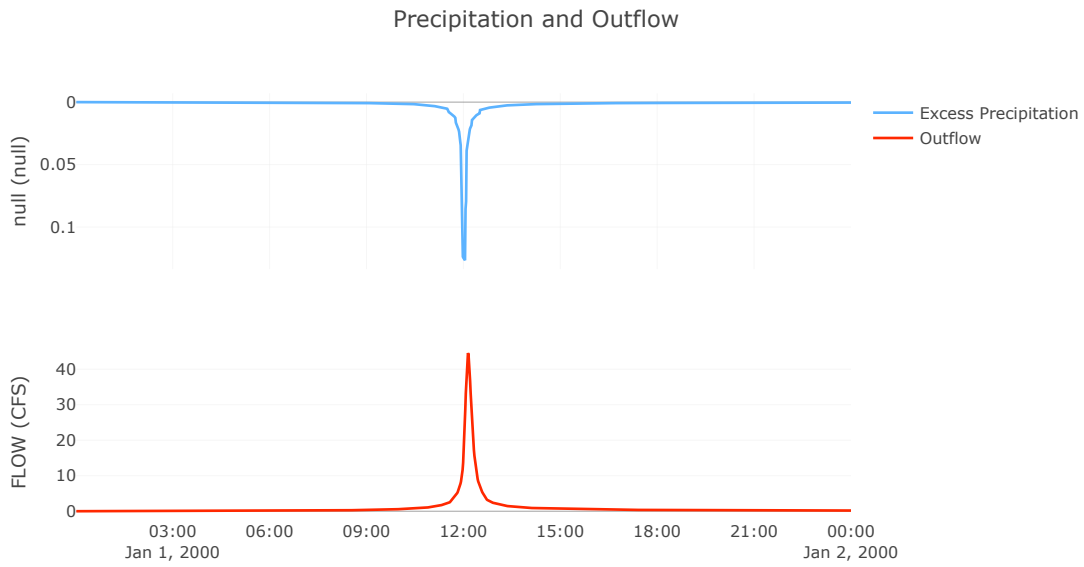
Subbasin: D4

Area (MI2) : 0.01
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D4	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0



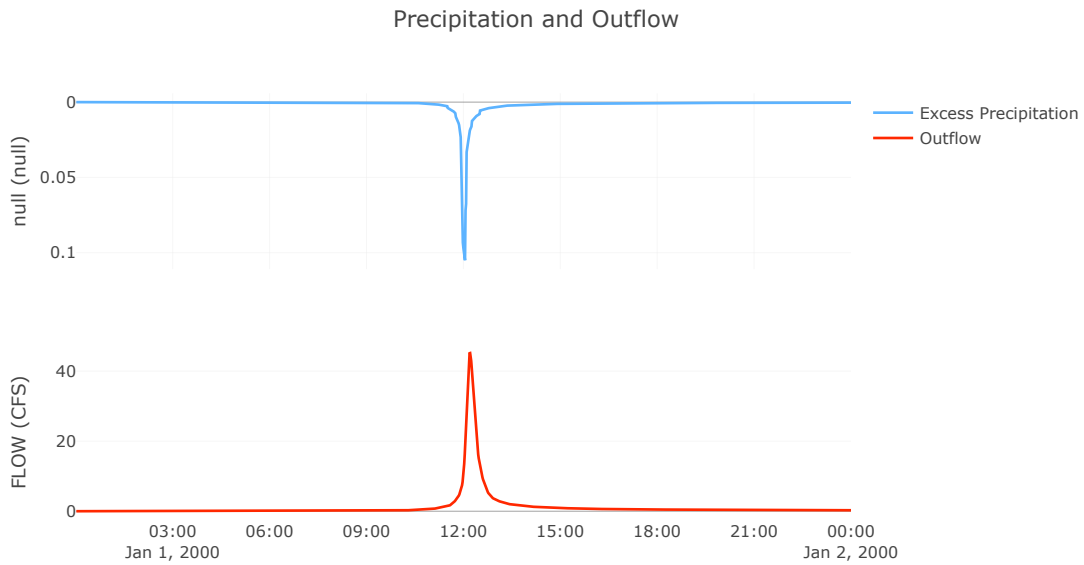
Subbasin: D6

Area (MI2) : 0.02
Downstream : Ditch D1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	88

Transform: Scs	
Lag	10.2
Unitgraph Type	Standard

Results: D6	
Peak Discharge (CFS)	45.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.15
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.3
Excess Volume (AC - FT)	2.29
Direct Runoff Volume (AC - FT)	2.29
Baseflow Volume (AC - FT)	0

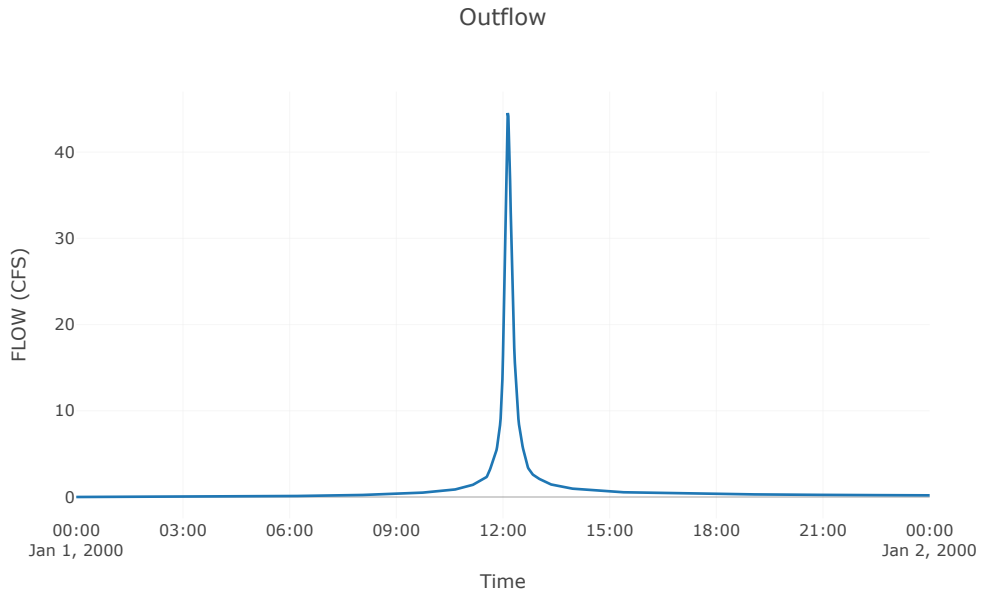


Junction: D4 Junction

Downstream : Ditch D1

Results: D4 Junction

Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91

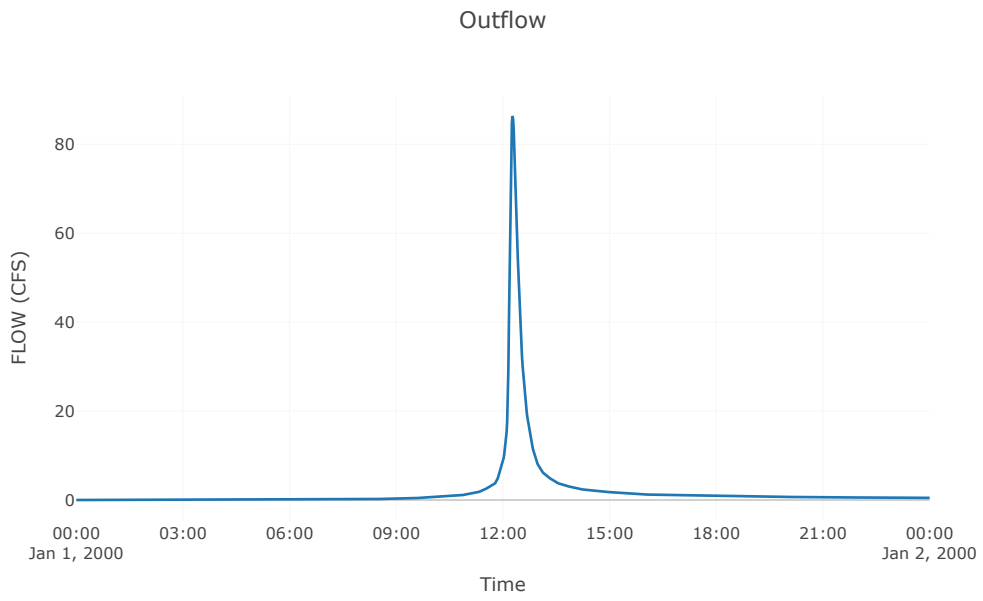


Reach: Ditch D1

Downstream : D1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1300
Energy Slope (FT/FT)	0
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D1	
Peak Discharge (CFS)	86.38
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.43
Peak Inflow (CFS)	86.54
Inflow Volume (AC - FT)	4.31



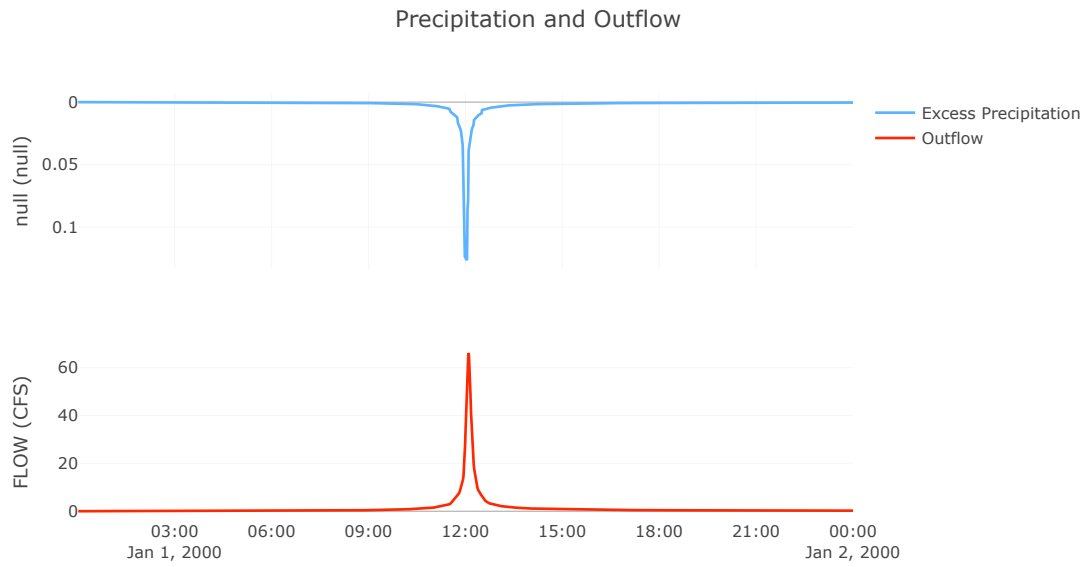
Subbasin: D1

Area (MI2) : 0.02
Downstream : D1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

Results: D1	
Peak Discharge (CFS)	66.08
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0

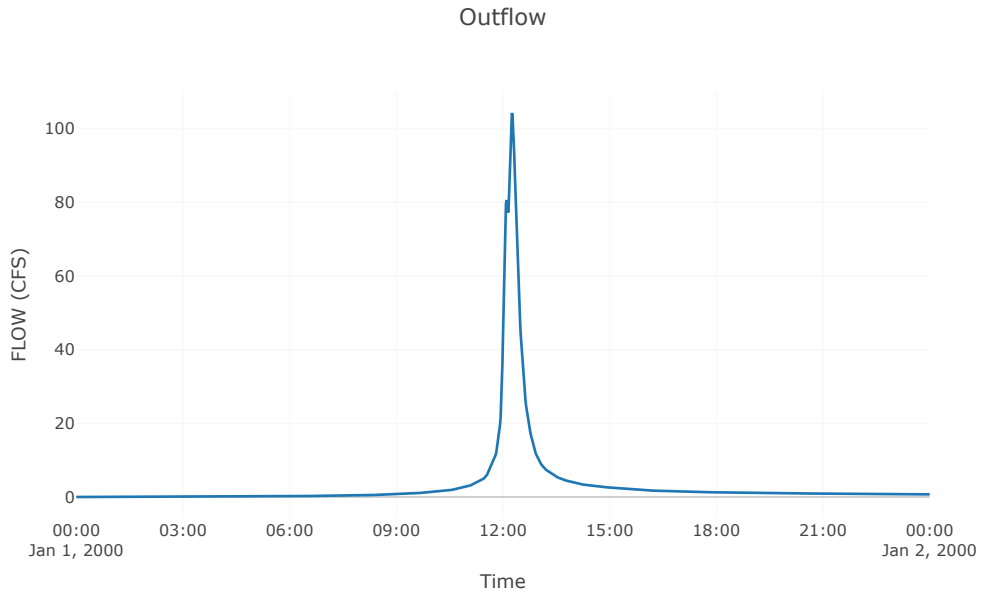


Junction: D1 Junction

Downstream : Ditch D2

Results: D1 Junction

Peak Discharge (CFS)	104.3
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.59



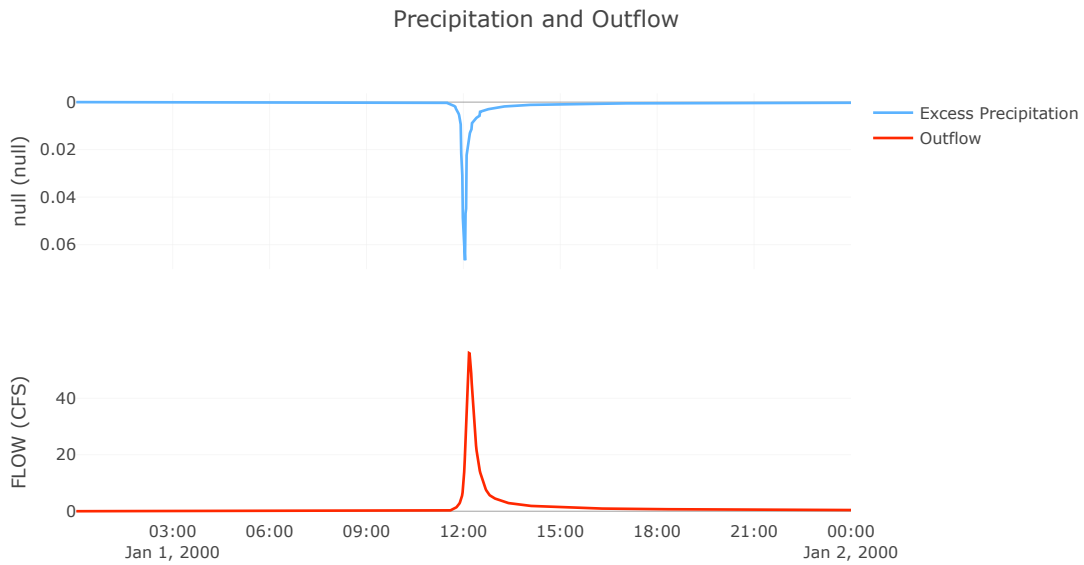
Subbasin: D5

Area (MI2) : 0.04
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: D5	
Peak Discharge (CFS)	56
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	1.27
Precipitation Volume (AC - FT)	7.01
Loss Volume (AC - FT)	4.36
Excess Volume (AC - FT)	2.65
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



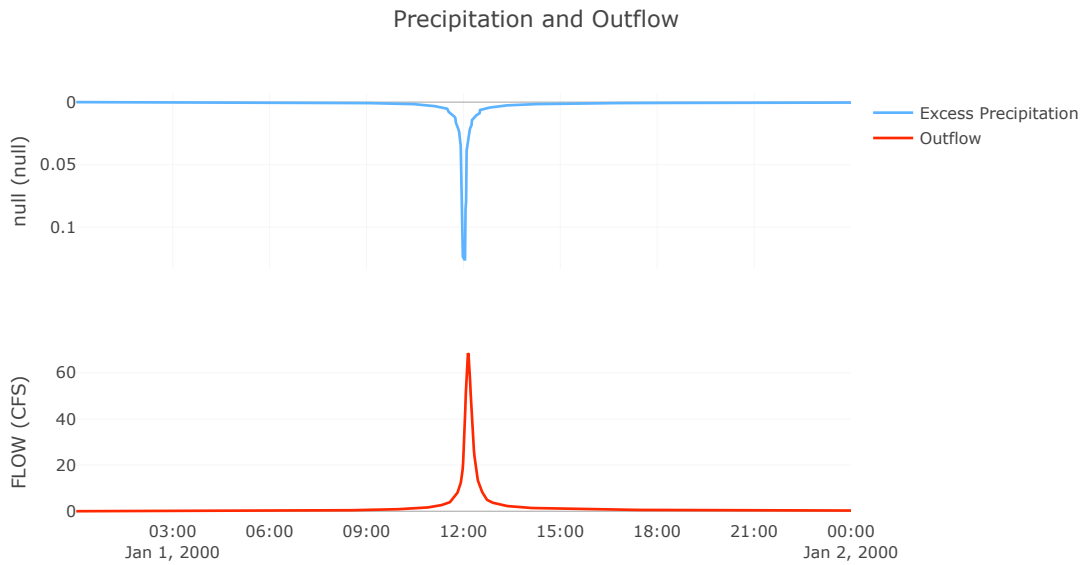
Subbasin: D3

Area (MI2) : 0.02
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D3	
Peak Discharge (CFS)	68.52
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0

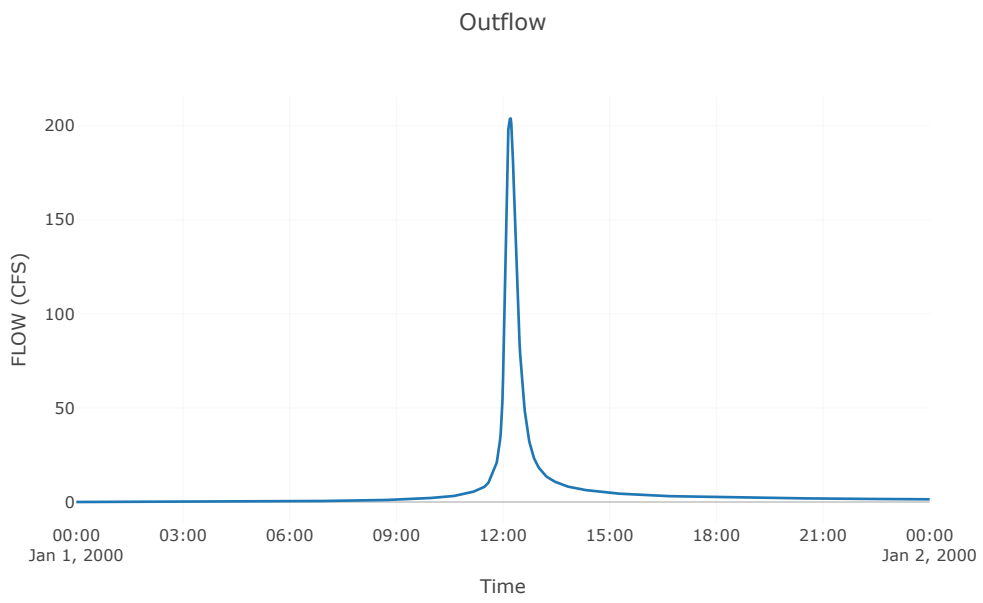


Reach: Ditch D2

Downstream : Junction - 2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

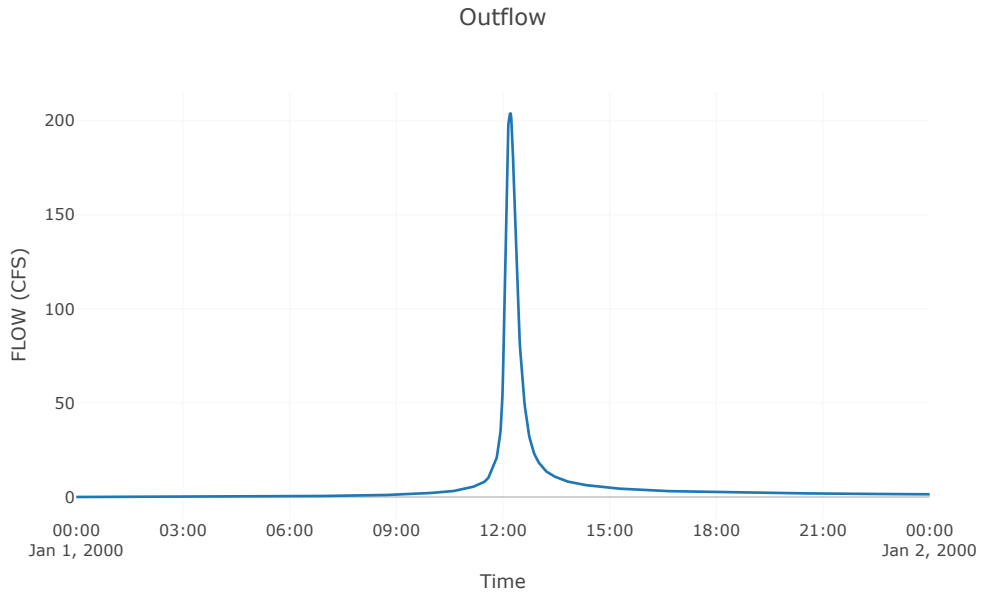
Results: Ditch D2	
Peak Discharge (CFS)	204.15
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.17
Peak Inflow (CFS)	204.3
Inflow Volume (AC - FT)	12.52



Junction: Junction-2

Downstream : Ditch D3

Results: Junction-2	
Peak Discharge (CFS)	204.15
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.17



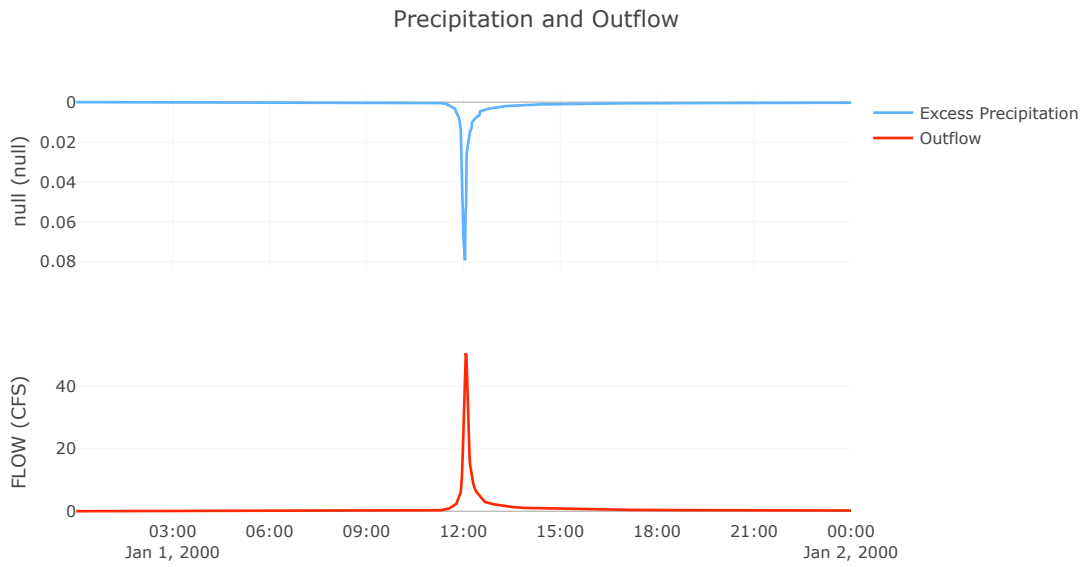
Subbasin: E6

Area (MI2) : 0.02
Downstream : Ditch D3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	2.4
Unitgraph Type	Standard

Results: E6	
Peak Discharge (CFS)	50.61
Time of Peak Discharge	01Jan2000, 12:04
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.41
Loss Volume (AC - FT)	1.86
Excess Volume (AC - FT)	1.55
Direct Runoff Volume (AC - FT)	1.55
Baseflow Volume (AC - FT)	0

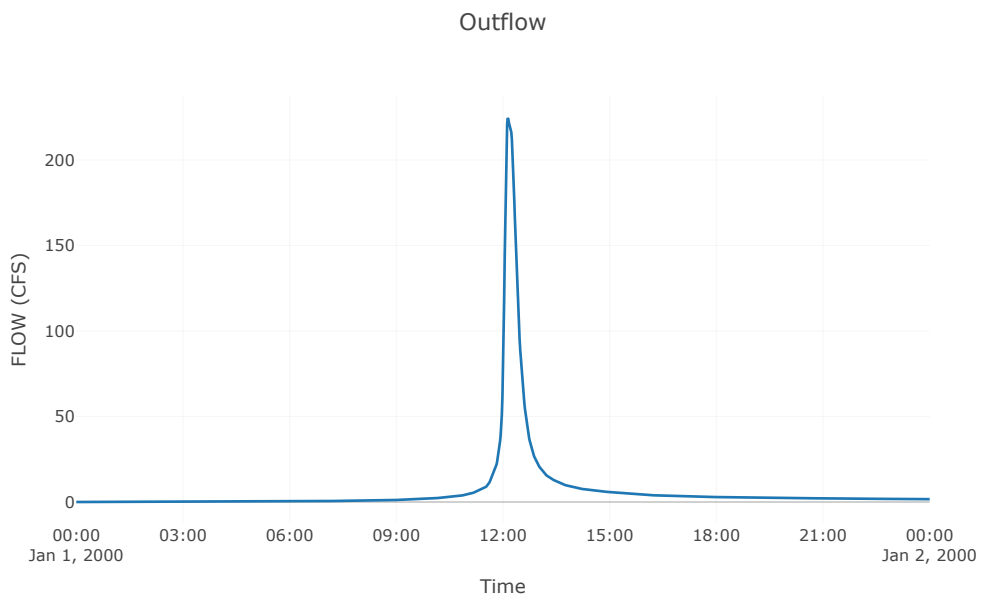


Reach: Ditch D3

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D3	
Peak Discharge (CFS)	224.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.07
Peak Inflow (CFS)	224.56
Inflow Volume (AC - FT)	14.06



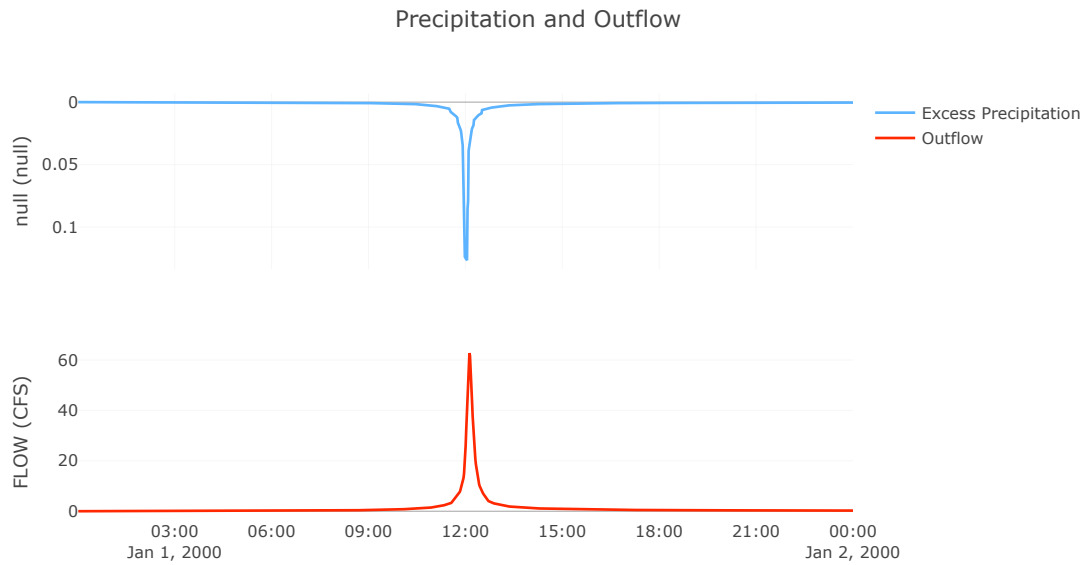
Subbasin: E2

Area (MI2) : 0.02
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: E2	
Peak Discharge (CFS)	62.76
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.06
Loss Volume (AC - FT)	0.41
Excess Volume (AC - FT)	2.64
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



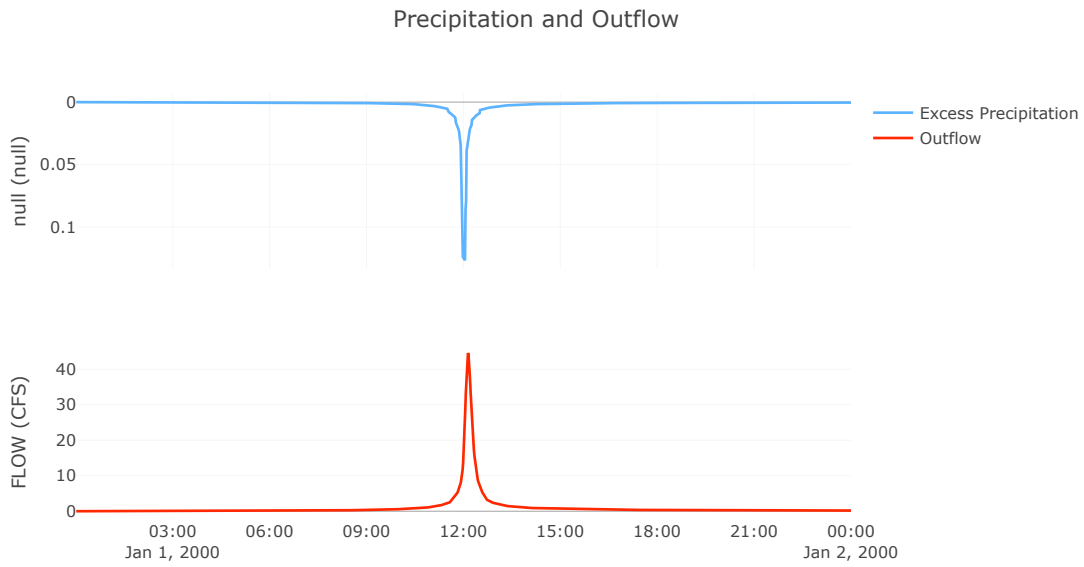
Subbasin: E5

Area (MI2) : 0.01
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: E5	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0

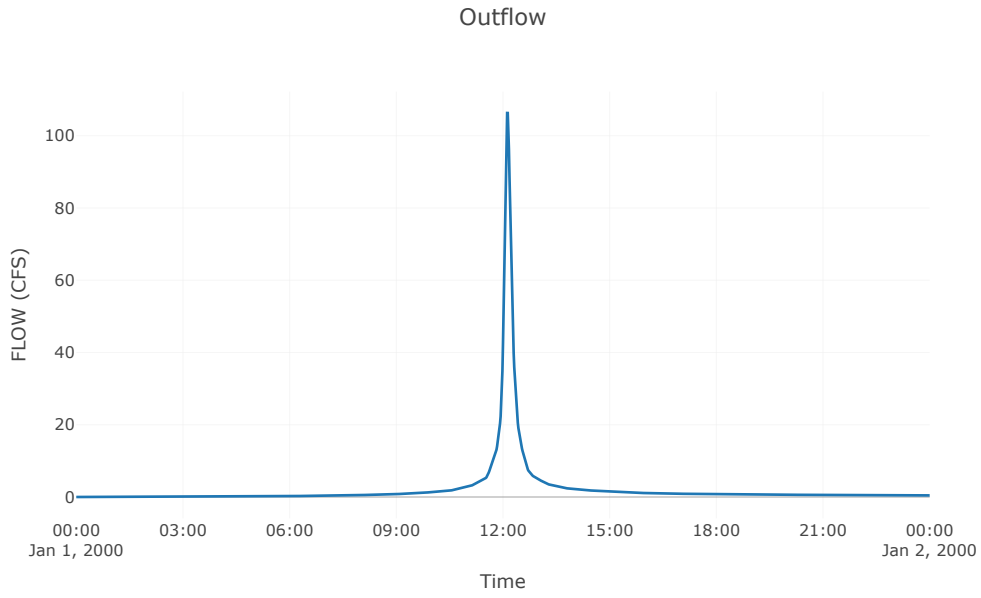


Junction: E2 Junction

Downstream : Ditch E1

Results: E2 Junction

Peak Discharge (CFS)	106.29
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91



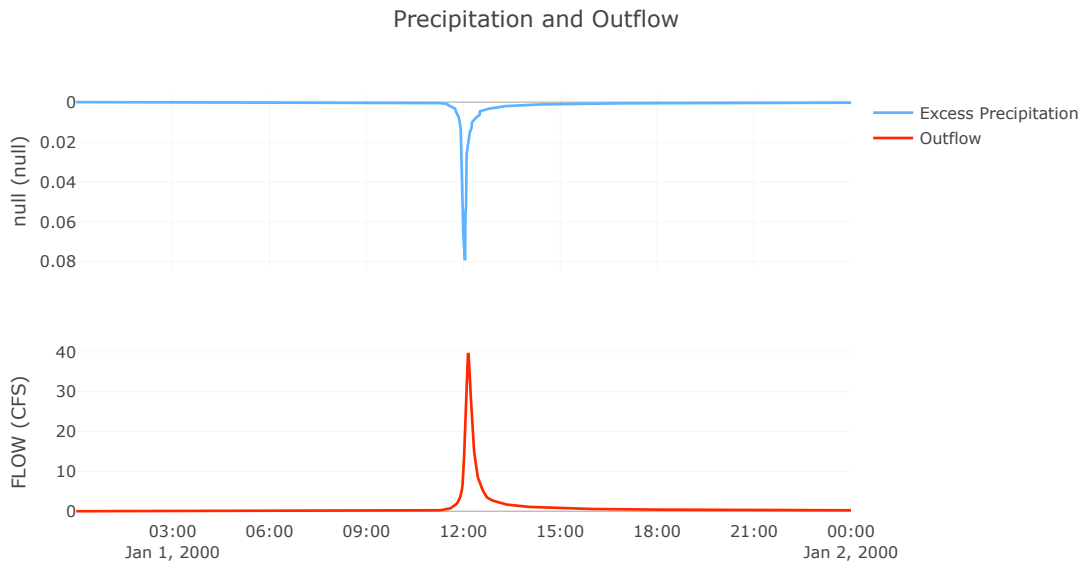
Subbasin: E4

Area (MI2) : 0.02
Downstream : Ditch E1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E4	
Peak Discharge (CFS)	39.7
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.96
Excess Volume (AC - FT)	1.64
Direct Runoff Volume (AC - FT)	1.63
Baseflow Volume (AC - FT)	0

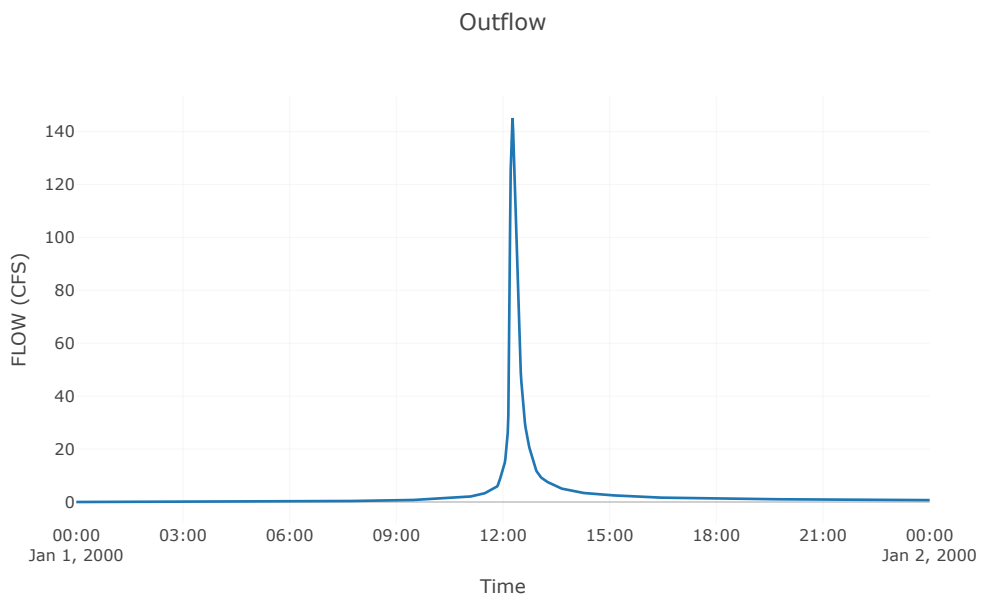


Reach: Ditch E1

Downstream : E1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2425
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch E1	
Peak Discharge (CFS)	145.11
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.34
Peak Inflow (CFS)	145.99
Inflow Volume (AC - FT)	6.3



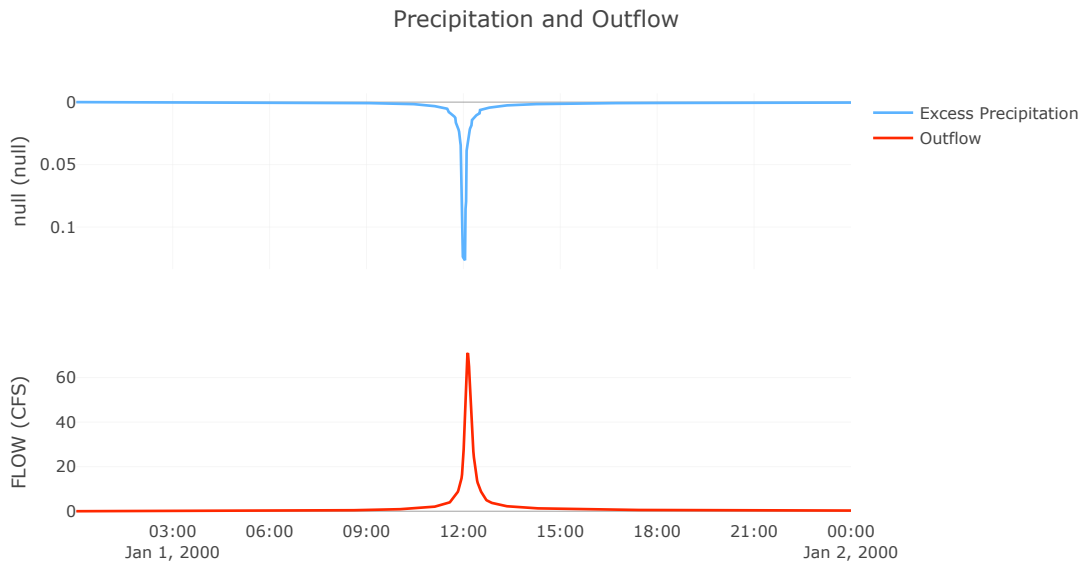
Subbasin: E3

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E3	
Peak Discharge (CFS)	70.98
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0



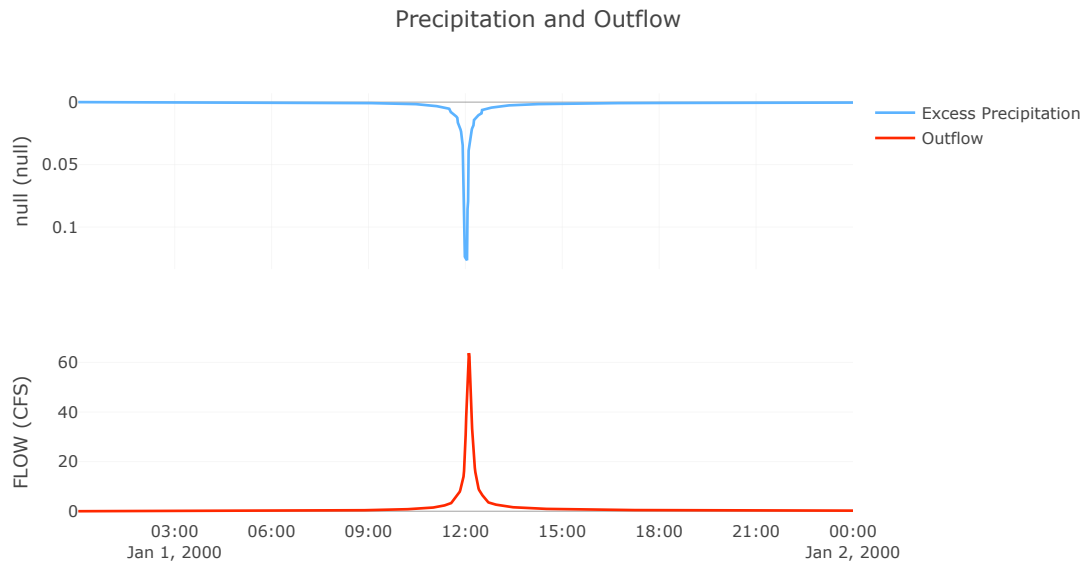
Subbasin: E1

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: E1	
Peak Discharge (CFS)	63.77
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0

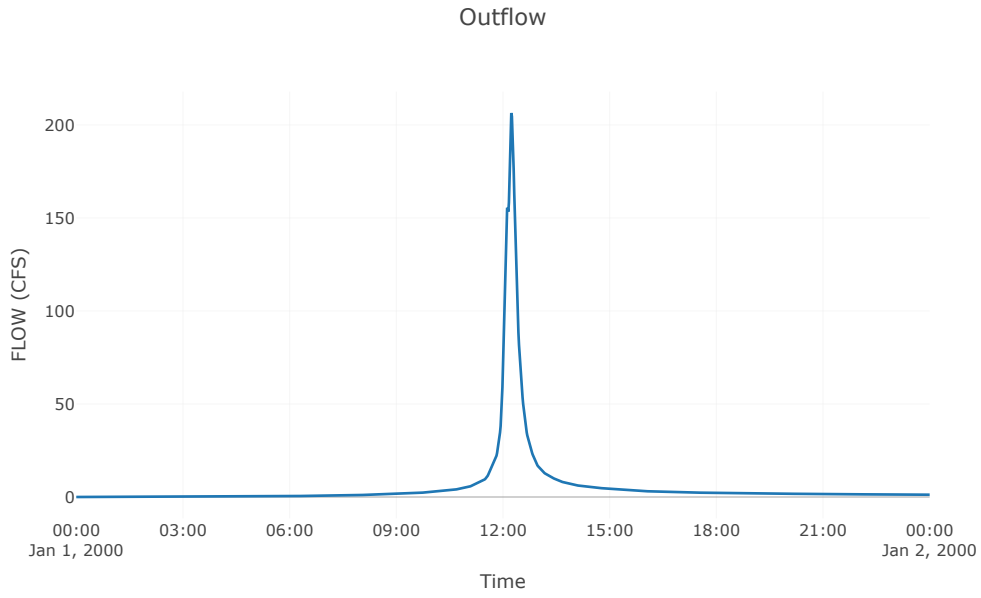


Junction: E1 Junction

Downstream : Culvert E2

Results: E1 Junction

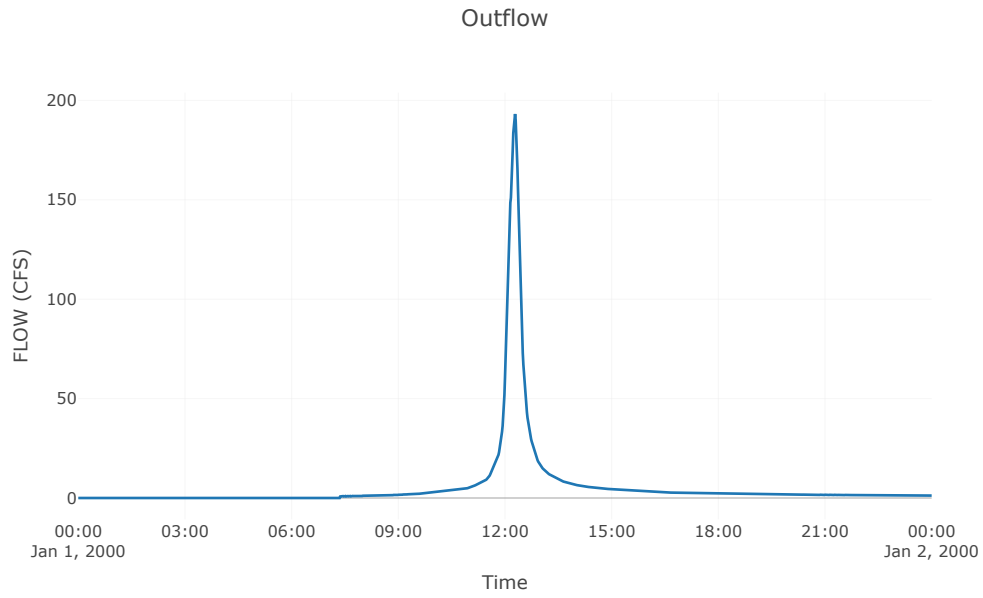
Peak Discharge (CFS)	206.41
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.58



Reservoir: Culvert E2

Downstream : Ditch E2

Results: Culvert E2	
Peak Discharge (CFS)	193.17
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.56
Peak Inflow (CFS)	206.41
Time of Peak Inflow	01Jan2000, 12:14
Inflow Volume (AC - FT)	11.84
Maximum Storage (AC - FT)	1.27
Peak Elevation (FT)	3966.39
Discharge Volume (AC - FT)	11.73

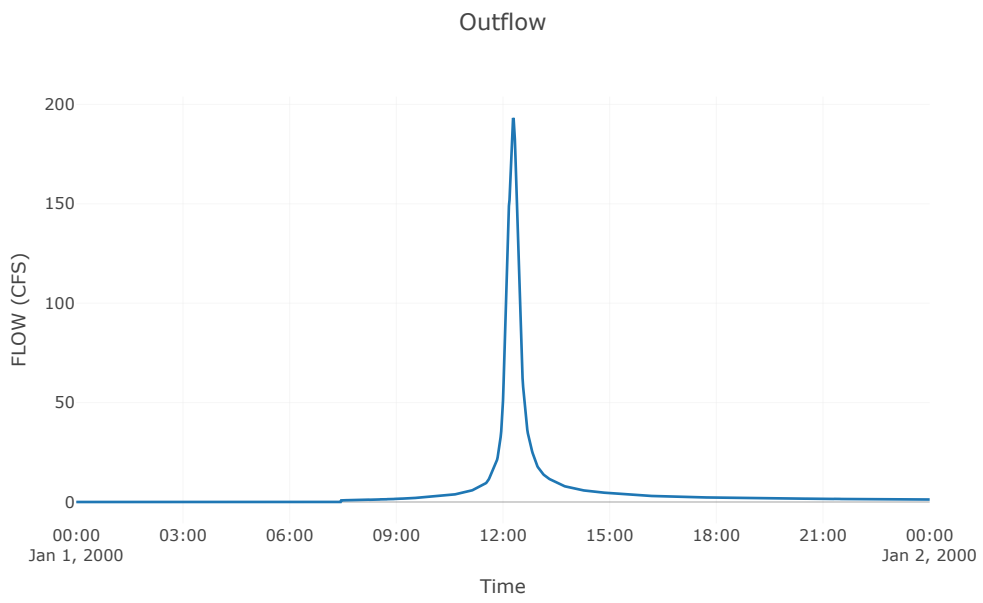


Reach: Ditch E2

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	570
Energy Slope (FT/FT)	0.05
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

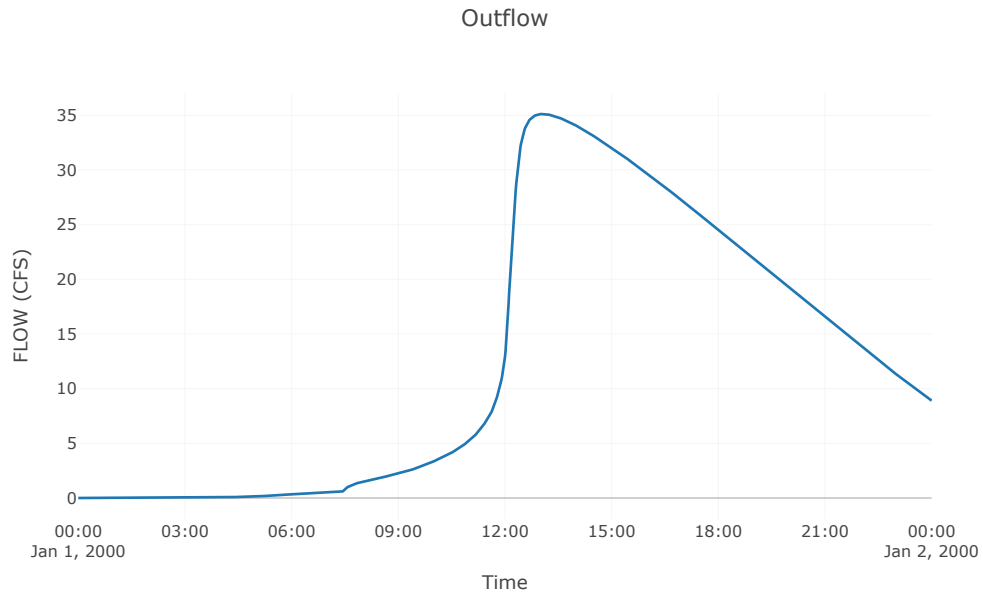
Results: Ditch E2	
Peak Discharge (CFS)	193.17
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.55
Peak Inflow (CFS)	193.17
Inflow Volume (AC - FT)	11.73



Reservoir: Basin DE

Downstream : Outfall DE

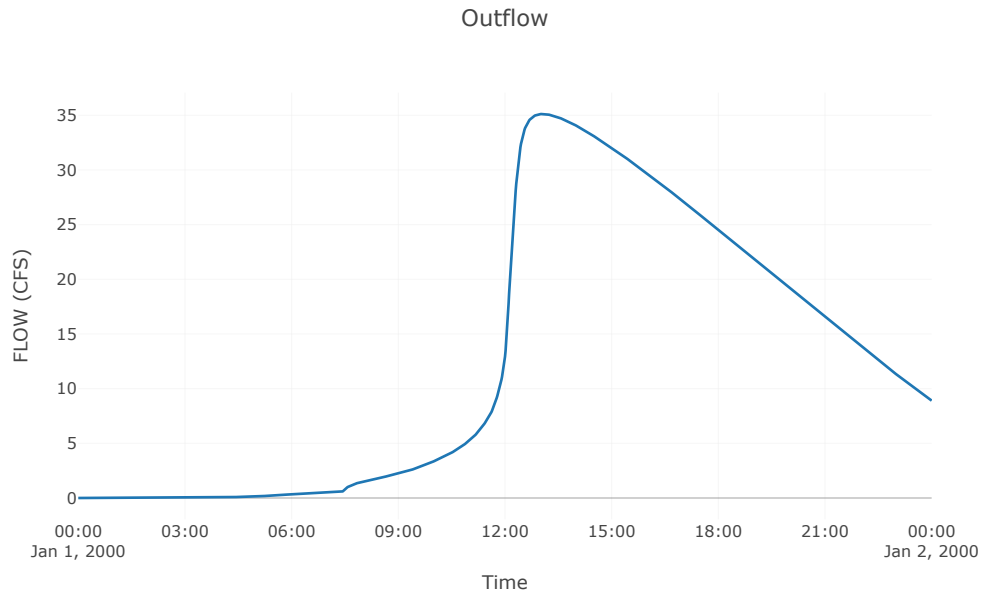
Results: Basin DE	
Peak Discharge (CFS)	35.12
Time of Peak Discharge	01Jan2000, 13:03
Volume (IN)	2.18
Peak Inflow (CFS)	396.8
Time of Peak Inflow	01Jan2000, 12:15
Inflow Volume (AC - FT)	25.76
Maximum Storage (AC - FT)	19.61
Peak Elevation (FT)	3940.59
Discharge Volume (AC - FT)	24.82



Sink: Outfall DE

Results: Outfall DE

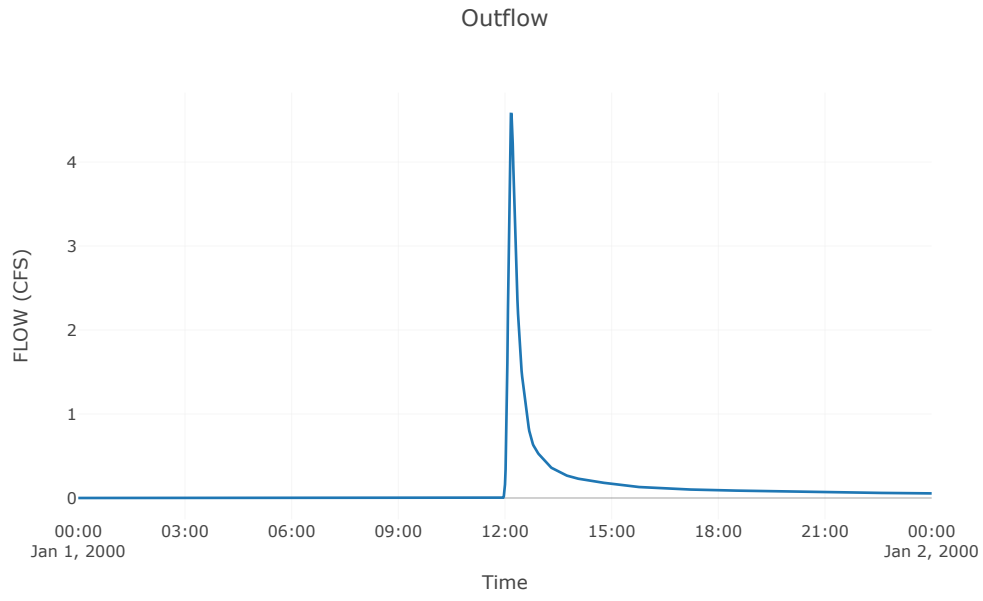
Peak Discharge (CFS)	35.12
Time of Peak Discharge	01Jan2000, 13:03
Volume (IN)	2.18



Sink: Outfall A

Results: Outfall A

Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6



RATIONAL METHOD AND MANNING'S EQUATION CALCULATIONS

Worksheet for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs

Results	
Normal Depth	22.5 in
Flow Area	25.5 ft²
Wetted Perimeter	19.8 ft
Hydraulic Radius	15.4 in
Top Width	19.23 ft
Critical Depth	22.1 in
Critical Slope	0.017 ft/ft
Velocity	6.35 ft/s
Velocity Head	0.63 ft
Specific Energy	2.50 ft
Froude Number	0.972
Flow Type	Subcritical

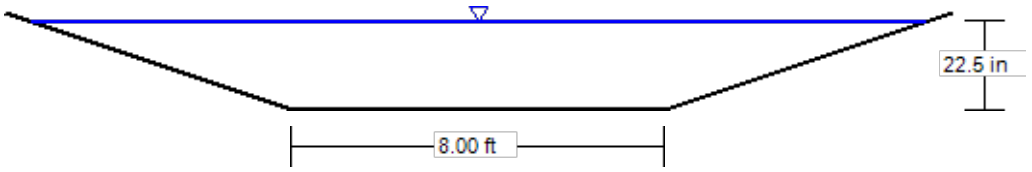
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

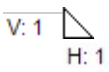
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	22.5 in
Critical Depth	22.1 in
Channel Slope	0.016 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	22.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs





Worksheet for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.006 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs

Results	
Normal Depth	28.7 in
Flow Area	36.4 ft²
Wetted Perimeter	23.1 ft
Hydraulic Radius	18.9 in
Top Width	22.37 ft
Critical Depth	22.1 in
Critical Slope	0.017 ft/ft
Velocity	4.44 ft/s
Velocity Head	0.31 ft
Specific Energy	2.70 ft
Froude Number	0.614
Flow Type	Subcritical

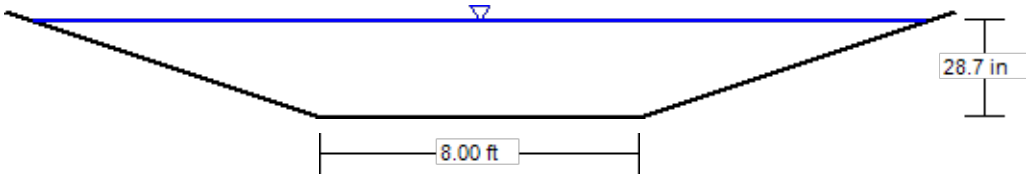
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

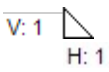
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	28.7 in
Critical Depth	22.1 in
Channel Slope	0.006 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.006 ft/ft
Normal Depth	28.7 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.043 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	24.6 in
Flow Area	29.0 ft²
Wetted Perimeter	21.0 ft
Hydraulic Radius	16.6 in
Top Width	20.31 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	10.95 ft/s
Velocity Head	1.86 ft
Specific Energy	3.92 ft
Froude Number	1.615
Flow Type	Supercritical

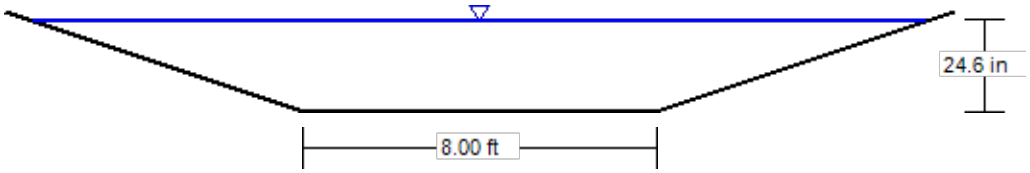
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

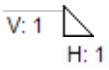
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	24.6 in
Critical Depth	31.8 in
Channel Slope	0.043 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.043 ft/ft
Normal Depth	24.6 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.021 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	29.3 in
Flow Area	37.5 ft²
Wetted Perimeter	23.5 ft
Hydraulic Radius	19.2 in
Top Width	22.67 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	8.49 ft/s
Velocity Head	1.12 ft
Specific Energy	3.56 ft
Froude Number	1.164
Flow Type	Supercritical

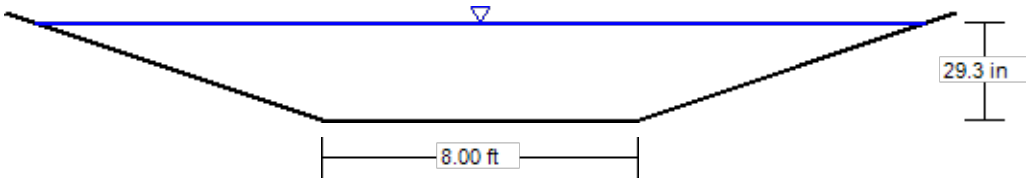
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

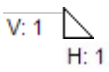
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	29.3 in
Critical Depth	31.8 in
Channel Slope	0.021 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.021 ft/ft
Normal Depth	29.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	31.5 in
Flow Area	41.7 ft²
Wetted Perimeter	24.6 ft
Hydraulic Radius	20.3 in
Top Width	23.75 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	7.63 ft/s
Velocity Head	0.91 ft
Specific Energy	3.53 ft
Froude Number	1.016
Flow Type	Supercritical

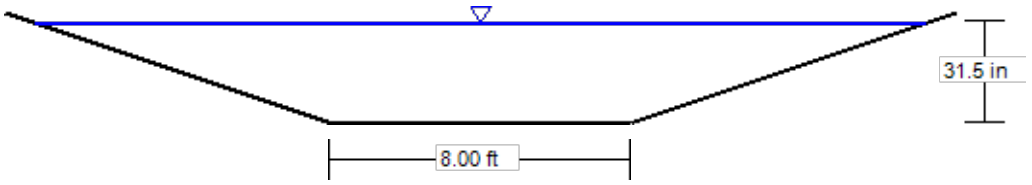
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

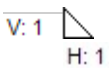
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	31.5 in
Critical Depth	31.8 in
Channel Slope	0.016 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	31.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch C1 - Flow from C3-2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.027 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	20.1 in
Flow Area	21.8 ft²
Wetted Perimeter	18.6 ft
Hydraulic Radius	14.1 in
Top Width	18.04 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	7.74 ft/s
Velocity Head	0.93 ft
Specific Energy	2.60 ft
Froude Number	1.242
Flow Type	Supercritical

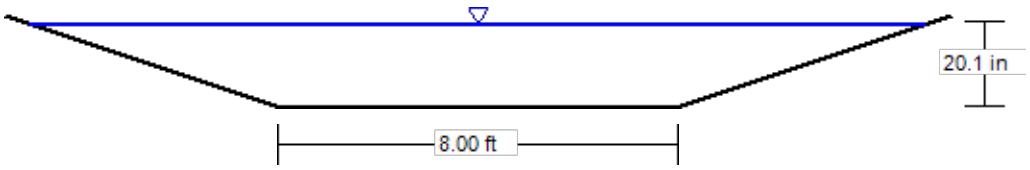
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

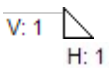
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	20.1 in
Critical Depth	22.6 in
Channel Slope	0.027 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3-2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.027 ft/ft
Normal Depth	20.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C1 - Flow from C3-3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	32.4 in
Flow Area	43.5 ft²
Wetted Perimeter	25.1 ft
Hydraulic Radius	20.8 in
Top Width	24.21 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	3.88 ft/s
Velocity Head	0.23 ft
Specific Energy	2.93 ft
Froude Number	0.510
Flow Type	Subcritical

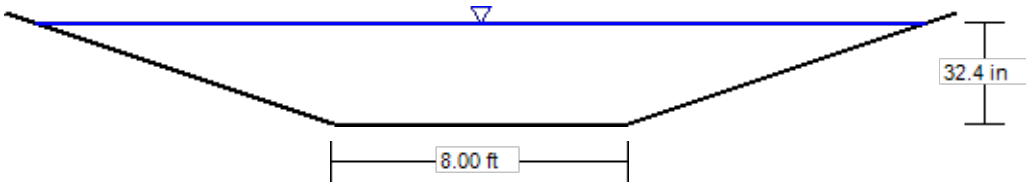
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

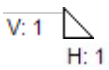
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	32.4 in
Critical Depth	22.6 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3-3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	32.4 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C1 - Flow from C3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.008 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	27.8 in
Flow Area	34.6 ft²
Wetted Perimeter	22.6 ft
Hydraulic Radius	18.3 in
Top Width	21.88 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	4.88 ft/s
Velocity Head	0.37 ft
Specific Energy	2.68 ft
Froude Number	0.684
Flow Type	Subcritical

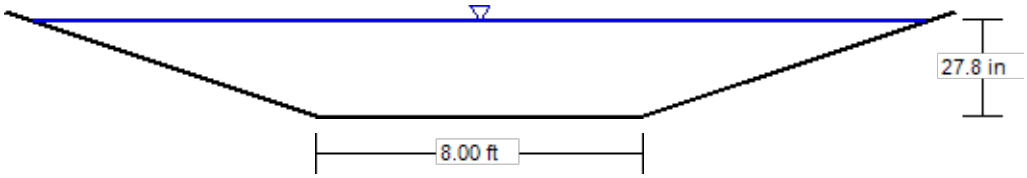
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

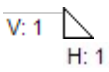
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	27.8 in
Critical Depth	22.6 in
Channel Slope	0.008 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.008 ft/ft
Normal Depth	27.8 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C2 - Flows from C1, C2, Ditch C1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	32.4 in
Flow Area	43.4 ft²
Wetted Perimeter	25.1 ft
Hydraulic Radius	20.8 in
Top Width	24.19 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	3.87 ft/s
Velocity Head	0.23 ft
Specific Energy	2.93 ft
Froude Number	0.510
Flow Type	Subcritical

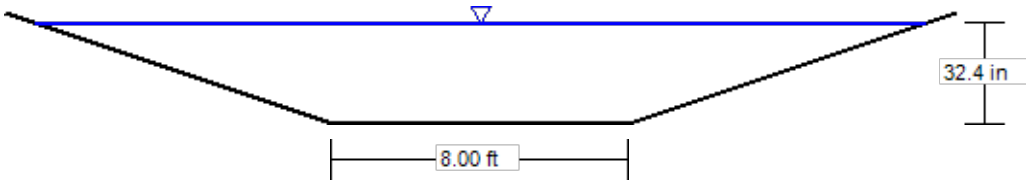
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

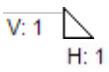
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	32.4 in
Critical Depth	22.6 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, Ditch C1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	32.4 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch C2 - Flows from C1, C2, & Ditch C1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.039 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	18.1 in
Flow Area	19.0 ft²
Wetted Perimeter	17.6 ft
Hydraulic Radius	13.0 in
Top Width	17.07 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	8.87 ft/s
Velocity Head	1.22 ft
Specific Energy	2.73 ft
Froude Number	1.484
Flow Type	Supercritical

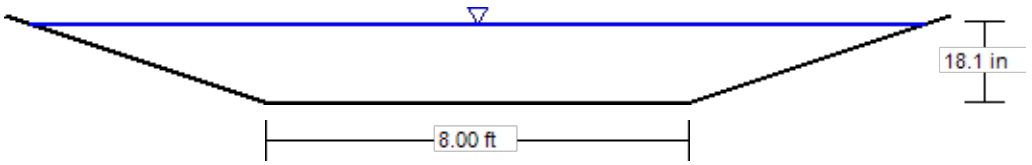
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

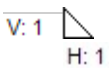
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	18.1 in
Critical Depth	22.6 in
Channel Slope	0.039 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, & Ditch C1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.039 ft/ft
Normal Depth	18.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch C2 - Flows from C1, C2, & Ditch C1.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.076 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	15.3 in
Flow Area	15.0 ft²
Wetted Perimeter	16.1 ft
Hydraulic Radius	11.2 in
Top Width	15.64 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	11.17 ft/s
Velocity Head	1.94 ft
Specific Energy	3.21 ft
Froude Number	2.008
Flow Type	Supercritical

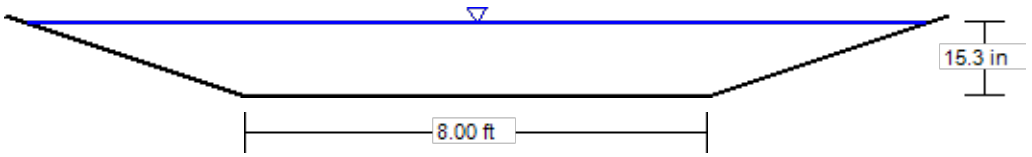
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

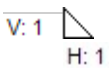
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	15.3 in
Critical Depth	22.6 in
Channel Slope	0.076 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, & Ditch C1.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.076 ft/ft
Normal Depth	15.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch D1 - Flow from D4, D6

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	86.38 cfs

Results	
Normal Depth	25.0 in
Flow Area	29.7 ft²
Wetted Perimeter	21.2 ft
Hydraulic Radius	16.8 in
Top Width	20.49 ft
Critical Depth	15.6 in
Critical Slope	0.019 ft/ft
Velocity	2.91 ft/s
Velocity Head	0.13 ft
Specific Energy	2.21 ft
Froude Number	0.427
Flow Type	Subcritical

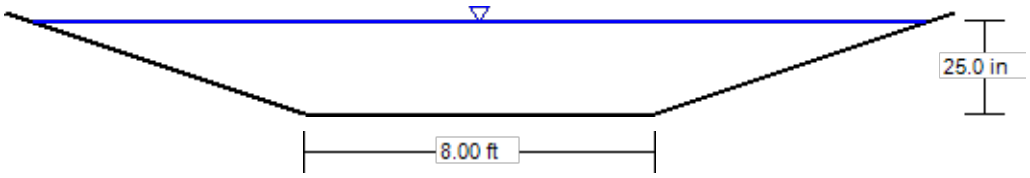
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

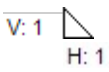
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	25.0 in
Critical Depth	15.6 in
Channel Slope	0.003 ft/ft
Critical Slope	0.019 ft/ft

Cross Section for Ditch D1 - Flow from D4, D6

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	25.0 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	86.38 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	22.3 in
Flow Area	25.2 ft²
Wetted Perimeter	19.8 ft
Hydraulic Radius	15.3 in
Top Width	19.15 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	8.09 ft/s
Velocity Head	1.02 ft
Specific Energy	2.88 ft
Froude Number	1.242
Flow Type	Supercritical

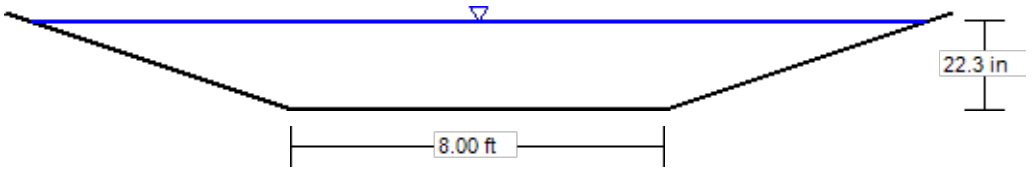
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

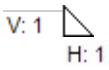
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	22.3 in
Critical Depth	25.1 in
Channel Slope	0.026 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Normal Depth	22.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	38.1 in
Flow Area	55.6 ft²
Wetted Perimeter	28.1 ft
Hydraulic Radius	23.8 in
Top Width	27.05 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	3.67 ft/s
Velocity Head	0.21 ft
Specific Energy	3.38 ft
Froude Number	0.451
Flow Type	Subcritical

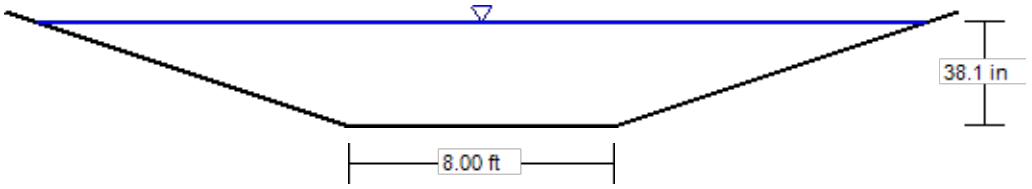
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

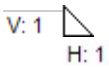
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	38.1 in
Critical Depth	25.1 in
Channel Slope	0.003 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	38.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	25.1 in
Flow Area	29.9 ft²
Wetted Perimeter	21.2 ft
Hydraulic Radius	16.9 in
Top Width	20.56 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	6.83 ft/s
Velocity Head	0.72 ft
Specific Energy	2.82 ft
Froude Number	0.998
Flow Type	Subcritical

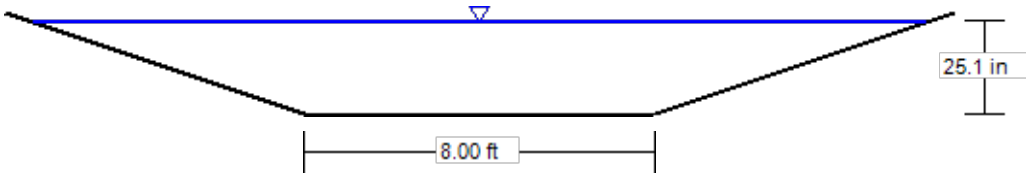
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

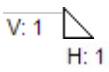
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	25.1 in
Critical Depth	25.1 in
Channel Slope	0.016 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	25.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.034 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs

Results	
Normal Depth	21.9 in
Flow Area	24.6 ft²
Wetted Perimeter	19.5 ft
Hydraulic Radius	15.1 in
Top Width	18.95 ft
Critical Depth	26.4 in
Critical Slope	0.016 ft/ft
Velocity	9.13 ft/s
Velocity Head	1.29 ft
Specific Energy	3.12 ft
Froude Number	1.412
Flow Type	Supercritical

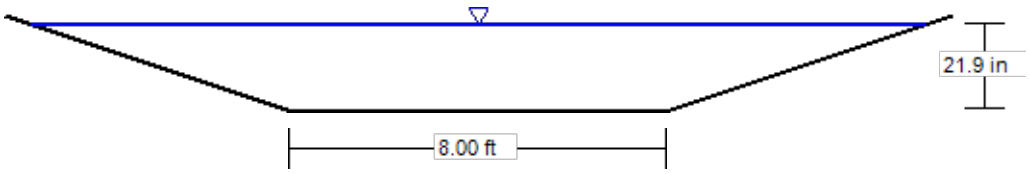
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

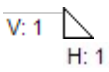
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	21.9 in
Critical Depth	26.4 in
Channel Slope	0.034 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.034 ft/ft
Normal Depth	21.9 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs





Worksheet for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs

Results	
Normal Depth	23.5 in
Flow Area	27.1 ft²
Wetted Perimeter	20.4 ft
Hydraulic Radius	16.0 in
Top Width	19.73 ft
Critical Depth	26.4 in
Critical Slope	0.016 ft/ft
Velocity	8.28 ft/s
Velocity Head	1.07 ft
Specific Energy	3.02 ft
Froude Number	1.246
Flow Type	Supercritical

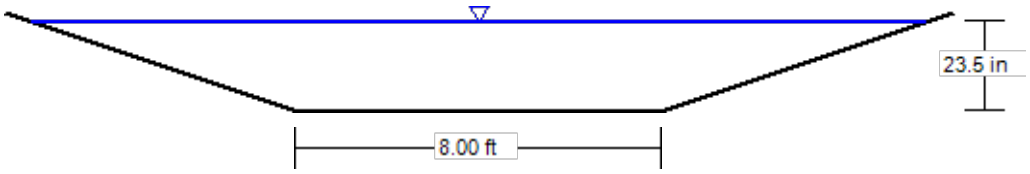
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

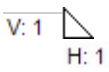
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	23.5 in
Critical Depth	26.4 in
Channel Slope	0.026 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Normal Depth	23.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & D5.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.019 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	20.3 in
Flow Area	22.2 ft²
Wetted Perimeter	18.7 ft
Hydraulic Radius	14.2 in
Top Width	18.16 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	6.55 ft/s
Velocity Head	0.67 ft
Specific Energy	2.36 ft
Froude Number	1.045
Flow Type	Supercritical

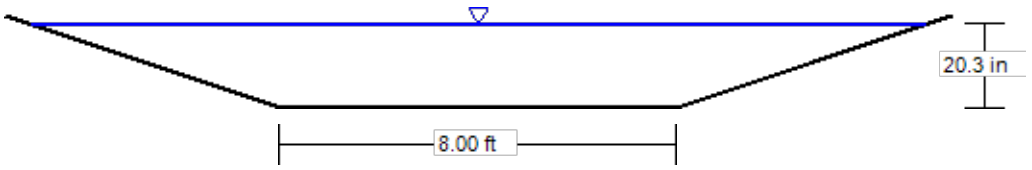
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

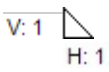
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	20.3 in
Critical Depth	20.8 in
Channel Slope	0.019 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & D5.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.019 ft/ft
Normal Depth	20.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & D5.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	30.1 in
Flow Area	39.0 ft²
Wetted Perimeter	23.9 ft
Hydraulic Radius	19.6 in
Top Width	23.06 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	3.72 ft/s
Velocity Head	0.22 ft
Specific Energy	2.73 ft
Froude Number	0.505
Flow Type	Subcritical

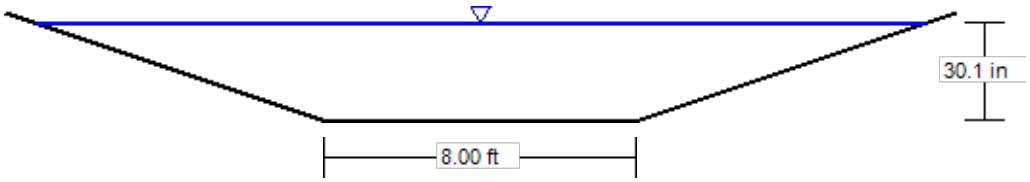
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

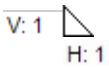
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	30.1 in
Critical Depth	20.8 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & D5.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	30.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & E5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	33.8 in
Flow Area	46.3 ft²
Wetted Perimeter	25.8 ft
Hydraulic Radius	21.5 in
Top Width	24.89 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	3.13 ft/s
Velocity Head	0.15 ft
Specific Energy	2.97 ft
Froude Number	0.405
Flow Type	Subcritical

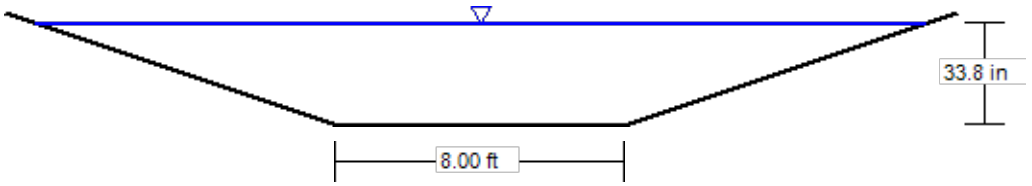
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

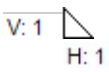
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	33.8 in
Critical Depth	20.8 in
Channel Slope	0.003 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & E5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	33.8 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E2 - Flow from E1, E3, & Ditch E1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.051 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs

Results	
Normal Depth	18.2 in
Flow Area	19.1 ft²
Wetted Perimeter	17.6 ft
Hydraulic Radius	13.0 in
Top Width	17.12 ft
Critical Depth	24.4 in
Critical Slope	0.017 ft/ft
Velocity	10.12 ft/s
Velocity Head	1.59 ft
Specific Energy	3.11 ft
Froude Number	1.691
Flow Type	Supercritical

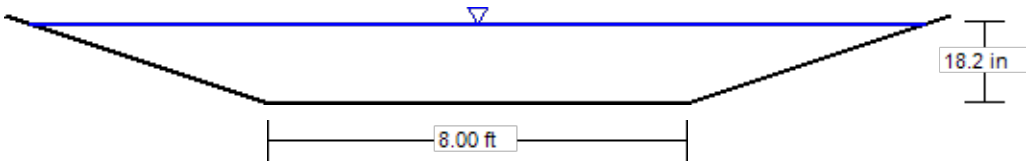
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

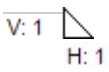
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	18.2 in
Critical Depth	24.4 in
Channel Slope	0.051 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E2 - Flow from E1, E3, & Ditch E1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.051 ft/ft
Normal Depth	18.2 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs





Worksheet for Ditch E2 - Flow from E1, E3, & Ditch E1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs

Results	
Normal Depth	35.1 in
Flow Area	49.0 ft²
Wetted Perimeter	26.5 ft
Hydraulic Radius	22.2 in
Top Width	25.53 ft
Critical Depth	24.4 in
Critical Slope	0.017 ft/ft
Velocity	3.94 ft/s
Velocity Head	0.24 ft
Specific Energy	3.16 ft
Froude Number	0.502
Flow Type	Subcritical

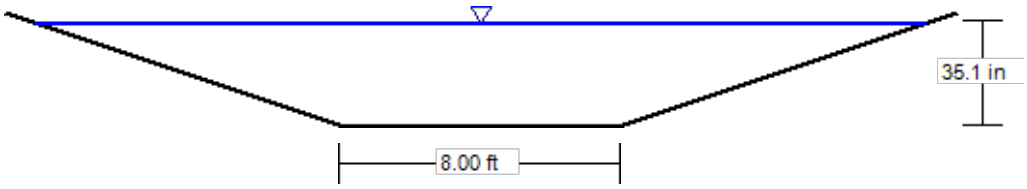
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

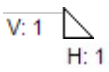
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	35.1 in
Critical Depth	24.4 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E2 - Flow from E1, E3, & Ditch E1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	35.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs





CONTAMINATED WATER CONTAINMENT AND DIVERSION BERM CALCULATIONS

Greater El Paso Landfill
CONTAMINATED WATER CONTAINMENT AND DIVERSION BERM CALCULATION

BURNS McDONNELL

PROJECT	Greater El Paso Landfill Permit 2284A
SUBJECT	Contaminated Water Containment and Diversion Berms
PROJECT NUMBER	155488
DATE	Sep-25

Purpose: The purpose of this calculation is to determine the height of the contaminated water containment berm at the downstream edge of the active face and the height of the diversion berm controlling stormwater run-on to the active face.

Methodology: These calculations are organized into two parts: those pertaining to the containment berm and those pertaining to the diversion berm. First, the containment berm height was calculated by estimating the volume of runoff within the active area, then solving for the required height based on this volume, the length of the berm and the geometry of the v-shaped water cross-section. Second, the diversion berm height was calculated using the Rational Method to estimate the peak flow from a typical run-on drainage basin and Mannings Equation to size the v-shaped swale. Runoff peak flows and volumes were calculated using the 25-year, 24-hour storm event for El Paso, TX.

Assumptions:
1. Runoff coefficient for the active face is determined according to exposed waste at 3% slopes.
2. The average weekly waste placement rate, used to size the active face was determined using the 2019 annual disposal tonnage, a 1,300 lb/cy factor, and a compaction ratio of 2:1 (volume in truck:volume in landfill)
3. The lift thickness, used to size the active face, is 10 feet. This is typical for landfill operations.
4. The active face is square-shaped.
5. The active face has a slope of 3%.
6. The containment/diversion berms shall have 2:1 slopes and no minimum top width.
7. Time of concentration is assumed to be 10 min.
8. Runoff coefficient for the run-on basin is determined according to interim cover material at 3:1 slopes that extend to touch the flowine of the berm.
9. Area of the run-on basin is 4 acres. This is equivalent to approximately 14 former active faces.
10. A 0.5% flowline slope was used to design the run-on berm. Actual slopes at time of installation should be 1.0%. This accounts for settlement.

References:
1. Texas DOT Hydraulic Design Manual, 2019
2. NOAA Atlas 14, Volume 11, Version 2 Estimates for El Paso, TX
3. Rainfall Intensity-Duration-Frequency Coefficients for Texas Version 2.1, 2015
4. Flowmaster Output

7222	= Data Input Cell
7222	= Calculated and/or Referenced

Conclusions: 2-foot containment and diversion berms with 2:1 side slopes shall be installed around the active face. The diversion portion of the berm, along the upstream edge of the active face, shall have a flowline of at least 0.5% for the duration of the active face.

Prepared By:	J. Pistorius	Date:	Sep-25
Checked By:	K. Benjamin	Date:	Sep-25

Greater El Paso Landfill
CONTAMINATED WATER CONTAINMENT CALCULATION

Calculation by: JGP Date: Sep-25

					Reference
1) PEAK VOLUME OF CONTMINATED WATER					
MSW Runoff Coefficient, C					
Watershed Relief Component, Cr		**Cr =**	0.09		Reference 1, Assumption 1
Soil Infiltration Component, Ci		**Ci =**	0.06		Reference 1, Assumption 1
Vegetal Cover Component, Cv		**Cv =**	0.16		Reference 1, Assumption 1
Surface Type Component, Cs		**Cs =**	0.04		Reference 1, Assumption 1
Overall Runoff Coefficient, C = Cr + Ci + Cv + Cs		**C =**	0.35		Reference 1
25-year, 24-hour Rainfall Depth, D					
Rainfall Depth		**D =**	3.17	in	Reference 2
			0.26	ft	
Area, A					
In-place waste volume per year, Wyear		**W_{year} =**	767,385	CY	Assumption 2
In-place waste volume per week	**$W = W_{year} / 52$**	**W =**	14,757	CY	Assumption 2
			398,450	ft^3	
Lift Thickness, T		**T =**	10	ft	Assumption 3
Contact Water Area	**A = W/T**	**A =**	39,845	ft^2	
			0.91	acres	
Contaminated Water Volume, V					
V = Total Contaminated Water = C x D x A		**V =**	3,684	ft^3	
2) REQUIRED CONTAINMENT BERM HEIGHT					
Downstream Berm Length, L	**$L = A^{0.5}$**	**L =**	199.61	ft	Assumption 4
Required Cross-Sectional Area	**$A_x = V/L$**	**A_x =**	18.46	ft^2	
Slope of Active Area (inside edge of triangular cross-sectional area, A_x)		**S_1 =**	0.03	ft/ft	Assumption 5
Slope of Berm (outside edge of triangular cross-sectional area, Ax)		**S_2 =**	0.50	ft/ft	Assumption 6
Height of Contaminated Water	**$H_W = (2Ax / [(1/S_2)+(1/S_1)])^{0.5}$**	**H_W =**	1.02	ft	
Height of Containment Berm	**$H_B = H_W$ + 12 inches freeboard**	**H_B =**	2.02	ft	

Use a berm height of 2.25 feet.

NOTE:
Areas and Lengths calculated using AutoCAD Civil3D

Greater El Paso Landfill
ACTIVE FACE RUN-ON DIVERSION CALCULATION

Calculation by: JGP Date: Sep-25

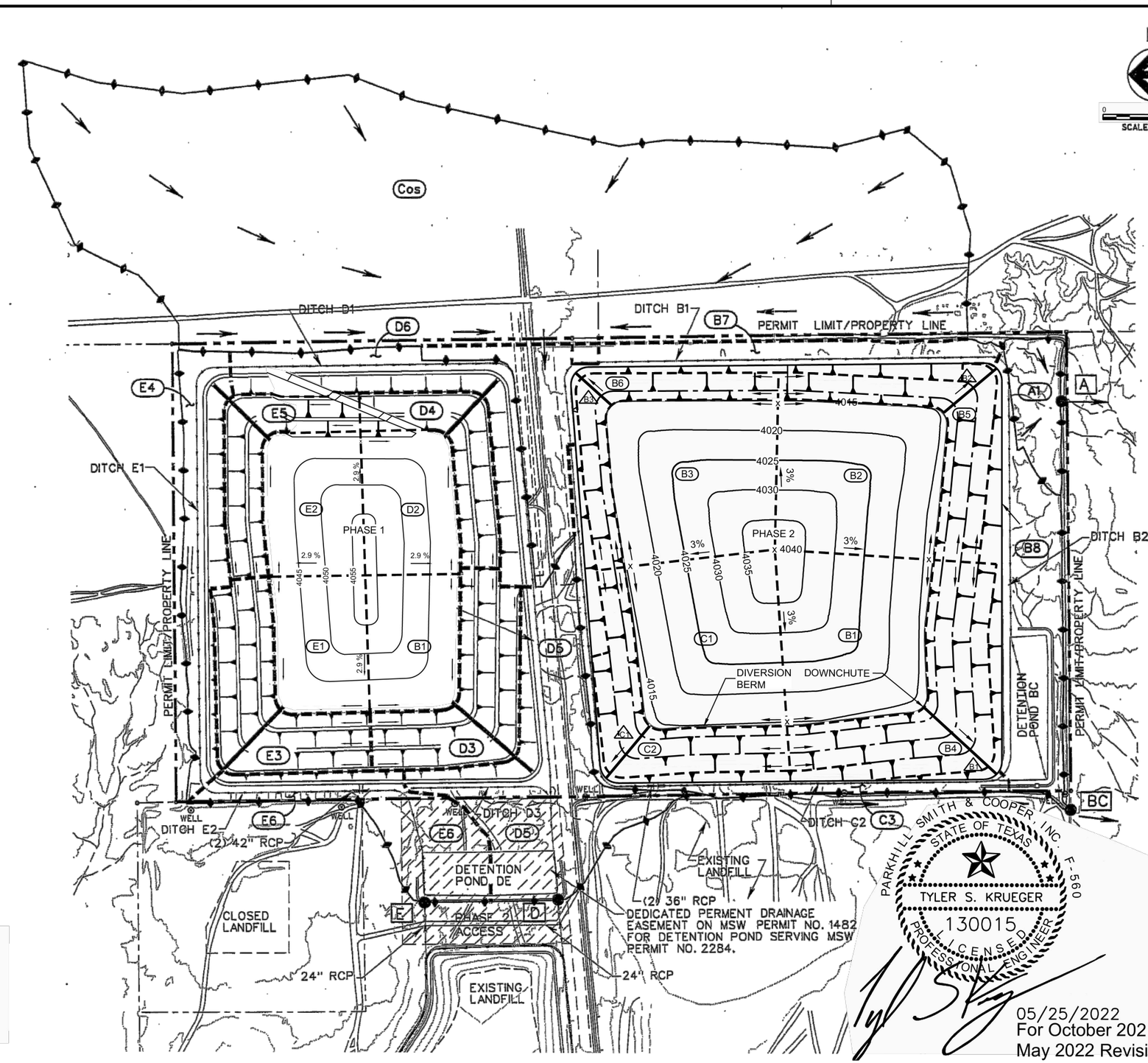
				Reference
1) PEAK FLOW OF RUN-ON WATER				
Runoff Coefficient, C				
Watershed Relief Component, Cr	**Cr =**	0.30		Reference 1, Assumption 8
Soil Infiltration Component, Ci	**Ci =**	0.08		Reference 1, Assumption 8
Vegetal Cover Component, Cv	**Cv =**	0.12		Reference 1, Assumption 8
Surface Type Component, Cs	**Cs =**	0.08		Reference 1, Assumption 8
Overall Runoff Coefficient, C = Cr + Ci + Cv + Cs		0.58		
Average Rainfall Intensity, I				
Time of Concentration, T	**T_c =**	10.0	min	Assumption 7
25- Year Intensity-Frequency-Duration Coefficient, e	**e =**	0.9037		Reference 3
25- Year Intensity-Frequency-Duration Coefficient, b	**b =**	80.750	in	Reference 3
25- Year Intensity-Frequency-Duration Coefficient, d	**d =**	7.360	min	Reference 3
Average Rainfall Intensity, $I = b/(T_c + d)^e$	**I =**	6.123	in/hr	Reference 3
Drainage Area, A				
Drainage Area, A	**A =**	4.00	Ac	Assumption 9
Peak Flow, Q				
Q= Total Discharge from Watershed = C x I x A	**Q =**	14.2	**cfs**	
2) REQUIRED DIVERSION BERM HEIGHT				
Slope of Run-on Basin (inside edge of triangular cross-sectional area)	**S =**	0.33	ft/ft	Assumption 8
Slope of Berm (outside edge of triangular cross-sectional area)	**S =**	0.50	ft/ft	Assumption 6
Slope of Swale Flowline	**S =**	0.50	%	Assumption 10
Mannings Roughness Coefficient, n	**n =**	0.018		Reference 1
Depth of Flow	**H_W =**	1.200	ft	Reference 4
Height of Diversion Berm	**H_B =**	2.20	ft	

$H_B = H_W + 12$ inches freeboard

Use a berm height of 2.25 feet.

NOTE:
Areas and Lengths calculated using AutoCAD Civil3D. Depth of flow calculated in Flowmaster.

ATTACHMENT III.B.3 – DRAWINGS



PRE-DEVELOPED CONDITIONS SUMMARY

Discharge Point	Subbasin	Area (acres)	Discharge (cfs)
A	A1	5.0	4.57
			4.57
Pond BC	B1	17.5	81.2
	B2	18.1	89.85
	B3	19.3	90.15
	B4	15.3	100.36
	B5	9.9	60.58
	B6	7.4	47.94
	B7	19.4	14.68
	B8	17.9	32.05
	Cos	151.4	43.91
	C1	18.5	89.55
	C2	10.6	71.03
	C3	10.2	29.66
Inflow @ Pond BC[1]			476.2
Outflow @ Pond BC[1]			**99.1**
Pond DE	D1	9.7	42.14
	D2	10.3	41.18
	D3	12.5	68.52
	D4	7.7	41.11
	D5	24.8	56
	D6	12.9	45.14
	E1	9.9	42.14
	E2	10.5	52.91
	E3	12.9	70.98
	E4	12.5	39.7
	E5	8.2	44.54
	E6	11.9	50.61
Inflow @ Pond DE[2]			439.7
Outflow @ Pond DE[2]			**36.4**

[1]From the HEC HMS Output included in ATTACHMENT III.B.1 of this Attachment

[2]From the HEC HMS Output included in ATTACHMENT III.B.1 of this Attachment

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. DRAWING ORIGINALLY FROM THE 2022 PERMIT MODIFICATION (2284) COMPLETED BY PARKHILL, SMITH AND ASSOCIATES AND SIGNED BY TYLER S. KRUEGER ON MAY 25, 2022. THE DISCHARGE (CFS) FOR THE PRE-DEVELOPMENT CONDITIONS HAS BEEN REVISED FROM THE ORIGINAL APPLICATION TO REFLECT THE NOAA ATLAS 14 RAINFALL RESULTS.
2. TOPOGRAPHICAL DATUM ASSUMED TO BE CITY DATUM.

PARKHILL SMITH & COOPER, INC. F-560
STATE OF TEXAS
TYLER S. KRUEGER
130015
LICENSED PROFESSIONAL ENGINEER

05/25/2022
For October 2021 and May 2022 Revisions Only

STATE OF TEXAS
MICHAEL K. STACEY
65460
REGISTERED PROFESSIONAL ENGINEER

9/12/25

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO F-845

date	detailed
5/16/2025	A. NESBITT
designed	checked
T. SCHMIDT	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

PRE-DEVELOPMENT DRAINAGE CONDITIONS

project	contract
155488	-

drawing **III.B.2** rev. **2**

file III.B.2PRE-DEVELOPMENTDRAINAGECONDITIONS.DWG

REVISION FOR PRE-DEVELOPED (ATLAS 14) RAINFALL DATA CHANGE ONLY. SEE NOTE 1.

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches

jpistorius Sep 16, 2025 - 9:44am - \\bmcd.burnsmcd.com\dfs\Clients\ENS\cityelpasotx\155488_geplfexpans\Design\CADD\Dwgs\III.B.2 PRE-DEVELOPMENT DRAINAGE CONDITIONS.dwg

PLAN LEGEND

- DRAINAGE SUBBASIN
- PERMIT LIMIT
- FLOW DIRECTION
- A — DISCHARGE POINT
- B5 — DRAINAGE BASIN IDENTIFIER
- STREAM OR DITCH
- CULVERT

NOTE: SEE DRAWING III.A.1 FOR COMPLETE LEGEND.

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 10 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 10 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 10 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

DEVELOPED CONDITIONS SUMMARY

DISCHARGE	SUBBASIN	AREA (AC.)	DISCHARGE (CFS)
	A1	5	4.57
@A		5	4.57
	B1	17	38.91
	B2	18	32.49
	B3	19	66.37
	B4	13	147.65
	B5	10	151.27
	B6	7	95.76
	B7	19	12.51
	B8	18	25.96
	COS	151	42.5
	C1	19	40.61
	C2	11	129.52
	C3	10	26.89
INFLOW @ POND BC		315	545.27
OUTFLOW @ POND BC			95.71
	D1	10	66.08
	D3	13	68.52
	D4	8	44.54
	D5	25	56
	D6	12	45.14
	E1	10	63.77
	E2	11	62.76
	E3	13	70.98
	E4	13	39.7
	E5	8	44.54
	E6	12	50.61
INFLOW @ POND DE		143	396.8
OUTFLOW @ POND DE			35.12

CHANNEL IDENTIFICATION	SIDE SLOPES	CHANNEL SLOPE (FT/FT) (SEE ATT.III.B.1, P. III.B-128)	BOTTOM WIDTH (FT)
DITCH B1	3:1	VARIES	8
DITCH B2	3:1		8
DITCH C1	3:1		8
DITCH C2	3:1		8
DITCH D1	3:1		8
DITCH D2	3:1		8
DITCH D3	3:1		8
DITCH E1	3:1		8
DITCH E2	3:1		8

TONYA L. KOLLER P.E.
LICENSE NO. 133943

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

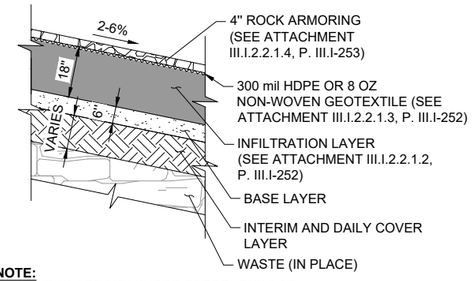
POST-DEVELOPMENT DRAINAGE CONDITIONS

project	contract
155488	-

drawing III.B.3 — rev. 2

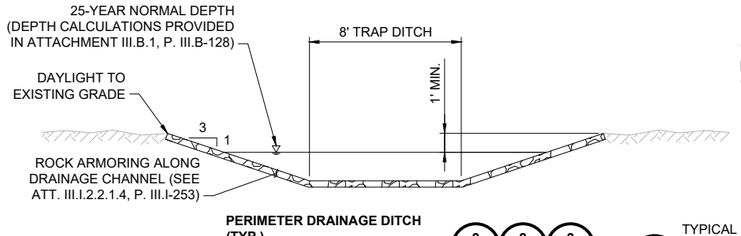
file III.B.3 POST-DEVELOPMENT DRAINAGE CONDITIONS.dwg

Scale For Microfilming
Millimeters
Inches

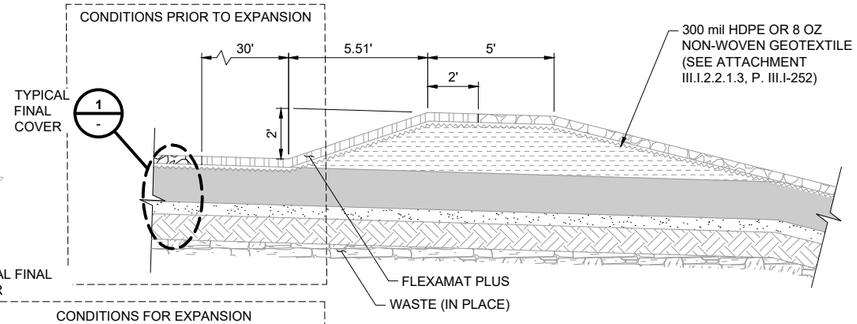


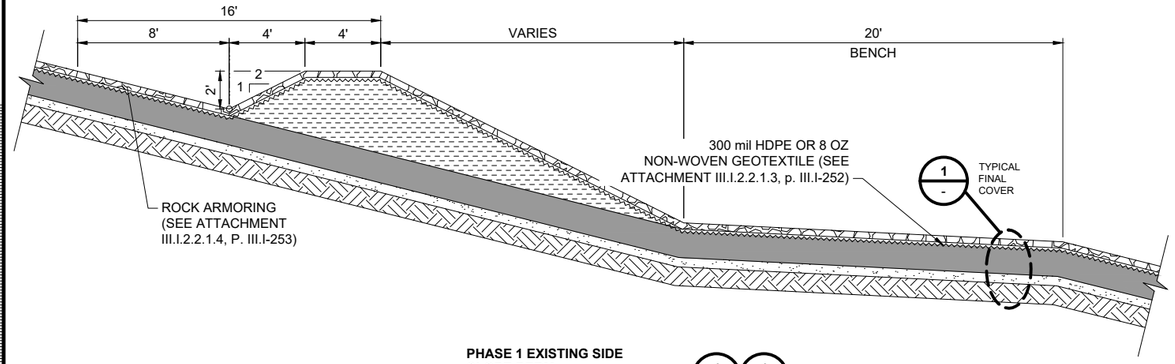
NOTE:
THICKNESS ARE MEASURED PERPENDICULAR TO SURFACE

FINAL COVER (TYP.) — 1 - | 1 III.B.4 | 1 III.B.6 | 1 III.B.11 | 1 III.B.12
NOT TO SCALE

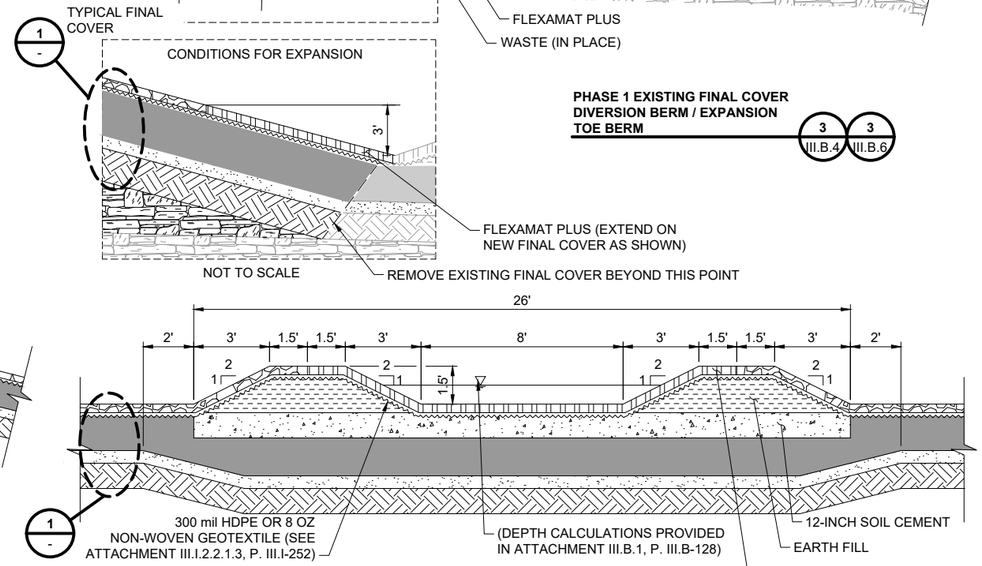


PERIMETER DRAINAGE DITCH (TYP.) — 2 III.B.4 | 2 III.B.11 | 2 III.B.12



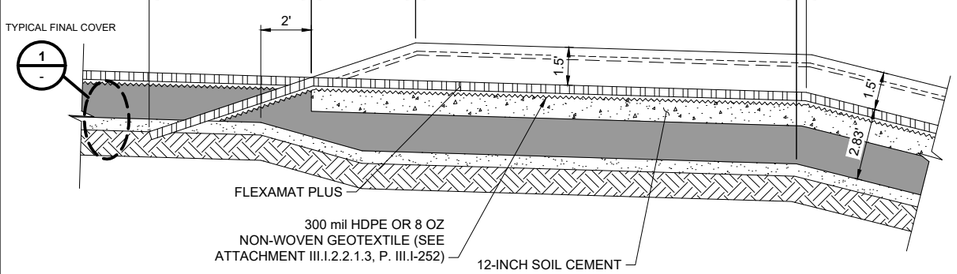


PHASE 1 EXISTING SIDE SLOPE BERM — 4 III.B.4 | 4 III.B.6

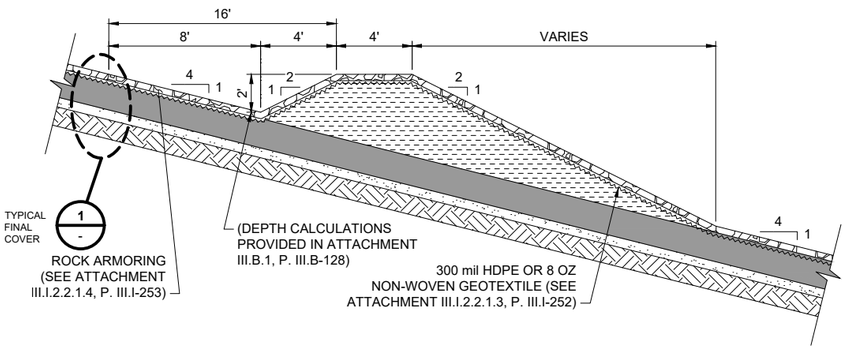


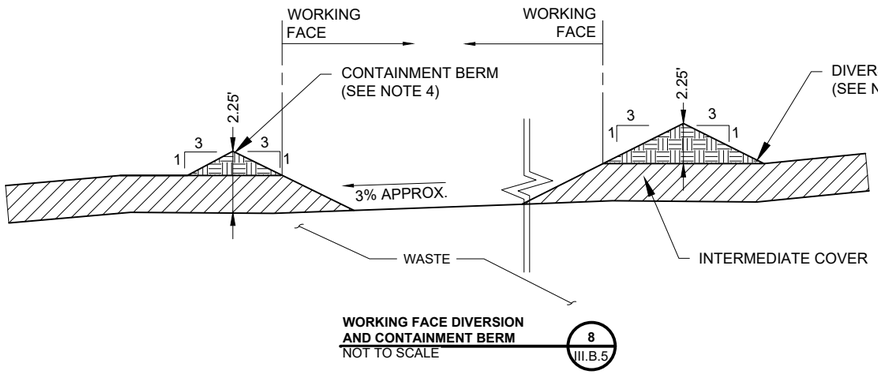
PHASE 1 EXISTING FINAL COVER DIVERSION BERM / EXPANSION TOE BERM — 3 III.B.4 | 3 III.B.6

FINAL COVER LETDOWN STRUCTURE (TYP.) — 5 III.B.4 | 5 III.B.6 | 5 III.B.11 | 5 III.B.12

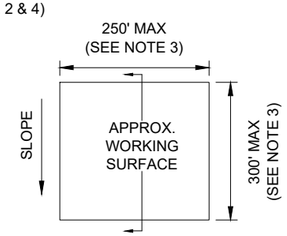


FINAL COVER LETDOWN STRUCTURE (TYP.) — 6 III.B.4





WORKING FACE DIVERSION AND CONTAINMENT BERM — 8 III.B.5
NOT TO SCALE



DETAIL 6 KEY

PHASE 1 EXPANSION AND PHASE 2 FINAL COVER TERRACE DETAIL — 7 III.B.4 | 7 III.B.11

NOTES FOR DETAIL 8:

1. WORKING FACE WILL RELOCATE IN CONJUNCTION WITH CURRENT WASTE FILLING PATTERNS.
2. DIVERSION BERM FLOWLINE SHALL BE 0.5% MINIMUM TO CONVEY UNCONTAMINATED WATER AROUND WORKING FACE.
3. MAXIMUM WORKING FACE DIMENSIONS ARE DEPENDENT UPON WASTE QUANTITY.
4. SIZING CALCULATIONS FOR CONTAINMENT AND DIVERSION BERMS INCLUDING WATER DEPTH AND DESIGN FREEBOARD OF 1-FOOT CAN BE FOUND IN ATTACHMENT III.B.1, P.III.B-187.

TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

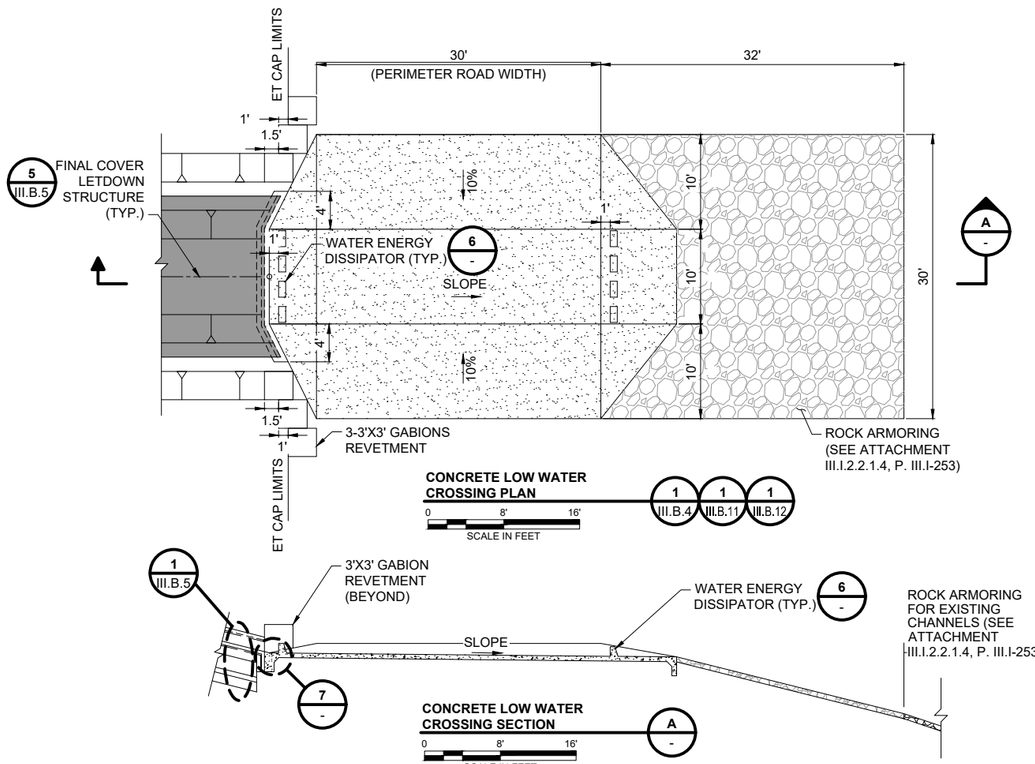
DRAINAGE DETAILS, 1 OF 2

project	contract
155488	-

drawing **III.B.5** rev. **2**

file III.B.5 DRAINAGE DETAILS, 1 OF 2.dwg

Millimeters
Inches
Scale For Microfilming

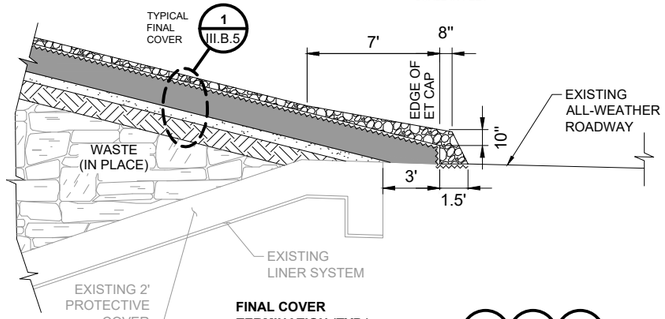


CONCRETE LOW WATER CROSSING PLAN — 1 III.B.4 | 1 III.B.11 | 1 III.B.12

0 8' 16'
SCALE IN FEET

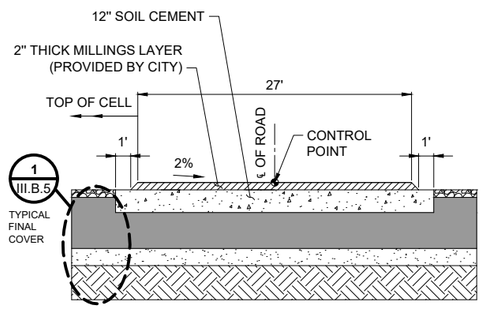
CONCRETE LOW WATER CROSSING SECTION — A -

0 8' 16'
SCALE IN FEET

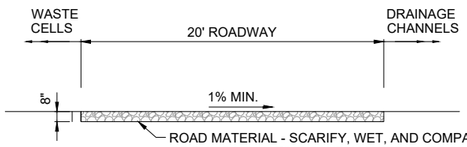


FINAL COVER TERMINATION (TYP.) — 3 III.B.4 | 3 III.B.11 | 3 III.B.12

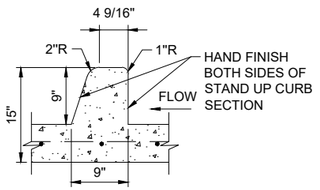
0 8' 16'
SCALE IN FEET



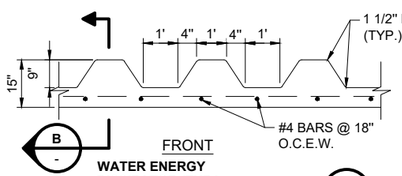
CELL ACCESS ROAD — NOT TO SCALE — 5 III.B.4



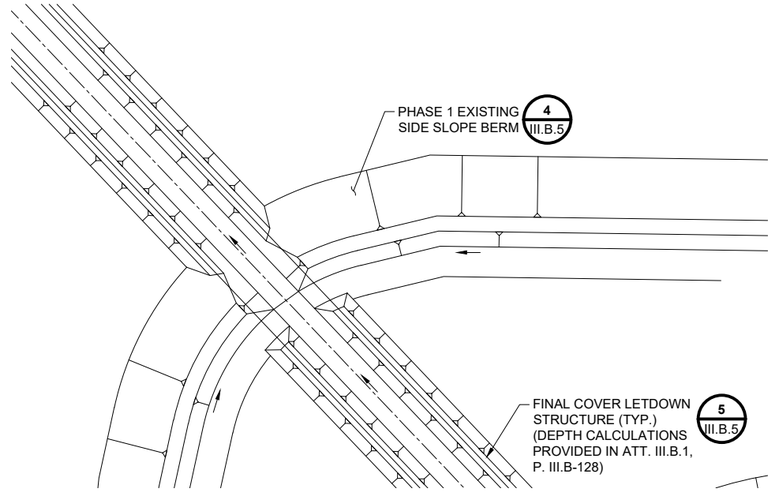
PERIMETER ROAD — NOT TO SCALE — 8 III.B.4



WATER ENERGY DISSIPATOR (TYP.) SECTION — SCALE: 1" = 1' — B -

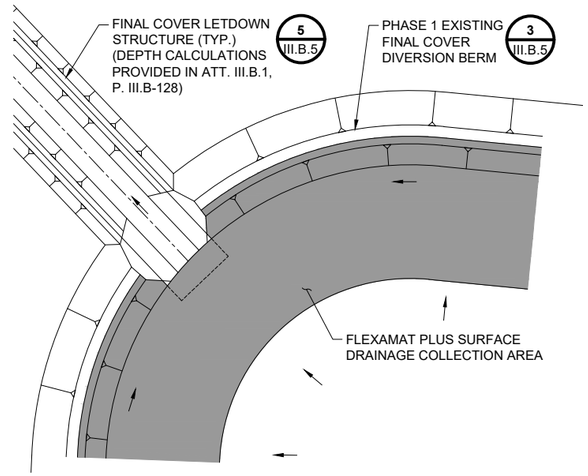


WATER ENERGY DISSIPATOR (TYP.) — NOT TO SCALE — 6 -



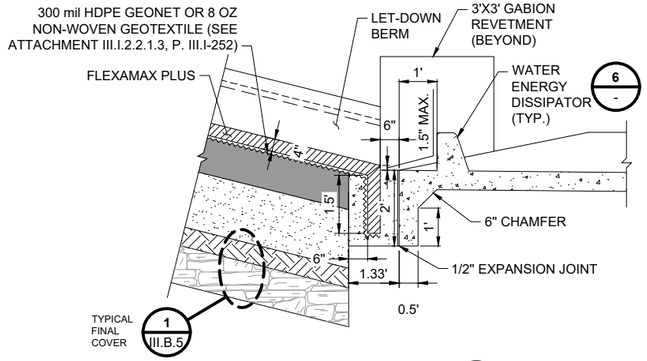
LET-DOWN DRAINAGE COLLECTION AREA (TYP.) — 2 III.B.4 | 2 III.B.11

0 10' 20' 40'
SCALE IN FEET



LET-DOWN DRAINAGE AT SIDE SLOPE BERM (TYP.) — 4 III.B.4

0 10' 20' 40'
SCALE IN FEET



LET DOWN CONNECTION — 7 -

0 2' 4'
SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE DETAILS, 2 OF 2

project	contract
155488	-

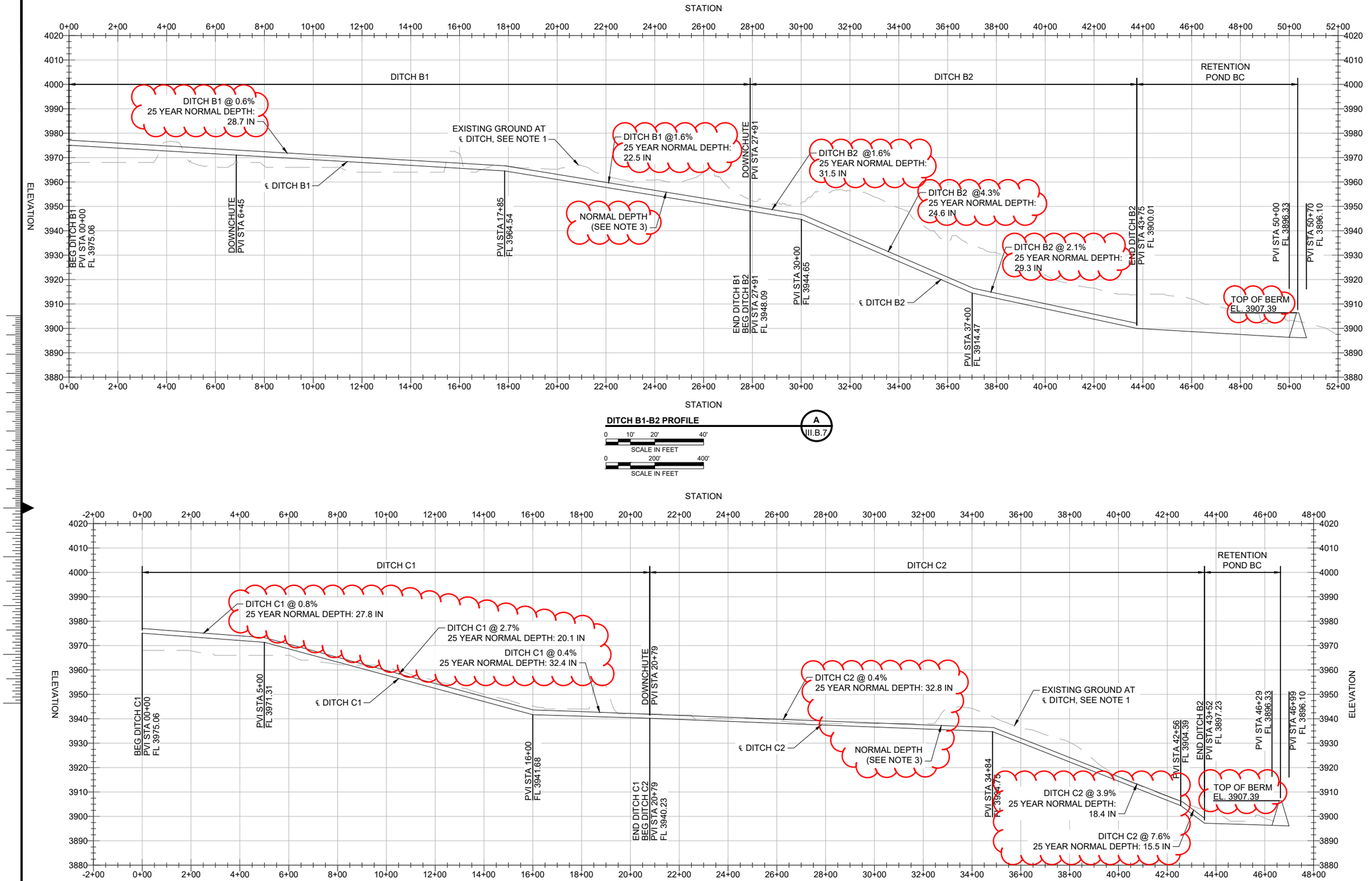
drawing **III.B.6 – 2** rev.

file III.B.6 DRAINAGE DETAILS 2 OF 2.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Millimeters
Inches
Scale For Microfilming

pistorius Sep 16, 2025 - 9:46am - \\bmcd.burnsmcd.com\dfs\Clients\ENS\cityelpasotx-155488_geplfexpans\Design\CADD\Dwgs\III.B.6 DRAINAGE DETAILS 2 OF 2.dwg



DITCH B1-B2 PROFILE — A, III.B.7

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'

DITCH C1-C2 PROFILE — B, III.B.7

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE PROFILES DITCH B1, B2, C1, C2

project	contract
155488	-

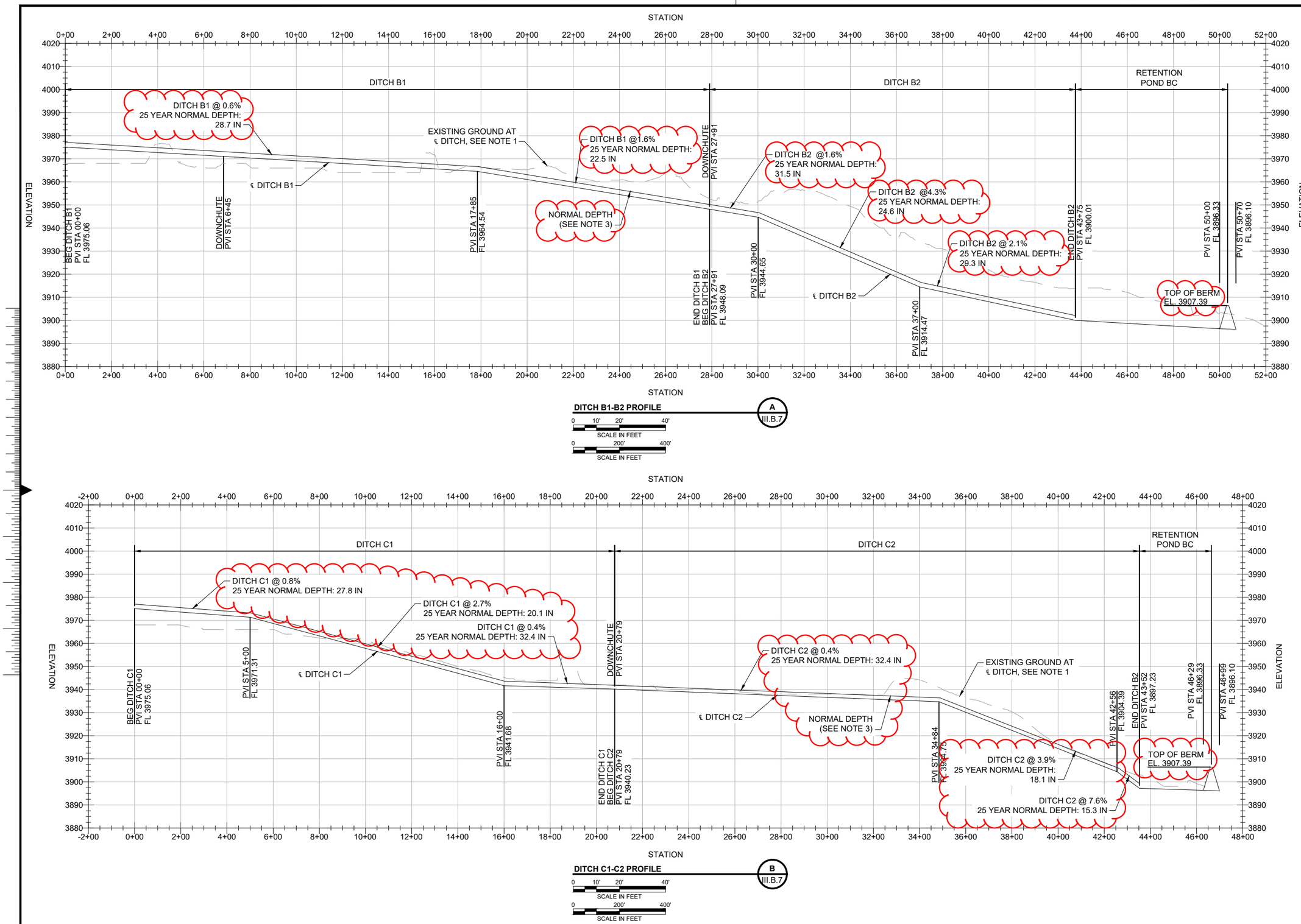
drawing **III.B.8** — rev. 2

file III.B.8 DRAINAGE PROFILES DITCH B1, B2, C1, C2.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches

jpistorius Sep 16, 2025 - 9:47am - \\bmcd.burnsmcd.com\dfs\Clients\ENS\cityelpasotx\155488_geplfexpans\Design\CADD\Dwgs\III.B.8 DRAINAGE PROFILES DITCH B1, B2, C1, C2.dwg



DITCH B1-B2 PROFILE — A, III.B.7

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'

DITCH C1-C2 PROFILE — B, III.B.7

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'

TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

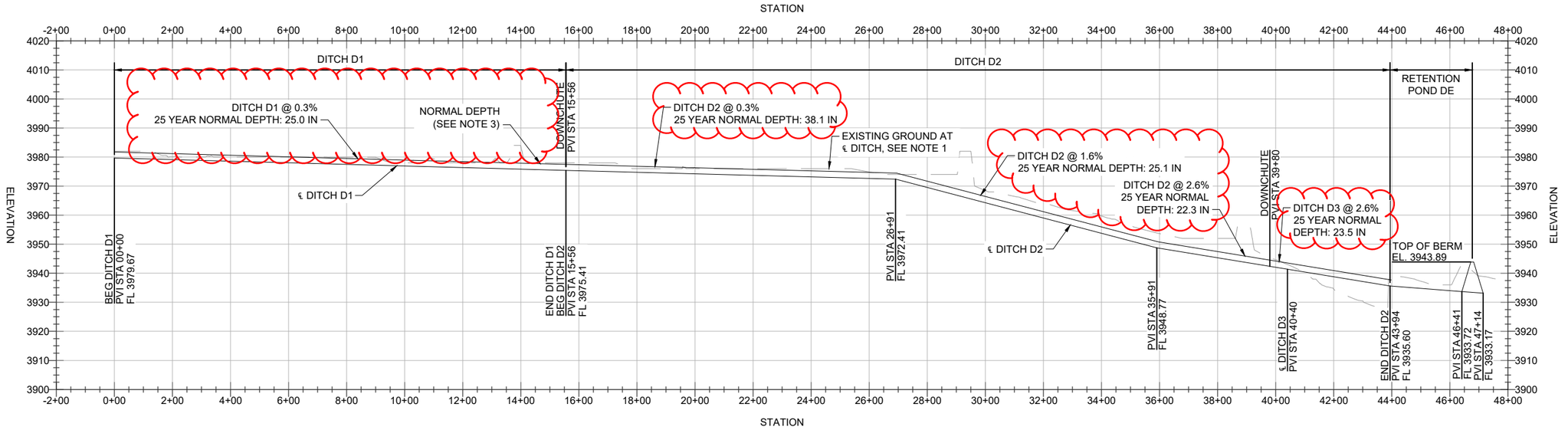
DRAINAGE PROFILES DITCH B1, B2, C1, C2

project	contract
155488	-

drawing **III.B.8** — rev. 2

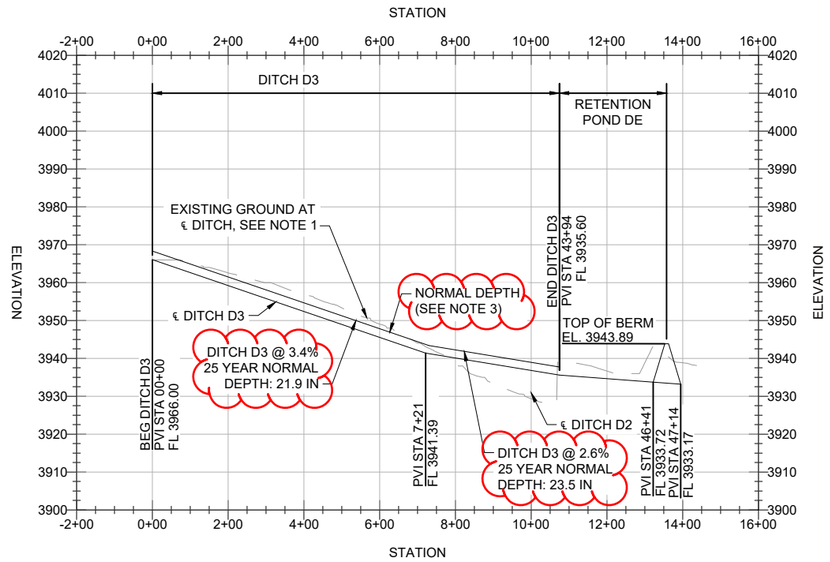
file III.B.8 DRAINAGE PROFILES DITCH B1, B2, C1, C2.dwg

Scale For Microfilming: Millimeters / Inches



DITCH D1-D2 PROFILE — C, III.B.7

0 10' 20' 40'
SCALE IN FEET
0 200' 400'
SCALE IN FEET



DITCH D3 PROFILE — D, III.B.7

0 10' 20' 40'
SCALE IN FEET
0 200' 400'
SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE PROFILES DITCH D1, D2, D3

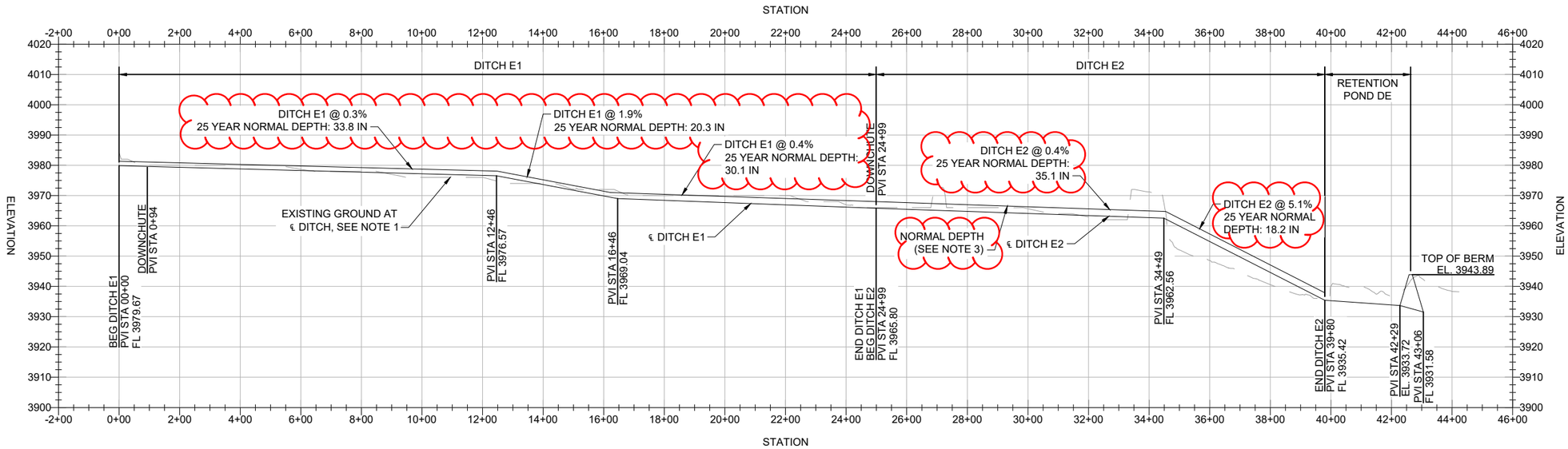
project	contract
155488	-

drawing **III.B.9** rev. **2**

file III.B.9 DRAINAGE PROFILES DITCH D1, D2, D3.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches



DITCH E1-E2 PROFLE — E, III.B.7

0 10' 20' 40'
SCALE IN FEET

0 200' 400'
SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE PROFILES DITCH E1, E2

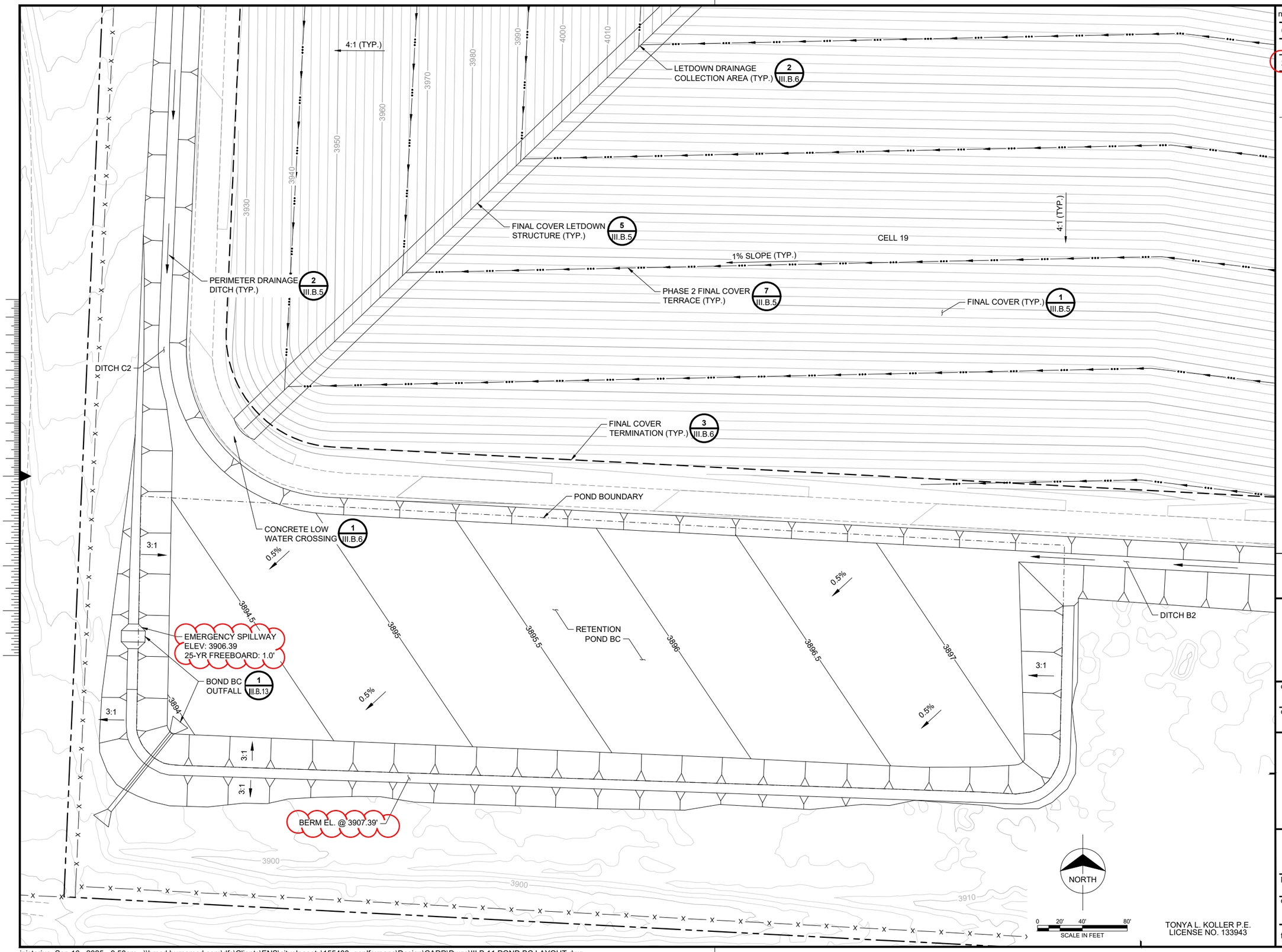
project	contract
155488	-

drawing **III.B.10** rev. **2**

file III.B.10 DRAINAGE PROFILES DITCH E1, E2.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Millimeters
Inches
Scale For Microfilming



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

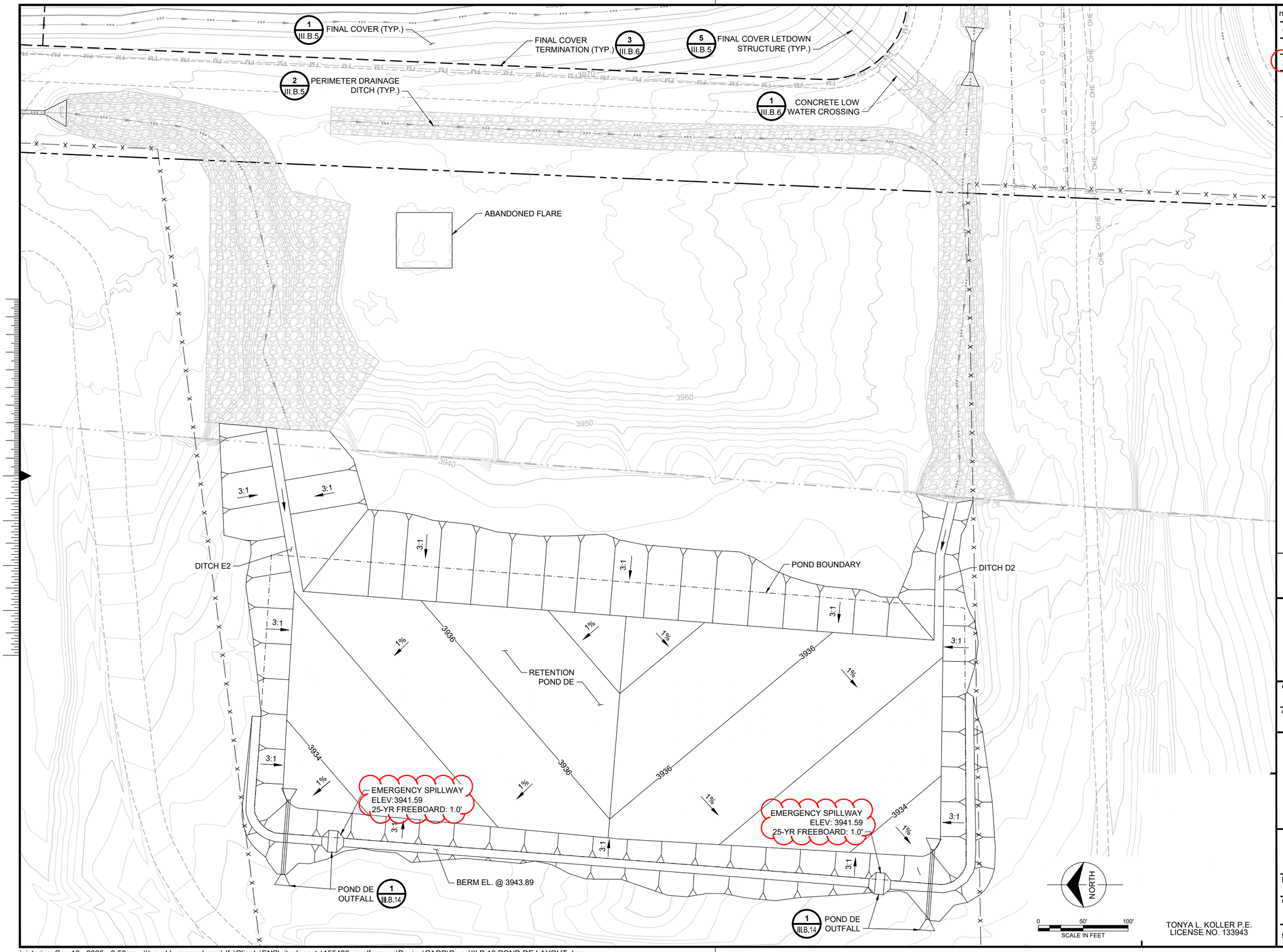
POND BC LAYOUT

project	contract
155488	-

drawing III.B.11 rev. 2

file III.B.11 POND BC LAYOUT.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POND DE LAYOUT

project	contract
155488	-

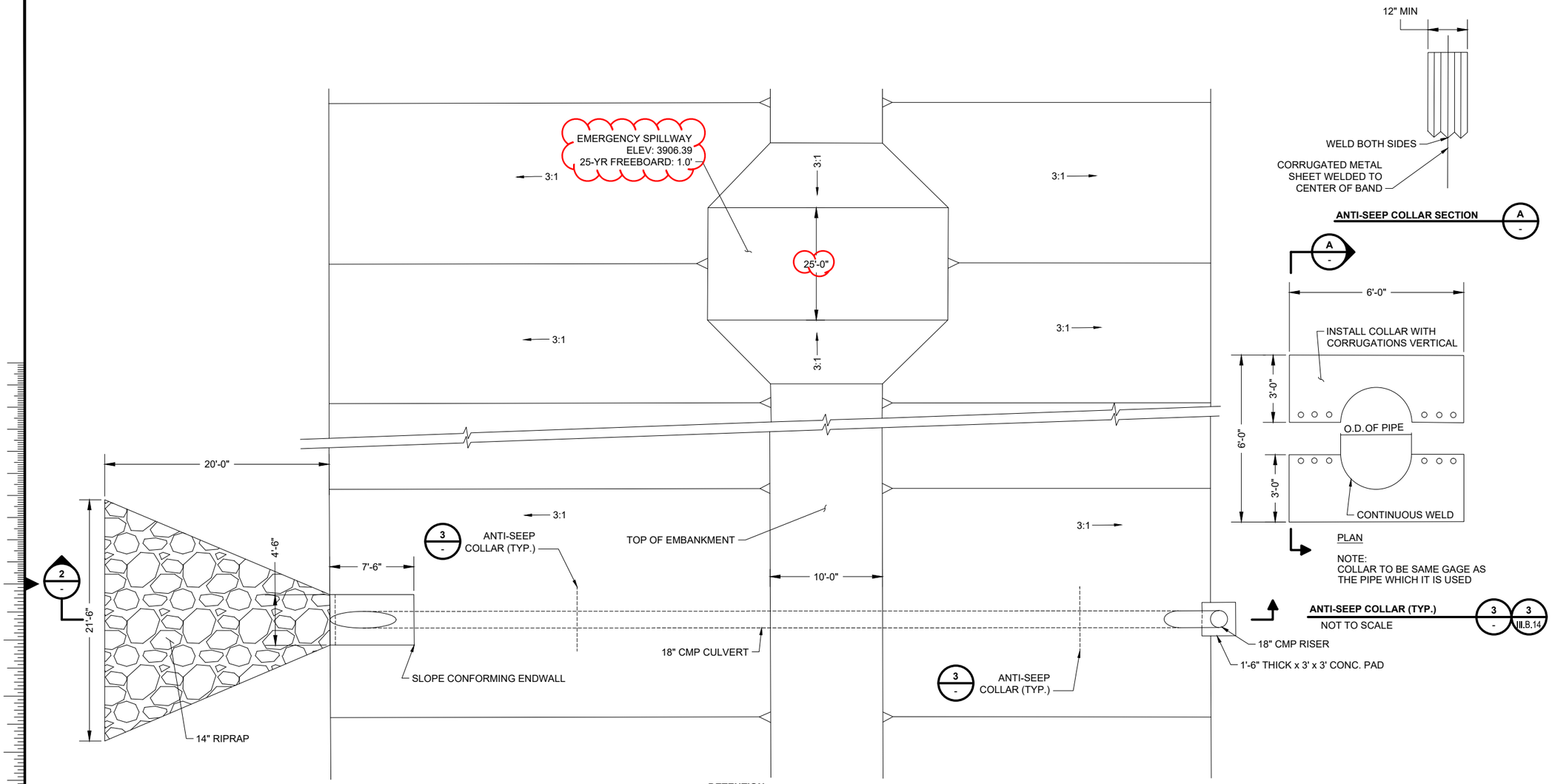
drawing **III.B.12** rev. **2**

file III.B.12 POND DE LAYOUT.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2



DETENTION
POND BC OUTFALL PLAN 1 III.B.11

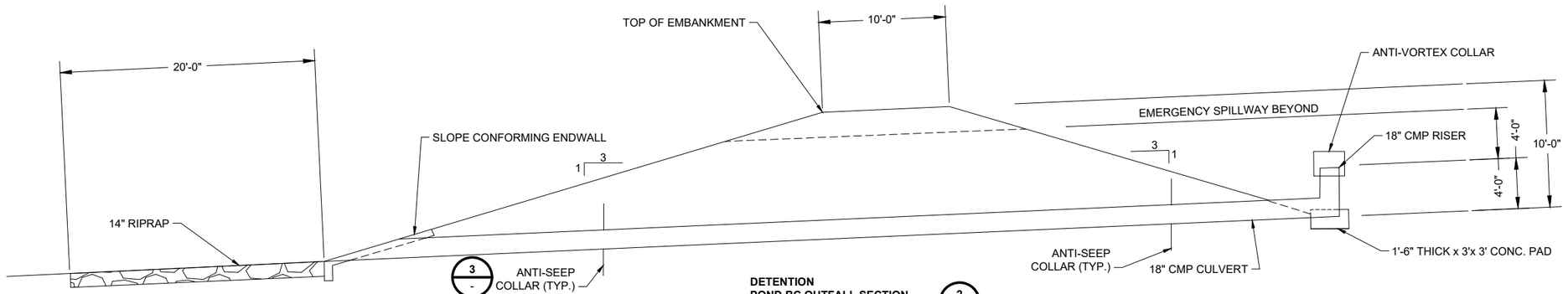
0 5' 10'
SCALE IN FEET

ANTI-SEEP COLLAR SECTION A -

PLAN

NOTE:
COLLAR TO BE SAME GAGE AS
THE PIPE WHICH IT IS USED

ANTI-SEEP COLLAR (TYP.) 3 - 3 III.B.14
NOT TO SCALE



DETENTION
POND BC OUTFALL SECTION 2 -

0 5' 10'
SCALE IN FEET

TONYA L. KOLLER P.E.
LICENSE NO. 133943

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

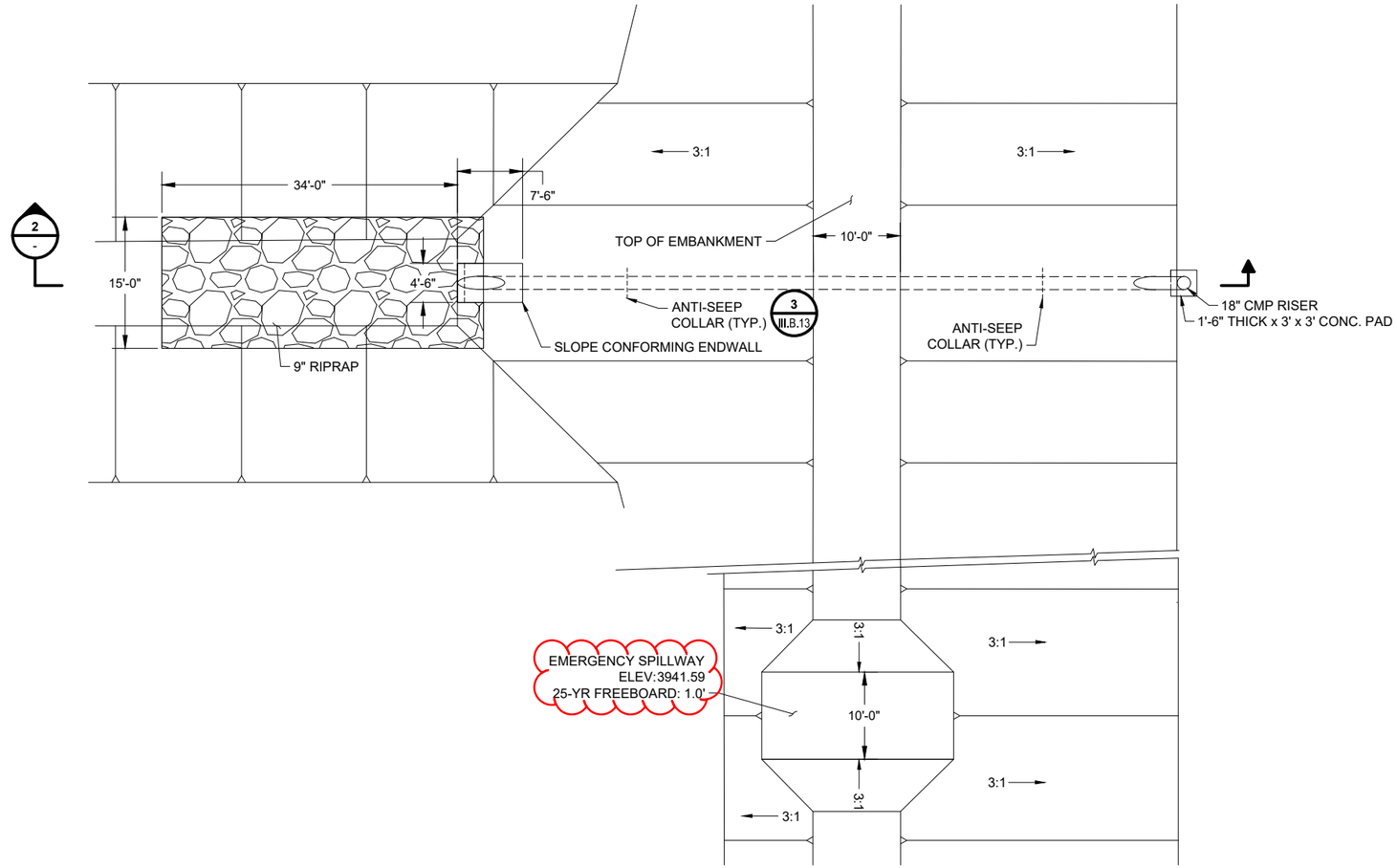
POND BC OUTFALL AND SECTIONS

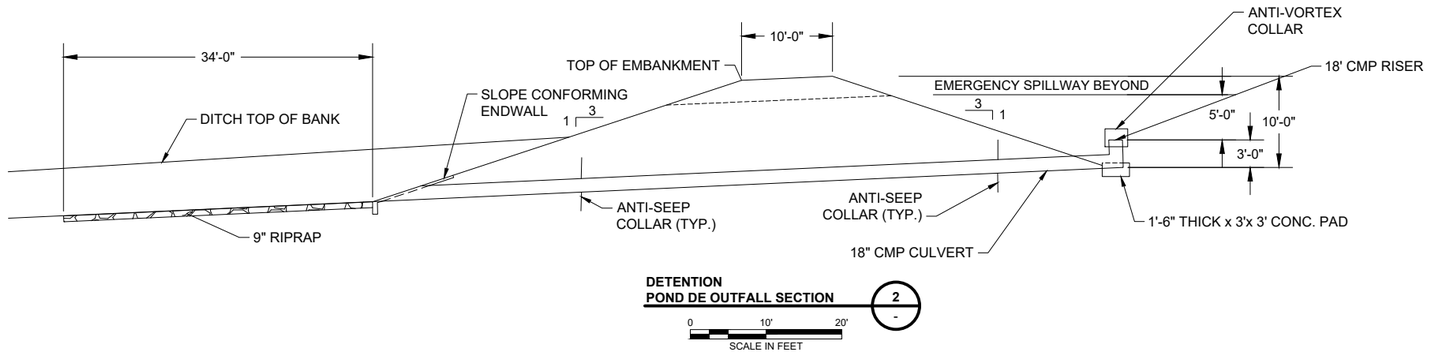
project	contract
155488	-

drawing **III.B.13** rev. 2

file III.B.13 POND BC OUTFALL AND SECTIONS.dwg

jpistorius Sep 16, 2025 - 9:50am - \\bmcd.burnsmcd.com\dfs\Clients\ENS\cityelpasotx\155488_geplfexpans\Design\CADD\Dwgs\III.B.13 POND BC OUTFALL AND SECTIONS.dwg





no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NORTH

NOT TO SCALE

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POND DE OUTFALL AND SECTIONS

project	contract
155488	-

drawing **III.B.14** — rev. **2**

file III.B.14 POND DE OUTFALL AND SECTIONS.dwg

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Millimeters
Inches
Scale For Microfilming

jpistorius Sep 16, 2025 - 9:50am - \\bmcd.burnsmcd.com\dfs\Clients\ENS\cityelpasotx\155488_geplfexpans\Design\CADD\Dwgs\III.B.14 POND DE OUTFALL AND SECTIONS.dwg

Please replace Appendix III.C with the following pages

MSW AUTH NO. 2284A

APPENDIX III.C – LEACHATE AND CONTAMINATED WATER PLAN

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION ~~1~~2
~~MAY 16, 2025~~SEPTEMBER 12, 2025

Part III, Appendix III.C
Leachate and Contaminated Water Plan
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

III.C.1.0 Introduction 1

III.C.2.0 Leachate Management [30 TAC §§330.331(a), (b), 330.333] 2

III.C.2.1 Facility Design 2

III.C.2.1.1 Sequence of Development 2

III.C.2.1.2 Alternate Liner Profile 2

III.C.2.1.3 Alternate Final Cover Profile 2

III.C.2.2 Leachate Collection [30 TAC §330.333(3)] 3

III.C.2.2.1 Drainage Layer 3

III.C.2.2.2 Leachate Collection Piping 4

III.C.2.2.3 Leachate Collection Sumps 4

III.C.2.2.4 Leachate Conveyance 4

III.C.2.2.5 Leachate Storage, Treatment and Disposal 5

III.C.2.2.6 Monitoring and Maintenance Activities 5

III.C.2.3 Leachate Generation 6

III.C.2.3.1 Fate and Transport 6

III.C.3.0 Contaminated Water Minimization and Management [30 TAC §§330.207(b), (e), (f), 330.227] 7

ATTACHMENT III.C.1 – DRAWINGS

ATTACHMENT III.C.2 – HISTORICAL HELP AND MULTIMED MODELING FOR ALTERNATE LINER PROFILE

ATTACHMENT III.C.3 – HELP MODELING

ATTACHMENT III.C.4 – PIPE STRENGTH CALCULATIONS

ATTACHMENT III.C.5 – HISTORICAL SUMP CAPACITY CALCULATIONS

ATTACHMENT III.C.6 – ~~HISTORICAL~~ LEACHATE EVAPORATION POND CAPACITY CALCULATIONS

ATTACHMENT III.C.7 – CHEMICAL RESISTANCE OF PLASTIC PIPING MATERIALS TECHNICAL REPORT FROM THE PLASTICS PIPE INSTITUTE

Backflow prevention is installed at each sump to prevent leachate from flowing into the sumps from the force main system. Occasionally it may be necessary to withdraw leachate from the collection sumps into tanker trucks for transportation to an authorized and permitted facility for treatment and disposal. In this case, spill containment for truck hose connection and loading is provided by a portable trough or similar spill containment device. Protection is provided at hose connection locations.

III.C.2.2.5 Leachate Storage, Treatment and Disposal

Leachate storage is provided on-site in the sumps and the evaporation ponds. ~~Previously approved l~~Leachate evaporation pond capacity calculations are provided in **Attachment III.C.6**. ~~The information compiled for this attachment was excerpted from the document Permit Modification – Leachate Evaporation Pond, prepared by Parkhill, Smith & Cooper, Inc., March 2007. Note that the original document has been redacted to only provide the relevant information.~~ These ~~evaporation pond~~ calculations were ~~calculated~~ developed using historical precipitation records rather ~~based on utilizing actual average and maximum actual rainfall for the year versus utilizing~~than a single ~~rain event data point~~design storm event (i.e., 25-year, 24-hour of 3.17 inches from NOAA Atlas 14). ~~At the time of the calculation, data from the prior 25 years (1980-2004) was used to determine the average annual rainfall (11.77 inches) and the maximum rainfall (19.41 inches).~~ Historical rainfall data was ~~taken~~ obtained from Station USW00023044 at the El Paso International Airport for the previous 30 years (1994-2024) to determine an average annual rainfall of 8.40-inches and maximum rainfall of 17.51-inches. ~~In addition, it appears the ponds were constructed larger than original calculations, therefore the calculations are considered conservative.~~Evaluating historical annual precipitation trends provides a more representative basis for assessing pond capacity. This design approach therefore reflects realistic long-term operating conditions.

The pond and force main layouts are shown on Drawing III.C.1 in **Attachment III.C.1**. Pond details are shown on Drawing III.C.5 and III.C.7 in **Attachment III.C.1**.

Evaporation pond capacity calculations were completed for each pond under the average and maximum precipitation conditions. Under average precipitation conditions, the Phase 1 and Phase 2 leachate evaporation ponds provide sufficient capacity to evaporate all leachate generated onsite. Under maximum precipitation conditions, the Phase 1 pond continues to meet evaporation requirements for Phase 1 leachate; however, the Phase 2 pond storage requirements exceed its evaporation capacity. If evaporation ponds approach or

~~All leachate is managed by the leachate evaporation ponds. The pond and force main layout are shown on Drawing III.C.1 in **Attachment III.C.1**. Pond details are shown on Drawing III.C.5 and III.C.7 in **Attachment III.C.1**.~~ ~~In the event that the evaporation ponds~~ reach their storage capacity, leachate will be collected in tanker trucks and transported to a permitted facility for treatment and disposal. All leachate transferred to offsite facilities will be handled in compliance with TCEQ requirements in accordance with 30 §TAC 330.207(e).

III.C.2.2.6 Monitoring and Maintenance Activities

Regular maintenance and monitoring for the leachate collection and transfer system is performed and will continue to be performed throughout the development of the GEP Landfill, and for at least 30 years after closure. The following monitoring and maintenance activities are performed:

- Depth of leachate on liner: The depth of leachate is measured with an electric liquid level indicator located in the leachate sump. The depth of fluid (if any) above the liner at the top of the sump is read and recorded monthly and after significant rainfall events during the active life of

III.C.3.0 Contaminated Water Minimization and Management [30 TAC §§330.207(b), (e), (f), 330.227]

Stormwater is managed to limit the quantity that may come into contact with waste. Berms are utilized to segregate uncontaminated rainfall from leachate in parts of the cell area that have not yet received waste. As operations progress to an aerial fill, an intermediate layer of soil is placed over inactive areas that are not filled to final grade. As landfill areas are brought to final grade, final cover will be installed in accordance with Appendix III.D.

The GEP Landfill's leachate collection system collects leachate and conveys it via a force main system to two lined evaporation ponds, as discussed in **Section III.C.2.2.5**. ~~Previously approved l~~Leachate evaporation pond capacity calculations are provided in **Attachment III.C.6**. The City tracks operations at the GEP Landfill to evaluate leachate generation.

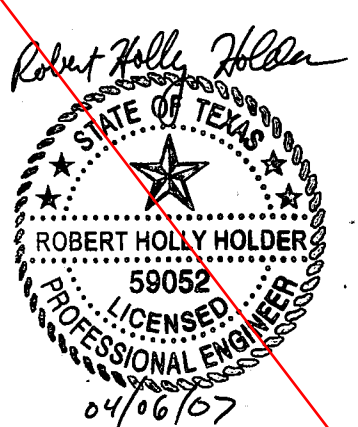
Containment berms and liner termination berms have been and will be constructed to prevent water from undeveloped areas of the GEP Landfill from entering the lined area. The berms have been designed for the 25-year 24-hour storm event. Refer to Part III, Appendix III.B for berm design calculations and Attachment III.B.3, Drawings III.B.4, III.B7, III.B.8, and III.B.9 for berm locations and profiles. In addition, working face berms are constructed as operations progress to an aerial fill. Any water that comes in contact with waste is confined in the working face area and is collected in the leachate collection system. Should a rainfall event occur whereby the collected contaminated surface water run-off remains on the working face for 48 hours, the excess contaminated water will be pumped out of the area to tanker trucks and transported to the on-site storage facilities (e.g., leachate evaporation ponds) or off-site for proper disposal/treatment. There will be no off-site discharge of contaminated water.

The interim drainage controls help to minimize the amount of water entering the leachate collection system and potential flooding in the developed cell area. Water that is collected outside the working face area, but within the cell area, is considered to be uncontaminated and can be pumped out of the excavated area if water accumulation is excessive (does not evaporate within 48 hours).

ATTACHMENT III.C.6 – ~~HISTORICAL~~ LEACHATE EVAPORATION POND CAPACITY CALCULATIONS

~~(Excerpt from City of El Paso Clint Landfill, Permit Modification – Leachate Evaporation Pond, Evaporation Pond Design)~~

EVAPORATION POND DESIGN



EVAPORATION POND DESIGN

This evaporation pond design was performed using an area water balance, which considered precipitation, evaporation, and recent leachate production at the facility. Historical precipitation and evaporation data from the last 25 years (1980-2004) were used to determine average and maximum monthly values. Leachate production volumes were based on actual data recently obtained from Cells 1 and 2 of Phase 1. These cells are currently in use. Final design of the proposed evaporation ponds will also include leachate cell production from all cells in Phase 1 and extreme precipitation events. Additional leachate production volume from Cells 1 and 2 will also benefit the design.

Parkhill, Smith & Cooper, Inc.
Engineers ▪ Architects ▪ Planners

City of El Paso
Clint MSW Landfill, Permit No. 2284
Leachate Evaporation Pond Permit Modification

Evaporation Pond Design - Average Conditions

Evaporation Pond Data	
Width	100
Length	100
Total Surface Area	10000
Depth (3:1)	3
Volume Provided	187,643

		January	February	March	April	May	June	July	August	September	October	November	December
Pond Input													
25-Year Average Rainfall	(inches)	0.72	0.77	0.53	0.48	0.69	1.16	1.47	1.57	1.43	1.03	0.88	1.04
	(gallons)	4,488	4,792	3,326	2,985	4,281	7,226	9,188	9,781	8,909	6,398	5,488	6,490
Leachate Production	(gallons)	52,500	61,500	31,500	26,500	21,500	16,500	9,000	25,500	13,500	31,500	25,500	42,000
Volume in	(gallons)	56,988	66,292	34,826	29,485	25,781	23,726	18,188	35,281	22,409	37,898	30,988	48,490
Pond Output													
25-Year Average Evaporation	(inches)	2.49	3.16	5.20	6.93	8.29	9.53	8.77	7.34	6.09	4.87	3.11	2.44
	(gallons)	15,528	19,707	32,383	43,185	51,652	59,416	54,671	45,743	37,946	30,329	19,361	15,192
Volume out	(gallons)	15,528	19,707	32,383	43,185	51,652	59,416	54,671	45,743	37,946	30,329	19,361	15,192
Monthly Pond Storage	(gallons)	41,460	46,585	2,443	0	0	0	0	0	0	7,569	11,627	33,298
Accumulated Pond Storage	(gallons)	74,758	121,343	123,785	110,085	84,215	48,524	12,041	1,579	0	7,569	19,196	52,494
Stage	(inches)	12.0	19.5	19.9	17.7	13.5	7.8	1.9	0.3	0.0	1.2	3.1	8.4
Freeboard	(inches)	24.0	16.5	16.1	18.3	22.5	28.2	34.1	35.7	36.0	34.8	32.9	27.6
Storage Requirement	(gallons)	123,785											
Additional Capacity	(%)	52%											

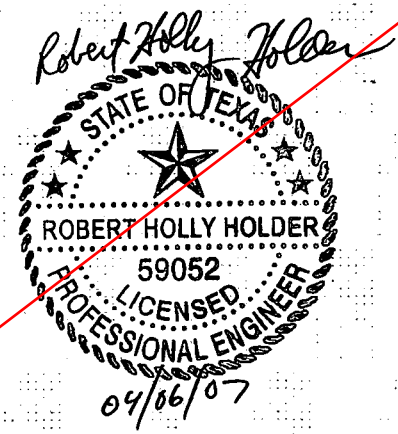
Robert Holly Holder
STATE OF TEXAS
ROBERT HOLLY HOLDER
59052
LICENSED
PROFESSIONAL ENGINEER
04/06/07

X:\2007\5115.07\CIVIL\evap pond water balance.xls

Parkhill, Smith & Cooper, Inc.
Engineers ▪ Architects ▪ Planners

City of El Paso
Clint MSW Landfill, Permit No. 2284
Leachate Evaporation Pond Permit Modification

Evaporation Pond Design - Maximum Precipitation and Minimum Evaporation Condition



Evaporation Pond Data	
Width	100
Length	100
Total Surface Area	10000
Depth (3:1)	3
Volume Provided	187,643

		January	February	March	April	May	June	July	August	September	October	November	December
Pond Input													
25-Year Maximum Rainfall	(inches)	1.19	1.27	0.88	0.79	1.13	1.91	2.43	2.59	2.36	1.69	1.45	1.72
	(gallons)	7,403	7,904	5,486	4,924	7,062	11,918	15,153	16,132	14,692	10,553	9,051	10,705
Leachate Production	(gallons)	52,500	61,500	31,500	26,500	21,500	16,500	9,000	25,500	13,500	31,500	25,500	42,000
Volume in	(gallons)	59,903	69,404	36,986	31,424	28,562	28,418	24,153	41,632	28,192	42,053	34,551	52,705
Pond Output													
25-Year Minimum Evaporation	(inches)	2.23	2.83	4.65	6.20	7.42	8.54	7.85	6.57	5.45	4.36	2.78	2.18
	(gallons)	13,900	17,640	28,985	38,647	46,251	53,233	48,932	40,953	33,972	27,177	17,329	13,589
Volume out	(gallons)	13,900	17,640	28,985	38,647	46,251	53,233	48,932	40,953	33,972	27,177	17,329	13,589
Monthly Pond Storage	(gallons)	46,002	51,764	8,001	0	0	0	0	679	0	14,876	17,222	39,116
Accumulated Pond Storage	(gallons)	85,119	136,883	144,884	137,662	119,973	95,158	70,380	71,059	65,279	80,154	97,377	136,493
Stage	(inches)	13.7	22.0	23.2	22.1	19.2	15.3	11.3	11.4	10.5	12.9	15.6	21.9
Freeboard	(inches)	22.3	14.0	12.8	13.9	16.8	20.7	24.7	24.6	25.5	23.1	20.4	14.1

Storage Requirement	(gallons)	144,884
Additional Capacity	(%)	30%

X:\2007\5115.07\CIVIL\evap pond water balance.xls

Phase 1 Leachate Evaporation Pond Calculations - Average Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	147	Based on design
Width	feet	97	Based on design
Total Liner Surface Area	square feet	20,006	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,250	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	30,879	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	230,978	Volume provided converted to gallons (1 CF = 7.48 gal)

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	3,677	5,105	2,764	1,975	3,480	9,863	20,009	20,358	18,464	7,816	5,286	5,913	104,709
Monthly Leachate Generation from Landfill[4]	gallons	1,053	1,463	792	566	997	2,826	5,733	5,833	5,290	2,239	1,514	1,694	30,000
Net Volume in (Precip + Leachate)	gallons	4,730	6,567	3,555	2,541	4,476	12,689	25,741	26,191	23,754	10,055	6,800	7,607	134,709

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Precipitation - Depth[1]	feet	0.02	0.03	0.02	0.01	0.02	0.07	0.13	0.14	0.12	0.05	0.04	0.04
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.22	0.27	0.51	0.70	0.84	0.91	0.67	0.65	0.55	0.46	0.28	0.18
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	3,066	3,915	7,305	10,023	11,925	12,926	9,553	9,208	7,830	6,600	3,960	2,542
Net Volume Out (ET Vol)	gallons	22,935	29,286	54,642	74,976	89,199	96,683	71,457	68,876	58,568	49,365	29,623	19,011

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed (In less Out)	gallons	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

Conclusion: Under average precipitation levels, the evaporation exceeds leachate generation for every month. Therefore, there is no accumulation of leachate in the Phase 1 Leachate Evaporation Pond.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the HELP simulated precipitation (average of 10.29 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation (HELP model results included in Attachment III.C.3). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. In order to simulate a worst case scenario, these calculations assume all 30,000 gallons are directed to the Phase 1 Leachate Evaporation Pond for this calculation. The current open area in Phase 2 Cells 11-14 is 51.0 acres and the Phase 1 vertical expansion area is 34.6 acres, so this assumption is conservative.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

Phase 2 Leachate Evaporation Pond Calculations - Average Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	148	Based on design
Width	feet	98	Based on design
Total Liner Surface Area	square feet	19,256	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,504	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	31,524	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	235,800	Volume provided converted to gallons (1 CF = 7.48 gal)
Cell 11-14 Area	acres	51.0	
Cell 15-20 Area	acres	71.5	
Phase 2 Area (Cell 11-20)	acres	122.5	
Phase 2 Area : Cell 11-14 Area ratio	N/A	2.4	

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	3,539	4,913	2,660	1,901	3,349	9,494	19,259	19,596	17,772	7,523	5,088	5,692	100,786
Monthly Leachate Generation from Landfill[4]	gallons	2,529	3,512	1,901	1,359	2,394	6,786	13,765	14,006	12,703	5,377	3,636	4,068	72,036
Net Volume in (Precip + Leachate)	gallons	6,068	8,425	4,561	3,260	5,743	16,280	33,024	33,602	30,475	12,900	8,724	9,760	172,822

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Precipitation - Depth[1]	feet	0.02	0.03	0.02	0.01	0.02	0.07	0.13	0.14	0.12	0.05	0.04	0.04
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.22	0.27	0.51	0.70	0.84	0.91	0.67	0.65	0.55	0.46	0.28	0.18
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	3,121	3,985	7,436	10,202	12,138	13,156	9,724	9,373	7,970	6,717	4,031	2,587
Net Volume Out (ET Vol)	gallons	23,345	29,809	55,618	76,315	90,792	98,410	72,733	70,106	59,614	50,246	30,152	19,350

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed	gallons	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

Conclusion: Under average precipitation levels, the evaporation exceeds leachate generation for every month. Therefore, there is no accumulation of leachate in the Phase 2 Leachate Evaporation Pond.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the HELP simulated precipitation (average of 10.29 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation (HELP model results included in Attachment III.C.3). Based on conversations with the City, the Landfill currently generates approximately 30,000 gallons of leachate per year on average. The total area of Phase 2 when fully developed (Cells 11-20) will be 122.5 acres, representing an area increase by a factor of 2.4 relative to the area of Phase 2 currently open (Cells 11-14, 51.0 acres). In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor or 2.4, which represents 72,036 gallons to the Phase 2 Leachate Evaporation Pond.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

Phase 1 Leachate Evaporation Pond Calculations - Maximum Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	147	Based on design
Width	feet	97	Based on design
Total Liner Surface Area	square feet	20,006	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,250	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	30,879	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	230,978	Volume provided converted to gallons (1 CF = 7.48 gal)
Maximum Annual : Average Annual ratio	N/A	2.1	The increase from the average annual precipitation to the maximum annual precipitation for 1994-2024.

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Monthly Precipitation Based on Max Annual Rainfall[7]	inches	0.61	0.85	0.46	0.33	0.58	1.65	3.35	3.40	3.09	1.31	0.88	0.99	17.51
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	7,667	10,645	5,763	4,119	7,256	20,569	41,724	42,454	38,503	16,299	11,022	12,331	218,352
Monthly Leachate Generation from Landfill[4]	gallons	2,197	3,050	1,651	1,180	2,079	5,893	11,954	12,163	11,031	4,670	3,158	3,533	62,560
Net Volume in (Precip + Leachate)	gallons	9,864	13,695	7,414	5,299	9,335	26,462	53,679	54,617	49,535	20,969	14,180	15,864	280,912

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Monthly Precipitation - Depth[7]	feet	0.05	0.07	0.04	0.03	0.05	0.14	0.28	0.28	0.26	0.11	0.07	0.08
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.19	0.24	0.49	0.69	0.81	0.84	0.53	0.50	0.42	0.41	0.24	0.14
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	2,686	3,388	7,020	9,819	11,565	11,906	7,485	7,104	5,922	5,792	3,414	1,930
Net Volume Out (ET Vol)	gallons	20,093	25,340	52,506	73,449	86,509	89,058	55,990	53,138	44,294	43,323	25,537	14,439

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed	gallons	-	-	-	-	-	-	-	1,479	5,240	-	-	1,425
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

Conclusion: Under maximum precipitation levels, the evapotranspiration exceeds leachate generation for January-July, October, and November. Leachate generation exceeds evapotranspiration in August, September, and December. The volume of leachate generated is significantly less than the capacity provided by the Phase 1 Leachate Evaporation Pond.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation for intermediate conditions (HELP model results included in Attachment III.C.6). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. This is assumed to be under the average annual precipitation of 8.40 inches. The maximum average annual precipitation at the Landfill is 17.51 inches, representing 2.1 times the average annual precipitation. In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor of 2.1, which represents 62,560 gallons, all of which is assumed to be directed to the Phase 1 Leachate Evaporation Pond. The current open area in Phase 2 Cells 11-14 is 51.0 acres and the Phase 1 vertical expansion area is 34.6 acres, so this assumption is conservative.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

[7] Calculated based on the maximum precipitation times the percentage of annual rainfall each month.

Phase 2 Leachate Evaporation Pond Calculations - Maximum Precipitation Conditions **Greater El Paso Landfill, 2284A** **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	148	Based on design
Width	feet	98	Based on design
Total Liner Surface Area	square feet	19,256	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,504	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	31,524	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	235,800	Volume provided converted to gallons (1 CF = 7.48 gal)
Maximum Annual : Average Annual ratio	N/A	2.1	The increase from the average annual precipitation to the maximum annual precipitation for 1994-2024.

Pond Inputs	Units	Value	Sources/Notes/Equations
HELP Model Annual Leachate Generation Max Precip	cu ft/acre	10,313.7	Annual Leachate Generation Modeled in HELP with maximum annual precipitation (17.51 inches)
HELP Model Annual Leachate Generation Max Precip	gal/acre	77,146	Leachate generation converted to gallons/acre
Leachate Generated from Cells 15-18 (HELP)	gallons	3,681,478	Leachate generation multiplied by acreage of Cells 15-18 (47.7 acres)
Leachate Generated from Cells 11-14[8]	gallons	62,560	Normal average leachate generation of 30,000 gallons times precipitation ratio.

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Monthly Precipitation Based on Max Annual Rainfall[7]	inches	0.61	0.85	0.46	0.33	0.58	1.65	3.35	3.40	3.09	1.31	0.88	0.99	17.51
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	7,380	10,246	5,547	3,964	6,984	19,798	40,161	40,863	37,060	15,688	10,609	11,869	210,171
Monthly Leachate Generation from Landfill[4]	gallons	131,466	182,527	98,815	70,623	124,418	352,685	715,438	727,951	660,205	279,472	189,000	211,438	3,744,037
Net Volume in (Precip + Leachate)	gallons	138,845	192,773	104,362	74,588	131,402	372,482	755,599	768,815	697,265	295,160	199,609	223,307	3,954,208

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	feet	0.05	0.07	0.04	0.03	0.05	0.14	0.28	0.28	0.26	0.11	0.07	0.08	
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49	
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22	
Net Evaporation Depth (ET = PET - Precip)	feet	0.19	0.24	0.49	0.69	0.81	0.84	0.53	0.50	0.42	0.41	0.24	0.14	
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	2,734	3,448	7,145	9,995	11,772	12,119	7,619	7,231	6,027	5,895	3,475	1,965	
Net Volume Out (ET Vol)	gallons	20,452	25,792	53,444	74,761	88,054	90,649	56,989	54,087	45,085	44,096	25,993	14,697	594,100

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Pond Storage Needed	gallons	118,394	166,981	50,918	-	43,348	281,834	698,609	714,728	652,180	251,064	173,616	208,610	
Cumulative Pond Volume	gallons	118,394	285,375	286,718	235,627	278,974	517,633	934,409	950,527	887,979	486,864	409,416	444,409	
Excess Volume of Leachate to be Hauled	gallons	-	49,575	50,918	-	43,175	281,834	698,609	714,728	652,180	251,064	173,616	208,610	3,124,309

Conclusion: Under maximum precipitation levels, leachate pond storage requirements exceed the leachate evaporation pond capacity. During excessive rain condtions, the City may have to haul leachate to a permitted facility as discussed in Section III.C.2.2.5 of Part III, Appendix III.C.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 10,313.7 cf/acre for leachate generation for Cells 15-18 under open conditions (HELP model results included in Attachment III.C.6). For Cells 11-14, see note 8, which is added to the Cell 15-18 HELP model data, all of which is assumed to be directed to the Phase 2 Leachate Evaporation Pond. When the City moves into Cells 15-18, this is the "worst case" for leachate generation with 47.7 acres under open condition and Cells 11-14 (51.0 acres) under intermediate condition.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

[7] Calculated based on the maximum precipitation times the percentage of annual rainfall each month.

[8] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation for intermediate conditions (HELP model results included in Attachment III.C.6). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. This is assumed to be under the average annual precipitation of 8.40 inches. The maximum average annual precipitation at the Landfill is 17.51 inches, representing 2.1 times the average annual precipitation. In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor of 2.1, which represents 62,560 gallons, all of which is assumed to be directed to the Phase 2 Leachate Evaporation Pond.

LEACHATE EVAPORATION PONDS – OPEN CONDITION HELP MODEL OUTPUT (MAXIMUM PRECIPITATION)

HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
HELP MODEL VERSION 4.0 BETA (2018)
DEVELOPED BY USEPA NATIONAL RISK MANAGEMENT RESEARCH LABORATORY

Title: GEP Landfill - Open Condition **Simulated On:** 9/5/2025 11:58

Layer 1

Type 1 - Vertical Percolation Layer (Cover Soil)
Daily Cover
Material Texture Number 45

Thickness	=	6	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 2

Type 1 - Vertical Percolation Layer (Waste)
Municipal Solid Waste (MSW) (900 pcy)
Material Texture Number 18

Thickness	=	120	inches
Porosity	=	0.671	vol/vol
Field Capacity	=	0.292	vol/vol
Wilting Point	=	0.077	vol/vol
Initial Soil Water Content	=	0.2	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-03	cm/sec

Layer 3

Type 1 - Vertical Percolation Layer
Drainage Layer
Material Texture Number 44

Thickness	=	24	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 4

Type 2 - Lateral Drainage Layer
Geonet Geocomposite
Material Texture Number 43

Thickness	=	0.24	inches
Porosity	=	0.85	vol/vol
Field Capacity	=	0.01	vol/vol
Wilting Point	=	0.005	vol/vol
Initial Soil Water Content	=	0.01	vol/vol
Effective Sat. Hyd. Conductivity	=	2.00E+00	cm/sec
Slope	=	2	%
Drainage Length	=	260	ft

Layer 5

Type 4 - Flexible Membrane Liner
HDPE Membrane
Material Texture Number 35

Thickness	=	0.06	inches
Effective Sat. Hyd. Conductivity	=	2.00E-13	cm/sec
FML Pinhole Density	=	4	Holes/Acre
FML Installation Defects	=	4	Holes/Acre
FML Placement Quality	=	3	Good

Layer 6

Type 3 - Barrier Soil Liner
Bentonite (High)
Material Texture Number 17

Thickness	=	0.24	inches
Porosity	=	0.75	vol/vol
Field Capacity	=	0.747	vol/vol
Wilting Point	=	0.4	vol/vol
Initial Soil Water Content	=	0.75	vol/vol
Effective Sat. Hyd. Conductivity	=	3.00E-09	cm/sec

Note: Initial moisture content of the layers and snow water were specified by the user.

General Design and Evaporative Zone Data

SCS Runoff Curve Number	=	97	
Fraction of Area Allowing Runoff	=	0	%
Area projected on a horizontal plane	=	1	acres
Evaporative Zone Depth	=	24	inches

Initial Water in Evaporative Zone	=	4.74	inches
Upper Limit of Evaporative Storage	=	14.796	inches
Lower Limit of Evaporative Storage	=	1.896	inches
Initial Snow Water	=	0	inches
Initial Water in Layer Materials	=	29.882	inches
Total Initial Water	=	29.882	inches
Total Subsurface Inflow	=	0	inches/year

Note: SCS Runoff Curve Number was calculated by HELP.

Evapotranspiration and Weather Data

Station Latitude	=	31.63	Degrees
Maximum Leaf Area Index	=	0	
Start of Growing Season (Julian Date)	=	66	days
End of Growing Season (Julian Date)	=	315	days
Average Wind Speed	=	9.2	mph
Average 1st Quarter Relative Humidity	=	40	%
Average 2nd Quarter Relative Humidity	=	27	%
Average 3rd Quarter Relative Humidity	=	46	%
Average 4th Quarter Relative Humidity	=	48	%

Note: Evapotranspiration data was obtained for El Paso, Texas

Normal Mean Monthly Precipitation (inches)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
0.79	0.8	0.43	0.35	0.67	1.46
3.47	3.5	3.03	1.07	0.77	1.134516

Note: Precipitation was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0

Normal Mean Monthly Temperature (Degrees Fahrenheit)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
46.5	51.2	58.8	66.5	76	84
84.3	82.7	77.3	67.2	55.1	46.6

Note: Temperature was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0
Solar radiation was simulated using NSRDB data for the following location:

Average Annual Totals Summary

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:00

	Average Annual Totals for Years 1 - 10*			
	(inches)	[std dev]	(cubic feet)	(percent)
Precipitation	17.40	[0.35]	63,162.0	100.00
Runoff	0.000	[0]	0.0000	0.00
Evapotranspiration	13.457	[2.147]	48,847.4	77.34
Subprofile1				
Lateral drainage collected from Layer 4	2.8412	[2.8978]	10,313.7	16.33
Percolation/leakage through Layer 6	0.000003	[0.000002]	0.0113	0.00
Average Head on Top of Layer 5	0.0089	[0.0091]	---	---
Water storage				
Change in water storage	1.1022	[1.5064]	4,000.9	6.33

* Note: Average inches are converted to volume based on the user-specified area.

Peak Values Summary

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:00

	Peak Values for Years 1 - 10*		
	(inches)		(cubic feet)
Precipitation	3.50		12,705.0
Runoff	0.000		0.0000
Subprofile1			
Drainage collected from Layer 4	0.1723		625.3
Percolation/leakage through Layer 6	0.000000		0.0003
Average head on Layer 5	0.1976		---
Maximum head on Layer 5	0.3850		---
Location of maximum head in Layer 4	6.62	(feet from drain)	
Other Parameters			
Snow water	0.7803		2,832.5
Maximum vegetation soil water	0.3731	(vol/vol)	
Minimum vegetation soil water	0.1666	(vol/vol)	

Final Water Storage in Landfill Profile at End of Simulation Period

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:01
Simulation period: 10 years

	Final Water Storage	
Layer	(inches)	(vol/vol)
1	0.6032	0.1005
2	33.9322	0.2828
3	6.1695	0.2571
4	0.0192	0.0798
5	0.0000	0.0000
6	0.1800	0.7500
Snow water	0.0000	---

LEACHATE EVAPORATION PONDS – INTERMEDIATE CONDITION HELP MODEL OUTPUT (MAXIMUM PRECIPITATION)

HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
HELP MODEL VERSION 4.0 BETA (2018)
DEVELOPED BY USEPA NATIONAL RISK MANAGEMENT RESEARCH LABORATORY

Title: GEP Landfill - Int. Cover **Simulated On:** 9/8/2025 9:15

Layer 1

Type 1 - Vertical Percolation Layer (Cover Soil)
Intermediate Cover
Material Texture Number 45

Thickness	=	12	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 2

Type 1 - Vertical Percolation Layer (Waste)
Municipal Solid Waste (MSW) (900 pcy)
Material Texture Number 18

Thickness	=	2364	inches
Porosity	=	0.671	vol/vol
Field Capacity	=	0.292	vol/vol
Wilting Point	=	0.077	vol/vol
Initial Soil Water Content	=	0.2	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-03	cm/sec

Layer 3

Type 1 - Vertical Percolation Layer
Drainage Layer
Material Texture Number 44

Thickness	=	24	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 4

Type 2 - Lateral Drainage Layer
Geonet Geocomposite
Material Texture Number 43

Thickness	=	0.24	inches
Porosity	=	0.85	vol/vol
Field Capacity	=	0.01	vol/vol
Wilting Point	=	0.005	vol/vol
Initial Soil Water Content	=	0.01	vol/vol
Effective Sat. Hyd. Conductivity	=	2.00E+00	cm/sec
Slope	=	2	%
Drainage Length	=	260	ft

Layer 5

Type 4 - Flexible Membrane Liner
HDPE Membrane
Material Texture Number 35

Thickness	=	0.06	inches
Effective Sat. Hyd. Conductivity	=	2.00E-13	cm/sec
FML Pinhole Density	=	4	Holes/Acre
FML Installation Defects	=	4	Holes/Acre
FML Placement Quality	=	3	Good

Layer 6

Type 3 - Barrier Soil Liner
Bentonite (High)
Material Texture Number 17

Thickness	=	0.24	inches
Porosity	=	0.75	vol/vol
Field Capacity	=	0.747	vol/vol
Wilting Point	=	0.4	vol/vol
Initial Soil Water Content	=	0.75	vol/vol
Effective Sat. Hyd. Conductivity	=	3.00E-09	cm/sec

Note: Initial moisture content of the layers and snow water were specified by the user.

General Design and Evaporative Zone Data

SCS Runoff Curve Number	=	97	
Fraction of Area Allowing Runoff	=	0	%
Area projected on a horizontal plane	=	1	acres
Evaporative Zone Depth	=	24	inches

Initial Water in Evaporative Zone	=	4.68	inches
Upper Limit of Evaporative Storage	=	13.488	inches
Lower Limit of Evaporative Storage	=	1.944	inches
Initial Snow Water	=	0	inches
Initial Water in Layer Materials	=	479.822	inches
Total Initial Water	=	479.822	inches
Total Subsurface Inflow	=	0	inches/year

Note: SCS Runoff Curve Number was calculated by HELP.

Evapotranspiration and Weather Data

Station Latitude	=	31.63	Degrees
Maximum Leaf Area Index	=	0	
Start of Growing Season (Julian Date)	=	66	days
End of Growing Season (Julian Date)	=	315	days
Average Wind Speed	=	9.2	mph
Average 1st Quarter Relative Humidity	=	40	%
Average 2nd Quarter Relative Humidity	=	27	%
Average 3rd Quarter Relative Humidity	=	46	%
Average 4th Quarter Relative Humidity	=	48	%

Note: Evapotranspiration data was obtained for El Paso, Texas

Normal Mean Monthly Precipitation (inches)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
0.79	0.8	0.43	0.35	0.67	1.46
3.47	3.5	3.03	1.07	0.77	1.134516

Note: Precipitation was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0

Normal Mean Monthly Temperature (Degrees Fahrenheit)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
46.5	51.2	58.8	66.5	76	84
84.3	82.7	77.3	67.2	55.1	46.6

Note: Temperature was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0
Solar radiation was simulated using NSRDB data for the following location:

Average Annual Totals Summary

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:20

	Average Annual Totals for Years 1 - 20*			
	(inches)	[std dev]	(cubic feet)	(percent)
Precipitation	17.46	[0.25]	63,361.7	100.00
Runoff	0.000	[0]	0.0000	0.00
Evapotranspiration	12.799	[1.435]	46,459.0	73.32
Subprofile1				
Lateral drainage collected from Layer 4	0.0000	[0]	0.0000	0.00
Percolation/leakage through Layer 6	0.000000	[0]	0.0000	0.00
Average Head on Top of Layer 5	0.0000	[0]	---	---
Water storage				
Change in water storage	4.6564	[1.4239]	16,902.7	26.68

* Note: Average inches are converted to volume based on the user-specified area.

Peak Values Summary

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:21

	Peak Values for Years 1 - 20*		
	(inches)		(cubic feet)
Precipitation	3.50		12,705.0
Runoff	0.000		0.0000
Subprofile1			
Drainage collected from Layer 4	0.0000		0.0000
Percolation/leakage through Layer 6	0.000000		0.0000
Average head on Layer 5	0.0000		---
Maximum head on Layer 5	0.0000		---
Location of maximum head in Layer 4	0.00	(feet from drain)	
Other Parameters			
Snow water	0.7803		2,832.5
Maximum vegetation soil water	0.3787	(vol/vol)	
Minimum vegetation soil water	0.1724	(vol/vol)	

Final Water Storage in Landfill Profile at End of Simulation Period

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:21
Simulation period: 20 years

	Final Water Storage	
Layer	(inches)	(vol/vol)
1	2.0622	0.1719
2	566.1454	0.2395
3	4.5600	0.1900
4	0.0024	0.0100
5	0.0000	0.0000
6	0.1800	0.7500
Snow water	0.0000	---

Please replace Appendix III.E with the following pages

MSW AUTH NO. 2284A

APPENDIX III.E – GEOLOGY REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION ~~1~~2
~~MAY 16, 2025~~SEPTEMBER 12, 2025

Part III, Appendix III.E
Geology Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

III.E.1.0 Project Information 1
III.E.1.1 Purpose 1
III.E.1.1.1 Report Organization 1
III.E.2.0 Regional Physiography and Topography 2
III.E.3.0 Regional Geology 3
III.E.3.1 Stratigraphy and Lithology 3
III.E.4.0 Geological Processes 5
III.E.4.1 Regional Geological Processes 5
III.E.4.1.1 Faults 5
III.E.4.1.2 Subsidence 5
III.E.4.1.3 Erosion 5
III.E.4.1.4 Earthquake 6
III.E.4.1.5 Liquification Potential 6
III.E.4.1.6 Wetlands 6
III.E.5.0 Regional Hydrogeology 7
III.E.5.1 Regional Aquifers 7
III.E.5.2 Groundwater Composition 7
III.E.5.3 Aquifer Recharge Characteristics 8
III.E.5.4 Aquifer Withdrawal 8
III.E.6.0 Subsurface Investigation 9
III.E.6.1 Boring Plan 9
III.E.6.2 Soil Borings and Sampling Procedures 9
III.E.6.3 General Subsurface Stratigraphy 11
III.E.6.4 Piezometer Borings 11
III.E.6.5 Groundwater Monitoring Well Installation 12
III.E.6.6 Groundwater 12
III.E.6.6.1 Historical Groundwater Elevation 13
III.E.6.6.2 Aquifer Testing 13
III.E.6.6.3 Groundwater Flow Direction 14
III.E.6.6.4 Point of Compliance 15
III.E.6.6.5 Pollutant Migration 15
III.E.7.0 Laboratory Testing 16
III.E.7.1 Soil Testing 16
III.E.7.2 Slope Stability Analysis 16

III.E.7.3 Soil Suitability for Construction..... 16

ATTACHMENT III.E.1 – BOLSONS MAP
ATTACHMENT III.E.2 – USDA WEB SOIL SURVEY
ATTACHMENT III.E.3 – GEOLOGIC ATLAS OF TEXAS, VAN HORN-EL PASO SHEET
ATTACHMENT III.E.4 – REGIONAL GEOLOGIC CROSS-SECTION
ATTACHMENT III.E.5 – GENERALIZED STRATIGRAPHIC COLUMN
ATTACHMENT III.E.6 – SEISMIC HAZARD MAP
ATTACHMENT III.E.7 – TEXAS MAJOR AQUIFERS MAP
ATTACHMENT III.E.8 – HUECO BOLSON CONCEPTUAL CROSS-SECTION
ATTACHMENT III.E.9 – REGIONAL POTENTIOMETRIC SURFACE MAP
ATTACHMENT III.E.10 – BORING LOCATIONS MAP
ATTACHMENT III.E.11 – BORING LIST
ATTACHMENT III.E.12 – HISTORICAL BORING LOGS
ATTACHMENT III.E.13 – HISTORICAL BORING LOG NOTES
ATTACHMENT III.E.14 – FACILITY CROSS SECTIONS
ATTACHMENT III.E.15 – MONITORING WELL SURVEYS
ATTACHMENT III.E.16 – MONITORING WELL AND PIEZOMETER BORING DIAGRAMS
ATTACHMENT III.E.17 – MONITORING WELL LOCATION MAP
ATTACHMENT III.E.18 – MONITORING WELL DATA SHEETS
ATTACHMENT III.E.19 – MONITORING WELL PLUGGING REPORTS
ATTACHMENT III.E.20 – GROUNDWATER ELEVATIONS TABLE
ATTACHMENT III.E.21 –SEASONAL HIGH POTENTIOMETRIC SURFACE MAP AND TABLE
ATTACHMENT III.E.22 – TOTAL DISSOLVED SOLIDS LAB RESULTS
ATTACHMENT III.E.23 – TEXAS WATER WELL DEVELOPMENT BOARD WATER WELL MAP
ATTACHMENT III.E.24 – TEXAS WATER DEVELOPMENT BOARD WELL DATA
ATTACHMENT III.E.25 – ASTM PROCEDURE FOR SLUG TEST
ATTACHMENT III.E.26 – SLUG TEST RESULTS
ATTACHMENT III.E.27 – CONSTANT HEAD PERMEABILITY TEST AND CALCULATION
ATTACHMENT III.E.28 – GEOTECHNICAL RESULTS

TABLES

Table III.E.6-1: Boring Completion Depths and Associated Number of Samples 10
Table III.E.7-1: Geotechnical Testing Procedures 16

an arid region with typical annual rainfall of less than 9 inches per year. Windblown sands are prevalent at the ground surface at the facility and form dunes.

The Surface Water Drainage Report provided in **Part III, Appendix III.B** incorporates armor, berms, and other measures to mitigate surficial erosion from water flow during the life of the facility. Rainfall data obtained from NOAA Atlas 14, Volume 11 (version 2) is provided in **Part III, Appendix III.B.2.3.1**.

Stream flow during storm events is diverted by either the berms or a perimeter drainage ditch during site development of the landfill. Diversion measures are depicted in **Part III, Appendix III.B, Attachment III.B.4**. A narrative description of erosion control is presented in **Part III, Appendix III.B, Attachment III.B.1**.

III.E.4.1.4 Earthquake

The Seismic Hazard Map, “2014 Seismic Hazard Map – Texas”, published by the United States Geological Survey) indicates that the facility is located in a low to moderate seismic impact area. Seismic impact within this area is expected to be low and the potential for severe damage is anticipated to be low during the service life of the facility. The referenced map is presented as **Attachment III.E.6**. Seismic impact zone considerations were incorporated into the slope stability analysis provided in Part III, Appendix III.G, as discussed on page III.G-8. Calculations are presented in Attachment III.G.5. An initial screening-level seismic stability evaluation, using the maximum credible earthquake ground acceleration from the U.S. Geological Survey, indicated a factor of safety of less than 1.0. Accordingly, a more detailed Makdisi and Seed (1978) displacement analysis was conducted. This method accounts for yield accelerations, slope geometry, and site-specific earthquake characteristics to estimate displacements during the design seismic event. The calculated displacement was less than 15 centimeters, which is within the published allowable range for landfill containment systems. Based on these results, the potential for severe damage to the landfill containment structures due to seismic activity is anticipated to be low.

III.E.4.1.5 Liquification Potential

Based on the density of the sandy soils encountered, the depth to groundwater, lack of surface water, and the designated seismic hazard, the liquefaction potential at this facility is considered negligible.

III.E.4.1.6 Wetlands

This is an existing facility and prior to initial permit issuance, the U.S. Army Corps of Engineers, Albuquerque District, determined that there were no regulated wetlands at the facility. A copy of the U.S. Army Corps of Engineers correspondence is provided in **Part I/II, Appendix I/II.G**.

Please replace Appendix III.I with the following pages

MSW AUTH NO. 2284A

APPENDIX III.I – CLOSURE PLAN

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION ~~1~~2
~~MAY 16, 2025~~SEPTEMBER 12, 2025

Part III, Appendix I
Closure Plan
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

Closure Plan for MSW Type I Landfill Units/Form TCEQ-20720……..... III.I-1
Attachment III.I.1 – ~~Historical~~ Alternate~~e~~ive Final Cover Demonstration……..... III.I-17
Attachment III.I.2 – Final Cover Quality Control Plan……..... III.I-245
Attachment III.I.3 – Closure Schedule…….. III.I-257

Table 2. Description of Waste Storage or Processing Units or Operations Associated with this Permit.

Type of Storage or Processing Unit or Operation (individual units may be closed at any time prior to or during the final facility closure as described in this plan)	Operational Status of Unit	Size of the Area Used for the Storage or Processing Unit or Operation (Acres)	Maximum Inventory of Waste Ever in Storage or Processing Unit or Operation (indicate cubic yards or tons)	Other Information (enter other necessary information that pertains to the unit)
Lined Evaporation Pond	Active	0.46	0 ☒cubic yards ☐tons	Leachate pond
Lined Evaporation Pond	Active	0.44~~0.54~~	0 ☒cubic yards ☐tons	Leachate pond
Totals		1.0 acres	0	

B. Waste Inventory Summary

Table 3. Maximum Inventory of Wastes Ever On Site.

Item	Quantity (indicate cubic yards or tons)
Maximum inventory of waste in landfill units (total from Table 1)	34,864,506 ☒cubic yards or ☐tons
Maximum inventory of waste in storage or processing units or operations (total from Table 2)	0 ☒cubic yards or ☐tons
Total Maximum Inventory of Wastes ever on site over the active life of the MSW facility (sum of totals from Tables 1 and 2)	34,864,506 ☒cubic yards or ☐tons

C. Drawings Showing Details of the Waste Management Units at Closure

Table 4. Location of the Drawings showing Details of the Waste Management Units at Closure (outlines, dimensions, maximum elevations of waste and final cover of

landfill units, and waste storage or processing units or operations at closure of the facility).

Drawing Location in the SDP	Drawing Figure Number	Drawing Title	Waste Management Units Details Shown
Part I/II, App. I/II.B	Drawing I/II.B.3	Landfill Cell Expansion Plan	Cell dimensions and outlines.
Part III, App. III.A	Drawing III.A.10	Final Grading Plan	Existing Area and Expansion Area: Top of final cover elevations and maximum waste elevations.
Part III, App. III.C	Drawing III.C.5 and III.C.7	Phase 1 Leachate Evaporation Pond Layout and Phase 2 Leachate Evaporation Pond Layout	Waste storage (leachate) ponds.
Part III, App III.I	Drawing III.I.1	Post-Development Drainage Map	Final contours and surface drainage features (e.g. berms, downchutes, channels, ponds, etc.).

III. Description of the Final Cover System Design

A. Types and Descriptions of the Final Cover Systems

Table 5. Types and Descriptions of the Final Cover Systems Permitted or Proposed for Closure of the Landfill Units.

Landfill Unit Name or Descriptor	Type of Final Cover System	Final Cover System Components Description	Other Information (Enter other information as applicable)
Phase 1 and 2	Alternative Final Cover	6" base layer, 18" infiltration layer, non-woven geotextile, and 4" rock armoring	Attachment III.I.1

B. Design Details

Table 6. Design Details of the Final Cover Top and Side Slopes for the Landfill Units.

Landfill Unit Name or Descriptor	Maximum Final Elevation of Waste (feet above mean sea level [ft-msl])	Maximum Elevation of Top of Final Cover (ft-msl)	Minimum Grade of the Final Cover Top Slope (%)	Maximum Grade of the Final Cover Side Slope (%)	Other Information (enter other information as applicable, e.g. above-grade Class 1 Cell Dikes)
Vertical Expansion of Phase 1	4,126.3 (NAVD 88)	4,127.4 (NAVD 88)	5	25	
Phase 2	4,126.9 (NAVD 88)	4,128.1 (NAVD 88)	5	25	

C. Final Cover Drainage Features

Stormwater drainage and erosion and sediment control features incorporated on the final cover of the landfill units to protect the integrity and effectiveness of the final cover system include *(please list and describe the drainage features to be installed on the final cover at or prior to closure for each landfill unit, or list the drainage features and provide cross references on the location(s) of the descriptive and details (drawing) information in other parts of the SDP)*:

Drawing III.I.1 depicts final contours and surface drainage features (e.g. berms, downchutes, channels, ponds, etc.).

Appendix III.B contains the Surface Water Drainage Report. The report describes the drainage controls incorporated into the site, including perimeter ditches, down chutes, benches, and roadway culverts.

Additional drainage features are detailed in Attachment III.B.3. The drainage profiles for ditches are shown in Drawings III.B.8-III.B.10. For post-development drainage, Drawings III.B.3 and III.B.4 display the map and conditions.

Attachment III.B.2 contains the Erosion and Sedimentation Control Plan. To provide long term erosional stability, rock armoring and diversional berms will be added.

Alternative final cover rock armoring is detailed in Attachment III.B.3 (Drawing III.B.5).

D. Final Cover Vegetation or Other Ground Cover Material

Upon completion of the water balance alternate final cover system, no vegetation will be planted. Instead, a rock armoring layer will be placed on top of the cap to provide erosion protection. The estimated percent ground cover to minimize soil loss and maintain long-term erosional stability of the final cover top and side slopes is: **100**%. The minimum material specifications for ground cover materials are summarized in the table below.

For a landfill with water balance final cover design, the percentage vegetation cover (excluding other ground cover types) will not be less than that assumed in the water balance final cover model.

Table 7. Minimum Specification for Ground Cover Materials Other Than Vegetation, if Applicable.

Other Ground Cover Material	Maximum Particle Size (inches)	Minimum Particle Size (inches)	Material Placement Method	Thickness of Layer (inches)	Percentage Coverage (%)	Other (specify)
Rock Armoring	100% Passing 4-inch	0-5% Passing 2-inch	Place in single uncompacted lift	4-inch thick	100	Crushed rock or river-run rock

E. Final Contour Map

Drawing III.A.10, a facility final contour map is included in Appendix III.A. The map shows the final contours of the landfill units and the entire facility at closure.

Drawings III.A.13 through **III.A.21** showing the cross–sections of the landfill units at closure are also provided in Appendix III.A.

The facility final contour and cross-section maps/drawings depict the following information:

(1) Final constructed contours of the landfill at closure. **Drawing III.A.10 in Appendix III.A**

(2) Top slopes and side slopes of the landfill units. **Drawing III.A.10 in Appendix III.A**

(3) Surface drainage features. **Drawing III.B.3 – III.B.10 in Appendix III.B, and Drawing III.I.1 in Appendix III.I.**

(4) 100-year floodplain, as applicable. **Figure I/II.A.11 in Part I/II, Appendix I/II.A**

(5) Constructed features providing protection of/from the 100-year floodplain. **N/A**

(6) Other (specify):
N/A

IV. Description of the Final Cover System Installation Procedure

A. Mode of Installation

Table 8. Mode of Final Cover Installation on the Landfill Units.

Landfill Unit Name or Descriptor	Largest Area of Unit Ever Requiring Final Cover (Acres)	Check this Column if Final Cover will be Placed in Installments as Permitted Elevation is Reached	Check this Column if Final Cover will be Placed when Entire Unit Area Reaches Permitted Elevation	Final Cover Installation Status
Vertical Expansion of Phase 1	34.6 Acres (Drawing III.A.10)	☐	☒	A portion of Phase 1 Final Cover will be removed with the vertical expansion.
Phase 2	55.2 Acres (Drawing III.A.11)	☒	☐	Final Cover will be installed once Phase 2 reaches final grade.

B. Installation Drawings for Final Cover and Drainage Features

The following attached plan and cross-section drawings show the final cover design details, the largest area requiring final cover, details of the sequence of installation of the final cover system, and all drainage features.

Table 9. List of Attached Installation Drawings for Final Cover and Drainage Features.

Drawings below provided in Appendix III.A, ~~and~~ Appendix III.B, and Appendix III.I.

Drawing No.	Drawing Title	Description of Information Contained in Drawing
III.A.6	Sequence of Development Phase 2 (Cells 11-14)	Details of the sequence of landfill development.
III.A.7	Sequence of Development Phase 2 (Cells 15-16)	Details of the sequence of landfill development.

Drawing No.	Drawing Title	Description of Information Contained in Drawing
III.A.8	Sequence of Development Phase 2 (Cells 17-18)	Details of the sequence of landfill development.
III.A.9	Sequence of Development Phase 2 (Cells 19-20)	Details of the sequence of landfill development.
III.A.10	Final Grading Plan	Final cover design details.
III.A.11	Largest Open Area	Largest open area.
III.A.13-III.A.21	Landfill Section A-A' through G-G'	Cross sectional drawings.
III.B.3	Post-Development Drainage Conditions	Drainage features and developed conditions summary.
III.B.4 and III.I.1~~III.B.4~~	Post-Development Drainage Map	Drainage features after closure.
III.B.5	Drainage Details, 1 of 2	Details of drainage features.
III.B.6	Drainage Details, 2 of 2	Details of drainage features.
III.B.8 - III.B.10	Drainage Profiles Ditches	Drainage features for ditches.

C. Final Cover Quality Control Plan

A final cover quality control plan (FCQCP) is located in **Attachment III.I.2**. The FCQCP describes the final cover system design, construction, and evaluation protocol and processes, including the personnel, materials, methods, sampling and testing standards, procedures, and practices to be used in procuring, handling, installing, and evaluating all elements of the final cover system. It establishes the material requirements; personnel qualifications and roles; installation requirements; quality control and quality assurance monitoring, testing, documentation, and reporting programs to be used during construction of each component of the final cover system to assure and to verify that the final cover system is constructed as designed and in accordance with applicable rules and technical standards.

D. Documentation and Reporting of Final Cover System Construction and Testing

The professional of record will document all aspects and stages of the final cover installation, including materials used, equipment and construction methods, and the type and rate of sampling and quality control testing performed. Following completion of construction of the final cover, the site operator/permittee will submit to the TCEQ executive director, a Final Cover System Evaluation Report (FCSER) for each landfill unit.

V. Closure Activities and Completion Schedules for Each Landfill Unit and for the Final Facility Closure

A. Closure of a Landfill Unit

The following activities will be conducted to satisfy the closure criteria for a landfill unit:

(1) Closure Notification to the TCEQ Executive Director:

The site operator will inform the executive director of the TCEQ, in writing, of the intent to close the unit no later than 45 days prior to the initiation of closure activities and place this notice of intent in the operating record.

(2) Stoppage of Waste Acceptance and Commencement of Other Closure Activities for the Unit:

The site operator will stop accepting waste upon receiving the known final receipt of waste. The site operator will ensure that the permitted top elevations of the in-place waste, as depicted in/derived from the unit's final contour map approved by the TCEQ executive director, are not exceeded at any section or part of the landfill unit. The site operator will begin closure activities for the unit no later than:

- Thirty days after the date on which the unit receives the known final receipt of wastes; or
- One year after the most recent receipt of wastes if the unit has remaining capacity and there is a reasonable likelihood that the unit will receive additional wastes.

(3) Request for Extension Beyond the 1-Year Deadline for Commencing Closure Activities for a Unit:

The site operator may submit a written request to the executive director of the TCEQ for review and approval for an extension beyond the one-year deadline for the initiation of closure. The request will include the following:

(a) All applicable documentation necessary to demonstrate that the unit has the capacity to receive additional waste; and

(b) All documentation necessary to demonstrate that the site operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the MSW landfill unit.

(4) Construction of Final Cover:

The site operator will construct the permitted final cover over the waste mass utilizing methods, procedures, and specifications described in the FCQCP. The final constructed contours, elevations, and slopes of the installed final cover will match the permitted final cover contours, elevations, and slopes shown in closure drawings contained in this closure plan.

(5) Construction of Drainage Features:

The site operator will construct the drainage structures shown in drawings referenced or contained in this closure plan or in the facility surface water drainage report.

(6) Completion of Outstanding or Replacement of Damaged Groundwater or Landfill Gas Monitoring Components:

The site operator will complete installation of any outstanding or replacement of any damaged groundwater or landfill gas monitoring system components and landfill gas control systems as needed to maintain current and effective groundwater or landfill gas monitoring and control systems.

(7) Submittal of Final Cover System Evaluation Report (FCSER) to the TCEQ Executive Director:

Following completion of construction of the final cover for the subject landfill unit, the site operator will submit to the TCEQ executive director for review and acceptance, a FCSER for the unit.

(8) Completion of Closure Activities for the Landfill Unit:

The site operator will complete closure activities for the unit within 180 days following the start of closure activities, unless the executive director of the TCEQ grants an extension as described in Item V.A.8(a) below.

(a) Request for Extension of the Completion of Closure Activities for the Landfill Unit:

The site operator may submit a written request for an extension for the completion of closure activities to the TCEQ for review and approval. The extension request will include:

- All applicable documentation necessary to demonstrate that closure will, of necessity, take longer than 180 days; and
- All applicable documentation necessary to document that all steps have been taken and will continue to be taken to prevent threats to human health and the environment from the unclosed MSW landfill unit.

(9) Submittal of Engineer's Certification of Closure to the TCEQ Executive Director and Request of Closure Inspection to TCEQ Regional Office:

Following completion of all closure activities for the landfill unit, the site operator will submit:

(a) Closure Inspection

A written request to the local TCEQ regional office for a closure inspection of the unit.

(b) Closure Certification

A certification, signed by an independent licensed professional engineer, to the executive director of the TCEQ for review and approval verifying that closure has been completed in accordance with this closure plan. The site operator will submit the certification via registered mail, and the submittal will contain all applicable documentation necessary for certification of closure of the unit, including:

- A final cover system evaluation report (FCSER) documenting the installation of the final cover. The FCSER may be submitted as a separate document for review and approval following the completion of the final cover installation. In that case, the certification of closure will be submitted subsequently;
- A final contour map as described under Section III.E that includes the relevant unit; and
- Copy of the letter to the TCEQ regional office requesting a closure inspection of the relevant unit.

(10) TCEQ's Acknowledgement of Termination of Operation and Closure of a Unit:

Upon receipt, the TCEQ executive director will review the closure documents for completeness and accuracy; and following receipt of the closure inspection report from the agency's regional office verifying proper closure of the MSW landfill unit according to this closure plan, the executive director will, in writing, acknowledge the termination of operation and closure of the unit and deem it properly closed. Thereafter, the site operator will comply with the post-closure care requirements described in the post-closure care plan for the unit.

(11) Deed Recordation for Disposed Regulated Asbestos Containing Materials (RACM):

Upon closure of the unit that accepted RACM, the site operator will place a specific notation that the unit accepted RACM in the deed records for the facility with a diagram identifying the RACM disposal areas. Concurrently, the site operator will submit to the TCEQ executive director, a notice of the deed recordation and a copy of the diagram identifying the asbestos disposal areas.

(12) Placement of all Closure Documentation in the Site Operating Record:

Once approved, the closure certification and all other documentation of closure will be placed in the site operating record.

(13) Closure Schedule for the Landfill Unit:

A closure schedule, **Attachment III.I.3**, is attached. The schedule shows all the closure activities listed within Section V.A and the timelines for commencing and completing each activity. Also, the schedule shows that closure activities for the landfill unit will be completed within 180 days following the initiation of closure activities as required, unless an extension is granted by the TCEQ executive director.

(14) Other: (enter as applicable).

(7) TCEQ's Acceptance of Termination of Operation and Closure of a Landfill Facility:

Following the TCEQ executive director's receipt and completion of the review of the professional engineer's certification of the completion of facility closure and the final closure documents, and receipt of the inspection report from the agency's regional office verifying proper closure of the facility according to this closure plan, the executive director will, in writing, accept the termination of operation and closure of the facility and deem it properly closed. Thereafter, the site operator will comply with the post closure care requirements described in the post closure plan for the facility.

(8) Final Closure Schedule for the Facility:

Attachment III.I.3, Final Closure Schedule, provides the closure schedule for the final facility closure. It incorporates the schedule for closure of a unit as discussed in Section V.A and also shows the commencement and completion timelines for the final closure activities listed within this Section.

VI. Summary of Attachments

A. Drawings and Maps

The following Drawings and Maps are provided in **Appendix III.A**, **Appendix III.B**, ~~and~~ **Appendix III.C**, and **Appendix III.I** to supplement this plan.

- **Drawing III.A.10**, Final Contour Map.
- **Drawings III.A.13** through **III.A.21** , Cross-Section Drawings of the Landfill Units at Closure.
- **Drawings III.B.1** through **III.B.14 and III.I.1**, Final Cover and Drainage Features Installation Drawings.

Other Drawings/Maps: **Drawings III.C.5** through **III.C.8**, Leachate Evaporation Pond Layout

B. Documents

- **Attachment III.I.1**, Alternative Final Cover Demonstration Water Balance Cap.
- **Attachment III.I.2**, Final Cover Quality Control Plan (FCQCP).
- **Attachment III.I.3**, Final Closure Schedule Chart.

C. Additional Items Attached (enter as applicable)

N/A

VII. Professional Engineer's Statement, Seal, and Signature

Name: Tonya Koller

Title: Project Engineer

Date: 9/12/2025~~5/16/2025~~

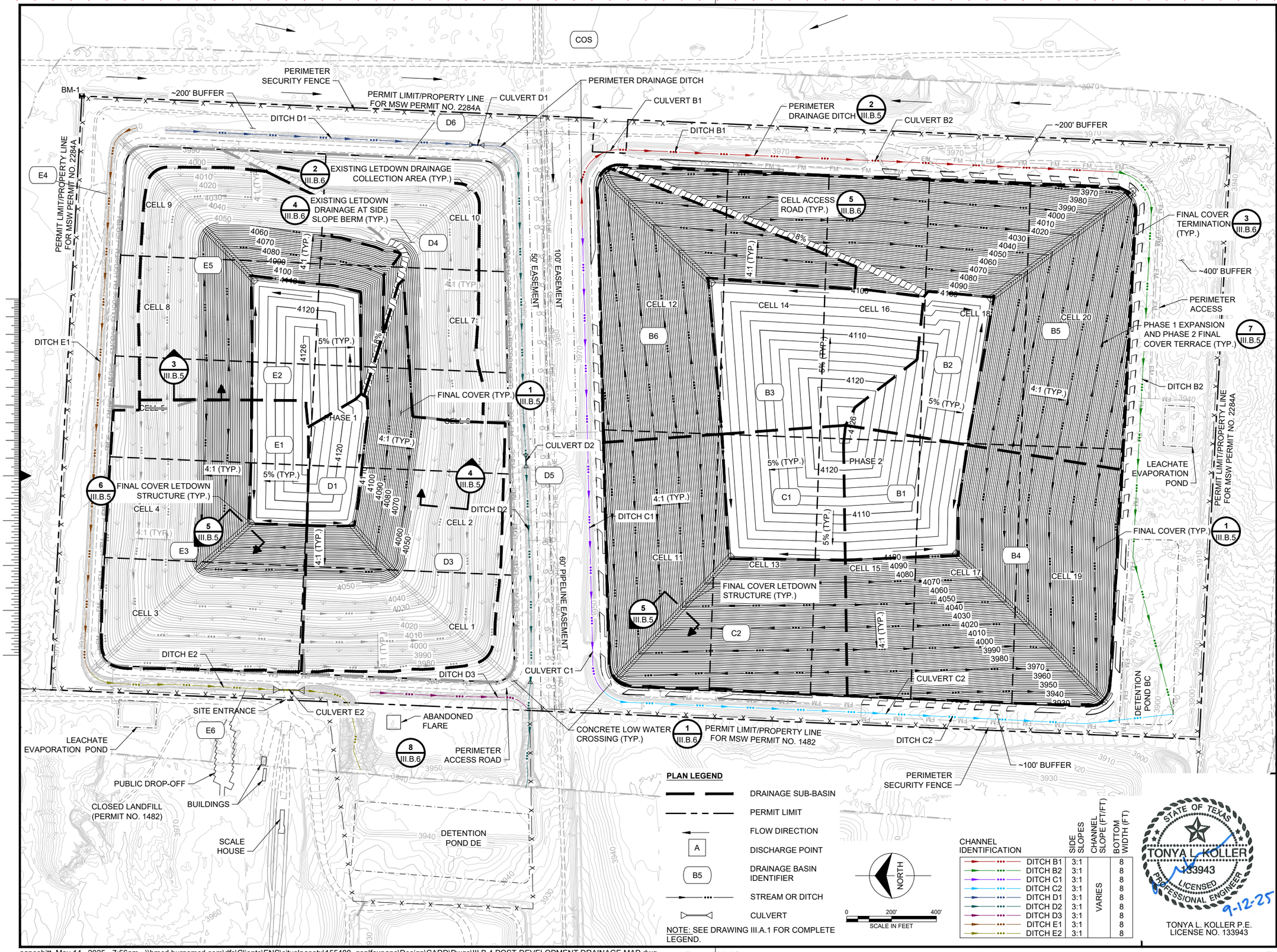
Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

_____

Signature



PLAN LEGEND

- DRAINAGE SUB-BASIN
- PERMIT LIMIT
- FLOW DIRECTION
- A — DISCHARGE POINT
- B5 — DRAINAGE BASIN IDENTIFIER
- STREAM OR DITCH
- CULVERT

NOTE: SEE DRAWING III.A.1 FOR COMPLETE LEGEND.

NORTH

0 200' 400'
SCALE IN FEET

CHANNEL IDENTIFICATION	SIDE SLOPES	CHANNEL SLOPE (FT/FT)	BOTTOM WIDTH (FT)
DITCH B1	3:1	VARIES	8
DITCH B2	3:1		8
DITCH C1	3:1		8
DITCH C2	3:1		8
DITCH D1	3:1		8
DITCH D2	3:1		8
DITCH D3	3:1		8
DITCH E1	3:1		8
DITCH E2	3:1		8

no.	date	by	ckd	description
0	9/12/25	TMC	TLK	2284A PERMIT MOD

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
SEPTEMBER 2025	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POST-DEVELOPMENT DRAINAGE MAP

project	contract
155488	-

drawing **III.I.1** – rev. **0**

file III.B.4 POST-DEVELOPMENT DRAINAGE MAP.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

ATTACHMENT III.I.1 – HISTORICAL ALTERNATE FINAL COVER DEMONSTRATION

(Excerpt from City of El Paso Clint Landfill, Permit Modification – Alternate Final Cover Demonstration

Memorandum

Date	May 16, 2025
To	TCEQ
From	Tonya Koller, PE
Subject	Appendix III.I, Attachment III.1.1
	Alternative Final Cover Design Applicability per RG-494
	Greater El Paso Landfill, MSW Auth No. 2284A

This memorandum provides a comparison of the previously completed Alternative Final Cover Design for the Greater El Paso Landfill, MSW No. 2284A as compared to Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance (RG)-494: Guidance for Requesting a Water Balance (WB) Alternative Final Cover Design for a Municipal Solid Waste Landfill (RG-494).

Previously approved UNSAT-H modeling demonstrating the effectiveness of the alternate final cover profile is provided following this memorandum. The information compiled was excerpted from the document Permit No. 2284, Part III, Attachment 12 - Alternate Final Cover Demonstration, prepared by Parkhill, Smith, & Cooper, Inc., March 2012.

Although the most recent revision of RG-494 (March 2017) was published after the 2012 UNSAT-H modeling, the 2012 modeling appears to be in accordance with RG-494. Compared to the previous version of RG-494 (2012), the updates made to the 2017 version clarified but did not affect the modeling requirements (inputs, outputs, assumptions, and percolation limits) for landfills in arid areas (less than 25 inches of average annual precipitation). In order to provide a comparison to the most recent climatology data, inputs from the 2012 modeling were compared against 2025 data to evaluate their effect on evapotranspiration (ET). The table below summarizes the changes and their associated effects on ET.

Input (units)	2012 UNSAT-H Model Inputs	2025 Data	Source of 2025 Data	Effect on Evapotranspiration (ET)
Annual Precipitation (inches)	9.4	8.4	El Paso International Airport – 1994-2024	Decreased precipitation leads to decreased water retained within the cap
Average Air Temperature (F)	64.1	67.1	El Paso International Airport – 1994-2024	Increased air temperature leads to increased ET
Average Elevation (feet)	3,993	4,049	Based on design changes for vertical expansion	Increased elevation leads to increased ET[1]
Average Pressure (mb)	882	875	NSRDB – 1998-2023	Decreased atmospheric pressure leads to increased ET[1]
Albedo (unitless)	0.49	0.20	NSRDB – 1998-2023	Decreased albedo results in higher surface temperatures, leading to increased ET[1]

NSRBD = National Solar Radiation Database

[1] – Effects on ET based on communications with Inci Demirkanli at Pacific Northwest National Laboratory.

The 2025 data for precipitation, temperature, elevation, pressure, and albedo indicate higher ET potential and, therefore, reduced water retention in the water balance cover compared to the 2012 values. Therefore, the 2012 UNSAT-H model results reflect a conservative estimate of ET for the water balance cover, as current conditions demonstrate greater ET than in the 2012 modeling. The 2012 modeling results in annual percolation rates of less than the allowable 4 millimeters per year. For this reason, the alternative final cover design calculations from 2012 are still sufficient.

MSW PA 2284 RPC

PARKHILLSMITH&COOPER

RECEIVED

APR 05 2012

WASTE PERMITS DIVISION
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

March 30, 2012

Mr. Jason Wang, P.G.
Project Manager
Municipal Solid Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711

RECEIVED
APR 23 2012
TCEQ
CENTRAL FILE ROOM

Re: City of El Paso Clint Municipal Landfill – El Paso County
Municipal Solid Waste – Permit No. 2284
Permit Modification – Water Balance Alternative Final Cover Notice of Deficiency (NOD)
Tracking No. 15181495; RN101478766/CN601410244

Dear Mr. Wang:

Enclosed are revisions made to the Permit Modification requested for the El Paso Clint Municipal Landfill, in response to comments received in your letter dated March 6, 2012. We have provided responses to each of your comments, which are described in detail below.

1. *Comment: The permit modification request proposes to add a water balance alternative final cover to the existing prescriptive composite cover. The proposed language seems to indicate that the prescriptive composite cover will be used in conjunction with the water balance cover, as indicated in Figure III.Att.12A.8 with the tie-in diagram between the two types of covers. If both types of covers are to be used, please indicate on the site maps where each type of cover will be placed on the closed landfill.*

   Response: Page 2 of Attachment 12 has been revised to clarify that the water balance alternative final cover is the only cover for the facility. The prescriptive cover has been removed from the permit as a final cover option. Therefore the tie-in diagram between the two types of cover is no longer required.

2. *Comment: Please update Table 12-1, Closure Cost Estimates, to Year 2012 dollars.*

   Response: Table 12-1 has been updated to Year 2012 dollars for the closure of the facility with the water balance final cover system.

3. *Comment: The prescriptive final cover is described in Section 2.1 of the report as having a 4 inch thick rock layer over one foot of sand erosion layer, which will protect the geomembrane and geosynthetic clay liner; however, Figure III.Att.6.4 and Figure III.Att.12A.8. show a two-foot sand erosion layer. In addition, Section 2.3 of the report does not describe the geomembrane and the geosynthetic clay liner as part of the prescriptive cover. Please correct this discrepancy.*

   Response: The prescriptive cover has been removed from the permit as a final cover option. Figure III.ATT6.4 has been revised to show all final cover details with the water balance final cover.

WST MSW/ REPORTS
1st: 02284 2nd: Vol: 001 3/30/2012
BBC: 100369763
IBC: 100470834

Amarillo
El Paso
Las Cruces
Lubbock
Midland

4222 85th Street Lubbock, Texas 79423 806.473.2200 Fax 806.473.3500

4. *Comment: Please submit a slope stability analysis showing the detailed calculations on how the factor of safety is derived using soil laboratory data. The 1.78 factor of safety presented in the report is only a preliminary estimation.*

   Response: The existing slope stability calculation in Attachment 12, Appendix A has been replaced with an infinite slope analysis of the water balance alternative final cover. This analysis was completed with soil laboratory results for site soil. The laboratory results are now included in Appendix A-4.

5. *Comment: Please explain why the hysteresis option is not discussed in the model simulation and why it is not applicable in the simulation.*

   Response: Discussion of the use of hysteresis in the model simulation has been added to Page 7 of Attachment 12, Appendix A. We felt hysteresis was not applicable in the simulation as site specific hysteresis data is not available.

6. *Comment: Please explain how the Potential Evapotranspiration (PET) value is derived for each year of the 30 year simulation in Table 8. The terminology would be more accurately described as Potential Evaporation (PE) since there is no plant component to provide transpiration.*

   Response: UNSAT-H determines the PET for each simulated year using atmospheric, climate, and plant conditions to sum the potential evaporation (PE) and potential transpiration (PT). For water balance cover with no plants the PET and PE will be the same. A time step error in the originally submitted model was causing UNSAT-H to miscalculate the end-of-year PE. The corrected model output included in Appendix A-1, shows that the PE and PET are now the same value. This value is also the same as the PET in the originally submitted model output. The second column of Table 8 has been revised from PET to PE, as model output has no PT.

7. *Comment: Please explain why the output files show that the PE values are always greater than the PET values.*

   Response: A time step error in the originally submitted model was causing UNSAT-H to miscalculate the end-of-year PE. The corrected model output included in Appendix A-1 shows that the PE and PET are now the same value. This value is also the same as the PET in the originally submitted model output.

8. *Comment: Please explain why the average daily pan evaporation value of 0.49 is used as the PET value in Table 7, Summary of UNSAT-H Input Parameters-Boundary Conditions.*

   Response: A water balance cover with no plants will have equal PE and PET. Therefore the annual average of 0.49 cm/day daily pan evaporation was used as equivalent to the daily PET.

9. *Comment: Please explain how the Effective Evaporation values are derived from the simulation results data. The values given in Table 8 do not seem to match any results from the output files.*

   Response: The values given for "Effective Evaporation" in Table 8 are the values listed as "Actual Evaporation" in the model output files. The heading of the referenced column in Table 8 has been revised to "Actual Evaporation".

10. *Comment: Table 8 shows the results of the 30 years simulation. When the Mass Balance Error is added into the Percolation value in Year 4, the total value is 4.26 mm, which exceeds the 4.00 mm annual percolation allowed in the Texas Commission on Environmental Quality Guidance document RG-494 – Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill. Please discuss the failure of the model simulation for Year 4. Please note that intermediate cover may be used as part of the water balance cover, if needed.*

    Response: In response to this comment as well as comments 13, 14, 15, and 17 several model parameters have been adjusted. These parameters were adjusted to minimize mass balance error while maximizing simulation accuracy and model stability.

    The parameter INMAX was adjusted from 5 to 4. This reduced the number of allowed iterations for calculating water flow. With the increased nodes this reduction was required to maintain model stability.

    The parameter DMAXBA was decreased from 1.0E-4 to 1.0E-6. This parameter causes the simulation to take smaller time steps when mass balance error is high. A decrease in DMAXBA will result in lower mass balance error.

    The parameter OUTTIM has been changed from 0.25 to 1.00. This parameter was initially set at 0.25 to reduce mass balance error on days with precipitation. While this did lower mass balance error, it also resulted in the miscalculations discussed in comments 7, 13, and 17. To make up for resetting this value DMAXBA was decreased.

    In response to comments 14 and 15 the number of nodes in the simulation has been increased from 25 to 43, and the upper boundary spacing is now in compliance with the UNSAT-H user's manual.

    Simulation results after these parameter changes are summarized in Table 8. The model input and output files in Appendix A-1 have also been updated. Table 8 shows that the percolation in Year 4 has been reduced from 3.91-mm to 2.16-mm. The mass balance error in Year 4 has also been reduced from 0.353-mm to 0.0748-mm. Therefore the revised total for Year 4 is now 2.16-mm and in compliance with the 4.00-mm/year maximum. Table 8 shows that all 30-years are in compliance with the requirement that percolation + mass balance error must be less than 4.00-mm/year.

11. *Comment: Please add a column to Table 8 to show the sum of Mass Balance Error and Percolation.*

    Response: A column has been added to Table 8 to show the sum of annual Mass Balance Error and Percolation in millimeters.

12. *Comment: Please submit the lab test data for the soil samples analyzed in Table 1. Please include the cohesion and friction parameters used for slope stability calculations.*

    Response: The lab test data for the soil samples analyzed in Table 1 are now included in Appendix A-4 "Laboratory Soil Data".

13. *Comment: Please explain why the simulated time for the Daily Summary is approximately 48 hours instead of 24 hours.*

    Response: A time step error in the originally submitted model was causing UNSAT-H to miscalculate elapsed time in the simulation. To correct this OUTTIM was changed from 0.25 to 1.0. After this change, all days in the simulation were shown as having 24 hours of elapsed time with no changes to calculated precipitation, evaporation, etc.

14. *Comment: Please justify why 25 nodes are selected for simulation and if it is sufficient to model the 24 inches of water balance cover and demonstrate that additional nodes are not necessary.*

    Response: We have previously found one node per inch to be sufficient to model a water balance cap as the mass balance error and run-off remain below guidance criteria. In response to this comment as well as comment 15, the number of nodes has been increased from 25 to 43 for this simulation.

15. *Comment: Please explain why the nodes are spaced one inch apart from the surface to the bottom layer for the 25 nodes used. The Fayer User Manual (June 2000) indicated that the nodal spacing of 0.1 cm near the surface is commonly used to simulate sensitivity to changes near the surface to air boundary.*

    Response: In response to this comment as well as comment 14, the number of nodes has been increased from 25 to 43 nodes. A node spacing of 0.1-cm, in accordance with User Manual recommendations, is utilized for the first 1.0-cm in depth. This spacing is increased to 0.25-cm and 0.50-cm between 1.0-cm and 5.08-cm in depth. In total the number of nodes between 0.00-cm and 5.08-cm depth has been increased from 3 to 21.

    The results of this increase are a decrease in mass balance error as well as percolation. These results are displayed in Table 8.

16. *Comment: Please illustrate how the input parameter H (suction head) of 575 cm and 125 cm is calculated for the 90% and 80% compacted soil, respectively.*

    Response: Each soil layer's initial suction head will be determined by the moisture existing in the soil when it is installed. The Final Cover Quality Control Plan states that each soil later will be installed at optimum moisture of 10.4%. The optimum moisture for the site soil was determined by the proctor compaction test in Appendix A-4. Using a moisture content of 0.104 and trial-and-error, we were able to solve the van Genuchten equation for suction for both the 90% and 80% compacted soil.

17. *Comment: Please explain why the Total Time simulated for each year is 712 days instead of 365 days.*

    Response: A time step error in the originally submitted model was causing UNSAT-H to miscalculate elapsed time in the simulation. To correct this OUTTIM was changed from 0.25 to 1.0. After this change, all years in the simulation were shown as having 365 days of elapsed time with no changes to calculated precipitation, evaporation, etc.

18. *Comment: The report stated that the plant option was used to simulate the 4 inches of rock armor. Please explain how they are equivalent in the model simulation. Please run another simulation using IPLANT = 0 option (no plants) and submit the results in the Table 8 format. Also, the use of plants in the simulation with no growth seems redundant and unnecessary. Input and output files are not required to be submitted for this simulation.*

    Response: An additional model simulation using IPLANT = 0 (and all other settings the same as those in Appendix A-1) was completed. The results of this simulation show that removing the plants option has a small effect on the actual precipitation but no effect on annual percolation. The results are shown on Table 9 in Attachment 12, Appendix A. Further description on how the plant settings were used to simulate the rock armoring were added to Page 13 of Attachment 12, Appendix A.

19. *Comment: The Final Cover Quality Control Plan indicated that testing of the soils from the borrow area will conform to Table 1 and Table 2 parameters. Please explain why soils classified as SC, SP, or SW are allowed whereas the model simulation is based on soils classified as SM only. If these soils will be used to construct the water balance cover, then they must be analyzed with UNSAT-H model simulations.*

    Response: The collected site soil sample was classified as SM (silty sand), but as shown in Figure III.ATT12A.2 this soil sample was collected at multiple locations over the borrow area. Using the facility's soil boring plan, it was determined that the borrow area consisted of several classifications of sand (SM, SC, SW, and SP). To allow for the use of all these sand classifications, the quality of the sands will be monitored by their hydraulic conductivity. In accordance with the Final Cover Quality Control Plan, the hydraulic conductivity of soils utilized for cover construction must be within 20% of the values used in the simulation.

    The model was used to simulate the +20% hydraulic conductivity for both layers. Results of this simulation are shown on Table 10 in Attachment 12, Appendix A. Model input and output is included in Appendix A-3. These results show that while percolation is approximately 4.5% higher, it is still within the 4.00-mm/year guideline.

20. *Comment: The Final Cover Quality Control Plan indicated that soils with hydraulic conductivity of 23.7 cm/hr ±20% and 4.6 cm/hr ±20% will be allowed to be used in the construction of the Base Layer and the Infiltration Layer, respectively. Please explain why the ±20% value can be justified without UNSAT-H model simulation. The model may be used to simulate the +20% hydraulic conductivity for each layer to demonstrate compliance with the maximum percolation of 4.00 mm per year.*

    Response: See comment 19 response

21. *Comment: The Design Demonstration Summary stated that the water balance alternative final cover design provides equivalent protection from wind and water erosion as the erosion layer specified in 30 TAC §330.457(a)(3). Please provide a more detailed discussion to justify this statement. Please also indicate if any additional restraints are used to hold the rock armor in place.*

Response: The Equivalent Erosion Protection section on Page 5 of Appendix A, discusses further why the water balance alternative final cover provides equivalent erosion protection as the prescriptive cover. This statement is justified by the fact that each cover would utilize the exact same erosion protection methods. This includes the rock armor as well as all other structural and non-structural controls in the Erosion and Sedimentation Control Plan.

We believe this letter addresses all of your questions. Please feel free to call me at 806-473-3526 if you have any questions.

Sincerely,

PARKHILL, SMITH & COOPER, INC.

By _____
R. Matt Dyer, P.E.
Corporate Associate

RHH/JA/lf
Enclosures
X:\2011\5134.11\CORRESP\LTR\NOD 030612 rsp ltr_.doc

cc: Ellen A. Smyth, P.E., City of El Paso Environmental Services
Mr. Cristian Benitez, City of El Paso
Mr. Kent Waggoner, TCEQ Region 6

Permit Document

City of El Paso, Texas

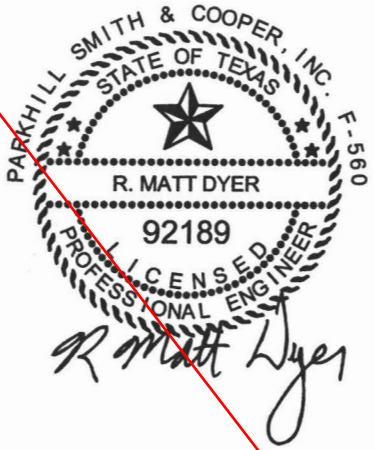
Clint Landfill

TCEQ Permit No. 2284

Part III - Attachment 12, Appendix A

Alternate Final Cover Demonstration

Water Balance Cap



03/30/12

March 2012

PSC Project # 01513411

PARKHILLSMITH&COOPER

TABLE OF CONTENTS

Page

INTRODUCTION 1

WATER BALANCE COVER SYSTEM POTENTIAL 1

SOIL PROPERTY DESCRIPTION 2

CLIMATE DATA 3

WATER BALANCE FINAL COVER DESIGN 4

UNSAT-H FINAL COVER MODEL 6

UNSAT-H FINAL COVER MODEL RESULTS 14

DESIGN DEMONSTRATION SUMMARY 18

TABLES

TABLE 1 – Soil Testing Results

TABLE 2 – Meteorological Data

TABLE 3 – Summary of UNSAT-H Input Parameters

TABLE 4 – Summary of UNSAT-H Input Parameters - Soil

TABLE 5 – Summary of UNSAT-H Input Parameters - Initial Conditions

TABLE 6 – Summary of UNSAT-H Input Parameters - Plant Information

TABLE 7 – Summary of UNSAT-H Input Parameters - Boundary Conditions

TABLE 8 – Summary of UNSAT-H WB AFC Performance

APPENDICES

APPENDIX A-1 - UNSAT-H MODEL INPUT AND OUTPUT

APPENDIX A-2 - DAILY CLIMATOLOGICAL DATA SUMMARY

APPENDIX A-3 – INCREASED HYDRAULIC CONDUCTIVITY MODEL INPUT AND OUTPUT

APPENDIX A-4 – LABORATORY SOIL DATA

FIGURES

III.ATT.12A.1 - Average Monthly Precipitation, El Paso, Texas

III.ATT.12A.2 - Soil Borrow Map

III.ATT.12A.3 - Curve Fitting Data – 80% Compaction

III.ATT.12A.4 - Curve Fitting Data – 90% Compaction

III.ATT.12A.5 - Moisture Content vs. Hydraulic Conductivity - 80% Compaction

III.ATT.12A.6 - Moisture Content vs. Hydraulic Conductivity - 90% Compaction

III.ATT.12A.7 - Weather Station Location

III.ATT.12A.8 - Water Balance Details

III.ATT.12A.9 - Model Estimate Storage Requirement Years 1 - 10

III.ATT.12A.10 - Model Estimate Storage Requirement Years 11 - 20

III.ATT.12A.11 - Model Estimate Storage Requirement Years 21 - 30

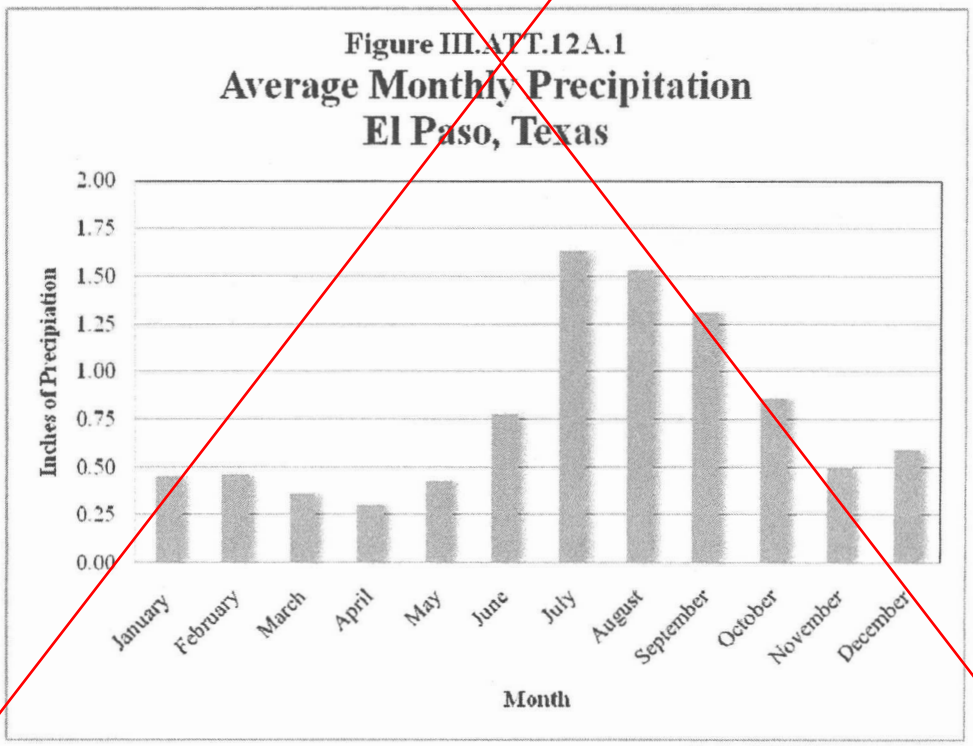
INTRODUCTION

The purpose of this appendix is to present a water balance (WB) alternative final cover (AFC) system for the El Paso Clint Landfill (MSW Permit No. 2284). This final cover system has been prepared in accordance with 30 TAC §330.457(d) and TCEQ's "Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill" (Revised January 27, 2011).

WATER BALANCE COVER SYSTEM POTENTIAL

The El Paso Clint Landfill is located southeast of the city of El Paso in El Paso County. This area is ideal for water balance cover systems due to climate and local soils. The area has a warm, desert climate with very hot summer, usually with little or no humidity, and mild, dry winters. Rainfall averages 9.4-inches per year, most of which occur during the monsoon season from July to September. According to the El Paso Weather Bureau, the sun shines during 83-percent of daylight hours approximately 302-days per year.

Figure III.ATT.12A.1
Average Monthly Precipitation
El Paso, Texas



Source: El Paso Weather Bureau

Existing vegetation at the landfill site consists of sparse shrubs and grasses. Due to the mild climate, the El Paso area has a long growing season (March 23 – November 9). However, high temperatures and low rainfall make sustaining vegetative growth without irrigation extremely difficult. Therefore, the Clint Landfill's WB cap has been designed with no vegetative cover.

The soils available for construction of the WB cap are those in the area of excavation for the Clint Landfill's Phase 2 development. These soils are sandy in nature with high hydraulic conductivity. They exhibit favorable compaction characteristics as they can be placed in a controlled manner from 75% to 95% standard proctor. These soils also have beneficial soil water retention characteristics as they are able to achieve 37% - 46% volumetric water storage based upon compaction. The ability of these soils to sustain native or non-native plants is inconsequential as plant growth will not be required for the WB cap to perform as designed.

SOIL PROPERTY DESCRIPTION

Soil samples were taken from the Clint Landfill Phase 2 area for analysis. Figure III.ATT.12A.2 shows the location of sampling in relation to the area which will be utilized as a borrow source for WB cap construction. Soil samples obtained from the site were analyzed by Daniel B. Stephen, Inc. (DBS) in Albuquerque, New Mexico and Texas Research International (TRI) in Austin, Texas. DBS completed the soil-water retention curve, saturated hydraulic conductivity, and bulk density testing. TRI completed the USCS classification, standard proctor, optimum moisture, and shear strength testing. For soil characteristics which vary by compaction, tests were run at 75%, 80%, 85%, 90%, and 95% of standard proctor. Table 1 summarizes the soil testing results.

Table 1 - Soil Testing Results

USCS Classification	Silty sand with gravel (SM)	
Bulk Density	163.9 lb/cf	
Maximum Dry Density (Standard Proctor)	120.0 lb/cf	
Percent Optimum Moisture	10.4%	
Soil Water Retention Curve – 80%	Suction (cm)	Moisture Content
	0.00	0.4523
	12.00	0.4154
	38.00	0.3966
	79.00	0.1882
	509.90	0.1043
	11,727.7	0.0558
	851,293	0.0123
Soil Water Retention Curve – 90%	Suction (cm)	Moisture Content
	0.00	0.3766
	10.50	0.3609
	39.50	0.3483
	83.00	0.3355
	509.90	0.1154
	11,727.7	0.0628
	851,293	0.0138
Saturated Hydraulic Conductivity – 80%	6.6E-03 cm/sec (23.7 cm/hr)	
Saturated Hydraulic Conductivity – 90%	1.3E-03 cm/sec (4.6 cm/hr)	

The following soil parameters are required to simulate final cover performance: saturated water content, residual water content, saturated hydraulic conductivity, and van Genuchten parameters. Saturated water content was directly determined by DBS during lab testing. The water content and van Genuchten parameters were determined by fitting the soil's moisture retention data to the van Genuchten equation. Figures III.ATT.12A.3 and III.ATT.12A.4 display curve fitting results for 80% and 90% compaction soils. The fitted curve shows the relationship between soil suction and water content. Using the determined van Genuchten parameters with the measured saturated hydraulic conductivity another curve can be constructed for hydraulic conductivity. Figures III.ATT.12A.5 and III.ATT.12A.6 contain the curve showing the relationship between hydraulic conductivity and water content

CLIMATE DATA

In order to accurately simulate the performance of a water balance cap at the Clint Landfill historical weather data from the region was used. In accordance with TCEQ guidelines the selected weather station needed to be representative of conditions at the site and have sufficient records for thirty years of climate data. After searching the National Climatic Data Center's (NCDC) database the El Paso International Airport weather station was selected. Figure III.ATT.12A.7 shows the location of the El Paso International Airport weather station with respect to the landfill site. The meteorological data available from the NCDC for this weather station is summarized in Table 2.

Table 2
Meteorological Data

Data Type	Date Range	Number of Years
Daily Precipitation	1950 – current	61
Average Dew Point Temp.	1984 – current	27
Air Temperature	1950 – current	61
Solar Radiation	1960 – current	51
Wind Speed	1984 - current	27

The thirty-years with the most complete meteorological weather data available were the years from 1981 to 2010. As shown in Table 2, the average daily dew point temperature and daily average wind speed measurements were not recorded at this weather station or anywhere else in the El Paso area, until January 1, 1984. Because of this missing data substitutions were used to complete the data set. The missing wind speed data was replaced with National Weather Service (NWS) historical monthly average wind speeds from for 1981, 1982, and 1983. The missing average dew point temperature data was replaced using averages for each day of the year from the 1984 to 2010 information.

More information on the weather station and the full weather data set are included in Appendix A-2.

WATER BALANCE FINAL COVER DESIGN

The water balance final cover design for the Clint Landfill will be a multilayer soil cap. This final cover system has been designed to maximize precipitation infiltration and to minimize percolation to less than 4-mm annually in accordance with TCEQ 2011 guidance document requirements. The final cover system will consist of the following layers, from top to bottom:

- Erosion Control Layer. This 4-inch thick layer of rock armoring will be placed as the top layer of the cap and will consist of either crushed stone or river rock. It will be constructed to prevent erosion while allowing infiltration into the lower portion of the cap. A geonet will be placed below this layer to provide separation between the rock armoring and the soil.

- Infiltration Layer. This 18-inch thick soil layer will be constructed from on-site borrow soil. It will provide the water storage required by the thirty-year weather period simulation.

- Base Layer. This 6-inch thick soil layer will be constructed from on-site borrow soil. It will serve as a base layer for placement of the infiltration layer.

As previously discussed, the final cover system is designed with no vegetation. The erosion control layer will provide more consistent, year-round erosion control than vegetation.

Figure III.ATT.12A.8 shows details of the water balance final cover system as well as details for the termination of the liner and tie-ins with the prescriptive cover.

SLOPE STABILITY CALCULATIONS

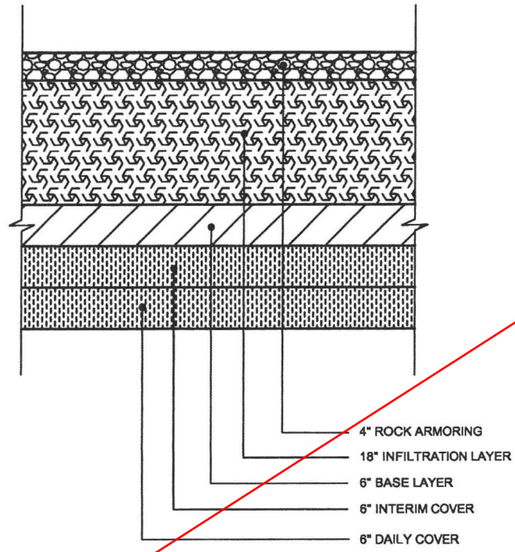
The slope stability of the WB AFC has been calculated using infinite slope analysis using the following equation:

$$FS = \frac{Tan\,\emptyset}{Tan\,B}$$ Where:

FS = Factor of Safety

$\emptyset$ = WB Cap Soil Friction

B = Slope Angle



TYPICAL WATER BALANCE COVER

NOT TO SCALE:

1
12A.8

PARKHILL SMITH & COOPER, INC. F-560
STATE OF TEXAS
R. MATT DYER
92189
LICENSED
PROFESSIONAL ENGINEER
R Matt Dyer
03/30/12

REFERENCES --- BENCH MARKS

DATE	REVISIONS	BY
01-12	PERMIT MODIFICATION - ADDED ALTERNATIVE WATER BALANCE FINAL COVER OPTION	RMD

PSC
PARKHILL SMITH & COOPER
810 East Yandell
El Paso, Texas 79902
915.533.6811

ENGINEER'S SEAL

SCALE
Hor. AS SHOWN
Ver. AS SHOWN

DATE
DESIGN BY JDA
DRAWN BY SY
CHKD. BY RMD
APPD. BY RMD

PROJECT NAME
CLINT LANDFILL
TCEQ MSW PERMIT NO. 2284
PERMIT MODIFICATION
WATER BALANCE
FINAL COVER

CITY OF EL PASO

SHEET TITLE
WATER BALANCE DETAILS

FIGURE
III.Att.12A.8

10/5/2011 Drawing File: X:\2011\5134.11\CADD\00_SHEETS\FIG III.ATT.12A.8.dwg (SYbanez) Xrefs: XTB-5134 11:17:40

The maximum slope the WB AFC will be installed at B 4:1 (H:V) or 14.1°. The soil friction has been determined by ASTM D3080. Results of this test are available in Appendix A-4. Using this data the factor of safety was calculated as:

$$FS = \frac{\tan(25.1°)}{\tan(14.1°)}$$

$$FS = \frac{0.4684}{0.2511}$$

$$FS = 1.86$$

The calculated factor of safety is greater than the typical landfill slope factor of safety of 1.5

EQUIVALENT EROSION PROTECTION

As required by 30 TAC 330.457(d)(2) the WB AFC must provide equivalent protection from wind and water as the prescriptive cover. The WB AFC will provide the same erosion protection from wind and water as the prescriptive cover as they both have identical erosion protection. The same erosion controls, both structural and non-structural, will also be used on the WB AFC system. The noted erosion controls are located in the Erosion and Sedimentation Control Plan (Attachment 6 Appendix 2). This plan was brought into compliance with the revised Subchapter G rules in September 2009.

In Attachment 6 - Appendix 2, Tables APP2-8 and APP2-14 show that both cover systems keep erosion below 2-3 tons of soil per year, meeting the requirements of 30 TAC 330 Subchapter G. No additional restraints will be used to hold the rock armor in place. An identical placement of rock armoring was utilized on the Clint Landfill (MSW No. 1482) adjacent to this facility with good results. Based on this information, the WB AFC provides equivalent protection from wind and water erosion.

FINAL COVER STORAGE CAPACITY

The theoretical water storage capacity of a unit of soil is the volumetric difference between the soil's saturated water content and residual water content. The storage capacity for the final cover system is the total of the capacity of all the layers in the system.

- Erosion Protection Layer

  No storage capacity

- Infiltration Layer (18")

  $\Theta_S = 0.37$ *(Saturated Water Content, measured)*
  $\Theta_{FC} = 0.85 * \Theta_S$ *(Field Capacity Water Content)*
  $\Theta_{FC} = 0.32$
  $\Theta_{WP} = 0.03$ *(Wilting Point Water Content)*
  $\Theta_V = \Theta_{FC} - \Theta_{WP}$
  $\Theta_V = 0.32 - 0.03 = \mathbf{0.29}$ *(Volumetric Storage Capacity)*

$S = T * \Theta_V$ *(Layer Storage = Thickness * Θ_V)*
$S = 18$ in. $* 0.29 =$ **5.22 in.**

- Base Layer (6")

$\Theta_S = 0.44$ *(Saturated Water Content, measured)*
$\Theta_{FC} = 0.85 * \Theta_S$ *(Field Capacity Water Content)*
$\Theta_{FC} = 0.37$
$\Theta_{WP} = 0.05$ *(Wilting Point Water Content)*
$\Theta_V = \Theta_{FC} - \Theta_{WP}$
$\Theta_V = 0.37 - 0.05 =$ **0.32** *(Volumetric Storage Capacity)*
$S = T * \Theta_V$ *(Layer Storage = Thickness * Θ_V)*
$S = 6$ in. $* 0.32 =$ **1.92 in.**

- Total Final Cover System Storage

$S_T = 5.22 + 1.92 =$ **7.14 in. = 18.14 cm**

UNSAT-H FINAL COVER MODEL

The Interstate Technology and Regulatory Council (ITRC) Alternative Landfill Technologies Team has provided documentation on the advance of models in predicting or estimating infiltration through final cover systems. UNSAT-H was used to model the WB AFC system.

UNSAT-H is a one-dimensional, physically based model and is commonly used to model alternative final covers. UNSAT-H is able to address soil water infiltration, redistribution, evaporation, plant transpiration, deep drainage, and soil heat flow in one-dimension. UNSAT-H simulates liquid water flow using Richards' equation, water vapor diffusion using Flick's law, and sensible heat flow using the Fourier equation. These calculations are run by calculating the finite differences between nodes in a soil network. Starting with the input file, hundreds of these calculations are run for each day in the simulation, the results of the previous day serving as the initial conditions for the following day. Totals for each movement (infiltration, evaporation, etc.) are summed at the end of each year. These year-end results are presented in Appendix A-1.

The following paragraphs outline the input values used, the source of those values, and any assumptions made. Table 3 summarizes the input values used in the model.

MODEL INPUT SETUP

UNSAT-H input parameters are classified into one of the five following categories:

- Options, Constants, and Limits
- Soil Property Description
- Initial Conditions

- Plant Information
- Boundary Conditions

OPTIONS, CONSTANTS, AND LIMITS

These input parameters define the components of groundwater flow to be modeled, the equations to be used, the soil profile, and model preferences. The following input was used for alternate design demonstration. Refer to Table 3 for a tabular view of model input options.

The plant option selected was to include plants. This was done to simulate the rock armoring, not actual plant grades. The lower boundary condition specified was a unit gradient. The goal of both composite and WB AFC designs is to limit infiltration into the bottom of the cap. The unit gradient condition assumes a constant hydraulic conductivity of the bottom layer. The profile orientation is vertical. UNSAT-H is a one-dimensional model and can only simulate horizontal flow or vertical flow independently. The time step control was based on the total mass balance, rather than on the change in theta. Theta, representing water content, is assumed to be the source of the largest error. Heat flow was not simulated, as we do not possess enough soil information to accurately simulate it.

The level of output specified was for end of day and end of simulation. The ending day of the simulation and the number of days data are provided was set at 366, which is the maximum UNSAT-H allows. The simulation was performed for a period of thirty years. This allows the cover to be tested using real data and under various climate situations. The water application information was set to use the meteorological data since actual data was available. Convective heat flow was not included. The DELSUB period was set to zero. The DELSUB period determines the level of output generated, and daily summaries were specified previously.

Next, the option was selected to allow evaporation to occur independent of plant growth. Daily potential evapotranspiration was set to be distributed throughout the day using a sinewave function. This option was selected to calculate the surface boundary condition when heat flow is not modeled. The flux option was selected as the surface boundary condition, as head on the top of the soil profile will vary. The option to input meteorological data was selected, but the option to use the cloud cover from the meteorological data was not selected due to lack of measured data. Instead, the solar radiation provided as part of the data will be used to determine a similar effect.

The van Genuchten method was selected to represent the soil hydraulic properties. Samples tested by Daniel B. Stephens, Inc. (DBS) provided van Genuchten parameters required by UNSAT-H. It was decided to simulate the soil hydraulic properties without hysteresis as site specific soil data on the hysteric behavior of the soils is not available. Therefore it was determined to be more accurate to simulate without it.

The Van Genuchten parameters describe the relationship between suction pressure, water content, and hydraulic conductivity in a soil layer. This allows UNSAT-H to automatically

adjust the hydraulic conductivity of each layer of the WB AFC infinitely between the "saturated" and "unsaturated" times of the year. This also allows UNSAT-H to simulate capillary breaks between layers of soil, as capillary breaks are caused by a difference in metric potential or suction between two adjacent layers.

The geometric mean was selected as the option for estimating liquid conductivity at the midpoint between the nodes, and is the most commonly used method by UNSAT-H. Vapor flow was included in the analysis. The option for determining an upper limit for surface head was calculated daily based on atmospheric humidity, as opposed to a constant head. The number of iterations used to solve both the heat and water flow equations was set at the default value of 2 each. A summary of these parameters is included in Table 3.

Table 3
Summary of UNSAT-H Input Parameters

Parameter Name	Parameter Description	Value	Source
TITLE	Input file description	El Paso Clint 2284 – ET Cap Design	n/a
IPLANT	Option of plants	1 *(Plants)*	Simulation to include plants
NGRAV	Domain orientation	1 *(Vertical)*	Simulation of vertical network
IFDEND	Last day of the last year of the simulation	365	365 days in 2010
IDTBEG	First day for which data have been provided	1	Data provided for Day 1, Year 1
IDTEND	Last day for which data have been provided	365	Data provided for Day 365, Year 30
IYS	Year of the simulation	1	Simulation to begin in Year 1
NYEARS	Number of years to simulate	30	Simulation to run to Year 30
ISTEAD	Steady state option	0 *(Transient Solution)*	Each year only simulated once
IFLIST	Options for entering weather data	1 *(Data provided in separate files)*	Matches weather data files provided
NFLIST	Number of file names	30	30 weather data files
NPRINT	Option for level of output	0 *(Daily summaries and end-of-simulation summary)*	Larger files not needed
STOPHR	Time to stop daily simulation	24.0	Simulation to stop at end of day
ISMETH	Option for method of solution	0 *(Crank-Nicholson)*	Standard method of UNSAT-H solution
INMAX	Number of iterations allowed for solving water flow	4	2 is minimum, selected for stability and mass balance error
ISWDIF	Option for time-step control	1 *(Reduce time step if mass balance exceeds DMAXBA)*	Standard method of UNSAT-H solution

Table 3
Summary of UNSAT-H Input Parameters

Parameter Name	Parameter Description	Value	Source
DMAXBA	Time-step control parameter	1.0E-06	Suggested value is 0.01, selected to reduce mass balance error
DELMAX	Maximum time-step	1.0	Normally 1 hour
DELMIN	Minimum time-step	1.0E-8	Selected to reduce mass balance error
OUTTIM	Time-step parameter	1.00	Selected to reduce mass balance error
RFACT	Maximum time-step factor	1.2	Selected to increase stability
RAINIF	Rainfall time-step reduction factor	1.0E-04	Selected to increase stability
DHTOL	Iteration control parameter	0.0	Selected to increase stability
DHMAX	Iteration control parameter	0.0	Selected to increase stability
DHFACT	Time-step reduction factor	n/a	DHMAX = 0
KOPT	Options for describing soil hydraulic properties	4 *(van Genuchten)*	Site soils were tested for van Genuchten parameters
KEST	Option for estimating liquid conductivity between nodes	3 (Geometric mean)	Selected to increase stability
WTF	Weighting factor	n/a	KEST ≠ 1
ITOPBC	Option for the surface-boundary condition	0 *(Flux)*	Flux to simulate changes soil-atmosphere interaction
IEVOPT	Option to allow evaporation	1 *(Evaporation)*	Simulation must include evaporation
NFHOUR	Option to distribute daily potential evapotranspiration (PET)	2 *(Distributed with sine function)*	Data on site specific distribution not available
LOWER	Lower boundary condition option	1 *(Unit gradient)*	Selected to allow for free drainage at the lower boundary
HIRRI	Minimum head to which the soil can wet	1.0	Typical soil value, confirmed by laboratory results
HDRY	Maximum head to which the soil can dry	1.0E06	Typical soil value, confirmed by laboratory results
HTOP	Constant head of surface node	n/a	ITOPBC ≠ 1
RHA	Relative humidity of the air	n/a	HDRY ≠ 0
IETOPT	Option to input daily meteorological data	1 *(Daily data are entered)*	30 years of daily data must be used in simulation
ICLOUD	Options to include cloud cover	0 (No)	Cloud cover is already included in the daily solar radiation values in the weather data files
ISHOPT	Options for the upper surface head limit	1 *(HDRY based on calculated humidity)*	Selected to utilize weather data
IRAIN	Option for water application	1 *(Apply precipitation at HPR rate)*	Selected as hourly precipitation data is not available
HPR	Hourly precipitation rate	1.0	Default value is 1.0, this value is conservative and allows greater

Table 3
Summary of UNSAT-H Input Parameters

Parameter Name	Parameter Description	Value	Source
			infiltration
IHYS	Option for hysteresis	0 (No hysteresis)	Hysteresis data for this soil not available
AIRTOL	Tolerance limit for entrapped air	n/a	IHYS = 0
HYSTOL	Tolerance limit on head changes	n/a	IHYS = 0
HYSMXH	Maximum head value	n/a	IHYS = 0
HYFILE	Name of restart file	n/a	IHYS = 0
IHEAT	Option for simulating heat flow	0 *(No heat flow)*	Heat flow parameters not available for this soil
ICONVH	Option to allow convective heat flow	0 *(No convective heat flow)*	Heat flow parameters not available for this soil
DMAXHE	Time-step control parameter	n/a	IHEAT ≠ 1
UPPERH	Option for the upper boundary condition for heat flow	n/a	IHEAT ≠ 1
TSMEAN	Daily mean temperature	n/a	IHEAT ≠ 1
TSAMP	Daily surface temperature amplitude	n/a	IHEAT ≠ 1
QHCTOP	User-specified surface heat flux	n/a	IHEAT ≠ 1
LOWERH	Option for the lower boundary condition for heat flow	n/a	IHEAT ≠ 1
QHLEAK	Heat flux at bottom boundary	n/a	IHEAT ≠ 1
TGRAD	Temperature gradient	n/a	IHEAT ≠ 1
IVAPOR	Option to allow vapor flow	1 *(Yes)*	Typical soil values for vapor flow are available
TORT	Tortuosity	0.66	Average soil values are between 0-2, 0.66 is conservative estimate for sandy soils
TSOIL	Average temperature of soil	291.0	Average air temperature for site is 291 K
VAPDIF	Diffusion coefficient of vapor in air	0.24	Coefficient of vapor at 291 K, per Bolz and Tuve (1976)
MATN	Number of different soil materials	2	Base and infiltration layer soils
NPT	Number of nodes	43	43 nodes at irregular spacing
MAT,Z	Soil material, depth below surface	*(see input file)*	

SOIL PROPERTY DESCRIPTION

Soil samples were collected from the landfill site for analysis in order to determine their suitability for use in the AFC system. Soil samples obtained from the site were analyzed by Daniel B. Stephens, Inc. (DBS) for their hydraulic properties.

UNSAT-H uses the following input parameters to classify soil layers: saturated water content, residual water content, saturated hydraulic conductivity, van Genuchten parameters, and initial suction head. Table 4 summarizes the input parameters used by UNSAT-H for the analyses. As specified in the Final Cover Quality Control Plan, Appendix B to Attachment 12, the constructed WB AFC will be tested to verify that each layer is representative of the parameters listed in Table 4. All of these parameters were determined using site-specific laboratory data.

The collected soil sample was classified as silty sand (SM). The facility's soil boring plan shows that the proposed borrow area contains several classifications of sand (SM, SC, SW, and SP). To allow for use of these classifications for cap construction the soils will be tested for hydraulic conductivity as noted in Final Cover Quality Conrol Plan (FCQCP). Table 10 shows results of a simulation run utilizing soils with hydraulic conductivity at the maximum allowed by the FCQCP. These results show that these soils still perform within the required criteria. Input and output files for this simulation are shown in Appendix A-3.

Table 4
Summary of UNSAT-H Input Parameters - Soil

Parameter Name	Parameter Description	Value	Source
DUMMY	Soil Type Name	90% Compaction Soil	
THET	Saturated water content	0.38	Calculated using lab data
THTR	Residual water content	0.03	Calculated using lab data
VGA	Van Genuchten -	0.006	Calculated using lab data
VGN	Van Genuchten - n	2.2	Calculated using lab data
RKMOD	Conductivity model options	2 *(Mualem)*	Typical option utilized
SK	Saturated hydraulic conductivity	4.6	Lab measurement
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option
DUMMY	Soil Type Name	80% Compaction Soil	
THET	Saturated water content	0.44	Calculated using lab data
THTR	Residual water content	0.05	Calculated using lab data
VGA	Van Genuchten -	0.017	Calculated using lab data
VGN	Van Genuchten - n	3.5	Calculated using lab data
RKMOD	Conductivity model options	2 *(Mualem)*	Typical option utilized
SK	Saturated hydraulic conductivity	23.7	Lab measurement
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option

Table 4 provides names of the various layers of the modeled cover system. The AFC system was represented by a network of nodes in a vertical profile, with two layers. For design, the thickness of each layer was varied until the WB AFC design met performance criteria.

The base layer serves as the bottom layer of the profile. The analysis includes infiltration to the bottom of this layer. The parameters were entered in UNSAT-H and a thirty-year simulation was performed. Model input and output and climate data are included in Appendices A-1 and A-2.

INITIAL CONDITIONS

UNSAT-H utilizes initial suction head of the soil for initial hydraulic conditions. In accordance with the FCQCP, soils will be placed within 2% of the optimum moisture of the soil. The initial suction head was determined for each soil layer at 10.4% moisture content. The infiltration layer will have an initial suction head of 575 cm. The base layer will have an initial suction head of 125 cm. Table 5 summarizes the UNSAT-H initial condition input parameters.

Table 5 Summary of UNSAT-H Input Parameters – Initial Conditions			
Parameter Name	**Parameter Description**	**Value (cm)**	**Source**
NDAY	Day before suction head values are set	0	Sets initial suction head values for Day 1
H	Suction Head – 90% Soil	575 (Nodes 1 – 19)	Calculated value soil suction at optimum moisture
H	Suction Head – 80% Soil	125 (Nodes 20 – 25)	Calculated value soil suction at optimum moisture

PLANT INFORMATION

Upon completion of the WB AFC system no vegetation will be planted. Instead, a rock armoring layer will be placed on top of the cap to provide erosion protection. The rock armoring will be well graded and placed to allow precipitation free access to the infiltration surface.

This situation was modeled in UNSAT-H by simulating the rock layer as a year-round plant canopy covering 80% of the ground surface. This is accomplished by having the plant canopy germinate on Day 1 and go dormant on Day 365 of every year. To verify that this method did not result in inappropriate transpiration, the root system does not start growth until Day 365 of every year. This method was utilized to simulate the rock layer because the layer will provide some cover to the soil but will not behave as a soil in any way. This is similar to the function of a plant canopy on a cover.

This is confirmed by no modeled transpiration occurring during the thirty-year simulation. Table 6 summarizes the plant input parameters. Table 9 shows the results of a 30-year simulation with no plant simulation (IPLANTS=0). These results show that the addition of the rock layer does not affect the performance of the WB cap.

Table 6 Summary of UNSAT-H Input Parameters – Plant Information			
Parameter Name	**Parameter Description**	**Value**	**Source**
LEAF	Option for leaf area index	0 (LAI values not needed)	NFPET = 1
NFROOT	Option for root growth	1 (Exponential relationship)	Only option available
NUPTAK	Option for plant water intake	1 (Sink term approximation proposed by Feddes)	Only option available
NFPET	Option for portioning PET	1 (Partitioning using LAI of Ritchie and Burnett(1971))	Typical option used for partitioning
NSOW	Day of the year when seeds germinate	1	Rocks will be present on Day 1 of each year
NHRVST	Day of the year which the plants cease transpiration	365	Rocks will be present on Day 365 of each year
BARE	Fraction of soil surface bare of plants	0.2	Average percentage of exposed soil under rock cover
Parameter Name	**Parameter Description**	**Value**	**Source**
AA, B1, B2	Root growth coefficients	n/a	Roots not allowed to grow
NTROOT	Growth day on which roots reach the corresponding node	365 (All nodes)	Roots not allowed to grow
HW,HD,HN	Head values for wilting, transpiration decrease, and anaerobic conditions	n/a	Roots not allowed to grow, so there will be no transpiration
PETPC (1:5)	Coefficients for the partitioning of PET using LAI	0.0, 0.52, 0.5, 0.1, 2.7	All default values for Ritchie and Burnett (1971)

BOUNDARY CONDITIONS

The boundary conditions include the meteorological input data and identification of the site where it is measured. Meteorological input required by UNSAT-H includes daily maximum and minimum temperatures, dew point, solar radiation, wind speed, and precipitation. The climate of the area was researched for use in the model.

The climate of the area is desert. Actual daily climate data obtained from the National Weather News Service (NWS) weather station at El Paso International Airport were used in the simulations. The data set provided the most comprehensive actual measured data nearest the facility. Figure III.ATT.12A.7 shows the locations of the site and the NWS weather station with respect to average annual precipitation. The data includes temperature, humidity, wind speed, and precipitation data for thirty years, 1981 to 2010. The average annual rainfall in El Paso is 9.4-inches. The data from the National Climate Data Center and

as entered in UNSAT-H, is included in Appendix A-2 of this Appendix. Table 7 summarizes the boundary condition input parameters.

Table 7
Summary of UNSAT-H Input Parameters – Boundary Conditions

Parameter Name	Parameter Description	Value	Source
ALBEDO	Potential evapotranspiration	0.49	Average daily pan evaporation for El Paso
ALT	Altitude of site	1217	Average elevation of final cap
ZU	Height of wind speed measurement	0.5	Height of wind speed meter at weather station
PMB	Average annual atmospheric pressure	882	Average pressure measure at weather station

UNSAT-H FINAL COVER MODEL RESULTS

To meet the requirements of 30 TAC 330.457(d)(1) the modeled performance of the WB AFC must show that percolation at the base of the final cover system is less than 4.0-mm annually for the entire simulation. The results of the simulation are summarized in Table 8. This table includes annual data on precipitation (P), potential evapotranspiration (PET), P/PET ratio, evaporation, transpiration, runoff percentage, storage, percolation, and total mass balance.

Table 8
Summary of UNSAT-H WB AFC Performance

	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation +Mass Balance Error (mm)
Year 1	32.1	259.7	0.12	35.40	0.00%	2.89	2.34E+00	8.12E-03	2.34E+00
Year 2	27.9	255.7	0.11	25.17	0.00%	5.57	4.45E-02	9.23E-03	4.54E-02
Year 3	20.3	250.3	0.08	22.69	0.00%	3.16	1.44E-02	8.79E-03	1.53E-02
Year 4	42.5	217.3	0.20	39.88	0.00%	4.12	2.16E+00	7.48E-03	2.16E+00
Year 5	20.7	168.2	0.12	21.91	0.00%	2.92	3.12E-02	6.44E-03	3.18E-02
Year 6	30.9	175.9	0.18	28.43	0.00%	5.39	7.70E-03	8.63E-03	8.56E-03
Year 7	27.8	202.4	0.14	25.80	0.00%	7.37	4.53E-03	9.39E-03	5.47E-03
Year 8	28.1	211.7	0.13	32.22	0.00%	3.22	3.44E-02	6.92E-03	3.51E-02
Year 9	18.4	232.6	0.08	18.65	0.00%	3.00	3.37E-03	7.85E-03	4.16E-03
Year 10	32.6	233.6	0.14	32.24	0.00%	3.38	3.74E-03	7.91E-03	4.53E-03
Year 11	31.4	226.8	0.14	26.11	0.00%	8.70	1.89E-02	8.73E-03	1.98E-02
Year 12	29.0	231.2	0.13	33.75	0.00%	3.89	9.72E-02	9.14E-03	9.81E-02
Year 13	24.5	257.6	0.09	24.69	0.00%	3.65	5.17E-03	8.12E-03	5.98E-03
Year 14	13.9	274.3	0.05	12.53	0.00%	5.03	1.20E-03	8.03E-03	2.00E-03
Year 15	20.5	268.5	0.08	22.55	0.00%	2.94	2.80E-04	7.39E-03	1.02E-03
Year 16	21.3	290.2	0.07	21.53	0.00%	2.71	2.07E-04	6.07E-03	8.14E-04
Year 17	24.5	237.2	0.10	22.88	0.00%	4.27	7.15E-05	1.13E-02	1.20E-03
Year 18	17.2	250.6	0.07	18.22	0.00%	3.24	2.58E-05	7.13E-03	7.39E-04
Year 19	20.7	248.8	0.08	20.06	0.00%	3.90	1.55E-05	6.35E-03	6.51E-04
Year 20	18.8	255.5	0.07	19.52	0.00%	3.19	1.46E-05	7.62E-03	7.77E-04
Year 21	10.9	255.1	0.04	11.05	0.00%	3.03	9.15E-06	7.70E-03	7.79E-04
Year 22	17.5	260.3	0.07	16.27	0.00%	4.25	2.90E-06	7.50E-03	7.53E-04
Year 23	10.7	267.8	0.04	12.04	0.00%	2.89	5.39E-06	6.72E-03	6.77E-04
Year 24	30.7	236.3	0.13	30.18	0.00%	3.40	3.92E-04	8.61E-03	1.25E-03
Year 25	32.7	240.9	0.14	33.21	0.00%	2.86	1.77E-01	6.50E-03	1.78E-01
Year 26	18.6	248.4	0.07	18.31	0.00%	3.10	2.26E-02	8.39E-03	2.34E-02
Year 27	25.7	255.1	0.10	25.40	0.00%	3.40	2.84E-03	9.04E-03	3.74E-03
Year 28	25.0	282.4	0.09	25.04	0.00%	2.91	8.48E-04	6.26E-03	1.47E-03
Year 29	22.1	269.3	0.08	21.02	0.00%	3.92	4.78E-04	7.57E-03	1.24E-03
Year 30	16.9	258.3	0.07	17.97	0.00%	2.88	1.76E-04	6.72E-03	8.48E-04

Table 9
Summary of UNSAT-H WB AFC Performance - No Plants

	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation +Mass Balance Error (mm)
Year 1	32.1	259.7	0.12	35.44	0.00%	2.89	2.34E+00	8.12E-03	2.42E+00
Year 2	27.9	255.7	0.11	25.58	0.00%	5.57	4.45E-02	9.23E-03	1.37E-01
Year 3	20.3	250.3	0.08	22.69	0.00%	3.16	1.44E-02	8.79E-03	1.02E-01
Year 4	42.5	217.3	0.20	39.89	0.00%	4.12	2.16E+00	7.48E-03	2.23E+00
Year 5	20.7	168.2	0.12	21.91	0.00%	2.92	3.12E-02	6.44E-03	9.56E-02
Year 6	30.9	175.9	0.18	28.43	0.00%	5.39	7.70E-03	8.63E-03	9.40E-02
Year 7	27.8	202.4	0.14	25.80	0.00%	7.37	4.53E-03	9.39E-03	9.84E-02
Year 8	28.1	211.7	0.13	32.23	0.00%	3.22	3.44E-02	6.92E-03	1.04E-01
Year 9	18.4	232.6	0.08	18.66	0.00%	3.00	3.37E-03	7.85E-03	8.19E-02
Year 10	32.6	233.6	0.14	32.24	0.00%	3.38	3.74E-03	7.91E-03	8.28E-02
Year 11	31.4	226.8	0.14	26.11	0.00%	8.70	1.89E-02	8.73E-03	1.06E-01
Year 12	29.0	231.2	0.13	33.75	0.00%	3.89	9.72E-02	9.14E-03	1.89E-01
Year 13	24.5	257.6	0.09	24.69	0.00%	3.65	5.17E-03	8.12E-03	8.64E-02
Year 14	13.9	274.3	0.05	12.53	0.00%	5.03	1.20E-03	8.03E-03	8.15E-02
Year 15	20.5	268.5	0.08	22.55	0.00%	2.94	2.80E-04	7.39E-03	7.42E-02
Year 16	21.3	290.2	0.07	21.53	0.00%	2.71	2.07E-04	6.07E-03	6.09E-02
Year 17	24.5	237.2	0.10	22.89	0.00%	4.27	7.15E-05	1.13E-02	1.13E-01
Year 18	17.2	250.6	0.07	18.22	0.00%	3.24	2.58E-05	7.13E-03	7.13E-02
Year 19	20.7	248.8	0.08	20.06	0.00%	3.90	1.55E-05	6.35E-03	6.35E-02
Year 20	18.8	255.5	0.07	19.52	0.00%	3.19	1.46E-05	7.62E-03	7.62E-02
Year 21	10.9	255.1	0.04	11.05	0.00%	3.03	9.15E-06	7.70E-03	7.70E-02
Year 22	17.5	260.3	0.07	16.27	0.00%	4.25	2.90E-06	7.50E-03	7.50E-02
Year 23	10.7	267.8	0.04	12.04	0.00%	2.89	5.39E-06	6.72E-03	6.72E-02
Year 24	30.7	236.3	0.13	30.18	0.00%	3.40	3.92E-04	8.61E-03	8.65E-02
Year 25	32.7	240.9	0.14	33.21	0.00%	2.86	1.77E-01	6.50E-03	2.42E-01
Year 26	18.6	248.4	0.07	18.31	0.00%	3.10	2.26E-02	8.39E-03	1.07E-01
Year 27	25.7	255.1	0.10	25.40	0.00%	3.40	2.84E-03	9.04E-03	9.32E-02
Year 28	25.0	282.4	0.09	25.04	0.00%	2.91	8.48E-04	6.26E-03	6.34E-02
Year 29	22.1	269.3	0.08	21.02	0.00%	3.92	4.78E-04	7.57E-03	7.62E-02
Year 30	16.9	258.3	0.07	17.98	0.00%	2.88	1.76E-04	6.72E-03	6.74E-02

Table 10
Summary of UNSAT-H WB AFC Performance - +20% Hydraulic Conductivity

	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation +Mass Balance Error (mm)
Year 1	32.1	259.7	0.12	35.48	0.00%	2.84	2.36E+00	8.11E-03	2.44E+00
Year 2	27.9	255.7	0.11	25.58	0.00%	5.47	4.49E-02	9.34E-03	1.38E-01
Year 3	20.3	250.3	0.08	22.66	0.00%	3.10	1.38E-02	8.77E-03	1.02E-01
Year 4	42.5	217.3	0.20	39.92	0.00%	4.01	2.28E+00	7.56E-03	2.36E+00
Year 5	20.7	168.2	0.12	21.88	0.00%	2.86	2.83E-02	6.50E-03	9.33E-02
Year 6	30.9	175.9	0.18	28.46	0.00%	5.31	8.01E-03	8.58E-03	9.38E-02
Year 7	27.8	202.4	0.14	25.76	0.00%	7.32	4.90E-03	9.41E-03	9.90E-02
Year 8	28.1	211.7	0.13	32.23	0.00%	3.17	4.00E-02	7.00E-03	1.10E-01
Year 9	18.4	232.6	0.08	18.65	0.00%	2.94	3.04E-03	7.83E-03	8.14E-02
Year 10	32.6	233.6	0.14	32.26	0.00%	3.31	4.31E-02	7.96E-03	1.23E-01
Year 11	31.4	226.8	0.14	26.10	0.00%	8.64	1.95E-02	8.70E-03	1.07E-01
Year 12	29.0	231.2	0.13	33.77	0.00%	3.81	1.07E-01	9.14E-03	1.98E-01
Year 13	24.5	257.6	0.09	24.65	0.00%	3.60	4.68E-03	8.19E-03	8.66E-02
Year 14	13.9	274.3	0.05	12.54	0.00%	4.97	9.94E-04	7.98E-03	8.08E-02
Year 15	20.5	268.5	0.08	22.54	0.00%	2.90	1.92E-04	7.45E-03	7.46E-02
Year 16	21.3	290.2	0.07	21.53	0.00%	2.67	1.59E-04	6.06E-03	6.07E-02
Year 17	24.5	237.2	0.10	22.93	0.00%	4.18	4.56E-05	1.14E-02	1.14E-01
Year 18	17.2	250.6	0.07	18.20	0.00%	3.17	1.59E-05	7.13E-03	7.13E-02
Year 19	20.7	248.8	0.08	20.05	0.00%	3.84	1.13E-05	6.42E-03	6.42E-02
Year 20	18.8	255.5	0.07	19.52	0.00%	3.13	1.09E-05	7.57E-03	7.57E-02
Year 21	10.9	255.1	0.04	11.03	0.00%	2.99	6.42E-06	7.67E-03	7.67E-02
Year 22	17.5	260.3	0.07	16.32	0.00%	4.16	2.12E-06	7.41E-03	7.41E-02
Year 23	10.7	267.8	0.04	12.00	0.00%	2.85	4.56E-06	6.71E-03	6.72E-02
Year 24	30.7	236.3	0.13	30.23	0.00%	3.32	5.73E-04	8.62E-03	8.68E-02
Year 25	32.7	240.9	0.14	33.19	0.00%	2.80	2.05E-01	6.53E-03	2.70E-01
Year 26	18.6	248.4	0.07	18.32	0.00%	3.03	2.06E-02	8.42E-03	1.05E-01
Year 27	25.7	255.1	0.10	25.41	0.00%	3.31	2.39E-03	9.07E-03	9.31E-02
Year 28	25.0	282.4	0.09	25.49	0.00%	2.86	6.57E-04	6.32E-03	6.39E-02
Year 29	22.1	269.3	0.08	21.06	0.00%	3.84	3.41E-04	7.60E-03	7.64E-02
Year 30	16.9	258.3	0.07	17.93	0.00%	2.84	1.11E-04	6.71E-03	6.72E-02

Figures III.ATT.12A.9-11 shows the modeled end of year storage requirement as compared to the calculated available storage capacity of the WB cover. Model input and output files are included in Appendix A-1

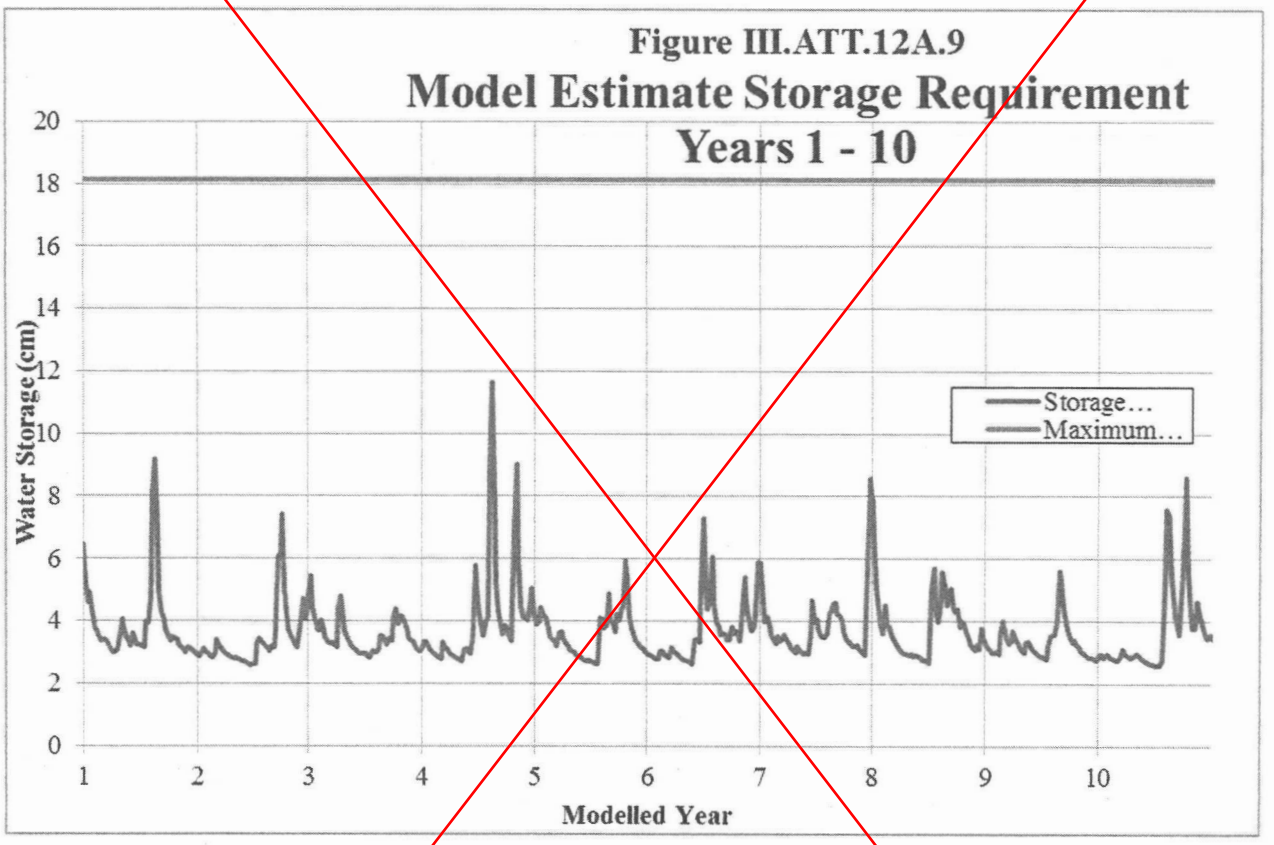


Figure III.ATT.12A.10

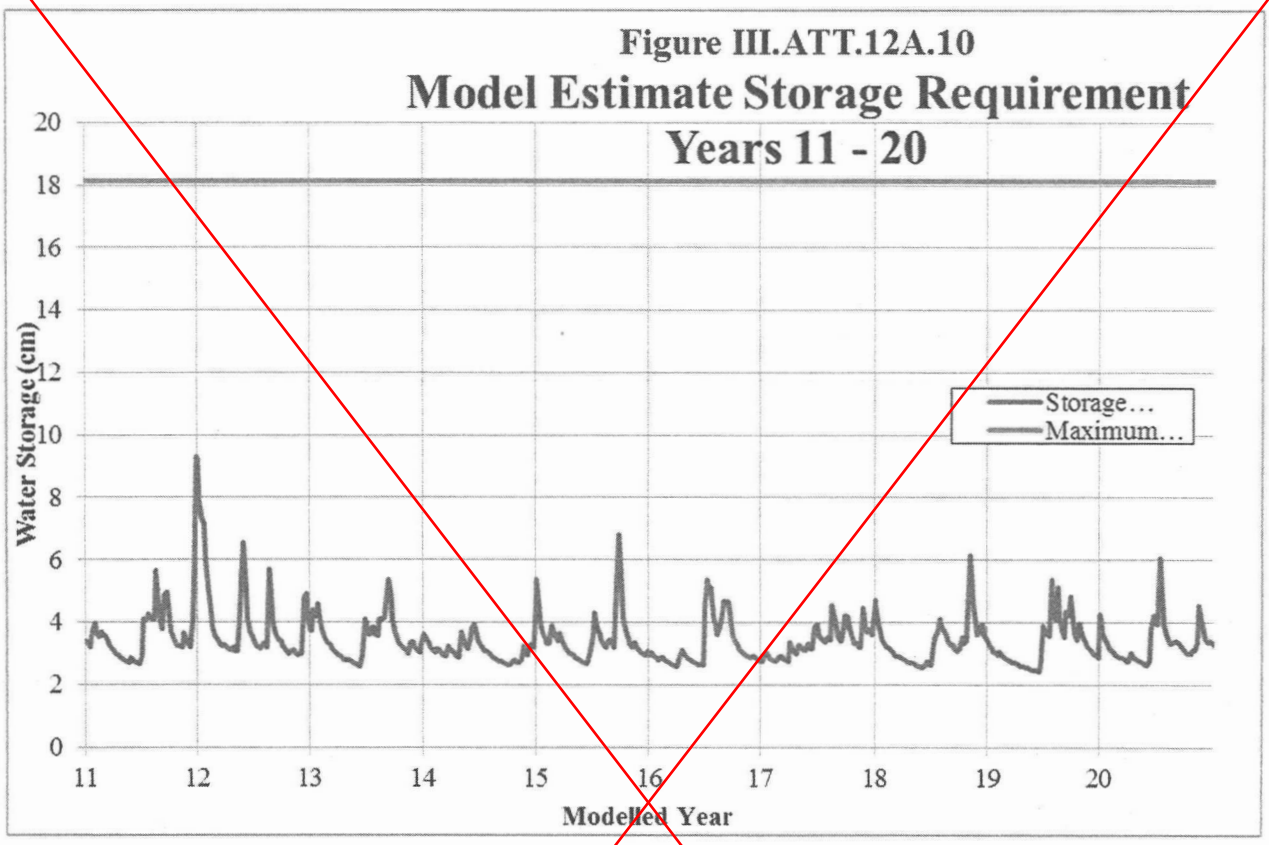
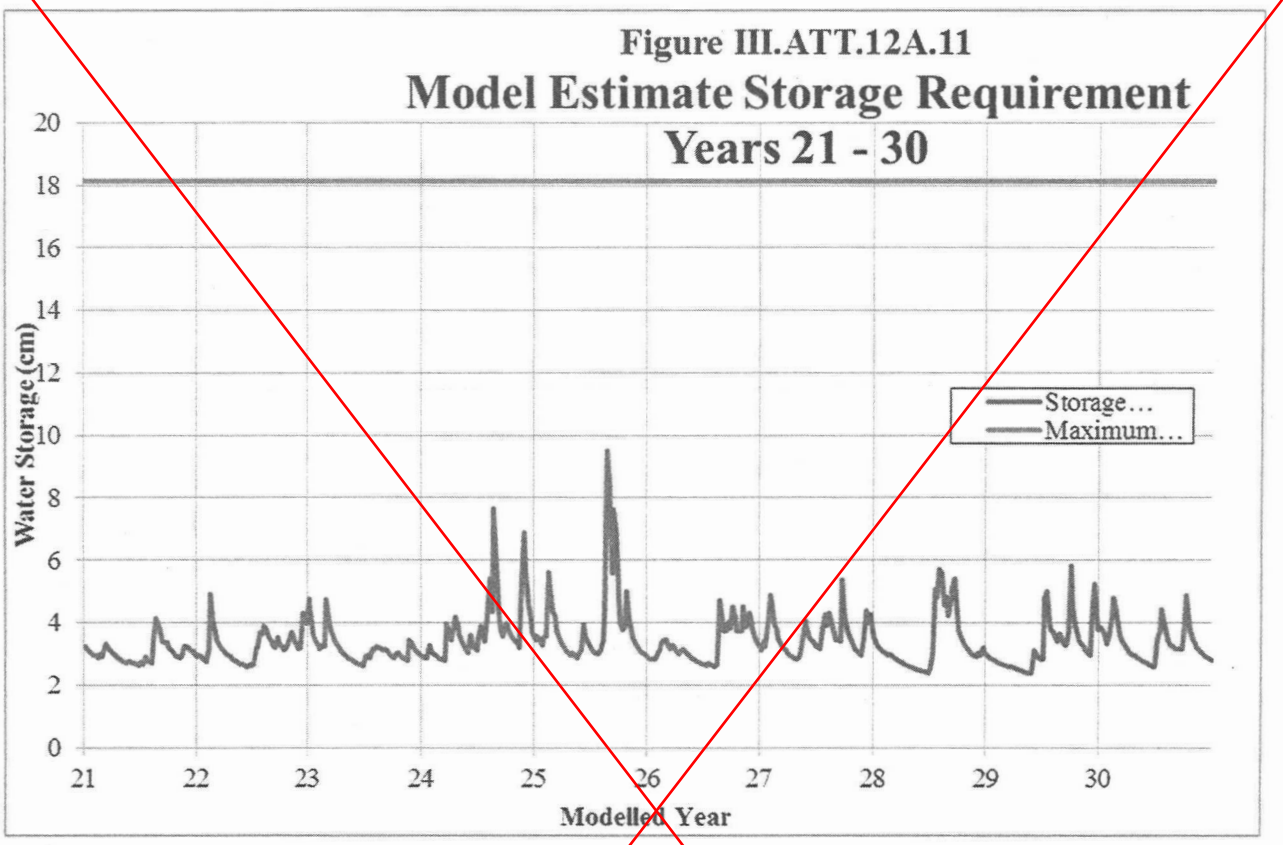


Figure III.ATT.12A.11



DESIGN DEMONSTRATION SUMMARY

The water balance alternative final cover design must meet the requirements of 30 TAC 330.457(d). It has been demonstrated that the alternative final cover design provides equivalent reduction in infiltration as the clay-rich soil cover layer specified in 30 TAC 330.457(a)(1) or (2) using the procedure in TCEQ's "Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill" (Revised January 27, 2011). It has also been demonstrated that the alternative final cover design provides equivalent protection from wind and water erosion as the erosion layer specified in subsection 30 TAC 330.457(a)(3).

APPENDIX A-1

UNSAT-H MODEL INPUT AND OUTPUT

```
El Paso Clint 2284 - ET Cap design
1,1,                                  IPLANT,NGRAV
365,1,365,                            IFDEND,IDTBEG,IDTEND
1,30,0,1,30,                          IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                NPRINT,STOPHR
0,4,1,1.0E-6,                         ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                      DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,               RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                              KOPT,KEST,WTF
0,1,2,1,                              ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                    HIRRI,HDRY,HTOP,RHA
1,0,1,                                IETOPT,ICLOUD,ISHOPT
1,1.0,                                IRAIN,HPR
0,0.0,0.0,0.0,0,                      IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                              IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                        UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                            LOWERH,QHLEAK,TGRAD
1,0.66,291.0,0.24,                    IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                         matn,npt
1,0.00,1,0.10,1,0.20,1,0.30,
1,0.40,1,0.50,1,0.60,1,0.70,
1,0.80,1,0.90,1,1.00,1,1.25,
1,1.50,1,1.75,1,2.00,1,2.50,
1,3.00,1,3.50,1,4.00,1,4.50,
1,5.08,1,7.62,1,10.16,1,12.7,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.4,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.1,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.8,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer
0.38,0.03,0.006,2.2,
conductivity
2.0,4.6,0.006,2.2,0.5,
80% Compaction Layer
0.44,0.05,0.017,3.5,
conductivity
2.0,23.7,0.017,3.5,0.5,
0,                                   NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
0,1,1,1,1,365,
0.2,
0.0,0.0,0.0,
365,365,365,365,365,365,365,365,365,365,
```

```
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,
0.1,0.05,0.0,
0.0,0.52,0.5,0.1,2.7,
0.49, 1217, 0.5, 882.0,                                   ALBEDO,ALT,ZU,PMB

Year
dat
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0001.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	291.00	2	1.000E-01	5.750E+02	0.1065	291.00
3	2.000E-01	5.750E+02	0.1065	291.00	4	3.000E-01	5.750E+02	0.1065	291.00
5	4.000E-01	5.750E+02	0.1065	291.00	6	5.000E-01	5.750E+02	0.1065	291.00
7	6.000E-01	5.750E+02	0.1065	291.00	8	7.000E-01	5.750E+02	0.1065	291.00
9	8.000E-01	5.750E+02	0.1065	291.00	10	9.000E-01	5.750E+02	0.1065	291.00
11	1.000E+00	5.750E+02	0.1065	291.00	12	1.250E+00	5.750E+02	0.1065	291.00
13	1.500E+00	5.750E+02	0.1065	291.00	14	1.750E+00	5.750E+02	0.1065	291.00
15	2.000E+00	5.750E+02	0.1065	291.00	16	2.500E+00	5.750E+02	0.1065	291.00
17	3.000E+00	5.750E+02	0.1065	291.00	18	3.500E+00	5.750E+02	0.1065	291.00
19	4.000E+00	5.750E+02	0.1065	291.00	20	4.500E+00	5.750E+02	0.1065	291.00
21	5.080E+00	5.750E+02	0.1065	291.00	22	7.620E+00	5.750E+02	0.1065	291.00
23	1.016E+01	5.750E+02	0.1065	291.00	24	1.270E+01	5.750E+02	0.1065	291.00
25	1.524E+01	5.750E+02	0.1065	291.00	26	1.778E+01	5.750E+02	0.1065	291.00
27	2.032E+01	5.750E+02	0.1065	291.00	28	2.286E+01	5.750E+02	0.1065	291.00
29	2.540E+01	5.750E+02	0.1065	291.00	30	2.794E+01	5.750E+02	0.1065	291.00
31	3.048E+01	5.750E+02	0.1065	291.00	32	3.302E+01	5.750E+02	0.1065	291.00
33	3.556E+01	5.750E+02	0.1065	291.00	34	3.810E+01	5.750E+02	0.1065	291.00
35	4.064E+01	5.750E+02	0.1065	291.00	36	4.318E+01	5.750E+02	0.1065	291.00
37	4.572E+01	5.750E+02	0.1065	291.00	38	4.826E+01	1.250E+02	0.1064	291.00
39	5.080E+01	1.250E+02	0.1064	291.00	40	5.334E+01	1.250E+02	0.1064	291.00
41	5.588E+01	1.250E+02	0.1064	291.00	42	5.842E+01	1.250E+02	0.1064	291.00
43	6.096E+01	1.250E+02	0.1064	291.00					

Initial Water Storage = 6.4909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.08891	0.09024	0.11123	0.07609
Head (cm)	= 7.22861E+02	7.08988E+02	5.45047E+02	1.72389E+02
LiqWater Flow (cm)	=-2.68559E-01	-3.15063E-01	-1.89636E-01	1.40050E-01
IsoVapor Flow (cm)	=-8.35723E-02	-9.44868E-07	-1.30931E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
6.4909	+ 0.0000	+ 0.0000	- 0.3530	- 0.0000	- 0.1400	=	5.9978	vs.	5.9978

Mass Balance = -5.4327E-05 cm; Time step attempts = 482 and successes = 415
Evaporation: Potential = 0.4449 cm, Actual = 0.3530 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 40.1 %; TMEAN = 283.7 K; HDRY = 1.2523E+06 cm; DAYUBC = 64

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04972	0.05262
Head (cm)	= 1.36378E+06	8.60606E+05	1.82764E+03	4.34801E+02
LiqWater Flow (cm)	=-3.20768E-13	-4.92608E-12	-2.17815E-03	1.98132E-05
IsoVapor Flow (cm)	=-6.66474E-03	-6.65897E-03	-5.54704E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
2.9001+	0.0000+	0.0000	- 0.0067-	0.0000-	0.0000	=	2.8934	vs.	2.8934

Mass Balance = -7.4691E-06 cm; Time step attempts = 53 and successes = 42
Evaporation: Potential = 0.4229 cm, Actual = 0.0067 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.0 %; TMEAN = 283.4 K; HDRY = 1.3638E+06 cm; DAYUBC = 42
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5970E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5970E+02	[cm]
Actual Evaporation	=	3.5435E+01	[cm]
Evaporation during Growth	=	3.5435E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2080E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.3484E-01	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2080E+01	[cm]
Actual Rainfall	=	3.2080E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8934E+00	[cm]
Mass Balance Error	=	8.1244E-03	[cm]
Total Successful Time Steps	=	68740	
Total Attempted Time Steps	=	84608	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33456	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.3545E+00	0.050	1.5074E+01	0.150	9.0878E+00
0.250	6.6483E+00	0.350	5.2069E+00	0.450	4.3285E+00
0.550	3.4854E+00	0.650	2.8248E+00	0.750	2.2060E+00
0.850	1.6461E+00	0.950	1.2900E+00	1.125	9.2330E-01
1.375	-9.3530E-02	1.625	-6.3308E-01	1.875	-1.1091E+00
2.250	-1.4764E+00	2.750	-2.0588E+00	3.250	-2.3965E+00
3.750	-2.6423E+00	4.250	-2.7062E+00	4.790	-2.7919E+00
6.350	-2.8036E+00	8.890	-2.7120E+00	11.430	-2.5546E+00
13.970	-2.4002E+00	16.510	-2.2483E+00	19.050	-2.0985E+00

21.590	-1.9504E+00	24.130	-1.8039E+00	26.670	-1.6586E+00
29.210	-1.5145E+00	31.750	-1.3712E+00	34.290	-1.2288E+00
36.830	-1.0870E+00	39.370	-9.4575E-01	41.910	-8.0493E-01
44.450	-6.6444E-01	46.990	-5.2324E-01	49.530	-3.7592E-01
52.070	-2.4378E-01	54.610	-1.0680E-01	57.150	2.9945E-02
59.690	1.6655E-01	60.960	2.3484E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0002.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.364E+06	0.0300	291.00	2	1.000E-01	1.334E+06	0.0300	291.00
3	2.000E-01	1.304E+06	0.0300	291.00	4	3.000E-01	1.275E+06	0.0300	291.00
5	4.000E-01	1.247E+06	0.0300	291.00	6	5.000E-01	1.220E+06	0.0300	291.00
7	6.000E-01	1.193E+06	0.0300	291.00	8	7.000E-01	1.166E+06	0.0300	291.00
9	8.000E-01	1.140E+06	0.0300	291.00	10	9.000E-01	1.114E+06	0.0300	291.00
11	1.000E+00	1.089E+06	0.0300	291.00	12	1.250E+00	1.028E+06	0.0300	291.00
13	1.500E+00	9.702E+05	0.0300	291.00	14	1.750E+00	9.143E+05	0.0300	291.00
15	2.000E+00	8.606E+05	0.0300	291.00	16	2.500E+00	7.591E+05	0.0300	291.00
17	3.000E+00	6.647E+05	0.0300	291.00	18	3.500E+00	5.763E+05	0.0300	291.00
19	4.000E+00	4.933E+05	0.0300	291.00	20	4.500E+00	4.150E+05	0.0300	291.00
21	5.080E+00	3.295E+05	0.0300	291.00	22	7.620E+00	2.696E+03	0.0424	291.00
23	1.016E+01	2.397E+03	0.0443	291.00	24	1.270E+01	2.229E+03	0.0456	291.00
25	1.524E+01	2.112E+03	0.0466	291.00	26	1.778E+01	2.025E+03	0.0474	291.00
27	2.032E+01	1.958E+03	0.0482	291.00	28	2.286E+01	1.905E+03	0.0488	291.00
29	2.540E+01	1.862E+03	0.0493	291.00	30	2.794E+01	1.828E+03	0.0497	291.00
31	3.048E+01	1.799E+03	0.0501	291.00	32	3.302E+01	1.776E+03	0.0504	291.00
33	3.556E+01	1.757E+03	0.0507	291.00	34	3.810E+01	1.742E+03	0.0509	291.00
35	4.064E+01	1.730E+03	0.0510	291.00	36	4.318E+01	1.722E+03	0.0512	291.00
37	4.572E+01	1.716E+03	0.0513	291.00	38	4.826E+01	1.424E+03	0.0501	291.00
39	5.080E+01	4.585E+02	0.0523	291.00	40	5.334E+01	4.471E+02	0.0524	291.00
41	5.588E+01	4.400E+02	0.0525	291.00	42	5.842E+01	4.361E+02	0.0526	291.00
43	6.096E+01	4.348E+02	0.0526	291.00					

Initial Water Storage = 2.8934 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.04959	0.05262
Head (cm)	=	1.37172E+06	8.64672E+05	1.83705E+03	4.35327E+02
LiqWater Flow (cm)	=	-2.79184E-13	-2.44385E-12	-2.15828E-03	1.96165E-05
IsoVapor Flow (cm)	=	-5.99516E-03	-5.99503E-03	-5.63212E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8934	+ 0.0000	+ 0.0000	- 0.0060	- 0.0000	- 0.0000 =	2.8874 vs.	2.8874

Mass Balance = -4.6919E-08 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.4495 cm, Actual = 0.0060 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.8 %; TMEAN = 285.1 K; HDRY = 1.3717E+06 cm; DAYUBC = 24

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.10799	0.10577	0.10251	0.05236
Head (cm)	=	5.65180E+02	5.79858E+02	6.02907E+02	4.53503E+02
LiqWater Flow (cm)	=	7.50585E-01	7.14481E-01	2.68772E-01	1.40318E-05
IsoVapor Flow (cm)	=	-2.98006E-07	3.49960E-08	2.83752E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR	STORAGE
4.8196+	0.7874+	0.0000	- 0.0360-	0.0000-	0.0000	=	5.5711 vs.	5.5710

Mass Balance = 1.0486E-04 cm; Time step attempts = 172 and successes = 167
Evaporation: Potential = 0.0363 cm, Actual = 0.0360 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 79.7 %; TMEAN = 272.3 K; HDRY = 3.1088E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5577E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5577E+02	[cm]
Actual Evaporation	=	2.5173E+01	[cm]
Evaporation during Growth	=	2.5173E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.7864E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.4518E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.7864E+01	[cm]
Actual Rainfall	=	2.7864E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	5.5710E+00	[cm]
Mass Balance Error	=	9.2394E-03	[cm]
Total Successful Time Steps	=	70056	
Total Attempted Time Steps	=	87185	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32003	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.6912E+00	0.050	1.5321E+01	0.150	1.0960E+01
0.250	9.6524E+00	0.350	8.6794E+00	0.450	8.0171E+00
0.550	7.3385E+00	0.650	6.8930E+00	0.750	6.5626E+00
0.850	6.3122E+00	0.950	6.0569E+00	1.125	5.8409E+00
1.375	5.1785E+00	1.625	4.7036E+00	1.875	4.4361E+00
2.250	4.1762E+00	2.750	3.8001E+00	3.250	3.5783E+00
3.750	3.3685E+00	4.250	3.1767E+00	4.790	3.0095E+00
6.350	2.7516E+00	8.890	2.2397E+00	11.430	1.9595E+00
13.970	1.7378E+00	16.510	1.5799E+00	19.050	1.4329E+00

21.590	1.2892E+00	24.130	1.1488E+00	26.670	1.0115E+00
29.210	8.7728E-01	31.750	7.4604E-01	34.290	6.1757E-01
36.830	4.9159E-01	39.370	3.6769E-01	41.910	2.4533E-01
44.450	1.2385E-01	46.990	3.9659E-03	49.530	6.9865E-03
52.070	1.8310E-03	54.610	2.7152E-03	57.150	3.4576E-03
59.690	4.1255E-03	60.960	4.4518E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0003.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.652E+02	0.1080	291.00	2	1.000E-01	5.818E+02	0.1055	291.00
3	2.000E-01	5.862E+02	0.1048	291.00	4	3.000E-01	5.855E+02	0.1049	291.00
5	4.000E-01	5.836E+02	0.1052	291.00	6	5.000E-01	5.819E+02	0.1055	291.00
7	6.000E-01	5.809E+02	0.1056	291.00	8	7.000E-01	5.804E+02	0.1057	291.00
9	8.000E-01	5.803E+02	0.1057	291.00	10	9.000E-01	5.803E+02	0.1057	291.00
11	1.000E+00	5.804E+02	0.1057	291.00	12	1.250E+00	5.806E+02	0.1057	291.00
13	1.500E+00	5.804E+02	0.1057	291.00	14	1.750E+00	5.801E+02	0.1057	291.00
15	2.000E+00	5.799E+02	0.1058	291.00	16	2.500E+00	5.795E+02	0.1058	291.00
17	3.000E+00	5.791E+02	0.1059	291.00	18	3.500E+00	5.788E+02	0.1059	291.00
19	4.000E+00	5.785E+02	0.1060	291.00	20	4.500E+00	5.782E+02	0.1060	291.00
21	5.080E+00	5.779E+02	0.1061	291.00	22	7.620E+00	5.774E+02	0.1061	291.00
23	1.016E+01	5.778E+02	0.1061	291.00	24	1.270E+01	5.790E+02	0.1059	291.00
25	1.524E+01	5.811E+02	0.1056	291.00	26	1.778E+01	5.841E+02	0.1052	291.00
27	2.032E+01	5.878E+02	0.1046	291.00	28	2.286E+01	5.923E+02	0.1040	291.00
29	2.540E+01	5.973E+02	0.1033	291.00	30	2.794E+01	6.029E+02	0.1025	291.00
31	3.048E+01	6.088E+02	0.1017	291.00	32	3.302E+01	6.146E+02	0.1009	291.00
33	3.556E+01	6.201E+02	0.1002	291.00	34	3.810E+01	6.248E+02	0.0996	291.00
35	4.064E+01	6.282E+02	0.0992	291.00	36	4.318E+01	6.300E+02	0.0990	291.00
37	4.572E+01	6.297E+02	0.0990	291.00	38	4.826E+01	6.485E+02	0.0510	291.00
39	5.080E+01	5.096E+02	0.0518	291.00	40	5.334E+01	4.786E+02	0.0521	291.00
41	5.588E+01	4.634E+02	0.0522	291.00	42	5.842E+01	4.559E+02	0.0523	291.00
43	6.096E+01	4.535E+02	0.0524	291.00					

Initial Water Storage = 5.5710 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.10391	0.10145	0.10333	0.05235
Head (cm)	=	5.92804E+02	6.10778E+02	5.96966E+02	4.54287E+02
LiqWater Flow (cm)	=	2.06212E-04	9.70954E-03	7.44483E-02	1.38330E-05
IsoVapor Flow (cm)	=	-7.71071E-07	-3.40109E-08	2.29448E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.5710+	0.0000+	0.0000 -	0.0000-	0.0000-	0.0000 =	5.5709 vs.	5.5709

Mass Balance = -1.3517E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = **** %; TMEAN = 268.7 K; HDRY = 0.0000E+00 cm; DAYUBC = 0

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1           15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.04504     0.05296     0.05109
 Head (cm)          = 7.51360E+05 2.29253E+03 1.60821E+03 6.18584E+02
 LiqWater Flow (cm)=-1.48107E-02-2.97367E-02 2.02209E-03 1.07939E-06
 IsoVapor Flow (cm)=-4.03052E-02-1.10957E-05 2.24239E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.2170+ 0.0000+ 0.0000 - 0.0560- 0.0000-  0.0000 =     3.1609 vs.     3.1610

 Mass Balance = -8.1125E-05 cm;  Time step attempts =  390 and successes =  302
   Evaporation:  Potential =  0.2459 cm, Actual =  0.0560 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 57.8 %;  TMEAN = 277.0 K;  HDRY =  7.5136E+05 cm;  DAYUBC =   238
1

------------------------------------------------------------------------------

                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
------------------------------------------------------------------------------

 Transpiration Scheme is:                =    1
 Potential Evapotranspiration            =  2.5030E+02     [cm]
 Potential Transpiration                 =  0.0000E+00     [cm]
 Actual Transpiration                    =  0.0000E+00     [cm]
 Potential Evaporation                   =  2.5030E+02     [cm]
 Actual Evaporation                      =  2.2694E+01     [cm]
 Evaporation during Growth               =  2.2694E+01     [cm]
 Total Runoff                            =  0.0000E+00     [cm]
 Total Infiltration                      =  2.0295E+01     [cm]
 Total Basal Liquid Flux (drainage)      =  1.4427E-03     [cm]
 Total Basal Vapor Flux (temp-grad)      =  0.0000E+00     [cm]
 Total Applied Water                     =  2.0295E+01     [cm]
 Actual Rainfall                         =  2.0295E+01     [cm]
 Actual Irrigation                       =  0.0000E+00     [cm]
 Total Final Moisture Storage            =  3.1610E+00     [cm]
 Mass Balance Error                      =  8.7936E-03     [cm]
 Total Successful Time Steps             =     69259
 Total Attempted Time Steps              =     85302
 Total Time Step Reductions (DHMAX)      =         0
 Total Changes in Surface Boundary       =     33862
 Total Time Actually Simulated           =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000   -2.3997E+00      0.050    1.3964E+01      0.150    1.0762E+01
      0.250    8.1735E+00      0.350    6.6856E+00      0.450    5.5608E+00
      0.550    4.4349E+00      0.650    3.7403E+00      0.750    3.0500E+00
      0.850    2.5654E+00      0.950    2.0683E+00      1.125    1.6027E+00
      1.375    8.6887E-01      1.625    3.8225E-01      1.875    7.3740E-03
      2.250   -3.8285E-01      2.750   -1.0481E+00      3.250   -1.3794E+00
      3.750   -1.6804E+00      4.250   -1.8559E+00      4.790   -1.9252E+00
      6.350   -1.9140E+00      8.890   -1.8860E+00     11.430   -1.7537E+00
     13.970   -1.6229E+00     16.510   -1.4930E+00     19.050   -1.3639E+00
```

21.590	-1.2354E+00	24.130	-1.1075E+00	26.670	-9.8061E-01
29.210	-8.5483E-01	31.750	-7.3049E-01	34.290	-6.0781E-01
36.830	-4.8684E-01	39.370	-3.6743E-01	41.910	-2.4925E-01
44.450	-1.3178E-01	46.990	-1.3887E-02	49.530	-7.4334E-03
52.070	-9.0786E-03	54.610	-6.3184E-03	57.150	-3.2949E-03
59.690	-1.4907E-04	60.960	1.4427E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0004.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.514E+05	0.0300	291.00	2	1.000E-01	6.330E+05	0.0300	291.00
3	2.000E-01	5.240E+05	0.0300	291.00	4	3.000E-01	4.231E+05	0.0300	291.00
5	4.000E-01	3.291E+05	0.0300	291.00	6	5.000E-01	2.412E+05	0.0301	291.00
7	6.000E-01	1.585E+05	0.0301	291.00	8	7.000E-01	8.057E+04	0.0302	291.00
9	8.000E-01	7.201E+03	0.0338	291.00	10	9.000E-01	3.967E+03	0.0378	291.00
11	1.000E+00	3.437E+03	0.0393	291.00	12	1.250E+00	2.863E+03	0.0415	291.00
13	1.500E+00	2.590E+03	0.0430	291.00	14	1.750E+00	2.416E+03	0.0441	291.00
15	2.000E+00	2.293E+03	0.0450	291.00	16	2.500E+00	2.122E+03	0.0465	291.00
17	3.000E+00	2.007E+03	0.0476	291.00	18	3.500E+00	1.922E+03	0.0486	291.00
19	4.000E+00	1.857E+03	0.0493	291.00	20	4.500E+00	1.805E+03	0.0500	291.00
21	5.080E+00	1.756E+03	0.0507	291.00	22	7.620E+00	1.626E+03	0.0527	291.00
23	1.016E+01	1.565E+03	0.0537	291.00	24	1.270E+01	1.538E+03	0.0542	291.00
25	1.524E+01	1.531E+03	0.0544	291.00	26	1.778E+01	1.537E+03	0.0542	291.00
27	2.032E+01	1.551E+03	0.0540	291.00	28	2.286E+01	1.571E+03	0.0536	291.00
29	2.540E+01	1.591E+03	0.0533	291.00	30	2.794E+01	1.608E+03	0.0530	291.00
31	3.048E+01	1.621E+03	0.0528	291.00	32	3.302E+01	1.628E+03	0.0526	291.00
33	3.556E+01	1.630E+03	0.0526	291.00	34	3.810E+01	1.629E+03	0.0526	291.00
35	4.064E+01	1.626E+03	0.0527	291.00	36	4.318E+01	1.622E+03	0.0527	291.00
37	4.572E+01	1.619E+03	0.0528	291.00	38	4.826E+01	1.509E+03	0.0501	291.00
39	5.080E+01	7.513E+02	0.0507	291.00	40	5.334E+01	6.675E+02	0.0509	291.00
41	5.588E+01	6.367E+02	0.0510	291.00	42	5.842E+01	6.227E+02	0.0511	291.00
43	6.096E+01	6.186E+02	0.0511	291.00					

Initial Water Storage = 3.1610 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04214	0.05316	0.05109
Head (cm)	=	9.26464E+05	2.74100E+03	1.59691E+03	6.18915E+02
LiqWater Flow (cm)	=	-9.71681E-12	-2.38488E-02	2.15841E-03	1.07464E-06
IsoVapor Flow (cm)	=	-3.15827E-02	-2.30731E-05	2.25671E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1610+	0.0000+	0.0000 -	0.0316-	0.0000-	0.0000 =	3.1294 vs.	3.1295

Mass Balance = -3.2068E-05 cm; Time step attempts = 141 and successes = 111
Evaporation: Potential = 0.2780 cm, Actual = 0.0316 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 50.9 %; TMEAN = 281.2 K; HDRY = 9.2646E+05 cm; DAYUBC = 111

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03004	0.05581	0.07614	0.05335
Head (cm)	=	3.46235E+05	1.45784E+03	8.91813E+02	3.94273E+02
LiqWater Flow (cm)	=	-3.21484E-02	-8.69465E-02	-1.95082E-02	4.47816E-05
IsoVapor Flow (cm)	=	-7.37698E-02	-5.07996E-06	-1.60571E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.2298+	0.0000+	0.0000	- 0.1074-	0.0000-	0.0000 =	4.1224 vs.	4.1224

Mass Balance = -4.3605E-05 cm; Time step attempts = 289 and successes = 230
Evaporation: Potential = 0.2466 cm, Actual = 0.1074 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 55.1 %; TMEAN = 283.2 K; HDRY = 8.1733E+05 cm; DAYUBC = 156
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.1730E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.1730E+02	[cm]
Actual Evaporation	=	3.9886E+01	[cm]
Evaporation during Growth	=	3.9779E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	4.1072E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.1695E-01	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	4.1072E+01	[cm]
Actual Rainfall	=	4.1072E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1224E+00	[cm]
Mass Balance Error	=	7.4860E-03	[cm]
Total Successful Time Steps	=	60369	
Total Attempted Time Steps	=	73800	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	24795	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1858E+00	0.050	1.6163E+01	0.150	1.0348E+01
0.250	8.0908E+00	0.350	7.0469E+00	0.450	6.2145E+00
0.550	5.5541E+00	0.650	5.0669E+00	0.750	4.6355E+00
0.850	4.2314E+00	0.950	3.8895E+00	1.125	3.5325E+00
1.375	2.9721E+00	1.625	2.6927E+00	1.875	2.5071E+00
2.250	2.3811E+00	2.750	2.2214E+00	3.250	2.0986E+00
3.750	1.9876E+00	4.250	1.8635E+00	4.790	1.7286E+00
6.350	1.5832E+00	8.890	1.2331E+00	11.430	1.0516E+00
13.970	1.0022E+00	16.510	9.5923E-01	19.050	9.1264E-01

21.590	8.6253E-01	24.130	8.0911E-01	26.670	7.5270E-01
29.210	6.9372E-01	31.750	6.3263E-01	34.290	5.6989E-01
36.830	5.0589E-01	39.370	4.4093E-01	41.910	3.7525E-01
44.450	3.0900E-01	46.990	2.4281E-01	49.530	2.4511E-01
52.070	2.3697E-01	54.610	2.3130E-01	57.150	2.2565E-01
59.690	2.1987E-01	60.960	2.1695E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0005.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.462E+05	0.0300	291.00	2	1.000E-01	2.238E+05	0.0301	291.00
3	2.000E-01	1.000E+05	0.0302	291.00	4	3.000E-01	1.716E+03	0.0513	291.00
5	4.000E-01	1.695E+03	0.0516	291.00	6	5.000E-01	1.676E+03	0.0519	291.00
7	6.000E-01	1.657E+03	0.0522	291.00	8	7.000E-01	1.638E+03	0.0525	291.00
9	8.000E-01	1.621E+03	0.0527	291.00	10	9.000E-01	1.605E+03	0.0530	291.00
11	1.000E+00	1.589E+03	0.0533	291.00	12	1.250E+00	1.551E+03	0.0540	291.00
13	1.500E+00	1.517E+03	0.0546	291.00	14	1.750E+00	1.486E+03	0.0552	291.00
15	2.000E+00	1.458E+03	0.0558	291.00	16	2.500E+00	1.407E+03	0.0569	291.00
17	3.000E+00	1.363E+03	0.0580	291.00	18	3.500E+00	1.325E+03	0.0589	291.00
19	4.000E+00	1.292E+03	0.0598	291.00	20	4.500E+00	1.262E+03	0.0606	291.00
21	5.080E+00	1.231E+03	0.0616	291.00	22	7.620E+00	1.130E+03	0.0649	291.00
23	1.016E+01	1.065E+03	0.0675	291.00	24	1.270E+01	1.018E+03	0.0695	291.00
25	1.524E+01	9.837E+02	0.0711	291.00	26	1.778E+01	9.570E+02	0.0725	291.00
27	2.032E+01	9.356E+02	0.0736	291.00	28	2.286E+01	9.182E+02	0.0746	291.00
29	2.540E+01	9.039E+02	0.0754	291.00	30	2.794E+01	8.918E+02	0.0761	291.00
31	3.048E+01	8.817E+02	0.0768	291.00	32	3.302E+01	8.731E+02	0.0773	291.00
33	3.556E+01	8.658E+02	0.0778	291.00	34	3.810E+01	8.597E+02	0.0782	291.00
35	4.064E+01	8.545E+02	0.0785	291.00	36	4.318E+01	8.503E+02	0.0788	291.00
37	4.572E+01	8.469E+02	0.0790	291.00	38	4.826E+01	8.219E+02	0.0505	291.00
39	5.080E+01	4.370E+02	0.0526	291.00	40	5.334E+01	4.150E+02	0.0529	291.00
41	5.588E+01	4.028E+02	0.0532	291.00	42	5.842E+01	3.963E+02	0.0533	291.00
43	6.096E+01	3.943E+02	0.0534	291.00					

Initial Water Storage = 4.1224 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03004	0.05415	0.07470	0.05332
Head (cm)	= 3.16818E+05	1.54158E+03	9.16314E+02	3.95585E+02
LiqWater Flow (cm)	=-2.70740E-03	-6.51516E-02	-2.30552E-02	4.35581E-05
IsoVapor Flow (cm)	=-6.61417E-02	-5.14889E-06	-2.00873E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.1224+	0.0254+	0.0000	- 0.0943-	0.0000-	0.0000 =	4.0535 vs.	4.0535

Mass Balance = 7.5969E-08 cm; Time step attempts = 378 and successes = 313
Evaporation: Potential = 0.2269 cm, Actual = 0.0943 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 58.8 %; TMEAN = 278.2 K; HDRY = 7.2817E+05 cm; DAYUBC = 150

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.05092	0.05129
Head (cm)	= 1.09545E+06	6.38660E+05	1.73883E+03	5.77856E+02
LiqWater Flow (cm)	=-9.13051E-13	-2.49644E-11	-2.77698E-03	1.89307E-06
IsoVapor Flow (cm)	=-7.66286E-03	-7.66534E-03	-5.48166E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9330+	0.0000+	0.0000 -	0.0077-	0.0000-	0.0000 =	2.9254 vs.	2.9254

Mass Balance = -1.4583E-05 cm; Time step attempts = 104 and successes = 92
Evaporation: Potential = 0.2881 cm, Actual = 0.0077 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 45.0 %; TMEAN = 287.3 K; HDRY = 1.0954E+06 cm; DAYUBC = 82
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	1.6824E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	1.6824E+02	[cm]
Actual Evaporation	=	2.1914E+01	[cm]
Evaporation during Growth	=	2.1914E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.1244E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9254E+00	[cm]
Mass Balance Error	=	6.4468E-03	[cm]
Total Successful Time Steps	=	64628	
Total Attempted Time Steps	=	79032	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29316	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1874E+00	0.050	1.1974E+01	0.150	9.0496E+00
0.250	6.6301E+00	0.350	5.3355E+00	0.450	4.4267E+00
0.550	3.7693E+00	0.650	3.2266E+00	0.750	2.6616E+00
0.850	2.3227E+00	0.950	1.9435E+00	1.125	1.7946E+00
1.375	1.2562E+00	1.625	8.6315E-01	1.875	6.2845E-01
2.250	3.4160E-01	2.750	3.2278E-02	3.250	-2.4696E-01
3.750	-4.4047E-01	4.250	-5.3707E-01	4.790	-6.3037E-01
6.350	-6.9429E-01	8.890	-8.0168E-01	11.430	-8.8232E-01
13.970	-8.5278E-01	16.510	-7.9317E-01	19.050	-7.3233E-01

21.590	-6.7051E-01	24.130	-6.0788E-01	26.670	-5.4453E-01
29.210	-4.8056E-01	31.750	-4.1604E-01	34.290	-3.5101E-01
36.830	-2.8552E-01	39.370	-2.1960E-01	41.910	-1.5328E-01
44.450	-8.6595E-02	46.990	-1.8745E-02	49.530	-1.3386E-02
52.070	-1.4050E-02	54.610	-9.5086E-03	57.150	-4.5982E-03
59.690	5.2643E-04	60.960	3.1244E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0006.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.095E+06	0.0300	291.00	2	1.000E-01	1.069E+06	0.0300	291.00
3	2.000E-01	1.042E+06	0.0300	291.00	4	3.000E-01	1.016E+06	0.0300	291.00
5	4.000E-01	9.910E+05	0.0300	291.00	6	5.000E-01	9.661E+05	0.0300	291.00
7	6.000E-01	9.416E+05	0.0300	291.00	8	7.000E-01	9.175E+05	0.0300	291.00
9	8.000E-01	8.939E+05	0.0300	291.00	10	9.000E-01	8.707E+05	0.0300	291.00
11	1.000E+00	8.479E+05	0.0300	291.00	12	1.250E+00	7.924E+05	0.0300	291.00
13	1.500E+00	7.392E+05	0.0300	291.00	14	1.750E+00	6.880E+05	0.0300	291.00
15	2.000E+00	6.387E+05	0.0300	291.00	16	2.500E+00	5.453E+05	0.0300	291.00
17	3.000E+00	4.584E+05	0.0300	291.00	18	3.500E+00	3.774E+05	0.0300	291.00
19	4.000E+00	3.021E+05	0.0300	291.00	20	4.500E+00	2.327E+05	0.0301	291.00
21	5.080E+00	1.610E+05	0.0301	291.00	22	7.620E+00	2.476E+03	0.0437	291.00
23	1.016E+01	2.289E+03	0.0451	291.00	24	1.270E+01	2.135E+03	0.0464	291.00
25	1.524E+01	2.021E+03	0.0475	291.00	26	1.778E+01	1.935E+03	0.0484	291.00
27	2.032E+01	1.868E+03	0.0492	291.00	28	2.286E+01	1.815E+03	0.0499	291.00
29	2.540E+01	1.773E+03	0.0504	291.00	30	2.794E+01	1.739E+03	0.0509	291.00
31	3.048E+01	1.711E+03	0.0513	291.00	32	3.302E+01	1.688E+03	0.0517	291.00
33	3.556E+01	1.669E+03	0.0520	291.00	34	3.810E+01	1.654E+03	0.0522	291.00
35	4.064E+01	1.643E+03	0.0524	291.00	36	4.318E+01	1.635E+03	0.0525	291.00
37	4.572E+01	1.629E+03	0.0526	291.00	38	4.826E+01	1.496E+03	0.0501	291.00
39	5.080E+01	6.622E+02	0.0509	291.00	40	5.334E+01	6.118E+02	0.0511	291.00
41	5.588E+01	5.906E+02	0.0512	291.00	42	5.842E+01	5.808E+02	0.0513	291.00
43	6.096E+01	5.779E+02	0.0513	291.00					

Initial Water Storage = 2.9254 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03004	0.05077	0.05129
Head (cm)	= 6.35849E+05	3.11395E+05	1.74926E+03	5.78173E+02
LiqWater Flow (cm)	= 1.78645E-02	1.90971E-04	-2.72852E-03	1.88454E-06
IsoVapor Flow (cm)	= -1.77579E-02	-1.72852E-04	-5.54616E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9254+	0.0254+	0.0000 -	0.0253-	0.0000-	0.0000 =	2.9255 vs.	2.9254

Mass Balance = 4.4408E-05 cm; Time step attempts = 811 and successes = 624
Evaporation: Potential = 0.1676 cm, Actual = 0.0253 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 62.9 %; TMEAN = 282.3 K; HDRY = 6.3585E+05 cm; DAYUBC = 241

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.09261	0.09263	0.10154	0.05135
Head (cm)	= 6.85677E+02	6.85490E+02	6.10085E+02	5.66668E+02
LiqWater Flow (cm)	=-1.08512E-01	-1.05252E-01	-4.97410E-02	2.22392E-06
IsoVapor Flow (cm)	=-3.04851E-07	-2.38710E-07	-8.39191E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
5.5066+	0.0000+	0.0000	- 0.1086-	0.0000-	0.0000	=	5.3980	vs.	5.3980

Mass Balance = -4.3711E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.1086 cm, Actual = 0.1086 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 56.1 %; TMEAN = 277.3 K; HDRY = 7.9304E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	1.7595E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	1.7595E+02	[cm]
Actual Evaporation	=	2.8430E+01	[cm]
Evaporation during Growth	=	2.8430E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0912E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.7006E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0912E+01	[cm]
Actual Rainfall	=	3.0912E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	5.3980E+00	[cm]
Mass Balance Error	=	8.6319E-03	[cm]
Total Successful Time Steps	=	62296	
Total Attempted Time Steps	=	76022	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26067	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.4821E+00	0.050	1.6708E+01	0.150	1.1206E+01
0.250	8.9840E+00	0.350	8.2230E+00	0.450	7.1662E+00
0.550	6.5934E+00	0.650	6.0607E+00	0.750	5.7087E+00
0.850	5.4123E+00	0.950	5.2061E+00	1.125	4.9689E+00
1.375	4.3168E+00	1.625	4.0015E+00	1.875	3.7471E+00
2.250	3.5586E+00	2.750	3.2090E+00	3.250	3.0660E+00
3.750	2.9731E+00	4.250	2.8857E+00	4.790	2.7982E+00
6.350	2.6304E+00	8.890	2.1398E+00	11.430	1.8909E+00
13.970	1.6933E+00	16.510	1.5663E+00	19.050	1.4396E+00

21.590	1.3128E+00	24.130	1.1854E+00	26.670	1.0575E+00
29.210	9.2884E-01	31.750	7.9942E-01	34.290	6.6921E-01
36.830	5.3820E-01	39.370	4.0636E-01	41.910	2.7369E-01
44.450	1.4019E-01	46.990	6.5258E-03	49.530	7.5061E-03
52.070	2.1639E-03	54.610	1.3783E-03	57.150	1.0614E-03
59.690	8.5569E-04	60.960	7.7006E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0007.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.857E+02	0.0926	291.00	2	1.000E-01	6.911E+02	0.0920	291.00
3	2.000E-01	6.909E+02	0.0921	291.00	4	3.000E-01	6.897E+02	0.0922	291.00
5	4.000E-01	6.887E+02	0.0923	291.00	6	5.000E-01	6.883E+02	0.0923	291.00
7	6.000E-01	6.881E+02	0.0924	291.00	8	7.000E-01	6.881E+02	0.0924	291.00
9	8.000E-01	6.881E+02	0.0924	291.00	10	9.000E-01	6.880E+02	0.0924	291.00
11	1.000E+00	6.879E+02	0.0924	291.00	12	1.250E+00	6.874E+02	0.0924	291.00
13	1.500E+00	6.867E+02	0.0925	291.00	14	1.750E+00	6.861E+02	0.0926	291.00
15	2.000E+00	6.855E+02	0.0926	291.00	16	2.500E+00	6.842E+02	0.0928	291.00
17	3.000E+00	6.829E+02	0.0929	291.00	18	3.500E+00	6.816E+02	0.0930	291.00
19	4.000E+00	6.802E+02	0.0932	291.00	20	4.500E+00	6.788E+02	0.0933	291.00
21	5.080E+00	6.772E+02	0.0935	291.00	22	7.620E+00	6.694E+02	0.0944	291.00
23	1.016E+01	6.612E+02	0.0953	291.00	24	1.270E+01	6.528E+02	0.0962	291.00
25	1.524E+01	6.446E+02	0.0972	291.00	26	1.778E+01	6.367E+02	0.0981	291.00
27	2.032E+01	6.293E+02	0.0991	291.00	28	2.286E+01	6.223E+02	0.0999	291.00
29	2.540E+01	6.159E+02	0.1008	291.00	30	2.794E+01	6.101E+02	0.1015	291.00
31	3.048E+01	6.047E+02	0.1023	291.00	32	3.302E+01	5.999E+02	0.1029	291.00
33	3.556E+01	5.955E+02	0.1035	291.00	34	3.810E+01	5.915E+02	0.1041	291.00
35	4.064E+01	5.879E+02	0.1046	291.00	36	4.318E+01	5.847E+02	0.1051	291.00
37	4.572E+01	5.818E+02	0.1055	291.00	38	4.826E+01	5.772E+02	0.0513	291.00
39	5.080E+01	5.623E+02	0.0514	291.00	40	5.334E+01	5.785E+02	0.0513	291.00
41	5.588E+01	5.754E+02	0.0513	291.00	42	5.842E+01	5.691E+02	0.0513	291.00
43	6.096E+01	5.667E+02	0.0514	291.00					

Initial Water Storage = 5.3980 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.08626	0.08757	0.09891	0.05135
Head (cm)	=	7.52257E+02	7.37488E+02	6.30543E+02	5.66947E+02
LiqWater Flow (cm)	=	-1.52222E-01	-1.40970E-01	-4.51848E-02	2.21478E-06
IsoVapor Flow (cm)	=	-7.12639E-07	-4.29849E-07	-8.70137E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.3980+	0.0000+	0.0000 -	0.1525-	0.0000-	0.0000 =	5.2455 vs.	5.2455

Mass Balance = -5.9184E-06 cm; Time step attempts = 38 and successes = 31
Evaporation: Potential = 0.1525 cm, Actual = 0.1525 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.0 %; TMEAN = 278.4 K; HDRY = 8.4505E+05 cm; DAYUBC = 0

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number          =        1           15           30           43
 Depth (cm)           =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)      =      0.13304      0.13267      0.14289      0.05216
 Head (cm)            = 4.38755E+02 4.40249E+02 4.02577E+02 4.69900E+02
 LiqWater Flow (cm)=-3.04178E-01-2.90464E-01-1.19046E-01 8.47967E-06
 IsoVapor Flow (cm)=-1.41812E-07-9.35866E-08-4.72353E-08 0.00000E+00
 Plant Sink (cm)      = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   7.6797+ 0.0000+ 0.0000 - 0.3045- 0.0000-  0.0000 =     7.3752 vs.     7.3752

 Mass Balance = -7.1212E-06 cm;  Time step attempts =   36 and successes =   30
   Evaporation:  Potential =  0.3045 cm, Actual =  0.3045 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.7 %;  TMEAN = 276.2 K;  HDRY =  9.0545E+05 cm;  DAYUBC =      0
1

------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
------------------------------------------------------------------------------

 Transpiration Scheme is:              =    1
 Potential Evapotranspiration          =  2.0246E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.0246E+02     [cm]
 Actual Evaporation                    =  2.5801E+01     [cm]
 Evaporation during Growth             =  2.5801E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.7788E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  4.5346E-04     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.7788E+01     [cm]
 Actual Rainfall                       =  2.7788E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  7.3752E+00     [cm]
 Mass Balance Error                    =  9.3912E-03     [cm]
 Total Successful Time Steps           =     71995
 Total Attempted Time Steps            =     89107
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     32917
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000    1.9870E+00      0.050    1.8253E+01      0.150    1.4104E+01
      0.250    1.2041E+01      0.350    1.0584E+01      0.450    9.4532E+00
      0.550    8.6201E+00      0.650    7.6962E+00      0.750    6.9908E+00
      0.850    6.4534E+00      0.950    5.8512E+00      1.125    5.4826E+00
      1.375    4.6024E+00      1.625    4.1584E+00      1.875    3.6640E+00
      2.250    3.3687E+00      2.750    2.7320E+00      3.250    2.4171E+00
      3.750    2.2709E+00      4.250    2.1304E+00      4.790    2.0188E+00
      6.350    1.8109E+00      8.890    1.6230E+00     11.430    1.5196E+00
     13.970    1.4164E+00     16.510    1.3131E+00     19.050    1.2097E+00
```

21.590	1.1061E+00	24.130	1.0021E+00	26.670	8.9753E-01
29.210	7.9241E-01	31.750	6.8656E-01	34.290	5.7991E-01
36.830	4.7237E-01	39.370	3.6386E-01	41.910	2.5434E-01
44.450	1.4375E-01	46.990	3.2329E-02	49.530	2.9423E-02
52.070	1.8981E-02	54.610	1.1481E-02	57.150	5.4193E-03
59.690	1.4894E-03	60.960	4.5346E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0008.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	4.388E+02	0.1330	291.00	2	1.000E-01	4.414E+02	0.1324	291.00
3	2.000E-01	4.426E+02	0.1321	291.00	4	3.000E-01	4.431E+02	0.1320	291.00
5	4.000E-01	4.431E+02	0.1319	291.00	6	5.000E-01	4.429E+02	0.1320	291.00
7	6.000E-01	4.427E+02	0.1321	291.00	8	7.000E-01	4.424E+02	0.1321	291.00
9	8.000E-01	4.421E+02	0.1322	291.00	10	9.000E-01	4.418E+02	0.1323	291.00
11	1.000E+00	4.416E+02	0.1323	291.00	12	1.250E+00	4.412E+02	0.1324	291.00
13	1.500E+00	4.409E+02	0.1325	291.00	14	1.750E+00	4.406E+02	0.1326	291.00
15	2.000E+00	4.402E+02	0.1327	291.00	16	2.500E+00	4.395E+02	0.1328	291.00
17	3.000E+00	4.388E+02	0.1330	291.00	18	3.500E+00	4.381E+02	0.1332	291.00
19	4.000E+00	4.374E+02	0.1334	291.00	20	4.500E+00	4.367E+02	0.1336	291.00
21	5.080E+00	4.358E+02	0.1338	291.00	22	7.620E+00	4.321E+02	0.1347	291.00
23	1.016E+01	4.284E+02	0.1357	291.00	24	1.270E+01	4.246E+02	0.1367	291.00
25	1.524E+01	4.208E+02	0.1377	291.00	26	1.778E+01	4.171E+02	0.1388	291.00
27	2.032E+01	4.133E+02	0.1398	291.00	28	2.286E+01	4.097E+02	0.1408	291.00
29	2.540E+01	4.061E+02	0.1419	291.00	30	2.794E+01	4.026E+02	0.1429	291.00
31	3.048E+01	3.992E+02	0.1439	291.00	32	3.302E+01	3.959E+02	0.1449	291.00
33	3.556E+01	3.928E+02	0.1458	291.00	34	3.810E+01	3.897E+02	0.1468	291.00
35	4.064E+01	3.868E+02	0.1477	291.00	36	4.318E+01	3.840E+02	0.1486	291.00
37	4.572E+01	3.813E+02	0.1494	291.00	38	4.826E+01	3.778E+02	0.0537	291.00
39	5.080E+01	3.583E+02	0.0543	291.00	40	5.334E+01	3.626E+02	0.0541	291.00
41	5.588E+01	3.811E+02	0.0536	291.00	42	5.842E+01	4.198E+02	0.0529	291.00
43	6.096E+01	4.699E+02	0.0522	291.00					

Initial Water Storage = 7.3752 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.12783	0.12941	0.13846	0.05241
Head (cm)	=	4.60399E+02	4.53622E+02	4.18178E+02	4.49589E+02
LiqWater Flow (cm)	=	-1.98501E-01	-1.91504E-01	-8.68419E-02	1.26202E-05
IsoVapor Flow (cm)	=	-1.24803E-07	-8.01491E-08	-4.70250E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
7.3752+	0.0000+	0.0000 -	0.1988-	0.0000-	0.0000 =	7.1764 vs.	7.1764

Mass Balance = -5.6072E-06 cm; Time step attempts = 26 and successes = 25
Evaporation: Potential = 0.1988 cm, Actual = 0.1988 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 56.6 %; TMEAN = 276.8 K; HDRY = 7.8041E+05 cm; DAYUBC = 0

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03003	0.05751	0.05131
Head (cm)	= 1.69120E+06	3.73731E+05	1.38180E+03	5.74967E+02
LiqWater Flow (cm)	=-3.83054E-13	-1.49703E-09	-6.28815E-03	1.97402E-06
IsoVapor Flow (cm)	=-1.71316E-02	-1.71309E-02	-3.98883E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.2469+	0.0000+	0.0000 -	0.0171-	0.0000-	0.0000 =	3.2297 vs.	3.2297

Mass Balance = -2.2891E-07 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.2739 cm, Actual = 0.0171 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 29.1 %; TMEAN = 275.4 K; HDRY = 1.6912E+06 cm; DAYUBC = 24
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.1177E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.1177E+02	[cm]
Actual Evaporation	=	3.2227E+01	[cm]
Evaporation during Growth	=	3.2210E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.8092E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.4478E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.8092E+01	[cm]
Actual Rainfall	=	2.8092E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2297E+00	[cm]
Mass Balance Error	=	6.9299E-03	[cm]
Total Successful Time Steps	=	60264	
Total Attempted Time Steps	=	73757	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26874	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.1351E+00	0.050	1.3672E+01	0.150	6.6669E+00
0.250	3.9942E+00	0.350	2.5903E+00	0.450	1.6421E+00
0.550	9.5366E-01	0.650	3.9766E-01	0.750	2.6490E-02
0.850	-4.7367E-01	0.950	-7.9585E-01	1.125	-1.1217E+00
1.375	-1.8531E+00	1.625	-2.0956E+00	1.875	-2.2600E+00
2.250	-2.3485E+00	2.750	-2.6135E+00	3.250	-2.8808E+00
3.750	-3.0043E+00	4.250	-3.1057E+00	4.790	-3.1815E+00
6.350	-3.1882E+00	8.890	-3.2190E+00	11.430	-3.0950E+00
13.970	-2.8814E+00	16.510	-2.6677E+00	19.050	-2.4540E+00

21.590	-2.2400E+00	24.130	-2.0253E+00	26.670	-1.8096E+00
29.210	-1.5929E+00	31.750	-1.3748E+00	34.290	-1.1553E+00
36.830	-9.3428E-01	39.370	-7.1160E-01	41.910	-4.8721E-01
44.450	-2.6103E-01	46.990	-3.2270E-02	49.530	-1.9435E-02
52.070	-1.5254E-02	54.610	-7.6898E-03	57.150	-1.5931E-03
59.690	2.3764E-03	60.960	3.4478E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0009.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.691E+06	0.0300	291.00	2	1.000E-01	1.585E+06	0.0300	291.00
3	2.000E-01	1.486E+06	0.0300	291.00	4	3.000E-01	1.394E+06	0.0300	291.00
5	4.000E-01	1.308E+06	0.0300	291.00	6	5.000E-01	1.227E+06	0.0300	291.00
7	6.000E-01	1.150E+06	0.0300	291.00	8	7.000E-01	1.077E+06	0.0300	291.00
9	8.000E-01	1.008E+06	0.0300	291.00	10	9.000E-01	9.427E+05	0.0300	291.00
11	1.000E+00	8.801E+05	0.0300	291.00	12	1.250E+00	7.349E+05	0.0300	291.00
13	1.500E+00	6.036E+05	0.0300	291.00	14	1.750E+00	4.839E+05	0.0300	291.00
15	2.000E+00	3.737E+05	0.0300	291.00	16	2.500E+00	1.768E+05	0.0301	291.00
17	3.000E+00	3.936E+03	0.0379	291.00	18	3.500E+00	3.017E+03	0.0408	291.00
19	4.000E+00	2.675E+03	0.0425	291.00	20	4.500E+00	2.472E+03	0.0437	291.00
21	5.080E+00	2.312E+03	0.0449	291.00	22	7.620E+00	1.947E+03	0.0483	291.00
23	1.016E+01	1.771E+03	0.0505	291.00	24	1.270E+01	1.660E+03	0.0521	291.00
25	1.524E+01	1.581E+03	0.0534	291.00	26	1.778E+01	1.522E+03	0.0545	291.00
27	2.032E+01	1.475E+03	0.0555	291.00	28	2.286E+01	1.438E+03	0.0562	291.00
29	2.540E+01	1.407E+03	0.0569	291.00	30	2.794E+01	1.382E+03	0.0575	291.00
31	3.048E+01	1.361E+03	0.0580	291.00	32	3.302E+01	1.344E+03	0.0584	291.00
33	3.556E+01	1.329E+03	0.0588	291.00	34	3.810E+01	1.318E+03	0.0591	291.00
35	4.064E+01	1.309E+03	0.0593	291.00	36	4.318E+01	1.302E+03	0.0595	291.00
37	4.572E+01	1.298E+03	0.0596	291.00	38	4.826E+01	1.251E+03	0.0502	291.00
39	5.080E+01	6.679E+02	0.0509	291.00	40	5.334E+01	6.143E+02	0.0511	291.00
41	5.588E+01	5.901E+02	0.0512	291.00	42	5.842E+01	5.785E+02	0.0513	291.00
43	6.096E+01	5.750E+02	0.0513	291.00					

Initial Water Storage = 3.2297 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03003	0.05718	0.05130
Head (cm)	= 1.58175E+06	3.60289E+05	1.39594E+03	5.75357E+02
LiqWater Flow (cm)	=-4.85239E-13	-1.70335E-09	-6.09103E-03	1.96301E-06
IsoVapor Flow (cm)	=-1.65300E-02	-1.65328E-02	-4.05995E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.2297+	0.0000+	0.0000	- 0.0165-	0.0000-	0.0000 =	3.2132 vs.	3.2132

Mass Balance = 5.7305E-07 cm; Time step attempts = 52 and successes = 50
Evaporation: Potential = 0.3709 cm, Actual = 0.0165 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 31.5 %; TMEAN = 279.0 K; HDRY = 1.5817E+06 cm; DAYUBC = 49

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03004	0.04815	0.04642	0.05082
Head (cm)	=	3.11161E+05	1.95864E+03	2.12947E+03	6.91099E+02
LiqWater Flow (cm)	=	-2.17466E-02	-3.25097E-02	-1.07894E-03	4.32304E-07
IsoVapor Flow (cm)	=	-4.65503E-02	-5.65500E-06	-6.21370E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.0732+	0.0000+	0.0000	- 0.0698-	0.0000-	0.0000	=	3.0034	vs.	3.0035

Mass Balance = -5.2274E-05 cm; Time step attempts = 298 and successes = 238
Evaporation: Potential = 0.1522 cm, Actual = 0.0698 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 68.7 %; TMEAN = 277.0 K; HDRY = 5.1474E+05 cm; DAYUBC = 166
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3264E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3264E+02	[cm]
Actual Evaporation	=	1.8658E+01	[cm]
Evaporation during Growth	=	1.8658E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8440E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.3701E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8440E+01	[cm]
Actual Rainfall	=	1.8440E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0035E+00	[cm]
Mass Balance Error	=	7.8597E-03	[cm]
Total Successful Time Steps	=	59210	
Total Attempted Time Steps	=	72423	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29280	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.1809E-01	0.050	1.2103E+01	0.150	8.5466E+00
0.250	7.1667E+00	0.350	6.4320E+00	0.450	5.8284E+00
0.550	5.3084E+00	0.650	4.8477E+00	0.750	4.4997E+00
0.850	4.0532E+00	0.950	3.8003E+00	1.125	3.5965E+00
1.375	3.0781E+00	1.625	2.6908E+00	1.875	2.4113E+00
2.250	2.1305E+00	2.750	1.4731E+00	3.250	1.1495E+00
3.750	9.0458E-01	4.250	7.0452E-01	4.790	5.1583E-01
6.350	2.4803E-01	8.890	-2.4176E-01	11.430	-3.1929E-01
13.970	-3.2296E-01	16.510	-3.1973E-01	19.050	-3.0931E-01

21.590	-2.9197E-01	24.130	-2.6909E-01	26.670	-2.4275E-01
29.210	-2.1465E-01	31.750	-1.8570E-01	34.290	-1.5628E-01
36.830	-1.2652E-01	39.370	-9.6523E-02	41.910	-6.6318E-02
44.450	-3.5948E-02	46.990	-4.9404E-03	49.530	-6.0057E-04
52.070	-3.1124E-03	54.610	-2.3936E-03	57.150	-1.3573E-03
59.690	-2.3591E-04	60.960	3.3701E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0010.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.112E+05	0.0300	291.00	2	1.000E-01	2.118E+05	0.0301	291.00
3	2.000E-01	1.346E+05	0.0301	291.00	4	3.000E-01	6.180E+04	0.0303	291.00
5	4.000E-01	2.783E+03	0.0419	291.00	6	5.000E-01	2.656E+03	0.0426	291.00
7	6.000E-01	2.554E+03	0.0432	291.00	8	7.000E-01	2.470E+03	0.0438	291.00
9	8.000E-01	2.399E+03	0.0442	291.00	10	9.000E-01	2.337E+03	0.0447	291.00
11	1.000E+00	2.284E+03	0.0451	291.00	12	1.250E+00	2.173E+03	0.0460	291.00
13	1.500E+00	2.087E+03	0.0468	291.00	14	1.750E+00	2.017E+03	0.0475	291.00
15	2.000E+00	1.959E+03	0.0482	291.00	16	2.500E+00	1.867E+03	0.0492	291.00
17	3.000E+00	1.797E+03	0.0501	291.00	18	3.500E+00	1.743E+03	0.0509	291.00
19	4.000E+00	1.699E+03	0.0515	291.00	20	4.500E+00	1.664E+03	0.0520	291.00
21	5.080E+00	1.632E+03	0.0526	291.00	22	7.620E+00	1.557E+03	0.0539	291.00
23	1.016E+01	1.549E+03	0.0540	291.00	24	1.270E+01	1.586E+03	0.0533	291.00
25	1.524E+01	1.664E+03	0.0520	291.00	26	1.778E+01	1.779E+03	0.0504	291.00
27	2.032E+01	1.921E+03	0.0486	291.00	28	2.286E+01	2.049E+03	0.0472	291.00
29	2.540E+01	2.119E+03	0.0465	291.00	30	2.794E+01	2.129E+03	0.0464	291.00
31	3.048E+01	2.111E+03	0.0466	291.00	32	3.302E+01	2.085E+03	0.0468	291.00
33	3.556E+01	2.061E+03	0.0471	291.00	34	3.810E+01	2.041E+03	0.0473	291.00
35	4.064E+01	2.025E+03	0.0474	291.00	36	4.318E+01	2.014E+03	0.0476	291.00
37	4.572E+01	2.007E+03	0.0476	291.00	38	4.826E+01	1.760E+03	0.0501	291.00
39	5.080E+01	9.626E+02	0.0504	291.00	40	5.334E+01	7.624E+02	0.0506	291.00
41	5.588E+01	7.144E+02	0.0508	291.00	42	5.842E+01	6.961E+02	0.0508	291.00
43	6.096E+01	6.911E+02	0.0508	291.00					

Initial Water Storage = 3.0035 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03003	0.04433	0.04700	0.05082
Head (cm)	=	4.27621E+05	2.38606E+03	2.06899E+03	6.91354E+02
LiqWater Flow (cm)	=	-3.32952E-07	-2.49743E-02	7.75672E-05	4.30994E-07
IsoVapor Flow (cm)	=	-3.61939E-02	-1.26049E-05	-1.84241E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.0035	+ 0.0000	+ 0.0000	- 0.0362	- 0.0000	- 0.0000	=	2.9673	vs.	2.9673

Mass Balance = -3.0095E-05 cm; Time step attempts = 318 and successes = 251
Evaporation: Potential = 0.1096 cm, Actual = 0.0362 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 68.0 %; TMEAN = 275.1 K; HDRY = 5.2872E+05 cm; DAYUBC = 170

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.04324	0.05962	0.05251
Head (cm)	= 9.10457E+05	2.54924E+03	1.29847E+03	4.42705E+02
LiqWater Flow (cm)	=-1.02704E-11	-2.64541E-02	-3.64555E-03	1.70986E-05
IsoVapor Flow (cm)	=-3.09268E-02	-2.14233E-05	-2.00187E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.4146+	0.0000+	0.0000	- 0.0309-	0.0000-	0.0000 =	3.3836 vs.	3.3836

Mass Balance = -1.9041E-05 cm; Time step attempts = 111 and successes = 88
Evaporation: Potential = 0.7051 cm, Actual = 0.0309 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.5 %; TMEAN = 281.2 K; HDRY = 9.1046E+05 cm; DAYUBC = 88
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3364E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3364E+02	[cm]
Actual Evaporation	=	3.2247E+01	[cm]
Evaporation during Growth	=	3.2247E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2639E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.7463E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2639E+01	[cm]
Actual Rainfall	=	3.2639E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3836E+00	[cm]
Mass Balance Error	=	7.9122E-03	[cm]
Total Successful Time Steps	=	60334	
Total Attempted Time Steps	=	74157	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27544	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.9184E-01	0.050	1.3536E+01	0.150	9.0115E+00
0.250	7.4332E+00	0.350	6.3013E+00	0.450	5.5627E+00
0.550	4.5897E+00	0.650	4.2546E+00	0.750	3.8988E+00
0.850	3.6805E+00	0.950	3.4544E+00	1.125	3.1936E+00
1.375	2.5418E+00	1.625	2.2974E+00	1.875	2.0417E+00
2.250	1.8269E+00	2.750	1.6042E+00	3.250	1.4617E+00
3.750	1.3472E+00	4.250	1.2117E+00	4.790	1.1047E+00
6.350	9.4128E-01	8.890	6.3171E-01	11.430	5.3986E-01
13.970	4.4999E-01	16.510	4.0063E-01	19.050	3.8182E-01

21.590	3.5698E-01	24.130	3.2732E-01	26.670	2.9487E-01
29.210	2.6125E-01	31.750	2.2728E-01	34.290	1.9327E-01
36.830	1.5929E-01	39.370	1.2534E-01	41.910	9.1378E-02
44.450	5.7363E-02	46.990	2.4096E-02	49.530	2.6763E-02
52.070	2.0141E-02	54.610	1.4788E-02	57.150	1.0234E-02
59.690	5.8769E-03	60.960	3.7463E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0011.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.105E+05	0.0300	291.00	2	1.000E-01	8.113E+05	0.0300	291.00
3	2.000E-01	7.189E+05	0.0300	291.00	4	3.000E-01	6.323E+05	0.0300	291.00
5	4.000E-01	5.508E+05	0.0300	291.00	6	5.000E-01	4.739E+05	0.0300	291.00
7	6.000E-01	4.011E+05	0.0300	291.00	8	7.000E-01	3.320E+05	0.0300	291.00
9	8.000E-01	2.661E+05	0.0301	291.00	10	9.000E-01	2.033E+05	0.0301	291.00
11	1.000E+00	1.433E+05	0.0301	291.00	12	1.250E+00	3.784E+03	0.0383	291.00
13	1.500E+00	3.062E+03	0.0406	291.00	14	1.750E+00	2.745E+03	0.0421	291.00
15	2.000E+00	2.549E+03	0.0432	291.00	16	2.500E+00	2.303E+03	0.0450	291.00
17	3.000E+00	2.147E+03	0.0463	291.00	18	3.500E+00	2.036E+03	0.0473	291.00
19	4.000E+00	1.951E+03	0.0482	291.00	20	4.500E+00	1.882E+03	0.0490	291.00
21	5.080E+00	1.818E+03	0.0498	291.00	22	7.620E+00	1.634E+03	0.0525	291.00
23	1.016E+01	1.530E+03	0.0544	291.00	24	1.270E+01	1.462E+03	0.0557	291.00
25	1.524E+01	1.413E+03	0.0568	291.00	26	1.778E+01	1.378E+03	0.0576	291.00
27	2.032E+01	1.351E+03	0.0583	291.00	28	2.286E+01	1.329E+03	0.0588	291.00
29	2.540E+01	1.312E+03	0.0593	291.00	30	2.794E+01	1.298E+03	0.0596	291.00
31	3.048E+01	1.287E+03	0.0599	291.00	32	3.302E+01	1.277E+03	0.0602	291.00
33	3.556E+01	1.269E+03	0.0604	291.00	34	3.810E+01	1.263E+03	0.0606	291.00
35	4.064E+01	1.257E+03	0.0608	291.00	36	4.318E+01	1.252E+03	0.0609	291.00
37	4.572E+01	1.249E+03	0.0610	291.00	38	4.826E+01	1.169E+03	0.0502	291.00
39	5.080E+01	4.771E+02	0.0521	291.00	40	5.334E+01	4.600E+02	0.0523	291.00
41	5.588E+01	4.499E+02	0.0524	291.00	42	5.842E+01	4.445E+02	0.0525	291.00
43	6.096E+01	4.427E+02	0.0525	291.00					

Initial Water Storage = 3.3836 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.04190	0.05927	0.05250
Head (cm)	= 9.43756E+05	2.78792E+03	1.31169E+03	4.43362E+02
LiqWater Flow (cm)	=-7.10852E-12	-2.30138E-02	-4.36761E-03	1.68901E-05
IsoVapor Flow (cm)	=-2.65028E-02	-2.87317E-05	-2.38204E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.3836+	0.0000+	0.0000	- 0.0265-	0.0000-	0.0000 =	3.3571 vs.	3.3571

Mass Balance = -1.2144E-05 cm; Time step attempts = 71 and successes = 57
Evaporation: Potential = 0.2429 cm, Actual = 0.0265 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 50.2 %; TMEAN = 280.4 K; HDRY = 9.4376E+05 cm; DAYUBC = 57

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.15707	0.15895	0.17066	0.05369
Head (cm)	=	3.58954E+02	3.53767E+02	3.24089E+02	3.79254E+02
LiqWater Flow (cm)	=	-3.77552E-01	-3.60581E-01	-1.48479E-01	3.64790E-05
IsoVapor Flow (cm)	=	-7.60675E-08	-5.56633E-08	-3.60761E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
9.0847+	0.0000+	0.0000	- 0.3780-	0.0000-	0.0000 =	8.7067 vs.	8.7067

Mass Balance = -8.1746E-06 cm; Time step attempts = 34 and successes = 29
Evaporation: Potential = 0.3780 cm, Actual = 0.3780 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 46.6 %; TMEAN = 282.3 K; HDRY = 1.0455E+06 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.2682E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.2682E+02	[cm]
Actual Evaporation	=	2.6112E+01	[cm]
Evaporation during Growth	=	2.6112E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.1445E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.8968E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.1445E+01	[cm]
Actual Rainfall	=	3.1445E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	8.7067E+00	[cm]
Mass Balance Error	=	8.7327E-03	[cm]
Total Successful Time Steps	=	61509	
Total Attempted Time Steps	=	75089	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27750	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.3337E+00	0.050	2.0088E+01	0.150	1.5396E+01
0.250	1.3132E+01	0.350	1.1853E+01	0.450	1.0885E+01
0.550	1.0141E+01	0.650	9.5340E+00	0.750	8.9297E+00
0.850	8.6235E+00	0.950	8.2697E+00	1.125	8.0785E+00
1.375	7.5415E+00	1.625	7.1506E+00	1.875	6.7626E+00
2.250	6.5216E+00	2.750	5.9746E+00	3.250	5.6911E+00
3.750	5.5370E+00	4.250	5.4007E+00	4.790	5.2940E+00
6.350	5.0407E+00	8.890	4.5393E+00	11.430	4.0777E+00
13.970	3.7667E+00	16.510	3.4918E+00	19.050	3.2162E+00

21.590	2.9394E+00	24.130	2.6611E+00	26.670	2.3810E+00
29.210	2.0989E+00	31.750	1.8146E+00	34.290	1.5279E+00
36.830	1.2389E+00	39.370	9.4738E-01	41.910	6.5327E-01
44.450	3.5650E-01	46.990	5.7712E-02	49.530	4.5929E-02
52.070	2.9175E-02	54.610	1.8110E-02	57.150	9.2311E-03
59.690	3.4104E-03	60.960	1.8968E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0012.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.590E+02	0.1571	291.00	2	1.000E-01	3.570E+02	0.1578	291.00
3	2.000E-01	3.558E+02	0.1582	291.00	4	3.000E-01	3.552E+02	0.1584	291.00
5	4.000E-01	3.548E+02	0.1586	291.00	6	5.000E-01	3.547E+02	0.1586	291.00
7	6.000E-01	3.546E+02	0.1586	291.00	8	7.000E-01	3.546E+02	0.1586	291.00
9	8.000E-01	3.547E+02	0.1586	291.00	10	9.000E-01	3.547E+02	0.1586	291.00
11	1.000E+00	3.547E+02	0.1586	291.00	12	1.250E+00	3.546E+02	0.1586	291.00
13	1.500E+00	3.544E+02	0.1587	291.00	14	1.750E+00	3.541E+02	0.1588	291.00
15	2.000E+00	3.538E+02	0.1590	291.00	16	2.500E+00	3.531E+02	0.1592	291.00
17	3.000E+00	3.525E+02	0.1594	291.00	18	3.500E+00	3.519E+02	0.1596	291.00
19	4.000E+00	3.513E+02	0.1598	291.00	20	4.500E+00	3.508E+02	0.1601	291.00
21	5.080E+00	3.501E+02	0.1603	291.00	22	7.620E+00	3.471E+02	0.1614	291.00
23	1.016E+01	3.442E+02	0.1626	291.00	24	1.270E+01	3.412E+02	0.1637	291.00
25	1.524E+01	3.383E+02	0.1648	291.00	26	1.778E+01	3.354E+02	0.1660	291.00
27	2.032E+01	3.326E+02	0.1671	291.00	28	2.286E+01	3.297E+02	0.1683	291.00
29	2.540E+01	3.269E+02	0.1695	291.00	30	2.794E+01	3.241E+02	0.1707	291.00
31	3.048E+01	3.213E+02	0.1718	291.00	32	3.302E+01	3.186E+02	0.1730	291.00
33	3.556E+01	3.159E+02	0.1742	291.00	34	3.810E+01	3.132E+02	0.1754	291.00
35	4.064E+01	3.106E+02	0.1766	291.00	36	4.318E+01	3.080E+02	0.1777	291.00
37	4.572E+01	3.054E+02	0.1789	291.00	38	4.826E+01	3.026E+02	0.0565	291.00
39	5.080E+01	2.961E+02	0.0568	291.00	40	5.334E+01	3.007E+02	0.0566	291.00
41	5.588E+01	3.147E+02	0.0559	291.00	42	5.842E+01	3.425E+02	0.0548	291.00
43	6.096E+01	3.793E+02	0.0537	291.00					

Initial Water Storage = 8.7067 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.15256	0.15213	0.16320	0.05457
Head (cm)	= 3.71931E+02	3.73194E+02	3.42502E+02	3.48087E+02
LiqWater Flow (cm)	=-3.49305E-01	-3.34145E-01	-1.40576E-01	9.19899E-05
IsoVapor Flow (cm)	=-9.41837E-08	-6.17739E-08	-3.84963E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
8.7067+	0.0000+	0.0000 -	0.3495-	0.0000-	0.0001 =	8.3571 vs.	8.3571

Mass Balance = -7.7757E-06 cm; Time step attempts = 34 and successes = 29
Evaporation: Potential = 0.3495 cm, Actual = 0.3495 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 47.7 %; TMEAN = 279.8 K; HDRY = 1.0133E+06 cm; DAYUBC = 0

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.07299	0.07212	0.06535	0.05152
Head (cm)	=	9.47286E+02	9.63861E+02	1.11855E+03	5.41186E+02
LiqWater Flow (cm)	=	3.02607E-01	2.31917E-01	-9.83268E-03	3.25272E-06
IsoVapor Flow (cm)	=	2.57746E-05	5.87700E-07	-2.52396E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.5936+	0.3048+	0.0000	- 0.0000-	0.0000-	0.0000 =	3.8984 vs.	3.8982

Mass Balance = 2.5611E-04 cm; Time step attempts = 573 and successes = 453
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 93.5 %; TMEAN = 282.6 K; HDRY = 9.2552E+04 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3127E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3127E+02	[cm]
Actual Evaporation	=	3.3746E+01	[cm]
Evaporation during Growth	=	3.3746E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.8956E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.7243E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.8956E+01	[cm]
Actual Rainfall	=	2.8956E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8982E+00	[cm]
Mass Balance Error	=	9.1493E-03	[cm]
Total Successful Time Steps	=	71675	
Total Attempted Time Steps	=	88549	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32602	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7896E+00	0.050	1.0387E+01	0.150	6.1767E+00
0.250	4.3912E+00	0.350	3.2769E+00	0.450	2.2048E+00
0.550	1.5750E+00	0.650	1.0177E+00	0.750	3.5011E-01
0.850	-1.6523E-01	0.950	-5.8965E-01	1.125	-8.4044E-01
1.375	-1.5629E+00	1.625	-2.0547E+00	1.875	-2.5982E+00
2.250	-3.0985E+00	2.750	-3.5501E+00	3.250	-3.8608E+00
3.750	-4.0628E+00	4.250	-4.1449E+00	4.790	-4.2281E+00
6.350	-4.2075E+00	8.890	-4.0121E+00	11.430	-3.7783E+00
13.970	-3.5389E+00	16.510	-3.2937E+00	19.050	-3.0428E+00

21.590	-2.7867E+00	24.130	-2.5261E+00	26.670	-2.2618E+00
29.210	-1.9944E+00	31.750	-1.7244E+00	34.290	-1.4521E+00
36.830	-1.1776E+00	39.370	-9.0083E-01	41.910	-6.2172E-01
44.450	-3.4017E-01	46.990	-5.5450E-02	49.530	-3.5566E-02
52.070	-2.5726E-02	54.610	-1.2488E-02	57.150	-1.2675E-03
59.690	6.9786E-03	60.960	9.7243E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0013.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.473E+02	0.0730	291.00	2	1.000E-01	9.728E+02	0.0717	291.00
3	2.000E-01	9.659E+02	0.0720	291.00	4	3.000E-01	9.626E+02	0.0722	291.00
5	4.000E-01	9.627E+02	0.0722	291.00	6	5.000E-01	9.634E+02	0.0721	291.00
7	6.000E-01	9.638E+02	0.0721	291.00	8	7.000E-01	9.637E+02	0.0721	291.00
9	8.000E-01	9.636E+02	0.0721	291.00	10	9.000E-01	9.635E+02	0.0721	291.00
11	1.000E+00	9.634E+02	0.0721	291.00	12	1.250E+00	9.635E+02	0.0721	291.00
13	1.500E+00	9.636E+02	0.0721	291.00	14	1.750E+00	9.637E+02	0.0721	291.00
15	2.000E+00	9.639E+02	0.0721	291.00	16	2.500E+00	9.644E+02	0.0721	291.00
17	3.000E+00	9.651E+02	0.0721	291.00	18	3.500E+00	9.661E+02	0.0720	291.00
19	4.000E+00	9.673E+02	0.0719	291.00	20	4.500E+00	9.688E+02	0.0719	291.00
21	5.080E+00	9.707E+02	0.0718	291.00	22	7.620E+00	9.828E+02	0.0712	291.00
23	1.016E+01	1.000E+03	0.0703	291.00	24	1.270E+01	1.022E+03	0.0693	291.00
25	1.524E+01	1.047E+03	0.0682	291.00	26	1.778E+01	1.072E+03	0.0671	291.00
27	2.032E+01	1.095E+03	0.0663	291.00	28	2.286E+01	1.110E+03	0.0657	291.00
29	2.540E+01	1.118E+03	0.0654	291.00	30	2.794E+01	1.119E+03	0.0653	291.00
31	3.048E+01	1.114E+03	0.0655	291.00	32	3.302E+01	1.107E+03	0.0658	291.00
33	3.556E+01	1.099E+03	0.0661	291.00	34	3.810E+01	1.091E+03	0.0664	291.00
35	4.064E+01	1.085E+03	0.0667	291.00	36	4.318E+01	1.079E+03	0.0669	291.00
37	4.572E+01	1.075E+03	0.0670	291.00	38	4.826E+01	1.048E+03	0.0503	291.00
39	5.080E+01	6.048E+02	0.0512	291.00	40	5.334E+01	5.688E+02	0.0513	291.00
41	5.588E+01	5.520E+02	0.0514	291.00	42	5.842E+01	5.438E+02	0.0515	291.00
43	6.096E+01	5.412E+02	0.0515	291.00					

Initial Water Storage = 3.8982 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.09416	0.09235	0.07960	0.05152
Head (cm)	=	6.71162E+02	6.88136E+02	8.38317E+02	5.41561E+02
LiqWater Flow (cm)	=	6.59344E-01	6.14996E-01	9.14720E-02	3.23421E-06
IsoVapor Flow (cm)	=	-2.34383E-07	1.39704E-07	6.87867E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.8982+	0.6604+	0.0000 -	0.0000-	0.0000-	0.0000 =	4.5586 vs.	4.5584

Mass Balance = 1.4305E-04 cm; Time step attempts = 242 and successes = 211
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 94.0 %; TMEAN = 279.8 K; HDRY = 8.4704E+04 cm; DAYUBC = 0

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03039	0.05127	0.06544	0.05091
Head (cm)	=	4.78496E+04	1.71474E+03	1.11615E+03	6.63452E+02
LiqWater Flow (cm)	=	-2.08614E-02	-5.86274E-02	9.75873E-03	6.05455E-07
IsoVapor Flow (cm)	=	-4.68625E-02	-6.67209E-06	1.42477E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR	STORAGE
3.7247+	0.0000+	0.0000	- 0.0677-	0.0000-	0.0000	=	3.6570 vs.	3.6570

Mass Balance = 3.6631E-07 cm; Time step attempts = 419 and successes = 330
Evaporation: Potential = 0.1536 cm, Actual = 0.0677 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 71.4 %; TMEAN = 279.5 K; HDRY = 4.6240E+05 cm; DAYUBC = 134
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5767E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5767E+02	[cm]
Actual Evaporation	=	2.4693E+01	[cm]
Evaporation during Growth	=	2.4693E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4460E+01	[cm]
Total Basal Liquid Flux (drainage)	=	5.1785E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4460E+01	[cm]
Actual Rainfall	=	2.4460E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.6570E+00	[cm]
Mass Balance Error	=	8.1240E-03	[cm]
Total Successful Time Steps	=	67372	
Total Attempted Time Steps	=	82670	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31232	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.3254E-01	0.050	1.6289E+01	0.150	1.0787E+01
0.250	8.7402E+00	0.350	7.5324E+00	0.450	6.2338E+00
0.550	5.3408E+00	0.650	4.4489E+00	0.750	3.8596E+00
0.850	3.4360E+00	0.950	3.1649E+00	1.125	2.9737E+00
1.375	2.2980E+00	1.625	1.8941E+00	1.875	1.4721E+00
2.250	1.2438E+00	2.750	1.0049E+00	3.250	8.2267E-01
3.750	6.8954E-01	4.250	5.2070E-01	4.790	4.0800E-01
6.350	3.0328E-01	8.890	1.2400E-01	11.430	1.7210E-02
13.970	-3.3765E-02	16.510	-3.9875E-02	19.050	-3.3881E-02

21.590	-3.1124E-02	24.130	-3.0485E-02	26.670	-3.0812E-02
29.210	-3.1125E-02	31.750	-3.0759E-02	34.290	-2.9314E-02
36.830	-2.6656E-02	39.370	-2.2828E-02	41.910	-1.8009E-02
44.450	-1.2469E-02	46.990	-5.9269E-03	49.530	-2.0167E-03
52.070	-4.2756E-03	54.610	-3.0760E-03	57.150	-1.6762E-03
59.690	-2.1907E-04	60.960	5.1785E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0014.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	4.785E+04	0.0304	291.00	2	1.000E-01	2.372E+03	0.0444	291.00
3	2.000E-01	2.307E+03	0.0449	291.00	4	3.000E-01	2.249E+03	0.0454	291.00
5	4.000E-01	2.195E+03	0.0458	291.00	6	5.000E-01	2.146E+03	0.0463	291.00
7	6.000E-01	2.101E+03	0.0467	291.00	8	7.000E-01	2.059E+03	0.0471	291.00
9	8.000E-01	2.021E+03	0.0475	291.00	10	9.000E-01	1.985E+03	0.0479	291.00
11	1.000E+00	1.952E+03	0.0482	291.00	12	1.250E+00	1.878E+03	0.0491	291.00
13	1.500E+00	1.816E+03	0.0499	291.00	14	1.750E+00	1.762E+03	0.0506	291.00
15	2.000E+00	1.715E+03	0.0513	291.00	16	2.500E+00	1.637E+03	0.0525	291.00
17	3.000E+00	1.574E+03	0.0536	291.00	18	3.500E+00	1.523E+03	0.0545	291.00
19	4.000E+00	1.480E+03	0.0554	291.00	20	4.500E+00	1.443E+03	0.0561	291.00
21	5.080E+00	1.407E+03	0.0569	291.00	22	7.620E+00	1.294E+03	0.0597	291.00
23	1.016E+01	1.228E+03	0.0617	291.00	24	1.270E+01	1.185E+03	0.0630	291.00
25	1.524E+01	1.156E+03	0.0640	291.00	26	1.778E+01	1.137E+03	0.0647	291.00
27	2.032E+01	1.125E+03	0.0651	291.00	28	2.286E+01	1.119E+03	0.0653	291.00
29	2.540E+01	1.116E+03	0.0654	291.00	30	2.794E+01	1.116E+03	0.0654	291.00
31	3.048E+01	1.119E+03	0.0653	291.00	32	3.302E+01	1.123E+03	0.0652	291.00
33	3.556E+01	1.127E+03	0.0650	291.00	34	3.810E+01	1.131E+03	0.0649	291.00
35	4.064E+01	1.135E+03	0.0647	291.00	36	4.318E+01	1.137E+03	0.0647	291.00
37	4.572E+01	1.136E+03	0.0647	291.00	38	4.826E+01	1.147E+03	0.0502	291.00
39	5.080E+01	8.289E+02	0.0505	291.00	40	5.334E+01	7.197E+02	0.0507	291.00
41	5.588E+01	6.831E+02	0.0508	291.00	42	5.842E+01	6.678E+02	0.0509	291.00
43	6.096E+01	6.635E+02	0.0509	291.00					

Initial Water Storage = 3.6570 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04838	0.06465	0.05091
Head (cm)	=	5.17570E+05	1.93851E+03	1.13743E+03	6.63711E+02
LiqWater Flow (cm)	=	-1.65789E-03	-4.60372E-02	1.25187E-03	6.03511E-07
IsoVapor Flow (cm)	=	-5.74515E-02	-9.67754E-06	-2.23098E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.6570+	0.0000+	0.0000	- 0.0591-	0.0000-	0.0000 =	3.5979 vs.	3.5979

Mass Balance = -4.3346E-05 cm; Time step attempts = 281 and successes = 221
Evaporation: Potential = 0.1933 cm, Actual = 0.0591 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 67.0 %; TMEAN = 280.1 K; HDRY = 5.4842E+05 cm; DAYUBC = 143

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.07462	0.07637	0.09648	0.05059
Head (cm)	= 9.17750E+02	8.88163E+02	6.50712E+02	7.88612E+02
LiqWater Flow (cm)	=-1.47388E-01	-2.14722E-01	-7.65678E-02	1.45673E-07
IsoVapor Flow (cm)	=-8.32800E-02	-1.58089E-06	-1.26125E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

				LIQUID		
PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	DRAIN	NEWSTOR	STORAGE
5.2647+	0.0000+	0.0000	- 0.2310-	0.0000-	0.0000 =	5.0337 vs.	5.0337

Mass Balance = -1.0704E-05 cm; Time step attempts = 256 and successes = 210
Evaporation: Potential = 0.3300 cm, Actual = 0.2310 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.9 %; TMEAN = 279.5 K; HDRY = 8.4789E+05 cm; DAYUBC = 28
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.7430E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.7430E+02	[cm]
Actual Evaporation	=	1.2534E+01	[cm]
Evaporation during Growth	=	1.2534E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.2085E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	5.0337E+00	[cm]
Mass Balance Error	=	8.0397E-03	[cm]
Total Successful Time Steps	=	59018	
Total Attempted Time Steps	=	72629	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29942	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3849E+00	0.050	1.0615E+01	0.150	8.7819E+00
0.250	7.9885E+00	0.350	7.5008E+00	0.450	7.1556E+00
0.550	6.8515E+00	0.650	6.5983E+00	0.750	6.3667E+00
0.850	6.1435E+00	0.950	5.9540E+00	1.125	5.7522E+00
1.375	5.1658E+00	1.625	4.7553E+00	1.875	4.3932E+00
2.250	4.0315E+00	2.750	3.4380E+00	3.250	2.9308E+00
3.750	2.4813E+00	4.250	2.1599E+00	4.790	1.9482E+00
6.350	1.7163E+00	8.890	1.3240E+00	11.430	1.1505E+00
13.970	1.0451E+00	16.510	9.8074E-01	19.050	9.1367E-01

21.590	8.4360E-01	24.130	7.7054E-01	26.670	6.9452E-01
29.210	6.1562E-01	31.750	5.3395E-01	34.290	4.4966E-01
36.830	3.6299E-01	39.370	2.7420E-01	41.910	1.8361E-01
44.450	9.1572E-02	46.990	-8.4763E-04	49.530	-1.6666E-04
52.070	-1.2418E-03	54.610	-1.3905E-03	57.150	-8.7532E-04
59.690	-2.1600E-04	60.960	1.2085E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0015.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.177E+02	0.0746	291.00	2	1.000E-01	9.164E+02	0.0747	291.00
3	2.000E-01	9.150E+02	0.0748	291.00	4	3.000E-01	9.136E+02	0.0749	291.00
5	4.000E-01	9.122E+02	0.0749	291.00	6	5.000E-01	9.107E+02	0.0750	291.00
7	6.000E-01	9.093E+02	0.0751	291.00	8	7.000E-01	9.078E+02	0.0752	291.00
9	8.000E-01	9.064E+02	0.0753	291.00	10	9.000E-01	9.049E+02	0.0754	291.00
11	1.000E+00	9.034E+02	0.0755	291.00	12	1.250E+00	8.997E+02	0.0757	291.00
13	1.500E+00	8.959E+02	0.0759	291.00	14	1.750E+00	8.920E+02	0.0761	291.00
15	2.000E+00	8.882E+02	0.0764	291.00	16	2.500E+00	8.803E+02	0.0768	291.00
17	3.000E+00	8.725E+02	0.0773	291.00	18	3.500E+00	8.646E+02	0.0778	291.00
19	4.000E+00	8.567E+02	0.0784	291.00	20	4.500E+00	8.489E+02	0.0789	291.00
21	5.080E+00	8.400E+02	0.0795	291.00	22	7.620E+00	8.028E+02	0.0822	291.00
23	1.016E+01	7.706E+02	0.0847	291.00	24	1.270E+01	7.434E+02	0.0870	291.00
25	1.524E+01	7.207E+02	0.0891	291.00	26	1.778E+01	7.017E+02	0.0910	291.00
27	2.032E+01	6.857E+02	0.0926	291.00	28	2.286E+01	6.721E+02	0.0941	291.00
29	2.540E+01	6.606E+02	0.0953	291.00	30	2.794E+01	6.507E+02	0.0965	291.00
31	3.048E+01	6.422E+02	0.0975	291.00	32	3.302E+01	6.349E+02	0.0984	291.00
33	3.556E+01	6.287E+02	0.0991	291.00	34	3.810E+01	6.233E+02	0.0998	291.00
35	4.064E+01	6.187E+02	0.1004	291.00	36	4.318E+01	6.148E+02	0.1009	291.00
37	4.572E+01	6.116E+02	0.1013	291.00	38	4.826E+01	6.055E+02	0.0511	291.00
39	5.080E+01	1.093E+03	0.0503	291.00	40	5.334E+01	1.021E+03	0.0503	291.00
41	5.588E+01	8.631E+02	0.0505	291.00	42	5.842E+01	8.037E+02	0.0506	291.00
43	6.096E+01	7.886E+02	0.0506	291.00					

Initial Water Storage = 5.0337 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.07069	0.07232	0.09260	0.05059
Head (cm)	= 9.92639E+02	9.60110E+02	6.85721E+02	7.89098E+02
LiqWater Flow (cm)	=-1.19811E-01	-1.74495E-01	-7.16014E-02	1.44935E-07
IsoVapor Flow (cm)	=-6.35138E-02	-1.96711E-06	-1.46057E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.0337+	0.0000+	0.0000	- 0.1835-	0.0000-	0.0000 =	4.8502 vs.	4.8502

Mass Balance = -8.4079E-06 cm; Time step attempts = 261 and successes = 217
Evaporation: Potential = 0.2271 cm, Actual = 0.1835 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 59.1 %; TMEAN = 278.4 K; HDRY = 7.2110E+05 cm; DAYUBC = 53

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03258	0.05024	0.05046
Head (cm)	= 1.30490E+06	9.98903E+03	1.78780E+03	8.75113E+02
LiqWater Flow (cm)	= 5.30190E-02	9.80183E-03	-1.19547E-03	6.14146E-08
IsoVapor Flow (cm)	=-4.20902E-02	8.69263E-06	-3.02299E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9364+	0.0762+	0.0000	- 0.0653-	0.0000-	0.0000 =	2.9473 vs.	2.9471

Mass Balance = 1.4737E-04 cm; Time step attempts = 1325 and successes = 1029
Evaporation: Potential = 0.9318 cm, Actual = 0.0653 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 38.6 %; TMEAN = 284.8 K; HDRY = 1.3049E+06 cm; DAYUBC = 406
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.6857E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.6857E+02	[cm]
Actual Evaporation	=	2.2552E+01	[cm]
Evaporation during Growth	=	2.2552E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0472E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.8052E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0472E+01	[cm]
Actual Rainfall	=	2.0472E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9471E+00	[cm]
Mass Balance Error	=	7.3909E-03	[cm]
Total Successful Time Steps	=	62754	
Total Attempted Time Steps	=	76990	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31510	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.0791E+00	0.050	1.1779E+01	0.150	8.5275E+00
0.250	7.2554E+00	0.350	6.0776E+00	0.450	5.3113E+00
0.550	4.6363E+00	0.650	3.8276E+00	0.750	3.2992E+00
0.850	2.7513E+00	0.950	2.3711E+00	1.125	2.0714E+00
1.375	1.2690E+00	1.625	7.6658E-01	1.875	4.0283E-01
2.250	1.0556E-01	2.750	-6.0630E-01	3.250	-1.1286E+00
3.750	-1.2600E+00	4.250	-1.3214E+00	4.790	-1.4139E+00
6.350	-1.4594E+00	8.890	-1.5733E+00	11.430	-1.5857E+00
13.970	-1.5355E+00	16.510	-1.4315E+00	19.050	-1.3243E+00

21.590	-1.2142E+00	24.130	-1.1014E+00	26.670	-9.8626E-01
29.210	-8.6890E-01	31.750	-7.4954E-01	34.290	-6.2837E-01
36.830	-5.0559E-01	39.370	-3.8138E-01	41.910	-2.5588E-01
44.450	-1.2931E-01	46.990	-1.4967E-03	49.530	2.9591E-03
52.070	1.0773E-03	54.610	1.7025E-04	57.150	-1.5456E-04
59.690	-7.4426E-05	60.960	2.8052E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0016.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.305E+06	0.0300	291.00	2	1.000E-01	1.201E+06	0.0300	291.00
3	2.000E-01	1.105E+06	0.0300	291.00	4	3.000E-01	1.015E+06	0.0300	291.00
5	4.000E-01	9.301E+05	0.0300	291.00	6	5.000E-01	8.505E+05	0.0300	291.00
7	6.000E-01	7.753E+05	0.0300	291.00	8	7.000E-01	7.040E+05	0.0300	291.00
9	8.000E-01	6.362E+05	0.0300	291.00	10	9.000E-01	5.716E+05	0.0300	291.00
11	1.000E+00	5.099E+05	0.0300	291.00	12	1.250E+00	3.668E+05	0.0300	291.00
13	1.500E+00	2.373E+05	0.0301	291.00	14	1.750E+00	1.189E+05	0.0301	291.00
15	2.000E+00	9.989E+03	0.0326	291.00	16	2.500E+00	3.623E+03	0.0387	291.00
17	3.000E+00	3.227E+03	0.0400	291.00	18	3.500E+00	3.015E+03	0.0408	291.00
19	4.000E+00	2.878E+03	0.0415	291.00	20	4.500E+00	2.775E+03	0.0420	291.00
21	5.080E+00	2.678E+03	0.0425	291.00	22	7.620E+00	2.374E+03	0.0444	291.00
23	1.016E+01	2.182E+03	0.0460	291.00	24	1.270E+01	2.058E+03	0.0471	291.00
25	1.524E+01	1.973E+03	0.0480	291.00	26	1.778E+01	1.913E+03	0.0487	291.00
27	2.032E+01	1.868E+03	0.0492	291.00	28	2.286E+01	1.834E+03	0.0496	291.00
29	2.540E+01	1.808E+03	0.0500	291.00	30	2.794E+01	1.788E+03	0.0502	291.00
31	3.048E+01	1.772E+03	0.0505	291.00	32	3.302E+01	1.759E+03	0.0506	291.00
33	3.556E+01	1.749E+03	0.0508	291.00	34	3.810E+01	1.740E+03	0.0509	291.00
35	4.064E+01	1.734E+03	0.0510	291.00	36	4.318E+01	1.729E+03	0.0511	291.00
37	4.572E+01	1.725E+03	0.0511	291.00	38	4.826E+01	1.605E+03	0.0501	291.00
39	5.080E+01	9.135E+02	0.0504	291.00	40	5.334E+01	8.065E+02	0.0506	291.00
41	5.588E+01	8.184E+02	0.0505	291.00	42	5.842E+01	8.569E+02	0.0505	291.00
43	6.096E+01	8.751E+02	0.0505	291.00					

Initial Water Storage = 2.9471 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.03015	0.05012	0.05046
Head (cm)	=	6.22116E+05	1.09356E+05	1.79709E+03	8.74566E+02
LiqWater Flow (cm)	=	-1.64590E-11	-6.13466E-04	-1.31107E-03	6.17338E-08
IsoVapor Flow (cm)	=	-1.08148E-02	-9.29228E-03	-3.33364E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9471+	0.0000+	0.0000 -	0.0108-	0.0000-	0.0000 =	2.9363 vs.	2.9363

Mass Balance = -7.6655E-06 cm; Time step attempts = 68 and successes = 63
Evaporation: Potential = 0.1666 cm, Actual = 0.0108 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 63.5 %; TMEAN = 279.0 K; HDRY = 6.2212E+05 cm; DAYUBC = 60

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04680	0.05039
Head (cm)	= 1.38664E+06	9.83439E+05	2.08946E+03	9.32234E+02
LiqWater Flow (cm)	=-2.00697E-13	-9.79668E-13	-1.47536E-03	3.65625E-08
IsoVapor Flow (cm)	=-4.53426E-03	-4.53334E-03	-7.20430E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.7227+	0.0000+	0.0000	- 0.0045-	0.0000-	0.0000 =	2.7182 vs.	2.7182

Mass Balance = 3.6014E-07 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.2836 cm, Actual = 0.0045 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.4 %; TMEAN = 282.9 K; HDRY = 1.3866E+06 cm; DAYUBC = 24
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.9026E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9026E+02	[cm]
Actual Evaporation	=	2.1533E+01	[cm]
Evaporation during Growth	=	2.1529E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1311E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.0703E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1311E+01	[cm]
Actual Rainfall	=	2.1311E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7182E+00	[cm]
Mass Balance Error	=	6.0791E-03	[cm]
Total Successful Time Steps	=	49105	
Total Attempted Time Steps	=	59006	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25505	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2287E-01	0.050	1.4142E+01	0.150	7.6167E+00
0.250	5.8480E+00	0.350	4.6899E+00	0.450	4.1518E+00
0.550	3.7619E+00	0.650	3.5107E+00	0.750	3.1674E+00
0.850	2.9505E+00	0.950	2.7621E+00	1.125	2.6181E+00
1.375	2.3091E+00	1.625	2.1113E+00	1.875	1.9259E+00
2.250	1.6811E+00	2.750	1.4945E+00	3.250	1.3357E+00
3.750	1.1649E+00	4.250	1.0568E+00	4.790	9.2704E-01
6.350	7.7692E-01	8.890	2.7049E-01	11.430	6.0030E-02
13.970	-8.1091E-02	16.510	-1.0285E-01	19.050	-9.2636E-02

21.590	-8.2826E-02	24.130	-7.3448E-02	26.670	-6.4465E-02
29.210	-5.5849E-02	31.750	-4.7561E-02	34.290	-3.9546E-02
36.830	-3.1764E-02	39.370	-2.4170E-02	41.910	-1.6719E-02
44.450	-9.3616E-03	46.990	-1.2940E-03	49.530	8.7826E-04
52.070	-1.4015E-04	54.610	-2.1486E-04	57.150	-1.0318E-04
59.690	-1.4900E-05	60.960	2.0703E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0017.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.387E+06	0.0300	291.00	2	1.000E-01	1.363E+06	0.0300	291.00
3	2.000E-01	1.340E+06	0.0300	291.00	4	3.000E-01	1.318E+06	0.0300	291.00
5	4.000E-01	1.296E+06	0.0300	291.00	6	5.000E-01	1.275E+06	0.0300	291.00
7	6.000E-01	1.253E+06	0.0300	291.00	8	7.000E-01	1.232E+06	0.0300	291.00
9	8.000E-01	1.211E+06	0.0300	291.00	10	9.000E-01	1.191E+06	0.0300	291.00
11	1.000E+00	1.170E+06	0.0300	291.00	12	1.250E+00	1.121E+06	0.0300	291.00
13	1.500E+00	1.074E+06	0.0300	291.00	14	1.750E+00	1.028E+06	0.0300	291.00
15	2.000E+00	9.834E+05	0.0300	291.00	16	2.500E+00	8.987E+05	0.0300	291.00
17	3.000E+00	8.189E+05	0.0300	291.00	18	3.500E+00	7.435E+05	0.0300	291.00
19	4.000E+00	6.720E+05	0.0300	291.00	20	4.500E+00	6.041E+05	0.0300	291.00
21	5.080E+00	5.293E+05	0.0300	291.00	22	7.620E+00	2.424E+05	0.0301	291.00
23	1.016E+01	3.330E+03	0.0396	291.00	24	1.270E+01	2.764E+03	0.0420	291.00
25	1.524E+01	2.518E+03	0.0434	291.00	26	1.778E+01	2.370E+03	0.0444	291.00
27	2.032E+01	2.268E+03	0.0452	291.00	28	2.286E+01	2.193E+03	0.0459	291.00
29	2.540E+01	2.135E+03	0.0464	291.00	30	2.794E+01	2.089E+03	0.0468	291.00
31	3.048E+01	2.053E+03	0.0472	291.00	32	3.302E+01	2.024E+03	0.0475	291.00
33	3.556E+01	2.000E+03	0.0477	291.00	34	3.810E+01	1.982E+03	0.0479	291.00
35	4.064E+01	1.968E+03	0.0480	291.00	36	4.318E+01	1.958E+03	0.0482	291.00
37	4.572E+01	1.952E+03	0.0482	291.00	38	4.826E+01	1.795E+03	0.0501	291.00
39	5.080E+01	1.307E+03	0.0502	291.00	40	5.334E+01	1.029E+03	0.0503	291.00
41	5.588E+01	9.527E+02	0.0504	291.00	42	5.842E+01	9.355E+02	0.0504	291.00
43	6.096E+01	9.322E+02	0.0504	291.00					

Initial Water Storage = 2.7182 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.04671	0.05039
Head (cm)	=	1.37506E+06	9.80734E+05	2.09868E+03	9.32328E+02
LiqWater Flow (cm)	=	-2.02601E-13	-1.00418E-12	-1.47037E-03	3.65328E-08
IsoVapor Flow (cm)	=	-4.50546E-03	-4.50636E-03	-7.32713E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
2.7182	+	0.0000	+	0.0000	-	0.0045	-	0.0000	-	0.0000	=	2.7137	vs.	2.7137

Mass Balance = 5.0275E-07 cm; Time step attempts = 38 and successes = 36
Evaporation: Potential = 0.4847 cm, Actual = 0.0045 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.7 %; TMEAN = 287.6 K; HDRY = 1.3751E+06 cm; DAYUBC = 35

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =        1           15           30           43
 Depth (cm)         =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)    =      0.05671      0.05963      0.08026      0.05026
 Head (cm)          = 1.41667E+03 1.29815E+03 8.28910E+02 1.09047E+03
 LiqWater Flow (cm)=-4.98335E-02-9.30999E-02-3.79724E-02 1.00265E-08
 IsoVapor Flow (cm)=-5.04382E-02-3.79426E-06-1.94835E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO   TRANS    DRAIN      NEWSTOR        STORAGE
   4.3784+ 0.0000+ 0.0000 - 0.1005- 0.0000-  0.0000 =     4.2780 vs.     4.2780

 Mass Balance = -1.0753E-05 cm;  Time step attempts =  329 and successes =  265
   Evaporation:  Potential =  0.1693 cm, Actual =  0.1005 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.5 %;  TMEAN = 278.7 K;  HDRY =  5.6014E+05 cm;  DAYUBC =   108
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                            SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
--------------------------------------------------------------------------------

 Transpiration Scheme is:              =    1
 Potential Evapotranspiration          =  2.3720E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.3720E+02     [cm]
 Actual Evaporation                    =  2.2889E+01     [cm]
 Evaporation during Growth             =  2.2889E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.4460E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  7.1566E-06     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.4460E+01     [cm]
 Actual Rainfall                       =  2.4460E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  4.2780E+00     [cm]
 Mass Balance Error                    =  1.1384E-02     [cm]
 Total Successful Time Steps           =     78077
 Total Attempted Time Steps            =     97221
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     35347
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
 ---------   -----------   ---------   -----------   ---------   -----------
     0.000    1.5712E+00       0.050    1.7036E+01       0.150    1.3566E+01
     0.250    1.1732E+01       0.350    1.0338E+01       0.450    9.4226E+00
     0.550    8.3921E+00       0.650    7.5348E+00       0.750    6.9433E+00
     0.850    6.4218E+00       0.950    5.8719E+00       1.125    5.4658E+00
     1.375    4.4339E+00       1.625    3.8641E+00       1.875    3.4528E+00
     2.250    3.0689E+00       2.750    2.5038E+00       3.250    2.1949E+00
     3.750    1.8969E+00       4.250    1.7594E+00       4.790    1.6682E+00
     6.350    1.5456E+00       8.890    1.2896E+00      11.430    1.1906E+00
    13.970    1.1130E+00      16.510    1.0345E+00      19.050    9.5472E-01
```

21.590	8.7353E-01	24.130	7.9097E-01	26.670	7.0712E-01
29.210	6.2206E-01	31.750	5.3589E-01	34.290	4.4872E-01
36.830	3.6063E-01	39.370	2.7172E-01	41.910	1.8208E-01
44.450	9.1815E-02	46.990	1.2293E-03	49.530	2.6366E-04
52.070	-1.8324E-05	54.610	-8.7794E-05	57.150	-8.9700E-05
59.690	-3.2243E-05	60.960	7.1566E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0018.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.417E+03	0.0567	291.00	2	1.000E-01	1.411E+03	0.0568	291.00
3	2.000E-01	1.405E+03	0.0570	291.00	4	3.000E-01	1.399E+03	0.0571	291.00
5	4.000E-01	1.393E+03	0.0572	291.00	6	5.000E-01	1.387E+03	0.0574	291.00
7	6.000E-01	1.382E+03	0.0575	291.00	8	7.000E-01	1.376E+03	0.0577	291.00
9	8.000E-01	1.370E+03	0.0578	291.00	10	9.000E-01	1.363E+03	0.0580	291.00
11	1.000E+00	1.357E+03	0.0581	291.00	12	1.250E+00	1.342E+03	0.0585	291.00
13	1.500E+00	1.327E+03	0.0589	291.00	14	1.750E+00	1.313E+03	0.0592	291.00
15	2.000E+00	1.298E+03	0.0596	291.00	16	2.500E+00	1.270E+03	0.0604	291.00
17	3.000E+00	1.243E+03	0.0612	291.00	18	3.500E+00	1.218E+03	0.0620	291.00
19	4.000E+00	1.194E+03	0.0627	291.00	20	4.500E+00	1.172E+03	0.0634	291.00
21	5.080E+00	1.149E+03	0.0643	291.00	22	7.620E+00	1.063E+03	0.0675	291.00
23	1.016E+01	1.004E+03	0.0702	291.00	24	1.270E+01	9.592E+02	0.0724	291.00
25	1.524E+01	9.251E+02	0.0742	291.00	26	1.778E+01	8.980E+02	0.0758	291.00
27	2.032E+01	8.758E+02	0.0771	291.00	28	2.286E+01	8.575E+02	0.0783	291.00
29	2.540E+01	8.420E+02	0.0793	291.00	30	2.794E+01	8.289E+02	0.0803	291.00
31	3.048E+01	8.177E+02	0.0811	291.00	32	3.302E+01	8.082E+02	0.0818	291.00
33	3.556E+01	8.001E+02	0.0824	291.00	34	3.810E+01	7.933E+02	0.0829	291.00
35	4.064E+01	7.877E+02	0.0833	291.00	36	4.318E+01	7.832E+02	0.0837	291.00
37	4.572E+01	7.796E+02	0.0840	291.00	38	4.826E+01	7.709E+02	0.0506	291.00
39	5.080E+01	1.004E+03	0.0503	291.00	40	5.334E+01	1.077E+03	0.0503	291.00
41	5.588E+01	1.088E+03	0.0503	291.00	42	5.842E+01	1.090E+03	0.0503	291.00
43	6.096E+01	1.090E+03	0.0503	291.00					

Initial Water Storage = 4.2780 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.05468	0.05772	0.07839	0.05026
Head (cm)	= 1.51379E+03	1.37323E+03	8.56339E+02	1.09047E+03
LiqWater Flow (cm)	=-4.18522E-02	-8.22797E-02	-3.44650E-02	1.00268E-08
IsoVapor Flow (cm)	=-4.47862E-02	-4.35323E-06	-2.06461E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.2780+	0.0000+	0.0000	- 0.0867-	0.0000-	0.0000 =	4.1912 vs.	4.1912

Mass Balance = -7.6327E-06 cm; Time step attempts = 304 and successes = 247
Evaporation: Potential = 0.1388 cm, Actual = 0.0867 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 66.8 %; TMEAN = 279.3 K; HDRY = 5.5228E+05 cm; DAYUBC = 96

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05776	0.05020
Head (cm)	=	9.04100E+05	1.41203E+05	1.37142E+03	1.22110E+03
LiqWater Flow (cm)	=	-4.03904E-12	-3.07315E-04	-6.32165E-03	3.92939E-09
IsoVapor Flow (cm)	=	-1.40232E-02	-1.37283E-02	-3.87790E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.2587	+ 0.0000	+ 0.0000	- 0.0140	- 0.0000	- 0.0000	=	3.2446	vs.	3.2446

Mass Balance = -5.5922E-07 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.2014 cm, Actual = 0.0140 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.7 %; TMEAN = 282.0 K; HDRY = 9.0410E+05 cm; DAYUBC = 73
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5068E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5068E+02	[cm]
Actual Evaporation	=	1.8222E+01	[cm]
Evaporation during Growth	=	1.8222E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.5850E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2446E+00	[cm]
Mass Balance Error	=	7.1385E-03	[cm]
Total Successful Time Steps	=	60146	
Total Attempted Time Steps	=	73726	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29559	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0262E+00	0.050	1.1072E+01	0.150	7.7849E+00
0.250	6.5034E+00	0.350	5.5069E+00	0.450	4.8025E+00
0.550	4.3028E+00	0.650	3.7961E+00	0.750	3.3260E+00
0.850	2.9801E+00	0.950	2.6309E+00	1.125	2.2913E+00
1.375	1.5747E+00	1.625	1.0749E+00	1.875	8.1649E-01
2.250	5.6248E-01	2.750	1.2648E-01	3.250	-1.3794E-01
3.750	-2.5922E-01	4.250	-3.2205E-01	4.790	-3.7758E-01
5.350	-4.5514E-01	8.890	-6.0123E-01	11.430	-6.7081E-01
13.970	-6.8413E-01	16.510	-6.9334E-01	19.050	-6.4166E-01

21.590	-5.8753E-01	24.130	-5.3227E-01	26.670	-4.7605E-01
29.210	-4.1896E-01	31.750	-3.6109E-01	34.290	-3.0250E-01
36.830	-2.4326E-01	39.370	-1.8345E-01	41.910	-1.2311E-01
44.450	-6.2306E-02	46.990	-6.4331E-04	49.530	1.2409E-03
52.070	2.0713E-04	54.610	8.5205E-06	57.150	-1.2712E-05
59.690	-4.9725E-06	60.960	2.5850E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0019.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.041E+05	0.0300	291.00	2	1.000E-01	8.540E+05	0.0300	291.00
3	2.000E-01	8.057E+05	0.0300	291.00	4	3.000E-01	7.590E+05	0.0300	291.00
5	4.000E-01	7.138E+05	0.0300	291.00	6	5.000E-01	6.701E+05	0.0300	291.00
7	6.000E-01	6.277E+05	0.0300	291.00	8	7.000E-01	5.866E+05	0.0300	291.00
9	8.000E-01	5.467E+05	0.0300	291.00	10	9.000E-01	5.080E+05	0.0300	291.00
11	1.000E+00	4.703E+05	0.0300	291.00	12	1.250E+00	3.803E+05	0.0300	291.00
13	1.500E+00	2.959E+05	0.0300	291.00	14	1.750E+00	2.164E+05	0.0301	291.00
15	2.000E+00	1.412E+05	0.0301	291.00	16	2.500E+00	3.036E+03	0.0407	291.00
17	3.000E+00	2.714E+03	0.0423	291.00	18	3.500E+00	2.514E+03	0.0435	291.00
19	4.000E+00	2.372E+03	0.0444	291.00	20	4.500E+00	2.263E+03	0.0453	291.00
21	5.080E+00	2.164E+03	0.0461	291.00	22	7.620E+00	1.890E+03	0.0489	291.00
23	1.016E+01	1.738E+03	0.0509	291.00	24	1.270E+01	1.636E+03	0.0525	291.00
25	1.524E+01	1.563E+03	0.0538	291.00	26	1.778E+01	1.506E+03	0.0548	291.00
27	2.032E+01	1.462E+03	0.0557	291.00	28	2.286E+01	1.426E+03	0.0565	291.00
29	2.540E+01	1.396E+03	0.0572	291.00	30	2.794E+01	1.371E+03	0.0578	291.00
31	3.048E+01	1.351E+03	0.0583	291.00	32	3.302E+01	1.334E+03	0.0587	291.00
33	3.556E+01	1.320E+03	0.0590	291.00	34	3.810E+01	1.309E+03	0.0593	291.00
35	4.064E+01	1.300E+03	0.0596	291.00	36	4.318E+01	1.294E+03	0.0597	291.00
37	4.572E+01	1.289E+03	0.0599	291.00	38	4.826E+01	1.261E+03	0.0502	291.00
39	5.080E+01	9.333E+02	0.0504	291.00	40	5.334E+01	1.010E+03	0.0503	291.00
41	5.588E+01	1.130E+03	0.0502	291.00	42	5.842E+01	1.200E+03	0.0502	291.00
43	6.096E+01	1.221E+03	0.0502	291.00					

Initial Water Storage = 3.2446 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03008	0.05743	0.05020
Head (cm)	=	1.34114E+06	1.87416E+05	1.38536E+03	1.22009E+03
LiqWater Flow (cm)	=	-1.07468E-12	-1.40282E-04	-6.11736E-03	3.95611E-09
IsoVapor Flow (cm)	=	-1.80179E-02	-1.78477E-02	-3.94299E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.2446+	0.0000+	0.0000	- 0.0180-	0.0000-	0.0000 =	3.2266 vs.	3.2266

Mass Balance = -6.9189E-07 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.7602 cm, Actual = 0.0180 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.6 %; TMEAN = 284.0 K; HDRY = 1.3411E+06 cm; DAYUBC = 24

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number         =       1          15          30          43
 Depth (cm)          =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)     =     0.03002     0.05111     0.07238     0.05021
 Head (cm)           = 5.23572E+05 1.72596E+03 9.58960E+02 1.20568E+03
 LiqWater Flow (cm)=-1.81913E-02-6.19088E-02-2.02966E-02 4.36955E-09
 IsoVapor Flow (cm)=-5.63652E-02-8.27380E-06-2.18582E-07 0.00000E+00
 Plant Sink (cm)     = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9800+ 0.0000+ 0.0000 - 0.0755- 0.0000-   0.0000 =     3.9046 vs.     3.9046

 Mass Balance = -5.8839E-05 cm;  Time step attempts =  334 and successes =  264
   Evaporation:  Potential =  0.2111 cm, Actual =  0.0755 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.1 %;  TMEAN = 285.7 K;  HDRY =  8.4135E+05 cm;  DAYUBC =   152
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
--------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.4883E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.4883E+02     [cm]
 Actual Evaporation                    =  2.0060E+01     [cm]
 Evaporation during Growth             =  2.0060E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.0726E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  1.5594E-06     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.0726E+01     [cm]
 Actual Rainfall                       =  2.0726E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  3.9046E+00     [cm]
 Mass Balance Error                    =  6.3511E-03     [cm]
 Total Successful Time Steps           =     48818
 Total Attempted Time Steps            =     58932
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     24249
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW         DEPTH         FLOW         DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000    6.6634E-01      0.050    1.3224E+01      0.150    9.0863E+00
      0.250    7.6471E+00      0.350    6.5822E+00      0.450    5.7375E+00
      0.550    5.2133E+00      0.650    4.5913E+00      0.750    4.1730E+00
      0.850    3.8143E+00      0.950    3.5026E+00      1.125    3.2955E+00
      1.375    2.6784E+00      1.625    2.4085E+00      1.875    2.2341E+00
      2.250    2.1284E+00      2.750    1.8354E+00      3.250    1.7068E+00
      3.750    1.5502E+00      4.250    1.4072E+00      4.790    1.2732E+00
      6.350    1.1239E+00      8.890    9.0917E-01     11.430    7.4462E-01
     13.970    6.4495E-01     16.510    5.4858E-01     19.050    4.4926E-01
```

21.590	3.8097E-01	24.130	3.4425E-01	26.670	3.0735E-01
29.210	2.7005E-01	31.750	2.3237E-01	34.290	1.9435E-01
36.830	1.5599E-01	39.370	1.1735E-01	41.910	7.8439E-02
44.450	3.9292E-02	46.990	5.2811E-04	49.530	6.4261E-04
52.070	7.9401E-05	54.610	3.2461E-05	57.150	1.0850E-05
59.690	2.8546E-06	60.960	1.5594E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
-----	----------	-----	----------	-----	----------
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0020.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.236E+05	0.0300	291.00	2	1.000E-01	4.247E+05	0.0300	291.00
3	2.000E-01	3.137E+05	0.0300	291.00	4	3.000E-01	2.007E+05	0.0301	291.00
5	4.000E-01	9.186E+04	0.0302	291.00	6	5.000E-01	2.296E+03	0.0450	291.00
7	6.000E-01	2.225E+03	0.0456	291.00	8	7.000E-01	2.162E+03	0.0461	291.00
9	8.000E-01	2.107E+03	0.0466	291.00	10	9.000E-01	2.058E+03	0.0471	291.00
11	1.000E+00	2.014E+03	0.0476	291.00	12	1.250E+00	1.920E+03	0.0486	291.00
13	1.500E+00	1.844E+03	0.0495	291.00	14	1.750E+00	1.780E+03	0.0503	291.00
15	2.000E+00	1.726E+03	0.0511	291.00	16	2.500E+00	1.637E+03	0.0525	291.00
17	3.000E+00	1.566E+03	0.0537	291.00	18	3.500E+00	1.509E+03	0.0548	291.00
19	4.000E+00	1.460E+03	0.0558	291.00	20	4.500E+00	1.419E+03	0.0567	291.00
21	5.080E+00	1.378E+03	0.0576	291.00	22	7.620E+00	1.250E+03	0.0610	291.00
23	1.016E+01	1.170E+03	0.0635	291.00	24	1.270E+01	1.114E+03	0.0655	291.00
25	1.524E+01	1.072E+03	0.0672	291.00	26	1.778E+01	1.040E+03	0.0685	291.00
27	2.032E+01	1.013E+03	0.0697	291.00	28	2.286E+01	9.918E+02	0.0707	291.00
29	2.540E+01	9.739E+02	0.0716	291.00	30	2.794E+01	9.590E+02	0.0724	291.00
31	3.048E+01	9.464E+02	0.0730	291.00	32	3.302E+01	9.358E+02	0.0736	291.00
33	3.556E+01	9.269E+02	0.0741	291.00	34	3.810E+01	9.195E+02	0.0745	291.00
35	4.064E+01	9.134E+02	0.0749	291.00	36	4.318E+01	9.086E+02	0.0751	291.00
37	4.572E+01	9.049E+02	0.0754	291.00	38	4.826E+01	8.961E+02	0.0504	291.00
39	5.080E+01	1.204E+03	0.0502	291.00	40	5.334E+01	1.158E+03	0.0502	291.00
41	5.588E+01	1.165E+03	0.0502	291.00	42	5.842E+01	1.193E+03	0.0502	291.00
43	6.096E+01	1.206E+03	0.0502	291.00					

Initial Water Storage = 3.9046 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.04874	0.07119	0.05021
Head (cm)	= 1.05598E+06	1.90676E+03	9.82481E+02	1.20511E+03
LiqWater Flow (cm)	=-1.57143E-11	-5.70771E-02	-2.03603E-02	4.38697E-09
IsoVapor Flow (cm)	=-6.57165E-02	-1.20753E-05	-2.41738E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.9046+	0.0000+	0.0000 -	0.0657-	0.0000-	0.0000 =	3.8389 vs.	3.8389

Mass Balance = -2.5313E-05 cm; Time step attempts = 147 and successes = 112
Evaporation: Potential = 0.6230 cm, Actual = 0.0657 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 46.3 %; TMEAN = 285.9 K; HDRY = 1.0560E+06 cm; DAYUBC = 112

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03010	0.05652	0.05020
Head (cm)	= 1.01190E+06	1.53859E+05	1.42522E+03	1.20869E+03
LiqWater Flow (cm)	=-3.33166E-12	-1.01916E-02	-4.68636E-03	4.28785E-09
IsoVapor Flow (cm)	=-1.77764E-02	-4.46303E-03	-3.56883E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.2151+	0.0000+	0.0000	- 0.0178-	0.0000-	0.0000 =	3.1973 vs.	3.1974

Mass Balance = -1.3762E-05 cm; Time step attempts = 65 and successes = 52
Evaporation: Potential = 0.2499 cm, Actual = 0.0178 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 47.8 %; TMEAN = 278.7 K; HDRY = 1.0119E+06 cm; DAYUBC = 52
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5554E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5554E+02	[cm]
Actual Evaporation	=	1.9521E+01	[cm]
Evaporation during Growth	=	1.9503E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.4630E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1974E+00	[cm]
Mass Balance Error	=	7.6287E-03	[cm]
Total Successful Time Steps	=	58580	
Total Attempted Time Steps	=	71539	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29715	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-6.9964E-01	0.050	1.3459E+01	0.150	9.0316E+00
0.250	7.7687E+00	0.350	6.7284E+00	0.450	6.0441E+00
0.550	5.3825E+00	0.650	4.8353E+00	0.750	4.2806E+00
0.850	4.0268E+00	0.950	3.7171E+00	1.125	3.3544E+00
1.375	2.3740E+00	1.625	1.8910E+00	1.875	1.4713E+00
2.250	1.1062E+00	2.750	5.3299E-01	3.250	3.6052E-01
3.750	1.9166E-01	4.250	7.7784E-02	4.790	-1.8704E-02
6.350	-1.3594E-01	8.890	-4.0662E-01	11.430	-4.7850E-01
13.970	-5.2341E-01	16.510	-4.8905E-01	19.050	-4.5233E-01

21.590	-4.1454E-01	24.130	-3.7584E-01	26.670	-3.3634E-01
29.210	-2.9613E-01	31.750	-2.5529E-01	34.290	-2.1390E-01
36.830	-1.7201E-01	39.370	-1.2969E-01	41.910	-8.7011E-02
44.450	-4.4013E-02	46.990	-4.8249E-04	49.530	8.7344E-04
52.070	8.4112E-05	54.610	1.1129E-05	57.150	3.1758E-06
59.690	1.6158E-06	60.960	1.4630E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0021.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.012E+06	0.0300	291.00	2	1.000E-01	9.536E+05	0.0300	291.00
3	2.000E-01	8.976E+05	0.0300	291.00	4	3.000E-01	8.438E+05	0.0300	291.00
5	4.000E-01	7.921E+05	0.0300	291.00	6	5.000E-01	7.422E+05	0.0300	291.00
7	6.000E-01	6.940E+05	0.0300	291.00	8	7.000E-01	6.475E+05	0.0300	291.00
9	8.000E-01	6.026E+05	0.0300	291.00	10	9.000E-01	5.590E+05	0.0300	291.00
11	1.000E+00	5.168E+05	0.0300	291.00	12	1.250E+00	4.167E+05	0.0300	291.00
13	1.500E+00	3.234E+05	0.0300	291.00	14	1.750E+00	2.360E+05	0.0301	291.00
15	2.000E+00	1.539E+05	0.0301	291.00	16	2.500E+00	3.168E+03	0.0402	291.00
17	3.000E+00	2.779E+03	0.0419	291.00	18	3.500E+00	2.560E+03	0.0432	291.00
19	4.000E+00	2.410E+03	0.0442	291.00	20	4.500E+00	2.298E+03	0.0450	291.00
21	5.080E+00	2.196E+03	0.0458	291.00	22	7.620E+00	1.923E+03	0.0486	291.00
23	1.016E+01	1.773E+03	0.0504	291.00	24	1.270E+01	1.675E+03	0.0519	291.00
25	1.524E+01	1.605E+03	0.0530	291.00	26	1.778E+01	1.551E+03	0.0540	291.00
27	2.032E+01	1.509E+03	0.0548	291.00	28	2.286E+01	1.476E+03	0.0554	291.00
29	2.540E+01	1.448E+03	0.0560	291.00	30	2.794E+01	1.425E+03	0.0565	291.00
31	3.048E+01	1.406E+03	0.0569	291.00	32	3.302E+01	1.391E+03	0.0573	291.00
33	3.556E+01	1.378E+03	0.0576	291.00	34	3.810E+01	1.368E+03	0.0579	291.00
35	4.064E+01	1.359E+03	0.0581	291.00	36	4.318E+01	1.353E+03	0.0582	291.00
37	4.572E+01	1.349E+03	0.0583	291.00	38	4.826E+01	1.327E+03	0.0502	291.00
39	5.080E+01	1.201E+03	0.0502	291.00	40	5.334E+01	1.192E+03	0.0502	291.00
41	5.588E+01	1.201E+03	0.0502	291.00	42	5.842E+01	1.207E+03	0.0502	291.00
43	6.096E+01	1.209E+03	0.0502	291.00					

Initial Water Storage = 3.1974 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05624	0.05020
Head (cm)	=	8.53064E+05	1.35546E+05	1.43799E+03	1.20860E+03
LiqWater Flow (cm)	=	-5.04921E-12	-2.86128E-04	-4.68123E-03	4.29044E-09
IsoVapor Flow (cm)	=	-1.34461E-02	-1.31752E-02	-3.70482E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
3.1974	+	0.0000	+	0.0000	-	0.0134	-	0.0000	-	0.0000	=	3.1839	vs.	3.1839

Mass Balance = -1.1862E-07 cm; Time step attempts = 51 and successes = 49
Evaporation: Potential = 0.1187 cm, Actual = 0.0134 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.7 %; TMEAN = 277.3 K; HDRY = 8.5306E+05 cm; DAYUBC = 48

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.04462	0.04797	0.05016	0.05013
Head (cm)	= 2.34768E+03	1.97537E+03	1.79363E+03	1.45580E+03
LiqWater Flow (cm)	= 1.61327E-01	1.06992E-01	-2.43891E-03	9.25327E-10
IsoVapor Flow (cm)	=-1.73646E-02	1.74396E-04	-5.62739E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
2.8878+	0.2032+	0.0000	- 0.0585-	0.0000-	0.0000	=	3.0325	vs.	3.0320

Mass Balance = 5.5122E-04 cm; Time step attempts = 1613 and successes = 1249
Evaporation: Potential = 0.0591 cm, Actual = 0.0585 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.3 %; TMEAN = 276.2 K; HDRY = 8.6118E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5509E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5509E+02	[cm]
Actual Evaporation	=	1.1054E+01	[cm]
Evaporation during Growth	=	1.1054E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.1539E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0320E+00	[cm]
Mass Balance Error	=	7.7086E-03	[cm]
Total Successful Time Steps	=	60435	
Total Attempted Time Steps	=	74600	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30294	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.5767E-01	0.050	8.2997E+00	0.150	6.5988E+00
0.250	5.9713E+00	0.350	5.4720E+00	0.450	5.0409E+00
0.550	4.6166E+00	0.650	4.3316E+00	0.750	4.1318E+00
0.850	3.9178E+00	0.950	3.7024E+00	1.125	3.4252E+00
1.375	3.0899E+00	1.625	2.7834E+00	1.875	2.5659E+00
2.250	2.3506E+00	2.750	1.8799E+00	3.250	1.5930E+00
3.750	1.2215E+00	4.250	9.5351E-01	4.790	7.0873E-01
6.350	4.0528E-01	8.890	-5.3495E-02	11.430	-2.2060E-01
13.970	-2.0953E-01	16.510	-1.9502E-01	19.050	-1.7964E-01

21.590	-1.6395E-01	24.130	-1.4808E-01	26.670	-1.3209E-01
29.210	-1.1599E-01	31.750	-9.9815E-02	34.290	-8.3548E-02
36.830	-6.7204E-02	39.370	-5.0786E-02	41.910	-3.4298E-02
44.450	-1.7742E-02	46.990	-7.3449E-04	49.530	1.9071E-05
52.070	-9.9395E-06	54.610	-1.0618E-05	57.150	-7.9258E-06
59.690	-2.4839E-06	60.960	9.1539E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0022.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.348E+03	0.0446	291.00	2	1.000E-01	2.324E+03	0.0448	291.00
3	2.000E-01	2.300E+03	0.0450	291.00	4	3.000E-01	2.277E+03	0.0452	291.00
5	4.000E-01	2.255E+03	0.0453	291.00	6	5.000E-01	2.233E+03	0.0455	291.00
7	6.000E-01	2.211E+03	0.0457	291.00	8	7.000E-01	2.190E+03	0.0459	291.00
9	8.000E-01	2.170E+03	0.0461	291.00	10	9.000E-01	2.150E+03	0.0462	291.00
11	1.000E+00	2.131E+03	0.0464	291.00	12	1.250E+00	2.087E+03	0.0468	291.00
13	1.500E+00	2.046E+03	0.0472	291.00	14	1.750E+00	2.009E+03	0.0476	291.00
15	2.000E+00	1.975E+03	0.0480	291.00	16	2.500E+00	1.918E+03	0.0486	291.00
17	3.000E+00	1.874E+03	0.0491	291.00	18	3.500E+00	1.839E+03	0.0496	291.00
19	4.000E+00	1.813E+03	0.0499	291.00	20	4.500E+00	1.795E+03	0.0501	291.00
21	5.080E+00	1.783E+03	0.0503	291.00	22	7.620E+00	1.826E+03	0.0497	291.00
23	1.016E+01	1.971E+03	0.0480	291.00	24	1.270E+01	2.070E+03	0.0470	291.00
25	1.524E+01	2.051E+03	0.0472	291.00	26	1.778E+01	1.987E+03	0.0478	291.00
27	2.032E+01	1.924E+03	0.0485	291.00	28	2.286E+01	1.872E+03	0.0492	291.00
29	2.540E+01	1.829E+03	0.0497	291.00	30	2.794E+01	1.794E+03	0.0502	291.00
31	3.048E+01	1.765E+03	0.0506	291.00	32	3.302E+01	1.741E+03	0.0509	291.00
33	3.556E+01	1.723E+03	0.0512	291.00	34	3.810E+01	1.707E+03	0.0514	291.00
35	4.064E+01	1.696E+03	0.0516	291.00	36	4.318E+01	1.687E+03	0.0517	291.00
37	4.572E+01	1.682E+03	0.0518	291.00	38	4.826E+01	1.644E+03	0.0501	291.00
39	5.080E+01	1.532E+03	0.0501	291.00	40	5.334E+01	1.490E+03	0.0501	291.00
41	5.588E+01	1.470E+03	0.0501	291.00	42	5.842E+01	1.460E+03	0.0501	291.00
43	6.096E+01	1.456E+03	0.0501	291.00					

Initial Water Storage = 3.0320 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03011	0.04342	0.05004	0.05013
Head (cm)	=	1.34135E+05	2.52126E+03	1.80251E+03	1.45612E+03
LiqWater Flow (cm)	=	-7.49687E-03	-1.49869E-02	-2.37969E-03	9.23657E-10
IsoVapor Flow (cm)	=	-2.38822E-02	-9.45450E-06	-5.64130E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.0320	+ 0.0000	+ 0.0000	- 0.0321	- 0.0000	- 0.0000 =	2.9999	vs. 2.9999

Mass Balance = -4.5362E-05 cm; Time step attempts = 310 and successes = 246
Evaporation: Potential = 0.0602 cm, Actual = 0.0321 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 70.7 %; TMEAN = 276.2 K; HDRY = 4.7559E+05 cm; DAYUBC = 134

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.05615	0.08039	0.05013
Head (cm)	=	5.29815E+05	1.44215E+03	8.27147E+02	1.44680E+03
LiqWater Flow (cm)	=	-5.08324E-09	-1.02060E-01	-4.08267E-02	9.70725E-10
IsoVapor Flow (cm)	=	-1.02778E-01	-6.43058E-06	-2.02445E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.3527+	0.0000+	0.0000	- 0.1028-	0.0000-	0.0000 =	4.2499 vs.	4.2499

Mass Balance = -1.6048E-05 cm; Time step attempts = 214 and successes = 168
Evaporation: Potential = 0.3090 cm, Actual = 0.1028 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.7 %; TMEAN = 277.9 K; HDRY = 8.2729E+05 cm; DAYUBC = 81
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.6032E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.6032E+02	[cm]
Actual Evaporation	=	1.6275E+01	[cm]
Evaporation during Growth	=	1.6275E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.9014E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.2499E+00	[cm]
Mass Balance Error	=	7.5066E-03	[cm]
Total Successful Time Steps	=	59256	
Total Attempted Time Steps	=	72610	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28493	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2255E+00	0.050	1.1750E+01	0.150	9.6097E+00
0.250	8.5505E+00	0.350	7.5923E+00	0.450	6.8817E+00
0.550	6.4594E+00	0.650	6.0350E+00	0.750	5.5834E+00
0.850	5.2429E+00	0.950	4.9272E+00	1.125	4.7430E+00
1.375	4.1687E+00	1.625	3.8432E+00	1.875	3.4749E+00
2.250	3.1725E+00	2.750	2.7017E+00	3.250	2.3495E+00
3.750	2.0910E+00	4.250	1.9653E+00	4.790	1.8487E+00
6.350	1.7259E+00	8.890	1.3826E+00	11.430	1.1894E+00
13.970	1.0292E+00	16.510	9.3578E-01	19.050	8.6510E-01

21.590	7.9258E-01	24.130	7.1845E-01	26.670	6.4290E-01
29.210	5.6605E-01	31.750	4.8804E-01	34.290	4.0899E-01
36.830	3.2901E-01	39.370	2.4821E-01	41.910	1.6669E-01
44.450	8.4558E-02	46.990	2.1114E-03	49.530	2.0446E-04
52.070	1.2129E-05	54.610	3.0564E-06	57.150	9.2255E-07
59.690	3.6427E-07	60.960	2.9014E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0023.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.298E+05	0.0300	291.00	2	1.000E-01	3.009E+05	0.0300	291.00
3	2.000E-01	1.407E+05	0.0301	291.00	4	3.000E-01	1.776E+03	0.0504	291.00
5	4.000E-01	1.746E+03	0.0508	291.00	6	5.000E-01	1.717E+03	0.0512	291.00
7	6.000E-01	1.691E+03	0.0516	291.00	8	7.000E-01	1.666E+03	0.0520	291.00
9	8.000E-01	1.643E+03	0.0524	291.00	10	9.000E-01	1.621E+03	0.0527	291.00
11	1.000E+00	1.601E+03	0.0531	291.00	12	1.250E+00	1.554E+03	0.0539	291.00
13	1.500E+00	1.512E+03	0.0547	291.00	14	1.750E+00	1.475E+03	0.0554	291.00
15	2.000E+00	1.442E+03	0.0561	291.00	16	2.500E+00	1.384E+03	0.0574	291.00
17	3.000E+00	1.336E+03	0.0586	291.00	18	3.500E+00	1.295E+03	0.0597	291.00
19	4.000E+00	1.258E+03	0.0607	291.00	20	4.500E+00	1.227E+03	0.0617	291.00
21	5.080E+00	1.194E+03	0.0627	291.00	22	7.620E+00	1.089E+03	0.0665	291.00
23	1.016E+01	1.019E+03	0.0694	291.00	24	1.270E+01	9.696E+02	0.0718	291.00
25	1.524E+01	9.318E+02	0.0738	291.00	26	1.778E+01	9.020E+02	0.0755	291.00
27	2.032E+01	8.778E+02	0.0770	291.00	28	2.286E+01	8.579E+02	0.0783	291.00
29	2.540E+01	8.412E+02	0.0794	291.00	30	2.794E+01	8.271E+02	0.0804	291.00
31	3.048E+01	8.153E+02	0.0812	291.00	32	3.302E+01	8.052E+02	0.0820	291.00
33	3.556E+01	7.967E+02	0.0826	291.00	34	3.810E+01	7.896E+02	0.0832	291.00
35	4.064E+01	7.838E+02	0.0836	291.00	36	4.318E+01	7.791E+02	0.0840	291.00
37	4.572E+01	7.755E+02	0.0843	291.00	38	4.826E+01	7.667E+02	0.0506	291.00
39	5.080E+01	1.120E+03	0.0502	291.00	40	5.334E+01	1.322E+03	0.0502	291.00
41	5.588E+01	1.403E+03	0.0501	291.00	42	5.842E+01	1.437E+03	0.0501	291.00
43	6.096E+01	1.447E+03	0.0501	291.00					

Initial Water Storage = 4.2499 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.05267	0.07833	0.05013
Head (cm)	=	1.33176E+06	1.62586E+03	8.57188E+02	1.44598E+03
LiqWater Flow (cm)	=	-2.64264E-11	-9.29236E-02	-3.75813E-02	9.75285E-10
IsoVapor Flow (cm)	=	-1.06276E-01	-8.86852E-06	-2.20024E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.2499+	0.0000+	0.0000	- 0.1063-	0.0000-	0.0000 =	4.1437 vs.	4.1437

Mass Balance = -2.9736E-05 cm; Time step attempts = 197 and successes = 153
Evaporation: Potential = 0.5168 cm, Actual = 0.1063 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.8 %; TMEAN = 280.9 K; HDRY = 1.3318E+06 cm; DAYUBC = 115

```
DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
-------------
Node Number        =       1          15          30          43
Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
Water (cm3/cm3)    =     0.03000     0.03001     0.05050     0.05012
Head (cm)          = 2.18999E+06 1.22242E+06 1.76901E+03 1.48886E+03
LiqWater Flow (cm)=-6.22668E-14-7.23564E-13-2.54043E-03 7.68706E-10
IsoVapor Flow (cm)=-7.55718E-03-7.55700E-03-5.48181E-07 0.00000E+00
Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                LIQUID
 PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
  2.8985+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =    2.8910 vs.    2.8910

Mass Balance = -1.9526E-08 cm;  Time step attempts =   24 and successes =   24
  Evaporation:  Potential =  0.4019 cm, Actual =  0.0076 cm
Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
RHMEAN = 20.2 %;  TMEAN = 279.3 K;  HDRY =  2.1900E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                           SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design
-------------------------------------------------------------------------------

Transpiration Scheme is:              =    1
Potential Evapotranspiration          =  2.6782E+02     [cm]
Potential Transpiration               =  0.0000E+00     [cm]
Actual Transpiration                  =  0.0000E+00     [cm]
Potential Evaporation                 =  2.6782E+02     [cm]
Actual Evaporation                    =  1.2046E+01     [cm]
Evaporation during Growth             =  1.2046E+01     [cm]
Total Runoff                          =  0.0000E+00     [cm]
Total Infiltration                    =  1.0693E+01     [cm]
Total Basal Liquid Flux (drainage)    =  5.3926E-07     [cm]
Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
Total Applied Water                   =  1.0693E+01     [cm]
Actual Rainfall                       =  1.0693E+01     [cm]
Actual Irrigation                     =  0.0000E+00     [cm]
Total Final Moisture Storage          =  2.8910E+00     [cm]
Mass Balance Error                    =  6.7256E-03     [cm]
Total Successful Time Steps           =     58866
Total Attempted Time Steps            =     72390
Total Time Step Reductions (DHMAX)    =         0
Total Changes in Surface Boundary     =     31113
Total Time Actually Simulated         =  3.6500E+02     [days]


Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

   DEPTH        FLOW        DEPTH        FLOW        DEPTH        FLOW
  --------   -----------   --------   -----------   --------   -----------
     0.000   -1.3522E+00      0.050    8.2358E+00      0.150    6.7954E+00
     0.250    6.0262E+00      0.350    5.3554E+00      0.450    4.7756E+00
     0.550    4.3669E+00      0.650    3.9542E+00      0.750    3.6371E+00
     0.850    3.3875E+00      0.950    3.1168E+00      1.125    2.8262E+00
     1.375    2.2391E+00      1.625    1.7996E+00      1.875    1.3558E+00
     2.250    9.8099E-01      2.750    4.7376E-01      3.250    1.3091E-01
     3.750   -1.3111E-01      4.250   -3.2028E-01      4.790   -4.4643E-01
     6.350   -5.9522E-01      8.890   -9.2963E-01     11.430   -1.0093E+00
    13.970   -9.9122E-01     16.510   -9.2381E-01     19.050   -8.5429E-01
```

21.590	-7.8290E-01	24.130	-7.0986E-01	26.670	-6.3533E-01
29.210	-5.5947E-01	31.750	-4.8242E-01	34.290	-4.0432E-01
36.830	-3.2528E-01	39.370	-2.4541E-01	41.910	-1.6482E-01
44.450	-8.3615E-02	46.990	-1.6528E-03	49.530	1.2905E-04
52.070	1.5723E-05	54.610	4.3676E-06	57.150	1.1220E-06
59.690	4.8073E-07	60.960	5.3926E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0024.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.190E+06	0.0300	291.00	2	1.000E-01	2.121E+06	0.0300	291.00
3	2.000E-01	2.055E+06	0.0300	291.00	4	3.000E-01	1.993E+06	0.0300	291.00
5	4.000E-01	1.933E+06	0.0300	291.00	6	5.000E-01	1.876E+06	0.0300	291.00
7	6.000E-01	1.821E+06	0.0300	291.00	8	7.000E-01	1.768E+06	0.0300	291.00
9	8.000E-01	1.718E+06	0.0300	291.00	10	9.000E-01	1.669E+06	0.0300	291.00
11	1.000E+00	1.621E+06	0.0300	291.00	12	1.250E+00	1.510E+06	0.0300	291.00
13	1.500E+00	1.407E+06	0.0300	291.00	14	1.750E+00	1.312E+06	0.0300	291.00
15	2.000E+00	1.222E+06	0.0300	291.00	16	2.500E+00	1.059E+06	0.0300	291.00
17	3.000E+00	9.135E+05	0.0300	291.00	18	3.500E+00	7.816E+05	0.0300	291.00
19	4.000E+00	6.612E+05	0.0300	291.00	20	4.500E+00	5.506E+05	0.0300	291.00
21	5.080E+00	4.325E+05	0.0300	291.00	22	7.620E+00	2.844E+03	0.0416	291.00
23	1.016E+01	2.389E+03	0.0443	291.00	24	1.270E+01	2.182E+03	0.0459	291.00
25	1.524E+01	2.055E+03	0.0471	291.00	26	1.778E+01	1.965E+03	0.0481	291.00
27	2.032E+01	1.898E+03	0.0488	291.00	28	2.286E+01	1.845E+03	0.0495	291.00
29	2.540E+01	1.803E+03	0.0500	291.00	30	2.794E+01	1.769E+03	0.0505	291.00
31	3.048E+01	1.741E+03	0.0509	291.00	32	3.302E+01	1.718E+03	0.0512	291.00
33	3.556E+01	1.699E+03	0.0515	291.00	34	3.810E+01	1.685E+03	0.0517	291.00
35	4.064E+01	1.673E+03	0.0519	291.00	36	4.318E+01	1.665E+03	0.0520	291.00
37	4.572E+01	1.659E+03	0.0521	291.00	38	4.826E+01	1.623E+03	0.0501	291.00
39	5.080E+01	1.520E+03	0.0501	291.00	40	5.334E+01	1.499E+03	0.0501	291.00
41	5.588E+01	1.496E+03	0.0501	291.00	42	5.842E+01	1.492E+03	0.0501	291.00
43	6.096E+01	1.489E+03	0.0501	291.00					

Initial Water Storage = 2.8910 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.05036	0.05012
Head (cm)	=	8.55088E+05	5.76062E+05	1.77910E+03	1.48910E+03
LiqWater Flow (cm)	=	-1.48803E-12	-1.06212E-11	-2.50343E-03	7.67627E-10
IsoVapor Flow (cm)	=	-4.34720E-03	-4.37010E-03	-5.55035E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8910+	0.0000+	0.0000	- 0.0043-	0.0000-	0.0000 =	2.8866 vs.	2.8866

Mass Balance = -6.0851E-06 cm; Time step attempts = 48 and successes = 46
Evaporation: Potential = 0.2776 cm, Actual = 0.0043 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.6 %; TMEAN = 283.7 K; HDRY = 8.5509E+05 cm; DAYUBC = 41

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03008	0.04291	0.06087	0.05108
Head (cm)	=	1.83918E+05	2.60461E+03	1.25406E+03	6.19699E+02
LiqWater Flow (cm)	=	-1.41200E-09	-1.98555E-02	-8.53929E-03	1.05187E-06
IsoVapor Flow (cm)	=	-1.74446E-02	-2.15452E-05	-3.38020E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR	STORAGE
3.4253+	0.0000+	0.0000	- 0.0174-	0.0000-	0.0000	=	3.4078 vs.	3.4078

Mass Balance = 1.1498E-05 cm; Time step attempts = 195 and successes = 162
Evaporation: Potential = 0.0456 cm, Actual = 0.0174 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 66.0 %; TMEAN = 283.2 K; HDRY = 5.7017E+05 cm; DAYUBC = 42
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3638E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3638E+02	[cm]
Actual Evaporation	=	3.0183E+01	[cm]
Evaporation during Growth	=	3.0166E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0709E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.9203E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0709E+01	[cm]
Actual Rainfall	=	3.0709E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.4078E+00	[cm]
Mass Balance Error	=	8.6136E-03	[cm]
Total Successful Time Steps	=	63297	
Total Attempted Time Steps	=	77642	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28533	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.2551E-01	0.050	1.8261E+01	0.150	1.2076E+01
0.250	9.8954E+00	0.350	8.4690E+00	0.450	7.4101E+00
0.550	6.8215E+00	0.650	6.1711E+00	0.750	5.5473E+00
0.850	5.1424E+00	0.950	4.8306E+00	1.125	4.5165E+00
1.375	3.3636E+00	1.625	2.7270E+00	1.875	2.3306E+00
2.250	1.9798E+00	2.750	1.5069E+00	3.250	1.1913E+00
3.750	9.6578E-01	4.250	8.3457E-01	4.790	7.1854E-01
6.350	6.0874E-01	8.890	4.0735E-01	11.430	3.8263E-01
13.970	3.5838E-01	16.510	3.3394E-01	19.050	3.0912E-01

21.590	2.8386E-01	24.130	2.5818E-01	26.670	2.3209E-01
29.210	2.0562E-01	31.750	1.7882E-01	34.290	1.5172E-01
36.830	1.2436E-01	39.370	9.6776E-02	41.910	6.8983E-02
44.450	4.1012E-02	46.990	1.2963E-02	49.530	1.3106E-02
52.070	9.3542E-03	54.610	6.3654E-03	57.150	3.3018E-03
59.690	9.0045E-04	60.960	3.9203E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0025.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.839E+05	0.0301	291.00	2	1.000E-01	1.516E+05	0.0301	291.00
3	2.000E-01	1.280E+05	0.0301	291.00	4	3.000E-01	1.067E+05	0.0302	291.00
5	4.000E-01	8.510E+04	0.0302	291.00	6	5.000E-01	6.307E+04	0.0303	291.00
7	6.000E-01	4.118E+04	0.0305	291.00	8	7.000E-01	1.939E+04	0.0312	291.00
9	8.000E-01	5.394E+03	0.0354	291.00	10	9.000E-01	4.437E+03	0.0368	291.00
11	1.000E+00	3.951E+03	0.0378	291.00	12	1.250E+00	3.310E+03	0.0397	291.00
13	1.500E+00	2.978E+03	0.0410	291.00	14	1.750E+00	2.762E+03	0.0420	291.00
15	2.000E+00	2.605E+03	0.0429	291.00	16	2.500E+00	2.384E+03	0.0443	291.00
17	3.000E+00	2.233E+03	0.0455	291.00	18	3.500E+00	2.120E+03	0.0465	291.00
19	4.000E+00	2.032E+03	0.0474	291.00	20	4.500E+00	1.960E+03	0.0481	291.00
21	5.080E+00	1.890E+03	0.0489	291.00	22	7.620E+00	1.687E+03	0.0517	291.00
23	1.016E+01	1.565E+03	0.0537	291.00	24	1.270E+01	1.482E+03	0.0553	291.00
25	1.524E+01	1.420E+03	0.0566	291.00	26	1.778E+01	1.371E+03	0.0578	291.00
27	2.032E+01	1.333E+03	0.0587	291.00	28	2.286E+01	1.302E+03	0.0595	291.00
29	2.540E+01	1.276E+03	0.0603	291.00	30	2.794E+01	1.254E+03	0.0609	291.00
31	3.048E+01	1.236E+03	0.0614	291.00	32	3.302E+01	1.221E+03	0.0619	291.00
33	3.556E+01	1.209E+03	0.0622	291.00	34	3.810E+01	1.199E+03	0.0626	291.00
35	4.064E+01	1.191E+03	0.0628	291.00	36	4.318E+01	1.185E+03	0.0630	291.00
37	4.572E+01	1.180E+03	0.0632	291.00	38	4.826E+01	1.142E+03	0.0502	291.00
39	5.080E+01	5.968E+02	0.0512	291.00	40	5.334E+01	5.769E+02	0.0513	291.00
41	5.588E+01	5.834E+02	0.0513	291.00	42	5.842E+01	6.050E+02	0.0511	291.00
43	6.096E+01	6.197E+02	0.0511	291.00					

Initial Water Storage = 3.4078 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04224	0.06042	0.05109
Head (cm)	=	6.23434E+05	2.72336E+03	1.26967E+03	6.18428E+02
LiqWater Flow (cm)	=	-4.49221E-11	-1.93410E-02	-8.23819E-03	1.07024E-06
IsoVapor Flow (cm)	=	-2.34509E-02	-2.42378E-05	-3.46180E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.4078	+ 0.0000	+ 0.0000	- 0.0235	- 0.0000	- 0.0000 =	3.3844	vs. 3.3844

Mass Balance = -2.6348E-05 cm; Time step attempts = 132 and successes = 106
Evaporation: Potential = 0.1622 cm, Actual = 0.0235 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 63.5 %; TMEAN = 283.7 K; HDRY = 6.2343E+05 cm; DAYUBC = 100

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number          =       1           15           30           43
 Depth (cm)           =     0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)      =     0.03000      0.03001      0.04937      0.05261
 Head (cm)            = 1.91374E+06 1.11537E+06 1.85460E+03 4.35712E+02
 LiqWater Flow (cm)=-9.47533E-14-1.00274E-12-2.34977E-03 1.94761E-05
 IsoVapor Flow (cm)=-7.13087E-03-7.12916E-03-6.32833E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                  LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR       STORAGE
   2.8694+ 0.0000+ 0.0000 - 0.0071- 0.0000-  0.0000 =     2.8622 vs.     2.8622

 Mass Balance =  6.5217E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6907 cm, Actual =  0.0071 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.8 %;  TMEAN = 286.8 K;  HDRY =  1.9137E+06 cm;  DAYUBC =    24
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                            SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
--------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.4099E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.4099E+02     [cm]
 Actual Evaporation                    =  3.3211E+01     [cm]
 Evaporation during Growth             =  3.3211E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  3.2690E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  1.7798E-02     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  3.2690E+01     [cm]
 Actual Rainfall                       =  3.2690E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.8622E+00     [cm]
 Mass Balance Error                    =  6.5004E-03     [cm]
 Total Successful Time Steps           =     55651
 Total Attempted Time Steps            =     67834
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     25689
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000   -5.2129E-01      0.050    1.3693E+01      0.150    9.3583E+00
      0.250    7.3486E+00      0.350    6.2012E+00      0.450    5.4708E+00
      0.550    5.0421E+00      0.650    4.5344E+00      0.750    3.9458E+00
      0.850    3.6468E+00      0.950    3.2753E+00      1.125    3.0327E+00
      1.375    2.5157E+00      1.625    2.1234E+00      1.875    1.7915E+00
      2.250    1.4832E+00      2.750    9.8832E-01      3.250    6.8568E-01
      3.750    4.2552E-01      4.250    2.3790E-01      4.790    3.4342E-02
      6.350   -1.6946E-01      8.890   -4.0381E-01     11.430   -3.7579E-01
     13.970   -3.4838E-01     16.510   -3.2095E-01     19.050   -2.9326E-01
```

21.590	-2.6523E-01	24.130	-2.3683E-01	26.670	-2.0807E-01
29.210	-1.7896E-01	31.750	-1.4952E-01	34.290	-1.1978E-01
36.830	-8.9789E-02	39.370	-5.9563E-02	41.910	-2.9141E-02
44.450	1.4396E-03	46.990	3.2632E-02	49.530	3.6704E-02
52.070	2.9872E-02	54.610	2.6755E-02	57.150	2.3437E-02
59.690	1.9739E-02	60.960	1.7798E-02		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0026.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.914E+06	0.0300	291.00	2	1.000E-01	1.860E+06	0.0300	291.00
3	2.000E-01	1.810E+06	0.0300	291.00	4	3.000E-01	1.761E+06	0.0300	291.00
5	4.000E-01	1.713E+06	0.0300	291.00	6	5.000E-01	1.667E+06	0.0300	291.00
7	6.000E-01	1.623E+06	0.0300	291.00	8	7.000E-01	1.580E+06	0.0300	291.00
9	8.000E-01	1.538E+06	0.0300	291.00	10	9.000E-01	1.497E+06	0.0300	291.00
11	1.000E+00	1.458E+06	0.0300	291.00	12	1.250E+00	1.364E+06	0.0300	291.00
13	1.500E+00	1.276E+06	0.0300	291.00	14	1.750E+00	1.193E+06	0.0300	291.00
15	2.000E+00	1.115E+06	0.0300	291.00	16	2.500E+00	9.715E+05	0.0300	291.00
17	3.000E+00	8.414E+05	0.0300	291.00	18	3.500E+00	7.226E+05	0.0300	291.00
19	4.000E+00	6.133E+05	0.0300	291.00	20	4.500E+00	5.122E+05	0.0300	291.00
21	5.080E+00	4.035E+05	0.0300	291.00	22	7.620E+00	3.821E+03	0.0382	291.00
23	1.016E+01	2.695E+03	0.0424	291.00	24	1.270E+01	2.382E+03	0.0444	291.00
25	1.524E+01	2.208E+03	0.0457	291.00	26	1.778E+01	2.092E+03	0.0468	291.00
27	2.032E+01	2.008E+03	0.0476	291.00	28	2.286E+01	1.945E+03	0.0483	291.00
29	2.540E+01	1.895E+03	0.0489	291.00	30	2.794E+01	1.855E+03	0.0494	291.00
31	3.048E+01	1.822E+03	0.0498	291.00	32	3.302E+01	1.796E+03	0.0501	291.00
33	3.556E+01	1.775E+03	0.0504	291.00	34	3.810E+01	1.758E+03	0.0506	291.00
35	4.064E+01	1.745E+03	0.0508	291.00	36	4.318E+01	1.736E+03	0.0510	291.00
37	4.572E+01	1.729E+03	0.0511	291.00	38	4.826E+01	1.431E+03	0.0501	291.00
39	5.080E+01	4.599E+02	0.0523	291.00	40	5.334E+01	4.483E+02	0.0524	291.00
41	5.588E+01	4.411E+02	0.0525	291.00	42	5.842E+01	4.370E+02	0.0526	291.00
43	6.096E+01	4.357E+02	0.0526	291.00					

Initial Water Storage = 2.8622 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.03003	0.04924	0.05260
Head (cm)	=	6.08436E+05	4.22648E+05	1.86506E+03	4.36246E+02
LiqWater Flow (cm)	=	-5.20384E-12	-3.35341E-11	-2.32499E-03	1.92797E-05
IsoVapor Flow (cm)	=	-3.30482E-03	-3.34386E-03	-6.43078E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8622+	0.0000+	0.0000	- 0.0033-	0.0000-	0.0000 =	2.8589 vs.	2.8589

Mass Balance = -5.6637E-06 cm; Time step attempts = 45 and successes = 43
Evaporation: Potential = 0.1902 cm, Actual = 0.0033 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 64.2 %; TMEAN = 276.5 K; HDRY = 6.0844E+05 cm; DAYUBC = 36

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03004	0.05479	0.05121
Head (cm)	=	9.63046E+05	3.37138E+05	1.50822E+03	5.92155E+02
LiqWater Flow (cm)	=	-2.20835E-12	-6.96940E-10	-4.60360E-03	1.54773E-06
IsoVapor Flow (cm)	=	-1.04304E-02	-1.04413E-02	-4.49907E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
3.1170	+	0.0000	+	0.0000	-	0.0104	-	0.0000	-	0.0000	=	3.1065	vs.	3.1065

Mass Balance = -1.0060E-06 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.3333 cm, Actual = 0.0104 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 49.5 %; TMEAN = 280.7 K; HDRY = 9.6305E+05 cm; DAYUBC = 68
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.4846E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.4846E+02	[cm]
Actual Evaporation	=	1.8312E+01	[cm]
Evaporation during Growth	=	1.8312E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8567E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.2675E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8567E+01	[cm]
Actual Rainfall	=	1.8567E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1065E+00	[cm]
Mass Balance Error	=	8.3977E-03	[cm]
Total Successful Time Steps	=	62469	
Total Attempted Time Steps	=	77012	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30909	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.5497E-01	0.050	1.3066E+01	0.150	1.0921E+01
0.250	9.1431E+00	0.350	7.9813E+00	0.450	7.0047E+00
0.550	6.2309E+00	0.650	5.5568E+00	0.750	4.8703E+00
0.850	4.3832E+00	0.950	3.9411E+00	1.125	3.5805E+00
1.375	2.6949E+00	1.625	2.3676E+00	1.875	2.1186E+00
2.250	1.9512E+00	2.750	1.5779E+00	3.250	1.3139E+00
3.750	1.0776E+00	4.250	9.5795E-01	4.790	8.6880E-01
6.350	7.3683E-01	8.890	4.3464E-01	11.430	2.8229E-01
13.970	1.6848E-01	16.510	1.5427E-01	19.050	1.4069E-01

21.590	1.2713E-01	24.130	1.1352E-01	26.670	9.9799E-02
29.210	8.5955E-02	31.750	7.1987E-02	34.290	5.7906E-02
36.830	4.3722E-02	39.370	2.9445E-02	41.910	1.5090E-02
44.450	6.7142E-04	46.990	-1.2458E-02	49.530	-7.7771E-03
52.070	-9.9050E-03	54.610	-6.4666E-03	57.150	-2.9871E-03
59.690	5.1354E-04	60.960	2.2675E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0027.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.630E+05	0.0300	291.00	2	1.000E-01	9.240E+05	0.0300	291.00
3	2.000E-01	8.859E+05	0.0300	291.00	4	3.000E-01	8.489E+05	0.0300	291.00
5	4.000E-01	8.129E+05	0.0300	291.00	6	5.000E-01	7.778E+05	0.0300	291.00
7	6.000E-01	7.436E+05	0.0300	291.00	8	7.000E-01	7.102E+05	0.0300	291.00
9	8.000E-01	6.776E+05	0.0300	291.00	10	9.000E-01	6.458E+05	0.0300	291.00
11	1.000E+00	6.147E+05	0.0300	291.00	12	1.250E+00	5.399E+05	0.0300	291.00
13	1.500E+00	4.689E+05	0.0300	291.00	14	1.750E+00	4.014E+05	0.0300	291.00
15	2.000E+00	3.371E+05	0.0300	291.00	16	2.500E+00	2.169E+05	0.0301	291.00
17	3.000E+00	1.064E+05	0.0302	291.00	18	3.500E+00	4.667E+03	0.0364	291.00
19	4.000E+00	3.421E+03	0.0393	291.00	20	4.500E+00	3.004E+03	0.0409	291.00
21	5.080E+00	2.730E+03	0.0422	291.00	22	7.620E+00	2.193E+03	0.0459	291.00
23	1.016E+01	1.967E+03	0.0481	291.00	24	1.270E+01	1.831E+03	0.0497	291.00
25	1.524E+01	1.737E+03	0.0509	291.00	26	1.778E+01	1.668E+03	0.0520	291.00
27	2.032E+01	1.614E+03	0.0529	291.00	28	2.286E+01	1.571E+03	0.0536	291.00
29	2.540E+01	1.537E+03	0.0542	291.00	30	2.794E+01	1.508E+03	0.0548	291.00
31	3.048E+01	1.485E+03	0.0553	291.00	32	3.302E+01	1.466E+03	0.0556	291.00
33	3.556E+01	1.450E+03	0.0560	291.00	34	3.810E+01	1.437E+03	0.0563	291.00
35	4.064E+01	1.427E+03	0.0565	291.00	36	4.318E+01	1.420E+03	0.0566	291.00
37	4.572E+01	1.415E+03	0.0567	291.00	38	4.826E+01	1.350E+03	0.0502	291.00
39	5.080E+01	6.924E+02	0.0508	291.00	40	5.334E+01	6.331E+02	0.0510	291.00
41	5.588E+01	6.078E+02	0.0511	291.00	42	5.842E+01	5.958E+02	0.0512	291.00
43	6.096E+01	5.922E+02	0.0512	291.00					

Initial Water Storage = 3.1065 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03004	0.05454	0.05121
Head (cm)	=	8.32262E+05	2.99568E+05	1.52093E+03	5.92507E+02
LiqWater Flow (cm)	=	-3.79396E-12	-1.10083E-09	-4.49474E-03	1.54016E-06
IsoVapor Flow (cm)	=	-9.41538E-03	-9.42389E-03	-4.57445E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
3.1065	+	0.0000	+	0.0000	-	0.0094	-	0.0000	-	0.0000	=	3.0971	vs.	3.0971

Mass Balance = -6.9419E-08 cm; Time step attempts = 48 and successes = 46
Evaporation: Potential = 0.2920 cm, Actual = 0.0094 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.5 %; TMEAN = 278.7 K; HDRY = 8.3226E+05 cm; DAYUBC = 45

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number         =        1           15           30           43
 Depth (cm)          =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)     =      0.03001      0.03662      0.06140      0.05079
 Head (cm)           = 1.66220E+06 4.54852E+03 1.23600E+03 7.02294E+02
 LiqWater Flow (cm)=-6.76403E-13-2.35628E-02-9.73240E-03 3.78592E-07
 IsoVapor Flow (cm)=-2.54271E-02-9.03468E-05-3.53501E-07 0.00000E+00
 Plant Sink (cm)     = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.4258+ 0.0000+ 0.0000 - 0.0254- 0.0000-  0.0000 =     3.4003 vs.      3.4003

 Mass Balance = -8.2996E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5740 cm, Actual =  0.0254 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 29.7 %;  TMEAN = 283.4 K;  HDRY =  1.6622E+06 cm;  DAYUBC =    24
1

------------------------------------------------------------------------------

                          UNSAT-H Version 3.01
                           SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design
------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.5519E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.5519E+02     [cm]
 Actual Evaporation                    =  2.5402E+01     [cm]
 Evaporation during Growth             =  2.5402E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.5705E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  2.8434E-04     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.5705E+01     [cm]
 Actual Rainfall                       =  2.5705E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  3.4003E+00     [cm]
 Mass Balance Error                    =  9.0395E-03     [cm]
 Total Successful Time Steps           =     69410
 Total Attempted Time Steps            =     85882
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     32063
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000    3.0312E-01      0.050    1.6987E+01      0.150    1.2538E+01
      0.250    1.0482E+01      0.350    9.1852E+00      0.450    8.0062E+00
      0.550    7.0071E+00      0.650    6.3708E+00      0.750    5.8257E+00
      0.850    5.2400E+00      0.950    4.7578E+00      1.125    4.4374E+00
      1.375    3.4395E+00      1.625    2.9162E+00      1.875    2.4675E+00
      2.250    1.9823E+00      2.750    1.4612E+00      3.250    1.1326E+00
      3.750    9.3626E-01      4.250    7.9476E-01      4.790    6.5238E-01
      6.350    5.2051E-01      8.890    2.7580E-01     11.430    2.3221E-01
     13.970    2.1708E-01     16.510    2.0172E-01     19.050    1.8605E-01
```

21.590	1.7006E-01	24.130	1.5375E-01	26.670	1.3713E-01
29.210	1.2023E-01	31.750	1.0307E-01	34.290	8.5678E-02
36.830	6.8090E-02	39.370	5.0323E-02	41.910	3.2402E-02
44.450	1.4351E-02	46.990	-3.5407E-03	49.530	-8.3489E-04
52.070	-2.6466E-03	54.610	-2.0562E-03	57.150	-1.1772E-03
59.690	-2.1069E-04	60.960	2.8434E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0028.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.662E+06	0.0300	291.00	2	1.000E-01	1.510E+06	0.0300	291.00
3	2.000E-01	1.374E+06	0.0300	291.00	4	3.000E-01	1.249E+06	0.0300	291.00
5	4.000E-01	1.135E+06	0.0300	291.00	6	5.000E-01	1.030E+06	0.0300	291.00
7	6.000E-01	9.319E+05	0.0300	291.00	8	7.000E-01	8.405E+05	0.0300	291.00
9	8.000E-01	7.548E+05	0.0300	291.00	10	9.000E-01	6.741E+05	0.0300	291.00
11	1.000E+00	5.978E+05	0.0300	291.00	12	1.250E+00	4.237E+05	0.0300	291.00
13	1.500E+00	2.691E+05	0.0300	291.00	14	1.750E+00	1.303E+05	0.0301	291.00
15	2.000E+00	4.549E+03	0.0366	291.00	16	2.500E+00	2.868E+03	0.0415	291.00
17	3.000E+00	2.498E+03	0.0436	291.00	18	3.500E+00	2.291E+03	0.0450	291.00
19	4.000E+00	2.151E+03	0.0462	291.00	20	4.500E+00	2.046E+03	0.0472	291.00
21	5.080E+00	1.953E+03	0.0482	291.00	22	7.620E+00	1.704E+03	0.0514	291.00
23	1.016E+01	1.567E+03	0.0537	291.00	24	1.270E+01	1.476E+03	0.0554	291.00
25	1.524E+01	1.410E+03	0.0569	291.00	26	1.778E+01	1.359E+03	0.0581	291.00
27	2.032E+01	1.319E+03	0.0591	291.00	28	2.286E+01	1.286E+03	0.0600	291.00
29	2.540E+01	1.258E+03	0.0607	291.00	30	2.794E+01	1.236E+03	0.0614	291.00
31	3.048E+01	1.217E+03	0.0620	291.00	32	3.302E+01	1.202E+03	0.0625	291.00
33	3.556E+01	1.189E+03	0.0629	291.00	34	3.810E+01	1.178E+03	0.0632	291.00
35	4.064E+01	1.170E+03	0.0635	291.00	36	4.318E+01	1.164E+03	0.0637	291.00
37	4.572E+01	1.160E+03	0.0639	291.00	38	4.826E+01	1.137E+03	0.0502	291.00
39	5.080E+01	8.318E+02	0.0505	291.00	40	5.334E+01	7.595E+02	0.0507	291.00
41	5.588E+01	7.241E+02	0.0507	291.00	42	5.842E+01	7.073E+02	0.0508	291.00
43	6.096E+01	7.023E+02	0.0508	291.00					

Initial Water Storage = 3.4003 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03006	0.06091	0.05079
Head (cm)	= 1.91826E+06	2.28434E+05	1.25256E+03	7.02532E+02
LiqWater Flow (cm)	=-3.51372E-13	-6.06276E-03	-9.24701E-03	3.77538E-07
IsoVapor Flow (cm)	=-2.35214E-02	-1.49522E-02	-3.58978E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.4003+	0.0000+	0.0000	- 0.0235-	0.0000-	0.0000 =	3.3768 vs.	3.3768

Mass Balance = -1.3261E-05 cm; Time step attempts = 78 and successes = 62
Evaporation: Potential = 0.4509 cm, Actual = 0.0235 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 24.7 %; TMEAN = 276.2 K; HDRY = 1.9183E+06 cm; DAYUBC = 62

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.05062	0.05066
Head (cm)	= 1.35560E+06	6.61493E+05	1.76006E+03	7.56178E+02
LiqWater Flow (cm)	=-4.46375E-13	-1.50629E-11	-2.38869E-03	2.05343E-07
IsoVapor Flow (cm)	=-8.94416E-03	-8.94678E-03	-5.07459E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
2.9201+	0.0000+	0.0000	- 0.0089-	0.0000-	0.0000	=	2.9111	vs.	2.9111

Mass Balance = -1.0517E-06 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.2429 cm, Actual = 0.0089 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.2 %; TMEAN = 279.8 K; HDRY = 1.3556E+06 cm; DAYUBC = 73
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.8247E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8247E+02	[cm]
Actual Evaporation	=	2.5527E+01	[cm]
Evaporation during Growth	=	2.5518E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5044E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.4871E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5044E+01	[cm]
Actual Rainfall	=	2.5044E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9111E+00	[cm]
Mass Balance Error	=	6.2688E-03	[cm]
Total Successful Time Steps	=	53037	
Total Attempted Time Steps	=	64182	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25730	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.8287E-01	0.050	1.4388E+01	0.150	6.5572E+00
0.250	5.0262E+00	0.350	4.0428E+00	0.450	3.4354E+00
0.550	3.0630E+00	0.650	2.8637E+00	0.750	2.6756E+00
0.850	2.4928E+00	0.950	2.3973E+00	1.125	2.2902E+00
1.375	1.9954E+00	1.625	1.7948E+00	1.875	1.5817E+00
2.250	1.4317E+00	2.750	1.0899E+00	3.250	9.1393E-01
3.750	7.3118E-01	4.250	4.8119E-01	4.790	3.3930E-01
6.350	2.3674E-01	8.890	8.3967E-03	11.430	-6.7607E-02
13.970	-1.2611E-01	16.510	-1.7078E-01	19.050	-2.2185E-01

21.590	-2.4388E-01	24.130	-2.5696E-01	26.670	-2.3088E-01
29.210	-2.0367E-01	31.750	-1.7589E-01	34.290	-1.4761E-01
36.830	-1.1892E-01	39.370	-8.9877E-02	41.910	-6.0544E-02
44.450	-3.0986E-02	46.990	-1.1449E-04	49.530	3.0942E-03
52.070	6.9628E-04	54.610	-2.0513E-04	57.150	-2.5989E-04
59.690	-5.2792E-05	60.960	8.4871E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0029.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.356E+06	0.0300	291.00	2	1.000E-01	1.311E+06	0.0300	291.00
3	2.000E-01	1.268E+06	0.0300	291.00	4	3.000E-01	1.226E+06	0.0300	291.00
5	4.000E-01	1.186E+06	0.0300	291.00	6	5.000E-01	1.146E+06	0.0300	291.00
7	6.000E-01	1.108E+06	0.0300	291.00	8	7.000E-01	1.071E+06	0.0300	291.00
9	8.000E-01	1.035E+06	0.0300	291.00	10	9.000E-01	9.995E+05	0.0300	291.00
11	1.000E+00	9.651E+05	0.0300	291.00	12	1.250E+00	8.827E+05	0.0300	291.00
13	1.500E+00	8.049E+05	0.0300	291.00	14	1.750E+00	7.313E+05	0.0300	291.00
15	2.000E+00	6.615E+05	0.0300	291.00	16	2.500E+00	5.316E+05	0.0300	291.00
17	3.000E+00	4.131E+05	0.0300	291.00	18	3.500E+00	3.039E+05	0.0300	291.00
19	4.000E+00	2.028E+05	0.0301	291.00	20	4.500E+00	1.087E+05	0.0301	291.00
21	5.080E+00	6.998E+03	0.0339	291.00	22	7.620E+00	2.634E+03	0.0427	291.00
23	1.016E+01	2.326E+03	0.0448	291.00	24	1.270E+01	2.148E+03	0.0463	291.00
25	1.524E+01	2.030E+03	0.0474	291.00	26	1.778E+01	1.946E+03	0.0483	291.00
27	2.032E+01	1.882E+03	0.0490	291.00	28	2.286E+01	1.832E+03	0.0497	291.00
29	2.540E+01	1.792E+03	0.0502	291.00	30	2.794E+01	1.760E+03	0.0506	291.00
31	3.048E+01	1.734E+03	0.0510	291.00	32	3.302E+01	1.713E+03	0.0513	291.00
33	3.556E+01	1.695E+03	0.0516	291.00	34	3.810E+01	1.682E+03	0.0518	291.00
35	4.064E+01	1.671E+03	0.0519	291.00	36	4.318E+01	1.663E+03	0.0521	291.00
37	4.572E+01	1.658E+03	0.0521	291.00	38	4.826E+01	1.558E+03	0.0501	291.00
39	5.080E+01	9.263E+02	0.0504	291.00	40	5.334E+01	7.804E+02	0.0506	291.00
41	5.588E+01	7.536E+02	0.0507	291.00	42	5.842E+01	7.535E+02	0.0507	291.00
43	6.096E+01	7.562E+02	0.0507	291.00					

Initial Water Storage = 2.9111 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.05048	0.05066
Head (cm)	=	1.57845E+06	9.40023E+05	1.77047E+03	7.56076E+02
LiqWater Flow (cm)	=	-2.66420E-13	-9.32369E-12	-2.38372E-03	2.05578E-07
IsoVapor Flow (cm)	=	-9.53623E-03	-9.52898E-03	-5.20104E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9111+	0.0000+	0.0000	- 0.0095-	0.0000-	0.0000 =	2.9016 vs.	2.9016

Mass Balance = -1.5833E-05 cm; Time step attempts = 58 and successes = 44
Evaporation: Potential = 0.3200 cm, Actual = 0.0095 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 31.6 %; TMEAN = 281.8 K; HDRY = 1.5785E+06 cm; DAYUBC = 44

```
DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
-------------
Node Number        =       1          15          30          43
Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
Water (cm3/cm3)    =     0.03001     0.05330     0.07226     0.05046
Head (cm)          = 1.04789E+06 1.58863E+03 9.61152E+02 8.74975E+02
LiqWater Flow (cm)=-3.97314E-02-1.04425E-01 1.63006E-02 6.16985E-08
IsoVapor Flow (cm)=-9.84775E-02-6.10592E-06 9.46090E-08 0.00000E+00
Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                LIQUID
 PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
  4.0685+ 0.0000+ 0.0000 - 0.1397- 0.0000-  0.0000 =    3.9288 vs.    3.9288

Mass Balance = -5.6247E-05 cm;  Time step attempts =  345 and successes =  267
  Evaporation:  Potential =  0.4552 cm, Actual =  0.1397 cm
Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
RHMEAN = 46.6 %;  TMEAN = 279.0 K;  HDRY =  1.0479E+06 cm;  DAYUBC =   190
1

-------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                           SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design
-------------------------------------------------------------------------------

Transpiration Scheme is:              =    1
Potential Evapotranspiration          =  2.6934E+02     [cm]
Potential Transpiration               =  0.0000E+00     [cm]
Actual Transpiration                  =  0.0000E+00     [cm]
Potential Evaporation                 =  2.6934E+02     [cm]
Actual Evaporation                    =  2.1022E+01     [cm]
Evaporation during Growth             =  2.1022E+01     [cm]
Total Runoff                          =  0.0000E+00     [cm]
Total Infiltration                    =  2.2047E+01     [cm]
Total Basal Liquid Flux (drainage)    =  4.7809E-05     [cm]
Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
Total Applied Water                   =  2.2047E+01     [cm]
Actual Rainfall                       =  2.2047E+01     [cm]
Actual Irrigation                     =  0.0000E+00     [cm]
Total Final Moisture Storage          =  3.9288E+00     [cm]
Mass Balance Error                    =  7.5672E-03     [cm]
Total Successful Time Steps           =     59721
Total Attempted Time Steps            =     73227
Total Time Step Reductions (DHMAX)    =         0
Total Changes in Surface Boundary     =     28969
Total Time Actually Simulated         =  3.6500E+02     [days]


Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

   DEPTH        FLOW        DEPTH        FLOW        DEPTH        FLOW
  --------   -----------   --------   -----------   --------   -----------
     0.000   1.0253E+00      0.050   1.4319E+01      0.150   9.6566E+00
     0.250   8.4504E+00      0.350   7.5627E+00      0.450   6.6463E+00
     0.550   6.0284E+00      0.650   5.5049E+00      0.750   5.0375E+00
     0.850   4.6257E+00      0.950   4.2561E+00      1.125   3.9820E+00
     1.375   3.3653E+00      1.625   2.8345E+00      1.875   2.5949E+00
     2.250   2.4310E+00      2.750   2.1489E+00      3.250   1.9656E+00
     3.750   1.8611E+00      4.250   1.7475E+00      4.790   1.6802E+00
     6.350   1.5401E+00      8.890   1.2285E+00     11.430   1.0776E+00
    13.970   9.3591E-01     16.510   7.9561E-01     19.050   6.8356E-01
```

21.590	5.8022E-01	24.130	4.7878E-01	26.670	4.1884E-01
29.210	3.6365E-01	31.750	3.0938E-01	34.290	2.5603E-01
36.830	2.0353E-01	39.370	1.5177E-01	41.910	1.0059E-01
44.450	4.9742E-02	46.990	5.0909E-05	49.530	1.2731E-03
52.070	-2.5893E-04	54.610	-5.8154E-04	57.150	-4.3108E-04
59.690	-1.1751E-04	60.960	4.7809E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Main\a0030.res
Date of Run: 15 Mar 2012
Time of Run: 09:23:12.12
Title:
El Paso Clint 2284 - ET Cap design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.048E+06	0.0300	291.00	2	1.000E-01	7.129E+05	0.0300	291.00
3	2.000E-01	4.287E+05	0.0300	291.00	4	3.000E-01	1.995E+05	0.0301	291.00
5	4.000E-01	2.816E+03	0.0418	291.00	6	5.000E-01	2.514E+03	0.0435	291.00
7	6.000E-01	2.328E+03	0.0448	291.00	8	7.000E-01	2.197E+03	0.0458	291.00
9	8.000E-01	2.096E+03	0.0467	291.00	10	9.000E-01	2.015E+03	0.0475	291.00
11	1.000E+00	1.948E+03	0.0483	291.00	12	1.250E+00	1.818E+03	0.0498	291.00
13	1.500E+00	1.723E+03	0.0512	291.00	14	1.750E+00	1.649E+03	0.0523	291.00
15	2.000E+00	1.589E+03	0.0533	291.00	16	2.500E+00	1.495E+03	0.0550	291.00
17	3.000E+00	1.426E+03	0.0565	291.00	18	3.500E+00	1.371E+03	0.0578	291.00
19	4.000E+00	1.326E+03	0.0589	291.00	20	4.500E+00	1.289E+03	0.0599	291.00
21	5.080E+00	1.252E+03	0.0609	291.00	22	7.620E+00	1.144E+03	0.0644	291.00
23	1.016E+01	1.080E+03	0.0668	291.00	24	1.270E+01	1.039E+03	0.0686	291.00
25	1.524E+01	1.011E+03	0.0698	291.00	26	1.778E+01	9.911E+02	0.0708	291.00
27	2.032E+01	9.778E+02	0.0714	291.00	28	2.286E+01	9.690E+02	0.0719	291.00
29	2.540E+01	9.638E+02	0.0721	291.00	30	2.794E+01	9.612E+02	0.0723	291.00
31	3.048E+01	9.605E+02	0.0723	291.00	32	3.302E+01	9.611E+02	0.0723	291.00
33	3.556E+01	9.625E+02	0.0722	291.00	34	3.810E+01	9.640E+02	0.0721	291.00
35	4.064E+01	9.650E+02	0.0721	291.00	36	4.318E+01	9.652E+02	0.0721	291.00
37	4.572E+01	9.641E+02	0.0721	291.00	38	4.826E+01	9.826E+02	0.0503	291.00
39	5.080E+01	8.869E+02	0.0504	291.00	40	5.334E+01	8.988E+02	0.0504	291.00
41	5.588E+01	8.926E+02	0.0504	291.00	42	5.842E+01	8.803E+02	0.0505	291.00
43	6.096E+01	8.750E+02	0.0505	291.00					

Initial Water Storage = 3.9288 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.05114	0.05371	0.07089	0.05046
Head (cm)	= 1.72404E+03	1.56542E+03	9.88456E+02	8.75126E+02
LiqWater Flow (cm)	=-2.73426E-02	-6.52925E-02	-3.56959E-03	6.16104E-08
IsoVapor Flow (cm)	=-2.52982E-02	-6.91256E-06	-8.38906E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.9288+	0.0000+	0.0000	- 0.0516-	0.0000-	0.0000 =	3.8773 vs.	3.8772

Mass Balance = 2.6731E-05 cm; Time step attempts = 431 and successes = 350
Evaporation: Potential = 0.0520 cm, Actual = 0.0516 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.4 %; TMEAN = 276.8 K; HDRY = 8.3514E+05 cm; DAYUBC = 27

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04166	0.04719	0.05037
Head (cm)	=	9.13733E+05	2.83612E+03	2.05013E+03	9.55515E+02
LiqWater Flow (cm)	=	-1.38724E-11	-2.31953E-02	-1.69082E-03	2.98570E-08
IsoVapor Flow (cm)	=	-3.88938E-02	-1.85096E-05	-7.46541E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9257+	0.0000+	0.0000	- 0.0389-	0.0000-	0.0000 =	2.8869 vs.	2.8869

Mass Balance = -4.7412E-05 cm; Time step attempts = 291 and successes = 239
Evaporation: Potential = 0.4004 cm, Actual = 0.0389 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.3 %; TMEAN = 273.7 K; HDRY = 9.1373E+05 cm; DAYUBC = 236
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5837E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5837E+02	[cm]
Actual Evaporation	=	1.7977E+01	[cm]
Evaporation during Growth	=	1.7977E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.6942E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7633E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.6942E+01	[cm]
Actual Rainfall	=	1.6942E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8869E+00	[cm]
Mass Balance Error	=	6.7258E-03	[cm]
Total Successful Time Steps	=	65168	
Total Attempted Time Steps	=	80007	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32793	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0352E+00	0.050	1.1822E+01	0.150	8.7432E+00
0.250	7.2864E+00	0.350	6.2600E+00	0.450	5.4856E+00
0.550	4.8221E+00	0.650	4.3615E+00	0.750	3.6812E+00
0.850	3.1803E+00	0.950	2.9845E+00	1.125	2.7675E+00
1.375	1.9133E+00	1.625	1.6046E+00	1.875	1.2380E+00
2.250	8.6814E-01	2.750	3.7787E-01	3.250	1.2683E-01
3.750	-5.3303E-02	4.250	-2.0824E-01	4.790	-2.8872E-01
6.350	-3.9883E-01	8.890	-6.7941E-01	11.430	-7.4559E-01
13.970	-7.7554E-01	16.510	-7.4884E-01	19.050	-6.8459E-01

21.590	-6.1949E-01	24.130	-5.5454E-01	26.670	-4.9017E-01
29.210	-4.2658E-01	31.750	-3.6385E-01	34.290	-3.0202E-01
36.830	-2.4103E-01	39.370	-1.8077E-01	41.910	-1.2107E-01
44.450	-6.1695E-02	46.990	-1.9695E-03	49.530	2.6233E-04
52.070	-1.4104E-04	54.610	-1.6326E-04	57.150	-1.1452E-04
59.690	-3.0087E-05	60.960	1.7633E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX A-3

INCREASED HYDRAULIC CONDUCTIVITY

MODEL INPUT AND OUTPUT

```
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
1,1,                                IPLANT,NGRAV
365,1,365,                          IFDEND,IDTBEG,IDTEND
1,30,0,1,30,                        IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                              NPRINT,STOPHR
0,4,1,1.0E-6,                       ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                    DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,             RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                            KOPT,KEST,WTF
0,1,2,1,                            ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                  HIRRI,HDRY,HTOP,RHA
1,0,1,                              IETOPT,ICLOUD,ISHOPT
1,1.0,                              IRAIN,HPR
0,0.0,0.0,0.0,0,                    IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                            IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                      UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                          LOWERH,QHLEAK,TGRAD
1,0.66,291.0,0.24,                  IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                        matn,npt
1,0.00,1,0.10,1,0.20,1,0.30,
1,0.40,1,0.50,1,0.60,1,0.70,
1,0.80,1,0.90,1,1.00,1,1.25,
1,1.50,1,1.75,1,2.00,1,2.50,
1,3.00,1,3.50,1,4.00,1,4.50,
1,5.08,1,7.62,1,10.16,1,12.7,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.4,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.1,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.8,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer
0.38,0.03,0.006,2.2,
conductivity
2.0,5.5,0.006,2.2,0.5,
80% Compaction Layer
0.44,0.05,0.017,3.5,
conductivity
2.0,28.4,0.017,3.5,0.5,
0,                                 NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
0,1,1,1,1,365,
0.2,
0.0,0.0,0.0,
365,365,365,365,365,365,365,365,365,365,
```

```
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,
0.1,0.05,0.0,
0.0,0.52,0.5,0.1,2.7,
0.49, 1217, 0.5, 882.0,                                   ALBEDO,ALT,ZU,PMB

Year
dat
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0001.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	291.00	2	1.000E-01	5.750E+02	0.1065	291.00
3	2.000E-01	5.750E+02	0.1065	291.00	4	3.000E-01	5.750E+02	0.1065	291.00
5	4.000E-01	5.750E+02	0.1065	291.00	6	5.000E-01	5.750E+02	0.1065	291.00
7	6.000E-01	5.750E+02	0.1065	291.00	8	7.000E-01	5.750E+02	0.1065	291.00
9	8.000E-01	5.750E+02	0.1065	291.00	10	9.000E-01	5.750E+02	0.1065	291.00
11	1.000E+00	5.750E+02	0.1065	291.00	12	1.250E+00	5.750E+02	0.1065	291.00
13	1.500E+00	5.750E+02	0.1065	291.00	14	1.750E+00	5.750E+02	0.1065	291.00
15	2.000E+00	5.750E+02	0.1065	291.00	16	2.500E+00	5.750E+02	0.1065	291.00
17	3.000E+00	5.750E+02	0.1065	291.00	18	3.500E+00	5.750E+02	0.1065	291.00
19	4.000E+00	5.750E+02	0.1065	291.00	20	4.500E+00	5.750E+02	0.1065	291.00
21	5.080E+00	5.750E+02	0.1065	291.00	22	7.620E+00	5.750E+02	0.1065	291.00
23	1.016E+01	5.750E+02	0.1065	291.00	24	1.270E+01	5.750E+02	0.1065	291.00
25	1.524E+01	5.750E+02	0.1065	291.00	26	1.778E+01	5.750E+02	0.1065	291.00
27	2.032E+01	5.750E+02	0.1065	291.00	28	2.286E+01	5.750E+02	0.1065	291.00
29	2.540E+01	5.750E+02	0.1065	291.00	30	2.794E+01	5.750E+02	0.1065	291.00
31	3.048E+01	5.750E+02	0.1065	291.00	32	3.302E+01	5.750E+02	0.1065	291.00
33	3.556E+01	5.750E+02	0.1065	291.00	34	3.810E+01	5.750E+02	0.1065	291.00
35	4.064E+01	5.750E+02	0.1065	291.00	36	4.318E+01	5.750E+02	0.1065	291.00
37	4.572E+01	5.750E+02	0.1065	291.00	38	4.826E+01	1.250E+02	0.1064	291.00
39	5.080E+01	1.250E+02	0.1064	291.00	40	5.334E+01	1.250E+02	0.1064	291.00
41	5.588E+01	1.250E+02	0.1064	291.00	42	5.842E+01	1.250E+02	0.1064	291.00
43	6.096E+01	1.250E+02	0.1064	291.00					

Initial Water Storage = 6.4909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.08965	0.09079	0.11037	0.07426
Head (cm)	= 7.15117E+02	7.03495E+02	5.50253E+02	1.77602E+02
LiqWater Flow (cm)	=-3.32676E-01	-3.57652E-01	-2.21330E-01	1.46856E-01
IsoVapor Flow (cm)	=-6.06652E-02	-9.79155E-07	-1.29186E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
6.4909+	0.0000+	0.0000	- 0.3942-	0.0000-	0.1469 =	5.9498 vs.	5.9499

Mass Balance = -5.8252E-05 cm; Time step attempts = 471 and successes = 403
Evaporation: Potential = 0.4449 cm, Actual = 0.3942 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 40.1 %; TMEAN = 283.7 K; HDRY = 1.2523E+06 cm; DAYUBC = 59

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number          =        1           15           30           43
 Depth (cm)           =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)      =      0.03001      0.03001      0.04854      0.05243
 Head (cm)            = 1.36378E+06 8.60600E+05 1.92391E+03 4.48405E+02
 LiqWater Flow (cm)=-3.42232E-13-2.99017E-12-2.14646E-03 1.84201E-05
 IsoVapor Flow (cm)=-5.97595E-03-5.97457E-03-5.88885E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                  LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
    2.8514+ 0.0000+ 0.0000 - 0.0060- 0.0000-   0.0000 =     2.8454 vs.     2.8454

 Mass Balance =  3.4804E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4229 cm, Actual =  0.0060 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 37.0 %;  TMEAN = 283.4 K;  HDRY =  1.3638E+06 cm;  DAYUBC =    24
1

------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:            =    1
 Potential Evapotranspiration        =  2.5970E+02     [cm]
 Potential Transpiration             =  0.0000E+00     [cm]
 Actual Transpiration                =  0.0000E+00     [cm]
 Potential Evaporation               =  2.5970E+02     [cm]
 Actual Evaporation                  =  3.5481E+01     [cm]
 Evaporation during Growth           =  3.5481E+01     [cm]
 Total Runoff                        =  0.0000E+00     [cm]
 Total Infiltration                  =  3.2080E+01     [cm]
 Total Basal Liquid Flux (drainage)  =  2.3614E-01     [cm]
 Total Basal Vapor Flux (temp-grad)  =  0.0000E+00     [cm]
 Total Applied Water                 =  3.2080E+01     [cm]
 Actual Rainfall                     =  3.2080E+01     [cm]
 Actual Irrigation                   =  0.0000E+00     [cm]
 Total Final Moisture Storage        =  2.8454E+00     [cm]
 Mass Balance Error                  =  8.1182E-03     [cm]
 Total Successful Time Steps         =     68325
 Total Attempted Time Steps          =     84014
 Total Time Step Reductions (DHMAX)  =         0
 Total Changes in Surface Boundary   =     33154
 Total Time Actually Simulated       =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000   -3.4012E+00      0.050    1.4753E+01      0.150    8.8737E+00
      0.250    6.4626E+00      0.350    5.0730E+00      0.450    4.2024E+00
      0.550    3.3950E+00      0.650    2.7080E+00      0.750    2.1292E+00
      0.850    1.5408E+00      0.950    1.2019E+00      1.125    8.4102E-01
      1.375   -1.6652E-01      1.625   -6.9441E-01      1.875   -1.1472E+00
      2.250   -1.5008E+00      2.750   -2.0979E+00      3.250   -2.4209E+00
      3.750   -2.6769E+00      4.250   -2.7411E+00      4.790   -2.8271E+00
      6.350   -2.8291E+00      8.890   -2.7560E+00     11.430   -2.5962E+00
     13.970   -2.4395E+00     16.510   -2.2851E+00     19.050   -2.1326E+00
```

21.590	-1.9819E+00	24.130	-1.8325E+00	26.670	-1.6843E+00
29.210	-1.5372E+00	31.750	-1.3909E+00	34.290	-1.2454E+00
36.830	-1.1005E+00	39.370	-9.5614E-01	41.910	-8.1216E-01
44.450	-6.6847E-01	46.990	-5.2400E-01	49.530	-3.7642E-01
52.070	-2.4415E-01	54.610	-1.0671E-01	57.150	3.0515E-02
59.690	1.6761E-01	60.960	2.3614E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0002.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.364E+06	0.0300	291.00	2	1.000E-01	1.333E+06	0.0300	291.00
3	2.000E-01	1.304E+06	0.0300	291.00	4	3.000E-01	1.276E+06	0.0300	291.00
5	4.000E-01	1.248E+06	0.0300	291.00	6	5.000E-01	1.220E+06	0.0300	291.00
7	6.000E-01	1.193E+06	0.0300	291.00	8	7.000E-01	1.166E+06	0.0300	291.00
9	8.000E-01	1.140E+06	0.0300	291.00	10	9.000E-01	1.115E+06	0.0300	291.00
11	1.000E+00	1.089E+06	0.0300	291.00	12	1.250E+00	1.029E+06	0.0300	291.00
13	1.500E+00	9.703E+05	0.0300	291.00	14	1.750E+00	9.143E+05	0.0300	291.00
15	2.000E+00	8.606E+05	0.0300	291.00	16	2.500E+00	7.591E+05	0.0300	291.00
17	3.000E+00	6.645E+05	0.0300	291.00	18	3.500E+00	5.761E+05	0.0300	291.00
19	4.000E+00	4.931E+05	0.0300	291.00	20	4.500E+00	4.148E+05	0.0300	291.00
21	5.080E+00	3.293E+05	0.0300	291.00	22	7.620E+00	2.895E+03	0.0414	291.00
23	1.016E+01	2.536E+03	0.0433	291.00	24	1.270E+01	2.348E+03	0.0446	291.00
25	1.524E+01	2.224E+03	0.0456	291.00	26	1.778E+01	2.132E+03	0.0464	291.00
27	2.032E+01	2.061E+03	0.0471	291.00	28	2.286E+01	2.006E+03	0.0476	291.00
29	2.540E+01	1.961E+03	0.0481	291.00	30	2.794E+01	1.924E+03	0.0485	291.00
31	3.048E+01	1.894E+03	0.0489	291.00	32	3.302E+01	1.869E+03	0.0492	291.00
33	3.556E+01	1.850E+03	0.0494	291.00	34	3.810E+01	1.834E+03	0.0496	291.00
35	4.064E+01	1.821E+03	0.0498	291.00	36	4.318E+01	1.812E+03	0.0499	291.00
37	4.572E+01	1.806E+03	0.0500	291.00	38	4.826E+01	1.489E+03	0.0501	291.00
39	5.080E+01	4.728E+02	0.0521	291.00	40	5.334E+01	4.611E+02	0.0523	291.00
41	5.588E+01	4.538E+02	0.0524	291.00	42	5.842E+01	4.497E+02	0.0524	291.00
43	6.096E+01	4.484E+02	0.0524	291.00					

Initial Water Storage = 2.8454 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04843	0.05242
Head (cm)	= 1.37172E+06	8.64569E+05	1.93410E+03	4.48962E+02
LiqWater Flow (cm)	=-3.33900E-13	-2.92469E-12	-2.12007E-03	1.82318E-05
IsoVapor Flow (cm)	=-5.99674E-03	-5.99662E-03	-5.96676E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8454+	0.0000+	0.0000 -	0.0060-	0.0000-	0.0000 =	2.8394 vs.	2.8394

Mass Balance = -4.6796E-08 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.4495 cm, Actual = 0.0060 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.8 %; TMEAN = 285.1 K; HDRY = 1.3717E+06 cm; DAYUBC = 24

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.10499	0.10284	0.10052	0.05224
Head (cm)	=	5.85206E+02	6.00493E+02	6.17857E+02	4.63077E+02
LiqWater Flow (cm)	=	7.50619E-01	7.15893E-01	2.81915E-01	1.41624E-05
IsoVapor Flow (cm)	=	-3.14375E-07	3.34668E-08	2.80105E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
4.7193	+	0.7874	+	0.0000	-	0.0360	-	0.0000	-	0.0000	=	5.4708	vs.	5.4706

Mass Balance = 1.0687E-04 cm; Time step attempts = 172 and successes = 167
Evaporation: Potential = 0.0363 cm, Actual = 0.0360 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 79.7 %; TMEAN = 272.3 K; HDRY = 3.1088E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5577E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5577E+02	[cm]
Actual Evaporation	=	2.5225E+01	[cm]
Evaporation during Growth	=	2.5225E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.7864E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.4888E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.7864E+01	[cm]
Actual Rainfall	=	2.7864E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	5.4706E+00	[cm]
Mass Balance Error	=	9.3351E-03	[cm]
Total Successful Time Steps	=	69788	
Total Attempted Time Steps	=	86659	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31758	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.6391E+00	0.050	1.5133E+01	0.150	1.0906E+01
0.250	9.5342E+00	0.350	8.5735E+00	0.450	7.8926E+00
0.550	7.2929E+00	0.650	6.8114E+00	0.750	6.4965E+00
0.850	6.2426E+00	0.950	5.9884E+00	1.125	5.7733E+00
1.375	5.2057E+00	1.625	4.6539E+00	1.875	4.3962E+00
2.250	4.1371E+00	2.750	3.7592E+00	3.250	3.5416E+00
3.750	3.3313E+00	4.250	3.1361E+00	4.790	2.9682E+00
6.350	2.7128E+00	8.890	2.2122E+00	11.430	1.9377E+00
13.970	1.7273E+00	16.510	1.5653E+00	19.050	1.4223E+00

21.590	1.2822E+00	24.130	1.1449E+00	26.670	1.0102E+00
29.210	8.7802E-01	31.750	7.4829E-01	34.290	6.2075E-01
36.830	4.9515E-01	39.370	3.7111E-01	41.910	2.4818E-01
44.450	1.2582E-01	46.990	5.0188E-03	49.530	8.1907E-03
52.070	2.5556E-03	54.610	3.2323E-03	57.150	3.7803E-03
59.690	4.2575E-03	60.960	4.4888E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0003.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.852E+02	0.1050	291.00	2	1.000E-01	6.021E+02	0.1026	291.00
3	2.000E-01	6.069E+02	0.1020	291.00	4	3.000E-01	6.064E+02	0.1020	291.00
5	4.000E-01	6.046E+02	0.1023	291.00	6	5.000E-01	6.028E+02	0.1025	291.00
7	6.000E-01	6.017E+02	0.1027	291.00	8	7.000E-01	6.011E+02	0.1028	291.00
9	8.000E-01	6.009E+02	0.1028	291.00	10	9.000E-01	6.009E+02	0.1028	291.00
11	1.000E+00	6.010E+02	0.1028	291.00	12	1.250E+00	6.012E+02	0.1027	291.00
13	1.500E+00	6.011E+02	0.1028	291.00	14	1.750E+00	6.008E+02	0.1028	291.00
15	2.000E+00	6.005E+02	0.1028	291.00	16	2.500E+00	6.001E+02	0.1029	291.00
17	3.000E+00	5.997E+02	0.1029	291.00	18	3.500E+00	5.993E+02	0.1030	291.00
19	4.000E+00	5.990E+02	0.1030	291.00	20	4.500E+00	5.987E+02	0.1031	291.00
21	5.080E+00	5.984E+02	0.1031	291.00	22	7.620E+00	5.977E+02	0.1032	291.00
23	1.016E+01	5.978E+02	0.1032	291.00	24	1.270E+01	5.987E+02	0.1031	291.00
25	1.524E+01	6.003E+02	0.1029	291.00	26	1.778E+01	6.027E+02	0.1025	291.00
27	2.032E+01	6.057E+02	0.1021	291.00	28	2.286E+01	6.093E+02	0.1016	291.00
29	2.540E+01	6.134E+02	0.1011	291.00	30	2.794E+01	6.179E+02	0.1005	291.00
31	3.048E+01	6.224E+02	0.0999	291.00	32	3.302E+01	6.269E+02	0.0994	291.00
33	3.556E+01	6.309E+02	0.0989	291.00	34	3.810E+01	6.343E+02	0.0984	291.00
35	4.064E+01	6.365E+02	0.0982	291.00	36	4.318E+01	6.374E+02	0.0981	291.00
37	4.572E+01	6.366E+02	0.0982	291.00	38	4.826E+01	6.511E+02	0.0510	291.00
39	5.080E+01	5.200E+02	0.0517	291.00	40	5.334E+01	4.886E+02	0.0520	291.00
41	5.588E+01	4.732E+02	0.0521	291.00	42	5.842E+01	4.655E+02	0.0522	291.00
43	6.096E+01	4.631E+02	0.0522	291.00					

Initial Water Storage = 5.4706 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.10145	0.09910	0.10130	0.05223
Head (cm)	= 6.10784E+02	6.29034E+02	6.11907E+02	4.63943E+02
LiqWater Flow (cm)	= 1.79097E-04	8.40167E-03	6.30080E-02	1.39454E-05
IsoVapor Flow (cm)	=-7.92318E-07	-3.55992E-08	9.53485E-09	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.4706+	0.0000+	0.0000 -	0.0000-	0.0000-	0.0000 =	5.4706 vs.	5.4706

Mass Balance = -1.2436E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = **** %; TMEAN = 268.7 K; HDRY = 0.0000E+00 cm; DAYUBC = 0

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04412	0.05171	0.05099
Head (cm)	=	7.51360E+05	2.41699E+03	1.68610E+03	6.41894E+02
LiqWater Flow (cm)	=	-1.45800E-02	-2.96407E-02	2.71061E-03	9.53426E-07
IsoVapor Flow (cm)	=	-3.95337E-02	-1.19028E-05	3.44456E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1550+	0.0000+	0.0000	- 0.0550-	0.0000-	0.0000 =	3.1000 vs.	3.1000

Mass Balance = -8.0580E-05 cm; Time step attempts = 409 and successes = 310
Evaporation: Potential = 0.2459 cm, Actual = 0.0550 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 57.8 %; TMEAN = 277.0 K; HDRY = 7.5136E+05 cm; DAYUBC = 240
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5030E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5030E+02	[cm]
Actual Evaporation	=	2.2655E+01	[cm]
Evaporation during Growth	=	2.2655E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0295E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3769E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0295E+01	[cm]
Actual Rainfall	=	2.0295E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1000E+00	[cm]
Mass Balance Error	=	8.7703E-03	[cm]
Total Successful Time Steps	=	69175	
Total Attempted Time Steps	=	85196	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33909	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.3605E+00	0.050	1.3924E+01	0.150	1.0623E+01
0.250	8.0401E+00	0.350	6.5669E+00	0.450	5.4739E+00
0.550	4.4019E+00	0.650	3.6927E+00	0.750	3.0127E+00
0.850	2.5385E+00	0.950	2.0705E+00	1.125	1.6140E+00
1.375	8.5567E-01	1.625	4.2844E-01	1.875	2.6020E-02
2.250	-3.5288E-01	2.750	-9.9952E-01	3.250	-1.3178E+00
3.750	-1.6031E+00	4.250	-1.7901E+00	4.790	-1.8723E+00
6.350	-1.8685E+00	8.890	-1.8636E+00	11.430	-1.7354E+00
13.970	-1.6086E+00	16.510	-1.4826E+00	19.050	-1.3570E+00

21.590	-1.2318E+00	24.130	-1.1069E+00	26.670	-9.8240E-01
29.210	-8.5847E-01	31.750	-7.3534E-01	34.290	-6.1318E-01
36.830	-4.9206E-01	39.370	-3.7192E-01	41.910	-2.5250E-01
44.450	-1.3344E-01	46.990	-1.3700E-02	49.530	-7.0276E-03
52.070	-8.9261E-03	54.610	-6.2285E-03	57.150	-3.2658E-03
59.690	-1.8297E-04	60.960	1.3769E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0004.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.514E+05	0.0300	291.00	2	1.000E-01	6.437E+05	0.0300	291.00
3	2.000E-01	5.440E+05	0.0300	291.00	4	3.000E-01	4.510E+05	0.0300	291.00
5	4.000E-01	3.639E+05	0.0300	291.00	6	5.000E-01	2.821E+05	0.0300	291.00
7	6.000E-01	2.050E+05	0.0301	291.00	8	7.000E-01	1.320E+05	0.0301	291.00
9	8.000E-01	6.313E+04	0.0303	291.00	10	9.000E-01	3.958E+03	0.0378	291.00
11	1.000E+00	3.535E+03	0.0390	291.00	12	1.250E+00	3.011E+03	0.0408	291.00
13	1.500E+00	2.732E+03	0.0422	291.00	14	1.750E+00	2.549E+03	0.0432	291.00
15	2.000E+00	2.417E+03	0.0441	291.00	16	2.500E+00	2.234E+03	0.0455	291.00
17	3.000E+00	2.111E+03	0.0466	291.00	18	3.500E+00	2.021E+03	0.0475	291.00
19	4.000E+00	1.952E+03	0.0482	291.00	20	4.500E+00	1.896E+03	0.0489	291.00
21	5.080E+00	1.844E+03	0.0495	291.00	22	7.620E+00	1.705E+03	0.0514	291.00
23	1.016E+01	1.638E+03	0.0525	291.00	24	1.270E+01	1.608E+03	0.0530	291.00
25	1.524E+01	1.599E+03	0.0531	291.00	26	1.778E+01	1.604E+03	0.0530	291.00
27	2.032E+01	1.619E+03	0.0528	291.00	28	2.286E+01	1.641E+03	0.0524	291.00
29	2.540E+01	1.664E+03	0.0520	291.00	30	2.794E+01	1.686E+03	0.0517	291.00
31	3.048E+01	1.704E+03	0.0514	291.00	32	3.302E+01	1.716E+03	0.0513	291.00
33	3.556E+01	1.722E+03	0.0512	291.00	34	3.810E+01	1.724E+03	0.0511	291.00
35	4.064E+01	1.723E+03	0.0511	291.00	36	4.318E+01	1.721E+03	0.0512	291.00
37	4.572E+01	1.718E+03	0.0512	291.00	38	4.826E+01	1.591E+03	0.0501	291.00
39	5.080E+01	7.930E+02	0.0506	291.00	40	5.334E+01	6.952E+02	0.0508	291.00
41	5.588E+01	6.614E+02	0.0509	291.00	42	5.842E+01	6.464E+02	0.0510	291.00
43	6.096E+01	6.419E+02	0.0510	291.00					

Initial Water Storage = 3.1000 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04161	0.05187	0.05099
Head (cm)	=	9.26464E+05	2.84608E+03	1.67547E+03	6.42252E+02
LiqWater Flow (cm)	=	-1.12562E-11	-2.34376E-02	2.61291E-03	9.49056E-07
IsoVapor Flow (cm)	=	-3.08784E-02	-2.48282E-05	3.06623E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
3.1000	+	0.0000	+	0.0000	-	0.0309	-	0.0000	-	0.0000	=	3.0692	vs.	3.0692

Mass Balance = -3.2353E-05 cm; Time step attempts = 142 and successes = 110
Evaporation: Potential = 0.2780 cm, Actual = 0.0309 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 50.9 %; TMEAN = 281.2 K; HDRY = 9.2646E+05 cm; DAYUBC = 110

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03004	0.05440	0.07376	0.05310
Head (cm)	=	3.43597E+05	1.52869E+03	9.33166E+02	4.06693E+02
LiqWater Flow (cm)	=	-3.17905E-02	-8.64151E-02	-2.04973E-02	4.15733E-05
IsoVapor Flow (cm)	=	-7.30317E-02	-5.35697E-06	-1.72519E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

				LIQUID			
PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	DRAIN	NEWSTOR	STORAGE
4.1223+	0.0000+	0.0000	- 0.1062-	0.0000-	0.0000 =	4.0160 vs.	4.0161

Mass Balance = -4.2397E-05 cm; Time step attempts = 293 and successes = 233
Evaporation: Potential = 0.2466 cm, Actual = 0.1062 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 55.1 %; TMEAN = 283.2 K; HDRY = 8.1733E+05 cm; DAYUBC = 162
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.1730E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.1730E+02	[cm]
Actual Evaporation	=	3.9920E+01	[cm]
Evaporation during Growth	=	3.9814E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	4.1072E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.2807E-01	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	4.1072E+01	[cm]
Actual Rainfall	=	4.1072E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.0161E+00	[cm]
Mass Balance Error	=	7.5593E-03	[cm]
Total Successful Time Steps	=	60325	
Total Attempted Time Steps	=	73755	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	24780	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1517E+00	0.050	1.5841E+01	0.150	1.0247E+01
0.250	7.9460E+00	0.350	6.9306E+00	0.450	6.1193E+00
0.550	5.5114E+00	0.650	5.0062E+00	0.750	4.5873E+00
0.850	4.1973E+00	0.950	3.8687E+00	1.125	3.5596E+00
1.375	2.9559E+00	1.625	2.7046E+00	1.875	2.4752E+00
2.250	2.3497E+00	2.750	2.1824E+00	3.250	2.0609E+00
3.750	1.9509E+00	4.250	1.8261E+00	4.790	1.6907E+00
6.350	1.5520E+00	8.890	1.2149E+00	11.430	1.0316E+00
13.970	9.7743E-01	16.510	9.3684E-01	19.050	8.9287E-01

21.590	8.4553E-01	24.130	7.9497E-01	26.670	7.4146E-01
29.210	6.8534E-01	31.750	6.2703E-01	34.290	5.6696E-01
36.830	5.0555E-01	39.370	4.4310E-01	41.910	3.7988E-01
44.450	3.1607E-01	46.990	2.5235E-01	49.530	2.5477E-01
52.070	2.4695E-01	54.610	2.4151E-01	57.150	2.3620E-01
59.690	2.3079E-01	60.960	2.2807E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0005.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.436E+05	0.0300	291.00	2	1.000E-01	2.216E+05	0.0301	291.00
3	2.000E-01	9.784E+04	0.0302	291.00	4	3.000E-01	1.802E+03	0.0501	291.00
5	4.000E-01	1.779E+03	0.0504	291.00	6	5.000E-01	1.758E+03	0.0506	291.00
7	6.000E-01	1.738E+03	0.0509	291.00	8	7.000E-01	1.719E+03	0.0512	291.00
9	8.000E-01	1.701E+03	0.0515	291.00	10	9.000E-01	1.683E+03	0.0518	291.00
11	1.000E+00	1.666E+03	0.0520	291.00	12	1.250E+00	1.627E+03	0.0526	291.00
13	1.500E+00	1.591E+03	0.0533	291.00	14	1.750E+00	1.559E+03	0.0538	291.00
15	2.000E+00	1.529E+03	0.0544	291.00	16	2.500E+00	1.475E+03	0.0554	291.00
17	3.000E+00	1.430E+03	0.0564	291.00	18	3.500E+00	1.390E+03	0.0573	291.00
19	4.000E+00	1.354E+03	0.0582	291.00	20	4.500E+00	1.323E+03	0.0590	291.00
21	5.080E+00	1.291E+03	0.0598	291.00	22	7.620E+00	1.185E+03	0.0630	291.00
23	1.016E+01	1.116E+03	0.0654	291.00	24	1.270E+01	1.067E+03	0.0674	291.00
25	1.524E+01	1.031E+03	0.0689	291.00	26	1.778E+01	1.002E+03	0.0702	291.00
27	2.032E+01	9.796E+02	0.0713	291.00	28	2.286E+01	9.612E+02	0.0723	291.00
29	2.540E+01	9.459E+02	0.0731	291.00	30	2.794E+01	9.332E+02	0.0738	291.00
31	3.048E+01	9.224E+02	0.0744	291.00	32	3.302E+01	9.133E+02	0.0749	291.00
33	3.556E+01	9.057E+02	0.0753	291.00	34	3.810E+01	8.992E+02	0.0757	291.00
35	4.064E+01	8.938E+02	0.0760	291.00	36	4.318E+01	8.894E+02	0.0763	291.00
37	4.572E+01	8.860E+02	0.0765	291.00	38	4.826E+01	8.594E+02	0.0505	291.00
39	5.080E+01	4.500E+02	0.0524	291.00	40	5.334E+01	4.278E+02	0.0527	291.00
41	5.588E+01	4.154E+02	0.0529	291.00	42	5.842E+01	4.088E+02	0.0531	291.00
43	6.096E+01	4.067E+02	0.0531	291.00					

Initial Water Storage = 4.0161 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03004	0.05279	0.07232	0.05307
Head (cm)	3.14974E+05	1.61844E+03	9.60132E+02	4.08077E+02
LiqWater Flow (cm)	-2.39741E-03	-6.44045E-02	-2.35384E-02	4.04105E-05
IsoVapor Flow (cm)	-6.55922E-02	-5.43119E-06	-2.13390E-07	0.00000E+00
Plant Sink (cm)	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.0161+	0.0254+	0.0000 -	0.0934-	0.0000-	0.0000 =	3.9480 vs.	3.9480

Mass Balance = 5.0487E-08 cm; Time step attempts = 380 and successes = 315
Evaporation: Potential = 0.2269 cm, Actual = 0.0934 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 58.8 %; TMEAN = 278.2 K; HDRY = 7.2817E+05 cm; DAYUBC = 154

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.04941	0.05117
Head (cm)	=	1.09545E+06	7.16321E+05	1.85140E+03	6.00323E+02
LiqWater Flow (cm)	=	-7.27372E-13	-5.76723E-12	-2.59517E-03	1.65623E-06
IsoVapor Flow (cm)	=	-5.20831E-03	-5.21301E-03	-5.85003E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
2.8708+	0.0000+	0.0000	- 0.0052-	0.0000-	0.0000	=	2.8656	vs.	2.8656

Mass Balance = -1.3931E-06 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.2881 cm, Actual = 0.0052 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 45.0 %; TMEAN = 287.3 K; HDRY = 1.0954E+06 cm; DAYUBC = 64
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	1.6824E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	1.6824E+02	[cm]
Actual Evaporation	=	2.1868E+01	[cm]
Evaporation during Growth	=	2.1868E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.8320E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8656E+00	[cm]
Mass Balance Error	=	6.5030E-03	[cm]
Total Successful Time Steps	=	64557	
Total Attempted Time Steps	=	78901	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29299	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1411E+00	0.050	1.1845E+01	0.150	8.9903E+00
0.250	6.5489E+00	0.350	5.2840E+00	0.450	4.3855E+00
0.550	3.7195E+00	0.650	3.1904E+00	0.750	2.6539E+00
0.850	2.2757E+00	0.950	2.0052E+00	1.125	1.7912E+00
1.375	1.3072E+00	1.625	8.7967E-01	1.875	6.5985E-01
2.250	3.8927E-01	2.750	6.5264E-02	3.250	-1.9797E-01
3.750	-3.9622E-01	4.250	-4.9742E-01	4.790	-5.7804E-01
6.350	-6.4946E-01	8.890	-7.5286E-01	11.430	-8.3458E-01
13.970	-8.2187E-01	16.510	-7.6494E-01	19.050	-7.0657E-01

21.590	-6.4713E-01	24.130	-5.8680E-01	26.670	-5.2573E-01
29.210	-4.6400E-01	31.750	-4.0169E-01	34.290	-3.3887E-01
36.830	-2.7557E-01	39.370	-2.1184E-01	41.910	-1.4773E-01
44.450	-8.3256E-02	46.990	-1.7537E-02	49.530	-1.2101E-02
52.070	-1.3241E-02	54.610	-8.9844E-03	57.150	-4.3891E-03
59.690	4.0301E-04	60.960	2.8320E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0006.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.095E+06	0.0300	291.00	2	1.000E-01	1.074E+06	0.0300	291.00
3	2.000E-01	1.053E+06	0.0300	291.00	4	3.000E-01	1.031E+06	0.0300	291.00
5	4.000E-01	1.011E+06	0.0300	291.00	6	5.000E-01	9.904E+05	0.0300	291.00
7	6.000E-01	9.703E+05	0.0300	291.00	8	7.000E-01	9.505E+05	0.0300	291.00
9	8.000E-01	9.310E+05	0.0300	291.00	10	9.000E-01	9.118E+05	0.0300	291.00
11	1.000E+00	8.928E+05	0.0300	291.00	12	1.250E+00	8.465E+05	0.0300	291.00
13	1.500E+00	8.017E+05	0.0300	291.00	14	1.750E+00	7.584E+05	0.0300	291.00
15	2.000E+00	7.163E+05	0.0300	291.00	16	2.500E+00	6.359E+05	0.0300	291.00
17	3.000E+00	5.600E+05	0.0300	291.00	18	3.500E+00	4.880E+05	0.0300	291.00
19	4.000E+00	4.196E+05	0.0300	291.00	20	4.500E+00	3.545E+05	0.0300	291.00
21	5.080E+00	2.826E+05	0.0300	291.00	22	7.620E+00	2.710E+03	0.0423	291.00
23	1.016E+01	2.431E+03	0.0440	291.00	24	1.270E+01	2.261E+03	0.0453	291.00
25	1.524E+01	2.143E+03	0.0463	291.00	26	1.778E+01	2.055E+03	0.0471	291.00
27	2.032E+01	1.987E+03	0.0478	291.00	28	2.286E+01	1.932E+03	0.0484	291.00
29	2.540E+01	1.888E+03	0.0490	291.00	30	2.794E+01	1.851E+03	0.0494	291.00
31	3.048E+01	1.822E+03	0.0498	291.00	32	3.302E+01	1.797E+03	0.0501	291.00
33	3.556E+01	1.778E+03	0.0504	291.00	34	3.810E+01	1.762E+03	0.0506	291.00
35	4.064E+01	1.750E+03	0.0508	291.00	36	4.318E+01	1.741E+03	0.0509	291.00
37	4.572E+01	1.735E+03	0.0510	291.00	38	4.826E+01	1.579E+03	0.0501	291.00
39	5.080E+01	6.943E+02	0.0508	291.00	40	5.334E+01	6.369E+02	0.0510	291.00
41	5.588E+01	6.138E+02	0.0511	291.00	42	5.842E+01	6.034E+02	0.0512	291.00
43	6.096E+01	6.003E+02	0.0512	291.00					

Initial Water Storage = 2.8656 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.03004	0.04928	0.05117
Head (cm)	=	6.35849E+05	2.99639E+05	1.86216E+03	6.00658E+02
LiqWater Flow (cm)	=	1.78901E-02	3.68890E-04	-2.53505E-03	1.64865E-06
IsoVapor Flow (cm)	=	-1.75958E-02	-1.68993E-04	-5.88420E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
2.8656	+	0.0254	+	0.0000	-	0.0251	-	0.0000	-	0.0000	=	2.8659	vs.	2.8659

Mass Balance = 4.4064E-05 cm; Time step attempts = 804 and successes = 624
Evaporation: Potential = 0.1676 cm, Actual = 0.0251 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 62.9 %; TMEAN = 282.3 K; HDRY = 6.3585E+05 cm; DAYUBC = 233

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.09165	0.09156	0.09950	0.05129
Head (cm)	= 6.94879E+02	6.95853E+02	6.25854E+02	5.77258E+02
LiqWater Flow (cm)	=-1.08507E-01	-1.05050E-01	-4.90921E-02	2.28786E-06
IsoVapor Flow (cm)	=-2.95171E-07	-2.18602E-07	-8.16618E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.4205+	0.0000+	0.0000	- 0.1086-	0.0000-	0.0000 =	5.3120 vs.	5.3120

Mass Balance = -4.2401E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.1086 cm, Actual = 0.1086 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 56.1 %; TMEAN = 277.3 K; HDRY = 7.9304E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	1.7595E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	1.7595E+02	[cm]
Actual Evaporation	=	2.8456E+01	[cm]
Evaporation during Growth	=	2.8456E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0912E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.0059E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0912E+01	[cm]
Actual Rainfall	=	3.0912E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	5.3120E+00	[cm]
Mass Balance Error	=	8.5775E-03	[cm]
Total Successful Time Steps	=	62339	
Total Attempted Time Steps	=	76173	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26123	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.4557E+00	0.050	1.6471E+01	0.150	1.1061E+01
0.250	8.8912E+00	0.350	8.1424E+00	0.450	7.1255E+00
0.550	6.5482E+00	0.650	6.0811E+00	0.750	5.6628E+00
0.850	5.3732E+00	0.950	5.1692E+00	1.125	4.9401E+00
1.375	4.3089E+00	1.625	3.9911E+00	1.875	3.7236E+00
2.250	3.5306E+00	2.750	3.1830E+00	3.250	3.0281E+00
3.750	2.9451E+00	4.250	2.8601E+00	4.790	2.7727E+00
6.350	2.6090E+00	8.890	2.1373E+00	11.430	1.8767E+00
13.970	1.6761E+00	16.510	1.5497E+00	19.050	1.4242E+00

21.590	1.2985E+00	24.130	1.1724E+00	26.670	1.0457E+00
29.210	9.1844E-01	31.750	7.9044E-01	34.290	6.6170E-01
36.830	5.3220E-01	39.370	4.0191E-01	41.910	2.7085E-01
44.450	1.3899E-01	46.990	7.0707E-03	49.530	8.3054E-03
52.070	2.8221E-03	54.610	1.7911E-03	57.150	1.3133E-03
59.690	9.5781E-04	60.960	8.0059E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0007.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.949E+02	0.0917	291.00	2	1.000E-01	7.008E+02	0.0911	291.00
3	2.000E-01	7.012E+02	0.0910	291.00	4	3.000E-01	7.002E+02	0.0911	291.00
5	4.000E-01	6.992E+02	0.0912	291.00	6	5.000E-01	6.986E+02	0.0913	291.00
7	6.000E-01	6.983E+02	0.0913	291.00	8	7.000E-01	6.982E+02	0.0913	291.00
9	8.000E-01	6.981E+02	0.0913	291.00	10	9.000E-01	6.981E+02	0.0913	291.00
11	1.000E+00	6.980E+02	0.0913	291.00	12	1.250E+00	6.976E+02	0.0914	291.00
13	1.500E+00	6.970E+02	0.0914	291.00	14	1.750E+00	6.964E+02	0.0915	291.00
15	2.000E+00	6.959E+02	0.0916	291.00	16	2.500E+00	6.947E+02	0.0917	291.00
17	3.000E+00	6.935E+02	0.0918	291.00	18	3.500E+00	6.923E+02	0.0919	291.00
19	4.000E+00	6.910E+02	0.0921	291.00	20	4.500E+00	6.898E+02	0.0922	291.00
21	5.080E+00	6.882E+02	0.0923	291.00	22	7.620E+00	6.812E+02	0.0931	291.00
23	1.016E+01	6.738E+02	0.0939	291.00	24	1.270E+01	6.661E+02	0.0947	291.00
25	1.524E+01	6.586E+02	0.0956	291.00	26	1.778E+01	6.512E+02	0.0964	291.00
27	2.032E+01	6.442E+02	0.0972	291.00	28	2.286E+01	6.376E+02	0.0980	291.00
29	2.540E+01	6.315E+02	0.0988	291.00	30	2.794E+01	6.259E+02	0.0995	291.00
31	3.048E+01	6.207E+02	0.1002	291.00	32	3.302E+01	6.159E+02	0.1008	291.00
33	3.556E+01	6.116E+02	0.1013	291.00	34	3.810E+01	6.076E+02	0.1019	291.00
35	4.064E+01	6.041E+02	0.1024	291.00	36	4.318E+01	6.009E+02	0.1028	291.00
37	4.572E+01	5.980E+02	0.1032	291.00	38	4.826E+01	5.933E+02	0.0512	291.00
39	5.080E+01	5.717E+02	0.0513	291.00	40	5.334E+01	5.873E+02	0.0512	291.00
41	5.588E+01	5.856E+02	0.0512	291.00	42	5.842E+01	5.796E+02	0.0513	291.00
43	6.096E+01	5.773E+02	0.0513	291.00					

Initial Water Storage = 5.3120 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.08538	0.08668	0.09682	0.05129
Head (cm)	= 7.62600E+02	7.47488E+02	6.47828E+02	5.77560E+02
LiqWater Flow (cm)	=-1.52225E-01	-1.41404E-01	-4.54782E-02	2.27783E-06
IsoVapor Flow (cm)	=-6.63286E-07	-3.90300E-07	-8.56438E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.3120+	0.0000+	0.0000	- 0.1525-	0.0000-	0.0000 =	5.1594 vs.	5.1594

Mass Balance = -5.7798E-06 cm; Time step attempts = 38 and successes = 31
Evaporation: Potential = 0.1525 cm, Actual = 0.1525 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.0 %; TMEAN = 278.4 K; HDRY = 8.4505E+05 cm; DAYUBC = 0

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.13247	0.13215	0.14155	0.05281
Head (cm)	=	4.41031E+02	4.42325E+02	4.07185E+02	4.23156E+02
LiqWater Flow (cm)	=	-3.04181E-01	-2.90622E-01	-1.19828E-01	2.54468E-05
IsoVapor Flow (cm)	=	-1.24083E-07	-8.50516E-08	-4.61787E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
7.6263+	0.0000+	0.0000	- 0.3045-	0.0000-	0.0000	=	7.3218	vs.	7.3218

Mass Balance = -7.1484E-06 cm; Time step attempts = 36 and successes = 30
Evaporation: Potential = 0.3045 cm, Actual = 0.3045 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.7 %; TMEAN = 276.2 K; HDRY = 9.0545E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.0246E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.0246E+02	[cm]
Actual Evaporation	=	2.5768E+01	[cm]
Evaporation during Growth	=	2.5768E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.7788E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.9017E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.7788E+01	[cm]
Actual Rainfall	=	2.7788E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	7.3218E+00	[cm]
Mass Balance Error	=	9.4066E-03	[cm]
Total Successful Time Steps	=	71691	
Total Attempted Time Steps	=	88812	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32780	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.0197E+00	0.050	1.8186E+01	0.150	1.4010E+01
0.250	1.1891E+01	0.350	1.0488E+01	0.450	9.3816E+00
0.550	8.5669E+00	0.650	7.6611E+00	0.750	6.9771E+00
0.850	6.4630E+00	0.950	5.8537E+00	1.125	5.4922E+00
1.375	4.6159E+00	1.625	4.2009E+00	1.875	3.7146E+00
2.250	3.4196E+00	2.750	2.7946E+00	3.250	2.4467E+00
3.750	2.3030E+00	4.250	2.1686E+00	4.790	2.0561E+00
6.350	1.8608E+00	8.890	1.6507E+00	11.430	1.5456E+00
13.970	1.4406E+00	16.510	1.3355E+00	19.050	1.2302E+00

21.590	1.1246E+00	24.130	1.0187E+00	26.670	9.1238E-01
29.210	8.0546E-01	31.750	6.9788E-01	34.290	5.8956E-01
36.830	4.8039E-01	39.370	3.7032E-01	41.910	2.5927E-01
44.450	1.4717E-01	46.990	3.4290E-02	49.530	3.1702E-02
52.070	2.1223E-02	54.610	1.3704E-02	57.150	7.3141E-03
59.690	2.4260E-03	60.960	4.9017E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0008.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	4.410E+02	0.1325	291.00	2	1.000E-01	4.433E+02	0.1319	291.00
3	2.000E-01	4.445E+02	0.1316	291.00	4	3.000E-01	4.450E+02	0.1315	291.00
5	4.000E-01	4.450E+02	0.1315	291.00	6	5.000E-01	4.449E+02	0.1315	291.00
7	6.000E-01	4.447E+02	0.1316	291.00	8	7.000E-01	4.444E+02	0.1316	291.00
9	8.000E-01	4.441E+02	0.1317	291.00	10	9.000E-01	4.439E+02	0.1318	291.00
11	1.000E+00	4.437E+02	0.1318	291.00	12	1.250E+00	4.433E+02	0.1319	291.00
13	1.500E+00	4.429E+02	0.1320	291.00	14	1.750E+00	4.426E+02	0.1321	291.00
15	2.000E+00	4.423E+02	0.1321	291.00	16	2.500E+00	4.417E+02	0.1323	291.00
17	3.000E+00	4.410E+02	0.1325	291.00	18	3.500E+00	4.403E+02	0.1327	291.00
19	4.000E+00	4.396E+02	0.1328	291.00	20	4.500E+00	4.389E+02	0.1330	291.00
21	5.080E+00	4.382E+02	0.1332	291.00	22	7.620E+00	4.347E+02	0.1341	291.00
23	1.016E+01	4.312E+02	0.1350	291.00	24	1.270E+01	4.277E+02	0.1359	291.00
25	1.524E+01	4.242E+02	0.1368	291.00	26	1.778E+01	4.207E+02	0.1378	291.00
27	2.032E+01	4.172E+02	0.1387	291.00	28	2.286E+01	4.138E+02	0.1397	291.00
29	2.540E+01	4.105E+02	0.1406	291.00	30	2.794E+01	4.072E+02	0.1416	291.00
31	3.048E+01	4.040E+02	0.1425	291.00	32	3.302E+01	4.009E+02	0.1434	291.00
33	3.556E+01	3.978E+02	0.1443	291.00	34	3.810E+01	3.949E+02	0.1452	291.00
35	4.064E+01	3.921E+02	0.1461	291.00	36	4.318E+01	3.894E+02	0.1469	291.00
37	4.572E+01	3.867E+02	0.1477	291.00	38	4.826E+01	3.833E+02	0.0536	291.00
39	5.080E+01	3.624E+02	0.0541	291.00	40	5.334E+01	3.645E+02	0.0541	291.00
41	5.588E+01	3.782E+02	0.0537	291.00	42	5.842E+01	4.026E+02	0.0532	291.00
43	6.096E+01	4.232E+02	0.0528	291.00					

Initial Water Storage = 7.3218 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.12913	0.12875	0.13716	0.05302
Head (cm)	= 4.54810E+02	4.56413E+02	4.22952E+02	4.11121E+02
LiqWater Flow (cm)	=-1.98595E-01	-1.91175E-01	-8.52360E-02	3.35751E-05
IsoVapor Flow (cm)	=-1.11562E-07	-7.40900E-08	-4.58512E-08	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
7.3218	+ 0.0000	+ 0.0000	- 0.1988	- 0.0000	- 0.0000	= 7.1230	vs. 7.1230

Mass Balance = -5.4983E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.1988 cm, Actual = 0.1988 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 56.6 %; TMEAN = 276.8 K; HDRY = 7.8041E+05 cm; DAYUBC = 0

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03003	0.05605	0.05121
Head (cm)	=	1.69120E+06	3.73859E+05	1.44658E+03	5.92150E+02
LiqWater Flow (cm)	=	-4.57977E-13	-1.78849E-09	-6.30333E-03	1.85577E-06
IsoVapor Flow (cm)	=	-1.71308E-02	-1.71301E-02	-4.18625E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.1866+	0.0000+	0.0000	- 0.0171-	0.0000-	0.0000	=	3.1695	vs.	3.1695

Mass Balance = -2.3645E-07 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.2739 cm, Actual = 0.0171 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 29.1 %; TMEAN = 275.4 K; HDRY = 1.6912E+06 cm; DAYUBC = 24
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.1177E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.1177E+02	[cm]
Actual Evaporation	=	3.2234E+01	[cm]
Evaporation during Growth	=	3.2217E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.8092E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.0000E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.8092E+01	[cm]
Actual Rainfall	=	2.8092E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1695E+00	[cm]
Mass Balance Error	=	6.9958E-03	[cm]
Total Successful Time Steps	=	61082	
Total Attempted Time Steps	=	74764	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27035	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.1413E+00	0.050	1.3205E+01	0.150	6.5800E+00
0.250	3.8623E+00	0.350	2.5196E+00	0.450	1.5627E+00
0.550	8.7809E-01	0.650	3.2285E-01	0.750	-1.1189E-02
0.850	-5.1700E-01	0.950	-8.3233E-01	1.125	-1.0839E+00
1.375	-1.8889E+00	1.625	-2.1355E+00	1.875	-2.2691E+00
2.250	-2.3830E+00	2.750	-2.6255E+00	3.250	-2.8755E+00
3.750	-3.0055E+00	4.250	-3.0977E+00	4.790	-3.1749E+00
6.350	-3.1794E+00	8.890	-3.2225E+00	11.430	-3.0878E+00
13.970	-2.8856E+00	16.510	-2.6710E+00	19.050	-2.4566E+00

21.590	-2.2419E+00	24.130	-2.0266E+00	26.670	-1.8106E+00
29.210	-1.5935E+00	31.750	-1.3753E+00	34.290	-1.1557E+00
36.830	-9.3476E-01	39.370	-7.1224E-01	41.910	-4.8807E-01
44.450	-2.6218E-01	46.990	-3.3651E-02	49.530	-2.0903E-02
52.070	-1.7147E-02	54.610	-9.5086E-03	57.150	-3.0087E-03
59.690	1.9923E-03	60.960	4.0000E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0009.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.691E+06	0.0300	291.00	2	1.000E-01	1.585E+06	0.0300	291.00
3	2.000E-01	1.486E+06	0.0300	291.00	4	3.000E-01	1.394E+06	0.0300	291.00
5	4.000E-01	1.308E+06	0.0300	291.00	6	5.000E-01	1.227E+06	0.0300	291.00
7	6.000E-01	1.150E+06	0.0300	291.00	8	7.000E-01	1.077E+06	0.0300	291.00
9	8.000E-01	1.008E+06	0.0300	291.00	10	9.000E-01	9.428E+05	0.0300	291.00
11	1.000E+00	8.801E+05	0.0300	291.00	12	1.250E+00	7.350E+05	0.0300	291.00
13	1.500E+00	6.037E+05	0.0300	291.00	14	1.750E+00	4.840E+05	0.0300	291.00
15	2.000E+00	3.739E+05	0.0300	291.00	16	2.500E+00	1.769E+05	0.0301	291.00
17	3.000E+00	4.230E+03	0.0372	291.00	18	3.500E+00	3.182E+03	0.0402	291.00
19	4.000E+00	2.814E+03	0.0418	291.00	20	4.500E+00	2.597E+03	0.0430	291.00
21	5.080E+00	2.426E+03	0.0441	291.00	22	7.620E+00	2.040E+03	0.0473	291.00
23	1.016E+01	1.854E+03	0.0494	291.00	24	1.270E+01	1.738E+03	0.0509	291.00
25	1.524E+01	1.655E+03	0.0522	291.00	26	1.778E+01	1.593E+03	0.0532	291.00
27	2.032E+01	1.544E+03	0.0541	291.00	28	2.286E+01	1.505E+03	0.0549	291.00
29	2.540E+01	1.473E+03	0.0555	291.00	30	2.794E+01	1.447E+03	0.0561	291.00
31	3.048E+01	1.425E+03	0.0565	291.00	32	3.302E+01	1.407E+03	0.0569	291.00
33	3.556E+01	1.392E+03	0.0573	291.00	34	3.810E+01	1.380E+03	0.0576	291.00
35	4.064E+01	1.371E+03	0.0578	291.00	36	4.318E+01	1.364E+03	0.0579	291.00
37	4.572E+01	1.359E+03	0.0581	291.00	38	4.826E+01	1.308E+03	0.0502	291.00
39	5.080E+01	6.914E+02	0.0508	291.00	40	5.334E+01	6.337E+02	0.0510	291.00
41	5.588E+01	6.081E+02	0.0511	291.00	42	5.842E+01	5.959E+02	0.0512	291.00
43	6.096E+01	5.922E+02	0.0512	291.00					

Initial Water Storage = 3.1695 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03003	0.05572	0.05121
Head (cm)	=	1.58175E+06	3.60850E+05	1.46219E+03	5.92577E+02
LiqWater Flow (cm)	=	-5.79956E-13	-2.02370E-09	-6.09102E-03	1.84476E-06
IsoVapor Flow (cm)	=	-1.65244E-02	-1.65272E-02	-4.26285E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1695+	0.0000+	0.0000 -	0.0165-	0.0000-	0.0000 =	3.1530 vs.	3.1530

Mass Balance = 4.7442E-07 cm; Time step attempts = 52 and successes = 50
Evaporation: Potential = 0.3709 cm, Actual = 0.0165 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 31.5 %; TMEAN = 279.0 K; HDRY = 1.5817E+06 cm; DAYUBC = 49

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =        1          15          30          43
 Depth (cm)         =      0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =      0.03004     0.04709     0.04519     0.05075
 Head (cm)          = 3.12279E+05 2.06000E+03 2.27347E+03 7.19398E+02
 LiqWater Flow (cm)=-2.13934E-02-3.28620E-02-9.15929E-04 3.72086E-07
 IsoVapor Flow (cm)=-4.60063E-02-6.05524E-06-6.27269E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.0176+ 0.0000+ 0.0000 - 0.0688- 0.0000-  0.0000 =     2.9488 vs.     2.9488

 Mass Balance = -5.2338E-05 cm;  Time step attempts =  306 and successes =  242
   Evaporation:  Potential =  0.1522 cm, Actual =  0.0688 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 68.7 %;  TMEAN = 277.0 K;  HDRY =  5.1474E+05 cm;  DAYUBC =   167
1

------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                            SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.3264E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.3264E+02     [cm]
 Actual Evaporation                    =  1.8653E+01     [cm]
 Evaporation during Growth             =  1.8653E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  1.8440E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  3.0438E-04     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  1.8440E+01     [cm]
 Actual Rainfall                       =  1.8440E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.9488E+00     [cm]
 Mass Balance Error                    =  7.8325E-03     [cm]
 Total Successful Time Steps           =     58980
 Total Attempted Time Steps            =     72031
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     28952
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------    --------   -----------    --------   -----------
      0.000   -2.1254E-01       0.050    1.2003E+01       0.150    8.4153E+00
      0.250    7.1094E+00       0.350    6.3836E+00       0.450    5.7723E+00
      0.550    5.2598E+00       0.650    4.7802E+00       0.750    4.4437E+00
      0.850    4.0014E+00       0.950    3.7355E+00       1.125    3.5369E+00
      1.375    3.0271E+00       1.625    2.6632E+00       1.875    2.3897E+00
      2.250    2.1199E+00       2.750    1.4586E+00       3.250    1.1433E+00
      3.750    8.9512E-01       4.250    7.2320E-01       4.790    5.2240E-01
      6.350    2.9005E-01       8.890   -2.0704E-01      11.430   -3.0869E-01
     13.970   -3.1287E-01      16.510   -3.1060E-01      19.050   -3.0156E-01
```

21.590	-2.8579E-01	24.130	-2.6420E-01	26.670	-2.3872E-01
29.210	-2.1120E-01	31.750	-1.8271E-01	34.290	-1.5373E-01
36.830	-1.2444E-01	39.370	-9.4910E-02	41.910	-6.5199E-02
44.450	-3.5338E-02	46.990	-4.7774E-03	49.530	-3.7538E-04
52.070	-2.9343E-03	54.610	-2.3189E-03	57.150	-1.3279E-03
59.690	-2.4793E-04	60.960	3.0438E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0010.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.123E+05	0.0300	291.00	2	1.000E-01	2.110E+05	0.0301	291.00
3	2.000E-01	1.347E+05	0.0301	291.00	4	3.000E-01	6.172E+04	0.0303	291.00
5	4.000E-01	2.972E+03	0.0410	291.00	6	5.000E-01	2.826E+03	0.0417	291.00
7	6.000E-01	2.711E+03	0.0423	291.00	8	7.000E-01	2.617E+03	0.0428	291.00
9	8.000E-01	2.538E+03	0.0433	291.00	10	9.000E-01	2.470E+03	0.0438	291.00
11	1.000E+00	2.411E+03	0.0442	291.00	12	1.250E+00	2.291E+03	0.0451	291.00
13	1.500E+00	2.198E+03	0.0458	291.00	14	1.750E+00	2.122E+03	0.0465	291.00
15	2.000E+00	2.060E+03	0.0471	291.00	16	2.500E+00	1.962E+03	0.0481	291.00
17	3.000E+00	1.887E+03	0.0490	291.00	18	3.500E+00	1.829E+03	0.0497	291.00
19	4.000E+00	1.783E+03	0.0503	291.00	20	4.500E+00	1.745E+03	0.0508	291.00
21	5.080E+00	1.710E+03	0.0513	291.00	22	7.620E+00	1.627E+03	0.0526	291.00
23	1.016E+01	1.614E+03	0.0529	291.00	24	1.270E+01	1.648E+03	0.0523	291.00
25	1.524E+01	1.722E+03	0.0512	291.00	26	1.778E+01	1.837E+03	0.0496	291.00
27	2.032E+01	1.987E+03	0.0478	291.00	28	2.286E+01	2.141E+03	0.0463	291.00
29	2.540E+01	2.243E+03	0.0454	291.00	30	2.794E+01	2.273E+03	0.0452	291.00
31	3.048E+01	2.261E+03	0.0453	291.00	32	3.302E+01	2.235E+03	0.0455	291.00
33	3.556E+01	2.208E+03	0.0457	291.00	34	3.810E+01	2.186E+03	0.0459	291.00
35	4.064E+01	2.169E+03	0.0461	291.00	36	4.318E+01	2.156E+03	0.0462	291.00
37	4.572E+01	2.149E+03	0.0462	291.00	38	4.826E+01	1.861E+03	0.0501	291.00
39	5.080E+01	1.055E+03	0.0503	291.00	40	5.334E+01	8.021E+02	0.0506	291.00
41	5.588E+01	7.456E+02	0.0507	291.00	42	5.842E+01	7.250E+02	0.0507	291.00
43	6.096E+01	7.194E+02	0.0507	291.00					

Initial Water Storage = 2.9488 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03003	0.04342	0.04587	0.05074
Head (cm)	= 4.31072E+05	2.52094E+03	2.19120E+03	7.19684E+02
LiqWater Flow (cm)	=-3.82819E-07	-2.47640E-02	4.64831E-04	3.70870E-07
IsoVapor Flow (cm)	=-3.55750E-02	-1.35619E-05	2.02840E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9488+	0.0000+	0.0000 -	0.0356-	0.0000-	0.0000 =	2.9132 vs.	2.9133

Mass Balance = -2.9822E-05 cm; Time step attempts = 310 and successes = 243
Evaporation: Potential = 0.1096 cm, Actual = 0.0356 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 68.0 %; TMEAN = 275.1 K; HDRY = 5.2872E+05 cm; DAYUBC = 163

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04235	0.05798	0.05239
Head (cm)	=	9.10457E+05	2.70208E+03	1.36231E+03	4.51606E+02
LiqWater Flow (cm)	=	-1.19985E-11	-2.61181E-02	-3.46074E-03	1.73932E-05
IsoVapor Flow (cm)	=	-3.03868E-02	-2.30583E-05	-2.02150E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.3423+	0.0000+	0.0000	- 0.0304-	0.0000-	0.0000 =	3.3119 vs.	3.3119

Mass Balance = -1.7356E-05 cm; Time step attempts = 106 and successes = 83
Evaporation: Potential = 0.7051 cm, Actual = 0.0304 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.5 %; TMEAN = 281.2 K; HDRY = 9.1046E+05 cm; DAYUBC = 83
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3364E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3364E+02	[cm]
Actual Evaporation	=	3.2264E+01	[cm]
Evaporation during Growth	=	3.2264E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2639E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.3117E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2639E+01	[cm]
Actual Rainfall	=	3.2639E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3119E+00	[cm]
Mass Balance Error	=	7.9598E-03	[cm]
Total Successful Time Steps	=	60014	
Total Attempted Time Steps	=	73662	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27408	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.7538E-01	0.050	1.3136E+01	0.150	8.9631E+00
0.250	7.2934E+00	0.350	6.2634E+00	0.450	5.4714E+00
0.550	4.6211E+00	0.650	4.2033E+00	0.750	3.8485E+00
0.850	3.6457E+00	0.950	3.4411E+00	1.125	3.2041E+00
1.375	2.5570E+00	1.625	2.2754E+00	1.875	2.0313E+00
2.250	1.8157E+00	2.750	1.5786E+00	3.250	1.4394E+00
3.750	1.3270E+00	4.250	1.1927E+00	4.790	1.0891E+00
6.350	9.3109E-01	8.890	6.1831E-01	11.430	5.2500E-01
13.970	4.3888E-01	16.510	3.8617E-01	19.050	3.6924E-01

21.590	3.4644E-01	24.130	3.1858E-01	26.670	2.8745E-01
29.210	2.5485E-01	31.750	2.2180E-01	34.290	1.8868E-01
36.830	1.5561E-01	39.370	1.2260E-01	41.910	8.9596E-02
44.450	5.6563E-02	46.990	2.4346E-02	49.530	2.6987E-02
52.070	2.0548E-02	54.610	1.5231E-02	57.150	1.0679E-02
59.690	6.3951E-03	60.960	4.3117E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0011.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.105E+05	0.0300	291.00	2	1.000E-01	8.113E+05	0.0300	291.00
3	2.000E-01	7.189E+05	0.0300	291.00	4	3.000E-01	6.323E+05	0.0300	291.00
5	4.000E-01	5.509E+05	0.0300	291.00	6	5.000E-01	4.741E+05	0.0300	291.00
7	6.000E-01	4.013E+05	0.0300	291.00	8	7.000E-01	3.322E+05	0.0300	291.00
9	8.000E-01	2.664E+05	0.0301	291.00	10	9.000E-01	2.036E+05	0.0301	291.00
11	1.000E+00	1.437E+05	0.0301	291.00	12	1.250E+00	4.231E+03	0.0372	291.00
13	1.500E+00	3.287E+03	0.0398	291.00	14	1.750E+00	2.922E+03	0.0412	291.00
15	2.000E+00	2.702E+03	0.0424	291.00	16	2.500E+00	2.432E+03	0.0440	291.00
17	3.000E+00	2.264E+03	0.0453	291.00	18	3.500E+00	2.144E+03	0.0463	291.00
19	4.000E+00	2.053E+03	0.0472	291.00	20	4.500E+00	1.980E+03	0.0479	291.00
21	5.080E+00	1.911E+03	0.0487	291.00	22	7.620E+00	1.717E+03	0.0512	291.00
23	1.016E+01	1.606E+03	0.0530	291.00	24	1.270E+01	1.534E+03	0.0543	291.00
25	1.524E+01	1.483E+03	0.0553	291.00	26	1.778E+01	1.445E+03	0.0561	291.00
27	2.032E+01	1.417E+03	0.0567	291.00	28	2.286E+01	1.394E+03	0.0572	291.00
29	2.540E+01	1.377E+03	0.0576	291.00	30	2.794E+01	1.362E+03	0.0580	291.00
31	3.048E+01	1.351E+03	0.0583	291.00	32	3.302E+01	1.341E+03	0.0585	291.00
33	3.556E+01	1.333E+03	0.0587	291.00	34	3.810E+01	1.326E+03	0.0589	291.00
35	4.064E+01	1.320E+03	0.0590	291.00	36	4.318E+01	1.316E+03	0.0592	291.00
37	4.572E+01	1.312E+03	0.0593	291.00	38	4.826E+01	1.223E+03	0.0502	291.00
39	5.080E+01	4.850E+02	0.0520	291.00	40	5.334E+01	4.685E+02	0.0522	291.00
41	5.588E+01	4.587E+02	0.0523	291.00	42	5.842E+01	4.533E+02	0.0524	291.00
43	6.096E+01	4.516E+02	0.0524	291.00					

Initial Water Storage = 3.3119 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04101	0.05762	0.05238
Head (cm)	=	9.43756E+05	2.97540E+03	1.37724E+03	4.52307E+02
LiqWater Flow (cm)	=	-8.27796E-12	-2.26558E-02	-4.28291E-03	1.71715E-05
IsoVapor Flow (cm)	=	-2.59422E-02	-3.12956E-05	-2.47634E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.3119	+ 0.0000	+ 0.0000	- 0.0259	- 0.0000	- 0.0000	=	3.2860	vs.	3.2860

Mass Balance = -1.2285E-05 cm; Time step attempts = 67 and successes = 55
Evaporation: Potential = 0.2429 cm, Actual = 0.0259 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 50.2 %; TMEAN = 280.4 K; HDRY = 9.4376E+05 cm; DAYUBC = 55

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number          =       1          15          30          43
 Depth (cm)           =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)      =     0.15613     0.15789     0.16911     0.05475
 Head (cm)            = 3.61595E+02 3.56674E+02 3.27768E+02 3.42850E+02
 LiqWater Flow (cm)=-3.77568E-01-3.60898E-01-1.50076E-01 1.18039E-04
 IsoVapor Flow (cm)=-6.91817E-08-5.26262E-08-3.57715E-08 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                  LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
    9.0185+ 0.0000+ 0.0000 - 0.3780- 0.0000-   0.0001 =     8.6403 vs.     8.6403

 Mass Balance = -8.1164E-06 cm;  Time step attempts =   34 and successes =   29
   Evaporation:  Potential =  0.3780 cm, Actual =  0.3780 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 46.6 %;  TMEAN = 282.3 K;  HDRY =  1.0455E+06 cm;  DAYUBC =      0
1

------------------------------------------------------------------------------

                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.2682E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.2682E+02     [cm]
 Actual Evaporation                    =  2.6106E+01     [cm]
 Evaporation during Growth             =  2.6106E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  3.1445E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  1.9479E-03     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  3.1445E+01     [cm]
 Actual Rainfall                       =  3.1445E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  8.6403E+00     [cm]
 Mass Balance Error                    =  8.7027E-03     [cm]
 Total Successful Time Steps           =     61337
 Total Attempted Time Steps            =     74833
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     27503
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH        FLOW        DEPTH        FLOW        DEPTH        FLOW
   --------   ----------   --------   ----------   --------   ----------
      0.000   5.3390E+00      0.050   1.9872E+01      0.150   1.5235E+01
      0.250   1.3064E+01      0.350   1.1765E+01      0.450   1.0794E+01
      0.550   1.0104E+01      0.650   9.4685E+00      0.750   8.9029E+00
      0.850   8.5752E+00      0.950   8.2134E+00      1.125   8.0336E+00
      1.375   7.6225E+00      1.625   7.1240E+00      1.875   6.7338E+00
      2.250   6.5079E+00      2.750   6.0340E+00      3.250   5.6811E+00
      3.750   5.5298E+00      4.250   5.4199E+00      4.790   5.2908E+00
      6.350   5.0494E+00      8.890   4.5566E+00     11.430   4.1041E+00
     13.970   3.7724E+00     16.510   3.4968E+00     19.050   3.2208E+00
```

21.590	2.9436E+00	24.130	2.6649E+00	26.670	2.3845E+00
29.210	2.1021E+00	31.750	1.8176E+00	34.290	1.5308E+00
36.830	1.2416E+00	39.370	9.5005E-01	41.910	6.5593E-01
44.450	3.5918E-01	46.990	6.0569E-02	49.530	4.9432E-02
52.070	3.2722E-02	54.610	2.1655E-02	57.150	1.2281E-02
59.690	4.9592E-03	60.960	1.9479E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0012.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	3.616E+02	0.1561	291.00	2	1.000E-01	3.599E+02	0.1567	291.00
3	2.000E-01	3.588E+02	0.1571	291.00	4	3.000E-01	3.581E+02	0.1574	291.00
5	4.000E-01	3.578E+02	0.1575	291.00	6	5.000E-01	3.576E+02	0.1576	291.00
7	6.000E-01	3.575E+02	0.1576	291.00	8	7.000E-01	3.575E+02	0.1576	291.00
9	8.000E-01	3.575E+02	0.1576	291.00	10	9.000E-01	3.575E+02	0.1576	291.00
11	1.000E+00	3.575E+02	0.1576	291.00	12	1.250E+00	3.574E+02	0.1576	291.00
13	1.500E+00	3.572E+02	0.1577	291.00	14	1.750E+00	3.570E+02	0.1578	291.00
15	2.000E+00	3.567E+02	0.1579	291.00	16	2.500E+00	3.560E+02	0.1581	291.00
17	3.000E+00	3.554E+02	0.1583	291.00	18	3.500E+00	3.548E+02	0.1586	291.00
19	4.000E+00	3.543E+02	0.1588	291.00	20	4.500E+00	3.537E+02	0.1590	291.00
21	5.080E+00	3.531E+02	0.1592	291.00	22	7.620E+00	3.502E+02	0.1603	291.00
23	1.016E+01	3.473E+02	0.1614	291.00	24	1.270E+01	3.445E+02	0.1624	291.00
25	1.524E+01	3.416E+02	0.1635	291.00	26	1.778E+01	3.388E+02	0.1646	291.00
27	2.032E+01	3.360E+02	0.1657	291.00	28	2.286E+01	3.333E+02	0.1669	291.00
29	2.540E+01	3.305E+02	0.1680	291.00	30	2.794E+01	3.278E+02	0.1691	291.00
31	3.048E+01	3.251E+02	0.1702	291.00	32	3.302E+01	3.224E+02	0.1714	291.00
33	3.556E+01	3.197E+02	0.1725	291.00	34	3.810E+01	3.171E+02	0.1737	291.00
35	4.064E+01	3.145E+02	0.1748	291.00	36	4.318E+01	3.119E+02	0.1760	291.00
37	4.572E+01	3.093E+02	0.1771	291.00	38	4.826E+01	3.066E+02	0.0563	291.00
39	5.080E+01	2.997E+02	0.0566	291.00	40	5.334E+01	3.027E+02	0.0565	291.00
41	5.588E+01	3.130E+02	0.0560	291.00	42	5.842E+01	3.298E+02	0.0552	291.00
43	6.096E+01	3.428E+02	0.0547	291.00					

Initial Water Storage = 8.6403 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.15148	0.15114	0.16165	0.05533
Head (cm)	=	3.75139E+02	3.76173E+02	3.46560E+02	3.27250E+02
LiqWater Flow (cm)	=	-3.49298E-01	-3.34266E-01	-1.41319E-01	2.09449E-04
IsoVapor Flow (cm)	=	-8.45690E-08	-5.80311E-08	-3.80534E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR		INFIL		RUNOFF		EVAPO		TRANS		LIQUID DRAIN		NEWSTOR		STORAGE
8.6403	+	0.0000	+	0.0000	-	0.3495	-	0.0000	-	0.0002	=	8.2906	vs.	8.2906

Mass Balance = -7.7173E-06 cm; Time step attempts = 34 and successes = 29
Evaporation: Potential = 0.3495 cm, Actual = 0.3495 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 47.7 %; TMEAN = 279.8 K; HDRY = 1.0133E+06 cm; DAYUBC = 0

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.06920	0.07024	0.06340	0.05141
Head (cm)	= 1.02471E+03	1.00220E+03	1.17347E+03	5.57731E+02
LiqWater Flow (cm)	= 3.02799E-01	2.34336E-01	-8.81152E-03	3.04085E-06
IsoVapor Flow (cm)	= 2.48904E-05	5.89387E-07	-2.48852E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.5017+	0.3048+	0.0000 -	0.0000-	0.0000-	0.0000	=	3.8065	vs.	3.8062

Mass Balance = 2.6118E-04 cm; Time step attempts = 584 and successes = 460
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 93.5 %; TMEAN = 282.6 K; HDRY = 9.2552E+04 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3127E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3127E+02	[cm]
Actual Evaporation	=	3.3770E+01	[cm]
Evaporation during Growth	=	3.3770E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.8956E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0656E-02	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.8956E+01	[cm]
Actual Rainfall	=	2.8956E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8062E+00	[cm]
Mass Balance Error	=	9.1432E-03	[cm]
Total Successful Time Steps	=	71004	
Total Attempted Time Steps	=	87830	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32267	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.8143E+00	0.050	1.0109E+01	0.150	5.8989E+00
0.250	4.1768E+00	0.350	3.0893E+00	0.450	1.9906E+00
0.550	1.3937E+00	0.650	8.6112E-01	0.750	2.2089E-01
0.850	-2.7220E-01	0.950	-7.0802E-01	1.125	-9.4008E-01
1.375	-1.6291E+00	1.625	-2.0942E+00	1.875	-2.5984E+00
2.250	-2.9983E+00	2.750	-3.5518E+00	3.250	-3.8522E+00
3.750	-4.0707E+00	4.250	-4.1535E+00	4.790	-4.2233E+00
6.350	-4.2068E+00	8.890	-4.0299E+00	11.430	-3.7948E+00
13.970	-3.5543E+00	16.510	-3.3082E+00	19.050	-3.0567E+00

21.590	-2.8000E+00	24.130	-2.5387E+00	26.670	-2.2735E+00
29.210	-2.0051E+00	31.750	-1.7339E+00	34.290	-1.4604E+00
36.830	-1.1846E+00	39.370	-9.0646E-01	41.910	-6.2603E-01
44.450	-3.4317E-01	46.990	-5.7100E-02	49.530	-3.7417E-02
52.070	-2.8190E-02	54.610	-1.4977E-02	57.150	-3.2888E-03
59.690	6.4283E-03	60.960	1.0656E-02		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0013.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.025E+03	0.0692	291.00	2	1.000E-01	9.928E+02	0.0707	291.00
3	2.000E-01	9.990E+02	0.0704	291.00	4	3.000E-01	1.003E+03	0.0702	291.00
5	4.000E-01	1.003E+03	0.0702	291.00	6	5.000E-01	1.002E+03	0.0702	291.00
7	6.000E-01	1.002E+03	0.0703	291.00	8	7.000E-01	1.002E+03	0.0703	291.00
9	8.000E-01	1.002E+03	0.0703	291.00	10	9.000E-01	1.002E+03	0.0703	291.00
11	1.000E+00	1.002E+03	0.0703	291.00	12	1.250E+00	1.002E+03	0.0703	291.00
13	1.500E+00	1.002E+03	0.0702	291.00	14	1.750E+00	1.002E+03	0.0702	291.00
15	2.000E+00	1.002E+03	0.0702	291.00	16	2.500E+00	1.003E+03	0.0702	291.00
17	3.000E+00	1.003E+03	0.0702	291.00	18	3.500E+00	1.004E+03	0.0701	291.00
19	4.000E+00	1.006E+03	0.0701	291.00	20	4.500E+00	1.007E+03	0.0700	291.00
21	5.080E+00	1.009E+03	0.0699	291.00	22	7.620E+00	1.021E+03	0.0694	291.00
23	1.016E+01	1.038E+03	0.0686	291.00	24	1.270E+01	1.061E+03	0.0676	291.00
25	1.524E+01	1.086E+03	0.0666	291.00	26	1.778E+01	1.113E+03	0.0655	291.00
27	2.032E+01	1.138E+03	0.0646	291.00	28	2.286E+01	1.158E+03	0.0639	291.00
29	2.540E+01	1.169E+03	0.0635	291.00	30	2.794E+01	1.173E+03	0.0634	291.00
31	3.048E+01	1.172E+03	0.0635	291.00	32	3.302E+01	1.166E+03	0.0637	291.00
33	3.556E+01	1.159E+03	0.0639	291.00	34	3.810E+01	1.151E+03	0.0642	291.00
35	4.064E+01	1.145E+03	0.0644	291.00	36	4.318E+01	1.139E+03	0.0646	291.00
37	4.572E+01	1.135E+03	0.0647	291.00	38	4.826E+01	1.105E+03	0.0503	291.00
39	5.080E+01	6.229E+02	0.0511	291.00	40	5.334E+01	5.859E+02	0.0512	291.00
41	5.588E+01	5.688E+02	0.0513	291.00	42	5.842E+01	5.603E+02	0.0514	291.00
43	6.096E+01	5.577E+02	0.0514	291.00					

Initial Water Storage = 3.8062 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.09136	0.08965	0.07814	0.05141
Head (cm)	=	6.97818E+02	7.15097E+02	8.60105E+02	5.58128E+02
LiqWater Flow (cm)	=	6.59294E-01	6.16809E-01	1.05872E-01	3.02308E-06
IsoVapor Flow (cm)	=	-2.10035E-07	1.38522E-07	7.84144E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.8062+	0.6604+	0.0000 -	0.0000-	0.0000-	0.0000 =	4.4666 vs.	4.4665

Mass Balance = 1.4062E-04 cm; Time step attempts = 271 and successes = 217
Evaporation: Potential = 0.0000 cm, Actual = 0.0000 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 94.0 %; TMEAN = 279.8 K; HDRY = 8.4704E+04 cm; DAYUBC = 0

```
DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
-------------
Node Number          =        1           15           30           43
Depth (cm)           =      0.00000      2.00000     27.94000     60.96000
Water (cm3/cm3)      =      0.04305      0.05028      0.06432      0.05082
Head (cm)            = 2.58002E+03 1.78462E+03 1.14682E+03 6.90942E+02
LiqWater Flow (cm)=-2.34208E-02-5.95792E-02 8.34061E-03 5.19109E-07
IsoVapor Flow (cm)=-4.53334E-02-6.92106E-06 1.05475E-07 0.00000E+00
Plant Sink (cm)      = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                  LIQUID
 PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
  3.6726+ 0.0000+ 0.0000 - 0.0681- 0.0000-  0.0000 =     3.6045 vs.     3.6045

 Mass Balance =  4.6566E-06 cm;  Time step attempts =  451 and successes =  347
   Evaporation:  Potential =  0.1536 cm, Actual =  0.0681 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 71.4 %;  TMEAN = 279.5 K;  HDRY =  4.6240E+05 cm;  DAYUBC =   130
1

------------------------------------------------------------------------------

                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.5767E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.5767E+02     [cm]
 Actual Evaporation                    =  2.4653E+01     [cm]
 Evaporation during Growth             =  2.4653E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.4460E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  4.6838E-04     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.4460E+01     [cm]
 Actual Rainfall                       =  2.4460E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  3.6045E+00     [cm]
 Mass Balance Error                    =  8.1927E-03     [cm]
 Total Successful Time Steps           =     67333
 Total Attempted Time Steps            =     82601
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     31196
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000   -1.9307E-01      0.050    1.6223E+01      0.150    1.0731E+01
      0.250    8.7010E+00      0.350    7.3435E+00      0.450    6.2125E+00
      0.550    5.2355E+00      0.650    4.3992E+00      0.750    3.7462E+00
      0.850    3.3522E+00      0.950    3.1346E+00      1.125    2.9468E+00
      1.375    2.3249E+00      1.625    1.9309E+00      1.875    1.5319E+00
      2.250    1.3344E+00      2.750    1.0172E+00      3.250    8.4745E-01
      3.750    7.1737E-01      4.250    5.6012E-01      4.790    4.5559E-01
      6.350    3.4052E-01      8.890    1.7226E-01     11.430    5.8295E-02
     13.970    1.1257E-02     16.510   -9.0985E-03     19.050   -3.7915E-03
```

21.590	-1.8545E-03	24.130	-2.3900E-03	26.670	-4.3517E-03
29.210	-6.7909E-03	31.750	-8.9988E-03	34.290	-1.0529E-02
36.830	-1.1174E-02	39.370	-1.0921E-02	41.910	-9.8822E-03
44.450	-8.2688E-03	46.990	-5.6403E-03	49.530	-1.6996E-03
52.070	-4.0836E-03	54.610	-2.9760E-03	57.150	-1.6354E-03
59.690	-2.3813E-04	60.960	4.6838E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0014.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.580E+03	0.0431	291.00	2	1.000E-01	2.500E+03	0.0436	291.00
3	2.000E-01	2.427E+03	0.0440	291.00	4	3.000E-01	2.361E+03	0.0445	291.00
5	4.000E-01	2.301E+03	0.0450	291.00	6	5.000E-01	2.246E+03	0.0454	291.00
7	6.000E-01	2.196E+03	0.0458	291.00	8	7.000E-01	2.150E+03	0.0462	291.00
9	8.000E-01	2.108E+03	0.0466	291.00	10	9.000E-01	2.069E+03	0.0470	291.00
11	1.000E+00	2.033E+03	0.0474	291.00	12	1.250E+00	1.955E+03	0.0482	291.00
13	1.500E+00	1.889E+03	0.0490	291.00	14	1.750E+00	1.833E+03	0.0496	291.00
15	2.000E+00	1.785E+03	0.0503	291.00	16	2.500E+00	1.704E+03	0.0514	291.00
17	3.000E+00	1.640E+03	0.0524	291.00	18	3.500E+00	1.586E+03	0.0533	291.00
19	4.000E+00	1.541E+03	0.0542	291.00	20	4.500E+00	1.503E+03	0.0549	291.00
21	5.080E+00	1.464E+03	0.0557	291.00	22	7.620E+00	1.346E+03	0.0584	291.00
23	1.016E+01	1.276E+03	0.0603	291.00	24	1.270E+01	1.229E+03	0.0616	291.00
25	1.524E+01	1.198E+03	0.0626	291.00	26	1.778E+01	1.177E+03	0.0633	291.00
27	2.032E+01	1.162E+03	0.0638	291.00	28	2.286E+01	1.154E+03	0.0641	291.00
29	2.540E+01	1.149E+03	0.0643	291.00	30	2.794E+01	1.147E+03	0.0643	291.00
31	3.048E+01	1.147E+03	0.0643	291.00	32	3.302E+01	1.149E+03	0.0642	291.00
33	3.556E+01	1.152E+03	0.0641	291.00	34	3.810E+01	1.155E+03	0.0640	291.00
35	4.064E+01	1.157E+03	0.0640	291.00	36	4.318E+01	1.158E+03	0.0639	291.00
37	4.572E+01	1.157E+03	0.0640	291.00	38	4.826E+01	1.168E+03	0.0502	291.00
39	5.080E+01	8.831E+02	0.0504	291.00	40	5.334E+01	7.545E+02	0.0507	291.00
41	5.588E+01	7.129E+02	0.0508	291.00	42	5.842E+01	6.958E+02	0.0508	291.00
43	6.096E+01	6.909E+02	0.0508	291.00					

Initial Water Storage = 3.6045 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04751	0.06349	0.05082
Head (cm)	=	5.43704E+05	2.01891E+03	1.17067E+03	6.91229E+02
LiqWater Flow (cm)	=	-1.48244E-02	-4.67716E-02	-6.14720E-04	5.17335E-07
IsoVapor Flow (cm)	=	-4.42570E-02	-1.01110E-05	-6.13618E-08	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.6045+	0.0000+	0.0000 -	0.0597-	0.0000-	0.0000 =	3.5448 vs.	3.5448

Mass Balance = -5.0158E-05 cm; Time step attempts = 292 and successes = 233
Evaporation: Potential = 0.1933 cm, Actual = 0.0597 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 67.0 %; TMEAN = 280.1 K; HDRY = 5.4842E+05 cm; DAYUBC = 131

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.07513	0.07657	0.09479	0.05051
Head (cm)	=	9.08966E+02	8.84812E+02	6.65458E+02	8.36630E+02
LiqWater Flow (cm)	=	-1.61761E-01	-2.25051E-01	-8.42926E-02	1.07257E-07
IsoVapor Flow (cm)	=	-7.81824E-02	-1.43787E-06	-1.27580E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
5.2111+	0.0000+	0.0000	- 0.2403-	0.0000-	0.0000 =	4.9708 vs.	4.9708

Mass Balance = -1.2909E-05 cm; Time step attempts = 299 and successes = 245
Evaporation: Potential = 0.3300 cm, Actual = 0.2403 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.9 %; TMEAN = 279.5 K; HDRY = 8.4789E+05 cm; DAYUBC = 63
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.7430E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.7430E+02	[cm]
Actual Evaporation	=	1.2545E+01	[cm]
Evaporation during Growth	=	1.2545E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.9444E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.9708E+00	[cm]
Mass Balance Error	=	7.9827E-03	[cm]
Total Successful Time Steps	=	58883	
Total Attempted Time Steps	=	72542	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29902	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3744E+00	0.050	1.0567E+01	0.150	8.7536E+00
0.250	7.9590E+00	0.350	7.4728E+00	0.450	7.1265E+00
0.550	6.8219E+00	0.650	6.5657E+00	0.750	6.3227E+00
0.850	6.1126E+00	0.950	5.9153E+00	1.125	5.6970E+00
1.375	5.1209E+00	1.625	4.7151E+00	1.875	4.3530E+00
2.250	3.9959E+00	2.750	3.3864E+00	3.250	2.9023E+00
3.750	2.4772E+00	4.250	2.1645E+00	4.790	1.9471E+00
6.350	1.7037E+00	8.890	1.3147E+00	11.430	1.1440E+00
13.970	1.0251E+00	16.510	9.6031E-01	19.050	8.9343E-01

21.590	8.2390E-01	24.130	7.5168E-01	26.670	6.7680E-01
29.210	5.9932E-01	31.750	5.1935E-01	34.290	4.3704E-01
36.830	3.5257E-01	39.370	2.6619E-01	41.910	1.7818E-01
44.450	8.8861E-02	46.990	-7.0594E-04	49.530	-7.3592E-05
52.070	-9.9693E-04	54.610	-1.2347E-03	57.150	-8.2324E-04
59.690	-2.1629E-04	60.960	9.9444E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0015.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.090E+02	0.0751	291.00	2	1.000E-01	9.078E+02	0.0752	291.00
3	2.000E-01	9.067E+02	0.0753	291.00	4	3.000E-01	9.056E+02	0.0753	291.00
5	4.000E-01	9.044E+02	0.0754	291.00	6	5.000E-01	9.033E+02	0.0755	291.00
7	6.000E-01	9.021E+02	0.0755	291.00	8	7.000E-01	9.009E+02	0.0756	291.00
9	8.000E-01	8.997E+02	0.0757	291.00	10	9.000E-01	8.985E+02	0.0757	291.00
11	1.000E+00	8.973E+02	0.0758	291.00	12	1.250E+00	8.942E+02	0.0760	291.00
13	1.500E+00	8.911E+02	0.0762	291.00	14	1.750E+00	8.880E+02	0.0764	291.00
15	2.000E+00	8.848E+02	0.0766	291.00	16	2.500E+00	8.784E+02	0.0770	291.00
17	3.000E+00	8.718E+02	0.0774	291.00	18	3.500E+00	8.652E+02	0.0778	291.00
19	4.000E+00	8.586E+02	0.0782	291.00	20	4.500E+00	8.520E+02	0.0787	291.00
21	5.080E+00	8.443E+02	0.0792	291.00	22	7.620E+00	8.117E+02	0.0815	291.00
23	1.016E+01	7.824E+02	0.0838	291.00	24	1.270E+01	7.570E+02	0.0859	291.00
25	1.524E+01	7.351E+02	0.0878	291.00	26	1.778E+01	7.165E+02	0.0895	291.00
27	2.032E+01	7.007E+02	0.0911	291.00	28	2.286E+01	6.871E+02	0.0925	291.00
29	2.540E+01	6.755E+02	0.0937	291.00	30	2.794E+01	6.655E+02	0.0948	291.00
31	3.048E+01	6.568E+02	0.0958	291.00	32	3.302E+01	6.494E+02	0.0966	291.00
33	3.556E+01	6.430E+02	0.0974	291.00	34	3.810E+01	6.376E+02	0.0980	291.00
35	4.064E+01	6.329E+02	0.0986	291.00	36	4.318E+01	6.290E+02	0.0991	291.00
37	4.572E+01	6.258E+02	0.0995	291.00	38	4.826E+01	6.195E+02	0.0511	291.00
39	5.080E+01	1.121E+03	0.0502	291.00	40	5.334E+01	1.109E+03	0.0503	291.00
41	5.588E+01	9.335E+02	0.0504	291.00	42	5.842E+01	8.562E+02	0.0505	291.00
43	6.096E+01	8.366E+02	0.0505	291.00					

Initial Water Storage = 4.9708 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.07095	0.07231	0.09075	0.05051
Head (cm)	9.87251E+02	9.60322E+02	7.03911E+02	8.37255E+02
LiqWater Flow (cm)	-1.36959E-01	-1.83158E-01	-7.55523E-02	1.06598E-07
IsoVapor Flow (cm)	-5.55260E-02	-1.81636E-06	-1.45968E-07	0.00000E+00
Plant Sink (cm)	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR		STORAGE
4.9708+	0.0000+	0.0000	- 0.1927-	0.0000-	0.0000 =	4.7781	vs.	4.7781

Mass Balance = -9.5999E-06 cm; Time step attempts = 280 and successes = 231
Evaporation: Potential = 0.2271 cm, Actual = 0.1927 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 59.1 %; TMEAN = 278.4 K; HDRY = 7.2110E+05 cm; DAYUBC = 58

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =        1           15           30           43
 Depth (cm)         =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)    =      0.03001      0.03186      0.04902      0.05040
 Head (cm)          = 1.30490E+06 1.30851E+04 1.88346E+03 9.23241E+02
 LiqWater Flow (cm)= 5.32635E-02 1.07162E-02-1.13742E-03 4.72699E-08
 IsoVapor Flow (cm)=-4.17101E-02-1.65553E-05-3.11365E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8852+ 0.0762+ 0.0000 - 0.0646- 0.0000-  0.0000 =     2.8967 vs.     2.8966

 Mass Balance =  1.5665E-04 cm;  Time step attempts = 1321 and successes = 1031
   Evaporation:  Potential =  0.9318 cm, Actual =  0.0646 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.6 %;  TMEAN = 284.8 K;  HDRY =  1.3049E+06 cm;  DAYUBC =   410
1

------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =    1
 Potential Evapotranspiration          =  2.6857E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.6857E+02     [cm]
 Actual Evaporation                    =  2.2539E+01     [cm]
 Evaporation during Growth             =  2.2539E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  2.0472E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  1.9212E-05     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  2.0472E+01     [cm]
 Actual Rainfall                       =  2.0472E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.8966E+00     [cm]
 Mass Balance Error                    =  7.4456E-03     [cm]
 Total Successful Time Steps           =     62865
 Total Attempted Time Steps            =     77044
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     31606
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
 ---------   -----------   ---------   -----------   ---------   -----------
     0.000   -2.0667E+00       0.050    1.1608E+01       0.150    8.3642E+00
     0.250    7.0567E+00       0.350    5.9946E+00       0.450    5.1955E+00
     0.550    4.4199E+00       0.650    3.7306E+00       0.750    3.2073E+00
     0.850    2.6522E+00       0.950    2.3040E+00       1.125    2.0504E+00
     1.375    1.2251E+00       1.625    7.8152E-01       1.875    3.9178E-01
     2.250    1.1335E-01       2.750   -5.5756E-01       3.250   -1.0079E+00
     3.750   -1.2526E+00       4.250   -1.3081E+00       4.790   -1.3895E+00
     6.350   -1.4414E+00       8.890   -1.5476E+00      11.430   -1.5523E+00
    13.970   -1.5203E+00      16.510   -1.4171E+00      19.050   -1.3107E+00
```

21.590	-1.2016E+00	24.130	-1.0900E+00	26.670	-9.7595E-01
29.210	-8.5976E-01	31.750	-7.4161E-01	34.290	-6.2167E-01
36.830	-5.0013E-01	39.370	-3.7718E-01	41.910	-2.5299E-01
44.450	-1.2771E-01	46.990	-1.1939E-03	49.530	3.1471E-03
52.070	1.2719E-03	54.610	3.3786E-04	57.150	-6.3606E-05
59.690	-5.3141E-05	60.960	1.9212E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0016.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.305E+06	0.0300	291.00	2	1.000E-01	1.202E+06	0.0300	291.00
3	2.000E-01	1.105E+06	0.0300	291.00	4	3.000E-01	1.016E+06	0.0300	291.00
5	4.000E-01	9.312E+05	0.0300	291.00	6	5.000E-01	8.518E+05	0.0300	291.00
7	6.000E-01	7.768E+05	0.0300	291.00	8	7.000E-01	7.056E+05	0.0300	291.00
9	8.000E-01	6.380E+05	0.0300	291.00	10	9.000E-01	5.735E+05	0.0300	291.00
11	1.000E+00	5.119E+05	0.0300	291.00	12	1.250E+00	3.691E+05	0.0300	291.00
13	1.500E+00	2.398E+05	0.0301	291.00	14	1.750E+00	1.217E+05	0.0301	291.00
15	2.000E+00	1.309E+04	0.0319	291.00	16	2.500E+00	3.766E+03	0.0383	291.00
17	3.000E+00	3.363E+03	0.0395	291.00	18	3.500E+00	3.140E+03	0.0403	291.00
19	4.000E+00	2.995E+03	0.0409	291.00	20	4.500E+00	2.889E+03	0.0414	291.00
21	5.080E+00	2.791E+03	0.0419	291.00	22	7.620E+00	2.494E+03	0.0436	291.00
23	1.016E+01	2.297E+03	0.0450	291.00	24	1.270E+01	2.167E+03	0.0461	291.00
25	1.524E+01	2.078E+03	0.0469	291.00	26	1.778E+01	2.015E+03	0.0475	291.00
27	2.032E+01	1.968E+03	0.0481	291.00	28	2.286E+01	1.932E+03	0.0484	291.00
29	2.540E+01	1.905E+03	0.0488	291.00	30	2.794E+01	1.883E+03	0.0490	291.00
31	3.048E+01	1.867E+03	0.0492	291.00	32	3.302E+01	1.854E+03	0.0494	291.00
33	3.556E+01	1.843E+03	0.0495	291.00	34	3.810E+01	1.835E+03	0.0496	291.00
35	4.064E+01	1.828E+03	0.0497	291.00	36	4.318E+01	1.823E+03	0.0498	291.00
37	4.572E+01	1.820E+03	0.0498	291.00	38	4.826E+01	1.682E+03	0.0501	291.00
39	5.080E+01	9.629E+02	0.0504	291.00	40	5.334E+01	8.360E+02	0.0505	291.00
41	5.588E+01	8.490E+02	0.0505	291.00	42	5.842E+01	8.982E+02	0.0504	291.00
43	6.096E+01	9.232E+02	0.0504	291.00					

Initial Water Storage = 2.8966 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03014	0.04890	0.05040
Head (cm)	= 6.22116E+05	1.10009E+05	1.89376E+03	9.22436E+02
LiqWater Flow (cm)	=-1.96628E-11	-4.05290E-04	-1.25914E-03	4.76133E-08
IsoVapor Flow (cm)	=-1.07117E-02	-9.66702E-03	-3.46656E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8966+	0.0000+	0.0000	- 0.0107-	0.0000-	0.0000 =	2.8859 vs.	2.8859

Mass Balance = -5.9051E-06 cm; Time step attempts = 57 and successes = 55
Evaporation: Potential = 0.1666 cm, Actual = 0.0107 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 63.5 %; TMEAN = 279.0 K; HDRY = 6.2212E+05 cm; DAYUBC = 52

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04552	0.05034
Head (cm)	= 1.38664E+06	9.83554E+05	2.23333E+03	9.89194E+02
LiqWater Flow (cm)	=-2.39889E-13	-1.17036E-12	-1.39632E-03	2.68625E-08
IsoVapor Flow (cm)	=-4.53289E-03	-4.53197E-03	-7.91102E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.6710+	0.0000+	0.0000	- 0.0045-	0.0000-	0.0000 =	2.6664 vs.	2.6664

Mass Balance = 3.6065E-07 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.2836 cm, Actual = 0.0045 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.4 %; TMEAN = 282.9 K; HDRY = 1.3866E+06 cm; DAYUBC = 24
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.9026E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9026E+02	[cm]
Actual Evaporation	=	2.1535E+01	[cm]
Evaporation during Growth	=	2.1530E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1311E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.5946E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1311E+01	[cm]
Actual Rainfall	=	2.1311E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.6664E+00	[cm]
Mass Balance Error	=	6.0577E-03	[cm]
Total Successful Time Steps	=	48979	
Total Attempted Time Steps	=	58727	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25464	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2406E-01	0.050	1.4054E+01	0.150	7.3701E+00
0.250	5.7035E+00	0.350	4.5701E+00	0.450	4.0475E+00
0.550	3.6684E+00	0.650	3.4400E+00	0.750	3.1026E+00
0.850	2.9406E+00	0.950	2.7145E+00	1.125	2.5809E+00
1.375	2.2794E+00	1.625	2.0721E+00	1.875	1.9134E+00
2.250	1.6677E+00	2.750	1.4673E+00	3.250	1.3425E+00
3.750	1.1809E+00	4.250	1.0505E+00	4.790	9.3398E-01
6.350	7.8903E-01	8.890	2.8206E-01	11.430	6.1420E-02
13.970	-7.5343E-02	16.510	-1.0494E-01	19.050	-9.4537E-02

21.590	-8.4521E-02	24.130	-7.4970E-02	26.670	-6.5828E-02
29.210	-5.7053E-02	31.750	-4.8605E-02	34.290	-4.0421E-02
36.830	-3.2473E-02	39.370	-2.4706E-02	41.910	-1.7075E-02
44.450	-9.5371E-03	46.990	-1.2186E-03	49.530	8.7892E-04
52.070	-9.3907E-05	54.610	-1.7326E-04	57.150	-8.0796E-05
59.690	-1.1578E-05	60.960	1.5946E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0017.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.387E+06	0.0300	291.00	2	1.000E-01	1.363E+06	0.0300	291.00
3	2.000E-01	1.340E+06	0.0300	291.00	4	3.000E-01	1.318E+06	0.0300	291.00
5	4.000E-01	1.296E+06	0.0300	291.00	6	5.000E-01	1.275E+06	0.0300	291.00
7	6.000E-01	1.253E+06	0.0300	291.00	8	7.000E-01	1.232E+06	0.0300	291.00
9	8.000E-01	1.211E+06	0.0300	291.00	10	9.000E-01	1.191E+06	0.0300	291.00
11	1.000E+00	1.171E+06	0.0300	291.00	12	1.250E+00	1.121E+06	0.0300	291.00
13	1.500E+00	1.074E+06	0.0300	291.00	14	1.750E+00	1.028E+06	0.0300	291.00
15	2.000E+00	9.836E+05	0.0300	291.00	16	2.500E+00	8.988E+05	0.0300	291.00
17	3.000E+00	8.190E+05	0.0300	291.00	18	3.500E+00	7.436E+05	0.0300	291.00
19	4.000E+00	6.722E+05	0.0300	291.00	20	4.500E+00	6.043E+05	0.0300	291.00
21	5.080E+00	5.296E+05	0.0300	291.00	22	7.620E+00	2.426E+05	0.0301	291.00
23	1.016E+01	3.962E+03	0.0378	291.00	24	1.270E+01	3.051E+03	0.0407	291.00
25	1.524E+01	2.735E+03	0.0422	291.00	26	1.778E+01	2.555E+03	0.0432	291.00
27	2.032E+01	2.436E+03	0.0440	291.00	28	2.286E+01	2.349E+03	0.0446	291.00
29	2.540E+01	2.284E+03	0.0451	291.00	30	2.794E+01	2.233E+03	0.0455	291.00
31	3.048E+01	2.193E+03	0.0459	291.00	32	3.302E+01	2.161E+03	0.0461	291.00
33	3.556E+01	2.136E+03	0.0464	291.00	34	3.810E+01	2.116E+03	0.0465	291.00
35	4.064E+01	2.101E+03	0.0467	291.00	36	4.318E+01	2.091E+03	0.0468	291.00
37	4.572E+01	2.084E+03	0.0469	291.00	38	4.826E+01	1.907E+03	0.0501	291.00
39	5.080E+01	1.431E+03	0.0501	291.00	40	5.334E+01	1.117E+03	0.0502	291.00
41	5.588E+01	1.015E+03	0.0503	291.00	42	5.842E+01	9.927E+02	0.0503	291.00
43	6.096E+01	9.892E+02	0.0503	291.00					

Initial Water Storage = 2.6664 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.04543	0.05034
Head (cm)	=	1.37506E+06	9.80872E+05	2.24399E+03	9.89307E+02
LiqWater Flow (cm)	=	-2.42152E-13	-1.19944E-12	-1.39825E-03	2.68379E-08
IsoVapor Flow (cm)	=	-4.50381E-03	-4.50470E-03	-8.09456E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.6664+	0.0000+	0.0000 -	0.0045-	0.0000-	0.0000 =	2.6619 vs.	2.6619

Mass Balance = 5.0282E-07 cm; Time step attempts = 38 and successes = 36
Evaporation: Potential = 0.4847 cm, Actual = 0.0045 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 36.7 %; TMEAN = 287.6 K; HDRY = 1.3751E+06 cm; DAYUBC = 35

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =        1           15           30           43
 Depth (cm)         =      0.00000      2.00000     27.94000     60.96000
 Water (cm3/cm3)    =      0.05615      0.05873      0.07805      0.05022
 Head (cm)          = 1.44223E+03 1.33245E+03 8.61508E+02 1.17537E+03
 LiqWater Flow (cm)=-5.16508E-02-9.51352E-02-3.91663E-02 6.46996E-09
 IsoVapor Flow (cm)=-5.04679E-02-3.80920E-06-2.01659E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL   RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.2866+ 0.0000+ 0.0000 - 0.1023- 0.0000-  0.0000 =     4.1843 vs.     4.1843

 Mass Balance = -9.7853E-06 cm;  Time step attempts =  325 and successes =  258
   Evaporation:  Potential =  0.1693 cm, Actual =  0.1023 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.5 %;  TMEAN = 278.7 K;  HDRY =  5.6014E+05 cm;  DAYUBC =   103
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
-------------------------------------------------------------------------------

 Transpiration Scheme is:                =    1
 Potential Evapotranspiration            =  2.3720E+02     [cm]
 Potential Transpiration                 =  0.0000E+00     [cm]
 Actual Transpiration                    =  0.0000E+00     [cm]
 Potential Evaporation                   =  2.3720E+02     [cm]
 Actual Evaporation                      =  2.2931E+01     [cm]
 Evaporation during Growth               =  2.2931E+01     [cm]
 Total Runoff                            =  0.0000E+00     [cm]
 Total Infiltration                      =  2.4460E+01     [cm]
 Total Basal Liquid Flux (drainage)      =  4.5589E-06     [cm]
 Total Basal Vapor Flux (temp-grad)      =  0.0000E+00     [cm]
 Total Applied Water                     =  2.4460E+01     [cm]
 Actual Rainfall                         =  2.4460E+01     [cm]
 Actual Irrigation                       =  0.0000E+00     [cm]
 Total Final Moisture Storage            =  4.1843E+00     [cm]
 Mass Balance Error                      =  1.1389E-02     [cm]
 Total Successful Time Steps             =    77915
 Total Attempted Time Steps              =    97111
 Total Time Step Reductions (DHMAX)      =        0
 Total Changes in Surface Boundary       =    35232
 Total Time Actually Simulated           =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000    1.5292E+00      0.050    1.6977E+01      0.150    1.3469E+01
      0.250    1.1624E+01      0.350    1.0200E+01      0.450    9.3066E+00
      0.550    8.3014E+00      0.650    7.4229E+00      0.750    6.8501E+00
      0.850    6.3282E+00      0.950    5.7779E+00      1.125    5.3950E+00
      1.375    4.3806E+00      1.625    3.8249E+00      1.875    3.4066E+00
      2.250    3.0430E+00      2.750    2.4960E+00      3.250    2.1638E+00
      3.750    1.8844E+00      4.250    1.7202E+00      4.790    1.6321E+00
      6.350    1.5124E+00      8.890    1.2651E+00     11.430    1.1592E+00
     13.970    1.0828E+00     16.510    1.0060E+00     19.050    9.2805E-01
```

21.590	8.4891E-01	24.130	7.6854E-01	26.670	6.8696E-01
29.210	6.0426E-01	31.750	5.2050E-01	34.290	4.3578E-01
36.830	3.5020E-01	39.370	2.6384E-01	41.910	1.7680E-01
44.450	8.9155E-02	46.990	1.2398E-03	49.530	2.6560E-04
52.070	-6.8118E-08	54.610	-5.2316E-05	57.150	-6.0562E-05
59.690	-2.3075E-05	60.960	4.5589E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0018.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.442E+03	0.0561	291.00	2	1.000E-01	1.437E+03	0.0563	291.00
3	2.000E-01	1.432E+03	0.0564	291.00	4	3.000E-01	1.426E+03	0.0565	291.00
5	4.000E-01	1.421E+03	0.0566	291.00	6	5.000E-01	1.415E+03	0.0567	291.00
7	6.000E-01	1.410E+03	0.0569	291.00	8	7.000E-01	1.404E+03	0.0570	291.00
9	8.000E-01	1.399E+03	0.0571	291.00	10	9.000E-01	1.393E+03	0.0572	291.00
11	1.000E+00	1.388E+03	0.0574	291.00	12	1.250E+00	1.374E+03	0.0577	291.00
13	1.500E+00	1.360E+03	0.0580	291.00	14	1.750E+00	1.346E+03	0.0584	291.00
15	2.000E+00	1.332E+03	0.0587	291.00	16	2.500E+00	1.306E+03	0.0594	291.00
17	3.000E+00	1.280E+03	0.0601	291.00	18	3.500E+00	1.256E+03	0.0608	291.00
19	4.000E+00	1.233E+03	0.0615	291.00	20	4.500E+00	1.211E+03	0.0622	291.00
21	5.080E+00	1.188E+03	0.0629	291.00	22	7.620E+00	1.103E+03	0.0659	291.00
23	1.016E+01	1.042E+03	0.0685	291.00	24	1.270E+01	9.960E+02	0.0705	291.00
25	1.524E+01	9.608E+02	0.0723	291.00	26	1.778E+01	9.327E+02	0.0738	291.00
27	2.032E+01	9.099E+02	0.0751	291.00	28	2.286E+01	8.909E+02	0.0762	291.00
29	2.540E+01	8.750E+02	0.0772	291.00	30	2.794E+01	8.615E+02	0.0780	291.00
31	3.048E+01	8.500E+02	0.0788	291.00	32	3.302E+01	8.403E+02	0.0795	291.00
33	3.556E+01	8.320E+02	0.0800	291.00	34	3.810E+01	8.250E+02	0.0805	291.00
35	4.064E+01	8.193E+02	0.0810	291.00	36	4.318E+01	8.146E+02	0.0813	291.00
37	4.572E+01	8.111E+02	0.0816	291.00	38	4.826E+01	8.021E+02	0.0506	291.00
39	5.080E+01	1.046E+03	0.0503	291.00	40	5.334E+01	1.140E+03	0.0502	291.00
41	5.588E+01	1.163E+03	0.0502	291.00	42	5.842E+01	1.172E+03	0.0502	291.00
43	6.096E+01	1.175E+03	0.0502	291.00					

Initial Water Storage = 4.1843 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.05417	0.05683	0.07614	0.05022
Head (cm)	= 1.54088E+03	1.41108E+03	8.91879E+02	1.17524E+03
LiqWater Flow (cm)	=-4.33284E-02	-8.34281E-02	-3.51690E-02	6.47582E-09
IsoVapor Flow (cm)	=-4.43826E-02	-4.34919E-06	-2.13940E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.1843+	0.0000+	0.0000 -	0.0878-	0.0000-	0.0000 =	4.0964 vs.	4.0965

Mass Balance = -9.8016E-06 cm; Time step attempts = 293 and successes = 241
Evaporation: Potential = 0.1388 cm, Actual = 0.0878 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 66.8 %; TMEAN = 279.3 K; HDRY = 5.5228E+05 cm; DAYUBC = 89

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05598	0.05017
Head (cm)	=	9.04100E+05	1.41634E+05	1.44977E+03	1.30318E+03
LiqWater Flow (cm)	=	-4.82577E-12	-2.73185E-04	-6.11199E-03	2.74706E-09
IsoVapor Flow (cm)	=	-1.40142E-02	-1.37533E-02	-4.11952E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1839+	0.0000+	0.0000	- 0.0140-	0.0000-	0.0000 =	3.1699 vs.	3.1699

Mass Balance = -5.5812E-07 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.2014 cm, Actual = 0.0140 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 51.7 %; TMEAN = 282.0 K; HDRY = 9.0410E+05 cm; DAYUBC = 73
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5068E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5068E+02	[cm]
Actual Evaporation	=	1.8203E+01	[cm]
Evaporation during Growth	=	1.8203E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.5931E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1699E+00	[cm]
Mass Balance Error	=	7.1332E-03	[cm]
Total Successful Time Steps	=	59783	
Total Attempted Time Steps	=	73308	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29319	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0072E+00	0.050	1.1038E+01	0.150	7.7333E+00
0.250	6.4292E+00	0.350	5.3403E+00	0.450	4.7361E+00
0.550	4.2376E+00	0.650	3.7313E+00	0.750	3.2827E+00
0.850	2.9619E+00	0.950	2.6324E+00	1.125	2.2635E+00
1.375	1.5749E+00	1.625	1.0818E+00	1.875	8.3344E-01
2.250	5.7627E-01	2.750	1.5251E-01	3.250	-1.2427E-01
3.750	-2.4516E-01	4.250	-3.0806E-01	4.790	-3.6455E-01
6.350	-4.3562E-01	8.890	-5.8335E-01	11.430	-6.4977E-01
13.970	-6.5647E-01	16.510	-6.6326E-01	19.050	-6.2855E-01

21.590	-5.7550E-01	24.130	-5.2133E-01	26.670	-4.6620E-01
29.210	-4.1022E-01	31.750	-3.5349E-01	34.290	-2.9608E-01
36.830	-2.3803E-01	39.370	-1.7943E-01	41.910	-1.2034E-01
44.450	-6.0802E-02	46.990	-3.8265E-04	49.530	1.3313E-03
52.070	2.4356E-04	54.610	2.0731E-05	57.150	-3.9056E-06
59.690	-2.1699E-06	60.960	1.5931E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0019.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.041E+05	0.0300	291.00	2	1.000E-01	8.540E+05	0.0300	291.00
3	2.000E-01	8.057E+05	0.0300	291.00	4	3.000E-01	7.591E+05	0.0300	291.00
5	4.000E-01	7.139E+05	0.0300	291.00	6	5.000E-01	6.703E+05	0.0300	291.00
7	6.000E-01	6.279E+05	0.0300	291.00	8	7.000E-01	5.869E+05	0.0300	291.00
9	8.000E-01	5.470E+05	0.0300	291.00	10	9.000E-01	5.082E+05	0.0300	291.00
11	1.000E+00	4.706E+05	0.0300	291.00	12	1.250E+00	3.806E+05	0.0300	291.00
13	1.500E+00	2.963E+05	0.0300	291.00	14	1.750E+00	2.168E+05	0.0301	291.00
15	2.000E+00	1.416E+05	0.0301	291.00	16	2.500E+00	3.436E+03	0.0393	291.00
17	3.000E+00	2.978E+03	0.0410	291.00	18	3.500E+00	2.723E+03	0.0422	291.00
19	4.000E+00	2.552E+03	0.0432	291.00	20	4.500E+00	2.424E+03	0.0441	291.00
21	5.080E+00	2.310E+03	0.0449	291.00	22	7.620E+00	2.005E+03	0.0476	291.00
23	1.016E+01	1.840E+03	0.0496	291.00	24	1.270E+01	1.731E+03	0.0510	291.00
25	1.524E+01	1.653E+03	0.0522	291.00	26	1.778E+01	1.593E+03	0.0532	291.00
27	2.032E+01	1.545E+03	0.0541	291.00	28	2.286E+01	1.507E+03	0.0548	291.00
29	2.540E+01	1.476E+03	0.0554	291.00	30	2.794E+01	1.450E+03	0.0560	291.00
31	3.048E+01	1.428E+03	0.0564	291.00	32	3.302E+01	1.411E+03	0.0568	291.00
33	3.556E+01	1.396E+03	0.0572	291.00	34	3.810E+01	1.384E+03	0.0575	291.00
35	4.064E+01	1.375E+03	0.0577	291.00	36	4.318E+01	1.368E+03	0.0578	291.00
37	4.572E+01	1.363E+03	0.0580	291.00	38	4.826E+01	1.330E+03	0.0502	291.00
39	5.080E+01	9.653E+02	0.0504	291.00	40	5.334E+01	1.042E+03	0.0503	291.00
41	5.588E+01	1.183E+03	0.0502	291.00	42	5.842E+01	1.274E+03	0.0502	291.00
43	6.096E+01	1.303E+03	0.0502	291.00					

Initial Water Storage = 3.1699 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03008	0.05566	0.05017
Head (cm)	=	1.34114E+06	1.89034E+05	1.46496E+03	1.30144E+03
LiqWater Flow (cm)	=	-1.28367E-12	-1.03798E-04	-5.90598E-03	2.77750E-09
IsoVapor Flow (cm)	=	-1.80020E-02	-1.78680E-02	-4.18940E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1699+	0.0000+	0.0000	- 0.0180-	0.0000-	0.0000 =	3.1519 vs.	3.1519

Mass Balance = -1.6222E-06 cm; Time step attempts = 24 and successes = 24
Evaporation: Potential = 0.7602 cm, Actual = 0.0180 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.6 %; TMEAN = 284.0 K; HDRY = 1.3411E+06 cm; DAYUBC = 24

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03003	0.05029	0.07087	0.05018
Head (cm)	=	4.03208E+05	1.78393E+03	9.89033E+02	1.26512E+03
LiqWater Flow (cm)	=	-1.91853E-02	-6.43973E-02	-2.26068E-02	3.52039E-09
IsoVapor Flow (cm)	=	-5.71694E-02	-8.34050E-06	-2.32881E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.9180+	0.0000+	0.0000 -	0.0773-	0.0000-	0.0000 =	3.8408 vs.	3.8408

Mass Balance = -4.7357E-05 cm; Time step attempts = 301 and successes = 239
Evaporation: Potential = 0.2111 cm, Actual = 0.0773 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.1 %; TMEAN = 285.7 K; HDRY = 8.4135E+05 cm; DAYUBC = 134
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.4883E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.4883E+02	[cm]
Actual Evaporation	=	2.0049E+01	[cm]
Evaporation during Growth	=	2.0049E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.1254E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8408E+00	[cm]
Mass Balance Error	=	6.4194E-03	[cm]
Total Successful Time Steps	=	48812	
Total Attempted Time Steps	=	58846	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	24200	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	6.7729E-01	0.050	1.3104E+01	0.150	8.9679E+00
0.250	7.5241E+00	0.350	6.4687E+00	0.450	5.6381E+00
0.550	5.1391E+00	0.650	4.6343E+00	0.750	4.0949E+00
0.850	3.7976E+00	0.950	3.4231E+00	1.125	3.2326E+00
1.375	2.6551E+00	1.625	2.3962E+00	1.875	2.2073E+00
2.250	2.1123E+00	2.750	1.8268E+00	3.250	1.6988E+00
3.750	1.5729E+00	4.250	1.4316E+00	4.790	1.2886E+00
6.350	1.1402E+00	8.890	9.1837E-01	11.430	7.5484E-01
13.970	6.6197E-01	16.510	5.6935E-01	19.050	4.8121E-01

21.590	3.9282E-01	24.130	3.5143E-01	26.670	3.1388E-01
29.210	2.7588E-01	31.750	2.3747E-01	34.290	1.9866E-01
36.830	1.5949E-01	39.370	1.1999E-01	41.910	8.0202E-02
44.450	4.0164E-02	46.990	5.7640E-04	49.530	6.2710E-04
52.070	7.2580E-05	54.610	3.0861E-05	57.150	1.0842E-05
59.690	2.7036E-06	60.960	1.1254E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0020.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	4.032E+05	0.0300	291.00	2	1.000E-01	3.088E+05	0.0300	291.00
3	2.000E-01	2.005E+05	0.0301	291.00	4	3.000E-01	9.122E+04	0.0302	291.00
5	4.000E-01	2.433E+03	0.0440	291.00	6	5.000E-01	2.353E+03	0.0446	291.00
7	6.000E-01	2.283E+03	0.0451	291.00	8	7.000E-01	2.223E+03	0.0456	291.00
9	8.000E-01	2.169E+03	0.0461	291.00	10	9.000E-01	2.120E+03	0.0465	291.00
11	1.000E+00	2.076E+03	0.0469	291.00	12	1.250E+00	1.982E+03	0.0479	291.00
13	1.500E+00	1.905E+03	0.0488	291.00	14	1.750E+00	1.840E+03	0.0496	291.00
15	2.000E+00	1.784E+03	0.0503	291.00	16	2.500E+00	1.692E+03	0.0516	291.00
17	3.000E+00	1.620E+03	0.0528	291.00	18	3.500E+00	1.560E+03	0.0538	291.00
19	4.000E+00	1.510E+03	0.0548	291.00	20	4.500E+00	1.467E+03	0.0556	291.00
21	5.080E+00	1.425E+03	0.0565	291.00	22	7.620E+00	1.292E+03	0.0598	291.00
23	1.016E+01	1.209E+03	0.0622	291.00	24	1.270E+01	1.151E+03	0.0642	291.00
25	1.524E+01	1.107E+03	0.0658	291.00	26	1.778E+01	1.073E+03	0.0671	291.00
27	2.032E+01	1.046E+03	0.0683	291.00	28	2.286E+01	1.023E+03	0.0693	291.00
29	2.540E+01	1.005E+03	0.0701	291.00	30	2.794E+01	9.890E+02	0.0709	291.00
31	3.048E+01	9.758E+02	0.0715	291.00	32	3.302E+01	9.647E+02	0.0721	291.00
33	3.556E+01	9.553E+02	0.0726	291.00	34	3.810E+01	9.476E+02	0.0730	291.00
35	4.064E+01	9.413E+02	0.0733	291.00	36	4.318E+01	9.363E+02	0.0736	291.00
37	4.572E+01	9.325E+02	0.0738	291.00	38	4.826E+01	9.230E+02	0.0504	291.00
39	5.080E+01	1.276E+03	0.0502	291.00	40	5.334E+01	1.238E+03	0.0502	291.00
41	5.588E+01	1.231E+03	0.0502	291.00	42	5.842E+01	1.254E+03	0.0502	291.00
43	6.096E+01	1.265E+03	0.0502	291.00					

Initial Water Storage = 3.8408 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04800	0.06961	0.05018
Head (cm)	=	1.05598E+06	1.97227E+03	1.01559E+03	1.26451E+03
LiqWater Flow (cm)	=	-2.04153E-11	-5.94177E-02	-2.19975E-02	3.53453E-09
IsoVapor Flow (cm)	=	-6.90478E-02	-1.25240E-05	-2.54160E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.8408	+ 0.0000	+ 0.0000	- 0.0690	- 0.0000	- 0.0000 =	3.7718 vs.	3.7718

Mass Balance = -3.4758E-05 cm; Time step attempts = 223 and successes = 174
Evaporation: Potential = 0.6230 cm, Actual = 0.0690 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 46.3 %; TMEAN = 285.9 K; HDRY = 1.0560E+06 cm; DAYUBC = 174

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03010	0.05496	0.05018
Head (cm)	=	1.01190E+06	1.53994E+05	1.49969E+03	1.27303E+03
LiqWater Flow (cm)	=	-3.82508E-12	-7.48469E-03	-4.59702E-03	3.34956E-09
IsoVapor Flow (cm)	=	-1.71377E-02	-6.95009E-03	-3.75795E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR		STORAGE
3.1495+	0.0000+	0.0000	- 0.0171-	0.0000-	0.0000	=	3.1324	vs.	3.1324

Mass Balance = -1.2647E-05 cm; Time step attempts = 66 and successes = 53
Evaporation: Potential = 0.2499 cm, Actual = 0.0171 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 47.8 %; TMEAN = 278.7 K; HDRY = 1.0119E+06 cm; DAYUBC = 53
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5554E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5554E+02	[cm]
Actual Evaporation	=	1.9522E+01	[cm]
Evaporation during Growth	=	1.9505E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0892E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1324E+00	[cm]
Mass Balance Error	=	7.5678E-03	[cm]
Total Successful Time Steps	=	58479	
Total Attempted Time Steps	=	71605	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29592	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.0086E-01	0.050	1.3372E+01	0.150	8.9325E+00
0.250	7.6679E+00	0.350	6.6182E+00	0.450	5.8736E+00
0.550	5.2588E+00	0.650	4.7509E+00	0.750	4.2007E+00
0.850	3.9542E+00	0.950	3.6590E+00	1.125	3.2798E+00
1.375	2.3522E+00	1.625	1.8853E+00	1.875	1.4612E+00
2.250	1.1075E+00	2.750	5.7653E-01	3.250	3.5060E-01
3.750	1.8040E-01	4.250	7.7153E-02	4.790	-1.9796E-02
6.350	-1.2685E-01	8.890	-3.9103E-01	11.430	-4.7493E-01
13.970	-5.1535E-01	16.510	-4.9076E-01	19.050	-4.5411E-01

21.590	-4.1633E-01	24.130	-3.7760E-01	26.670	-3.3802E-01
29.210	-2.9770E-01	31.750	-2.5670E-01	34.290	-2.1512E-01
36.830	-1.7301E-01	39.370	-1.3045E-01	41.910	-8.7499E-02
44.450	-4.4224E-02	46.990	-3.9126E-04	49.530	8.7789E-04
52.070	8.7035E-05	54.610	1.1594E-05	57.150	2.7227E-06
59.690	1.1414E-06	60.960	1.0892E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0021.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.012E+06	0.0300	291.00	2	1.000E-01	9.535E+05	0.0300	291.00
3	2.000E-01	8.975E+05	0.0300	291.00	4	3.000E-01	8.437E+05	0.0300	291.00
5	4.000E-01	7.920E+05	0.0300	291.00	6	5.000E-01	7.422E+05	0.0300	291.00
7	6.000E-01	6.941E+05	0.0300	291.00	8	7.000E-01	6.476E+05	0.0300	291.00
9	8.000E-01	6.027E+05	0.0300	291.00	10	9.000E-01	5.591E+05	0.0300	291.00
11	1.000E+00	5.169E+05	0.0300	291.00	12	1.250E+00	4.168E+05	0.0300	291.00
13	1.500E+00	3.235E+05	0.0300	291.00	14	1.750E+00	2.361E+05	0.0301	291.00
15	2.000E+00	1.540E+05	0.0301	291.00	16	2.500E+00	3.446E+03	0.0392	291.00
17	3.000E+00	2.971E+03	0.0410	291.00	18	3.500E+00	2.718E+03	0.0423	291.00
19	4.000E+00	2.550E+03	0.0432	291.00	20	4.500E+00	2.427E+03	0.0440	291.00
21	5.080E+00	2.316E+03	0.0449	291.00	22	7.620E+00	2.025E+03	0.0474	291.00
23	1.016E+01	1.867E+03	0.0492	291.00	24	1.270E+01	1.763E+03	0.0506	291.00
25	1.524E+01	1.689E+03	0.0517	291.00	26	1.778E+01	1.632E+03	0.0526	291.00
27	2.032E+01	1.588E+03	0.0533	291.00	28	2.286E+01	1.553E+03	0.0539	291.00
29	2.540E+01	1.524E+03	0.0545	291.00	30	2.794E+01	1.500E+03	0.0550	291.00
31	3.048E+01	1.480E+03	0.0554	291.00	32	3.302E+01	1.464E+03	0.0557	291.00
33	3.556E+01	1.450E+03	0.0560	291.00	34	3.810E+01	1.439E+03	0.0562	291.00
35	4.064E+01	1.431E+03	0.0564	291.00	36	4.318E+01	1.424E+03	0.0565	291.00
37	4.572E+01	1.420E+03	0.0566	291.00	38	4.826E+01	1.397E+03	0.0501	291.00
39	5.080E+01	1.267E+03	0.0502	291.00	40	5.334E+01	1.255E+03	0.0502	291.00
41	5.588E+01	1.265E+03	0.0502	291.00	42	5.842E+01	1.271E+03	0.0502	291.00
43	6.096E+01	1.273E+03	0.0502	291.00					

Initial Water Storage = 3.1324 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05468	0.05018
Head (cm)	=	8.53064E+05	1.35795E+05	1.51371E+03	1.27293E+03
LiqWater Flow (cm)	=	-6.03517E-12	-2.74339E-04	-4.59238E-03	3.35168E-09
IsoVapor Flow (cm)	=	-1.34415E-02	-1.31823E-02	-3.90912E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.1324	+ 0.0000	+ 0.0000	- 0.0134	- 0.0000	- 0.0000 =	3.1189	vs. 3.1189

Mass Balance = -1.1904E-07 cm; Time step attempts = 51 and successes = 49
Evaporation: Potential = 0.1187 cm, Actual = 0.0134 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.7 %; TMEAN = 277.3 K; HDRY = 8.5306E+05 cm; DAYUBC = 48

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.04428	0.04729	0.04904	0.05011
Head (cm)	= 2.39356E+03	2.04021E+03	1.88185E+03	1.56294E+03
LiqWater Flow (cm)	= 1.60960E-01	1.08234E-01	-2.42751E-03	6.17037E-10
IsoVapor Flow (cm)	=-1.69805E-02	1.67888E-04	-5.93737E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN		NEWSTOR	STORAGE
2.8438+	0.2032+	0.0000	- 0.0585-	0.0000-	0.0000	=	2.9885 vs.	2.9880

Mass Balance = 5.4338E-04 cm; Time step attempts = 1616 and successes = 1239
Evaporation: Potential = 0.0591 cm, Actual = 0.0585 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.3 %; TMEAN = 276.2 K; HDRY = 8.6118E+05 cm; DAYUBC = 0
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.5509E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.5509E+02	[cm]
Actual Evaporation	=	1.1033E+01	[cm]
Evaporation during Growth	=	1.1033E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.4193E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9880E+00	[cm]
Mass Balance Error	=	7.6728E-03	[cm]
Total Successful Time Steps	=	60122	
Total Attempted Time Steps	=	74258	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30058	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.3673E-01	0.050	8.2328E+00	0.150	6.6717E+00
0.250	5.9816E+00	0.350	5.4485E+00	0.450	4.9895E+00
0.550	4.5662E+00	0.650	4.2878E+00	0.750	4.0779E+00
0.850	3.8660E+00	0.950	3.6512E+00	1.125	3.3963E+00
1.375	3.0721E+00	1.625	2.7722E+00	1.875	2.5575E+00
2.250	2.3498E+00	2.750	1.8833E+00	3.250	1.6069E+00
3.750	1.2569E+00	4.250	9.8036E-01	4.790	7.5117E-01
6.350	4.4362E-01	8.890	-1.7749E-02	11.430	-1.9760E-01
13.970	-1.9430E-01	16.510	-1.8124E-01	19.050	-1.6704E-01

21.590	-1.5246E-01	24.130	-1.3769E-01	26.670	-1.2280E-01
29.210	-1.0781E-01	31.750	-9.2754E-02	34.290	-7.7624E-02
36.830	-6.2424E-02	39.370	-4.7161E-02	41.910	-3.1838E-02
44.450	-1.6456E-02	46.990	-6.0156E-04	49.530	2.2474E-05
52.070	-6.4381E-06	54.610	-7.4078E-06	57.150	-5.6251E-06
59.690	-1.7819E-06	60.960	6.4193E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0022.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.394E+03	0.0443	291.00	2	1.000E-01	2.371E+03	0.0444	291.00
3	2.000E-01	2.350E+03	0.0446	291.00	4	3.000E-01	2.328E+03	0.0448	291.00
5	4.000E-01	2.307E+03	0.0449	291.00	6	5.000E-01	2.287E+03	0.0451	291.00
7	6.000E-01	2.267E+03	0.0452	291.00	8	7.000E-01	2.247E+03	0.0454	291.00
9	8.000E-01	2.228E+03	0.0456	291.00	10	9.000E-01	2.209E+03	0.0457	291.00
11	1.000E+00	2.191E+03	0.0459	291.00	12	1.250E+00	2.149E+03	0.0462	291.00
13	1.500E+00	2.109E+03	0.0466	291.00	14	1.750E+00	2.073E+03	0.0470	291.00
15	2.000E+00	2.040E+03	0.0473	291.00	16	2.500E+00	1.983E+03	0.0479	291.00
17	3.000E+00	1.938E+03	0.0484	291.00	18	3.500E+00	1.901E+03	0.0488	291.00
19	4.000E+00	1.874E+03	0.0491	291.00	20	4.500E+00	1.853E+03	0.0494	291.00
21	5.080E+00	1.838E+03	0.0496	291.00	22	7.620E+00	1.863E+03	0.0493	291.00
23	1.016E+01	1.993E+03	0.0478	291.00	24	1.270E+01	2.121E+03	0.0465	291.00
25	1.524E+01	2.135E+03	0.0464	291.00	26	1.778E+01	2.081E+03	0.0469	291.00
27	2.032E+01	2.018E+03	0.0475	291.00	28	2.286E+01	1.964E+03	0.0481	291.00
29	2.540E+01	1.919E+03	0.0486	291.00	30	2.794E+01	1.882E+03	0.0490	291.00
31	3.048E+01	1.852E+03	0.0494	291.00	32	3.302E+01	1.827E+03	0.0497	291.00
33	3.556E+01	1.807E+03	0.0500	291.00	34	3.810E+01	1.791E+03	0.0502	291.00
35	4.064E+01	1.779E+03	0.0504	291.00	36	4.318E+01	1.770E+03	0.0505	291.00
37	4.572E+01	1.765E+03	0.0506	291.00	38	4.826E+01	1.725E+03	0.0501	291.00
39	5.080E+01	1.619E+03	0.0501	291.00	40	5.334E+01	1.583E+03	0.0501	291.00
41	5.588E+01	1.571E+03	0.0501	291.00	42	5.842E+01	1.565E+03	0.0501	291.00
43	6.096E+01	1.563E+03	0.0501	291.00					

Initial Water Storage = 2.9880 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03012	0.04282	0.04893	0.05011
Head (cm)	= 1.25191E+05	2.61863E+03	1.89096E+03	1.56317E+03
LiqWater Flow (cm)	=-7.64868E-03	-1.55649E-02	-2.35257E-03	6.16270E-10
IsoVapor Flow (cm)	=-2.38370E-02	-9.86645E-06	-5.91983E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.9880+	0.0000+	0.0000	- 0.0322-	0.0000-	0.0000 =	2.9558 vs.	2.9558

Mass Balance = -4.6923E-05 cm; Time step attempts = 309 and successes = 246
Evaporation: Potential = 0.0602 cm, Actual = 0.0322 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 70.7 %; TMEAN = 276.2 K; HDRY = 4.7559E+05 cm; DAYUBC = 131

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.05554	0.07825	0.05012
Head (cm)	=	5.25096E+05	1.47076E+03	8.58406E+02	1.50726E+03
LiqWater Flow (cm)	=	-7.04959E-09	-1.04947E-01	-4.23396E-02	8.29303E-10
IsoVapor Flow (cm)	=	-1.07138E-01	-6.10421E-06	-2.09144E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.2694+	0.0000+	0.0000	- 0.1071-	0.0000-	0.0000 =	4.1622 vs.	4.1623

Mass Balance = -1.8329E-05 cm; Time step attempts = 193 and successes = 151
Evaporation: Potential = 0.3090 cm, Actual = 0.1071 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.7 %; TMEAN = 277.9 K; HDRY = 8.2729E+05 cm; DAYUBC = 65
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.6032E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.6032E+02	[cm]
Actual Evaporation	=	1.6319E+01	[cm]
Evaporation during Growth	=	1.6319E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.1185E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1623E+00	[cm]
Mass Balance Error	=	7.4092E-03	[cm]
Total Successful Time Steps	=	59247	
Total Attempted Time Steps	=	72599	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28462	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1817E+00	0.050	1.1689E+01	0.150	9.5255E+00
0.250	8.3996E+00	0.350	7.3480E+00	0.450	6.7779E+00
0.550	6.3579E+00	0.650	5.9186E+00	0.750	5.4676E+00
0.850	5.1053E+00	0.950	4.8225E+00	1.125	4.6375E+00
1.375	4.0234E+00	1.625	3.7472E+00	1.875	3.4246E+00
2.250	3.0928E+00	2.750	2.6453E+00	3.250	2.3053E+00
3.750	2.0580E+00	4.250	1.9135E+00	4.790	1.7966E+00
6.350	1.6847E+00	8.890	1.3569E+00	11.430	1.1674E+00
13.970	1.0164E+00	16.510	9.0438E-01	19.050	8.3589E-01

21.590	7.6571E-01	24.130	6.9399E-01	26.670	6.2093E-01
29.210	5.4664E-01	31.750	4.7125E-01	34.290	3.9488E-01
36.830	3.1762E-01	39.370	2.3960E-01	41.910	1.6089E-01
44.450	8.1610E-02	46.990	2.0801E-03	49.530	2.0541E-04
52.070	1.2169E-05	54.610	3.3230E-06	57.150	1.1435E-06
59.690	4.0069E-07	60.960	2.1185E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0023.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.251E+05	0.0300	291.00	2	1.000E-01	2.972E+05	0.0300	291.00
3	2.000E-01	1.374E+05	0.0301	291.00	4	3.000E-01	1.761E+03	0.0506	291.00
5	4.000E-01	1.736E+03	0.0510	291.00	6	5.000E-01	1.713E+03	0.0513	291.00
7	6.000E-01	1.691E+03	0.0516	291.00	8	7.000E-01	1.670E+03	0.0520	291.00
9	8.000E-01	1.651E+03	0.0523	291.00	10	9.000E-01	1.632E+03	0.0526	291.00
11	1.000E+00	1.614E+03	0.0529	291.00	12	1.250E+00	1.572E+03	0.0536	291.00
13	1.500E+00	1.535E+03	0.0543	291.00	14	1.750E+00	1.501E+03	0.0549	291.00
15	2.000E+00	1.471E+03	0.0555	291.00	16	2.500E+00	1.417E+03	0.0567	291.00
17	3.000E+00	1.370E+03	0.0578	291.00	18	3.500E+00	1.330E+03	0.0588	291.00
19	4.000E+00	1.295E+03	0.0597	291.00	20	4.500E+00	1.264E+03	0.0606	291.00
21	5.080E+00	1.232E+03	0.0615	291.00	22	7.620E+00	1.126E+03	0.0651	291.00
23	1.016E+01	1.055E+03	0.0679	291.00	24	1.270E+01	1.004E+03	0.0701	291.00
25	1.524E+01	9.657E+02	0.0720	291.00	26	1.778E+01	9.351E+02	0.0736	291.00
27	2.032E+01	9.103E+02	0.0750	291.00	28	2.286E+01	8.899E+02	0.0763	291.00
29	2.540E+01	8.728E+02	0.0773	291.00	30	2.794E+01	8.584E+02	0.0783	291.00
31	3.048E+01	8.462E+02	0.0791	291.00	32	3.302E+01	8.359E+02	0.0798	291.00
33	3.556E+01	8.272E+02	0.0804	291.00	34	3.810E+01	8.200E+02	0.0809	291.00
35	4.064E+01	8.140E+02	0.0813	291.00	36	4.318E+01	8.093E+02	0.0817	291.00
37	4.572E+01	8.057E+02	0.0820	291.00	38	4.826E+01	7.964E+02	0.0506	291.00
39	5.080E+01	1.148E+03	0.0502	291.00	40	5.334E+01	1.365E+03	0.0502	291.00
41	5.588E+01	1.456E+03	0.0501	291.00	42	5.842E+01	1.496E+03	0.0501	291.00
43	6.096E+01	1.507E+03	0.0501	291.00					

Initial Water Storage = 4.1623 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.05177	0.07615	0.05012
Head (cm)	=	1.33176E+06	1.68161E+03	8.91776E+02	1.50616E+03
LiqWater Flow (cm)	=	-3.27894E-11	-9.60777E-02	-3.85134E-02	8.34261E-10
IsoVapor Flow (cm)	=	-1.09876E-01	-8.97105E-06	-2.27657E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
4.1623+	0.0000+	0.0000	- 0.1099-	0.0000-	0.0000 =	4.0524 vs.	4.0524

Mass Balance = -2.9452E-05 cm; Time step attempts = 205 and successes = 163
Evapotation: Potential = 0.5168 cm, Actual = 0.1099 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.8 %; TMEAN = 280.9 K; HDRY = 1.3318E+06 cm; DAYUBC = 126

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =        1          15          30          43
 Depth (cm)         =      0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =      0.03000     0.03001     0.04939     0.05011
 Head (cm)          = 2.18999E+06 1.22225E+06 1.85351E+03 1.57511E+03
 LiqWater Flow (cm)=-7.44692E-14-8.65941E-13-2.52449E-03 5.78322E-10
 IsoVapor Flow (cm)=-7.55909E-03-7.55891E-03-5.73911E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8556+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =     2.8481 vs.     2.8481

 Mass Balance = -1.9329E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4019 cm, Actual =  0.0076 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.2 %;  TMEAN = 279.3 K;  HDRY =  2.1900E+06 cm;  DAYUBC =    24
1

------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.6782E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.6782E+02     [cm]
 Actual Evaporation                    =  1.2001E+01     [cm]
 Evaporation during Growth             =  1.2001E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  1.0693E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  4.5571E-07     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  1.0693E+01     [cm]
 Actual Rainfall                       =  1.0693E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.8481E+00     [cm]
 Mass Balance Error                    =  6.7147E-03     [cm]
 Total Successful Time Steps           =     58736
 Total Attempted Time Steps            =     72190
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     31066
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------    --------   -----------   --------   -----------
      0.000   -1.3075E+00       0.050    8.2196E+00       0.150    6.7421E+00
      0.250    5.9860E+00       0.350    5.2891E+00       0.450    4.7400E+00
      0.550    4.3802E+00       0.650    3.9357E+00       0.750    3.6314E+00
      0.850    3.3812E+00       0.950    3.1326E+00       1.125    2.8930E+00
      1.375    2.2571E+00       1.625    1.8172E+00       1.875    1.3841E+00
      2.250    1.0177E+00       2.750    5.0134E-01       3.250    1.5350E-01
      3.750   -9.8959E-02       4.250   -2.6869E-01       4.790   -4.0074E-01
      6.350   -5.5190E-01       8.890   -8.7875E-01      11.430   -9.5099E-01
     13.970   -9.5683E-01      16.510   -8.9180E-01      19.050   -8.2461E-01
```

21.590	-7.5562E-01	24.130	-6.8506E-01	26.670	-6.1308E-01
29.210	-5.3982E-01	31.750	-4.6544E-01	34.290	-3.9005E-01
36.830	-3.1376E-01	39.370	-2.3669E-01	41.910	-1.5894E-01
44.450	-8.0599E-02	46.990	-1.5107E-03	49.530	1.2289E-04
52.070	1.4100E-05	54.610	3.9517E-06	57.150	9.6564E-07
59.690	3.7737E-07	60.960	4.5571E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0024.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.190E+06	0.0300	291.00	2	1.000E-01	2.121E+06	0.0300	291.00
3	2.000E-01	2.055E+06	0.0300	291.00	4	3.000E-01	1.993E+06	0.0300	291.00
5	4.000E-01	1.933E+06	0.0300	291.00	6	5.000E-01	1.876E+06	0.0300	291.00
7	6.000E-01	1.821E+06	0.0300	291.00	8	7.000E-01	1.768E+06	0.0300	291.00
9	8.000E-01	1.717E+06	0.0300	291.00	10	9.000E-01	1.669E+06	0.0300	291.00
11	1.000E+00	1.621E+06	0.0300	291.00	12	1.250E+00	1.510E+06	0.0300	291.00
13	1.500E+00	1.407E+06	0.0300	291.00	14	1.750E+00	1.312E+06	0.0300	291.00
15	2.000E+00	1.222E+06	0.0300	291.00	16	2.500E+00	1.059E+06	0.0300	291.00
17	3.000E+00	9.133E+05	0.0300	291.00	18	3.500E+00	7.814E+05	0.0300	291.00
19	4.000E+00	6.610E+05	0.0300	291.00	20	4.500E+00	5.503E+05	0.0300	291.00
21	5.080E+00	4.323E+05	0.0300	291.00	22	7.620E+00	2.995E+03	0.0409	291.00
23	1.016E+01	2.508E+03	0.0435	291.00	24	1.270E+01	2.288E+03	0.0451	291.00
25	1.524E+01	2.153E+03	0.0462	291.00	26	1.778E+01	2.059E+03	0.0471	291.00
27	2.032E+01	1.988E+03	0.0478	291.00	28	2.286E+01	1.933E+03	0.0484	291.00
29	2.540E+01	1.889E+03	0.0489	291.00	30	2.794E+01	1.854E+03	0.0494	291.00
31	3.048E+01	1.824E+03	0.0498	291.00	32	3.302E+01	1.800E+03	0.0501	291.00
33	3.556E+01	1.781E+03	0.0503	291.00	34	3.810E+01	1.765E+03	0.0505	291.00
35	4.064E+01	1.754E+03	0.0507	291.00	36	4.318E+01	1.745E+03	0.0508	291.00
37	4.572E+01	1.739E+03	0.0509	291.00	38	4.826E+01	1.699E+03	0.0501	291.00
39	5.080E+01	1.590E+03	0.0501	291.00	40	5.334E+01	1.567E+03	0.0501	291.00
41	5.588E+01	1.571E+03	0.0501	291.00	42	5.842E+01	1.574E+03	0.0501	291.00
43	6.096E+01	1.575E+03	0.0501	291.00					

Initial Water Storage = 2.8481 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.04925	0.05011
Head (cm)	= 8.55088E+05	5.75992E+05	1.86469E+03	1.57503E+03
LiqWater Flow (cm)	=-1.77966E-12	-1.27103E-11	-2.48774E-03	5.78540E-10
IsoVapor Flow (cm)	=-4.34833E-03	-4.37124E-03	-5.81949E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8481+	0.0000+	0.0000	- 0.0043-	0.0000-	0.0000 =	2.8437 vs.	2.8437

Mass Balance = -6.0835E-06 cm; Time step attempts = 48 and successes = 46
Evaporation: Potential = 0.2776 cm, Actual = 0.0043 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 53.6 %; TMEAN = 283.7 K; HDRY = 8.5509E+05 cm; DAYUBC = 41

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03005	0.04252	0.05876	0.05113
Head (cm)	= 2.50319E+05	2.67111E+03	1.33095E+03	6.09475E+02
LiqWater Flow (cm)	=-5.66549E-10	-1.76602E-02	-8.13215E-03	1.44846E-06
IsoVapor Flow (cm)	=-1.50688E-02	-2.35299E-05	-3.60345E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

				LIQUID			
PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	DRAIN	NEWSTOR	STORAGE
3.3329+	0.0000+	0.0000	- 0.0151-	0.0000-	0.0000 =	3.3179 vs.	3.3179

Mass Balance = -1.8590E-06 cm; Time step attempts = 106 and successes = 97
Evaporation: Potential = 0.0456 cm, Actual = 0.0151 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 66.0 %; TMEAN = 283.2 K; HDRY = 5.7017E+05 cm; DAYUBC = 13
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.3638E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.3638E+02	[cm]
Actual Evaporation	=	3.0230E+01	[cm]
Evaporation during Growth	=	3.0215E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0709E+01	[cm]
Total Basal Liquid Flux (drainage)	=	5.7324E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0709E+01	[cm]
Actual Rainfall	=	3.0709E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3179E+00	[cm]
Mass Balance Error	=	8.6232E-03	[cm]
Total Successful Time Steps	=	63522	
Total Attempted Time Steps	=	77983	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28594	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.7846E-01	0.050	1.7807E+01	0.150	1.2041E+01
0.250	9.7827E+00	0.350	8.5456E+00	0.450	7.3622E+00
0.550	6.7695E+00	0.650	6.1394E+00	0.750	5.3847E+00
0.850	5.0657E+00	0.950	4.7483E+00	1.125	4.4406E+00
1.375	3.3069E+00	1.625	2.7081E+00	1.875	2.2798E+00
2.250	1.9553E+00	2.750	1.4680E+00	3.250	1.1637E+00
3.750	9.4857E-01	4.250	7.9845E-01	4.790	6.8635E-01
6.350	5.7335E-01	8.890	3.6994E-01	11.430	3.4740E-01
13.970	3.2539E-01	16.510	3.0324E-01	19.050	2.8077E-01

21.590	2.5792E-01	24.130	2.3468E-01	26.670	2.1108E-01
29.210	1.8714E-01	31.750	1.6289E-01	34.290	1.3838E-01
36.830	1.1363E-01	39.370	8.8688E-02	41.910	6.3559E-02
44.450	3.8271E-02	46.990	1.2940E-02	49.530	1.3210E-02
52.070	9.4474E-03	54.610	6.5508E-03	57.150	3.5215E-03
59.690	1.0099E-03	60.960	5.7324E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0025.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.503E+05	0.0301	291.00	2	1.000E-01	2.237E+05	0.0301	291.00
3	2.000E-01	1.994E+05	0.0301	291.00	4	3.000E-01	1.762E+05	0.0301	291.00
5	4.000E-01	1.534E+05	0.0301	291.00	6	5.000E-01	1.308E+05	0.0301	291.00
7	6.000E-01	1.081E+05	0.0301	291.00	8	7.000E-01	8.565E+04	0.0302	291.00
9	8.000E-01	6.341E+04	0.0303	291.00	10	9.000E-01	4.139E+04	0.0305	291.00
11	1.000E+00	1.919E+04	0.0312	291.00	12	1.250E+00	3.084E+03	0.0405	291.00
13	1.500E+00	2.914E+03	0.0413	291.00	14	1.750E+00	2.781E+03	0.0419	291.00
15	2.000E+00	2.671E+03	0.0425	291.00	16	2.500E+00	2.495E+03	0.0436	291.00
17	3.000E+00	2.359E+03	0.0445	291.00	18	3.500E+00	2.250E+03	0.0454	291.00
19	4.000E+00	2.162E+03	0.0461	291.00	20	4.500E+00	2.087E+03	0.0468	291.00
21	5.080E+00	2.015E+03	0.0476	291.00	22	7.620E+00	1.796E+03	0.0501	291.00
23	1.016E+01	1.665E+03	0.0520	291.00	24	1.270E+01	1.575E+03	0.0535	291.00
25	1.524E+01	1.508E+03	0.0548	291.00	26	1.778E+01	1.456E+03	0.0558	291.00
27	2.032E+01	1.415E+03	0.0567	291.00	28	2.286E+01	1.381E+03	0.0575	291.00
29	2.540E+01	1.354E+03	0.0582	291.00	30	2.794E+01	1.331E+03	0.0588	291.00
31	3.048E+01	1.312E+03	0.0593	291.00	32	3.302E+01	1.296E+03	0.0597	291.00
33	3.556E+01	1.283E+03	0.0600	291.00	34	3.810E+01	1.272E+03	0.0603	291.00
35	4.064E+01	1.264E+03	0.0606	291.00	36	4.318E+01	1.258E+03	0.0608	291.00
37	4.572E+01	1.253E+03	0.0609	291.00	38	4.826E+01	1.208E+03	0.0502	291.00
39	5.080E+01	6.070E+02	0.0511	291.00	40	5.334E+01	5.848E+02	0.0513	291.00
41	5.588E+01	5.866E+02	0.0512	291.00	42	5.842E+01	6.003E+02	0.0512	291.00
43	6.096E+01	6.095E+02	0.0511	291.00					

Initial Water Storage = 3.3179 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04118	0.05833	0.05113
Head (cm)	=	6.23434E+05	2.93603E+03	1.34791E+03	6.08498E+02
LiqWater Flow (cm)	=	-4.40843E-11	-1.82358E-02	-7.84763E-03	1.46840E-06
IsoVapor Flow (cm)	=	-2.13249E-02	-2.56328E-05	-3.69679E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.3179+	0.0000+	0.0000	- 0.0213-	0.0000-	0.0000 =	3.2965 vs.	3.2965

Mass Balance = -4.9788E-06 cm; Time step attempts = 63 and successes = 54
Evaporation: Potential = 0.1622 cm, Actual = 0.0213 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 63.5 %; TMEAN = 283.7 K; HDRY = 6.2343E+05 cm; DAYUBC = 52

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03000     0.03001     0.04785     0.05243
 Head (cm)          = 1.91374E+06 1.11562E+06 1.98608E+03 4.48735E+02
 LiqWater Flow (cm)=-1.13264E-13-1.19788E-12-2.24550E-03 1.83096E-05
 IsoVapor Flow (cm)=-7.12917E-03-7.12745E-03-7.07042E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8027+ 0.0000+ 0.0000 - 0.0071- 0.0000-  0.0000 =    2.7955 vs.    2.7955

 Mass Balance =  6.2641E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6907 cm, Actual =  0.0071 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.8 %;  TMEAN = 286.8 K;  HDRY =  1.9137E+06 cm;  DAYUBC =    24
1

--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
--------------------------------------------------------------------------------

 Transpiration Scheme is:              =     1
 Potential Evapotranspiration          =  2.4099E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.4099E+02     [cm]
 Actual Evaporation                    =  3.3185E+01     [cm]
 Evaporation during Growth             =  3.3185E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  3.2690E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  2.0472E-02     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  3.2690E+01     [cm]
 Actual Rainfall                       =  3.2690E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.7955E+00     [cm]
 Mass Balance Error                    =  6.5294E-03     [cm]
 Total Successful Time Steps           =     55380
 Total Attempted Time Steps            =     67432
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     25585
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH        FLOW       DEPTH        FLOW       DEPTH        FLOW
   --------   ----------   --------   ----------   --------   ----------
      0.000   -4.9534E-01      0.050    1.3480E+01      0.150    9.1900E+00
      0.250    7.2405E+00      0.350    6.0995E+00      0.450    5.3985E+00
      0.550    4.9747E+00      0.650    4.5092E+00      0.750    3.9171E+00
      0.850    3.6157E+00      0.950    3.2676E+00      1.125    3.0199E+00
      1.375    2.4734E+00      1.625    2.0943E+00      1.875    1.7868E+00
      2.250    1.5179E+00      2.750    9.8945E-01      3.250    7.0930E-01
      3.750    4.6241E-01      4.250    2.7698E-01      4.790    9.2270E-02
      6.350   -1.0700E-01      8.890   -3.8142E-01     11.430   -3.5447E-01
     13.970   -3.2813E-01     16.510   -3.0184E-01     19.050   -2.7538E-01
```

21.590	-2.4865E-01	24.130	-2.2162E-01	26.670	-1.9428E-01
29.210	-1.6666E-01	31.750	-1.3875E-01	34.290	-1.1059E-01
36.830	-8.2202E-02	39.370	-5.3617E-02	41.910	-2.4861E-02
44.450	4.0332E-03	46.990	3.3604E-02	49.530	3.7895E-02
52.070	3.1022E-02	54.610	2.8218E-02	57.150	2.5306E-02
59.690	2.2126E-02	60.960	2.0472E-02		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0026.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.914E+06	0.0300	291.00	2	1.000E-01	1.860E+06	0.0300	291.00
3	2.000E-01	1.810E+06	0.0300	291.00	4	3.000E-01	1.761E+06	0.0300	291.00
5	4.000E-01	1.713E+06	0.0300	291.00	6	5.000E-01	1.667E+06	0.0300	291.00
7	6.000E-01	1.623E+06	0.0300	291.00	8	7.000E-01	1.580E+06	0.0300	291.00
9	8.000E-01	1.538E+06	0.0300	291.00	10	9.000E-01	1.497E+06	0.0300	291.00
11	1.000E+00	1.458E+06	0.0300	291.00	12	1.250E+00	1.364E+06	0.0300	291.00
13	1.500E+00	1.276E+06	0.0300	291.00	14	1.750E+00	1.194E+06	0.0300	291.00
15	2.000E+00	1.116E+06	0.0300	291.00	16	2.500E+00	9.718E+05	0.0300	291.00
17	3.000E+00	8.417E+05	0.0300	291.00	18	3.500E+00	7.229E+05	0.0300	291.00
19	4.000E+00	6.137E+05	0.0300	291.00	20	4.500E+00	5.125E+05	0.0300	291.00
21	5.080E+00	4.039E+05	0.0300	291.00	22	7.620E+00	5.564E+03	0.0352	291.00
23	1.016E+01	2.960E+03	0.0411	291.00	24	1.270E+01	2.589E+03	0.0430	291.00
25	1.524E+01	2.387E+03	0.0443	291.00	26	1.778E+01	2.254E+03	0.0453	291.00
27	2.032E+01	2.159E+03	0.0462	291.00	28	2.286E+01	2.087E+03	0.0468	291.00
29	2.540E+01	2.031E+03	0.0474	291.00	30	2.794E+01	1.986E+03	0.0479	291.00
31	3.048E+01	1.950E+03	0.0482	291.00	32	3.302E+01	1.921E+03	0.0486	291.00
33	3.556E+01	1.898E+03	0.0488	291.00	34	3.810E+01	1.879E+03	0.0491	291.00
35	4.064E+01	1.865E+03	0.0492	291.00	36	4.318E+01	1.855E+03	0.0494	291.00
37	4.572E+01	1.848E+03	0.0495	291.00	38	4.826E+01	1.505E+03	0.0501	291.00
39	5.080E+01	4.732E+02	0.0521	291.00	40	5.334E+01	4.615E+02	0.0523	291.00
41	5.588E+01	4.542E+02	0.0524	291.00	42	5.842E+01	4.501E+02	0.0524	291.00
43	6.096E+01	4.487E+02	0.0524	291.00					

Initial Water Storage = 2.7955 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03003	0.04773	0.05242
Head (cm)	= 6.08436E+05	4.23205E+05	1.99754E+03	4.49297E+02
LiqWater Flow (cm)	=-6.20197E-12	-3.96823E-11	-2.21724E-03	1.81209E-05
IsoVapor Flow (cm)	=-3.29442E-03	-3.33341E-03	-7.17713E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.7955+	0.0000+	0.0000	- 0.0033-	0.0000-	0.0000 =	2.7922 vs.	2.7922

Mass Balance = -5.6589E-06 cm; Time step attempts = 45 and successes = 43
Evaporation: Potential = 0.1902 cm, Actual = 0.0033 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 64.2 %; TMEAN = 276.5 K; HDRY = 6.0844E+05 cm; DAYUBC = 36

DAILY SUMMARY: Day = 365, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03003	0.05304	0.05110
Head (cm)	= 9.63046E+05	3.98641E+05	1.60400E+03	6.16723E+02
LiqWater Flow (cm)	=-2.29867E-12	-2.50148E-10	-4.37745E-03	1.32637E-06
IsoVapor Flow (cm)	=-9.17893E-03	-9.18882E-03	-4.84265E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

				LIQUID		
PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	DRAIN	NEWSTOR	STORAGE
3.0419+	0.0000+	0.0000	- 0.0092-	0.0000-	0.0000 =	3.0327 vs.	3.0327

Mass Balance = -1.1167E-06 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.3333 cm, Actual = 0.0092 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 49.5 %; TMEAN = 280.7 K; HDRY = 9.6305E+05 cm; DAYUBC = 66
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.4846E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.4846E+02	[cm]
Actual Evaporation	=	1.8320E+01	[cm]
Evaporation during Growth	=	1.8320E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8567E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.0613E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8567E+01	[cm]
Actual Rainfall	=	1.8567E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0327E+00	[cm]
Mass Balance Error	=	8.4209E-03	[cm]
Total Successful Time Steps	=	62018	
Total Attempted Time Steps	=	76410	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30601	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	2.4768E-01	0.050	1.3012E+01	0.150	1.0836E+01
0.250	8.9915E+00	0.350	7.8500E+00	0.450	6.9052E+00
0.550	6.1642E+00	0.650	5.5043E+00	0.750	4.8570E+00
0.850	4.3466E+00	0.950	3.9214E+00	1.125	3.5599E+00
1.375	2.7144E+00	1.625	2.3486E+00	1.875	2.0975E+00
2.250	1.9381E+00	2.750	1.5707E+00	3.250	1.3150E+00
3.750	1.0928E+00	4.250	9.4934E-01	4.790	8.6475E-01
6.350	7.3741E-01	8.890	4.3375E-01	11.430	2.8587E-01
13.970	1.6285E-01	16.510	1.4765E-01	19.050	1.3443E-01

21.590	1.2132E-01	24.130	1.0820E-01	26.670	9.5027E-02
29.210	8.1769E-02	31.750	6.8416E-02	34.290	5.4976E-02
36.830	4.1456E-02	39.370	2.7862E-02	41.910	1.4205E-02
44.450	4.9349E-04	46.990	-1.1781E-02	49.530	-6.9411E-03
52.070	-9.4919E-03	54.610	-6.2342E-03	57.150	-2.9303E-03
59.690	3.9508E-04	60.960	2.0613E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0027.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.630E+05	0.0300	291.00	2	1.000E-01	9.289E+05	0.0300	291.00
3	2.000E-01	8.949E+05	0.0300	291.00	4	3.000E-01	8.620E+05	0.0300	291.00
5	4.000E-01	8.300E+05	0.0300	291.00	6	5.000E-01	7.987E+05	0.0300	291.00
7	6.000E-01	7.681E+05	0.0300	291.00	8	7.000E-01	7.381E+05	0.0300	291.00
9	8.000E-01	7.088E+05	0.0300	291.00	10	9.000E-01	6.801E+05	0.0300	291.00
11	1.000E+00	6.520E+05	0.0300	291.00	12	1.250E+00	5.841E+05	0.0300	291.00
13	1.500E+00	5.195E+05	0.0300	291.00	14	1.750E+00	4.577E+05	0.0300	291.00
15	2.000E+00	3.986E+05	0.0300	291.00	16	2.500E+00	2.876E+05	0.0300	291.00
17	3.000E+00	1.848E+05	0.0301	291.00	18	3.500E+00	8.925E+04	0.0302	291.00
19	4.000E+00	3.513E+03	0.0390	291.00	20	4.500E+00	3.143E+03	0.0403	291.00
21	5.080E+00	2.881E+03	0.0414	291.00	22	7.620E+00	2.334E+03	0.0447	291.00
23	1.016E+01	2.095E+03	0.0467	291.00	24	1.270E+01	1.950E+03	0.0482	291.00
25	1.524E+01	1.850E+03	0.0494	291.00	26	1.778E+01	1.775E+03	0.0504	291.00
27	2.032E+01	1.717E+03	0.0512	291.00	28	2.286E+01	1.672E+03	0.0519	291.00
29	2.540E+01	1.634E+03	0.0525	291.00	30	2.794E+01	1.604E+03	0.0530	291.00
31	3.048E+01	1.579E+03	0.0535	291.00	32	3.302E+01	1.558E+03	0.0538	291.00
33	3.556E+01	1.542E+03	0.0541	291.00	34	3.810E+01	1.528E+03	0.0544	291.00
35	4.064E+01	1.518E+03	0.0546	291.00	36	4.318E+01	1.510E+03	0.0548	291.00
37	4.572E+01	1.505E+03	0.0549	291.00	38	4.826E+01	1.430E+03	0.0501	291.00
39	5.080E+01	7.277E+02	0.0507	291.00	40	5.334E+01	6.607E+02	0.0509	291.00
41	5.588E+01	6.334E+02	0.0510	291.00	42	5.842E+01	6.206E+02	0.0511	291.00
43	6.096E+01	6.167E+02	0.0511	291.00					

Initial Water Storage = 3.0327 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03004	0.05280	0.05109
Head (cm)	=	8.32262E+05	3.52641E+05	1.61769E+03	6.17094E+02
LiqWater Flow (cm)	=	-3.95116E-12	-4.02314E-10	-4.26480E-03	1.31981E-06
IsoVapor Flow (cm)	=	-8.29907E-03	-8.30691E-03	-4.91800E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.0327+	0.0000+	0.0000	- 0.0083-	0.0000-	0.0000 =	3.0244 vs.	3.0244

Mass Balance = -1.1057E-07 cm; Time step attempts = 46 and successes = 44
Evaporation: Potential = 0.2920 cm, Actual = 0.0083 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.5 %; TMEAN = 278.7 K; HDRY = 8.3226E+05 cm; DAYUBC = 43

```
 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number         =       1          15          30          43
 Depth (cm)          =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)     =     0.03001     0.03237     0.05943     0.05070
 Head (cm)           = 1.66220E+06 1.07129E+04 1.30546E+03 7.36226E+02
 LiqWater Flow (cm)=-8.07489E-13-2.22959E-02-9.41422E-03 3.07422E-07
 IsoVapor Flow (cm)=-2.53929E-02-1.79750E-04-3.74052E-07 0.00000E+00
 Plant Sink (cm)     = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO   TRANS     DRAIN      NEWSTOR        STORAGE
    3.3423+ 0.0000+ 0.0000 - 0.0254- 0.0000-   0.0000 =     3.3169 vs.     3.3169

 Mass Balance = -5.9371E-06 cm;  Time step attempts =   33 and successes =   29
   Evaporation:  Potential =   0.5740 cm, Actual =   0.0254 cm
 Transpiration:  Potential =   0.0000 cm, Actual =   0.0000 cm
 RHMEAN = 29.7 %;  TMEAN = 283.4 K;  HDRY =  1.6622E+06 cm;  DAYUBC =    29
1

------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:            =    1
 Potential Evapotranspiration        =  2.5519E+02     [cm]
 Potential Transpiration             =  0.0000E+00     [cm]
 Actual Transpiration                =  0.0000E+00     [cm]
 Potential Evaporation               =  2.5519E+02     [cm]
 Actual Evaporation                  =  2.5411E+01     [cm]
 Evaporation during Growth           =  2.5411E+01     [cm]
 Total Runoff                        =  0.0000E+00     [cm]
 Total Infiltration                  =  2.5705E+01     [cm]
 Total Basal Liquid Flux (drainage)  =  2.3925E-04     [cm]
 Total Basal Vapor Flux (temp-grad)  =  0.0000E+00     [cm]
 Total Applied Water                 =  2.5705E+01     [cm]
 Actual Rainfall                     =  2.5705E+01     [cm]
 Actual Irrigation                   =  0.0000E+00     [cm]
 Total Final Moisture Storage        =  3.3169E+00     [cm]
 Mass Balance Error                  =  9.0660E-03     [cm]
 Total Successful Time Steps         =     69494
 Total Attempted Time Steps          =     85894
 Total Time Step Reductions (DHMAX)  =         0
 Total Changes in Surface Boundary   =     31952
 Total Time Actually Simulated       =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH         FLOW        DEPTH         FLOW        DEPTH         FLOW
   --------   -----------   --------   -----------   --------   -----------
      0.000    2.9353E-01      0.050    1.6693E+01      0.150    1.2362E+01
      0.250    1.0322E+01      0.350    9.0580E+00      0.450    7.8795E+00
      0.550    6.8933E+00      0.650    6.2613E+00      0.750    5.7275E+00
      0.850    5.1654E+00      0.950    4.6835E+00      1.125    4.3447E+00
      1.375    3.3923E+00      1.625    2.8749E+00      1.875    2.4583E+00
      2.250    1.9583E+00      2.750    1.4530E+00      3.250    1.1360E+00
      3.750    9.5632E-01      4.250    7.9796E-01      4.790    6.8828E-01
      6.350    5.3242E-01      8.890    2.8325E-01     11.430    2.2480E-01
     13.970    2.1006E-01     16.510    1.9512E-01     19.050    1.7991E-01
```

21.590	1.6439E-01	24.130	1.4858E-01	26.670	1.3249E-01
29.210	1.1614E-01	31.750	9.9547E-02	34.290	8.2748E-02
36.830	6.5764E-02	39.370	4.8620E-02	41.910	3.1334E-02
44.450	1.3930E-02	46.990	-3.2633E-03	49.530	-5.0229E-04
52.070	-2.3573E-03	54.610	-1.8931E-03	57.150	-1.0995E-03
59.690	-2.1485E-04	60.960	2.3925E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0028.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.662E+06	0.0300	291.00	2	1.000E-01	1.510E+06	0.0300	291.00
3	2.000E-01	1.374E+06	0.0300	291.00	4	3.000E-01	1.250E+06	0.0300	291.00
5	4.000E-01	1.136E+06	0.0300	291.00	6	5.000E-01	1.031E+06	0.0300	291.00
7	6.000E-01	9.334E+05	0.0300	291.00	8	7.000E-01	8.424E+05	0.0300	291.00
9	8.000E-01	7.571E+05	0.0300	291.00	10	9.000E-01	6.769E+05	0.0300	291.00
11	1.000E+00	6.011E+05	0.0300	291.00	12	1.250E+00	4.281E+05	0.0300	291.00
13	1.500E+00	2.746E+05	0.0300	291.00	14	1.750E+00	1.364E+05	0.0301	291.00
15	2.000E+00	1.071E+04	0.0324	291.00	16	2.500E+00	2.944E+03	0.0411	291.00
17	3.000E+00	2.631E+03	0.0427	291.00	18	3.500E+00	2.426E+03	0.0441	291.00
19	4.000E+00	2.280E+03	0.0451	291.00	20	4.500E+00	2.170E+03	0.0461	291.00
21	5.080E+00	2.070E+03	0.0470	291.00	22	7.620E+00	1.802E+03	0.0501	291.00
23	1.016E+01	1.656E+03	0.0522	291.00	24	1.270E+01	1.559E+03	0.0538	291.00
25	1.524E+01	1.489E+03	0.0552	291.00	26	1.778E+01	1.435E+03	0.0563	291.00
27	2.032E+01	1.392E+03	0.0573	291.00	28	2.286E+01	1.358E+03	0.0581	291.00
29	2.540E+01	1.329E+03	0.0588	291.00	30	2.794E+01	1.305E+03	0.0594	291.00
31	3.048E+01	1.286E+03	0.0600	291.00	32	3.302E+01	1.269E+03	0.0604	291.00
33	3.556E+01	1.256E+03	0.0608	291.00	34	3.810E+01	1.245E+03	0.0611	291.00
35	4.064E+01	1.236E+03	0.0614	291.00	36	4.318E+01	1.230E+03	0.0616	291.00
37	4.572E+01	1.225E+03	0.0617	291.00	38	4.826E+01	1.201E+03	0.0502	291.00
39	5.080E+01	8.807E+02	0.0504	291.00	40	5.334E+01	8.008E+02	0.0506	291.00
41	5.588E+01	7.608E+02	0.0506	291.00	42	5.842E+01	7.418E+02	0.0507	291.00
43	6.096E+01	7.362E+02	0.0507	291.00					

Initial Water Storage = 3.3169 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03006	0.05896	0.05070
Head (cm)	= 1.91826E+06	2.28487E+05	1.32347E+03	7.36490E+02
LiqWater Flow (cm)	=-3.85931E-13	-5.99365E-04	-8.92942E-03	3.06518E-07
IsoVapor Flow (cm)	=-2.21153E-02	-2.06086E-02	-3.79984E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.3169+	0.0000+	0.0000	- 0.0221-	0.0000-	0.0000 =	3.2948 vs.	3.2948

Mass Balance = -9.6791E-06 cm; Time step attempts = 66 and successes = 56
Evaporation: Potential = 0.4509 cm, Actual = 0.0221 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 24.7 %; TMEAN = 276.2 K; HDRY = 1.9183E+06 cm; DAYUBC = 56

DAILY SUMMARY: Day = 366, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.04941	0.05058
Head (cm)	=	1.35560E+06	6.64994E+05	1.85197E+03	7.98146E+02
LiqWater Flow (cm)	=	-5.32029E-13	-1.77178E-11	-2.37298E-03	1.57573E-07
IsoVapor Flow (cm)	=	-8.91777E-03	-8.92031E-03	-5.41234E-07	0.00000E+00
Plant Sink (cm)	=	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

					LIQUID		
PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	DRAIN	NEWSTOR	STORAGE
2.8702+	0.0000+	0.0000	- 0.0089-	0.0000-	0.0000 =	2.8613 vs.	2.8613

Mass Balance = -3.7386E-06 cm; Time step attempts = 78 and successes = 78
Evaporation: Potential = 0.2429 cm, Actual = 0.0089 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 37.2 %; TMEAN = 279.8 K; HDRY = 1.3556E+06 cm; DAYUBC = 73
1

UNSAT-H Version 3.01
SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

Transpiration Scheme is:	=	1	
Potential Evapotranspiration	=	2.8247E+02	[cm]
Potential Transpiration	=	0.0000E+00	[cm]
Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8247E+02	[cm]
Actual Evaporation	=	2.5494E+01	[cm]
Evaporation during Growth	=	2.5485E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5044E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.5742E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5044E+01	[cm]
Actual Rainfall	=	2.5044E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8613E+00	[cm]
Mass Balance Error	=	6.3216E-03	[cm]
Total Successful Time Steps	=	52843	
Total Attempted Time Steps	=	64014	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25604	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4924E-01	0.050	1.4104E+01	0.150	6.4391E+00
0.250	4.9326E+00	0.350	3.9868E+00	0.450	3.3637E+00
0.550	3.0149E+00	0.650	2.8067E+00	0.750	2.6472E+00
0.850	2.4541E+00	0.950	2.3538E+00	1.125	2.2608E+00
1.375	1.9803E+00	1.625	1.7895E+00	1.875	1.5828E+00
2.250	1.4365E+00	2.750	1.1140E+00	3.250	9.2593E-01
3.750	7.6643E-01	4.250	5.4812E-01	4.790	3.9066E-01
6.350	2.7015E-01	8.890	3.0583E-02	11.430	-4.0767E-02
13.970	-9.5535E-02	16.510	-1.3726E-01	19.050	-1.8010E-01

21.590	-2.0798E-01	24.130	-2.2739E-01	26.670	-2.1426E-01
29.210	-1.8903E-01	31.750	-1.6324E-01	34.290	-1.3698E-01
36.830	-1.1035E-01	39.370	-8.3404E-02	41.910	-5.6193E-02
44.450	-2.8784E-02	46.990	4.3143E-05	49.530	3.1223E-03
52.070	8.7638E-04	54.610	-8.8681E-05	57.150	-2.3288E-04
59.690	-5.9682E-05	60.960	6.5742E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0029.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.356E+06	0.0300	291.00	2	1.000E-01	1.311E+06	0.0300	291.00
3	2.000E-01	1.269E+06	0.0300	291.00	4	3.000E-01	1.227E+06	0.0300	291.00
5	4.000E-01	1.187E+06	0.0300	291.00	6	5.000E-01	1.148E+06	0.0300	291.00
7	6.000E-01	1.110E+06	0.0300	291.00	8	7.000E-01	1.073E+06	0.0300	291.00
9	8.000E-01	1.037E+06	0.0300	291.00	10	9.000E-01	1.002E+06	0.0300	291.00
11	1.000E+00	9.673E+05	0.0300	291.00	12	1.250E+00	8.852E+05	0.0300	291.00
13	1.500E+00	8.078E+05	0.0300	291.00	14	1.750E+00	7.345E+05	0.0300	291.00
15	2.000E+00	6.650E+05	0.0300	291.00	16	2.500E+00	5.356E+05	0.0300	291.00
17	3.000E+00	4.174E+05	0.0300	291.00	18	3.500E+00	3.087E+05	0.0300	291.00
19	4.000E+00	2.079E+05	0.0301	291.00	20	4.500E+00	1.140E+05	0.0301	291.00
21	5.080E+00	1.268E+04	0.0319	291.00	22	7.620E+00	2.718E+03	0.0423	291.00
23	1.016E+01	2.441E+03	0.0440	291.00	24	1.270E+01	2.261E+03	0.0453	291.00
25	1.524E+01	2.138E+03	0.0463	291.00	26	1.778E+01	2.049E+03	0.0472	291.00
27	2.032E+01	1.981E+03	0.0479	291.00	28	2.286E+01	1.928E+03	0.0485	291.00
29	2.540E+01	1.886E+03	0.0490	291.00	30	2.794E+01	1.852E+03	0.0494	291.00
31	3.048E+01	1.824E+03	0.0498	291.00	32	3.302E+01	1.802E+03	0.0501	291.00
33	3.556E+01	1.783E+03	0.0503	291.00	34	3.810E+01	1.769E+03	0.0505	291.00
35	4.064E+01	1.758E+03	0.0507	291.00	36	4.318E+01	1.750E+03	0.0508	291.00
37	4.572E+01	1.744E+03	0.0508	291.00	38	4.826E+01	1.635E+03	0.0501	291.00
39	5.080E+01	1.011E+03	0.0503	291.00	40	5.334E+01	8.271E+02	0.0505	291.00
41	5.588E+01	7.943E+02	0.0506	291.00	42	5.842E+01	7.946E+02	0.0506	291.00
43	6.096E+01	7.981E+02	0.0506	291.00					

Initial Water Storage = 2.8613 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04927	0.05058
Head (cm)	= 1.57845E+06	9.66448E+05	1.86330E+03	7.98014E+02
LiqWater Flow (cm)	=-2.56358E-13	-5.62657E-12	-2.36178E-03	1.57794E-07
IsoVapor Flow (cm)	=-7.73219E-03	-7.72466E-03	-5.54028E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
2.8613+	0.0000+	0.0000 -	0.0077-	0.0000-	0.0000 =	2.8536 vs.	2.8536

Mass Balance = -1.2615E-05 cm; Time step attempts = 58 and successes = 45
Evaporation: Potential = 0.3200 cm, Actual = 0.0077 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 31.6 %; TMEAN = 281.8 K; HDRY = 1.5785E+06 cm; DAYUBC = 45

```
DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
-------------
Node Number          =       1          15          30          43
Depth (cm)           =     0.00000     2.00000    27.94000    60.96000
Water (cm3/cm3)      =     0.03001     0.05196     0.07029     0.05038
Head (cm)            = 1.04789E+06 1.66954E+03 1.00111E+03 9.46224E+02
LiqWater Flow (cm)=-3.91636E-02-1.03503E-01 1.43636E-02 3.87509E-08
IsoVapor Flow (cm)=-9.68595E-02-6.51304E-06 7.91929E-08 0.00000E+00
Plant Sink (cm)      = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                 LIQUID
 PRESTOR    INFIL  RUNOFF    EVAPO    TRANS     DRAIN     NEWSTOR       STORAGE
  3.9780+ 0.0000+ 0.0000 - 0.1375- 0.0000-  0.0000 =    3.8405 vs.    3.8405

Mass Balance = -5.5873E-05 cm;  Time step attempts =  336 and successes =  262
  Evaporation:  Potential =  0.4552 cm, Actual =  0.1375 cm
Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
RHMEAN = 46.6 %;  TMEAN = 279.0 K;  HDRY =  1.0479E+06 cm;  DAYUBC =   191
1

------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

Transpiration Scheme is:              =    1
Potential Evapotranspiration          =  2.6934E+02     [cm]
Potential Transpiration               =  0.0000E+00     [cm]
Actual Transpiration                  =  0.0000E+00     [cm]
Potential Evaporation                 =  2.6934E+02     [cm]
Actual Evaporation                    =  2.1060E+01     [cm]
Evaporation during Growth             =  2.1060E+01     [cm]
Total Runoff                          =  0.0000E+00     [cm]
Total Infiltration                    =  2.2047E+01     [cm]
Total Basal Liquid Flux (drainage)    =  3.4073E-05     [cm]
Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
Total Applied Water                   =  2.2047E+01     [cm]
Actual Rainfall                       =  2.2047E+01     [cm]
Actual Irrigation                     =  0.0000E+00     [cm]
Total Final Moisture Storage          =  3.8405E+00     [cm]
Mass Balance Error                    =  7.6029E-03     [cm]
Total Successful Time Steps           =     59697
Total Attempted Time Steps            =     73165
Total Time Step Reductions (DHMAX)    =         0
Total Changes in Surface Boundary     =     28903
Total Time Actually Simulated         =  3.6500E+02     [days]


Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

   DEPTH        FLOW       DEPTH        FLOW       DEPTH        FLOW
  -------   ----------   -------   ----------   -------   ----------
    0.000   9.8687E-01     0.050   1.4141E+01     0.150   9.5899E+00
    0.250   8.2856E+00     0.350   7.3962E+00     0.450   6.5121E+00
    0.550   5.9189E+00     0.650   5.3999E+00     0.750   4.9576E+00
    0.850   4.5568E+00     0.950   4.1988E+00     1.125   3.9217E+00
    1.375   3.3295E+00     1.625   2.8017E+00     1.875   2.5350E+00
    2.250   2.3751E+00     2.750   2.1196E+00     3.250   1.9093E+00
    3.750   1.8171E+00     4.250   1.6974E+00     4.790   1.6351E+00
    6.350   1.5093E+00     8.890   1.1943E+00    11.430   1.0521E+00
   13.970   9.1755E-01    16.510   7.7972E-01    19.050   6.7828E-01
```

21.590	5.7744E-01	24.130	4.8326E-01	26.670	4.0794E-01
29.210	3.5451E-01	31.750	3.0197E-01	34.290	2.5019E-01
36.830	1.9910E-01	39.370	1.4862E-01	41.910	9.8585E-02
44.450	4.8818E-02	46.990	2.4147E-04	49.530	1.3232E-03
52.070	-1.3002E-04	54.610	-4.2506E-04	57.150	-3.5840E-04
59.690	-1.0786E-04	60.960	3.4073E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a.inp
Results File: X:\2011\5134.11\CIVIL\Final Design\UNSAT-H Plus Cond\a0030.res
Date of Run: 15 Mar 2012
Time of Run: 09:53:00.55
Title:
El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.048E+06	0.0300	291.00	2	1.000E-01	7.134E+05	0.0300	291.00
3	2.000E-01	4.289E+05	0.0300	291.00	4	3.000E-01	1.994E+05	0.0301	291.00
5	4.000E-01	3.062E+03	0.0406	291.00	6	5.000E-01	2.692E+03	0.0424	291.00
7	6.000E-01	2.476E+03	0.0437	291.00	8	7.000E-01	2.327E+03	0.0448	291.00
9	8.000E-01	2.215E+03	0.0457	291.00	10	9.000E-01	2.126E+03	0.0465	291.00
11	1.000E+00	2.052E+03	0.0472	291.00	12	1.250E+00	1.913E+03	0.0487	291.00
13	1.500E+00	1.811E+03	0.0499	291.00	14	1.750E+00	1.733E+03	0.0510	291.00
15	2.000E+00	1.670E+03	0.0520	291.00	16	2.500E+00	1.572E+03	0.0536	291.00
17	3.000E+00	1.498E+03	0.0550	291.00	18	3.500E+00	1.441E+03	0.0562	291.00
19	4.000E+00	1.393E+03	0.0572	291.00	20	4.500E+00	1.354E+03	0.0582	291.00
21	5.080E+00	1.315E+03	0.0592	291.00	22	7.620E+00	1.200E+03	0.0625	291.00
23	1.016E+01	1.133E+03	0.0648	291.00	24	1.270E+01	1.088E+03	0.0665	291.00
25	1.524E+01	1.058E+03	0.0678	291.00	26	1.778E+01	1.036E+03	0.0687	291.00
27	2.032E+01	1.022E+03	0.0693	291.00	28	2.286E+01	1.011E+03	0.0698	291.00
29	2.540E+01	1.005E+03	0.0701	291.00	30	2.794E+01	1.001E+03	0.0703	291.00
31	3.048E+01	9.993E+02	0.0704	291.00	32	3.302E+01	9.989E+02	0.0704	291.00
33	3.556E+01	9.993E+02	0.0704	291.00	34	3.810E+01	1.000E+03	0.0703	291.00
35	4.064E+01	1.000E+03	0.0703	291.00	36	4.318E+01	1.000E+03	0.0703	291.00
37	4.572E+01	9.987E+02	0.0704	291.00	38	4.826E+01	1.017E+03	0.0503	291.00
39	5.080E+01	9.351E+02	0.0504	291.00	40	5.334E+01	9.555E+02	0.0504	291.00
41	5.588E+01	9.575E+02	0.0504	291.00	42	5.842E+01	9.500E+02	0.0504	291.00
43	6.096E+01	9.462E+02	0.0504	291.00					

Initial Water Storage = 3.8405 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.04998	0.05240	0.06892	0.05038
Head (cm)	= 1.80751E+03	1.64217E+03	1.03092E+03	9.46337E+02
LiqWater Flow (cm)	=-2.64977E-02	-6.44450E-02	-5.57124E-03	3.87124E-08
IsoVapor Flow (cm)	=-2.57600E-02	-7.32280E-06	-1.05980E-07	0.00000E+00
Plant Sink (cm)	= 0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

PRESTOR	INFIL	RUNOFF	EVAPO	TRANS	LIQUID DRAIN	NEWSTOR	STORAGE
3.8405+	0.0000+	0.0000	- 0.0513-	0.0000-	0.0000 =	3.7893 vs.	3.7893

Mass Balance = 2.4982E-05 cm; Time step attempts = 426 and successes = 345
Evaporation: Potential = 0.0520 cm, Actual = 0.0513 cm
Transpiration: Potential = 0.0000 cm, Actual = 0.0000 cm
RHMEAN = 54.4 %; TMEAN = 276.8 K; HDRY = 8.3514E+05 cm; DAYUBC = 29

```
DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
-------------
Node Number        =        1          15          30          43
Depth (cm)         =      0.00000     2.00000    27.94000    60.96000
Water (cm3/cm3)    =      0.03001     0.04119     0.04596     0.05029
Head (cm)          = 9.13733E+05 2.93443E+03 2.18171E+03 1.04448E+03
LiqWater Flow (cm)=-1.65343E-11-2.43295E-02-1.60583E-03 1.71674E-08
IsoVapor Flow (cm)=-3.88361E-02-1.94711E-05-8.06849E-07 0.00000E+00
Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
 PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
  2.8833+ 0.0000+ 0.0000 - 0.0388- 0.0000-  0.0000 =    2.8445 vs.    2.8445

 Mass Balance = -4.7094E-05 cm;  Time step attempts =  280 and successes =  234
   Evaporation:  Potential =  0.4004 cm, Actual =  0.0388 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.3 %;  TMEAN = 273.7 K;  HDRY =  9.1373E+05 cm;  DAYUBC =   232
1

------------------------------------------------------------------------------

                          UNSAT-H Version 3.01
                          SIMULATION SUMMARY

 Title:
 El Paso Clint 2284 - ET Cap design (+20% Hydraulic Conductivity)
------------------------------------------------------------------------------

 Transpiration Scheme is:              =    1
 Potential Evapotranspiration          =  2.5837E+02     [cm]
 Potential Transpiration               =  0.0000E+00     [cm]
 Actual Transpiration                  =  0.0000E+00     [cm]
 Potential Evaporation                 =  2.5837E+02     [cm]
 Actual Evaporation                    =  1.7931E+01     [cm]
 Evaporation during Growth             =  1.7931E+01     [cm]
 Total Runoff                          =  0.0000E+00     [cm]
 Total Infiltration                    =  1.6942E+01     [cm]
 Total Basal Liquid Flux (drainage)    =  1.1102E-05     [cm]
 Total Basal Vapor Flux (temp-grad)    =  0.0000E+00     [cm]
 Total Applied Water                   =  1.6942E+01     [cm]
 Actual Rainfall                       =  1.6942E+01     [cm]
 Actual Irrigation                     =  0.0000E+00     [cm]
 Total Final Moisture Storage          =  2.8445E+00     [cm]
 Mass Balance Error                    =  6.7063E-03     [cm]
 Total Successful Time Steps           =     65082
 Total Attempted Time Steps            =     79846
 Total Time Step Reductions (DHMAX)    =         0
 Total Changes in Surface Boundary     =     32710
 Total Time Actually Simulated         =  3.6500E+02     [days]


 Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

    DEPTH        FLOW        DEPTH        FLOW        DEPTH        FLOW
 --------  -----------  --------  -----------  --------  -----------
    0.000  -9.8928E-01     0.050   1.1721E+01     0.150   8.5959E+00
    0.250   7.1682E+00     0.350   6.1428E+00     0.450   5.3780E+00
    0.550   4.7368E+00     0.650   4.2650E+00     0.750   3.6256E+00
    0.850   3.1322E+00     0.950   2.9291E+00     1.125   2.7186E+00
    1.375   1.8964E+00     1.625   1.5985E+00     1.875   1.2696E+00
    2.250   8.9255E-01     2.750   4.1477E-01     3.250   1.8461E-01
    3.750  -2.7253E-02     4.250  -1.7090E-01     4.790  -2.4317E-01
    6.350  -3.3499E-01     8.890  -6.2145E-01    11.430  -7.0279E-01
   13.970  -7.3005E-01    16.510  -7.2699E-01    19.050  -6.6659E-01
```

21.590	-6.0427E-01	24.130	-5.4167E-01	26.670	-4.7940E-01
29.210	-4.1771E-01	31.750	-3.5670E-01	34.290	-2.9639E-01
36.830	-2.3675E-01	39.370	-1.7767E-01	41.910	-1.1903E-01
44.450	-6.0621E-02	46.990	-1.7662E-03	49.530	2.9232E-04
52.070	-7.9307E-05	54.610	-1.0018E-04	57.150	-7.3973E-05
59.690	-2.0253E-05	60.960	1.1102E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00
0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX A-4

LABORATORY SOIL DATA

Summary of Sample Preparation

	Proctor Data		Target Remold Densities	Actual Remold Values		
Sample Number	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm^3)	Dry Bulk Density (g/cm^3)	Moisture Content (% g/g)	Dry Bulk Density (g/cm^3)	% of Max. Dry Bulk Density (%)
El Paso 75%			1.37	6.1	1.41	77.2%
El Paso 80%			1.46	6.1	1.50	82.2%
El Paso 85%	10.9	1.83	1.56	6.2	1.60	87.3%
El Paso 90%			1.65	6.2	1.69	92.4%
El Paso 95%			1.74	6.1	1.79	97.6%

Summary of Saturated Hydraulic Conductivity Tests

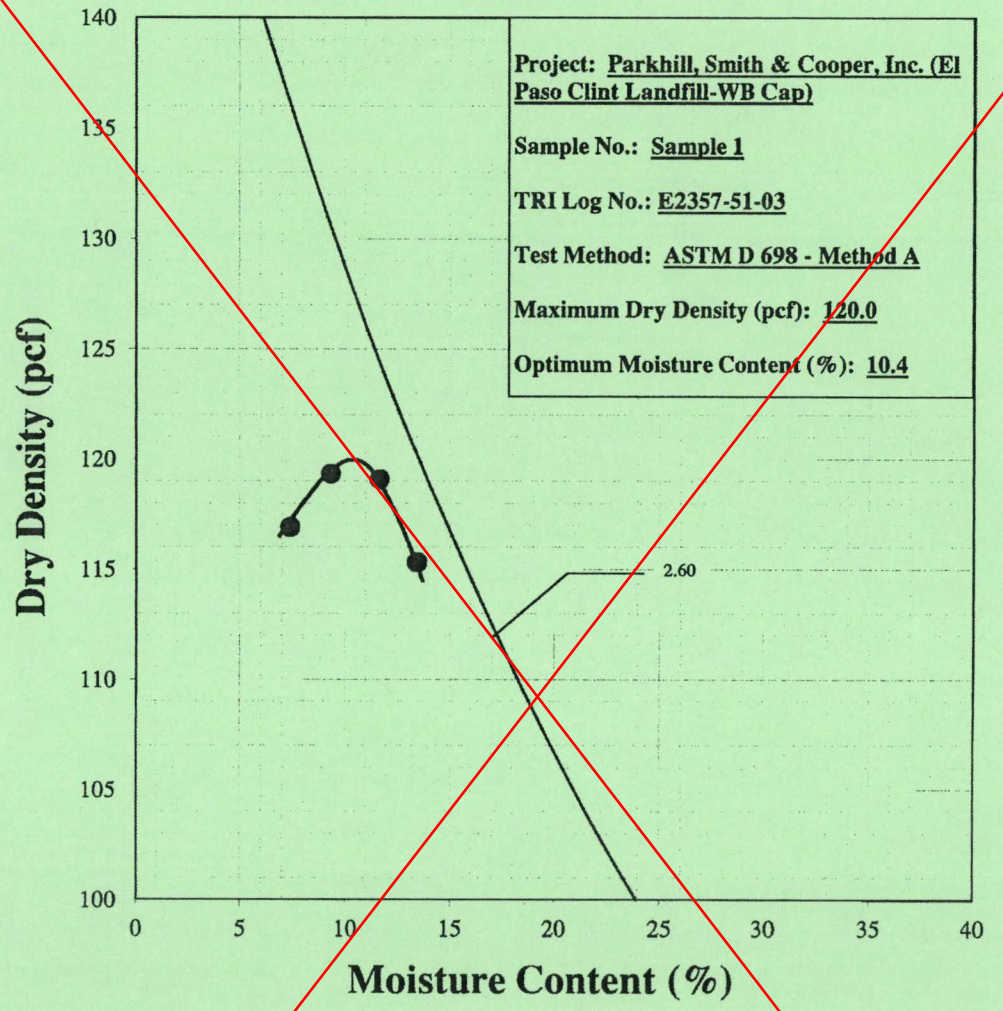
Sample Number	K_{sat} (cm/sec)	Method of Analysis	
		Constant Head	Falling Head
El Paso 75%	1.2E-02	X	
El Paso 80%	6.6E-03	X	
El Paso 85%	3.1E-03	X	
El Paso 90%	1.3E-03	X	
El Paso 95%	7.9E-04	X	

Summary of Moisture Characteristics of the Initial Drainage Curve

Sample Number	Pressure Head (-cm water)	Moisture Content (%, cm^3/cm^3)
El Paso 75%	0	46.0
	12	41.3
	38	40.1
	79	18.7
	510	13.8
	11728	5.2
	851293	1.2
El Paso 80%	0	45.2
	12	41.5
	38	39.7
	79	18.8
	510	10.4
	11728	5.6
	851293	1.2
El Paso 85%	0	43.4
	12	40.1
	38	39.3
	79	21.5
	510	10.8
	11728	5.9
	851293	1.3
El Paso 90%	0	37.7
	11	36.1
	40	34.8
	83	33.6
	510	11.5
	11728	6.3
	851293	1.4

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Proctor Compaction Test



John M. Allen, P.E., 09/16/11

Quality Review/Date

Tested by: Joe Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

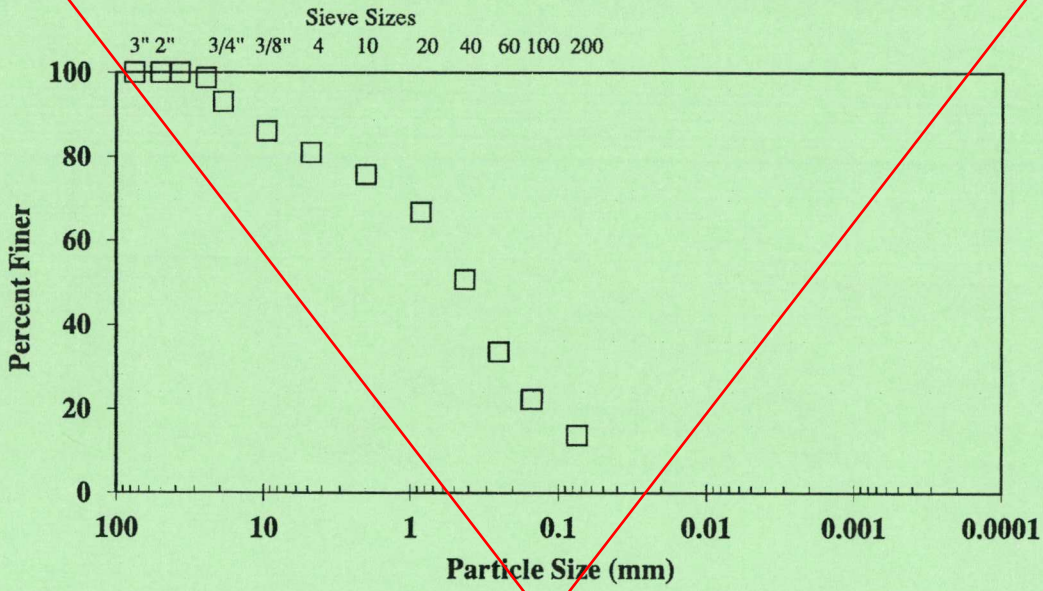
9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Particle Size Analysis for Soils

Client: Parkhill, Smith, & Cooper, Inc.
Project: El Paso Clint Landfill-WB Cap
Sample: Sample 1

TRI Log#: E2357-51-03
Test Method: ASTM D 422
Test Date: 09/13/11



Sieve Analysis	
Sieve Size	Percentage Passing (%)
3 in.	100.0
2 in.	100.0
1.5 in.	100.0
1 in.	98.8
3/4 in.	93.1
3/8 in.	86.1
No. 4 (4.75 mm)	81.1
No. 10 (2.00 mm)	75.7
No. 20 (850 µm)	66.8
No. 40 (425 µm)	50.8
No. 60 (250 µm)	33.5
No. 100 (150 µm)	22.3
No. 200 (75 µm)	13.7

Notes: Soil classifies as a silty sand with gravel (SM) in accordance with ASTM D 2487.

Plastic Index (ASTM D 4318) Results	
Liquid Limit	NL
Plastic Limit	NP
Plastic Index	NP
Notes: Specimen was air dried, 3 point Liquid Limit procedure was used.	

John M. Allen, P.E., 09/15/11
Quality Review/Date
Tested by: Joe Vasquez & Tierra Jackson

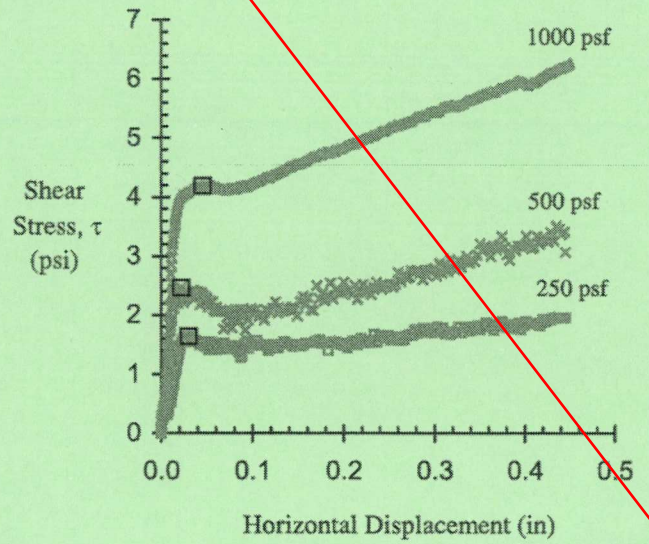
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

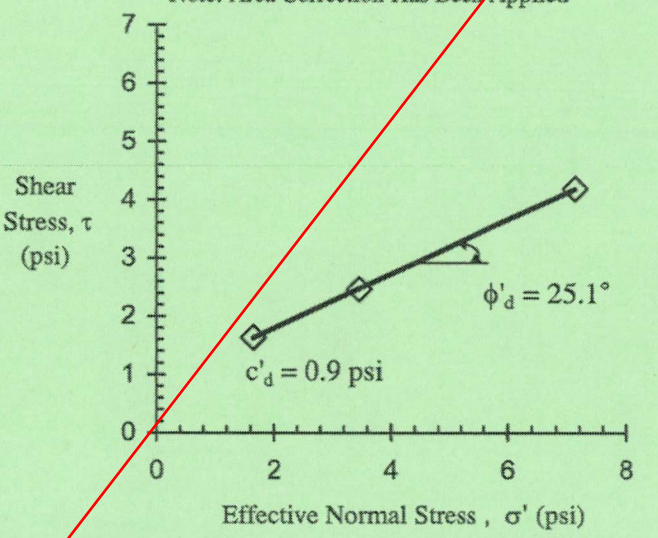
Direct Shear of Soil Under Consolidated-Drained Conditions

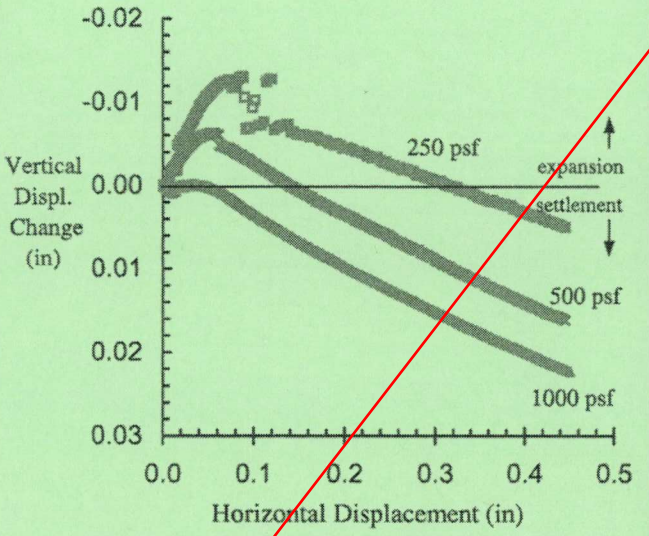
Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1

TRI Log#: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11



Note: Area Correction Has Been Applied





Sample Number		1	2	3
Initial Condition	Diameter, in	2.50	2.50	2.50
	Height, in (before consol)	0.99	0.99	1.00
	Water Content, %	10.0	10.1	10.0
	Saturation, %	51.0	51.7	51.2
	Dry Density, pcf	108.2	108.4	108.3
	Void Ratio	0.52	0.51	0.51
Post Consol	Height, in (prior to shear)	0.99	0.98	0.99
	Final Water Content, %	16.8	17.9	16.5
	Dry Density, pcf	108.8	108.9	109.1
	Void Ratio	0.51	0.51	0.50
Peak Normal Stress, σ' (psi)		1.6	3.5	7.1
Peak Shear Stress, τ (psi)		1.6	2.5	4.2
Displacement at Failure (in)		0.03	0.02	0.05
Displacement rate (in/min)		0.001	0.001	0.001
Sample Type	Remolded	ϕ'_d, degrees		**25.1**
G_s (measured)	2.626	c'_d, psi		**0.9**

Note: The soil was air dried and passed through a No. 4 sieve to eliminate any over sized particles. Specimens were remolded a target dry density of 90% standard compaction at optimum moisture content or 108.0 pcf dry density at a moisture content of 10.4 %.

Cheng-Wei Chen, 09/28/11
Analysis & Quality Review/Date
Specimens prepared by: Chirag Rakholia

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 250

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 1

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.10
3	0.000	0.003	4.89	0.39
4	0.001	0.006	4.88	0.37
5	0.001	0.008	4.87	0.38
6	0.001	0.011	4.87	0.52
7	0.001	0.013	4.86	0.76
8	-0.002	0.016	4.85	1.06
9	-0.005	0.018	4.85	1.23
10	-0.005	0.020	4.84	1.42
11	-0.006	0.026	4.83	1.58
12	-0.008	0.033	4.81	1.61
13	-0.009	0.041	4.79	1.53
14	-0.011	0.048	4.77	1.47
15	-0.011	0.056	4.75	1.52
16	-0.012	0.063	4.74	1.46
17	-0.013	0.071	4.72	1.48
18	-0.012	0.078	4.70	1.47
19	-0.013	0.086	4.68	1.37
20	-0.007	0.093	4.66	1.52
21	-0.007	0.105	4.63	1.57
22	-0.013	0.120	4.59	1.44
23	-0.007	0.135	4.56	1.55
24	-0.006	0.150	4.52	1.51
25	-0.006	0.165	4.48	1.53
26	-0.005	0.180	4.44	1.53
27	-0.005	0.195	4.41	1.52
28	-0.004	0.210	4.37	1.55
29	-0.003	0.240	4.29	1.64
30	-0.002	0.270	4.22	1.65
31	-0.001	0.300	4.15	1.77
32	0.001	0.330	4.07	1.71
33	0.002	0.360	4.00	1.84
34	0.003	0.390	3.92	1.77
35	0.004	0.420	3.85	1.92

TRI/ENVIRONMENTAL, INC.
9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 500

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 2

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.08
3	0.000	0.003	4.88	0.36
4	0.000	0.006	4.88	0.74
5	-0.002	0.008	4.87	1.27
6	-0.002	0.011	4.87	1.87
7	-0.002	0.013	4.86	2.22
8	-0.003	0.016	4.85	2.25
9	-0.003	0.018	4.85	2.41
10	-0.004	0.021	4.84	2.44
11	-0.005	0.028	4.82	2.33
12	-0.005	0.036	4.80	2.42
13	-0.006	0.043	4.78	2.18
14	-0.006	0.051	4.77	2.27
15	-0.006	0.057	4.75	2.22
16	-0.005	0.064	4.73	2.07
17	-0.005	0.072	4.71	2.06
18	-0.004	0.079	4.69	1.99
19	-0.004	0.087	4.68	2.09
20	-0.003	0.094	4.66	2.01
21	-0.002	0.108	4.62	1.98
22	-0.001	0.120	4.59	2.06
23	0.000	0.135	4.56	2.07
24	0.001	0.150	4.52	1.98
25	0.002	0.165	4.48	2.09
26	0.002	0.180	4.44	2.24
27	0.003	0.195	4.41	2.38
28	0.004	0.210	4.37	2.35
29	0.006	0.240	4.29	2.49
30	0.007	0.270	4.22	2.63
31	0.009	0.300	4.15	2.80
32	0.011	0.330	4.07	2.82
33	0.012	0.360	4.00	3.15
34	0.014	0.390	3.92	3.10
35	0.015	0.420	3.85	3.32

TRI/ENVIRONMENTAL, INC.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 1000

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 3

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.000	4.90	-0.01
3	0.000	0.003	4.90	0.54
4	0.000	0.006	4.89	0.96
5	0.000	0.008	4.88	1.48
6	0.000	0.011	4.88	2.47
7	0.000	0.013	4.87	3.21
8	0.000	0.016	4.87	3.60
9	0.000	0.018	4.86	3.87
10	0.000	0.021	4.85	4.00
11	0.000	0.023	4.85	4.02
12	0.000	0.026	4.84	4.04
13	0.000	0.032	4.83	4.11
14	0.000	0.038	4.81	4.16
15	0.000	0.045	4.79	4.18
16	0.000	0.053	4.77	4.17
17	0.001	0.060	4.75	4.16
18	0.001	0.068	4.74	4.14
19	0.002	0.075	4.72	4.14
20	0.002	0.083	4.70	4.15
21	0.003	0.090	4.68	4.19
22	0.003	0.098	4.66	4.21
23	0.004	0.110	4.63	4.29
24	0.005	0.125	4.59	4.38
25	0.006	0.140	4.56	4.52
26	0.007	0.155	4.52	4.59
27	0.008	0.170	4.48	4.69
28	0.009	0.185	4.44	4.75
29	0.011	0.215	4.37	4.93
30	0.012	0.245	4.29	5.11
31	0.014	0.275	4.22	5.30
32	0.015	0.305	4.14	5.46
33	0.017	0.335	4.07	5.64
34	0.018	0.365	4.00	5.78
35	0.020	0.395	3.92	5.96
36	0.020	0.410	3.88	5.94

TRI/ENVIRONMENTAL, INC.
9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

ATTACHMENT III.I.1 – ALTERNATIVE FINAL COVER DEMONSTRATION

MSW AUTH NO. 2284A

ATTACHMENT III.I.1 – ALTERNATIVE FINAL COVER DEMONSTRATION

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 0
SEPTEMBER 12, 2025

CONTENTS

III.I.1.1.0 Introduction 22
III.I.1.2.0 Water Balance Cover System Potential 23
III.I.1.3.0 Soil Property Description 24
III.I.1.4.0 Climate Data 26
III.I.1.5.0 Water Balance Final Cover Design 27
III.I.1.5.1 Slope Stability Calculations 27
III.I.1.5.2 Equivalent Erosion Protection 28
III.I.1.5.3 Final Cover Storage Capacity 28
III.I.1.6.0 UNSAT-H Final Cover Model 30
III.I.1.6.1 Model Input Setup 30
III.I.1.6.2 Options, Constants, and Limits 30
III.I.1.6.3 Soil Property Description 35
III.I.1.6.4 Initial Conditions 36
III.I.1.6.5 Plant Information 36
III.I.1.6.6 Boundary Conditions 37
III.I.1.7.0 UNSAT-H Final Cover Model Results 39
III.I.1.7.1 Design Demonstration Summary 39

APPENDIX III.I.1.A – DAILY CLIMATOLOGICAL DATA
APPENDIX III.I.1.B – UNSAT-H MODEL INPUT AND OUTPUT: NORMAL
APPENDIX III.I.1.C – UNSAT-H MODEL INPUT AND OUTPUT: +20% HC
APPENDIX III.I.1.D – UNSAT-H MODEL INPUT AND OUTPUT: NO PLANTS
APPENDIX III.I.1.E – LABORATORY SOIL DATA

FIGURES

Figure III.I.1.2-1: Average Monthly Precipitation for El Paso, Texas (NOAA) 23
Figure III.I.1.5-1: Typical Water Balance Cover 27
Figure III.I.1.7-1: Storage Requirement and Storage Capacity: Normal 46
Figure III.I.1.7-2: Storage Requirement and Storage Capacity: No Plants 47
Figure III.I.1.7-3: Storage Requirement and Storage Capacity: +20% HC 48

TABLES

Table III.I.1.3-1: Soil Testing Results 24
Table III.I.1.4-1: Meteorological Data Sources 26
Table III.I.1.6-1: Summary of UNSAT-H Input Parameters 31
Table III.I.1.6-2: Summary of UNSAT-H Input Parameters – Soil 35
Table III.I.1.6-3: Summary of UNSAT-H Input Parameters – Initial Conditions 36
Table III.I.1.6-4: Summary of UNSAT-H Input Parameters – Plant Information[1] 37
Table III.I.1.6-5: Summary of UNSAT-H Input Parameters – Boundary Conditions 38
Table III.I.1.7-1: Summary of UNSAT-H WB AFC Performance: Normal 40
Table III.I.1.7-2: Summary of UNSAT-H WB AFC Performance: No Plants 42
Table III.I.1.7-3: Summary of UNSAT-H WB AFC Performance: +20% HC 44

List of Abbreviations

Abbreviation	Term/Phrase/Name
AFC	Alternative Final Cover
DBS	Daniel B Stephen, Inc.
FCQCP	Final Cover Quality Control Plan
GEP Landfill or Facility	Greater El Paso Landfill, MSW Authorization Number 2284A
HELP	Hydrologic Evaluation of Landfill Performance
MSW	Municipal Solid Waste
NCDC	National Climatic Data Center
NSW	National Weather Service
NOAA	National Oceanic and Atmospheric Administration
P	Precipitation
PET	Potential Evapotranspiration
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TRI	Texas Research International
WB	Water Balance

III.I.1.1.0 Introduction

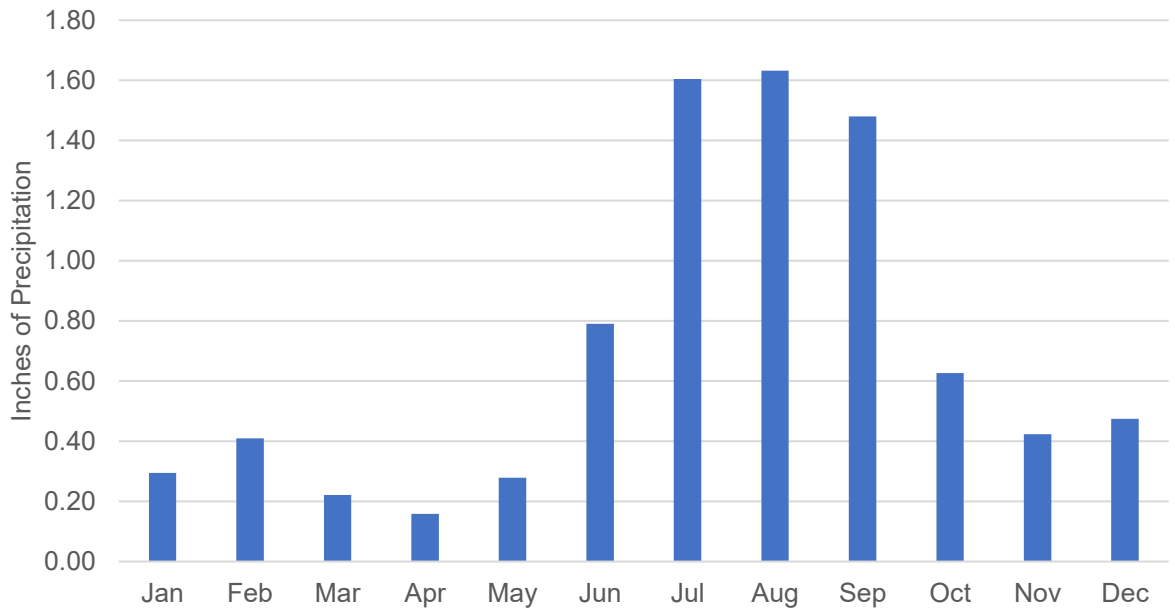
The purpose of this attachment is to present a Water Balance (WB) Alternative Final Cover (AFC) system for the Greater El Paso Landfill, Municipal Solid Waste (MSW) Authorization Number 2284A (GEP Landfill or Facility). This final cover system has been prepared in accordance with Chapter 30 of Texas Administrative Code (TAC) §330.457(d) and Texas Commission on Environmental Quality's (TCEQ's) "Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill" (Revised March 2017).

This report was originally prepared by Parkhill, Smith & Cooper, Inc. in March 2012 for Permit Authorization 2284. This report includes updates to incorporate current meteorological data into the UNSAT-H modeling in support of the vertical expansion permit amendment.

III.I.1.2.0 Water Balance Cover System Potential

The GEP Landfill is located southeast of the city of El Paso in El Paso County. This area is ideal for water balance cover systems due to climate and local soils. The area has a warm, desert climate with very hot summers, usually with little or no humidity, and mild, dry winters. Rainfall averages 8.4-inches per year, most of which occur during the monsoon season from July to September (see **Figure III.I.1.2-1**). According to the National Weather Service (NWS), El Paso Weather Bureau, the sun shines during 83.8 percent of daylight hours.

Figure III.I.1.2-1: Average Monthly Precipitation for El Paso, Texas (NOAA)



Existing vegetation at the landfill site consists of sparse shrubs and grasses. Due to the mild climate, the El Paso area has a long growing season (March 23 - November 9). However, high temperatures and low rainfall make sustaining vegetative growth without irrigation extremely difficult. Therefore, the GEP Landfill's WB cap has been designed with no vegetative cover.

The soils available for construction of the WB cap will be obtained from future cell development areas (e.g., Phase 2). These soils are stockpiled on adjacent City owned property during cell excavation. These soils are sandy in nature with high hydraulic conductivity. They exhibit favorable compaction characteristics as they can be placed in a controlled manner from 75 percent to 95 percent standard proctor. These soils also have beneficial soil water retention characteristics as they are able to achieve 37 percent - 46 percent volumetric water storage based upon compaction. The ability of these soils to sustain native or non-native plants is inconsequential as plant growth will not be required for the WB cap to perform as designed.

III.I.1.3.0 Soil Property Description

Soil samples were previously collected from the GEP Landfill Phase 2 area in 2011 for analysis and results are provided in **Appendix III.I.1.E**. Soil samples obtained from the site were analyzed by Daniel B. Stephen, Inc. (DBS) in Albuquerque, New Mexico and Texas Research International (TRI) in Austin, Texas. DBS completed the soil-water retention curve, saturated hydraulic conductivity, and bulk density testing. TRI completed the USCS classification, standard proctor, optimum moisture, and shear strength testing. For soil characteristics which vary by compaction, tests were run at 75 percent, 80 percent, 85 percent, 90 percent, and 95 percent of standard proctor. **Table III.I.1.3-1** summarizes the results of soil testing.

Table III.I.1.3-1: Soil Testing Results

Parameter	Value	
USCS Classification	Silty sand with gravel (SM)	
Bulk Density	163.9 lb/cf	
Maximum Dry Density (Standard Proctor)	120.0 lb/cf	
Percent Optimum Moisture	10.4%	
Soil Water Retention Curve - 80%	Pressure Head (cm)	Moisture Content (%)
	0.00	0.4523
	12.00	0.4154
	38.00	0.3966
	79.00	0.1882
	509.90	0.1043
	11,727.7	0.0558
	851,293	0.0123
Soil Water Retention Curve - 90%	Pressure Head (cm)	Moisture Content
	0.00	0.3766
	10.50	0.3609
	39.50	0.3483
	83.00	0.3355
	509.90	0.1154
	11,727.7	0.0628
	851,293	0.0138
Saturated Hydraulic Conductivity - 80%	6.6E-03 cm/sec (23.7 cm/hr)	
Saturated Hydraulic Conductivity - 90%	1.3E-03 cm/sec (4.6 cm/hr)	

Notes: pounds per cubic foot = lb/cf; centimeters = cm; centimeters/second = cm/sec; centimeters per hour = cm/hr

The following soil parameters are required to simulate final cover performance: saturated water content, residual water content, saturated hydraulic conductivity, and van Genuchten parameters. Saturated water content was directly determined by DBS during lab testing. The water content and van Genuchten parameters were determined by fitting the soil's moisture retention data to the van Genuchten equation.

Curves of best fit for 80 percent and 90 percent compaction of soils and curves showing the relationship between hydraulic conductivity and water content are provided in **Appendix III.I.1.E**.

III.I.1.4.0 Climate Data

In order to accurately simulate the performance of a water balance cap at the GEP Landfill, historical recent weather data from the region was used. In accordance with TCEQ guidelines the selected weather station needed to be representative of conditions at the site and have sufficient records for 30 years of climate data. Daily meteorological data from the El Paso International Airport weather station was provided for the model for current modeling years, between 1995 and 2024, where available. Data sources are summarized in **Table III.I.1.4-1**.

Table III.I.1.4-1: Meteorological Data Sources

Data Type	Date Range	Source
Daily Precipitation	1995-2024	National Oceanic and Atmospheric Administration (NOAA)
Maximum Dew Point Temperature	1995-2011	NOAA
	2012-2024	Weather Underground
Air Temperature	1995-2024	NOAA
Solar Radiation	1995-2024	Synthetic generation using the Hydrologic Evaluation of Landfill Performance (HELP) model
Wind Speed	1995-2024	NOAA
Cloud Cover	1995-2024	Synthetic generation using the HELP model

Note in 2006, precipitation reached 208 percent of the annual average precipitation, and the severe August 2006 storm events led to widespread flooding and substantial damage throughout the area. Given the extreme and atypical nature of these conditions, 2006 is considered a force majeure event and is not representative of the region's typical meteorological patterns. As such, including this outlier in long-term performance modeling would not produce results reflective of expected final cover performance. To account for this anomaly, daily precipitation values for 2006 were replaced with the daily average precipitation calculated over the 30-year modeling period, inclusive of the 2006 data points.

Climatological data input files are provided for reference in **Appendix III.I.1.A**.

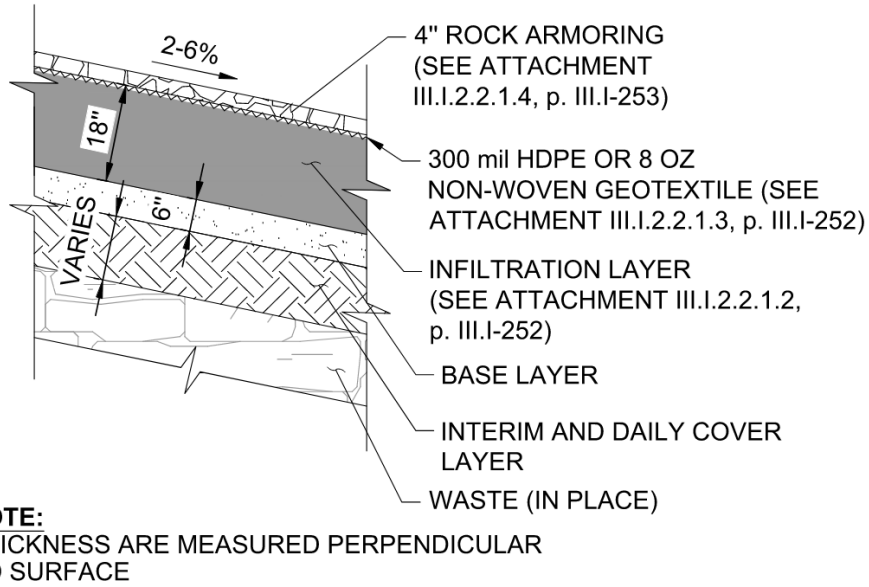
III.I.1.5.0 Water Balance Final Cover Design

The water balance final cover design for the GEP Landfill will be a multilayer soil cap. This final cover system has been designed to maximize precipitation infiltration and to minimize percolation to less than 4 millimeters annually in accordance with TCEQ 2017 guidance document requirements. The final cover system will consist of the following layers, from top to bottom:

- **Erosion Control Layer.** This 4-inch thick layer of rock armoring will be placed as the top layer of the cap and will consist of either crushed stone or river rock. It will be constructed to prevent erosion while allowing infiltration into the lower portion of the cap. A geonet or geotextile will be placed below this layer to provide separation between the rock armoring and the soil.
- **Infiltration Layer.** This 18-inch thick soil layer will be constructed from on-site borrow soil. It will provide the water storage required by the 30-year weather period simulation.
- **Base Layer.** This 6-inch thick soil layer will be constructed from on-site borrow soil. It will serve as a base layer for placement of the infiltration layer.

As previously discussed, the final cover system is designed with no vegetation. The erosion control layer will provide more consistent, year-round erosion control than vegetation. A detail of the water balance final cover system is provided as **Figure III.I.1.5-1**. Details for the termination of the liner and tie-ins are provided in Part III, Appendix III.B, Attachment III.B.3, Drawings III.B.5 and III.B.6.

Figure III.I.1.5-1: Typical Water Balance Cover



III.I.1.5.1 Slope Stability Calculations

The slope stability of the WB AFC has been calculated using infinite slope analysis using the following equation:

$FS = \frac{\tan \emptyset}{\tan B}$ Where:

FS = Factor of Safety

$\emptyset$ = WB Cap Soil Friction

B = Slope Angle

The maximum slope the WB AFC will be installed at B 4:1 (H:V) or 14.1°. The soil friction has been determined by ASTM D3080. Results of this test are available in **Appendix III.I.1.E**. Using this data the factor of safety was calculated as:

$$FS = \frac{\tan(25.1°)}{\tan(14.1°)}$$

$$FS = \frac{0.4684}{0.2511}$$

FS = 1.86

The calculated factor of safety is greater than the typical landfill slope factor of safety of 1.5.

III.I.1.5.2 Equivalent Erosion Protection

As required by 30 TAC §330.457(d)(2) the WB AFC must provide equivalent protection from wind and water as the prescriptive cover. The WB AFC will provide the same erosion protection from wind and water as the prescriptive cover as they both have identical erosion protection. The same erosion controls, both structural and non-structural, will also be used on the WB AFC system. The noted erosion controls are located in the Erosion and Sedimentation Control Plan (Part III, Appendix III.B, Attachment III.B.2).

Soil loss calculations provided in Part III, Appendix III.B, Attachment III.B.2 show that both cover systems keep erosion below 2-3 tons of soil per year, meeting the requirements of 30 TAC §330 Subchapter G. No additional restraints will be used to hold the rock armor in place. An identical placement of rock armoring was utilized on Phase 1 of the GEP Landfill, as well as on the Clint Landfill (MSW No. 1482) adjacent to this Facility, and both have performed as designed. Based on this information, the WB AFC provides equivalent protection from wind and water erosion as the prescriptive cover.

III.I.1.5.3 Final Cover Storage Capacity

The theoretical water storage capacity of a unit of soil is the volumetric difference between the soil's saturated water content and residual water content. The storage capacity for the final cover system is the total of the capacity of all the layers in the system.

Erosion Protection Layer

No storage capacity

Infiltration Layer (18")

$\Theta_S = 0.37$ (Saturated Water Content, measured)

$\Theta_{FC} = 0.85 * \Theta_S$ (Field Capacity Water Content)

$\Theta_{FC} = 0.32$

$\Theta_{WP} = 0.03$ (Wilting Point Water Content)

$\Theta_V = \Theta_{FC} - \Theta_{WP}$

$\Theta_V = 0.32 - 0.03 = \mathbf{0.29}$ (Volumetric Storage Capacity)

$S = T * \Theta_V$ (Layer Storage = Thickness * Θ_V)

$S = 18\ in. * 0.29 = \mathbf{5.22\ in.}$

Base Layer (6")

$\Theta_S = 0.44$ (Saturated Water Content, measured)

$\Theta_{FC} = 0.85 * \Theta_S$ (Field Capacity Water Content)

$\Theta_{FC} = 0.37$

$\Theta_{WP} = 0.05$ (Wilting Point Water Content)

$\Theta_V = \Theta_{FC} - \Theta_{WP}$

$\Theta_V = 0.37 - 0.05 = \mathbf{0.32}$ (Volumetric Storage Capacity)

$S = T * \Theta_V$ (Layer Storage = Thickness * Θ_V)

$S = 6\ in. * 0.32 = \mathbf{1.92\ in.}$

Total Final Cover System Storage

$S_T = 5.22 + 1.92 = \mathbf{7.14\ in.} = \mathbf{18.14\ cm}$

III.I.1.6.0 UNSAT-H Final Cover Model

UNSAT-H is a one-dimensional, physically based model and is commonly used to model alternative final covers. UNSAT-H is able to address soil water infiltration, redistribution, evaporation, plant transpiration, deep drainage, and soil heat flow in one-dimension. UNSAT-H simulates liquid water flow using Richards' equation, water vapor diffusion using Flick's law, and sensible heat flow using the Fourier equation. These calculations are run by calculating the finite differences between nodes in a soil network. Starting with the input file, hundreds of these calculations are run for each day in the simulation, the results of the previous day serving as the initial conditions for the following day. Totals for each movement (infiltration, evaporation, etc.) are summed at the end of each year.

For analysis of the Alternative Final Cover at the GEP Landfill, three simulation runs were completed to demonstrate the effectiveness of the alternative final cover, which include “Greater El Paso Landfill 2284A - 2025 ET Cap Design” (Normal), “Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity Increase” (+20% hydraulic conductivity data for the infiltration layer and base layer material, to reflect the soil types allowed for use in the Final Cover Quality Control Plan [+20% HC]), and “Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants” (No Plants). The following paragraphs outline the input values used, the source of those values, and any assumptions made. Results for these simulations are discussed in **Section III.I.1.7.0** and model files are included in **Appendix III.I.1.B** (Normal), **Appendix III.I.1.C** (+20% HC), and **Appendix III.I.1.D** (No Plants).

III.I.1.6.1 Model Input Setup

UNSAT-H input parameters are classified into one of the five following categories:

- Options, Contracts, and Limits
- Soil Property Description
- Initial Conditions
- Plant Information
- Boundary Conditions

III.I.1.6.2 Options, Constants, and Limits

These input parameters define the components of groundwater flow to be modeled, the equations to be used, the soil profile, and model preferences. **Table III.I.1.6-1** provides a tabular view of model input options used for alternative final cover design.

Under the “Normal” and “+20% HC” simulations, the plant option selected was to include plants to simulate the rock armoring, not actual plant grades. The lower boundary condition specified was a unit gradient. The goal of the WB AFC design is to limit infiltration into the bottom of the cap. The unit gradient condition assumes a constant hydraulic conductivity of the bottom layer. The profile orientation is vertical. UNSAT-H is a one-dimensional model and can only simulate horizontal flow or vertical flow independently. The time step control was based on the total mass balance, rather than on the change in theta. Theta, representing water content, is assumed to be the source of the largest error. Heat flow was not simulated, as not enough soil information is available to accurately simulate it.

The level of output specified was for end of day and end of simulation. The ending day of the simulation and the number of days data are provided was set at 366, which is the maximum UNSAT-H allows. The

simulation was performed for a period of 30 years, which allows the cover to be tested using real data and under various climate situations. The water application information was set to use the meteorological data since actual data was available. Convective heat flow was not included. The DELSUB period was set to zero. The DELSUB period determines the level of output generated, and daily summaries were specified previously.

Next, the option was selected to allow evaporation to occur independent of plant growth. Daily potential evapotranspiration was set to be distributed throughout the day using a sinewave function. This option was selected to calculate the surface boundary condition when heat flow is not modeled. The flux option was selected as the surface boundary condition, as head on the top of the soil profile will vary. The option to input meteorological data was selected, but the option to use the cloud cover from the meteorological data was not selected due to lack of measured data. Instead, the solar radiation provided as part of the data will be used to determine a similar effect.

The van Genuchten method was selected to represent the soil hydraulic properties. Samples tested by DBS provided van Genuchten parameters required by UNSAT-H. It was decided to simulate the soil hydraulic properties without hysteresis as site specific soil data on the hysteric behavior of the soils is not available and it was determined to be more accurate to simulate without it.

The Van Genuchten parameters describe the relationship between suction pressure, water content, and hydraulic conductivity in a soil layer. This allows UNSAT-H to automatically adjust the hydraulic conductivity of each layer of the WB AFC infinitely between the "saturated" and "unsaturated" times of the year. This also allows UNSAT-H to simulate capillary breaks between layers of soil as capillary breaks are caused by a difference in metric potential or suction between two adjacent layers.

The geometric mean was selected as the option for estimating liquid conductivity at the midpoint between the nodes and is the most commonly used method by UNSAT-H. Vapor flow was included in the analysis. The option for determining an upper limit for surface head was calculated daily based on atmospheric humidity, as opposed to a constant head. The number of iterations used to solve both the heat and water flow equations was set at the default value of two each. A summary of these parameters is included in **Table III.I.1.6-1**.

Table III.I.1.6-1: Summary of UNSAT-H Input Parameters

Parameter Name	Parameter Description	Value	Source/Notes
TITLE	Input file description	Greater El Paso Landfill 2284A - 2025 ET Cap Design	Normal simulation
		Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity Increase	+20% HC simulation
		Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants	No Plants simulation
IPLANT	Option of plants	1 (Plants)	Normal and +20% HC Simulations

Parameter Name	Parameter Description	Value	Source/Notes
		0 (No Plants)	No Plants simulation
NGRAV	Domain orientation	1 (Vertical)	Simulation of vertical network
IFDEND	Last day of the last year of the simulation	365	365 days each year
IDTBEG	First day for which data have been provided	1	Data provided for Day 1, Year 1
IDTEND	Last day for which data have been provided	365	Data provided for Day 365, Year 30
IYS	Year of the simulation	1995	Simulation to begin in Year 1995
NYEARS	Number of years to simulate	30	Simulation to run to Year 30
ISTEAD	Steady state option	0 (Transient Solution)	Each year only simulated once
IFLIST	Options for entering weather data	2 (Data provided in separate files)	Matches weather data files provided
NFLIST	Number of file names	30	30 weather data files
NPRINT	Option for level of output	0 (Daily summaries and end-of-simulation summary)	Larger files not needed
STOPHR	Time to stop daily simulation	24.0	Simulation to stop at end of day
ISMETH	Option for method of solution	0 (Crank-Nicholson)	Standard method of UNSAT-H solution
INMAX	Number of iterations allowed for solving water flow	4	2 is minimum, selected for stability and mass balance error
ISWDIF	Option for time-step control	1 (Reduce time step if mass balance exceeds DMAXBA)	Standard method of UNSAT-H solution
DMAXBA	Time-step control parameter	1.0E-06	Suggested value is 0.01, selected to reduce mass balance error
DELMAX	Maximum time-step	1.0	Normally 1 hour
DELMIN	Minimum time-step	1.0E-8	Selected to reduce mass balance error
OUTIIM	Time-step parameter	1.00	Selected to reduce mass balance error
RFACT	Maximum time-step factor	1.2	Selected to increase stability
RAINIF	Rainfall time-step reduction factor	1.0E-04	Selected to increase stability

Parameter Name	Parameter Description	Value	Source/Notes
DHTOL	Iteration control parameter	0.0	Selected to increase stability
DHMAX	Iteration control parameter	0.0	Selected to increase stability
DHFACT	Time-step reduction factor	n/a	DHMAX = 0
KOPT	Options for describing soil hydraulic properties	4 (van Genuchten)	Site soils were tested for van Genuchten parameters
KEST	Option for estimating liquid conductivity between nodes	3 (Geometric mean)	Selected to increase stability
WTF	Weighting factor	n/a	KEST ≠ 1
OPBC	Option for the surface-boundary condition	0 (Flux)	Flux to simulate changes soil-atmosphere interaction
IEVOPT	Option to allow evaporation	1 (Evaporation)	Simulation must include evaporation
NFHOUR	Option to distribute daily potential evapotranspiration (PET)	2 (Distributed with sine function)	Data on site specific distribution not available
LOWER	Lower boundary condition option	1 (Unit gradient)	Selected to allow for free drainage at the lower boundary
HIRRI	Minimum head to which the soil can wet	1.0	Typical soil value, confirmed by laboratory results
HDRY	Maximum head to which the soil can dry	1.0E06	Typical soil value, confirmed by laboratory results
HTOP	Constant head of surface node	n/a	ITOPBC ≠ 1
RHA	Relative humidity of the air	n/a	HDRY ≠ 1
IETOPT	Option to input daily meteorological data	1 (Daily data are entered)	30 years of daily data must be used in simulation
ICLOUD	Options to include cloud cover	0 (No)	Cloud cover is already included in the daily solar radiation values in the weather data files
ISHOPT	Options for the upper surface head limit	1 (HDRY based on calculated humidity)	Selected to utilize weather data
IRAIN	Option for water application	1 (Apply precipitation at HPR rate)	Selected as hourly precipitation data is not available
HPR	Hourly precipitation rate	1.0	Default value is 1.0, this value is conservative and allows greater infiltration
IHYS	Option for hysteresis	0 (No hysteresis)	Hysteresis data for this soil not available

Parameter Name	Parameter Description	Value	Source/Notes
AIRTOL	Tolerance limit for entrapped air	n/a	IHYS = 0
HYSTOL	Tolerance limit on head changes	n/a	IHYS = 0
HYSMXH	Maximum head value	n/a	IHYS = 0
HYFILE	Name of restart file	n/a	IHYS = 0
IHEAT	Option for simulating heat flow	0 (No heat flow)	Heat flow parameters not available for this soil
ICONVH	Option to allow convective heat flow	0 (No convective heat flow)	Heat flow parameters not available for this soil
DMAXHE	Time-step control parameter	n/a	IHEAT ≠ 1
UPPERH	Option for the upper boundary condition for heat flow	n/a	IHEAT ≠ 1
TSMEAN	Daily mean temperature	n/a	IHEAT ≠ 1
TSAMP	Daily surface temperature amplitude	n/a	IHEAT ≠ 1
QHCTOP	User-specified surface heat flux	n/a	IHEAT ≠ 1
LOWERH	Option for the lower boundary condition for heat flow	n/a	IHEAT ≠ 1
QHLEAK	Heat flux at bottom boundary	n/a	IHEAT ≠ 1
TGRAD	Temperature gradient	n/a	IHEAT ≠ 1
IVAPOR	Option to allow vapor flow	1 (Yes)	Typical soil values for vapor flow are available
TORT	Tortuosity	0.66	Average soil values are between 0-2, 0.66 is conservative estimate for sandy soils
TSOIL	Average temperature of soil	292.65	Average air temperature for site is 292.65 K (67.1 F)
VAPDIF	Diffusion coefficient of vapor in air	0.24	Coefficient of vapor at 292.65 K, per Bolz and Tuve (1976)
MATN	Number of different soil materials	2	Base and infiltration layer soils
NPT	Number of nodes	43	43 nodes at irregular spacing
MAT,Z	Soil material, depth below surface	(see input file)	

III.I.1.6.3 Soil Property Description

Soil samples were collected from the landfill site for analysis in order to determine their suitability for use in the AFC system. Soil samples obtained from the site were analyzed by DBS for their hydraulic properties and results are provided in **Appendix III.I.1.E**.

UNSAT-H uses the following input parameters to classify soil layers: saturated water content, residual water content, saturated hydraulic conductivity, van Genuchten parameters, and initial suction head. **Table III.I.1.6-2** summarizes the input parameters used by UNSAT-H for the analyses. As specified in the Final Cover Quality Control Plan (Part III, Appendix III.I, Attachment III.I.2) the constructed WB AFC will be tested to verify that each layer is representative of the parameters listed in **Table III.I.1.6-2**. All of these parameters were determined using site-specific laboratory data.

The collected soil sample was classified as Silty Sand (SM). The facility's soil boring plan shows that the proposed borrow area contains several classifications of sand (SM, SC, SW, and SP). To allow for use of these classifications for cap construction the soils will be tested for hydraulic conductivity as noted in Final Cover Quality Control Plan (FCQCP).

Table III.I.1.7-3 summarizes the results of the "+20% HC" simulation run utilizing soils with hydraulic conductivity at the maximum allowed by the FCQCP. These results show that these soils still perform within the required criteria.

Table III.I.1.6-2: Summary of UNSAT-H Input Parameters – Soil

Parameter Name	Parameter Description	Value	Source/Notes
DUMMY	Soil Type Name	90% Compaction Soil	n/a
THET	Saturated water content	0.38	Calculated using lab data
THTR	Residual water content	0.03	Calculated using lab data
VGA	Van Genuchten -	0.006	Calculated using lab data
VGN	Van Genuchten - n	2.2	Calculated using lab data
RKMOD	Conductivity model options	2 (Mualem)	Typical option utilized
SK	Saturated hydraulic conductivity	4.6	Lab measurement, Normal and No Plants simulations
		5.5	Lab measurement, +20% HC simulation
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option
DUMMY	Soil Type Name	80% Compaction Soil	n/a
THET	Saturated water content	0.44	Calculated using lab data
THTR	Residual water content	0.05	Calculated using lab data
VGA	Van Genuchten -	0.017	Calculated using lab data
VGN	Van Genuchten - n	3.5	Calculated using lab data
RKMOD	Conductivity model options	2 (Mualem)	Typical option utilized

Parameter Name	Parameter Description	Value	Source/Notes
SK	Saturated hydraulic conductivity	23.7	Lab measurement, Normal and No Plants simulations
		28.4	Lab measurement, +20% HC simulation
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option

Table III.I.1.6-2 provides names of the various layers of the modeled cover system. The AFC system was represented by a network of nodes in a vertical profile, with two layers. For design, the thickness of each layer was varied until the WB AFC design met performance criteria.

III.I.1.6.4 Initial Conditions

UNSAT-H utilizes initial suction head of the soil for initial hydraulic conditions. In accordance with the FCQCP, soils will be placed within 2 percent of the optimum moisture of the soil. The initial suction head was determined for each soil layer at 10.4 percent moisture content. The infiltration layer will have an initial suction head of 575 centimeters. The base layer will have an initial suction head of 125 centimeters. **Table III.I.1.6-3** summarizes the UNSAT-H initial condition input parameters.

Table III.I.1.6-3: Summary of UNSAT-H Input Parameters – Initial Conditions

Parameter Name	Parameter Description	Value (cm)	Source
NDAY	Day before suction head values are set	0	Sets initial suction head values for Day 1
H	Suction Head - 90% Soil	575 (Nodes 1 - 19)	Calculated value soil suction at optimum moisture
H	Suction Head - 80% Soil	125 (Nodes 20 - 25)	Calculated value soil suction at optimum moisture

III.I.1.6.5 Plant Information

Upon completion of the WB AFC system no vegetation will be planted. Instead, a rock armoring layer will be placed on top of the cap to provide erosion protection. The rock armoring will be well graded and placed to allow precipitation free access to the infiltration surface.

The “Normal” and “+20% HC” simulations were modeled in UNSAT-H by simulating the rock layer as a year-round plant canopy covering 80 percent of the ground surface. This is accomplished by having the plant canopy germinate on Day 1 and go dormant on Day 365 of every year. To verify that this method did not result in inappropriate transpiration, the root system does not start growth until Day 365 of every year. This method was utilized to simulate the rock layer because the layer will provide some cover to the soil but will not behave as a soil in any way. This is similar to the function of a plant canopy on a cover.

This is confirmed by no modeled transpiration occurring during the 30-year simulation. **Table III.I.1.6-4** summarizes the plant input parameters for the “Normal” and the “+20% HC” simulations. For the “No

Plant" simulation, these parameters were removed. **Table III.I.1.7-2** summarizes the results of a 30-year simulation with "No Plant" simulation (IPLANTS = 0). These results show that the addition of the rock layer does not affect the performance of the WB cap.

Table III.I.1.6-4: Summary of UNSAT-H Input Parameters – Plant Information[1]

Parameter Name	Parameter Description	Value	Source
LEAF	Option for leaf area index	0 (LAI values not needed)	NFPET = 1
NFROOT	Option for root growth	1 (Exponential relationship)	Only option available
NUPTAK	Option for plant water intake	1 (Sink term approximation proposed by Feddes)	Only option available
NFPET	Option for portioning PET	1 (Partitioning using LAI of Ritchie and Burnett (1971))	Typical option used for partitioning
NSOW	Day of the year when seeds germinate	1	Rocks will be present on Dav l of each year
NHRVST	Day of the year which the plants cease transpiration	365	Rocks wil1 be present on Dav 365 of each year
BARE	Fraction of soil surface bare of plants	0.2	Average percentage of exposed soil under rock cover
Parameter Name	Parameter Description	Value	Source
AA, Bl, B2	Root growth coefficients	n/a	Roots not allowed to grow
NTROOT	Growth day on which roots reach the corresponding node	365 (All nodes)	Roots not allowed to grow
HW,HD,HN	Head values for wilting, transpiration decrease, and anaerobic conditions	n/a	Roots not allowed to grow, so there will be no transpiration
PETPC (1:5)	Coefficients for the partitioning of PET using LAI	0.0, 0.52, 0.5, 0.1, 2.7	All default values for Ritchie and Burnett (1971)

[1] Parameters apply for only the "Normal" and the "+20% HC" simulations. Plant information parameters were removed for the "No Plant" simulation.

III.I.1.6.6 Boundary Conditions

The boundary conditions include the meteorological input data and identification of the site where it is measured. Meteorological input required by UNSAT-H includes daily maximum and minimum temperatures, dew point, solar radiation, wind speed, and precipitation. The climate of the area was researched for use in the model.

The climate of the area is desert. Actual daily climate data obtained from the NWS weather station at El Paso International Airport from 1994-2024 were used in the simulations. The data set provided the most comprehensive actual measured data nearest the facility. The average annual rainfall in El Paso is 8.4-inches. The data from NOAA as entered in UNSAT-H model is included in **Appendix III.I.1.A**. **Table III.I.1.6-5** summarizes the boundary condition input parameters.

Table III.I.1.6-5: Summary of UNSAT-H Input Parameters – Boundary Conditions

Parameter Name	Parameter Description	Value	Source
ALBEDO	Potential evapotranspiration	0.20 (unitless)	Average daily pan evaporation for El Paso
ALT	Altitude of site	1234 meters	Average elevation of final cap
ZU	Height of wind speed measurement	0.5 meters	Height of wind speed meter at weather station
PMB	Average annual atmospheric pressure	875 millibars	Average pressure measure at weather station

III.I.1.7.0 UNSAT-H Final Cover Model Results

To meet the requirements of 30 TAC §330.457(d)(I) the modeled performance of the WB AFC must show that percolation at the base of the final cover system is less than 4.0 millimeters annually for the entire simulation. The results of the simulation are summarized in **Table III.I.1.7-1** (Normal), **Table III.I.1.7-2** (No Plants), and **Table III.I.1.7-3** (+20% HC). These tables include annual data on precipitation (P), potential evapotranspiration (PET), P/PET ratio, evaporation, runoff percentage, storage, percolation, and total mass balance.

Model-estimated storage requirements plotted by year and the calculated available storage capacity for the WB cover are provided in **Figure III.I.1.7-1** (Normal), **Figure III.I.1.7-2** (No Plants), and **Figure III.I.1.7-3** (+20% HC). Based on the results, the annual storage requirement never exceeds the overall storage capacity.

III.I.1.7.1 Design Demonstration Summary

The water balance alternative final cover design satisfies the requirements of 30 TAC §330.457(d). It has been demonstrated that the alternative final cover design achieves an equivalent reduction in infiltration compared to the clay-rich soil cover layers specified in 30 TAC §330.457(a)(1) or (2), in accordance with the methodology outlined in the TCEQ's Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill (Revised March 2017). Furthermore, the design has been shown to provide comparable protection against wind and water erosion as the erosion layer described in 30 TAC §330.457(a).

Table III.I.1.7-1: Summary of UNSAT-H WB AFC Performance: Normal

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.8	0.00%	2.84	2.19	6.00E-03	2.25
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.69	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.97	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.20	0.00	7.62E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.61	0.00	6.51E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.16	0.00	7.99E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.95	0.00	7.59E-03	0.08
Year 8	2002	17.50	305	0.0574	16.5	0.00%	3.92	0.00	8.03E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.80	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.1037	30.5	0.00%	3.32	0.00	8.52E-03	0.09
Year 11	2005	32.69	300	0.1090	33.2	0.00%	2.81	0.01	7.34E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.86	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.36	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.89	0.00	6.63E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.82	0.00	7.79E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.86	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.18	0.00	8.31E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.18	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.91	0.01	6.59E-03	0.07
Year 20	2014	21.77	321	0.0678	21.7	0.00%	3.01	0.04	7.18E-03	0.11
Year 21	2015	30.68	284	0.1079	29.2	0.00%	4.51	0.02	1.07E-02	0.12
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.63	0.00	6.96E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.40	0.00	6.99E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.23	0.00	8.04E-03	0.08

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.56	0.00	8.99E-03	0.09
Year 26	2020	14.83	326	0.0455	15.8	0.00%	2.63	0.00	5.99E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.16	0.00	7.88E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.14	0.00	7.61E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.95	0.00	7.14E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.86	0.00	6.68E-03	0.07

Table III.I.1.7-2: Summary of UNSAT-H WB AFC Performance: No Plants

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.8	0.00%	2.84	2.19	6.00E-03	2.25
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.69	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.97	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.20	0.00	7.62E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.61	0.00	6.51E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.16	0.00	7.99E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.95	0.00	7.59E-03	0.08
Year 8	2002	17.50	305	0.0574	16.5	0.00%	3.92	0.00	8.03E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.80	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.1040	30.5	0.00%	3.32	0.00	8.52E-03	0.09
Year 11	2005	32.69	300	0.1090	33.2	0.00%	2.81	0.01	7.34E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.86	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.36	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.89	0.00	6.63E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.82	0.00	7.79E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.86	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.18	0.00	8.31E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.18	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.91	0.01	6.59E-03	0.07
Year 20	2014	21.77	321	0.0678	21.7	0.00%	3.01	0.04	7.18E-03	0.11
Year 21	2015	30.68	284	0.1080	29.2	0.00%	4.51	0.02	1.07E-02	0.12
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.63	0.00	6.96E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.40	0.00	6.99E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.23	0.00	8.04E-03	0.08

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.56	0.00	8.99E-03	0.09
Year 26	2020	14.83	326	0.0455	15.8	0.00%	2.63	0.00	5.99E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.16	0.00	7.88E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.14	0.00	7.61E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.95	0.00	7.14E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.86	0.00	6.68E-03	0.07

Table III.I.1.7-3: Summary of UNSAT-H WB AFC Performance: +20% HC

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.9	0.00%	2.79	2.18	5.98E-03	2.24
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.64	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.89	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.13	0.00	7.60E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.56	0.00	6.62E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.10	0.00	8.06E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.90	0.00	7.60E-03	0.08
Year 8	2002	17.50	305	0.0574	16.6	0.00%	3.84	0.00	8.02E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.76	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.0104	30.5	0.00%	3.23	0.00	8.47E-03	0.08
Year 11	2005	32.69	300	0.0109	33.2	0.00%	2.75	0.01	7.31E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.82	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.28	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.84	0.00	6.62E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.74	0.00	7.84E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.81	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.13	0.00	8.37E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.13	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.86	0.01	6.60E-03	0.08
Year 20	2014	21.77	321	0.0678	21.7	0.00%	2.95	0.05	7.23E-03	0.12
Year 21	2015	30.68	284	0.0108	29.2	0.00%	4.43	0.02	1.08E-02	0.13
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.57	0.00	7.08E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.34	0.00	7.05E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.17	0.00	8.01E-03	0.08

Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.46	0.00	9.04E-03	0.09
Year 26	2020	14.83	326	0.0455	15.7	0.00%	2.59	0.00	6.03E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.11	0.00	7.93E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.08	0.00	7.67E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.91	0.00	7.16E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.82	0.00	6.72E-03	0.07

Figure III.I.1.7-1: Storage Requirement and Storage Capacity: Normal

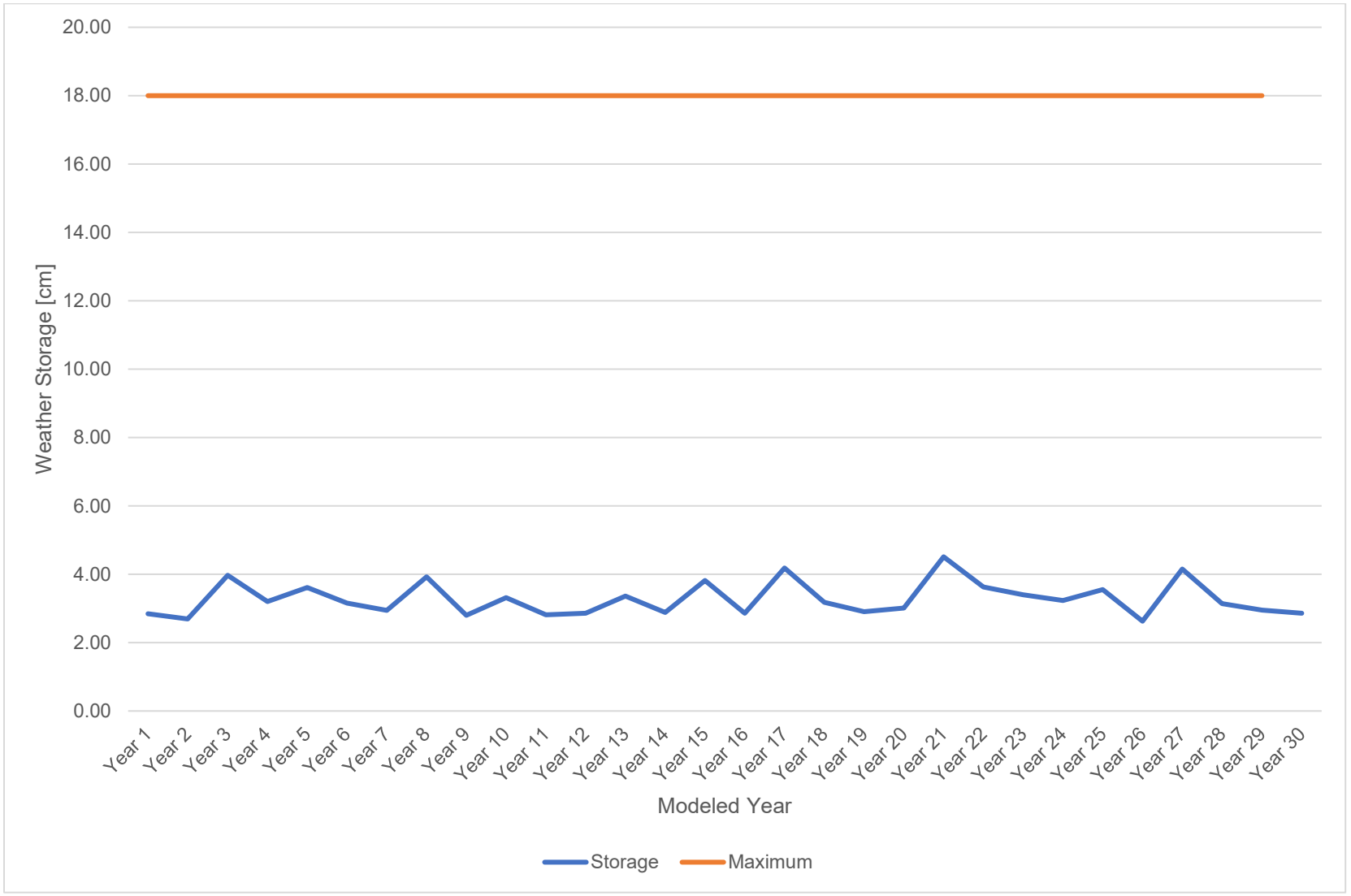


Figure III.I.1.7-2: Storage Requirement and Storage Capacity: No Plants

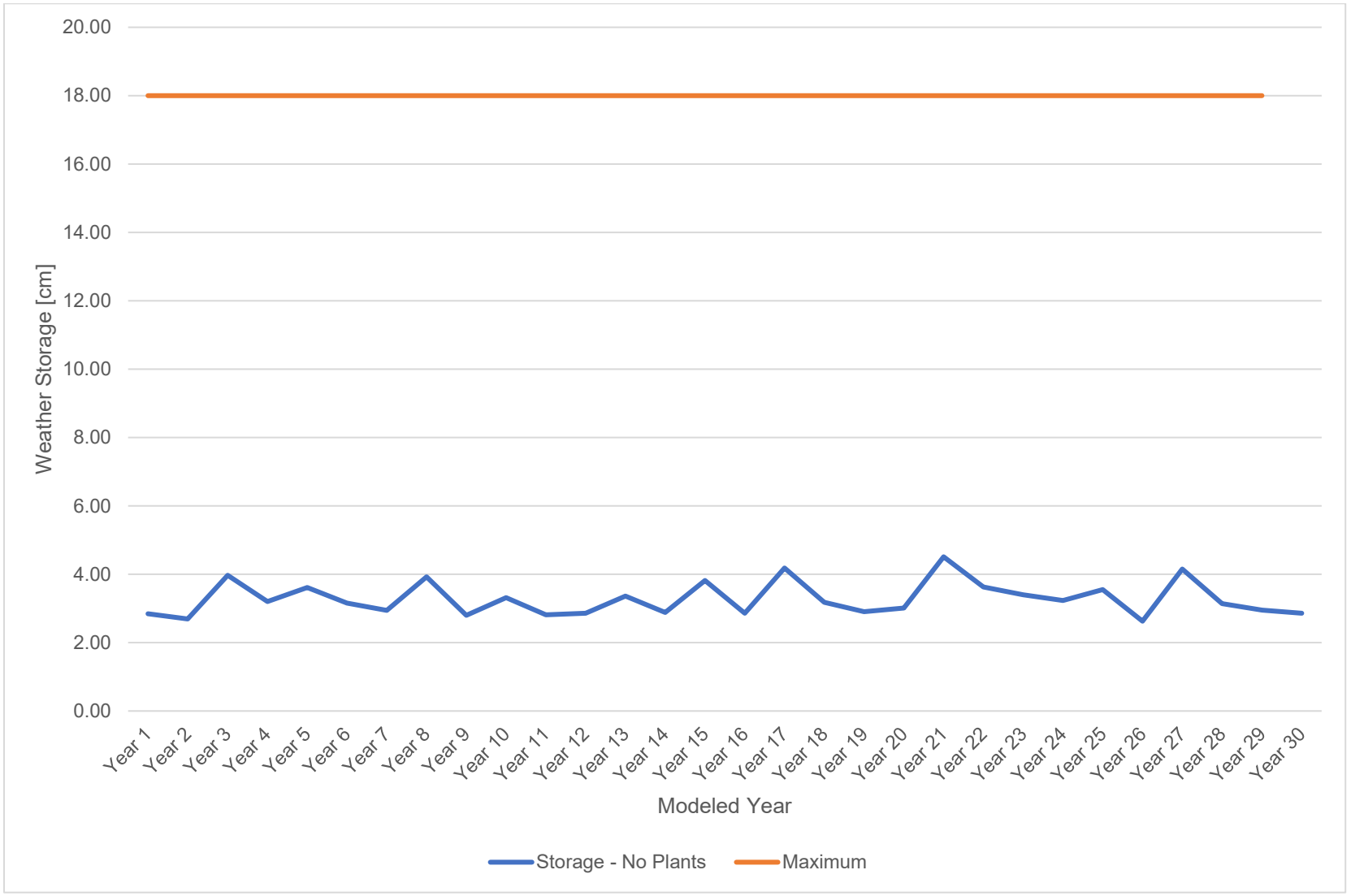
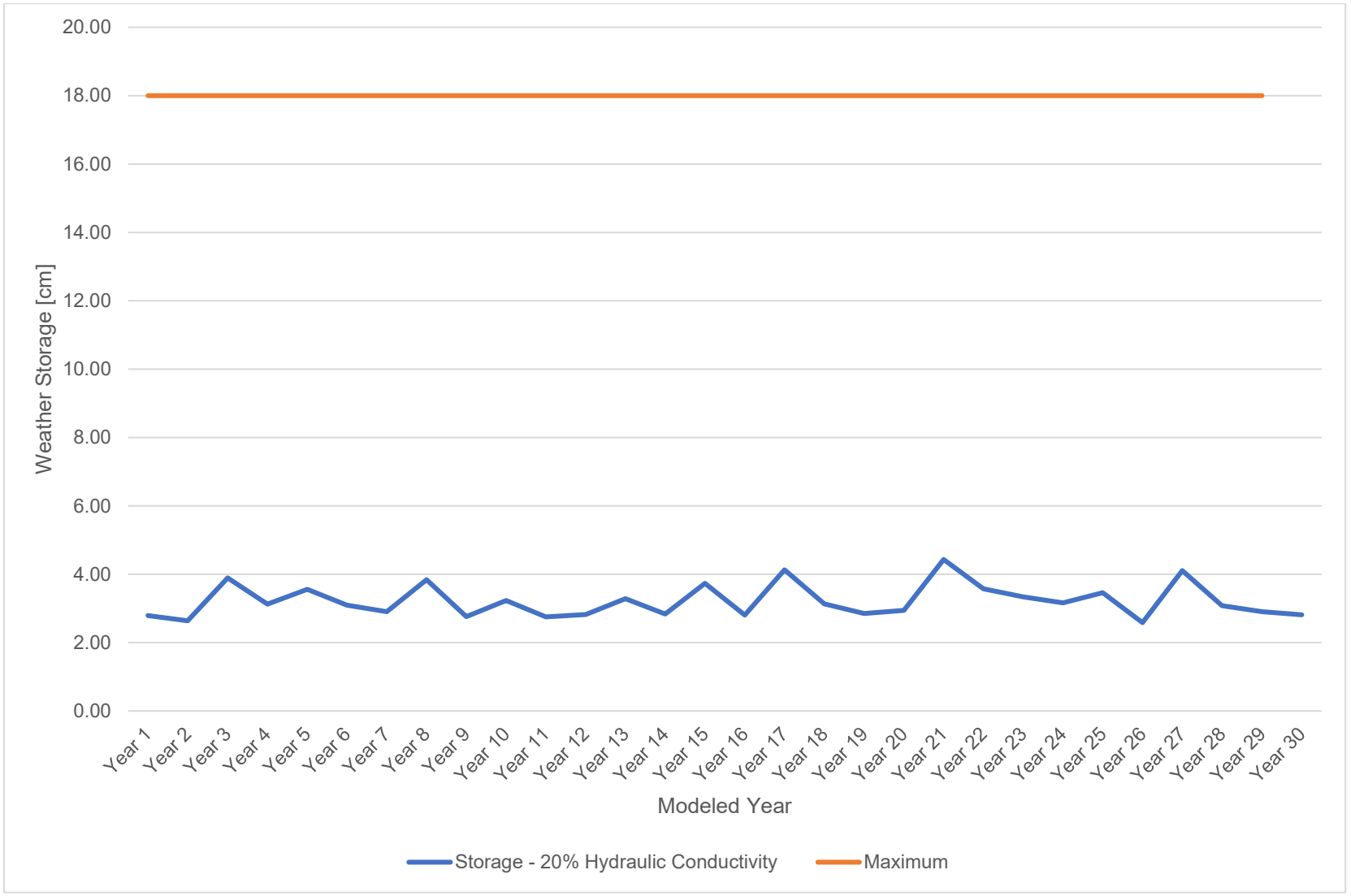


Figure III.I.1.7-3: Storage Requirement and Storage Capacity: +20% HC



APPENDIX III.I.1.A – DAILY CLIMATOLOGICAL DATA

```
1,53,30,28,326.7,7.5,0.7,0.00,
2,45,30,28,338.9,6.6,0.7,0.00,
3,54,30,30,359.7,5.4,0.7,0.00,
4,46,33,31,196.4,7.3,0.9,0.00,
5,61,37,33,279.8,13.0,0.9,0.16,
6,55,43,28,271.0,17.6,0.1,0.00,
7,58,38,29,343.4,8.2,0.3,0.00,
8,66,34,32,306.8,7.2,0.6,0.00,
9,67,34,32,365.6,5.6,0.5,0.00,
10,65,34,31,256.6,7.0,0.8,0.00,
11,67,40,24,263.8,8.0,0.7,0.00,
12,61,49,35,281.7,11.7,0.6,0.01,
13,62,38,33,128.6,7.2,0.2,0.00,
14,65,35,33,356.4,6.3,0.1,0.00,
15,69,41,31,341.5,7.5,0.8,0.00,
16,63,42,25,252.8,15.4,0.5,0.00,
17,55,34,24,174.3,7.9,0.6,0.00,
18,50,33,16,213.1,9.6,0.1,0.00,
19,52,26,17,265.8,4.8,0.7,0.00,
20,63,38,18,390.8,5.8,0.7,0.00,
21,63,32,21,368.3,6.5,0.4,0.00,
22,59,41,21,274.6,8.6,0.3,0.00,
23,60,29,24,332.9,6.7,0.4,0.00,
24,61,35,25,246.7,7.1,0.7,0.00,
25,65,36,31,269.0,6.4,0.9,0.00,
26,59,43,34,391.6,14.7,0.2,0.09,
27,56,42,28,409.5,18.2,0.1,0.00,
28,56,35,20,412.4,7.7,0.2,0.00,
29,56,30,24,415.3,7.8,0.2,0.00,
30,53,27,21,266.4,6.2,0,0.00,
31,60,26,17,209.3,7.0,0.3,0.00,
32,72,35,22,318.8,5.1,0.1,0.00,
33,74,35,28,363.9,5.1,0,0.00,
34,65,41,22,342.4,9.1,0,0.00,
35,68,33,18,273.8,4.9,0,0.00,
36,72,34,20,336.6,6.1,0,0.00,
37,74,34,18,427.9,6.6,0,0.00,
38,76,36,20,444.5,8.4,0.1,0.00,
39,67,36,28,369.0,6.4,0.1,0.00,
40,73,39,32,262.9,1.5,0.4,0.00,
41,63,47,34,251.1,1.4,0.9,0.30,
42,61,45,32,458.7,11.7,0.2,0.00,
43,67,46,33,462.3,1.9,0.6,0.00,
44,70,52,43,383.3,11.9,0.7,0.00,
45,71,53,45,469.7,14.7,0.9,0.03,
46,62,49,47,448.2,8.7,1,0.45,
47,65,47,43,298.6,6.8,0.6,0.03,
48,61,37,35,359.6,5.8,0.5,0.00,
49,71,42,36,246.2,5.7,0.4,0.00,
50,67,44,29,321.7,7.6,0,0.00,
```

```
51,75,37,28,270.4,5.4,0.4,0.00,
52,67,47,35,496.6,6.4,0.8,0.00,
53,72,46,42,280.6,6.2,0.4,0.02,
54,73,49,39,192.6,7.6,0.3,0.00,
55,68,47,42,101.7,12.2,0.4,0.00,
56,73,52,41,281.6,7.1,0.5,0.00,
57,68,47,35,357.3,1.8,0.7,0.00,
58,72,54,35,444.0,9.8,0.5,0.00,
59,72,46,37,341.4,7.4,0.4,0.05,
60,60,42,40,410.7,7.4,0.9,0.00,
61,65,35,32,438.7,7.0,0.5,0.00,
62,74,43,28,536.5,9.6,0.6,0.00,
63,73,57,29,340.6,11.9,0.3,0.00,
64,74,50,37,544.7,12.4,0.6,0.00,
65,65,50,42,272.8,11.0,0.8,0.08,
66,59,36,25,360.5,9.4,0.4,0.00,
67,59,35,15,556.9,6.6,0.6,0.00,
68,70,41,19,531.3,5.8,0.4,0.00,
69,77,46,27,520.2,6.7,0,0.00,
70,81,54,36,448.7,13.0,0.3,0.00,
71,60,48,40,364.7,13.5,0.6,0.34,
72,70,43,29,202.4,8.0,0.1,0.00,
73,77,42,27,581.0,7.7,0.3,0.00,
74,72,47,33,511.3,8.5,0.3,0.00,
75,74,46,39,429.0,4.9,0.3,0.00,
76,78,48,37,134.9,7.0,0.5,0.00,
77,77,55,39,356.2,8.7,0.2,0.00,
78,82,58,35,600.8,11.9,0.3,0.00,
79,81,56,36,383.6,1.2,0.2,0.00,
80,85,62,34,250.9,14.8,0.3,0.00,
81,75,57,28,594.4,13.9,0.8,0.00,
82,80,45,30,616.2,8.4,0.6,0.00,
83,80,58,32,620.0,12.4,0.2,0.00,
84,69,47,25,490.4,12.2,0,0.00,
85,64,35,10,535.0,7.3,0,0.00,
86,76,36,17,330.3,8.4,0.7,0.00,
87,75,47,30,528.8,9.5,0.1,0.00,
88,72,41,30,638.5,7.9,0.3,0.00,
89,74,46,33,567.9,8.3,0.3,0.00,
90,70,45,35,501.2,6.7,0.3,0.00,
91,74,44,35,403.7,6.7,0.1,0.00,
92,79,48,23,443.4,9.9,0.3,0.00,
93,73,49,26,518.7,9.5,0.1,0.00,
94,71,46,37,616.0,8.8,0.5,0.02,
95,79,48,32,549.7,7.8,0,0.00,
96,83,54,20,353.7,9.7,0.2,0.00,
97,84,59,15,451.8,8.7,0.1,0.00,
98,86,59,16,291.3,12.1,0.1,0.00,
99,85,55,21,459.9,18.8,0.2,0.00,
100,63,47,13,561.0,13.0,0.4,0.00,
```

```
101,73,42,14,678.5,8.2,0.1,0.00,
102,83,40,12,539.9,7.0,0,0.00,
103,92,44,18,656.1,7.7,0.4,0.00,
104,86,64,17,436.6,13.3,0.4,0.00,
105,81,61,15,453.7,8.9,1,0.00,
106,80,57,21,578.7,11.5,0.9,0.00,
107,72,51,23,677.2,18.4,0,0.00,
108,74,44,19,439.9,7.5,0.2,0.00,
109,62,42,24,583.4,15.9,0.2,0.02,
110,70,43,23,705.2,12.9,0.1,0.00,
111,81,56,20,703.1,12.8,0,0.00,
112,74,47,25,609.7,8.1,0,0.00,
113,72,41,26,545.1,6.8,0,0.00,
114,79,43,22,718.6,5.7,0,0.00,
115,85,46,21,543.5,9.7,0,0.00,
116,86,60,12,723.5,1.0,0.1,0.00,
117,84,51,31,725.8,7.3,0.5,0.00,
118,86,56,23,726.0,1.4,0.5,0.00,
119,89,67,22,730.4,12.0,0,0.00,
120,91,69,31,502.9,15.5,0.7,0.00,
121,85,66,37,375.0,11.0,0.7,0.00,
122,88,61,36,509.6,1.6,0.3,0.00,
123,85,63,22,544.6,1.1,0,0.00,
124,90,53,29,657.9,8.4,0.3,0.00,
125,87,69,24,513.0,14.0,0.6,0.01,
126,86,52,18,743.4,1.4,0.3,0.00,
127,70,53,23,746.7,16.8,0.4,0.00,
128,75,48,26,655.1,14.4,0.1,0.00,
129,82,54,28,750.2,9.3,0,0.00,
130,86,55,28,751.9,7.7,0.3,0.00,
131,89,56,29,598.6,1.9,0.7,0.00,
132,90,69,30,755.2,16.7,0.6,0.00,
133,89,67,33,756.8,15.7,0,0.00,
134,92,62,34,485.9,7.0,0.6,0.00,
135,98,63,29,717.8,9.3,0.7,0.00,
136,92,65,26,693.8,15.2,0.6,0.00,
137,74,56,30,644.8,18.1,0,0.00,
138,84,55,34,589.8,8.1,0,0.00,
139,90,57,27,765.2,5.8,0.7,0.00,
140,93,56,24,627.4,9.4,0.4,0.00,
141,95,70,25,721.3,8.9,0.8,0.00,
142,97,73,24,768.8,13.2,0.1,0.00,
143,90,73,30,769.9,13.7,0.3,0.00,
144,88,62,22,709.6,9.4,0,0.00,
145,93,58,30,771.9,11.8,0,0.00,
146,88,62,30,579.5,13.5,0.3,0.00,
147,86,64,28,690.3,12.0,0.3,0.00,
148,91,58,29,595.1,7.9,0.5,0.00,
149,91,62,37,680.9,1.3,0.3,0.00,
150,88,59,40,776.3,8.5,0.2,0.00,
```

```
151,91,63,26,460.9,1.5,0.3,0.00,
152,94,64,30,777.8,5.5,0.2,0.00,
153,99,68,32,760.3,16.3,0.3,0.00,
154,89,68,24,704.9,12.9,0.4,0.00,
155,91,55,30,623.3,8.7,0.3,0.00,
156,95,64,34,562.5,11.5,0.4,0.00,
157,94,77,32,631.7,18.9,0.4,0.00,
158,93,67,35,454.8,14.0,0.3,0.00,
159,93,71,33,729.1,16.8,0.3,0.00,
160,89,61,32,636.4,6.3,0.3,0.00,
161,95,58,35,508.3,7.0,0.2,0.00,
162,86,61,48,518.5,1.7,0.2,0.00,
163,96,62,43,689.5,6.1,0.2,0.00,
164,99,70,38,783.0,6.9,0.2,0.00,
165,101,69,31,733.6,8.2,0.2,0.00,
166,99,69,33,783.2,11.6,0.3,0.00,
167,96,66,38,670.1,1.7,0.2,0.00,
168,94,63,56,725.4,11.5,0.2,0.00,
169,92,63,55,637.9,8.5,0.3,0.00,
170,95,69,54,653.3,8.7,0.3,0.00,
171,94,65,52,574.5,7.2,0.3,0.00,
172,98,68,48,783.2,7.6,0.3,0.00,
173,98,70,43,783.0,6.1,0.4,0.00,
174,100,70,36,738.6,7.7,0.3,0.00,
175,96,64,45,782.6,7.2,0.3,0.00,
176,94,62,52,782.3,13.0,0.3,0.00,
177,94,65,51,752.6,7.6,0.2,0.00,
178,94,62,47,781.7,5.0,0.3,0.00,
179,97,63,44,781.3,7.5,0.4,0.00,
180,98,66,45,459.7,12.4,0.4,0.00,
181,89,68,57,780.4,8.5,0.4,0.00,
182,87,65,58,779.9,8.3,0.4,0.00,
183,94,67,54,779.4,7.4,0.4,0.00,
184,94,77,36,653.5,17.6,0.4,0.00,
185,95,72,28,717.2,14.0,0.4,0.00,
186,96,70,36,314.9,7.0,0.4,0.00,
187,97,68,46,776.8,8.7,0.4,0.00,
188,95,69,50,597.2,8.9,0.4,0.00,
189,94,73,54,377.8,5.6,0.4,0.00,
190,95,68,48,684.1,7.8,0.4,0.00,
191,98,68,41,760.5,11.8,0.5,0.00,
192,97,67,38,772.7,8.6,0.5,0.00,
193,96,73,43,771.8,7.4,0.4,0.00,
194,97,70,47,770.8,8.4,0.4,0.00,
195,96,75,52,769.8,7.3,0.4,0.00,
196,95,69,58,663.4,7.4,0.5,0.09,
197,89,68,61,767.6,7.2,0.5,0.00,
198,88,63,63,765.0,9.3,0.5,0.08,
199,92,68,58,493.9,7.5,0.4,0.00,
200,92,69,58,636.3,8.4,0.5,0.00,
```

```
201,94,68,61,705.9,9.2,0.5,0.07,
202,94,68,60,553.5,6.9,0.5,0.00,
203,98,68,53,758.7,6.4,0.5,0.00,
204,99,71,32,662.9,11.8,0.5,0.00,
205,103,65,27,688.2,5.4,0.5,0.00,
206,105,66,30,755.7,4.5,0.5,0.00,
207,106,66,33,607.0,5.8,0.5,0.00,
208,108,72,38,276.5,6.1,0.6,0.00,
209,104,72,37,404.9,9.3,0.6,0.00,
210,101,69,39,749.3,6.7,0.5,0.00,
211,99,76,52,495.7,8.5,0.4,0.00,
212,95,68,55,745.9,6.8,0.5,0.04,
213,90,67,56,744.1,7.0,0.6,0.00,
214,95,66,54,720.5,3.6,0.6,0.00,
215,102,71,47,621.6,5.5,0.5,0.00,
216,100,71,53,551.6,6.0,0.5,0.00,
217,98,73,58,617.6,8.6,0.5,0.00,
218,98,69,55,513.5,6.6,0.4,0.00,
219,98,73,53,593.8,8.4,0.5,0.00,
220,99,75,57,607.3,8.0,0.5,0.00,
221,100,72,56,509.3,5.3,0.5,0.00,
222,98,73,51,481.4,7.4,0.5,0.00,
223,99,71,53,481.1,6.9,0.5,0.00,
224,99,74,52,518.5,9.6,0.5,0.00,
225,98,71,59,500.4,7.1,0.5,0.00,
226,89,70,62,506.2,8.8,0.5,0.12,
227,88,69,63,639.9,7.0,0.5,0.00,
228,90,65,66,526.3,8.4,0.5,0.07,
229,90,70,67,709.2,6.7,0.4,0.22,
230,90,67,63,706.6,4.5,0.5,0.00,
231,93,70,58,584.0,14.1,0.5,0.03,
232,87,70,59,533.0,8.1,0.4,0.07,
233,93,69,57,692.9,8.1,0.4,0.01,
234,96,71,59,610.9,8.2,0.5,0.00,
235,93,71,60,693.1,7.0,0.4,0.16,
236,94,68,55,619.7,4.7,0.5,0.00,
237,98,68,51,464.6,4.9,0.4,0.00,
238,98,70,54,684.5,7.5,0.4,0.08,
239,95,70,56,681.5,6.8,0.4,0.00,
240,93,71,53,526.0,5.2,0.4,0.00,
241,96,69,53,675.5,4.9,0.4,0.00,
242,97,68,55,672.4,5.9,0.4,0.00,
243,96,72,54,564.2,7.5,0.4,0.00,
244,93,69,52,436.5,1.6,0.4,0.00,
245,92,65,48,580.5,9.0,0.5,0.00,
246,93,67,48,525.9,6.9,0.5,0.00,
247,96,67,47,607.6,5.4,0.4,0.00,
248,98,63,45,612.4,5.4,0.5,0.00,
249,101,69,44,642.5,5.1,0.4,0.00,
250,99,67,46,617.0,8.8,0.4,0.00,
```

```
251,94,68,56,244.9,9.1,0.4,0.02,
252,89,67,58,516.4,1.2,0.4,0.00,
253,82,64,61,586.9,5.3,0.4,0.60,
254,85,62,59,535.2,4.8,0.4,0.38,
255,91,65,55,558.6,4.2,0.4,0.00,
256,88,66,52,528.1,9.7,0.4,0.00,
257,77,61,58,214.4,8.4,0.5,0.19,
258,64,60,60,618.0,12.0,0.4,0.79,
259,79,61,61,551.1,5.6,0.3,0.00,
260,85,61,60,299.3,4.8,0.3,0.00,
261,89,63,58,546.7,9.1,0.3,1.03,
262,83,62,60,562.2,4.6,0.3,0.00,
263,87,62,58,475.6,5.5,0.3,0.00,
264,82,50,51,595.5,12.2,0.4,0.00,
265,58,47,42,591.7,8.1,0.4,0.00,
266,81,49,50,438.1,5.2,0.4,0.00,
267,88,64,50,344.6,7.5,0.3,0.00,
268,85,59,50,580.2,4.6,0.3,0.00,
269,88,61,51,576.3,6.1,0.3,0.00,
270,90,61,50,572.4,5.0,0.3,0.00,
271,82,61,57,544.9,6.6,0.3,0.17,
272,85,58,52,564.6,11.1,0.3,0.00,
273,80,58,41,475.3,6.9,0.3,0.00,
274,86,54,46,258.3,6.4,0.3,0.00,
275,83,58,41,389.0,8.9,0.3,0.00,
276,83,52,41,313.4,4.6,0.3,0.00,
277,88,53,30,452.0,15.4,0.3,0.00,
278,74,54,16,428.5,9.3,0.4,0.00,
279,75,48,27,537.0,7.7,0.3,0.00,
280,85,47,30,455.5,6.1,0.3,0.00,
281,85,61,31,529.1,8.3,0.2,0.00,
282,84,54,35,494.2,5.0,0.2,0.00,
283,86,52,36,282.0,5.2,0.3,0.00,
284,86,49,28,222.5,7.1,0.2,0.00,
285,84,47,33,367.1,5.4,0.2,0.00,
286,86,47,34,448.9,6.8,0.3,0.00,
287,77,49,38,388.6,4.3,0.2,0.00,
288,83,46,38,417.5,4.6,0.3,0.00,
289,85,50,34,312.0,5.6,0.3,0.00,
290,85,51,30,340.2,5.3,0.2,0.00,
291,87,43,31,316.1,5.3,0.3,0.00,
292,87,50,30,335.5,7.4,0.3,0.00,
293,73,47,25,482.6,5.8,0.4,0.00,
294,83,44,29,478.9,7.0,0.4,0.00,
295,84,54,32,475.2,2.0,0.4,0.00,
296,70,50,13,405.5,9.8,0.3,0.00,
297,78,45,26,285.6,5.6,0.3,0.00,
298,79,46,27,425.2,5.8,0.3,0.00,
299,81,44,16,165.4,12.0,0.3,0.00,
300,80,46,22,259.7,6.1,0.3,0.00,
```

```
301,82,43,26,357.3,3.9,0.3,0.00,
302,81,51,31,214.5,3.3,0.3,0.00,
303,77,52,36,380.1,6.3,0.2,0.00,
304,71,57,42,284.4,13.0,0.2,0.00,
305,70,53,41,389.5,14.2,0.3,0.00,
306,71,48,38,377.1,8.3,0.2,0.00,
307,60,42,34,346.2,6.5,0.3,0.00,
308,61,36,34,241.9,6.1,0.2,0.00,
309,67,42,41,419.3,5.3,0.2,0.00,
310,63,53,47,423.6,12.7,0.3,0.00,
311,70,42,43,420.5,5.6,0.4,0.00,
312,71,42,43,417.5,4.0,0.3,0.00,
313,76,43,41,298.6,13.7,0.2,0.00,
314,76,56,37,411.6,14.3,0.3,0.00,
315,66,39,26,363.5,5.9,0.3,0.00,
316,73,34,31,406.0,6.0,0.3,0.00,
317,75,38,32,403.2,4.4,0.4,0.00,
318,73,41,33,400.5,4.3,0.3,0.00,
319,72,43,34,381.4,9.2,0.4,0.00,
320,66,48,43,395.3,6.4,0.4,0.00,
321,71,41,36,268.8,7.1,0.4,0.00,
322,69,37,32,390.4,5.4,0.4,0.00,
323,71,33,31,100.7,6.1,0.3,0.00,
324,72,35,27,358.0,5.0,0.3,0.00,
325,69,42,35,269.1,4.2,0.4,0.00,
326,75,44,30,381.3,6.3,0.4,0.00,
327,72,40,24,379.2,5.6,0.5,0.00,
328,70,35,23,302.6,3.6,0.3,0.00,
329,72,33,23,156.0,5.9,0.4,0.00,
330,74,39,25,217.4,13.7,0.3,0.00,
331,66,45,21,137.2,9.1,0.3,0.00,
332,55,32,19,344.8,6.5,0.3,0.00,
333,67,28,19,73.6,4.2,0.3,0.00,
334,69,31,24,200.7,4.8,0.3,0.00,
335,73,31,23,298.6,5.1,0.3,0.00,
336,75,47,25,290.9,12.1,0.3,0.00,
337,73,42,27,203.2,5.0,0.3,0.00,
338,74,34,26,360.8,11.7,0.3,0.00,
339,71,41,26,359.6,5.5,0.4,0.00,
340,73,46,31,253.1,8.7,0.2,0.00,
341,74,51,37,235.2,11.8,0.3,0.07,
342,63,41,37,356.4,8.9,0.4,0.00,
343,57,31,26,355.5,4.3,0.4,0.00,
344,60,27,27,354.7,3.1,0.4,0.00,
345,67,28,27,354.0,5.5,0.4,0.00,
346,71,35,21,353.3,1.9,0.4,0.00,
347,71,34,21,326.9,13.1,0.4,0.00,
348,71,36,23,263.9,9.3,0.4,0.00,
349,61,37,27,252.8,6.9,0.3,0.00,
350,61,32,24,351.5,5.8,0.4,0.00,
```

```
351,51,39,30,280.4,6.6,0.4,0.00,
352,47,30,30,277.9,4.6,0.5,0.10,
353,47,29,27,350.9,3.0,0.4,0.00,
354,53,33,29,350.9,3.5,0.4,0.00,
355,42,31,30,351.0,5.3,0.4,0.03,
356,46,39,31,320.2,4.9,0.4,0.00,
357,43,31,28,243.5,5.1,0.4,0.00,
358,47,30,30,351.7,5.6,0.4,0.00,
359,51,28,28,352.1,8.1,0.5,0.00,
360,55,33,27,352.6,6.9,0.6,0.00,
361,57,32,25,353.1,6.2,0.5,0.00,
362,59,33,29,353.8,6.0,0.5,0.00,
363,56,31,23,354.5,8.1,0.5,0.00,
364,60,28,19,355.3,1.9,0.4,0.00,
365,64,42,27,316.1,17.8,0.4,0.03,
```

```
1,47,38,30,326.7,9.2,0.5,0.00,
2,38,27,24,338.9,7.8,0.4,0.11,
3,55,27,23,359.7,11.6,0.5,0.00,
4,64,43,20,196.4,8.0,0.4,0.00,
5,62,35,23,279.8,11.1,0.5,0.00,
6,56,31,26,271.0,8.0,0.5,0.00,
7,52,24,24,343.4,3.8,0.4,0.00,
8,59,24,25,306.8,4.5,0.4,0.00,
9,62,25,25,365.6,2.9,0.4,0.00,
10,66,27,24,256.6,7.8,0.4,0.00,
11,60,31,23,263.8,5.3,0.4,0.00,
12,64,26,21,281.7,5.5,0.4,0.00,
13,67,30,21,128.6,8.3,0.4,0.00,
14,70,31,18,356.4,5.9,0.3,0.00,
15,69,32,18,341.5,6.0,0.4,0.00,
16,73,43,21,252.8,11.2,0.4,0.00,
17,69,50,27,174.3,33.4,0.5,0.00,
18,52,28,0,213.1,11.4,0.4,0.00,
19,65,26,8,265.8,12.1,0.4,0.00,
20,57,32,17,390.8,1.0,0.5,0.00,
21,61,21,10,368.3,5.0,0.4,0.00,
22,68,33,14,274.6,12.6,0.4,0.00,
23,51,34,13,332.9,14.4,0.4,0.00,
24,54,20,3,246.7,7.7,0.3,0.00,
25,62,22,4,269.0,1.3,0.3,0.00,
26,62,36,16,391.6,11.7,0.3,0.00,
27,61,32,10,409.5,6.9,0.4,0.00,
28,68,35,12,412.4,8.9,0.4,0.00,
29,69,30,10,415.3,9.4,0.4,0.00,
30,73,38,12,266.4,8.4,0.5,0.00,
31,68,50,24,209.3,15.3,0.5,0.00,
32,61,47,36,318.8,1.5,0.4,0.08,
33,52,36,32,363.9,8.4,0.5,0.09,
34,59,39,31,342.4,7.4,0.4,0.02,
35,60,31,29,273.8,3.7,0.4,0.00,
36,67,32,30,336.6,3.0,0.4,0.00,
37,71,34,30,427.9,4.5,0.5,0.00,
38,73,39,30,444.5,5.5,0.4,0.00,
39,74,38,27,369.0,6.3,0.5,0.00,
40,76,36,26,262.9,5.5,0.4,0.00,
41,77,45,25,251.1,7.9,0.4,0.00,
42,57,40,11,458.7,12.3,0.3,0.00,
43,60,36,8,462.3,8.8,0.3,0.00,
44,66,36,20,383.3,3.7,0.4,0.00,
45,71,36,32,469.7,8.6,0.4,0.00,
46,71,43,27,448.2,6.7,0.4,0.00,
47,66,40,26,298.6,6.1,0.4,0.00,
48,76,38,24,359.6,6.5,0.3,0.00,
49,80,55,22,246.2,19.5,0.4,0.00,
50,76,56,21,321.7,11.2,0.4,0.00,
```

```
51,77,56,35,270.4,9.8,0.4,0.00,
52,74,46,30,496.6,5.3,0.4,0.00,
53,79,47,23,280.6,17.4,0.4,0.00,
54,66,50,22,192.6,11.5,0.4,0.00,
55,68,45,19,101.7,6.8,0.4,0.00,
56,66,54,32,281.6,15.3,0.4,0.00,
57,65,43,30,357.3,17.2,0.5,0.00,
58,60,37,21,444.0,9.9,0.4,0.00,
59,57,28,14,341.4,8.4,0.4,0.00,
60,61,33,7,410.7,1.1,0.4,0.00,
61,59,37,7,438.7,9.8,0.5,0.00,
62,64,32,6,536.5,6.2,0.4,0.00,
63,69,26,5,340.6,4.0,0.3,0.00,
64,72,47,11,544.7,14.6,0.3,0.00,
65,73,49,18,272.8,16.0,0.3,0.00,
66,65,31,22,360.5,14.1,0.3,0.00,
67,53,24,13,556.9,5.4,0.4,0.00,
68,52,32,5,531.3,9.2,0.4,0.00,
69,62,21,4,520.2,3.5,0.5,0.00,
70,73,31,8,448.7,3.6,0.4,0.00,
71,79,38,12,364.7,8.5,0.3,0.00,
72,78,52,11,202.4,13.2,0.3,0.00,
73,80,41,13,581.0,18.6,0.4,0.00,
74,65,44,24,511.3,11.3,0.4,0.00,
75,64,38,25,429.0,1.6,0.3,0.00,
76,69,41,24,134.9,9.2,0.3,0.00,
77,75,38,23,356.2,15.5,0.4,0.00,
78,65,40,20,600.8,6.0,0.4,0.00,
79,64,39,15,383.6,7.1,0.4,0.00,
80,71,31,12,250.9,5.6,0.4,0.00,
81,80,50,13,594.4,4.8,0.3,0.00,
82,79,57,19,616.2,13.3,0.3,0.00,
83,78,59,25,620.0,24.3,0.3,0.00,
84,68,50,10,490.4,22.8,0.3,0.00,
85,68,42,9,535.0,8.2,0.4,0.00,
86,57,32,11,330.3,11.6,0.4,0.00,
87,69,37,17,528.8,5.6,0.3,0.00,
88,74,42,19,638.5,11.2,0.3,0.00,
89,73,54,22,567.9,25.1,0.3,0.00,
90,72,51,9,501.2,9.0,0.2,0.00,
91,75,49,23,403.7,8.2,0.3,0.00,
92,79,44,22,443.4,8.9,0.2,0.00,
93,84,55,29,518.7,8.9,0.3,0.00,
94,76,54,25,616.0,15.0,0.3,0.00,
95,69,48,27,549.7,1.1,0.3,0.02,
96,48,37,31,353.7,11.6,0.4,0.47,
97,56,36,31,451.8,5.5,0.3,0.00,
98,68,35,28,291.3,5.3,0.3,0.00,
99,79,44,27,459.9,6.3,0.3,0.00,
100,87,54,27,561.0,7.7,0.2,0.00,
```

```
101,89,57,22,678.5,14.3,0.3,0.00,
102,80,56,13,539.9,16.3,0.3,0.00,
103,77,54,23,656.1,12.7,0.3,0.00,
104,78,59,17,436.6,25.3,0.3,0.00,
105,69,46,4,453.7,9.7,0.3,0.00,
106,72,44,16,578.7,8.2,0.4,0.00,
107,81,46,16,677.2,6.8,0.3,0.00,
108,83,60,10,439.9,18.0,0.3,0.00,
109,85,58,20,583.4,15.0,0.3,0.00,
110,78,59,19,705.2,15.5,0.2,0.00,
111,83,49,4,703.1,11.7,0.3,0.00,
112,82,53,7,609.7,12.5,0.3,0.00,
113,78,51,14,545.1,6.4,0.3,0.00,
114,85,47,17,718.6,6.1,0.3,0.00,
115,93,56,18,543.5,1.5,0.3,0.00,
116,92,68,13,723.5,23.0,0.3,0.00,
117,91,66,22,725.8,7.1,0.3,0.00,
118,96,64,23,726.0,15.7,0.3,0.00,
119,91,54,24,730.4,16.7,0.3,0.00,
120,69,46,16,502.9,6.4,0.4,0.00,
121,86,42,12,375.0,9.3,0.3,0.00,
122,91,52,11,509.6,11.4,0.4,0.00,
123,92,64,13,544.6,1.3,0.3,0.00,
124,92,63,17,657.9,12.4,0.3,0.00,
125,93,64,17,513.0,9.4,0.4,0.00,
126,95,53,19,743.4,7.8,0.4,0.00,
127,95,55,17,746.7,7.8,0.3,0.00,
128,96,65,30,655.1,6.0,0.2,0.00,
129,96,58,25,750.2,6.1,0.2,0.00,
130,94,60,32,751.9,9.3,0.3,0.00,
131,92,64,31,598.6,6.4,0.2,0.00,
132,97,61,43,755.2,5.0,0.3,0.00,
133,100,66,45,756.8,5.1,0.2,0.00,
134,102,66,39,485.9,12.6,0.3,0.00,
135,97,79,32,717.8,15.0,0.3,0.00,
136,96,76,26,693.8,12.7,0.3,0.00,
137,97,71,33,644.8,11.4,0.4,0.00,
138,95,69,34,589.8,11.3,0.3,0.00,
139,99,75,35,765.2,13.5,0.4,0.00,
140,97,76,30,627.4,13.3,0.3,0.00,
141,97,77,29,721.3,14.7,0.3,0.00,
142,98,73,28,768.8,1.8,0.4,0.00,
143,97,70,24,769.9,15.9,0.3,0.00,
144,92,72,32,709.6,17.8,0.4,0.00,
145,94,72,38,771.9,13.8,0.3,0.00,
146,86,67,30,579.5,13.5,0.3,0.00,
147,80,62,24,690.3,15.3,0.3,0.00,
148,87,58,26,595.1,13.1,0.3,0.00,
149,88,71,18,680.9,11.5,0.3,0.00,
150,95,58,20,776.3,6.5,0.3,0.00,
```

```
151,95,62,22,460.9,8.2,0.3,0.00,
152,93,63,19,777.8,1.3,0.2,0.00,
153,96,56,19,760.3,5.7,0.3,0.00,
154,99,63,31,704.9,5.5,0.4,0.00,
155,99,68,47,623.3,8.4,0.3,0.00,
156,100,67,36,562.5,4.9,0.4,0.00,
157,103,72,28,631.7,9.7,0.4,0.00,
158,105,82,27,454.8,11.3,0.3,0.00,
159,91,69,46,729.1,12.2,0.3,0.00,
160,98,67,48,636.4,7.0,0.3,0.00,
161,101,69,42,508.3,9.4,0.2,0.00,
162,102,68,38,518.5,5.0,0.2,0.00,
163,101,78,39,689.5,8.0,0.2,0.00,
164,98,70,44,783.0,1.9,0.2,0.00,
165,86,70,55,733.6,6.9,0.2,0.05,
166,91,66,58,783.2,6.8,0.3,0.08,
167,93,63,51,670.1,4.8,0.2,0.00,
168,98,65,50,725.4,8.0,0.2,0.00,
169,99,69,51,637.9,6.0,0.3,0.00,
170,103,73,46,653.3,3.8,0.3,0.00,
171,105,67,38,574.5,8.2,0.3,0.00,
172,106,74,35,783.2,6.9,0.3,0.00,
173,107,74,40,783.0,9.8,0.4,0.00,
174,102,76,46,738.6,1.4,0.3,0.00,
175,98,74,45,782.6,9.0,0.3,0.00,
176,99,73,43,782.3,13.8,0.3,0.00,
177,98,72,48,752.6,8.6,0.2,0.00,
178,95,67,60,781.7,12.6,0.3,0.90,
179,80,67,65,781.3,8.5,0.4,0.18,
180,87,68,64,459.7,5.4,0.4,0.00,
181,88,65,62,780.4,9.4,0.4,1.15,
182,90,67,55,779.9,9.4,0.4,0.00,
183,94,69,54,779.4,6.0,0.4,0.00,
184,93,71,56,653.5,6.7,0.4,0.00,
185,89,67,59,717.2,9.1,0.4,0.25,
186,94,73,57,314.9,6.1,0.4,0.00,
187,98,73,55,776.8,6.0,0.4,0.00,
188,99,74,45,597.2,5.3,0.4,0.00,
189,99,73,46,377.8,7.9,0.4,0.00,
190,100,77,50,684.1,7.8,0.4,0.00,
191,98,77,53,760.5,9.9,0.5,0.00,
192,93,69,63,772.7,9.0,0.5,0.56,
193,92,68,63,771.8,4.7,0.4,0.02,
194,95,73,59,770.8,5.8,0.4,0.00,
195,94,70,61,769.8,7.8,0.4,0.13,
196,85,68,63,663.4,6.2,0.5,0.28,
197,86,67,65,767.6,8.1,0.5,0.35,
198,90,69,64,765.0,5.4,0.5,0.02,
199,92,71,60,493.9,7.4,0.4,0.00,
200,97,70,61,636.3,8.7,0.5,0.23,
```

```
201,92,69,61,705.9,5.9,0.5,0.00,
202,97,72,61,553.5,7.8,0.5,0.02,
203,93,69,60,758.7,7.3,0.5,0.01,
204,97,72,58,662.9,7.9,0.5,0.00,
205,97,74,57,688.2,7.0,0.5,0.00,
206,96,72,55,755.7,8.5,0.5,0.01,
207,92,70,55,607.0,9.7,0.5,0.00,
208,94,70,53,276.5,4.8,0.6,0.00,
209,95,73,53,404.9,8.9,0.6,0.00,
210,95,75,56,749.3,7.5,0.5,0.00,
211,98,72,53,495.7,5.3,0.4,0.00,
212,100,72,57,745.9,7.9,0.5,0.00,
213,93,71,62,744.1,5.0,0.6,0.09,
214,94,72,59,720.5,6.2,0.6,0.05,
215,90,74,57,621.6,8.0,0.5,0.00,
216,90,71,61,551.6,8.3,0.5,0.00,
217,91,72,58,617.6,11.9,0.5,0.00,
218,95,76,50,513.5,9.2,0.4,0.00,
219,96,73,52,593.8,1.5,0.5,0.00,
220,92,67,54,607.3,11.9,0.5,0.00,
221,88,68,46,509.3,8.9,0.5,0.02,
222,83,70,61,481.4,7.6,0.5,0.12,
223,91,67,59,481.1,5.9,0.5,0.00,
224,95,69,53,518.5,6.6,0.5,0.00,
225,96,64,48,500.4,6.2,0.5,0.00,
226,97,66,45,506.2,5.4,0.5,0.00,
227,99,70,45,639.9,6.3,0.5,0.00,
228,98,70,45,526.3,5.0,0.5,0.00,
229,98,73,46,709.2,6.7,0.4,0.00,
230,94,66,55,706.6,8.2,0.5,0.86,
231,88,66,58,584.0,6.7,0.5,0.00,
232,92,73,56,533.0,9.1,0.4,0.01,
233,89,68,61,692.9,6.9,0.4,0.02,
234,91,68,58,610.9,6.5,0.5,0.00,
235,91,72,51,693.1,8.4,0.4,0.00,
236,85,69,56,619.7,1.7,0.5,0.09,
237,85,62,59,464.6,8.3,0.4,0.00,
238,79,69,63,684.5,7.0,0.4,0.00,
239,84,69,63,681.5,5.1,0.4,0.07,
240,85,68,62,526.0,7.3,0.4,0.02,
241,77,68,65,675.5,5.6,0.4,0.61,
242,87,64,54,672.4,8.2,0.4,0.00,
243,87,67,60,564.2,7.1,0.4,0.00,
244,90,68,59,436.5,7.8,0.4,0.00,
245,94,66,56,580.5,8.4,0.5,0.47,
246,87,64,56,525.9,9.8,0.5,0.00,
247,87,67,56,607.6,8.9,0.4,0.00,
248,88,63,58,612.4,5.2,0.5,0.00,
249,88,63,58,642.5,5.9,0.4,0.00,
250,91,67,56,617.0,5.7,0.4,0.00,
```

```
251,92,68,57,244.9,9.3,0.4,0.03,
252,90,64,59,516.4,6.9,0.4,0.60,
253,88,65,56,586.9,6.3,0.4,0.00,
254,86,66,56,535.2,6.8,0.4,0.02,
255,83,67,61,558.6,9.2,0.4,0.05,
256,76,63,58,528.1,9.0,0.4,0.00,
257,82,61,57,214.4,4.7,0.5,0.02,
258,76,62,57,618.0,8.3,0.4,0.03,
259,81,62,46,551.1,13.1,0.3,0.01,
260,84,64,49,299.3,7.6,0.3,0.00,
261,86,57,47,546.7,7.2,0.3,0.00,
262,86,67,44,562.2,1.8,0.3,0.00,
263,83,61,46,475.6,8.5,0.3,0.00,
264,86,63,42,595.5,9.2,0.4,0.00,
265,90,53,37,591.7,3.9,0.4,0.00,
266,93,56,42,438.1,5.6,0.4,0.00,
267,91,57,40,344.6,4.9,0.3,0.00,
268,87,57,51,580.2,8.7,0.3,0.01,
269,87,59,54,576.3,11.4,0.3,0.00,
270,85,64,47,572.4,1.5,0.3,0.00,
271,80,58,36,544.9,12.4,0.3,0.00,
272,80,49,34,564.6,6.1,0.3,0.00,
273,85,49,30,475.3,5.5,0.3,0.00,
274,86,52,37,258.3,5.3,0.3,0.00,
275,90,62,42,389.0,3.3,0.3,0.00,
276,91,56,39,313.4,9.8,0.3,0.00,
277,75,58,50,452.0,11.7,0.3,0.00,
278,82,57,53,428.5,1.4,0.4,0.00,
279,81,58,52,537.0,7.2,0.3,0.00,
280,84,54,48,455.5,3.5,0.3,0.00,
281,86,56,44,529.1,2.9,0.2,0.00,
282,86,56,46,494.2,4.4,0.2,0.00,
283,92,53,42,282.0,3.8,0.3,0.00,
284,91,53,41,222.5,5.6,0.2,0.00,
285,91,59,32,367.1,5.6,0.2,0.00,
286,91,59,36,448.9,5.2,0.3,0.00,
287,91,57,36,388.6,6.4,0.2,0.00,
288,86,56,38,417.5,7.1,0.3,0.00,
289,83,62,45,312.0,7.9,0.3,0.00,
290,83,58,42,340.2,13.1,0.2,0.00,
291,81,57,37,316.1,6.7,0.3,0.00,
292,76,51,31,335.5,5.8,0.3,0.00,
293,82,56,40,482.6,13.6,0.4,0.00,
294,79,61,41,478.9,17.9,0.4,0.00,
295,67,35,29,475.2,17.3,0.4,0.00,
296,56,26,18,405.5,3.4,0.3,0.00,
297,69,28,18,285.6,5.1,0.3,0.00,
298,71,47,22,425.2,11.7,0.3,0.00,
299,76,51,27,165.4,19.2,0.3,0.00,
300,73,46,30,259.7,13.3,0.3,0.00,
```

```
301,76,47,31,357.3,12.1,0.3,0.00,
302,70,48,29,214.5,11.9,0.3,0.00,
303,64,38,18,380.1,9.6,0.2,0.00,
304,74,32,19,284.4,3.7,0.2,0.00,
305,81,46,20,389.5,8.7,0.3,0.00,
306,71,43,22,377.1,6.0,0.2,0.00,
307,65,50,24,346.2,8.4,0.3,0.00,
308,75,52,27,241.9,1.6,0.2,0.00,
309,69,43,23,419.3,4.9,0.2,0.00,
310,70,36,22,423.6,4.6,0.3,0.00,
311,74,36,17,420.5,7.6,0.4,0.00,
312,77,50,38,417.5,6.2,0.3,0.00,
313,77,46,38,298.6,5.5,0.2,0.00,
314,83,44,36,411.6,5.2,0.3,0.00,
315,82,55,37,363.5,3.1,0.3,0.00,
316,75,36,30,406.0,3.9,0.3,0.00,
317,76,38,33,403.2,5.1,0.4,0.00,
318,75,38,33,400.5,4.5,0.3,0.00,
319,76,46,32,381.4,7.0,0.4,0.00,
320,69,47,28,395.3,1.8,0.4,0.00,
321,66,44,26,268.8,15.4,0.4,0.00,
322,67,32,24,390.4,5.3,0.4,0.00,
323,75,37,14,100.7,6.2,0.3,0.00,
324,78,38,16,358.0,8.9,0.3,0.00,
325,66,36,20,269.1,11.8,0.4,0.00,
326,65,32,19,381.3,9.3,0.4,0.00,
327,78,41,15,379.2,2.7,0.5,0.00,
328,65,47,18,302.6,8.3,0.3,0.00,
329,58,37,16,156.0,10.8,0.4,0.00,
330,61,30,20,217.4,12.9,0.3,0.00,
331,65,27,23,137.2,9.3,0.3,0.00,
332,50,32,25,344.8,10.0,0.3,0.00,
333,41,36,26,73.6,5.4,0.3,0.02,
334,57,36,21,200.7,11.7,0.3,0.14,
335,50,37,20,298.6,21.8,0.3,0.00,
336,53,26,22,290.9,7.1,0.3,0.00,
337,58,30,21,203.2,7.2,0.3,0.00,
338,59,28,17,360.8,5.3,0.3,0.00,
339,64,25,14,359.6,7.5,0.4,0.00,
340,65,27,15,253.1,1.9,0.2,0.00,
341,69,47,19,235.2,11.7,0.3,0.00,
342,68,44,32,356.4,9.5,0.4,0.00,
343,68,35,30,355.5,6.5,0.4,0.00,
344,74,35,30,354.7,6.6,0.4,0.00,
345,72,56,33,354.0,12.6,0.4,0.00,
346,69,48,28,353.3,13.4,0.4,0.00,
347,68,39,30,326.9,4.4,0.4,0.00,
348,69,35,30,263.9,5.3,0.4,0.00,
349,69,35,27,252.8,4.0,0.3,0.00,
350,45,28,11,351.5,11.0,0.4,0.00,
```

```
351,53,17,10,280.4,7.2,0.4,0.00,
352,51,19,10,277.9,8.5,0.5,0.00,
353,34,6,-4,350.9,6.2,0.4,0.00,
354,46,11,-8,350.9,8.9,0.4,0.00,
355,52,11,-1,351.0,11.8,0.4,0.00,
356,62,28,9,320.2,9.3,0.4,0.00,
357,70,37,12,243.5,2.7,0.4,0.00,
358,60,38,19,351.7,8.3,0.4,0.00,
359,55,32,10,352.1,9.8,0.5,0.00,
360,51,30,12,352.6,6.5,0.6,0.00,
361,64,31,15,353.1,5.3,0.5,0.00,
362,66,37,20,353.8,7.9,0.5,0.00,
363,64,47,23,354.5,11.6,0.5,0.00,
364,64,34,24,355.3,3.9,0.4,0.00,
365,65,28,21,316.1,3.5,0.4,0.00,
366,65,34,23,300.0,4.6,0.4,0.00,
```

```
1,68,48,30,326.7,7.7,0.5,0.00,
2,71,40,31,338.9,1.4,0.4,0.00,
3,74,53,30,359.7,16.4,0.5,0.01,
4,63,49,30,196.4,13.6,0.4,0.23,
5,57,44,31,279.8,6.2,0.5,0.00,
6,45,23,25,271.0,12.8,0.5,0.09,
7,28,18,18,343.4,7.5,0.4,0.03,
8,33,10,19,306.8,4.0,0.4,0.00,
9,43,17,20,365.6,9.6,0.4,0.00,
10,51,31,26,256.6,9.5,0.4,0.00,
11,58,37,28,263.8,8.8,0.4,0.00,
12,46,21,18,281.7,9.5,0.4,0.00,
13,28,19,10,128.6,9.7,0.4,0.00,
14,56,23,21,356.4,1.8,0.3,0.00,
15,52,31,15,341.5,8.1,0.4,0.00,
16,47,26,18,252.8,9.4,0.4,0.00,
17,54,26,21,174.3,7.6,0.5,0.00,
18,56,32,20,213.1,6.6,0.4,0.00,
19,50,31,26,265.8,4.1,0.4,0.00,
20,62,40,30,390.8,5.6,0.5,0.00,
21,62,43,28,368.3,1.2,0.4,0.02,
22,60,33,28,274.6,6.9,0.4,0.00,
23,64,44,26,332.9,11.5,0.4,0.00,
24,61,44,27,246.7,1.2,0.3,0.00,
25,68,31,24,269.0,6.4,0.3,0.00,
26,67,39,26,391.6,13.2,0.3,0.00,
27,64,38,28,409.5,1.7,0.4,0.00,
28,52,31,17,412.4,7.6,0.4,0.00,
29,58,31,15,415.3,11.7,0.4,0.00,
30,60,35,24,266.4,6.2,0.5,0.00,
31,67,28,23,209.3,6.1,0.5,0.00,
32,71,36,19,318.8,8.1,0.4,0.00,
33,70,32,21,363.9,7.1,0.5,0.00,
34,64,38,22,342.4,7.3,0.4,0.00,
35,62,34,18,273.8,1.2,0.4,0.00,
36,63,42,24,336.6,7.7,0.4,0.00,
37,65,41,17,427.9,17.2,0.5,0.00,
38,53,28,11,444.5,7.3,0.4,0.00,
39,57,32,22,369.0,7.6,0.5,0.00,
40,60,25,18,262.9,5.5,0.4,0.00,
41,66,25,9,251.1,5.4,0.4,0.00,
42,71,27,18,458.7,9.3,0.3,0.00,
43,60,36,27,462.3,8.3,0.3,0.00,
44,51,33,29,383.3,9.3,0.4,0.06,
45,54,26,28,469.7,3.2,0.4,0.00,
46,63,25,22,448.2,3.7,0.4,0.00,
47,69,32,19,298.6,7.1,0.4,0.00,
48,73,45,20,359.6,4.4,0.3,0.00,
49,71,45,29,246.2,6.9,0.4,0.19,
50,59,40,36,321.7,6.4,0.4,0.00,
```

```
51,67,38,32,270.4,15.3,0.4,0.00,
52,58,38,22,496.6,12.2,0.4,0.00,
53,56,32,28,280.6,9.4,0.4,0.00,
54,63,36,33,192.6,6.5,0.4,0.00,
55,61,35,31,101.7,11.1,0.4,0.00,
56,39,33,28,281.6,1.6,0.4,0.00,
57,56,34,27,357.3,15.6,0.5,0.00,
58,62,38,23,444.0,12.1,0.4,0.00,
59,64,42,32,341.4,12.3,0.4,0.04,
60,53,35,31,410.7,8.5,0.4,0.10,
61,62,27,24,438.7,8.0,0.5,0.00,
62,72,38,24,536.5,1.6,0.4,0.00,
63,74,40,19,340.6,11.4,0.3,0.00,
64,63,40,10,544.7,1.4,0.3,0.00,
65,70,31,23,272.8,6.6,0.3,0.00,
66,77,39,30,360.5,2.6,0.3,0.00,
67,80,43,26,556.9,7.3,0.4,0.00,
68,76,46,20,531.3,1.4,0.4,0.00,
69,74,44,29,520.2,4.9,0.5,0.00,
70,76,42,32,448.7,5.3,0.4,0.00,
71,78,47,38,364.7,6.8,0.3,0.00,
72,81,43,25,202.4,12.1,0.3,0.00,
73,68,44,26,581.0,7.7,0.4,0.00,
74,78,38,26,511.3,4.2,0.4,0.00,
75,81,50,30,429.0,9.2,0.3,0.00,
76,80,59,26,134.9,12.3,0.3,0.00,
77,75,49,28,356.2,1.9,0.4,0.00,
78,73,41,24,600.8,4.5,0.4,0.00,
79,81,38,24,383.6,3.7,0.4,0.00,
80,86,38,25,250.9,4.9,0.4,0.00,
81,78,49,31,594.4,7.1,0.3,0.00,
82,83,50,30,616.2,11.8,0.3,0.00,
83,75,59,26,620.0,12.7,0.3,0.00,
84,63,43,35,490.4,12.1,0.3,0.15,
85,66,41,41,535.0,9.3,0.4,0.39,
86,71,43,38,330.3,14.6,0.4,0.00,
87,76,50,30,528.8,11.1,0.3,0.00,
88,76,51,30,638.5,1.4,0.3,0.00,
89,60,49,22,567.9,12.5,0.3,0.00,
90,69,50,35,501.2,8.0,0.2,0.00,
91,76,52,34,403.7,12.6,0.3,0.00,
92,79,47,26,443.4,8.8,0.2,0.00,
93,78,50,33,518.7,11.9,0.3,0.00,
94,57,43,30,616.0,2.9,0.3,0.02,
95,66,45,32,549.7,16.6,0.3,0.00,
96,70,50,32,353.7,7.2,0.4,0.00,
97,78,42,31,451.8,7.0,0.3,0.00,
98,75,45,31,291.3,6.6,0.3,0.00,
99,83,43,35,459.9,11.8,0.3,0.00,
100,79,51,24,561.0,19.1,0.2,0.00,
```

```
101,62,45,26,678.5,11.7,0.3,0.00,
102,63,33,25,539.9,6.7,0.3,0.00,
103,64,37,25,656.1,8.8,0.3,0.00,
104,74,40,28,436.6,6.0,0.3,0.00,
105,79,44,30,453.7,4.2,0.3,0.00,
106,81,44,36,578.7,7.7,0.4,0.00,
107,74,57,45,677.2,8.9,0.3,0.03,
108,79,49,47,439.9,7.1,0.3,0.00,
109,84,46,40,583.4,6.9,0.3,0.00,
110,85,53,35,705.2,12.2,0.2,0.00,
111,87,67,38,703.1,19.2,0.3,0.00,
112,86,63,40,609.7,14.5,0.3,0.00,
113,76,56,45,545.1,9.4,0.3,0.00,
114,78,44,39,718.6,2.4,0.3,0.10,
115,51,39,37,543.5,12.4,0.3,0.15,
116,52,38,38,723.5,5.6,0.3,0.13,
117,68,42,39,725.8,6.2,0.3,0.00,
118,84,54,34,726.0,14.1,0.3,0.00,
119,87,65,29,730.4,19.8,0.3,0.00,
120,83,66,29,502.9,11.9,0.4,0.00,
121,88,63,32,375.0,19.3,0.3,0.00,
122,83,53,32,509.6,7.6,0.4,0.00,
123,87,50,28,544.6,5.7,0.3,0.00,
124,90,57,41,657.9,5.2,0.3,0.00,
125,94,55,39,513.0,6.0,0.4,0.00,
126,98,62,44,743.4,7.5,0.4,0.00,
127,94,63,38,746.7,1.1,0.3,0.00,
128,93,58,38,655.1,7.5,0.2,0.00,
129,76,59,48,750.2,14.1,0.2,0.00,
130,77,54,49,751.9,7.7,0.3,0.07,
131,79,56,51,598.6,7.2,0.2,0.02,
132,78,56,51,755.2,6.9,0.3,0.00,
133,89,54,46,756.8,6.9,0.2,0.00,
134,92,67,41,485.9,9.4,0.3,0.00,
135,90,60,45,717.8,9.1,0.3,0.00,
136,89,64,50,693.8,7.0,0.3,0.00,
137,93,61,49,644.8,5.4,0.4,0.00,
138,91,67,50,589.8,14.6,0.3,0.00,
139,89,60,51,765.2,1.9,0.4,0.13,
140,81,56,55,627.4,8.7,0.3,0.16,
141,83,60,55,721.3,6.6,0.3,0.00,
142,82,55,54,768.8,5.6,0.4,0.14,
143,87,55,49,769.9,4.8,0.3,0.00,
144,90,67,45,709.6,16.0,0.4,0.00,
145,87,67,42,771.9,18.6,0.3,0.00,
146,88,71,40,579.5,13.5,0.3,0.00,
147,88,57,33,690.3,8.2,0.3,0.00,
148,93,63,47,595.1,4.7,0.3,0.00,
149,97,64,50,680.9,8.3,0.3,0.00,
150,100,64,44,776.3,7.1,0.3,0.00,
```

```
151,93,68,62,460.9,8.2,0.3,0.00,
152,101,65,51,777.8,6.2,0.2,0.00,
153,100,77,44,760.3,11.2,0.3,0.00,
154,102,71,39,704.9,6.4,0.4,0.00,
155,100,71,56,623.3,7.4,0.3,0.00,
156,95,66,51,562.5,9.2,0.4,0.00,
157,92,63,54,631.7,11.6,0.4,0.15,
158,83,62,60,454.8,12.4,0.3,0.01,
159,88,61,50,729.1,7.3,0.3,0.00,
160,91,58,43,636.4,5.1,0.3,0.00,
161,95,63,53,508.3,5.3,0.2,0.00,
162,98,67,50,518.5,9.2,0.2,0.00,
163,93,72,44,689.5,13.6,0.2,0.01,
164,95,72,46,783.0,14.7,0.2,0.00,
165,81,61,56,733.6,1.0,0.2,0.67,
166,76,58,55,783.2,7.8,0.3,0.27,
167,85,63,42,670.1,8.8,0.2,0.00,
168,93,58,48,725.4,4.3,0.2,0.00,
169,97,67,47,637.9,4.6,0.3,0.00,
170,100,69,47,653.3,8.3,0.3,0.00,
171,99,69,44,574.5,9.6,0.3,0.00,
172,98,77,39,783.2,11.5,0.3,0.00,
173,100,71,40,783.0,1.2,0.4,0.00,
174,98,65,44,738.6,9.6,0.3,0.00,
175,98,71,37,782.6,1.4,0.3,0.00,
176,100,64,49,782.3,6.9,0.3,0.00,
177,93,68,56,752.6,11.0,0.2,0.00,
178,94,69,53,781.7,4.9,0.3,0.00,
179,99,67,51,781.3,6.4,0.4,0.00,
180,102,69,47,459.7,6.3,0.4,0.00,
181,104,73,49,780.4,5.9,0.4,0.00,
182,105,68,47,779.9,4.7,0.4,0.00,
183,105,76,49,779.4,8.2,0.4,0.00,
184,104,72,54,653.5,6.7,0.4,0.00,
185,92,74,55,717.2,14.5,0.4,0.00,
186,96,65,40,314.9,6.9,0.4,0.00,
187,97,72,38,776.8,1.4,0.4,0.00,
188,96,68,40,597.2,9.2,0.4,0.21,
189,93,66,46,377.8,6.7,0.4,0.03,
190,95,67,53,684.1,7.7,0.4,0.00,
191,83,69,58,760.5,7.9,0.5,0.00,
192,93,67,47,772.7,1.3,0.5,0.00,
193,98,70,49,771.8,8.4,0.4,0.00,
194,99,72,54,770.8,7.8,0.4,0.00,
195,100,69,53,769.8,6.9,0.4,0.01,
196,99,67,53,663.4,8.5,0.5,0.00,
197,96,73,52,767.6,6.7,0.5,0.00,
198,100,72,50,765.0,7.1,0.5,0.00,
199,101,72,49,493.9,7.5,0.4,0.00,
200,99,74,52,636.3,7.9,0.5,0.00,
```

```
201,97,71,56,705.9,8.1,0.5,0.03,
202,92,67,61,553.5,6.8,0.5,0.23,
203,93,70,61,758.7,5.5,0.5,0.00,
204,96,71,61,662.9,4.9,0.5,0.00,
205,95,68,62,688.2,8.8,0.5,0.17,
206,93,66,63,755.7,6.7,0.5,0.00,
207,95,73,61,607.0,8.6,0.5,0.00,
208,94,73,61,276.5,7.2,0.6,0.00,
209,87,67,63,404.9,6.5,0.6,0.10,
210,90,68,63,749.3,6.6,0.5,0.00,
211,87,68,65,495.7,7.1,0.4,0.08,
212,90,69,65,745.9,6.3,0.5,0.05,
213,94,71,63,744.1,7.4,0.6,0.00,
214,94,72,60,720.5,1.2,0.6,0.00,
215,93,70,58,621.6,5.9,0.5,0.00,
216,96,70,58,551.6,9.9,0.5,0.00,
217,88,72,64,617.6,7.3,0.5,0.01,
218,93,66,64,513.5,5.6,0.4,0.90,
219,82,70,61,593.8,6.5,0.5,0.00,
220,89,69,60,607.3,5.1,0.5,0.00,
221,92,70,57,509.3,1.8,0.5,0.00,
222,92,72,58,481.4,7.8,0.5,0.00,
223,95,73,56,481.1,2.8,0.5,0.00,
224,94,70,60,518.5,3.8,0.5,0.11,
225,90,66,60,500.4,3.3,0.5,0.01,
226,89,67,60,506.2,7.3,0.5,0.26,
227,94,68,55,639.9,1.9,0.5,0.00,
228,95,74,55,526.3,8.8,0.5,0.00,
229,95,73,59,709.2,1.0,0.4,0.00,
230,88,69,63,706.6,7.3,0.5,0.00,
231,93,75,62,584.0,7.3,0.5,0.00,
232,97,69,62,533.0,4.4,0.4,0.00,
233,95,69,60,692.9,6.8,0.4,0.00,
234,97,75,58,610.9,8.4,0.5,0.00,
235,91,70,62,693.1,9.2,0.4,0.02,
236,93,71,59,619.7,7.4,0.5,0.10,
237,93,69,50,464.6,6.0,0.4,0.00,
238,93,66,49,684.5,4.9,0.4,0.00,
239,96,63,47,681.5,4.8,0.4,0.00,
240,99,67,46,526.0,7.1,0.4,0.00,
241,99,69,52,675.5,8.9,0.4,0.00,
242,98,69,54,672.4,6.4,0.4,0.00,
243,95,70,53,564.2,9.7,0.4,0.00,
244,93,69,52,436.5,9.1,0.4,0.00,
245,94,69,51,580.5,1.0,0.5,0.00,
246,91,69,56,525.9,9.8,0.5,0.07,
247,90,68,49,607.6,7.4,0.4,0.00,
248,91,69,58,612.4,5.8,0.5,0.00,
249,92,69,58,642.5,4.6,0.4,0.01,
250,95,70,55,617.0,4.2,0.4,0.00,
```

```
251,97,67,49,244.9,7.0,0.4,0.00,
252,96,67,54,516.4,7.8,0.4,0.00,
253,91,68,60,586.9,6.7,0.4,0.09,
254,91,67,60,535.2,5.6,0.4,0.23,
255,90,67,61,558.6,4.9,0.4,0.00,
256,92,65,58,528.1,3.5,0.4,0.00,
257,94,69,62,214.4,8.0,0.5,0.42,
258,92,68,62,618.0,5.8,0.4,0.00,
259,94,69,60,551.1,6.2,0.3,0.00,
260,97,73,57,299.3,5.9,0.3,0.00,
261,93,71,57,546.7,7.5,0.3,0.00,
262,97,71,57,562.2,5.6,0.3,0.00,
263,91,71,56,475.6,15.4,0.3,0.00,
264,84,60,58,595.5,12.9,0.4,0.70,
265,79,59,60,591.7,5.5,0.4,0.03,
266,81,62,59,438.1,6.6,0.4,0.00,
267,76,63,54,344.6,7.7,0.3,0.00,
268,84,62,50,580.2,5.5,0.3,0.00,
269,88,63,55,576.3,2.5,0.3,0.00,
270,90,66,54,572.4,3.7,0.3,0.00,
271,90,61,49,544.9,7.4,0.3,0.00,
272,86,60,53,564.6,4.3,0.3,0.00,
273,91,61,55,475.3,4.3,0.3,0.00,
274,93,67,53,258.3,9.9,0.3,0.00,
275,88,67,53,389.0,7.5,0.3,0.00,
276,91,62,53,313.4,8.3,0.3,0.00,
277,89,63,48,452.0,6.4,0.3,0.00,
278,90,57,44,428.5,4.5,0.4,0.00,
279,89,63,51,537.0,4.7,0.3,0.00,
280,84,61,53,455.5,7.4,0.3,0.01,
281,81,58,51,529.1,8.1,0.2,0.00,
282,88,55,51,494.2,11.6,0.2,0.00,
283,88,65,58,282.0,1.8,0.3,0.00,
284,92,63,52,222.5,14.2,0.2,0.00,
285,66,45,24,367.1,14.8,0.2,0.00,
286,67,40,16,448.9,8.4,0.3,0.00,
287,72,37,22,388.6,6.9,0.2,0.00,
288,74,37,24,417.5,4.4,0.3,0.00,
289,74,39,25,312.0,7.1,0.3,0.00,
290,74,41,28,340.2,3.9,0.2,0.00,
291,79,39,26,316.1,5.5,0.3,0.00,
292,82,48,25,335.5,6.1,0.3,0.00,
293,79,49,33,482.6,6.5,0.4,0.00,
294,75,47,43,478.9,6.0,0.4,0.00,
295,75,53,49,475.2,8.1,0.4,0.04,
296,71,52,41,405.5,12.5,0.3,0.00,
297,74,41,37,285.6,19.6,0.3,0.04,
298,58,37,28,425.2,12.7,0.3,0.10,
299,59,35,26,165.4,3.5,0.3,0.00,
300,62,32,29,259.7,3.5,0.3,0.00,
```

```
301,72,40,33,357.3,4.3,0.3,0.00,
302,74,42,34,214.5,9.2,0.3,0.00,
303,75,51,31,380.1,8.6,0.2,0.00,
304,81,42,29,284.4,9.9,0.2,0.00,
305,79,45,29,389.5,5.1,0.3,0.00,
306,71,43,18,377.1,7.5,0.2,0.00,
307,72,37,24,346.2,3.8,0.3,0.00,
308,77,41,24,241.9,4.6,0.2,0.00,
309,72,46,28,419.3,6.8,0.2,0.00,
310,73,44,34,423.6,6.8,0.3,0.00,
311,75,45,34,420.5,6.4,0.4,0.00,
312,74,43,34,417.5,7.5,0.3,0.00,
313,72,43,35,298.6,1.6,0.2,0.00,
314,56,40,30,411.6,8.8,0.3,0.00,
315,54,40,38,363.5,4.7,0.3,0.34,
316,51,45,47,406.0,4.6,0.3,0.40,
317,57,47,40,403.2,17.2,0.4,0.05,
318,62,43,41,400.5,12.4,0.3,0.00,
319,50,32,32,381.4,5.0,0.4,0.00,
320,53,29,33,395.3,2.4,0.4,0.00,
321,55,32,38,268.8,3.7,0.4,0.00,
322,60,32,34,390.4,3.9,0.4,0.00,
323,65,31,31,100.7,7.6,0.3,0.00,
324,70,44,30,358.0,8.4,0.3,0.00,
325,62,44,30,269.1,9.3,0.4,0.00,
326,63,39,25,381.3,8.9,0.4,0.00,
327,65,36,25,379.2,5.5,0.5,0.00,
328,70,34,29,302.6,3.5,0.3,0.00,
329,72,35,32,156.0,5.5,0.4,0.00,
330,72,40,31,217.4,5.8,0.3,0.00,
331,70,49,36,137.2,14.9,0.3,0.00,
332,58,43,30,344.8,12.7,0.3,0.00,
333,60,32,29,73.6,4.4,0.3,0.00,
334,61,29,27,200.7,6.2,0.3,0.00,
335,63,44,33,298.6,6.2,0.3,0.25,
336,51,40,38,290.9,13.8,0.3,0.03,
337,54,37,34,203.2,1.3,0.3,0.00,
338,52,32,26,360.8,5.0,0.3,0.00,
339,56,27,28,359.6,4.1,0.4,0.00,
340,57,34,30,253.1,7.8,0.2,0.00,
341,55,47,44,235.2,15.2,0.3,0.22,
342,62,46,40,356.4,23.9,0.4,0.00,
343,50,39,25,355.5,19.5,0.4,0.00,
344,46,28,23,354.7,7.0,0.4,0.00,
345,37,26,16,354.0,9.7,0.4,0.00,
346,42,19,11,353.3,4.1,0.4,0.00,
347,50,17,14,326.9,2.1,0.4,0.00,
348,55,20,17,263.9,3.5,0.4,0.00,
349,57,23,19,252.8,3.7,0.3,0.00,
350,60,24,19,351.5,6.8,0.4,0.00,
```

```
351,58,22,19,280.4,3.9,0.4,0.00,
352,61,24,20,277.9,1.7,0.5,0.00,
353,64,27,22,350.9,6.8,0.4,0.00,
354,50,33,32,350.9,1.0,0.4,0.22,
355,53,36,36,351.0,1.4,0.4,0.01,
356,54,33,35,320.2,8.9,0.4,0.42,
357,45,33,33,243.5,8.0,0.4,0.11,
358,47,35,31,351.7,12.7,0.4,0.00,
359,38,29,31,352.1,6.3,0.5,0.15,
360,37,26,23,352.6,1.1,0.6,0.00,
361,41,19,22,353.1,7.1,0.5,0.00,
362,44,25,18,353.8,7.9,0.5,0.00,
363,50,21,22,354.5,3.6,0.5,0.00,
364,55,24,28,355.3,4.2,0.4,0.00,
365,55,29,31,316.1,5.6,0.4,0.00,
```

```
1,57,29,32,326.7,4.2,0.5,0.00,
2,64,28,34,338.9,2.8,0.4,0.00,
3,66,34,37,359.7,6.3,0.5,0.00,
4,61,36,40,196.4,3.6,0.4,0.03,
5,55,38,38,279.8,7.1,0.5,0.01,
6,51,33,26,271.0,6.1,0.5,0.00,
7,50,24,24,343.4,5.0,0.4,0.00,
8,52,28,22,306.8,6.1,0.4,0.00,
9,60,37,23,365.6,9.9,0.4,0.00,
10,61,37,29,256.6,8.7,0.4,0.00,
11,59,45,33,263.8,13.3,0.4,0.00,
12,61,32,31,281.7,8.1,0.4,0.00,
13,60,30,31,128.6,1.1,0.4,0.00,
14,58,36,28,356.4,8.5,0.3,0.00,
15,56,24,21,341.5,5.8,0.4,0.00,
16,63,38,30,252.8,7.2,0.4,0.00,
17,68,36,34,174.3,1.6,0.5,0.00,
18,68,35,32,213.1,5.4,0.4,0.00,
19,70,34,28,265.8,9.2,0.4,0.00,
20,63,47,29,390.8,7.8,0.5,0.00,
21,57,38,35,368.3,4.8,0.4,0.01,
22,56,31,31,274.6,6.1,0.4,0.00,
23,62,31,26,332.9,6.9,0.4,0.00,
24,63,28,23,246.7,3.5,0.3,0.00,
25,65,29,22,269.0,5.4,0.3,0.00,
26,63,32,19,391.6,6.4,0.3,0.00,
27,68,24,18,409.5,3.0,0.4,0.00,
28,70,30,19,412.4,6.6,0.4,0.00,
29,67,29,19,415.3,5.3,0.4,0.00,
30,64,33,26,266.4,11.0,0.5,0.00,
31,60,34,26,209.3,6.6,0.5,0.00,
32,58,29,22,318.8,6.9,0.4,0.00,
33,64,27,25,363.9,7.2,0.5,0.00,
34,70,31,24,342.4,9.7,0.4,0.00,
35,57,43,31,273.8,12.6,0.4,0.04,
36,55,35,30,336.6,13.3,0.4,0.00,
37,59,23,27,427.9,4.8,0.5,0.00,
38,65,32,30,444.5,12.3,0.4,0.00,
39,65,49,34,369.0,14.1,0.5,0.00,
40,53,40,40,262.9,14.9,0.4,0.10,
41,55,38,30,251.1,1.6,0.4,0.00,
42,57,29,29,458.7,7.0,0.3,0.00,
43,57,38,26,462.3,7.8,0.3,0.00,
44,60,32,28,383.3,4.6,0.4,0.00,
45,62,44,34,469.7,9.2,0.4,0.00,
46,53,42,35,448.2,1.9,0.4,0.00,
47,51,38,26,298.6,16.2,0.4,0.00,
48,56,37,24,359.6,11.1,0.3,0.00,
49,51,38,31,246.2,17.3,0.4,0.01,
50,56,26,27,321.7,6.3,0.4,0.00,
```

```
51,60,34,25,270.4,5.2,0.4,0.00,
52,59,39,33,496.6,11.8,0.4,0.00,
53,66,45,31,280.6,17.7,0.4,0.00,
54,69,43,31,192.6,8.7,0.4,0.00,
55,80,40,27,101.7,16.5,0.4,0.00,
56,55,42,27,281.6,24.0,0.4,0.00,
57,54,39,19,357.3,2.2,0.5,0.00,
58,53,36,18,444.0,16.5,0.4,0.00,
59,51,22,6,341.4,6.5,0.4,0.00,
60,55,23,6,410.7,7.7,0.4,0.00,
61,61,30,11,438.7,6.7,0.5,0.00,
62,72,32,17,536.5,8.2,0.4,0.00,
63,75,53,21,340.6,18.8,0.3,0.00,
64,71,50,21,544.7,11.2,0.3,0.00,
65,70,50,34,272.8,15.5,0.3,0.01,
66,57,37,27,360.5,26.0,0.3,0.01,
67,54,25,22,556.9,5.4,0.4,0.00,
68,62,28,20,531.3,4.0,0.4,0.00,
69,60,29,20,520.2,7.4,0.5,0.00,
70,64,31,22,448.7,11.3,0.4,0.00,
71,62,31,30,364.7,5.2,0.3,0.00,
72,70,37,34,202.4,5.8,0.3,0.00,
73,75,45,39,581.0,7.2,0.4,0.02,
74,60,42,37,511.3,1.6,0.4,0.09,
75,63,37,38,429.0,9.6,0.3,0.00,
76,64,48,41,134.9,13.9,0.3,0.00,
77,70,48,37,356.2,15.5,0.4,0.00,
78,63,36,21,600.8,5.8,0.4,0.00,
79,69,33,28,383.6,5.6,0.4,0.00,
80,71,42,31,250.9,4.7,0.4,0.00,
81,79,45,30,594.4,6.5,0.3,0.00,
82,82,58,31,616.2,1.4,0.3,0.00,
83,86,47,32,620.0,1.5,0.3,0.00,
84,83,49,31,490.4,9.7,0.3,0.00,
85,81,46,39,535.0,19.5,0.4,0.00,
86,66,45,36,330.3,15.6,0.4,0.00,
87,79,39,31,528.8,12.7,0.3,0.00,
88,76,47,33,638.5,17.2,0.3,0.00,
89,50,38,29,567.9,2.1,0.3,0.05,
90,62,36,25,501.2,13.4,0.2,0.00,
91,75,30,20,403.7,8.8,0.3,0.00,
92,60,42,25,443.4,19.8,0.2,0.00,
93,69,33,23,518.7,4.7,0.3,0.00,
94,79,37,24,616.0,8.2,0.3,0.00,
95,76,43,26,549.7,6.2,0.3,0.00,
96,66,48,29,353.7,18.6,0.4,0.00,
97,68,43,27,451.8,15.1,0.3,0.00,
98,66,43,21,291.3,12.3,0.3,0.00,
99,73,40,21,459.9,5.7,0.3,0.00,
100,83,36,25,561.0,5.5,0.2,0.00,
```

```
101,88,48,30,678.5,12.7,0.3,0.00,
102,78,56,30,539.9,24.6,0.3,0.00,
103,75,52,32,656.1,11.6,0.3,0.00,
104,80,45,26,436.6,17.9,0.3,0.00,
105,71,43,24,453.7,17.0,0.3,0.00,
106,64,41,24,578.7,11.0,0.4,0.00,
107,63,38,23,677.2,6.8,0.3,0.00,
108,70,35,26,439.9,7.5,0.3,0.00,
109,74,44,26,583.4,5.8,0.3,0.00,
110,80,42,29,705.2,9.0,0.2,0.00,
111,74,45,32,703.1,8.7,0.3,0.00,
112,81,47,29,609.7,7.2,0.3,0.00,
113,89,57,37,545.1,5.4,0.3,0.00,
114,88,61,32,718.6,16.7,0.3,0.00,
115,83,61,33,543.5,19.2,0.3,0.00,
116,68,47,35,723.5,16.1,0.3,0.00,
117,67,39,0,725.8,8.4,0.3,0.00,
118,71,40,0,726.0,9.2,0.3,0.00,
119,77,51,39,730.4,7.3,0.3,0.04,
120,80,47,41,502.9,3.8,0.4,0.00,
121,85,55,32,375.0,13.3,0.3,0.00,
122,89,52,28,509.6,8.9,0.4,0.00,
123,89,55,24,544.6,9.5,0.3,0.00,
124,89,60,25,657.9,16.9,0.3,0.00,
125,88,63,28,513.0,16.1,0.4,0.00,
126,86,62,31,743.4,11.5,0.4,0.00,
127,85,56,29,746.7,8.6,0.3,0.00,
128,78,56,24,655.1,19.9,0.2,0.00,
129,82,58,32,750.2,11.3,0.2,0.00,
130,90,53,27,751.9,1.7,0.3,0.00,
131,86,62,29,598.6,14.8,0.2,0.00,
132,87,59,28,755.2,9.0,0.3,0.00,
133,91,63,30,756.8,14.7,0.2,0.00,
134,81,54,32,485.9,13.5,0.3,0.00,
135,79,50,25,717.8,6.9,0.3,0.00,
136,94,46,22,693.8,8.6,0.3,0.00,
137,93,65,34,644.8,5.3,0.4,0.00,
138,98,63,48,589.8,6.9,0.3,0.00,
139,95,63,48,765.2,6.6,0.4,0.00,
140,96,61,42,627.4,6.3,0.3,0.00,
141,90,66,40,721.3,11.6,0.3,0.00,
142,89,69,37,768.8,13.9,0.4,0.00,
143,90,67,24,769.9,1.2,0.3,0.00,
144,90,60,24,709.6,11.4,0.4,0.00,
145,90,66,30,771.9,12.3,0.3,0.00,
146,91,59,32,579.5,9.2,0.3,0.00,
147,91,58,32,690.3,7.8,0.3,0.00,
148,97,54,33,595.1,5.9,0.3,0.00,
149,97,61,34,680.9,6.3,0.3,0.00,
150,95,62,35,776.3,1.9,0.3,0.00,
```

```
151,97,64,35,460.9,8.5,0.3,0.00,
152,102,61,39,777.8,9.1,0.2,0.00,
153,102,71,43,760.3,11.5,0.3,0.00,
154,99,75,40,704.9,15.4,0.4,0.00,
155,89,64,38,623.3,16.2,0.3,0.00,
156,88,58,35,562.5,8.2,0.4,0.00,
157,87,59,47,631.7,9.2,0.4,0.00,
158,95,68,44,454.8,14.3,0.3,0.00,
159,91,64,36,729.1,15.4,0.3,0.00,
160,89,62,40,636.4,8.1,0.3,0.00,
161,79,56,54,508.3,8.9,0.2,0.27,
162,84,54,55,518.5,8.7,0.2,0.00,
163,92,64,55,689.5,7.3,0.2,0.00,
164,95,74,51,783.0,18.8,0.2,0.00,
165,92,71,38,733.6,15.7,0.2,0.00,
166,93,63,41,783.2,9.7,0.3,0.00,
167,97,72,42,670.1,15.5,0.2,0.00,
168,95,74,37,725.4,18.1,0.2,0.00,
169,96,71,44,637.9,7.6,0.3,0.00,
170,101,62,46,653.3,7.5,0.3,0.00,
171,102,64,46,574.5,8.9,0.3,0.00,
172,100,76,46,783.2,12.5,0.3,0.00,
173,100,69,42,783.0,9.7,0.4,0.00,
174,102,62,45,738.6,6.6,0.3,0.00,
175,104,67,51,782.6,7.6,0.3,0.00,
176,104,73,54,782.3,9.1,0.3,0.00,
177,104,77,51,752.6,1.9,0.2,0.00,
178,105,77,48,781.7,9.6,0.3,0.00,
179,107,72,46,781.3,5.8,0.4,0.00,
180,106,73,57,459.7,5.6,0.4,0.00,
181,105,76,63,780.4,7.8,0.4,0.00,
182,97,72,62,779.9,11.8,0.4,0.00,
183,85,68,65,779.4,9.7,0.4,0.06,
184,95,70,65,653.5,8.7,0.4,0.45,
185,97,69,66,717.2,7.1,0.4,0.00,
186,96,73,65,314.9,1.6,0.4,0.00,
187,92,71,65,776.8,12.1,0.4,0.00,
188,93,71,65,597.2,1.8,0.4,0.02,
189,96,69,64,377.8,8.6,0.4,0.43,
190,92,68,63,684.1,5.9,0.4,0.00,
191,99,73,61,760.5,6.2,0.5,0.00,
192,104,74,59,772.7,4.2,0.5,0.00,
193,105,77,56,771.8,7.7,0.4,0.00,
194,104,79,59,770.8,8.6,0.4,0.00,
195,102,75,58,769.8,7.5,0.4,0.01,
196,99,70,56,663.4,8.6,0.5,0.00,
197,93,73,57,767.6,9.5,0.5,0.00,
198,91,69,61,765.0,12.1,0.5,0.16,
199,95,70,56,493.9,6.9,0.4,0.00,
200,98,74,56,636.3,7.7,0.5,0.00,
```

```
201,99,74,58,705.9,12.4,0.5,0.00,
202,95,69,60,553.5,9.1,0.5,0.50,
203,90,69,61,758.7,8.3,0.5,0.00,
204,87,69,63,662.9,8.5,0.5,0.00,
205,90,69,64,688.2,7.5,0.5,0.31,
206,90,69,64,755.7,5.3,0.5,0.00,
207,95,72,62,607.0,8.1,0.5,0.00,
208,91,70,63,276.5,8.3,0.6,0.04,
209,96,73,60,404.9,8.0,0.6,0.00,
210,99,74,59,749.3,6.9,0.5,0.00,
211,97,74,61,495.7,1.5,0.4,0.02,
212,94,70,62,745.9,6.9,0.5,0.07,
213,89,67,63,744.1,4.3,0.6,0.12,
214,94,70,63,720.5,7.4,0.6,0.00,
215,95,73,62,621.6,6.2,0.5,0.00,
216,93,64,61,551.6,1.4,0.5,0.22,
217,85,63,60,617.6,9.1,0.5,0.00,
218,88,63,57,513.5,6.0,0.4,0.00,
219,92,65,55,593.8,4.9,0.5,0.00,
220,96,67,52,607.3,5.2,0.5,0.00,
221,96,71,53,509.3,5.2,0.5,0.00,
222,97,71,57,481.4,5.2,0.5,0.00,
223,96,75,59,481.1,6.1,0.5,0.00,
224,95,69,62,518.5,8.0,0.5,0.15,
225,86,66,63,500.4,7.4,0.5,0.01,
226,91,65,57,506.2,5.0,0.5,0.00,
227,93,66,55,639.9,5.9,0.5,0.00,
228,93,67,56,526.3,5.7,0.5,0.00,
229,94,68,56,709.2,6.1,0.4,0.00,
230,95,71,60,706.6,5.7,0.5,0.00,
231,95,71,64,584.0,7.4,0.5,0.03,
232,87,68,65,533.0,1.3,0.4,0.00,
233,89,69,61,692.9,1.1,0.4,0.00,
234,92,68,57,610.9,5.0,0.5,0.00,
235,93,67,59,693.1,4.7,0.4,0.00,
236,96,70,59,619.7,5.4,0.5,0.00,
237,98,73,61,464.6,6.5,0.4,0.00,
238,94,74,65,684.5,7.3,0.4,0.00,
239,97,74,66,681.5,5.5,0.4,0.00,
240,92,73,64,526.0,1.7,0.4,0.00,
241,91,69,60,675.5,9.0,0.4,0.00,
242,92,63,54,672.4,6.8,0.4,0.00,
243,91,65,55,564.2,5.1,0.4,0.00,
244,92,65,54,436.5,9.3,0.4,0.00,
245,89,68,53,580.5,11.6,0.5,0.00,
246,80,67,62,525.9,7.0,0.5,0.13,
247,87,68,63,607.6,6.3,0.4,0.01,
248,90,69,55,612.4,8.6,0.5,0.00,
249,93,64,50,642.5,8.4,0.4,0.00,
250,91,64,50,617.0,6.9,0.4,0.00,
```

```
251,93,64,50,244.9,8.1,0.4,0.00,
252,91,68,53,516.4,8.8,0.4,0.00,
253,91,67,58,586.9,8.4,0.4,0.00,
254,90,66,49,535.2,7.7,0.4,0.00,
255,90,63,54,558.6,4.6,0.4,0.00,
256,97,64,51,528.1,6.7,0.4,0.00,
257,98,70,49,214.4,8.3,0.5,0.00,
258,91,67,57,618.0,1.5,0.4,0.00,
259,88,67,55,551.1,7.3,0.3,0.00,
260,88,65,55,299.3,6.0,0.3,0.00,
261,90,66,55,546.7,3.9,0.3,0.00,
262,95,63,52,562.2,6.1,0.3,0.00,
263,91,75,55,475.6,9.8,0.3,0.00,
264,89,72,57,595.5,8.1,0.4,0.00,
265,92,67,58,591.7,8.0,0.4,0.04,
266,94,67,62,438.1,8.6,0.4,0.09,
267,95,70,57,344.6,6.6,0.3,0.00,
268,94,71,58,580.2,7.0,0.3,0.00,
269,92,67,48,576.3,6.7,0.3,0.00,
270,95,60,47,572.4,4.2,0.3,0.00,
271,94,66,58,544.9,5.1,0.3,0.00,
272,94,68,59,564.6,6.5,0.3,0.00,
273,93,63,60,475.3,5.7,0.3,0.39,
274,85,65,59,258.3,8.0,0.3,0.11,
275,84,64,39,389.0,11.2,0.3,0.00,
276,86,62,47,313.4,14.4,0.3,0.00,
277,87,69,53,452.0,15.7,0.3,0.00,
278,76,54,34,428.5,13.5,0.4,0.00,
279,73,46,27,537.0,5.8,0.3,0.00,
280,79,46,34,455.5,5.0,0.3,0.00,
281,83,47,35,529.1,2.9,0.2,0.00,
282,88,51,39,494.2,2.4,0.2,0.00,
283,90,54,42,282.0,6.0,0.3,0.00,
284,88,52,37,222.5,5.2,0.2,0.00,
285,90,61,42,367.1,8.5,0.2,0.00,
286,88,57,46,448.9,4.0,0.3,0.00,
287,90,60,44,388.6,7.3,0.2,0.00,
288,89,63,44,417.5,14.7,0.3,0.00,
289,83,64,34,312.0,18.1,0.3,0.00,
290,73,50,30,340.2,1.8,0.2,0.00,
291,75,49,34,316.1,12.6,0.3,0.00,
292,72,57,51,335.5,1.0,0.3,0.13,
293,58,51,52,482.6,1.4,0.4,0.13,
294,56,51,49,478.9,9.2,0.4,0.16,
295,56,50,49,475.2,6.8,0.4,0.23,
296,59,51,53,405.5,5.4,0.3,0.00,
297,71,57,56,285.6,2.0,0.3,0.00,
298,81,53,55,425.2,7.0,0.3,0.00,
299,82,60,54,165.4,9.4,0.3,0.11,
300,61,50,54,259.7,1.6,0.3,1.13,
```

```
301,71,48,49,357.3,4.8,0.3,0.00,
302,75,48,52,214.5,2.0,0.3,0.00,
303,80,52,52,380.1,6.7,0.2,0.00,
304,66,52,45,284.4,11.0,0.2,0.14,
305,65,43,43,389.5,4.2,0.3,0.00,
306,71,44,42,377.1,5.0,0.2,0.00,
307,70,42,38,346.2,3.8,0.3,0.00,
308,65,45,45,241.9,4.2,0.2,0.00,
309,65,42,43,419.3,6.3,0.2,0.00,
310,70,44,40,423.6,8.8,0.3,0.00,
311,69,47,40,420.5,8.6,0.4,0.00,
312,71,46,40,417.5,9.9,0.3,0.00,
313,72,49,39,298.6,2.1,0.2,0.00,
314,58,43,26,411.6,7.0,0.3,0.00,
315,69,36,31,363.5,6.5,0.3,0.00,
316,69,45,40,406.0,7.6,0.3,0.00,
317,65,45,44,403.2,7.0,0.4,0.01,
318,69,37,38,400.5,3.2,0.3,0.00,
319,71,39,36,381.4,4.6,0.4,0.00,
320,73,37,37,395.3,2.2,0.4,0.00,
321,76,38,37,268.8,5.7,0.4,0.00,
322,73,54,41,390.4,9.1,0.4,0.00,
323,72,48,38,100.7,8.2,0.3,0.00,
324,58,43,38,358.0,6.0,0.3,0.00,
325,65,35,34,269.1,4.9,0.4,0.00,
326,70,30,33,381.3,4.6,0.4,0.00,
327,73,34,34,379.2,4.9,0.5,0.00,
328,74,40,35,302.6,6.6,0.3,0.00,
329,72,40,33,156.0,3.9,0.4,0.00,
330,73,35,32,217.4,6.3,0.3,0.00,
331,73,39,37,137.2,4.2,0.3,0.00,
332,76,42,43,344.8,5.7,0.3,0.00,
333,63,44,43,73.6,14.1,0.3,0.33,
334,61,35,40,200.7,6.3,0.3,0.00,
335,67,39,42,298.6,7.3,0.3,0.00,
336,56,44,47,290.9,8.1,0.3,0.25,
337,57,42,41,203.2,14.8,0.3,0.00,
338,65,40,42,360.8,7.4,0.3,0.00,
339,66,42,37,359.6,12.3,0.4,0.00,
340,50,37,30,253.1,12.9,0.2,0.01,
341,46,32,22,235.2,9.5,0.3,0.00,
342,48,29,19,356.4,8.1,0.4,0.00,
343,55,28,26,355.5,6.2,0.4,0.00,
344,45,37,30,354.7,16.0,0.4,0.00,
345,47,34,27,354.0,4.4,0.4,0.00,
346,52,23,27,353.3,2.3,0.4,0.00,
347,57,24,26,326.9,4.1,0.4,0.00,
348,60,27,27,263.9,6.0,0.4,0.00,
349,63,37,30,252.8,9.9,0.3,0.00,
350,64,34,32,351.5,7.8,0.4,0.00,
```

```
351,60,40,36,280.4,9.5,0.4,0.00,
352,60,42,43,277.9,16.0,0.5,0.08,
353,59,41,39,350.9,7.8,0.4,0.00,
354,68,38,30,350.9,11.4,0.4,0.00,
355,67,44,25,351.0,12.3,0.4,0.00,
356,44,25,19,320.2,6.4,0.4,0.00,
357,47,23,23,243.5,4.2,0.4,0.00,
358,49,28,21,351.7,3.9,0.4,0.00,
359,55,21,23,352.1,3.2,0.5,0.00,
360,59,24,26,352.6,6.3,0.6,0.00,
361,64,33,30,353.1,4.4,0.5,0.00,
362,66,32,30,353.8,5.2,0.5,0.00,
363,69,34,30,354.5,4.3,0.5,0.00,
364,64,36,29,355.3,3.7,0.4,0.00,
365,62,34,30,316.1,6.2,0.4,0.00,
```

```
1,61,42,25,326.7,14.9,0.5,0.00,
2,57,31,26,338.9,4.9,0.4,0.00,
3,47,28,18,359.7,5.1,0.5,0.00,
4,53,21,17,196.4,5.6,0.4,0.00,
5,60,22,14,279.8,7.5,0.5,0.00,
6,63,26,17,271.0,3.4,0.5,0.00,
7,66,26,17,343.4,6.1,0.4,0.00,
8,66,43,20,306.8,8.2,0.4,0.00,
9,53,31,26,365.6,5.1,0.4,0.00,
10,61,24,23,256.6,4.4,0.4,0.00,
11,64,30,23,263.8,5.5,0.4,0.00,
12,67,43,23,281.7,11.6,0.4,0.00,
13,60,35,28,128.6,4.0,0.4,0.00,
14,59,33,24,356.4,5.2,0.3,0.00,
15,62,25,22,341.5,7.0,0.4,0.00,
16,69,38,22,252.8,1.4,0.4,0.00,
17,66,48,28,174.3,14.9,0.5,0.00,
18,70,36,32,213.1,9.1,0.4,0.00,
19,72,38,32,265.8,8.2,0.4,0.00,
20,71,41,30,390.8,13.8,0.5,0.00,
21,64,43,31,368.3,25.8,0.4,0.00,
22,55,40,19,274.6,1.9,0.4,0.00,
23,63,26,17,332.9,7.3,0.4,0.00,
24,77,40,20,246.7,5.1,0.3,0.00,
25,77,40,20,269.0,5.3,0.3,0.00,
26,63,42,25,391.6,9.1,0.3,0.00,
27,64,37,23,409.5,4.5,0.4,0.00,
28,58,30,20,412.4,5.8,0.4,0.00,
29,43,34,34,415.3,6.3,0.4,0.10,
30,55,28,34,266.4,2.6,0.5,0.00,
31,58,32,34,209.3,6.6,0.5,0.00,
32,64,38,25,318.8,7.4,0.4,0.00,
33,63,37,20,363.9,8.4,0.5,0.00,
34,67,33,19,342.4,6.1,0.4,0.00,
35,70,33,22,273.8,4.1,0.4,0.00,
36,71,46,30,336.6,8.0,0.4,0.00,
37,63,48,28,427.9,16.1,0.5,0.00,
38,68,34,26,444.5,1.2,0.4,0.00,
39,72,49,30,369.0,1.4,0.5,0.00,
40,74,46,30,262.9,7.5,0.4,0.00,
41,77,41,24,251.1,16.3,0.4,0.00,
42,48,31,4,458.7,13.2,0.3,0.00,
43,56,20,6,462.3,5.8,0.3,0.00,
44,64,27,10,383.3,7.2,0.4,0.00,
45,72,31,19,469.7,4.7,0.4,0.00,
46,75,39,21,448.2,12.2,0.4,0.00,
47,61,37,21,298.6,4.7,0.4,0.00,
48,68,30,19,359.6,1.8,0.3,0.00,
49,73,41,21,246.2,9.9,0.4,0.00,
50,76,52,23,321.7,12.6,0.4,0.00,
```

```
51,71,49,29,270.4,7.4,0.4,0.00,
52,67,43,31,496.6,8.5,0.4,0.00,
53,71,44,24,280.6,9.9,0.4,0.00,
54,67,35,11,192.6,7.5,0.4,0.00,
55,73,31,11,101.7,4.4,0.4,0.00,
56,73,39,18,281.6,6.7,0.4,0.00,
57,75,48,20,357.3,13.4,0.5,0.00,
58,70,37,17,444.0,5.5,0.4,0.00,
59,75,37,20,341.4,7.3,0.4,0.00,
60,80,45,22,410.7,13.8,0.4,0.00,
61,76,49,20,438.7,9.2,0.5,0.00,
62,74,40,24,536.5,6.9,0.4,0.00,
63,75,54,18,340.6,16.8,0.3,0.00,
64,74,51,27,544.7,9.2,0.3,0.00,
65,68,45,26,272.8,7.6,0.3,0.00,
66,73,46,37,360.5,14.1,0.3,0.00,
67,62,42,28,556.9,14.3,0.4,0.00,
68,74,35,24,531.3,5.1,0.4,0.00,
69,72,40,22,520.2,6.2,0.5,0.00,
70,77,43,21,448.7,1.6,0.4,0.00,
71,60,45,24,364.7,15.9,0.3,0.00,
72,62,36,26,202.4,6.0,0.3,0.00,
73,71,32,23,581.0,3.9,0.4,0.00,
74,77,34,21,511.3,4.1,0.4,0.00,
75,79,43,24,429.0,1.3,0.3,0.00,
76,54,40,36,134.9,8.2,0.3,0.04,
77,45,31,35,356.2,7.7,0.4,0.00,
78,63,30,31,600.8,5.6,0.4,0.00,
79,73,36,33,383.6,5.9,0.4,0.00,
80,82,42,33,250.9,7.7,0.4,0.00,
81,81,45,27,594.4,12.0,0.3,0.00,
82,80,56,25,616.2,11.5,0.3,0.00,
83,77,49,25,620.0,8.2,0.3,0.00,
84,72,47,43,490.4,8.8,0.3,0.00,
85,74,48,46,535.0,1.4,0.4,0.00,
86,74,49,42,330.3,9.9,0.4,0.00,
87,77,40,32,528.8,5.7,0.3,0.00,
88,79,46,39,638.5,9.1,0.3,0.00,
89,83,46,34,567.9,8.8,0.3,0.00,
90,80,60,28,501.2,22.6,0.2,0.00,
91,78,57,30,403.7,18.8,0.3,0.00,
92,73,47,30,443.4,19.4,0.2,0.00,
93,60,41,17,518.7,12.7,0.3,0.00,
94,70,38,20,616.0,14.8,0.3,0.00,
95,65,38,20,549.7,11.0,0.3,0.00,
96,81,35,21,353.7,5.4,0.4,0.00,
97,85,54,30,451.8,13.7,0.3,0.00,
98,71,49,22,291.3,9.1,0.3,0.00,
99,81,37,22,459.9,16.2,0.3,0.00,
100,71,44,17,561.0,6.6,0.2,0.00,
```

```
101,79,44,21,678.5,8.3,0.3,0.00,
102,75,50,40,539.9,5.8,0.3,0.00,
103,68,54,30,656.1,16.6,0.3,0.00,
104,81,49,34,436.6,12.8,0.3,0.00,
105,65,44,25,453.7,1.5,0.3,0.00,
106,65,38,21,578.7,7.6,0.4,0.00,
107,71,39,20,677.2,6.7,0.3,0.00,
108,81,41,25,439.9,3.8,0.3,0.00,
109,89,43,25,583.4,5.6,0.3,0.00,
110,88,46,27,705.2,1.5,0.2,0.00,
111,87,64,31,703.1,22.9,0.3,0.00,
112,90,67,31,609.7,24.0,0.3,0.00,
113,91,60,37,545.1,1.7,0.3,0.00,
114,80,59,46,718.6,11.5,0.3,0.00,
115,75,55,28,543.5,17.1,0.3,0.00,
116,81,55,34,723.5,15.0,0.3,0.00,
117,86,54,35,725.8,5.2,0.3,0.00,
118,81,59,29,726.0,9.6,0.3,0.00,
119,85,49,29,730.4,9.9,0.3,0.00,
120,78,51,26,502.9,1.0,0.4,0.00,
121,73,57,23,375.0,17.6,0.3,0.00,
122,78,49,27,509.6,12.5,0.4,0.00,
123,83,60,36,544.6,23.1,0.3,0.00,
124,79,59,34,657.9,26.8,0.3,0.00,
125,79,59,27,513.0,17.8,0.4,0.00,
126,83,50,24,743.4,9.5,0.4,0.00,
127,86,55,26,746.7,6.9,0.3,0.00,
128,92,54,32,655.1,8.0,0.2,0.00,
129,87,71,32,750.2,17.2,0.2,0.00,
130,85,63,32,751.9,15.6,0.3,0.00,
131,86,63,30,598.6,1.6,0.2,0.00,
132,88,52,36,755.2,5.7,0.3,0.00,
133,90,58,38,756.8,12.3,0.2,0.00,
134,90,66,30,485.9,16.7,0.3,0.00,
135,90,63,30,717.8,15.4,0.3,0.00,
136,89,64,29,693.8,13.5,0.3,0.00,
137,87,55,27,644.8,6.9,0.4,0.00,
138,90,61,48,589.8,13.0,0.3,0.00,
139,96,66,42,765.2,12.3,0.4,0.00,
140,92,63,32,627.4,7.9,0.3,0.00,
141,96,52,40,721.3,8.8,0.3,0.00,
142,94,63,51,768.8,5.5,0.4,0.00,
143,86,66,54,769.9,9.4,0.3,0.00,
144,87,62,56,709.6,1.5,0.4,0.00,
145,89,59,45,771.9,8.7,0.3,0.00,
146,88,61,42,579.5,8.6,0.3,0.00,
147,89,57,46,690.3,7.5,0.3,0.00,
148,92,61,54,595.1,9.3,0.3,0.02,
149,93,59,47,680.9,6.9,0.3,0.00,
150,95,73,38,776.3,7.7,0.3,0.00,
```

```
151,92,72,37,460.9,12.0,0.3,0.00,
152,91,70,36,777.8,8.3,0.2,0.00,
153,92,63,39,760.3,11.2,0.3,0.00,
154,98,65,43,704.9,12.5,0.4,0.00,
155,97,67,39,623.3,19.0,0.3,0.00,
156,84,57,31,562.5,11.6,0.4,0.00,
157,90,52,31,631.7,5.3,0.4,0.00,
158,99,60,43,454.8,6.8,0.3,0.00,
159,96,67,47,729.1,11.5,0.3,0.00,
160,92,63,37,636.4,9.2,0.3,0.00,
161,94,64,36,508.3,7.0,0.2,0.00,
162,94,63,37,518.5,8.2,0.2,0.00,
163,90,63,52,689.5,9.1,0.2,0.00,
164,85,65,53,783.0,13.5,0.2,0.00,
165,78,64,54,733.6,11.5,0.2,0.00,
166,86,57,52,783.2,4.8,0.3,0.00,
167,93,66,55,670.1,8.9,0.2,0.02,
168,87,64,60,725.4,11.5,0.2,0.83,
169,84,65,61,637.9,5.8,0.3,0.08,
170,87,63,60,653.3,5.8,0.3,0.14,
171,87,67,61,574.5,1.2,0.3,0.11,
172,93,67,60,783.2,6.6,0.3,0.00,
173,91,71,58,783.0,8.5,0.4,0.00,
174,94,72,54,738.6,6.6,0.3,0.00,
175,100,72,56,782.6,6.2,0.3,0.00,
176,102,70,58,782.3,5.8,0.3,0.00,
177,103,76,55,752.6,1.2,0.2,0.00,
178,103,78,56,781.7,7.1,0.3,0.00,
179,104,77,59,781.3,9.2,0.4,0.26,
180,98,73,62,459.7,9.3,0.4,0.00,
181,105,79,53,780.4,8.4,0.4,0.00,
182,106,80,52,779.9,1.0,0.4,0.00,
183,103,82,56,779.4,14.3,0.4,0.00,
184,97,71,61,653.5,9.7,0.4,0.02,
185,95,69,63,717.2,9.6,0.4,0.00,
186,95,73,63,314.9,8.4,0.4,0.00,
187,93,70,64,776.8,8.5,0.4,0.20,
188,93,72,58,597.2,6.3,0.4,0.00,
189,95,73,59,377.8,6.4,0.4,0.00,
190,98,73,62,684.1,8.6,0.4,0.02,
191,84,65,64,760.5,11.4,0.5,0.06,
192,81,62,59,772.7,11.2,0.5,0.06,
193,87,66,59,771.8,8.9,0.4,0.00,
194,92,71,63,770.8,8.1,0.4,0.00,
195,91,69,61,769.8,1.6,0.4,0.00,
196,88,70,62,663.4,15.5,0.5,0.00,
197,90,67,64,767.6,1.5,0.5,0.99,
198,89,67,66,765.0,6.6,0.5,0.03,
199,87,65,64,493.9,7.4,0.4,0.54,
200,87,67,63,636.3,6.1,0.5,0.00,
```

```
201,87,69,66,705.9,4.7,0.5,0.07,
202,85,68,65,553.5,6.4,0.5,0.01,
203,88,68,64,758.7,6.2,0.5,0.00,
204,90,68,64,662.9,7.3,0.5,0.00,
205,93,69,62,688.2,5.1,0.5,0.00,
206,96,70,62,755.7,6.6,0.5,0.00,
207,96,74,59,607.0,8.8,0.5,0.00,
208,92,74,61,276.5,9.3,0.6,0.00,
209,93,69,61,404.9,8.3,0.6,0.00,
210,93,70,61,749.3,11.3,0.5,0.00,
211,94,76,57,495.7,12.4,0.4,0.00,
212,94,72,60,745.9,9.4,0.5,0.00,
213,92,68,60,744.1,6.7,0.6,0.00,
214,86,70,65,720.5,8.1,0.6,0.03,
215,84,69,66,621.6,5.8,0.5,0.02,
216,86,67,64,551.6,8.5,0.5,0.07,
217,87,64,64,617.6,7.9,0.5,0.85,
218,86,63,65,513.5,5.2,0.4,0.12,
219,92,71,63,593.8,3.6,0.5,0.00,
220,95,70,65,607.3,7.0,0.5,0.29,
221,91,67,64,509.3,8.1,0.5,0.00,
222,90,73,63,481.4,6.9,0.5,0.00,
223,91,71,64,481.1,8.1,0.5,0.00,
224,95,72,62,518.5,6.9,0.5,0.00,
225,96,70,57,500.4,6.3,0.5,0.00,
226,95,73,58,506.2,7.7,0.5,0.00,
227,96,70,54,639.9,6.5,0.5,0.00,
228,97,72,55,526.3,7.0,0.5,0.00,
229,94,70,52,709.2,5.4,0.4,0.00,
230,95,68,54,706.6,8.4,0.5,0.00,
231,94,71,59,584.0,1.3,0.5,0.00,
232,95,71,56,533.0,7.7,0.4,0.00,
233,96,71,52,692.9,3.8,0.4,0.00,
234,96,70,57,610.9,6.9,0.5,0.05,
235,97,73,57,693.1,9.2,0.4,0.00,
236,91,68,59,619.7,8.6,0.5,0.00,
237,89,72,61,464.6,1.4,0.4,0.00,
238,90,73,63,684.5,8.5,0.4,0.00,
239,96,71,62,681.5,7.8,0.4,0.00,
240,94,70,60,526.0,5.7,0.4,0.00,
241,94,67,54,675.5,8.5,0.4,0.00,
242,94,70,54,672.4,7.3,0.4,0.00,
243,94,71,51,564.2,6.0,0.4,0.00,
244,87,68,58,436.5,7.9,0.4,0.02,
245,91,70,61,580.5,7.9,0.5,0.00,
246,91,67,62,525.9,6.7,0.5,0.00,
247,92,68,59,607.6,5.3,0.4,0.00,
248,94,69,60,612.4,8.8,0.5,0.91,
249,89,68,65,642.5,7.6,0.4,0.03,
250,91,69,64,617.0,4.4,0.4,0.00,
```

```
251,91,68,60,244.9,9.2,0.4,0.00,
252,90,69,60,516.4,8.3,0.4,0.00,
253,90,67,62,586.9,5.5,0.4,0.00,
254,89,69,60,535.2,8.0,0.4,0.00,
255,93,68,55,558.6,9.8,0.4,0.00,
256,84,65,58,528.1,1.6,0.4,0.18,
257,86,61,58,214.4,6.2,0.5,0.00,
258,87,64,56,618.0,7.7,0.4,0.00,
259,87,65,58,551.1,6.7,0.3,0.27,
260,68,62,62,299.3,1.4,0.3,0.46,
261,83,59,59,546.7,4.3,0.3,0.00,
262,87,60,58,562.2,4.8,0.3,0.00,
263,88,64,58,475.6,5.7,0.3,0.00,
264,74,61,56,595.5,8.7,0.4,0.00,
265,82,59,54,591.7,5.8,0.4,0.00,
266,88,62,58,438.1,4.7,0.4,0.07,
267,88,64,58,344.6,12.9,0.3,0.00,
268,88,63,48,580.2,6.8,0.3,0.00,
269,92,62,50,576.3,9.0,0.3,0.00,
270,92,68,50,572.4,7.7,0.3,0.00,
271,91,58,48,544.9,1.9,0.3,0.00,
272,72,50,39,564.6,8.2,0.3,0.00,
273,82,49,44,475.3,3.0,0.3,0.00,
274,89,53,44,258.3,5.7,0.3,0.00,
275,89,58,39,389.0,6.4,0.3,0.00,
276,90,55,41,313.4,4.8,0.3,0.00,
277,87,58,49,452.0,7.5,0.3,0.00,
278,87,61,48,428.5,5.5,0.4,0.00,
279,89,57,46,537.0,7.3,0.3,0.00,
280,82,65,41,455.5,15.2,0.3,0.00,
281,80,52,38,529.1,7.7,0.2,0.00,
282,80,51,42,494.2,3.1,0.2,0.00,
283,84,49,39,282.0,4.8,0.3,0.00,
284,83,52,42,222.5,5.6,0.2,0.00,
285,82,53,44,367.1,3.5,0.2,0.00,
286,86,48,37,448.9,3.6,0.3,0.00,
287,84,48,36,388.6,4.4,0.2,0.00,
288,86,49,34,417.5,7.4,0.3,0.00,
289,77,55,44,312.0,11.2,0.3,0.02,
290,58,36,38,340.2,12.7,0.2,0.54,
291,54,36,38,316.1,4.7,0.3,0.00,
292,63,40,39,335.5,6.3,0.3,0.00,
293,68,39,39,482.6,3.4,0.4,0.00,
294,74,42,41,478.9,4.7,0.4,0.00,
295,77,44,39,475.2,4.3,0.4,0.00,
296,78,45,35,405.5,5.4,0.3,0.00,
297,78,43,35,285.6,4.6,0.3,0.00,
298,76,46,38,425.2,3.0,0.3,0.00,
299,78,47,37,165.4,5.3,0.3,0.00,
300,79,61,43,259.7,7.5,0.3,0.00,
```

```
301,78,50,40,357.3,6.8,0.3,0.00,
302,81,53,35,214.5,13.8,0.3,0.00,
303,66,43,32,380.1,6.7,0.2,0.00,
304,71,36,29,284.4,3.9,0.2,0.00,
305,78,36,29,389.5,3.9,0.3,0.00,
306,63,42,24,377.1,9.2,0.2,0.00,
307,70,36,29,346.2,3.9,0.3,0.00,
308,76,41,32,241.9,4.2,0.2,0.00,
309,80,40,31,419.3,4.7,0.2,0.00,
310,81,50,33,423.6,6.8,0.3,0.00,
311,77,47,42,420.5,6.3,0.4,0.00,
312,77,47,47,417.5,3.9,0.3,0.00,
313,79,49,44,298.6,3.0,0.2,0.00,
314,79,48,37,411.6,5.5,0.3,0.00,
315,80,48,38,363.5,5.4,0.3,0.00,
316,74,45,43,406.0,5.5,0.3,0.00,
317,75,47,45,403.2,4.2,0.4,0.00,
318,77,47,40,400.5,6.7,0.3,0.00,
319,73,47,38,381.4,5.0,0.4,0.00,
320,74,40,35,395.3,3.5,0.4,0.00,
321,77,37,35,268.8,6.2,0.4,0.00,
322,78,59,39,390.4,14.6,0.4,0.00,
323,72,46,33,100.7,4.1,0.3,0.00,
324,75,42,36,358.0,4.8,0.3,0.00,
325,71,46,32,269.1,17.2,0.4,0.00,
326,61,44,26,381.3,1.7,0.4,0.00,
327,56,37,19,379.2,7.7,0.5,0.00,
328,54,33,28,302.6,6.7,0.3,0.00,
329,57,24,19,156.0,6.3,0.4,0.00,
330,64,28,18,217.4,5.6,0.3,0.00,
331,72,30,21,137.2,3.6,0.3,0.00,
332,73,32,23,344.8,5.1,0.3,0.00,
333,66,35,31,73.6,6.9,0.3,0.00,
334,67,31,33,200.7,3.9,0.3,0.00,
335,68,32,32,298.6,5.8,0.3,0.00,
336,66,48,26,290.9,14.7,0.3,0.00,
337,63,40,25,203.2,17.8,0.3,0.00,
338,53,31,24,360.8,9.8,0.3,0.00,
339,53,27,23,359.6,2.9,0.4,0.00,
340,56,28,22,253.1,6.5,0.2,0.00,
341,64,23,22,235.2,6.6,0.3,0.00,
342,65,34,21,356.4,14.3,0.4,0.00,
343,52,26,23,355.5,4.3,0.4,0.00,
344,67,26,18,354.7,6.5,0.4,0.00,
345,52,35,27,354.0,8.1,0.4,0.00,
346,52,28,26,353.3,6.0,0.4,0.00,
347,54,25,22,326.9,6.4,0.4,0.00,
348,51,36,11,263.9,11.3,0.4,0.00,
349,50,27,0,252.8,7.8,0.3,0.00,
350,54,18,1,351.5,4.6,0.4,0.00,
```

```
351,62,22,14,280.4,4.4,0.4,0.00,
352,61,29,26,277.9,5.8,0.5,0.00,
353,55,33,19,350.9,8.1,0.4,0.00,
354,54,25,19,350.9,4.0,0.4,0.00,
355,48,26,22,351.0,4.6,0.4,0.00,
356,50,28,23,320.2,9.2,0.4,0.00,
357,49,25,25,243.5,7.8,0.4,0.00,
358,44,32,30,351.7,5.9,0.4,0.62,
359,41,34,36,352.1,6.2,0.5,0.01,
360,46,39,38,352.6,7.9,0.6,0.00,
361,54,37,37,353.1,7.0,0.5,0.00,
362,57,34,34,353.8,4.7,0.5,0.00,
363,59,33,36,354.5,6.3,0.5,0.00,
364,61,41,34,355.3,4.4,0.4,0.00,
365,66,43,37,316.1,4.6,0.4,0.00,
```

```
1,66,44,34,326.7,13.5,0.5,0.00,
2,59,33,26,338.9,16.6,0.4,0.00,
3,47,34,13,359.7,13.7,0.5,0.00,
4,46,26,12,196.4,6.6,0.4,0.00,
5,55,21,16,279.8,4.9,0.5,0.00,
6,54,30,20,271.0,12.8,0.5,0.00,
7,49,32,25,343.4,5.2,0.4,0.00,
8,55,24,24,306.8,7.7,0.4,0.00,
9,59,39,13,365.6,12.8,0.4,0.00,
10,65,43,12,256.6,9.4,0.4,0.00,
11,67,32,17,263.8,8.0,0.4,0.00,
12,70,34,21,281.7,9.4,0.4,0.00,
13,68,32,23,128.6,5.8,0.4,0.00,
14,60,35,24,356.4,6.9,0.3,0.00,
15,67,34,29,341.5,5.3,0.4,0.00,
16,70,35,31,252.8,5.1,0.4,0.00,
17,72,35,30,174.3,4.7,0.5,0.00,
18,73,39,30,213.1,4.2,0.4,0.00,
19,74,37,30,265.8,4.4,0.4,0.00,
20,69,40,32,390.8,4.0,0.5,0.00,
21,70,34,32,368.3,8.8,0.4,0.00,
22,66,54,35,274.6,1.4,0.4,0.00,
23,68,46,28,332.9,8.9,0.4,0.00,
24,71,38,29,246.7,8.2,0.3,0.00,
25,70,41,31,269.0,7.8,0.3,0.00,
26,74,45,33,391.6,14.8,0.3,0.00,
27,62,47,28,409.5,14.9,0.4,0.00,
28,62,33,20,412.4,11.6,0.4,0.00,
29,53,26,21,415.3,3.1,0.4,0.00,
30,62,27,20,266.4,5.8,0.5,0.00,
31,62,45,26,209.3,11.8,0.5,0.00,
32,50,31,34,318.8,1.8,0.4,0.03,
33,53,24,29,363.9,3.3,0.5,0.00,
34,63,25,26,342.4,3.1,0.4,0.00,
35,55,30,25,273.8,1.2,0.4,0.00,
36,61,30,26,336.6,3.9,0.4,0.00,
37,69,37,26,427.9,5.0,0.5,0.00,
38,70,35,24,444.5,6.7,0.4,0.00,
39,68,33,24,369.0,4.5,0.5,0.00,
40,77,41,25,262.9,8.9,0.4,0.00,
41,72,48,23,251.1,1.7,0.4,0.00,
42,70,46,22,458.7,11.0,0.3,0.00,
43,70,36,20,462.3,15.6,0.3,0.00,
44,64,48,31,383.3,12.9,0.4,0.00,
45,73,55,38,469.7,13.7,0.4,0.00,
46,78,51,31,448.2,8.9,0.4,0.00,
47,78,40,26,298.6,7.2,0.4,0.00,
48,77,48,33,359.6,18.0,0.3,0.00,
49,64,39,24,246.2,6.3,0.4,0.00,
50,73,36,22,321.7,5.8,0.4,0.00,
```

```
51,75,40,34,270.4,5.8,0.4,0.00,
52,79,44,37,496.6,8.8,0.4,0.00,
53,63,49,34,280.6,13.8,0.4,0.00,
54,67,43,29,192.6,8.3,0.4,0.00,
55,72,41,25,101.7,14.4,0.4,0.00,
56,59,45,26,281.6,18.4,0.4,0.00,
57,60,40,18,357.3,8.0,0.5,0.00,
58,74,30,17,444.0,3.7,0.4,0.00,
59,78,45,20,341.4,14.3,0.4,0.00,
60,66,40,16,410.7,4.3,0.4,0.00,
61,75,41,20,438.7,1.8,0.5,0.00,
62,67,47,24,536.5,13.5,0.4,0.00,
63,70,36,24,340.6,5.7,0.3,0.00,
64,76,39,28,544.7,5.5,0.3,0.00,
65,66,51,30,272.8,13.6,0.3,0.00,
66,73,39,29,360.5,5.8,0.3,0.00,
67,63,41,29,556.9,2.5,0.4,0.06,
68,63,36,25,531.3,9.7,0.4,0.00,
69,69,33,24,520.2,6.7,0.5,0.00,
70,71,47,20,448.7,11.4,0.4,0.00,
71,64,39,23,364.7,5.4,0.3,0.00,
72,75,34,22,202.4,5.0,0.3,0.00,
73,73,43,23,581.0,5.3,0.4,0.00,
74,76,45,23,511.3,7.2,0.4,0.00,
75,79,37,23,429.0,9.8,0.3,0.00,
76,68,41,28,134.9,13.4,0.3,0.00,
77,73,36,30,356.2,1.3,0.4,0.00,
78,76,43,21,600.8,14.5,0.4,0.00,
79,67,34,21,383.6,5.8,0.4,0.00,
80,79,45,23,250.9,14.9,0.4,0.00,
81,63,41,34,594.4,1.7,0.3,0.00,
82,59,39,36,616.2,9.3,0.3,0.00,
83,64,39,29,620.0,1.2,0.3,0.00,
84,74,36,27,490.4,3.2,0.3,0.00,
85,80,47,27,535.0,8.1,0.4,0.00,
86,80,43,26,330.3,9.7,0.4,0.00,
87,80,52,28,528.8,7.4,0.3,0.00,
88,76,60,37,638.5,18.0,0.3,0.00,
89,74,54,35,567.9,1.7,0.3,0.00,
90,79,45,29,501.2,8.5,0.2,0.00,
91,76,50,25,403.7,12.3,0.3,0.00,
92,65,43,38,443.4,11.9,0.2,0.28,
93,63,42,34,518.7,8.2,0.3,0.00,
94,67,40,33,616.0,7.4,0.3,0.00,
95,78,41,32,549.7,3.7,0.3,0.00,
96,86,49,32,353.7,8.7,0.4,0.00,
97,83,63,30,451.8,13.6,0.3,0.00,
98,86,60,32,291.3,11.5,0.3,0.00,
99,71,50,27,459.9,14.7,0.3,0.00,
100,81,49,30,561.0,7.0,0.2,0.00,
```

```
101,84,67,30,678.5,12.7,0.3,0.00,
102,78,53,34,539.9,9.7,0.3,0.00,
103,74,46,40,656.1,4.5,0.3,0.00,
104,82,47,30,436.6,5.7,0.3,0.00,
105,88,49,24,453.7,13.3,0.3,0.00,
106,77,57,26,578.7,16.2,0.4,0.00,
107,83,44,24,677.2,6.4,0.3,0.00,
108,87,48,26,439.9,6.4,0.3,0.00,
109,92,57,30,583.4,14.8,0.3,0.00,
110,82,51,30,705.2,14.4,0.2,0.00,
111,84,53,27,703.1,1.3,0.3,0.00,
112,91,58,35,609.7,8.1,0.3,0.00,
113,78,65,30,545.1,2.1,0.3,0.00,
114,83,60,36,718.6,16.4,0.3,0.00,
115,89,62,35,543.5,7.6,0.3,0.00,
116,90,58,36,723.5,7.5,0.3,0.00,
117,94,60,46,725.8,6.1,0.3,0.00,
118,95,65,47,726.0,8.4,0.3,0.00,
119,94,62,49,730.4,1.0,0.3,0.00,
120,92,63,39,502.9,15.5,0.4,0.00,
121,82,59,29,375.0,1.9,0.3,0.00,
122,75,51,39,509.6,6.7,0.4,0.00,
123,87,51,37,544.6,5.8,0.3,0.00,
124,95,59,37,657.9,6.6,0.3,0.00,
125,96,58,36,513.0,6.6,0.4,0.00,
126,96,63,26,743.4,9.3,0.4,0.00,
127,95,69,27,746.7,12.4,0.3,0.00,
128,93,71,19,655.1,15.9,0.2,0.00,
129,94,69,24,750.2,17.6,0.2,0.00,
130,90,67,35,751.9,7.4,0.3,0.00,
131,96,69,30,598.6,15.7,0.2,0.00,
132,95,70,27,755.2,2.1,0.3,0.00,
133,83,63,25,756.8,12.4,0.2,0.00,
134,82,55,29,485.9,12.6,0.3,0.00,
135,94,60,39,717.8,6.2,0.3,0.00,
136,102,64,43,693.8,8.1,0.3,0.00,
137,95,76,30,644.8,17.1,0.4,0.00,
138,86,62,22,589.8,19.3,0.3,0.00,
139,85,61,21,765.2,6.8,0.4,0.00,
140,83,60,33,627.4,7.1,0.3,0.00,
141,90,56,37,721.3,5.5,0.3,0.00,
142,93,62,38,768.8,5.6,0.4,0.00,
143,96,66,41,769.9,7.6,0.3,0.00,
144,102,68,37,709.6,1.8,0.4,0.00,
145,102,77,37,771.9,14.8,0.3,0.00,
146,95,79,32,579.5,18.7,0.3,0.00,
147,89,72,32,690.3,13.1,0.3,0.00,
148,95,65,36,595.1,8.1,0.3,0.00,
149,97,71,46,680.9,5.9,0.3,0.00,
150,99,70,40,776.3,5.4,0.3,0.00,
```

```
151,100,67,47,460.9,7.8,0.3,0.00,
152,94,74,53,777.8,1.3,0.2,0.00,
153,93,70,54,760.3,1.0,0.3,0.00,
154,92,64,57,704.9,8.7,0.4,0.76,
155,86,63,57,623.3,5.9,0.3,0.13,
156,95,65,50,562.5,6.3,0.4,0.00,
157,88,68,53,631.7,9.0,0.4,0.00,
158,90,68,50,454.8,6.2,0.3,0.00,
159,92,68,47,729.1,6.8,0.3,0.00,
160,94,70,48,636.4,9.9,0.3,0.00,
161,89,66,53,508.3,1.7,0.2,0.04,
162,91,72,43,518.5,8.4,0.2,0.00,
163,96,70,45,689.5,7.3,0.2,0.00,
164,97,65,58,783.0,7.9,0.2,0.77,
165,96,64,52,733.6,7.9,0.2,0.00,
166,91,66,44,783.2,8.4,0.3,0.00,
167,100,69,43,670.1,7.7,0.2,0.00,
168,101,81,37,725.4,1.3,0.2,0.00,
169,90,62,56,637.9,1.8,0.3,0.14,
170,82,62,59,653.3,6.1,0.3,0.00,
171,93,68,58,574.5,6.6,0.3,0.12,
172,91,67,58,783.2,9.0,0.3,0.02,
173,93,68,56,783.0,7.4,0.4,0.00,
174,92,68,55,738.6,9.1,0.3,0.00,
175,92,72,54,782.6,11.0,0.3,0.00,
176,95,76,48,782.3,1.6,0.3,0.00,
177,100,71,46,752.6,4.9,0.2,0.00,
178,93,75,56,781.7,13.2,0.3,0.00,
179,87,67,60,781.3,9.2,0.4,0.00,
180,91,71,60,459.7,6.4,0.4,0.00,
181,86,67,64,780.4,5.7,0.4,0.46,
182,87,68,64,779.9,7.3,0.4,0.01,
183,92,67,64,779.4,9.2,0.4,1.36,
184,93,70,60,653.5,1.1,0.4,0.00,
185,95,74,53,717.2,9.7,0.4,0.00,
186,97,74,52,314.9,6.5,0.4,0.00,
187,96,76,56,776.8,8.0,0.4,0.00,
188,95,68,56,597.2,7.3,0.4,0.20,
189,91,68,59,377.8,6.4,0.4,0.00,
190,91,69,59,684.1,6.9,0.4,0.00,
191,90,68,58,760.5,4.6,0.5,0.00,
192,95,72,58,772.7,8.1,0.5,0.00,
193,95,72,56,771.8,9.4,0.4,0.00,
194,97,74,58,770.8,9.0,0.4,0.00,
195,92,70,60,769.8,7.2,0.4,0.00,
196,94,73,57,663.4,8.6,0.5,0.00,
197,95,74,53,767.6,8.7,0.5,0.00,
198,98,77,53,765.0,1.4,0.5,0.00,
199,98,70,54,493.9,6.1,0.4,0.00,
200,100,73,53,636.3,4.8,0.5,0.00,
```

```
201,98,74,49,705.9,7.5,0.5,0.00,
202,99,73,50,553.5,5.7,0.5,0.00,
203,101,76,50,758.7,7.4,0.5,0.00,
204,99,73,51,662.9,6.8,0.5,0.00,
205,97,73,49,688.2,8.1,0.5,0.00,
206,99,70,50,755.7,5.3,0.5,0.00,
207,103,73,47,607.0,6.4,0.5,0.00,
208,100,74,49,276.5,5.8,0.6,0.00,
209,100,75,52,404.9,8.3,0.6,0.03,
210,98,71,56,749.3,5.4,0.5,0.00,
211,95,72,53,495.7,9.5,0.4,0.00,
212,93,71,52,745.9,8.9,0.5,0.00,
213,92,69,49,744.1,8.8,0.6,0.00,
214,94,65,46,720.5,4.4,0.6,0.00,
215,96,70,49,621.6,5.8,0.5,0.00,
216,98,70,42,551.6,5.0,0.5,0.00,
217,98,75,46,617.6,6.5,0.5,0.00,
218,96,76,49,513.5,6.3,0.4,0.00,
219,90,72,50,593.8,7.3,0.5,0.00,
220,92,71,58,607.3,8.5,0.5,0.00,
221,93,71,58,509.3,6.3,0.5,0.00,
222,93,70,60,481.4,8.0,0.5,0.08,
223,94,68,60,481.1,9.3,0.5,0.05,
224,92,69,59,518.5,6.6,0.5,0.01,
225,97,69,53,500.4,4.2,0.5,0.00,
226,96,69,48,506.2,6.9,0.5,0.00,
227,96,72,45,639.9,6.2,0.5,0.00,
228,96,69,45,526.3,7.9,0.5,0.00,
229,92,72,57,709.2,9.2,0.4,0.00,
230,82,66,65,706.6,8.9,0.5,0.29,
231,92,65,60,584.0,6.2,0.5,0.00,
232,96,71,55,533.0,4.5,0.4,0.00,
233,99,69,50,692.9,4.4,0.4,0.00,
234,97,72,46,610.9,7.9,0.5,0.00,
235,93,73,52,693.1,12.0,0.4,0.00,
236,92,71,54,619.7,8.8,0.5,0.00,
237,92,66,54,464.6,5.3,0.4,0.00,
238,94,65,52,684.5,3.6,0.4,0.00,
239,96,74,53,681.5,5.8,0.4,0.00,
240,95,70,55,526.0,7.6,0.4,0.00,
241,93,71,55,675.5,8.9,0.4,0.00,
242,89,65,59,672.4,7.9,0.4,0.26,
243,89,65,58,564.2,6.7,0.4,0.01,
244,88,60,50,436.5,6.9,0.4,0.00,
245,96,62,46,580.5,5.8,0.5,0.00,
246,96,67,48,525.9,4.4,0.5,0.00,
247,98,67,48,607.6,4.0,0.4,0.00,
248,98,70,43,612.4,5.1,0.5,0.00,
249,97,71,44,642.5,6.6,0.4,0.00,
250,100,70,44,617.0,5.0,0.4,0.00,
```

```
251,100,69,45,244.9,7.4,0.4,0.00,
252,96,72,51,516.4,9.6,0.4,0.00,
253,95,71,53,586.9,6.9,0.4,0.00,
254,92,74,48,535.2,7.3,0.4,0.00,
255,95,71,46,558.6,9.2,0.4,0.00,
256,97,65,39,528.1,6.7,0.4,0.00,
257,95,68,45,214.4,7.3,0.5,0.00,
258,94,66,46,618.0,8.2,0.4,0.00,
259,91,65,49,551.1,11.5,0.3,0.00,
260,92,63,48,299.3,6.1,0.3,0.00,
261,91,62,45,546.7,5.8,0.3,0.00,
262,92,65,45,562.2,5.7,0.3,0.00,
263,92,65,47,475.6,6.9,0.3,0.00,
264,89,68,48,595.5,11.2,0.4,0.00,
265,87,62,49,591.7,6.3,0.4,0.00,
266,93,69,50,438.1,13.0,0.4,0.00,
267,86,70,53,344.6,11.9,0.3,0.00,
268,85,60,43,580.2,9.2,0.3,0.00,
269,74,50,35,576.3,8.7,0.3,0.00,
270,83,50,37,572.4,2.5,0.3,0.00,
271,90,58,40,544.9,3.2,0.3,0.00,
272,90,68,33,564.6,5.4,0.3,0.00,
273,89,57,28,475.3,5.1,0.3,0.00,
274,90,57,30,258.3,4.4,0.3,0.00,
275,94,59,35,389.0,5.8,0.3,0.00,
276,95,59,36,313.4,5.7,0.3,0.00,
277,94,61,39,452.0,5.3,0.3,0.00,
278,95,60,44,428.5,9.0,0.4,0.08,
279,88,61,44,537.0,7.4,0.3,0.00,
280,76,55,49,455.5,11.5,0.3,0.00,
281,56,42,41,529.1,13.6,0.2,0.00,
282,43,37,34,494.2,11.7,0.2,0.03,
283,47,37,33,282.0,8.7,0.3,0.02,
284,64,38,40,222.5,4.8,0.2,0.00,
285,77,51,53,367.1,6.3,0.2,0.03,
286,83,58,52,448.9,9.8,0.3,0.00,
287,80,53,46,388.6,5.2,0.2,0.00,
288,80,53,44,417.5,5.3,0.3,0.10,
289,79,56,48,312.0,5.4,0.3,0.09,
290,80,50,41,340.2,4.5,0.2,0.00,
291,80,53,41,316.1,6.4,0.3,0.00,
292,75,51,47,335.5,7.5,0.3,0.00,
293,64,55,53,482.6,5.4,0.4,0.02,
294,76,53,52,478.9,7.7,0.4,0.00,
295,67,56,52,475.2,5.4,0.4,0.03,
296,71,52,47,405.5,7.6,0.3,0.05,
297,73,58,51,285.6,1.5,0.3,0.08,
298,72,45,42,425.2,5.7,0.3,0.00,
299,73,47,41,165.4,5.2,0.3,0.00,
300,76,47,36,259.7,5.2,0.3,0.00,
```

```
301,76,49,39,357.3,9.1,0.3,0.00,
302,64,50,43,214.5,15.0,0.3,0.29,
303,65,45,38,380.1,6.4,0.2,0.00,
304,70,40,41,284.4,3.5,0.2,0.00,
305,65,47,35,389.5,11.2,0.3,0.00,
306,61,41,24,377.1,6.7,0.2,0.00,
307,66,36,29,346.2,4.6,0.3,0.00,
308,70,49,42,241.9,9.2,0.2,0.18,
309,67,51,50,419.3,5.2,0.2,0.32,
310,61,49,40,423.6,16.3,0.3,0.00,
311,58,46,39,420.5,1.4,0.4,0.39,
312,47,31,35,417.5,11.4,0.3,0.17,
313,44,31,26,298.6,6.4,0.2,0.00,
314,54,33,29,411.6,8.1,0.3,0.00,
315,66,34,35,363.5,7.1,0.3,0.00,
316,59,42,35,406.0,12.1,0.3,0.00,
317,55,38,26,403.2,8.4,0.4,0.00,
318,55,32,18,400.5,8.3,0.3,0.00,
319,59,33,32,381.4,5.3,0.4,0.00,
320,61,44,30,395.3,9.3,0.4,0.00,
321,58,40,28,268.8,5.9,0.4,0.00,
322,58,38,24,390.4,6.2,0.4,0.00,
323,48,31,25,100.7,1.3,0.3,0.00,
324,54,24,18,358.0,3.6,0.3,0.00,
325,59,26,18,269.1,4.9,0.4,0.00,
326,59,30,24,381.3,7.0,0.4,0.00,
327,64,43,29,379.2,5.9,0.5,0.00,
328,57,37,28,302.6,1.2,0.3,0.00,
329,59,32,26,156.0,5.4,0.4,0.00,
330,59,30,22,217.4,6.4,0.3,0.00,
331,60,27,20,137.2,5.2,0.3,0.00,
332,64,28,21,344.8,5.4,0.3,0.00,
333,68,37,21,73.6,5.3,0.3,0.00,
334,62,34,28,200.7,5.6,0.3,0.00,
335,68,31,29,298.6,4.4,0.3,0.00,
336,59,40,28,290.9,1.6,0.3,0.00,
337,48,36,23,203.2,9.2,0.3,0.05,
338,47,34,34,360.8,3.3,0.3,0.01,
339,57,29,34,359.6,2.6,0.4,0.00,
340,58,31,33,253.1,4.1,0.2,0.00,
341,56,36,24,235.2,5.6,0.3,0.00,
342,61,28,24,356.4,4.8,0.4,0.00,
343,64,34,27,355.5,5.1,0.4,0.00,
344,64,40,27,354.7,6.9,0.4,0.00,
345,65,34,27,354.0,5.5,0.4,0.00,
346,59,41,32,353.3,8.6,0.4,0.00,
347,51,33,25,326.9,6.9,0.4,0.03,
348,57,43,34,263.9,11.2,0.4,0.27,
349,56,34,36,252.8,3.8,0.3,0.00,
350,60,37,26,351.5,14.5,0.4,0.00,
```

```
351,60,38,17,280.4,7.7,0.4,0.00,
352,60,28,15,277.9,6.9,0.5,0.00,
353,52,29,0,350.9,14.1,0.4,0.00,
354,50,21,4,350.9,3.6,0.4,0.00,
355,64,26,5,351.0,9.1,0.4,0.00,
356,53,32,19,320.2,3.7,0.4,0.00,
357,62,25,20,243.5,5.7,0.4,0.00,
358,65,31,20,351.7,4.8,0.4,0.00,
359,60,32,22,352.1,4.6,0.5,0.00,
360,60,37,32,352.6,6.9,0.6,0.06,
361,37,30,24,353.1,6.8,0.5,0.00,
362,46,23,24,353.8,2.8,0.5,0.00,
363,52,23,25,354.5,3.2,0.5,0.00,
364,51,27,23,355.3,3.3,0.4,0.00,
365,54,24,23,316.1,3.1,0.4,0.00,
```

```
1,54,25,23,326.7,2.8,0.5,0.00,
2,48,30,26,338.9,7.6,0.4,0.00,
3,50,23,22,359.7,4.0,0.5,0.00,
4,56,22,20,196.4,3.3,0.4,0.00,
5,63,28,21,279.8,2.9,0.5,0.00,
6,62,34,28,271.0,7.2,0.5,0.00,
7,58,38,31,343.4,9.0,0.4,0.00,
8,54,31,24,306.8,6.0,0.4,0.00,
9,59,37,26,365.6,9.5,0.4,0.00,
10,53,38,33,256.6,7.6,0.4,0.00,
11,56,28,31,263.8,4.4,0.4,0.00,
12,63,30,29,281.7,1.2,0.4,0.00,
13,51,35,25,128.6,15.8,0.4,0.00,
14,52,24,23,356.4,5.9,0.3,0.00,
15,60,25,21,341.5,6.4,0.4,0.00,
16,55,28,20,252.8,8.9,0.4,0.00,
17,38,30,26,174.3,1.9,0.5,0.00,
18,42,24,20,213.1,7.8,0.4,0.00,
19,45,18,15,265.8,2.2,0.4,0.00,
20,52,21,19,390.8,6.4,0.5,0.00,
21,53,29,15,368.3,5.8,0.4,0.00,
22,51,26,17,274.6,6.9,0.4,0.00,
23,61,34,24,332.9,7.4,0.4,0.00,
24,61,30,31,246.7,6.5,0.3,0.00,
25,64,37,27,269.0,8.5,0.3,0.00,
26,62,28,17,391.6,4.4,0.3,0.00,
27,55,40,38,409.5,8.2,0.4,0.01,
28,46,33,32,412.4,9.5,0.4,0.05,
29,45,33,26,415.3,18.8,0.4,0.00,
30,52,34,24,266.4,1.6,0.5,0.00,
31,49,29,22,209.3,7.5,0.5,0.00,
32,51,29,15,318.8,12.5,0.4,0.00,
33,52,23,12,363.9,5.3,0.5,0.00,
34,62,22,14,342.4,4.0,0.4,0.00,
35,67,31,23,273.8,5.4,0.4,0.00,
36,69,30,24,336.6,5.7,0.4,0.00,
37,74,43,22,427.9,1.1,0.5,0.00,
38,71,49,29,444.5,11.0,0.4,0.00,
39,63,34,28,369.0,2.5,0.5,0.00,
40,52,30,16,262.9,8.2,0.4,0.00,
41,62,26,14,251.1,4.0,0.4,0.00,
42,68,38,17,458.7,8.1,0.3,0.00,
43,71,37,19,462.3,5.9,0.3,0.00,
44,55,43,44,383.3,9.2,0.4,0.17,
45,65,42,32,469.7,11.0,0.4,0.00,
46,53,33,24,448.2,11.3,0.4,0.00,
47,54,28,23,298.6,4.9,0.4,0.00,
48,60,33,27,359.6,7.5,0.3,0.00,
49,69,38,28,246.2,4.4,0.4,0.00,
50,74,41,23,321.7,6.9,0.4,0.00,
```

```
51,74,38,21,270.4,5.9,0.4,0.00,
52,74,39,17,496.6,6.3,0.4,0.00,
53,73,34,18,280.6,4.3,0.4,0.00,
54,72,45,25,192.6,16.1,0.4,0.00,
55,56,38,20,101.7,17.4,0.4,0.00,
56,58,37,20,281.6,6.1,0.4,0.00,
57,66,45,32,357.3,9.2,0.5,0.00,
58,65,47,44,444.0,1.8,0.4,0.07,
59,59,41,36,341.4,6.2,0.4,0.00,
60,57,37,30,410.7,5.5,0.4,0.01,
61,52,41,39,438.7,6.9,0.5,0.38,
62,56,41,29,536.5,15.1,0.4,0.00,
63,61,36,28,340.6,4.2,0.3,0.00,
64,67,38,29,544.7,8.2,0.3,0.00,
65,74,50,31,272.8,6.1,0.3,0.00,
66,75,46,33,360.5,8.1,0.3,0.00,
67,60,42,36,556.9,13.2,0.4,0.00,
68,67,37,34,531.3,4.3,0.4,0.00,
69,72,43,26,520.2,12.6,0.5,0.00,
70,59,44,25,448.7,13.0,0.4,0.00,
71,64,42,22,364.7,11.4,0.3,0.00,
72,67,35,24,202.4,6.4,0.3,0.00,
73,71,50,27,581.0,2.5,0.4,0.00,
74,63,38,1,511.3,9.3,0.4,0.00,
75,66,37,14,429.0,6.5,0.3,0.00,
76,66,41,28,134.9,9.7,0.3,0.00,
77,65,35,22,356.2,7.0,0.4,0.00,
78,65,39,28,600.8,5.2,0.4,0.00,
79,73,38,23,383.6,2.8,0.4,0.00,
80,83,43,21,250.9,6.0,0.4,0.00,
81,82,56,21,594.4,8.6,0.3,0.00,
82,80,48,20,616.2,8.8,0.3,0.00,
83,71,47,33,620.0,11.0,0.3,0.00,
84,73,43,39,490.4,4.4,0.3,0.00,
85,82,47,30,535.0,8.0,0.4,0.00,
86,79,47,31,330.3,13.8,0.4,0.00,
87,73,49,33,528.8,11.4,0.3,0.00,
88,78,47,31,638.5,14.6,0.3,0.00,
89,77,52,37,567.9,13.8,0.3,0.01,
90,77,48,21,501.2,5.4,0.2,0.00,
91,85,48,24,403.7,9.9,0.3,0.00,
92,81,60,27,443.4,14.8,0.2,0.00,
93,83,58,25,518.7,11.3,0.3,0.00,
94,83,50,21,616.0,5.7,0.3,0.00,
95,84,58,24,549.7,1.4,0.3,0.00,
96,70,51,32,353.7,17.1,0.4,0.00,
97,74,40,28,451.8,1.0,0.3,0.00,
98,82,56,21,291.3,15.4,0.3,0.00,
99,82,49,19,459.9,9.7,0.3,0.00,
100,79,44,25,561.0,19.8,0.2,0.00,
```

```
101,64,40,18,678.5,13.9,0.3,0.00,
102,72,37,16,539.9,9.4,0.3,0.00,
103,77,39,18,656.1,4.9,0.3,0.00,
104,84,51,22,436.6,1.4,0.3,0.00,
105,83,45,19,453.7,3.9,0.3,0.00,
106,88,46,19,578.7,4.6,0.4,0.00,
107,67,46,41,677.2,15.2,0.3,0.00,
108,78,46,44,439.9,5.5,0.3,0.00,
109,90,57,37,583.4,1.1,0.3,0.00,
110,86,66,28,705.2,17.8,0.2,0.00,
111,91,58,25,703.1,2.0,0.3,0.00,
112,68,45,22,609.7,2.7,0.3,0.00,
113,75,42,21,545.1,5.4,0.3,0.00,
114,79,52,22,718.6,12.0,0.3,0.00,
115,77,54,35,543.5,8.9,0.3,0.00,
116,82,51,36,723.5,5.7,0.3,0.00,
117,84,55,33,725.8,5.7,0.3,0.00,
118,86,56,41,726.0,6.7,0.3,0.00,
119,90,63,43,730.4,7.2,0.3,0.00,
120,89,53,36,502.9,3.4,0.4,0.00,
121,93,54,23,375.0,8.6,0.3,0.00,
122,88,67,23,509.6,12.7,0.4,0.00,
123,86,62,21,544.6,12.3,0.3,0.00,
124,75,57,21,657.9,15.3,0.3,0.00,
125,78,52,15,513.0,14.1,0.4,0.00,
126,84,51,22,743.4,7.3,0.4,0.00,
127,90,51,27,746.7,6.8,0.3,0.00,
128,92,61,47,655.1,1.8,0.2,0.00,
129,90,58,41,750.2,7.2,0.2,0.00,
130,92,61,39,751.9,5.8,0.3,0.00,
131,93,68,38,598.6,1.4,0.2,0.00,
132,84,64,47,755.2,9.4,0.3,0.00,
133,85,61,51,756.8,11.5,0.2,0.00,
134,87,59,50,485.9,8.7,0.3,0.00,
135,90,55,41,717.8,9.9,0.3,0.00,
136,94,69,28,693.8,11.6,0.3,0.00,
137,96,71,21,644.8,15.2,0.4,0.00,
138,94,68,30,589.8,12.1,0.3,0.00,
139,85,64,48,765.2,12.5,0.4,0.18,
140,86,61,43,627.4,14.6,0.3,0.00,
141,77,60,37,721.3,14.4,0.3,0.00,
142,85,56,31,768.8,6.1,0.4,0.00,
143,94,57,30,769.9,4.9,0.3,0.00,
144,97,55,27,709.6,8.1,0.4,0.00,
145,96,67,37,771.9,7.2,0.3,0.00,
146,100,65,34,579.5,9.5,0.3,0.00,
147,101,72,34,690.3,9.3,0.3,0.00,
148,98,70,30,595.1,12.1,0.3,0.00,
149,93,68,24,680.9,13.1,0.3,0.00,
150,97,64,30,776.3,6.3,0.3,0.00,
```

```
151,95,68,47,460.9,8.0,0.3,0.00,
152,101,69,38,777.8,1.0,0.2,0.00,
153,100,75,28,760.3,15.8,0.3,0.00,
154,96,76,25,704.9,19.0,0.4,0.00,
155,95,74,36,623.3,19.2,0.3,0.00,
156,94,73,22,562.5,1.9,0.4,0.00,
157,97,66,25,631.7,4.5,0.4,0.00,
158,98,64,38,454.8,11.1,0.3,0.11,
159,90,71,53,729.1,8.8,0.3,0.00,
160,93,68,53,636.4,6.9,0.3,0.00,
161,101,71,42,508.3,6.3,0.2,0.00,
162,102,71,35,518.5,1.9,0.2,0.00,
163,98,78,43,689.5,15.5,0.2,0.00,
164,95,75,36,783.0,23.5,0.2,0.00,
165,89,67,32,733.6,9.6,0.2,0.00,
166,96,62,28,783.2,7.2,0.3,0.00,
167,97,72,46,670.1,9.1,0.2,0.00,
168,94,70,50,725.4,7.9,0.2,0.00,
169,96,72,48,637.9,8.9,0.3,0.00,
170,99,72,47,653.3,9.1,0.3,0.02,
171,97,69,48,574.5,6.5,0.3,0.00,
172,95,69,47,783.2,8.7,0.3,0.00,
173,95,71,48,783.0,7.2,0.4,0.00,
174,100,73,47,738.6,8.3,0.3,0.00,
175,100,75,49,782.6,9.6,0.3,0.00,
176,97,67,56,782.3,9.1,0.3,0.16,
177,85,67,60,752.6,6.5,0.2,0.01,
178,88,65,57,781.7,5.6,0.3,0.00,
179,98,69,55,781.3,6.6,0.4,0.00,
180,98,69,54,459.7,6.2,0.4,0.00,
181,98,72,52,780.4,7.0,0.4,0.00,
182,100,74,50,779.9,9.8,0.4,0.00,
183,93,75,53,779.4,11.6,0.4,0.00,
184,92,70,52,653.5,11.4,0.4,0.00,
185,94,71,53,717.2,1.4,0.4,0.00,
186,94,72,57,314.9,7.3,0.4,0.01,
187,92,70,58,776.8,8.5,0.4,0.00,
188,95,70,58,597.2,9.2,0.4,0.06,
189,96,67,55,377.8,1.4,0.4,0.00,
190,95,68,57,684.1,7.6,0.4,0.22,
191,94,65,57,760.5,4.6,0.5,0.00,
192,99,73,54,772.7,7.9,0.5,0.00,
193,102,72,49,771.8,6.0,0.4,0.00,
194,102,73,44,770.8,8.2,0.4,0.00,
195,100,77,49,769.8,7.5,0.4,0.00,
196,102,75,51,663.4,9.6,0.5,0.00,
197,100,74,53,767.6,8.1,0.5,0.00,
198,95,71,56,765.0,8.8,0.5,0.00,
199,94,77,56,493.9,8.2,0.4,0.00,
200,92,70,60,636.3,8.9,0.5,0.00,
```

```
201,93,70,63,705.9,7.7,0.5,0.02,
202,95,69,59,553.5,5.6,0.5,0.00,
203,99,73,57,758.7,6.6,0.5,0.00,
204,101,75,55,662.9,9.8,0.5,0.00,
205,99,74,56,688.2,6.5,0.5,0.00,
206,96,71,56,755.7,6.2,0.5,0.00,
207,97,76,55,607.0,9.6,0.5,0.00,
208,93,72,60,276.5,5.9,0.6,0.04,
209,94,71,61,404.9,6.5,0.6,0.01,
210,96,73,59,749.3,8.7,0.5,0.00,
211,99,74,58,495.7,8.1,0.4,0.00,
212,94,76,58,745.9,9.7,0.5,0.00,
213,91,70,58,744.1,7.7,0.6,0.00,
214,97,74,55,720.5,7.2,0.6,0.00,
215,95,73,55,621.6,7.7,0.5,0.00,
216,95,74,48,551.6,7.4,0.5,0.00,
217,97,70,47,617.6,6.6,0.5,0.00,
218,97,72,45,513.5,7.2,0.4,0.00,
219,93,70,51,593.8,9.4,0.5,0.35,
220,93,68,54,607.3,6.3,0.5,0.04,
221,92,65,56,509.3,8.5,0.5,0.37,
222,85,64,61,481.4,4.8,0.5,0.03,
223,87,73,60,481.1,6.3,0.5,0.00,
224,94,69,62,518.5,8.0,0.5,0.28,
225,94,70,57,500.4,8.5,0.5,0.00,
226,93,72,57,506.2,7.5,0.5,0.00,
227,92,70,60,639.9,7.3,0.5,0.00,
228,90,68,61,526.3,8.4,0.5,0.60,
229,89,68,61,709.2,6.4,0.4,0.00,
230,82,71,62,706.6,3.9,0.5,0.00,
231,92,66,57,584.0,4.5,0.5,0.00,
232,93,70,55,533.0,6.0,0.4,0.00,
233,84,70,56,692.9,9.2,0.4,0.00,
234,95,66,53,610.9,5.3,0.5,0.00,
235,97,69,51,693.1,5.0,0.4,0.00,
236,99,68,50,619.7,5.3,0.5,0.00,
237,101,72,52,464.6,7.7,0.4,0.00,
238,93,71,57,684.5,8.4,0.4,0.00,
239,94,70,56,681.5,7.4,0.4,0.00,
240,92,69,54,526.0,8.1,0.4,0.00,
241,89,69,57,675.5,9.6,0.4,0.01,
242,91,66,55,672.4,7.3,0.4,0.00,
243,92,67,55,564.2,5.3,0.4,0.04,
244,92,63,55,436.5,4.8,0.4,0.00,
245,96,67,47,580.5,6.9,0.5,0.00,
246,97,67,45,525.9,4.0,0.5,0.00,
247,93,70,55,607.6,8.1,0.4,0.02,
248,91,64,54,612.4,4.6,0.5,0.00,
249,97,71,51,642.5,15.2,0.4,0.00,
250,94,77,44,617.0,18.4,0.4,0.00,
```

```
251,93,76,38,244.9,13.1,0.4,0.00,
252,83,59,46,516.4,1.0,0.4,0.00,
253,85,60,55,586.9,11.9,0.4,0.00,
254,87,66,57,535.2,7.8,0.4,0.00,
255,90,70,57,558.6,7.6,0.4,0.00,
256,82,67,63,528.1,14.2,0.4,0.08,
257,82,67,65,214.4,5.5,0.5,0.04,
258,88,67,63,618.0,7.3,0.4,0.00,
259,92,66,60,551.1,7.0,0.3,0.16,
260,90,64,59,299.3,4.7,0.3,0.00,
261,93,64,53,546.7,6.1,0.3,0.00,
262,94,65,48,562.2,5.6,0.3,0.00,
263,95,70,46,475.6,7.5,0.3,0.00,
264,94,65,48,595.5,7.2,0.4,0.00,
265,91,67,46,591.7,6.2,0.4,0.00,
266,85,64,47,438.1,1.4,0.4,0.00,
267,83,59,46,344.6,8.8,0.3,0.00,
268,82,55,42,580.2,5.8,0.3,0.00,
269,85,52,30,576.3,2.9,0.3,0.00,
270,88,52,25,572.4,3.1,0.3,0.00,
271,89,54,27,544.9,6.9,0.3,0.00,
272,88,57,32,564.6,6.9,0.3,0.00,
273,79,66,40,475.3,14.5,0.3,0.00,
274,69,63,41,258.3,9.3,0.3,0.00,
275,81,59,40,389.0,3.6,0.3,0.00,
276,86,59,44,313.4,7.4,0.3,0.00,
277,85,59,46,452.0,12.1,0.3,0.00,
278,80,55,47,428.5,1.9,0.4,0.00,
279,77,50,45,537.0,4.3,0.3,0.00,
280,83,59,48,455.5,5.3,0.3,0.00,
281,82,63,45,529.1,1.4,0.2,0.00,
282,79,59,43,494.2,12.1,0.2,0.00,
283,81,56,42,282.0,8.8,0.3,0.00,
284,77,48,36,222.5,6.2,0.2,0.00,
285,78,47,26,367.1,17.6,0.2,0.00,
286,75,39,23,448.9,5.1,0.3,0.00,
287,81,44,25,388.6,5.2,0.2,0.00,
288,84,50,30,417.5,1.1,0.3,0.00,
289,75,48,31,312.0,5.3,0.3,0.00,
290,84,47,34,340.2,5.5,0.2,0.00,
291,88,54,27,316.1,9.6,0.3,0.00,
292,84,52,22,335.5,5.5,0.3,0.00,
293,86,46,21,482.6,4.9,0.4,0.00,
294,86,51,26,478.9,5.9,0.4,0.00,
295,84,61,35,475.2,1.9,0.4,0.00,
296,81,53,36,405.5,13.4,0.3,0.00,
297,80,57,31,285.6,1.0,0.3,0.00,
298,81,48,25,425.2,4.5,0.3,0.00,
299,83,50,34,165.4,7.7,0.3,0.00,
300,81,54,49,259.7,7.3,0.3,0.00,
```

```
301,80,63,50,357.3,3.7,0.3,0.00,
302,85,55,46,214.5,4.1,0.3,0.00,
303,85,56,41,380.1,5.0,0.2,0.00,
304,85,60,34,284.4,1.8,0.2,0.00,
305,79,59,39,389.5,9.2,0.3,0.00,
306,79,50,37,377.1,5.4,0.2,0.00,
307,82,58,40,346.2,1.3,0.3,0.00,
308,77,60,48,241.9,11.5,0.2,0.00,
309,72,54,44,419.3,6.9,0.2,0.00,
310,66,49,46,423.6,4.4,0.3,0.02,
311,74,44,44,420.5,4.3,0.4,0.00,
312,69,46,36,417.5,11.2,0.3,0.01,
313,63,47,38,298.6,8.0,0.2,0.00,
314,58,47,46,411.6,6.3,0.3,0.13,
315,72,43,46,363.5,5.0,0.3,0.00,
316,77,44,44,406.0,5.2,0.3,0.00,
317,78,50,37,403.2,7.0,0.4,0.00,
318,67,52,37,400.5,8.0,0.3,0.00,
319,58,47,46,381.4,7.3,0.4,0.24,
320,59,46,47,395.3,5.6,0.4,0.07,
321,65,43,47,268.8,4.9,0.4,0.00,
322,71,43,45,390.4,3.8,0.4,0.00,
323,58,41,40,100.7,9.5,0.3,0.00,
324,58,36,38,358.0,3.7,0.3,0.00,
325,65,35,34,269.1,6.2,0.4,0.00,
326,72,46,28,381.3,12.6,0.4,0.00,
327,64,48,31,379.2,26.3,0.5,0.01,
328,63,39,18,302.6,6.9,0.3,0.00,
329,72,42,30,156.0,17.2,0.4,0.00,
330,59,42,18,217.4,9.6,0.3,0.00,
331,53,32,20,137.2,12.2,0.3,0.00,
332,36,24,20,344.8,1.8,0.3,0.12,
333,43,23,22,73.6,9.1,0.3,0.00,
334,56,27,25,200.7,3.7,0.3,0.00,
335,63,41,28,298.6,4.0,0.3,0.00,
336,65,31,27,290.9,3.4,0.3,0.00,
337,71,35,31,203.2,5.1,0.3,0.00,
338,72,37,29,360.8,11.5,0.3,0.00,
339,57,37,19,359.6,6.8,0.4,0.00,
340,57,31,16,253.1,3.9,0.2,0.00,
341,59,29,14,235.2,4.5,0.3,0.00,
342,52,36,13,356.4,1.3,0.4,0.00,
343,51,24,11,355.5,4.2,0.4,0.00,
344,56,25,21,354.7,6.4,0.4,0.00,
345,53,28,30,354.0,9.2,0.4,0.05,
346,46,34,27,353.3,12.9,0.4,0.00,
347,47,31,21,326.9,7.2,0.4,0.00,
348,48,22,21,263.9,3.6,0.4,0.00,
349,57,27,22,252.8,8.3,0.3,0.00,
350,50,32,29,351.5,7.0,0.4,0.00,
```

```
351,53,24,20,280.4,4.6,0.4,0.00,
352,56,23,21,277.9,4.0,0.5,0.00,
353,58,24,15,350.9,4.8,0.4,0.00,
354,63,30,17,350.9,7.7,0.4,0.00,
355,70,29,16,351.0,14.1,0.4,0.00,
356,54,32,14,320.2,6.8,0.4,0.00,
357,53,28,12,243.5,5.8,0.4,0.00,
358,44,29,23,351.7,9.9,0.4,0.00,
359,48,19,21,352.1,3.5,0.5,0.00,
360,51,19,17,352.6,3.6,0.6,0.00,
361,50,23,14,353.1,3.9,0.5,0.00,
362,60,21,16,353.8,4.2,0.5,0.00,
363,64,41,20,354.5,7.0,0.5,0.00,
364,65,36,23,355.3,9.3,0.4,0.00,
365,48,27,21,316.1,3.7,0.4,0.08,
```

```
1,43,32,28,326.7,5.6,0.5,0.00,
2,39,29,25,338.9,6.3,0.4,0.00,
3,50,23,26,359.7,3.3,0.5,0.00,
4,59,34,26,196.4,12.6,0.4,0.00,
5,52,30,20,279.8,3.5,0.5,0.00,
6,57,25,17,271.0,3.6,0.5,0.00,
7,63,28,19,343.4,3.0,0.4,0.00,
8,64,30,24,306.8,3.5,0.4,0.00,
9,68,33,21,365.6,5.6,0.4,0.00,
10,65,43,24,256.6,12.3,0.4,0.00,
11,53,37,29,263.8,5.9,0.4,0.00,
12,56,27,22,281.7,5.0,0.4,0.00,
13,65,35,18,128.6,8.4,0.4,0.00,
14,62,28,13,356.4,5.5,0.3,0.00,
15,67,34,14,341.5,7.3,0.4,0.00,
16,69,49,16,252.8,15.3,0.4,0.00,
17,67,44,28,174.3,8.0,0.5,0.00,
18,66,40,23,213.1,13.9,0.4,0.00,
19,52,34,3,265.8,8.6,0.4,0.00,
20,60,36,1,390.8,11.8,0.5,0.00,
21,57,23,3,368.3,3.2,0.4,0.00,
22,68,34,11,274.6,12.0,0.4,0.00,
23,65,33,14,332.9,11.2,0.4,0.00,
24,50,35,27,246.7,1.4,0.3,0.00,
25,53,24,16,269.0,2.9,0.3,0.00,
26,59,22,14,391.6,4.6,0.3,0.00,
27,69,32,20,409.5,5.8,0.4,0.00,
28,72,43,23,412.4,11.2,0.4,0.00,
29,56,46,37,415.3,1.2,0.4,0.00,
30,60,36,35,266.4,11.3,0.5,0.00,
31,46,30,15,209.3,12.7,0.5,0.00,
32,50,23,15,318.8,8.6,0.4,0.00,
33,52,36,25,363.9,6.0,0.5,0.14,
34,49,40,42,342.4,6.0,0.4,0.30,
35,45,41,40,273.8,6.4,0.4,0.47,
36,48,37,35,336.6,9.0,0.4,0.31,
37,52,31,24,427.9,3.4,0.5,0.00,
38,57,27,26,444.5,3.1,0.4,0.00,
39,64,30,25,369.0,7.6,0.5,0.00,
40,57,37,7,262.9,15.2,0.4,0.00,
41,51,31,3,251.1,8.9,0.4,0.00,
42,53,23,4,458.7,5.4,0.3,0.00,
43,58,24,10,462.3,2.3,0.3,0.00,
44,52,32,18,383.3,7.4,0.4,0.00,
45,67,30,22,469.7,6.3,0.4,0.00,
46,58,42,20,448.2,7.9,0.4,0.00,
47,63,38,25,298.6,3.6,0.4,0.00,
48,72,46,29,359.6,7.4,0.3,0.00,
49,67,48,29,246.2,2.6,0.4,0.00,
50,60,42,19,321.7,16.1,0.4,0.00,
```

```
51,67,34,21,270.4,1.1,0.4,0.00,
52,58,40,23,496.6,12.7,0.4,0.00,
53,62,28,17,280.6,6.0,0.4,0.00,
54,74,32,16,192.6,5.3,0.4,0.00,
55,76,53,13,101.7,13.6,0.4,0.00,
56,76,47,11,281.6,11.0,0.4,0.00,
57,48,26,7,357.3,1.7,0.5,0.00,
58,54,22,4,444.0,3.0,0.4,0.00,
59,70,37,11,341.4,9.4,0.4,0.00,
60,70,50,20,410.7,2.9,0.4,0.00,
61,54,28,9,438.7,11.5,0.5,0.00,
62,45,20,-1,536.5,5.6,0.4,0.00,
63,55,18,-6,340.6,3.7,0.3,0.00,
64,65,21,-3,544.7,6.1,0.3,0.00,
65,72,40,1,272.8,8.4,0.3,0.00,
66,76,46,8,360.5,11.5,0.3,0.00,
67,73,56,19,556.9,21.9,0.4,0.00,
68,67,40,14,531.3,1.7,0.4,0.00,
69,70,38,17,520.2,5.8,0.5,0.00,
70,72,45,13,448.7,1.7,0.4,0.00,
71,78,36,12,364.7,5.8,0.3,0.00,
72,83,54,17,202.4,16.3,0.3,0.00,
73,76,58,22,581.0,23.7,0.4,0.00,
74,63,47,13,511.3,9.2,0.4,0.00,
75,70,41,15,429.0,14.6,0.3,0.00,
76,65,39,10,134.9,9.9,0.3,0.00,
77,73,44,12,356.2,9.4,0.4,0.00,
78,63,43,16,600.8,6.6,0.4,0.00,
79,68,39,25,383.6,7.3,0.4,0.00,
80,76,36,24,250.9,9.5,0.4,0.00,
81,66,35,28,594.4,6.5,0.3,0.00,
82,83,46,26,616.2,15.7,0.3,0.00,
83,76,57,21,620.0,23.8,0.3,0.00,
84,68,48,14,490.4,7.6,0.3,0.00,
85,73,38,23,535.0,6.0,0.4,0.00,
86,81,42,24,330.3,9.9,0.4,0.00,
87,84,62,23,528.8,1.1,0.3,0.00,
88,76,53,27,638.5,12.1,0.3,0.00,
89,78,49,31,567.9,1.6,0.3,0.00,
90,82,48,37,501.2,4.3,0.2,0.00,
91,86,48,32,403.7,7.3,0.3,0.00,
92,86,55,26,443.4,1.4,0.2,0.00,
93,71,45,30,518.7,9.0,0.3,0.00,
94,83,49,30,616.0,5.8,0.3,0.00,
95,85,54,33,549.7,7.1,0.3,0.00,
96,84,52,32,353.7,11.3,0.4,0.00,
97,68,55,32,451.8,2.0,0.3,0.00,
98,79,57,31,291.3,13.7,0.3,0.00,
99,84,53,34,459.9,6.6,0.3,0.00,
100,89,55,35,561.0,7.1,0.2,0.00,
```

```
101,88,62,28,678.5,1.2,0.3,0.00,
102,89,52,28,539.9,6.9,0.3,0.00,
103,87,64,32,656.1,8.8,0.3,0.00,
104,89,57,36,436.6,6.9,0.3,0.00,
105,87,61,30,453.7,16.8,0.3,0.00,
106,82,62,30,578.7,17.3,0.4,0.00,
107,81,57,27,677.2,1.5,0.3,0.00,
108,83,60,19,439.9,14.3,0.3,0.00,
109,87,60,21,583.4,11.6,0.3,0.00,
110,83,60,16,705.2,15.8,0.2,0.00,
111,76,50,7,703.1,5.8,0.3,0.00,
112,87,44,14,609.7,5.5,0.3,0.00,
113,90,57,21,545.1,9.2,0.3,0.00,
114,91,63,23,718.6,5.0,0.3,0.00,
115,74,56,43,543.5,9.8,0.3,0.00,
116,84,50,39,723.5,15.7,0.3,0.00,
117,83,54,23,725.8,12.7,0.3,0.00,
118,87,54,22,726.0,6.2,0.3,0.00,
119,92,56,27,730.4,9.8,0.3,0.00,
120,92,65,32,502.9,15.0,0.4,0.00,
121,87,67,28,375.0,2.2,0.3,0.00,
122,84,61,19,509.6,17.9,0.4,0.00,
123,79,51,18,544.6,6.3,0.3,0.00,
124,86,49,22,657.9,4.3,0.3,0.00,
125,91,55,29,513.0,11.0,0.4,0.00,
126,91,65,19,743.4,11.2,0.4,0.00,
127,89,60,10,746.7,13.6,0.3,0.00,
128,87,66,11,655.1,13.8,0.2,0.00,
129,88,53,19,750.2,6.8,0.2,0.00,
130,94,59,28,751.9,9.7,0.3,0.00,
131,91,64,20,598.6,15.8,0.2,0.00,
132,87,65,16,755.2,12.7,0.3,0.00,
133,78,58,33,756.8,15.1,0.2,0.00,
134,88,58,42,485.9,9.7,0.3,0.00,
135,93,65,35,717.8,15.0,0.3,0.00,
136,88,71,29,693.8,15.3,0.3,0.00,
137,88,58,38,644.8,1.9,0.4,0.00,
138,86,57,48,589.8,12.9,0.3,0.00,
139,88,62,49,765.2,11.4,0.4,0.00,
140,89,56,44,627.4,6.9,0.3,0.00,
141,95,62,38,721.3,14.0,0.3,0.00,
142,90,58,26,768.8,12.6,0.4,0.00,
143,89,61,19,769.9,15.0,0.3,0.00,
144,88,64,20,709.6,9.2,0.4,0.00,
145,90,58,27,771.9,7.3,0.3,0.00,
146,89,67,41,579.5,9.1,0.3,0.00,
147,89,57,38,690.3,8.4,0.3,0.00,
148,93,59,28,595.1,7.0,0.3,0.00,
149,97,60,29,680.9,3.7,0.3,0.00,
150,102,60,32,776.3,6.4,0.3,0.00,
```

```
151,101,69,41,460.9,7.9,0.3,0.00,
152,100,72,42,777.8,6.1,0.2,0.00,
153,102,67,38,760.3,9.2,0.3,0.00,
154,98,75,31,704.9,14.7,0.4,0.00,
155,92,70,30,623.3,13.3,0.3,0.00,
156,90,65,46,562.5,8.3,0.4,0.00,
157,89,65,55,631.7,9.4,0.4,0.00,
158,90,64,53,454.8,6.2,0.3,0.00,
159,97,68,51,729.1,6.8,0.3,0.00,
160,102,73,40,636.4,1.4,0.3,0.00,
161,98,69,30,508.3,9.3,0.2,0.00,
162,100,71,34,518.5,5.5,0.2,0.00,
163,102,74,51,689.5,7.6,0.2,0.00,
164,104,69,42,783.0,8.6,0.2,0.00,
165,94,70,62,733.6,12.4,0.2,0.18,
166,102,66,52,783.2,1.7,0.3,0.00,
167,100,76,39,670.1,11.6,0.2,0.00,
168,103,73,33,725.4,9.1,0.2,0.00,
169,104,77,28,637.9,1.8,0.3,0.00,
170,103,77,35,653.3,1.7,0.3,0.00,
171,102,79,50,574.5,12.4,0.3,0.00,
172,96,74,58,783.2,13.2,0.3,0.00,
173,100,74,55,783.0,9.3,0.4,0.00,
174,101,74,55,738.6,7.9,0.3,0.00,
175,99,70,52,782.6,5.8,0.3,0.00,
176,103,74,43,782.3,4.7,0.3,0.00,
177,102,71,47,752.6,7.1,0.2,0.04,
178,101,71,51,781.7,7.0,0.3,0.00,
179,98,72,56,781.3,9.3,0.4,0.13,
180,95,66,56,459.7,4.6,0.4,0.00,
181,102,73,54,780.4,6.4,0.4,0.00,
182,102,77,54,779.9,6.2,0.4,0.00,
183,103,71,51,779.4,8.5,0.4,0.00,
184,103,75,52,653.5,7.1,0.4,0.00,
185,96,68,59,717.2,7.9,0.4,0.54,
186,96,64,52,314.9,6.1,0.4,0.00,
187,99,70,55,776.8,6.3,0.4,0.00,
188,84,72,61,597.2,8.2,0.4,0.00,
189,87,69,64,377.8,9.1,0.4,0.02,
190,93,72,58,684.1,7.1,0.4,0.00,
191,95,71,53,760.5,7.3,0.5,0.00,
192,94,71,54,772.7,8.1,0.5,0.00,
193,97,71,57,771.8,1.4,0.4,0.00,
194,95,70,58,770.8,6.4,0.4,0.00,
195,96,70,58,769.8,9.0,0.4,0.01,
196,93,71,58,663.4,6.3,0.5,0.01,
197,90,69,59,767.6,9.1,0.5,0.03,
198,90,68,65,765.0,6.9,0.5,0.01,
199,91,67,65,493.9,9.7,0.4,0.32,
200,86,67,67,636.3,6.8,0.5,0.10,
```

```
201,83,68,68,705.9,6.6,0.5,0.26,
202,88,68,67,553.5,5.7,0.5,0.04,
203,91,70,64,758.7,6.8,0.5,0.00,
204,90,70,61,662.9,8.7,0.5,0.00,
205,94,71,55,688.2,5.6,0.5,0.00,
206,97,74,55,755.7,6.9,0.5,0.00,
207,99,76,56,607.0,8.8,0.5,0.00,
208,96,74,58,276.5,12.6,0.6,0.00,
209,96,73,56,404.9,11.4,0.6,0.00,
210,97,74,54,749.3,11.6,0.5,0.00,
211,93,70,60,495.7,5.8,0.4,0.00,
212,95,71,57,745.9,7.9,0.5,0.00,
213,100,76,57,744.1,11.7,0.6,0.01,
214,88,64,63,720.5,9.0,0.6,0.54,
215,89,69,64,621.6,4.5,0.5,0.00,
216,92,71,61,551.6,5.0,0.5,0.02,
217,93,70,53,617.6,9.0,0.5,0.00,
218,93,69,54,513.5,6.8,0.4,0.00,
219,91,73,58,593.8,5.0,0.5,0.00,
220,94,72,59,607.3,5.9,0.5,0.00,
221,97,73,59,509.3,4.5,0.5,0.00,
222,94,74,61,481.4,8.4,0.5,0.00,
223,91,68,60,481.1,5.3,0.5,0.00,
224,100,72,58,518.5,8.1,0.5,0.00,
225,102,79,56,500.4,9.7,0.5,0.00,
226,99,71,56,506.2,7.5,0.5,0.00,
227,104,79,48,639.9,11.6,0.5,0.00,
228,95,75,51,526.3,1.2,0.5,0.00,
229,96,78,51,709.2,7.8,0.4,0.00,
230,96,75,58,706.6,1.4,0.5,0.00,
231,93,71,61,584.0,7.4,0.5,0.07,
232,95,75,59,533.0,12.5,0.4,0.00,
233,96,75,54,692.9,9.5,0.4,0.00,
234,96,69,56,610.9,6.0,0.5,0.00,
235,99,73,57,693.1,5.8,0.4,0.00,
236,101,72,49,619.7,5.2,0.5,0.00,
237,104,69,44,464.6,5.0,0.4,0.00,
238,103,71,48,684.5,5.7,0.4,0.00,
239,102,72,45,681.5,8.1,0.4,0.00,
240,101,75,48,526.0,7.9,0.4,0.00,
241,93,73,55,675.5,1.3,0.4,0.00,
242,98,73,53,672.4,7.1,0.4,0.00,
243,93,72,57,564.2,7.0,0.4,0.12,
244,91,65,51,436.5,5.0,0.4,0.00,
245,94,68,50,580.5,4.5,0.5,0.00,
246,94,70,51,525.9,7.0,0.5,0.00,
247,94,70,51,607.6,7.7,0.4,0.00,
248,95,70,54,612.4,5.1,0.5,0.00,
249,95,72,54,642.5,7.6,0.4,0.00,
250,93,71,53,617.0,6.6,0.4,0.00,
```

```
251,94,69,56,244.9,6.7,0.4,0.00,
252,92,73,62,516.4,9.1,0.4,0.00,
253,89,71,60,586.9,9.9,0.4,0.00,
254,88,69,61,535.2,11.5,0.4,0.27,
255,89,65,61,558.6,8.0,0.4,0.18,
256,88,64,57,528.1,6.8,0.4,0.01,
257,87,66,53,214.4,11.5,0.5,0.00,
258,81,64,54,618.0,1.5,0.4,0.00,
259,84,62,56,551.1,3.7,0.3,0.00,
260,93,67,55,299.3,1.2,0.3,0.00,
261,92,61,58,546.7,2.1,0.3,0.01,
262,76,60,46,562.2,6.3,0.3,0.01,
263,87,57,42,475.6,6.9,0.3,0.00,
264,91,56,38,595.5,6.9,0.4,0.00,
265,83,63,42,591.7,1.8,0.4,0.00,
266,86,58,44,438.1,7.6,0.4,0.00,
267,85,61,44,344.6,5.5,0.3,0.00,
268,86,56,43,580.2,4.0,0.3,0.00,
269,91,61,38,576.3,4.6,0.3,0.00,
270,94,62,38,572.4,7.4,0.3,0.00,
271,87,63,43,544.9,6.1,0.3,0.00,
272,84,68,50,564.6,9.2,0.3,0.00,
273,86,69,58,475.3,6.4,0.3,0.00,
274,87,71,50,258.3,1.6,0.3,0.00,
275,85,61,46,389.0,9.3,0.3,0.00,
276,80,62,40,313.4,12.3,0.3,0.00,
277,79,47,27,452.0,5.7,0.3,0.00,
278,88,53,38,428.5,6.0,0.4,0.00,
279,89,61,53,537.0,6.4,0.3,0.00,
280,73,59,56,455.5,9.8,0.3,0.06,
281,74,57,51,529.1,5.4,0.2,0.00,
282,82,51,48,494.2,4.4,0.2,0.00,
283,86,55,44,282.0,4.8,0.3,0.00,
284,88,55,43,222.5,6.4,0.2,0.00,
285,85,54,43,367.1,9.5,0.2,0.00,
286,62,47,45,448.9,9.7,0.3,0.14,
287,70,49,49,388.6,4.8,0.2,0.00,
288,77,50,52,417.5,5.5,0.3,0.00,
289,80,58,50,312.0,5.6,0.3,0.03,
290,78,58,49,340.2,6.9,0.2,0.05,
291,65,53,50,316.1,8.4,0.3,0.15,
292,69,49,46,335.5,5.7,0.3,0.00,
293,70,48,47,482.6,3.7,0.4,0.00,
294,69,54,53,478.9,5.0,0.4,0.20,
295,69,50,51,475.2,6.0,0.4,0.00,
296,75,53,53,405.5,6.3,0.3,0.01,
297,75,54,51,285.6,4.5,0.3,0.01,
298,73,47,49,425.2,4.3,0.3,0.00,
299,76,56,54,165.4,6.4,0.3,0.04,
300,66,53,53,259.7,5.3,0.3,0.09,
```

```
301,64,50,47,357.3,9.2,0.3,0.31,
302,68,49,40,214.5,9.2,0.3,0.00,
303,70,43,42,380.1,5.7,0.2,0.00,
304,65,45,47,284.4,4.6,0.2,0.00,
305,58,49,47,389.5,9.2,0.3,0.00,
306,66,48,47,377.1,4.2,0.2,0.00,
307,76,47,46,346.2,7.7,0.3,0.00,
308,56,45,40,241.9,6.4,0.2,0.00,
309,65,40,33,419.3,7.3,0.2,0.00,
310,67,37,23,423.6,4.8,0.3,0.00,
311,71,38,29,420.5,6.0,0.4,0.00,
312,75,50,33,417.5,1.4,0.3,0.00,
313,75,55,35,298.6,14.0,0.2,0.00,
314,71,54,41,411.6,21.4,0.3,0.00,
315,66,39,31,363.5,7.9,0.3,0.00,
316,60,41,30,406.0,8.2,0.3,0.00,
317,66,36,32,403.2,6.0,0.4,0.00,
318,70,45,27,400.5,8.1,0.3,0.00,
319,60,38,24,381.4,13.8,0.4,0.00,
320,57,33,27,395.3,4.3,0.4,0.00,
321,64,30,23,268.8,5.2,0.4,0.00,
322,68,40,16,390.4,8.9,0.4,0.00,
323,66,34,17,100.7,5.2,0.3,0.00,
324,67,38,17,358.0,6.5,0.3,0.00,
325,68,34,17,269.1,4.1,0.4,0.00,
326,70,39,21,381.3,5.3,0.4,0.00,
327,71,32,22,379.2,3.8,0.5,0.00,
328,69,44,19,302.6,8.9,0.3,0.00,
329,54,36,31,156.0,7.5,0.4,0.00,
330,47,38,28,217.4,11.3,0.3,0.00,
331,47,32,25,137.2,4.9,0.3,0.00,
332,53,30,30,344.8,5.7,0.3,0.00,
333,58,42,34,73.6,5.8,0.3,0.00,
334,65,38,36,200.7,5.0,0.3,0.00,
335,67,38,38,298.6,4.1,0.3,0.00,
336,66,45,44,290.9,6.9,0.3,0.38,
337,59,42,46,203.2,9.6,0.3,0.27,
338,53,39,38,360.8,5.8,0.3,0.00,
339,51,34,36,359.6,3.0,0.4,0.00,
340,52,32,37,253.1,3.8,0.2,0.00,
341,56,34,39,235.2,5.5,0.3,0.00,
342,58,41,40,356.4,1.8,0.4,0.26,
343,50,35,35,355.5,3.1,0.4,0.00,
344,52,32,35,354.7,2.4,0.4,0.00,
345,56,32,32,354.0,6.1,0.4,0.00,
346,57,34,25,353.3,5.8,0.4,0.00,
347,58,32,29,326.9,3.2,0.4,0.00,
348,60,31,32,263.9,3.6,0.4,0.00,
349,62,35,30,252.8,3.9,0.3,0.00,
350,66,35,26,351.5,8.7,0.4,0.00,
```

```
351,69,45,29,280.4,2.6,0.4,0.00,
352,49,39,32,277.9,17.3,0.5,0.12,
353,49,35,23,350.9,11.7,0.4,0.00,
354,51,25,22,350.9,3.6,0.4,0.00,
355,54,35,17,351.0,1.5,0.4,0.00,
356,49,32,22,320.2,8.6,0.4,0.19,
357,45,30,36,243.5,5.6,0.4,0.33,
358,43,29,29,351.7,3.9,0.4,0.10,
359,40,25,28,352.1,6.5,0.5,0.00,
360,46,25,26,352.6,3.5,0.6,0.00,
361,50,27,25,353.1,4.1,0.5,0.00,
362,55,25,26,353.8,3.7,0.5,0.00,
363,53,28,28,354.5,6.5,0.5,0.00,
364,54,35,27,355.3,13.6,0.4,0.00,
365,56,25,25,316.1,9.0,0.4,0.00,
```

```
1,56,36,21,326.7,11.5,0.5,0.00,
2,53,26,23,338.9,4.5,0.4,0.00,
3,58,26,23,359.7,4.4,0.5,0.00,
4,63,29,26,196.4,3.1,0.4,0.00,
5,65,28,27,279.8,4.9,0.5,0.00,
6,56,37,33,271.0,13.2,0.5,0.00,
7,59,42,36,343.4,9.2,0.4,0.00,
8,61,39,40,306.8,6.6,0.4,0.00,
9,64,44,36,365.6,9.2,0.4,0.00,
10,62,33,27,256.6,3.8,0.4,0.00,
11,64,38,34,263.8,4.7,0.4,0.00,
12,61,36,33,281.7,6.5,0.4,0.00,
13,61,33,27,128.6,3.8,0.4,0.00,
14,65,30,27,356.4,1.7,0.3,0.00,
15,71,33,24,341.5,7.8,0.4,0.00,
16,55,37,19,252.8,8.0,0.4,0.00,
17,56,26,17,174.3,3.5,0.5,0.00,
18,59,27,20,213.1,5.4,0.4,0.00,
19,67,28,23,265.8,5.0,0.4,0.00,
20,70,37,30,390.8,8.2,0.5,0.00,
21,65,40,34,368.3,1.1,0.4,0.00,
22,65,42,34,274.6,6.0,0.4,0.00,
23,60,34,29,332.9,3.4,0.4,0.00,
24,65,38,30,246.7,4.6,0.3,0.00,
25,68,36,30,269.0,4.8,0.3,0.00,
26,63,38,27,391.6,4.3,0.3,0.00,
27,65,30,24,409.5,4.7,0.4,0.00,
28,73,35,21,412.4,11.2,0.4,0.00,
29,67,36,21,415.3,4.6,0.4,0.00,
30,70,31,23,266.4,5.3,0.5,0.00,
31,67,37,25,209.3,7.1,0.5,0.00,
32,72,32,26,318.8,6.1,0.4,0.00,
33,76,48,34,363.9,18.4,0.5,0.00,
34,59,37,13,342.4,12.2,0.4,0.00,
35,64,32,15,273.8,4.2,0.4,0.00,
36,58,43,28,336.6,16.1,0.4,0.00,
37,56,37,18,427.9,9.6,0.5,0.00,
38,46,29,24,444.5,9.1,0.4,0.00,
39,44,32,35,369.0,5.6,0.5,0.20,
40,54,36,27,262.9,12.8,0.4,0.00,
41,57,28,24,251.1,5.7,0.4,0.00,
42,67,35,29,458.7,4.9,0.3,0.00,
43,66,44,30,462.3,7.2,0.3,0.00,
44,64,49,40,383.3,8.8,0.4,0.02,
45,63,47,42,469.7,15.9,0.4,0.00,
46,60,42,40,448.2,5.5,0.4,0.00,
47,60,37,35,298.6,4.0,0.4,0.00,
48,72,39,34,359.6,6.1,0.3,0.00,
49,74,52,33,246.2,15.9,0.4,0.00,
50,64,49,37,321.7,6.6,0.4,0.04,
```

```
51,56,39,43,270.4,8.9,0.4,0.99,
52,61,40,35,496.6,8.8,0.4,0.03,
53,66,36,26,280.6,17.1,0.4,0.00,
54,61,43,24,192.6,7.5,0.4,0.00,
55,60,34,31,101.7,7.8,0.4,0.01,
56,58,29,27,281.6,5.4,0.4,0.00,
57,57,41,35,357.3,13.4,0.5,0.08,
58,59,43,29,444.0,13.6,0.4,0.00,
59,61,42,30,341.4,8.9,0.4,0.00,
60,59,44,29,410.7,8.2,0.4,0.00,
61,61,36,28,438.7,6.9,0.5,0.04,
62,58,38,34,536.5,6.8,0.4,0.00,
63,67,45,27,340.6,19.6,0.3,0.00,
64,61,43,27,544.7,14.7,0.3,0.00,
65,63,40,23,272.8,1.2,0.3,0.00,
66,68,35,24,360.5,4.1,0.3,0.00,
67,72,39,25,556.9,6.1,0.4,0.00,
68,74,38,22,531.3,4.4,0.4,0.00,
69,77,42,21,520.2,5.8,0.5,0.00,
70,78,41,22,448.7,6.6,0.4,0.00,
71,79,50,24,364.7,9.3,0.3,0.00,
72,79,43,28,202.4,6.5,0.3,0.00,
73,80,55,37,581.0,8.8,0.4,0.00,
74,77,53,33,511.3,6.9,0.4,0.00,
75,75,55,34,429.0,14.9,0.3,0.00,
76,62,42,37,134.9,2.1,0.3,0.05,
77,54,38,32,356.2,21.7,0.4,0.00,
78,61,45,31,600.8,18.1,0.4,0.00,
79,64,43,35,383.6,4.8,0.4,0.00,
80,57,43,35,250.9,7.8,0.4,0.09,
81,69,37,31,594.4,5.5,0.3,0.00,
82,79,41,24,616.2,5.3,0.3,0.00,
83,78,48,21,620.0,13.5,0.3,0.00,
84,72,51,31,490.4,9.9,0.3,0.00,
85,78,41,32,535.0,8.1,0.4,0.00,
86,82,44,27,330.3,18.4,0.4,0.00,
87,49,40,22,528.8,16.4,0.3,0.00,
88,54,37,15,638.5,8.1,0.3,0.00,
89,64,31,19,567.9,4.8,0.3,0.00,
90,78,32,18,501.2,4.3,0.2,0.00,
91,85,44,24,403.7,9.2,0.3,0.00,
92,84,61,39,443.4,17.2,0.2,0.00,
93,76,58,33,518.7,23.9,0.3,0.00,
94,71,49,19,616.0,11.5,0.3,0.00,
95,77,38,16,549.7,14.8,0.3,0.00,
96,69,49,17,353.7,1.8,0.4,0.00,
97,72,44,16,451.8,8.8,0.3,0.00,
98,65,43,27,291.3,1.9,0.3,0.00,
99,71,38,19,459.9,6.8,0.3,0.00,
100,71,44,21,561.0,5.9,0.2,0.00,
```

```
101,83,52,26,678.5,9.9,0.3,0.00,
102,86,48,25,539.9,7.3,0.3,0.00,
103,88,58,31,656.1,1.8,0.3,0.00,
104,86,60,42,436.6,1.1,0.3,0.02,
105,77,55,37,453.7,23.3,0.3,0.00,
106,78,62,18,578.7,8.0,0.4,0.00,
107,87,57,26,677.2,13.0,0.3,0.00,
108,74,52,20,439.9,11.3,0.3,0.00,
109,70,52,23,583.4,14.7,0.3,0.00,
110,76,46,29,705.2,9.2,0.2,0.00,
111,81,53,37,703.1,1.6,0.3,0.00,
112,85,50,34,609.7,13.4,0.3,0.00,
113,74,52,24,545.1,22.5,0.3,0.00,
114,79,55,20,718.6,14.3,0.3,0.00,
115,83,58,23,543.5,11.9,0.3,0.00,
116,85,51,26,723.5,8.3,0.3,0.00,
117,86,53,27,725.8,7.3,0.3,0.00,
118,88,56,27,726.0,9.9,0.3,0.00,
119,87,52,28,730.4,14.0,0.3,0.00,
120,82,65,26,502.9,15.5,0.4,0.00,
121,84,54,24,375.0,1.4,0.3,0.00,
122,88,56,23,509.6,9.4,0.4,0.00,
123,90,64,25,544.6,16.6,0.3,0.00,
124,80,65,22,657.9,19.9,0.3,0.00,
125,82,62,25,513.0,13.5,0.4,0.00,
126,83,59,28,743.4,11.1,0.4,0.00,
127,90,58,27,746.7,16.5,0.3,0.00,
128,84,64,28,655.1,17.2,0.2,0.00,
129,89,59,26,750.2,19.4,0.2,0.00,
130,84,60,26,751.9,11.9,0.3,0.00,
131,85,53,24,598.6,6.3,0.2,0.00,
132,93,57,36,755.2,5.9,0.3,0.00,
133,98,56,33,756.8,8.1,0.2,0.00,
134,94,64,32,485.9,5.6,0.3,0.00,
135,96,66,27,717.8,17.3,0.3,0.00,
136,93,68,31,693.8,8.5,0.3,0.00,
137,99,62,35,644.8,4.6,0.4,0.00,
138,98,62,35,589.8,12.0,0.3,0.00,
139,95,68,36,765.2,8.4,0.4,0.00,
140,72,55,45,627.4,14.9,0.3,0.00,
141,83,53,46,721.3,4.9,0.3,0.00,
142,96,59,45,768.8,4.0,0.4,0.00,
143,99,69,48,769.9,7.0,0.3,0.00,
144,98,69,43,709.6,9.6,0.4,0.00,
145,92,65,38,771.9,9.3,0.3,0.00,
146,86,64,45,579.5,6.6,0.3,0.00,
147,87,62,52,690.3,9.8,0.3,0.00,
148,86,62,50,595.1,1.4,0.3,0.00,
149,91,64,45,680.9,4.6,0.3,0.00,
150,95,69,45,776.3,6.7,0.3,0.00,
```

```
151,98,73,39,460.9,7.8,0.3,0.00,
152,99,69,40,777.8,8.2,0.2,0.00,
153,99,73,43,760.3,7.2,0.3,0.00,
154,101,68,40,704.9,9.5,0.4,0.00,
155,99,70,40,623.3,8.0,0.3,0.00,
156,95,71,46,562.5,1.4,0.4,0.00,
157,87,63,46,631.7,1.9,0.4,0.00,
158,96,62,38,454.8,7.9,0.3,0.00,
159,95,65,49,729.1,1.2,0.3,0.00,
160,94,68,52,636.4,7.2,0.3,0.00,
161,94,61,41,508.3,13.1,0.2,0.00,
162,92,76,36,518.5,16.1,0.2,0.00,
163,93,67,31,689.5,14.1,0.2,0.00,
164,93,71,32,783.0,1.6,0.2,0.00,
165,95,64,44,733.6,5.6,0.2,0.00,
166,95,71,49,783.2,1.2,0.3,0.00,
167,94,67,52,670.1,13.6,0.2,0.06,
168,91,63,54,725.4,9.2,0.2,0.01,
169,90,64,53,637.9,6.4,0.3,0.00,
170,96,69,50,653.3,9.7,0.3,0.00,
171,97,71,46,574.5,11.7,0.3,0.00,
172,96,65,37,783.2,1.4,0.3,0.00,
173,99,69,35,783.0,8.9,0.4,0.00,
174,100,65,36,738.6,8.6,0.3,0.00,
175,99,67,34,782.6,8.7,0.3,0.00,
176,98,67,30,782.3,7.4,0.3,0.00,
177,95,67,50,752.6,12.7,0.2,0.00,
178,95,68,58,781.7,9.4,0.3,0.32,
179,93,64,55,781.3,6.9,0.4,0.10,
180,94,67,53,459.7,7.5,0.4,0.00,
181,92,67,53,780.4,9.4,0.4,0.00,
182,94,70,52,779.9,5.7,0.4,0.00,
183,99,73,50,779.4,5.5,0.4,0.00,
184,102,71,51,653.5,5.6,0.4,0.08,
185,99,67,51,717.2,5.1,0.4,0.00,
186,100,74,50,314.9,7.3,0.4,0.00,
187,99,72,54,776.8,7.1,0.4,0.00,
188,96,71,58,597.2,9.6,0.4,0.00,
189,95,70,60,377.8,8.4,0.4,0.00,
190,100,72,58,684.1,7.0,0.4,0.00,
191,101,76,57,760.5,9.3,0.5,0.00,
192,101,75,48,772.7,8.8,0.5,0.00,
193,100,75,44,771.8,5.1,0.4,0.00,
194,103,74,42,770.8,5.8,0.4,0.00,
195,106,76,42,769.8,8.8,0.4,0.00,
196,103,74,45,663.4,1.3,0.5,0.00,
197,97,72,48,767.6,14.2,0.5,0.00,
198,91,66,62,765.0,13.9,0.5,0.35,
199,92,67,62,493.9,5.0,0.4,0.00,
200,96,71,59,636.3,6.7,0.5,0.00,
```

```
201,99,75,52,705.9,6.2,0.5,0.00,
202,101,74,51,553.5,4.9,0.5,0.00,
203,102,81,50,758.7,9.3,0.5,0.00,
204,102,77,48,662.9,7.9,0.5,0.00,
205,97,73,54,688.2,9.4,0.5,0.00,
206,101,73,52,755.7,7.1,0.5,0.00,
207,95,71,58,607.0,7.0,0.5,0.08,
208,93,68,54,276.5,8.8,0.6,0.00,
209,91,67,54,404.9,5.5,0.6,0.01,
210,87,67,58,749.3,5.1,0.5,0.00,
211,93,68,57,495.7,6.2,0.4,0.00,
212,96,73,59,745.9,8.4,0.5,0.03,
213,96,73,58,744.1,7.3,0.6,0.00,
214,97,72,59,720.5,11.0,0.6,0.31,
215,100,78,56,621.6,10.4,0.5,0.00,
216,102,74,52,551.6,6.7,0.5,0.00,
217,103,74,49,617.6,7.9,0.5,0.00,
218,98,79,51,513.5,9.5,0.4,0.00,
219,99,79,48,593.8,7.6,0.5,0.00,
220,100,78,45,607.3,4.4,0.5,0.00,
221,106,74,45,509.3,6.6,0.5,0.00,
222,99,80,55,481.4,6.8,0.5,0.00,
223,99,79,52,481.1,8.9,0.5,0.00,
224,97,74,50,518.5,7.1,0.5,0.00,
225,85,68,52,500.4,8.8,0.5,0.02,
226,85,65,49,506.2,8.8,0.5,0.11,
227,86,64,53,639.9,8.9,0.5,0.00,
228,90,68,56,526.3,9.3,0.5,0.00,
229,94,70,55,709.2,8.1,0.4,0.00,
230,99,72,54,706.6,6.9,0.5,0.00,
231,98,74,53,584.0,7.6,0.5,0.00,
232,99,72,51,533.0,6.1,0.4,0.00,
233,98,75,52,692.9,7.8,0.4,0.06,
234,95,75,52,610.9,13.1,0.5,0.00,
235,91,71,53,693.1,10.9,0.4,0.00,
236,92,73,56,619.7,8.7,0.5,0.00,
237,91,72,56,464.6,7.4,0.4,0.00,
238,91,70,58,684.5,8.8,0.4,0.00,
239,93,70,58,681.5,9.2,0.4,0.16,
240,95,72,59,526.0,10.6,0.4,0.00,
241,95,71,57,675.5,10.9,0.4,0.00,
242,90,67,60,672.4,10.6,0.4,0.00,
243,86,64,56,564.2,7.7,0.4,0.00,
244,86,64,54,436.5,7.8,0.4,0.00,
245,88,67,50,580.5,6.9,0.5,0.00,
246,90,67,47,525.9,7.5,0.5,0.00,
247,89,67,50,607.6,1.2,0.4,0.00,
248,87,66,52,612.4,4.1,0.5,0.00,
249,94,69,56,642.5,7.3,0.4,0.04,
250,93,64,55,617.0,5.2,0.4,0.00,
```

```
251,93,66,53,244.9,8.2,0.4,0.00,
252,96,72,59,516.4,11.4,0.4,0.03,
253,91,68,56,586.9,15.0,0.4,0.00,
254,88,69,53,535.2,7.9,0.4,0.00,
255,88,63,43,558.6,6.8,0.4,0.00,
256,92,59,39,528.1,7.3,0.4,0.00,
257,84,64,52,214.4,1.9,0.5,0.00,
258,92,60,51,618.0,5.9,0.4,0.00,
259,93,67,46,551.1,7.1,0.3,0.00,
260,95,66,41,299.3,9.2,0.3,0.00,
261,93,64,40,546.7,7.1,0.3,0.00,
262,86,58,49,562.2,7.5,0.3,0.00,
263,89,63,52,475.6,6.5,0.3,0.00,
264,90,63,51,595.5,4.9,0.4,0.00,
265,89,66,48,591.7,8.1,0.4,0.00,
266,85,71,57,438.1,6.3,0.4,0.00,
267,88,64,56,344.6,8.7,0.3,0.01,
268,84,69,55,580.2,5.6,0.3,0.00,
269,91,60,50,576.3,4.0,0.3,0.00,
270,92,61,45,572.4,7.8,0.3,0.00,
271,89,65,53,544.9,8.5,0.3,0.00,
272,92,68,51,564.6,8.4,0.3,0.00,
273,93,64,46,475.3,6.0,0.3,0.00,
274,88,64,50,258.3,7.3,0.3,0.00,
275,88,61,41,389.0,7.3,0.3,0.00,
276,89,62,49,313.4,8.3,0.3,0.18,
277,81,59,56,452.0,5.3,0.3,0.01,
278,88,61,52,428.5,3.9,0.4,0.00,
279,89,58,47,537.0,5.8,0.3,0.00,
280,80,66,56,455.5,9.5,0.3,0.00,
281,76,64,61,529.1,3.7,0.2,0.08,
282,77,62,59,494.2,5.9,0.2,0.00,
283,78,65,60,282.0,6.5,0.3,0.00,
284,84,58,52,222.5,8.9,0.2,0.00,
285,74,59,51,367.1,6.6,0.2,0.04,
286,85,57,51,448.9,9.2,0.3,0.00,
287,76,58,30,388.6,9.3,0.2,0.00,
288,85,51,40,417.5,4.8,0.3,0.00,
289,88,58,42,312.0,5.2,0.3,0.00,
290,84,58,36,340.2,6.2,0.2,0.00,
291,85,53,39,316.1,4.3,0.3,0.00,
292,85,53,38,335.5,4.6,0.3,0.00,
293,88,52,37,482.6,3.7,0.4,0.00,
294,87,53,32,478.9,5.2,0.4,0.00,
295,87,52,26,475.2,6.3,0.4,0.00,
296,84,47,26,405.5,5.7,0.3,0.00,
297,87,52,23,285.6,6.0,0.3,0.00,
298,70,44,30,425.2,12.5,0.3,0.02,
299,56,42,32,165.4,8.5,0.3,0.00,
300,69,33,29,259.7,7.3,0.3,0.00,
```

```
301,77,46,27,357.3,6.5,0.3,0.00,
302,84,60,27,214.5,16.3,0.3,0.00,
303,77,61,32,380.1,15.9,0.2,0.00,
304,78,53,38,284.4,7.6,0.2,0.00,
305,84,51,41,389.5,5.1,0.3,0.00,
306,82,50,36,377.1,8.3,0.2,0.00,
307,79,57,36,346.2,16.3,0.3,0.00,
308,70,44,27,241.9,8.0,0.2,0.00,
309,73,41,17,419.3,4.3,0.2,0.00,
310,76,36,22,423.6,5.0,0.3,0.00,
311,70,43,41,420.5,4.7,0.4,0.00,
312,72,43,40,417.5,4.0,0.3,0.00,
313,70,46,45,298.6,4.3,0.2,0.00,
314,82,50,47,411.6,5.2,0.3,0.00,
315,79,56,43,363.5,7.0,0.3,0.00,
316,75,58,45,406.0,8.1,0.3,0.00,
317,59,45,39,403.2,11.1,0.4,0.13,
318,61,45,51,400.5,4.2,0.3,0.39,
319,67,47,47,381.4,6.3,0.4,0.00,
320,70,44,43,395.3,4.0,0.4,0.00,
321,64,52,32,268.8,14.8,0.4,0.00,
322,61,43,27,390.4,8.3,0.4,0.00,
323,64,38,26,100.7,3.0,0.3,0.00,
324,70,36,29,358.0,7.1,0.3,0.00,
325,74,47,25,269.1,1.6,0.4,0.00,
326,72,49,24,381.3,16.5,0.4,0.00,
327,53,30,4,379.2,12.0,0.5,0.00,
328,53,21,3,302.6,3.3,0.3,0.00,
329,66,34,19,156.0,7.6,0.4,0.00,
330,65,48,25,217.4,12.2,0.3,0.00,
331,54,32,9,137.2,11.8,0.3,0.00,
332,52,26,15,344.8,5.2,0.3,0.00,
333,58,29,15,73.6,5.9,0.3,0.00,
334,66,30,17,200.7,3.7,0.3,0.00,
335,70,38,22,298.6,6.9,0.3,0.00,
336,67,37,31,290.9,5.6,0.3,0.00,
337,65,39,23,203.2,6.9,0.3,0.00,
338,67,37,22,360.8,6.6,0.3,0.00,
339,52,36,27,359.6,9.0,0.4,0.00,
340,56,29,28,253.1,2.7,0.2,0.00,
341,70,32,33,235.2,6.9,0.3,0.00,
342,66,43,37,356.4,17.0,0.4,0.00,
343,54,32,16,355.5,9.3,0.4,0.00,
344,58,26,15,354.7,3.6,0.4,0.00,
345,63,29,21,354.0,7.6,0.4,0.00,
346,54,39,25,353.3,16.4,0.4,0.01,
347,55,28,22,326.9,6.4,0.4,0.00,
348,62,28,19,263.9,6.8,0.4,0.00,
349,57,36,14,252.8,22.5,0.3,0.00,
350,47,24,5,351.5,5.1,0.4,0.00,
```

```
351,52,20,3,280.4,3.9,0.4,0.00,
352,57,22,9,277.9,5.6,0.5,0.00,
353,58,27,11,350.9,5.1,0.4,0.00,
354,62,27,12,350.9,4.6,0.4,0.00,
355,68,29,14,351.0,6.9,0.4,0.00,
356,61,39,26,320.2,12.3,0.4,0.00,
357,55,27,23,243.5,4.6,0.4,0.00,
358,55,31,22,351.7,7.0,0.4,0.00,
359,63,43,28,352.1,11.0,0.5,0.00,
360,72,37,26,352.6,12.6,0.6,0.00,
361,48,38,15,353.1,15.2,0.5,0.00,
362,40,23,0,353.8,8.9,0.5,0.00,
363,46,13,-1,354.5,5.1,0.5,0.00,
364,53,19,-2,355.3,5.8,0.4,0.00,
365,55,31,3,316.1,7.9,0.4,0.00,
```

```
1,62,40,34,326.7,6.8,0.5,0.0,
2,66,31,34,338.9,4.7,0.4,0.0,
3,70,32,27,359.7,12.1,0.5,0.0,
4,55,34,21,196.4,9.4,0.4,0.0,
5,54,27,4,279.8,8.9,0.5,0.0,
6,53,28,15,271.0,6.7,0.5,0.0,
7,60,26,23,343.4,3.7,0.4,0.0,
8,60,36,25,306.8,7.5,0.4,0.0,
9,62,32,18,365.6,8.7,0.4,0.0,
10,63,33,15,256.6,7.9,0.4,0.0,
11,61,36,21,263.8,5.7,0.4,0.0,
12,67,38,34,281.7,4.0,0.4,0.0,
13,66,36,30,128.6,7.0,0.4,0.0,
14,51,45,37,356.4,1.2,0.3,0.2,
15,51,45,46,341.5,7.9,0.4,0.1,
16,56,45,42,252.8,7.9,0.4,0.0,
17,54,40,35,174.3,5.6,0.5,0.0,
18,55,40,34,213.1,6.4,0.4,0.0,
19,57,37,33,265.8,7.8,0.4,0.0,
20,59,36,32,390.8,6.2,0.5,0.0,
21,55,36,32,368.3,6.1,0.4,0.0,
22,57,38,33,274.6,9.0,0.4,0.0,
23,51,35,37,332.9,5.2,0.4,0.0,
24,55,37,34,246.7,11.4,0.3,0.0,
25,53,41,31,269.0,18.1,0.3,0.0,
26,46,32,11,391.6,9.8,0.3,0.0,
27,51,24,8,409.5,4.1,0.4,0.0,
28,56,25,15,412.4,4.8,0.4,0.0,
29,59,38,22,415.3,6.0,0.4,0.0,
30,61,27,21,266.4,6.2,0.5,0.0,
31,61,42,22,209.3,15.5,0.5,0.0,
32,53,35,19,318.8,15.6,0.4,0.0,
33,54,25,5,363.9,5.6,0.5,0.0,
34,59,30,16,342.4,8.2,0.4,0.0,
35,48,36,29,273.8,13.3,0.4,0.0,
36,50,33,24,336.6,13.6,0.4,0.0,
37,49,27,22,427.9,4.8,0.5,0.0,
38,53,24,18,444.5,5.3,0.4,0.0,
39,62,33,15,369.0,9.0,0.5,0.0,
40,59,34,8,262.9,7.9,0.4,0.0,
41,53,30,24,251.1,8.0,0.4,0.0,
42,58,27,25,458.7,6.4,0.3,0.0,
43,46,26,21,462.3,12.6,0.3,0.0,
44,37,24,21,383.3,8.4,0.4,0.0,
45,54,19,14,469.7,5.2,0.4,0.0,
46,63,28,11,448.2,5.8,0.4,0.0,
47,63,31,11,298.6,4.3,0.4,0.0,
48,70,30,9,359.6,4.7,0.3,0.0,
49,75,35,14,246.2,6.5,0.4,0.0,
50,67,49,19,321.7,18.7,0.4,0.0,
```

```
51,63,39,23,270.4,4.5,0.4,0.0,
52,63,45,28,496.6,6.1,0.4,0.0,
53,68,49,24,280.6,8.8,0.4,0.0,
54,56,43,35,192.6,9.6,0.4,0.0,
55,58,38,31,101.7,11.2,0.4,0.0,
56,60,31,25,281.6,5.7,0.4,0.0,
57,67,32,22,357.3,6.3,0.5,0.0,
58,72,36,21,444.0,9.4,0.4,0.0,
59,60,40,29,341.4,12.2,0.4,0.0,
60,53,34,19,410.7,15.8,0.4,0.0,
61,59,35,17,438.7,7.4,0.5,0.0,
62,71,33,21,536.5,9.4,0.4,0.0,
63,66,47,36,340.6,12.7,0.3,0.0,
64,53,41,34,544.7,19.4,0.3,0.0,
65,54,38,32,272.8,15.1,0.3,0.0,
66,65,36,30,360.5,7.3,0.3,0.0,
67,69,38,26,556.9,8.6,0.4,0.0,
68,72,40,22,531.3,4.7,0.4,0.0,
69,74,43,26,520.2,11.0,0.5,0.0,
70,79,44,31,448.7,5.3,0.4,0.0,
71,64,43,38,364.7,13.1,0.3,0.1,
72,49,44,44,202.4,6.5,0.3,0.6,
73,65,38,43,581.0,5.7,0.4,0.0,
74,70,44,44,511.3,5.7,0.4,0.0,
75,77,47,39,429.0,7.9,0.3,0.0,
76,78,47,23,134.9,7.8,0.3,0.0,
77,82,51,24,356.2,9.0,0.4,0.0,
78,82,49,24,600.8,5.3,0.4,0.0,
79,85,49,26,383.6,4.6,0.4,0.0,
80,88,51,27,250.9,9.7,0.4,0.0,
81,68,52,39,594.4,13.3,0.3,0.0,
82,66,52,47,616.2,9.3,0.3,0.0,
83,79,53,46,620.0,6.1,0.3,0.0,
84,85,57,39,490.4,8.1,0.3,0.0,
85,84,60,31,535.0,8.3,0.4,0.0,
86,85,54,26,330.3,12.6,0.4,0.0,
87,80,62,21,528.8,11.5,0.3,0.0,
88,74,53,14,638.5,11.3,0.3,0.0,
89,77,50,20,567.9,11.1,0.3,0.0,
90,78,49,28,501.2,9.2,0.2,0.0,
91,80,54,39,403.7,6.5,0.3,0.0,
92,80,60,40,443.4,9.6,0.2,0.0,
93,74,50,44,518.7,7.2,0.3,0.1,
94,73,49,44,616.0,9.5,0.3,0.1,
95,59,48,46,549.7,13.2,0.3,0.2,
96,53,46,45,353.7,9.1,0.4,0.2,
97,68,46,41,451.8,11.4,0.3,0.0,
98,73,51,41,291.3,6.9,0.3,0.0,
99,77,52,34,459.9,8.8,0.3,0.0,
100,76,51,34,561.0,11.1,0.2,0.0,
```

```
101,65,45,40,678.5,8.3,0.3,0.1,
102,46,39,38,539.9,9.4,0.3,0.5,
103,63,39,35,656.1,5.0,0.3,0.0,
104,72,45,36,436.6,5.7,0.3,0.0,
105,82,53,29,453.7,6.8,0.3,0.0,
106,82,56,29,578.7,8.4,0.4,0.0,
107,85,65,29,677.2,7.2,0.3,0.0,
108,84,58,41,439.9,11.6,0.3,0.0,
109,80,61,35,583.4,7.5,0.3,0.0,
110,83,50,28,705.2,12.0,0.2,0.0,
111,78,61,21,703.1,13.7,0.3,0.0,
112,81,58,18,609.7,13.8,0.3,0.0,
113,85,56,19,545.1,15.3,0.3,0.0,
114,76,54,25,718.6,8.1,0.3,0.0,
115,76,47,30,543.5,5.8,0.3,0.0,
116,81,48,28,723.5,6.9,0.3,0.0,
117,80,55,31,725.8,11.5,0.3,0.0,
118,78,57,37,726.0,1.2,0.3,0.0,
119,83,55,41,730.4,13.9,0.3,0.0,
120,81,61,34,502.9,17.9,0.4,0.0,
121,79,58,27,375.0,16.6,0.3,0.0,
122,72,51,32,509.6,9.6,0.4,0.0,
123,75,48,27,544.6,5.3,0.3,0.0,
124,83,48,24,657.9,4.5,0.3,0.0,
125,89,52,26,513.0,5.0,0.4,0.0,
126,92,61,29,743.4,6.2,0.4,0.0,
127,93,57,34,746.7,6.9,0.3,0.0,
128,92,62,37,655.1,6.4,0.2,0.0,
129,95,63,38,750.2,6.9,0.2,0.0,
130,92,74,40,751.9,11.2,0.3,0.0,
131,93,66,44,598.6,1.9,0.2,0.0,
132,90,66,40,755.2,16.2,0.3,0.0,
133,89,67,34,756.8,18.0,0.2,0.0,
134,84,66,29,485.9,12.5,0.3,0.0,
135,83,55,36,717.8,9.7,0.3,0.0,
136,89,61,49,693.8,1.4,0.3,0.0,
137,93,61,41,644.8,6.9,0.4,0.0,
138,95,63,21,589.8,9.1,0.3,0.0,
139,97,60,24,765.2,7.3,0.4,0.0,
140,100,71,37,627.4,9.8,0.3,0.0,
141,98,67,38,721.3,7.6,0.3,0.0,
142,94,65,36,768.8,12.2,0.4,0.0,
143,91,69,32,769.9,17.3,0.3,0.0,
144,92,68,27,709.6,11.8,0.4,0.0,
145,94,68,32,771.9,16.4,0.3,0.0,
146,92,71,32,579.5,1.2,0.3,0.0,
147,91,70,35,690.3,12.1,0.3,0.0,
148,78,55,48,595.1,9.5,0.3,0.5,
149,89,56,38,680.9,1.4,0.3,0.0,
150,88,68,30,776.3,19.4,0.3,0.0,
```

```
151,89,70,33,460.9,15.5,0.3,0.0,
152,92,65,27,777.8,8.1,0.2,0.0,
153,98,63,25,760.3,6.1,0.3,0.0,
154,102,66,32,704.9,5.7,0.4,0.0,
155,95,72,52,623.3,11.8,0.3,0.0,
156,96,67,50,562.5,6.1,0.4,0.0,
157,101,70,43,631.7,8.8,0.4,0.0,
158,101,72,40,454.8,8.5,0.3,0.0,
159,100,74,40,729.1,13.1,0.3,0.0,
160,97,74,44,636.4,13.6,0.3,0.0,
161,95,70,44,508.3,13.8,0.2,0.0,
162,93,72,36,518.5,15.2,0.2,0.0,
163,91,63,29,689.5,8.8,0.2,0.0,
164,95,61,32,783.0,8.5,0.2,0.0,
165,98,57,27,733.6,7.0,0.2,0.0,
166,102,65,25,783.2,7.6,0.3,0.0,
167,102,77,27,670.1,9.3,0.2,0.0,
168,98,66,32,725.4,9.0,0.2,0.0,
169,97,73,43,637.9,1.2,0.3,0.0,
170,100,71,46,653.3,7.2,0.3,0.0,
171,97,71,54,574.5,9.9,0.3,0.0,
172,97,65,52,783.2,6.3,0.3,0.0,
173,97,68,45,783.0,15.1,0.4,0.0,
174,83,69,52,738.6,1.8,0.3,0.0,
175,88,67,52,782.6,7.6,0.3,0.0,
176,93,68,50,782.3,7.4,0.3,0.0,
177,91,64,50,752.6,7.4,0.2,0.0,
178,93,69,48,781.7,9.2,0.3,0.0,
179,93,69,50,781.3,6.8,0.4,0.0,
180,84,62,57,459.7,9.9,0.4,0.3,
181,84,62,57,780.4,8.1,0.4,0.6,
182,92,66,49,779.9,7.7,0.4,0.0,
183,96,66,42,779.4,4.7,0.4,0.0,
184,99,66,46,653.5,6.0,0.4,0.0,
185,94,72,46,717.2,7.7,0.4,0.0,
186,97,72,41,314.9,9.4,0.4,0.0,
187,99,67,39,776.8,6.9,0.4,0.0,
188,101,73,41,597.2,6.7,0.4,0.0,
189,102,68,44,377.8,8.5,0.4,0.0,
190,101,74,44,684.1,1.9,0.4,0.0,
191,100,76,51,760.5,14.5,0.5,0.0,
192,96,73,56,772.7,9.0,0.5,0.0,
193,94,72,56,771.8,6.3,0.4,0.0,
194,96,73,53,770.8,8.7,0.4,0.0,
195,94,72,56,769.8,9.6,0.4,0.0,
196,96,73,57,663.4,8.0,0.5,0.0,
197,97,75,56,767.6,8.1,0.5,0.0,
198,99,71,49,765.0,6.9,0.5,0.0,
199,98,75,45,493.9,8.5,0.4,0.0,
200,100,73,46,636.3,5.3,0.5,0.0,
```

```
201,100,74,49,705.9,6.1,0.5,0.0,
202,103,79,51,553.5,8.9,0.5,0.0,
203,100,78,55,758.7,8.1,0.5,0.0,
204,95,74,55,662.9,9.3,0.5,0.0,
205,92,69,55,688.2,12.1,0.5,0.1,
206,83,67,61,755.7,12.6,0.5,0.0,
207,81,69,61,607.0,11.6,0.5,0.1,
208,73,63,61,276.5,8.3,0.6,0.1,
209,85,64,63,404.9,5.2,0.6,1.3,
210,91,63,58,749.3,8.6,0.5,0.1,
211,90,65,55,495.7,4.8,0.4,0.0,
212,94,69,54,745.9,5.2,0.5,0.0,
213,94,70,50,744.1,7.7,0.6,0.0,
214,92,72,59,720.5,8.1,0.6,0.2,
215,93,70,63,621.6,6.0,0.5,0.0,
216,94,71,61,551.6,5.8,0.5,0.0,
217,97,72,55,617.6,5.8,0.5,0.0,
218,95,74,56,513.5,9.0,0.4,0.0,
219,98,72,52,593.8,5.3,0.5,0.0,
220,99,76,51,607.3,9.3,0.5,0.1,
221,97,74,57,509.3,7.2,0.5,0.0,
222,93,72,55,481.4,8.7,0.5,0.0,
223,93,70,53,481.1,6.9,0.5,0.0,
224,96,71,54,518.5,7.0,0.5,0.1,
225,94,66,55,500.4,4.7,0.5,0.0,
226,90,60,56,506.2,9.6,0.5,1.4,
227,75,63,61,639.9,5.6,0.5,0.6,
228,78,66,59,526.3,7.7,0.5,0.0,
229,81,63,60,709.2,6.2,0.4,0.6,
230,80,63,59,706.6,4.2,0.5,0.0,
231,87,68,58,584.0,5.1,0.5,0.0,
232,91,66,49,533.0,9.9,0.4,0.0,
233,92,66,48,692.9,7.6,0.4,0.0,
234,92,68,52,610.9,6.0,0.5,0.0,
235,92,68,47,693.1,9.6,0.4,0.0,
236,94,67,43,619.7,9.1,0.5,0.0,
237,85,70,53,464.6,9.7,0.4,0.0,
238,91,63,48,684.5,6.8,0.4,0.0,
239,94,64,44,681.5,8.1,0.4,0.0,
240,96,65,42,526.0,6.3,0.4,0.0,
241,88,67,51,675.5,9.0,0.4,0.0,
242,90,66,57,672.4,6.8,0.4,0.0,
243,89,62,53,564.2,7.5,0.4,0.0,
244,85,62,54,436.5,6.8,0.4,0.0,
245,83,62,55,580.5,7.9,0.5,0.0,
246,85,61,54,525.9,5.0,0.5,0.0,
247,91,63,51,607.6,6.3,0.4,0.0,
248,85,67,56,612.4,8.8,0.5,0.0,
249,86,69,55,642.5,5.9,0.4,0.0,
250,89,66,41,617.0,11.7,0.4,0.0,
```

```
251,85,64,42,244.9,1.8,0.4,0.0,
252,85,62,39,516.4,8.1,0.4,0.0,
253,86,55,36,586.9,5.3,0.4,0.0,
254,87,56,37,535.2,4.1,0.4,0.0,
255,93,57,39,558.6,2.7,0.4,0.0,
256,93,61,44,528.1,5.1,0.4,0.0,
257,97,66,49,214.4,5.8,0.5,0.0,
258,94,71,49,618.0,12.9,0.4,0.0,
259,93,70,43,551.1,7.8,0.3,0.0,
260,96,62,40,299.3,3.3,0.3,0.0,
261,94,67,49,546.7,5.8,0.3,0.0,
262,90,69,52,562.2,6.1,0.3,0.0,
263,80,66,65,475.6,8.7,0.3,0.6,
264,82,63,56,595.5,8.1,0.4,0.0,
265,86,63,53,591.7,6.0,0.4,0.0,
266,83,61,45,438.1,6.5,0.4,0.0,
267,85,61,37,344.6,8.3,0.3,0.0,
268,88,61,51,580.2,7.8,0.3,0.2,
269,68,60,56,576.3,7.9,0.3,0.0,
270,70,59,55,572.4,7.0,0.3,0.1,
271,75,59,54,544.9,3.2,0.3,0.0,
272,72,59,54,564.6,6.0,0.3,0.0,
273,78,56,55,475.3,9.4,0.3,0.1,
274,77,57,55,258.3,5.1,0.3,0.0,
275,81,58,47,389.0,5.8,0.3,0.0,
276,73,60,54,313.4,11.1,0.3,0.0,
277,82,59,59,452.0,5.5,0.3,0.0,
278,85,62,58,428.5,7.5,0.4,0.0,
279,85,64,56,537.0,9.0,0.3,0.0,
280,85,59,53,455.5,5.4,0.3,0.0,
281,81,61,48,529.1,7.0,0.2,0.0,
282,83,57,40,494.2,9.1,0.2,0.0,
283,78,54,44,282.0,6.0,0.3,0.0,
284,79,52,45,222.5,5.7,0.2,0.0,
285,73,55,54,367.1,12.2,0.2,0.1,
286,74,53,53,448.9,4.6,0.3,0.0,
287,78,50,51,388.6,7.9,0.2,0.1,
288,66,49,44,417.5,4.3,0.3,0.0,
289,77,45,41,312.0,8.5,0.3,0.0,
290,84,55,34,340.2,9.4,0.2,0.0,
291,81,61,42,316.1,15.9,0.3,0.0,
292,76,61,37,335.5,11.2,0.3,0.0,
293,79,53,38,482.6,7.1,0.4,0.0,
294,82,56,38,478.9,7.0,0.4,0.0,
295,78,54,41,475.2,9.1,0.4,0.0,
296,71,59,45,405.5,1.8,0.3,0.0,
297,72,49,35,285.6,5.2,0.3,0.0,
298,78,48,46,425.2,7.1,0.3,0.0,
299,65,53,57,165.4,7.1,0.3,0.1,
300,74,51,53,259.7,3.5,0.3,0.0,
```

```
301,77,57,51,357.3,7.2,0.3,0.0,
302,78,52,43,214.5,12.1,0.3,0.0,
303,67,48,38,380.1,12.3,0.2,0.0,
304,69,44,35,284.4,4.1,0.2,0.0,
305,70,57,37,389.5,13.4,0.3,0.0,
306,59,39,35,377.1,14.0,0.2,0.1,
307,53,37,29,346.2,6.2,0.3,0.0,
308,60,33,28,241.9,4.6,0.2,0.0,
309,70,33,28,419.3,6.4,0.2,0.0,
310,70,39,30,423.6,6.2,0.3,0.0,
311,69,43,30,420.5,6.0,0.4,0.0,
312,72,47,32,417.5,5.5,0.3,0.0,
313,78,46,36,298.6,7.6,0.2,0.0,
314,75,51,38,411.6,8.4,0.3,0.0,
315,67,44,30,363.5,5.8,0.3,0.0,
316,61,43,35,406.0,6.9,0.3,0.0,
317,62,40,35,403.2,11.7,0.4,0.0,
318,51,39,40,400.5,9.9,0.3,0.4,
319,45,35,39,381.4,13.7,0.4,0.9,
320,49,42,44,395.3,8.7,0.4,0.5,
321,54,43,47,268.8,7.1,0.4,0.0,
322,61,39,45,390.4,5.9,0.4,0.0,
323,65,42,46,100.7,4.2,0.3,0.0,
324,64,42,43,358.0,5.5,0.3,0.0,
325,64,42,39,269.1,7.8,0.4,0.0,
326,61,42,41,381.3,4.6,0.4,0.0,
327,57,44,48,379.2,8.0,0.5,0.3,
328,48,42,38,302.6,16.8,0.3,0.0,
329,56,34,37,156.0,7.3,0.4,0.0,
330,59,34,37,217.4,5.8,0.3,0.0,
331,63,45,31,137.2,18.4,0.3,0.0,
332,62,37,32,344.8,8.3,0.3,0.0,
333,63,48,34,73.6,16.0,0.3,0.0,
334,52,32,16,200.7,13.1,0.3,0.0,
335,45,27,14,298.6,5.5,0.3,0.0,
336,51,22,17,290.9,4.6,0.3,0.0,
337,54,27,20,203.2,8.3,0.3,0.0,
338,55,31,23,360.8,5.7,0.3,0.0,
339,53,39,33,359.6,4.6,0.4,0.2,
340,54,42,37,253.1,7.8,0.2,0.1,
341,50,38,35,235.2,15.3,0.3,0.1,
342,53,38,33,356.4,6.8,0.4,0.0,
343,58,40,33,355.5,14.8,0.4,0.0,
344,64,43,35,354.7,9.2,0.4,0.0,
345,64,40,33,354.0,7.0,0.4,0.0,
346,64,34,34,353.3,3.6,0.4,0.0,
347,67,35,35,326.9,3.6,0.4,0.0,
348,52,38,25,263.9,1.6,0.4,0.0,
349,50,32,20,252.8,7.0,0.3,0.0,
350,54,27,24,351.5,4.0,0.4,0.0,
```

```
351,54,35,27,280.4,12.4,0.4,0.0,
352,51,31,26,277.9,4.9,0.5,0.0,
353,55,27,22,350.9,4.2,0.4,0.0,
354,57,27,19,350.9,3.8,0.4,0.0,
355,59,28,26,351.0,8.1,0.4,0.0,
356,61,39,32,320.2,1.6,0.4,0.0,
357,51,30,30,243.5,11.8,0.4,0.0,
358,33,25,24,351.7,9.2,0.4,0.0,
359,32,16,15,352.1,4.4,0.5,0.0,
360,45,19,18,352.6,3.3,0.6,0.0,
361,52,22,24,353.1,5.5,0.5,0.0,
362,56,32,28,353.8,6.4,0.5,0.0,
363,59,34,31,354.5,4.0,0.5,0.0,
364,59,43,36,355.3,6.3,0.4,0.0,
365,67,45,44,316.1,9.0,0.4,0.0,
366,65,35,39,300.0,3.0,0.4,0.0,
```

```
1,64,38,38,326.7,4.8,0.5,0.00,
2,56,43,43,338.9,4.9,0.4,0.04,
3,55,40,46,359.7,5.9,0.5,0.05,
4,63,44,46,196.4,1.6,0.4,0.16,
5,51,38,26,279.8,1.8,0.5,0.00,
6,52,28,30,271.0,6.3,0.5,0.00,
7,59,34,24,343.4,4.4,0.4,0.00,
8,67,33,30,306.8,4.2,0.4,0.00,
9,67,32,32,365.6,2.8,0.4,0.00,
10,71,42,30,256.6,5.3,0.4,0.00,
11,74,44,27,263.8,14.4,0.4,0.00,
12,62,40,25,281.7,23.6,0.4,0.00,
13,53,29,20,128.6,4.5,0.4,0.00,
14,54,30,19,356.4,3.0,0.3,0.00,
15,60,33,20,341.5,6.7,0.4,0.00,
16,63,30,24,252.8,4.7,0.4,0.00,
17,63,32,27,174.3,6.3,0.5,0.00,
18,61,33,31,213.1,2.9,0.4,0.00,
19,65,35,30,265.8,5.8,0.4,0.00,
20,63,34,29,390.8,1.5,0.5,0.00,
21,63,44,44,368.3,5.9,0.4,0.07,
22,60,44,35,274.6,11.8,0.4,0.00,
23,51,38,20,332.9,4.2,0.4,0.00,
24,62,41,40,246.7,4.0,0.3,0.00,
25,67,43,35,269.0,8.2,0.3,0.00,
26,51,42,42,391.6,4.6,0.3,0.22,
27,58,47,45,409.5,7.0,0.4,0.12,
28,59,40,34,412.4,8.9,0.4,0.00,
29,63,33,33,415.3,6.0,0.4,0.00,
30,54,38,26,266.4,1.4,0.5,0.00,
31,52,31,28,209.3,9.7,0.5,0.00,
32,44,34,31,318.8,5.5,0.4,0.00,
33,46,30,25,363.9,4.6,0.5,0.00,
34,52,26,23,342.4,8.6,0.4,0.00,
35,53,35,27,273.8,8.1,0.4,0.01,
36,45,39,39,336.6,8.7,0.4,0.97,
37,53,39,39,427.9,11.2,0.5,0.09,
38,59,37,36,444.5,6.3,0.4,0.00,
39,61,36,34,369.0,6.4,0.5,0.00,
40,58,41,31,262.9,9.0,0.4,0.00,
41,53,43,39,251.1,9.9,0.4,0.06,
42,55,44,47,458.7,7.3,0.3,0.20,
43,63,46,45,462.3,12.0,0.3,0.18,
44,62,46,39,383.3,13.5,0.4,0.00,
45,66,40,40,469.7,9.6,0.4,0.00,
46,71,43,39,448.2,5.6,0.4,0.00,
47,69,48,41,298.6,4.3,0.4,0.00,
48,59,48,41,359.6,8.2,0.3,0.00,
49,62,46,44,246.2,3.3,0.4,0.00,
50,72,47,43,321.7,11.2,0.4,0.02,
```

```
51,70,47,38,270.4,1.5,0.4,0.00,
52,67,41,36,496.6,4.6,0.4,0.00,
53,69,49,40,280.6,6.7,0.4,0.02,
54,66,45,45,192.6,7.0,0.4,0.09,
55,52,40,39,101.7,1.3,0.4,0.28,
56,48,40,37,281.6,8.2,0.4,0.00,
57,57,40,38,357.3,6.6,0.5,0.00,
58,57,43,34,444.0,1.1,0.4,0.00,
59,62,33,31,341.4,6.0,0.4,0.00,
60,65,40,29,410.7,9.8,0.4,0.00,
61,66,40,31,438.7,4.4,0.5,0.00,
62,67,45,31,536.5,1.5,0.4,0.00,
63,65,42,31,340.6,5.0,0.3,0.00,
64,67,48,38,544.7,7.4,0.3,0.05,
65,64,45,45,272.8,6.8,0.3,0.01,
66,65,39,34,360.5,5.5,0.3,0.00,
67,71,39,33,556.9,7.9,0.4,0.00,
68,66,44,31,531.3,5.2,0.4,0.00,
69,75,41,31,520.2,4.0,0.5,0.00,
70,70,48,29,448.7,6.6,0.4,0.00,
71,79,44,28,364.7,15.9,0.3,0.00,
72,76,58,31,202.4,2.6,0.3,0.00,
73,73,48,33,581.0,12.8,0.4,0.00,
74,55,34,29,511.3,16.1,0.4,0.02,
75,55,29,14,429.0,4.8,0.3,0.00,
76,67,36,13,134.9,12.7,0.3,0.00,
77,64,47,22,356.2,11.5,0.4,0.00,
78,67,50,33,600.8,14.1,0.4,0.00,
79,71,47,35,383.6,15.7,0.4,0.00,
80,66,48,26,250.9,16.5,0.4,0.00,
81,68,39,22,594.4,6.6,0.3,0.00,
82,77,41,25,616.2,17.0,0.3,0.00,
83,69,50,29,620.0,15.5,0.3,0.00,
84,67,42,28,490.4,12.0,0.3,0.00,
85,60,41,27,535.0,16.7,0.4,0.00,
86,66,33,25,330.3,6.1,0.4,0.00,
87,75,39,24,528.8,9.3,0.3,0.00,
88,68,56,27,638.5,22.6,0.3,0.00,
89,69,43,22,567.9,17.4,0.3,0.00,
90,61,42,16,501.2,13.4,0.2,0.00,
91,62,35,20,403.7,5.9,0.3,0.00,
92,71,33,21,443.4,4.5,0.2,0.00,
93,82,42,27,518.7,8.7,0.3,0.00,
94,82,62,25,616.0,23.5,0.3,0.00,
95,75,51,17,549.7,17.7,0.3,0.00,
96,74,47,21,353.7,7.5,0.4,0.00,
97,78,49,21,451.8,7.1,0.3,0.00,
98,87,58,23,291.3,14.1,0.3,0.00,
99,80,54,26,459.9,22.2,0.3,0.00,
100,66,46,20,561.0,17.9,0.2,0.00,
```

```
101,71,39,19,678.5,11.7,0.3,0.00,
102,76,41,18,539.9,5.6,0.3,0.00,
103,81,48,25,656.1,7.6,0.3,0.00,
104,83,54,34,436.6,7.0,0.3,0.00,
105,85,52,40,453.7,9.0,0.3,0.00,
106,79,58,46,578.7,13.6,0.4,0.00,
107,84,53,45,677.2,6.9,0.3,0.00,
108,86,58,32,439.9,13.1,0.3,0.00,
109,87,59,25,583.4,15.9,0.3,0.00,
110,84,55,22,705.2,11.8,0.2,0.00,
111,82,53,21,703.1,7.4,0.3,0.00,
112,86,51,25,609.7,1.4,0.3,0.00,
113,77,59,34,545.1,12.3,0.3,0.00,
114,77,54,38,718.6,16.4,0.3,0.14,
115,72,54,31,543.5,14.3,0.3,0.00,
116,76,48,29,723.5,9.2,0.3,0.00,
117,82,50,26,725.8,15.0,0.3,0.00,
118,85,62,26,726.0,19.5,0.3,0.00,
119,78,53,28,730.4,16.1,0.3,0.00,
120,76,42,29,502.9,5.3,0.4,0.00,
121,84,52,28,375.0,7.6,0.3,0.00,
122,73,49,38,509.6,11.5,0.4,0.00,
123,75,48,41,544.6,8.1,0.3,0.00,
124,79,47,41,657.9,5.6,0.3,0.00,
125,87,58,48,513.0,9.7,0.4,0.00,
126,87,55,40,743.4,1.9,0.4,0.00,
127,79,63,29,746.7,12.2,0.3,0.00,
128,80,53,27,655.1,1.2,0.2,0.00,
129,86,58,23,750.2,8.8,0.2,0.00,
130,90,53,23,751.9,11.0,0.3,0.00,
131,85,60,29,598.6,1.3,0.2,0.00,
132,85,52,24,755.2,6.1,0.3,0.00,
133,88,51,21,756.8,5.8,0.2,0.00,
134,88,51,41,485.9,1.2,0.3,0.00,
135,82,58,51,717.8,12.6,0.3,0.17,
136,88,52,47,693.8,5.9,0.3,0.00,
137,89,66,33,644.8,17.3,0.4,0.00,
138,88,69,39,589.8,11.9,0.3,0.00,
139,96,61,41,765.2,5.3,0.4,0.00,
140,100,65,44,627.4,5.6,0.3,0.00,
141,101,71,46,721.3,4.3,0.3,0.00,
142,105,70,48,768.8,8.0,0.4,0.00,
143,105,70,43,769.9,6.7,0.3,0.00,
144,101,79,38,709.6,1.8,0.4,0.00,
145,99,76,41,771.9,7.9,0.3,0.00,
146,86,61,56,579.5,12.7,0.3,0.02,
147,72,61,60,690.3,6.4,0.3,0.61,
148,75,60,58,595.1,6.9,0.3,0.10,
149,87,60,52,680.9,8.5,0.3,0.03,
150,90,67,48,776.3,12.8,0.3,0.00,
```

```
151,90,71,35,460.9,13.9,0.3,0.00,
152,93,65,36,777.8,9.5,0.2,0.00,
153,93,67,35,760.3,12.9,0.3,0.00,
154,89,69,35,704.9,17.2,0.4,0.00,
155,89,70,36,623.3,1.6,0.3,0.00,
156,93,63,36,562.5,7.0,0.4,0.00,
157,95,63,40,631.7,9.3,0.4,0.00,
158,94,75,36,454.8,13.0,0.3,0.00,
159,95,61,35,729.1,9.1,0.3,0.00,
160,95,66,31,636.4,12.4,0.3,0.00,
161,92,68,32,508.3,12.5,0.2,0.00,
162,93,67,38,518.5,11.5,0.2,0.00,
163,90,72,43,689.5,13.3,0.2,0.00,
164,96,65,39,783.0,4.9,0.2,0.00,
165,101,64,42,733.6,1.3,0.2,0.00,
166,100,70,50,783.2,7.5,0.3,0.00,
167,103,74,43,670.1,8.1,0.2,0.00,
168,101,73,29,725.4,11.8,0.2,0.00,
169,100,71,25,637.9,8.4,0.3,0.00,
170,102,66,31,653.3,5.7,0.3,0.00,
171,102,73,45,574.5,7.7,0.3,0.00,
172,95,73,48,783.2,11.4,0.3,0.00,
173,95,71,43,783.0,7.3,0.4,0.00,
174,99,71,41,738.6,4.9,0.3,0.00,
175,101,69,38,782.6,5.9,0.3,0.00,
176,100,74,47,782.3,7.1,0.3,0.00,
177,98,78,50,752.6,9.1,0.2,0.00,
178,101,74,51,781.7,6.4,0.3,0.00,
179,104,77,49,781.3,7.8,0.4,0.00,
180,105,79,47,459.7,5.8,0.4,0.00,
181,107,79,46,780.4,7.5,0.4,0.00,
182,107,77,44,779.9,7.1,0.4,0.00,
183,106,76,45,779.4,1.8,0.4,0.00,
184,105,72,35,653.5,11.5,0.4,0.00,
185,103,79,29,717.2,6.3,0.4,0.00,
186,103,71,47,314.9,8.1,0.4,0.00,
187,103,77,47,776.8,8.6,0.4,0.00,
188,105,71,39,597.2,6.5,0.4,0.00,
189,106,76,40,377.8,6.0,0.4,0.00,
190,97,75,49,684.1,7.8,0.4,0.00,
191,102,72,50,760.5,7.7,0.5,0.00,
192,100,68,50,772.7,7.0,0.5,0.00,
193,98,75,52,771.8,8.4,0.4,0.11,
194,98,69,53,770.8,6.9,0.4,0.00,
195,99,73,50,769.8,5.1,0.4,0.00,
196,101,73,51,663.4,6.9,0.5,0.00,
197,97,74,54,767.6,6.3,0.5,0.00,
198,100,75,52,765.0,5.5,0.5,0.00,
199,101,74,52,493.9,7.1,0.4,0.01,
200,101,72,55,636.3,8.5,0.5,0.00,
```

```
201,101,78,57,705.9,1.3,0.5,0.00,
202,94,75,58,553.5,11.6,0.5,0.00,
203,95,75,57,758.7,1.9,0.5,0.00,
204,96,77,54,662.9,7.0,0.5,0.00,
205,100,72,51,688.2,5.0,0.5,0.00,
206,102,73,57,755.7,9.0,0.5,0.00,
207,100,69,62,607.0,8.2,0.5,0.26,
208,81,66,62,276.5,11.6,0.6,0.00,
209,83,62,60,404.9,9.1,0.6,0.00,
210,89,69,62,749.3,7.1,0.5,0.00,
211,89,71,66,495.7,4.4,0.4,0.28,
212,93,69,58,745.9,9.0,0.5,0.00,
213,93,71,54,744.1,8.6,0.6,0.00,
214,93,72,52,720.5,8.5,0.6,0.00,
215,94,71,51,621.6,6.7,0.5,0.00,
216,93,72,58,551.6,1.5,0.5,0.00,
217,86,71,59,617.6,11.5,0.5,0.00,
218,90,67,59,513.5,8.4,0.4,0.00,
219,92,69,61,593.8,5.8,0.5,0.00,
220,94,69,59,607.3,5.2,0.5,0.00,
221,95,70,62,509.3,5.8,0.5,0.07,
222,96,75,59,481.4,6.6,0.5,0.00,
223,98,66,61,481.1,12.1,0.5,0.63,
224,79,64,65,518.5,6.2,0.5,2.26,
225,87,69,63,500.4,9.0,0.5,0.00,
226,79,63,64,506.2,7.5,0.5,0.46,
227,84,66,63,639.9,5.6,0.5,0.00,
228,90,69,62,526.3,4.7,0.5,0.00,
229,90,72,63,709.2,7.9,0.4,0.09,
230,91,70,63,706.6,7.2,0.5,0.11,
231,84,66,64,584.0,6.9,0.5,0.64,
232,83,67,64,533.0,5.8,0.4,0.00,
233,89,68,62,692.9,7.3,0.4,0.00,
234,85,72,63,610.9,5.0,0.5,0.00,
235,89,70,61,693.1,7.8,0.4,0.07,
236,89,67,60,619.7,5.3,0.5,0.00,
237,95,73,63,464.6,3.9,0.4,0.00,
238,98,72,62,684.5,4.7,0.4,0.00,
239,97,73,62,681.5,6.5,0.4,0.00,
240,97,70,58,526.0,8.5,0.4,0.02,
241,89,66,54,675.5,6.0,0.4,0.00,
242,96,65,51,672.4,6.2,0.4,0.00,
243,99,69,49,564.2,6.2,0.4,0.00,
244,96,66,56,436.5,9.3,0.4,0.03,
245,90,67,52,580.5,12.0,0.5,0.00,
246,89,69,54,525.9,6.4,0.5,0.00,
247,86,70,66,607.6,6.4,0.4,0.07,
248,85,68,66,612.4,5.5,0.5,1.10,
249,86,67,66,642.5,6.1,0.4,1.25,
250,85,68,60,617.0,9.3,0.4,0.06,
```

```
251,85,68,52,244.9,5.6,0.4,0.00,
252,87,62,51,516.4,4.3,0.4,0.00,
253,87,67,60,586.9,8.5,0.4,0.24,
254,88,65,62,535.2,5.3,0.4,0.00,
255,90,68,58,558.6,7.2,0.4,0.00,
256,89,67,51,528.1,8.7,0.4,0.00,
257,90,63,42,214.4,11.6,0.5,0.00,
258,87,56,36,618.0,5.3,0.4,0.00,
259,93,57,49,551.1,4.8,0.3,0.00,
260,95,67,57,299.3,8.1,0.3,0.02,
261,94,64,57,546.7,3.2,0.3,0.00,
262,96,70,57,562.2,6.8,0.3,0.00,
263,92,66,54,475.6,9.1,0.3,0.00,
264,92,68,54,595.5,3.1,0.4,0.00,
265,95,67,50,591.7,4.0,0.4,0.00,
266,94,65,50,438.1,6.1,0.4,0.00,
267,95,68,47,344.6,5.7,0.3,0.00,
268,93,64,45,580.2,6.8,0.3,0.00,
269,97,61,45,576.3,6.8,0.3,0.00,
270,95,71,49,572.4,6.5,0.3,0.00,
271,95,65,45,544.9,6.1,0.3,0.00,
272,83,61,48,564.6,1.1,0.3,0.00,
273,89,61,45,475.3,7.9,0.3,0.00,
274,91,55,41,258.3,6.1,0.3,0.00,
275,83,68,51,389.0,7.9,0.3,0.01,
276,91,65,57,313.4,8.2,0.3,0.14,
277,88,64,59,452.0,8.0,0.3,0.00,
278,88,66,55,428.5,7.6,0.4,0.00,
279,67,53,49,537.0,12.5,0.3,0.10,
280,66,49,49,455.5,5.2,0.3,0.00,
281,81,51,54,529.1,6.5,0.2,0.09,
282,77,56,49,494.2,11.5,0.2,0.09,
283,72,50,37,282.0,1.3,0.3,0.00,
284,74,43,36,222.5,4.9,0.2,0.00,
285,78,46,38,367.1,6.5,0.2,0.00,
286,64,53,53,448.9,9.6,0.3,0.32,
287,69,53,54,388.6,6.5,0.2,0.00,
288,70,54,54,417.5,5.0,0.3,0.61,
289,76,53,56,312.0,5.2,0.3,0.00,
290,81,56,53,340.2,6.1,0.2,0.00,
291,85,57,55,316.1,6.8,0.3,0.00,
292,77,60,42,335.5,9.5,0.3,0.00,
293,77,50,37,482.6,4.9,0.4,0.00,
294,81,51,39,478.9,5.3,0.4,0.00,
295,81,53,45,475.2,4.3,0.4,0.00,
296,75,50,43,405.5,11.2,0.3,0.00,
297,65,48,37,285.6,4.1,0.3,0.00,
298,74,44,41,425.2,4.2,0.3,0.00,
299,76,51,36,165.4,7.6,0.3,0.00,
300,76,50,37,259.7,8.1,0.3,0.00,
```

```
301,76,48,47,357.3,5.7,0.3,0.00,
302,76,51,40,214.5,6.9,0.3,0.00,
303,76,50,34,380.1,8.1,0.2,0.00,
304,71,49,24,284.4,9.5,0.2,0.00,
305,71,41,0,389.5,2.8,0.3,0.00,
306,79,42,30,377.1,4.9,0.2,0.00,
307,82,46,31,346.2,5.6,0.3,0.00,
308,80,49,32,241.9,9.1,0.2,0.00,
309,78,55,26,419.3,1.3,0.2,0.00,
310,78,42,28,423.6,4.4,0.3,0.00,
311,81,44,30,420.5,4.9,0.4,0.00,
312,83,47,33,417.5,2.7,0.3,0.00,
313,84,51,31,298.6,6.4,0.2,0.00,
314,80,48,35,411.6,3.5,0.3,0.00,
315,83,55,35,363.5,12.1,0.3,0.00,
316,70,46,29,406.0,8.9,0.3,0.00,
317,71,39,26,403.2,5.0,0.4,0.00,
318,74,37,24,400.5,8.9,0.3,0.00,
319,67,41,24,381.4,11.5,0.4,0.00,
320,58,33,13,395.3,5.2,0.4,0.00,
321,64,35,18,268.8,5.4,0.4,0.00,
322,62,40,20,390.4,8.7,0.4,0.00,
323,62,32,22,100.7,7.9,0.3,0.00,
324,60,32,22,358.0,3.8,0.3,0.00,
325,66,31,19,269.1,4.2,0.4,0.00,
326,69,36,18,381.3,5.6,0.4,0.00,
327,65,31,18,379.2,4.0,0.5,0.00,
328,72,44,23,302.6,5.3,0.3,0.00,
329,72,41,24,156.0,5.4,0.4,0.00,
330,72,44,23,217.4,18.4,0.3,0.00,
331,60,37,9,137.2,25.5,0.3,0.00,
332,50,32,-1,344.8,14.2,0.3,0.00,
333,55,23,1,73.6,2.4,0.3,0.00,
334,69,29,14,200.7,1.0,0.3,0.00,
335,65,31,22,298.6,6.7,0.3,0.00,
336,74,44,18,290.9,1.9,0.3,0.00,
337,74,48,17,203.2,13.8,0.3,0.00,
338,60,41,16,360.8,1.8,0.3,0.00,
339,50,27,-6,359.6,8.7,0.4,0.00,
340,55,22,-3,253.1,6.9,0.2,0.00,
341,49,23,2,235.2,7.4,0.3,0.00,
342,41,13,2,356.4,6.2,0.4,0.00,
343,51,20,4,355.5,5.3,0.4,0.00,
344,59,21,5,354.7,4.3,0.4,0.00,
345,55,34,7,354.0,4.0,0.4,0.00,
346,60,35,10,353.3,3.6,0.4,0.00,
347,63,49,27,326.9,11.5,0.4,0.00,
348,59,36,20,263.9,6.6,0.4,0.00,
349,51,33,3,252.8,1.8,0.3,0.00,
350,56,35,17,351.5,7.8,0.4,0.00,
```

```
351,58,40,20,280.4,8.9,0.4,0.00,
352,63,30,20,277.9,4.5,0.5,0.00,
353,65,34,17,350.9,4.9,0.4,0.00,
354,62,30,19,350.9,3.8,0.4,0.00,
355,63,29,21,351.0,3.3,0.4,0.00,
356,67,29,21,320.2,3.5,0.4,0.00,
357,73,39,21,243.5,7.5,0.4,0.00,
358,64,39,19,351.7,5.9,0.4,0.00,
359,66,28,16,352.1,4.1,0.5,0.00,
360,69,46,21,352.6,1.5,0.6,0.00,
361,67,49,21,353.1,1.0,0.5,0.00,
362,67,39,15,353.8,5.4,0.5,0.00,
363,70,37,23,354.5,9.7,0.5,0.00,
364,64,36,17,355.3,6.1,0.4,0.00,
365,70,43,19,316.1,1.5,0.4,0.00,
```

```
1,67,50,15,326.7,18.5,0.5,0.01
2,70,46,15,338.9,8.2,0.4,0.02
3,72,43,18,359.7,7.4,0.5,0.01
4,69,42,8,196.4,6.9,0.4,0.01
5,59,39,13,279.8,9.2,0.5,0.01
6,61,28,12,271,2.7,0.5,0.01
7,67,27,11,343.4,4.6,0.4,0.00
8,72,48,7,306.8,9.9,0.4,0.02
9,56,32,0,365.6,12.4,0.4,0.00
10,56,20,5,256.6,1.9,0.4,0.01
11,63,20,1,263.8,5,0.4,0.00
12,68,36,5,281.7,11.7,0.4,0.00
13,61,33,10,128.6,6,0.4,0.00
14,59,35,13,356.4,5.5,0.3,0.01
15,70,43,18,341.5,14.8,0.4,0.02
16,51,32,15,252.8,16.3,0.4,0.01
17,53,24,7,174.3,6.7,0.5,0.00
18,62,25,3,213.1,5.8,0.4,0.00
19,71,40,3,265.8,13.9,0.4,0.02
20,53,33,10,390.8,8.5,0.5,0.01
21,58,26,14,368.3,6.9,0.4,0.02
22,59,28,15,274.6,6.3,0.4,0.01
23,57,29,18,332.9,7.6,0.4,0.02
24,63,35,15,246.7,8.5,0.3,0.00
25,63,45,33,269,11,0.3,0.00
26,65,42,34,391.6,5.5,0.3,0.03
27,65,35,25,409.5,8.7,0.4,0.01
28,57,42,11,412.4,13.7,0.4,0.01
29,64,41,14,415.3,17.7,0.4,0.00
30,66,39,20,266.4,6.1,0.5,0.02
31,72,35,19,209.3,10.7,0.5,0.01
32,65,36,24,318.8,12.7,0.4,0.01
33,72,52,21,363.9,15.5,0.5,0.02
34,66,44,15,342.4,10.1,0.4,0.04
35,66,39,8,273.8,7.6,0.4,0.03
36,75,35,7,336.6,14.7,0.4,0.05
37,57,33,4,427.9,6.9,0.5,0.00
38,60,24,1,444.5,4.2,0.4,0.00
39,69,28,-2,369,5.7,0.5,0.01
40,68,41,7,262.9,8.1,0.4,0.00
41,55,39,29,251.1,7.8,0.4,0.03
42,50,29,11,458.7,6.6,0.3,0.02
43,57,20,7,462.3,3.7,0.3,0.01
44,65,24,1,383.3,7.6,0.4,0.02
45,71,34,8,469.7,8.8,0.4,0.02
46,75,54,19,448.2,19.9,0.4,0.02
47,73,49,13,298.6,13.3,0.4,0.02
48,54,37,12,359.6,7.6,0.3,0.00
49,53,40,19,246.2,5.9,0.4,0.01
50,66,39,34,321.7,12.4,0.4,0.03
```

```
51,69,41,29,270.4,10.7,0.4,0.03
52,68,49,19,496.6,12.7,0.4,0.00
53,66,44,17,280.6,8,0.4,0.00
54,58,47,32,192.6,8,0.4,0.01
55,65,43,44,101.7,6,0.4,0.01
56,68,38,33,281.6,6,0.4,0.00
57,68,41,34,357.3,6.7,0.5,0.00
58,76,42,29,444,6.6,0.4,0.00
59,83,48,23,341.4,9.4,0.4,0.01
60,81,50,29,410.7,8.3,0.4,0.00
61,79,53,33,438.7,4.7,0.5,0.02
62,75,52,35,536.5,5.8,0.4,0.03
63,81,55,30,340.6,11.9,0.3,0.01
64,77,45,11,544.7,5.6,0.3,0.00
65,83,45,8,272.8,6.8,0.3,0.00
66,78,57,17,360.5,12.3,0.3,0.00
67,71,46,25,556.9,25.3,0.4,0.01
68,62,42,13,531.3,17.3,0.4,0.00
69,67,51,19,520.2,27.1,0.5,0.00
70,70,45,18,448.7,15,0.4,0.02
71,61,44,19,364.7,19.5,0.3,0.04
72,58,37,5,202.4,7,0.3,0.01
73,71,35,5,581,8.8,0.4,0.01
74,79,45,16,511.3,9.5,0.4,0.00
75,79,45,15,429,6.3,0.3,0.00
76,75,53,21,134.9,5.2,0.3,0.02
77,72,54,30,356.2,10.6,0.4,0.01
78,71,41,23,600.8,16.4,0.4,0.00
79,59,37,20,383.6,20.7,0.4,0.00
80,70,35,18,250.9,7.1,0.4,0.01
81,59,39,17,594.4,10.6,0.3,0.00
82,59,32,23,616.2,9.7,0.3,0.00
83,67,34,18,620,4.7,0.3,0.00
84,78,36,17,490.4,5.7,0.3,0.00
85,78,55,9,535,14.3,0.4,0.01
86,75,58,23,330.3,8,0.4,0.00
87,75,51,36,528.8,7.8,0.3,0.00
88,79,42,28,638.5,14.7,0.3,0.00
89,74,55,29,567.9,13.5,0.3,0.00
90,82,47,22,501.2,5,0.2,0.00
91,80,54,23,403.7,15,0.3,0.01
92,79,54,21,443.4,8.8,0.2,0.00
93,81,50,16,518.7,8.7,0.3,0.00
94,88,53,28,616,6.8,0.3,0.01
95,83,65,30,549.7,14.3,0.3,0.02
96,71,51,11,353.7,21.6,0.4,0.00
97,76,51,12,451.8,11,0.3,0.00
98,77,46,24,291.3,7.4,0.3,0.00
99,87,47,17,459.9,6.9,0.3,0.00
100,82,63,23,561,16.1,0.2,0.01
```

```
101,84,57,36,678.5,10.5,0.3,0.01
102,89,51,24,539.9,3.9,0.3,0.01
103,91,60,34,656.1,5.8,0.3,0.00
104,93,61,23,436.6,10,0.3,0.00
105,86,64,21,453.7,14.3,0.3,0.00
106,84,64,16,578.7,12.8,0.4,0.00
107,87,57,14,677.2,13.6,0.3,0.00
108,85,58,14,439.9,13.1,0.3,0.00
109,85,57,8,583.4,8.5,0.3,0.02
110,83,56,10,705.2,11,0.2,0.00
111,87,52,20,703.1,5.2,0.3,0.00
112,94,61,23,609.7,7.8,0.3,0.00
113,93,62,8,545.1,13.6,0.3,0.02
114,84,61,8,718.6,10.9,0.3,0.01
115,83,51,11,543.5,8,0.3,0.00
116,85,48,30,723.5,6.4,0.3,0.00
117,92,60,25,725.8,10.5,0.3,0.00
118,69,55,22,726,17,0.3,0.01
119,74,46,30,730.4,8.4,0.3,0.01
120,87,52,20,502.9,9,0.4,0.00
121,91,52,18,375,5.1,0.3,0.00
122,95,55,18,509.6,8.4,0.4,0.00
123,91,72,13,544.6,14.3,0.3,0.00
124,88,62,12,657.9,11.5,0.3,0.01
125,88,58,10,513,13.2,0.4,0.00
126,83,62,16,743.4,8.6,0.4,0.00
127,88,62,11,746.7,11.5,0.3,0.00
128,90,65,15,655.1,13.5,0.2,0.02
129,91,65,14,750.2,15.8,0.2,0.01
130,88,63,27,751.9,7.9,0.3,0.01
131,85,58,33,598.6,10.8,0.2,0.01
132,95,62,25,755.2,5.1,0.3,0.02
133,97,69,17,756.8,10.4,0.2,0.00
134,93,63,36,485.9,10.7,0.3,0.02
135,84,60,48,717.8,13,0.3,0.02
136,83,61,44,693.8,5.9,0.3,0.01
137,89,63,33,644.8,4.6,0.4,0.00
138,94,60,31,589.8,6.4,0.3,0.00
139,98,64,34,765.2,7.7,0.4,0.01
140,97,67,32,627.4,8.5,0.3,0.01
141,99,68,26,721.3,7.5,0.3,0.02
142,98,73,28,768.8,11.9,0.4,0.03
143,93,67,23,769.9,9.7,0.3,0.00
144,100,62,19,709.6,6.9,0.4,0.01
145,102,67,21,771.9,7.7,0.3,0.00
146,96,73,19,579.5,12.6,0.3,0.00
147,92,72,28,690.3,16.3,0.3,0.04
148,91,70,26,595.1,13.9,0.3,0.01
149,92,64,26,680.9,7.2,0.3,0.00
150,96,65,20,776.3,6.4,0.3,0.00
```

```
151,95,63,41,460.9,9,0.3,0.01
152,90,60,48,777.8,11.1,0.2,0.02
153,93,67,45,760.3,6.9,0.3,0.03
154,94,68,41,704.9,4.7,0.4,0.02
155,99,70,34,623.3,6,0.3,0.01
156,102,72,32,562.5,6,0.4,0.00
157,101,68,35,631.7,9.5,0.4,0.01
158,99,75,41,454.8,9.6,0.3,0.01
159,97,69,43,729.1,8,0.3,0.01
160,97,72,45,636.4,8.9,0.3,0.00
161,99,67,42,508.3,7.3,0.2,0.03
162,102,68,24,518.5,6.6,0.2,0.00
163,105,70,22,689.5,4.6,0.2,0.03
164,104,72,32,783,6.7,0.2,0.00
165,106,75,31,733.6,8.7,0.2,0.03
166,105,77,31,783.2,14.2,0.3,0.01
167,95,80,25,670.1,16,0.2,0.03
168,97,67,21,725.4,6.6,0.2,0.03
169,102,70,21,637.9,6.5,0.3,0.00
170,102,75,43,653.3,9.1,0.3,0.02
171,103,70,36,574.5,5.9,0.3,0.02
172,103,82,37,783.2,10.3,0.3,0.01
173,99,74,44,783,9.1,0.4,0.00
174,93,70,52,738.6,10.1,0.3,0.01
175,97,70,45,782.6,8.5,0.3,0.00
176,92,72,49,782.3,13.2,0.3,0.03
177,79,62,55,752.6,10.5,0.2,0.03
178,87,63,52,781.7,8.7,0.3,0.07
179,85,66,54,781.3,9.8,0.4,0.14
180,90,67,55,459.7,6.3,0.4,0.09
181,94,67,54,780.4,4.4,0.4,0.09
182,95,71,48,779.9,8,0.4,0.08
183,95,72,47,779.4,7,0.4,0.01
184,98,75,49,653.5,6.3,0.4,0.06
185,97,77,51,717.2,7.8,0.4,0.03
186,94,70,59,314.9,10.2,0.4,0.05
187,89,68,62,776.8,7.7,0.4,0.05
188,87,71,63,597.2,5.4,0.4,0.03
189,91,70,64,377.8,7.8,0.4,0.02
190,95,70,58,684.1,9,0.4,0.06
191,97,72,54,760.5,8.5,0.5,0.07
192,101,76,51,772.7,5.6,0.5,0.06
193,104,79,50,771.8,11.1,0.4,0.02
194,103,79,49,770.8,8.2,0.4,0.09
195,102,73,45,769.8,8.2,0.4,0.04
196,90,68,57,663.4,7.7,0.5,0.09
197,91,67,57,767.6,5.4,0.5,0.05
198,94,73,53,765,5.7,0.5,0.03
199,100,75,50,493.9,7.9,0.4,0.11
200,98,78,47,636.3,11.5,0.5,0.01
```

```
201,99,77,45,705.9,8.8,0.5,0.02
202,100,75,45,553.5,8.3,0.5,0.05
203,95,77,50,758.7,9.5,0.5,0.03
204,94,73,51,662.9,6.4,0.5,0.02
205,98,70,47,688.2,5.5,0.5,0.06
206,99,77,45,755.7,5,0.5,0.06
207,101,75,49,607,7,0.5,0.12
208,95,70,59,276.5,8.3,0.6,0.06
209,87,67,63,404.9,7.1,0.6,0.07
210,85,68,64,749.3,7.9,0.5,0.05
211,85,69,64,495.7,9.2,0.4,0.08
212,76,68,65,745.9,11.6,0.5,0.04
213,71,64,64,744.1,8.2,0.6,0.11
214,87,66,63,720.5,8.1,0.6,0.06
215,84,65,63,621.6,7.5,0.5,0.05
216,83,68,64,551.6,6.9,0.5,0.06
217,86,69,65,617.6,6.4,0.5,0.03
218,88,69,62,513.5,7,0.4,0.04
219,92,71,59,593.8,6.8,0.5,0.03
220,92,75,59,607.3,5.6,0.5,0.03
221,93,74,59,509.3,5.4,0.5,0.03
222,97,73,57,481.4,6.4,0.5,0.03
223,98,73,57,481.1,8.7,0.5,0.06
224,95,73,57,518.5,10.8,0.5,0.16
225,90,69,58,500.4,9.3,0.5,0.09
226,89,73,61,506.2,8.9,0.5,0.12
227,85,68,64,639.9,8.7,0.5,0.05
228,83,66,64,526.3,8.1,0.5,0.07
229,87,65,64,709.2,6.9,0.4,0.09
230,90,70,61,706.6,6,0.5,0.02
231,83,65,63,584,10.7,0.5,0.08
232,87,68,62,533,7,0.4,0.04
233,87,70,63,692.9,8.7,0.4,0.06
234,88,67,62,610.9,10.7,0.5,0.04
235,92,70,57,693.1,4,0.4,0.05
236,93,69,57,619.7,7,0.5,0.02
237,90,71,58,464.6,11.1,0.4,0.00
238,89,69,62,684.5,4.4,0.4,0.04
239,93,70,60,681.5,7,0.4,0.04
240,89,69,60,526,8,0.4,0.03
241,87,69,57,675.5,9.9,0.4,0.05
242,87,68,59,672.4,5.8,0.4,0.03
243,87,66,63,564.2,7.1,0.4,0.03
244,90,65,61,436.5,6.4,0.4,0.06
245,75,64,62,580.5,8.5,0.5,0.02
246,69,61,62,525.9,7.7,0.5,0.05
247,70,62,61,607.6,8.9,0.4,0.05
248,75,63,60,612.4,6.5,0.5,0.08
249,80,61,56,642.5,4.4,0.4,0.08
250,81,61,53,617,6.9,0.4,0.06
```

```
251,80,66,59,244.9,6.9,0.4,0.08
252,85,62,56,516.4,5.1,0.4,0.01
253,87,64,54,586.9,4.8,0.4,0.11
254,88,64,55,535.2,6.6,0.4,0.04
255,84,65,58,558.6,9.3,0.4,0.13
256,83,62,59,528.1,7.9,0.4,0.05
257,81,61,60,214.4,6.3,0.5,0.05
258,84,66,52,618,9.2,0.4,0.04
259,85,60,48,551.1,7.5,0.3,0.05
260,83,57,42,299.3,7.5,0.3,0.10
261,80,58,30,546.7,7.6,0.3,0.07
262,85,52,44,562.2,3.1,0.3,0.06
263,87,61,47,475.6,12.2,0.3,0.03
264,83,69,44,595.5,15.7,0.4,0.03
265,87,64,46,591.7,16.1,0.4,0.03
266,80,60,45,438.1,9.6,0.4,0.04
267,71,59,45,344.6,11,0.3,0.01
268,80,54,47,580.2,5.9,0.3,0.00
269,86,58,52,576.3,5.6,0.3,0.02
270,90,59,45,572.4,5.8,0.3,0.02
271,82,58,45,544.9,7.3,0.3,0.05
272,87,55,42,564.6,5,0.3,0.00
273,87,54,37,475.3,3.7,0.3,0.07
274,90,55,39,258.3,4.9,0.3,0.02
275,89,57,43,389,4.4,0.3,0.00
276,90,58,46,313.4,4.2,0.3,0.03
277,89,60,50,452,8.6,0.3,0.04
278,84,62,52,428.5,11.4,0.4,0.01
279,84,63,48,537,9.2,0.3,0.03
280,83,61,52,455.5,8.2,0.3,0.03
281,77,60,55,529.1,5.3,0.2,0.04
282,68,58,53,494.2,8.1,0.2,0.02
283,75,52,47,282,7.3,0.3,0.00
284,79,51,42,222.5,6,0.2,0.01
285,79,51,41,367.1,3.6,0.2,0.03
286,82,50,42,448.9,4.2,0.3,0.02
287,70,59,55,388.6,7.2,0.2,0.01
288,73,57,51,417.5,7.9,0.3,0.03
289,71,50,39,312,14.6,0.3,0.01
290,78,57,38,340.2,17,0.2,0.02
291,74,52,45,316.1,9.1,0.3,0.01
292,67,46,37,335.5,5.2,0.3,0.04
293,73,40,35,482.6,7.5,0.4,0.01
294,78,47,35,478.9,7,0.4,0.03
295,71,48,39,475.2,5.9,0.4,0.01
296,76,45,42,405.5,5.8,0.3,0.04
297,64,57,53,285.6,5.9,0.3,0.03
298,74,54,51,425.2,8.5,0.3,0.01
299,71,51,33,165.4,10.1,0.3,0.01
300,67,44,28,259.7,7.8,0.3,0.04
```

```
301,71,39,32,357.3,4.2,0.3,0.02
302,74,41,33,214.5,6.2,0.3,0.03
303,75,56,32,380.1,10.6,0.2,0.01
304,73,48,29,284.4,9,0.2,0.01
305,74,44,28,389.5,3.6,0.3,0.00
306,68,41,35,377.1,6.4,0.2,0.00
307,73,43,43,346.2,5,0.3,0.01
308,78,45,38,241.9,5,0.2,0.03
309,74,44,31,419.3,5.7,0.2,0.00
310,73,44,29,423.6,4.6,0.3,0.03
311,75,40,31,420.5,4.1,0.4,0.01
312,81,44,32,417.5,5.5,0.3,0.01
313,79,58,31,298.6,14.1,0.2,0.00
314,75,51,26,411.6,8.7,0.3,0.01
315,71,44,28,363.5,8.3,0.3,0.01
316,73,52,30,406,9.4,0.3,0.02
317,66,44,28,403.2,8.4,0.4,0.02
318,73,50,31,400.5,14.6,0.3,0.04
319,61,38,14,381.4,8.1,0.4,0.02
320,67,34,16,395.3,5.7,0.4,0.00
321,73,38,19,268.8,4.8,0.4,0.01
322,74,37,23,390.4,4.1,0.4,0.00
323,70,48,28,100.7,10.9,0.3,0.01
324,67,40,36,358,5,0.3,0.00
325,69,38,32,269.1,3.5,0.4,0.00
326,71,37,32,381.3,2.9,0.4,0.02
327,72,36,29,379.2,3.4,0.5,0.00
328,72,41,28,302.6,3.5,0.3,0.03
329,71,43,26,156,7.7,0.4,0.01
330,66,48,29,217.4,4.6,0.3,0.00
331,69,48,36,137.2,8.3,0.3,0.04
332,68,46,33,344.8,14.7,0.3,0.01
333,67,34,30,73.6,17.8,0.3,0.02
334,42,26,12,200.7,9.2,0.3,0.03
335,52,19,11,298.6,3.3,0.3,0.02
336,58,25,14,290.9,6,0.3,0.03
337,46,28,19,203.2,6.5,0.3,0.02
338,50,23,16,360.8,4.8,0.3,0.01
339,59,30,17,359.6,4.4,0.4,0.02
340,63,26,12,253.1,4.7,0.2,0.01
341,53,30,18,235.2,9.2,0.3,0.02
342,49,33,26,356.4,7.2,0.4,0.01
343,55,42,35,355.5,6.7,0.4,0.03
344,64,34,32,354.7,10.5,0.4,0.01
345,59,37,23,354,14.9,0.4,0.00
346,58,28,17,353.3,4.3,0.4,0.01
347,60,28,15,326.9,2.5,0.4,0.01
348,64,30,19,263.9,4.4,0.4,0.00
349,66,30,21,252.8,6.8,0.3,0.00
350,71,38,19,351.5,7.3,0.4,0.00
```

```
351,69,43,24,280.4,8.5,0.4,0.01
352,68,35,29,277.9,7.2,0.5,0.02
353,50,38,33,350.9,8.7,0.4,0.00
354,48,33,19,350.9,16.4,0.4,0.01
355,53,35,17,351,10.4,0.4,0.00
356,52,23,18,320.2,4.4,0.4,0.03
357,54,34,27,243.5,9.8,0.4,0.04
358,57,24,25,351.7,9.4,0.4,0.03
359,52,26,18,352.1,5.6,0.5,0.01
360,61,24,14,352.6,4,0.6,0.05
361,69,32,15,353.1,5.9,0.5,0.02
362,55,32,25,353.8,11.6,0.5,0.00
363,50,25,26,354.5,6.1,0.5,0.01
364,46,32,28,355.3,7.8,0.4,0.01
365,54,23,27,316.1,4.7,0.4,0.02
```

```
1,57,27,26,326.7,9.2,0.5,0.00,
2,44,32,31,338.9,5.8,0.4,0.25,
3,52,36,33,359.7,6.6,0.5,0.00,
4,65,33,27,196.4,12.1,0.4,0.00,
5,68,41,25,279.8,9.8,0.5,0.00,
6,49,36,29,271.0,6.2,0.5,0.00,
7,52,30,18,343.4,8.9,0.4,0.00,
8,58,26,16,306.8,3.0,0.4,0.00,
9,59,31,20,365.6,7.1,0.4,0.00,
10,62,29,27,256.6,7.4,0.4,0.00,
11,68,46,41,263.8,8.1,0.4,0.00,
12,66,45,38,281.7,9.9,0.4,0.00,
13,67,40,28,128.6,8.7,0.4,0.00,
14,54,33,13,356.4,1.3,0.3,0.00,
15,43,27,15,341.5,1.1,0.4,0.00,
16,33,28,13,252.8,1.8,0.4,0.00,
17,39,28,22,174.3,4.8,0.5,0.00,
18,46,33,29,213.1,4.9,0.4,0.05,
19,41,33,35,265.8,1.0,0.4,0.76,
20,46,33,30,390.8,13.9,0.5,0.07,
21,50,34,28,368.3,11.7,0.4,0.00,
22,41,29,26,274.6,12.0,0.4,0.02,
23,39,28,28,332.9,4.0,0.4,0.17,
24,50,30,27,246.7,6.3,0.3,0.00,
25,49,31,27,269.0,7.7,0.3,0.00,
26,46,32,33,391.6,1.0,0.3,0.28,
27,56,34,31,409.5,6.8,0.4,0.00,
28,55,31,32,412.4,2.2,0.4,0.00,
29,61,36,32,415.3,5.0,0.4,0.00,
30,45,36,35,266.4,4.8,0.5,0.19,
31,55,35,34,209.3,9.1,0.5,0.02,
32,51,39,30,318.8,16.5,0.4,0.03,
33,50,33,24,363.9,9.2,0.5,0.00,
34,57,24,19,342.4,2.9,0.4,0.00,
35,62,27,20,273.8,3.8,0.4,0.00,
36,65,30,22,336.6,2.6,0.4,0.00,
37,69,32,25,427.9,3.0,0.5,0.00,
38,74,34,25,444.5,4.7,0.4,0.00,
39,73,38,24,369.0,7.5,0.5,0.00,
40,73,42,27,262.9,8.1,0.4,0.00,
41,72,45,32,251.1,5.9,0.4,0.00,
42,69,46,34,458.7,9.3,0.3,0.00,
43,63,47,31,462.3,16.4,0.3,0.00,
44,54,36,34,383.3,8.0,0.4,0.12,
45,50,34,32,469.7,9.3,0.4,0.04,
46,55,32,24,448.2,5.9,0.4,0.00,
47,62,29,22,298.6,6.8,0.4,0.00,
48,63,33,24,359.6,7.8,0.3,0.00,
49,64,36,23,246.2,6.6,0.4,0.00,
50,70,40,27,321.7,13.7,0.4,0.00,
```

```
51,59,46,28,270.4,12.7,0.4,0.00,
52,66,32,25,496.6,4.9,0.4,0.00,
53,69,34,23,280.6,3.7,0.4,0.00,
54,74,43,20,192.6,18.3,0.4,0.00,
55,55,39,9,101.7,19.4,0.4,0.00,
56,64,26,10,281.6,8.2,0.4,0.00,
57,71,49,11,357.3,9.7,0.5,0.00,
58,73,45,14,444.0,13.7,0.4,0.00,
59,71,43,5,341.4,24.6,0.4,0.00,
60,55,36,3,410.7,12.0,0.4,0.00,
61,60,29,5,438.7,12.5,0.5,0.00,
62,49,32,0,536.5,1.3,0.4,0.00,
63,57,23,3,340.6,5.0,0.3,0.00,
64,61,27,7,544.7,6.5,0.3,0.00,
65,73,35,8,272.8,6.2,0.3,0.00,
66,77,42,17,360.5,6.4,0.3,0.00,
67,80,50,23,556.9,6.8,0.4,0.00,
68,77,46,26,531.3,5.2,0.4,0.00,
69,82,49,21,520.2,6.0,0.5,0.00,
70,73,48,26,448.7,8.9,0.4,0.00,
71,65,43,37,364.7,5.7,0.3,0.00,
72,80,45,30,202.4,12.1,0.3,0.00,
73,85,65,19,581.0,15.4,0.4,0.00,
74,85,46,21,511.3,5.2,0.4,0.00,
75,75,51,41,429.0,7.1,0.3,0.00,
76,84,43,31,134.9,3.2,0.3,0.00,
77,87,60,22,356.2,12.5,0.4,0.00,
78,83,58,17,600.8,1.9,0.4,0.00,
79,83,46,17,383.6,1.7,0.4,0.00,
80,78,54,28,250.9,1.1,0.4,0.00,
81,75,56,39,594.4,8.1,0.3,0.01,
82,76,50,39,616.2,14.5,0.3,0.01,
83,69,43,28,620.0,9.4,0.3,0.00,
84,77,47,37,490.4,9.6,0.3,0.00,
85,79,47,36,535.0,8.3,0.4,0.00,
86,81,56,28,330.3,12.4,0.4,0.00,
87,71,50,18,528.8,13.0,0.3,0.00,
88,64,38,10,638.5,6.2,0.3,0.00,
89,67,44,17,567.9,13.1,0.3,0.00,
90,71,37,23,501.2,6.4,0.2,0.00,
91,80,46,18,403.7,5.4,0.3,0.00,
92,85,43,16,443.4,7.8,0.2,0.00,
93,85,52,17,518.7,5.3,0.3,0.00,
94,85,54,35,616.0,6.5,0.3,0.00,
95,87,53,34,549.7,5.4,0.3,0.00,
96,74,45,41,353.7,12.6,0.4,0.00,
97,49,36,31,451.8,11.1,0.3,0.00,
98,75,33,33,291.3,7.5,0.3,0.00,
99,78,58,35,459.9,16.1,0.3,0.00,
100,78,58,33,561.0,22.4,0.2,0.00,
```

```
101,80,49,24,678.5,14.8,0.3,0.00,
102,82,60,22,539.9,17.3,0.3,0.00,
103,64,47,30,656.1,19.3,0.3,0.00,
104,66,38,25,436.6,5.5,0.3,0.00,
105,82,42,19,453.7,11.3,0.3,0.00,
106,81,50,15,578.7,11.1,0.4,0.00,
107,73,49,16,677.2,12.3,0.3,0.00,
108,81,45,22,439.9,9.0,0.3,0.00,
109,83,56,18,583.4,1.3,0.3,0.00,
110,86,48,16,705.2,8.4,0.2,0.00,
111,82,57,16,703.1,17.4,0.3,0.00,
112,76,42,21,609.7,8.7,0.3,0.00,
113,87,57,20,545.1,16.7,0.3,0.00,
114,73,53,23,718.6,19.8,0.3,0.00,
115,80,53,24,543.5,8.5,0.3,0.00,
116,86,50,21,723.5,5.7,0.3,0.00,
117,88,51,27,725.8,8.3,0.3,0.00,
118,81,57,48,726.0,13.7,0.3,0.23,
119,70,56,51,730.4,7.6,0.3,0.06,
120,86,54,47,502.9,1.1,0.4,0.02,
121,88,59,43,375.0,7.4,0.3,0.01,
122,77,54,47,509.6,7.5,0.4,0.03,
123,87,48,35,544.6,1.6,0.3,0.00,
124,90,65,25,657.9,17.4,0.3,0.00,
125,86,63,25,513.0,2.0,0.4,0.00,
126,73,54,22,743.4,1.4,0.4,0.00,
127,81,47,27,746.7,11.9,0.3,0.04,
128,72,52,49,655.1,12.0,0.2,0.47,
129,78,55,46,750.2,7.0,0.2,0.00,
130,87,54,42,751.9,4.9,0.3,0.00,
131,88,60,42,598.6,7.4,0.2,0.00,
132,86,63,41,755.2,7.6,0.3,0.00,
133,88,62,41,756.8,5.1,0.2,0.00,
134,92,65,44,485.9,5.2,0.3,0.00,
135,88,59,49,717.8,14.7,0.3,0.36,
136,73,58,55,693.8,1.4,0.3,0.39,
137,78,59,53,644.8,7.6,0.4,0.00,
138,83,59,51,589.8,6.2,0.3,0.00,
139,84,64,52,765.2,8.8,0.4,0.00,
140,90,61,48,627.4,8.4,0.3,0.00,
141,88,62,33,721.3,12.1,0.3,0.00,
142,87,63,25,768.8,14.4,0.4,0.00,
143,88,67,28,769.9,9.7,0.3,0.00,
144,87,60,39,709.6,12.7,0.4,0.00,
145,81,61,50,771.9,12.9,0.3,0.00,
146,86,59,45,579.5,5.9,0.3,0.00,
147,91,64,42,690.3,8.1,0.3,0.00,
148,93,62,36,595.1,7.1,0.3,0.00,
149,91,62,24,680.9,13.6,0.3,0.00,
150,92,70,20,776.3,9.7,0.3,0.00,
```

```
151,95,62,27,460.9,7.0,0.3,0.00,
152,94,67,20,777.8,1.9,0.2,0.00,
153,95,67,26,760.3,5.6,0.3,0.00,
154,93,69,41,704.9,7.7,0.4,0.00,
155,95,61,41,623.3,6.1,0.3,0.03,
156,98,65,39,562.5,6.4,0.4,0.00,
157,95,77,28,631.7,21.6,0.4,0.00,
158,91,67,29,454.8,15.5,0.3,0.00,
159,90,58,39,729.1,11.5,0.3,0.15,
160,92,65,54,636.4,7.8,0.3,0.00,
161,90,63,52,508.3,7.1,0.2,0.00,
162,89,61,53,518.5,11.3,0.2,0.11,
163,86,59,47,689.5,9.9,0.2,0.00,
164,93,61,38,783.0,7.6,0.2,0.00,
165,95,68,40,733.6,6.1,0.2,0.00,
166,101,69,36,783.2,7.8,0.3,0.00,
167,95,74,53,670.1,6.3,0.2,0.00,
168,96,69,42,725.4,7.6,0.2,0.00,
169,99,73,27,637.9,12.7,0.3,0.00,
170,100,67,28,653.3,6.5,0.3,0.00,
171,96,67,47,574.5,6.8,0.3,0.05,
172,95,62,47,783.2,3.8,0.3,0.00,
173,100,70,44,783.0,6.7,0.4,0.00,
174,101,71,43,738.6,8.1,0.3,0.00,
175,99,72,45,782.6,6.8,0.3,0.00,
176,102,69,46,782.3,6.6,0.3,0.00,
177,106,77,29,752.6,8.4,0.2,0.00,
178,99,71,48,781.7,5.3,0.3,0.08,
179,94,69,51,781.3,7.5,0.4,0.00,
180,95,71,51,459.7,5.2,0.4,0.09,
181,100,67,46,780.4,6.0,0.4,0.00,
182,101,74,45,779.9,6.6,0.4,0.00,
183,101,72,45,779.4,5.8,0.4,0.00,
184,103,73,46,653.5,5.8,0.4,0.00,
185,96,72,54,717.2,13.1,0.4,0.00,
186,89,69,53,314.9,9.4,0.4,0.00,
187,88,67,57,776.8,8.8,0.4,0.10,
188,91,67,54,597.2,4.7,0.4,0.00,
189,101,73,51,377.8,8.6,0.4,0.00,
190,100,76,51,684.1,8.2,0.4,0.00,
191,100,77,51,760.5,8.0,0.5,0.00,
192,91,72,60,772.7,1.9,0.5,0.00,
193,90,69,61,771.8,8.1,0.4,0.01,
194,96,69,59,770.8,6.7,0.4,0.81,
195,90,67,62,769.8,6.5,0.4,0.27,
196,95,70,56,663.4,4.4,0.5,0.00,
197,98,71,52,767.6,5.6,0.5,0.00,
198,98,75,50,765.0,7.4,0.5,0.00,
199,96,74,48,493.9,8.0,0.4,0.00,
200,96,71,53,636.3,9.1,0.5,0.00,
```

```
201,92,69,60,705.9,7.5,0.5,0.18,
202,88,70,61,553.5,7.6,0.5,0.01,
203,87,70,61,758.7,1.0,0.5,0.00,
204,91,72,58,662.9,7.4,0.5,0.00,
205,94,70,56,688.2,5.7,0.5,0.00,
206,92,71,55,755.7,5.9,0.5,0.00,
207,94,70,55,607.0,4.8,0.5,0.00,
208,93,72,54,276.5,7.3,0.6,0.00,
209,93,70,58,404.9,8.0,0.6,0.05,
210,88,67,60,749.3,4.7,0.5,0.19,
211,80,67,64,495.7,5.6,0.4,0.46,
212,87,70,64,745.9,3.6,0.5,0.00,
213,84,72,65,744.1,6.2,0.6,0.00,
214,88,70,64,720.5,6.6,0.6,0.00,
215,85,71,64,621.6,6.4,0.5,0.01,
216,88,69,62,551.6,6.5,0.5,0.00,
217,93,71,61,617.6,8.7,0.5,0.00,
218,91,69,60,513.5,1.2,0.4,0.08,
219,92,70,58,593.8,8.4,0.5,0.00,
220,95,72,59,607.3,5.0,0.5,0.22,
221,97,75,58,509.3,1.3,0.5,0.00,
222,96,70,54,481.4,5.8,0.5,0.00,
223,99,73,53,481.1,6.0,0.5,0.00,
224,98,75,51,518.5,8.5,0.5,0.00,
225,95,72,52,500.4,9.8,0.5,0.00,
226,95,72,51,506.2,8.9,0.5,0.00,
227,94,73,50,639.9,6.0,0.5,0.00,
228,95,72,48,526.3,7.7,0.5,0.00,
229,94,74,55,709.2,7.4,0.4,0.00,
230,98,72,56,706.6,5.4,0.5,0.00,
231,102,77,53,584.0,8.6,0.5,0.00,
232,103,78,56,533.0,9.8,0.4,0.00,
233,104,77,57,692.9,7.7,0.4,0.00,
234,96,74,59,610.9,1.3,0.5,0.00,
235,97,70,56,693.1,7.5,0.4,0.00,
236,97,74,56,619.7,8.5,0.5,0.00,
237,93,71,57,464.6,7.7,0.4,0.00,
238,94,69,54,684.5,7.2,0.4,0.00,
239,93,72,57,681.5,5.6,0.4,0.00,
240,95,72,56,526.0,5.7,0.4,0.00,
241,94,71,51,675.5,8.5,0.4,0.00,
242,91,71,54,672.4,11.3,0.4,0.00,
243,91,73,58,564.2,7.4,0.4,0.26,
244,90,70,54,436.5,7.4,0.4,0.00,
245,89,66,49,580.5,1.2,0.5,0.00,
246,90,64,45,525.9,6.5,0.5,0.00,
247,91,67,49,607.6,5.0,0.4,0.00,
248,92,68,51,612.4,6.7,0.5,0.00,
249,86,70,58,642.5,8.2,0.4,0.00,
250,90,67,59,617.0,4.1,0.4,0.00,
```

```
251,98,71,54,244.9,6.7,0.4,0.00,
252,86,66,60,516.4,9.2,0.4,0.18,
253,88,65,62,586.9,5.8,0.4,1.30,
254,78,63,57,535.2,8.9,0.4,0.00,
255,86,62,57,558.6,3.1,0.4,0.00,
256,94,64,53,528.1,5.7,0.4,0.00,
257,95,67,48,214.4,7.0,0.5,0.00,
258,89,68,53,618.0,7.0,0.4,0.00,
259,90,69,53,551.1,5.2,0.3,0.00,
260,87,71,54,299.3,13.7,0.3,0.00,
261,89,70,52,546.7,9.4,0.3,0.00,
262,91,64,52,562.2,6.6,0.3,0.00,
263,87,68,57,475.6,8.9,0.3,0.01,
264,88,63,52,595.5,5.9,0.4,0.00,
265,90,61,50,591.7,5.4,0.4,0.01,
266,88,67,59,438.1,8.0,0.4,0.03,
267,85,65,55,344.6,8.3,0.3,0.00,
268,87,61,50,580.2,5.3,0.3,0.00,
269,89,67,54,576.3,5.2,0.3,0.00,
270,91,63,50,572.4,6.0,0.3,0.00,
271,90,69,56,544.9,11.3,0.3,0.18,
272,87,63,56,564.6,7.8,0.3,0.00,
273,90,63,52,475.3,5.3,0.3,0.00,
274,86,69,60,258.3,6.0,0.3,0.08,
275,88,66,58,389.0,4.7,0.3,0.00,
276,90,65,50,313.4,8.7,0.3,0.00,
277,91,68,54,452.0,8.4,0.3,0.01,
278,91,65,53,428.5,8.4,0.4,0.00,
279,89,72,45,537.0,12.5,0.3,0.00,
280,82,59,34,455.5,7.9,0.3,0.00,
281,83,53,20,529.1,1.3,0.2,0.00,
282,85,59,45,494.2,9.1,0.2,0.00,
283,88,62,55,282.0,4.9,0.3,0.00,
284,91,61,47,222.5,5.3,0.2,0.00,
285,91,61,42,367.1,8.1,0.2,0.00,
286,87,61,24,448.9,13.0,0.3,0.00,
287,77,56,30,388.6,8.7,0.2,0.00,
288,79,47,28,417.5,5.0,0.3,0.00,
289,81,49,28,312.0,1.4,0.3,0.00,
290,78,61,27,340.2,19.8,0.2,0.00,
291,78,54,27,316.1,1.6,0.3,0.00,
292,81,46,22,335.5,6.0,0.3,0.00,
293,88,46,26,482.6,7.2,0.4,0.00,
294,83,48,21,478.9,17.2,0.4,0.00,
295,61,41,16,475.2,6.9,0.4,0.00,
296,70,35,14,405.5,2.5,0.3,0.00,
297,78,45,25,285.6,4.6,0.3,0.00,
298,79,45,28,425.2,4.5,0.3,0.00,
299,82,41,23,165.4,4.4,0.3,0.00,
300,81,44,25,259.7,7.3,0.3,0.00,
```

```
301,76,52,32,357.3,5.8,0.3,0.00,
302,77,41,27,214.5,4.8,0.3,0.00,
303,81,43,21,380.1,4.5,0.2,0.00,
304,80,48,24,284.4,6.4,0.2,0.00,
305,73,45,32,389.5,5.2,0.3,0.00,
306,80,46,28,377.1,5.6,0.2,0.00,
307,77,50,30,346.2,6.8,0.3,0.00,
308,78,50,35,241.9,5.2,0.2,0.00,
309,81,46,31,419.3,4.4,0.2,0.00,
310,67,51,26,423.6,7.9,0.3,0.00,
311,76,42,31,420.5,3.3,0.4,0.00,
312,80,44,32,417.5,2.6,0.3,0.00,
313,81,46,28,298.6,3.2,0.2,0.00,
314,78,45,27,411.6,5.3,0.3,0.00,
315,77,45,29,363.5,5.3,0.3,0.00,
316,73,46,32,406.0,4.1,0.3,0.00,
317,78,53,33,403.2,5.5,0.4,0.00,
318,80,46,28,400.5,6.9,0.3,0.00,
319,60,42,14,381.4,7.3,0.4,0.00,
320,61,41,28,395.3,7.4,0.4,0.01,
321,71,39,36,268.8,3.1,0.4,0.00,
322,76,37,29,390.4,2.6,0.4,0.00,
323,77,37,26,100.7,4.4,0.3,0.00,
324,79,44,24,358.0,7.8,0.3,0.00,
325,76,49,27,269.1,9.6,0.4,0.00,
326,49,34,30,381.3,9.2,0.4,0.18,
327,54,31,27,379.2,7.0,0.5,0.00,
328,40,30,30,302.6,8.7,0.3,0.68,
329,46,31,30,156.0,7.9,0.4,0.00,
330,48,31,32,217.4,4.4,0.3,0.00,
331,58,33,34,137.2,5.4,0.3,0.00,
332,67,39,38,344.8,7.1,0.3,0.00,
333,61,42,38,73.6,2.2,0.3,0.00,
334,63,49,51,200.7,3.2,0.3,0.20,
335,67,56,45,298.6,18.5,0.3,0.07,
336,60,42,34,290.9,1.1,0.3,0.00,
337,61,36,29,203.2,5.8,0.3,0.00,
338,67,36,30,360.8,3.6,0.3,0.00,
339,71,38,30,359.6,3.3,0.4,0.00,
340,72,45,36,253.1,15.3,0.2,0.00,
341,71,55,42,235.2,18.0,0.3,0.00,
342,70,46,37,356.4,12.9,0.4,0.00,
343,65,46,36,355.5,7.8,0.4,0.00,
344,52,45,43,354.7,6.4,0.4,0.39,
345,52,39,33,354.0,7.9,0.4,0.00,
346,54,36,33,353.3,4.4,0.4,0.00,
347,53,32,29,326.9,5.6,0.4,0.00,
348,56,33,24,263.9,13.8,0.4,0.00,
349,46,28,10,252.8,6.8,0.3,0.00,
350,50,23,13,351.5,2.5,0.4,0.00,
```

```
351,57,28,18,280.4,5.9,0.4,0.00,
352,63,29,21,277.9,5.3,0.5,0.00,
353,63,30,19,350.9,9.9,0.4,0.00,
354,61,33,22,350.9,9.2,0.4,0.00,
355,66,37,22,351.0,16.9,0.4,0.00,
356,45,31,12,320.2,11.2,0.4,0.00,
357,50,21,13,243.5,4.7,0.4,0.00,
358,52,26,14,351.7,4.7,0.4,0.00,
359,62,30,15,352.1,13.8,0.5,0.00,
360,46,23,10,352.6,5.8,0.6,0.00,
361,45,26,7,353.1,17.3,0.5,0.00,
362,42,22,3,353.8,6.2,0.5,0.00,
363,50,23,11,354.5,3.9,0.5,0.00,
364,56,27,19,355.3,11.6,0.4,0.00,
365,64,37,19,316.1,9.8,0.4,0.00,
```

```
1,48,27,3,326.7,9.6,0.5,0.00,
2,49,31,5,338.9,9.6,0.4,0.00,
3,51,28,13,359.7,4.5,0.5,0.00,
4,62,32,25,196.4,5.7,0.4,0.00,
5,68,41,33,279.8,9.7,0.5,0.00,
6,69,51,32,271.0,19.0,0.5,0.00,
7,66,46,31,343.4,16.9,0.4,0.00,
8,57,38,24,306.8,8.2,0.4,0.00,
9,63,29,23,365.6,7.8,0.4,0.00,
10,57,37,17,256.6,7.2,0.4,0.00,
11,60,30,18,263.8,6.0,0.4,0.00,
12,55,32,11,281.7,7.8,0.4,0.00,
13,55,31,10,128.6,11.5,0.4,0.00,
14,55,35,13,356.4,11.4,0.3,0.00,
15,54,31,15,341.5,8.7,0.4,0.00,
16,57,35,12,252.8,8.6,0.4,0.00,
17,42,26,10,174.3,6.9,0.5,0.00,
18,48,20,3,213.1,6.5,0.4,0.00,
19,46,25,3,265.8,6.5,0.4,0.00,
20,56,18,6,390.8,4.5,0.5,0.00,
21,60,30,12,368.3,8.0,0.4,0.00,
22,55,32,12,274.6,1.0,0.4,0.00,
23,60,34,15,332.9,4.5,0.4,0.00,
24,48,41,32,246.7,5.2,0.3,0.05,
25,59,38,36,269.0,4.4,0.3,0.00,
26,59,35,29,391.6,5.2,0.3,0.00,
27,64,42,29,409.5,4.6,0.4,0.00,
28,62,51,39,412.4,19.1,0.4,0.09,
29,57,43,26,415.3,14.1,0.4,0.00,
30,63,39,20,266.4,19.5,0.5,0.00,
31,46,25,-2,209.3,9.5,0.5,0.00,
32,59,21,1,318.8,5.4,0.4,0.00,
33,65,31,16,363.9,11.8,0.5,0.00,
34,70,40,18,342.4,17.4,0.4,0.00,
35,71,40,22,273.8,18.3,0.4,0.00,
36,49,35,17,336.6,16.9,0.4,0.00,
37,54,22,9,427.9,7.5,0.5,0.00,
38,61,34,16,444.5,9.5,0.4,0.00,
39,71,46,16,369.0,11.3,0.5,0.00,
40,67,39,10,262.9,6.0,0.4,0.00,
41,72,35,12,251.1,6.3,0.4,0.00,
42,73,33,12,458.7,9.8,0.3,0.00,
43,65,38,17,462.3,4.9,0.3,0.00,
44,72,33,16,383.3,7.4,0.4,0.00,
45,74,46,12,469.7,12.7,0.4,0.00,
46,62,38,21,448.2,9.0,0.4,0.00,
47,54,37,30,298.6,16.7,0.4,0.00,
48,63,40,26,359.6,13.5,0.3,0.00,
49,62,31,20,246.2,4.6,0.4,0.00,
50,71,35,20,321.7,5.6,0.4,0.00,
```

```
51,70,47,22,270.4,15.3,0.4,0.00,
52,63,50,25,496.6,16.1,0.4,0.00,
53,65,45,25,280.6,1.6,0.4,0.00,
54,70,54,23,192.6,19.3,0.4,0.00,
55,76,40,21,101.7,7.3,0.4,0.05,
56,75,50,18,281.6,17.1,0.4,0.00,
57,62,41,18,357.3,8.2,0.5,0.00,
58,67,32,16,444.0,3.6,0.4,0.00,
59,79,37,9,341.4,6.6,0.4,0.09,
60,78,48,17,410.7,7.6,0.4,0.00,
61,80,45,22,438.7,7.6,0.5,0.00,
62,72,40,20,536.5,18.5,0.4,0.00,
63,52,36,11,340.6,9.7,0.3,0.00,
64,64,38,6,544.7,1.8,0.3,0.00,
65,69,49,7,272.8,14.0,0.3,0.00,
66,58,34,15,360.5,11.6,0.3,0.00,
67,56,27,9,556.9,6.4,0.4,0.00,
68,65,32,1,531.3,7.0,0.4,0.00,
69,64,33,15,520.2,8.7,0.5,0.00,
70,65,36,15,448.7,4.6,0.4,0.00,
71,71,36,10,364.7,5.1,0.3,0.00,
72,77,36,10,202.4,8.7,0.3,0.00,
73,77,53,19,581.0,19.1,0.4,0.00,
74,81,55,15,511.3,19.1,0.4,0.00,
75,80,44,13,429.0,14.6,0.3,0.00,
76,81,49,17,134.9,2.5,0.3,0.00,
77,59,44,12,356.2,12.0,0.4,0.00,
78,66,42,13,600.8,11.0,0.4,0.00,
79,70,34,14,383.6,4.3,0.4,0.00,
80,81,44,10,250.9,8.4,0.4,0.00,
81,79,56,9,594.4,7.0,0.3,0.00,
82,79,42,3,616.2,4.8,0.3,0.00,
83,59,39,31,620.0,12.9,0.3,0.00,
84,70,35,33,490.4,4.0,0.3,0.00,
85,83,43,18,535.0,11.9,0.4,0.00,
86,82,55,6,330.3,11.5,0.4,0.00,
87,82,55,11,528.8,15.2,0.3,0.00,
88,81,50,19,638.5,8.5,0.3,0.00,
89,82,47,20,567.9,12.3,0.3,0.00,
90,84,57,17,501.2,15.5,0.2,0.00,
91,79,57,20,403.7,14.4,0.3,0.00,
92,78,46,19,443.4,7.2,0.2,0.00,
93,82,51,20,518.7,9.0,0.3,0.00,
94,78,55,11,616.0,12.5,0.3,0.00,
95,70,43,22,549.7,5.8,0.3,0.00,
96,81,45,15,353.7,1.8,0.4,0.00,
97,78,59,13,451.8,11.5,0.3,0.00,
98,82,58,20,291.3,16.6,0.3,0.00,
99,80,53,19,459.9,7.9,0.3,0.00,
100,81,55,21,561.0,2.6,0.2,0.00,
```

```
101,70,49,13,678.5,24.8,0.3,0.00,
102,71,41,3,539.9,8.5,0.3,0.00,
103,65,43,6,656.1,7.1,0.3,0.00,
104,72,38,12,436.6,8.7,0.3,0.00,
105,83,45,18,453.7,5.1,0.3,0.00,
106,91,54,13,578.7,13.7,0.4,0.00,
107,86,64,3,677.2,19.4,0.3,0.00,
108,67,47,5,439.9,15.1,0.3,0.00,
109,77,40,10,583.4,4.4,0.3,0.00,
110,87,47,5,705.2,7.9,0.2,0.00,
111,84,68,7,703.1,18.5,0.3,0.00,
112,84,48,6,609.7,9.2,0.3,0.00,
113,87,47,3,545.1,5.0,0.3,0.00,
114,87,62,3,718.6,13.0,0.3,0.00,
115,87,58,13,543.5,13.6,0.3,0.00,
116,80,55,-1,723.5,9.1,0.3,0.00,
117,86,43,-4,725.8,8.4,0.3,0.00,
118,69,51,15,726.0,15.0,0.3,0.00,
119,77,42,10,730.4,4.6,0.3,0.00,
120,88,48,3,502.9,8.2,0.4,0.00,
121,89,68,12,375.0,23.4,0.3,0.00,
122,85,64,15,509.6,23.9,0.4,0.00,
123,81,50,0,544.6,13.5,0.3,0.00,
124,79,49,12,657.9,8.7,0.3,0.00,
125,85,58,32,513.0,6.2,0.4,0.00,
126,91,62,35,743.4,6.6,0.4,0.00,
127,89,61,21,746.7,15.0,0.3,0.00,
128,83,57,25,655.1,19.3,0.2,0.00,
129,88,62,20,750.2,14.1,0.2,0.00,
130,87,62,16,751.9,12.1,0.3,0.00,
131,88,63,7,598.6,11.8,0.2,0.00,
132,84,57,20,755.2,8.8,0.3,0.00,
133,93,62,8,756.8,18.0,0.2,0.00,
134,91,62,8,485.9,16.8,0.3,0.00,
135,76,60,26,717.8,9.0,0.3,0.00,
136,77,54,32,693.8,11.1,0.3,0.00,
137,62,51,47,644.8,8.4,0.4,0.03,
138,81,46,42,589.8,8.6,0.3,0.00,
139,87,52,35,765.2,6.6,0.4,0.00,
140,96,61,28,627.4,8.1,0.3,0.00,
141,100,62,26,721.3,6.6,0.3,0.00,
142,99,76,26,768.8,2.6,0.4,0.00,
143,87,67,30,769.9,22.5,0.3,0.00,
144,82,62,33,709.6,13.3,0.4,0.00,
145,89,57,30,771.9,9.3,0.3,0.00,
146,93,62,23,579.5,9.7,0.3,0.00,
147,93,67,18,690.3,14.0,0.3,0.00,
148,93,61,20,595.1,5.1,0.3,0.00,
149,96,63,46,680.9,11.6,0.3,0.00,
150,97,69,36,776.3,8.1,0.3,0.00,
```

```
151,98,64,16,460.9,7.2,0.3,0.00,
152,100,62,16,777.8,7.0,0.2,0.00,
153,103,62,14,760.3,6.2,0.3,0.00,
154,101,70,19,704.9,11.8,0.4,0.00,
155,99,74,22,623.3,13.8,0.3,0.00,
156,99,73,20,562.5,2.8,0.4,0.00,
157,88,72,23,631.7,22.6,0.4,0.00,
158,92,62,24,454.8,6.7,0.3,0.00,
159,101,65,32,729.1,9.8,0.3,0.00,
160,98,75,29,636.4,11.9,0.3,0.00,
161,98,67,26,508.3,6.7,0.2,0.00,
162,104,75,41,518.5,8.9,0.2,0.00,
163,101,77,27,689.5,13.9,0.2,0.00,
164,97,78,30,783.0,1.4,0.2,0.00,
165,99,70,17,733.6,8.2,0.2,0.00,
166,103,65,26,783.2,5.3,0.3,0.00,
167,105,74,30,670.1,8.3,0.2,0.00,
168,106,74,28,725.4,9.2,0.2,0.00,
169,106,78,38,637.9,7.4,0.3,0.00,
170,103,75,41,653.3,6.5,0.3,0.00,
171,104,79,20,574.5,13.0,0.3,0.00,
172,95,73,48,783.2,12.6,0.3,0.00,
173,95,73,48,783.0,12.7,0.4,0.00,
174,96,67,45,738.6,5.9,0.3,0.00,
175,100,75,42,782.6,9.1,0.3,0.00,
176,101,76,42,782.3,9.6,0.3,0.01,
177,99,75,42,752.6,1.1,0.2,0.00,
178,99,78,43,781.7,11.7,0.3,0.00,
179,96,77,45,781.3,9.3,0.4,0.00,
180,100,73,43,459.7,1.0,0.4,0.00,
181,81,67,54,780.4,1.9,0.4,0.02,
182,83,66,57,779.9,9.6,0.4,0.45,
183,90,65,57,779.4,4.4,0.4,0.00,
184,94,72,57,653.5,6.8,0.4,0.00,
185,94,70,54,717.2,1.6,0.4,0.00,
186,93,71,55,314.9,8.5,0.4,0.00,
187,95,72,53,776.8,6.3,0.4,0.00,
188,97,75,54,597.2,1.0,0.4,0.00,
189,95,68,59,377.8,9.5,0.4,0.48,
190,84,68,63,684.1,1.5,0.4,0.01,
191,78,67,66,760.5,7.2,0.5,0.98,
192,82,67,65,772.7,11.8,0.5,0.17,
193,88,68,61,771.8,7.6,0.4,0.00,
194,92,71,60,770.8,9.9,0.4,0.00,
195,88,68,61,769.8,9.2,0.4,0.10,
196,89,66,60,663.4,7.8,0.5,0.37,
197,92,70,59,767.6,1.3,0.5,0.00,
198,97,76,58,765.0,9.4,0.5,0.00,
199,93,71,62,493.9,6.4,0.4,0.04,
200,93,73,62,636.3,6.1,0.5,0.01,
```

```
201,86,70,62,705.9,5.1,0.5,0.25,
202,90,67,58,553.5,6.6,0.5,0.00,
203,93,71,58,758.7,6.2,0.5,0.00,
204,95,72,58,662.9,6.4,0.5,0.00,
205,95,72,58,688.2,6.4,0.5,0.00,
206,94,72,55,755.7,5.9,0.5,0.02,
207,90,71,60,607.0,9.5,0.5,0.01,
208,76,68,67,276.5,13.8,0.6,1.77,
209,81,68,65,404.9,9.6,0.6,0.13,
210,89,70,61,749.3,12.2,0.5,0.00,
211,96,72,54,495.7,5.8,0.4,0.00,
212,97,74,54,745.9,7.5,0.5,0.00,
213,96,71,55,744.1,4.8,0.6,0.00,
214,98,72,49,720.5,7.0,0.6,0.00,
215,94,69,53,621.6,7.2,0.5,0.01,
216,93,72,56,551.6,7.3,0.5,0.00,
217,90,70,62,617.6,6.1,0.5,0.09,
218,93,71,56,513.5,5.4,0.4,0.00,
219,96,73,51,593.8,5.6,0.5,0.00,
220,95,73,56,607.3,6.9,0.5,0.25,
221,88,67,61,509.3,6.5,0.5,0.03,
222,92,71,61,481.4,8.4,0.5,0.00,
223,93,74,61,481.1,7.1,0.5,0.00,
224,94,71,62,518.5,5.7,0.5,0.06,
225,95,70,60,500.4,7.7,0.5,0.33,
226,93,68,59,506.2,4.6,0.5,0.00,
227,94,69,60,639.9,8.6,0.5,0.29,
228,89,67,61,526.3,8.2,0.5,0.07,
229,81,66,62,709.2,7.1,0.4,0.29,
230,86,64,61,706.6,5.9,0.5,0.02,
231,91,66,57,584.0,6.4,0.5,0.00,
232,89,70,58,533.0,6.0,0.4,0.00,
233,91,69,55,692.9,7.4,0.4,0.00,
234,90,67,57,610.9,8.0,0.5,0.00,
235,92,68,56,693.1,8.0,0.4,0.00,
236,90,70,56,619.7,7.5,0.5,0.00,
237,85,69,58,464.6,8.6,0.4,0.00,
238,88,69,54,684.5,8.0,0.4,0.00,
239,89,67,58,681.5,6.7,0.4,0.32,
240,80,66,62,526.0,5.8,0.4,0.00,
241,89,65,62,675.5,3.6,0.4,0.26,
242,83,67,59,672.4,12.9,0.4,0.00,
243,79,66,62,564.2,8.7,0.4,0.38,
244,79,64,63,436.5,9.1,0.4,0.21,
245,87,63,60,580.5,5.8,0.5,0.00,
246,91,65,60,525.9,7.9,0.5,0.04,
247,81,65,59,607.6,5.0,0.4,0.02,
248,88,64,56,612.4,2.9,0.5,0.00,
249,91,65,52,642.5,4.5,0.4,0.00,
250,92,67,51,617.0,4.7,0.4,0.00,
```

```
251,88,61,59,244.9,11.3,0.4,1.22,
252,83,63,60,516.4,4.9,0.4,0.03,
253,79,65,59,586.9,8.9,0.4,0.00,
254,80,64,60,535.2,4.0,0.4,0.00,
255,72,66,62,558.6,6.3,0.4,0.21,
256,82,64,59,528.1,5.7,0.4,0.00,
257,85,64,56,214.4,5.7,0.5,0.00,
258,73,59,51,618.0,1.4,0.4,0.00,
259,71,57,50,551.1,8.8,0.3,0.00,
260,77,53,47,299.3,8.1,0.3,0.00,
261,79,57,46,546.7,7.1,0.3,0.00,
262,80,56,48,562.2,3.7,0.3,0.00,
263,85,58,49,475.6,4.6,0.3,0.00,
264,87,59,49,595.5,4.4,0.4,0.00,
265,86,62,49,591.7,4.2,0.4,0.00,
266,86,61,47,438.1,5.3,0.4,0.00,
267,88,62,47,344.6,5.4,0.3,0.00,
268,87,59,47,580.2,9.4,0.3,0.00,
269,83,60,49,576.3,9.2,0.3,0.00,
270,83,59,46,572.4,4.4,0.3,0.00,
271,83,58,43,544.9,6.7,0.3,0.00,
272,83,55,41,564.6,8.8,0.3,0.00,
273,82,54,40,475.3,8.2,0.3,0.00,
274,82,55,37,258.3,6.9,0.3,0.00,
275,84,53,34,389.0,5.1,0.3,0.00,
276,84,50,31,313.4,4.1,0.3,0.00,
277,87,53,35,452.0,4.7,0.3,0.00,
278,87,64,42,428.5,11.3,0.4,0.00,
279,78,59,48,537.0,11.0,0.3,0.01,
280,77,56,38,455.5,9.5,0.3,0.00,
281,78,51,41,529.1,7.3,0.2,0.00,
282,82,51,37,494.2,3.2,0.2,0.00,
283,88,51,40,282.0,7.4,0.3,0.00,
284,88,62,47,222.5,9.7,0.2,0.02,
285,85,66,56,367.1,6.4,0.2,0.01,
286,85,63,53,448.9,8.7,0.3,0.06,
287,80,53,42,388.6,4.9,0.2,0.00,
288,68,52,51,417.5,12.3,0.3,0.05,
289,74,47,41,312.0,7.3,0.3,0.00,
290,75,46,43,340.2,4.4,0.2,0.00,
291,80,46,41,316.1,5.6,0.3,0.00,
292,80,47,37,335.5,3.6,0.3,0.00,
293,84,50,41,482.6,3.2,0.4,0.00,
294,85,57,48,478.9,4.7,0.4,0.00,
295,85,61,39,475.2,8.1,0.4,0.00,
296,75,48,12,405.5,12.9,0.3,0.00,
297,69,37,16,285.6,4.7,0.3,0.00,
298,79,37,17,425.2,5.3,0.3,0.00,
299,81,41,18,165.4,4.6,0.3,0.00,
300,87,46,24,259.7,8.5,0.3,0.00,
```

```
301,67,50,32,357.3,1.1,0.3,0.00,
302,75,43,36,214.5,3.6,0.3,0.00,
303,78,48,39,380.1,4.4,0.2,0.00,
304,81,48,37,284.4,3.4,0.2,0.00,
305,81,48,34,389.5,4.4,0.3,0.00,
306,81,47,28,377.1,4.9,0.2,0.00,
307,80,44,32,346.2,3.0,0.3,0.00,
308,81,56,35,241.9,8.0,0.2,0.00,
309,81,56,40,419.3,14.4,0.2,0.00,
310,72,49,32,423.6,14.9,0.3,0.00,
311,62,41,8,420.5,8.2,0.4,0.00,
312,61,31,4,417.5,5.9,0.3,0.00,
313,66,28,5,298.6,2.3,0.2,0.00,
314,76,31,17,411.6,8.5,0.3,0.00,
315,69,54,32,363.5,12.3,0.3,0.00,
316,65,39,25,406.0,9.1,0.3,0.00,
317,66,37,23,403.2,5.9,0.4,0.00,
318,72,35,24,400.5,5.2,0.3,0.00,
319,77,45,28,381.4,8.7,0.4,0.00,
320,59,38,12,395.3,5.5,0.4,0.00,
321,65,32,17,268.8,5.4,0.4,0.00,
322,71,35,16,390.4,4.2,0.4,0.00,
323,71,37,18,100.7,4.6,0.3,0.00,
324,71,35,20,358.0,3.0,0.3,0.00,
325,66,38,22,269.1,1.5,0.4,0.00,
326,55,31,21,381.3,2.9,0.4,0.00,
327,64,35,23,379.2,4.6,0.5,0.00,
328,72,36,22,302.6,3.9,0.3,0.00,
329,64,42,17,156.0,8.7,0.4,0.00,
330,64,36,18,217.4,4.6,0.3,0.00,
331,69,41,25,137.2,2.7,0.3,0.00,
332,64,45,45,344.8,4.8,0.3,0.17,
333,60,44,37,73.6,1.0,0.3,0.00,
334,61,37,33,200.7,6.9,0.3,0.00,
335,67,36,29,298.6,8.9,0.3,0.00,
336,67,35,28,290.9,4.1,0.3,0.00,
337,72,35,25,203.2,8.7,0.3,0.00,
338,67,42,24,360.8,1.4,0.3,0.00,
339,62,36,23,359.6,2.6,0.4,0.00,
340,55,32,15,253.1,4.2,0.2,0.00,
341,65,27,17,235.2,3.8,0.3,0.00,
342,66,28,17,356.4,6.8,0.4,0.00,
343,65,45,27,355.5,11.4,0.4,0.02,
344,54,32,32,354.7,9.3,0.4,0.24,
345,48,27,26,354.0,3.8,0.4,0.00,
346,58,28,28,353.3,1.4,0.4,0.00,
347,62,30,29,326.9,2.9,0.4,0.00,
348,68,43,28,263.9,17.1,0.4,0.00,
349,67,44,32,252.8,2.7,0.3,0.00,
350,64,38,28,351.5,5.4,0.4,0.00,
```

```
351,66,32,21,280.4,1.7,0.4,0.00,
352,62,50,33,277.9,6.4,0.5,0.00,
353,70,43,35,350.9,11.7,0.4,0.00,
354,57,33,29,350.9,6.6,0.4,0.00,
355,65,35,16,351.0,7.9,0.4,0.00,
356,60,28,6,320.2,4.9,0.4,0.00,
357,56,25,14,243.5,4.6,0.4,0.00,
358,64,39,24,351.7,2.2,0.4,0.00,
359,61,40,33,352.1,4.3,0.5,0.00,
360,66,37,33,352.6,1.1,0.6,0.00,
361,66,35,31,353.1,18.3,0.5,0.00,
362,45,28,7,353.8,9.5,0.5,0.01,
363,51,22,7,354.5,2.9,0.5,0.00,
364,60,24,12,355.3,2.0,0.4,0.00,
365,64,27,17,316.1,4.5,0.4,0.00,
366,59,29,18,300.0,4.6,0.4,0.00,
```

```
1,68,27,17,326.7,5.1,0.5,0.00,
2,65,28,22,338.9,5.3,0.4,0.00,
3,66,43,29,359.7,9.3,0.5,0.00,
4,57,33,20,196.4,6.4,0.4,0.00,
5,53,31,20,279.8,8.9,0.5,0.00,
6,53,39,26,271.0,15.4,0.5,0.01,
7,60,30,23,343.4,5.1,0.4,0.00,
8,66,31,22,306.8,3.5,0.4,0.00,
9,70,42,18,365.6,9.5,0.4,0.00,
10,51,30,24,256.6,5.5,0.4,0.00,
11,56,20,13,263.8,2.6,0.4,0.00,
12,63,23,14,281.7,4.7,0.4,0.00,
13,56,30,14,128.6,4.1,0.4,0.00,
14,59,23,16,356.4,2.4,0.3,0.00,
15,64,24,14,341.5,2.2,0.4,0.00,
16,62,27,21,252.8,3.8,0.4,0.00,
17,66,31,16,174.3,5.9,0.5,0.00,
18,66,37,12,213.1,5.5,0.4,0.00,
19,67,38,11,265.8,5.5,0.4,0.00,
20,68,37,12,390.8,5.8,0.5,0.00,
21,70,35,13,368.3,4.0,0.4,0.00,
22,65,42,27,274.6,4.2,0.4,0.00,
23,70,51,46,332.9,7.0,0.4,0.00,
24,69,44,39,246.7,6.2,0.3,0.00,
25,72,48,33,269.0,7.7,0.3,0.00,
26,74,42,22,391.6,12.5,0.3,0.00,
27,59,39,17,409.5,11.7,0.4,0.00,
28,57,26,5,412.4,3.0,0.4,0.00,
29,59,29,6,415.3,8.8,0.4,0.00,
30,59,22,4,266.4,3.6,0.5,0.00,
31,63,28,6,209.3,4.8,0.5,0.00,
32,67,32,10,318.8,5.4,0.4,0.00,
33,61,29,12,363.9,3.3,0.5,0.00,
34,67,26,9,342.4,1.5,0.4,0.00,
35,69,34,6,273.8,4.6,0.4,0.00,
36,72,37,8,336.6,4.5,0.4,0.00,
37,77,42,12,427.9,6,0.5,0.00,
38,79,45,10,444.5,4.6,0.4,0.00,
39,66,44,23,369.0,11,0.5,0.00,
40,61,38,22,262.9,9.2,0.4,0.00,
41,51,34,18,251.1,17.5,0.4,0.00,
42,55,27,16,458.7,8,0.3,0.00,
43,68,34,10,462.3,8.2,0.3,0.00,
44,66,36,10,383.3,6.7,0.4,0.00,
45,67,39,6,469.7,9.2,0.4,0.00,
46,62,36,10,448.2,5,0.4,0.00,
47,65,43,21,298.6,5.2,0.4,0.00,
48,72,40,18,359.6,12.8,0.3,0.00,
49,63,36,18,246.2,6.8,0.4,0.00,
50,62,34,1,321.7,8.2,0.4,0.00,
```

```
51,67,31,-2,270.4,5,0.4,0.00,
52,61,33,8,496.6,6.4,0.4,0.00,
53,69,29,9,280.6,2.2,0.4,0.00,
54,78,39,13,192.6,3.8,0.4,0.00,
55,83,43,22,101.7,6.6,0.4,0.00,
56,83,55,24,281.6,4.9,0.4,0.00,
57,83,55,16,357.3,11.2,0.5,0.00,
58,78,57,4,444.0,9.5,0.4,0.00,
59,67,41,11,341.4,9.4,0.4,0.00,
60,67,39,9,410.7,4.3,0.4,0.00,
61,78,37,9,438.7,5,0.5,0.00,
62,85,38,10,536.5,2.8,0.4,0.00,
63,84,44,16,340.6,10.9,0.3,0.00,
64,81,61,23,544.7,13,0.3,0.00,
65,79,54,25,272.8,9.6,0.3,0.00,
66,77,54,22,360.5,16.1,0.3,0.00,
67,70,45,21,556.9,8.1,0.4,0.00,
68,62,51,45,531.3,8.2,0.4,0.01,
69,69,48,32,520.2,6.8,0.5,0.00,
70,59,38,29,448.7,6.4,0.4,0.05,
71,66,33,30,364.7,4.5,0.3,0.00,
72,64,40,34,202.4,7.3,0.3,0.00,
73,63,35,30,581.0,4.9,0.4,0.00,
74,69,42,23,511.3,7.2,0.4,0.00,
75,76,37,15,429.0,3.4,0.3,0.00,
76,82,39,13,134.9,3.9,0.3,0.00,
77,84,43,11,356.2,4.5,0.4,0.00,
78,81,48,27,600.8,7.2,0.4,0.00,
79,83,57,37,383.6,6.6,0.4,0.00,
80,84,52,33,250.9,4.6,0.4,0.00,
81,83,59,22,594.4,12.6,0.3,0.00,
82,79,57,12,616.2,16.5,0.3,0.00,
83,68,47,7,620.0,5.5,0.3,0.00,
84,74,53,4,490.4,11.7,0.3,0.00,
85,76,47,6,535.0,17.1,0.4,0.00,
86,57,40,15,330.3,10.7,0.4,0.00,
87,66,33,10,528.8,3.8,0.3,0.00,
88,79,40,7,638.5,13.7,0.3,0.00,
89,76,50,20,567.9,19.5,0.3,0.00,
90,71,43,11,501.2,7.5,0.2,0.00,
91,72,48,12,403.7,16.6,0.3,0.00,
92,74,41,13,443.4,5.8,0.2,0.00,
93,81,57,27,518.7,17.7,0.3,0.00,
94,74,57,24,616.0,23.8,0.3,0.00,
95,66,46,7,549.7,6.0,0.3,0.00,
96,65,43,11,353.7,7.2,0.4,0.00,
97,79,37,15,451.8,5.1,0.3,0.00,
98,87,54,25,291.3,17.2,0.3,0.00,
99,75,53,13,459.9,15.4,0.3,0.00,
100,81,53,19,561.0,8.0,0.2,0.00,
```

```
101,69,50,30,678.5,14.4,0.3,0.01,
102,69,46,31,539.9,13.7,0.3,0.00,
103,76,46,28,656.1,3.9,0.3,0.00,
104,87,54,19,436.6,9.5,0.3,0.00,
105,81,62,21,453.7,15.9,0.3,0.00,
106,67,46,19,578.7,12.7,0.4,0.00,
107,66,39,12,677.2,9.0,0.3,0.00,
108,77,47,15,439.9,7.4,0.3,0.00,
109,76,48,25,583.4,7.0,0.3,0.00,
110,82,52,23,705.2,2.5,0.2,0.00,
111,88,49,12,703.1,3.5,0.3,0.00,
112,91,54,15,609.7,6.9,0.3,0.00,
113,87,69,16,545.1,12.4,0.3,0.00,
114,87,65,14,718.6,9.7,0.3,0.00,
115,87,67,16,543.5,13.6,0.3,0.00,
116,81,63,20,723.5,14.3,0.3,0.00,
117,82,53,9,725.8,5.1,0.3,0.00,
118,90,53,14,726.0,6.0,0.3,0.00,
119,88,60,12,730.4,9.8,0.3,0.00,
120,89,55,10,502.9,7.5,0.4,0.00,
121,93,62,9,375.0,8.5,0.3,0.00,
122,89,73,24,509.6,16.3,0.4,0.00,
123,89,66,30,544.6,9.2,0.3,0.00,
124,92,67,26,657.9,11.7,0.3,0.00,
125,92,69,25,513.0,11.8,0.4,0.00,
126,94,68,21,743.4,7.4,0.4,0.00,
127,99,68,22,746.7,10.5,0.3,0.00,
128,99,67,19,655.1,9.5,0.2,0.00,
129,93,68,37,750.2,6.3,0.2,0.00,
130,98,67,29,751.9,5.0,0.3,0.00,
131,96,64,35,598.6,5.7,0.2,0.00,
132,96,68,27,755.2,12.8,0.3,0.00,
133,95,74,17,756.8,12.0,0.2,0.00,
134,92,66,23,485.9,6.2,0.3,0.00,
135,97,67,28,717.8,7.7,0.3,0.00,
136,84,62,44,693.8,12.4,0.3,0.00,
137,86,60,48,644.8,6.8,0.4,0.00,
138,90,63,37,589.8,5.7,0.3,0.00,
139,90,65,36,765.2,7.7,0.4,0.00,
140,87,63,41,627.4,6.0,0.3,0.00,
141,80,62,53,721.3,6.6,0.3,0.09,
142,76,56,54,768.8,6.1,0.4,0.59,
143,82,56,49,769.9,2.8,0.3,0.00,
144,88,63,45,709.6,5.3,0.4,0.04,
145,88,60,42,771.9,6.3,0.3,0.00,
146,88,59,34,579.5,7.7,0.3,0.00,
147,89,64,39,690.3,7.0,0.3,0.00,
148,90,65,45,595.1,6.4,0.3,0.05,
149,88,60,46,680.9,6.2,0.3,0.00,
150,87,67,44,776.3,6.2,0.3,0.00,
```

```
151,93,62,36,460.9,8.2,0.3,0.00,
152,92,62,26,777.8,6.2,0.2,0.00,
153,94,61,22,760.3,5.2,0.3,0.00,
154,92,66,42,704.9,6.4,0.4,0.00,
155,98,70,42,623.3,4.5,0.3,0.00,
156,96,74,37,562.5,9.2,0.4,0.00,
157,97,66,30,631.7,13.6,0.4,0.00,
158,94,76,23,454.8,14.9,0.3,0.00,
159,93,69,22,729.1,10.3,0.3,0.00,
160,88,74,38,636.4,8.0,0.3,0.00,
161,93,66,35,508.3,12.5,0.2,0.00,
162,94,71,30,518.5,14.0,0.2,0.00,
163,95,71,33,689.5,10.6,0.2,0.00,
164,98,68,35,783.0,8.0,0.2,0.00,
165,100,73,43,733.6,7.3,0.2,0.00,
166,99,70,32,783.2,10.5,0.3,0.00,
167,97,67,27,670.1,4.4,0.2,0.00,
168,96,74,34,725.4,6.4,0.2,0.00,
169,88,71,51,637.9,7.1,0.3,0.00,
170,85,67,54,653.3,5.6,0.3,0.00,
171,92,68,45,574.5,8.8,0.3,0.00,
172,98,67,42,783.2,4.7,0.3,0.00,
173,98,73,57,783.0,7.3,0.4,0.05,
174,87,71,63,738.6,5.3,0.3,0.09,
175,94,70,60,782.6,4.9,0.3,0.00,
176,97,72,50,782.3,7.0,0.3,0.00,
177,98,72,53,752.6,5.5,0.2,0.00,
178,99,74,55,781.7,7.9,0.3,0.02,
179,92,68,63,781.3,9.8,0.4,1.85,
180,90,68,62,459.7,4.7,0.4,0.07,
181,90,67,61,780.4,6.5,0.4,0.16,
182,92,69,57,779.9,7.1,0.4,0.00,
183,93,75,60,779.4,6.5,0.4,0.00,
184,94,75,62,653.5,7.7,0.4,0.00,
185,91,70,62,717.2,4.4,0.4,0.08,
186,92,73,60,314.9,5.8,0.4,0.00,
187,95,74,57,776.8,5.8,0.4,0.00,
188,100,78,54,597.2,9.1,0.4,0.00,
189,102,77,53,377.8,6.5,0.4,0.00,
190,103,81,53,684.1,7.2,0.4,0.00,
191,102,77,43,760.5,6.6,0.5,0.00,
192,100,76,44,772.7,6.8,0.5,0.00,
193,99,75,48,771.8,4.2,0.4,0.00,
194,102,76,49,770.8,3.5,0.4,0.00,
195,105,79,46,769.8,6.8,0.4,0.00,
196,105,80,48,663.4,6.8,0.5,0.00,
197,100,80,54,767.6,8.6,0.5,0.02,
198,96,72,53,765.0,5.5,0.5,0.00,
199,99,74,50,493.9,7.1,0.4,0.00,
200,100,75,49,636.3,6.9,0.5,0.00,
```

```
201,102,74,46,705.9,7.7,0.5,0.00,
202,98,72,51,553.5,6.0,0.5,0.12,
203,92,68,62,758.7,7.5,0.5,0.23,
204,92,72,61,662.9,5.5,0.5,0.00,
205,97,73,57,688.2,4.6,0.5,0.00,
206,101,75,52,755.7,3.7,0.5,0.00,
207,103,76,51,607.0,5.3,0.5,0.01,
208,100,78,55,276.5,4.6,0.6,0.00,
209,102,77,55,404.9,5.5,0.6,0.03,
210,102,74,54,749.3,9.4,0.5,0.00,
211,98,77,52,495.7,8.3,0.4,0.00,
212,95,70,56,745.9,6.2,0.5,0.00,
213,97,75,57,744.1,7.5,0.6,0.01,
214,96,70,56,720.5,6.4,0.6,0.00,
215,97,71,58,621.6,5.1,0.5,0.00,
216,102,74,56,551.6,5.6,0.5,0.00,
217,98,72,56,617.6,5.9,0.5,0.00,
218,99,73,56,513.5,5.9,0.4,0.00,
219,99,68,52,593.8,5.8,0.5,0.00,
220,97,76,47,607.3,7.5,0.5,0.00,
221,98,76,50,509.3,7.8,0.5,0.00,
222,98,73,54,481.4,5.2,0.5,0.21,
223,97,73,54,481.1,6.3,0.5,0.00,
224,94,73,58,518.5,5.6,0.5,0.00,
225,95,72,58,500.4,6.6,0.5,0.03,
226,92,66,59,506.2,7.2,0.5,0.32,
227,97,74,51,639.9,6.3,0.5,0.00,
228,99,75,46,526.3,4.9,0.5,0.00,
229,102,76,47,709.2,5.0,0.4,0.00,
230,101,75,50,706.6,7.5,0.5,0.00,
231,99,76,47,584.0,7.1,0.5,0.00,
232,101,76,48,533.0,6.6,0.4,0.00,
233,95,74,57,692.9,7.8,0.4,0.00,
234,93,72,57,610.9,4.8,0.5,0.00,
235,96,70,55,693.1,4.4,0.4,0.00,
236,87,71,58,619.7,6.7,0.5,0.02,
237,86,72,56,464.6,7.9,0.4,0.00,
238,93,68,53,684.5,4.9,0.4,0.00,
239,95,69,51,681.5,6.2,0.4,0.00,
240,95,69,45,526.0,6.4,0.4,0.00,
241,94,66,46,675.5,5.1,0.4,0.00,
242,93,72,43,672.4,4.9,0.4,0.00,
243,91,69,44,564.2,6.9,0.4,0.00,
244,93,69,45,436.5,5.1,0.4,0.00,
245,93,68,50,580.5,3.5,0.5,0.00,
246,93,74,50,525.9,5.1,0.5,0.00,
247,90,71,52,607.6,6.5,0.4,0.00,
248,89,66,50,612.4,6.0,0.5,0.00,
249,91,68,51,642.5,5.5,0.4,0.04,
250,91,68,56,617.0,5.0,0.4,0.00,
```

```
251,90,64,55,244.9,5.6,0.4,0.26,
252,92,67,54,516.4,4.9,0.4,0.00,
253,88,64,58,586.9,8.5,0.4,0.29,
254,84,64,59,535.2,4.7,0.4,0.00,
255,87,65,53,558.6,5.6,0.4,0.00,
256,84,63,53,528.1,3.4,0.4,0.00,
257,90,65,50,214.4,4.0,0.5,0.00,
258,93,70,47,618.0,5.9,0.4,0.00,
259,88,65,53,551.1,7.3,0.3,0.26,
260,77,62,59,299.3,11.4,0.3,0.80,
261,79,61,57,546.7,6.2,0.3,0.47,
262,83,61,56,562.2,4.8,0.3,0.38,
263,86,62,52,475.6,6.8,0.3,0.00,
264,91,65,47,595.5,6.8,0.4,0.00,
265,73,55,36,591.7,9.2,0.4,0.00,
266,73,55,35,438.1,7.4,0.4,0.00,
267,77,58,47,344.6,5.2,0.3,0.00,
268,85,61,49,580.2,2.8,0.3,0.00,
269,89,61,43,576.3,2.5,0.3,0.00,
270,92,59,37,572.4,4.0,0.3,0.00,
271,86,59,39,544.9,6.6,0.3,0.00,
272,91,61,51,564.6,4.1,0.3,0.00,
273,94,68,48,475.3,11.2,0.3,0.00,
274,87,64,33,258.3,8.6,0.3,0.00,
275,85,57,28,389.0,5.2,0.3,0.00,
276,75,59,45,313.4,8.8,0.3,0.02,
277,80,55,61,452.0,5.8,0.3,0.07,
278,82,64,58,428.5,12.2,0.4,0.00,
279,82,62,50,537.0,2.7,0.3,0.00,
280,87,61,49,455.5,6.2,0.3,0.00,
281,78,64,35,529.1,13.2,0.2,0.00,
282,77,54,25,494.2,7.1,0.2,0.00,
283,81,49,31,282.0,3.2,0.3,0.00,
284,82,57,42,222.5,9.4,0.2,0.00,
285,79,56,50,367.1,9.0,0.2,0.00,
286,83,60,57,448.9,7.3,0.3,0.00,
287,86,63,48,388.6,8.1,0.2,0.00,
288,86,59,38,417.5,3.7,0.3,0.00,
289,87,58,39,312.0,7.3,0.3,0.00,
290,79,56,40,340.2,8.2,0.2,0.00,
291,82,56,45,316.1,3.3,0.3,0.00,
292,86,60,48,335.5,7.6,0.3,0.00,
293,84,57,50,482.6,9.7,0.4,0.04,
294,71,53,38,478.9,6.7,0.4,0.00,
295,73,47,40,475.2,4.5,0.4,0.00,
296,74,50,34,405.5,5.0,0.3,0.00,
297,79,47,25,285.6,9.0,0.3,0.00,
298,78,56,28,425.2,8.8,0.3,0.00,
299,61,44,34,165.4,6.1,0.3,0.00,
300,78,39,30,259.7,11.2,0.3,0.00,
```

```
301,65,36,32,357.3,9.9,0.3,0.07,
302,53,35,21,214.5,11.1,0.3,0.01,
303,59,38,14,380.1,8.5,0.2,0.00,
304,65,33,23,284.4,2.0,0.2,0.00,
305,73,40,27,389.5,2.9,0.3,0.00,
306,78,38,29,377.1,2.2,0.2,0.00,
307,77,45,28,346.2,3.1,0.3,0.00,
308,79,45,29,241.9,4.0,0.2,0.00,
309,79,50,31,419.3,3.8,0.2,0.00,
310,79,42,28,423.6,2.0,0.3,0.00,
311,74,48,28,420.5,4.8,0.4,0.00,
312,77,43,33,417.5,2.5,0.3,0.00,
313,79,44,30,298.6,2.9,0.2,0.00,
314,76,50,43,411.6,4.6,0.3,0.00,
315,73,46,42,363.5,3.9,0.3,0.00,
316,77,50,38,406.0,5.2,0.3,0.00,
317,73,57,39,403.2,10.1,0.4,0.00,
318,68,51,40,400.5,8.1,0.3,0.00,
319,65,44,24,381.4,11.5,0.4,0.00,
320,57,33,11,395.3,6.8,0.4,0.00,
321,62,29,11,268.8,4.0,0.4,0.00,
322,68,34,16,390.4,6.0,0.4,0.00,
323,70,39,22,100.7,3.6,0.3,0.00,
324,65,37,21,358.0,2.5,0.3,0.00,
325,68,34,22,269.1,4.1,0.4,0.00,
326,69,39,19,381.3,5.5,0.4,0.00,
327,71,40,18,379.2,7.2,0.5,0.00,
328,59,37,13,302.6,5.5,0.3,0.00,
329,62,34,8,156.0,7.0,0.4,0.00,
330,63,37,11,217.4,5.9,0.3,0.00,
331,66,41,22,137.2,4.6,0.3,0.00,
332,67,40,38,344.8,4.0,0.3,0.01,
333,54,40,42,73.6,9.8,0.3,0.27,
334,41,33,33,200.7,8.5,0.3,0.68,
335,50,32,33,298.6,6.6,0.3,0.33,
336,50,29,32,290.9,4.0,0.3,0.00,
337,39,28,29,203.2,7.6,0.3,0.07,
338,38,23,22,360.8,5.1,0.3,0.00,
339,46,21,26,359.6,3.4,0.4,0.00,
340,59,36,26,253.1,8.7,0.2,0.00,
341,62,32,27,235.2,5.8,0.3,0.00,
342,61,39,33,356.4,16.5,0.4,0.00,
343,59,35,28,355.5,5.9,0.4,0.00,
344,59,34,28,354.7,4.6,0.4,0.00,
345,62,33,31,354.0,4.7,0.4,0.00,
346,62,35,31,353.3,6.2,0.4,0.00,
347,64,36,29,326.9,6.8,0.4,0.00,
348,64,39,30,263.9,5.6,0.4,0.00,
349,58,39,28,252.8,10.5,0.3,0.00,
350,60,36,29,351.5,4.9,0.4,0.00,
```

```
351,63,32,31,280.4,2.9,0.4,0.00,
352,62,33,24,277.9,4.9,0.5,0.00,
353,58,39,26,350.9,4.9,0.4,0.00,
354,60,30,26,350.9,3.2,0.4,0.00,
355,63,35,29,351.0,4.5,0.4,0.00,
356,62,48,28,320.2,10.2,0.4,0.00,
357,51,38,31,243.5,11.3,0.4,0.15,
358,51,30,26,351.7,5.4,0.4,0.00,
359,51,24,20,352.1,4.2,0.5,0.00,
360,49,27,13,352.6,4.9,0.6,0.00,
361,50,24,14,353.1,4.7,0.5,0.00,
362,51,30,19,353.8,8.5,0.5,0.00,
363,40,33,32,354.5,5.0,0.5,0.29,
364,54,32,30,355.3,8.9,0.4,0.00,
365,52,33,23,316.1,10.3,0.4,0.00,
```

```
1,52,25,23,326.7,0.9,0.5,0.00,
2,56,26,21,338.9,2.2,0.4,0.00,
3,57,33,24,359.7,3.7,0.5,0.00,
4,55,29,25,196.4,4.8,0.4,0.00,
5,57,28,26,279.8,2.9,0.5,0.00,
6,62,28,25,271.0,2.8,0.5,0.00,
7,44,30,17,343.4,8.3,0.4,0.00,
8,39,25,10,306.8,5.6,0.4,0.00,
9,47,18,18,365.6,1.4,0.4,0.00,
10,56,23,18,256.6,6.0,0.4,0.00,
11,56,34,16,263.8,5.5,0.4,0.00,
12,59,28,15,281.7,2.6,0.4,0.00,
13,57,25,16,128.6,2.5,0.4,0.00,
14,57,30,22,356.4,5.0,0.3,0.00,
15,59,33,23,341.5,4.3,0.4,0.00,
16,60,28,22,252.8,3.7,0.4,0.00,
17,62,32,20,174.3,6.4,0.5,0.00,
18,63,43,24,213.1,7.2,0.4,0.00,
19,65,42,23,265.8,10.0,0.4,0.00,
20,58,41,26,390.8,12.7,0.5,0.01,
21,66,42,31,368.3,11.5,0.4,0.00,
22,59,42,37,274.6,11.2,0.4,0.18,
23,49,39,29,332.9,20.9,0.4,0.17,
24,50,35,21,246.7,12.9,0.3,0.00,
25,52,28,20,269.0,2.3,0.3,0.00,
26,56,29,22,391.6,2.3,0.3,0.00,
27,59,34,28,409.5,6.9,0.4,0.08,
28,48,30,38,412.4,10.3,0.4,0.22,
29,47,30,28,415.3,5.4,0.4,0.00,
30,54,29,30,266.4,3.4,0.5,0.00,
31,59,38,34,209.3,3.3,0.5,0.00,
32,63,40,35,318.8,4.0,0.4,0.00,
33,64,40,33,363.9,7.9,0.5,0.00,
34,46,43,40,342.4,8.0,0.4,0.78,
35,56,42,36,273.8,7.0,0.4,0.03,
36,61,43,33,336.6,6.8,0.4,0.00,
37,64,39,31,427.9,5.2,0.5,0.00,
38,65,39,28,444.5,9.7,0.4,0.00,
39,55,39,22,369.0,8.7,0.5,0.00,
40,56,32,30,262.9,5.0,0.4,0.00,
41,58,35,33,251.1,4.8,0.4,0.41,
42,56,41,33,458.7,8.8,0.3,0.10,
43,58,34,26,462.3,5.1,0.3,0.00,
44,62,36,26,383.3,2.6,0.4,0.00,
45,62,36,25,469.7,6.8,0.4,0.00,
46,52,31,20,448.2,4.3,0.4,0.00,
47,58,35,20,298.6,4.3,0.4,0.00,
48,63,31,23,359.6,1.6,0.3,0.00,
49,70,39,26,246.2,4.6,0.4,0.00,
50,67,45,22,321.7,9.6,0.4,0.00,
```

```
51,67,42,26,270.4,14.0,0.4,0.00,
52,62,43,29,496.6,10.1,0.4,0.00,
53,59,44,32,280.6,12.1,0.4,0.06,
54,47,29,19,192.6,9.2,0.4,0.01,
55,56,30,17,101.7,6.7,0.4,0.00,
56,65,41,22,281.6,13.3,0.4,0.00,
57,59,39,20,357.3,6.4,0.5,0.00,
58,65,39,23,444.0,4.3,0.4,0.00,
59,60,44,30,341.4,13.3,0.4,0.04,
60,59,41,32,410.7,9.1,0.4,0.00,
61,61,37,28,438.7,1.9,0.5,0.00,
62,70,38,26,536.5,4.0,0.4,0.00,
63,74,42,25,340.6,7.2,0.3,0.00,
64,70,47,21,544.7,7.2,0.3,0.00,
65,73,40,26,272.8,6.9,0.3,0.00,
66,75,52,37,360.5,7.1,0.3,0.00,
67,59,45,29,556.9,17.7,0.4,0.01,
68,66,42,24,531.3,19.7,0.4,0.00,
69,58,40,17,520.2,16.5,0.5,0.00,
70,59,39,20,448.7,14.1,0.4,0.00,
71,66,36,15,364.7,4.0,0.3,0.00,
72,76,39,11,202.4,5.5,0.3,0.00,
73,72,47,21,581.0,10.3,0.4,0.00,
74,56,37,32,511.3,8.0,0.4,0.01,
75,64,32,29,429.0,4.2,0.3,0.00,
76,70,40,26,134.9,2.6,0.3,0.00,
77,78,37,19,356.2,6.4,0.4,0.00,
78,73,51,22,600.8,13.0,0.4,0.00,
79,58,37,19,383.6,8.7,0.4,0.00,
80,64,30,10,250.9,2.6,0.4,0.00,
81,75,36,9,594.4,4.3,0.3,0.00,
82,75,53,24,616.2,11.1,0.3,0.00,
83,66,47,26,620.0,10.6,0.3,0.00,
84,70,37,20,490.4,4.6,0.3,0.00,
85,81,47,9,535.0,18.6,0.4,0.00,
86,67,48,16,330.3,14.9,0.4,0.00,
87,66,38,19,528.8,3.0,0.3,0.00,
88,75,35,11,638.5,4.1,0.3,0.00,
89,86,44,9,567.9,12.2,0.3,0.00,
90,86,61,12,501.2,14.7,0.2,0.00,
91,81,53,17,403.7,17.4,0.3,0.00,
92,65,48,12,443.4,10.6,0.2,0.00,
93,77,45,16,518.7,7.6,0.3,0.00,
94,83,56,19,616.0,7.8,0.3,0.00,
95,87,58,17,549.7,13.9,0.3,0.00,
96,78,58,20,353.7,15.4,0.4,0.00,
97,66,45,0,451.8,9.5,0.3,0.00,
98,73,43,12,291.3,4.2,0.3,0.00,
99,83,50,13,459.9,7.1,0.3,0.00,
100,83,53,16,561.0,8.7,0.2,0.00,
```

```
101,85,50,21,678.5,4.5,0.3,0.00,
102,85,54,45,539.9,6.4,0.3,0.08,
103,85,57,34,656.1,6.6,0.3,0.00,
104,84,57,45,436.6,5.6,0.3,0.00,
105,83,53,45,453.7,4.7,0.3,0.00,
106,80,54,47,578.7,8.5,0.4,0.00,
107,69,54,45,677.2,7.4,0.3,0.03,
108,75,51,43,439.9,3.2,0.3,0.00,
109,73,52,44,583.4,6.4,0.3,0.00,
110,80,47,42,705.2,4.6,0.2,0.00,
111,86,60,39,703.1,9.9,0.3,0.00,
112,68,49,35,609.7,16.0,0.3,0.01,
113,61,46,28,545.1,17.6,0.3,0.00,
114,74,48,29,718.6,16.6,0.3,0.00,
115,81,49,20,543.5,7.0,0.3,0.00,
116,85,51,20,723.5,5.5,0.3,0.00,
117,78,51,36,725.8,5.5,0.3,0.00,
118,88,54,27,726.0,13.1,0.3,0.00,
119,84,57,26,730.4,25.5,0.3,0.00,
120,63,49,15,502.9,16.3,0.4,0.01,
121,67,48,13,375.0,11.5,0.3,0.00,
122,73,49,21,509.6,17.3,0.4,0.01,
123,75,45,26,544.6,7.0,0.3,0.00,
124,89,50,16,657.9,6.8,0.3,0.00,
125,94,51,13,513.0,10.2,0.4,0.00,
126,95,69,11,743.4,15.2,0.4,0.00,
127,91,62,15,746.7,7.0,0.3,0.00,
128,79,58,38,655.1,8.2,0.2,0.00,
129,92,53,27,750.2,9.6,0.2,0.00,
130,88,70,17,751.9,14.8,0.3,0.00,
131,92,59,11,598.6,14.2,0.2,0.00,
132,78,56,13,755.2,10.1,0.3,0.00,
133,85,47,16,756.8,3.1,0.2,0.00,
134,88,61,33,485.9,9.0,0.3,0.00,
135,86,55,36,717.8,5.3,0.3,0.00,
136,88,59,32,693.8,2.9,0.3,0.00,
137,93,57,27,644.8,3.8,0.4,0.00,
138,92,56,31,589.8,9.7,0.3,0.00,
139,88,67,27,765.2,13.1,0.4,0.00,
140,92,57,22,627.4,4.4,0.3,0.00,
141,98,59,25,721.3,7.9,0.3,0.00,
142,94,66,20,768.8,11.0,0.4,0.00,
143,94,71,22,769.9,11.5,0.3,0.00,
144,83,64,24,709.6,10.4,0.4,0.00,
145,89,54,22,771.9,4.9,0.3,0.00,
146,95,62,48,579.5,7.6,0.3,0.00,
147,95,70,49,690.3,7.8,0.3,0.00,
148,95,69,42,595.1,5.9,0.3,0.00,
149,97,69,40,680.9,7.3,0.3,0.00,
150,96,65,35,776.3,6.0,0.3,0.00,
```

```
151,98,64,38,460.9,5.4,0.3,0.00,
152,93,74,33,777.8,10.3,0.2,0.00,
153,92,71,25,760.3,9.5,0.3,0.00,
154,97,63,26,704.9,6.1,0.4,0.00,
155,101,73,28,623.3,6.0,0.3,0.00,
156,106,74,33,562.5,7.0,0.4,0.00,
157,110,72,43,631.7,10.6,0.4,0.00,
158,97,73,50,454.8,8.8,0.3,0.00,
159,103,69,40,729.1,8.4,0.3,0.00,
160,104,79,33,636.4,5.3,0.3,0.00,
161,98,78,31,508.3,10.9,0.2,0.00,
162,97,76,36,518.5,12.0,0.2,0.00,
163,98,69,28,689.5,12.4,0.2,0.00,
164,90,72,30,783.0,9.9,0.2,0.00,
165,93,63,25,733.6,6.8,0.2,0.00,
166,98,62,28,783.2,5.7,0.3,0.00,
167,101,74,42,670.1,7.8,0.2,0.00,
168,101,69,31,725.4,4.6,0.2,0.00,
169,103,68,35,637.9,5.8,0.3,0.00,
170,102,76,47,653.3,5.3,0.3,0.00,
171,103,75,38,574.5,4.0,0.3,0.00,
172,103,76,43,783.2,7.2,0.3,0.00,
173,101,80,49,783.0,8.9,0.4,0.00,
174,103,77,50,738.6,7.7,0.3,0.10,
175,97,72,53,782.6,8.7,0.3,0.00,
176,99,73,50,782.3,5.6,0.3,0.00,
177,96,73,49,752.6,6.1,0.2,0.00,
178,100,71,50,781.7,6.5,0.3,0.06,
179,97,66,53,781.3,9.2,0.4,0.92,
180,88,66,57,459.7,8.6,0.4,0.00,
181,88,69,59,780.4,7.8,0.4,0.00,
182,90,70,60,779.9,9.0,0.4,0.00,
183,88,71,62,779.4,8.1,0.4,0.00,
184,97,71,62,653.5,4.8,0.4,0.00,
185,97,71,42,717.2,10.0,0.4,0.00,
186,98,74,35,314.9,4.0,0.4,0.00,
187,97,73,53,776.8,8.4,0.4,0.13,
188,93,70,55,597.2,8.9,0.4,0.00,
189,90,71,57,377.8,9.8,0.4,0.00,
190,88,70,60,684.1,6.9,0.4,0.00,
191,87,72,64,760.5,4.6,0.5,0.31,
192,90,68,66,772.7,7.0,0.5,0.44,
193,94,67,62,771.8,4.4,0.4,0.14,
194,102,75,55,770.8,3.7,0.4,0.00,
195,99,80,55,769.8,7.9,0.4,0.00,
196,100,81,58,663.4,5.5,0.5,0.00,
197,93,73,61,767.6,6.0,0.5,0.02,
198,98,74,55,765.0,4.8,0.5,0.00,
199,100,75,51,493.9,3.9,0.4,0.00,
200,102,75,53,636.3,4.9,0.5,0.00,
```

```
201,100,75,56,705.9,6.4,0.5,0.00,
202,98,75,61,553.5,6.2,0.5,0.03,
203,94,71,61,758.7,6.4,0.5,0.00,
204,94,72,61,662.9,7.3,0.5,0.00,
205,88,72,62,688.2,6.8,0.5,0.00,
206,86,71,63,755.7,7.1,0.5,0.00,
207,87,71,60,607.0,6.6,0.5,0.00,
208,93,73,57,276.5,5.0,0.6,0.00,
209,94,71,61,404.9,4.3,0.6,0.00,
210,92,70,61,749.3,6.8,0.5,0.00,
211,92,69,62,495.7,6.4,0.4,0.00,
212,90,73,63,745.9,7.5,0.5,0.00,
213,92,71,59,744.1,7.8,0.6,0.00,
214,98,71,53,720.5,4.9,0.6,0.00,
215,100,71,51,621.6,4.1,0.5,0.00,
216,103,73,49,551.6,5.5,0.5,0.00,
217,98,77,51,617.6,7.6,0.5,0.00,
218,99,75,51,513.5,6.8,0.4,0.00,
219,99,75,53,593.8,5.7,0.5,0.00,
220,96,74,56,607.3,8.5,0.5,0.00,
221,96,70,53,509.3,5.4,0.5,0.00,
222,100,73,53,481.4,4.2,0.5,0.00,
223,100,76,56,481.1,3.9,0.5,0.00,
224,100,77,57,518.5,4.2,0.5,0.00,
225,102,77,57,500.4,5.0,0.5,0.07,
226,101,74,55,506.2,5.3,0.5,0.00,
227,99,76,59,639.9,7.0,0.5,0.00,
228,95,73,60,526.3,8.0,0.5,0.04,
229,97,70,58,709.2,4.0,0.4,0.00,
230,101,75,57,706.6,7.1,0.5,0.00,
231,97,75,60,584.0,4.6,0.5,0.00,
232,101,77,57,533.0,6.7,0.4,0.01,
233,98,73,59,692.9,6.2,0.4,0.03,
234,98,71,60,610.9,3.4,0.5,0.00,
235,101,75,56,693.1,4.0,0.4,0.01,
236,86,71,59,619.7,12.0,0.5,0.01,
237,85,66,45,464.6,7.4,0.4,0.00,
238,89,63,43,684.5,6.0,0.4,0.00,
239,93,68,53,681.5,5.2,0.4,0.00,
240,91,73,59,526.0,5.5,0.4,0.00,
241,94,67,60,675.5,4.5,0.4,0.14,
242,90,66,62,672.4,5.4,0.4,0.00,
243,93,70,60,564.2,6.8,0.4,0.00,
244,97,71,56,436.5,4.2,0.4,0.00,
245,100,71,51,580.5,4.4,0.5,0.00,
246,82,70,52,525.9,10.5,0.5,0.00,
247,89,63,48,607.6,4.2,0.4,0.00,
248,95,65,48,612.4,5.6,0.5,0.00,
249,97,68,47,642.5,4.0,0.4,0.00,
250,93,68,51,617.0,6.4,0.4,0.00,
```

```
251,92,68,58,244.9,4.8,0.4,0.19,
252,91,69,56,516.4,8.7,0.4,0.00,
253,90,74,43,586.9,10.6,0.4,0.00,
254,93,61,29,535.2,5.7,0.4,0.00,
255,94,61,45,558.6,5.9,0.4,0.01,
256,92,69,60,528.1,7.1,0.4,0.00,
257,91,68,58,214.4,3.2,0.5,0.00,
258,96,73,57,618.0,5.1,0.4,0.03,
259,95,66,59,551.1,5.3,0.3,0.07,
260,87,62,59,299.3,6.2,0.3,0.00,
261,91,66,57,546.7,5.8,0.3,0.00,
262,87,68,57,562.2,9.8,0.3,0.00,
263,89,70,59,475.6,7.2,0.3,0.00,
264,93,71,59,595.5,5.0,0.4,0.02,
265,84,71,64,591.7,6.8,0.4,0.20,
266,82,67,65,438.1,3.0,0.4,1.09,
267,90,68,60,344.6,7.0,0.3,0.01,
268,89,69,60,580.2,6.8,0.3,0.00,
269,82,67,55,576.3,7.7,0.3,0.00,
270,81,61,50,572.4,1.5,0.3,0.00,
271,90,59,48,544.9,4.1,0.3,0.00,
272,95,61,44,564.6,2.4,0.3,0.00,
273,90,63,46,475.3,7.3,0.3,0.00,
274,90,61,43,258.3,2.5,0.3,0.00,
275,91,59,43,389.0,5.6,0.3,0.00,
276,82,64,50,313.4,7.2,0.3,0.00,
277,82,61,52,452.0,5.1,0.3,0.16,
278,80,62,52,428.5,6.0,0.4,0.00,
279,87,63,46,537.0,5.9,0.3,0.00,
280,85,59,42,455.5,4.5,0.3,0.00,
281,87,59,38,529.1,2.9,0.2,0.00,
282,85,55,29,494.2,4.6,0.2,0.00,
283,81,55,30,282.0,5.7,0.3,0.00,
284,83,50,30,222.5,4.6,0.2,0.00,
285,84,53,31,367.1,3.9,0.2,0.00,
286,82,60,41,448.9,8.5,0.3,0.00,
287,81,54,38,388.6,3.3,0.2,0.00,
288,82,54,36,417.5,2.9,0.3,0.01,
289,82,58,42,312.0,4.8,0.3,0.00,
290,85,61,40,340.2,3.9,0.2,0.00,
291,82,59,35,316.1,4.6,0.3,0.00,
292,81,52,36,335.5,3.0,0.3,0.00,
293,83,60,49,482.6,6.2,0.4,0.01,
294,75,55,42,478.9,7.3,0.4,0.00,
295,69,49,36,475.2,8.5,0.4,0.00,
296,72,52,35,405.5,11.8,0.3,0.00,
297,75,52,34,285.6,10.6,0.3,0.00,
298,79,59,36,425.2,14.4,0.3,0.00,
299,79,49,38,165.4,8.0,0.3,0.00,
300,76,57,37,259.7,8.3,0.3,0.00,
```

```
301,74,49,21,357.3,9.1,0.3,0.00,
302,80,47,31,214.5,2.5,0.3,0.00,
303,86,49,36,380.1,7.0,0.2,0.00,
304,78,53,26,284.4,6.7,0.2,0.00,
305,78,47,26,389.5,6.0,0.3,0.00,
306,72,46,30,377.1,3.3,0.2,0.00,
307,77,46,28,346.2,7.8,0.3,0.00,
308,68,47,30,241.9,4.2,0.2,0.00,
309,72,45,26,419.3,1.5,0.2,0.00,
310,74,38,23,423.6,2.1,0.3,0.00,
311,79,45,22,420.5,4.4,0.4,0.00,
312,78,41,19,417.5,7.0,0.3,0.00,
313,70,55,24,298.6,12.2,0.2,0.00,
314,67,41,21,411.6,5.1,0.3,0.00,
315,70,43,24,363.5,4.7,0.3,0.00,
316,62,40,21,406.0,6.5,0.3,0.00,
317,62,31,15,403.2,3.4,0.4,0.00,
318,66,32,12,400.5,5.0,0.3,0.00,
319,65,50,20,381.4,13.6,0.4,0.00,
320,67,35,23,395.3,12.6,0.4,0.00,
321,67,46,17,268.8,7.7,0.4,0.00,
322,67,35,18,390.4,3.2,0.4,0.00,
323,72,38,20,100.7,5.3,0.3,0.00,
324,70,41,22,358.0,5.0,0.3,0.00,
325,73,43,27,269.1,13.3,0.4,0.00,
326,69,42,25,381.3,11.2,0.4,0.00,
327,66,32,16,379.2,4.4,0.5,0.00,
328,68,48,5,302.6,9.8,0.3,0.00,
329,60,37,13,156.0,9.9,0.4,0.00,
330,53,23,-6,217.4,3.7,0.3,0.00,
331,59,23,2,137.2,1.8,0.3,0.00,
332,67,32,14,344.8,14.5,0.3,0.00,
333,49,37,13,73.6,17.0,0.3,0.00,
334,50,22,9,200.7,3.9,0.3,0.00,
335,57,20,5,298.6,3.7,0.3,0.00,
336,65,28,7,290.9,2.2,0.3,0.00,
337,69,27,5,203.2,3.5,0.3,0.00,
338,69,35,13,360.8,4.5,0.3,0.00,
339,66,37,23,359.6,1.8,0.4,0.00,
340,63,33,20,253.1,3.1,0.2,0.00,
341,68,35,19,235.2,7.0,0.3,0.00,
342,63,30,15,356.4,2.7,0.4,0.00,
343,67,26,12,355.5,2.9,0.4,0.00,
344,73,39,20,354.7,12.7,0.4,0.00,
345,71,47,27,354.0,8.1,0.4,0.00,
346,60,39,15,353.3,3.2,0.4,0.00,
347,66,30,18,326.9,1.3,0.4,0.00,
348,71,32,19,263.9,5.4,0.4,0.00,
349,73,51,24,252.8,10.4,0.3,0.00,
350,67,44,28,351.5,5.6,0.4,0.00,
```

```
351,61,48,33,280.4,8.3,0.4,0.00,
352,64,38,33,277.9,12.9,0.5,0.00,
353,69,46,37,350.9,7.7,0.4,0.00,
354,69,48,33,350.9,7.6,0.4,0.00,
355,72,48,32,351.0,6.4,0.4,0.00,
356,71,40,28,320.2,2.0,0.4,0.00,
357,67,38,32,243.5,8.0,0.4,0.00,
358,60,35,28,351.7,3.6,0.4,0.00,
359,58,37,23,352.1,4.1,0.5,0.00,
360,59,27,19,352.6,2.1,0.6,0.00,
361,60,32,21,353.1,3.0,0.5,0.00,
362,63,44,24,353.8,5.7,0.5,0.00,
363,62,42,24,354.5,15.8,0.5,0.00,
364,62,33,29,355.3,18.1,0.4,0.16,
365,36,30,16,316.1,12.5,0.4,0.00,
```

```
1,58,31,14,326.7,7.61,0.5,0
2,66,40,14,338.9,9.4,0.4,0
3,62,31,22,359.7,7.38,0.5,0
4,63,35,23,196.4,6.71,0.4,0
5,71,35,19,279.8,11.41,0.5,0
6,69,38,19,271,16.11,0.5,0
7,53,24,19,343.4,6.71,0.4,0
8,56,20,22,306.8,4.7,0.4,0
9,59,24,21,365.6,6.04,0.4,0
10,61,23,21,256.6,7.16,0.4,0
11,58,28,20,263.8,6.26,0.4,0
12,59,25,22,281.7,8.28,0.4,0
13,62,23,22,128.6,5.82,0.4,0
14,64,23,22,356.4,5.37,0.3,0
15,62,32,22,341.5,5.59,0.4,0
16,68,37,22,252.8,10.74,0.4,0
17,62,28,33,174.3,6.04,0.5,0
18,67,26,31,213.1,5.37,0.4,0
19,68,25,31,265.8,4.92,0.4,0
20,71,29,31,390.8,7.38,0.5,0
21,61,31,21,368.3,6.93,0.4,0
22,60,29,21,274.6,5.14,0.4,0
23,63,29,23,332.9,4.7,0.4,0
24,71,40,22,246.7,6.93,0.3,0
25,71,42,19,269,11.63,0.3,0
26,56,41,17,391.6,12.08,0.3,0
27,56,34,18,409.5,8.5,0.4,0
28,46,32,13,412.4,10.07,0.4,0.02
29,44,32,13,415.3,5.59,0.4,0.01
30,55,30,20,266.4,9.62,0.5,0
31,42,22,29,209.3,8.28,0.5,0
32,46,16,30,318.8,8.72,0.4,0
33,52,15,7,363.9,5.82,0.5,0
34,63,24,1,342.4,6.93,0.4,0
35,61,42,9,273.8,10.96,0.4,0
36,64,32,26,336.6,6.71,0.4,0
37,66,27,21,427.9,6.49,0.5,0
38,74,35,21,444.5,9.62,0.4,0
39,61,45,20,369,9.62,0.5,0.23
40,58,39,12,262.9,9.17,0.4,0
41,60,38,10,251.1,7.61,0.4,0
42,73,42,10,458.7,13.65,0.3,0
43,59,36,9,462.3,10.51,0.3,0
44,56,27,9,383.3,7.83,0.4,0
45,64,37,10,469.7,5.82,0.4,0
46,72,38,13,448.2,6.71,0.4,0
47,76,34,18,298.6,5.37,0.4,0
48,76,40,30,359.6,6.93,0.3,0
49,76,52,31,246.2,14.54,0.4,0
50,62,45,29,321.7,13.42,0.4,0
```

```
51,61,38,30,270.4,6.49,0.4,0
52,64,40,23,496.6,9.84,0.4,0
53,58,45,18,280.6,16.11,0.4,0
54,58,33,20,192.6,6.49,0.4,0
55,66,24,24,101.7,6.93,0.4,0
56,75,32,21,281.6,7.38,0.4,0
57,70,38,9,357.3,5.37,0.5,0
58,74,46,29,444,7.83,0.4,0
59,67,51,11,341.4,12.75,0.4,0
60,68,38,14,410.7,6.71,0.4,0
61,68,37,17,438.7,6.49,0.5,0
62,73,40,27,536.5,5.82,0.4,0
63,78,48,20,340.6,6.93,0.3,0
64,77,50,30,544.7,10.74,0.3,0
65,79,40,19,272.8,7.61,0.3,0
66,81,43,21,360.5,10.07,0.3,0
67,64,38,24,556.9,11.63,0.4,0.02
68,59,35,20,531.3,7.61,0.4,0
69,68,30,10,520.2,7.38,0.5,0
70,76,37,17,448.7,9.62,0.4,0
71,68,47,15,364.7,11.63,0.3,0
72,59,42,16,202.4,11.41,0.3,0.04
73,59,46,31,581,7.61,0.4,0.31
74,75,50,29,511.3,6.26,0.4,0
75,77,48,20,429,6.26,0.3,0
76,83,53,22,134.9,9.17,0.3,0
77,82,54,20,356.2,8.72,0.4,0
78,78,62,25,600.8,10.29,0.4,0
79,68,56,10,383.6,14.09,0.4,0
80,74,47,18,250.9,5.14,0.4,0
81,80,47,35,594.4,10.96,0.3,0
82,76,59,19,616.2,13.87,0.3,0
83,78,58,13,620,8.95,0.3,0
84,80,50,17,490.4,11.63,0.3,0
85,67,49,23,535,17.9,0.4,0
86,60,36,25,330.3,11.63,0.4,0
87,60,29,22,528.8,6.71,0.3,0
88,72,33,28,638.5,6.71,0.3,0
89,66,41,35,567.9,11.18,0.3,0
90,78,37,23,501.2,5.37,0.2,0
91,83,50,21,403.7,8.5,0.3,0
92,82,56,20,443.4,10.07,0.2,0
93,79,45,28,518.7,6.93,0.3,0
94,79,56,28,616,14.76,0.3,0
95,73,48,18,549.7,16.33,0.3,0
96,74,40,36,353.7,8.05,0.4,0
97,82,46,36,451.8,11.41,0.3,0
98,83,53,31,291.3,13.2,0.3,0
99,81,61,34,459.9,16.78,0.3,0
100,81,51,30,561,13.65,0.2,0
```

```
101,72,47,10,678.5,8.05,0.3,0
102,78,42,13,539.9,5.59,0.3,0
103,83,45,20,656.1,8.5,0.3,0
104,86,62,14,436.6,12.53,0.3,0
105,82,56,7,453.7,9.17,0.3,0
106,81,51,9,578.7,10.51,0.4,0
107,85,45,17,677.2,6.93,0.3,0
108,90,50,24,439.9,5.59,0.3,0
109,95,52,25,583.4,5.82,0.3,0
110,88,59,28,705.2,8.72,0.2,0
111,91,59,28,703.1,6.49,0.3,0
112,87,63,25,609.7,8.95,0.3,0.02
113,81,60,27,545.1,8.5,0.3,0.63
114,83,57,29,718.6,12.08,0.3,0
115,77,51,30,543.5,16.11,0.3,0
116,81,58,25,723.5,14.32,0.3,0
117,78,52,13,725.8,13.2,0.3,0
118,79,43,12,726,9.17,0.3,0
119,75,48,16,730.4,10.96,0.3,0
120,79,44,17,502.9,7.61,0.4,0
121,85,51,24,375,10.74,0.3,0
122,83,57,26,509.6,9.4,0.4,0
123,87,61,17,544.6,8.95,0.3,0
124,93,55,22,657.9,5.82,0.3,0
125,96,63,25,513,8.5,0.4,0
126,92,64,31,743.4,10.29,0.4,0
127,88,68,9,746.7,10.96,0.3,0
128,80,60,6,655.1,12.53,0.2,0
129,85,53,12,750.2,8.28,0.2,0
130,86,49,25,751.9,7.61,0.3,0
131,86,58,24,598.6,6.93,0.2,0
132,84,61,27,755.2,9.17,0.3,0
133,86,59,27,756.8,11.41,0.2,0
134,91,63,34,485.9,7.61,0.3,0
135,94,63,37,717.8,10.51,0.3,0
136,94,66,37,693.8,10.51,0.3,0
137,94,61,24,644.8,6.93,0.4,0
138,93,64,34,589.8,7.61,0.3,0
139,92,63,38,765.2,8.05,0.4,0
140,93,62,23,627.4,6.93,0.3,0
141,91,65,31,721.3,8.28,0.3,0
142,80,61,24,768.8,9.17,0.4,0.16
143,92,57,21,769.9,6.93,0.3,0.12
144,91,62,31,709.6,7.61,0.4,0.25
145,88,63,14,771.9,11.41,0.3,0
146,81,59,19,579.5,8.95,0.3,0
147,89,61,21,690.3,5.82,0.3,0
148,97,63,27,595.1,4.92,0.3,0
149,99,65,29,680.9,6.04,0.3,0
150,103,68,41,776.3,5.59,0.3,0
```

```
151,101,73,59,460.9,9.62,0.3,0.27
152,101,68,62,777.8,10.96,0.2,0.37
153,98,67,56,760.3,8.5,0.3,0
154,96,65,54,704.9,8.95,0.4,0.3
155,97,67,51,623.3,6.26,0.3,0
156,100,67,47,562.5,7.61,0.4,0
157,102,72,49,631.7,8.5,0.4,0
158,100,79,43,454.8,11.18,0.3,0
159,100,76,27,729.1,9.62,0.3,0
160,102,73,24,636.4,7.83,0.3,0
161,107,68,12,508.3,8.28,0.2,0
162,102,77,15,518.5,12.53,0.2,0
163,103,73,23,689.5,10.29,0.2,0
164,102,76,27,783,8.28,0.2,0
165,104,78,12,733.6,9.4,0.2,0
166,100,82,17,783.2,10.51,0.3,0
167,104,79,22,670.1,8.28,0.2,0
168,106,79,27,725.4,12.08,0.2,0
169,101,74,38,637.9,10.29,0.3,0
170,97,74,28,653.3,10.29,0.3,0
171,99,73,34,574.5,9.62,0.3,0
172,94,76,30,783.2,7.83,0.3,0
173,98,72,47,783,7.83,0.4,0
174,104,72,40,738.6,9.4,0.3,0
175,107,71,35,782.6,6.71,0.3,0
176,111,79,28,782.3,7.61,0.3,0
177,112,80,25,752.6,7.61,0.2,0
178,113,81,42,781.7,9.84,0.3,0
179,113,81,47,781.3,9.17,0.4,0
180,111,82,52,459.7,7.61,0.4,0
181,114,77,50,780.4,7.16,0.4,0
182,111,85,54,779.9,7.61,0.4,0
183,108,83,55,779.4,9.62,0.4,0
184,108,85,56,653.5,10.51,0.4,0
185,103,84,52,717.2,12.75,0.4,0
186,102,78,46,314.9,12.75,0.4,0
187,100,78,45,776.8,11.86,0.4,0
188,104,78,43,597.2,8.05,0.4,0
189,102,72,46,377.8,11.41,0.4,0.02
190,101,71,48,684.1,8.28,0.4,0
191,102,71,52,760.5,7.38,0.5,0
192,103,75,56,772.7,9.17,0.5,0
193,107,79,65,771.8,8.5,0.4,0
194,107,76,66,770.8,8.5,0.4,0
195,102,70,65,769.8,9.4,0.4,0
196,102,75,61,663.4,10.29,0.5,0
197,98,72,56,767.6,11.86,0.5,0
198,92,69,52,765,7.61,0.5,0.08
199,96,69,52,493.9,7.16,0.4,0
200,98,75,53,636.3,9.17,0.5,0
```

```
201,102,79,55,705.9,9.4,0.5,0
202,101,75,61,553.5,10.96,0.5,0.02
203,99,72,63,758.7,7.16,0.5,0
204,102,71,63,662.9,6.71,0.5,0
205,103,73,64,688.2,6.93,0.5,0
206,105,73,64,755.7,7.61,0.5,0
207,99,78,67,607,8.5,0.5,0
208,97,74,68,276.5,7.16,0.6,0
209,91,66,65,404.9,9.4,0.6,0.06
210,97,66,65,749.3,8.95,0.5,0
211,98,70,62,495.7,8.05,0.4,0
212,102,73,63,745.9,7.16,0.5,0
213,100,76,61,744.1,7.83,0.6,0
214,99,74,59,720.5,7.61,0.6,0.01
215,99,72,59,621.6,8.5,0.5,0.01
216,97,73,58,551.6,10.29,0.5,0
217,95,72,56,617.6,9.62,0.5,0
218,100,73,59,513.5,6.71,0.4,0
219,106,78,57,593.8,9.17,0.5,0
220,101,78,69,607.3,10.29,0.5,0
221,102,73,61,509.3,8.5,0.5,0
222,97,75,59,481.4,8.5,0.5,0
223,94,70,64,481.1,10.29,0.5,0
224,97,73,62,518.5,6.26,0.5,0
225,102,71,64,500.4,6.71,0.5,0
226,96,72,65,506.2,11.41,0.5,0
227,89,72,65,639.9,8.28,0.5,0
228,99,74,66,526.3,6.26,0.5,0
229,104,71,67,709.2,6.26,0.4,0
230,106,71,64,706.6,7.61,0.5,0
231,103,78,66,584,9.4,0.5,0
232,100,70,60,533,9.4,0.4,0
233,100,69,61,692.9,6.71,0.4,0
234,101,74,62,610.9,5.59,0.5,0
235,103,75,55,693.1,4.92,0.4,0
236,98,75,54,619.7,8.05,0.5,0
237,99,71,55,464.6,6.49,0.4,0
238,102,71,56,684.5,7.38,0.4,0
239,99,73,51,681.5,7.83,0.4,0
240,102,74,46,526,6.26,0.4,0
241,101,72,43,675.5,8.72,0.4,0
242,98,71,48,672.4,8.28,0.4,0
243,93,71,47,564.2,8.05,0.4,0
244,91,71,49,436.5,9.84,0.4,0
245,92,70,52,580.5,10.74,0.5,0
246,91,71,53,525.9,8.95,0.5,0
247,90,71,57,607.6,7.61,0.4,0.03
248,95,67,56,612.4,8.28,0.5,0
249,88,72,39,642.5,8.72,0.4,0
250,93,67,45,617,6.71,0.4,0
```

```
251,96,64,31,244.9,7.16,0.4,0
252,97,69,34,516.4,6.04,0.4,0
253,99,71,53,586.9,6.93,0.4,0
254,96,68,45,535.2,8.72,0.4,0
255,96,70,48,558.6,9.4,0.4,0
256,94,67,50,528.1,8.72,0.4,0
257,92,70,61,214.4,6.49,0.5,0
258,92,63,61,618,8.28,0.4,0
259,86,60,61,551.1,10.96,0.3,0
260,87,60,61,299.3,9.17,0.3,0
261,88,55,50,546.7,6.93,0.3,0
262,92,61,48,562.2,4.92,0.3,0
263,95,64,49,475.6,5.14,0.3,0
264,82,72,44,595.5,7.61,0.4,0
265,75,58,46,591.7,10.07,0.4,0
266,91,58,46,438.1,6.93,0.4,0
267,92,59,39,344.6,8.05,0.3,0
268,91,59,36,580.2,7.38,0.3,0
269,93,63,37,576.3,7.61,0.3,0
270,96,58,43,572.4,6.26,0.3,0
271,97,55,43,544.9,6.26,0.3,0
272,97,61,45,564.6,5.82,0.3,0
273,97,63,43,475.3,5.82,0.3,0
274,89,71,47,258.3,9.17,0.3,0
275,87,58,54,389,9.84,0.3,0
276,87,68,53,313.4,7.38,0.3,0
277,91,62,55,452,5.37,0.3,0
278,96,65,52,428.5,13.65,0.4,0
279,81,64,44,537,12.3,0.3,0
280,76,57,41,455.5,10.29,0.3,0.19
281,73,52,29,529.1,9.84,0.2,0
282,73,47,31,494.2,8.5,0.2,0
283,75,43,42,282,5.37,0.3,0
284,80,41,45,222.5,4.7,0.2,0
285,84,45,30,367.1,5.59,0.2,0
286,84,51,28,448.9,13.2,0.3,0
287,66,54,26,388.6,14.32,0.2,0.13
288,78,52,27,417.5,12.3,0.3,0
289,79,62,34,312,9.17,0.3,0
290,67,55,28,340.2,9.17,0.2,0.03
291,75,48,36,316.1,6.49,0.3,0
292,80,49,27,335.5,5.59,0.3,0
293,83,54,31,482.6,7.83,0.4,0
294,82,47,29,478.9,6.04,0.4,0
295,83,45,29,475.2,5.59,0.4,0
296,85,49,22,405.5,5.82,0.3,0
297,85,57,46,285.6,5.82,0.3,0
298,71,52,51,425.2,9.17,0.3,0
299,71,50,46,165.4,6.04,0.3,0
300,79,45,46,259.7,6.71,0.3,0
```

```
301,85,46,36,357.3,6.49,0.3,0
302,86,47,35,214.5,6.71,0.3,0
303,79,55,34,380.1,8.95,0.2,0
304,77,50,29,284.4,8.05,0.2,0
305,79,42,28,389.5,8.72,0.3,0
306,75,60,22,377.1,14.99,0.2,0.06
307,69,58,20,346.2,11.18,0.3,0
308,62,44,33,241.9,12.3,0.2,0.09
309,69,32,36,419.3,6.49,0.2,0
310,79,38,34,423.6,6.49,0.3,0
311,82,45,36,420.5,8.5,0.4,0
312,72,56,24,417.5,9.84,0.3,0.04
313,72,45,25,298.6,8.5,0.2,0
314,76,39,22,411.6,6.49,0.3,0
315,66,45,20,363.5,10.29,0.3,0.08
316,63,53,42,406,6.93,0.3,0.27
317,64,47,49,403.2,7.61,0.4,0
318,63,40,51,400.5,9.17,0.3,0
319,59,41,39,381.4,9.62,0.4,0
320,73,44,35,395.3,8.05,0.4,0
321,62,43,28,268.8,12.97,0.4,0
322,71,41,31,390.4,7.38,0.4,0
323,73,39,33,100.7,12.53,0.3,0
324,56,33,35,358,13.42,0.3,0
325,66,29,41,269.1,6.26,0.4,0
326,69,38,37,381.3,9.17,0.4,0
327,53,45,29,379.2,8.72,0.5,0
328,64,40,43,302.6,5.82,0.3,0
329,70,43,50,156,6.26,0.4,0
330,75,47,34,217.4,16.55,0.3,0
331,58,37,23,137.2,13.65,0.3,0
332,59,25,27,344.8,8.05,0.3,0
333,54,34,26,73.6,11.63,0.3,0
334,61,24,25,200.7,6.93,0.3,0
335,68,30,28,298.6,5.82,0.3,0
336,69,35,37,290.9,6.93,0.3,0
337,68,32,38,203.2,6.71,0.3,0
338,71,39,37,360.8,6.49,0.3,0
339,56,46,31,359.6,6.26,0.4,0.26
340,66,49,21,253.1,10.29,0.2,0.07
341,67,40,26,235.2,6.71,0.3,0
342,64,39,28,356.4,6.49,0.4,0
343,54,38,27,355.5,8.05,0.4,0
344,53,33,31,354.7,9.62,0.4,0
345,61,33,37,354,6.93,0.4,0
346,56,39,41,353.3,6.93,0.4,0.01
347,55,42,48,326.9,6.26,0.4,0.02
348,62,34,39,263.9,4.92,0.4,0
349,62,32,33,252.8,6.71,0.3,0
350,61,34,31,351.5,6.93,0.4,0
```

```
351,64,27,40,280.4,7.16,0.4,0
352,69,34,43,277.9,7.38,0.5,0
353,67,32,38,350.9,6.71,0.4,0
354,65,35,36,350.9,5.14,0.4,0
355,67,32,34,351,7.61,0.4,0
356,65,42,35,320.2,9.17,0.4,0
357,55,43,28,243.5,9.84,0.4,0.37
358,51,43,29,351.7,6.04,0.4,0.01
359,58,43,28,352.1,5.37,0.5,0
360,60,43,27,352.6,9.62,0.6,0.76
361,57,40,27,353.1,6.71,0.5,0.11
362,57,42,28,353.8,4.47,0.5,0
363,60,37,27,354.5,3.8,0.5,0
364,60,39,31,355.3,10.51,0.4,0
365,53,34,37,316.1,9.17,0.4,0
```

```
1,40,22,31,326.7,7.61,0.5,0
2,45,20,24,338.9,6.26,0.4,0
3,53,25,26,359.7,5.14,0.5,0
4,59,24,27,196.4,6.49,0.4,0
5,52,26,25,279.8,5.59,0.5,0
6,51,29,22,271,3.36,0.5,0
7,63,27,22,343.4,6.71,0.4,0
8,60,32,40,306.8,10.51,0.4,0
9,60,41,36,365.6,8.05,0.4,0
10,60,40,34,256.6,4.7,0.4,0
11,48,26,33,263.8,10.07,0.4,0
12,47,27,30,281.7,5.82,0.4,0
13,55,22,27,128.6,4.03,0.4,0
14,61,24,24,356.4,0.89,0.3,0
15,61,32,35,341.5,6.04,0.4,0
16,63,31,38,252.8,13.42,0.4,0
17,72,36,38,174.3,5.82,0.5,0
18,69,40,31,213.1,10.51,0.4,0
19,73,42,24,265.8,8.05,0.4,0
20,61,36,18,390.8,9.4,0.5,0
21,63,26,16,368.3,12.53,0.4,0
22,67,32,28,274.6,19.69,0.4,0
23,56,37,19,332.9,4.92,0.4,0
24,61,26,36,246.7,7.38,0.3,0
25,52,27,36,269,6.93,0.3,0
26,58,28,26,391.6,5.82,0.3,0
27,57,25,27,409.5,8.5,0.4,0
28,62,22,26,412.4,9.17,0.4,0
29,66,31,25,415.3,2.91,0.4,0
30,66,44,22,266.4,5.14,0.5,0
31,61,39,25,209.3,8.05,0.5,0
32,43,14,24,318.8,5.14,0.4,0.05
33,15,6,18,363.9,7.61,0.5,0.06
34,18,1,18,342.4,6.26,0.4,0
35,37,3,26,273.8,12.97,0.4,0
36,58,15,25,336.6,9.4,0.4,0
37,57,27,27,427.9,3.58,0.5,0
38,56,26,27,444.5,10.07,0.4,0
39,74,30,30,369,6.49,0.5,0
40,37,21,29,262.9,7.38,0.4,0
41,49,17,30,251.1,4.7,0.4,0
42,59,16,26,458.7,7.83,0.3,0
43,62,21,34,462.3,6.49,0.3,0
44,69,26,33,383.3,10.96,0.4,0
45,74,33,31,469.7,14.09,0.4,0
46,77,34,27,448.2,8.5,0.4,0
47,80,41,31,298.6,11.41,0.4,0
48,78,54,37,359.6,8.95,0.3,0
49,76,45,35,246.2,5.59,0.4,0
50,78,42,21,321.7,13.65,0.4,0
```

```
51,71,50,28,270.4,10.51,0.4,0
52,64,43,18,496.6,5.59,0.4,0
53,71,36,21,280.6,13.2,0.4,0
54,70,38,21,192.6,14.76,0.4,0
55,62,47,17,101.7,6.49,0.4,0
56,68,40,18,281.6,4.7,0.4,0
57,72,34,27,357.3,7.16,0.5,0
58,60,41,30,444,7.38,0.4,0
59,61,31,30,341.4,15.88,0.4,0
60,73,34,16,410.7,13.2,0.4,0
61,81,37,15,438.7,15.66,0.5,0
62,80,58,6,536.5,7.16,0.4,0
63,73,52,8,340.6,2.68,0.3,0
64,62,42,13,544.7,4.03,0.3,0
65,70,34,8,272.8,12.97,0.3,0
66,79,49,21,360.5,19.01,0.3,0
67,68,51,22,556.9,11.86,0.4,0
68,71,43,27,531.3,12.08,0.4,0
69,76,40,31,520.2,7.38,0.5,0
70,82,39,30,448.7,10.29,0.4,0
71,78,54,20,364.7,5.59,0.3,0
72,80,53,8,202.4,3.58,0.3,0
73,78,43,13,581,6.93,0.4,0
74,82,46,6,511.3,4.25,0.4,0
75,83,47,7,429,5.82,0.3,0
76,85,57,22,134.9,14.54,0.3,0
77,84,53,30,356.2,23.26,0.4,0
78,82,51,37,600.8,13.42,0.4,0
79,83,46,28,383.6,15.66,0.4,0
80,87,54,19,250.9,6.71,0.4,0
81,72,57,23,594.4,7.61,0.3,0
82,74,41,22,616.2,7.61,0.3,0
83,79,48,23,620,3.36,0.3,0
84,79,43,22,490.4,5.59,0.3,0
85,78,56,21,535,8.5,0.4,0
86,77,53,20,330.3,6.49,0.4,0
87,82,54,34,528.8,6.71,0.3,0
88,80,58,36,638.5,10.29,0.3,0
89,80,45,14,567.9,7.83,0.3,0
90,83,59,18,501.2,10.29,0.2,0
91,88,62,13,403.7,17.45,0.3,0
92,92,54,29,443.4,19.24,0.2,0
93,87,68,31,518.7,9.17,0.3,0
94,70,51,34,616,8.5,0.3,0
95,86,42,14,549.7,9.17,0.3,0
96,89,67,14,353.7,8.05,0.4,0
97,81,59,24,451.8,10.51,0.3,0
98,83,60,49,291.3,8.95,0.3,0
99,86,52,54,459.9,5.37,0.3,0
100,64,50,52,561,7.38,0.2,0
```

```
101,72,39,54,678.5,11.18,0.3,0
102,86,48,33,539.9,13.87,0.3,0
103,82,54,26,656.1,9.17,0.3,0
104,79,57,28,436.6,19.91,0.3,0
105,77,51,20,453.7,14.32,0.3,0
106,86,41,25,578.7,4.03,0.4,0
107,91,54,16,677.2,5.82,0.3,0
108,88,67,23,439.9,8.05,0.3,0
109,86,63,19,583.4,16.11,0.3,0
110,88,63,31,705.2,7.83,0.2,0
111,89,57,31,703.1,2.91,0.3,0
112,88,63,27,609.7,4.92,0.3,0
113,86,67,35,545.1,6.26,0.3,0
114,84,67,34,718.6,6.49,0.3,0
115,81,63,29,543.5,8.5,0.3,0
116,84,60,29,723.5,14.09,0.3,0
117,75,51,27,725.8,11.18,0.3,0
118,85,53,24,726,7.61,0.3,0
119,94,57,31,730.4,6.49,0.3,0
120,88,63,25,502.9,8.28,0.4,0
121,78,51,30,375,13.87,0.3,0
122,68,43,22,509.6,15.66,0.4,0
123,74,46,19,544.6,8.95,0.3,0
124,87,48,16,657.9,11.18,0.3,0
125,87,53,18,513,16.11,0.4,0
126,93,60,16,743.4,15.43,0.4,0
127,94,57,46,746.7,11.41,0.3,0
128,92,63,50,655.1,15.88,0.2,0
129,91,70,53,750.2,7.83,0.2,0
130,91,62,53,751.9,3.58,0.3,0
131,77,56,53,598.6,3.58,0.2,0
132,84,55,52,755.2,9.62,0.3,0
133,86,61,49,756.8,8.72,0.2,0
134,91,62,49,485.9,8.05,0.3,0
135,90,55,47,717.8,6.71,0.3,0
136,90,54,43,693.8,7.16,0.3,0
137,86,62,38,644.8,5.82,0.4,0
138,87,64,29,589.8,17.67,0.3,0
139,83,63,29,765.2,11.41,0.4,0
140,79,58,53,627.4,8.95,0.3,0
141,85,60,53,721.3,8.72,0.3,0
142,91,61,51,768.8,10.74,0.4,0
143,91,72,25,769.9,21.03,0.3,0
144,88,70,34,709.6,19.24,0.4,0
145,90,63,28,771.9,12.3,0.3,0
146,98,60,50,579.5,14.32,0.3,0
147,99,67,30,690.3,10.07,0.3,0
148,99,75,21,595.1,5.82,0.3,0
149,99,70,21,680.9,7.38,0.3,0
150,94,72,14,776.3,12.75,0.3,0
```

```
151,97,65,51,460.9,8.72,0.3,0
152,99,70,58,777.8,5.82,0.2,0
153,102,69,46,760.3,9.17,0.3,0.05
154,98,65,25,704.9,6.71,0.4,0
155,98,68,38,623.3,9.62,0.3,0
156,98,69,48,562.5,5.82,0.4,0
157,100,73,25,631.7,6.93,0.4,0
158,100,71,24,454.8,6.93,0.3,0
159,100,67,23,729.1,8.72,0.3,0
160,97,66,18,636.4,14.09,0.3,0
161,96,71,21,508.3,14.09,0.2,0
162,98,68,26,518.5,5.82,0.2,0
163,102,59,30,689.5,4.7,0.2,0
164,102,71,45,783,6.93,0.2,0
165,102,77,47,733.6,11.18,0.2,0
166,103,72,50,783.2,13.42,0.3,0
167,103,77,54,670.1,6.93,0.2,0
168,101,81,54,725.4,4.92,0.2,0
169,103,74,44,637.9,10.07,0.3,0
170,104,69,22,653.3,12.97,0.3,0
171,96,78,21,574.5,7.16,0.3,0
172,98,68,49,783.2,11.18,0.3,0
173,102,70,52,783,9.17,0.4,0
174,105,75,47,738.6,8.5,0.3,0
175,107,75,46,782.6,5.37,0.3,0
176,107,74,48,782.3,6.71,0.3,0
177,108,71,42,752.6,7.61,0.2,0
178,108,76,38,781.7,6.93,0.3,0
179,102,79,42,781.3,5.59,0.4,0
180,102,77,45,459.7,5.14,0.4,0
181,102,77,49,780.4,9.4,0.4,0
182,100,77,50,779.9,9.62,0.4,0.01
183,97,73,54,779.4,8.28,0.4,0
184,97,72,65,653.5,9.62,0.4,0
185,99,76,65,717.2,8.5,0.4,0
186,100,77,64,314.9,10.74,0.4,0
187,99,76,66,776.8,3.8,0.4,0
188,100,78,66,597.2,6.04,0.4,0
189,102,77,60,377.8,6.71,0.4,0
190,102,77,64,684.1,9.84,0.4,0
191,101,75,63,760.5,8.05,0.5,0
192,99,75,66,772.7,7.38,0.5,0
193,94,70,63,771.8,6.71,0.4,0.14
194,96,68,56,770.8,5.14,0.4,0.75
195,92,70,53,769.8,5.82,0.4,0
196,100,74,53,663.4,6.04,0.5,0
197,101,79,58,767.6,8.72,0.5,0
198,98,79,61,765,8.05,0.5,0
199,99,78,60,493.9,8.5,0.4,0
200,102,79,57,636.3,8.95,0.5,0
```

```
201,103,80,63,705.9,9.17,0.5,0
202,101,74,64,553.5,6.49,0.5,0
203,100,75,57,758.7,5.37,0.5,0.01
204,96,73,57,662.9,6.26,0.5,0
205,94,73,64,688.2,7.38,0.5,0.01
206,96,71,59,755.7,12.3,0.5,0.05
207,99,68,60,607,6.26,0.5,1.08
208,98,73,65,276.5,8.28,0.6,0.01
209,99,69,64,404.9,8.5,0.6,0.53
210,89,70,60,749.3,5.82,0.5,0
211,95,72,59,495.7,4.47,0.4,0
212,94,77,54,745.9,6.04,0.5,0
213,98,76,57,744.1,7.38,0.6,0
214,102,77,54,720.5,12.08,0.6,0
215,101,79,58,621.6,10.51,0.5,0.05
216,100,76,55,551.6,5.59,0.5,0
217,101,80,61,617.6,14.09,0.5,0
218,100,75,55,513.5,6.93,0.4,0
219,103,78,54,593.8,4.03,0.5,0
220,104,77,52,607.3,6.71,0.5,0
221,102,79,54,509.3,7.61,0.5,0
222,100,78,51,481.4,9.62,0.5,0
223,96,72,48,481.1,4.7,0.5,0.02
224,96,73,46,518.5,4.25,0.5,0
225,94,70,56,500.4,8.28,0.5,0.15
226,88,70,56,506.2,4.7,0.5,0
227,94,74,54,639.9,5.59,0.5,0.22
228,97,74,62,526.3,9.4,0.5,0
229,97,77,65,709.2,10.07,0.4,0.23
230,98,74,67,706.6,3.8,0.5,0.37
231,93,70,65,584,10.29,0.5,0.04
232,96,74,62,533,5.14,0.4,0
233,98,75,54,692.9,6.71,0.4,0.02
234,100,76,59,610.9,8.05,0.5,0.01
235,102,76,66,693.1,8.5,0.4,0
236,100,80,64,619.7,12.3,0.5,0
237,99,76,58,464.6,8.05,0.4,0
238,99,74,61,684.5,6.26,0.4,0
239,99,73,61,681.5,9.17,0.4,0
240,100,72,58,526,7.16,0.4,0
241,101,74,48,675.5,5.59,0.4,0
242,103,76,52,672.4,4.25,0.4,0
243,101,75,39,564.2,3.58,0.4,0
244,98,76,43,436.5,4.25,0.4,0
245,99,74,52,580.5,2.68,0.5,0
246,101,72,52,525.9,7.61,0.5,0
247,87,71,56,607.6,9.17,0.4,0
248,85,66,59,612.4,9.17,0.5,0
249,92,63,64,642.5,8.72,0.4,0
250,95,65,65,617,8.72,0.4,0
```

```
251,86,69,67,244.9,15.43,0.4,0
252,91,69,53,516.4,7.83,0.4,0
253,89,69,55,586.9,3.8,0.4,0
254,90,69,58,535.2,10.74,0.4,0
255,96,73,56,558.6,8.28,0.4,0
256,94,72,56,528.1,14.32,0.4,0
257,86,64,52,214.4,7.61,0.5,0.14
258,83,63,50,618,3.58,0.4,0.13
259,86,63,47,551.1,8.05,0.3,0.16
260,88,67,38,299.3,9.17,0.3,0
261,89,63,46,546.7,4.7,0.3,0
262,91,67,50,562.2,3.36,0.3,0
263,94,67,39,475.6,5.37,0.3,0
264,94,66,36,595.5,4.7,0.4,0
265,88,69,34,591.7,4.7,0.4,0
266,91,61,31,438.1,3.13,0.4,0
267,93,62,33,344.6,3.8,0.3,0
268,94,64,40,580.2,4.92,0.3,0
269,93,67,48,576.3,7.83,0.3,0
270,93,64,57,572.4,6.93,0.3,0
271,92,63,63,544.9,6.93,0.3,0
272,93,67,56,564.6,6.26,0.3,0
273,83,66,56,475.3,5.82,0.3,0
274,85,60,51,258.3,5.82,0.3,0
275,88,66,48,389,4.7,0.3,0
276,84,61,41,313.4,8.95,0.3,0
277,84,65,36,452,7.83,0.3,0
278,85,61,38,428.5,9.62,0.4,0
279,88,65,45,537,7.83,0.3,0
280,85,58,45,455.5,5.14,0.3,0
281,72,48,43,529.1,4.7,0.2,0
282,75,52,36,494.2,6.26,0.2,0
283,80,51,43,282,5.14,0.3,0
284,85,51,57,222.5,8.28,0.2,0
285,84,60,57,367.1,11.41,0.2,0
286,86,49,31,448.9,8.95,0.3,0
287,89,50,33,388.6,8.95,0.2,0
288,90,59,43,417.5,4.25,0.3,0
289,90,51,52,312,9.17,0.3,0
290,90,54,30,340.2,12.75,0.2,0
291,73,54,30,316.1,4.25,0.3,0
292,76,50,30,335.5,4.7,0.3,0
293,87,48,44,482.6,7.38,0.4,0
294,85,55,55,478.9,9.4,0.4,0
295,85,53,52,475.2,8.28,0.4,0
296,86,54,45,405.5,4.92,0.3,0
297,85,51,41,285.6,9.4,0.3,0
298,85,65,33,425.2,8.95,0.3,0
299,85,59,36,165.4,9.62,0.3,0.01
300,65,43,31,259.7,3.8,0.3,0
```

```
301,66,38,34,357.3,3.8,0.3,0
302,71,43,31,214.5,2.91,0.3,0
303,78,42,27,380.1,3.58,0.2,0
304,80,46,21,284.4,2.46,0.2,0
305,84,46,23,389.5,3.8,0.3,0
306,74,44,26,377.1,3.58,0.2,0
307,62,35,36,346.2,4.03,0.3,0
308,75,41,37,241.9,2.24,0.2,0
309,67,48,29,419.3,3.58,0.2,0
310,67,38,25,423.6,3.58,0.3,0
311,68,40,26,420.5,4.7,0.4,0
312,58,37,37,417.5,7.83,0.3,0
313,59,33,41,298.6,9.84,0.2,0
314,59,34,42,411.6,16.11,0.3,0
315,61,34,22,363.5,13.87,0.3,0
316,71,51,9,406,8.95,0.3,0
317,71,50,11,403.2,7.38,0.4,0.01
318,68,54,17,400.5,5.82,0.3,0
319,67,49,16,381.4,6.71,0.4,0
320,68,47,29,395.3,4.92,0.4,0
321,67,42,40,268.8,2.91,0.4,0
322,72,40,51,390.4,4.7,0.4,0
323,71,49,46,100.7,3.13,0.3,0
324,72,47,31,358,7.83,0.3,0
325,68,46,47,269.1,6.71,0.4,0.01
326,65,36,46,381.3,3.58,0.4,0
327,69,33,36,379.2,9.62,0.5,0
328,67,40,30,302.6,2.46,0.3,0
329,60,49,33,156,4.03,0.4,0.21
330,56,37,31,217.4,4.25,0.3,0
331,55,29,27,137.2,4.03,0.3,0
332,63,29,37,344.8,4.7,0.3,0
333,65,31,37,73.6,4.7,0.3,0
334,62,32,29,200.7,3.58,0.3,0
335,67,35,28,298.6,4.92,0.3,0
336,49,37,25,290.9,5.14,0.3,0.25
337,53,36,35,203.2,11.86,0.3,0
338,49,34,35,360.8,6.71,0.3,0.11
339,38,23,30,359.6,3.36,0.4,0.05
340,36,18,29,253.1,5.82,0.2,0
341,42,23,29,235.2,6.71,0.3,0
342,49,21,30,356.4,10.29,0.4,0
343,54,28,31,355.5,14.09,0.4,0
344,51,30,14,354.7,5.59,0.4,0
345,51,32,6,354,2.91,0.4,0
346,56,37,13,353.3,2.68,0.4,0
347,60,41,22,326.9,5.37,0.4,0
348,56,35,42,263.9,19.91,0.4,0
349,53,34,33,252.8,8.05,0.3,0
350,55,33,34,351.5,11.41,0.4,0
```

```
351,54,43,30,280.4,12.75,0.4,0
352,59,44,30,277.9,5.37,0.5,0.01
353,53,39,33,350.9,20.8,0.4,0.13
354,49,36,8,350.9,9.17,0.4,0
355,54,29,4,351,8.95,0.4,0
356,54,37,13,320.2,6.04,0.4,0
357,37,27,27,243.5,4.25,0.4,0.18
358,37,25,30,351.7,12.3,0.4,0.01
359,44,22,31,352.1,13.2,0.5,0
360,53,23,16,352.6,3.58,0.6,0
361,54,23,27,353.1,11.41,0.5,0
362,58,27,28,353.8,8.95,0.5,0
363,62,28,12,354.5,8.5,0.5,0
364,65,32,28,355.3,6.49,0.4,0
365,70,33,31,316.1,16.33,0.4,0
```

```
1,46,29,25,326.7,4.7,0.5,0
2,49,28,18,338.9,11.18,0.4,0
3,34,28,30,359.7,10.74,0.5,0.28
4,34,28,28,196.4,4.92,0.4,0.02
5,38,22,29,279.8,2.24,0.5,0
6,49,21,29,271,4.47,0.5,0
7,56,33,35,343.4,10.29,0.4,0
8,58,39,33,306.8,6.71,0.4,0
9,57,37,27,365.6,9.17,0.4,0
10,60,28,36,256.6,6.49,0.4,0
11,54,31,35,263.8,11.41,0.4,0
12,44,28,9,281.7,11.41,0.4,0
13,42,18,13,128.6,3.8,0.4,0
14,44,22,20,356.4,4.7,0.3,0
15,39,24,13,341.5,8.5,0.4,0
16,47,18,7,252.8,2.91,0.4,0
17,57,23,21,174.3,7.16,0.5,0
18,59,30,22,213.1,4.03,0.4,0
19,62,29,19,265.8,4.7,0.4,0
20,64,29,15,390.8,4.03,0.5,0
21,66,37,12,368.3,8.05,0.4,0
22,67,37,16,274.6,4.7,0.4,0
23,70,29,20,332.9,2.46,0.4,0
24,71,33,30,246.7,5.59,0.3,0
25,63,47,41,269,3.13,0.3,0
26,67,47,47,391.6,6.26,0.3,0
27,66,46,46,409.5,5.82,0.4,0
28,66,41,39,412.4,13.65,0.4,0
29,51,34,33,415.3,22.59,0.4,0
30,50,32,21,266.4,12.75,0.5,0
31,56,24,18,209.3,2.46,0.5,0
32,64,27,18,318.8,4.03,0.4,0
33,68,31,16,363.9,5.37,0.5,0
34,63,38,30,342.4,3.8,0.4,0
35,65,45,31,273.8,7.38,0.4,0
36,67,37,30,336.6,3.8,0.4,0
37,68,39,29,427.9,8.05,0.5,0
38,65,46,31,444.5,4.7,0.4,0
39,70,42,28,369,8.28,0.5,0
40,64,41,21,262.9,16.78,0.4,0
41,54,36,17,251.1,8.05,0.4,0
42,60,27,28,458.7,6.93,0.3,0
43,52,31,33,462.3,10.51,0.3,0.01
44,55,24,11,383.3,6.04,0.4,0
45,61,25,14,469.7,4.7,0.4,0
46,56,37,27,448.2,5.37,0.4,0
47,61,29,22,298.6,2.46,0.4,0
48,69,27,9,359.6,9.17,0.3,0
49,64,49,10,246.2,11.63,0.4,0
50,59,37,46,321.7,6.26,0.4,0.4
```

```
51,61,37,21,270.4,14.76,0.4,0
52,51,33,25,496.6,19.46,0.4,0
53,55,33,24,280.6,10.51,0.4,0
54,58,32,23,192.6,6.93,0.4,0
55,63,35,22,101.7,19.69,0.4,0
56,53,32,16,281.6,9.62,0.4,0
57,65,37,11,357.3,14.32,0.5,0
58,55,33,12,444,7.38,0.4,0
59,57,32,16,341.4,3.8,0.4,0
60,63,34,12,410.7,5.82,0.4,0
61,70,35,17,438.7,3.36,0.5,0
62,81,39,16,536.5,12.75,0.4,0
63,79,53,27,340.6,17.9,0.3,0
64,64,41,29,544.7,8.5,0.3,0
65,76,48,23,272.8,4.25,0.3,0
66,78,50,24,360.5,8.72,0.3,0
67,72,54,45,556.9,12.3,0.4,0
68,60,44,34,531.3,21.03,0.4,0
69,56,33,28,520.2,4.47,0.5,0
70,66,34,21,448.7,8.72,0.4,0
71,72,40,23,364.7,7.61,0.3,0
72,76,42,23,202.4,3.58,0.3,0
73,80,41,13,581,2.91,0.4,0
74,85,45,14,511.3,5.14,0.4,0
75,85,60,16,429,10.74,0.3,0
76,80,59,17,134.9,18.57,0.3,0
77,77,56,23,356.2,12.3,0.4,0
78,78,49,19,600.8,10.51,0.4,0
79,71,44,31,383.6,5.82,0.4,0
80,80,55,30,250.9,14.76,0.4,0
81,79,57,26,594.4,17,0.3,0
82,74,47,24,616.2,23.49,0.3,0
83,63,33,4,620,6.71,0.3,0
84,61,37,10,490.4,9.62,0.3,0
85,72,39,14,535,8.72,0.4,0
86,79,49,22,330.3,4.7,0.4,0
87,81,49,26,528.8,7.38,0.3,0
88,83,57,21,638.5,6.93,0.3,0
89,83,51,23,567.9,7.38,0.3,0
90,82,56,25,501.2,3.36,0.2,0
91,84,53,31,403.7,6.93,0.3,0
92,82,52,23,443.4,12.08,0.2,0
93,73,44,37,518.7,4.25,0.3,0
94,79,45,30,616,4.25,0.3,0
95,86,59,25,549.7,10.96,0.3,0
96,83,60,26,353.7,10.74,0.4,0
97,84,60,24,451.8,14.09,0.3,0
98,86,65,27,291.3,17.67,0.3,0
99,70,52,35,459.9,19.69,0.3,0
100,67,47,28,561,14.76,0.2,0
```

```
101,73,42,21,678.5,7.61,0.3,0
102,80,49,22,539.9,5.82,0.3,0
103,82,57,19,656.1,11.41,0.3,0
104,83,62,24,436.6,19.69,0.3,0
105,85,62,28,453.7,19.01,0.3,0
106,87,63,25,578.7,16.33,0.4,0
107,83,52,25,677.2,21.47,0.3,0
108,66,46,21,439.9,11.41,0.3,0
109,68,36,1,583.4,7.61,0.3,0
110,81,41,6,705.2,12.3,0.2,0
111,83,49,15,703.1,6.93,0.3,0
112,89,57,12,609.7,10.96,0.3,0
113,88,54,25,545.1,12.75,0.3,0
114,75,42,28,718.6,6.93,0.3,0
115,85,54,38,543.5,9.62,0.3,0
116,84,58,19,723.5,8.05,0.3,0
117,85,53,25,725.8,3.8,0.3,0
118,86,56,37,726,4.25,0.3,0
119,91,59,41,730.4,8.05,0.3,0
120,93,65,14,502.9,12.97,0.4,0
121,89,64,18,375,14.09,0.3,0
122,65,47,34,509.6,13.65,0.4,0
123,68,40,20,544.6,6.26,0.3,0
124,85,44,19,657.9,4.7,0.3,0
125,84,59,25,513,10.51,0.4,0
126,84,63,36,743.4,11.86,0.4,0
127,84,65,31,746.7,15.21,0.3,0
128,82,65,29,655.1,13.42,0.2,0
129,82,61,26,750.2,7.38,0.2,0
130,79,55,50,751.9,10.29,0.3,0.18
131,76,51,46,598.6,9.17,0.2,0
132,79,53,40,755.2,8.5,0.3,0
133,83,57,35,756.8,4.92,0.2,0
134,84,61,41,485.9,8.05,0.3,0
135,93,66,40,717.8,15.88,0.3,0
136,93,71,27,693.8,9.62,0.3,0
137,95,65,26,644.8,8.5,0.4,0
138,90,72,26,589.8,15.21,0.3,0
139,90,69,27,765.2,13.2,0.4,0
140,92,69,27,627.4,15.66,0.3,0
141,87,62,30,721.3,8.5,0.3,0
142,95,61,18,768.8,8.05,0.4,0
143,98,66,49,769.9,8.72,0.3,0
144,94,63,50,709.6,4.92,0.4,0
145,97,70,54,771.9,8.5,0.3,0
146,96,66,49,579.5,10.51,0.3,0
147,94,64,15,690.3,8.05,0.3,0
148,95,69,18,595.1,14.99,0.3,0
149,90,72,29,680.9,18.12,0.3,0
150,93,72,37,776.3,14.32,0.3,0
```

```
151,97,78,34,460.9,11.63,0.3,0
152,97,72,41,777.8,11.63,0.2,0
153,96,70,58,760.3,13.2,0.3,0
154,98,65,56,704.9,7.61,0.4,0
155,100,67,44,623.3,9.62,0.3,0
156,99,73,33,562.5,8.95,0.4,0
157,93,69,47,631.7,6.93,0.4,0
158,94,69,57,454.8,10.29,0.3,0
159,101,64,52,729.1,9.4,0.3,0
160,99,77,48,636.4,10.51,0.3,0
161,104,75,48,508.3,6.04,0.2,0
162,104,75,45,518.5,6.04,0.2,0
163,106,77,51,689.5,7.61,0.2,0
164,98,74,57,783,9.4,0.2,0
165,95,70,63,733.6,7.61,0.2,0.1
166,98,67,61,783.2,4.92,0.3,0
167,101,76,51,670.1,8.28,0.2,0
168,100,77,63,725.4,8.72,0.2,0.02
169,99,70,59,637.9,7.38,0.3,0
170,104,77,59,653.3,9.62,0.3,0
171,103,79,52,574.5,13.2,0.3,0
172,103,72,53,783.2,7.61,0.3,0
173,102,77,55,783,9.62,0.4,0
174,101,77,51,738.6,8.5,0.3,0
175,100,78,48,782.6,9.4,0.3,0
176,101,79,44,782.3,8.5,0.3,0
177,104,77,25,752.6,9.17,0.2,0
178,107,73,39,781.7,4.92,0.3,0
179,101,78,42,781.3,5.82,0.4,0
180,103,74,44,459.7,6.71,0.4,0
181,98,69,59,780.4,10.51,0.4,0.04
182,84,66,62,779.9,10.51,0.4,0.06
183,89,65,62,779.4,8.72,0.4,0
184,93,68,59,653.5,8.28,0.4,0
185,96,67,54,717.2,3.8,0.4,0
186,100,75,50,314.9,7.16,0.4,0
187,101,75,57,776.8,6.49,0.4,0
188,102,80,56,597.2,9.84,0.4,0.02
189,98,79,55,377.8,10.07,0.4,0
190,100,77,58,684.1,8.28,0.4,0
191,98,76,59,760.5,8.95,0.5,0
192,98,79,60,772.7,8.5,0.5,0
193,100,77,58,771.8,7.16,0.4,0
194,99,76,58,770.8,6.49,0.4,0
195,101,77,59,769.8,7.61,0.4,0.15
196,83,70,63,663.4,10.51,0.5,0
197,86,67,54,767.6,8.5,0.5,0
198,78,67,61,765,11.63,0.5,0
199,76,65,66,493.9,6.04,0.4,0.35
200,82,68,65,636.3,7.61,0.5,0.02
```

```
201,87,69,64,705.9,5.82,0.5,0
202,93,71,61,553.5,6.04,0.5,0
203,95,73,64,758.7,11.18,0.5,0
204,95,73,63,662.9,11.63,0.5,0
205,95,70,66,688.2,8.95,0.5,0.2
206,89,64,65,755.7,7.38,0.5,1.52
207,94,68,68,607,6.71,0.5,0.31
208,84,67,65,276.5,8.5,0.6,0.02
209,92,69,64,404.9,7.38,0.6,0.01
210,97,73,64,749.3,6.71,0.5,0
211,98,77,65,495.7,8.05,0.4,0.47
212,98,73,64,745.9,4.47,0.5,0
213,95,75,64,744.1,6.26,0.6,0
214,97,76,62,720.5,7.83,0.6,0
215,98,78,60,621.6,3.58,0.5,0
216,100,78,61,551.6,6.26,0.5,0
217,97,76,63,617.6,8.05,0.5,0.02
218,95,74,59,513.5,12.53,0.4,0
219,92,73,57,593.8,10.74,0.5,0
220,96,68,55,607.3,6.49,0.5,0
221,97,70,52,509.3,5.59,0.5,0
222,88,74,62,481.4,11.18,0.5,0.01
223,93,66,63,481.1,12.3,0.5,0
224,96,74,60,518.5,5.37,0.5,0
225,95,76,60,500.4,8.05,0.5,0
226,96,72,64,506.2,8.95,0.5,0.03
227,95,70,65,639.9,5.82,0.5,0.3
228,97,69,63,526.3,4.7,0.5,0
229,100,72,57,709.2,5.82,0.4,0
230,98,72,54,706.6,5.82,0.5,0
231,97,73,55,584,6.04,0.5,0
232,95,75,56,533,6.04,0.4,0
233,95,73,57,692.9,7.16,0.4,0
234,93,71,53,610.9,5.59,0.5,0
235,92,72,55,693.1,8.95,0.4,0
236,89,71,61,619.7,6.71,0.5,0
237,94,71,58,464.6,9.17,0.4,0
238,92,73,55,684.5,9.62,0.4,0
239,86,71,64,681.5,7.38,0.4,0.11
240,79,71,65,526,2.91,0.4,0.03
241,80,66,68,675.5,5.14,0.4,0.62
242,91,68,66,672.4,3.13,0.4,0
243,96,70,66,564.2,4.92,0.4,0
244,98,73,60,436.5,5.14,0.4,0
245,95,74,57,580.5,8.95,0.5,0
246,93,74,59,525.9,9.17,0.5,0
247,92,71,54,607.6,6.49,0.4,0
248,94,72,53,612.4,8.28,0.5,0
249,93,71,55,642.5,7.38,0.4,0
250,93,73,55,617,6.93,0.4,0
```

```
251,93,73,56,244.9,8.28,0.4,0
252,89,69,63,516.4,8.28,0.4,0.02
253,79,67,67,586.9,5.37,0.4,0.92
254,79,68,70,535.2,6.93,0.4,0.17
255,70,64,66,558.6,9.4,0.4,1.9
256,73,65,65,528.1,12.3,0.4,0.3
257,83,65,62,214.4,7.83,0.5,0
258,85,65,61,618,6.71,0.4,0
259,83,66,65,551.1,11.41,0.3,0
260,85,67,62,299.3,7.83,0.3,0
261,87,68,61,546.7,6.93,0.3,0
262,86,68,68,562.2,6.49,0.3,0.54
263,82,66,64,475.6,7.61,0.3,0
264,80,62,60,595.5,5.82,0.4,0
265,85,62,55,591.7,7.38,0.4,0
266,85,67,54,438.1,9.84,0.4,0
267,86,59,43,344.6,5.82,0.3,0
268,90,58,51,580.2,5.37,0.3,0
269,88,68,51,576.3,8.5,0.3,0
270,87,67,56,572.4,12.08,0.3,0
271,77,56,41,544.9,10.51,0.3,0
272,82,49,40,564.6,3.8,0.3,0
273,88,56,41,475.3,8.05,0.3,0
274,89,60,33,258.3,10.29,0.3,0
275,88,62,39,389,5.82,0.3,0
276,86,60,41,313.4,7.61,0.3,0
277,85,62,45,452,10.51,0.3,0
278,75,54,35,428.5,11.41,0.4,0
279,76,45,30,537,6.71,0.3,0
280,80,46,30,455.5,3.8,0.3,0
281,86,48,37,529.1,5.82,0.2,0
282,85,60,40,494.2,8.05,0.2,0
283,85,58,45,282,17,0.3,0
284,77,51,38,222.5,6.26,0.2,0
285,81,47,40,367.1,6.49,0.2,0
286,81,59,54,448.9,5.14,0.3,0
287,77,66,47,388.6,9.84,0.2,0
288,71,57,54,417.5,8.28,0.3,0
289,76,56,50,312,6.26,0.3,0
290,76,46,38,340.2,5.37,0.2,0
291,77,42,31,316.1,5.59,0.3,0
292,73,41,31,335.5,2.01,0.3,0
293,78,38,33,482.6,5.59,0.4,0
294,72,46,35,478.9,5.82,0.4,0
295,75,46,38,475.2,4.47,0.4,0
296,79,42,34,405.5,4.7,0.3,0
297,82,53,39,285.6,7.83,0.3,0
298,79,57,47,425.2,6.71,0.3,0
299,77,54,45,165.4,10.07,0.3,0
300,77,47,40,259.7,3.8,0.3,0
```

```
301,80,49,42,357.3,8.95,0.3,0
302,75,64,31,214.5,7.61,0.3,0
303,71,59,44,380.1,14.09,0.2,0
304,69,45,24,284.4,11.63,0.2,0
305,71,41,25,389.5,5.82,0.3,0
306,72,39,24,377.1,6.04,0.2,0
307,76,52,49,346.2,7.16,0.3,0
308,74,52,50,241.9,5.14,0.2,0
309,69,54,50,419.3,9.62,0.2,0
310,64,45,28,423.6,11.41,0.3,0
311,68,33,20,420.5,6.49,0.4,0
312,71,43,44,417.5,4.7,0.3,0
313,74,47,46,298.6,2.68,0.2,0
314,76,42,34,411.6,4.25,0.3,0
315,78,46,39,363.5,6.71,0.3,0
316,60,45,43,406,11.18,0.3,0
317,61,45,40,403.2,4.47,0.4,0
318,69,43,44,400.5,5.82,0.3,0
319,72,49,49,381.4,10.51,0.4,0
320,75,57,48,395.3,16.11,0.4,0
321,70,51,42,268.8,9.84,0.4,0
322,72,49,37,390.4,3.36,0.4,0
323,75,47,41,100.7,5.82,0.3,0
324,72,51,42,358,8.5,0.3,0
325,74,53,40,269.1,6.04,0.4,0
326,62,35,36,381.3,11.86,0.4,0
327,39,31,29,379.2,12.3,0.5,0.02
328,35,28,28,302.6,5.82,0.3,0.08
329,47,31,31,156,5.59,0.4,0
330,54,27,30,217.4,3.36,0.3,0
331,50,24,27,137.2,4.47,0.3,0
332,58,31,27,344.8,5.59,0.3,0
333,64,36,34,73.6,5.37,0.3,0
334,65,41,36,200.7,5.14,0.3,0
335,57,44,39,298.6,3.58,0.3,0
336,67,32,35,290.9,7.38,0.3,0
337,72,46,38,203.2,11.63,0.3,0
338,71,56,43,360.8,23.04,0.3,0
339,57,44,48,359.6,9.84,0.4,0.2
340,53,34,33,253.1,6.49,0.2,0
341,41,31,31,235.2,5.82,0.3,0
342,56,28,30,356.4,6.04,0.4,0
343,56,30,30,355.5,10.96,0.4,0
344,49,26,6,354.7,9.62,0.4,0
345,56,31,20,354,6.71,0.4,0
346,46,37,36,353.3,8.5,0.4,0.03
347,58,33,37,326.9,10.51,0.4,0
348,55,33,31,263.9,5.82,0.4,0
349,57,26,25,252.8,2.01,0.3,0
350,61,25,25,351.5,2.01,0.4,0
```

```
351,65,30,24,280.4,1.57,0.4,0
352,62,30,26,277.9,4.92,0.5,0
353,70,39,25,350.9,11.41,0.4,0
354,59,41,45,350.9,8.72,0.4,0.01
355,48,36,34,351,17.45,0.4,0.02
356,54,32,28,320.2,7.61,0.4,0
357,55,24,24,243.5,5.37,0.4,0
358,58,27,24,351.7,4.03,0.4,0
359,54,31,27,352.1,5.37,0.5,0
360,52,24,25,352.6,3.36,0.6,0
361,56,26,25,353.1,4.92,0.5,0
362,57,22,28,353.8,6.49,0.5,0
363,53,32,25,354.5,7.38,0.5,0
364,56,23,22,355.3,2.68,0.4,0
365,57,25,22,316.1,2.91,0.4,0
```

```
1,63,25,22,326.7,2.46,0.5,0
2,57,33,26,338.9,4.47,0.4,0
3,61,31,25,359.7,8.05,0.5,0
4,66,44,25,196.4,10.07,0.4,0
5,57,31,19,279.8,11.41,0.5,0
6,48,22,11,271,3.36,0.5,0
7,52,19,19,343.4,3.36,0.4,0
8,65,35,19,306.8,4.92,0.4,0
9,63,31,28,365.6,6.93,0.4,0
10,63,45,31,256.6,14.32,0.4,0
11,65,33,19,263.8,5.59,0.4,0
12,68,40,22,281.7,15.43,0.4,0
13,60,40,13,128.6,9.17,0.4,0
14,62,30,11,356.4,3.8,0.3,0
15,62,29,18,341.5,5.59,0.4,0
16,64,29,16,252.8,4.47,0.4,0
17,61,28,18,174.3,2.24,0.5,0
18,65,27,15,213.1,3.36,0.4,0
19,64,30,14,265.8,4.92,0.4,0
20,69,31,13,390.8,3.58,0.5,0
21,63,38,16,368.3,2.91,0.4,0
22,64,35,15,274.6,4.25,0.4,0
23,51,29,18,332.9,11.86,0.4,0
24,49,26,15,246.7,2.68,0.3,0
25,62,30,22,269,3.13,0.3,0
26,71,45,29,391.6,12.97,0.3,0
27,61,41,27,409.5,7.16,0.4,0
28,50,25,25,412.4,5.82,0.4,0
29,55,21,13,415.3,4.03,0.4,0
30,73,38,26,266.4,14.54,0.5,0
31,71,57,31,209.3,23.49,0.5,0
32,66,53,33,318.8,14.54,0.4,0
33,57,39,38,363.9,7.61,0.5,0
34,61,36,33,342.4,8.05,0.4,0
35,54,38,27,273.8,12.3,0.4,0
36,46,27,22,336.6,8.72,0.4,0
37,42,20,18,427.9,6.04,0.5,0
38,59,34,27,444.5,10.07,0.4,0
39,67,46,27,369,12.75,0.5,0
40,74,47,31,262.9,13.65,0.4,0
41,75,53,26,251.1,11.41,0.4,0
42,62,33,26,458.7,4.7,0.3,0
43,66,31,24,462.3,6.04,0.3,0
44,76,41,20,383.3,9.17,0.4,0
45,80,58,22,469.7,8.72,0.4,0
46,83,46,20,448.2,6.26,0.4,0
47,82,50,17,298.6,9.62,0.4,0
48,74,49,17,359.6,5.82,0.3,0
49,80,44,18,246.2,6.71,0.4,0
50,77,49,17,321.7,13.42,0.4,0
```

```
51,67,46,16,270.4,13.42,0.4,0
52,70,38,4,496.6,6.71,0.4,0
53,74,47,8,280.6,6.71,0.4,0
54,76,52,26,192.6,7.38,0.4,0
55,77,54,26,101.7,5.59,0.4,0
56,74,50,35,281.6,11.63,0.4,0
57,69,47,36,357.3,8.5,0.5,0
58,76,51,30,444,14.99,0.4,0
59,76,55,33,341.4,11.41,0.4,0
60,78,51,40,410.7,14.09,0.4,0
61,63,48,46,438.7,12.97,0.5,0.16
62,61,43,37,536.5,4.7,0.4,0
63,64,39,33,340.6,5.59,0.3,0
64,71,51,33,544.7,8.95,0.3,0
65,72,44,31,272.8,3.36,0.3,0
66,77,46,28,360.5,10.07,0.3,0
67,64,49,31,556.9,13.87,0.4,0
68,62,42,25,531.3,6.04,0.4,0
69,71,35,31,520.2,8.05,0.5,0
70,75,53,25,448.7,13.42,0.4,0
71,63,41,25,364.7,12.53,0.3,0
72,69,36,24,202.4,4.92,0.3,0
73,74,46,39,581,8.28,0.4,0.02
74,70,47,43,511.3,15.21,0.4,0
75,62,42,32,429,8.05,0.3,0
76,77,47,13,134.9,15.21,0.3,0
77,77,55,11,356.2,13.65,0.4,0
78,70,43,17,600.8,5.82,0.4,0
79,78,39,17,383.6,3.58,0.4,0
80,79,60,16,250.9,12.97,0.4,0
81,80,54,17,594.4,9.17,0.3,0
82,67,47,28,616.2,7.16,0.3,0
83,77,42,26,620,3.58,0.3,0
84,71,49,42,490.4,10.74,0.3,0
85,78,44,45,535,17.45,0.4,0
86,77,59,28,330.3,21.25,0.4,0
87,74,51,29,528.8,13.87,0.3,0
88,78,44,26,638.5,5.37,0.3,0
89,85,53,30,567.9,12.3,0.3,0
90,81,54,21,501.2,12.53,0.2,0
91,84,56,19,403.7,15.43,0.3,0
92,81,61,21,443.4,22.15,0.2,0
93,68,50,24,518.7,16.33,0.3,0
94,72,38,20,616,8.5,0.3,0
95,72,48,29,549.7,12.97,0.3,0
96,72,47,22,353.7,11.63,0.4,0
97,74,51,22,451.8,10.74,0.3,0
98,79,42,25,291.3,5.14,0.3,0
99,87,50,15,459.9,5.82,0.3,0
100,88,53,11,561,7.61,0.2,0
```

```
101,87,50,24,678.5,8.05,0.3,0
102,84,61,43,539.9,15.21,0.3,0
103,81,62,37,656.1,19.69,0.3,0
104,70,45,32,436.6,11.41,0.3,0
105,71,38,15,453.7,4.92,0.3,0
106,86,48,16,578.7,8.5,0.4,0
107,82,53,29,677.2,9.4,0.3,0
108,83,54,42,439.9,9.4,0.3,0
109,76,53,51,583.4,7.61,0.3,0.45
110,79,50,50,705.2,6.04,0.2,0
111,86,55,45,703.1,2.91,0.3,0
112,89,63,47,609.7,10.74,0.3,0
113,86,66,25,545.1,17.67,0.3,0
114,82,59,21,718.6,7.61,0.3,0
115,87,57,22,543.5,12.97,0.3,0
116,84,57,34,723.5,23.04,0.3,0
117,72,53,31,725.8,26.62,0.3,0
118,80,59,20,726,19.69,0.3,0
119,69,51,19,730.4,12.75,0.3,0
120,68,51,22,502.9,15.43,0.4,0
121,65,51,33,375,11.41,0.3,0
122,77,45,34,509.6,6.04,0.4,0
123,86,51,23,544.6,5.59,0.3,0
124,93,55,15,657.9,7.61,0.3,0
125,91,68,26,513,14.54,0.4,0
126,88,66,29,743.4,19.69,0.4,0
127,85,65,19,746.7,18.34,0.3,0
128,77,57,22,655.1,11.18,0.2,0
129,84,48,26,750.2,9.17,0.2,0
130,90,59,22,751.9,14.99,0.3,0
131,90,67,27,598.6,23.26,0.2,0
132,79,59,24,755.2,10.51,0.3,0
133,67,49,25,756.8,12.08,0.2,0
134,70,49,23,485.9,6.49,0.3,0
135,81,51,15,717.8,3.13,0.3,0
136,91,51,16,693.8,6.26,0.3,0
137,94,61,26,644.8,6.04,0.4,0
138,96,59,21,589.8,11.41,0.3,0
139,95,69,12,765.2,13.2,0.4,0
140,92,63,17,627.4,8.72,0.3,0
141,94,64,26,721.3,9.62,0.3,0
142,89,66,36,768.8,9.17,0.4,0
143,90,64,56,769.9,8.5,0.3,0.01
144,89,59,56,709.6,10.74,0.4,0
145,85,60,37,771.9,8.72,0.3,0
146,88,61,42,579.5,7.61,0.3,0
147,95,61,39,690.3,4.7,0.3,0
148,97,68,43,595.1,8.05,0.3,0
149,95,72,48,680.9,8.28,0.3,0
150,95,71,47,776.3,7.38,0.3,0
```

```
151,102,73,46,460.9,4.92,0.3,0
152,102,70,37,777.8,9.84,0.2,0
153,104,70,33,760.3,4.25,0.3,0
154,109,72,46,704.9,6.93,0.4,0
155,107,78,39,623.3,8.5,0.3,0
156,107,70,26,562.5,5.14,0.4,0
157,106,69,27,631.7,8.28,0.4,0
158,101,76,18,454.8,6.04,0.3,0
159,98,71,57,729.1,10.29,0.3,0
160,96,74,38,636.4,10.07,0.3,0
161,99,68,45,508.3,6.04,0.2,0
162,102,76,37,518.5,12.97,0.2,0
163,100,82,50,689.5,14.76,0.2,0
164,100,73,61,783,11.86,0.2,0
165,100,76,49,733.6,17.22,0.2,0
166,99,76,43,783.2,12.97,0.3,0
167,100,71,44,670.1,9.62,0.2,0
168,99,79,45,725.4,10.51,0.2,0
169,96,76,48,637.9,10.29,0.3,0
170,97,69,48,653.3,7.83,0.3,0
171,96,73,55,574.5,9.17,0.3,0
172,99,70,59,783.2,4.47,0.3,0
173,103,74,50,783,10.96,0.4,0
174,99,73,46,738.6,6.49,0.3,0.01
175,99,73,58,782.6,8.5,0.3,0
176,101,78,54,782.3,10.51,0.3,0
177,102,76,53,752.6,12.97,0.2,0
178,101,83,48,781.7,16.78,0.3,0
179,101,81,39,781.3,11.41,0.4,0
180,106,81,37,459.7,11.41,0.4,0
181,107,77,46,780.4,12.53,0.4,0
182,100,69,58,779.9,13.65,0.4,0.08
183,92,69,59,779.4,11.18,0.4,0
184,91,72,58,653.5,8.72,0.4,0
185,95,74,53,717.2,8.05,0.4,0
186,97,76,51,314.9,7.83,0.4,0
187,95,72,60,776.8,10.74,0.4,0
188,92,70,62,597.2,7.61,0.4,0
189,96,73,57,377.8,7.83,0.4,0
190,96,74,59,684.1,6.71,0.4,0.05
191,98,73,58,760.5,6.93,0.5,0
192,97,75,57,772.7,8.28,0.5,0
193,93,73,64,771.8,7.16,0.4,0.19
194,91,70,61,770.8,6.93,0.4,0
195,96,75,59,769.8,8.5,0.4,0
196,94,71,58,663.4,6.93,0.5,0
197,96,68,63,767.6,8.05,0.5,0.03
198,98,74,61,765,8.28,0.5,0
199,99,70,58,493.9,6.04,0.4,0
200,104,77,57,636.3,10.51,0.5,0
```

```
201,104,77,59,705.9,12.08,0.5,0
202,102,77,61,553.5,8.5,0.5,0.04
203,101,74,68,758.7,7.38,0.5,0.06
204,96,70,69,662.9,8.95,0.5,0.08
205,98,74,55,688.2,5.82,0.5,0
206,100,73,54,755.7,4.47,0.5,0
207,103,75,52,607,6.71,0.5,0
208,99,79,55,276.5,6.93,0.6,0
209,94,74,64,404.9,12.53,0.6,0.02
210,89,68,66,749.3,7.38,0.5,0.09
211,101,71,68,495.7,6.93,0.4,0.01
212,90,71,63,745.9,9.17,0.5,0.04
213,78,66,66,744.1,8.72,0.6,0.16
214,80,64,64,720.5,10.29,0.6,0.37
215,85,67,62,621.6,7.16,0.5,0.03
216,88,73,60,551.6,8.05,0.5,0
217,92,72,61,617.6,6.04,0.5,0
218,95,71,66,513.5,6.93,0.4,0
219,94,71,66,593.8,8.28,0.5,0.27
220,89,73,67,607.3,4.7,0.5,0
221,89,68,66,509.3,5.82,0.5,0.13
222,92,71,63,481.4,9.17,0.5,0.01
223,85,70,62,481.1,11.63,0.5,0
224,86,71,62,518.5,7.16,0.5,0.05
225,92,69,60,500.4,6.71,0.5,0
226,91,73,63,506.2,7.38,0.5,0
227,94,71,62,639.9,7.61,0.5,0
228,96,73,60,526.3,5.82,0.5,0
229,94,71,57,709.2,7.16,0.4,0
230,94,70,59,706.6,5.59,0.5,0
231,93,72,59,584,11.63,0.5,0
232,92,69,59,533,10.51,0.4,0
233,95,68,57,692.9,8.05,0.4,0.01
234,80,64,65,610.9,5.59,0.5,0.67
235,89,66,62,693.1,6.71,0.4,0
236,93,70,63,619.7,6.93,0.5,0
237,83,70,62,464.6,7.16,0.4,0.01
238,90,69,65,684.5,7.83,0.4,0.06
239,88,69,67,681.5,4.92,0.4,0.02
240,94,69,62,526,3.58,0.4,0
241,94,70,56,675.5,6.04,0.4,0
242,97,72,54,672.4,5.37,0.4,0
243,100,70,50,564.2,6.93,0.4,0
244,99,72,47,436.5,7.61,0.4,0
245,100,69,47,580.5,4.7,0.5,0
246,99,70,54,525.9,6.49,0.5,0
247,93,67,64,607.6,12.08,0.4,0.11
248,83,65,67,612.4,10.29,0.5,0.35
249,83,69,66,642.5,10.74,0.4,0
250,74,66,64,617,6.71,0.4,0.01
```

```
251,90,68,62,244.9,6.04,0.4,0
252,91,72,63,516.4,11.41,0.4,0
253,91,75,55,586.9,8.28,0.4,0
254,83,68,60,535.2,6.93,0.4,0
255,76,58,63,558.6,8.28,0.4,0.22
256,74,56,54,528.1,8.72,0.4,0
257,79,62,58,214.4,8.28,0.5,0
258,79,65,65,618,6.26,0.4,0.05
259,80,65,66,551.1,9.84,0.3,0.61
260,84,65,66,299.3,9.84,0.3,1.86
261,71,65,66,546.7,9.62,0.3,0.5
262,83,66,65,562.2,4.25,0.3,0
263,88,67,65,475.6,4.7,0.3,0
264,88,70,65,595.5,6.49,0.4,0
265,75,65,67,591.7,6.93,0.4,0.52
266,83,66,64,438.1,3.13,0.4,0
267,87,65,61,344.6,5.14,0.3,0
268,84,64,56,580.2,6.71,0.3,0
269,81,64,54,576.3,6.71,0.3,0
270,80,60,55,572.4,5.37,0.3,0
271,86,64,58,544.9,3.8,0.3,0
272,90,66,59,564.6,7.61,0.3,0
273,86,65,57,475.3,9.17,0.3,0
274,85,63,42,258.3,8.28,0.3,0
275,83,59,39,389,7.83,0.3,0
276,84,53,37,313.4,5.59,0.3,0
277,87,52,43,452,4.92,0.3,0
278,87,58,38,428.5,6.71,0.4,0
279,85,54,37,537,4.25,0.3,0
280,87,55,41,455.5,4.47,0.3,0
281,88,59,49,529.1,3.8,0.2,0
282,86,62,55,494.2,10.51,0.2,0
283,80,59,52,282,8.05,0.3,0
284,77,56,51,222.5,4.25,0.2,0
285,84,55,47,367.1,16.78,0.2,0
286,74,49,29,448.9,4.47,0.3,0
287,79,46,33,388.6,4.03,0.2,0
288,83,50,36,417.5,5.14,0.3,0
289,88,52,44,312,3.8,0.3,0
290,87,57,46,340.2,6.49,0.2,0
291,79,61,56,316.1,8.5,0.3,0.1
292,80,58,56,335.5,12.08,0.3,0.88
293,73,57,55,482.6,8.5,0.4,0
294,73,57,55,478.9,5.14,0.4,0
295,77,60,57,475.2,2.91,0.4,0
296,80,55,56,405.5,1.79,0.3,0
297,84,54,53,285.6,2.01,0.3,0
298,85,55,51,425.2,2.68,0.3,0
299,86,55,48,165.4,5.37,0.3,0
300,81,62,50,259.7,8.5,0.3,0
```

```
301,78,54,48,357.3,3.8,0.3,0
302,80,52,44,214.5,4.7,0.3,0
303,82,51,44,380.1,7.16,0.2,0
304,75,56,49,284.4,10.51,0.2,0
305,77,57,49,389.5,8.72,0.3,0
306,81,57,54,377.1,10.96,0.2,0
307,68,56,56,346.2,5.59,0.3,0.06
308,61,51,52,241.9,11.63,0.2,0
309,61,50,47,419.3,6.71,0.2,0
310,58,50,45,423.6,5.82,0.3,0.02
311,67,43,44,420.5,6.26,0.4,0
312,68,45,43,417.5,8.5,0.3,0
313,69,44,42,298.6,4.7,0.2,0
314,78,52,40,411.6,15.21,0.3,0
315,74,53,43,363.5,8.5,0.3,0
316,54,34,36,406,9.62,0.3,0
317,48,29,20,403.2,7.83,0.4,0
318,65,32,40,400.5,5.37,0.3,0
319,70,49,43,381.4,10.74,0.4,0
320,64,31,42,395.3,12.75,0.4,0.01
321,49,26,23,268.8,4.92,0.4,0
322,58,28,19,390.4,4.92,0.4,0
323,63,25,20,100.7,2.91,0.3,0
324,69,33,24,358,5.59,0.3,0
325,69,40,28,269.1,3.58,0.4,0
326,67,51,43,381.3,12.3,0.4,0.02
327,64,47,26,379.2,21.92,0.5,0
328,57,34,7,302.6,8.72,0.3,0
329,55,34,15,156,7.38,0.4,0
330,67,30,21,217.4,3.58,0.3,0
331,68,32,23,137.2,2.01,0.3,0
332,69,32,24,344.8,3.58,0.3,0
333,73,33,20,73.6,6.49,0.3,0
334,71,41,22,200.7,8.72,0.3,0
335,63,33,22,298.6,4.7,0.3,0
336,61,35,27,290.9,3.8,0.3,0
337,71,49,42,203.2,4.92,0.3,0
338,65,48,47,360.8,6.04,0.3,0
339,66,45,43,359.6,6.93,0.4,0
340,68,48,38,253.1,9.17,0.2,0
341,68,47,38,235.2,6.93,0.3,0
342,69,42,39,356.4,6.93,0.4,0
343,68,48,47,355.5,7.38,0.4,0
344,68,43,48,354.7,3.13,0.4,0
345,71,43,47,354,2.68,0.4,0
346,72,41,40,353.3,3.58,0.4,0
347,72,45,40,326.9,11.41,0.4,0
348,59,41,33,263.9,11.18,0.4,0
349,58,33,28,252.8,2.68,0.3,0
350,61,34,29,351.5,7.61,0.4,0
```

```
351,62,35,35,280.4,11.41,0.4,0
352,55,35,40,277.9,6.93,0.5,0.01
353,55,33,39,350.9,4.7,0.4,0
354,57,26,29,350.9,4.7,0.4,0
355,63,34,31,351,11.18,0.4,0
356,67,48,36,320.2,14.09,0.4,0
357,55,30,36,243.5,12.75,0.4,0
358,51,23,22,351.7,6.49,0.4,0
359,68,34,22,352.1,10.51,0.5,0
360,52,36,35,352.6,9.62,0.6,0.11
361,46,32,35,353.1,4.92,0.5,0
362,49,24,30,353.8,6.71,0.5,0
363,58,33,30,354.5,11.63,0.5,0
364,45,28,25,355.3,10.07,0.4,0
365,30,24,22,316.1,12.3,0.4,0
```

```
1,46,29,29,326.7,6.93,0.5,0
2,45,29,32,338.9,7.61,0.4,0.01
3,49,32,26,359.7,13.42,0.5,0
4,55,23,24,196.4,2.46,0.4,0
5,60,22,26,279.8,5.82,0.5,0
6,63,24,26,271,3.36,0.5,0
7,59,30,32,343.4,12.75,0.4,0
8,43,30,26,306.8,2.46,0.4,0
9,44,31,27,365.6,9.4,0.4,0
10,50,35,35,256.6,5.59,0.4,0
11,61,32,38,263.8,6.04,0.4,0
12,61,35,38,281.7,8.05,0.4,0
13,42,32,34,128.6,6.71,0.4,0
14,44,35,36,356.4,7.61,0.3,0
15,55,26,35,341.5,3.8,0.4,0
16,58,29,31,252.8,5.59,0.4,0
17,64,26,27,174.3,3.8,0.5,0
18,66,31,24,213.1,3.8,0.4,0
19,70,34,29,265.8,4.03,0.4,0
20,69,36,28,390.8,3.8,0.5,0
21,60,38,41,368.3,5.82,0.4,0.01
22,41,31,34,274.6,12.75,0.4,0.24
23,46,22,28,332.9,3.58,0.4,0
24,54,27,29,246.7,6.49,0.3,0
25,63,30,29,269,5.82,0.3,0
26,61,37,35,391.6,7.38,0.3,0
27,69,46,41,409.5,3.58,0.4,0
28,73,42,42,412.4,2.91,0.4,0
29,62,43,38,266.4,12.3,0.4,0
30,48,41,43,209.3,8.28,0.5,0.44
31,58,43,48,318.8,6.26,0.5,0.15
32,61,41,45,363.9,5.37,0.4,0
33,62,37,41,342.4,2.91,0.5,0
34,67,37,42,273.8,4.25,0.4,0
35,72,39,38,336.6,4.92,0.4,0
36,66,36,34,427.9,3.8,0.4,0
37,74,37,34,444.5,4.7,0.5,0
38,78,44,35,369,7.61,0.4,0
39,79,45,33,262.9,4.47,0.5,0
40,77,44,34,251.1,3.8,0.4,0
41,78,43,33,458.7,5.59,0.4,0
42,66,43,33,462.3,13.42,0.3,0
43,56,42,31,383.3,7.83,0.3,0
44,65,35,37,469.7,3.58,0.4,0
45,69,39,44,448.2,4.92,0.4,0
46,76,46,46,298.6,11.63,0.4,0
47,69,46,44,359.6,10.51,0.4,0
48,60,36,29,246.2,5.82,0.3,0
49,71,32,25,321.7,2.68,0.4,0
50,77,38,20,270.4,5.82,0.4,0
```

```
51,72,54,30,496.6,13.42,0.4,0
52,75,57,34,280.6,11.18,0.4,0
53,65,37,42,192.6,13.87,0.4,0
54,44,30,27,101.7,10.29,0.4,0.01
55,65,29,35,281.6,10.74,0.4,0.02
56,63,37,32,357.3,9.17,0.4,0
57,56,33,32,444,11.86,0.5,0
58,46,29,25,341.4,9.4,0.4,0
59,69,26,31,410.7,5.82,0.4,0
60,76,42,32,,6.71,0.4,0
61,61,50,51,438.7,6.71,0.5,0.08
62,61,52,50,536.5,7.61,0.4,0.04
63,62,37,44,340.6,12.08,0.3,0
64,50,30,27,544.7,6.71,0.3,0
65,65,27,27,272.8,4.47,0.3,0
66,66,43,36,360.5,6.93,0.3,0
67,71,50,40,556.9,5.82,0.4,0
68,72,43,41,531.3,6.49,0.4,0.01
69,72,40,38,520.2,4.25,0.5,0
70,73,42,33,448.7,6.93,0.4,0
71,69,49,37,364.7,2.46,0.3,0
72,71,49,31,202.4,9.84,0.3,0
73,70,49,32,581,13.65,0.4,0
74,70,45,26,511.3,10.07,0.4,0
75,72,47,46,429,5.82,0.3,0
76,62,50,55,134.9,6.49,0.3,0.38
77,67,48,51,356.2,5.82,0.4,0.04
78,71,54,49,600.8,9.62,0.4,0
79,71,49,45,383.6,6.49,0.4,0
80,63,53,50,250.9,6.71,0.4,0.06
81,80,46,46,594.4,6.04,0.3,0
82,82,53,34,616.2,10.07,0.3,0
83,82,53,26,620,8.28,0.3,0
84,76,56,23,490.4,13.65,0.3,0
85,69,46,31,535,5.82,0.4,0
86,80,45,31,330.3,5.82,0.4,0
87,88,52,24,528.8,7.61,0.3,0
88,88,51,20,638.5,6.93,0.3,0
89,84,61,35,567.9,6.71,0.3,0
90,84,62,43,501.2,12.97,0.2,0
91,84,58,43,403.7,14.99,0.3,0
92,85,63,38,443.4,17.67,0.2,0
93,80,59,32,518.7,8.28,0.3,0
94,72,50,40,616,9.84,0.3,0
95,85,55,44,549.7,10.51,0.3,0
96,86,60,33,353.7,15.66,0.4,0
97,87,54,28,451.8,13.42,0.3,0
98,86,66,40,291.3,14.76,0.3,0
99,79,57,20,459.9,6.04,0.3,0
100,87,46,35,561,8.95,0.2,0
```

```
101,86,62,42,678.5,12.53,0.3,0
102,69,55,54,539.9,11.86,0.3,0.11
103,63,52,50,656.1,11.41,0.3,0.13
104,71,46,41,436.6,4.25,0.3,0
105,82,51,41,453.7,13.87,0.3,0
106,77,57,38,578.7,17.45,0.4,0
107,71,43,12,677.2,11.18,0.3,0
108,76,47,20,439.9,12.75,0.3,0
109,81,53,29,583.4,8.5,0.3,0
110,81,51,34,705.2,4.92,0.2,0
111,84,56,26,703.1,9.4,0.3,0
112,82,62,22,609.7,11.18,0.3,0
113,79,63,40,545.1,12.3,0.3,0
114,74,57,43,718.6,15.21,0.3,0
115,80,54,32,543.5,14.32,0.3,0
116,68,52,41,723.5,20.36,0.3,0
117,72,48,39,725.8,11.63,0.3,0
118,71,43,36,726,5.82,0.3,0
119,76,45,29,730.4,4.03,0.3,0
120,85,46,21,502.9,5.59,0.4,0
121,91,57,22,375,5.59,0.3,0
122,93,56,30,509.6,9.4,0.4,0
123,89,64,44,544.6,7.61,0.3,0
124,86,63,58,657.9,8.28,0.3,0.16
125,80,57,53,513,13.2,0.4,0
126,84,58,41,743.4,8.95,0.4,0
127,85,62,34,746.7,10.29,0.3,0
128,87,60,35,655.1,13.87,0.2,0
129,77,62,27,750.2,14.76,0.2,0
130,78,54,27,751.9,9.84,0.3,0
131,84,51,48,598.6,10.96,0.2,0
132,77,58,57,755.2,9.84,0.3,0.54
133,77,55,56,756.8,6.49,0.2,0.02
134,85,61,51,485.9,8.72,0.3,0
135,83,60,52,717.8,14.32,0.3,0.04
136,78,57,40,693.8,19.46,0.3,0
137,81,56,34,644.8,6.04,0.4,0
138,92,56,54,589.8,9.4,0.3,0
139,87,65,39,765.2,13.87,0.4,0
140,88,55,55,627.4,5.59,0.3,0
141,79,56,55,721.3,10.96,0.3,0.05
142,91,56,54,768.8,10.74,0.4,0
143,83,65,27,769.9,13.65,0.3,0
144,82,62,29,709.6,13.65,0.4,0
145,84,61,33,771.9,11.18,0.3,0
146,88,57,40,579.5,5.14,0.3,0
147,92,57,41,690.3,4.47,0.3,0
148,94,68,51,595.1,9.4,0.3,0
149,96,63,26,680.9,6.04,0.3,0
150,90,68,53,776.3,11.86,0.3,0
```

```
151,93,65,54,460.9,6.04,0.3,0
152,98,69,47,777.8,5.82,0.2,0
153,99,72,46,760.3,9.84,0.3,0
154,98,73,27,704.9,11.63,0.4,0
155,98,65,44,623.3,7.61,0.3,0
156,98,73,57,562.5,7.16,0.4,0
157,97,72,60,631.7,5.82,0.4,0.04
158,93,73,62,454.8,7.16,0.3,0
159,92,76,56,729.1,9.62,0.3,0
160,94,71,63,636.4,6.49,0.3,0.03
161,98,72,58,508.3,7.16,0.2,0
162,98,73,50,518.5,10.51,0.2,0
163,97,73,43,689.5,6.93,0.2,0
164,99,68,53,783,7.38,0.2,0
165,98,69,55,733.6,5.82,0.2,0
166,97,71,57,783.2,8.28,0.3,0
167,94,70,60,670.1,6.93,0.2,0
168,98,70,56,725.4,4.92,0.2,0
169,102,76,53,637.9,8.28,0.3,0
170,97,75,59,653.3,10.96,0.3,0
171,104,76,58,574.5,5.59,0.3,0
172,104,75,52,783.2,5.82,0.3,0
173,104,74,62,783,8.5,0.4,0
174,92,70,60,738.6,12.3,0.3,0
175,91,72,60,782.6,10.51,0.3,0
176,93,74,60,782.3,8.72,0.3,0
177,97,74,60,752.6,7.83,0.2,0
178,91,70,64,781.7,8.72,0.3,0.09
179,95,72,59,781.3,7.16,0.4,0
180,99,71,58,459.7,6.49,0.4,0.02
181,94,69,59,780.4,8.5,0.4,0
182,97,71,55,779.9,4.92,0.4,0
183,101,74,54,779.4,6.26,0.4,0
184,96,74,60,653.5,11.18,0.4,0
185,96,72,68,717.2,7.16,0.4,0.3
186,94,71,67,314.9,10.51,0.4,0
187,97,74,60,776.8,10.74,0.4,0
188,95,70,63,597.2,6.71,0.4,0.04
189,92,68,63,377.8,5.82,0.4,0
190,94,68,62,684.1,6.71,0.4,0.27
191,91,68,68,760.5,7.83,0.5,0.6
192,94,66,68,772.7,5.14,0.5,0.02
193,98,75,64,771.8,5.37,0.4,0
194,99,75,59,770.8,8.28,0.4,0.04
195,94,75,60,769.8,8.05,0.4,0
196,94,75,57,663.4,10.07,0.5,0
197,97,79,55,767.6,8.72,0.5,0
198,97,79,56,765,10.07,0.5,0
199,99,73,58,493.9,10.51,0.4,0
200,96,71,64,636.3,8.72,0.5,0
```

```
201,99,75,63,705.9,6.26,0.5,0.03
202,98,71,66,553.5,6.93,0.5,0.12
203,95,70,67,758.7,5.59,0.5,0.27
204,97,71,67,662.9,5.82,0.5,0
205,100,77,62,688.2,5.59,0.5,0
206,101,79,60,755.7,6.49,0.5,0
207,97,73,64,607,7.38,0.5,0
208,100,75,58,276.5,8.5,0.6,0
209,100,72,65,404.9,9.62,0.6,0.32
210,94,71,66,749.3,7.61,0.5,0.13
211,91,68,67,495.7,8.95,0.4,0.72
212,93,72,67,745.9,6.26,0.5,0.02
213,96,75,60,744.1,7.38,0.6,0
214,96,71,66,720.5,6.93,0.6,0.3
215,94,72,65,621.6,6.04,0.5,0
216,99,72,63,551.6,5.14,0.5,0
217,103,75,57,617.6,5.82,0.5,0
218,103,75,56,513.5,6.04,0.4,0
219,102,78,56,593.8,7.61,0.5,0
220,96,77,59,607.3,7.83,0.5,0.02
221,98,72,66,509.3,6.26,0.5,0.12
222,97,73,67,481.4,7.83,0.5,0.01
223,96,74,63,481.1,12.53,0.5,0.04
224,98,74,47,518.5,6.71,0.5,0
225,99,77,56,500.4,3.8,0.5,0
226,102,75,55,506.2,5.14,0.5,0
227,102,78,58,639.9,8.05,0.5,0
228,97,73,64,526.3,8.28,0.5,0.02
229,97,73,61,709.2,7.61,0.4,0
230,102,79,60,706.6,9.17,0.5,0
231,99,77,57,584,12.53,0.5,0
232,100,69,60,533,7.83,0.4,0
233,100,74,59,692.9,10.96,0.4,0
234,97,72,59,610.9,10.29,0.5,0.01
235,94,73,59,693.1,9.62,0.4,0
236,92,68,67,619.7,8.05,0.5,0.45
237,95,71,64,464.6,6.04,0.4,0.03
238,97,74,59,684.5,5.37,0.4,0.39
239,95,74,57,681.5,4.92,0.4,0
240,98,72,61,526,5.82,0.4,0.12
241,93,71,65,675.5,8.05,0.4,0.04
242,93,68,55,672.4,5.82,0.4,0
243,97,69,51,564.2,4.92,0.4,0
244,99,68,49,436.5,4.47,0.4,0
245,99,72,51,580.5,6.93,0.5,0
246,92,77,53,525.9,7.38,0.5,0
247,91,72,58,607.6,5.37,0.4,0
248,95,75,56,612.4,6.49,0.5,0
249,100,75,65,642.5,7.16,0.4,0
250,96,73,64,617,5.82,0.4,0
```

```
251,98,74,60,244.9,10.29,0.4,0
252,91,73,61,516.4,6.71,0.4,0
253,89,72,61,586.9,4.92,0.4,0
254,92,70,60,535.2,5.59,0.4,0
255,92,68,56,558.6,4.92,0.4,0
256,96,71,52,528.1,7.83,0.4,0
257,95,68,46,214.4,7.38,0.5,0
258,94,73,55,618,8.5,0.4,0
259,96,71,60,551.1,8.05,0.3,0
260,95,72,62,299.3,9.62,0.3,0
261,96,69,57,546.7,7.16,0.3,0
262,85,67,63,562.2,5.37,0.3,0.25
263,80,64,64,475.6,4.47,0.3,0.03
264,77,66,65,595.5,3.36,0.4,0.03
265,84,67,65,591.7,5.82,0.4,0
266,90,70,66,438.1,3.36,0.4,0.02
267,90,67,63,344.6,7.61,0.3,0
268,84,68,58,580.2,9.17,0.3,0
269,87,62,53,576.3,3.8,0.3,0
270,93,61,47,572.4,6.26,0.3,0
271,97,62,44,544.9,4.92,0.3,0
272,94,65,47,564.6,6.04,0.3,0
273,91,66,48,475.3,5.37,0.3,0
274,93,67,44,258.3,3.8,0.3,0
275,96,66,45,389,7.38,0.3,0
276,88,65,60,313.4,9.17,0.3,0.59
277,67,61,60,452,6.93,0.3,0.07
278,74,60,61,428.5,5.82,0.4,0.37
279,78,59,61,537,4.7,0.3,0.62
280,75,60,59,455.5,7.61,0.3,0.01
281,72,57,55,529.1,5.82,0.2,0
282,75,59,57,494.2,8.05,0.2,0
283,82,60,57,282,3.58,0.3,0
284,88,58,57,222.5,6.93,0.2,0
285,87,65,51,367.1,5.37,0.2,0
286,89,61,48,448.9,2.24,0.3,0
287,92,60,49,388.6,3.58,0.2,0
288,90,62,48,417.5,3.13,0.3,0
289,76,62,49,312,12.3,0.3,0
290,77,58,59,340.2,8.05,0.2,0.02
291,80,61,58,316.1,6.04,0.3,0
292,86,62,56,335.5,6.49,0.3,0.01
293,84,62,59,482.6,7.16,0.4,0.04
294,78,54,57,478.9,12.08,0.4,0.3
295,72,53,51,475.2,6.26,0.4,0.09
296,76,51,51,405.5,6.26,0.3,0
297,72,54,47,285.6,10.29,0.3,0
298,74,50,46,425.2,4.7,0.3,0
299,76,50,43,165.4,2.68,0.3,0
300,81,53,44,259.7,11.41,0.3,0
```

```
301,77,52,36,357.3,4.92,0.3,0
302,60,53,54,214.5,4.92,0.3,0.94
303,61,49,53,380.1,5.82,0.2,0.18
304,68,44,48,284.4,2.24,0.2,0
305,74,45,46,389.5,4.92,0.3,0
306,77,47,46,377.1,4.03,0.2,0
307,78,52,45,346.2,4.7,0.3,0
308,77,53,45,241.9,15.66,0.2,0
309,64,45,36,419.3,10.96,0.2,0
310,70,41,31,423.6,6.26,0.3,0
311,66,46,38,420.5,12.97,0.4,0
312,66,46,43,417.5,4.7,0.3,0
313,75,44,47,298.6,4.7,0.2,0
314,76,46,34,411.6,12.3,0.3,0
315,64,39,36,363.5,10.96,0.3,0
316,65,38,20,406,7.61,0.3,0
317,68,43,32,403.2,8.72,0.4,0
318,73,48,49,400.5,5.82,0.3,0
319,67,56,55,381.4,12.3,0.4,0.05
320,74,42,53,395.3,18.79,0.4,0.01
321,57,39,26,268.8,20.8,0.4,0
322,65,36,27,390.4,7.83,0.4,0
323,65,41,28,100.7,5.14,0.3,0
324,70,39,31,358,6.04,0.3,0
325,54,39,28,269.1,10.07,0.4,0
326,60,31,23,381.3,3.8,0.4,0
327,62,37,27,379.2,5.37,0.5,0
328,70,34,31,302.6,6.04,0.3,0
329,77,42,56,156,7.38,0.4,0.11
330,65,53,56,217.4,5.59,0.3,0.11
331,59,39,56,137.2,6.49,0.3,0
332,47,38,43,344.8,4.47,0.3,0
333,63,43,49,73.6,4.03,0.3,0
334,60,39,26,200.7,6.04,0.3,0
335,59,33,25,298.6,4.25,0.3,0
336,59,30,22,290.9,4.92,0.3,0
337,61,27,20,203.2,4.25,0.3,0
338,63,33,28,360.8,5.37,0.3,0
339,67,34,31,359.6,5.37,0.4,0
340,64,37,28,253.1,5.59,0.2,0
341,63,36,26,235.2,6.71,0.3,0
342,63,30,26,356.4,2.91,0.4,0
343,69,33,27,355.5,3.58,0.4,0
344,74,40,28,354.7,6.71,0.4,0
345,74,49,29,354,10.51,0.4,0
346,58,38,42,353.3,15.88,0.4,0.11
347,55,39,32,326.9,17.9,0.4,0
348,67,40,28,263.9,15.43,0.4,0
349,48,36,22,252.8,15.21,0.3,0
350,48,25,19,351.5,6.26,0.4,0
```

```
351,51,28,16,280.4,4.92,0.4,0
352,58,25,15,277.9,4.7,0.5,0
353,60,35,24,350.9,5.14,0.4,0
354,67,44,38,350.9,11.41,0.4,0
355,62,44,30,351,7.61,0.4,0
356,60,37,36,320.2,12.08,0.4,0
357,64,48,41,243.5,11.18,0.4,0.01
358,66,45,39,351.7,10.74,0.4,0
359,68,41,33,352.1,11.18,0.5,0
360,57,29,38,352.6,12.75,0.6,0.58
361,38,27,28,353.1,8.72,0.5,0.37
362,39,23,28,353.8,4.25,0.5,0
363,47,28,34,354.5,7.38,0.5,0.01
364,49,28,30,355.3,6.49,0.4,0
365,50,33,32,316.1,10.74,0.4,0
```

```
1,40,36,31,326.7,8.95,0.5,0
2,42,30,33,338.9,5.14,0.4,0
3,50,27,32,359.7,2.91,0.5,0
4,47,31,36,196.4,9.4,0.4,0
5,48,37,43,279.8,6.93,0.5,0.27
6,57,41,45,271,8.95,0.5,0.08
7,57,36,35,343.4,13.42,0.4,0
8,48,37,36,306.8,17.67,0.4,0.11
9,50,34,28,365.6,8.28,0.4,0
10,47,26,31,256.6,6.04,0.4,0
11,50,30,31,263.8,4.92,0.4,0
12,52,24,22,281.7,2.01,0.4,0
13,55,24,23,128.6,3.13,0.4,0
14,63,28,24,356.4,11.41,0.3,0
15,61,40,31,341.5,20.58,0.4,0
16,54,37,29,252.8,4.92,0.4,0
17,66,36,27,174.3,5.37,0.5,0
18,62,30,24,213.1,6.49,0.4,0
19,67,40,22,265.8,8.5,0.4,0
20,68,41,25,390.8,13.42,0.5,0
21,57,38,28,368.3,8.28,0.4,0
22,58,26,21,274.6,2.01,0.4,0
23,64,30,20,332.9,4.25,0.4,0
24,71,38,22,246.7,14.54,0.3,0
25,60,34,20,269,6.71,0.3,0
26,53,32,27,391.6,10.74,0.3,0
27,53,23,28,409.5,4.7,0.4,0
28,61,26,24,412.4,4.03,0.4,0
29,68,28,22,415.3,6.04,0.4,0
30,73,46,20,266.4,13.87,0.5,0
31,72,50,23,209.3,11.63,0.5,0
32,58,35,33,318.8,21.25,0.4,0.07
33,46,35,26,363.9,16.11,0.5,0
34,45,23,13,342.4,4.92,0.4,0
35,49,24,8,273.8,7.83,0.4,0
36,54,26,10,336.6,12.3,0.4,0
37,58,21,9,427.9,4.92,0.5,0
38,63,26,16,444.5,4.25,0.4,0
39,63,36,20,369,4.47,0.5,0
40,66,32,19,262.9,2.46,0.4,0
41,72,33,20,251.1,4.92,0.4,0
42,72,32,20,458.7,3.58,0.3,0
43,76,33,18,462.3,3.13,0.3,0
44,78,37,17,383.3,4.92,0.4,0
45,76,37,15,469.7,7.83,0.4,0
46,73,45,18,448.2,7.38,0.4,0
47,77,39,25,298.6,4.03,0.4,0
48,81,36,24,359.6,3.58,0.3,0
49,85,49,24,246.2,9.17,0.4,0
50,81,49,30,321.7,5.82,0.4,0
```

```
51,81,48,28,270.4,4.47,0.4,0
52,79,53,38,496.6,8.05,0.4,0
53,75,46,45,280.6,13.65,0.4,0
54,61,40,27,192.6,14.76,0.4,0
55,58,34,27,101.7,4.03,0.4,0
56,67,36,19,281.6,7.83,0.4,0
57,71,36,22,357.3,4.25,0.5,0
58,77,39,21,444,5.82,0.4,0
59,80,45,17,341.4,6.49,0.4,0
60,79,44,22,410.7,6.93,0.4,0
61,84,49,22,438.7,13.87,0.5,0
62,80,45,19,536.5,4.7,0.4,0
63,83,46,21,340.6,5.82,0.3,0
64,79,49,17,544.7,5.82,0.3,0
65,80,59,15,272.8,14.99,0.3,0
66,70,56,25,360.5,15.43,0.3,0
67,61,44,36,556.9,9.17,0.4,0.01
68,71,45,35,531.3,10.07,0.4,0
69,75,38,35,520.2,6.04,0.5,0
70,73,45,33,448.7,4.25,0.4,0
71,76,45,27,364.7,19.91,0.3,0
72,76,52,26,202.4,11.63,0.3,0
73,80,53,26,581,14.32,0.4,0
74,78,53,28,511.3,8.5,0.4,0
75,80,47,19,429,6.04,0.3,0
76,81,47,21,134.9,8.72,0.3,0
77,81,49,29,356.2,8.28,0.4,0
78,65,40,31,600.8,8.5,0.4,0
79,66,42,27,383.6,6.49,0.4,0
80,81,48,33,250.9,4.92,0.4,0
81,84,54,27,594.4,19.91,0.3,0
82,71,52,22,616.2,20.58,0.3,0
83,69,39,13,620,3.8,0.3,0
84,76,40,10,490.4,13.87,0.3,0
85,80,54,17,535,12.97,0.4,0
86,73,46,29,330.3,5.82,0.4,0
87,81,50,27,528.8,10.74,0.3,0
88,83,53,34,638.5,18.12,0.3,0
89,70,52,33,567.9,13.2,0.3,0
90,68,46,27,501.2,11.41,0.2,0
91,63,41,34,403.7,9.4,0.3,0
92,67,36,30,443.4,4.92,0.2,0
93,76,36,24,518.7,4.47,0.3,0
94,84,44,17,616,3.8,0.3,0
95,89,53,18,549.7,10.74,0.3,0
96,80,54,21,353.7,7.61,0.4,0
97,77,54,31,451.8,6.71,0.3,0
98,80,56,50,291.3,9.84,0.3,0.04
99,81,53,51,459.9,7.83,0.3,0
100,80,50,36,561,14.99,0.2,0
```

```
101,74,54,37,678.5,8.5,0.3,0
102,67,49,42,539.9,8.72,0.3,0
103,78,42,42,656.1,3.8,0.3,0
104,87,50,33,436.6,5.37,0.3,0
105,86,66,33,453.7,19.01,0.3,0
106,71,53,32,578.7,17.67,0.4,0
107,73,41,27,677.2,5.82,0.3,0
108,78,50,41,439.9,8.72,0.3,0
109,79,51,42,583.4,6.71,0.3,0
110,86,51,24,705.2,10.74,0.2,0
111,87,58,42,703.1,7.38,0.3,0
112,87,60,50,609.7,10.96,0.3,0
113,87,57,51,545.1,10.51,0.3,0
114,86,66,37,718.6,19.24,0.3,0
115,87,64,37,543.5,20.13,0.3,0
116,76,58,36,723.5,20.8,0.3,0
117,80,56,21,725.8,11.41,0.3,0
118,84,56,30,726,14.99,0.3,0
119,74,58,30,730.4,16.55,0.3,0
120,78,54,30,502.9,6.49,0.4,0
121,69,47,37,375,13.42,0.3,0
122,73,44,35,509.6,6.93,0.4,0
123,84,50,36,544.6,5.14,0.3,0
124,85,57,36,657.9,6.93,0.3,0
125,91,64,30,513,10.29,0.4,0
126,97,64,31,743.4,12.97,0.4,0
127,84,58,24,746.7,9.84,0.3,0
128,80,59,24,655.1,16.11,0.2,0
129,82,60,32,750.2,17,0.2,0
130,87,59,30,751.9,10.07,0.3,0
131,92,55,28,598.6,7.61,0.2,0
132,86,59,52,755.2,9.62,0.3,0
133,94,66,57,756.8,7.83,0.2,0
134,85,65,52,485.9,12.08,0.3,0
135,91,63,53,717.8,9.62,0.3,0
136,90,65,42,693.8,18.34,0.3,0
137,82,59,45,644.8,12.08,0.4,0
138,73,54,49,589.8,11.41,0.3,0
139,81,51,47,765.2,4.7,0.4,0
140,91,57,39,627.4,8.05,0.3,0
141,92,59,25,721.3,7.61,0.3,0
142,92,62,31,768.8,13.2,0.4,0
143,92,67,27,769.9,13.42,0.3,0
144,91,66,27,709.6,14.09,0.4,0
145,93,66,31,771.9,13.42,0.3,0
146,87,70,32,579.5,18.34,0.3,0
147,84,57,24,690.3,10.29,0.3,0
148,92,58,19,595.1,7.83,0.3,0
149,94,69,35,680.9,6.71,0.3,0
150,91,65,57,776.3,8.05,0.3,0.04
```

```
151,87,63,59,460.9,9.62,0.3,0.02
152,84,58,54,777.8,7.83,0.2,0.12
153,89,55,51,760.3,5.14,0.3,0
154,100,63,46,704.9,6.26,0.4,0
155,96,69,49,623.3,8.28,0.3,0
156,94,70,51,562.5,6.71,0.4,0
157,98,71,52,631.7,6.71,0.4,0
158,99,77,51,454.8,10.07,0.3,0
159,99,74,53,729.1,8.95,0.3,0.02
160,102,73,53,636.4,9.62,0.3,0
161,102,75,58,508.3,11.18,0.2,0
162,96,74,55,518.5,10.74,0.2,0
163,99,72,57,689.5,9.4,0.2,0
164,98,81,39,783,12.75,0.2,0
165,97,68,38,733.6,7.83,0.2,0
166,101,67,33,783.2,8.72,0.3,0
167,100,74,32,670.1,10.51,0.2,0
168,104,66,29,725.4,6.04,0.2,0
169,108,69,21,637.9,6.93,0.3,0
170,100,73,48,653.3,8.05,0.3,0
171,97,71,52,574.5,12.3,0.3,0
172,98,74,57,783.2,4.92,0.3,0
173,105,78,53,783,8.5,0.4,0
174,105,76,60,738.6,9.17,0.3,0.04
175,101,75,63,782.6,9.62,0.3,0
176,99,74,57,782.3,8.5,0.3,0
177,95,71,61,752.6,9.17,0.2,0
178,94,72,61,781.7,11.41,0.3,0
179,84,70,67,781.3,8.05,0.4,0.15
180,95,69,63,459.7,9.4,0.4,0
181,97,74,57,780.4,7.38,0.4,0
182,89,72,67,779.9,6.49,0.4,0
183,96,70,64,779.4,13.42,0.4,0
184,101,73,51,653.5,10.29,0.4,0
185,104,75,49,717.2,7.83,0.4,0
186,105,76,46,314.9,8.05,0.4,0
187,104,84,50,776.8,10.96,0.4,0
188,101,80,56,597.2,13.2,0.4,0
189,102,75,59,377.8,9.62,0.4,0
190,102,76,58,684.1,9.4,0.4,0
191,105,77,51,760.5,9.62,0.5,0
192,105,78,45,772.7,10.74,0.5,0
193,104,79,41,771.8,10.51,0.4,0
194,107,80,39,770.8,6.71,0.4,0
195,108,75,42,769.8,7.61,0.4,0
196,104,76,56,663.4,10.96,0.5,0.05
197,101,71,58,767.6,7.38,0.5,0
198,103,78,51,765,7.83,0.5,0
199,102,76,61,493.9,7.38,0.4,0.04
200,99,74,58,636.3,9.17,0.5,0
```

```
201,100,74,57,705.9,6.49,0.5,0
202,101,78,61,553.5,6.93,0.5,0.04
203,105,76,51,758.7,5.37,0.5,0
204,104,78,51,662.9,3.8,0.5,0
205,106,78,51,688.2,6.49,0.5,0
206,100,79,55,755.7,9.84,0.5,0
207,100,75,61,607,10.07,0.5,0
208,96,73,66,276.5,6.26,0.6,0.11
209,98,74,61,404.9,8.28,0.6,0
210,98,75,59,749.3,9.17,0.5,0
211,97,75,61,495.7,8.05,0.4,0
212,95,75,58,745.9,7.61,0.5,0
213,96,74,62,744.1,9.4,0.6,0
214,95,74,63,720.5,7.61,0.6,0
215,92,70,66,621.6,7.16,0.5,0.08
216,95,67,65,551.6,9.4,0.5,0.3
217,100,71,64,617.6,7.16,0.5,0.11
218,99,74,64,513.5,9.84,0.4,0
219,101,76,58,593.8,9.4,0.5,0
220,102,78,63,607.3,7.83,0.5,0.07
221,91,74,63,509.3,8.5,0.5,0
222,90,69,66,481.4,7.61,0.5,0.03
223,97,71,68,481.1,8.28,0.5,0.02
224,102,69,67,518.5,9.62,0.5,0.48
225,87,65,68,500.4,9.62,0.5,1.01
226,88,69,61,506.2,9.17,0.5,0
227,92,64,55,639.9,4.7,0.5,0
228,93,69,51,526.3,7.61,0.5,0
229,93,69,50,709.2,7.61,0.4,0
230,95,71,62,706.6,6.71,0.5,0
231,96,68,62,584,5.82,0.5,0
232,84,73,61,533,6.49,0.4,0
233,86,63,66,692.9,9.4,0.4,1.53
234,89,66,65,610.9,6.49,0.5,0
235,91,66,67,693.1,5.82,0.4,0.41
236,90,68,64,619.7,6.93,0.5,0
237,88,68,57,464.6,6.71,0.4,0
238,91,66,61,684.5,5.59,0.4,0
239,90,67,65,681.5,6.93,0.4,0.33
240,90,67,63,526,5.37,0.4,0
241,88,67,63,675.5,7.83,0.4,0
242,78,67,66,672.4,6.93,0.4,0.23
243,82,69,66,564.2,5.14,0.4,0.16
244,83,66,67,436.5,5.14,0.4,0.23
245,88,68,66,580.5,5.82,0.5,0
246,91,70,65,525.9,5.82,0.5,0
247,94,71,65,607.6,7.83,0.4,0
248,93,74,63,612.4,12.3,0.5,0
249,80,68,68,642.5,7.83,0.4,0.45
250,84,66,68,617,7.38,0.4,0.43
```

```
251,84,70,62,244.9,11.41,0.4,0
252,93,68,63,516.4,5.59,0.4,0
253,82,67,56,586.9,10.29,0.4,0
254,88,64,58,535.2,3.36,0.4,0
255,91,73,56,558.6,9.4,0.4,0
256,89,67,55,528.1,5.37,0.4,0
257,90,62,62,214.4,4.92,0.5,0.05
258,92,69,62,618,6.26,0.4,0
259,90,66,60,551.1,6.04,0.3,0
260,93,64,60,299.3,3.36,0.3,0
261,95,64,56,546.7,3.13,0.3,0
262,97,64,44,562.2,4.7,0.3,0
263,96,69,55,475.6,5.82,0.3,0
264,95,71,53,595.5,6.04,0.4,0
265,93,69,51,591.7,8.72,0.4,0
266,91,66,50,438.1,10.51,0.4,0
267,84,64,48,344.6,7.61,0.3,0
268,80,62,46,580.2,14.09,0.3,0
269,65,55,49,576.3,10.07,0.3,0.08
270,77,56,50,572.4,2.68,0.3,0
271,85,56,54,544.9,4.25,0.3,0
272,86,64,55,564.6,8.5,0.3,0
273,76,58,60,475.3,8.05,0.3,0.88
274,85,63,60,258.3,7.61,0.3,0
275,87,62,47,389,6.49,0.3,0
276,86,65,54,313.4,13.2,0.3,0
277,83,62,37,452,8.28,0.3,0
278,84,53,44,428.5,6.93,0.4,0
279,85,58,44,537,5.59,0.3,0
280,74,61,50,455.5,10.51,0.3,0
281,73,59,56,529.1,8.72,0.2,0
282,79,63,57,494.2,7.61,0.2,0
283,86,58,57,282,4.03,0.3,0
284,90,62,57,222.5,6.04,0.2,0
285,89,58,50,367.1,4.47,0.2,0
286,85,63,49,448.9,4.92,0.3,0
287,88,54,49,388.6,4.7,0.2,0
288,90,54,42,417.5,4.92,0.3,0
289,90,53,37,312,7.61,0.3,0
290,90,58,33,340.2,10.29,0.2,0
291,89,61,31,316.1,6.93,0.3,0
292,88,54,31,335.5,6.71,0.3,0
293,76,59,39,482.6,11.63,0.4,0
294,78,48,42,478.9,2.68,0.4,0
295,81,51,45,475.2,3.13,0.4,0
296,87,50,40,405.5,3.36,0.3,0
297,87,54,39,285.6,4.03,0.3,0
298,87,60,44,425.2,4.92,0.3,0
299,88,61,40,165.4,7.61,0.3,0
300,85,58,46,259.7,4.03,0.3,0
```

```
301,84,58,46,357.3,4.25,0.3,0
302,87,57,42,214.5,3.13,0.3,0
303,85,53,38,380.1,2.24,0.2,0
304,86,58,38,284.4,6.49,0.2,0
305,81,64,38,389.5,8.72,0.3,0
306,79,61,52,377.1,8.28,0.2,0
307,72,61,51,346.2,14.54,0.3,0
308,73,60,56,241.9,14.32,0.2,0.38
309,77,59,56,419.3,8.28,0.2,0
310,76,50,55,423.6,4.92,0.3,0
311,77,49,47,420.5,5.37,0.4,0
312,70,54,41,417.5,10.07,0.3,0
313,63,47,33,298.6,8.95,0.2,0
314,64,44,42,411.6,6.93,0.3,0
315,67,48,45,363.5,5.82,0.3,0
316,66,48,42,406,5.59,0.3,0
317,70,42,43,403.2,4.7,0.4,0
318,74,42,37,400.5,3.13,0.3,0
319,76,41,31,381.4,3.58,0.4,0
320,77,40,29,395.3,4.92,0.4,0
321,78,57,37,268.8,14.76,0.4,0
322,67,41,19,390.4,9.62,0.4,0
323,64,40,25,100.7,6.04,0.3,0
324,71,40,34,358,4.25,0.3,0
325,69,47,42,269.1,7.16,0.4,0
326,65,44,36,381.3,10.51,0.4,0
327,65,36,28,379.2,4.92,0.5,0
328,68,36,26,302.6,10.29,0.3,0
329,61,43,37,156,8.05,0.4,0
330,65,46,44,217.4,2.91,0.3,0
331,67,51,45,137.2,17.22,0.3,0
332,58,43,29,344.8,19.91,0.3,0
333,53,36,34,73.6,16.11,0.3,0.01
334,53,26,17,200.7,4.47,0.3,0
335,60,27,27,298.6,4.03,0.3,0
336,63,36,34,290.9,7.83,0.3,0
337,48,39,39,203.2,10.51,0.3,0.24
338,57,37,38,360.8,6.71,0.3,0
339,62,32,34,359.6,9.84,0.4,0
340,64,44,34,253.1,8.95,0.2,0
341,57,49,35,235.2,6.93,0.3,0
342,52,30,34,356.4,9.4,0.4,0
343,47,29,31,355.5,3.36,0.4,0
344,58,32,38,354.7,6.71,0.4,0
345,72,45,37,354,10.96,0.4,0
346,70,43,33,353.3,6.71,0.4,0
347,72,51,36,326.9,8.5,0.4,0
348,72,46,36,263.9,5.37,0.4,0
349,74,41,33,252.8,6.49,0.3,0
350,76,52,29,351.5,19.24,0.4,0
```

```
351,65,36,35,280.4,21.47,0.4,0
352,51,29,15,277.9,4.92,0.5,0
353,53,34,16,350.9,4.03,0.4,0
354,59,29,24,350.9,2.24,0.4,0
355,62,44,41,351,4.92,0.4,0.04
356,54,44,45,320.2,5.82,0.4,0.43
357,63,39,43,243.5,5.14,0.4,0
358,69,41,43,351.7,6.71,0.4,0
359,55,36,33,352.1,14.32,0.5,0
360,53,31,29,352.6,3.13,0.6,0
361,56,35,31,353.1,5.82,0.5,0
362,65,37,34,353.8,3.13,0.5,0
363,52,39,34,354.5,9.84,0.5,0.11
364,49,40,39,355.3,5.59,0.4,0
365,59,40,46,316.1,8.72,0.4,0.04
```

```
1,60,42,43,326.7,8.28,0.5,0.18
2,55,37,32,338.9,10.51,0.4,0
3,60,36,34,359.7,7.38,0.5,0
4,66,49,36,196.4,9.84,0.4,0
5,65,46,36,279.8,8.05,0.5,0
6,60,29,35,271,13.65,0.5,0
7,50,26,19,343.4,4.7,0.4,0
8,60,31,28,306.8,5.14,0.4,0
9,72,36,32,365.6,8.5,0.4,0
10,71,48,31,256.6,9.62,0.4,0
11,72,49,28,263.8,7.38,0.4,0
12,66,38,27,281.7,2.91,0.4,0
13,71,45,39,128.6,5.59,0.4,0
14,70,50,50,356.4,8.95,0.3,0.06
15,51,41,45,341.5,17.22,0.4,0.51
16,56,41,38,252.8,8.28,0.4,0
17,53,38,41,174.3,7.61,0.5,0.01
18,56,33,39,213.1,8.05,0.4,0
19,57,45,36,265.8,13.65,0.4,0
20,60,38,39,390.8,14.76,0.5,0.03
21,49,42,39,368.3,24.61,0.4,0.26
22,54,38,27,274.6,12.08,0.4,0
23,68,39,32,332.9,9.62,0.4,0
24,59,45,34,246.7,18.34,0.3,0
25,50,38,15,269,13.42,0.3,0
26,51,31,15,391.6,6.26,0.3,0
27,47,33,18,409.5,11.63,0.4,0
28,50,27,14,412.4,4.92,0.4,0
29,58,28,16,415.3,4.03,0.4,0
30,64,27,18,266.4,4.47,0.5,0
31,68,30,17,209.3,6.04,0.5,0
32,70,38,19,318.8,4.7,0.4,0
33,70,32,19,363.9,4.47,0.5,0
34,72,37,26,342.4,2.46,0.4,0
35,74,40,28,273.8,5.82,0.4,0
36,73,40,25,336.6,5.14,0.4,0
37,70,52,24,427.9,10.07,0.5,0
38,68,52,36,444.5,19.91,0.4,0
39,72,43,38,369,4.92,0.5,0
40,78,43,34,262.9,2.91,0.4,0
41,83,43,33,251.1,6.26,0.4,0
42,84,52,30,458.7,12.08,0.3,0
43,68,49,32,462.3,13.42,0.3,0
44,49,41,39,383.3,9.62,0.4,0.12
45,53,41,41,469.7,5.59,0.4,0.04
46,56,35,31,448.2,2.68,0.4,0
47,62,32,27,298.6,5.82,0.4,0
48,65,45,34,359.6,12.53,0.3,0
49,67,44,35,246.2,10.07,0.4,0
50,59,44,35,321.7,13.42,0.4,0
```

```
51,68,46,35,270.4,12.3,0.4,0
52,76,38,34,496.6,6.49,0.4,0
53,79,47,34,280.6,9.4,0.4,0
54,73,54,33,192.6,20.58,0.4,0
55,63,43,11,101.7,13.42,0.4,0
56,66,40,9,281.6,8.72,0.4,0
57,68,42,21,357.3,9.17,0.5,0
58,72,38,29,444,12.53,0.4,0
59,75,51,29,341.4,18.12,0.4,0
60,64,45,29,410.7,9.17,0.4,0
61,69,41,18,438.7,11.63,0.5,0
62,67,47,19,536.5,7.61,0.4,0
63,76,44,29,340.6,6.93,0.3,0
64,77,50,35,544.7,14.99,0.3,0
65,77,59,38,272.8,18.34,0.3,0
66,73,47,20,360.5,9.62,0.3,0
67,80,43,16,556.9,6.04,0.4,0
68,82,47,21,531.3,5.14,0.4,0
69,83,50,31,520.2,6.93,0.5,0
70,84,49,43,448.7,7.83,0.4,0
71,78,48,40,364.7,7.61,0.3,0
72,74,51,31,202.4,6.49,0.3,0
73,85,47,34,581,4.47,0.4,0
74,86,52,19,511.3,5.14,0.4,0
75,85,54,22,429,11.41,0.3,0
76,86,49,24,134.9,3.8,0.3,0
77,88,52,22,356.2,5.37,0.4,0
78,90,60,37,600.8,4.92,0.4,0
79,89,59,31,383.6,4.7,0.4,0
80,89,55,29,250.9,4.03,0.4,0
81,93,53,27,594.4,8.5,0.3,0
82,83,53,35,616.2,21.03,0.3,0
83,74,49,25,620,19.24,0.3,0
84,82,44,22,490.4,10.29,0.3,0
85,75,57,25,535,13.65,0.4,0
86,80,54,26,330.3,9.17,0.4,0
87,67,53,34,528.8,15.66,0.3,0
88,69,51,36,638.5,12.3,0.3,0
89,81,44,31,567.9,12.08,0.3,0
90,82,56,24,501.2,20.36,0.2,0
91,66,48,28,403.7,7.61,0.3,0
92,70,48,32,443.4,13.65,0.2,0
93,78,58,27,518.7,18.34,0.3,0
94,73,56,25,616,23.26,0.3,0
95,71,42,23,549.7,4.7,0.3,0
96,79,45,22,353.7,4.7,0.4,0
97,88,47,21,451.8,7.61,0.3,0
98,88,55,18,291.3,12.75,0.3,0
99,81,66,18,459.9,12.3,0.3,0
100,81,49,17,561,5.82,0.2,0
```

```
101,86,56,50,678.5,7.83,0.3,0
102,90,60,55,539.9,10.07,0.3,0
103,86,56,50,656.1,4.92,0.3,0
104,89,61,51,436.6,8.5,0.3,0
105,87,62,19,453.7,6.71,0.3,0
106,89,52,20,578.7,6.93,0.4,0
107,89,56,17,677.2,8.5,0.3,0
108,90,57,16,439.9,8.95,0.3,0
109,89,62,25,583.4,8.5,0.3,0
110,91,55,26,705.2,6.71,0.2,0
111,90,61,12,703.1,10.07,0.3,0
112,79,55,43,609.7,12.75,0.3,0
113,83,51,34,545.1,8.28,0.3,0
114,91,66,37,718.6,18.12,0.3,0
115,85,68,33,543.5,25.28,0.3,0
116,80,53,32,723.5,12.53,0.3,0
117,88,62,32,725.8,18.57,0.3,0
118,86,65,41,726,22.59,0.3,0
119,65,43,47,730.4,14.99,0.3,0.14
120,76,39,33,502.9,12.3,0.4,0
121,85,50,18,375,5.59,0.3,0
122,90,51,21,509.6,11.18,0.4,0
123,87,61,35,544.6,7.61,0.3,0
124,82,54,36,657.9,8.95,0.3,0
125,91,60,27,513,5.59,0.4,0
126,94,64,41,743.4,10.74,0.4,0
127,92,62,30,746.7,10.96,0.3,0
128,88,62,37,655.1,9.17,0.2,0
129,83,57,35,750.2,10.74,0.2,0
130,73,52,32,751.9,14.54,0.3,0
131,83,53,31,598.6,5.82,0.2,0
132,86,60,39,755.2,6.71,0.3,0
133,94,64,36,756.8,5.82,0.2,0
134,92,67,26,485.9,9.17,0.3,0
135,89,63,30,717.8,11.63,0.3,0
136,81,60,37,693.8,19.69,0.3,0
137,85,57,25,644.8,16.11,0.4,0
138,84,67,25,589.8,18.12,0.3,0
139,82,61,23,765.2,11.41,0.4,0
140,83,58,31,627.4,8.05,0.3,0
141,91,63,50,721.3,6.93,0.3,0
142,95,64,50,768.8,7.38,0.4,0
143,87,64,41,769.9,8.95,0.3,0
144,95,58,40,709.6,8.28,0.4,0
145,95,76,22,771.9,18.34,0.3,0
146,94,72,33,579.5,18.79,0.3,0
147,94,71,35,690.3,13.87,0.3,0
148,88,64,38,595.1,8.95,0.3,0
149,91,66,55,680.9,11.41,0.3,0.03
150,87,60,48,776.3,9.4,0.3,0
```

```
151,86,66,51,460.9,7.61,0.3,0
152,85,64,53,777.8,8.5,0.2,0
153,89,65,48,760.3,7.83,0.3,0
154,92,66,47,704.9,6.26,0.4,0
155,95,66,50,623.3,5.37,0.3,0
156,101,70,47,562.5,5.82,0.4,0
157,98,75,56,631.7,8.28,0.4,0
158,94,67,56,454.8,8.05,0.3,0.16
159,95,65,57,729.1,6.93,0.3,0
160,100,75,47,636.4,6.93,0.3,0
161,101,76,43,508.3,12.53,0.2,0
162,97,79,29,518.5,14.54,0.2,0
163,97,69,37,689.5,10.29,0.2,0
164,97,72,31,783,8.72,0.2,0
165,102,65,22,733.6,7.61,0.2,0
166,105,66,24,783.2,5.37,0.3,0
167,105,65,20,670.1,6.93,0.2,0
168,105,79,14,725.4,8.5,0.2,0
169,101,70,58,637.9,8.5,0.3,0
170,104,77,62,653.3,6.26,0.3,0
171,103,79,66,574.5,8.05,0.3,0
172,104,77,63,783.2,9.4,0.3,0.11
173,109,76,61,783,7.61,0.4,0
174,111,79,59,738.6,11.41,0.3,0
175,94,73,60,782.6,14.32,0.3,0
176,97,64,63,782.3,9.17,0.3,0.89
177,93,71,65,752.6,6.04,0.2,0
178,96,69,61,781.7,4.25,0.3,0
179,102,76,55,781.3,11.86,0.4,0
180,102,80,38,459.7,12.3,0.4,0
181,103,83,43,780.4,9.17,0.4,0
182,100,76,64,779.9,11.18,0.4,0
183,100,73,58,779.4,6.04,0.4,0
184,102,78,53,653.5,7.83,0.4,0
185,104,79,51,717.2,8.05,0.4,0
186,99,74,60,314.9,9.84,0.4,0
187,99,75,57,776.8,9.4,0.4,0
188,94,72,59,597.2,9.84,0.4,0
189,97,74,58,377.8,6.26,0.4,0
190,97,76,53,684.1,8.05,0.4,0
191,100,75,56,760.5,7.38,0.5,0
192,100,76,61,772.7,9.62,0.5,0
193,99,72,61,771.8,8.05,0.4,0.07
194,99,72,61,770.8,8.95,0.4,0
195,89,70,63,769.8,10.51,0.4,0
196,81,69,69,663.4,7.38,0.5,1.45
197,88,68,69,767.6,6.71,0.5,0.39
198,92,69,66,765,6.93,0.5,0
199,93,72,64,493.9,6.93,0.4,0
200,91,72,68,636.3,7.16,0.5,0.01
```

```
201,92,71,65,705.9,6.71,0.5,0
202,92,71,67,553.5,5.14,0.5,0
203,92,71,70,758.7,5.37,0.5,0.08
204,90,71,71,662.9,5.59,0.5,0.13
205,93,71,69,688.2,7.83,0.5,0
206,96,71,66,755.7,6.93,0.5,0
207,98,77,67,607,6.71,0.5,0
208,92,70,69,276.5,6.93,0.6,0.01
209,96,71,66,404.9,6.49,0.6,0
210,94,68,69,749.3,7.16,0.5,1.06
211,93,72,66,495.7,6.71,0.4,0
212,94,69,70,745.9,10.29,0.5,0.17
213,89,69,69,744.1,8.95,0.6,0.04
214,89,73,68,720.5,8.05,0.6,0
215,92,70,59,621.6,5.59,0.5,0
216,94,73,58,551.6,6.26,0.5,0
217,96,74,67,617.6,9.17,0.5,0.06
218,98,71,69,513.5,6.26,0.4,0
219,99,74,65,593.8,6.26,0.5,0
220,94,73,66,607.3,9.4,0.5,0
221,98,72,64,509.3,6.26,0.5,0
222,97,77,63,481.4,7.83,0.5,0
223,98,70,70,481.1,10.96,0.5,0.03
224,92,68,68,518.5,8.5,0.5,0.12
225,96,76,66,500.4,9.17,0.5,0
226,96,65,66,506.2,8.28,0.5,1.18
227,94,65,66,639.9,8.5,0.5,0.15
228,95,75,60,526.3,6.49,0.5,0
229,96,69,62,709.2,4.25,0.4,0
230,96,72,63,706.6,6.93,0.5,0
231,90,70,63,584,6.04,0.5,0.01
232,81,66,68,533,6.71,0.4,0.37
233,88,67,68,692.9,3.8,0.4,0.01
234,95,70,69,610.9,4.7,0.5,0
235,94,69,65,693.1,7.16,0.4,0.01
236,87,67,64,619.7,6.49,0.5,0.03
237,90,68,65,464.6,3.8,0.4,0
238,89,71,64,684.5,7.38,0.4,0
239,92,70,63,681.5,6.93,0.4,0
240,92,69,58,526,7.61,0.4,0
241,91,68,60,675.5,6.93,0.4,0
242,90,65,49,672.4,5.82,0.4,0
243,90,64,48,564.2,6.26,0.4,0
244,91,67,44,436.5,5.14,0.4,0
245,92,69,44,580.5,5.59,0.5,0
246,96,69,51,525.9,9.17,0.5,0
247,94,68,52,607.6,5.82,0.4,0
248,91,68,53,612.4,8.72,0.5,0
249,89,67,56,642.5,5.59,0.4,0
250,94,67,52,617,5.59,0.4,0
```

```
251,93,69,56,244.9,7.83,0.4,0
252,88,68,53,516.4,6.71,0.4,0
253,90,68,55,586.9,8.5,0.4,0
254,92,69,48,535.2,4.7,0.4,0
255,95,62,45,558.6,3.58,0.4,0
256,100,66,46,528.1,6.49,0.4,0
257,97,68,49,214.4,10.51,0.5,0
258,94,73,56,618,12.3,0.4,0
259,92,70,60,551.1,8.95,0.3,0
260,94,68,57,299.3,8.05,0.3,0
261,95,70,55,546.7,7.61,0.3,0
262,94,71,57,562.2,12.97,0.3,0
263,93,73,55,475.6,10.51,0.3,0
264,94,71,53,595.5,8.5,0.4,0
265,96,68,48,591.7,9.17,0.4,0
266,91,71,65,438.1,8.72,0.4,0.01
267,88,64,47,344.6,5.14,0.3,0
268,87,65,61,580.2,6.49,0.3,0
269,85,60,60,576.3,8.95,0.3,0
270,70,61,63,572.4,10.29,0.3,0.72
271,78,62,62,544.9,9.17,0.3,0.43
272,81,65,62,564.6,10.74,0.3,0
273,80,65,63,475.3,8.05,0.3,0
274,89,65,64,258.3,8.72,0.3,0
275,89,66,56,389,8.72,0.3,0
276,89,62,64,313.4,7.61,0.3,0
277,87,69,67,452,10.74,0.3,0
278,91,75,66,428.5,9.17,0.4,0
279,92,68,65,537,10.07,0.3,0
280,85,59,31,455.5,8.05,0.3,0
281,89,52,35,529.1,10.74,0.2,0
282,85,56,49,494.2,13.65,0.2,0
283,70,50,38,282,9.17,0.3,0
284,82,49,52,222.5,4.47,0.2,0
285,89,62,55,367.1,2.91,0.2,0
286,91,66,57,448.9,4.03,0.3,0
287,90,73,58,388.6,8.5,0.2,0
288,80,58,36,417.5,8.72,0.3,0
289,80,56,41,312,3.36,0.3,0
290,85,53,44,340.2,2.91,0.2,0
291,87,60,54,316.1,4.03,0.3,0
292,85,59,57,335.5,8.5,0.3,0.03
293,86,57,54,482.6,9.84,0.4,0
294,80,62,47,478.9,10.51,0.4,0
295,80,53,32,475.2,7.38,0.4,0
296,85,48,31,405.5,3.8,0.3,0
297,72,53,38,285.6,9.4,0.3,0
298,75,46,33,425.2,3.58,0.3,0
299,86,48,37,165.4,12.3,0.3,0
300,67,47,35,259.7,10.74,0.3,0
```

```
301,68,43,28,357.3,3.36,0.3,0
302,76,38,31,214.5,4.92,0.3,0
303,81,51,33,380.1,9.17,0.2,0
304,70,45,39,284.4,6.71,0.2,0.02
305,78,52,44,389.5,12.3,0.3,0
306,77,59,44,377.1,10.29,0.2,0
307,78,50,46,346.2,8.72,0.3,0
308,75,50,54,241.9,7.38,0.2,0
309,81,55,54,419.3,8.95,0.2,0
310,81,56,40,423.6,7.38,0.3,0
311,80,54,45,420.5,5.82,0.4,0
312,67,48,54,417.5,6.49,0.3,0.28
313,69,44,49,298.6,2.91,0.2,0
314,75,46,50,411.6,3.36,0.3,0
315,81,53,49,363.5,6.71,0.3,0
316,79,50,43,406,6.71,0.3,0
317,76,49,49,403.2,3.36,0.4,0
318,83,47,48,400.5,5.14,0.3,0
319,77,48,34,381.4,6.04,0.4,0
320,81,46,33,395.3,4.92,0.4,0
321,82,48,32,268.8,11.18,0.4,0
322,71,45,35,390.4,11.41,0.4,0
323,63,40,23,100.7,5.37,0.3,0
324,68,39,25,358,6.93,0.3,0
325,74,43,21,269.1,4.7,0.4,0
326,68,45,27,381.3,3.8,0.4,0
327,73,41,28,379.2,4.7,0.5,0
328,78,40,28,302.6,5.14,0.3,0
329,78,45,29,156,4.92,0.4,0
330,76,43,35,217.4,3.13,0.3,0
331,79,43,31,137.2,5.37,0.3,0
332,77,50,29,344.8,11.41,0.3,0
333,63,40,30,73.6,4.92,0.3,0
334,70,44,30,200.7,6.04,0.3,0
335,67,47,31,298.6,3.13,0.3,0
336,71,49,31,290.9,7.83,0.3,0
337,74,47,34,203.2,6.93,0.3,0
338,71,53,35,360.8,9.17,0.3,0
339,55,46,33,359.6,6.49,0.4,0
340,46,36,42,253.1,5.14,0.2,0.19
341,39,28,33,235.2,8.5,0.3,0.13
342,47,24,28,356.4,5.82,0.4,0
343,55,27,33,355.5,2.91,0.4,0
344,59,31,30,354.7,4.47,0.4,0
345,60,33,30,354,4.92,0.4,0
346,60,31,28,353.3,6.04,0.4,0
347,63,32,30,326.9,5.82,0.4,0
348,65,36,33,263.9,7.61,0.4,0
349,53,32,27,252.8,3.8,0.3,0
350,56,26,32,351.5,6.49,0.4,0
```

```
351,54,35,45,280.4,5.82,0.4,0.32
352,57,42,46,277.9,5.37,0.5,0.04
353,58,39,43,350.9,8.5,0.4,0
354,62,36,36,350.9,8.5,0.4,0
355,67,42,35,351,10.51,0.4,0
356,51,33,26,320.2,9.84,0.4,0
357,55,27,22,243.5,6.49,0.4,0
358,65,35,25,351.7,4.7,0.4,0
359,71,35,26,352.1,8.95,0.5,0
360,72,36,26,352.6,7.38,0.6,0
361,60,43,29,353.1,4.47,0.5,0
362,67,35,30,353.8,4.7,0.5,0
363,70,30,26,354.5,4.92,0.5,0
364,70,32,26,355.3,6.49,0.4,0
365,72,37,25,316.1,8.72,0.4,0
```

```
1,46,27,23,326.7,5.14,0.5,0
2,57,30,22,338.9,5.14,0.4,0
3,56,24,16,359.7,3.8,0.5,0
4,53,37,19,196.4,5.59,0.4,0
5,64,32,29,279.8,4.25,0.5,0
6,66,35,29,271,5.82,0.5,0
7,69,47,34,343.4,10.51,0.4,0
8,66,32,31,306.8,3.8,0.4,0
9,69,39,35,365.6,4.03,0.4,0
10,60,47,44,256.6,23.04,0.4,0.1
11,61,39,36,263.8,11.41,0.4,0
12,64,33,29,281.7,4.03,0.4,0
13,64,40,26,128.6,5.82,0.4,0
14,65,33,24,356.4,4.92,0.3,0
15,63,32,25,341.5,5.59,0.4,0
16,37,27,20,252.8,8.5,0.4,0
17,43,21,18,174.3,4.7,0.5,0
18,55,25,18,213.1,4.92,0.4,0
19,64,26,22,265.8,5.37,0.4,0
20,70,33,25,390.8,6.93,0.5,0
21,56,39,35,368.3,19.24,0.4,0
22,52,26,15,274.6,6.04,0.4,0
23,57,27,7,332.9,8.72,0.4,0
24,60,32,9,246.7,8.72,0.3,0
25,62,29,22,269,5.14,0.3,0
26,66,40,23,391.6,10.96,0.3,0
27,61,39,15,409.5,7.61,0.4,0
28,63,31,12,412.4,5.82,0.4,0
29,65,35,20,266.4,6.71,0.4,0
30,67,29,30,209.3,3.58,0.5,0
31,71,32,31,318.8,6.93,0.5,0
32,74,38,20,363.9,5.14,0.4,0
33,65,39,28,342.4,5.59,0.5,0
34,74,50,39,273.8,11.63,0.4,0
35,74,41,21,336.6,6.71,0.4,0
36,76,48,21,427.9,9.84,0.4,0
37,73,47,33,444.5,12.53,0.5,0
38,66,42,34,369,7.38,0.4,0
39,69,31,25,262.9,3.58,0.5,0
40,74,33,20,251.1,4.47,0.4,0
41,75,52,28,458.7,16.11,0.4,0
42,63,40,29,462.3,10.29,0.3,0
43,70,37,24,383.3,4.25,0.3,0
44,73,43,26,469.7,4.7,0.4,0
45,75,50,42,448.2,6.04,0.4,0
46,69,52,54,298.6,11.18,0.4,0.01
47,62,49,54,359.6,9.4,0.4,0.66
48,61,49,50,246.2,5.37,0.3,0
49,70,45,49,321.7,11.41,0.4,0
50,70,54,42,270.4,16.11,0.4,0
```

```
51,64,48,37,496.6,14.32,0.4,0
52,61,41,36,280.6,7.16,0.4,0
53,63,35,27,192.6,8.05,0.4,0
54,68,37,26,101.7,9.62,0.4,0
55,57,43,22,281.6,14.32,0.4,0
56,62,35,11,357.3,9.62,0.4,0
57,70,30,13,444,4.7,0.5,0
58,67,42,36,341.4,8.95,0.4,0
59,61,44,32,410.7,18.12,0.4,0
60,62,34,27,,6.49,0.4,0
61,74,36,23,438.7,4.47,0.5,0
62,79,39,24,536.5,7.61,0.4,0
63,76,49,11,340.6,11.41,0.3,0
64,63,45,18,544.7,9.4,0.3,0
65,68,37,4,272.8,10.96,0.3,0
66,70,40,12,360.5,4.92,0.3,0
67,75,49,20,556.9,5.82,0.4,0
68,80,55,22,531.3,11.41,0.4,0
69,77,56,34,520.2,12.08,0.5,0
70,66,47,46,448.7,9.4,0.4,0.2
71,65,43,35,364.7,5.82,0.3,0
72,72,43,31,202.4,7.83,0.3,0
73,75,50,33,581,8.72,0.4,0
74,78,57,39,511.3,21.7,0.4,0
75,71,51,25,429,7.83,0.3,0
76,74,56,34,134.9,12.53,0.3,0
77,72,53,34,356.2,21.47,0.4,0
78,66,43,15,600.8,8.5,0.4,0
79,72,44,12,383.6,7.61,0.4,0
80,83,46,29,250.9,6.93,0.4,0
81,88,52,30,594.4,6.26,0.3,0
82,87,57,30,616.2,12.53,0.3,0
83,84,58,41,620,13.42,0.3,0.01
84,83,54,42,490.4,17.45,0.3,0
85,70,56,42,535,13.87,0.4,0
86,69,54,42,330.3,9.17,0.4,0
87,70,41,33,528.8,12.3,0.3,0
88,77,50,17,638.5,7.38,0.3,0
89,83,50,18,567.9,5.82,0.3,0
90,85,54,21,501.2,8.05,0.2,0
91,87,59,20,403.7,10.29,0.3,0
92,83,59,18,443.4,16.11,0.2,0
93,82,60,22,518.7,13.42,0.3,0
94,80,46,25,616,5.14,0.3,0
95,85,54,27,549.7,8.5,0.3,0
96,86,62,26,353.7,14.09,0.4,0
97,88,62,34,451.8,14.76,0.3,0
98,89,66,41,291.3,16.11,0.3,0
99,85,63,32,459.9,8.5,0.3,0
100,84,53,40,561,5.59,0.2,0
```

```
101,94,58,42,678.5,11.18,0.3,0
102,90,68,30,539.9,23.71,0.3,0
103,73,54,30,656.1,25.95,0.3,0
104,70,49,8,436.6,8.28,0.3,0
105,80,46,6,453.7,4.25,0.3,0
106,89,50,14,578.7,10.29,0.4,0
107,87,66,14,677.2,21.7,0.3,0
108,82,56,18,439.9,9.84,0.3,0
109,84,57,40,583.4,13.42,0.3,0
110,78,61,49,705.2,18.34,0.2,0
111,78,51,30,703.1,9.62,0.3,0
112,77,53,35,609.7,5.59,0.3,0
113,88,55,34,545.1,3.36,0.3,0
114,93,55,29,718.6,5.82,0.3,0
115,75,53,40,543.5,10.51,0.3,0
116,88,52,40,723.5,5.82,0.3,0
117,76,59,33,725.8,8.72,0.3,0
118,87,57,35,726,5.59,0.3,0
119,91,65,40,730.4,13.42,0.3,0
120,87,69,35,502.9,18.12,0.4,0
121,85,63,32,375,14.09,0.3,0
122,86,63,28,509.6,18.79,0.4,0
123,78,55,25,544.6,9.4,0.3,0
124,84,53,30,657.9,7.61,0.3,0
125,87,57,35,513,6.04,0.4,0
126,92,62,31,743.4,5.14,0.4,0
127,98,65,36,746.7,6.04,0.3,0
128,99,67,32,655.1,8.72,0.2,0
129,100,66,23,750.2,6.04,0.2,0
130,101,65,24,751.9,8.95,0.3,0
131,97,73,31,598.6,19.24,0.2,0
132,95,76,33,755.2,15.66,0.3,0
133,91,67,38,756.8,10.51,0.2,0
134,93,64,33,485.9,7.61,0.3,0
135,95,68,31,717.8,6.04,0.3,0
136,98,62,23,693.8,5.82,0.3,0
137,99,69,32,644.8,12.97,0.4,0
138,93,65,17,589.8,13.65,0.3,0
139,91,57,13,765.2,6.26,0.4,0
140,89,58,53,627.4,9.84,0.3,0
141,93,66,60,721.3,9.84,0.3,0.41
142,93,65,58,768.8,5.82,0.4,0
143,93,64,54,769.9,6.93,0.3,0
144,96,68,52,709.6,3.58,0.4,0
145,98,63,49,771.9,6.26,0.3,0
146,100,63,26,579.5,6.93,0.3,0
147,97,73,27,690.3,8.05,0.3,0
148,95,66,21,595.1,8.28,0.3,0
149,98,69,25,680.9,10.51,0.3,0
150,98,76,24,776.3,11.41,0.3,0
```

```
151,102,65,26,460.9,6.71,0.3,0
152,102,69,22,777.8,9.62,0.2,0
153,106,73,35,760.3,9.62,0.3,0
154,97,69,59,704.9,15.43,0.4,0.06
155,99,64,59,623.3,6.04,0.3,0
156,103,77,47,562.5,13.87,0.4,0
157,102,80,49,631.7,12.08,0.4,0
158,103,78,41,454.8,8.05,0.3,0
159,103,76,45,729.1,10.51,0.3,0
160,96,80,50,636.4,12.08,0.3,0
161,101,78,50,508.3,11.86,0.2,0
162,102,74,24,518.5,9.17,0.2,0
163,105,66,35,689.5,5.37,0.2,0
164,100,78,55,783,10.51,0.2,0
165,99,74,50,733.6,8.05,0.2,0
166,96,73,55,783.2,9.17,0.3,0
167,83,67,67,670.1,10.51,0.2,0.31
168,89,64,55,725.4,7.38,0.2,0
169,98,68,53,637.9,4.25,0.3,0
170,102,75,50,653.3,5.14,0.3,0
171,105,72,58,574.5,8.28,0.3,0
172,103,76,59,783.2,5.37,0.3,0
173,108,76,52,783,10.29,0.4,0
174,107,80,29,738.6,10.07,0.3,0
175,101,79,44,782.6,16.78,0.3,0
176,101,75,50,782.3,7.38,0.3,0
177,106,78,54,752.6,6.71,0.2,0
178,105,76,47,781.7,6.26,0.3,0
179,104,79,52,781.3,11.18,0.4,0
180,96,78,50,459.7,12.3,0.4,0
181,96,72,50,780.4,12.3,0.4,0
182,100,73,46,779.9,8.72,0.4,0
183,101,74,38,779.4,7.61,0.4,0
184,101,78,53,653.5,7.61,0.4,0
185,104,84,49,717.2,8.5,0.4,0
186,96,77,58,314.9,13.87,0.4,0
187,94,73,59,776.8,11.86,0.4,0
188,92,72,64,597.2,7.16,0.4,0.1
189,91,69,61,377.8,9.4,0.4,0
190,89,75,62,684.1,8.95,0.4,0.06
191,87,71,62,760.5,8.5,0.5,0
192,91,72,61,772.7,8.5,0.5,0
193,91,73,63,771.8,6.04,0.4,0
194,97,65,64,770.8,9.62,0.4,1.05
195,93,72,63,769.8,5.82,0.4,0
196,96,72,66,663.4,9.4,0.5,0
197,91,71,66,767.6,5.59,0.5,0.15
198,94,68,66,765,3.8,0.5,0
199,100,73,61,493.9,6.04,0.4,0
200,105,76,56,636.3,5.14,0.5,0
```

```
201,103,79,56,705.9,6.71,0.5,0
202,103,78,55,553.5,6.26,0.5,0
203,107,76,48,758.7,3.8,0.5,0
204,105,78,46,662.9,6.71,0.5,0
205,101,79,55,688.2,10.07,0.5,0
206,104,78,60,755.7,6.49,0.5,0
207,97,81,59,607,8.5,0.5,0
208,95,70,63,276.5,12.97,0.6,0
209,98,76,61,404.9,6.26,0.6,0
210,101,78,49,749.3,4.25,0.5,0
211,100,76,57,495.7,6.93,0.4,0
212,91,74,59,745.9,8.05,0.5,0
213,99,74,58,744.1,5.59,0.6,0
214,103,77,52,720.5,8.5,0.6,0
215,102,77,62,621.6,8.28,0.5,0.01
216,102,75,60,551.6,6.04,0.5,0
217,101,77,50,617.6,7.16,0.5,0
218,100,74,52,513.5,6.71,0.4,0
219,99,75,49,593.8,6.49,0.5,0
220,100,78,56,607.3,9.17,0.5,0.01
221,89,73,58,509.3,6.49,0.5,0
222,84,69,63,481.4,6.04,0.5,0.12
223,90,65,63,481.1,7.38,0.5,0.91
224,86,69,61,518.5,7.61,0.5,0
225,94,67,60,500.4,5.14,0.5,0
226,97,72,60,506.2,9.4,0.5,0
227,97,76,58,639.9,9.17,0.5,0
228,99,75,63,526.3,10.29,0.5,0.03
229,94,72,63,709.2,5.82,0.4,0.03
230,99,75,62,706.6,8.28,0.5,0
231,99,72,63,584,6.04,0.5,0
232,96,77,61,533,8.95,0.4,0
233,95,76,62,692.9,9.4,0.4,0.02
234,95,70,61,610.9,9.4,0.5,0.01
235,91,71,62,693.1,7.61,0.4,0.02
236,93,72,61,619.7,10.07,0.5,0
237,94,74,60,464.6,6.49,0.4,0
238,99,73,58,684.5,7.83,0.4,0
239,99,77,57,681.5,10.07,0.4,0
240,100,71,42,526,5.82,0.4,0
241,102,76,51,675.5,7.38,0.4,0
242,99,73,52,672.4,5.14,0.4,0
243,99,76,51,564.2,5.82,0.4,0
244,91,76,54,436.5,11.18,0.4,0
245,88,70,59,580.5,8.28,0.5,0
246,91,69,56,525.9,8.28,0.5,0
247,93,66,54,607.6,5.59,0.4,0
248,93,69,57,612.4,5.82,0.5,0
249,83,66,63,642.5,7.38,0.4,0.33
250,83,68,61,617,5.82,0.4,0
```

```
251,89,64,57,244.9,5.14,0.4,0
252,90,64,55,516.4,5.59,0.4,0
253,94,69,53,586.9,6.26,0.4,0
254,93,70,54,535.2,5.37,0.4,0
255,97,69,50,558.6,5.14,0.4,0
256,98,71,51,528.1,5.82,0.4,0
257,96,72,54,214.4,8.5,0.5,0
258,91,70,57,618,9.17,0.4,0
259,92,66,58,551.1,5.82,0.3,0
260,93,71,60,299.3,6.71,0.3,0
261,94,69,62,546.7,5.82,0.3,0
262,92,71,63,562.2,10.07,0.3,0.1
263,78,65,65,475.6,4.92,0.3,0.78
264,85,64,62,595.5,9.62,0.4,0
265,80,61,56,591.7,4.92,0.4,0
266,85,59,53,438.1,2.91,0.4,0
267,91,61,51,344.6,3.58,0.3,0
268,93,69,53,580.2,6.49,0.3,0
269,81,63,53,576.3,9.17,0.3,0
270,89,61,55,572.4,3.8,0.3,0
271,94,66,52,544.9,5.37,0.3,0
272,93,68,48,564.6,5.59,0.3,0
273,92,66,52,475.3,4.92,0.3,0
274,87,70,65,258.3,5.14,0.3,0.1
275,90,70,64,389,6.71,0.3,0
276,90,70,62,313.4,7.38,0.3,0
277,91,69,57,452,8.28,0.3,0
278,92,68,55,428.5,8.05,0.4,0
279,88,67,57,537,10.07,0.3,0
280,84,65,49,455.5,12.08,0.3,0
281,65,54,53,529.1,5.82,0.2,0.22
282,71,52,49,494.2,13.42,0.2,0
283,76,51,40,282,7.16,0.3,0
284,80,55,43,222.5,7.38,0.2,0
285,69,58,58,367.1,7.38,0.2,0.82
286,72,58,56,448.9,6.04,0.3,0
287,74,54,55,388.6,7.61,0.2,0
288,54,43,40,417.5,11.86,0.3,0
289,52,43,34,312,10.29,0.3,0
290,58,48,46,340.2,9.62,0.2,0.01
291,55,49,48,316.1,6.04,0.3,0.07
292,70,52,54,335.5,7.83,0.3,0
293,72,58,54,482.6,8.5,0.4,0
294,70,57,49,478.9,7.38,0.4,0
295,72,57,53,475.2,4.47,0.4,0
296,69,56,59,405.5,9.62,0.3,1.08
297,72,55,55,285.6,8.72,0.3,0.13
298,75,54,51,425.2,6.26,0.3,0
299,76,51,48,165.4,5.14,0.3,0
300,77,49,47,259.7,2.46,0.3,0
```

```
301,80,50,47,357.3,2.68,0.3,0
302,83,50,46,214.5,5.82,0.3,0
303,76,62,47,380.1,11.63,0.2,0
304,67,44,48,284.4,10.74,0.2,0.01
305,67,42,40,389.5,5.82,0.3,0
306,70,42,36,377.1,6.26,0.2,0
307,75,50,33,346.2,8.5,0.3,0
308,70,45,35,241.9,5.82,0.2,0
309,79,59,33,419.3,14.99,0.2,0
310,78,60,37,423.6,12.3,0.3,0
311,79,52,39,420.5,7.38,0.4,0
312,77,54,42,417.5,9.4,0.3,0
313,59,44,42,298.6,10.96,0.2,0
314,63,44,40,411.6,3.8,0.3,0
315,73,43,43,363.5,12.97,0.3,0
316,52,29,23,406,11.86,0.3,0
317,47,26,16,403.2,4.03,0.4,0
318,56,23,22,400.5,2.24,0.3,0
319,62,34,22,381.4,3.8,0.4,0
320,65,30,21,395.3,3.8,0.4,0
321,70,35,27,268.8,5.14,0.4,0
322,65,40,31,390.4,4.7,0.4,0
323,66,36,30,100.7,6.04,0.3,0
324,65,38,36,358,8.05,0.3,0
325,65,40,35,269.1,3.36,0.4,0
326,64,39,39,381.3,5.14,0.4,0
327,66,50,34,379.2,7.16,0.5,0
328,68,45,28,302.6,8.72,0.3,0
329,62,42,31,156,11.41,0.4,0
330,60,37,20,217.4,3.58,0.3,0
331,64,32,25,137.2,5.14,0.3,0
332,70,35,29,344.8,9.4,0.3,0
333,71,45,30,73.6,8.05,0.3,0
334,60,45,39,200.7,18.34,0.3,0.01
335,59,48,35,298.6,11.41,0.3,0
336,59,38,35,290.9,8.28,0.3,0
337,55,37,26,203.2,6.49,0.3,0
338,58,35,26,360.8,9.84,0.3,0
339,58,38,33,359.6,4.03,0.4,0
340,61,45,41,253.1,4.92,0.2,0
341,52,45,46,235.2,5.37,0.3,0.05
342,52,42,43,356.4,4.03,0.4,0.1
343,57,36,42,355.5,3.58,0.4,0
344,57,35,34,354.7,6.04,0.4,0
345,59,42,41,354,5.59,0.4,0
346,66,41,40,353.3,12.53,0.4,0
347,54,32,28,326.9,13.65,0.4,0
348,56,26,16,263.9,3.13,0.4,0
349,57,28,18,252.8,4.03,0.3,0
350,60,44,25,351.5,4.92,0.4,0
```

```
351,58,47,40,280.4,5.37,0.4,0
352,58,46,45,277.9,13.2,0.5,0.08
353,66,39,35,350.9,8.95,0.4,0
354,60,39,27,350.9,4.7,0.4,0
355,63,32,27,351,6.71,0.4,0
356,71,46,27,320.2,8.72,0.4,0
357,64,40,26,243.5,5.82,0.4,0
358,67,33,28,351.7,6.49,0.4,0
359,66,38,27,352.1,4.25,0.5,0
360,54,42,40,352.6,16.78,0.6,0.08
361,54,42,31,353.1,15.66,0.5,0
362,42,30,36,353.8,9.17,0.5,0.09
363,35,28,29,354.5,12.08,0.5,0.03
364,42,25,27,355.3,8.95,0.4,0
365,53,34,27,316.1,11.63,0.4,0
```

```
1,49,25,25,326.7,7.83,0.5,0
2,37,24,27,338.9,6.93,0.4,0
3,49,24,27,359.7,5.14,0.5,0
4,54,27,24,196.4,3.8,0.4,0
5,58,24,28,279.8,3.13,0.5,0
6,59,43,50,271,8.72,0.5,0
7,61,41,36,343.4,8.5,0.4,0
8,57,39,31,306.8,7.61,0.4,0
9,55,39,38,365.6,6.04,0.4,0.02
10,58,41,46,256.6,8.05,0.4,0.08
11,60,47,45,263.8,11.63,0.4,0
12,56,35,30,281.7,6.04,0.4,0
13,59,40,33,128.6,7.38,0.4,0
14,58,34,36,356.4,4.92,0.3,0
15,65,41,37,341.5,3.8,0.4,0
16,67,42,39,252.8,6.71,0.4,0
17,66,37,35,174.3,3.36,0.5,0
18,65,48,37,213.1,16.78,0.4,0
19,58,34,20,265.8,6.04,0.4,0
20,62,30,20,390.8,2.91,0.5,0
21,75,36,22,368.3,14.76,0.4,0
22,55,35,30,274.6,15.21,0.4,0
23,54,27,17,332.9,6.71,0.4,0
24,59,29,14,246.7,4.92,0.3,0
25,60,25,15,269,4.25,0.3,0
26,61,33,12,391.6,8.72,0.3,0
27,60,28,15,409.5,6.26,0.4,0
28,66,33,23,412.4,5.14,0.4,0
29,51,37,24,415.3,4.7,0.4,0
30,59,40,26,266.4,4.7,0.5,0
31,69,42,27,209.3,4.7,0.5,0
32,68,42,39,318.8,5.82,0.4,0
33,66,39,41,363.9,9.17,0.5,0
34,73,47,42,342.4,10.74,0.4,0
35,73,43,41,273.8,11.41,0.4,0
36,66,54,49,336.6,15.21,0.4,0.07
37,65,43,47,427.9,17.45,0.5,0.04
38,51,36,22,444.5,9.62,0.4,0
39,56,31,21,369,9.4,0.5,0
40,59,34,26,262.9,5.14,0.4,0
41,58,44,39,251.1,4.25,0.4,0
42,59,40,41,458.7,14.54,0.3,0
43,58,31,10,462.3,6.93,0.3,0
44,67,30,20,383.3,7.83,0.4,0
45,72,52,39,469.7,10.51,0.4,0
46,74,59,47,448.2,17.45,0.4,0
47,69,46,41,298.6,15.88,0.4,0
48,59,42,21,359.6,9.62,0.3,0
49,63,33,22,246.2,6.04,0.4,0
50,47,29,30,321.7,10.51,0.4,0
```

```
51,53,29,15,270.4,7.61,0.4,0
52,66,31,21,496.6,8.95,0.4,0
53,69,36,33,280.6,16.11,0.4,0.01
54,55,35,27,192.6,15.88,0.4,0
55,65,24,19,101.7,4.92,0.4,0
56,71,30,19,281.6,6.26,0.4,0
57,74,37,20,357.3,6.71,0.5,0
58,73,45,20,444,6.71,0.4,0
59,78,42,22,341.4,7.38,0.4,0
60,79,51,25,410.7,10.74,0.4,0
61,79,56,29,438.7,18.12,0.5,0
62,77,48,38,536.5,10.74,0.4,0
63,61,34,29,340.6,8.28,0.3,0
64,65,34,23,544.7,5.82,0.3,0
65,78,40,25,272.8,5.59,0.3,0
66,82,59,26,360.5,16.11,0.3,0
67,74,51,40,556.9,17.67,0.4,0
68,66,45,28,531.3,11.41,0.4,0
69,70,52,48,520.2,7.38,0.5,0.03
70,72,52,48,448.7,6.04,0.4,0
71,79,44,54,364.7,19.69,0.3,0.08
72,60,42,35,202.4,32.44,0.3,0
73,61,45,22,581,11.41,0.4,0
74,56,40,22,511.3,13.87,0.4,0
75,46,37,38,429,12.08,0.3,0.14
76,65,39,38,134.9,8.05,0.3,0
77,63,46,31,356.2,7.83,0.4,0
78,71,39,30,600.8,2.46,0.4,0
79,70,44,37,383.6,9.17,0.4,0
80,74,49,46,250.9,8.05,0.4,0
81,72,49,47,594.4,10.29,0.3,0
82,74,42,21,616.2,7.61,0.3,0
83,77,47,22,620,7.83,0.3,0
84,80,44,26,490.4,4.7,0.3,0
85,85,55,49,535,8.5,0.4,0
86,86,59,52,330.3,4.7,0.4,0
87,87,55,26,528.8,8.28,0.3,0
88,82,60,19,638.5,16.33,0.3,0
89,68,48,28,567.9,15.21,0.3,0
90,62,40,24,501.2,14.32,0.2,0
91,67,40,35,403.7,5.14,0.3,0
92,80,44,22,443.4,11.63,0.2,0
93,80,59,26,518.7,19.01,0.3,0
94,78,52,24,616,8.95,0.3,0
95,80,46,25,549.7,7.83,0.3,0
96,77,53,32,353.7,10.07,0.4,0
97,83,52,35,451.8,4.7,0.3,0
98,87,54,24,291.3,6.26,0.3,0
99,92,55,22,459.9,13.2,0.3,0
100,80,56,19,561,25.5,0.2,0
```

```
101,68,51,14,678.5,19.69,0.3,0
102,65,46,30,539.9,8.05,0.3,0
103,69,44,36,656.1,7.38,0.3,0
104,79,41,36,436.6,8.95,0.3,0
105,88,50,22,453.7,7.83,0.3,0
106,84,65,27,578.7,13.42,0.4,0
107,69,53,42,677.2,18.79,0.3,0
108,79,49,44,439.9,5.14,0.3,0
109,85,51,32,583.4,5.59,0.3,0
110,93,59,25,705.2,12.75,0.2,0
111,87,66,32,703.1,15.88,0.3,0
112,82,56,53,609.7,8.5,0.3,0.08
113,77,54,49,545.1,12.3,0.3,0
114,78,53,45,718.6,7.16,0.3,0
115,89,56,37,543.5,4.25,0.3,0
116,94,63,44,723.5,7.83,0.3,0
117,93,60,32,725.8,7.16,0.3,0
118,92,65,25,726,10.29,0.3,0
119,89,64,21,730.4,8.5,0.3,0
120,83,65,51,502.9,14.99,0.4,0
121,86,58,30,375,10.51,0.3,0
122,88,56,22,509.6,7.61,0.4,0
123,88,64,21,544.6,7.38,0.3,0
124,91,58,20,657.9,7.16,0.3,0
125,92,60,31,513,9.17,0.4,0
126,90,65,24,743.4,9.84,0.4,0
127,82,65,34,746.7,15.21,0.3,0
128,80,60,41,655.1,14.54,0.2,0
129,80,55,42,750.2,8.5,0.2,0
130,69,51,48,751.9,11.18,0.3,0.1
131,79,50,47,598.6,6.93,0.2,0
132,75,57,51,755.2,8.28,0.3,0.06
133,78,54,50,756.8,6.04,0.2,0
134,89,57,44,485.9,5.59,0.3,0
135,94,61,41,717.8,4.7,0.3,0
136,96,68,48,693.8,10.51,0.3,0
137,86,69,27,644.8,20.8,0.4,0
138,81,65,26,589.8,13.65,0.3,0
139,89,56,23,765.2,9.62,0.4,0
140,81,56,31,627.4,20.13,0.3,0
141,80,54,26,721.3,20.8,0.3,0
142,93,63,22,768.8,15.21,0.4,0
143,86,59,28,769.9,11.41,0.3,0
144,90,56,23,709.6,5.14,0.4,0
145,95,59,30,771.9,8.5,0.3,0
146,95,67,31,579.5,15.21,0.3,0
147,94,66,33,690.3,17.9,0.3,0
148,85,63,32,595.1,11.18,0.3,0
149,86,62,14,680.9,8.72,0.3,0
150,90,57,53,776.3,7.38,0.3,0
```

```
151,92,65,59,460.9,7.38,0.3,0
152,99,67,61,777.8,7.38,0.2,0.01
153,97,70,58,760.3,9.4,0.3,0
154,95,68,56,704.9,7.38,0.4,0
155,91,63,58,623.3,6.93,0.3,0.26
156,92,61,53,562.5,9.17,0.4,0
157,96,64,47,631.7,4.92,0.4,0
158,100,74,41,454.8,6.93,0.3,0
159,98,76,37,729.1,8.95,0.3,0
160,101,66,51,636.4,10.29,0.3,0
161,72,58,57,508.3,10.51,0.2,0.69
162,86,56,60,518.5,5.37,0.2,0
163,91,67,59,689.5,10.51,0.2,0
164,101,69,58,783,9.4,0.2,0.01
165,99,72,56,733.6,14.99,0.2,0
166,95,78,39,783.2,14.99,0.3,0
167,97,71,34,670.1,6.71,0.2,0
168,97,68,39,725.4,9.17,0.2,0
169,98,67,51,637.9,8.05,0.3,0
170,98,73,32,653.3,11.63,0.3,0
171,99,79,26,574.5,14.32,0.3,0
172,98,75,35,783.2,15.66,0.3,0
173,95,76,25,783,16.78,0.4,0
174,94,71,34,738.6,8.28,0.3,0
175,98,69,28,782.6,6.71,0.3,0
176,102,63,46,782.3,6.49,0.3,0
177,102,73,51,752.6,9.62,0.2,0
178,102,77,56,781.7,7.83,0.3,0
179,101,76,60,781.3,9.84,0.4,0
180,99,76,56,459.7,8.72,0.4,0
181,100,72,48,780.4,5.82,0.4,0
182,103,72,49,779.9,7.83,0.4,0
183,102,77,51,779.4,7.38,0.4,0
184,101,76,49,653.5,12.08,0.4,0
185,100,81,48,717.2,12.97,0.4,0
186,102,78,56,314.9,10.96,0.4,0
187,95,71,59,776.8,10.07,0.4,0
188,92,72,58,597.2,5.82,0.4,0.01
189,98,69,59,377.8,6.49,0.4,0
190,101,68,42,684.1,5.59,0.4,0
191,104,77,52,760.5,7.38,0.5,0
192,100,78,61,772.7,8.05,0.5,0.01
193,97,70,61,771.8,5.37,0.4,0.02
194,101,72,53,770.8,5.37,0.4,0
195,101,78,53,769.8,5.14,0.4,0
196,103,76,49,663.4,4.92,0.5,0
197,104,75,49,767.6,7.83,0.5,0
198,102,79,59,765,9.62,0.5,0.05
199,100,74,62,493.9,9.17,0.4,0
200,102,78,57,636.3,10.07,0.5,0
```

```
201,104,80,57,705.9,10.74,0.5,0
202,106,81,53,553.5,8.5,0.5,0
203,92,79,59,758.7,11.86,0.5,0
204,90,68,65,662.9,9.62,0.5,0.09
205,93,70,55,688.2,5.14,0.5,0
206,98,72,47,755.7,4.92,0.5,0
207,100,73,44,607,5.37,0.5,0
208,101,77,53,276.5,5.82,0.6,0
209,103,80,60,404.9,5.82,0.6,0
210,97,75,60,749.3,9.62,0.5,0
211,97,74,59,495.7,8.5,0.4,0
212,99,75,60,745.9,7.83,0.5,0
213,100,77,60,744.1,7.38,0.6,0
214,104,77,61,720.5,6.71,0.6,0.02
215,104,75,65,621.6,8.5,0.5,0.25
216,97,73,65,551.6,9.17,0.5,0
217,101,79,63,617.6,4.92,0.5,0
218,100,81,59,513.5,9.4,0.4,0
219,103,82,58,593.8,7.61,0.5,0
220,99,75,62,607.3,10.29,0.5,0
221,101,76,61,509.3,8.95,0.5,0
222,92,68,66,481.4,7.38,0.5,0.34
223,95,74,64,481.1,8.5,0.5,0
224,101,77,58,518.5,5.82,0.5,0
225,100,79,55,500.4,6.49,0.5,0
226,98,74,59,506.2,10.07,0.5,0
227,98,74,57,639.9,8.5,0.5,0
228,101,76,59,526.3,8.5,0.5,0
229,103,79,55,709.2,10.07,0.4,0
230,103,78,47,706.6,6.04,0.5,0
231,102,84,52,584,6.04,0.5,0
232,102,77,59,533,6.93,0.4,0
233,101,75,60,692.9,7.16,0.4,0.12
234,95,71,63,610.9,5.59,0.5,0
235,99,74,62,693.1,8.05,0.4,0
236,95,73,58,619.7,10.74,0.5,0
237,103,76,61,464.6,9.84,0.4,0
238,106,78,58,684.5,6.71,0.4,0
239,103,77,60,681.5,8.72,0.4,0
240,97,76,56,526,5.59,0.4,0
241,100,69,63,675.5,8.95,0.4,0.09
242,92,70,65,672.4,7.16,0.4,0.07
243,96,69,62,564.2,5.59,0.4,0
244,96,74,55,436.5,5.59,0.4,0
245,96,70,54,580.5,5.14,0.5,0
246,96,73,55,525.9,5.82,0.5,0
247,93,73,49,607.6,9.62,0.4,0
248,92,73,53,612.4,3.8,0.5,0
249,98,74,56,642.5,5.59,0.4,0
250,97,75,62,617,5.82,0.4,0
```

```
251,96,70,65,244.9,8.5,0.4,0.92
252,89,73,66,516.4,7.61,0.4,0
253,92,70,66,586.9,8.28,0.4,0.07
254,92,71,64,535.2,6.93,0.4,0
255,96,71,61,558.6,6.71,0.4,0
256,90,72,61,528.1,8.95,0.4,0
257,86,72,62,214.4,6.49,0.5,0
258,77,68,65,618,6.93,0.4,0.14
259,85,66,63,551.1,4.25,0.3,0
260,92,70,61,299.3,5.14,0.3,0
261,94,71,55,546.7,5.82,0.3,0
262,94,73,59,562.2,6.71,0.3,0
263,95,73,58,475.6,8.5,0.3,0
264,83,66,63,595.5,7.83,0.4,0.15
265,86,66,64,591.7,4.7,0.4,0
266,90,69,62,438.1,7.61,0.4,0
267,89,66,58,344.6,8.95,0.3,0
268,91,65,56,580.2,5.14,0.3,0
269,93,66,56,576.3,8.28,0.3,0
270,91,64,53,572.4,7.38,0.3,0
271,89,63,53,544.9,4.25,0.3,0
272,92,64,60,564.6,6.71,0.3,0.01
273,86,68,67,475.3,8.95,0.3,0.25
274,83,67,66,258.3,8.05,0.3,0.24
275,84,63,61,389,5.82,0.3,0
276,85,68,63,313.4,6.26,0.3,0
277,83,63,65,452,4.92,0.3,0.63
278,88,66,65,428.5,4.92,0.4,0
279,89,64,54,537,7.38,0.3,0
280,77,59,49,455.5,8.5,0.3,0
281,86,63,61,529.1,6.04,0.2,0.47
282,84,62,61,494.2,10.29,0.2,0
283,84,67,50,282,12.3,0.3,0
284,71,48,33,222.5,12.08,0.2,0
285,72,49,41,367.1,4.47,0.2,0
286,82,51,53,448.9,4.47,0.3,0
287,77,63,60,388.6,8.95,0.2,0
288,84,64,62,417.5,5.37,0.3,0
289,76,57,40,312,6.71,0.3,0
290,82,50,49,340.2,5.14,0.2,0
291,82,64,53,316.1,14.09,0.3,0
292,79,54,36,335.5,7.38,0.3,0
293,80,61,46,482.6,14.76,0.4,0
294,77,52,20,478.9,7.83,0.4,0
295,76,51,22,475.2,6.93,0.4,0
296,80,45,27,405.5,4.03,0.3,0
297,68,40,32,285.6,10.74,0.3,0
298,59,34,26,425.2,3.8,0.3,0
299,71,33,22,165.4,6.93,0.3,0
300,81,51,32,259.7,9.84,0.3,0
```

```
301,78,55,41,357.3,12.53,0.3,0
302,78,46,31,214.5,10.07,0.3,0
303,65,34,30,380.1,12.97,0.2,0
304,58,28,22,284.4,4.92,0.2,0
305,70,37,14,389.5,5.14,0.3,0
306,64,38,23,377.1,4.92,0.2,0
307,73,44,37,346.2,7.16,0.3,0
308,81,47,36,241.9,5.14,0.2,0
309,81,48,43,419.3,3.8,0.2,0
310,73,55,53,423.6,9.4,0.3,0.42
311,63,49,51,420.5,10.07,0.4,0
312,59,44,44,417.5,2.46,0.3,0
313,71,41,44,298.6,3.13,0.2,0
314,79,49,51,411.6,5.82,0.3,0
315,67,39,50,363.5,12.53,0.3,0
316,43,37,21,406,7.61,0.3,0
317,63,33,32,403.2,3.36,0.4,0
318,63,35,34,400.5,5.37,0.3,0
319,64,37,30,381.4,2.01,0.4,0
320,69,39,37,395.3,4.47,0.4,0
321,65,43,31,268.8,5.82,0.4,0
322,74,36,29,390.4,2.91,0.4,0
323,74,42,55,100.7,6.26,0.3,0.19
324,69,52,54,358,8.72,0.3,0.14
325,69,47,46,269.1,6.26,0.4,0.03
326,59,44,44,381.3,6.26,0.4,0.01
327,62,39,36,379.2,4.25,0.5,0
328,64,39,35,302.6,6.49,0.3,0
329,64,45,44,156,10.74,0.4,0
330,61,42,37,217.4,20.58,0.3,0
331,52,38,37,137.2,8.05,0.3,0.85
332,50,41,44,344.8,12.08,0.3,0.09
333,72,43,48,73.6,12.3,0.3,0
334,56,42,41,200.7,8.95,0.3,0
335,56,35,29,298.6,4.47,0.3,0
336,62,34,33,290.9,4.7,0.3,0
337,67,35,36,203.2,2.24,0.3,0
338,59,43,38,360.8,4.92,0.3,0
339,69,49,46,359.6,8.95,0.4,0
340,65,45,37,253.1,6.49,0.2,0
341,68,45,39,235.2,6.93,0.3,0
342,67,52,46,356.4,12.3,0.4,0.01
343,58,42,47,355.5,6.04,0.4,0.57
344,56,41,42,354.7,4.7,0.4,0
345,54,37,41,354,2.46,0.4,0
346,60,37,42,353.3,5.14,0.4,0
347,69,38,39,326.9,9.17,0.4,0
348,70,54,37,263.9,12.08,0.4,0
349,72,54,37,252.8,19.24,0.3,0
350,55,37,29,351.5,10.96,0.4,0
```

```
351,45,31,17,280.4,7.83,0.4,0
352,49,24,16,277.9,5.14,0.5,0
353,52,27,25,350.9,5.82,0.4,0
354,55,31,21,350.9,4.92,0.4,0
355,57,24,20,351,4.92,0.4,0
356,57,28,20,320.2,3.58,0.4,0
357,60,33,27,243.5,5.37,0.4,0
358,59,37,43,351.7,3.13,0.4,0.13
359,60,35,39,352.1,8.5,0.5,0
360,63,34,38,352.6,4.7,0.6,0
361,63,38,38,353.1,8.05,0.5,0
362,48,34,31,353.8,14.32,0.5,0.01
363,46,30,26,354.5,13.87,0.5,0
364,48,25,19,355.3,7.16,0.4,0
365,54,29,19,316.1,7.16,0.4,0
```

```
1,59,28,29,326.7,9.62,0.5,0
2,50,37,36,338.9,10.96,0.4,0.03
3,53,30,32,359.7,4.25,0.5,0
4,58,27,25,196.4,4.7,0.4,0
5,64,29,27,279.8,2.91,0.5,0
6,60,32,24,271,10.51,0.5,0
7,59,32,14,343.4,7.83,0.4,0
8,65,32,22,306.8,7.83,0.4,0
9,67,42,24,365.6,10.96,0.4,0
10,58,35,34,256.6,12.3,0.4,0.01
11,52,24,19,263.8,4.92,0.4,0
12,62,32,19,281.7,7.61,0.4,0
13,69,36,20,128.6,6.26,0.4,0
14,70,30,18,356.4,3.8,0.3,0
15,67,43,24,341.5,2.46,0.4,0
16,61,45,42,252.8,7.38,0.4,0.16
17,66,40,45,174.3,8.5,0.5,0
18,63,40,30,213.1,7.83,0.4,0
19,62,36,31,265.8,6.26,0.4,0
20,58,39,28,390.8,5.37,0.5,0
21,50,43,42,368.3,6.04,0.4,0.07
22,62,46,43,274.6,13.65,0.4,0
23,61,35,33,332.9,4.25,0.4,0
24,64,34,31,246.7,2.24,0.3,0
25,67,39,30,269,4.25,0.3,0
26,67,36,32,391.6,4.7,0.3,0
27,64,46,39,409.5,12.97,0.4,0
28,59,39,24,412.4,6.93,0.4,0
29,64,32,21,415.3,4.7,0.4,0
30,60,39,26,266.4,5.14,0.5,0
31,58,39,24,209.3,7.16,0.5,0
32,64,31,21,318.8,4.03,0.4,0
33,64,36,18,363.9,4.47,0.5,0
34,70,51,36,342.4,18.12,0.4,0
35,55,29,41,273.8,12.53,0.4,0.33
36,39,25,28,336.6,6.93,0.4,0.07
37,55,31,26,427.9,14.09,0.5,0
38,66,40,31,444.5,9.84,0.4,0
39,70,36,32,369,6.49,0.5,0
40,70,50,31,262.9,8.72,0.4,0
41,63,49,47,251.1,4.92,0.4,0.19
42,53,33,44,458.7,7.61,0.3,0.19
43,51,34,35,462.3,6.26,0.3,0
44,59,33,35,383.3,4.25,0.4,0
45,66,37,35,469.7,5.59,0.4,0
46,69,40,37,448.2,6.93,0.4,0
47,71,41,30,298.6,11.86,0.4,0
48,73,49,28,359.6,11.63,0.3,0
49,70,44,35,246.2,7.16,0.4,0
50,63,44,39,321.7,4.7,0.4,0
```

```
51,56,38,38,270.4,12.3,0.4,0
52,51,37,33,496.6,6.04,0.4,0
53,68,43,40,280.6,4.7,0.4,0
54,63,50,45,192.6,17,0.4,0
55,68,40,33,101.7,9.84,0.4,0
56,56,36,23,281.6,15.66,0.4,0
57,50,27,14,357.3,4.7,0.5,0
58,64,25,12,444,4.03,0.4,0
59,66,33,17,341.4,2.91,0.4,0
60,67,58,31,410.7,15.66,0.4,0
61,66,49,34,438.7,8.05,0.5,0
62,58,42,46,536.5,8.5,0.4,0.83
63,61,40,42,340.6,6.49,0.3,0.34
64,66,38,40,544.7,3.8,0.3,0
65,67,46,38,272.8,10.07,0.3,0
66,76,46,48,360.5,6.93,0.3,0
67,65,53,53,556.9,7.61,0.4,0.12
68,70,47,48,531.3,6.26,0.4,0
69,71,50,48,520.2,5.82,0.5,0
70,76,55,48,448.7,5.82,0.4,0
71,68,57,56,364.7,6.49,0.3,0.24
72,75,56,55,202.4,11.18,0.3,0.26
73,72,49,43,581,6.04,0.4,0
74,76,52,53,511.3,5.14,0.4,0
75,80,48,52,429,5.14,0.3,0
76,69,51,48,134.9,8.95,0.3,0
77,58,48,50,356.2,5.37,0.4,0.23
78,65,47,44,600.8,15.43,0.4,0
79,68,41,37,383.6,8.28,0.4,0
80,75,48,42,250.9,8.5,0.4,0
81,74,52,35,594.4,7.83,0.3,0
82,83,51,34,616.2,13.42,0.3,0
83,76,55,28,620,7.61,0.3,0
84,85,48,35,490.4,9.62,0.3,0
85,83,57,38,535,15.88,0.4,0
86,79,47,39,330.3,21.47,0.4,0
87,64,41,21,528.8,8.28,0.3,0
88,73,44,24,638.5,4.03,0.3,0
89,72,50,24,567.9,12.08,0.3,0
90,77,46,27,501.2,4.47,0.2,0
91,83,60,29,403.7,14.76,0.3,0
92,80,63,31,443.4,16.33,0.2,0
93,76,58,31,518.7,8.28,0.3,0
94,80,50,37,616,10.96,0.3,0
95,79,57,33,549.7,8.28,0.3,0
96,78,58,40,353.7,10.51,0.4,0
97,80,50,39,451.8,8.72,0.3,0
98,81,54,42,291.3,7.38,0.3,0
99,82,63,40,459.9,10.29,0.3,0
100,80,51,29,561,4.03,0.2,0
```

```
101,75,47,29,678.5,11.86,0.3,0
102,73,48,35,539.9,21.7,0.3,0
103,77,53,36,656.1,17.67,0.3,0
104,73,48,36,436.6,7.16,0.3,0
105,75,45,32,453.7,6.04,0.3,0
106,82,51,25,578.7,10.74,0.4,0
107,81,58,31,677.2,8.5,0.3,0
108,83,55,32,439.9,16.33,0.3,0
109,79,60,30,583.4,12.97,0.3,0
110,82,59,28,705.2,10.29,0.2,0
111,87,64,26,703.1,14.99,0.3,0
112,82,59,31,609.7,13.87,0.3,0
113,86,54,33,545.1,12.75,0.3,0
114,90,67,31,718.6,13.42,0.3,0
115,85,61,34,543.5,7.83,0.3,0
116,95,60,37,723.5,4.47,0.3,0
117,95,59,34,725.8,8.05,0.3,0
118,93,69,27,726,12.53,0.3,0
119,84,65,42,730.4,11.41,0.3,0
120,94,62,38,502.9,2.91,0.4,0
121,97,64,40,375,12.3,0.3,0
122,96,71,37,509.6,11.41,0.4,0
123,96,73,35,544.6,12.53,0.3,0
124,95,67,31,657.9,10.74,0.3,0
125,85,68,49,513,12.75,0.4,0
126,94,61,41,743.4,3.8,0.4,0
127,100,68,42,746.7,12.97,0.3,0
128,86,63,28,655.1,13.2,0.2,0
129,90,57,32,750.2,4.47,0.2,0
130,87,65,55,751.9,5.82,0.3,0.02
131,90,61,53,598.6,6.04,0.2,0.19
132,91,62,49,755.2,11.63,0.3,0
133,89,71,36,756.8,14.09,0.2,0
134,88,67,31,485.9,10.51,0.3,0
135,90,70,27,717.8,9.4,0.3,0
136,94,68,32,693.8,8.05,0.3,0
137,97,64,32,644.8,6.93,0.4,0
138,100,64,33,589.8,6.04,0.3,0
139,97,77,37,765.2,11.18,0.4,0
140,90,69,32,627.4,10.96,0.3,0
141,89,60,22,721.3,11.18,0.3,0
142,91,56,22,768.8,6.93,0.4,0
143,92,74,25,769.9,14.09,0.3,0
144,89,73,32,709.6,16.33,0.4,0
145,89,62,44,771.9,10.07,0.3,0
146,89,60,47,579.5,5.82,0.3,0
147,99,68,31,690.3,5.37,0.3,0
148,101,68,45,595.1,9.17,0.3,0
149,94,69,44,680.9,9.84,0.3,0
150,94,70,45,776.3,9.17,0.3,0
```

```
151,93,68,42,460.9,8.28,0.3,0
152,93,68,52,777.8,5.82,0.2,0
153,99,67,54,760.3,5.37,0.3,0
154,102,70,54,704.9,5.59,0.4,0
155,104,73,53,623.3,4.92,0.3,0
156,107,73,50,562.5,9.84,0.4,0
157,105,81,54,631.7,11.41,0.4,0
158,100,74,29,454.8,13.42,0.3,0
159,95,77,48,729.1,16.55,0.3,0
160,87,60,27,636.4,10.51,0.3,0
161,96,57,34,508.3,6.26,0.2,0
162,96,71,59,518.5,11.63,0.2,0.01
163,96,66,63,689.5,10.74,0.2,0.24
164,95,67,60,783,8.95,0.2,0
165,97,73,43,733.6,8.72,0.2,0
166,98,72,46,783.2,5.37,0.3,0
167,97,70,48,670.1,7.16,0.2,0
168,99,79,49,725.4,12.53,0.2,0
169,98,77,31,637.9,10.96,0.3,0
170,99,69,39,653.3,10.29,0.3,0
171,100,73,39,574.5,10.07,0.3,0
172,102,73,41,783.2,10.74,0.3,0
173,105,80,30,783,12.53,0.4,0
174,98,76,54,738.6,9.4,0.3,0
175,99,72,54,782.6,8.5,0.3,0
176,99,71,55,782.3,7.61,0.3,0
177,106,75,49,752.6,8.5,0.2,0
178,102,69,50,781.7,8.95,0.3,0
179,95,76,49,781.3,17.22,0.4,0
180,97,76,56,459.7,19.01,0.4,0
181,97,77,55,780.4,13.42,0.4,0
182,93,70,49,779.9,8.28,0.4,0
183,99,75,54,779.4,6.93,0.4,0
184,103,80,55,653.5,8.72,0.4,0
185,104,78,55,717.2,7.61,0.4,0
186,103,78,56,314.9,7.83,0.4,0
187,104,77,58,776.8,9.4,0.4,0.01
188,102,74,54,597.2,6.93,0.4,0
189,106,78,52,377.8,6.26,0.4,0
190,109,82,47,684.1,7.61,0.4,0
191,109,83,51,760.5,7.38,0.5,0
192,108,82,57,772.7,6.49,0.5,0
193,107,79,45,771.8,7.38,0.4,0
194,110,81,49,770.8,10.07,0.4,0
195,107,78,55,769.8,9.62,0.4,0
196,104,75,57,663.4,10.29,0.5,0
197,101,75,56,767.6,8.95,0.5,0
198,103,76,53,765,6.93,0.5,0
199,103,81,55,493.9,10.07,0.4,0
200,100,80,55,636.3,7.83,0.5,0
```

```
201,102,78,58,705.9,6.71,0.5,0.01
202,98,74,61,553.5,7.61,0.5,0.23
203,96,74,61,758.7,10.29,0.5,0
204,95,71,63,662.9,7.83,0.5,0.13
205,91,66,66,688.2,7.16,0.5,1.09
206,90,67,65,755.7,5.59,0.5,0
207,96,73,66,607,7.83,0.5,0
208,95,76,62,276.5,7.38,0.6,0
209,98,77,58,404.9,6.26,0.6,0
210,103,75,58,749.3,5.14,0.5,0
211,109,77,57,495.7,5.59,0.4,0
212,100,74,61,745.9,10.74,0.5,0
213,99,77,58,744.1,9.4,0.6,0
214,100,74,55,720.5,9.4,0.6,0
215,99,73,57,621.6,4.7,0.5,0
216,102,76,53,551.6,7.61,0.5,0
217,104,74,54,617.6,8.05,0.5,0.01
218,99,80,56,513.5,6.71,0.4,0
219,101,76,55,593.8,8.5,0.5,0
220,99,75,56,607.3,5.59,0.5,0.04
221,102,73,60,509.3,4.7,0.5,0
222,105,75,54,481.4,7.38,0.5,0
223,106,80,53,481.1,6.71,0.5,0
224,107,81,50,518.5,7.38,0.5,0
225,106,81,48,500.4,6.49,0.5,0
226,107,78,48,506.2,7.83,0.5,0
227,106,79,48,639.9,8.5,0.5,0
228,100,80,55,526.3,9.62,0.5,0
229,97,74,53,709.2,7.38,0.4,0
230,98,71,53,706.6,6.49,0.5,0
231,100,69,47,584,4.25,0.5,0
232,103,75,45,533,6.04,0.4,0
233,102,73,48,692.9,6.71,0.4,0
234,103,74,55,610.9,6.04,0.5,0
235,102,75,52,693.1,4.7,0.4,0
236,98,74,51,619.7,6.93,0.5,0
237,96,71,48,464.6,6.71,0.4,0
238,98,72,49,684.5,5.82,0.4,0
239,100,73,46,681.5,4.47,0.4,0
240,104,76,44,526,4.92,0.4,0
241,104,78,49,675.5,5.82,0.4,0
242,92,75,56,672.4,6.26,0.4,0
243,96,76,61,564.2,15.66,0.4,0
244,95,74,60,436.5,14.76,0.4,0
245,96,67,55,580.5,5.59,0.5,0
246,101,67,43,525.9,4.03,0.5,0
247,99,76,52,607.6,10.29,0.4,0
248,94,73,58,612.4,11.18,0.5,0
249,93,71,57,642.5,4.25,0.4,0
250,100,71,49,617,7.61,0.4,0
```

```
251,100,60,61,244.9,13.87,0.4,0.32
252,65,50,50,516.4,12.3,0.4,0.01
253,66,50,47,586.9,8.95,0.4,0
254,78,54,54,535.2,6.26,0.4,0
255,83,62,56,558.6,9.17,0.4,0
256,88,64,53,528.1,9.17,0.4,0
257,81,66,62,214.4,7.38,0.5,0.26
258,84,60,57,618,3.58,0.4,0
259,93,63,58,551.1,4.47,0.3,0
260,90,65,51,299.3,6.71,0.3,0
261,85,63,53,546.7,8.05,0.3,0
262,86,61,49,562.2,5.59,0.3,0
263,89,62,51,475.6,4.47,0.3,0
264,90,59,45,595.5,4.25,0.4,0
265,94,58,38,591.7,4.47,0.4,0
266,96,60,42,438.1,6.71,0.4,0
267,96,64,41,344.6,3.36,0.3,0
268,98,64,44,580.2,5.37,0.3,0
269,98,64,37,576.3,9.4,0.3,0
270,98,66,37,572.4,11.41,0.3,0
271,76,58,47,544.9,11.41,0.3,0
272,81,53,29,564.6,2.91,0.3,0
273,89,52,29,475.3,3.13,0.3,0
274,90,56,29,258.3,6.93,0.3,0
275,90,59,33,389,4.92,0.3,0
276,92,56,33,313.4,5.14,0.3,0
277,87,60,44,452,4.7,0.3,0
278,92,59,42,428.5,4.92,0.4,0
279,94,59,26,537,5.14,0.3,0
280,93,55,29,455.5,3.13,0.3,0
281,93,56,29,529.1,2.91,0.2,0
282,94,54,25,494.2,3.8,0.2,0
283,91,55,29,282,7.61,0.3,0
284,90,59,36,222.5,8.28,0.2,0
285,85,61,29,367.1,6.04,0.2,0
286,91,56,31,448.9,2.91,0.3,0
287,95,54,33,388.6,11.41,0.2,0
288,83,57,33,417.5,8.72,0.3,0
289,76,54,33,312,7.38,0.3,0
290,90,49,37,340.2,6.93,0.2,0
291,90,65,28,316.1,9.62,0.3,0
292,90,53,22,335.5,5.14,0.3,0
293,89,57,24,482.6,4.7,0.4,0
294,90,53,24,478.9,2.24,0.4,0
295,88,56,37,475.2,10.29,0.4,0
296,85,54,47,405.5,8.28,0.3,0
297,85,51,43,285.6,4.25,0.3,0
298,87,62,40,425.2,14.76,0.3,0
299,75,32,39,165.4,13.2,0.3,0.12
300,36,29,29,259.7,10.07,0.3,0.06
```

```
301,56,32,34,357.3,6.93,0.3,0
302,66,36,35,214.5,5.14,0.3,0
303,73,42,39,380.1,5.59,0.2,0
304,77,48,39,284.4,5.82,0.2,0
305,73,55,36,389.5,8.5,0.3,0
306,76,46,36,377.1,4.92,0.2,0
307,78,47,38,346.2,4.25,0.3,0
308,83,46,36,241.9,5.59,0.2,0
309,85,56,35,419.3,9.17,0.2,0
310,83,50,29,423.6,6.49,0.3,0
311,85,55,34,420.5,8.28,0.4,0
312,79,65,27,417.5,13.42,0.3,0
313,73,52,43,298.6,14.99,0.2,0
314,62,42,30,411.6,7.16,0.3,0
315,67,36,27,363.5,4.25,0.3,0
316,74,38,30,406,5.14,0.3,0
317,74,48,32,403.2,6.49,0.4,0
318,74,52,35,400.5,13.42,0.3,0
319,70,45,15,381.4,6.71,0.4,0
320,77,45,13,395.3,6.93,0.4,0
321,80,45,22,268.8,6.04,0.4,0
322,80,44,37,390.4,2.91,0.4,0
323,85,53,40,100.7,3.8,0.3,0
324,82,50,38,358,2.91,0.3,0
325,80,48,38,269.1,3.58,0.4,0
326,76,51,46,381.3,10.51,0.4,0
327,77,54,50,379.2,8.72,0.5,0
328,67,45,27,302.6,15.66,0.3,0
329,66,35,19,156,6.49,0.4,0
330,71,38,21,217.4,5.37,0.3,0
331,65,37,27,137.2,4.92,0.3,0
332,57,34,30,344.8,5.82,0.3,0
333,63,31,25,73.6,7.38,0.3,0
334,55,33,20,200.7,5.14,0.3,0
335,62,26,23,298.6,6.71,0.3,0
336,49,32,24,290.9,9.17,0.3,0
337,48,30,12,203.2,4.7,0.3,0
338,54,21,13,360.8,3.8,0.3,0
339,60,29,19,359.6,4.25,0.4,0
340,62,27,19,253.1,4.47,0.2,0
341,63,30,17,235.2,5.14,0.3,0
342,65,36,15,356.4,5.82,0.4,0
343,66,33,19,355.5,3.58,0.4,0
344,57,41,46,354.7,6.49,0.4,0.02
345,60,45,38,354,14.09,0.4,0
346,64,40,33,353.3,12.3,0.4,0
347,54,33,26,326.9,11.18,0.4,0
348,54,24,20,263.9,4.25,0.4,0
349,54,33,19,252.8,12.75,0.3,0
350,55,21,16,351.5,2.01,0.4,0
```

```
351,58,25,16,280.4,2.68,0.4,0
352,62,39,25,277.9,8.05,0.5,0
353,58,34,22,350.9,4.7,0.4,0
354,61,27,19,350.9,4.7,0.4,0
355,62,27,15,351,2.68,0.4,0
356,65,26,20,320.2,6.26,0.4,0
357,65,35,19,243.5,16.11,0.4,0
358,45,22,-1,351.7,4.25,0.4,0
359,51,22,-4,352.1,2.46,0.5,0
360,61,22,20,352.6,6.26,0.6,0
361,69,32,22,353.1,4.25,0.5,0
362,73,37,19,353.8,7.61,0.5,0
363,60,37,29,354.5,9.62,0.5,0
364,47,31,22,355.3,10.74,0.4,0
365,50,22,20,316.1,4.7,0.4,0
```

```
1,51,23,11,326.7,4.25,0.5,0
2,56,18,15,338.9,6.93,0.4,0
3,60,26,14,359.7,6.93,0.5,0
4,64,31,16,196.4,3.58,0.4,0
5,66,30,19,279.8,9.62,0.5,0
6,59,32,14,271,6.04,0.5,0
7,61,26,9,343.4,3.13,0.4,0
8,63,27,17,306.8,4.25,0.4,0
9,63,32,24,365.6,4.92,0.4,0
10,43,29,23,256.6,6.49,0.4,0
11,45,18,21,263.8,3.13,0.4,0
12,53,19,19,281.7,3.13,0.4,0
13,59,20,15,128.6,5.37,0.4,0
14,69,28,14,356.4,4.7,0.3,0
15,65,36,8,341.5,6.04,0.4,0
16,66,30,8,252.8,6.71,0.4,0
17,67,26,14,174.3,5.82,0.5,0
18,71,33,21,213.1,5.82,0.4,0
19,53,43,23,265.8,14.09,0.4,0
20,50,37,36,390.8,4.7,0.5,0.06
21,54,41,45,368.3,4.92,0.4,0.04
22,61,39,43,274.6,7.61,0.4,0
23,65,40,39,332.9,7.83,0.4,0
24,64,34,32,246.7,12.75,0.3,0
25,54,39,25,269,17.45,0.3,0
26,50,33,32,391.6,13.42,0.3,0.05
27,52,25,23,409.5,5.37,0.4,0
28,62,35,20,412.4,8.72,0.4,0
29,60,43,37,266.4,6.26,0.4,0.03
30,61,44,29,209.3,13.42,0.5,0
31,62,37,22,318.8,10.74,0.5,0
32,66,36,24,363.9,6.26,0.4,0
33,72,45,29,342.4,4.7,0.5,0
34,77,46,29,273.8,10.74,0.4,0
35,73,58,35,336.6,16.11,0.4,0
36,68,42,20,427.9,9.4,0.4,0
37,65,44,16,444.5,10.07,0.5,0
38,73,40,12,369,8.05,0.4,0
39,74,49,13,262.9,9.17,0.5,0
40,74,46,16,251.1,7.83,0.4,0
41,72,42,19,458.7,9.84,0.4,0
42,70,39,18,462.3,4.25,0.3,0
43,70,43,33,383.3,7.83,0.3,0
44,65,39,33,469.7,9.62,0.4,0
45,40,14,21,448.2,8.72,0.4,0.38
46,34,14,22,298.6,8.72,0.4,0
47,49,24,35,359.6,9.4,0.4,0.02
48,56,32,30,246.2,11.86,0.3,0
49,50,32,30,321.7,6.71,0.4,0
50,59,28,24,270.4,4.7,0.4,0
```

```
51,73,33,30,496.6,9.62,0.4,0
52,65,39,17,280.6,13.2,0.4,0
53,67,29,14,192.6,3.8,0.4,0
54,73,31,15,101.7,3.8,0.4,0
55,76,36,11,281.6,7.83,0.4,0
56,76,38,20,357.3,8.28,0.4,0
57,69,34,25,444,5.82,0.5,0
58,73,37,8,341.4,13.87,0.4,0
59,69,43,5,410.7,12.53,0.4,0
60,56,36,23,,10.96,0.4,0
61,61,30,22,438.7,2.68,0.5,0
62,74,34,21,536.5,4.92,0.4,0
63,70,53,32,340.6,17.22,0.3,0
64,72,44,31,544.7,11.41,0.3,0
65,66,42,32,272.8,8.72,0.3,0
66,73,38,28,360.5,4.03,0.3,0
67,82,46,32,556.9,5.82,0.4,0
68,81,53,30,531.3,12.97,0.4,0
69,78,56,28,520.2,18.57,0.5,0
70,76,42,12,448.7,7.61,0.4,0
71,78,56,21,364.7,9.62,0.3,0
72,64,44,22,202.4,18.57,0.3,0
73,61,41,21,581,22.15,0.4,0
74,70,48,23,511.3,11.63,0.4,0
75,77,45,21,429,19.91,0.3,0
76,68,40,19,134.9,7.83,0.3,0
77,71,42,24,356.2,5.82,0.4,0
78,75,44,21,600.8,5.59,0.4,0
79,83,42,23,383.6,5.82,0.4,0
80,79,50,27,250.9,12.3,0.4,0
81,67,53,27,594.4,20.8,0.3,0
82,69,42,18,616.2,10.51,0.3,0
83,61,44,33,620,14.09,0.3,0
84,66,40,32,490.4,11.63,0.3,0
85,73,51,22,535,12.97,0.4,0
86,67,46,28,330.3,9.17,0.4,0
87,72,45,30,528.8,6.49,0.3,0
88,82,46,25,638.5,7.16,0.3,0
89,84,58,17,567.9,14.54,0.3,0
90,70,47,17,501.2,10.29,0.2,0
91,73,46,26,403.7,11.18,0.3,0
92,86,49,35,443.4,5.59,0.2,0
93,87,56,41,518.7,5.37,0.3,0
94,87,52,43,616,4.47,0.3,0
95,92,57,44,549.7,10.07,0.3,0
96,86,63,21,353.7,17.67,0.4,0
97,83,53,14,451.8,7.83,0.3,0
98,88,66,16,291.3,19.91,0.3,0
99,85,67,26,459.9,14.99,0.3,0
100,85,53,24,561,10.29,0.2,0
```

```
101,86,59,17,678.5,9.4,0.3,0
102,88,65,29,539.9,8.05,0.3,0
103,77,53,35,656.1,8.95,0.3,0
104,84,52,37,436.6,8.05,0.3,0
105,83,62,35,453.7,15.66,0.3,0
106,74,60,19,578.7,8.95,0.4,0
107,68,47,34,677.2,15.21,0.3,0
108,63,44,32,439.9,11.63,0.3,0
109,73,46,33,583.4,6.49,0.3,0
110,83,51,34,705.2,9.84,0.2,0
111,75,44,27,703.1,9.84,0.3,0
112,81,46,30,609.7,13.65,0.3,0
113,76,62,23,545.1,18.79,0.3,0
114,83,53,24,718.6,8.72,0.3,0
115,90,52,19,543.5,10.96,0.3,0
116,87,71,21,723.5,18.79,0.3,0
117,80,63,30,725.8,14.99,0.3,0
118,68,54,39,726,10.51,0.3,0.01
119,56,47,45,730.4,12.75,0.3,0.17
120,73,51,45,502.9,8.28,0.4,0.06
121,84,48,45,375,7.38,0.3,0
122,90,68,26,509.6,15.88,0.4,0
123,82,61,36,544.6,15.88,0.3,0
124,80,52,38,657.9,6.04,0.3,0
125,90,57,36,513,3.36,0.4,0
126,94,59,46,743.4,8.95,0.4,0
127,97,62,48,746.7,8.05,0.3,0.01
128,90,61,48,655.1,16.55,0.2,0
129,89,66,24,750.2,12.97,0.2,0
130,90,71,31,751.9,17.45,0.3,0
131,89,64,46,598.6,14.09,0.2,0
132,83,59,47,755.2,8.95,0.3,0
133,90,59,49,756.8,8.95,0.2,0
134,93,59,57,485.9,7.61,0.3,0.16
135,88,64,51,717.8,10.96,0.3,0
136,90,,32,693.8,13.42,0.3,0
137,87,68,25,644.8,15.88,0.4,0
138,84,60,29,589.8,11.86,0.3,0
139,92,64,44,765.2,7.16,0.4,0
140,94,65,43,627.4,9.4,0.3,0
141,88,65,33,721.3,9.17,0.3,0
142,98,66,46,768.8,10.74,0.4,0
143,91,64,49,769.9,7.38,0.3,0
144,91,63,47,709.6,8.28,0.4,0
145,94,60,16,771.9,5.82,0.3,0
146,96,63,32,579.5,6.71,0.3,0
147,94,71,24,690.3,8.05,0.3,0
148,96,63,22,595.1,6.04,0.3,0
149,98,67,58,680.9,6.49,0.3,0
150,94,70,57,776.3,9.17,0.3,0
```

```
151,94,66,58,460.9,8.28,0.3,0.01
152,90,63,54,777.8,8.72,0.2,0
153,94,62,51,760.3,7.38,0.3,0.01
154,86,67,48,704.9,8.28,0.4,0.01
155,88,65,46,623.3,5.14,0.3,0
156,99,62,45,562.5,8.05,0.4,0
157,100,80,37,631.7,19.91,0.4,0
158,98,80,31,454.8,14.76,0.3,0
159,98,75,37,729.1,10.96,0.3,0
160,101,67,31,636.4,4.7,0.3,0
161,106,71,31,508.3,6.71,0.2,0
162,106,69,26,518.5,4.92,0.2,0
163,109,71,49,689.5,8.5,0.2,0
164,103,77,51,783,8.28,0.2,0
165,103,76,53,733.6,8.05,0.2,0
166,98,72,52,783.2,10.96,0.3,0
167,100,73,47,670.1,8.28,0.2,0
168,98,74,48,725.4,9.62,0.2,0
169,100,72,46,637.9,5.59,0.3,0
170,104,72,37,653.3,4.47,0.3,0
171,109,73,42,574.5,8.05,0.3,0
172,103,79,54,783.2,13.42,0.3,0
173,100,73,57,783,9.17,0.4,0
174,102,81,49,738.6,10.74,0.3,0
175,102,82,56,782.6,9.17,0.3,0
176,102,80,54,782.3,10.74,0.3,0
177,101,75,48,752.6,7.61,0.2,0
178,88,62,64,781.7,14.99,0.3,1.47
179,70,62,63,781.3,11.86,0.4,0.61
180,71,63,62,459.7,12.53,0.4,0.12
181,80,64,65,780.4,8.95,0.4,0.15
182,89,69,67,779.9,5.37,0.4,0.87
183,86,70,68,779.4,3.36,0.4,0.04
184,93,70,67,653.5,4.03,0.4,0.82
185,96,73,66,717.2,7.61,0.4,0
186,97,70,67,314.9,5.82,0.4,0.59
187,89,70,64,776.8,8.5,0.4,0
188,90,72,64,597.2,7.83,0.4,0
189,93,72,60,377.8,6.04,0.4,0
190,98,74,57,684.1,4.92,0.4,0
191,101,74,56,760.5,5.59,0.5,0
192,97,67,62,772.7,11.41,0.5,0.24
193,92,69,64,771.8,6.93,0.4,0
194,92,71,60,770.8,6.04,0.4,0
195,95,73,56,769.8,5.59,0.4,0
196,97,74,57,663.4,7.83,0.5,0
197,96,74,58,767.6,8.05,0.5,0
198,98,72,59,765,6.71,0.5,0
199,93,67,66,493.9,7.61,0.4,1.93
200,87,71,66,636.3,7.16,0.5,0
```

```
201,92,71,64,705.9,8.5,0.5,0
202,92,71,55,553.5,7.16,0.5,0
203,92,70,53,758.7,5.14,0.5,0
204,94,68,63,662.9,8.5,0.5,0.09
205,90,67,63,688.2,6.49,0.5,0.01
206,90,69,63,755.7,4.92,0.5,0
207,94,72,66,607,5.59,0.5,0.01
208,97,71,61,276.5,5.37,0.6,0.2
209,97,75,60,404.9,6.71,0.6,0
210,92,71,57,749.3,9.62,0.5,0
211,92,69,55,495.7,7.16,0.4,0
212,91,74,61,745.9,4.92,0.5,0
213,93,74,65,744.1,6.93,0.6,0.1
214,88,71,63,720.5,7.61,0.6,0.01
215,92,71,60,621.6,6.71,0.5,0
216,94,68,58,551.6,8.05,0.5,0.04
217,95,72,57,617.6,6.49,0.5,0
218,96,71,58,513.5,5.14,0.4,0
219,100,71,51,593.8,6.26,0.5,0
220,100,78,59,607.3,8.28,0.5,0.03
221,98,77,58,509.3,9.4,0.5,0
222,94,69,63,481.4,7.38,0.5,0
223,91,68,63,481.1,8.28,0.5,0.09
224,91,65,66,518.5,9.4,0.5,1.27
225,83,69,67,500.4,4.47,0.5,0.03
226,79,66,66,506.2,7.16,0.5,0.22
227,81,65,65,639.9,4.03,0.5,0.26
228,80,67,65,526.3,5.82,0.5,0.01
229,87,68,62,709.2,6.93,0.4,0
230,90,72,63,706.6,10.29,0.5,0
231,90,72,61,584,7.61,0.5,0
232,93,70,60,533,5.59,0.4,0
233,93,72,63,692.9,8.05,0.4,0
234,93,69,63,610.9,6.49,0.5,0
235,96,73,60,693.1,4.92,0.4,0
236,96,73,59,619.7,4.92,0.5,0
237,97,72,59,464.6,7.16,0.4,0
238,93,73,57,684.5,6.71,0.4,0
239,95,72,65,681.5,4.7,0.4,0.29
240,95,70,58,526,6.93,0.4,0
241,93,71,60,675.5,9.62,0.4,0
242,94,71,61,672.4,7.83,0.4,0
243,93,70,66,564.2,5.37,0.4,0.11
244,88,70,66,436.5,6.93,0.4,0.06
245,90,72,65,580.5,7.61,0.5,0
246,95,72,64,525.9,4.7,0.5,0.02
247,92,71,63,607.6,7.38,0.4,0
248,84,69,65,612.4,6.71,0.5,0.07
249,93,67,63,642.5,4.7,0.4,0
250,96,68,59,617,4.03,0.4,0
```

```
251,95,69,55,244.9,9.17,0.4,0
252,94,69,55,516.4,5.37,0.4,0
253,95,66,50,586.9,3.36,0.4,0
254,95,65,45,535.2,3.13,0.4,0
255,94,61,43,558.6,4.03,0.4,0
256,93,59,42,528.1,2.68,0.4,0
257,98,64,40,214.4,4.7,0.5,0
258,96,67,54,618,6.26,0.4,0
259,97,70,53,551.1,4.92,0.3,0
260,98,69,47,299.3,5.59,0.3,0
261,97,64,47,546.7,5.14,0.3,0
262,97,66,52,562.2,6.71,0.3,0
263,95,76,53,475.6,11.41,0.3,0
264,84,68,43,595.5,10.51,0.4,0
265,82,58,42,591.7,5.82,0.4,0
266,88,60,50,438.1,6.26,0.4,0
267,86,64,59,344.6,4.03,0.3,0.01
268,81,63,57,580.2,9.4,0.3,0.04
269,87,58,56,576.3,5.14,0.3,0.01
270,82,61,56,572.4,7.61,0.3,0
271,82,62,55,544.9,9.62,0.3,0
272,85,64,50,564.6,8.28,0.3,0
273,76,59,55,475.3,9.4,0.3,0.26
274,78,56,55,258.3,6.04,0.3,0
275,81,56,48,389,7.61,0.3,0
276,86,60,46,313.4,5.37,0.3,0
277,87,60,50,452,3.8,0.3,0
278,86,60,46,428.5,4.25,0.4,0
279,89,65,48,537,4.03,0.3,0
280,90,58,46,455.5,6.71,0.3,0
281,92,60,44,529.1,4.92,0.2,0
282,92,64,42,494.2,14.32,0.2,0
283,79,55,44,282,16.55,0.3,0
284,85,51,39,222.5,10.51,0.2,0
285,88,60,43,367.1,19.24,0.2,0
286,74,50,36,448.9,3.8,0.3,0
287,77,50,36,388.6,11.41,0.2,0
288,74,53,24,417.5,11.86,0.3,0
289,76,50,30,312,7.38,0.3,0
290,81,52,42,340.2,4.7,0.2,0
291,85,56,45,316.1,10.51,0.3,0
292,81,59,47,335.5,9.62,0.3,0
293,83,48,37,482.6,3.8,0.4,0
294,87,53,33,478.9,6.26,0.4,0
295,86,55,47,475.2,3.58,0.4,0
296,83,58,44,405.5,11.41,0.3,0
297,81,57,37,285.6,6.71,0.3,0
298,88,52,40,425.2,4.92,0.3,0
299,79,56,44,165.4,20.58,0.3,0
300,69,51,19,259.7,14.09,0.3,0
```

```
301,73,47,24,357.3,6.04,0.3,0
302,78,43,23,214.5,4.25,0.3,0
303,83,42,26,380.1,5.14,0.2,0
304,80,49,31,284.4,4.47,0.2,0
305,80,49,37,389.5,5.14,0.3,0
306,80,46,32,377.1,6.04,0.2,0
307,73,43,40,346.2,6.04,0.3,0
308,68,43,39,241.9,2.01,0.2,0
309,79,42,36,419.3,2.46,0.2,0
310,81,43,31,423.6,2.68,0.3,0
311,82,43,30,420.5,2.68,0.4,0
312,79,46,31,417.5,3.36,0.3,0
313,81,47,33,298.6,4.25,0.2,0
314,76,50,26,411.6,8.5,0.3,0
315,74,50,24,363.5,8.95,0.3,0
316,74,37,22,406,5.59,0.3,0
317,75,39,24,403.2,3.8,0.4,0
318,77,38,25,400.5,3.58,0.3,0
319,78,38,23,381.4,4.7,0.4,0
320,79,46,20,395.3,8.72,0.4,0
321,76,51,25,268.8,8.28,0.4,0
322,58,41,20,390.4,8.28,0.4,0
323,66,34,28,100.7,3.13,0.3,0
324,76,37,33,358,5.59,0.3,0
325,67,47,32,269.1,9.84,0.4,0
326,66,44,28,381.3,5.82,0.4,0
327,69,43,31,379.2,5.59,0.5,0
328,70,55,42,302.6,10.29,0.3,0.02
329,57,40,37,156,11.41,0.4,0.02
330,54,34,39,217.4,4.7,0.3,0.04
331,60,42,44,137.2,4.47,0.3,0.26
332,63,39,38,344.8,3.36,0.3,0
333,68,34,37,73.6,2.46,0.3,0
334,71,42,38,200.7,3.58,0.3,0
335,64,41,36,298.6,3.58,0.3,0
336,73,42,38,290.9,4.47,0.3,0
337,73,41,39,203.2,4.47,0.3,0
338,69,39,34,360.8,3.36,0.3,0
339,73,43,34,359.6,4.03,0.4,0
340,56,39,24,253.1,4.92,0.2,0
341,70,39,27,235.2,6.93,0.3,0
342,68,37,27,356.4,5.59,0.4,0
343,69,46,33,355.5,10.51,0.4,0
344,64,51,43,354.7,17.9,0.4,0.01
345,56,36,26,354,8.72,0.4,0
346,64,33,28,353.3,4.25,0.4,0
347,68,33,33,326.9,5.59,0.4,0
348,72,39,30,263.9,2.91,0.4,0
349,71,46,37,252.8,12.75,0.3,0
350,62,36,32,351.5,3.36,0.4,0
```

```
351,65,40,32,280.4,4.25,0.4,0
352,56,39,20,277.9,11.41,0.5,0
353,53,36,28,350.9,3.36,0.4,0
354,60,29,25,350.9,2.91,0.4,0
355,64,27,24,351,3.36,0.4,0
356,69,40,23,320.2,3.13,0.4,0
357,73,39,31,243.5,6.26,0.4,0
358,76,50,43,351.7,15.88,0.4,0
359,73,42,42,352.1,7.16,0.5,0
360,73,50,38,352.6,12.3,0.6,0
361,68,42,33,353.1,10.51,0.5,0
362,61,44,35,353.8,10.29,0.5,0
363,60,39,23,354.5,13.2,0.5,0
364,59,32,40,355.3,7.16,0.4,0
365,50,45,45,316.1,10.29,0.4,0.58
```

```
1,56,34,39,326.7,25.28,0.5,0.02
2,44,24,19,338.9,4.92,0.4,0
3,50,23,22,359.7,4.25,0.5,0
4,62,25,25,196.4,10.29,0.4,0
5,63,29,22,279.8,4.92,0.5,0
6,66,33,28,271,4.03,0.5,0
7,70,31,29,343.4,6.04,0.4,0
8,69,50,29,306.8,11.63,0.4,0
9,53,41,27,365.6,7.38,0.4,0
10,47,40,32,256.6,9.17,0.4,0
11,55,35,31,263.8,4.03,0.4,0
12,63,29,27,281.7,2.91,0.4,0
13,64,26,24,128.6,3.36,0.4,0
14,71,32,22,356.4,8.28,0.3,0
15,52,35,22,341.5,5.37,0.4,0
16,57,26,19,252.8,2.24,0.4,0
17,65,27,24,174.3,5.82,0.5,0
18,67,44,42,213.1,9.84,0.4,0.01
19,62,43,41,265.8,8.28,0.4,0
20,49,30,22,390.8,6.04,0.5,0
21,53,26,27,368.3,3.36,0.4,0
22,54,33,23,274.6,11.41,0.4,0
23,54,27,26,332.9,4.7,0.4,0
24,60,30,29,246.7,4.7,0.3,0
25,64,37,25,269,8.5,0.3,0
26,58,34,27,391.6,6.26,0.3,0
27,62,31,22,409.5,8.05,0.4,0
28,52,30,18,412.4,6.26,0.4,0
29,58,29,20,415.3,5.14,0.4,0
30,63,32,25,266.4,6.93,0.5,0
31,65,34,30,209.3,5.37,0.5,0
32,64,43,22,318.8,10.07,0.4,0
33,58,29,32,363.9,10.74,0.5,0.29
34,33,20,26,342.4,7.61,0.4,0.11
35,39,18,20,273.8,2.68,0.4,0
36,47,22,21,336.6,3.13,0.4,0
37,57,24,22,427.9,7.16,0.5,0
38,53,28,23,444.5,4.25,0.4,0
39,61,25,24,369,3.36,0.5,0
40,65,34,20,262.9,5.82,0.4,0
41,67,30,20,251.1,5.82,0.4,0
42,71,38,20,458.7,4.92,0.3,0
43,52,37,26,462.3,7.83,0.3,0
44,62,28,24,383.3,3.13,0.4,0
45,69,27,23,469.7,3.36,0.4,0
46,75,37,13,448.2,11.41,0.4,0
47,71,41,27,298.6,15.88,0.4,0
48,55,35,26,359.6,9.84,0.3,0
49,59,25,21,246.2,3.58,0.4,0
50,66,29,16,321.7,4.47,0.4,0
```

```
51,73,33,20,270.4,7.61,0.4,0
52,71,48,25,496.6,18.12,0.4,0
53,71,41,26,280.6,11.86,0.4,0
54,68,39,18,192.6,13.42,0.4,0
55,58,33,25,101.7,11.18,0.4,0
56,60,30,18,281.6,5.14,0.4,0
57,69,32,18,357.3,5.14,0.5,0
58,65,35,16,444,6.71,0.4,0
59,68,38,13,341.4,7.83,0.4,0
60,74,49,16,410.7,6.93,0.4,0
61,79,41,17,438.7,4.92,0.5,0
62,77,44,20,536.5,4.7,0.4,0
63,79,52,34,340.6,14.76,0.3,0
64,73,46,23,544.7,11.86,0.3,0
65,62,48,21,272.8,17.22,0.3,0
66,63,33,15,360.5,8.05,0.3,0
67,59,31,15,556.9,5.82,0.4,0
68,66,30,11,531.3,9.84,0.4,0
69,71,37,13,520.2,13.42,0.5,0
70,57,30,31,448.7,8.28,0.4,0.11
71,60,29,22,364.7,3.8,0.3,0
72,71,25,16,202.4,6.71,0.3,0
73,70,47,17,581,13.42,0.4,0
74,74,36,23,511.3,3.36,0.4,0
75,82,40,16,429,10.74,0.3,0
76,71,44,28,134.9,17,0.3,0
77,64,35,26,356.2,4.03,0.4,0
78,74,37,16,600.8,3.8,0.4,0
79,83,46,27,383.6,11.86,0.4,0
80,59,46,40,250.9,17.9,0.4,0.04
81,53,42,40,594.4,8.05,0.3,0
82,61,40,31,616.2,7.83,0.3,0
83,75,43,16,620,7.16,0.3,0
84,82,40,22,490.4,3.58,0.3,0
85,87,42,20,535,4.7,0.4,0
86,88,44,10,330.3,4.7,0.4,0
87,85,57,25,528.8,10.07,0.3,0
88,73,48,33,638.5,22.15,0.3,0
89,70,46,34,567.9,21.03,0.3,0
90,74,46,33,501.2,6.49,0.2,0
91,80,48,26,403.7,10.51,0.3,0
92,84,49,26,443.4,4.92,0.2,0
93,84,49,22,518.7,6.49,0.3,0
94,80,53,27,616,10.74,0.3,0
95,87,59,32,549.7,18.57,0.3,0
96,83,61,29,353.7,8.5,0.4,0
97,75,48,8,451.8,8.5,0.3,0
98,76,39,7,291.3,6.04,0.3,0
99,88,39,21,459.9,10.74,0.3,0
100,84,66,31,561,22.37,0.2,0
```

```
101,85,61,39,678.5,19.01,0.3,0
102,81,61,34,539.9,23.94,0.3,0
103,72,52,32,656.1,16.11,0.3,0
104,80,39,5,436.6,6.04,0.3,0
105,87,51,7,453.7,8.5,0.3,0
106,85,54,13,578.7,10.29,0.4,0
107,89,61,11,677.2,8.72,0.3,0
108,93,45,47,439.9,8.5,0.3,0
109,91,60,44,583.4,11.41,0.3,0
110,92,67,18,705.2,13.42,0.2,0
111,90,60,23,703.1,8.95,0.3,0
112,92,65,24,609.7,19.91,0.3,0
113,82,60,28,545.1,11.41,0.3,0
114,81,47,20,718.6,8.28,0.3,0
115,79,53,37,543.5,12.3,0.3,0
116,81,53,46,723.5,11.63,0.3,0
117,91,61,48,725.8,8.72,0.3,0
118,89,59,22,726,14.76,0.3,0
119,85,68,18,730.4,14.99,0.3,0
120,86,51,19,502.9,7.61,0.4,0
121,91,60,41,375,11.18,0.3,0
122,89,66,27,509.6,16.55,0.4,0
123,88,66,29,544.6,12.75,0.3,0
124,88,70,26,657.9,15.21,0.3,0
125,85,56,16,513,8.28,0.4,0
126,94,59,18,743.4,9.4,0.4,0
127,96,66,16,746.7,14.32,0.3,0
128,94,69,22,655.1,19.46,0.2,0
129,92,69,30,750.2,17.22,0.2,0
130,95,60,26,751.9,6.04,0.3,0
131,97,63,29,598.6,10.96,0.2,0
132,91,68,24,755.2,10.74,0.3,0
133,92,53,1,756.8,5.59,0.2,0
134,96,54,9,485.9,5.37,0.3,0
135,99,50,13,717.8,3.13,0.3,0
136,101,61,24,693.8,7.16,0.3,0
137,96,76,18,644.8,14.54,0.4,0
138,96,72,23,589.8,11.86,0.3,0
139,95,70,23,765.2,16.11,0.4,0
140,92,73,35,627.4,19.91,0.3,0
141,92,65,40,721.3,8.28,0.3,0
142,76,60,36,768.8,10.51,0.4,0
143,92,57,42,769.9,9.84,0.3,0
144,89,60,31,709.6,13.65,0.4,0
145,90,52,38,771.9,5.37,0.3,0
146,97,60,28,579.5,5.14,0.3,0
147,103,64,28,690.3,7.38,0.3,0
148,102,76,30,595.1,16.11,0.3,0
149,96,73,31,680.9,19.01,0.3,0
150,93,71,36,776.3,14.09,0.3,0
```

```
151,95,64,35,460.9,5.82,0.3,0
152,100,63,57,777.8,8.28,0.2,0
153,93,68,62,760.3,7.61,0.3,0.12
154,98,65,56,704.9,8.28,0.4,0
155,98,68,40,623.3,10.51,0.3,0
156,98,74,26,562.5,11.41,0.4,0
157,101,75,34,631.7,11.18,0.4,0
158,104,79,35,454.8,10.07,0.3,0
159,106,76,58,729.1,12.08,0.3,0
160,99,72,52,636.4,5.82,0.3,0
161,105,72,47,508.3,4.47,0.2,0
162,107,76,42,518.5,5.82,0.2,0
163,106,79,40,689.5,11.41,0.2,0
164,105,83,40,783,14.09,0.2,0
165,102,80,49,733.6,12.75,0.2,0
166,102,73,52,783.2,7.38,0.3,0
167,103,74,57,670.1,9.84,0.2,0.02
168,99,72,58,725.4,8.95,0.2,0
169,99,73,55,637.9,9.84,0.3,0
170,96,68,62,653.3,9.84,0.3,0.38
171,85,66,64,574.5,4.92,0.3,0.3
172,80,66,64,783.2,8.95,0.3,0.14
173,89,68,64,783,10.51,0.4,0.06
174,94,71,60,738.6,8.5,0.3,0
175,96,72,57,782.6,7.16,0.3,0
176,98,75,55,782.3,8.05,0.3,0
177,92,71,56,752.6,14.54,0.2,0
178,91,72,55,781.7,10.29,0.3,0
179,93,71,58,781.3,10.29,0.4,0
180,94,72,63,459.7,7.61,0.4,0.22
181,97,72,63,780.4,4.7,0.4,0
182,98,75,55,779.9,6.71,0.4,0
183,99,72,57,779.4,6.49,0.4,0.01
184,98,72,58,653.5,6.26,0.4,0
185,98,72,63,717.2,8.95,0.4,0
186,95,71,64,314.9,5.82,0.4,0
187,98,75,59,776.8,8.28,0.4,0
188,99,73,65,597.2,6.71,0.4,0.09
189,98,71,64,377.8,7.38,0.4,0.01
190,101,74,63,684.1,8.05,0.4,0
191,99,76,63,760.5,5.59,0.5,0.04
192,101,72,61,772.7,4.47,0.5,0.03
193,100,76,54,771.8,8.72,0.4,0
194,100,76,55,770.8,8.95,0.4,0
195,98,75,55,769.8,6.71,0.4,0
196,102,74,49,663.4,6.93,0.5,0
197,100,73,50,767.6,7.61,0.5,0
198,101,76,53,765,6.71,0.5,0
199,104,75,48,493.9,6.04,0.4,0
200,107,77,45,636.3,5.59,0.5,0
```

```
201,108,83,55,705.9,9.4,0.5,0
202,105,81,52,553.5,8.5,0.5,0
203,101,81,57,758.7,8.72,0.5,0
204,101,77,58,662.9,6.71,0.5,0
205,97,74,57,688.2,8.95,0.5,0.01
206,96,72,62,755.7,8.5,0.5,0.05
207,95,70,62,607,10.51,0.5,0
208,92,72,58,276.5,7.38,0.6,0
209,97,71,61,404.9,6.49,0.6,0
210,96,72,64,749.3,7.38,0.5,0
211,97,72,63,495.7,6.71,0.4,0
212,100,73,58,745.9,8.95,0.5,0
213,104,75,56,744.1,5.37,0.6,0
214,103,75,63,720.5,7.83,0.6,0.11
215,102,72,61,621.6,9.4,0.5,0.01
216,100,68,63,551.6,7.83,0.5,0.03
217,101,72,63,617.6,8.28,0.5,0
218,100,76,50,513.5,8.28,0.4,0
219,99,76,64,593.8,5.59,0.5,0
220,94,71,61,607.3,5.37,0.5,0
221,96,71,59,509.3,6.93,0.5,0
222,97,71,59,481.4,8.95,0.5,0
223,88,73,60,481.1,10.07,0.5,0
224,96,71,63,518.5,8.05,0.5,0.04
225,94,74,59,500.4,6.49,0.5,0
226,98,72,55,506.2,5.82,0.5,0
227,98,73,55,639.9,7.83,0.5,0
228,90,68,64,526.3,9.84,0.5,0.03
229,78,67,67,709.2,8.05,0.4,0.91
230,85,70,64,706.6,9.4,0.5,0
231,86,68,66,584,8.05,0.5,0.45
232,85,67,67,533,9.62,0.4,0.74
233,85,70,68,692.9,6.71,0.4,0.02
234,89,71,66,610.9,3.8,0.5,0.46
235,83,71,63,693.1,6.04,0.4,0
236,85,71,62,619.7,6.49,0.5,0
237,89,69,58,464.6,6.49,0.4,0
238,91,70,61,684.5,5.37,0.4,0
239,94,71,61,681.5,5.59,0.4,0
240,96,73,63,526,5.82,0.4,0
241,97,72,60,675.5,6.71,0.4,0
242,86,67,57,672.4,10.74,0.4,0
243,82,69,63,564.2,8.05,0.4,0.04
244,82,68,64,436.5,7.83,0.4,0
245,89,69,63,580.5,5.37,0.5,0
246,88,70,63,525.9,9.62,0.5,0
247,88,68,58,607.6,8.5,0.4,0
248,90,65,56,612.4,4.92,0.5,0
249,92,63,51,642.5,5.82,0.4,0
250,91,65,47,617,7.61,0.4,0
```

```
251,90,64,49,244.9,5.37,0.4,0
252,94,69,53,516.4,7.16,0.4,0
253,95,69,58,586.9,6.04,0.4,0
254,86,70,56,535.2,10.51,0.4,0
255,91,65,59,558.6,5.59,0.4,1.49
256,87,67,60,528.1,8.05,0.4,0.03
257,88,63,60,214.4,4.47,0.5,0
258,91,68,61,618,4.47,0.4,0
259,93,65,57,551.1,5.82,0.3,0
260,93,70,53,299.3,6.71,0.3,0
261,89,67,65,546.7,7.16,0.3,0.13
262,90,67,64,562.2,6.49,0.3,0
263,93,69,64,475.6,4.25,0.3,0
264,94,70,62,595.5,3.8,0.4,0
265,93,71,57,591.7,4.92,0.4,0
266,94,70,53,438.1,4.47,0.4,0
267,96,66,54,344.6,5.82,0.3,0
268,86,73,52,580.2,9.17,0.3,0
269,89,71,57,576.3,10.29,0.3,0
270,88,62,51,572.4,7.38,0.3,0
271,88,63,45,544.9,9.17,0.3,0
272,85,60,40,564.6,6.04,0.3,0
273,87,58,43,475.3,3.58,0.3,0
274,87,60,49,258.3,6.04,0.3,0
275,86,64,51,389,6.71,0.3,0
276,86,63,50,313.4,5.82,0.3,0.04
277,83,58,59,452,5.37,0.3,0.2
278,81,61,58,428.5,4.47,0.4,0.05
279,75,61,59,537,9.17,0.3,0.29
280,71,61,59,455.5,8.28,0.3,0.45
281,74,60,57,529.1,8.95,0.2,0.2
282,75,58,56,494.2,7.83,0.2,0.38
283,76,56,55,282,4.7,0.3,0.01
284,80,55,55,222.5,5.14,0.2,0
285,85,59,53,367.1,4.25,0.2,0
286,84,56,49,448.9,2.01,0.3,0
287,81,58,54,388.6,3.58,0.2,0
288,89,59,55,417.5,5.82,0.3,0
289,80,56,56,312,9.62,0.3,0.19
290,60,54,52,340.2,10.96,0.2,0.01
291,69,51,48,316.1,5.14,0.3,0
292,73,48,43,335.5,4.25,0.3,0
293,79,47,43,482.6,2.46,0.4,0
294,84,50,49,478.9,5.82,0.4,0
295,85,64,53,475.2,11.86,0.4,0
296,82,63,51,405.5,18.57,0.3,0
297,64,46,43,285.6,15.43,0.3,0.09
298,69,39,29,425.2,5.37,0.3,0
299,75,41,37,165.4,6.26,0.3,0
300,75,49,36,259.7,15.88,0.3,0
```

```
301,68,40,33,357.3,5.37,0.3,0
302,71,42,37,214.5,3.13,0.3,0
303,75,43,34,380.1,3.13,0.2,0
304,76,49,34,284.4,5.37,0.2,0
305,75,44,36,389.5,2.24,0.3,0
306,79,48,37,377.1,6.04,0.2,0
307,79,51,37,346.2,14.99,0.3,0
308,60,44,33,241.9,14.99,0.2,0
309,68,37,26,419.3,7.83,0.2,0
310,78,44,30,423.6,4.25,0.3,0
311,74,45,32,420.5,6.04,0.4,0
312,82,47,40,417.5,4.25,0.3,0
313,81,46,38,298.6,8.95,0.2,0
314,71,53,40,411.6,9.17,0.3,0
315,63,43,32,363.5,7.61,0.3,0
316,64,35,22,406,2.91,0.3,0
317,67,37,32,403.2,5.14,0.4,0
318,61,43,23,400.5,11.41,0.3,0
319,59,35,21,381.4,4.92,0.4,0
320,55,39,24,395.3,9.62,0.4,0
321,58,32,22,268.8,4.7,0.4,0
322,58,35,26,390.4,8.95,0.4,0
323,48,36,30,100.7,10.07,0.3,0
324,50,35,31,358,3.13,0.3,0
325,60,27,29,269.1,4.03,0.4,0
326,64,34,31,381.3,7.16,0.4,0
327,68,35,32,379.2,7.38,0.5,0
328,59,37,27,302.6,9.4,0.3,0
329,46,36,36,156,10.29,0.4,0.12
330,65,36,33,217.4,15.21,0.3,0
331,66,45,15,137.2,10.51,0.3,0
332,67,42,18,344.8,13.2,0.3,0
333,71,47,23,73.6,11.41,0.3,0
334,66,39,29,200.7,4.92,0.3,0
335,67,35,32,298.6,4.03,0.3,0
336,79,43,39,290.9,10.51,0.3,0
337,68,46,46,203.2,5.59,0.3,0
338,64,44,52,360.8,3.58,0.3,0.09
339,72,54,52,359.6,8.72,0.4,0
340,72,49,49,253.1,5.37,0.2,0
341,63,50,52,235.2,4.47,0.3,0.01
342,68,45,48,356.4,4.25,0.4,0
343,62,47,40,355.5,6.71,0.4,0
344,69,41,40,354.7,5.14,0.4,0
345,69,33,30,354,4.25,0.4,0
346,71,38,32,353.3,15.88,0.4,0
347,51,30,35,326.9,17,0.4,0.05
348,51,37,23,263.9,12.53,0.4,0
349,53,28,23,252.8,8.28,0.3,0
350,50,35,21,351.5,8.72,0.4,0
```

```
351,51,29,9,280.4,7.16,0.4,0
352,51,33,36,277.9,6.04,0.5,0.03
353,58,26,37,350.9,3.8,0.4,0
354,59,29,29,350.9,4.92,0.4,0
355,61,33,23,351,6.71,0.4,0
356,68,27,20,320.2,13.65,0.4,0
357,37,18,0,243.5,6.93,0.4,0
358,50,21,6,351.7,2.91,0.4,0
359,58,22,19,352.1,4.03,0.5,0
360,64,26,28,352.6,4.92,0.6,0
361,65,31,28,353.1,6.49,0.5,0
362,68,49,31,353.8,16.11,0.5,0
363,61,41,36,354.5,6.93,0.5,0
364,58,43,46,355.3,8.05,0.4,0.16
365,64,45,40,316.1,11.86,0.4,0
```

```
1,67,44,41,326.7,7.16,0.5,0
2,58,40,39,338.9,13.42,0.4,0.08
3,56,41,30,359.7,13.42,0.5,0
4,59,40,31,196.4,11.41,0.4,0
5,65,36,30,279.8,4.25,0.5,0
6,71,34,32,271,5.14,0.5,0
7,62,40,25,343.4,8.28,0.4,0
8,67,33,32,306.8,4.92,0.4,0
9,70,36,32,365.6,6.04,0.4,0
10,69,41,31,256.6,,0.4,0
11,66,43,23,263.8,11.86,0.4,0
12,60,32,19,281.7,,0.4,0
13,64,26,19,128.6,,0.4,0
14,68,27,27,356.4,5.59,0.3,0
15,68,54,32,341.5,18.79,0.4,0
16,53,47,43,252.8,9.62,0.4,0.04
17,57,44,43,174.3,8.5,0.5,0.04
18,51,33,28,213.1,14.32,0.4,0
19,51,28,25,265.8,3.36,0.4,0
20,64,24,21,390.8,8.05,0.5,0
21,52,28,17,368.3,6.71,0.4,0
22,56,25,18,274.6,3.58,0.4,0
23,63,36,35,332.9,7.61,0.4,0.07
24,52,33,34,246.7,11.86,0.3,0
25,54,30,24,269,6.49,0.3,0
26,49,29,24,391.6,7.83,0.3,0
27,54,20,23,409.5,4.47,0.4,0
28,66,27,23,412.4,6.71,0.4,0
29,68,34,30,415.3,5.37,0.4,0
30,71,38,24,266.4,7.38,0.5,0
31,60,36,25,209.3,7.38,0.5,0
32,53,33,34,318.8,3.8,0.4,0
33,63,31,33,363.9,,0.5,0
34,62,30,23,342.4,5.14,0.4,0
35,69,34,24,273.8,4.25,0.4,0
36,76,35,20,336.6,4.92,0.4,0
37,77,41,23,427.9,11.86,0.5,0
38,56,37,25,444.5,6.93,0.4,0
39,58,28,25,369,7.83,0.5,0
40,57,31,18,262.9,12.53,0.4,0
41,50,26,18,251.1,2.46,0.4,0
42,61,24,10,458.7,5.82,0.3,0
43,71,34,20,462.3,4.92,0.3,0
44,68,36,37,383.3,12.97,0.4,0.03
45,59,38,34,469.7,19.46,0.4,0
46,50,38,29,448.2,18.79,0.4,0
47,49,33,8,298.6,8.95,0.4,0
48,54,20,8,359.6,6.93,0.3,0
49,64,41,37,246.2,5.37,0.4,0
50,62,45,49,321.7,10.29,0.4,0.38
```

```
51,68,50,47,270.4,10.51,0.4,0
52,65,49,46,496.6,12.3,0.4,0
53,66,40,32,280.6,21.47,0.4,0
54,66,36,31,192.6,7.61,0.4,0
55,71,38,28,101.7,4.47,0.4,0
56,72,45,32,281.6,2.68,0.4,0
57,76,44,38,357.3,20.36,0.5,0
58,64,33,21,444,7.38,0.4,0
59,71,36,21,341.4,11.18,0.4,0
60,72,50,18,410.7,13.65,0.4,0
61,58,35,31,438.7,17,0.5,0.01
62,63,35,27,536.5,10.29,0.4,0
63,73,38,23,340.6,6.71,0.3,0
64,76,50,18,544.7,9.62,0.3,0
65,78,42,21,272.8,4.92,0.3,0
66,76,47,35,360.5,6.49,0.3,0
67,81,42,33,556.9,6.04,0.4,0
68,75,54,32,531.3,7.16,0.4,0
69,82,44,26,520.2,9.4,0.5,0
70,78,59,37,448.7,17,0.4,0
71,77,61,38,364.7,16.11,0.3,0
72,75,46,26,202.4,7.16,0.3,0
73,76,50,31,581,6.26,0.4,0
74,81,48,36,511.3,12.08,0.4,0
75,68,52,44,429,13.42,0.3,0.01
76,58,39,37,134.9,10.51,0.3,0.02
77,53,41,32,356.2,13.42,0.4,0
78,58,31,32,600.8,8.95,0.4,0
79,74,42,39,383.6,11.41,0.4,0.01
80,79,57,37,250.9,20.36,0.4,0
81,80,56,39,594.4,11.41,0.3,0
82,73,49,39,616.2,12.53,0.3,0
83,63,50,24,620,17.67,0.3,0
84,67,41,21,490.4,8.28,0.3,0
85,72,38,16,535,8.5,0.4,0
86,74,41,16,330.3,9.17,0.4,0
87,66,44,18,528.8,12.75,0.3,0
88,81,43,29,638.5,6.93,0.3,0
89,81,55,17,567.9,19.01,0.3,0
90,70,49,26,501.2,13.42,0.2,0
91,82,43,10,403.7,6.26,0.3,0
92,82,60,18,443.4,12.75,0.2,0
93,85,48,13,518.7,15.21,0.3,0
94,77,47,13,616,20.58,0.3,0
95,62,38,11,549.7,8.05,0.3,0
96,73,41,17,353.7,12.97,0.4,0
97,72,46,30,451.8,9.4,0.3,0
98,82,47,40,291.3,5.37,0.3,0
99,86,51,41,459.9,3.13,0.3,0
100,86,56,50,561,9.62,0.2,0
```

```
101,88,59,41,678.5,6.71,0.3,0
102,89,56,41,539.9,6.04,0.3,0
103,87,65,37,656.1,15.43,0.3,0
104,80,60,31,436.6,19.24,0.3,0
105,80,61,24,453.7,9.84,0.3,0
106,82,50,28,578.7,8.5,0.4,0
107,89,57,33,677.2,10.07,0.3,0
108,86,66,21,439.9,17,0.3,0
109,86,65,20,583.4,15.43,0.3,0
110,83,62,12,705.2,13.2,0.2,0
111,81,56,7,703.1,10.74,0.3,0
112,87,53,24,609.7,7.16,0.3,0
113,75,48,35,545.1,8.05,0.3,0
114,86,49,36,718.6,9.84,0.3,0
115,86,63,28,543.5,14.32,0.3,0
116,81,54,33,723.5,10.51,0.3,0
117,85,48,32,725.8,8.95,0.3,0
118,82,53,34,726,13.65,0.3,0
119,82,46,29,730.4,4.03,0.3,0
120,94,54,21,502.9,6.26,0.4,0
121,91,68,32,375,7.61,0.3,0
122,88,65,37,509.6,7.16,0.4,0
123,90,58,47,544.6,7.38,0.3,0
124,87,66,37,657.9,11.86,0.3,0
125,89,57,22,513,15.43,0.4,0
126,86,61,21,743.4,9.62,0.4,0
127,90,53,18,746.7,6.93,0.3,0
128,93,56,20,655.1,5.82,0.2,0
129,94,58,18,750.2,7.16,0.2,0
130,91,65,19,751.9,16.11,0.3,0
131,84,55,20,598.6,10.96,0.2,0
132,91,59,18,755.2,5.82,0.3,0
133,85,63,46,756.8,13.87,0.2,0
134,84,65,45,485.9,6.71,0.3,0
135,88,66,53,717.8,8.72,0.3,0
136,90,63,53,693.8,5.59,0.3,0
137,92,64,55,644.8,9.84,0.4,0.04
138,89,70,53,589.8,9.4,0.3,0
139,90,61,51,765.2,7.61,0.4,0
140,83,61,56,627.4,12.08,0.3,0.07
141,89,57,55,721.3,6.49,0.3,0
142,93,62,47,768.8,6.49,0.4,0
143,96,65,46,769.9,6.49,0.3,0
144,96,76,27,709.6,7.83,0.4,0
145,96,65,57,771.9,7.83,0.3,0
146,97,70,58,579.5,6.93,0.3,0
147,95,76,55,690.3,12.08,0.3,0
148,94,66,50,595.1,9.4,0.3,0
149,96,67,42,680.9,6.93,0.3,0
150,97,68,29,776.3,7.16,0.3,0
```

```
151,95,74,32,460.9,11.63,0.3,0
152,89,73,30,777.8,11.63,0.2,0
153,90,74,27,760.3,10.74,0.3,0
154,93,64,31,704.9,6.04,0.4,0
155,94,69,50,623.3,7.61,0.3,0
156,92,67,51,562.5,10.07,0.4,0
157,94,65,54,631.7,11.41,0.4,0.03
158,93,61,54,454.8,9.62,0.3,0
159,95,67,28,729.1,7.61,0.3,0
160,90,71,32,636.4,11.18,0.3,0
161,97,62,32,508.3,8.95,0.2,0
162,100,67,36,518.5,12.75,0.2,0
163,96,77,38,689.5,16.11,0.2,0
164,95,63,23,783,10.96,0.2,0
165,98,64,24,733.6,10.74,0.2,0
166,99,75,25,783.2,15.43,0.3,0
167,101,78,29,670.1,12.97,0.2,0
168,101,71,30,725.4,10.51,0.2,0
169,102,73,29,637.9,8.5,0.3,0
170,103,80,34,653.3,11.18,0.3,0
171,102,77,38,574.5,7.38,0.3,0
172,105,76,37,783.2,8.28,0.3,0
173,107,77,41,783,10.74,0.4,0
174,107,74,36,738.6,10.51,0.3,0
175,107,76,32,782.6,9.62,0.3,0
176,108,75,32,782.3,5.37,0.3,0
177,110,73,37,752.6,6.71,0.2,0
178,109,79,41,781.7,7.61,0.3,0
179,107,80,46,781.3,8.5,0.4,0
180,104,80,50,459.7,8.95,0.4,0
181,101,85,44,780.4,8.28,0.4,0
182,104,73,52,779.9,7.61,0.4,0
183,103,75,55,779.4,8.5,0.4,0
184,102,72,53,653.5,6.71,0.4,0
185,103,73,54,717.2,4.92,0.4,0
186,107,78,54,314.9,7.38,0.4,0
187,106,80,58,776.8,8.5,0.4,0
188,109,82,59,597.2,10.29,0.4,0
189,108,83,57,377.8,9.17,0.4,0
190,107,78,54,684.1,6.93,0.4,0
191,107,77,64,760.5,6.49,0.5,0.22
192,105,79,64,772.7,9.84,0.5,0.05
193,104,78,61,771.8,11.41,0.4,0
194,105,81,62,770.8,9.62,0.4,0.03
195,107,80,59,769.8,7.38,0.4,0
196,103,85,57,663.4,7.61,0.5,0
197,105,80,58,767.6,6.49,0.5,0
198,109,79,51,765,5.82,0.5,0
199,109,76,40,493.9,5.82,0.4,0
200,111,76,41,636.3,4.92,0.5,0
```

```
201,109,82,43,705.9,8.05,0.5,0
202,107,80,49,553.5,9.62,0.5,0
203,101,82,57,758.7,10.96,0.5,0
204,100,79,63,662.9,5.59,0.5,0
205,104,74,59,688.2,5.14,0.5,0
206,105,78,42,755.7,5.37,0.5,0
207,108,75,44,607,6.71,0.5,0
208,106,77,48,276.5,8.72,0.6,0
209,105,75,46,404.9,8.5,0.6,0
210,102,81,47,749.3,10.29,0.5,0
211,97,77,50,495.7,10.74,0.4,0
212,100,78,58,745.9,6.93,0.5,0
213,102,78,57,744.1,8.5,0.6,0
214,104,76,58,720.5,6.04,0.6,0
215,101,77,58,621.6,5.59,0.5,0
216,107,77,55,551.6,4.7,0.5,0
217,109,81,53,617.6,4.92,0.5,0
218,112,81,47,513.5,4.7,0.4,0
219,109,79,56,593.8,10.51,0.5,0
220,102,79,56,607.3,9.62,0.5,0
221,103,75,54,509.3,11.18,0.5,0.01
222,102,79,55,481.4,11.63,0.5,0
223,99,74,60,481.1,12.53,0.5,0
224,98,75,59,518.5,9.62,0.5,0
225,98,80,55,500.4,6.93,0.5,0
226,93,70,65,506.2,12.75,0.5,0.27
227,94,65,63,639.9,8.05,0.5,0.34
228,99,76,56,526.3,4.03,0.5,0
229,103,75,57,709.2,5.82,0.4,0
230,102,77,53,706.6,10.51,0.5,0
231,100,76,49,584,10.07,0.5,0
232,100,79,54,533,14.54,0.4,0
233,98,78,54,692.9,10.29,0.4,0
234,96,74,55,610.9,9.17,0.5,0
235,80,67,66,693.1,8.95,0.4,0.37
236,94,66,67,619.7,6.26,0.5,0
237,96,76,65,464.6,7.61,0.4,0
238,98,75,64,684.5,9.84,0.4,0
239,99,76,58,681.5,6.93,0.4,0
240,99,76,61,526,5.82,0.4,0
241,92,68,66,675.5,7.16,0.4,0.45
242,95,73,60,672.4,5.82,0.4,0
243,98,71,49,564.2,4.25,0.4,0
244,100,72,47,436.5,6.04,0.4,0
245,99,71,51,580.5,4.7,0.5,0
246,100,68,44,525.9,4.92,0.5,0
247,100,73,53,607.6,10.96,0.4,0
248,100,73,46,612.4,5.82,0.5,0
249,104,68,40,642.5,5.14,0.4,0
250,105,75,51,617,6.49,0.4,0
```

```
251,106,76,44,244.9,7.83,0.4,0
252,104,72,44,516.4,6.93,0.4,0
253,102,75,47,586.9,6.26,0.4,0
254,100,76,59,535.2,9.84,0.4,0.04
255,84,69,64,558.6,8.28,0.4,0.12
256,88,68,61,528.1,8.95,0.4,0
257,93,67,54,214.4,7.61,0.5,0
258,94,67,55,618,7.38,0.4,0
259,89,69,56,551.1,10.51,0.3,0
260,91,70,61,299.3,6.93,0.3,0.02
261,94,67,62,546.7,4.7,0.3,0
262,96,71,50,562.2,8.05,0.3,0
263,99,66,54,475.6,7.16,0.3,0
264,90,67,57,595.5,6.26,0.4,0
265,97,70,54,591.7,5.59,0.4,0
266,98,68,48,438.1,5.14,0.4,0
267,96,70,41,344.6,7.16,0.3,0
268,96,67,57,580.2,7.16,0.3,0
269,96,66,63,576.3,6.71,0.3,0.54
270,95,62,56,572.4,3.36,0.3,0
271,98,67,51,544.9,5.82,0.3,0
272,97,70,46,564.6,5.82,0.3,0
273,95,62,62,475.3,8.5,0.3,0.23
274,91,68,59,258.3,7.16,0.3,0
275,93,69,58,389,9.84,0.3,0
276,89,68,52,313.4,7.16,0.3,0
277,89,65,42,452,7.61,0.3,0
278,89,65,50,428.5,8.5,0.4,0
279,86,61,49,537,9.62,0.3,0
280,80,61,47,455.5,9.62,0.3,0
281,83,55,47,529.1,2.46,0.2,0
282,87,58,47,494.2,3.58,0.2,0
283,89,60,43,282,5.14,0.3,0
284,90,62,46,222.5,12.3,0.2,0
285,87,70,44,367.1,16.33,0.2,0
286,83,63,33,448.9,8.28,0.3,0
287,83,59,35,388.6,5.82,0.2,0
288,84,60,39,417.5,6.26,0.3,0
289,83,57,36,312,4.7,0.3,0
290,89,54,42,340.2,4.25,0.2,0
291,92,65,43,316.1,5.82,0.3,0
292,90,57,39,335.5,2.91,0.3,0
293,91,57,34,482.6,4.25,0.4,0
294,88,62,32,478.9,4.47,0.4,0
295,87,61,44,475.2,7.16,0.4,0
296,84,61,52,405.5,5.14,0.3,0
297,81,58,56,285.6,9.17,0.3,0.35
298,71,54,54,425.2,9.62,0.3,0
299,78,52,47,165.4,7.83,0.3,0
300,81,52,44,259.7,3.8,0.3,0
```

```
301,84,55,46,357.3,6.04,0.3,0
302,78,40,41,214.5,10.74,0.3,0
303,52,36,26,380.1,9.62,0.2,0
304,59,35,22,284.4,6.71,0.2,0
305,67,35,31,389.5,4.47,0.3,0
306,73,42,31,377.1,5.82,0.2,0
307,78,40,31,346.2,2.68,0.3,0
308,82,41,26,241.9,3.13,0.2,0
309,84,50,37,419.3,4.47,0.2,0
310,87,52,38,423.6,5.37,0.3,0
311,86,52,38,420.5,11.41,0.4,0
312,85,64,40,417.5,11.18,0.3,0
313,71,50,45,298.6,9.4,0.2,0.02
314,52,46,43,411.6,6.26,0.3,0.19
315,64,47,44,363.5,5.37,0.3,0
316,67,43,49,406,6.26,0.3,0
317,64,55,49,403.2,7.61,0.4,0
318,67,50,49,400.5,2.91,0.3,0
319,73,46,47,381.4,3.8,0.4,0
320,72,52,46,395.3,7.38,0.4,0
321,79,56,47,268.8,4.7,0.4,0
322,83,63,49,390.4,6.93,0.4,0
323,71,58,47,100.7,16.11,0.3,0
324,64,51,34,358,13.42,0.3,0
325,61,43,33,269.1,8.28,0.4,0
326,62,33,22,381.3,4.47,0.4,0
327,64,32,22,379.2,4.92,0.5,0
328,68,39,29,302.6,6.04,0.3,0
329,65,41,34,156,8.05,0.4,0
330,59,43,29,217.4,9.62,0.3,0
331,60,38,28,137.2,7.61,0.3,0
332,63,41,31,344.8,7.38,0.3,0
333,67,43,39,73.6,5.14,0.3,0
334,60,46,37,200.7,14.99,0.3,0.06
335,62,42,33,298.6,8.72,0.3,0
336,59,43,38,290.9,10.29,0.3,0.02
337,64,39,28,203.2,9.62,0.3,0
338,67,33,22,360.8,1.79,0.3,0
339,72,41,27,359.6,7.16,0.4,0
340,72,41,25,253.1,5.37,0.2,0
341,74,39,29,235.2,6.93,0.3,0
342,73,50,23,356.4,14.99,0.4,0
343,56,36,19,355.5,14.32,0.4,0
344,52,23,17,354.7,2.68,0.4,0
345,63,28,11,354,2.24,0.4,0
346,65,39,20,353.3,5.82,0.4,0
347,68,38,47,326.9,8.28,0.4,0
348,67,44,47,263.9,7.83,0.4,0
349,63,38,30,252.8,8.05,0.3,0
350,64,34,25,351.5,5.59,0.4,0
```

```
351,66,28,23,280.4,3.58,0.4,0
352,66,32,23,277.9,4.47,0.5,0
353,64,40,26,350.9,2.68,0.4,0
354,64,43,46,350.9,8.05,0.4,0.17
355,58,42,48,351,5.37,0.4,0
356,70,42,47,320.2,6.71,0.4,0
357,63,50,47,243.5,11.18,0.4,0.01
358,58,40,35,351.7,11.41,0.4,0
359,55,37,30,352.1,5.37,0.5,0
360,56,29,22,352.6,5.82,0.6,0
361,56,27,14,353.1,2.46,0.5,0
362,58,27,19,353.8,4.7,0.5,0
363,59,27,18,354.5,3.8,0.5,0
364,58,26,21,355.3,2.91,0.4,0
365,63,29,17,316.1,6.26,0.4,0
```

```
1,64,30,20,326.7,4.92,0.5,0
2,60,39,34,338.9,6.93,0.4,0
3,60,32,33,359.7,3.8,0.5,0
4,51,42,31,196.4,13.87,0.4,0
5,55,36,27,279.8,11.41,0.5,0
6,55,36,26,271,8.28,0.5,0
7,66,28,27,343.4,15.88,0.4,0.01
8,43,33,20,306.8,25.28,0.4,0
9,50,22,15,365.6,6.49,0.4,0
10,61,35,19,256.6,9.62,0.4,0
11,61,38,35,263.8,29.08,0.4,0.02
12,54,36,17,281.7,19.01,0.4,0
13,63,32,17,128.6,15.21,0.4,0
14,67,44,23,356.4,12.53,0.3,0
15,66,41,25,341.5,12.3,0.4,0
16,50,21,12,252.8,4.03,0.4,0
17,67,25,18,174.3,6.26,0.5,0
18,73,51,28,213.1,12.08,0.4,0
19,58,39,27,265.8,6.04,0.4,0
20,56,33,15,390.8,5.37,0.5,0
21,62,42,35,368.3,5.14,0.4,0
22,64,37,38,274.6,6.93,0.4,0
23,59,45,45,332.9,6.93,0.4,0.09
24,58,46,40,246.7,9.62,0.3,0
25,60,41,38,269,10.96,0.3,0
26,61,45,41,391.6,10.74,0.3,0.14
27,60,35,35,409.5,2.24,0.4,0
28,64,35,31,412.4,6.04,0.4,0
29,68,40,31,266.4,6.93,0.4,0
30,71,44,33,209.3,7.83,0.5,0
31,72,54,37,318.8,8.5,0.5,0
32,75,48,38,363.9,4.47,0.4,0
33,58,44,41,342.4,17.9,0.5,0.1
34,55,41,32,273.8,28.86,0.4,0
35,62,43,27,336.6,10.96,0.4,0
36,66,36,27,427.9,4.7,0.4,0
37,61,47,28,444.5,4.92,0.5,0
38,61,43,43,369,15.21,0.4,0.01
39,61,34,32,262.9,8.28,0.5,0
40,56,45,30,251.1,7.16,0.4,0
41,55,38,36,458.7,11.86,0.4,0.04
42,53,35,30,462.3,11.41,0.3,0
43,58,30,24,383.3,4.03,0.3,0
44,66,33,28,469.7,5.82,0.4,0
45,69,36,19,448.2,8.05,0.4,0
46,69,36,19,298.6,7.38,0.4,0
47,71,39,20,359.6,7.38,0.4,0
48,55,36,31,246.2,7.61,0.3,0
49,62,29,25,321.7,4.03,0.4,0
50,74,39,27,270.4,6.93,0.4,0
```

```
51,78,48,19,496.6,5.82,0.4,0
52,81,42,21,280.6,12.53,0.4,0
53,71,48,24,192.6,8.28,0.4,0
54,70,46,24,101.7,7.38,0.4,0
55,76,44,22,281.6,7.61,0.4,0
56,83,48,27,357.3,6.26,0.4,0
57,82,55,35,444,10.07,0.5,0
58,75,60,39,341.4,21.7,0.4,0
59,60,41,37,410.7,10.51,0.4,0.19
60,72,47,38,,7.61,0.4,0
61,76,48,33,438.7,11.86,0.5,0
62,76,52,17,536.5,12.3,0.4,0
63,72,47,32,340.6,9.84,0.3,0
64,72,50,29,544.7,9.4,0.3,0
65,73,54,24,272.8,12.3,0.3,0
66,70,52,31,360.5,15.43,0.3,0
67,64,46,33,556.9,12.08,0.4,0
68,61,41,31,531.3,5.82,0.4,0
69,67,39,25,520.2,4.47,0.5,0
70,75,42,30,448.7,4.7,0.4,0
71,77,53,22,364.7,10.29,0.3,0
72,77,51,29,202.4,15.88,0.3,0
73,74,47,29,581,6.49,0.4,0
74,67,48,36,511.3,15.88,0.4,0
75,69,49,41,429,7.61,0.3,0
76,70,47,42,134.9,7.83,0.3,0
77,60,50,45,356.2,14.32,0.4,0.03
78,72,52,41,600.8,4.92,0.4,0
79,71,51,38,383.6,10.51,0.4,0
80,75,53,38,250.9,15.43,0.4,0
81,79,50,32,594.4,6.26,0.3,0
82,82,54,23,616.2,11.41,0.3,0
83,68,47,34,620,26.62,0.3,0
84,60,42,32,490.4,19.91,0.3,0
85,61,42,34,535,13.87,0.4,0.01
86,68,42,31,330.3,11.41,0.4,0
87,82,41,22,528.8,6.26,0.3,0
88,84,64,19,638.5,17.67,0.3,0
89,77,58,22,567.9,8.72,0.3,0
90,74,55,36,501.2,7.61,0.2,0
91,63,47,39,403.7,15.88,0.3,0.02
92,65,47,37,443.4,6.04,0.2,0
93,76,39,31,518.7,4.7,0.3,0
94,83,44,19,616,6.49,0.3,0
95,81,51,23,549.7,9.17,0.3,0
96,65,51,32,353.7,21.25,0.4,0
97,72,38,16,451.8,6.71,0.3,0
98,79,43,13,291.3,6.26,0.3,0
99,66,49,35,459.9,10.51,0.3,0
100,80,41,33,561,5.14,0.2,0
```

```
101,84,47,21,678.5,4.47,0.3,0
102,85,60,22,539.9,8.28,0.3,0
103,87,55,27,656.1,7.16,0.3,0
104,87,62,32,436.6,10.51,0.3,0
105,87,62,17,453.7,20.8,0.3,0
106,81,52,18,578.7,8.05,0.4,0
107,88,50,16,677.2,7.61,0.3,0
108,90,57,20,439.9,8.72,0.3,0
109,87,60,42,583.4,7.61,0.3,0
110,81,55,46,705.2,7.61,0.2,0
111,73,50,41,703.1,9.62,0.3,0
112,86,51,47,609.7,4.7,0.3,0
113,92,64,41,545.1,8.5,0.3,0
114,91,65,29,718.6,10.29,0.3,0
115,87,68,24,543.5,19.46,0.3,0
116,83,60,30,723.5,17.67,0.3,0
117,77,63,25,725.8,17,0.3,0
118,81,55,31,726,9.62,0.3,0
119,85,55,28,730.4,5.14,0.3,0
120,91,56,21,502.9,7.61,0.4,0
121,91,66,20,375,12.3,0.3,0
122,88,69,25,509.6,11.18,0.4,0
123,90,63,23,544.6,8.5,0.3,0
124,91,60,25,657.9,7.16,0.3,0
125,91,60,54,513,9.62,0.4,0
126,87,67,25,743.4,17.67,0.4,0
127,89,62,24,746.7,15.88,0.3,0
128,89,70,24,655.1,15.21,0.2,0
129,88,68,27,750.2,12.75,0.2,0
130,87,63,51,751.9,10.07,0.3,0
131,92,63,53,598.6,11.63,0.2,0
132,86,61,43,755.2,11.63,0.3,0
133,90,62,25,756.8,5.82,0.2,0
134,93,59,26,485.9,6.71,0.3,0
135,93,70,30,717.8,12.97,0.3,0
136,86,67,40,693.8,10.96,0.3,0
137,91,56,43,644.8,7.61,0.4,0
138,97,66,28,589.8,7.61,0.3,0
139,97,73,25,765.2,11.86,0.4,0
140,99,73,25,627.4,14.99,0.3,0
141,93,73,33,721.3,11.63,0.3,0
142,94,66,23,768.8,13.2,0.4,0
143,93,65,9,769.9,14.54,0.3,0
144,93,73,9,709.6,11.41,0.4,0
145,96,72,18,771.9,22.59,0.3,0
146,94,69,27,579.5,9.17,0.3,0
147,99,61,19,690.3,9.17,0.3,0
148,101,63,23,595.1,8.28,0.3,0
149,99,71,57,680.9,8.95,0.3,0
150,98,70,14,776.3,8.95,0.3,0
```

```
151,99,73,35,460.9,6.71,0.3,0
152,100,68,61,777.8,7.83,0.2,0
153,98,68,49,760.3,12.08,0.3,0
154,99,75,17,704.9,12.97,0.4,0
155,98,76,27,623.3,14.54,0.3,0
156,105,71,32,562.5,5.59,0.4,0
157,108,73,39,631.7,6.71,0.4,0
158,107,80,44,454.8,8.72,0.3,0
159,104,80,42,729.1,13.87,0.3,0
160,98,80,45,636.4,12.3,0.3,0
161,96,70,52,508.3,8.95,0.2,0
162,102,69,49,518.5,5.82,0.2,0
163,106,76,59,689.5,4.92,0.2,0
164,109,76,48,783,5.82,0.2,0
165,107,81,47,733.6,8.95,0.2,0
166,104,79,54,783.2,6.04,0.3,0
167,106,74,26,670.1,9.4,0.2,0
168,103,80,35,725.4,13.65,0.2,0
169,101,78,36,637.9,8.95,0.3,0
170,106,74,64,653.3,11.63,0.3,0.07
171,90,74,63,574.5,18.34,0.3,0
172,93,74,66,783.2,14.32,0.3,0
173,99,74,60,783,7.38,0.4,0
174,103,76,62,738.6,7.16,0.3,0
175,105,79,54,782.6,6.26,0.3,0
176,108,82,54,782.3,6.93,0.3,0
177,108,80,62,752.6,8.5,0.2,0
178,98,78,63,781.7,8.72,0.3,0
179,104,81,60,781.3,5.82,0.4,0
180,108,84,56,459.7,10.51,0.4,0
181,99,75,67,780.4,9.84,0.4,0.64
182,100,73,65,779.9,8.95,0.4,0
183,103,73,68,779.4,10.07,0.4,0.24
184,96,73,67,653.5,5.82,0.4,0
185,99,80,64,717.2,6.71,0.4,0
186,103,73,63,314.9,9.62,0.4,0.9
187,98,69,63,776.8,6.04,0.4,0
188,105,75,58,597.2,5.14,0.4,0
189,91,77,57,377.8,12.53,0.4,0
190,99,75,58,684.1,9.62,0.4,0
191,99,74,56,760.5,8.95,0.5,0
192,98,73,53,772.7,8.28,0.5,0
193,98,76,53,771.8,10.07,0.4,0
194,98,74,49,770.8,7.61,0.4,0
195,100,77,58,769.8,7.38,0.4,0
196,101,76,59,663.4,7.38,0.5,0
197,103,78,57,767.6,6.93,0.5,0
198,101,76,57,765,9.4,0.5,0
199,92,77,60,493.9,10.51,0.4,0
200,98,73,60,636.3,6.93,0.5,0
```

```
201,102,73,61,705.9,8.05,0.5,0.02
202,90,70,65,553.5,10.74,0.5,0.02
203,88,68,65,758.7,10.29,0.5,0.15
204,93,68,63,662.9,7.83,0.5,0
205,96,71,54,688.2,3.8,0.5,0
206,99,74,51,755.7,5.37,0.5,0
207,100,74,52,607,6.71,0.5,0
208,101,79,56,276.5,6.71,0.6,0
209,104,80,61,404.9,9.84,0.6,0.01
210,103,76,62,749.3,6.93,0.5,0
211,104,81,58,495.7,8.28,0.4,0
212,99,81,60,745.9,15.66,0.5,0
213,102,78,61,744.1,5.59,0.6,0
214,105,80,57,720.5,8.72,0.6,0
215,102,78,52,621.6,6.93,0.5,0
216,103,79,58,551.6,6.26,0.5,0
217,100,75,58,617.6,8.95,0.5,0
218,99,73,56,513.5,4.7,0.4,0
219,99,77,56,593.8,5.82,0.5,0
220,104,79,58,607.3,4.92,0.5,0
221,99,79,57,509.3,12.75,0.5,0
222,99,78,56,481.4,6.71,0.5,0
223,103,76,52,481.1,5.82,0.5,0
224,104,80,55,518.5,11.41,0.5,0
225,99,75,61,500.4,7.61,0.5,0.03
226,98,76,63,506.2,3.13,0.5,0
227,104,78,62,639.9,6.93,0.5,0
228,105,76,58,526.3,6.04,0.5,0
229,105,81,55,709.2,9.4,0.4,0
230,103,80,55,706.6,7.38,0.5,0
231,104,79,56,584,8.5,0.5,0
232,102,78,54,533,5.82,0.4,0
233,103,78,55,692.9,7.83,0.4,0
234,103,79,56,610.9,9.4,0.5,0
235,103,79,52,693.1,6.71,0.4,0
236,101,73,53,619.7,6.71,0.5,0
237,101,77,54,464.6,7.38,0.4,0.02
238,98,69,66,684.5,10.07,0.4,0.14
239,85,68,65,681.5,9.4,0.4,0.39
240,91,75,63,526,4.92,0.4,0
241,96,71,61,675.5,6.04,0.4,0
242,94,72,63,672.4,9.4,0.4,0.02
243,87,71,62,564.2,8.28,0.4,0
244,85,70,59,436.5,7.61,0.4,0
245,78,65,64,580.5,8.72,0.5,0.47
246,83,62,59,525.9,5.59,0.5,0
247,87,66,60,607.6,5.37,0.4,0
248,90,68,62,612.4,8.5,0.5,0
249,88,70,58,642.5,10.51,0.4,0
250,88,69,56,617,8.72,0.4,0
```

```
251,88,66,51,244.9,8.05,0.4,0
252,89,61,47,516.4,5.82,0.4,0
253,93,62,41,586.9,2.24,0.4,0
254,97,65,37,535.2,5.82,0.4,0
255,98,68,37,558.6,8.28,0.4,0
256,98,73,51,528.1,8.05,0.4,0
257,98,77,54,214.4,6.93,0.5,0
258,95,70,53,618,8.28,0.4,0
259,96,71,59,551.1,6.49,0.3,0
260,97,74,58,299.3,7.16,0.3,0
261,95,70,49,546.7,4.92,0.3,0
262,97,67,47,562.2,4.03,0.3,0
263,98,74,61,475.6,4.25,0.3,0.03
264,96,71,54,595.5,9.4,0.4,0
265,90,66,50,591.7,7.38,0.4,0
266,90,62,57,438.1,5.59,0.4,0
267,94,68,59,344.6,4.47,0.3,0
268,93,69,49,580.2,7.83,0.3,0
269,94,66,50,576.3,2.68,0.3,0
270,100,68,45,572.4,3.13,0.3,0
271,96,68,43,544.9,7.16,0.3,0
272,93,68,43,564.6,5.37,0.3,0
273,96,62,39,475.3,4.03,0.3,0
274,88,65,37,258.3,10.29,0.3,0
275,89,64,44,389,4.25,0.3,0
276,93,62,40,313.4,5.37,0.3,0
277,91,64,40,452,8.72,0.3,0
278,89,59,44,428.5,3.8,0.4,0
279,96,63,42,537,6.93,0.3,0
280,90,63,48,455.5,6.93,0.3,0
281,88,61,48,529.1,3.36,0.2,0
282,92,61,42,494.2,3.13,0.2,0
283,93,61,36,282,2.91,0.3,0
284,94,63,33,222.5,2.91,0.2,0
285,94,62,32,367.1,4.7,0.2,0
286,91,61,27,448.9,5.59,0.3,0
287,90,58,29,388.6,4.25,0.2,0
288,90,64,32,417.5,3.8,0.3,0
289,79,62,35,312,11.63,0.3,0
290,79,62,52,340.2,8.05,0.2,0
291,83,60,53,316.1,10.96,0.3,0
292,82,58,56,335.5,8.05,0.3,0.05
293,87,59,55,482.6,7.16,0.4,0
294,84,57,45,478.9,6.71,0.4,0
295,88,57,37,475.2,8.5,0.4,0
296,91,59,37,405.5,5.59,0.3,0
297,93,57,36,285.6,5.82,0.3,0
298,85,56,35,425.2,6.71,0.3,0
299,89,59,40,165.4,4.25,0.3,0
300,91,59,38,259.7,4.47,0.3,0
```

```
301,91,59,32,357.3,7.38,0.3,0
302,86,64,38,214.5,16.55,0.3,0
303,73,48,40,380.1,9.17,0.2,0
304,75,48,21,284.4,6.04,0.2,0
305,81,50,33,389.5,6.71,0.3,0
306,80,52,44,377.1,7.61,0.2,0
307,74,52,50,346.2,14.54,0.3,0.14
308,59,42,40,241.9,13.87,0.2,0.01
309,65,38,36,419.3,7.83,0.2,0
310,74,43,40,423.6,8.28,0.3,0
311,56,45,43,420.5,11.86,0.4,0.12
312,57,38,39,417.5,4.03,0.3,0.06
313,65,33,33,298.6,3.58,0.2,0
314,71,37,32,411.6,4.47,0.3,0
315,76,45,34,363.5,5.59,0.3,0
316,78,44,35,406,9.4,0.3,0
317,70,42,21,403.2,9.17,0.4,0
318,75,40,21,400.5,5.59,0.3,0
319,81,44,29,381.4,7.38,0.4,0
320,78,54,28,395.3,11.18,0.4,0
321,63,47,50,268.8,10.51,0.4,0.37
322,60,45,40,390.4,15.21,0.4,0.02
323,65,46,30,100.7,10.07,0.3,0
324,65,42,31,358,7.16,0.3,0
325,69,41,33,269.1,4.7,0.4,0
326,70,39,32,381.3,3.36,0.4,0
327,72,40,32,379.2,4.7,0.5,0
328,76,50,32,302.6,6.49,0.3,0
329,76,53,28,156,7.83,0.4,0
330,77,45,33,217.4,6.71,0.3,0
331,76,56,35,137.2,10.07,0.3,0
332,63,46,35,344.8,5.59,0.3,0
333,59,40,34,73.6,3.8,0.3,0
334,64,43,32,200.7,3.8,0.3,0
335,69,41,26,298.6,6.49,0.3,0
336,69,45,38,290.9,7.83,0.3,0
337,64,45,46,203.2,6.04,0.3,0
338,69,45,46,360.8,6.04,0.3,0
339,63,49,40,359.6,11.63,0.4,0
340,53,47,45,253.1,8.5,0.2,0
341,60,44,40,235.2,6.04,0.3,0
342,67,44,39,356.4,11.63,0.4,0
343,67,50,25,355.5,11.86,0.4,0
344,55,30,17,354.7,10.51,0.4,0
345,55,23,7,354,3.58,0.4,0
346,52,33,10,353.3,4.92,0.4,0
347,67,32,28,326.9,5.82,0.4,0
348,66,34,17,263.9,3.13,0.4,0
349,69,35,18,252.8,5.82,0.3,0
350,69,38,16,351.5,5.82,0.4,0
```

```
351,68,31,17,280.4,5.14,0.4,0
352,64,41,22,277.9,9.17,0.5,0
353,67,37,23,350.9,5.82,0.4,0
354,67,37,21,350.9,4.7,0.4,0
355,67,38,25,351,3.58,0.4,0
356,69,31,26,320.2,4.92,0.4,0
357,72,36,18,243.5,4.7,0.4,0
358,68,39,23,351.7,4.7,0.4,0
359,70,38,26,352.1,10.96,0.5,0
360,61,38,25,352.6,9.4,0.6,0
361,66,39,24,353.1,12.75,0.5,0
362,67,45,23,353.8,9.4,0.5,0
363,70,35,23,354.5,6.49,0.5,0
364,76,54,21,355.3,9.4,0.4,0
365,71,40,14,316.1,11.08,0.4,0
```

APPENDIX III.I.1.B – UNSAT-H MODEL INPUT AND OUTPUT: NORMAL

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design
1,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                         IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                          UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,4.6,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,23.7,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
```

```
0,1,1,1,1,365,                                  LEAF,NFROOT,NUPTAK,NFPET,NSOW,NHRVST
0.2,                                            BARE
0.0,0.0,0.0,                                    AA,B1,B2
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,                                   HW,HD,HN
0.1,0.05,0.0,                                   HW,HD,HN
0.0,0.52,0.5,0.1,2.7,                           PETPC1,PETPC2,PETPC3,PETPC4,PETPC5
0.20,1234,0.5,875.0,                            ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1995.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

Initial Water Storage = 6.4909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.09064     0.09148     0.11152     0.07609
 Head (cm)         = 7.04973E+02 6.96597E+02 5.43311E+02 1.72394E+02
 LiqWater Flow (cm)=-3.30934E-01-2.96830E-01-1.85300E-01 1.40052E-01
 IsoVapor Flow (cm)=-2.35437E-06-9.10224E-07-1.40543E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1401 =    6.0191 vs.    6.0191

 Mass Balance = -4.9484E-05 cm;  Time step attempts =  219 and successes =  197
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04795     0.05164
 Head (cm)         = 1.32310E+06 1.95513E+05 1.97735E+03 5.25300E+02
 LiqWater Flow (cm)= 5.23751E-02 1.17400E-02-1.02339E-03 4.16114E-06
 IsoVapor Flow (cm)=-4.34634E-02-2.98159E-03-4.48495E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8359+ 0.0762+ 0.0000 - 0.0673- 0.0000-  0.0000 =    2.8448 vs.    2.8446

 Mass Balance =  1.3370E-04 cm;  Time step attempts = 1382 and successes = 1068
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0673 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   449
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1660E+02	[cm]
Actual Evaporation	=	1.8814E+01	[cm]
Evaporation during Growth	=	1.8814E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.5392E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.1868E-01	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.5392E+01	[cm]
Actual Rainfall	=	1.5392E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8446E+00	[cm]
Mass Balance Error	=	6.0031E-03	[cm]
Total Successful Time Steps	=	57521	
Total Attempted Time Steps	=	70351	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30386	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4216E+00	0.050	8.5530E+00	0.150	5.3339E+00
0.250	3.9850E+00	0.350	3.2012E+00	0.450	2.6445E+00
0.550	2.0839E+00	0.650	1.7436E+00	0.750	1.3917E+00
0.850	1.0897E+00	0.950	7.2371E-01	1.125	4.4810E-01
1.375	-1.6629E-01	1.625	-6.1738E-01	1.875	-9.0390E-01
2.250	-1.0926E+00	2.750	-1.4609E+00	3.250	-1.7134E+00
3.750	-1.9646E+00	4.250	-2.1095E+00	4.790	-2.2048E+00
6.350	-2.2550E+00	8.890	-2.4396E+00	11.430	-2.4155E+00
13.970	-2.3801E+00	16.510	-2.3243E+00	19.050	-2.1800E+00
21.590	-2.0289E+00	24.130	-1.8788E+00	26.670	-1.7295E+00
29.210	-1.5809E+00	31.750	-1.4328E+00	34.290	-1.2852E+00
36.830	-1.1381E+00	39.370	-9.9119E-01	41.910	-8.4460E-01
44.450	-6.9822E-01	46.990	-5.4946E-01	49.530	-4.0137E-01
52.070	-2.6876E-01	54.610	-1.2923E-01	57.150	1.0036E-02
59.690	1.4915E-01	60.960	2.1868E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1996.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.238E+06	0.0300	292.65
3	2.000E-01	1.159E+06	0.0300	292.65	4	3.000E-01	1.083E+06	0.0300	292.65
5	4.000E-01	1.012E+06	0.0300	292.65	6	5.000E-01	9.440E+05	0.0300	292.65
7	6.000E-01	8.793E+05	0.0300	292.65	8	7.000E-01	8.175E+05	0.0300	292.65
9	8.000E-01	7.583E+05	0.0300	292.65	10	9.000E-01	7.015E+05	0.0300	292.65
11	1.000E+00	6.470E+05	0.0300	292.65	12	1.250E+00	5.195E+05	0.0300	292.65
13	1.500E+00	4.028E+05	0.0300	292.65	14	1.750E+00	2.952E+05	0.0300	292.65
15	2.000E+00	1.955E+05	0.0301	292.65	16	2.500E+00	1.530E+04	0.0315	292.65
17	3.000E+00	4.914E+03	0.0360	292.65	18	3.500E+00	4.731E+03	0.0363	292.65
19	4.000E+00	4.769E+03	0.0363	292.65	20	4.500E+00	4.436E+03	0.0368	292.65
21	5.080E+00	3.894E+03	0.0380	292.65	22	7.620E+00	2.795E+03	0.0419	292.65
23	1.016E+01	2.481E+03	0.0437	292.65	24	1.270E+01	2.313E+03	0.0449	292.65
25	1.524E+01	2.207E+03	0.0457	292.65	26	1.778E+01	2.132E+03	0.0464	292.65
27	2.032E+01	2.078E+03	0.0469	292.65	28	2.286E+01	2.036E+03	0.0473	292.65
29	2.540E+01	2.003E+03	0.0477	292.65	30	2.794E+01	1.977E+03	0.0479	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.939E+03	0.0484	292.65
33	3.556E+01	1.925E+03	0.0485	292.65	34	3.810E+01	1.913E+03	0.0487	292.65
35	4.064E+01	1.904E+03	0.0488	292.65	36	4.318E+01	1.897E+03	0.0489	292.65
37	4.572E+01	1.892E+03	0.0489	292.65	38	4.826E+01	1.602E+03	0.0501	292.65
39	5.080E+01	5.861E+02	0.0512	292.65	40	5.334E+01	5.530E+02	0.0514	292.65
41	5.588E+01	5.364E+02	0.0516	292.65	42	5.842E+01	5.279E+02	0.0516	292.65
43	6.096E+01	5.253E+02	0.0516	292.65					

Initial Water Storage = 2.8446 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03005     0.04786     0.05163
 Head (cm)         = 6.46939E+05 2.64598E+05 1.98486E+03 5.25739E+02
 LiqWater Flow (cm)=-1.04353E-11-1.40322E-07-1.06432E-03 4.13257E-06
 IsoVapor Flow (cm)=-9.19674E-03-9.20291E-03-4.71421E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8446+ 0.0000+ 0.0000 - 0.0092- 0.0000-  0.0000 =    2.8354 vs.    2.8355

 Mass Balance = -2.7207E-05 cm;  Time step attempts =  103 and successes =   81
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0092 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    78

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04628     0.05093
 Head (cm)         = 1.37244E+06 9.76165E+05 2.14499E+03 6.58202E+02
 LiqWater Flow (cm)=-2.06547E-13-9.99673E-13-1.46826E-03 6.46714E-07
 IsoVapor Flow (cm)=-4.94573E-03-4.94516E-03-8.85352E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6965+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =    2.6915 vs.    2.6915

 Mass Balance =  2.1425E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3540E+02	[cm]
Actual Evaporation	=	2.1457E+01	[cm]
Evaporation during Growth	=	2.1452E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1311E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.0918E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1311E+01	[cm]
Actual Rainfall	=	2.1311E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.6915E+00	[cm]
Mass Balance Error	=	6.3878E-03	[cm]
Total Successful Time Steps	=	50967	
Total Attempted Time Steps	=	61488	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26469	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4610E-01	0.050	1.5303E+01	0.150	8.2999E+00
0.250	6.4493E+00	0.350	5.2358E+00	0.450	4.4320E+00
0.550	3.9595E+00	0.650	3.6295E+00	0.750	3.4465E+00
0.850	3.1397E+00	0.950	2.9979E+00	1.125	2.7912E+00
1.375	2.4272E+00	1.625	2.2129E+00	1.875	2.0704E+00
2.250	1.9183E+00	2.750	1.6150E+00	3.250	1.4752E+00
3.750	1.3252E+00	4.250	1.1923E+00	4.790	1.0949E+00
6.350	9.3450E-01	8.890	4.5841E-01	11.430	2.3411E-01
13.970	1.1022E-01	16.510	-2.1620E-02	19.050	-4.9194E-02
21.590	-4.3707E-02	24.130	-3.8701E-02	26.670	-3.4193E-02
29.210	-3.0100E-02	31.750	-2.6353E-02	34.290	-2.2883E-02
36.830	-1.9624E-02	39.370	-1.6531E-02	41.910	-1.3559E-02
44.450	-1.0664E-02	46.990	-5.9001E-03	49.530	-1.0519E-03
52.070	-5.0177E-03	54.610	-3.5985E-03	57.150	-1.9528E-03
59.690	-2.5020E-04	60.960	6.0918E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1997.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.305E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.262E+06	0.0300	292.65
7	6.000E-01	1.241E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.200E+06	0.0300	292.65	10	9.000E-01	1.180E+06	0.0300	292.65
11	1.000E+00	1.160E+06	0.0300	292.65	12	1.250E+00	1.112E+06	0.0300	292.65
13	1.500E+00	1.065E+06	0.0300	292.65	14	1.750E+00	1.020E+06	0.0300	292.65
15	2.000E+00	9.762E+05	0.0300	292.65	16	2.500E+00	8.926E+05	0.0300	292.65
17	3.000E+00	8.137E+05	0.0300	292.65	18	3.500E+00	7.392E+05	0.0300	292.65
19	4.000E+00	6.685E+05	0.0300	292.65	20	4.500E+00	6.013E+05	0.0300	292.65
21	5.080E+00	5.272E+05	0.0300	292.65	22	7.620E+00	2.423E+05	0.0301	292.65
23	1.016E+01	4.947E+03	0.0360	292.65	24	1.270E+01	3.058E+03	0.0406	292.65
25	1.524E+01	2.685E+03	0.0424	292.65	26	1.778E+01	2.486E+03	0.0436	292.65
27	2.032E+01	2.357E+03	0.0445	292.65	28	2.286E+01	2.265E+03	0.0453	292.65
29	2.540E+01	2.197E+03	0.0458	292.65	30	2.794E+01	2.145E+03	0.0463	292.65
31	3.048E+01	2.104E+03	0.0467	292.65	32	3.302E+01	2.072E+03	0.0470	292.65
33	3.556E+01	2.046E+03	0.0472	292.65	34	3.810E+01	2.026E+03	0.0474	292.65
35	4.064E+01	2.011E+03	0.0476	292.65	36	4.318E+01	2.000E+03	0.0477	292.65
37	4.572E+01	1.993E+03	0.0478	292.65	38	4.826E+01	1.736E+03	0.0501	292.65
39	5.080E+01	9.141E+02	0.0504	292.65	40	5.334E+01	7.279E+02	0.0507	292.65
41	5.588E+01	6.817E+02	0.0509	292.65	42	5.842E+01	6.634E+02	0.0509	292.65
43	6.096E+01	6.582E+02	0.0509	292.65					

Initial Water Storage = 2.6915 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04619     0.05093
 Head (cm)         = 1.39883E+06 9.92133E+05 2.15531E+03 6.58520E+02
 LiqWater Flow (cm)=-1.93373E-13-9.42340E-13-1.46981E-03 6.44141E-07
 IsoVapor Flow (cm)=-4.99903E-03-4.99863E-03-9.05855E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6915+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =    2.6865 vs.    2.6865

 Mass Balance =  1.2593E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.05124     0.07399     0.05058
 Head (cm)         = 5.55168E+05 1.71695E+03 9.28870E+02 7.97508E+02
 LiqWater Flow (cm)=-1.25591E-09-6.47971E-02-2.72442E-02 1.32651E-07
 IsoVapor Flow (cm)=-7.01576E-02-9.62803E-06-2.63151E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.0401+ 0.0000+ 0.0000 - 0.0702- 0.0000-  0.0000 =    3.9700 vs.    3.9700

 Mass Balance = -1.3438E-05 cm;  Time step attempts =  106 and successes =   84
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0702 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    65
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8279E+02	[cm]
Actual Evaporation	=	2.3170E+01	[cm]
Evaporation during Growth	=	2.3170E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4460E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.1399E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4460E+01	[cm]
Actual Rainfall	=	2.4460E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.9700E+00	[cm]
Mass Balance Error	=	1.1831E-02	[cm]
Total Successful Time Steps	=	81675	
Total Attempted Time Steps	=	102016	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	38109	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2904E+00	0.050	1.7795E+01	0.150	1.3673E+01
0.250	1.1751E+01	0.350	1.0355E+01	0.450	9.3016E+00
0.550	8.4322E+00	0.650	7.6790E+00	0.750	7.0336E+00
0.850	6.5895E+00	0.950	6.1165E+00	1.125	5.7004E+00
1.375	4.6234E+00	1.625	3.9974E+00	1.875	3.4912E+00
2.250	3.1282E+00	2.750	2.4964E+00	3.250	2.1583E+00
3.750	1.9172E+00	4.250	1.6718E+00	4.790	1.5194E+00
6.350	1.3664E+00	8.890	1.1405E+00	11.430	9.8696E-01
13.970	9.2072E-01	16.510	8.5501E-01	19.050	7.8865E-01
21.590	7.2133E-01	24.130	6.5296E-01	26.670	5.8352E-01
29.210	5.1306E-01	31.750	4.4167E-01	34.290	3.6941E-01
36.830	2.9636E-01	39.370	2.2263E-01	41.910	1.4829E-01
44.450	7.3438E-02	46.990	-1.2404E-03	49.530	1.5304E-06
52.070	-9.7184E-04	54.610	-1.3882E-03	57.150	-9.3634E-04
59.690	-2.5235E-04	60.960	1.1399E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1998.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.552E+05	0.0300	292.65	2	1.000E-01	3.917E+05	0.0300	292.65
3	2.000E-01	2.464E+05	0.0301	292.65	4	3.000E-01	1.160E+05	0.0301	292.65
5	4.000E-01	2.582E+03	0.0430	292.65	6	5.000E-01	2.438E+03	0.0440	292.65
7	6.000E-01	2.328E+03	0.0448	292.65	8	7.000E-01	2.240E+03	0.0455	292.65
9	8.000E-01	2.166E+03	0.0461	292.65	10	9.000E-01	2.102E+03	0.0467	292.65
11	1.000E+00	2.047E+03	0.0472	292.65	12	1.250E+00	1.934E+03	0.0484	292.65
13	1.500E+00	1.847E+03	0.0495	292.65	14	1.750E+00	1.776E+03	0.0504	292.65
15	2.000E+00	1.717E+03	0.0512	292.65	16	2.500E+00	1.623E+03	0.0527	292.65
17	3.000E+00	1.550E+03	0.0540	292.65	18	3.500E+00	1.491E+03	0.0551	292.65
19	4.000E+00	1.442E+03	0.0562	292.65	20	4.500E+00	1.400E+03	0.0571	292.65
21	5.080E+00	1.359E+03	0.0581	292.65	22	7.620E+00	1.230E+03	0.0616	292.65
23	1.016E+01	1.149E+03	0.0642	292.65	24	1.270E+01	1.092E+03	0.0664	292.65
25	1.524E+01	1.048E+03	0.0682	292.65	26	1.778E+01	1.014E+03	0.0697	292.65
27	2.032E+01	9.865E+02	0.0710	292.65	28	2.286E+01	9.638E+02	0.0721	292.65
29	2.540E+01	9.448E+02	0.0731	292.65	30	2.794E+01	9.289E+02	0.0740	292.65
31	3.048E+01	9.154E+02	0.0748	292.65	32	3.302E+01	9.041E+02	0.0754	292.65
33	3.556E+01	8.946E+02	0.0760	292.65	34	3.810E+01	8.867E+02	0.0765	292.65
35	4.064E+01	8.803E+02	0.0768	292.65	36	4.318E+01	8.753E+02	0.0772	292.65
37	4.572E+01	8.715E+02	0.0774	292.65	38	4.826E+01	8.608E+02	0.0505	292.65
39	5.080E+01	9.434E+02	0.0504	292.65	40	5.334E+01	8.844E+02	0.0504	292.65
41	5.588E+01	8.329E+02	0.0505	292.65	42	5.842E+01	8.059E+02	0.0506	292.65
43	6.096E+01	7.975E+02	0.0506	292.65					

Initial Water Storage = 3.9700 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.05000     0.07264     0.05058
 Head (cm)         = 3.72655E+05 1.80564E+03 9.53849E+02 7.97785E+02
 LiqWater Flow (cm)=-5.38177E-10-5.82323E-02-2.50070E-02 1.32272E-07
 IsoVapor Flow (cm)=-6.14426E-02-1.09375E-05-2.74933E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9700+ 0.0000+ 0.0000 - 0.0614- 0.0000-  0.0000 =    3.9085 vs.    3.9085

 Mass Balance = -2.8098E-06 cm;  Time step attempts =   37 and successes =   31
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0614 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05686     0.05035
 Head (cm)         = 9.19880E+05 2.45277E+05 1.41005E+03 9.73624E+02
 LiqWater Flow (cm)=-3.18818E-12-6.80523E-07-5.73186E-03 2.55715E-08
 IsoVapor Flow (cm)=-1.33579E-02-1.33419E-02-4.41930E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2124+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    3.1990 vs.    3.1990

 Mass Balance = -6.0264E-06 cm;  Time step attempts =   94 and successes =   90
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0134 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    85
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9981E+02	[cm]
Actual Evaporation	=	1.7959E+01	[cm]
Evaporation during Growth	=	1.7959E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.6652E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1990E+00	[cm]
Mass Balance Error	=	7.6198E-03	[cm]
Total Successful Time Steps	=	63438	
Total Attempted Time Steps	=	77938	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31495	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.6328E-01	0.050	1.1429E+01	0.150	8.2647E+00
0.250	7.1350E+00	0.350	6.1800E+00	0.450	5.4287E+00
0.550	4.9157E+00	0.650	4.4186E+00	0.750	3.9611E+00
0.850	3.6072E+00	0.950	3.2607E+00	1.125	2.9651E+00
1.375	2.2105E+00	1.625	1.7303E+00	1.875	1.3007E+00
2.250	1.0574E+00	2.750	5.7972E-01	3.250	2.9236E-01
3.750	5.5740E-02	4.250	-4.2571E-02	4.790	-1.0034E-01
6.350	-1.7476E-01	8.890	-3.5247E-01	11.430	-4.2850E-01
13.970	-4.6691E-01	16.510	-4.8928E-01	19.050	-4.9079E-01
21.590	-4.5036E-01	24.130	-4.0864E-01	26.670	-3.6600E-01
29.210	-3.2255E-01	31.750	-2.7840E-01	34.290	-2.3360E-01
36.830	-1.8825E-01	39.370	-1.4240E-01	41.910	-9.6115E-02
44.450	-4.9466E-02	46.990	-1.7710E-03	49.530	4.4838E-04
52.070	-1.3983E-04	54.610	-3.2787E-04	57.150	-3.1580E-04
59.690	-1.0951E-04	60.960	2.6652E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1999.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	2	1.000E-01	8.770E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	4	3.000E-01	7.952E+05	0.0300	292.65
5	4.000E-01	7.560E+05	0.0300	292.65	6	5.000E-01	7.179E+05	0.0300	292.65
7	6.000E-01	6.808E+05	0.0300	292.65	8	7.000E-01	6.447E+05	0.0300	292.65
9	8.000E-01	6.095E+05	0.0300	292.65	10	9.000E-01	5.752E+05	0.0300	292.65
11	1.000E+00	5.417E+05	0.0300	292.65	12	1.250E+00	4.614E+05	0.0300	292.65
13	1.500E+00	3.856E+05	0.0300	292.65	14	1.750E+00	3.136E+05	0.0300	292.65
15	2.000E+00	2.453E+05	0.0301	292.65	16	2.500E+00	1.179E+05	0.0301	292.65
17	3.000E+00	3.052E+03	0.0407	292.65	18	3.500E+00	2.743E+03	0.0421	292.65
19	4.000E+00	2.548E+03	0.0432	292.65	20	4.500E+00	2.408E+03	0.0442	292.65
21	5.080E+00	2.286E+03	0.0451	292.65	22	7.620E+00	1.968E+03	0.0480	292.65
23	1.016E+01	1.800E+03	0.0501	292.65	24	1.270E+01	1.690E+03	0.0517	292.65
25	1.524E+01	1.611E+03	0.0529	292.65	26	1.778E+01	1.551E+03	0.0540	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.466E+03	0.0556	292.65
29	2.540E+01	1.436E+03	0.0563	292.65	30	2.794E+01	1.410E+03	0.0569	292.65
31	3.048E+01	1.389E+03	0.0573	292.65	32	3.302E+01	1.372E+03	0.0578	292.65
33	3.556E+01	1.357E+03	0.0581	292.65	34	3.810E+01	1.346E+03	0.0584	292.65
35	4.064E+01	1.337E+03	0.0586	292.65	36	4.318E+01	1.330E+03	0.0588	292.65
37	4.572E+01	1.325E+03	0.0589	292.65	38	4.826E+01	1.296E+03	0.0502	292.65
39	5.080E+01	1.019E+03	0.0503	292.65	40	5.334E+01	9.986E+02	0.0503	292.65
41	5.588E+01	9.984E+02	0.0503	292.65	42	5.842E+01	9.829E+02	0.0503	292.65
43	6.096E+01	9.736E+02	0.0503	292.65					

Initial Water Storage = 3.1990 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03004     0.05655     0.05035
 Head (cm)         = 1.35965E+06 3.27437E+05 1.42364E+03 9.73909E+02
 LiqWater Flow (cm)=-8.32675E-13-2.60138E-09-5.56906E-03 2.55092E-08
 IsoVapor Flow (cm)=-1.66486E-02-1.66281E-02-4.49810E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1990+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =    3.1824 vs.    3.1824

 Mass Balance = -4.9288E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04558     0.06596     0.05024
 Head (cm)         = 8.66730E+05 2.22598E+03 1.10238E+03 1.13576E+03
 LiqWater Flow (cm)=-1.67325E-11-3.86446E-02-1.10895E-02 7.16000E-09
 IsoVapor Flow (cm)=-4.20348E-02-1.95531E-05-2.65098E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6559+ 0.0000+ 0.0000 - 0.0420- 0.0000-  0.0000 =    3.6139 vs.    3.6139

 Mass Balance = -1.8123E-05 cm;  Time step attempts =  102 and successes =   79
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0420 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    79
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0082E+02	[cm]
Actual Evaporation	=	2.0305E+01	[cm]
Evaporation during Growth	=	2.0305E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.9662E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.6139E+00	[cm]
Mass Balance Error	=	6.5105E-03	[cm]
Total Successful Time Steps	=	49260	
Total Attempted Time Steps	=	59592	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25281	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.2139E-01	0.050	1.4096E+01	0.150	9.2845E+00
0.250	7.7256E+00	0.350	6.6492E+00	0.450	5.8424E+00
0.550	5.2020E+00	0.650	4.7766E+00	0.750	4.2826E+00
0.850	3.8464E+00	0.950	3.5936E+00	1.125	3.2904E+00
1.375	2.7010E+00	1.625	2.3325E+00	1.875	2.0691E+00
2.250	1.9375E+00	2.750	1.6728E+00	3.250	1.5410E+00
3.750	1.4371E+00	4.250	1.2958E+00	4.790	1.1884E+00
6.350	1.0046E+00	8.890	7.4586E-01	11.430	6.1642E-01
13.970	5.0334E-01	16.510	4.1794E-01	19.050	3.3936E-01
21.590	2.5820E-01	24.130	2.1142E-01	26.670	1.8800E-01
29.210	1.6466E-01	31.750	1.4126E-01	34.290	1.1779E-01
36.830	9.4233E-02	39.370	7.0603E-02	41.910	4.6898E-02
44.450	2.3103E-02	46.990	-5.0028E-06	49.530	5.3829E-04
52.070	3.0724E-05	54.610	-2.9751E-05	57.150	-4.4802E-05
59.690	-1.9052E-05	60.960	4.9662E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2000.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.511E+05	0.0300	292.65
3	2.000E-01	6.441E+05	0.0300	292.65	4	3.000E-01	5.450E+05	0.0300	292.65
5	4.000E-01	4.526E+05	0.0300	292.65	6	5.000E-01	3.659E+05	0.0300	292.65
7	6.000E-01	2.844E+05	0.0300	292.65	8	7.000E-01	2.074E+05	0.0301	292.65
9	8.000E-01	1.345E+05	0.0301	292.65	10	9.000E-01	6.528E+04	0.0303	292.65
11	1.000E+00	3.663E+03	0.0386	292.65	12	1.250E+00	2.876E+03	0.0415	292.65
13	1.500E+00	2.557E+03	0.0432	292.65	14	1.750E+00	2.363E+03	0.0445	292.65
15	2.000E+00	2.226E+03	0.0456	292.65	16	2.500E+00	2.038E+03	0.0473	292.65
17	3.000E+00	1.911E+03	0.0487	292.65	18	3.500E+00	1.816E+03	0.0499	292.65
19	4.000E+00	1.742E+03	0.0509	292.65	20	4.500E+00	1.681E+03	0.0518	292.65
21	5.080E+00	1.623E+03	0.0527	292.65	22	7.620E+00	1.453E+03	0.0559	292.65
23	1.016E+01	1.352E+03	0.0582	292.65	24	1.270E+01	1.283E+03	0.0600	292.65
25	1.524E+01	1.233E+03	0.0615	292.65	26	1.778E+01	1.194E+03	0.0627	292.65
27	2.032E+01	1.164E+03	0.0637	292.65	28	2.286E+01	1.139E+03	0.0646	292.65
29	2.540E+01	1.119E+03	0.0653	292.65	30	2.794E+01	1.102E+03	0.0660	292.65
31	3.048E+01	1.089E+03	0.0665	292.65	32	3.302E+01	1.077E+03	0.0670	292.65
33	3.556E+01	1.068E+03	0.0673	292.65	34	3.810E+01	1.060E+03	0.0677	292.65
35	4.064E+01	1.054E+03	0.0679	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.045E+03	0.0683	292.65	38	4.826E+01	1.037E+03	0.0503	292.65
39	5.080E+01	1.235E+03	0.0502	292.65	40	5.334E+01	1.141E+03	0.0502	292.65
41	5.588E+01	1.118E+03	0.0502	292.65	42	5.842E+01	1.129E+03	0.0502	292.65
43	6.096E+01	1.136E+03	0.0502	292.65					

Initial Water Storage = 3.6139 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04491     0.06522     0.05024
 Head (cm)         = 1.04627E+06 2.30896E+03 1.12200E+03 1.13548E+03
 LiqWater Flow (cm)=-6.00077E-12-3.37137E-02-1.16958E-02 7.17472E-09
 IsoVapor Flow (cm)=-3.60676E-02-2.12870E-05-2.97586E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6139+ 0.0000+ 0.0000 - 0.0361- 0.0000-  0.0000 =    3.5778 vs.    3.5779

 Mass Balance = -1.1454E-05 cm;  Time step attempts =   74 and successes =   59
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0361 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05566     0.05020
 Head (cm)         = 8.48906E+05 1.36533E+05 1.46520E+03 1.22725E+03
 LiqWater Flow (cm)=-5.05373E-12-2.08012E-04-4.32763E-03 3.78323E-09
 IsoVapor Flow (cm)=-1.46930E-02-1.44844E-02-4.12622E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1727+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =    3.1581 vs.    3.1581

 Mass Balance = -2.7162E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0228E+02	[cm]
Actual Evaporation	=	1.9269E+01	[cm]
Evaporation during Growth	=	1.9255E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7750E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1581E+00	[cm]
Mass Balance Error	=	7.9892E-03	[cm]
Total Successful Time Steps	=	60369	
Total Attempted Time Steps	=	73990	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30877	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4787E-01	0.050	1.3790E+01	0.150	9.2170E+00
0.250	7.9422E+00	0.350	7.0846E+00	0.450	6.2951E+00
0.550	5.7758E+00	0.650	5.3168E+00	0.750	4.7933E+00
0.850	4.3870E+00	0.950	4.1347E+00	1.125	3.8738E+00
1.375	3.0384E+00	1.625	2.5022E+00	1.875	1.9957E+00
2.250	1.7168E+00	2.750	1.1506E+00	3.250	7.2996E-01
3.750	5.8479E-01	4.250	4.2780E-01	4.790	2.9940E-01
6.350	1.8255E-01	8.890	-1.0399E-01	11.430	-2.4825E-01
13.970	-2.9196E-01	16.510	-3.1574E-01	19.050	-2.9196E-01
21.590	-2.6731E-01	24.130	-2.4208E-01	26.670	-2.1639E-01
29.210	-1.9030E-01	31.750	-1.6389E-01	34.290	-1.3720E-01
36.830	-1.1027E-01	39.370	-8.3143E-02	41.910	-5.5835E-02
44.450	-2.8371E-02	46.990	-4.1043E-04	49.530	6.4138E-04
52.070	3.9823E-05	54.610	-5.4667E-06	57.150	-7.2319E-06
59.690	-1.8881E-06	60.960	1.7750E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2001.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	2	1.000E-01	8.031E+05	0.0300	292.65
3	2.000E-01	7.587E+05	0.0300	292.65	4	3.000E-01	7.157E+05	0.0300	292.65
5	4.000E-01	6.740E+05	0.0300	292.65	6	5.000E-01	6.335E+05	0.0300	292.65
7	6.000E-01	5.942E+05	0.0300	292.65	8	7.000E-01	5.559E+05	0.0300	292.65
9	8.000E-01	5.187E+05	0.0300	292.65	10	9.000E-01	4.825E+05	0.0300	292.65
11	1.000E+00	4.472E+05	0.0300	292.65	12	1.250E+00	3.628E+05	0.0300	292.65
13	1.500E+00	2.832E+05	0.0300	292.65	14	1.750E+00	2.079E+05	0.0301	292.65
15	2.000E+00	1.365E+05	0.0301	292.65	16	2.500E+00	3.984E+03	0.0378	292.65
17	3.000E+00	3.113E+03	0.0404	292.65	18	3.500E+00	2.772E+03	0.0420	292.65
19	4.000E+00	2.568E+03	0.0431	292.65	20	4.500E+00	2.424E+03	0.0441	292.65
21	5.080E+00	2.301E+03	0.0450	292.65	22	7.620E+00	1.992E+03	0.0478	292.65
23	1.016E+01	1.831E+03	0.0497	292.65	24	1.270E+01	1.727E+03	0.0511	292.65
25	1.524E+01	1.653E+03	0.0522	292.65	26	1.778E+01	1.597E+03	0.0532	292.65
27	2.032E+01	1.553E+03	0.0539	292.65	28	2.286E+01	1.518E+03	0.0546	292.65
29	2.540E+01	1.489E+03	0.0552	292.65	30	2.794E+01	1.465E+03	0.0557	292.65
31	3.048E+01	1.445E+03	0.0561	292.65	32	3.302E+01	1.429E+03	0.0564	292.65
33	3.556E+01	1.416E+03	0.0567	292.65	34	3.810E+01	1.405E+03	0.0570	292.65
35	4.064E+01	1.396E+03	0.0572	292.65	36	4.318E+01	1.390E+03	0.0573	292.65
37	4.572E+01	1.385E+03	0.0574	292.65	38	4.826E+01	1.362E+03	0.0502	292.65
39	5.080E+01	1.249E+03	0.0502	292.65	40	5.334E+01	1.231E+03	0.0502	292.65
41	5.588E+01	1.230E+03	0.0502	292.65	42	5.842E+01	1.228E+03	0.0502	292.65
43	6.096E+01	1.227E+03	0.0502	292.65					

Initial Water Storage = 3.1581 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05541     0.05020
 Head (cm)         = 8.74418E+05 1.41905E+05 1.47744E+03 1.22731E+03
 LiqWater Flow (cm)=-4.53698E-12-1.03361E-04-4.30247E-03 3.78171E-09
 IsoVapor Flow (cm)=-1.49669E-02-1.48596E-02-4.25620E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1581+ 0.0000+ 0.0000 - 0.0150- 0.0000-  0.0000 =    3.1431 vs.    3.1431

 Mass Balance = -6.6952E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0150 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04464     0.04900     0.05011
 Head (cm)         = 8.82736E+05 2.34469E+03 1.88501E+03 1.54402E+03
 LiqWater Flow (cm)= 1.69846E-01 9.42150E-02-1.98821E-03 5.69678E-10
 IsoVapor Flow (cm)=-5.79369E-02 1.82264E-04-6.44867E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8341+ 0.2032+ 0.0000 - 0.0913- 0.0000-  0.0000 =    2.9460 vs.    2.9456

 Mass Balance =  4.5777E-04 cm;  Time step attempts = 1811 and successes = 1382
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0913 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   325
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0416E+02	[cm]
Actual Evaporation	=	1.1101E+01	[cm]
Evaporation during Growth	=	1.1101E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7343E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9456E+00	[cm]
Mass Balance Error	=	7.5948E-03	[cm]
Total Successful Time Steps	=	61541	
Total Attempted Time Steps	=	76196	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31424	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.0488E-01	0.050	8.2830E+00	0.150	6.5620E+00
0.250	5.9107E+00	0.350	5.4484E+00	0.450	5.0285E+00
0.550	4.6886E+00	0.650	4.3356E+00	0.750	4.1038E+00
0.850	3.8920E+00	0.950	3.7253E+00	1.125	3.5500E+00
1.375	3.0756E+00	1.625	2.8258E+00	1.875	2.5772E+00
2.250	2.3776E+00	2.750	1.9976E+00	3.250	1.6936E+00
3.750	1.4480E+00	4.250	1.1336E+00	4.790	8.9895E-01
6.350	6.1827E-01	8.890	3.5760E-02	11.430	-1.3507E-01
13.970	-2.2022E-01	16.510	-2.0491E-01	19.050	-1.8883E-01
21.590	-1.7250E-01	24.130	-1.5597E-01	26.670	-1.3926E-01
29.210	-1.2241E-01	31.750	-1.0543E-01	34.290	-8.8307E-02
36.830	-7.1069E-02	39.370	-5.3727E-02	41.910	-3.6289E-02
44.450	-1.8763E-02	46.990	-6.6172E-04	49.530	1.3729E-05
52.070	-7.0077E-06	54.610	-8.2532E-06	57.150	-6.5131E-06
59.690	-2.1460E-06	60.960	6.7343E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2002.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.667E+04	0.0302	292.65	10	9.000E-01	4.341E+03	0.0370	292.65
11	1.000E+00	3.540E+03	0.0389	292.65	12	1.250E+00	2.899E+03	0.0414	292.65
13	1.500E+00	2.626E+03	0.0428	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.345E+03	0.0446	292.65	16	2.500E+00	2.192E+03	0.0459	292.65
17	3.000E+00	2.097E+03	0.0467	292.65	18	3.500E+00	2.034E+03	0.0473	292.65
19	4.000E+00	1.993E+03	0.0478	292.65	20	4.500E+00	1.966E+03	0.0481	292.65
21	5.080E+00	1.951E+03	0.0482	292.65	22	7.620E+00	2.040E+03	0.0473	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.280E+03	0.0451	292.65
25	1.524E+01	2.193E+03	0.0459	292.65	26	1.778E+01	2.100E+03	0.0467	292.65
27	2.032E+01	2.026E+03	0.0474	292.65	28	2.286E+01	1.968E+03	0.0480	292.65
29	2.540E+01	1.922E+03	0.0486	292.65	30	2.794E+01	1.885E+03	0.0490	292.65
31	3.048E+01	1.855E+03	0.0494	292.65	32	3.302E+01	1.831E+03	0.0497	292.65
33	3.556E+01	1.811E+03	0.0499	292.65	34	3.810E+01	1.795E+03	0.0501	292.65
35	4.064E+01	1.783E+03	0.0503	292.65	36	4.318E+01	1.775E+03	0.0504	292.65
37	4.572E+01	1.769E+03	0.0505	292.65	38	4.826E+01	1.727E+03	0.0501	292.65
39	5.080E+01	1.629E+03	0.0501	292.65	40	5.334E+01	1.583E+03	0.0501	292.65
41	5.588E+01	1.560E+03	0.0501	292.65	42	5.842E+01	1.548E+03	0.0501	292.65
43	6.096E+01	1.544E+03	0.0501	292.65					

Initial Water Storage = 2.9456 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04044     0.04889     0.05011
 Head (cm)         = 4.99787E+05 3.10879E+03 1.89439E+03 1.54447E+03
 LiqWater Flow (cm)=-1.02167E-10-1.49731E-02-1.97279E-03 5.68307E-10
 IsoVapor Flow (cm)=-2.30510E-02-2.46817E-05-6.55152E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9456+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =    2.9225 vs.    2.9225

 Mass Balance = -2.0511E-05 cm;  Time step attempts =  130 and successes =  108
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   106

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.07316     0.05012
 Head (cm)         = 8.15596E+05 1.79425E+03 9.44111E+02 1.48670E+03
 LiqWater Flow (cm)=-3.72389E-11-5.97659E-02-2.62037E-02 7.75130E-10
 IsoVapor Flow (cm)=-5.99088E-02-1.16725E-05-2.72928E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9826+ 0.0000+ 0.0000 - 0.0599- 0.0000-  0.0000 =    3.9227 vs.    3.9227

 Mass Balance = -1.0969E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0599 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0470E+02	[cm]
Actual Evaporation	=	1.6515E+01	[cm]
Evaporation during Growth	=	1.6515E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.8946E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.9227E+00	[cm]
Mass Balance Error	=	8.0348E-03	[cm]
Total Successful Time Steps	=	60109	
Total Attempted Time Steps	=	73676	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30270	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.8518E-01	0.050	1.2313E+01	0.150	9.4304E+00
0.250	8.5348E+00	0.350	7.8240E+00	0.450	7.3196E+00
0.550	6.8618E+00	0.650	6.3546E+00	0.750	5.8116E+00
0.850	5.3160E+00	0.950	5.0528E+00	1.125	4.7842E+00
1.375	4.2036E+00	1.625	3.8071E+00	1.875	3.4933E+00
2.250	3.2140E+00	2.750	2.6954E+00	3.250	2.3251E+00
3.750	2.0780E+00	4.250	1.8400E+00	4.790	1.7359E+00
6.350	1.5867E+00	8.890	1.2521E+00	11.430	1.0246E+00
13.970	8.7760E-01	16.510	7.5010E-01	19.050	6.9241E-01
21.590	6.3439E-01	24.130	5.7517E-01	26.670	5.1479E-01
29.210	4.5333E-01	31.750	3.9090E-01	34.290	3.2760E-01
36.830	2.6353E-01	39.370	1.9880E-01	41.910	1.3349E-01
44.450	6.7693E-02	46.990	1.7328E-03	49.530	1.0438E-04
52.070	9.3589E-06	54.610	2.8122E-06	57.150	9.9961E-07
59.690	3.5831E-07	60.960	1.8946E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2003.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.414E+05	0.0300	292.65
3	2.000E-01	4.868E+05	0.0300	292.65	4	3.000E-01	3.478E+05	0.0300	292.65
5	4.000E-01	2.215E+05	0.0301	292.65	6	5.000E-01	1.058E+05	0.0302	292.65
7	6.000E-01	2.719E+03	0.0423	292.65	8	7.000E-01	2.542E+03	0.0433	292.65
9	8.000E-01	2.411E+03	0.0442	292.65	10	9.000E-01	2.308E+03	0.0449	292.65
11	1.000E+00	2.224E+03	0.0456	292.65	12	1.250E+00	2.066E+03	0.0470	292.65
13	1.500E+00	1.952E+03	0.0482	292.65	14	1.750E+00	1.865E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.685E+03	0.0517	292.65
17	3.000E+00	1.603E+03	0.0530	292.65	18	3.500E+00	1.539E+03	0.0542	292.65
19	4.000E+00	1.485E+03	0.0552	292.65	20	4.500E+00	1.440E+03	0.0562	292.65
21	5.080E+00	1.396E+03	0.0572	292.65	22	7.620E+00	1.260E+03	0.0607	292.65
23	1.016E+01	1.174E+03	0.0634	292.65	24	1.270E+01	1.114E+03	0.0655	292.65
25	1.524E+01	1.069E+03	0.0673	292.65	26	1.778E+01	1.033E+03	0.0688	292.65
27	2.032E+01	1.004E+03	0.0701	292.65	28	2.286E+01	9.804E+02	0.0713	292.65
29	2.540E+01	9.606E+02	0.0723	292.65	30	2.794E+01	9.441E+02	0.0732	292.65
31	3.048E+01	9.302E+02	0.0739	292.65	32	3.302E+01	9.185E+02	0.0746	292.65
33	3.556E+01	9.087E+02	0.0751	292.65	34	3.810E+01	9.007E+02	0.0756	292.65
35	4.064E+01	8.941E+02	0.0760	292.65	36	4.318E+01	8.889E+02	0.0763	292.65
37	4.572E+01	8.851E+02	0.0766	292.65	38	4.826E+01	8.748E+02	0.0505	292.65
39	5.080E+01	1.185E+03	0.0502	292.65	40	5.334E+01	1.360E+03	0.0502	292.65
41	5.588E+01	1.440E+03	0.0501	292.65	42	5.842E+01	1.476E+03	0.0501	292.65
43	6.096E+01	1.487E+03	0.0501	292.65					

Initial Water Storage = 3.9227 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.04804     0.07187     0.05012
 Head (cm)          = 1.31147E+06 1.96913E+03 9.68844E+02 1.48562E+03
 LiqWater Flow (cm)=-5.45174E-12-5.75570E-02-2.40460E-02 7.79741E-10
 IsoVapor Flow (cm)=-6.56139E-02-1.54583E-05-2.84470E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9227+ 0.0000+ 0.0000 - 0.0656- 0.0000-  0.0000 =     3.8571 vs.     3.8571

 Mass Balance = -3.5469E-05 cm;  Time step attempts =  189 and successes =  145
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0656 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   145

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1           15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03000     0.03001     0.04876     0.05010
 Head (cm)          = 2.20848E+06 1.23333E+06 1.90527E+03 1.57860E+03
 LiqWater Flow (cm)=-6.03901E-14-7.02484E-13-2.21993E-03 4.74343E-10
 IsoVapor Flow (cm)=-8.33690E-03-8.33663E-03-7.45309E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8070+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =     2.7987 vs.     2.7987

 Mass Balance = -4.3809E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2069E+02	[cm]
Actual Evaporation	=	1.1811E+01	[cm]
Evaporation during Growth	=	1.1811E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0693E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.0777E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0693E+01	[cm]
Actual Rainfall	=	1.0693E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7987E+00	[cm]
Mass Balance Error	=	6.9012E-03	[cm]
Total Successful Time Steps	=	58851	
Total Attempted Time Steps	=	72478	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31350	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1171E+00	0.050	8.1387E+00	0.150	6.8730E+00
0.250	5.8920E+00	0.350	5.4591E+00	0.450	5.0176E+00
0.550	4.6325E+00	0.650	4.4048E+00	0.750	4.1812E+00
0.850	3.8716E+00	0.950	3.4818E+00	1.125	3.2178E+00
1.375	2.7133E+00	1.625	2.2174E+00	1.875	1.8604E+00
2.250	1.5131E+00	2.750	9.4054E-01	3.250	5.7947E-01
3.750	3.3322E-01	4.250	1.6185E-01	4.790	-3.5484E-02
6.350	-2.3036E-01	8.890	-6.5524E-01	11.430	-7.7073E-01
13.970	-8.0941E-01	16.510	-7.5379E-01	19.050	-6.9637E-01
21.590	-6.3767E-01	24.130	-5.7781E-01	26.670	-5.1687E-01
29.210	-4.5495E-01	31.750	-3.9215E-01	34.290	-3.2855E-01
36.830	-2.6423E-01	39.370	-1.9929E-01	41.910	-1.3380E-01
44.450	-6.7844E-02	46.990	-1.2262E-03	49.530	8.6885E-05
52.070	8.8971E-06	54.610	2.5161E-06	57.150	5.7301E-07
59.690	2.8313E-07	60.960	4.0777E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2004.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.012E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.638E+06	0.0300	292.65	12	1.250E+00	1.525E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.324E+06	0.0300	292.65
15	2.000E+00	1.233E+06	0.0300	292.65	16	2.500E+00	1.068E+06	0.0300	292.65
17	3.000E+00	9.208E+05	0.0300	292.65	18	3.500E+00	7.879E+05	0.0300	292.65
19	4.000E+00	6.668E+05	0.0300	292.65	20	4.500E+00	5.555E+05	0.0300	292.65
21	5.080E+00	4.368E+05	0.0300	292.65	22	7.620E+00	8.161E+03	0.0333	292.65
23	1.016E+01	2.805E+03	0.0418	292.65	24	1.270E+01	2.482E+03	0.0437	292.65
25	1.524E+01	2.291E+03	0.0450	292.65	26	1.778E+01	2.164E+03	0.0461	292.65
27	2.032E+01	2.072E+03	0.0470	292.65	28	2.286E+01	2.003E+03	0.0477	292.65
29	2.540E+01	1.948E+03	0.0483	292.65	30	2.794E+01	1.905E+03	0.0488	292.65
31	3.048E+01	1.871E+03	0.0492	292.65	32	3.302E+01	1.843E+03	0.0495	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.803E+03	0.0500	292.65
35	4.064E+01	1.790E+03	0.0502	292.65	36	4.318E+01	1.780E+03	0.0503	292.65
37	4.572E+01	1.774E+03	0.0504	292.65	38	4.826E+01	1.730E+03	0.0501	292.65
39	5.080E+01	1.634E+03	0.0501	292.65	40	5.334E+01	1.599E+03	0.0501	292.65
41	5.588E+01	1.587E+03	0.0501	292.65	42	5.842E+01	1.581E+03	0.0501	292.65
43	6.096E+01	1.579E+03	0.0501	292.65					

Initial Water Storage = 2.7987 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04864     0.05010
 Head (cm)         = 8.54706E+05 5.78860E+05 1.91576E+03 1.57890E+03
 LiqWater Flow (cm)=-1.47709E-12-1.03590E-11-2.18952E-03 4.73594E-10
 IsoVapor Flow (cm)=-4.74133E-03-4.76431E-03-7.54881E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7987+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =    2.7939 vs.    2.7939

 Mass Balance = -6.6750E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04154     0.05920     0.05026
 Head (cm)         = 5.47835E+05 2.85906E+03 1.31418E+03 1.09478E+03
 LiqWater Flow (cm)=-3.92395E-11-1.54343E-02-7.49488E-03 9.64090E-09
 IsoVapor Flow (cm)=-1.51909E-02-3.17686E-05-4.07197E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3330+ 0.0000+ 0.0000 - 0.0152- 0.0000-  0.0000 =    3.3178 vs.    3.3178

 Mass Balance = -3.4530E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0152 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9889E+02	[cm]
Actual Evaporation	=	3.0460E+01	[cm]
Evaporation during Growth	=	3.0445E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0988E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.6258E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0988E+01	[cm]
Actual Rainfall	=	3.0988E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3178E+00	[cm]
Mass Balance Error	=	8.5157E-03	[cm]
Total Successful Time Steps	=	55326	
Total Attempted Time Steps	=	67735	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26759	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.2762E-01	0.050	1.8751E+01	0.150	1.2580E+01
0.250	1.0738E+01	0.350	8.9341E+00	0.450	7.9781E+00
0.550	7.1826E+00	0.650	6.2100E+00	0.750	5.7581E+00
0.850	5.4258E+00	0.950	5.0525E+00	1.125	4.6271E+00
1.375	4.0184E+00	1.625	3.3488E+00	1.875	2.7157E+00
2.250	2.3008E+00	2.750	1.7181E+00	3.250	1.4196E+00
3.750	1.1969E+00	4.250	1.0548E+00	4.790	8.7744E-01
6.350	7.4422E-01	8.890	5.4986E-01	11.430	3.8105E-01
13.970	3.5384E-01	16.510	3.2805E-01	19.050	3.0229E-01
21.590	2.7640E-01	24.130	2.5028E-01	26.670	2.2390E-01
29.210	1.9725E-01	31.750	1.7036E-01	34.290	1.4323E-01
36.830	1.1587E-01	39.370	8.8301E-02	41.910	6.0553E-02
44.450	3.2642E-02	46.990	4.6758E-03	49.530	4.5062E-03
52.070	1.8701E-03	54.610	4.4094E-04	57.150	7.4566E-05
59.690	1.2860E-05	60.960	6.6258E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2005.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.095E+05	0.0300	292.65
3	2.000E-01	4.723E+05	0.0300	292.65	4	3.000E-01	4.360E+05	0.0300	292.65
5	4.000E-01	4.007E+05	0.0300	292.65	6	5.000E-01	3.662E+05	0.0300	292.65
7	6.000E-01	3.326E+05	0.0300	292.65	8	7.000E-01	2.998E+05	0.0300	292.65
9	8.000E-01	2.677E+05	0.0300	292.65	10	9.000E-01	2.364E+05	0.0301	292.65
11	1.000E+00	2.058E+05	0.0301	292.65	12	1.250E+00	1.320E+05	0.0301	292.65
13	1.500E+00	6.199E+04	0.0303	292.65	14	1.750E+00	3.064E+03	0.0406	292.65
15	2.000E+00	2.859E+03	0.0415	292.65	16	2.500E+00	2.589E+03	0.0430	292.65
17	3.000E+00	2.412E+03	0.0441	292.65	18	3.500E+00	2.283E+03	0.0451	292.65
19	4.000E+00	2.182E+03	0.0460	292.65	20	4.500E+00	2.100E+03	0.0467	292.65
21	5.080E+00	2.022E+03	0.0475	292.65	22	7.620E+00	1.793E+03	0.0502	292.65
23	1.016E+01	1.657E+03	0.0522	292.65	24	1.270E+01	1.564E+03	0.0537	292.65
25	1.524E+01	1.496E+03	0.0550	292.65	26	1.778E+01	1.443E+03	0.0561	292.65
27	2.032E+01	1.400E+03	0.0571	292.65	28	2.286E+01	1.366E+03	0.0579	292.65
29	2.540E+01	1.338E+03	0.0586	292.65	30	2.794E+01	1.314E+03	0.0592	292.65
31	3.048E+01	1.295E+03	0.0597	292.65	32	3.302E+01	1.278E+03	0.0602	292.65
33	3.556E+01	1.265E+03	0.0606	292.65	34	3.810E+01	1.254E+03	0.0609	292.65
35	4.064E+01	1.246E+03	0.0611	292.65	36	4.318E+01	1.239E+03	0.0613	292.65
37	4.572E+01	1.235E+03	0.0614	292.65	38	4.826E+01	1.202E+03	0.0502	292.65
39	5.080E+01	7.460E+02	0.0507	292.65	40	5.334E+01	7.758E+02	0.0506	292.65
41	5.588E+01	9.195E+02	0.0504	292.65	42	5.842E+01	1.050E+03	0.0503	292.65
43	6.096E+01	1.095E+03	0.0503	292.65					

Initial Water Storage = 3.3178 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04035     0.05882     0.05026
 Head (cm)         = 6.47479E+05 3.13075E+03 1.32889E+03 1.09300E+03
 LiqWater Flow (cm)=-2.12061E-11-1.62724E-02-7.19156E-03 9.77095E-09
 IsoVapor Flow (cm)=-1.72057E-02-3.90605E-05-4.12967E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3178+ 0.0000+ 0.0000 - 0.0172- 0.0000-  0.0000 =    3.3006 vs.    3.3006

 Mass Balance = -2.7958E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0172 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04879     0.05167
 Head (cm)         = 1.93021E+06 1.28460E+06 1.90298E+03 5.21252E+02
 LiqWater Flow (cm)=-7.69435E-14-5.89533E-13-2.30467E-03 4.43588E-06
 IsoVapor Flow (cm)=-6.63769E-03-6.63467E-03-7.66530E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8171+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8105 vs.    2.8105

 Mass Balance = -7.2760E-06 cm;  Time step attempts =   50 and successes =   39
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    39
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9999E+02	[cm]
Actual Evaporation	=	3.3189E+01	[cm]
Evaporation during Growth	=	3.3189E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2690E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7260E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2690E+01	[cm]
Actual Rainfall	=	3.2690E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8105E+00	[cm]
Mass Balance Error	=	7.3410E-03	[cm]
Total Successful Time Steps	=	59159	
Total Attempted Time Steps	=	72323	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28803	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.9929E-01	0.050	1.6211E+01	0.150	1.0283E+01
0.250	8.3461E+00	0.350	7.1739E+00	0.450	6.1775E+00
0.550	5.3781E+00	0.650	4.7355E+00	0.750	4.3997E+00
0.850	4.0475E+00	0.950	3.6663E+00	1.125	3.3779E+00
1.375	2.7271E+00	1.625	2.4224E+00	1.875	2.1279E+00
2.250	1.7830E+00	2.750	1.2704E+00	3.250	8.9599E-01
3.750	6.8205E-01	4.250	4.4568E-01	4.790	2.6262E-01
6.350	2.5745E-02	8.890	-3.7580E-01	11.430	-3.5593E-01
13.970	-3.3167E-01	16.510	-3.0695E-01	19.050	-2.8183E-01
21.590	-2.5635E-01	24.130	-2.3057E-01	26.670	-2.0450E-01
29.210	-1.7814E-01	31.750	-1.5152E-01	34.290	-1.2466E-01
36.830	-9.7583E-02	39.370	-7.0311E-02	41.910	-4.2869E-02
44.450	-1.5287E-02	46.990	1.2761E-02	49.530	1.6059E-02
52.070	1.1583E-02	54.610	8.7807E-03	57.150	5.5357E-03
59.690	2.2357E-03	60.960	6.7260E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2006.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.889E+06	0.0300	292.65
3	2.000E-01	1.849E+06	0.0300	292.65	4	3.000E-01	1.812E+06	0.0300	292.65
5	4.000E-01	1.774E+06	0.0300	292.65	6	5.000E-01	1.738E+06	0.0300	292.65
7	6.000E-01	1.703E+06	0.0300	292.65	8	7.000E-01	1.668E+06	0.0300	292.65
9	8.000E-01	1.634E+06	0.0300	292.65	10	9.000E-01	1.602E+06	0.0300	292.65
11	1.000E+00	1.570E+06	0.0300	292.65	12	1.250E+00	1.493E+06	0.0300	292.65
13	1.500E+00	1.420E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.161E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.438E+05	0.0300	292.65
19	4.000E+00	8.466E+05	0.0300	292.65	20	4.500E+00	7.559E+05	0.0300	292.65
21	5.080E+00	6.576E+05	0.0300	292.65	22	7.620E+00	2.936E+05	0.0300	292.65
23	1.016E+01	2.712E+03	0.0423	292.65	24	1.270E+01	2.435E+03	0.0440	292.65
25	1.524E+01	2.275E+03	0.0452	292.65	26	1.778E+01	2.159E+03	0.0462	292.65
27	2.032E+01	2.071E+03	0.0470	292.65	28	2.286E+01	2.002E+03	0.0477	292.65
29	2.540E+01	1.947E+03	0.0483	292.65	30	2.794E+01	1.903E+03	0.0488	292.65
31	3.048E+01	1.867E+03	0.0492	292.65	32	3.302E+01	1.839E+03	0.0496	292.65
33	3.556E+01	1.816E+03	0.0499	292.65	34	3.810E+01	1.798E+03	0.0501	292.65
35	4.064E+01	1.784E+03	0.0503	292.65	36	4.318E+01	1.774E+03	0.0504	292.65
37	4.572E+01	1.768E+03	0.0505	292.65	38	4.826E+01	1.539E+03	0.0501	292.65
39	5.080E+01	5.803E+02	0.0513	292.65	40	5.334E+01	5.486E+02	0.0515	292.65
41	5.588E+01	5.322E+02	0.0516	292.65	42	5.842E+01	5.239E+02	0.0516	292.65
43	6.096E+01	5.213E+02	0.0517	292.65					

Initial Water Storage = 2.8105 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04867     0.05166
 Head (cm)         = 2.25090E+06 1.43704E+06 1.91291E+03 5.21705E+02
 LiqWater Flow (cm)= 1.93955E-02 6.18236E-08-2.25475E-03 4.40417E-06
 IsoVapor Flow (cm)=-2.42458E-02-4.85178E-03-7.70157E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8105+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =    2.8056 vs.    2.8056

 Mass Balance = -1.5219E-05 cm;  Time step attempts =  901 and successes =  704
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   379

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03980     0.04722     0.05085
 Head (cm)         = 6.05038E+05 3.27684E+03 2.04689E+03 6.82283E+02
 LiqWater Flow (cm)= 3.69131E-02 3.43640E-03-8.99606E-04 4.81035E-07
 IsoVapor Flow (cm)=-2.80920E-02-1.09397E-05-4.70002E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8503+ 0.0508+ 0.0000 - 0.0420- 0.0000-  0.0000 =    2.8591 vs.    2.8590

 Mass Balance =  1.0953E-04 cm;  Time step attempts =  942 and successes =  725
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0420 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   275
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3548E+02	[cm]
Actual Evaporation	=	2.1120E+01	[cm]
Evaporation during Growth	=	2.1120E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1184E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.1766E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1184E+01	[cm]
Actual Rainfall	=	2.1184E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8590E+00	[cm]
Mass Balance Error	=	1.4171E-02	[cm]
Total Successful Time Steps	=	213861	
Total Attempted Time Steps	=	270799	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	95875	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	6.3285E-02	0.050	1.4300E+01	0.150	1.2390E+01
0.250	1.0336E+01	0.350	8.6629E+00	0.450	7.3714E+00
0.550	6.3320E+00	0.650	5.4749E+00	0.750	4.7834E+00
0.850	4.1890E+00	0.950	3.6614E+00	1.125	3.1270E+00
1.375	2.2598E+00	1.625	1.7576E+00	1.875	1.4602E+00
2.250	1.2039E+00	2.750	9.4591E-01	3.250	7.8806E-01
3.750	6.8879E-01	4.250	6.1434E-01	4.790	5.5346E-01
6.350	4.7368E-01	8.890	3.8271E-01	11.430	2.1977E-01
13.970	1.6295E-01	16.510	1.1483E-01	19.050	7.0051E-02
21.590	2.6902E-02	24.130	-2.6562E-02	26.670	-4.9678E-02
29.210	-4.6270E-02	31.750	-4.1948E-02	34.290	-3.7127E-02
36.830	-3.1962E-02	39.370	-2.6548E-02	41.910	-2.0954E-02
44.450	-1.5234E-02	46.990	-5.7524E-03	49.530	-1.0552E-03
52.070	-5.3722E-03	54.610	-4.2211E-03	57.150	-2.3370E-03
59.690	-3.7211E-04	60.960	6.1766E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2007.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.546E+05	0.0300	292.65
3	2.000E-01	5.060E+05	0.0300	292.65	4	3.000E-01	4.590E+05	0.0300	292.65
5	4.000E-01	4.136E+05	0.0300	292.65	6	5.000E-01	3.696E+05	0.0300	292.65
7	6.000E-01	3.271E+05	0.0300	292.65	8	7.000E-01	2.858E+05	0.0300	292.65
9	8.000E-01	2.458E+05	0.0301	292.65	10	9.000E-01	2.070E+05	0.0301	292.65
11	1.000E+00	1.694E+05	0.0301	292.65	12	1.250E+00	8.031E+04	0.0302	292.65
13	1.500E+00	4.003E+03	0.0377	292.65	14	1.750E+00	3.529E+03	0.0390	292.65
15	2.000E+00	3.277E+03	0.0398	292.65	16	2.500E+00	2.981E+03	0.0410	292.65
17	3.000E+00	2.814E+03	0.0418	292.65	18	3.500E+00	2.708E+03	0.0423	292.65
19	4.000E+00	2.635E+03	0.0427	292.65	20	4.500E+00	2.582E+03	0.0430	292.65
21	5.080E+00	2.536E+03	0.0433	292.65	22	7.620E+00	2.426E+03	0.0441	292.65
23	1.016E+01	2.328E+03	0.0448	292.65	24	1.270E+01	2.251E+03	0.0454	292.65
25	1.524E+01	2.195E+03	0.0458	292.65	26	1.778E+01	2.154E+03	0.0462	292.65
27	2.032E+01	2.122E+03	0.0465	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.070E+03	0.0470	292.65	30	2.794E+01	2.047E+03	0.0472	292.65
31	3.048E+01	2.026E+03	0.0474	292.65	32	3.302E+01	2.007E+03	0.0476	292.65
33	3.556E+01	1.990E+03	0.0478	292.65	34	3.810E+01	1.976E+03	0.0480	292.65
35	4.064E+01	1.965E+03	0.0481	292.65	36	4.318E+01	1.957E+03	0.0482	292.65
37	4.572E+01	1.951E+03	0.0482	292.65	38	4.826E+01	1.749E+03	0.0501	292.65
39	5.080E+01	1.083E+03	0.0503	292.65	40	5.334E+01	7.887E+02	0.0506	292.65
41	5.588E+01	7.170E+02	0.0508	292.65	42	5.842E+01	6.899E+02	0.0508	292.65
43	6.096E+01	6.823E+02	0.0509	292.65					

Initial Water Storage = 2.8590 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.04720     0.05085
 Head (cm)         = 8.36981E+05 1.36252E+05 2.04888E+03 6.82685E+02
 LiqWater Flow (cm)=-7.16283E-12-6.19291E-03-8.54894E-04 4.78706E-07
 IsoVapor Flow (cm)=-1.85916E-02-4.51350E-03-4.51250E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8590+ 0.0000+ 0.0000 - 0.0186- 0.0000-  0.0000 =    2.8404 vs.    2.8404

 Mass Balance = -3.6319E-05 cm;  Time step attempts =  144 and successes =  111
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0186 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   111

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.06059     0.05056
 Head (cm)         = 1.64351E+06 2.11002E+05 1.26377E+03 8.07957E+02
 LiqWater Flow (cm)=-5.34070E-13-2.22420E-04-8.97308E-03 1.19115E-07
 IsoVapor Flow (cm)=-2.22025E-02-2.19628E-02-3.99009E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3848+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =    3.3626 vs.    3.3626

 Mass Balance =  3.2649E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0482E+02	[cm]
Actual Evaporation	=	2.5192E+01	[cm]
Evaporation during Growth	=	2.5192E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5705E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.7779E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5705E+01	[cm]
Actual Rainfall	=	2.5705E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3626E+00	[cm]
Mass Balance Error	=	9.4584E-03	[cm]
Total Successful Time Steps	=	70064	
Total Attempted Time Steps	=	86834	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33200	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.1315E-01	0.050	1.8188E+01	0.150	1.3512E+01
0.250	1.1284E+01	0.350	9.7944E+00	0.450	8.7670E+00
0.550	7.8405E+00	0.650	7.0364E+00	0.750	6.4523E+00
0.850	5.9187E+00	0.950	5.4691E+00	1.125	5.0811E+00
1.375	4.1835E+00	1.625	3.4597E+00	1.875	3.0074E+00
2.250	2.5544E+00	2.750	1.9239E+00	3.250	1.5652E+00
3.750	1.3407E+00	4.250	1.1565E+00	4.790	1.0161E+00
6.350	8.7322E-01	8.890	5.4227E-01	11.430	4.6263E-01
13.970	4.3811E-01	16.510	4.1152E-01	19.050	3.8299E-01
21.590	3.5274E-01	24.130	3.2099E-01	26.670	2.8798E-01
29.210	2.5392E-01	31.750	2.1900E-01	34.290	1.8339E-01
36.830	1.4719E-01	39.370	1.1054E-01	41.910	7.3510E-02
44.450	3.6196E-02	46.990	-1.0662E-03	49.530	3.0182E-04
52.070	-7.2875E-04	54.610	-1.0247E-03	57.150	-7.2724E-04
59.690	-2.0337E-04	60.960	8.7779E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2008.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.042E+06	0.0300	292.65	8	7.000E-01	9.634E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.177E+05	0.0300	292.65
11	1.000E+00	7.502E+05	0.0300	292.65	12	1.250E+00	5.945E+05	0.0300	292.65
13	1.500E+00	4.545E+05	0.0300	292.65	14	1.750E+00	3.273E+05	0.0300	292.65
15	2.000E+00	2.110E+05	0.0301	292.65	16	2.500E+00	2.932E+03	0.0412	292.65
17	3.000E+00	2.546E+03	0.0433	292.65	18	3.500E+00	2.334E+03	0.0447	292.65
19	4.000E+00	2.191E+03	0.0459	292.65	20	4.500E+00	2.085E+03	0.0468	292.65
21	5.080E+00	1.991E+03	0.0478	292.65	22	7.620E+00	1.739E+03	0.0509	292.65
23	1.016E+01	1.601E+03	0.0531	292.65	24	1.270E+01	1.509E+03	0.0548	292.65
25	1.524E+01	1.442E+03	0.0562	292.65	26	1.778E+01	1.390E+03	0.0573	292.65
27	2.032E+01	1.348E+03	0.0583	292.65	28	2.286E+01	1.315E+03	0.0592	292.65
29	2.540E+01	1.287E+03	0.0599	292.65	30	2.794E+01	1.264E+03	0.0606	292.65
31	3.048E+01	1.245E+03	0.0611	292.65	32	3.302E+01	1.229E+03	0.0616	292.65
33	3.556E+01	1.215E+03	0.0620	292.65	34	3.810E+01	1.205E+03	0.0624	292.65
35	4.064E+01	1.196E+03	0.0626	292.65	36	4.318E+01	1.190E+03	0.0628	292.65
37	4.572E+01	1.186E+03	0.0630	292.65	38	4.826E+01	1.164E+03	0.0502	292.65
39	5.080E+01	9.495E+02	0.0504	292.65	40	5.334E+01	8.838E+02	0.0504	292.65
41	5.588E+01	8.386E+02	0.0505	292.65	42	5.842E+01	8.151E+02	0.0505	292.65
43	6.096E+01	8.080E+02	0.0506	292.65					

Initial Water Storage = 3.3626 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03006     0.06014     0.05056
 Head (cm)         = 1.92914E+06 2.30598E+05 1.27963E+03 8.08190E+02
 LiqWater Flow (cm)=-3.13727E-13-1.14092E-04-8.52089E-03 1.18833E-07
 IsoVapor Flow (cm)=-2.40347E-02-2.39143E-02-4.03528E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3626+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =    3.3385 vs.    3.3385

 Mass Balance = -2.9499E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05017     0.05045
 Head (cm)         = 1.38020E+06 8.69982E+05 1.79324E+03 8.82110E+02
 LiqWater Flow (cm)=-2.72083E-13-2.37867E-12-2.23536E-03 5.75497E-08
 IsoVapor Flow (cm)=-6.60513E-03-6.60704E-03-5.70817E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8920+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8854 vs.    2.8854

 Mass Balance = -8.6051E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration                =  0.0000E+00     [cm]
Potential Evaporation               =  3.2814E+02     [cm]
Actual Evaporation                  =  2.5490E+01     [cm]
Evaporation during Growth           =  2.5483E+01     [cm]
Total Runoff                        =  0.0000E+00     [cm]
Total Infiltration                  =  2.5019E+01     [cm]
Total Basal Liquid Flux (drainage) =  2.5488E-05     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                 =  2.5019E+01     [cm]
Actual Rainfall                     =  2.5019E+01     [cm]
Actual Irrigation                   =  0.0000E+00     [cm]
Total Final Moisture Storage        =  2.8854E+00     [cm]
Mass Balance Error                  =  6.6330E-03     [cm]
Total Successful Time Steps         =     55076
Total Attempted Time Steps          =     67117
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27369
Total Time Actually Simulated       =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7054E-01	0.050	1.6178E+01	0.150	7.4897E+00
0.250	5.7656E+00	0.350	4.6058E+00	0.450	3.8431E+00
0.550	3.3108E+00	0.650	2.9942E+00	0.750	2.8271E+00
0.850	2.6661E+00	0.950	2.5075E+00	1.125	2.4116E+00
1.375	2.1264E+00	1.625	1.9193E+00	1.875	1.7370E+00
2.250	1.5482E+00	2.750	1.2958E+00	3.250	1.0281E+00
3.750	8.7567E-01	4.250	7.1550E-01	4.790	4.9960E-01
6.350	3.3813E-01	8.890	2.8987E-02	11.430	-2.3982E-02
13.970	-7.4610E-02	16.510	-1.1730E-01	19.050	-1.5619E-01
21.590	-1.9422E-01	24.130	-2.1211E-01	26.670	-2.2184E-01
29.210	-1.9620E-01	31.750	-1.6942E-01	34.290	-1.4214E-01
36.830	-1.1444E-01	39.370	-8.6382E-02	41.910	-5.8052E-02
44.450	-2.9497E-02	46.990	4.3460E-04	49.530	3.1020E-03
52.070	1.0744E-03	54.610	1.7985E-04	57.150	-9.6364E-05
59.690	-4.7676E-05	60.960	2.5488E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2009.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.291E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.809E+05	0.0300	292.65	14	1.750E+00	9.243E+05	0.0300	292.65
15	2.000E+00	8.700E+05	0.0300	292.65	16	2.500E+00	7.673E+05	0.0300	292.65
17	3.000E+00	6.717E+05	0.0300	292.65	18	3.500E+00	5.823E+05	0.0300	292.65
19	4.000E+00	4.984E+05	0.0300	292.65	20	4.500E+00	4.193E+05	0.0300	292.65
21	5.080E+00	3.328E+05	0.0300	292.65	22	7.620E+00	2.721E+03	0.0422	292.65
23	1.016E+01	2.367E+03	0.0445	292.65	24	1.270E+01	2.185E+03	0.0459	292.65
25	1.524E+01	2.067E+03	0.0470	292.65	26	1.778E+01	1.982E+03	0.0479	292.65
27	2.032E+01	1.918E+03	0.0486	292.65	28	2.286E+01	1.867E+03	0.0492	292.65
29	2.540E+01	1.826E+03	0.0497	292.65	30	2.794E+01	1.793E+03	0.0502	292.65
31	3.048E+01	1.766E+03	0.0505	292.65	32	3.302E+01	1.745E+03	0.0508	292.65
33	3.556E+01	1.727E+03	0.0511	292.65	34	3.810E+01	1.713E+03	0.0513	292.65
35	4.064E+01	1.703E+03	0.0515	292.65	36	4.318E+01	1.695E+03	0.0516	292.65
37	4.572E+01	1.689E+03	0.0517	292.65	38	4.826E+01	1.590E+03	0.0501	292.65
39	5.080E+01	1.053E+03	0.0503	292.65	40	5.334E+01	8.655E+02	0.0505	292.65
41	5.588E+01	8.476E+02	0.0505	292.65	42	5.842E+01	8.690E+02	0.0505	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 2.8854 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05003     0.05045
 Head (cm)         = 1.61006E+06 9.83207E+05 1.80325E+03 8.81709E+02
 LiqWater Flow (cm)=-1.65072E-13-1.56529E-12-2.22452E-03 5.77680E-08
 IsoVapor Flow (cm)=-7.19504E-03-7.19188E-03-5.82876E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8854+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =    2.8782 vs.    2.8782

 Mass Balance =  1.0888E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05140     0.06992     0.05029
 Head (cm)         = 1.02625E+06 1.70623E+03 1.00895E+03 1.04442E+03
 LiqWater Flow (cm)=-1.18078E-09-8.72441E-02 1.11995E-02 1.43161E-08
 IsoVapor Flow (cm)=-1.10828E-01-8.84836E-06 8.55545E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9301+ 0.0000+ 0.0000 - 0.1108- 0.0000-  0.0000 =    3.8193 vs.    3.8193

 Mass Balance = -4.2886E-05 cm;  Time step attempts =  262 and successes =  209
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1108 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   181
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0884E+02	[cm]
Actual Evaporation	=	2.1105E+01	[cm]
Evaporation during Growth	=	2.1105E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2047E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3736E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2047E+01	[cm]
Actual Rainfall	=	2.2047E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8193E+00	[cm]
Mass Balance Error	=	7.7945E-03	[cm]
Total Successful Time Steps	=	60065	
Total Attempted Time Steps	=	73986	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29914	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4177E-01	0.050	1.4571E+01	0.150	1.0366E+01
0.250	8.6301E+00	0.350	7.8599E+00	0.450	7.1707E+00
0.550	6.5331E+00	0.650	5.8628E+00	0.750	5.3560E+00
0.850	5.0144E+00	0.950	4.6261E+00	1.125	4.2428E+00
1.375	3.5465E+00	1.625	3.1706E+00	1.875	2.7008E+00
2.250	2.4901E+00	2.750	2.2167E+00	3.250	2.0035E+00
3.750	1.8544E+00	4.250	1.7575E+00	4.790	1.6510E+00
6.350	1.5309E+00	8.890	1.2039E+00	11.430	1.0484E+00
13.970	9.1629E-01	16.510	7.9111E-01	19.050	6.7398E-01
21.590	5.6876E-01	24.130	4.7515E-01	26.670	3.8369E-01
29.210	3.3177E-01	31.750	2.8218E-01	34.290	2.3347E-01
36.830	1.8558E-01	39.370	1.3838E-01	41.910	9.1719E-02
44.450	4.5386E-02	46.990	2.6152E-04	49.530	8.6803E-04
52.070	-6.6697E-05	54.610	-1.7645E-04	57.150	-1.4104E-04
59.690	-4.4626E-05	60.960	1.3736E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2010.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.520E+05	0.0300	292.65
3	2.000E-01	5.235E+05	0.0300	292.65	4	3.000E-01	3.276E+05	0.0300	292.65
5	4.000E-01	1.562E+05	0.0301	292.65	6	5.000E-01	3.437E+03	0.0393	292.65
7	6.000E-01	2.859E+03	0.0415	292.65	8	7.000E-01	2.576E+03	0.0431	292.65
9	8.000E-01	2.396E+03	0.0443	292.65	10	9.000E-01	2.266E+03	0.0452	292.65
11	1.000E+00	2.166E+03	0.0461	292.65	12	1.250E+00	1.988E+03	0.0478	292.65
13	1.500E+00	1.867E+03	0.0492	292.65	14	1.750E+00	1.777E+03	0.0504	292.65
15	2.000E+00	1.706E+03	0.0514	292.65	16	2.500E+00	1.599E+03	0.0531	292.65
17	3.000E+00	1.521E+03	0.0545	292.65	18	3.500E+00	1.460E+03	0.0558	292.65
19	4.000E+00	1.410E+03	0.0569	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.329E+03	0.0588	292.65	22	7.620E+00	1.211E+03	0.0622	292.65
23	1.016E+01	1.141E+03	0.0645	292.65	24	1.270E+01	1.096E+03	0.0662	292.65
25	1.524E+01	1.065E+03	0.0675	292.65	26	1.778E+01	1.043E+03	0.0684	292.65
27	2.032E+01	1.028E+03	0.0690	292.65	28	2.286E+01	1.018E+03	0.0695	292.65
29	2.540E+01	1.012E+03	0.0698	292.65	30	2.794E+01	1.009E+03	0.0699	292.65
31	3.048E+01	1.008E+03	0.0700	292.65	32	3.302E+01	1.008E+03	0.0700	292.65
33	3.556E+01	1.009E+03	0.0699	292.65	34	3.810E+01	1.011E+03	0.0698	292.65
35	4.064E+01	1.012E+03	0.0698	292.65	36	4.318E+01	1.012E+03	0.0698	292.65
37	4.572E+01	1.011E+03	0.0698	292.65	38	4.826E+01	1.028E+03	0.0503	292.65
39	5.080E+01	9.853E+02	0.0503	292.65	40	5.334E+01	1.032E+03	0.0503	292.65
41	5.588E+01	1.046E+03	0.0503	292.65	42	5.842E+01	1.046E+03	0.0503	292.65
43	6.096E+01	1.044E+03	0.0503	292.65					

Initial Water Storage = 3.8193 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03004     0.05005     0.06874     0.05029
 Head (cm)          = 3.26692E+05 1.80221E+03 1.03484E+03 1.04447E+03
 LiqWater Flow (cm)=-7.55792E-09-5.94702E-02-3.12013E-03 1.43107E-08
 IsoVapor Flow (cm)=-5.89595E-02-1.13378E-05-9.64523E-08 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8193+ 0.0000+ 0.0000 - 0.0590- 0.0000-  0.0000 =    3.7604 vs.    3.7604

 Mass Balance = -1.3270E-05 cm;  Time step attempts =  402 and successes =  321
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0590 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   123

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.04106     0.04680     0.05024
 Head (cm)          = 9.30306E+05 2.96420E+03 2.08955E+03 1.12827E+03
 LiqWater Flow (cm)=-1.13124E-11-2.26587E-02-1.75084E-03 7.57639E-09
 IsoVapor Flow (cm)=-3.91078E-02-2.23882E-05-9.19655E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8979+ 0.0000+ 0.0000 - 0.0391- 0.0000-  0.0000 =    2.8587 vs.    2.8588

 Mass Balance = -5.5538E-05 cm;  Time step attempts =  311 and successes =  256
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0391 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   255
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0272E+02	[cm]
Actual Evaporation	=	1.7895E+01	[cm]
Evaporation during Growth	=	1.7895E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.6942E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.4306E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.6942E+01	[cm]
Actual Rainfall	=	1.6942E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8588E+00	[cm]
Mass Balance Error	=	6.8764E-03	[cm]
Total Successful Time Steps	=	64119	
Total Attempted Time Steps	=	78822	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33409	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.5366E-01	0.050	1.2404E+01	0.150	9.5410E+00
0.250	8.0181E+00	0.350	7.0281E+00	0.450	6.1468E+00
0.550	5.2994E+00	0.650	4.8119E+00	0.750	4.3700E+00
0.850	3.8769E+00	0.950	3.3845E+00	1.125	3.0843E+00
1.375	2.4696E+00	1.625	1.9236E+00	1.875	1.6096E+00
2.250	1.2946E+00	2.750	7.0608E-01	3.250	3.8045E-01
3.750	1.8416E-01	4.250	5.5345E-02	4.790	-4.4717E-02
6.350	-1.6918E-01	8.890	-5.1454E-01	11.430	-6.4497E-01
13.970	-6.7576E-01	16.510	-6.8852E-01	19.050	-6.2981E-01
21.590	-5.6914E-01	24.130	-5.0894E-01	26.670	-4.4947E-01
29.210	-3.9086E-01	31.750	-3.3315E-01	34.290	-2.7634E-01
36.830	-2.2037E-01	39.370	-1.6513E-01	41.910	-1.1044E-01
44.450	-5.6064E-02	46.990	-1.3371E-03	49.530	2.4991E-04
52.070	-1.3946E-05	54.610	-2.5069E-05	57.150	-1.9098E-05
59.690	-4.4275E-06	60.960	4.4306E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2011.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.258E+03	0.0372	292.65	14	1.750E+00	3.311E+03	0.0397	292.65
15	2.000E+00	2.964E+03	0.0411	292.65	16	2.500E+00	2.625E+03	0.0428	292.65
17	3.000E+00	2.445E+03	0.0439	292.65	18	3.500E+00	2.329E+03	0.0448	292.65
19	4.000E+00	2.248E+03	0.0454	292.65	20	4.500E+00	2.190E+03	0.0459	292.65
21	5.080E+00	2.141E+03	0.0463	292.65	22	7.620E+00	2.073E+03	0.0470	292.65
23	1.016E+01	2.144E+03	0.0463	292.65	24	1.270E+01	2.299E+03	0.0450	292.65
25	1.524E+01	2.404E+03	0.0442	292.65	26	1.778E+01	2.375E+03	0.0444	292.65
27	2.032E+01	2.291E+03	0.0450	292.65	28	2.286E+01	2.210E+03	0.0457	292.65
29	2.540E+01	2.143E+03	0.0463	292.65	30	2.794E+01	2.090E+03	0.0468	292.65
31	3.048E+01	2.047E+03	0.0472	292.65	32	3.302E+01	2.013E+03	0.0476	292.65
33	3.556E+01	1.987E+03	0.0478	292.65	34	3.810E+01	1.966E+03	0.0481	292.65
35	4.064E+01	1.950E+03	0.0482	292.65	36	4.318E+01	1.939E+03	0.0484	292.65
37	4.572E+01	1.932E+03	0.0484	292.65	38	4.826E+01	1.805E+03	0.0501	292.65
39	5.080E+01	1.457E+03	0.0501	292.65	40	5.334E+01	1.244E+03	0.0502	292.65
41	5.588E+01	1.161E+03	0.0502	292.65	42	5.842E+01	1.134E+03	0.0502	292.65
43	6.096E+01	1.128E+03	0.0502	292.65					

Initial Water Storage = 2.8588 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04672     0.05024
 Head (cm)         = 1.63309E+06 2.13165E+05 2.09791E+03 1.12853E+03
 LiqWater Flow (cm)=-6.93514E-13-8.92615E-03-1.71002E-03 7.56218E-09
 IsoVapor Flow (cm)=-2.69927E-02-9.66092E-03-9.19205E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8588+ 0.0000+ 0.0000 - 0.0270- 0.0000-  0.0000 =    2.8318 vs.    2.8319

 Mass Balance = -4.3839E-05 cm;  Time step attempts =  180 and successes =  138
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0270 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   138

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.05757     0.07834     0.05009
 Head (cm)         = 1.93406E+05 1.37937E+03 8.57116E+02 1.68511E+03
 LiqWater Flow (cm)=-1.48295E-08-7.41189E-02-3.64072E-02 2.77874E-10
 IsoVapor Flow (cm)=-6.01614E-02-5.17880E-06-2.35506E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.2409+ 0.0000+ 0.0000 - 0.0602- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  1.9180E-05 cm;  Time step attempts =  171 and successes =  151
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0602 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    90
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4173E+02	[cm]
Actual Evaporation	=	1.2589E+01	[cm]
Evaporation during Growth	=	1.2589E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.2968E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1807E+00	[cm]
Mass Balance Error	=	8.3141E-03	[cm]
Total Successful Time Steps	=	64938	
Total Attempted Time Steps	=	80077	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33261	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3302E+00	0.050	1.0626E+01	0.150	8.5538E+00
0.250	7.5587E+00	0.350	6.9268E+00	0.450	6.5789E+00
0.550	6.3023E+00	0.650	6.0189E+00	0.750	5.7703E+00
0.850	5.5641E+00	0.950	5.4138E+00	1.125	5.2522E+00
1.375	4.8883E+00	1.625	4.5547E+00	1.875	4.2961E+00
2.250	4.0180E+00	2.750	3.4990E+00	3.250	3.1340E+00
3.750	2.8882E+00	4.250	2.6059E+00	4.790	2.3704E+00
6.350	2.0845E+00	8.890	1.5819E+00	11.430	1.2372E+00
13.970	1.0454E+00	16.510	9.7340E-01	19.050	8.9864E-01
21.590	8.2211E-01	24.130	7.4424E-01	26.670	6.6517E-01
29.210	5.8500E-01	31.750	5.0381E-01	34.290	4.2168E-01
36.830	3.3870E-01	39.370	2.5496E-01	41.910	1.7056E-01
44.450	8.5566E-02	46.990	7.3096E-04	49.530	2.2898E-05
52.070	-7.1335E-06	54.610	-1.4925E-05	57.150	-1.5449E-05
59.690	-6.1756E-06	60.960	9.2968E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2012.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.934E+05	0.0301	292.65	2	1.000E-01	7.846E+04	0.0302	292.65
3	2.000E-01	1.584E+03	0.0534	292.65	4	3.000E-01	1.570E+03	0.0536	292.65
5	4.000E-01	1.556E+03	0.0539	292.65	6	5.000E-01	1.542E+03	0.0541	292.65
7	6.000E-01	1.529E+03	0.0544	292.65	8	7.000E-01	1.516E+03	0.0546	292.65
9	8.000E-01	1.504E+03	0.0549	292.65	10	9.000E-01	1.491E+03	0.0551	292.65
11	1.000E+00	1.480E+03	0.0554	292.65	12	1.250E+00	1.452E+03	0.0559	292.65
13	1.500E+00	1.426E+03	0.0565	292.65	14	1.750E+00	1.402E+03	0.0570	292.65
15	2.000E+00	1.379E+03	0.0576	292.65	16	2.500E+00	1.339E+03	0.0586	292.65
17	3.000E+00	1.304E+03	0.0595	292.65	18	3.500E+00	1.273E+03	0.0603	292.65
19	4.000E+00	1.245E+03	0.0611	292.65	20	4.500E+00	1.221E+03	0.0619	292.65
21	5.080E+00	1.195E+03	0.0627	292.65	22	7.620E+00	1.109E+03	0.0657	292.65
23	1.016E+01	1.048E+03	0.0682	292.65	24	1.270E+01	1.001E+03	0.0703	292.65
25	1.524E+01	9.639E+02	0.0721	292.65	26	1.778E+01	9.341E+02	0.0737	292.65
27	2.032E+01	9.095E+02	0.0751	292.65	28	2.286E+01	8.890E+02	0.0763	292.65
29	2.540E+01	8.717E+02	0.0774	292.65	30	2.794E+01	8.571E+02	0.0783	292.65
31	3.048E+01	8.448E+02	0.0792	292.65	32	3.302E+01	8.343E+02	0.0799	292.65
33	3.556E+01	8.255E+02	0.0805	292.65	34	3.810E+01	8.182E+02	0.0810	292.65
35	4.064E+01	8.121E+02	0.0815	292.65	36	4.318E+01	8.073E+02	0.0818	292.65
37	4.572E+01	8.037E+02	0.0821	292.65	38	4.826E+01	7.949E+02	0.0506	292.65
39	5.080E+01	1.509E+03	0.0501	292.65	40	5.334E+01	1.708E+03	0.0501	292.65
41	5.588E+01	1.721E+03	0.0501	292.65	42	5.842E+01	1.697E+03	0.0501	292.65
43	6.096E+01	1.685E+03	0.0501	292.65					

Initial Water Storage = 4.1807 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06537     0.06560     0.07668     0.05009
 Head (cm)         = 1.11780E+03 1.11184E+03 8.83015E+02 1.68690E+03
 LiqWater Flow (cm)=-1.71788E-03-2.57592E-02-3.23945E-02 2.75352E-10
 IsoVapor Flow (cm)=-5.54926E-05-1.16636E-06-2.45205E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1807+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  2.2094E-05 cm;  Time step attempts =  107 and successes =   95
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05609     0.05011
 Head (cm)         = 1.03684E+06 1.57500E+05 1.44500E+03 1.53378E+03
 LiqWater Flow (cm)=-2.46492E-12-2.23950E-04-2.66652E-03 6.01803E-10
 IsoVapor Flow (cm)=-1.69046E-02-1.66803E-02-2.61679E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1966+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =    3.1797 vs.    3.1797

 Mass Balance = -3.0048E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1811E+02	[cm]
Actual Evaporation	=	1.4382E+01	[cm]
Evaporation during Growth	=	1.4365E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3386E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3865E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3386E+01	[cm]
Actual Rainfall	=	1.3386E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1797E+00	[cm]
Mass Balance Error	=	4.9321E-03	[cm]
Total Successful Time Steps	=	52650	
Total Attempted Time Steps	=	63414	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28860	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.9601E-01	0.050	9.6302E+00	0.150	6.8230E+00
0.250	5.7318E+00	0.350	4.8757E+00	0.450	4.3365E+00
0.550	3.8037E+00	0.650	3.3583E+00	0.750	3.0732E+00
0.850	2.7259E+00	0.950	2.3739E+00	1.125	2.1501E+00
1.375	1.7397E+00	1.625	1.4334E+00	1.875	1.0189E+00
2.250	7.7207E-01	2.750	4.0090E-01	3.250	2.1718E-01
3.750	8.5544E-02	4.250	4.4295E-02	4.790	-1.9564E-02
6.350	-1.1548E-01	8.890	-3.9065E-01	11.430	-4.6616E-01
13.970	-5.1804E-01	16.510	-5.5938E-01	19.050	-5.6868E-01
21.590	-5.6579E-01	24.130	-5.3752E-01	26.670	-4.8282E-01
29.210	-4.2647E-01	31.750	-3.6872E-01	34.290	-3.0970E-01
36.830	-2.4957E-01	39.370	-1.8848E-01	41.910	-1.2655E-01
44.450	-6.3968E-02	46.990	-4.7922E-04	49.530	1.7982E-04
52.070	1.1294E-05	54.610	3.1300E-06	57.150	1.1260E-06
59.690	3.6838E-07	60.960	1.3865E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2013.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.637E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.161E+05	0.0300	292.65	10	9.000E-01	5.715E+05	0.0300	292.65
11	1.000E+00	5.283E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.413E+05	0.0301	292.65
15	2.000E+00	1.575E+05	0.0301	292.65	16	2.500E+00	3.484E+03	0.0391	292.65
17	3.000E+00	2.882E+03	0.0414	292.65	18	3.500E+00	2.602E+03	0.0429	292.65
19	4.000E+00	2.425E+03	0.0441	292.65	20	4.500E+00	2.298E+03	0.0450	292.65
21	5.080E+00	2.187E+03	0.0459	292.65	22	7.620E+00	1.904E+03	0.0488	292.65
23	1.016E+01	1.757E+03	0.0507	292.65	24	1.270E+01	1.663E+03	0.0521	292.65
25	1.524E+01	1.597E+03	0.0532	292.65	26	1.778E+01	1.549E+03	0.0540	292.65
27	2.032E+01	1.512E+03	0.0547	292.65	28	2.286E+01	1.484E+03	0.0553	292.65
29	2.540E+01	1.462E+03	0.0557	292.65	30	2.794E+01	1.445E+03	0.0561	292.65
31	3.048E+01	1.431E+03	0.0564	292.65	32	3.302E+01	1.421E+03	0.0566	292.65
33	3.556E+01	1.412E+03	0.0568	292.65	34	3.810E+01	1.406E+03	0.0570	292.65
35	4.064E+01	1.400E+03	0.0571	292.65	36	4.318E+01	1.396E+03	0.0572	292.65
37	4.572E+01	1.393E+03	0.0573	292.65	38	4.826E+01	1.399E+03	0.0501	292.65
39	5.080E+01	1.514E+03	0.0501	292.65	40	5.334E+01	1.548E+03	0.0501	292.65
41	5.588E+01	1.546E+03	0.0501	292.65	42	5.842E+01	1.538E+03	0.0501	292.65
43	6.096E+01	1.534E+03	0.0501	292.65					

Initial Water Storage = 3.1797 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05579     0.05011
 Head (cm)         = 6.62341E+05 1.10405E+05 1.45890E+03 1.53421E+03
 LiqWater Flow (cm)=-1.27037E-11-3.84751E-04-3.13025E-03 6.00400E-10
 IsoVapor Flow (cm)=-1.22067E-02-1.18689E-02-3.09256E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1797+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =    3.1675 vs.    3.1675

 Mass Balance = -5.3866E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05004     0.05185
 Head (cm)         = 1.00583E+06 5.20808E+05 1.80296E+03 4.99792E+02
 LiqWater Flow (cm)=-1.38143E-12-5.88668E-11-2.18112E-03 6.27447E-06
 IsoVapor Flow (cm)=-8.77296E-03-8.76710E-03-5.72794E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9175+ 0.0000+ 0.0000 - 0.0088- 0.0000-  0.0000 =    2.9088 vs.    2.9088

 Mass Balance = -1.0826E-05 cm;  Time step attempts =   43 and successes =   35
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0088 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    35
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1167E+02	[cm]
Actual Evaporation	=	2.4419E+01	[cm]
Evaporation during Growth	=	2.4419E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4155E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.8706E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4155E+01	[cm]
Actual Rainfall	=	2.4155E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9088E+00	[cm]
Mass Balance Error	=	6.5881E-03	[cm]
Total Successful Time Steps	=	52807	
Total Attempted Time Steps	=	64683	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26908	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.6369E-01	0.050	1.2368E+01	0.150	8.1024E+00
0.250	6.9024E+00	0.350	6.0521E+00	0.450	5.4175E+00
0.550	4.8381E+00	0.650	4.3850E+00	0.750	3.9380E+00
0.850	3.5882E+00	0.950	3.3276E+00	1.125	3.0813E+00
1.375	2.3765E+00	1.625	2.1797E+00	1.875	2.0014E+00
2.250	1.8430E+00	2.750	1.4390E+00	3.250	1.2312E+00
3.750	8.8164E-01	4.250	6.3063E-01	4.790	5.1191E-01
6.350	3.9154E-01	8.890	1.2712E-01	11.430	-1.7845E-02
13.970	-1.4013E-01	16.510	-1.6082E-01	19.050	-1.4555E-01
21.590	-1.3010E-01	24.130	-1.1465E-01	26.670	-9.9275E-02
29.210	-8.4029E-02	31.750	-6.8931E-02	34.290	-5.3988E-02
36.830	-3.9195E-02	39.370	-2.4533E-02	41.910	-9.9723E-03
44.450	4.5259E-03	46.990	1.9588E-02	49.530	2.0807E-02
52.070	1.5434E-02	54.610	1.1477E-02	57.150	7.1425E-03
59.690	2.7150E-03	60.960	6.8706E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2014.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.771E+05	0.0300	292.65
3	2.000E-01	9.485E+05	0.0300	292.65	4	3.000E-01	9.207E+05	0.0300	292.65
5	4.000E-01	8.936E+05	0.0300	292.65	6	5.000E-01	8.672E+05	0.0300	292.65
7	6.000E-01	8.412E+05	0.0300	292.65	8	7.000E-01	8.158E+05	0.0300	292.65
9	8.000E-01	7.907E+05	0.0300	292.65	10	9.000E-01	7.661E+05	0.0300	292.65
11	1.000E+00	7.420E+05	0.0300	292.65	12	1.250E+00	6.834E+05	0.0300	292.65
13	1.500E+00	6.271E+05	0.0300	292.65	14	1.750E+00	5.729E+05	0.0300	292.65
15	2.000E+00	5.208E+05	0.0300	292.65	16	2.500E+00	4.221E+05	0.0300	292.65
17	3.000E+00	3.301E+05	0.0300	292.65	18	3.500E+00	2.438E+05	0.0301	292.65
19	4.000E+00	1.626E+05	0.0301	292.65	20	4.500E+00	8.594E+04	0.0302	292.65
21	5.080E+00	3.952E+03	0.0378	292.65	22	7.620E+00	2.688E+03	0.0424	292.65
23	1.016E+01	2.368E+03	0.0445	292.65	24	1.270E+01	2.191E+03	0.0459	292.65
25	1.524E+01	2.075E+03	0.0469	292.65	26	1.778E+01	1.990E+03	0.0478	292.65
27	2.032E+01	1.926E+03	0.0485	292.65	28	2.286E+01	1.876E+03	0.0491	292.65
29	2.540E+01	1.836E+03	0.0496	292.65	30	2.794E+01	1.803E+03	0.0500	292.65
31	3.048E+01	1.776E+03	0.0504	292.65	32	3.302E+01	1.754E+03	0.0507	292.65
33	3.556E+01	1.736E+03	0.0510	292.65	34	3.810E+01	1.722E+03	0.0512	292.65
35	4.064E+01	1.711E+03	0.0513	292.65	36	4.318E+01	1.703E+03	0.0514	292.65
37	4.572E+01	1.697E+03	0.0515	292.65	38	4.826E+01	1.487E+03	0.0501	292.65
39	5.080E+01	5.446E+02	0.0515	292.65	40	5.334E+01	5.213E+02	0.0517	292.65
41	5.588E+01	5.085E+02	0.0518	292.65	42	5.842E+01	5.019E+02	0.0518	292.65
43	6.096E+01	4.998E+02	0.0519	292.65					

Initial Water Storage = 2.9088 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04991     0.05185
 Head (cm)         = 1.15661E+06 5.84796E+05 1.81255E+03 5.00235E+02
 LiqWater Flow (cm)=-7.83563E-13-2.42562E-11-2.17015E-03 6.22876E-06
 IsoVapor Flow (cm)=-8.93144E-03-8.92652E-03-5.83959E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9088+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =    2.8998 vs.    2.8998

 Mass Balance =  3.3405E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03714     0.05082     0.05240
 Head (cm)         = 2.73526E+05 4.27114E+03 1.74601E+03 4.50940E+02
 LiqWater Flow (cm)=-5.09371E-10-9.48934E-03-1.15948E-03 1.46696E-05
 IsoVapor Flow (cm)=-7.63440E-03-1.03328E-04-2.95223E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0179+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =    3.0102 vs.    3.0102

 Mass Balance =  3.8508E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0076 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2121E+02	[cm]
Actual Evaporation	=	2.1655E+01	[cm]
Evaporation during Growth	=	2.1655E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1768E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.0816E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1768E+01	[cm]
Actual Rainfall	=	2.1768E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0102E+00	[cm]
Mass Balance Error	=	7.1795E-03	[cm]
Total Successful Time Steps	=	58450	
Total Attempted Time Steps	=	71740	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29263	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1271E-01	0.050	1.2009E+01	0.150	7.7434E+00
0.250	6.3572E+00	0.350	5.5262E+00	0.450	4.9294E+00
0.550	4.2400E+00	0.650	3.7168E+00	0.750	3.3362E+00
0.850	3.0930E+00	0.950	2.9043E+00	1.125	2.7246E+00
1.375	2.2775E+00	1.625	1.9882E+00	1.875	1.8554E+00
2.250	1.6989E+00	2.750	1.5064E+00	3.250	1.3804E+00
3.750	1.1927E+00	4.250	1.0010E+00	4.790	9.3725E-01
6.350	8.2966E-01	8.890	6.1956E-01	11.430	3.9918E-01
13.970	2.2939E-01	16.510	1.0103E-01	19.050	3.0562E-02
21.590	2.5930E-02	24.130	2.2522E-02	26.670	1.9843E-02
29.210	1.7727E-02	31.750	1.6056E-02	34.290	1.4722E-02
36.830	1.3626E-02	39.370	1.2698E-02	41.910	1.1882E-02
44.450	1.1129E-02	46.990	1.3107E-02	49.530	1.8264E-02
52.070	9.3692E-03	54.610	7.6958E-03	57.150	6.2179E-03
59.690	4.7844E-03	60.960	4.0816E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2015.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.564E+05	0.0301	292.65
3	2.000E-01	2.398E+05	0.0301	292.65	4	3.000E-01	2.233E+05	0.0301	292.65
5	4.000E-01	2.069E+05	0.0301	292.65	6	5.000E-01	1.907E+05	0.0301	292.65
7	6.000E-01	1.748E+05	0.0301	292.65	8	7.000E-01	1.590E+05	0.0301	292.65
9	8.000E-01	1.434E+05	0.0301	292.65	10	9.000E-01	1.279E+05	0.0301	292.65
11	1.000E+00	1.126E+05	0.0301	292.65	12	1.250E+00	7.518E+04	0.0302	292.65
13	1.500E+00	3.866E+04	0.0305	292.65	14	1.750E+00	5.848E+03	0.0349	292.65
15	2.000E+00	4.271E+03	0.0371	292.65	16	2.500E+00	3.409E+03	0.0393	292.65
17	3.000E+00	3.043E+03	0.0407	292.65	18	3.500E+00	2.820E+03	0.0417	292.65
19	4.000E+00	2.665E+03	0.0426	292.65	20	4.500E+00	2.547E+03	0.0433	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	22	7.620E+00	2.162E+03	0.0461	292.65
23	1.016E+01	2.019E+03	0.0475	292.65	24	1.270E+01	1.931E+03	0.0485	292.65
25	1.524E+01	1.873E+03	0.0491	292.65	26	1.778E+01	1.833E+03	0.0496	292.65
27	2.032E+01	1.803E+03	0.0500	292.65	28	2.286E+01	1.780E+03	0.0503	292.65
29	2.540E+01	1.762E+03	0.0506	292.65	30	2.794E+01	1.746E+03	0.0508	292.65
31	3.048E+01	1.732E+03	0.0510	292.65	32	3.302E+01	1.720E+03	0.0512	292.65
33	3.556E+01	1.709E+03	0.0514	292.65	34	3.810E+01	1.699E+03	0.0515	292.65
35	4.064E+01	1.691E+03	0.0516	292.65	36	4.318E+01	1.684E+03	0.0517	292.65
37	4.572E+01	1.680E+03	0.0518	292.65	38	4.826E+01	1.429E+03	0.0501	292.65
39	5.080E+01	4.800E+02	0.0520	292.65	40	5.334E+01	4.659E+02	0.0522	292.65
41	5.588E+01	4.573E+02	0.0523	292.65	42	5.842E+01	4.525E+02	0.0524	292.65
43	6.096E+01	4.509E+02	0.0524	292.65					

Initial Water Storage = 3.0102 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.03417     0.05075     0.05239
 Head (cm)         = 4.46116E+05 6.68903E+03 1.75097E+03 4.51470E+02
 LiqWater Flow (cm)=-7.72381E-11-8.94834E-03-1.21834E-03 1.45276E-05
 IsoVapor Flow (cm)=-1.15374E-02-1.60151E-04-3.09998E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0102+ 0.0000+ 0.0000 - 0.0115- 0.0000-  0.0000 =    2.9987 vs.    2.9987

 Mass Balance = -9.1430E-06 cm;  Time step attempts =   55 and successes =   44
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0115 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    44

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03013     0.06276     0.08544     0.05117
 Head (cm)         = 1.20186E+05 1.19275E+03 7.61901E+02 6.00783E+02
 LiqWater Flow (cm)=-6.34932E-02-1.43312E-01-4.41809E-02 1.37268E-06
 IsoVapor Flow (cm)=-9.87435E-02-3.68917E-06-1.71695E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.6754+ 0.0000+ 0.0000 - 0.1642- 0.0000-  0.0000 =    4.5112 vs.    4.5112

 Mass Balance = -2.3310E-05 cm;  Time step attempts =  194 and successes =  147
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1642 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    30
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8444E+02	[cm]
Actual Evaporation	=	2.9170E+01	[cm]
Evaporation during Growth	=	2.9170E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0683E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7248E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0683E+01	[cm]
Actual Rainfall	=	3.0683E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.5112E+00	[cm]
Mass Balance Error	=	1.0704E-02	[cm]
Total Successful Time Steps	=	73933	
Total Attempted Time Steps	=	91409	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32787	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5134E+00	0.050	2.0348E+01	0.150	1.4075E+01
0.250	1.1809E+01	0.350	1.0265E+01	0.450	9.0517E+00
0.550	8.1675E+00	0.650	7.6598E+00	0.750	7.1403E+00
0.850	6.4682E+00	0.950	5.8626E+00	1.125	5.4985E+00
1.375	4.5449E+00	1.625	3.8734E+00	1.875	3.4718E+00
2.250	3.0838E+00	2.750	2.3917E+00	3.250	2.0620E+00
3.750	1.7576E+00	4.250	1.5568E+00	4.790	1.4789E+00
6.350	1.3450E+00	8.890	1.2779E+00	11.430	1.2082E+00
13.970	1.1352E+00	16.510	1.0589E+00	19.050	9.7973E-01
21.590	8.9793E-01	24.130	8.1380E-01	26.670	7.2761E-01
29.210	6.3960E-01	31.750	5.5001E-01	34.290	4.5905E-01
36.830	3.6691E-01	39.370	2.7376E-01	41.910	1.7975E-01
44.450	8.4990E-02	46.990	-9.8953E-03	49.530	-7.1173E-03
52.070	-8.7067E-03	54.610	-5.8320E-03	57.150	-2.8514E-03
59.690	1.9202E-04	60.960	1.7248E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2016.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.202E+05	0.0301	292.65	2	1.000E-01	1.324E+03	0.0590	292.65
3	2.000E-01	1.316E+03	0.0592	292.65	4	3.000E-01	1.308E+03	0.0594	292.65
5	4.000E-01	1.300E+03	0.0596	292.65	6	5.000E-01	1.293E+03	0.0598	292.65
7	6.000E-01	1.285E+03	0.0600	292.65	8	7.000E-01	1.278E+03	0.0602	292.65
9	8.000E-01	1.271E+03	0.0604	292.65	10	9.000E-01	1.264E+03	0.0606	292.65
11	1.000E+00	1.257E+03	0.0608	292.65	12	1.250E+00	1.240E+03	0.0613	292.65
13	1.500E+00	1.224E+03	0.0618	292.65	14	1.750E+00	1.208E+03	0.0623	292.65
15	2.000E+00	1.193E+03	0.0628	292.65	16	2.500E+00	1.164E+03	0.0637	292.65
17	3.000E+00	1.138E+03	0.0646	292.65	18	3.500E+00	1.114E+03	0.0655	292.65
19	4.000E+00	1.092E+03	0.0664	292.65	20	4.500E+00	1.071E+03	0.0672	292.65
21	5.080E+00	1.049E+03	0.0681	292.65	22	7.620E+00	9.721E+02	0.0717	292.65
23	1.016E+01	9.177E+02	0.0746	292.65	24	1.270E+01	8.776E+02	0.0770	292.65
25	1.524E+01	8.469E+02	0.0790	292.65	26	1.778E+01	8.226E+02	0.0807	292.65
27	2.032E+01	8.030E+02	0.0822	292.65	28	2.286E+01	7.868E+02	0.0834	292.65
29	2.540E+01	7.733E+02	0.0845	292.65	30	2.794E+01	7.619E+02	0.0854	292.65
31	3.048E+01	7.522E+02	0.0863	292.65	32	3.302E+01	7.439E+02	0.0870	292.65
33	3.556E+01	7.368E+02	0.0876	292.65	34	3.810E+01	7.308E+02	0.0882	292.65
35	4.064E+01	7.258E+02	0.0886	292.65	36	4.318E+01	7.216E+02	0.0890	292.65
37	4.572E+01	7.183E+02	0.0893	292.65	38	4.826E+01	7.105E+02	0.0508	292.65
39	5.080E+01	6.799E+02	0.0509	292.65	40	5.334E+01	6.343E+02	0.0510	292.65
41	5.588E+01	6.131E+02	0.0511	292.65	42	5.842E+01	6.036E+02	0.0512	292.65
43	6.096E+01	6.008E+02	0.0512	292.65					

Initial Water Storage = 4.5112 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05546     0.05967     0.08286     0.05117
 Head (cm)         = 1.47496E+03 1.29651E+03 7.93712E+02 6.01038E+02
 LiqWater Flow (cm)=-5.24966E-02-1.17013E-01-4.46999E-02 1.36790E-06
 IsoVapor Flow (cm)=-7.15645E-02-4.73932E-06-2.01760E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.5112+ 0.0000+ 0.0000 - 0.1228- 0.0000-  0.0000 =    4.3884 vs.    4.3884

 Mass Balance = -1.9060E-06 cm;  Time step attempts =  352 and successes =  274
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1228 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    62

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05004     0.05450     0.06356     0.05079
 Head (cm)         = 1.80298E+03 1.52344E+03 1.16876E+03 7.02518E+02
 LiqWater Flow (cm)= 4.66811E-02 9.74416E-03-3.79147E-03 3.77331E-07
 IsoVapor Flow (cm)=-3.25437E-02-2.30104E-06-1.55793E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6161+ 0.1016+ 0.0000 - 0.0865- 0.0000-  0.0000 =    3.6313 vs.    3.6312

 Mass Balance =  4.2927E-05 cm;  Time step attempts =  318 and successes =  273
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0865 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    59
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1664E+02	[cm]
Actual Evaporation	=	2.4698E+01	[cm]
Evaporation during Growth	=	2.4612E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.3825E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.5834E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.3825E+01	[cm]
Actual Rainfall	=	2.3825E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.6312E+00	[cm]
Mass Balance Error	=	6.9570E-03	[cm]
Total Successful Time Steps	=	59852	
Total Attempted Time Steps	=	73546	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29255	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7278E-01	0.050	1.3549E+01	0.150	7.8886E+00
0.250	6.3369E+00	0.350	5.1669E+00	0.450	4.3629E+00
0.550	3.9008E+00	0.650	3.4830E+00	0.750	3.2630E+00
0.850	2.9031E+00	0.950	2.6077E+00	1.125	2.3241E+00
1.375	1.6848E+00	1.625	1.4288E+00	1.875	1.1923E+00
2.250	9.1418E-01	2.750	5.4712E-01	3.250	2.1084E-01
3.750	8.0325E-02	4.250	3.5609E-03	4.790	-8.5649E-02
6.350	-2.0461E-01	8.890	-4.0931E-01	11.430	-5.4619E-01
13.970	-6.0036E-01	16.510	-6.7511E-01	19.050	-6.3408E-01
21.590	-5.8562E-01	24.130	-5.3433E-01	26.670	-4.8076E-01
29.210	-4.2532E-01	31.750	-3.6834E-01	34.290	-3.1004E-01
36.830	-2.5063E-01	39.370	-1.9029E-01	41.910	-1.2916E-01
44.450	-6.7396E-02	46.990	-3.5432E-03	49.530	1.2433E-03
52.070	-1.6633E-03	54.610	-1.7559E-03	57.150	-1.0308E-03
59.690	-1.8134E-04	60.960	2.5834E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2017.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.803E+03	0.0500	292.65	2	1.000E-01	1.781E+03	0.0503	292.65
3	2.000E-01	1.760E+03	0.0506	292.65	4	3.000E-01	1.741E+03	0.0509	292.65
5	4.000E-01	1.723E+03	0.0512	292.65	6	5.000E-01	1.705E+03	0.0514	292.65
7	6.000E-01	1.689E+03	0.0517	292.65	8	7.000E-01	1.674E+03	0.0519	292.65
9	8.000E-01	1.659E+03	0.0521	292.65	10	9.000E-01	1.645E+03	0.0524	292.65
11	1.000E+00	1.631E+03	0.0526	292.65	12	1.250E+00	1.600E+03	0.0531	292.65
13	1.500E+00	1.572E+03	0.0536	292.65	14	1.750E+00	1.547E+03	0.0541	292.65
15	2.000E+00	1.523E+03	0.0545	292.65	16	2.500E+00	1.483E+03	0.0553	292.65
17	3.000E+00	1.448E+03	0.0560	292.65	18	3.500E+00	1.418E+03	0.0567	292.65
19	4.000E+00	1.392E+03	0.0573	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.346E+03	0.0584	292.65	22	7.620E+00	1.277E+03	0.0602	292.65
23	1.016E+01	1.238E+03	0.0613	292.65	24	1.270E+01	1.216E+03	0.0620	292.65
25	1.524E+01	1.204E+03	0.0624	292.65	26	1.778E+01	1.196E+03	0.0627	292.65
27	2.032E+01	1.189E+03	0.0629	292.65	28	2.286E+01	1.182E+03	0.0631	292.65
29	2.540E+01	1.176E+03	0.0633	292.65	30	2.794E+01	1.169E+03	0.0636	292.65
31	3.048E+01	1.162E+03	0.0638	292.65	32	3.302E+01	1.156E+03	0.0640	292.65
33	3.556E+01	1.150E+03	0.0642	292.65	34	3.810E+01	1.145E+03	0.0644	292.65
35	4.064E+01	1.140E+03	0.0646	292.65	36	4.318E+01	1.136E+03	0.0647	292.65
37	4.572E+01	1.133E+03	0.0648	292.65	38	4.826E+01	1.120E+03	0.0502	292.65
39	5.080E+01	8.442E+02	0.0505	292.65	40	5.334E+01	7.456E+02	0.0507	292.65
41	5.588E+01	7.152E+02	0.0508	292.65	42	5.842E+01	7.049E+02	0.0508	292.65
43	6.096E+01	7.025E+02	0.0508	292.65					

Initial Water Storage = 3.6312 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06430     0.06661     0.06693     0.05079
 Head (cm)         = 1.14743E+03 1.08568E+03 1.07774E+03 7.02637E+02
 LiqWater Flow (cm)= 3.14902E-01 2.35926E-01 1.03990E-02 3.76809E-07
 IsoVapor Flow (cm)=-5.05616E-02-1.06421E-06 1.71256E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6312+ 0.4572+ 0.0000 - 0.1922- 0.0000-  0.0000 =    3.8963 vs.    3.8961

 Mass Balance =  1.3058E-04 cm;  Time step attempts =  529 and successes =  442
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1922 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03040     0.06153     0.05061
 Head (cm)         = 1.50332E+06 4.69196E+04 1.23187E+03 7.77678E+02
 LiqWater Flow (cm)=-9.03240E-13-2.26255E-02-9.71717E-03 1.63082E-07
 IsoVapor Flow (cm)=-2.64699E-02-2.88345E-04-3.81421E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4285+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =    3.4020 vs.    3.4020

 Mass Balance = -1.1567E-05 cm;  Time step attempts =   55 and successes =   42
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    42
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2162E+02	[cm]
Actual Evaporation	=	2.5851E+01	[cm]
Evaporation during Growth	=	2.5851E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5629E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.7196E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5629E+01	[cm]
Actual Rainfall	=	2.5629E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.4020E+00	[cm]
Mass Balance Error	=	6.9867E-03	[cm]
Total Successful Time Steps	=	53456	
Total Attempted Time Steps	=	65118	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26714	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2213E-01	0.050	1.6857E+01	0.150	9.2527E+00
0.250	7.8425E+00	0.350	6.5009E+00	0.450	6.0172E+00
0.550	5.5713E+00	0.650	5.3263E+00	0.750	4.9606E+00
0.850	4.5875E+00	0.950	4.1565E+00	1.125	3.9106E+00
1.375	2.9709E+00	1.625	2.4363E+00	1.875	1.9723E+00
2.250	1.6844E+00	2.750	9.6905E-01	3.250	8.4539E-01
3.750	7.0963E-01	4.250	5.8468E-01	4.790	4.7032E-01
6.350	4.0616E-01	8.890	1.6757E-01	11.430	1.2537E-02
13.970	-6.4498E-02	16.510	-5.9786E-02	19.050	-4.8834E-02
21.590	-3.9805E-02	24.130	-3.2405E-02	26.670	-2.6336E-02
29.210	-2.1333E-02	31.750	-1.7160E-02	34.290	-1.3654E-02
36.830	-1.0664E-02	39.370	-8.0665E-03	41.910	-5.7571E-03
44.450	-3.6415E-03	46.990	-1.0137E-03	49.530	1.4848E-03
52.070	-2.8803E-04	54.610	-6.2782E-04	57.150	-4.2068E-04
59.690	-9.0434E-05	60.960	8.7196E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2018.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.379E+06	0.0300	292.65
3	2.000E-01	1.265E+06	0.0300	292.65	4	3.000E-01	1.160E+06	0.0300	292.65
5	4.000E-01	1.062E+06	0.0300	292.65	6	5.000E-01	9.704E+05	0.0300	292.65
7	6.000E-01	8.847E+05	0.0300	292.65	8	7.000E-01	8.040E+05	0.0300	292.65
9	8.000E-01	7.278E+05	0.0300	292.65	10	9.000E-01	6.557E+05	0.0300	292.65
11	1.000E+00	5.871E+05	0.0300	292.65	12	1.250E+00	4.293E+05	0.0300	292.65
13	1.500E+00	2.881E+05	0.0300	292.65	14	1.750E+00	1.608E+05	0.0301	292.65
15	2.000E+00	4.692E+04	0.0304	292.65	16	2.500E+00	2.639E+03	0.0427	292.65
17	3.000E+00	2.444E+03	0.0439	292.65	18	3.500E+00	2.277E+03	0.0452	292.65
19	4.000E+00	2.148E+03	0.0463	292.65	20	4.500E+00	2.046E+03	0.0472	292.65
21	5.080E+00	1.953E+03	0.0482	292.65	22	7.620E+00	1.700E+03	0.0515	292.65
23	1.016E+01	1.562E+03	0.0538	292.65	24	1.270E+01	1.470E+03	0.0555	292.65
25	1.524E+01	1.404E+03	0.0570	292.65	26	1.778E+01	1.354E+03	0.0582	292.65
27	2.032E+01	1.313E+03	0.0592	292.65	28	2.286E+01	1.281E+03	0.0601	292.65
29	2.540E+01	1.254E+03	0.0609	292.65	30	2.794E+01	1.232E+03	0.0615	292.65
31	3.048E+01	1.213E+03	0.0621	292.65	32	3.302E+01	1.198E+03	0.0626	292.65
33	3.556E+01	1.185E+03	0.0630	292.65	34	3.810E+01	1.175E+03	0.0633	292.65
35	4.064E+01	1.167E+03	0.0636	292.65	36	4.318E+01	1.161E+03	0.0638	292.65
37	4.572E+01	1.156E+03	0.0640	292.65	38	4.826E+01	1.136E+03	0.0502	292.65
39	5.080E+01	9.257E+02	0.0504	292.65	40	5.334E+01	8.211E+02	0.0505	292.65
41	5.588E+01	7.877E+02	0.0506	292.65	42	5.842E+01	7.791E+02	0.0506	292.65
43	6.096E+01	7.777E+02	0.0506	292.65					

Initial Water Storage = 3.4020 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03002     0.03014     0.06103     0.05061
 Head (cm)          = 7.20447E+05 1.14410E+05 1.24858E+03 7.77730E+02
 LiqWater Flow (cm)=-9.41296E-12-7.83704E-04-9.27695E-03 1.62996E-07
 IsoVapor Flow (cm)=-1.31360E-02-1.22687E-02-3.89091E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4020+ 0.0000+ 0.0000 - 0.0131- 0.0000-  0.0000 =    3.3889 vs.    3.3889

 Mass Balance = -1.0060E-06 cm;  Time step attempts =   58 and successes =   56
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0131 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    53

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.04447     0.05551     0.05045
 Head (cm)          = 8.58098E+05 2.36711E+03 1.47251E+03 8.82114E+02
 LiqWater Flow (cm)=-2.23125E-11-3.41122E-02 4.41607E-03 5.76756E-08
 IsoVapor Flow (cm)=-4.83108E-02-1.76663E-05 3.63275E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2799+ 0.0000+ 0.0000 - 0.0483- 0.0000-  0.0000 =    3.2316 vs.    3.2316

 Mass Balance = -5.7639E-05 cm;  Time step attempts =  293 and successes =  228
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0483 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   227
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2377E+02	[cm]
Actual Evaporation	=	2.1422E+01	[cm]
Evaporation during Growth	=	2.1422E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1260E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.9114E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1260E+01	[cm]
Actual Rainfall	=	2.1260E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2316E+00	[cm]
Mass Balance Error	=	8.0353E-03	[cm]
Total Successful Time Steps	=	58101	
Total Attempted Time Steps	=	71538	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28966	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6230E-01	0.050	1.4549E+01	0.150	1.0475E+01
0.250	9.0283E+00	0.350	8.0494E+00	0.450	7.3823E+00
0.550	6.6063E+00	0.650	5.8517E+00	0.750	5.3948E+00
0.850	4.8779E+00	0.950	4.5168E+00	1.125	4.2655E+00
1.375	3.3820E+00	1.625	2.9954E+00	1.875	2.2928E+00
2.250	1.9388E+00	2.750	1.2631E+00	3.250	9.3559E-01
3.750	7.1133E-01	4.250	5.8516E-01	4.790	4.5431E-01
6.350	2.5657E-01	8.890	-8.7253E-02	11.430	-1.9146E-01
13.970	-2.0297E-01	16.510	-2.0105E-01	19.050	-1.9642E-01
21.590	-1.8906E-01	24.130	-1.7897E-01	26.670	-1.6625E-01
29.210	-1.5106E-01	31.750	-1.3367E-01	34.290	-1.1441E-01
36.830	-9.3621E-02	39.370	-7.1629E-02	41.910	-4.8772E-02
44.450	-2.5337E-02	46.990	-1.3010E-03	49.530	7.1558E-04
52.070	-2.0713E-04	54.610	-4.1797E-04	57.150	-3.1207E-04
59.690	-8.6013E-05	60.960	3.9114E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2019.res
 Date of Run:      15 Sep 2025
 Time of Run:      16:35:05.87
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------
                  Initial Conditions                      Initial Conditions
                 ----------------------                  ----------------------
  NODE   DEPTH      HEAD    THETA  TEMP   NODE   DEPTH      HEAD    THETA  TEMP
          (cm)      (cm)   (vol.)   (K)           (cm)      (cm)   (vol.)   (K)
  ---- --------- --------- ------ ------  ---- --------- --------- ------ ------
     1 0.000E+00 8.581E+05 0.0300 292.65     2 1.000E-01 7.469E+05 0.0300 292.65
     3 2.000E-01 6.392E+05 0.0300 292.65     4 3.000E-01 5.432E+05 0.0300 292.65
     5 4.000E-01 4.522E+05 0.0300 292.65     6 5.000E-01 3.670E+05 0.0300 292.65
     7 6.000E-01 2.868E+05 0.0300 292.65     8 7.000E-01 2.110E+05 0.0301 292.65
     9 8.000E-01 1.392E+05 0.0301 292.65    10 9.000E-01 7.089E+04 0.0302 292.65
    11 1.000E+00 6.475E+03 0.0343 292.65    12 1.250E+00 3.156E+03 0.0403 292.65
    13 1.500E+00 2.751E+03 0.0421 292.65    14 1.750E+00 2.522E+03 0.0434 292.65
    15 2.000E+00 2.367E+03 0.0445 292.65    16 2.500E+00 2.162E+03 0.0461 292.65
    17 3.000E+00 2.029E+03 0.0474 292.65    18 3.500E+00 1.932E+03 0.0484 292.65
    19 4.000E+00 1.858E+03 0.0493 292.65    20 4.500E+00 1.799E+03 0.0501 292.65
    21 5.080E+00 1.743E+03 0.0509 292.65    22 7.620E+00 1.590E+03 0.0533 292.65
    23 1.016E+01 1.511E+03 0.0547 292.65    24 1.270E+01 1.468E+03 0.0556 292.65
    25 1.524E+01 1.445E+03 0.0561 292.65    26 1.778E+01 1.437E+03 0.0563 292.65
    27 2.032E+01 1.438E+03 0.0562 292.65    28 2.286E+01 1.446E+03 0.0561 292.65
    29 2.540E+01 1.458E+03 0.0558 292.65    30 2.794E+01 1.473E+03 0.0555 292.65
    31 3.048E+01 1.487E+03 0.0552 292.65    32 3.302E+01 1.499E+03 0.0550 292.65
    33 3.556E+01 1.508E+03 0.0548 292.65    34 3.810E+01 1.514E+03 0.0547 292.65
    35 4.064E+01 1.518E+03 0.0546 292.65    36 4.318E+01 1.518E+03 0.0546 292.65
    37 4.572E+01 1.517E+03 0.0546 292.65    38 4.826E+01 1.465E+03 0.0501 292.65
    39 5.080E+01 9.716E+02 0.0504 292.65    40 5.334E+01 8.870E+02 0.0504 292.65
    41 5.588E+01 8.854E+02 0.0504 292.65    42 5.842E+01 8.844E+02 0.0504 292.65
    43 6.096E+01 8.821E+02 0.0504 292.65

 Initial Water Storage =   3.2316 cm

 NOTE:  There are no temperature data when plants are modelled.


--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04334     0.05545     0.05045
 Head (cm)         = 6.36590E+05 2.53410E+03 1.47512E+03 8.82181E+02
 LiqWater Flow (cm)=-3.71215E-11-2.40150E-02 3.06965E-03 5.76387E-08
 IsoVapor Flow (cm)=-2.58388E-02-2.26761E-05 2.27088E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2316+ 0.0000+ 0.0000 - 0.0258- 0.0000-  0.0000 =    3.2058 vs.    3.2058

 Mass Balance = -8.9513E-06 cm;  Time step attempts =   95 and successes =   83
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0258 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    82

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04393     0.06482     0.05028
 Head (cm)         = 1.19840E+06 2.44439E+03 1.13268E+03 1.06308E+03
 LiqWater Flow (cm)=-3.46012E-12-3.24701E-02-1.24756E-02 1.23723E-08
 IsoVapor Flow (cm)=-3.67543E-02-2.62342E-05-3.26469E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5921+ 0.0000+ 0.0000 - 0.0368- 0.0000-  0.0000 =    3.5553 vs.    3.5554

 Mass Balance = -1.4396E-05 cm;  Time step attempts =   70 and successes =   53
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0368 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    53
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1575E+02	[cm]
Actual Evaporation	=	2.0190E+01	[cm]
Evaporation during Growth	=	2.0190E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0523E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.2828E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0523E+01	[cm]
Actual Rainfall	=	2.0523E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5554E+00	[cm]
Mass Balance Error	=	8.9914E-03	[cm]
Total Successful Time Steps	=	67254	
Total Attempted Time Steps	=	83746	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32257	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.3273E-01	0.050	1.3774E+01	0.150	1.0483E+01
0.250	8.7808E+00	0.350	7.3702E+00	0.450	6.5017E+00
0.550	5.8800E+00	0.650	5.2931E+00	0.750	4.8904E+00
0.850	4.5162E+00	0.950	4.1625E+00	1.125	3.9198E+00
1.375	3.3622E+00	1.625	2.8637E+00	1.875	2.5182E+00
2.250	2.2861E+00	2.750	1.8524E+00	3.250	1.5531E+00
3.750	1.3095E+00	4.250	1.1034E+00	4.790	9.3901E-01
6.350	7.9309E-01	8.890	5.6177E-01	11.430	4.1563E-01
13.970	3.2088E-01	16.510	3.0247E-01	19.050	2.8921E-01
21.590	2.7329E-01	24.130	2.5466E-01	26.670	2.3337E-01
29.210	2.0960E-01	31.750	1.8361E-01	34.290	1.5570E-01
36.830	1.2624E-01	39.370	9.5556E-02	41.910	6.3976E-02
44.450	3.1779E-02	46.990	-1.6477E-04	49.530	4.5167E-04
52.070	-6.8048E-05	54.610	-1.5511E-04	57.150	-1.4147E-04
59.690	-4.9737E-05	60.960	1.2828E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2020.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.652E+05	0.0300	292.65	4	3.000E-01	8.620E+05	0.0300	292.65
5	4.000E-01	7.660E+05	0.0300	292.65	6	5.000E-01	6.762E+05	0.0300	292.65
7	6.000E-01	5.919E+05	0.0300	292.65	8	7.000E-01	5.125E+05	0.0300	292.65
9	8.000E-01	4.374E+05	0.0300	292.65	10	9.000E-01	3.662E+05	0.0300	292.65
11	1.000E+00	2.984E+05	0.0300	292.65	12	1.250E+00	1.424E+05	0.0301	292.65
13	1.500E+00	2.906E+03	0.0413	292.65	14	1.750E+00	2.624E+03	0.0428	292.65
15	2.000E+00	2.444E+03	0.0439	292.65	16	2.500E+00	2.211E+03	0.0457	292.65
17	3.000E+00	2.056E+03	0.0471	292.65	18	3.500E+00	1.942E+03	0.0483	292.65
19	4.000E+00	1.854E+03	0.0494	292.65	20	4.500E+00	1.783E+03	0.0503	292.65
21	5.080E+00	1.716E+03	0.0513	292.65	22	7.620E+00	1.524E+03	0.0545	292.65
23	1.016E+01	1.413E+03	0.0568	292.65	24	1.270E+01	1.337E+03	0.0586	292.65
25	1.524E+01	1.281E+03	0.0601	292.65	26	1.778E+01	1.238E+03	0.0613	292.65
27	2.032E+01	1.203E+03	0.0624	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.152E+03	0.0641	292.65	30	2.794E+01	1.133E+03	0.0648	292.65
31	3.048E+01	1.117E+03	0.0654	292.65	32	3.302E+01	1.103E+03	0.0659	292.65
33	3.556E+01	1.092E+03	0.0664	292.65	34	3.810E+01	1.083E+03	0.0667	292.65
35	4.064E+01	1.075E+03	0.0670	292.65	36	4.318E+01	1.070E+03	0.0673	292.65
37	4.572E+01	1.066E+03	0.0674	292.65	38	4.826E+01	1.051E+03	0.0503	292.65
39	5.080E+01	9.238E+02	0.0504	292.65	40	5.334E+01	1.015E+03	0.0503	292.65
41	5.588E+01	1.060E+03	0.0503	292.65	42	5.842E+01	1.065E+03	0.0503	292.65
43	6.096E+01	1.063E+03	0.0503	292.65					

Initial Water Storage = 3.5554 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04584     0.06416     0.05028
 Head (cm)         = 7.50500E+05 2.19449E+03 1.15133E+03 1.06316E+03
 LiqWater Flow (cm)=-1.45651E-11-2.47285E-02-1.19994E-02 1.23642E-08
 IsoVapor Flow (cm)=-2.25943E-02-1.72107E-05-3.39095E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5554+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =    3.5328 vs.    3.5328

 Mass Balance = -7.2661E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04512     0.05025
 Head (cm)         = 8.61063E+05 6.85429E+05 2.28256E+03 1.11631E+03
 LiqWater Flow (cm)=-8.55997E-13-2.64299E-12-1.31436E-03 8.28772E-09
 IsoVapor Flow (cm)=-2.92266E-03-2.92266E-03-1.06713E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6300+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =    2.6271 vs.    2.6271

 Mass Balance = -4.5638E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2628E+02	[cm]
Actual Evaporation	=	1.5756E+01	[cm]
Evaporation during Growth	=	1.5753E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.4834E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.5471E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.4834E+01	[cm]
Actual Rainfall	=	1.4834E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.6271E+00	[cm]
Mass Balance Error	=	5.9940E-03	[cm]
Total Successful Time Steps	=	50879	
Total Attempted Time Steps	=	61797	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27333	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2231E-01	0.050	1.0309E+01	0.150	7.2574E+00
0.250	6.4006E+00	0.350	5.8049E+00	0.450	5.3515E+00
0.550	4.9830E+00	0.650	4.5178E+00	0.750	4.1966E+00
0.850	3.8978E+00	0.950	3.5870E+00	1.125	3.2950E+00
1.375	2.6672E+00	1.625	2.3083E+00	1.875	2.0397E+00
2.250	1.6984E+00	2.750	1.1390E+00	3.250	7.7352E-01
3.750	5.1126E-01	4.250	2.2814E-01	4.790	8.3418E-02
6.350	-1.0243E-01	8.890	-5.9324E-01	11.430	-6.8378E-01
13.970	-6.5666E-01	16.510	-6.0870E-01	19.050	-5.6069E-01
21.590	-5.1231E-01	24.130	-4.6343E-01	26.670	-4.1400E-01
29.210	-3.6402E-01	31.750	-3.1352E-01	34.290	-2.6255E-01
36.830	-2.1114E-01	39.370	-1.5934E-01	41.910	-1.0720E-01
44.450	-5.4744E-02	46.990	-1.6860E-03	49.530	2.2692E-04
52.070	-7.1239E-06	54.610	-1.4950E-05	57.150	-1.0146E-05
59.690	-7.2527E-07	60.960	4.5471E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2021.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.150E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.970E+05	0.0300	292.65
9	8.000E-01	7.881E+05	0.0300	292.65	10	9.000E-01	7.792E+05	0.0300	292.65
11	1.000E+00	7.705E+05	0.0300	292.65	12	1.250E+00	7.487E+05	0.0300	292.65
13	1.500E+00	7.273E+05	0.0300	292.65	14	1.750E+00	7.062E+05	0.0300	292.65
15	2.000E+00	6.854E+05	0.0300	292.65	16	2.500E+00	6.448E+05	0.0300	292.65
17	3.000E+00	6.053E+05	0.0300	292.65	18	3.500E+00	5.670E+05	0.0300	292.65
19	4.000E+00	5.297E+05	0.0300	292.65	20	4.500E+00	4.933E+05	0.0300	292.65
21	5.080E+00	4.523E+05	0.0300	292.65	22	7.620E+00	2.858E+05	0.0300	292.65
23	1.016E+01	1.373E+05	0.0301	292.65	24	1.270E+01	3.518E+03	0.0390	292.65
25	1.524E+01	2.963E+03	0.0411	292.65	26	1.778E+01	2.701E+03	0.0424	292.65
27	2.032E+01	2.539E+03	0.0433	292.65	28	2.286E+01	2.428E+03	0.0440	292.65
29	2.540E+01	2.345E+03	0.0446	292.65	30	2.794E+01	2.283E+03	0.0451	292.65
31	3.048E+01	2.234E+03	0.0455	292.65	32	3.302E+01	2.195E+03	0.0458	292.65
33	3.556E+01	2.164E+03	0.0461	292.65	34	3.810E+01	2.141E+03	0.0463	292.65
35	4.064E+01	2.123E+03	0.0465	292.65	36	4.318E+01	2.111E+03	0.0466	292.65
37	4.572E+01	2.103E+03	0.0467	292.65	38	4.826E+01	1.941E+03	0.0501	292.65
39	5.080E+01	1.605E+03	0.0501	292.65	40	5.334E+01	1.350E+03	0.0502	292.65
41	5.588E+01	1.201E+03	0.0502	292.65	42	5.842E+01	1.135E+03	0.0502	292.65
43	6.096E+01	1.116E+03	0.0502	292.65					

Initial Water Storage = 2.6271 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04504     0.05025
 Head (cm)         = 1.42694E+06 1.08397E+06 2.29221E+03 1.11705E+03
 LiqWater Flow (cm)=-1.47721E-13-5.34144E-13-1.30647E-03 8.24271E-09
 IsoVapor Flow (cm)=-4.12682E-03-4.11260E-03-1.08211E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6271+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =    2.6229 vs.    2.6229

 Mass Balance =  6.0153E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08653     0.08752     0.07301     0.05058
 Head (cm)         = 7.49185E+02 7.38039E+02 9.46956E+02 7.96306E+02
 LiqWater Flow (cm)= 1.28766E+00 1.16127E+00 9.67814E-02 1.33728E-07
 IsoVapor Flow (cm)= 1.45604E-05 3.41266E-05 2.76437E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8664+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =    4.1569 vs.    4.1559

 Mass Balance =  1.0595E-03 cm;  Time step attempts = 2307 and successes = 1729
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1796E+02	[cm]
Actual Evaporation	=	2.9019E+01	[cm]
Evaporation during Growth	=	2.9019E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0556E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.2857E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0556E+01	[cm]
Actual Rainfall	=	3.0556E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1559E+00	[cm]
Mass Balance Error	=	7.8821E-03	[cm]
Total Successful Time Steps	=	57974	
Total Attempted Time Steps	=	70806	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27145	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5367E+00	0.050	1.5375E+01	0.150	8.7842E+00
0.250	7.2983E+00	0.350	6.0681E+00	0.450	5.5426E+00
0.550	5.1104E+00	0.650	4.7733E+00	0.750	4.6095E+00
0.850	4.4096E+00	0.950	4.2644E+00	1.125	4.1658E+00
1.375	3.9068E+00	1.625	3.7132E+00	1.875	3.5227E+00
2.250	3.3130E+00	2.750	2.9895E+00	3.250	2.7765E+00
3.750	2.6101E+00	4.250	2.4357E+00	4.790	2.2728E+00
6.350	2.0253E+00	8.890	1.4800E+00	11.430	1.1812E+00
13.970	8.7885E-01	16.510	6.4813E-01	19.050	5.2711E-01
21.590	4.2666E-01	24.130	3.3465E-01	26.670	2.5230E-01
29.210	1.8129E-01	31.750	1.2366E-01	34.290	8.1509E-02
36.830	5.5178E-02	39.370	3.9243E-02	41.910	2.7028E-02
44.450	1.5685E-02	46.990	5.3446E-03	49.530	7.4396E-03
52.070	4.4976E-03	54.610	2.7253E-03	57.150	1.0627E-03
59.690	2.2001E-04	60.960	8.2857E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2022.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.492E+02	0.0865	292.65	2	1.000E-01	7.416E+02	0.0872	292.65
3	2.000E-01	7.434E+02	0.0870	292.65	4	3.000E-01	7.430E+02	0.0871	292.65
5	4.000E-01	7.424E+02	0.0871	292.65	6	5.000E-01	7.421E+02	0.0871	292.65
7	6.000E-01	7.419E+02	0.0872	292.65	8	7.000E-01	7.417E+02	0.0872	292.65
9	8.000E-01	7.414E+02	0.0872	292.65	10	9.000E-01	7.411E+02	0.0872	292.65
11	1.000E+00	7.408E+02	0.0873	292.65	12	1.250E+00	7.401E+02	0.0873	292.65
13	1.500E+00	7.393E+02	0.0874	292.65	14	1.750E+00	7.387E+02	0.0875	292.65
15	2.000E+00	7.380E+02	0.0875	292.65	16	2.500E+00	7.369E+02	0.0876	292.65
17	3.000E+00	7.359E+02	0.0877	292.65	18	3.500E+00	7.350E+02	0.0878	292.65
19	4.000E+00	7.342E+02	0.0879	292.65	20	4.500E+00	7.336E+02	0.0879	292.65
21	5.080E+00	7.330E+02	0.0880	292.65	22	7.620E+00	7.326E+02	0.0880	292.65
23	1.016E+01	7.356E+02	0.0877	292.65	24	1.270E+01	7.426E+02	0.0871	292.65
25	1.524E+01	7.543E+02	0.0861	292.65	26	1.778E+01	7.716E+02	0.0846	292.65
27	2.032E+01	7.961E+02	0.0827	292.65	28	2.286E+01	8.304E+02	0.0802	292.65
29	2.540E+01	8.784E+02	0.0770	292.65	30	2.794E+01	9.470E+02	0.0730	292.65
31	3.048E+01	1.048E+03	0.0682	292.65	32	3.302E+01	1.204E+03	0.0624	292.65
33	3.556E+01	1.429E+03	0.0564	292.65	34	3.810E+01	1.632E+03	0.0526	292.65
35	4.064E+01	1.716E+03	0.0513	292.65	36	4.318E+01	1.731E+03	0.0510	292.65
37	4.572E+01	1.730E+03	0.0511	292.65	38	4.826E+01	1.600E+03	0.0501	292.65
39	5.080E+01	9.382E+02	0.0504	292.65	40	5.334E+01	7.835E+02	0.0506	292.65
41	5.588E+01	7.635E+02	0.0506	292.65	42	5.842E+01	7.809E+02	0.0506	292.65
43	6.096E+01	7.963E+02	0.0506	292.65					

Initial Water Storage = 4.1559 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.07064     0.07314     0.05058
 Head (cm)         = 1.98374E+05 9.93641E+02 9.44585E+02 7.95756E+02
 LiqWater Flow (cm)=-6.07483E-02-9.88876E-02 1.20797E-01 1.34505E-07
 IsoVapor Flow (cm)=-7.72573E-02-1.03629E-06 1.24158E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1559+ 0.0508+ 0.0000 - 0.1916- 0.0000-  0.0000 =    4.0150 vs.    4.0151

 Mass Balance = -2.6415E-05 cm;  Time step attempts =  248 and successes =  210
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1916 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04633     0.05131     0.05046
 Head (cm)         = 7.13118E+05 2.13938E+03 1.71252E+03 8.74989E+02
 LiqWater Flow (cm)=-1.83405E-04-4.47956E-02-1.42134E-03 6.16353E-08
 IsoVapor Flow (cm)=-7.69419E-02-1.12819E-05-3.39111E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2154+ 0.0000+ 0.0000 - 0.0771- 0.0000-  0.0000 =    3.1383 vs.    3.1383

 Mass Balance = -7.0153E-05 cm;  Time step attempts =  383 and successes =  304
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0771 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   201
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1971E+02	[cm]
Actual Evaporation	=	2.3667E+01	[cm]
Evaporation during Growth	=	2.3667E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2657E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.9583E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2657E+01	[cm]
Actual Rainfall	=	2.2657E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1383E+00	[cm]
Mass Balance Error	=	7.6074E-03	[cm]
Total Successful Time Steps	=	62633	
Total Attempted Time Steps	=	76742	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30594	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0099E+00	0.050	1.3406E+01	0.150	8.0691E+00
0.250	6.4709E+00	0.350	5.6810E+00	0.450	5.1205E+00
0.550	4.5368E+00	0.650	4.0134E+00	0.750	3.6789E+00
0.850	3.4251E+00	0.950	3.1542E+00	1.125	2.7857E+00
1.375	2.2144E+00	1.625	1.7686E+00	1.875	1.4624E+00
2.250	1.2264E+00	2.750	7.0410E-01	3.250	2.8531E-01
3.750	6.1545E-02	4.250	-1.1171E-01	4.790	-2.4058E-01
6.350	-2.9611E-01	8.890	-3.6925E-01	11.430	-3.8787E-01
13.970	-3.9072E-01	16.510	-4.0599E-01	19.050	-3.4356E-01
21.590	-2.6768E-01	24.130	-1.9619E-01	26.670	-1.3155E-01
29.210	-7.6539E-02	31.750	-3.3993E-02	34.290	-6.4978E-03
36.830	5.3791E-03	39.370	6.9308E-03	41.910	4.7725E-03
44.450	1.7352E-03	46.990	-9.0028E-04	49.530	1.3492E-03
52.070	-8.7299E-05	54.610	-3.7467E-04	57.150	-2.4570E-04
59.690	-4.8142E-05	60.960	3.9583E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2023.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.871E+05	0.0300	292.65
3	2.000E-01	4.716E+05	0.0300	292.65	4	3.000E-01	3.650E+05	0.0300	292.65
5	4.000E-01	2.661E+05	0.0301	292.65	6	5.000E-01	1.738E+05	0.0301	292.65
7	6.000E-01	8.734E+04	0.0302	292.65	8	7.000E-01	6.317E+03	0.0345	292.65
9	8.000E-01	3.755E+03	0.0383	292.65	10	9.000E-01	3.257E+03	0.0399	292.65
11	1.000E+00	2.981E+03	0.0410	292.65	12	1.250E+00	2.599E+03	0.0429	292.65
13	1.500E+00	2.387E+03	0.0443	292.65	14	1.750E+00	2.244E+03	0.0454	292.65
15	2.000E+00	2.139E+03	0.0463	292.65	16	2.500E+00	1.991E+03	0.0478	292.65
17	3.000E+00	1.889E+03	0.0489	292.65	18	3.500E+00	1.814E+03	0.0499	292.65
19	4.000E+00	1.755E+03	0.0507	292.65	20	4.500E+00	1.709E+03	0.0514	292.65
21	5.080E+00	1.665E+03	0.0520	292.65	22	7.620E+00	1.555E+03	0.0539	292.65
23	1.016E+01	1.513E+03	0.0547	292.65	24	1.270E+01	1.510E+03	0.0548	292.65
25	1.524E+01	1.533E+03	0.0543	292.65	26	1.778E+01	1.574E+03	0.0536	292.65
27	2.032E+01	1.624E+03	0.0527	292.65	28	2.286E+01	1.671E+03	0.0519	292.65
29	2.540E+01	1.702E+03	0.0515	292.65	30	2.794E+01	1.713E+03	0.0513	292.65
31	3.048E+01	1.708E+03	0.0514	292.65	32	3.302E+01	1.697E+03	0.0515	292.65
33	3.556E+01	1.684E+03	0.0517	292.65	34	3.810E+01	1.672E+03	0.0519	292.65
35	4.064E+01	1.661E+03	0.0521	292.65	36	4.318E+01	1.653E+03	0.0522	292.65
37	4.572E+01	1.648E+03	0.0523	292.65	38	4.826E+01	1.556E+03	0.0501	292.65
39	5.080E+01	1.018E+03	0.0503	292.65	40	5.334E+01	8.834E+02	0.0504	292.65
41	5.588E+01	8.701E+02	0.0505	292.65	42	5.842E+01	8.737E+02	0.0505	292.65
43	6.096E+01	8.750E+02	0.0505	292.65					

Initial Water Storage = 3.1383 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04342     0.05187     0.05046
 Head (cm)         = 7.09845E+05 2.52160E+03 1.67568E+03 8.74950E+02
 LiqWater Flow (cm)=-3.25950E-11-2.68190E-02 7.28023E-04 6.16577E-08
 IsoVapor Flow (cm)=-3.45174E-02-2.06315E-05 7.62073E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1383+ 0.0000+ 0.0000 - 0.0345- 0.0000-  0.0000 =    3.1038 vs.    3.1039

 Mass Balance = -3.2708E-05 cm;  Time step attempts =  197 and successes =  157
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0345 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   156

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05125     0.05023
 Head (cm)         = 1.53614E+06 5.72974E+05 1.71650E+03 1.14847E+03
 LiqWater Flow (cm)=-3.94946E-13-5.63822E-11-1.45656E-03 6.55251E-09
 IsoVapor Flow (cm)=-1.33724E-02-1.33619E-02-3.27938E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9673+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    2.9539 vs.    2.9539

 Mass Balance = -4.1195E-06 cm;  Time step attempts =   28 and successes =   26
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0134 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    26
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3745E+02	[cm]
Actual Evaporation	=	1.1201E+01	[cm]
Evaporation during Growth	=	1.1201E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1024E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3305E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1024E+01	[cm]
Actual Rainfall	=	1.1024E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9539E+00	[cm]
Mass Balance Error	=	7.1438E-03	[cm]
Total Successful Time Steps	=	58525	
Total Attempted Time Steps	=	72070	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31150	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.7731E-01	0.050	8.5643E+00	0.150	6.6354E+00
0.250	5.9816E+00	0.350	5.5777E+00	0.450	5.2074E+00
0.550	4.8888E+00	0.650	4.6139E+00	0.750	4.3545E+00
0.850	4.0922E+00	0.950	3.8994E+00	1.125	3.7057E+00
1.375	3.1063E+00	1.625	2.7385E+00	1.875	2.4496E+00
2.250	2.2020E+00	2.750	1.6182E+00	3.250	1.2590E+00
3.750	1.0109E+00	4.250	8.9616E-01	4.790	7.4015E-01
6.350	5.9081E-01	8.890	3.8483E-01	11.430	2.7566E-01
13.970	1.6716E-01	16.510	8.2211E-02	19.050	2.8136E-02
21.590	-5.7786E-03	24.130	-3.0442E-03	26.670	-1.9587E-03
29.210	-1.9442E-03	31.750	-2.3480E-03	34.290	-2.7813E-03
36.830	-3.0714E-03	39.370	-3.1728E-03	41.910	-3.0998E-03
44.450	-2.8948E-03	46.990	-1.5080E-03	49.530	-1.7529E-05
52.070	-1.3331E-04	54.610	-1.8787E-04	57.150	-1.6291E-04
59.690	-5.9882E-05	60.960	1.3305E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2024.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.469E+06	0.0300	292.65
3	2.000E-01	1.404E+06	0.0300	292.65	4	3.000E-01	1.342E+06	0.0300	292.65
5	4.000E-01	1.283E+06	0.0300	292.65	6	5.000E-01	1.227E+06	0.0300	292.65
7	6.000E-01	1.172E+06	0.0300	292.65	8	7.000E-01	1.120E+06	0.0300	292.65
9	8.000E-01	1.069E+06	0.0300	292.65	10	9.000E-01	1.020E+06	0.0300	292.65
11	1.000E+00	9.732E+05	0.0300	292.65	12	1.250E+00	8.618E+05	0.0300	292.65
13	1.500E+00	7.587E+05	0.0300	292.65	14	1.750E+00	6.627E+05	0.0300	292.65
15	2.000E+00	5.730E+05	0.0300	292.65	16	2.500E+00	4.093E+05	0.0300	292.65
17	3.000E+00	2.633E+05	0.0301	292.65	18	3.500E+00	1.314E+05	0.0301	292.65
19	4.000E+00	1.098E+04	0.0323	292.65	20	4.500E+00	3.539E+03	0.0389	292.65
21	5.080E+00	3.083E+03	0.0405	292.65	22	7.620E+00	2.376E+03	0.0444	292.65
23	1.016E+01	2.133E+03	0.0464	292.65	24	1.270E+01	1.997E+03	0.0477	292.65
25	1.524E+01	1.908E+03	0.0487	292.65	26	1.778E+01	1.845E+03	0.0495	292.65
27	2.032E+01	1.799E+03	0.0501	292.65	28	2.286E+01	1.764E+03	0.0506	292.65
29	2.540E+01	1.737E+03	0.0509	292.65	30	2.794E+01	1.716E+03	0.0512	292.65
31	3.048E+01	1.700E+03	0.0515	292.65	32	3.302E+01	1.688E+03	0.0517	292.65
33	3.556E+01	1.678E+03	0.0518	292.65	34	3.810E+01	1.670E+03	0.0520	292.65
35	4.064E+01	1.664E+03	0.0521	292.65	36	4.318E+01	1.659E+03	0.0521	292.65
37	4.572E+01	1.655E+03	0.0522	292.65	38	4.826E+01	1.614E+03	0.0501	292.65
39	5.080E+01	1.392E+03	0.0501	292.65	40	5.334E+01	1.261E+03	0.0502	292.65
41	5.588E+01	1.198E+03	0.0502	292.65	42	5.842E+01	1.162E+03	0.0502	292.65
43	6.096E+01	1.148E+03	0.0502	292.65					

Initial Water Storage = 2.9539 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03002     0.05109     0.05023
 Head (cm)          = 1.41657E+06 6.10843E+05 1.72739E+03 1.14906E+03
 LiqWater Flow (cm)=-4.53606E-13-3.34251E-11-1.61955E-03 6.52490E-09
 IsoVapor Flow (cm)=-1.16201E-02-1.16201E-02-3.67610E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9539+ 0.0000+ 0.0000 - 0.0116- 0.0000-  0.0000 =    2.9423 vs.    2.9423

 Mass Balance = -6.2022E-06 cm;  Time step attempts =   64 and successes =   58
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0116 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    57

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03000     0.03001     0.05000     0.05013
 Head (cm)          = 2.16723E+06 1.21638E+06 1.80603E+03 1.46495E+03
 LiqWater Flow (cm)=-6.38283E-14-7.33809E-13-2.53177E-03 8.78066E-10
 IsoVapor Flow (cm)=-8.27982E-03-8.28004E-03-6.56984E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8696+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.8613 vs.    2.8613

 Mass Balance = -2.8309E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4447E+02	[cm]
Actual Evaporation	=	1.1719E+01	[cm]
Evaporation during Growth	=	1.1719E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1633E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.1990E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1633E+01	[cm]
Actual Rainfall	=	1.1633E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8613E+00	[cm]
Mass Balance Error	=	6.6786E-03	[cm]
Total Successful Time Steps	=	55052	
Total Attempted Time Steps	=	67567	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29649	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5925E-02	0.050	9.0392E+00	0.150	6.9847E+00
0.250	6.2650E+00	0.350	5.6683E+00	0.450	5.2342E+00
0.550	4.8918E+00	0.650	4.5887E+00	0.750	4.2915E+00
0.850	4.0521E+00	0.950	3.7820E+00	1.125	3.5889E+00
1.375	3.1565E+00	1.625	2.8897E+00	1.875	2.5731E+00
2.250	2.3133E+00	2.750	1.8990E+00	3.250	1.4995E+00
3.750	1.2919E+00	4.250	1.1012E+00	4.790	8.7650E-01
6.350	6.6167E-01	8.890	2.7643E-01	11.430	2.1497E-01
13.970	1.5462E-01	16.510	1.0014E-01	19.050	5.0029E-02
21.590	-3.4339E-03	24.130	-1.9952E-02	26.670	-1.6570E-02
29.210	-1.3535E-02	31.750	-1.0882E-02	34.290	-8.5937E-03
36.830	-6.6310E-03	39.370	-4.9339E-03	41.910	-3.4387E-03
44.450	-2.0893E-03	46.990	-1.9108E-04	49.530	3.9153E-05
52.070	-3.3472E-06	54.610	-1.0431E-05	57.150	-1.1550E-05
59.690	-4.7625E-06	60.960	8.1990E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX III.I.1.C – UNSAT-H MODEL INPUT AND OUTPUT: +20% HC

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
Increase
1,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                            IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,0.0,                      UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,5.5,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,28.4,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
```

```
125.0,125.0,125.0,
0,1,1,1,1,365,                                  LEAF,NFROOT,NUPTAK,NFPET,NSOW,NHRVST
0.2,                                            BARE
0.0,0.0,0.0,                                    AA,B1,B2
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,                                   HW,HD,HN
0.1,0.05,0.0,                                   HW,HD,HN
0.0,0.52,0.5,0.1,2.7,                           PETPC1,PETPC2,PETPC3,PETPC4,PETPC5
0.20,1234,0.5,875.0,                            ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1995.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

```
 Initial Water Storage =   6.4909 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.09338     0.09426     0.11108     0.07426
 Head (cm)          = 6.78406E+02 6.70269E+02 5.45963E+02 1.77612E+02
 LiqWater Flow (cm)=-3.31071E-01-3.03324E-01-2.12618E-01 1.46859E-01
 IsoVapor Flow (cm)=-1.19400E-06-6.56663E-07-1.36545E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1469 =     6.0123 vs.     6.0123

 Mass Balance = -5.0021E-05 cm;  Time step attempts =  221 and successes =  192
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03007     0.04661     0.05149
 Head (cm)          = 1.32310E+06 1.99550E+05 2.10926E+03 5.45638E+02
 LiqWater Flow (cm)= 5.26906E-02 1.27109E-02-9.00046E-04 3.64589E-06
 IsoVapor Flow (cm)=-4.30946E-02-3.25996E-03-4.56605E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.7795+ 0.0762+ 0.0000 - 0.0666- 0.0000-  0.0000 =     2.7891 vs.     2.7889

 Mass Balance =  1.2832E-04 cm;  Time step attempts = 1353 and successes = 1057
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0666 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   440
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1660E+02	[cm]
Actual Evaporation	=	1.8870E+01	[cm]
Evaporation during Growth	=	1.8870E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.5392E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.1827E-01	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.5392E+01	[cm]
Actual Rainfall	=	1.5392E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7889E+00	[cm]
Mass Balance Error	=	5.9873E-03	[cm]
Total Successful Time Steps	=	57294	
Total Attempted Time Steps	=	69867	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30162	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4777E+00	0.050	8.2195E+00	0.150	5.2568E+00
0.250	3.7214E+00	0.350	3.0356E+00	0.450	2.3615E+00
0.550	1.9261E+00	0.650	1.6201E+00	0.750	1.2479E+00
0.850	9.4067E-01	0.950	5.8103E-01	1.125	3.1675E-01
1.375	-2.2797E-01	1.625	-7.2723E-01	1.875	-9.9550E-01
2.250	-1.1840E+00	2.750	-1.5224E+00	3.250	-1.7658E+00
3.750	-1.9760E+00	4.250	-2.1698E+00	4.790	-2.2439E+00
6.350	-2.3030E+00	8.890	-2.4868E+00	11.430	-2.4560E+00
13.970	-2.4059E+00	16.510	-2.3484E+00	19.050	-2.2200E+00
21.590	-2.0660E+00	24.130	-1.9127E+00	26.670	-1.7601E+00
29.210	-1.6081E+00	31.750	-1.4566E+00	34.290	-1.3055E+00
36.830	-1.1547E+00	39.370	-1.0043E+00	41.910	-8.5404E-01
44.450	-7.0398E-01	46.990	-5.5126E-01	49.530	-4.0297E-01
52.070	-2.7045E-01	54.610	-1.3057E-01	57.150	9.0643E-03
59.690	1.4855E-01	60.960	2.1827E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1996.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.239E+06	0.0300	292.65
3	2.000E-01	1.160E+06	0.0300	292.65	4	3.000E-01	1.085E+06	0.0300	292.65
5	4.000E-01	1.013E+06	0.0300	292.65	6	5.000E-01	9.457E+05	0.0300	292.65
7	6.000E-01	8.812E+05	0.0300	292.65	8	7.000E-01	8.196E+05	0.0300	292.65
9	8.000E-01	7.606E+05	0.0300	292.65	10	9.000E-01	7.041E+05	0.0300	292.65
11	1.000E+00	6.498E+05	0.0300	292.65	12	1.250E+00	5.226E+05	0.0300	292.65
13	1.500E+00	4.062E+05	0.0300	292.65	14	1.750E+00	2.990E+05	0.0300	292.65
15	2.000E+00	1.995E+05	0.0301	292.65	16	2.500E+00	2.015E+04	0.0311	292.65
17	3.000E+00	5.029E+03	0.0359	292.65	18	3.500E+00	4.771E+03	0.0362	292.65
19	4.000E+00	4.819E+03	0.0362	292.65	20	4.500E+00	4.747E+03	0.0363	292.65
21	5.080E+00	4.334E+03	0.0370	292.65	22	7.620E+00	2.996E+03	0.0409	292.65
23	1.016E+01	2.648E+03	0.0427	292.65	24	1.270E+01	2.465E+03	0.0438	292.65
25	1.524E+01	2.350E+03	0.0446	292.65	26	1.778E+01	2.271E+03	0.0452	292.65
27	2.032E+01	2.213E+03	0.0457	292.65	28	2.286E+01	2.170E+03	0.0461	292.65
29	2.540E+01	2.136E+03	0.0464	292.65	30	2.794E+01	2.109E+03	0.0466	292.65
31	3.048E+01	2.088E+03	0.0468	292.65	32	3.302E+01	2.070E+03	0.0470	292.65
33	3.556E+01	2.056E+03	0.0471	292.65	34	3.810E+01	2.044E+03	0.0472	292.65
35	4.064E+01	2.035E+03	0.0473	292.65	36	4.318E+01	2.028E+03	0.0474	292.65
37	4.572E+01	2.023E+03	0.0475	292.65	38	4.826E+01	1.687E+03	0.0501	292.65
39	5.080E+01	6.144E+02	0.0511	292.65	40	5.334E+01	5.762E+02	0.0513	292.65
41	5.588E+01	5.577E+02	0.0514	292.65	42	5.842E+01	5.485E+02	0.0515	292.65
43	6.096E+01	5.456E+02	0.0515	292.65					

```
 Initial Water Storage =   2.7889 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03002     0.03005     0.04654     0.05148
 Head (cm)          = 6.46939E+05 2.86100E+05 2.11739E+03 5.46114E+02
 LiqWater Flow (cm)=-1.23602E-11-6.16019E-08-9.45132E-04 3.61974E-06
 IsoVapor Flow (cm)=-9.05363E-03-9.05769E-03-4.84152E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7889+ 0.0000+ 0.0000 - 0.0091- 0.0000-  0.0000 =    2.7799 vs.    2.7799

 Mass Balance = -2.5151E-05 cm;  Time step attempts =  101 and successes =   79
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0091 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    76

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03001     0.04499     0.05082
 Head (cm)          = 1.37244E+06 9.77636E+05 2.29837E+03 6.91463E+02
 LiqWater Flow (cm)=-2.46112E-13-1.18443E-12-1.38935E-03 5.16082E-07
 IsoVapor Flow (cm)=-4.92934E-03-4.92876E-03-9.84279E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6427+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =    2.6378 vs.    2.6378

 Mass Balance =  1.3646E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3540E+02	[cm]
Actual Evaporation	=	2.1455E+01	[cm]
Evaporation during Growth	=	2.1450E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1311E+01	[cm]
Total Basal Liquid Flux (drainage)	=	5.1100E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1311E+01	[cm]
Actual Rainfall	=	2.1311E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.6378E+00	[cm]
Mass Balance Error	=	6.3947E-03	[cm]
Total Successful Time Steps	=	50957	
Total Attempted Time Steps	=	61519	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26445	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4421E-01	0.050	1.5264E+01	0.150	8.1942E+00
0.250	6.2850E+00	0.350	5.0765E+00	0.450	4.2862E+00
0.550	3.8427E+00	0.650	3.5426E+00	0.750	3.3648E+00
0.850	3.1387E+00	0.950	2.9205E+00	1.125	2.7594E+00
1.375	2.3796E+00	1.625	2.1886E+00	1.875	2.0293E+00
2.250	1.9003E+00	2.750	1.5852E+00	3.250	1.4578E+00
3.750	1.3191E+00	4.250	1.2006E+00	4.790	1.0906E+00
6.350	9.4296E-01	8.890	4.9152E-01	11.430	2.4136E-01
13.970	1.1937E-01	16.510	-7.0139E-03	19.050	-4.6879E-02
21.590	-4.1808E-02	24.130	-3.6894E-02	26.670	-3.2485E-02
29.210	-2.8516E-02	31.750	-2.4900E-02	34.290	-2.1585E-02
36.830	-1.8502E-02	39.370	-1.5595E-02	41.910	-1.2815E-02
44.450	-1.0120E-02	46.990	-5.3882E-03	49.530	-5.6922E-04
52.070	-4.5935E-03	54.610	-3.4040E-03	57.150	-1.8824E-03
59.690	-2.9286E-04	60.960	5.1100E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1997.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.306E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.263E+06	0.0300	292.65
7	6.000E-01	1.242E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.201E+06	0.0300	292.65	10	9.000E-01	1.181E+06	0.0300	292.65
11	1.000E+00	1.161E+06	0.0300	292.65	12	1.250E+00	1.113E+06	0.0300	292.65
13	1.500E+00	1.066E+06	0.0300	292.65	14	1.750E+00	1.021E+06	0.0300	292.65
15	2.000E+00	9.776E+05	0.0300	292.65	16	2.500E+00	8.943E+05	0.0300	292.65
17	3.000E+00	8.157E+05	0.0300	292.65	18	3.500E+00	7.414E+05	0.0300	292.65
19	4.000E+00	6.709E+05	0.0300	292.65	20	4.500E+00	6.038E+05	0.0300	292.65
21	5.080E+00	5.299E+05	0.0300	292.65	22	7.620E+00	2.456E+05	0.0301	292.65
23	1.016E+01	9.489E+03	0.0327	292.65	24	1.270E+01	3.260E+03	0.0399	292.65
25	1.524E+01	2.891E+03	0.0414	292.65	26	1.778E+01	2.676E+03	0.0425	292.65
27	2.032E+01	2.534E+03	0.0433	292.65	28	2.286E+01	2.432E+03	0.0440	292.65
29	2.540E+01	2.356E+03	0.0446	292.65	30	2.794E+01	2.298E+03	0.0450	292.65
31	3.048E+01	2.253E+03	0.0454	292.65	32	3.302E+01	2.217E+03	0.0457	292.65
33	3.556E+01	2.189E+03	0.0459	292.65	34	3.810E+01	2.167E+03	0.0461	292.65
35	4.064E+01	2.151E+03	0.0462	292.65	36	4.318E+01	2.139E+03	0.0463	292.65
37	4.572E+01	2.132E+03	0.0464	292.65	38	4.826E+01	1.839E+03	0.0501	292.65
39	5.080E+01	1.025E+03	0.0503	292.65	40	5.334E+01	7.745E+02	0.0506	292.65
41	5.588E+01	7.185E+02	0.0507	292.65	42	5.842E+01	6.973E+02	0.0508	292.65
43	6.096E+01	6.915E+02	0.0508	292.65					

Initial Water Storage = 2.6378 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03001     0.04491     0.05082
 Head (cm)          = 1.39883E+06 9.95354E+05 2.30945E+03 6.91812E+02
 LiqWater Flow (cm)=-2.29740E-13-1.10782E-12-1.38624E-03 5.13941E-07
 IsoVapor Flow (cm)=-4.96832E-03-4.96789E-03-1.00443E-06 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6378+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =    2.6328 vs.    2.6328

 Mass Balance = -3.3678E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03002     0.05061     0.07209     0.05048
 Head (cm)          = 5.32865E+05 1.76103E+03 9.64625E+02 8.54698E+02
 LiqWater Flow (cm)=-1.61353E-09-6.69134E-02-2.81553E-02 8.97827E-08
 IsoVapor Flow (cm)=-7.34902E-02-9.19038E-06-2.72478E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9643+ 0.0000+ 0.0000 - 0.0735- 0.0000-  0.0000 =    3.8908 vs.    3.8909

 Mass Balance = -1.5821E-05 cm;  Time step attempts =  107 and successes =   83
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0735 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    63
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8279E+02	[cm]
Actual Evaporation	=	2.3195E+01	[cm]
Evaporation during Growth	=	2.3195E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4460E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.5440E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4460E+01	[cm]
Actual Rainfall	=	2.4460E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8909E+00	[cm]
Mass Balance Error	=	1.1840E-02	[cm]
Total Successful Time Steps	=	81008	
Total Attempted Time Steps	=	101132	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	37722	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2650E+00	0.050	1.7749E+01	0.150	1.3603E+01
0.250	1.1659E+01	0.350	1.0230E+01	0.450	9.1983E+00
0.550	8.3404E+00	0.650	7.5854E+00	0.750	6.9603E+00
0.850	6.5079E+00	0.950	6.0579E+00	1.125	5.6113E+00
1.375	4.5642E+00	1.625	3.9675E+00	1.875	3.4605E+00
2.250	3.0963E+00	2.750	2.4890E+00	3.250	2.1376E+00
3.750	1.8999E+00	4.250	1.6745E+00	4.790	1.5068E+00
6.350	1.3483E+00	8.890	1.1377E+00	11.430	9.6846E-01
13.970	9.0023E-01	16.510	8.3588E-01	19.050	7.7084E-01
21.590	7.0488E-01	24.130	6.3795E-01	26.670	5.7001E-01
29.210	5.0111E-01	31.750	4.3133E-01	34.290	3.6074E-01
36.830	2.8941E-01	39.370	2.1742E-01	41.910	1.4487E-01
44.450	7.1825E-02	46.990	-9.5790E-04	49.530	6.9669E-05
52.070	-6.2522E-04	54.610	-1.1422E-03	57.150	-8.3611E-04
59.690	-2.4225E-04	60.960	8.5440E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1998.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.329E+05	0.0300	292.65	2	1.000E-01	3.694E+05	0.0300	292.65
3	2.000E-01	2.316E+05	0.0301	292.65	4	3.000E-01	1.056E+05	0.0302	292.65
5	4.000E-01	2.501E+03	0.0435	292.65	6	5.000E-01	2.397E+03	0.0443	292.65
7	6.000E-01	2.311E+03	0.0449	292.65	8	7.000E-01	2.237E+03	0.0455	292.65
9	8.000E-01	2.174E+03	0.0460	292.65	10	9.000E-01	2.118E+03	0.0465	292.65
11	1.000E+00	2.069E+03	0.0470	292.65	12	1.250E+00	1.967E+03	0.0481	292.65
13	1.500E+00	1.885E+03	0.0490	292.65	14	1.750E+00	1.818E+03	0.0498	292.65
15	2.000E+00	1.761E+03	0.0506	292.65	16	2.500E+00	1.669E+03	0.0520	292.65
17	3.000E+00	1.597E+03	0.0532	292.65	18	3.500E+00	1.538E+03	0.0542	292.65
19	4.000E+00	1.488E+03	0.0552	292.65	20	4.500E+00	1.446E+03	0.0561	292.65
21	5.080E+00	1.404E+03	0.0570	292.65	22	7.620E+00	1.273E+03	0.0603	292.65
23	1.016E+01	1.190E+03	0.0628	292.65	24	1.270E+01	1.131E+03	0.0649	292.65
25	1.524E+01	1.087E+03	0.0666	292.65	26	1.778E+01	1.052E+03	0.0680	292.65
27	2.032E+01	1.024E+03	0.0692	292.65	28	2.286E+01	1.000E+03	0.0703	292.65
29	2.540E+01	9.810E+02	0.0713	292.65	30	2.794E+01	9.646E+02	0.0721	292.65
31	3.048E+01	9.508E+02	0.0728	292.65	32	3.302E+01	9.392E+02	0.0734	292.65
33	3.556E+01	9.294E+02	0.0740	292.65	34	3.810E+01	9.214E+02	0.0744	292.65
35	4.064E+01	9.148E+02	0.0748	292.65	36	4.318E+01	9.097E+02	0.0751	292.65
37	4.572E+01	9.058E+02	0.0753	292.65	38	4.826E+01	8.947E+02	0.0504	292.65
39	5.080E+01	9.961E+02	0.0503	292.65	40	5.334E+01	9.484E+02	0.0504	292.65
41	5.588E+01	8.942E+02	0.0504	292.65	42	5.842E+01	8.641E+02	0.0505	292.65
43	6.096E+01	8.547E+02	0.0505	292.65					

Initial Water Storage = 3.8909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.04955     0.07071     0.05048
 Head (cm)         = 3.69077E+05 1.84050E+03 9.92319E+02 8.55011E+02
 LiqWater Flow (cm)=-6.82947E-10-5.92143E-02-2.55635E-02 8.95120E-08
 IsoVapor Flow (cm)=-6.16045E-02-1.04872E-05-2.84400E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8909+ 0.0000+ 0.0000 - 0.0616- 0.0000-  0.0000 =    3.8293 vs.    3.8293

 Mass Balance = -1.1443E-06 cm;  Time step attempts =   29 and successes =   27
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0616 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05514     0.05027
 Head (cm)         = 9.19880E+05 2.45672E+05 1.49065E+03 1.08584E+03
 LiqWater Flow (cm)=-3.69658E-12-8.92585E-09-5.54018E-03 1.24485E-08
 IsoVapor Flow (cm)=-1.29965E-02-1.30052E-02-4.69480E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1403+ 0.0000+ 0.0000 - 0.0130- 0.0000-  0.0000 =    3.1273 vs.    3.1273

 Mass Balance = -6.8647E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0130 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9981E+02	[cm]
Actual Evaporation	=	1.7952E+01	[cm]
Evaporation during Growth	=	1.7952E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.6456E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1273E+00	[cm]
Mass Balance Error	=	7.6029E-03	[cm]
Total Successful Time Steps	=	62903	
Total Attempted Time Steps	=	77286	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31140	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.5598E-01	0.050	1.1269E+01	0.150	8.1684E+00
0.250	7.0415E+00	0.350	6.0920E+00	0.450	5.3553E+00
0.550	4.8330E+00	0.650	4.3854E+00	0.750	3.8799E+00
0.850	3.5593E+00	0.950	3.2229E+00	1.125	2.9310E+00
1.375	2.1884E+00	1.625	1.7152E+00	1.875	1.3386E+00
2.250	1.0496E+00	2.750	5.9347E-01	3.250	2.9968E-01
3.750	1.0624E-01	4.250	-3.8516E-02	4.790	-9.7074E-02
6.350	-1.6771E-01	8.890	-3.4639E-01	11.430	-4.1239E-01
13.970	-4.5189E-01	16.510	-4.7025E-01	19.050	-4.8253E-01
21.590	-4.4481E-01	24.130	-4.0354E-01	26.670	-3.6138E-01
29.210	-3.1842E-01	31.750	-2.7477E-01	34.290	-2.3051E-01
36.830	-1.8570E-01	39.370	-1.4042E-01	41.910	-9.4712E-02
44.450	-4.8656E-02	46.990	-1.5016E-03	49.530	4.7236E-04
52.070	-6.6888E-05	54.610	-2.0143E-04	57.150	-2.1485E-04
59.690	-8.1422E-05	60.960	1.6456E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1999.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	1.000E-01	8.771E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	3.000E-01	7.953E+05	0.0300	292.65
5	4.000E-01	7.561E+05	0.0300	292.65	5.000E-01	7.180E+05	0.0300	292.65
7	6.000E-01	6.810E+05	0.0300	292.65	7.000E-01	6.449E+05	0.0300	292.65
9	8.000E-01	6.097E+05	0.0300	292.65	9.000E-01	5.754E+05	0.0300	292.65
11	1.000E+00	5.420E+05	0.0300	292.65	1.250E+00	4.617E+05	0.0300	292.65
13	1.500E+00	3.859E+05	0.0300	292.65	1.750E+00	3.140E+05	0.0300	292.65
15	2.000E+00	2.457E+05	0.0301	292.65	2.500E+00	1.184E+05	0.0301	292.65
17	3.000E+00	3.414E+03	0.0393	292.65	3.500E+00	2.992E+03	0.0409	292.65
19	4.000E+00	2.750E+03	0.0421	292.65	4.500E+00	2.583E+03	0.0430	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	7.620E+00	2.087E+03	0.0468	292.65
23	1.016E+01	1.905E+03	0.0488	292.65	1.270E+01	1.787E+03	0.0502	292.65
25	1.524E+01	1.704E+03	0.0514	292.65	1.778E+01	1.640E+03	0.0524	292.65
27	2.032E+01	1.590E+03	0.0533	292.65	2.286E+01	1.550E+03	0.0540	292.65
29	2.540E+01	1.518E+03	0.0546	292.65	2.794E+01	1.491E+03	0.0551	292.65
31	3.048E+01	1.468E+03	0.0556	292.65	3.302E+01	1.450E+03	0.0560	292.65
33	3.556E+01	1.435E+03	0.0563	292.65	3.810E+01	1.423E+03	0.0566	292.65
35	4.064E+01	1.413E+03	0.0568	292.65	4.318E+01	1.406E+03	0.0569	292.65
37	4.572E+01	1.401E+03	0.0571	292.65	4.826E+01	1.369E+03	0.0501	292.65
39	5.080E+01	1.085E+03	0.0503	292.65	5.334E+01	1.068E+03	0.0503	292.65
41	5.588E+01	1.086E+03	0.0503	292.65	5.842E+01	1.088E+03	0.0503	292.65
43	6.096E+01	1.086E+03	0.0503	292.65				

Initial Water Storage = 3.1273 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03004     0.05484     0.05027
 Head (cm)         = 1.35965E+06 3.28555E+05 1.50542E+03 1.08594E+03
 LiqWater Flow (cm)=-9.94575E-13-3.06389E-09-5.37399E-03 1.24393E-08
 IsoVapor Flow (cm)=-1.66353E-02-1.66147E-02-4.77817E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1273+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =    3.1106 vs.    3.1106

 Mass Balance = -8.4971E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04487     0.06473     0.05019
 Head (cm)         = 8.66730E+05 2.31392E+03 1.13522E+03 1.24299E+03
 LiqWater Flow (cm)=-2.05159E-11-3.96021E-02-1.31023E-02 4.07471E-09
 IsoVapor Flow (cm)=-4.28185E-02-2.01395E-05-2.94870E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6032+ 0.0000+ 0.0000 - 0.0428- 0.0000-  0.0000 =    3.5603 vs.    3.5603

 Mass Balance = -1.2817E-05 cm;  Time step attempts =   72 and successes =   58
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0428 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    58
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0082E+02	[cm]
Actual Evaporation	=	2.0287E+01	[cm]
Evaporation during Growth	=	2.0287E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.3154E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5603E+00	[cm]
Mass Balance Error	=	6.6179E-03	[cm]
Total Successful Time Steps	=	49290	
Total Attempted Time Steps	=	59355	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25184	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.3970E-01	0.050	1.3957E+01	0.150	9.1828E+00
0.250	7.5786E+00	0.350	6.5600E+00	0.450	5.7561E+00
0.550	5.1383E+00	0.650	4.7246E+00	0.750	4.3356E+00
0.850	3.7939E+00	0.950	3.5424E+00	1.125	3.2789E+00
1.375	2.6571E+00	1.625	2.3214E+00	1.875	2.0706E+00
2.250	1.9256E+00	2.750	1.6825E+00	3.250	1.5303E+00
3.750	1.4291E+00	4.250	1.3195E+00	4.790	1.1998E+00
6.350	1.0355E+00	8.890	7.5929E-01	11.430	6.4238E-01
13.970	5.2362E-01	16.510	4.4392E-01	19.050	3.6812E-01
21.590	2.9411E-01	24.130	2.2695E-01	26.670	2.0072E-01
29.210	1.7608E-01	31.750	1.5129E-01	34.290	1.2634E-01
36.830	1.0122E-01	39.370	7.5960E-02	41.910	5.0561E-02
44.450	2.5039E-02	46.990	2.3625E-04	49.530	5.2723E-04
52.070	4.1606E-05	54.610	-3.8971E-06	57.150	-1.4258E-05
59.690	-6.5474E-06	60.960	2.3154E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2000.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.399E+05	0.0300	292.65
3	2.000E-01	6.242E+05	0.0300	292.65	4	3.000E-01	5.173E+05	0.0300	292.65
5	4.000E-01	4.180E+05	0.0300	292.65	6	5.000E-01	3.254E+05	0.0300	292.65
7	6.000E-01	2.387E+05	0.0301	292.65	8	7.000E-01	1.571E+05	0.0301	292.65
9	8.000E-01	8.000E+04	0.0302	292.65	10	9.000E-01	7.447E+03	0.0337	292.65
11	1.000E+00	3.995E+03	0.0377	292.65	12	1.250E+00	3.021E+03	0.0408	292.65
13	1.500E+00	2.669E+03	0.0425	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.314E+03	0.0449	292.65	16	2.500E+00	2.116E+03	0.0466	292.65
17	3.000E+00	1.982E+03	0.0479	292.65	18	3.500E+00	1.884E+03	0.0490	292.65
19	4.000E+00	1.807E+03	0.0500	292.65	20	4.500E+00	1.744E+03	0.0509	292.65
21	5.080E+00	1.683E+03	0.0518	292.65	22	7.620E+00	1.506E+03	0.0548	292.65
23	1.016E+01	1.401E+03	0.0571	292.65	24	1.270E+01	1.328E+03	0.0588	292.65
25	1.524E+01	1.275E+03	0.0603	292.65	26	1.778E+01	1.234E+03	0.0615	292.65
27	2.032E+01	1.201E+03	0.0625	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.153E+03	0.0641	292.65	30	2.794E+01	1.135E+03	0.0647	292.65
31	3.048E+01	1.120E+03	0.0653	292.65	32	3.302E+01	1.108E+03	0.0658	292.65
33	3.556E+01	1.097E+03	0.0662	292.65	34	3.810E+01	1.089E+03	0.0665	292.65
35	4.064E+01	1.082E+03	0.0668	292.65	36	4.318E+01	1.077E+03	0.0670	292.65
37	4.572E+01	1.073E+03	0.0671	292.65	38	4.826E+01	1.064E+03	0.0503	292.65
39	5.080E+01	1.326E+03	0.0502	292.65	40	5.334E+01	1.257E+03	0.0502	292.65
41	5.588E+01	1.227E+03	0.0502	292.65	42	5.842E+01	1.236E+03	0.0502	292.65
43	6.096E+01	1.243E+03	0.0502	292.65					

Initial Water Storage = 3.5603 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04447     0.06395     0.05019
 Head (cm)         = 1.04627E+06 2.36728E+03 1.15731E+03 1.24260E+03
 LiqWater Flow (cm)=-7.23520E-12-3.45618E-02-1.31900E-02 4.08552E-09
 IsoVapor Flow (cm)=-3.66306E-02-2.16804E-05-3.21674E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5603+ 0.0000+ 0.0000 - 0.0366- 0.0000-  0.0000 =    3.5237 vs.    3.5237

 Mass Balance = -1.9649E-05 cm;  Time step attempts =  111 and successes =   86
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0366 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    86

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05419     0.05015
 Head (cm)         = 8.48906E+05 1.36951E+05 1.53953E+03 1.34855E+03
 LiqWater Flow (cm)=-6.03941E-12-1.96308E-04-4.26231E-03 2.08200E-09
 IsoVapor Flow (cm)=-1.46862E-02-1.44892E-02-4.33362E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1114+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =    3.0967 vs.    3.0967

 Mass Balance = -2.9159E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0228E+02	[cm]
Actual Evaporation	=	1.9277E+01	[cm]
Evaporation during Growth	=	1.9262E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.2805E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0967E+00	[cm]
Mass Balance Error	=	8.0597E-03	[cm]
Total Successful Time Steps	=	60316	
Total Attempted Time Steps	=	74063	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30716	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.5562E-01	0.050	1.3225E+01	0.150	9.0959E+00
0.250	7.7580E+00	0.350	6.9368E+00	0.450	6.2889E+00
0.550	5.6101E+00	0.650	5.1706E+00	0.750	4.6814E+00
0.850	4.3323E+00	0.950	4.0873E+00	1.125	3.7999E+00
1.375	3.0145E+00	1.625	2.5078E+00	1.875	2.0199E+00
2.250	1.7129E+00	2.750	1.1580E+00	3.250	7.3905E-01
3.750	5.6545E-01	4.250	4.1869E-01	4.790	2.9698E-01
6.350	1.7771E-01	8.890	-9.4694E-02	11.430	-2.4386E-01
13.970	-2.8414E-01	16.510	-3.2215E-01	19.050	-2.9998E-01
21.590	-2.7504E-01	24.130	-2.4942E-01	26.670	-2.2323E-01
29.210	-1.9654E-01	31.750	-1.6943E-01	34.290	-1.4195E-01
36.830	-1.1415E-01	39.370	-8.6084E-02	41.910	-5.7787E-02
44.450	-2.9299E-02	46.990	-2.7168E-04	49.530	4.9686E-04
52.070	2.8838E-05	54.610	-2.7728E-07	57.150	-2.9268E-06
59.690	-8.0721E-07	60.960	9.2805E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2001.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	1.000E-01	8.034E+05	0.0300	292.65
3	2.000E-01	7.590E+05	0.0300	292.65	3.000E-01	7.159E+05	0.0300	292.65
5	4.000E-01	6.741E+05	0.0300	292.65	5.000E-01	6.336E+05	0.0300	292.65
7	6.000E-01	5.943E+05	0.0300	292.65	7.000E-01	5.561E+05	0.0300	292.65
9	8.000E-01	5.190E+05	0.0300	292.65	9.000E-01	4.828E+05	0.0300	292.65
11	1.000E+00	4.475E+05	0.0300	292.65	1.250E+00	3.631E+05	0.0300	292.65
13	1.500E+00	2.835E+05	0.0300	292.65	1.750E+00	2.083E+05	0.0301	292.65
15	2.000E+00	1.370E+05	0.0301	292.65	2.500E+00	4.485E+03	0.0367	292.65
17	3.000E+00	3.337E+03	0.0396	292.65	3.500E+00	2.947E+03	0.0411	292.65
19	4.000E+00	2.719E+03	0.0423	292.65	4.500E+00	2.563E+03	0.0432	292.65
21	5.080E+00	2.429E+03	0.0440	292.65	7.620E+00	2.096E+03	0.0467	292.65
23	1.016E+01	1.926E+03	0.0485	292.65	1.270E+01	1.816E+03	0.0499	292.65
25	1.524E+01	1.737E+03	0.0509	292.65	1.778E+01	1.678E+03	0.0518	292.65
27	2.032E+01	1.632E+03	0.0526	292.65	2.286E+01	1.595E+03	0.0532	292.65
29	2.540E+01	1.565E+03	0.0537	292.65	2.794E+01	1.540E+03	0.0542	292.65
31	3.048E+01	1.519E+03	0.0546	292.65	3.302E+01	1.502E+03	0.0549	292.65
33	3.556E+01	1.488E+03	0.0552	292.65	3.810E+01	1.476E+03	0.0554	292.65
35	4.064E+01	1.468E+03	0.0556	292.65	4.318E+01	1.461E+03	0.0557	292.65
37	4.572E+01	1.456E+03	0.0558	292.65	4.826E+01	1.433E+03	0.0501	292.65
39	5.080E+01	1.335E+03	0.0502	292.65	5.334E+01	1.329E+03	0.0502	292.65
41	5.588E+01	1.340E+03	0.0502	292.65	5.842E+01	1.347E+03	0.0502	292.65
43	6.096E+01	1.349E+03	0.0502	292.65				

Initial Water Storage = 3.0967 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03010     0.05394     0.05016
 Head (cm)         = 8.74418E+05 1.47202E+05 1.55301E+03 1.34841E+03
 LiqWater Flow (cm)=-5.41134E-12-7.53043E-05-4.23865E-03 2.08368E-09
 IsoVapor Flow (cm)=-1.49343E-02-1.48527E-02-4.47988E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0967+ 0.0000+ 0.0000 - 0.0149- 0.0000-  0.0000 =    3.0817 vs.    3.0817

 Mass Balance = -4.4192E-06 cm;  Time step attempts =   30 and successes =   27
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0149 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    27

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04396     0.04794     0.05009
 Head (cm)         = 8.82736E+05 2.44015E+03 1.97796E+03 1.66560E+03
 LiqWater Flow (cm)= 1.70569E-01 9.54765E-02-1.99053E-03 3.65116E-10
 IsoVapor Flow (cm)=-5.82399E-02 1.75161E-04-6.84222E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7925+ 0.2032+ 0.0000 - 0.0909- 0.0000-  0.0000 =    2.9048 vs.    2.9044

 Mass Balance =  4.5404E-04 cm;  Time step attempts = 1800 and successes = 1386
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0909 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   331
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0416E+02	[cm]
Actual Evaporation	=	1.1081E+01	[cm]
Evaporation during Growth	=	1.1081E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5516E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9044E+00	[cm]
Mass Balance Error	=	7.5984E-03	[cm]
Total Successful Time Steps	=	61298	
Total Attempted Time Steps	=	75920	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31299	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.8469E-01	0.050	8.2669E+00	0.150	6.5637E+00
0.250	5.9158E+00	0.350	5.4556E+00	0.450	5.0183E+00
0.550	4.6710E+00	0.650	4.3117E+00	0.750	4.0571E+00
0.850	3.8601E+00	0.950	3.6771E+00	1.125	3.5010E+00
1.375	3.0603E+00	1.625	2.8136E+00	1.875	2.5690E+00
2.250	2.3788E+00	2.750	2.0219E+00	3.250	1.7043E+00
3.750	1.4661E+00	4.250	1.1877E+00	4.790	9.2403E-01
6.350	6.5888E-01	8.890	5.6202E-02	11.430	-1.1299E-01
13.970	-2.0600E-01	16.510	-1.9198E-01	19.050	-1.7689E-01
21.590	-1.6153E-01	24.130	-1.4600E-01	26.670	-1.3031E-01
29.210	-1.1449E-01	31.750	-9.8564E-02	34.290	-8.2518E-02
36.830	-6.6367E-02	39.370	-5.0123E-02	41.910	-3.3796E-02
44.450	-1.7392E-02	46.990	-4.3076E-04	49.530	1.7453E-05
52.070	-2.8110E-06	54.610	-3.6740E-06	57.150	-2.8172E-06
59.690	-8.6654E-07	60.960	3.5516E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2002.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.664E+04	0.0302	292.65	10	9.000E-01	4.539E+03	0.0366	292.65
11	1.000E+00	3.698E+03	0.0385	292.65	12	1.250E+00	3.024E+03	0.0408	292.65
13	1.500E+00	2.737E+03	0.0422	292.65	14	1.750E+00	2.562E+03	0.0432	292.65
15	2.000E+00	2.440E+03	0.0440	292.65	16	2.500E+00	2.279E+03	0.0451	292.65
17	3.000E+00	2.177E+03	0.0460	292.65	18	3.500E+00	2.108E+03	0.0466	292.65
19	4.000E+00	2.062E+03	0.0471	292.65	20	4.500E+00	2.031E+03	0.0474	292.65
21	5.080E+00	2.009E+03	0.0476	292.65	22	7.620E+00	2.066E+03	0.0470	292.65
23	1.016E+01	2.262E+03	0.0453	292.65	24	1.270E+01	2.357E+03	0.0445	292.65
25	1.524E+01	2.296E+03	0.0450	292.65	26	1.778E+01	2.205E+03	0.0458	292.65
27	2.032E+01	2.127E+03	0.0464	292.65	28	2.286E+01	2.066E+03	0.0470	292.65
29	2.540E+01	2.017E+03	0.0475	292.65	30	2.794E+01	1.978E+03	0.0479	292.65
31	3.048E+01	1.946E+03	0.0483	292.65	32	3.302E+01	1.920E+03	0.0486	292.65
33	3.556E+01	1.900E+03	0.0488	292.65	34	3.810E+01	1.883E+03	0.0490	292.65
35	4.064E+01	1.871E+03	0.0492	292.65	36	4.318E+01	1.862E+03	0.0493	292.65
37	4.572E+01	1.856E+03	0.0494	292.65	38	4.826E+01	1.813E+03	0.0501	292.65
39	5.080E+01	1.726E+03	0.0501	292.65	40	5.334E+01	1.689E+03	0.0501	292.65
41	5.588E+01	1.674E+03	0.0501	292.65	42	5.842E+01	1.668E+03	0.0501	292.65
43	6.096E+01	1.666E+03	0.0501	292.65					

Initial Water Storage = 2.9044 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03996     0.04783     0.05009
 Head (cm)         = 4.99787E+05 3.23349E+03 1.98816E+03 1.66589E+03
 LiqWater Flow (cm)=-1.22574E-10-1.54783E-02-1.97089E-03 3.64583E-10
 IsoVapor Flow (cm)=-2.31113E-02-2.58880E-05-6.94710E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9044+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =    2.8813 vs.    2.8813

 Mass Balance = -1.9803E-05 cm;  Time step attempts =  131 and successes =  107
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   105

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04917     0.07118     0.05011
 Head (cm)         = 8.15596E+05 1.87132E+03 9.82577E+02 1.53839E+03
 LiqWater Flow (cm)=-4.76829E-11-6.22475E-02-2.69491E-02 7.00207E-10
 IsoVapor Flow (cm)=-6.23548E-02-1.28616E-05-2.83985E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9011+ 0.0000+ 0.0000 - 0.0624- 0.0000-  0.0000 =    3.8387 vs.    3.8388

 Mass Balance = -9.9587E-06 cm;  Time step attempts =  128 and successes =  116
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0624 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =   115
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0470E+02	[cm]
Actual Evaporation	=	1.6558E+01	[cm]
Evaporation during Growth	=	1.6558E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.4365E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8388E+00	[cm]
Mass Balance Error	=	8.0244E-03	[cm]
Total Successful Time Steps	=	59959	
Total Attempted Time Steps	=	73384	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30248	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4240E-01	0.050	1.2253E+01	0.150	9.3836E+00
0.250	8.4954E+00	0.350	7.7844E+00	0.450	7.2653E+00
0.550	6.7546E+00	0.650	6.2025E+00	0.750	5.6756E+00
0.850	5.2110E+00	0.950	4.9462E+00	1.125	4.6307E+00
1.375	4.0985E+00	1.625	3.7076E+00	1.875	3.4054E+00
2.250	3.1282E+00	2.750	2.6158E+00	3.250	2.2860E+00
3.750	2.0261E+00	4.250	1.8064E+00	4.790	1.6884E+00
6.350	1.5608E+00	8.890	1.2205E+00	11.430	9.9925E-01
13.970	8.6230E-01	16.510	7.3818E-01	19.050	6.6608E-01
21.590	6.1017E-01	24.130	5.5314E-01	26.670	4.9502E-01
29.210	4.3588E-01	31.750	3.7583E-01	34.290	3.1495E-01
36.830	2.5334E-01	39.370	1.9110E-01	41.910	1.2832E-01
44.450	6.5082E-02	46.990	1.7351E-03	49.530	1.0457E-04
52.070	9.2635E-06	54.610	2.8941E-06	57.150	1.0957E-06
59.690	3.7153E-07	60.960	1.4365E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2003.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.413E+05	0.0300	292.65
3	2.000E-01	4.866E+05	0.0300	292.65	4	3.000E-01	3.475E+05	0.0300	292.65
5	4.000E-01	2.212E+05	0.0301	292.65	6	5.000E-01	1.054E+05	0.0302	292.65
7	6.000E-01	2.827E+03	0.0417	292.65	8	7.000E-01	2.646E+03	0.0427	292.65
9	8.000E-01	2.511E+03	0.0435	292.65	10	9.000E-01	2.405E+03	0.0442	292.65
11	1.000E+00	2.319E+03	0.0448	292.65	12	1.250E+00	2.155E+03	0.0462	292.65
13	1.500E+00	2.036E+03	0.0473	292.65	14	1.750E+00	1.945E+03	0.0483	292.65
15	2.000E+00	1.871E+03	0.0492	292.65	16	2.500E+00	1.757E+03	0.0507	292.65
17	3.000E+00	1.672E+03	0.0519	292.65	18	3.500E+00	1.604E+03	0.0530	292.65
19	4.000E+00	1.548E+03	0.0540	292.65	20	4.500E+00	1.501E+03	0.0549	292.65
21	5.080E+00	1.455E+03	0.0559	292.65	22	7.620E+00	1.312E+03	0.0593	292.65
23	1.016E+01	1.223E+03	0.0618	292.65	24	1.270E+01	1.160E+03	0.0639	292.65
25	1.524E+01	1.112E+03	0.0656	292.65	26	1.778E+01	1.075E+03	0.0671	292.65
27	2.032E+01	1.045E+03	0.0683	292.65	28	2.286E+01	1.020E+03	0.0694	292.65
29	2.540E+01	9.997E+02	0.0704	292.65	30	2.794E+01	9.826E+02	0.0712	292.65
31	3.048E+01	9.682E+02	0.0719	292.65	32	3.302E+01	9.561E+02	0.0725	292.65
33	3.556E+01	9.460E+02	0.0731	292.65	34	3.810E+01	9.377E+02	0.0735	292.65
35	4.064E+01	9.309E+02	0.0739	292.65	36	4.318E+01	9.257E+02	0.0742	292.65
37	4.572E+01	9.218E+02	0.0744	292.65	38	4.826E+01	9.110E+02	0.0504	292.65
39	5.080E+01	1.214E+03	0.0502	292.65	40	5.334E+01	1.400E+03	0.0501	292.65
41	5.588E+01	1.486E+03	0.0501	292.65	42	5.842E+01	1.527E+03	0.0501	292.65
43	6.096E+01	1.538E+03	0.0501	292.65					

```
 Initial Water Storage =   3.8388 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04712     0.06986     0.05011
 Head (cm)         = 1.31147E+06 2.05714E+03 1.01018E+03 1.53705E+03
 LiqWater Flow (cm)=-6.56785E-12-5.83076E-02-2.45755E-02 7.05203E-10
 IsoVapor Flow (cm)=-6.59976E-02-1.61403E-05-2.96961E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8388+ 0.0000+ 0.0000 - 0.0660- 0.0000-  0.0000 =    3.7728 vs.    3.7728

 Mass Balance = -3.4478E-05 cm;  Time step attempts =  182 and successes =  139
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0660 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   139

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04778     0.05009
 Head (cm)         = 2.20848E+06 1.23395E+06 1.99270E+03 1.67002E+03
 LiqWater Flow (cm)=-7.21700E-14-8.38472E-13-2.23506E-03 3.56894E-10
 IsoVapor Flow (cm)=-8.33300E-03-8.33272E-03-7.83506E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7701+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.7618 vs.    2.7618

 Mass Balance = -6.7070E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2069E+02	[cm]
Actual Evaporation	=	1.1763E+01	[cm]
Evaporation during Growth	=	1.1763E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0693E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5082E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0693E+01	[cm]
Actual Rainfall	=	1.0693E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7618E+00	[cm]
Mass Balance Error	=	6.9004E-03	[cm]
Total Successful Time Steps	=	58979	
Total Attempted Time Steps	=	72723	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31376	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0700E+00	0.050	8.1240E+00	0.150	6.6769E+00
0.250	5.8371E+00	0.350	5.4184E+00	0.450	4.9780E+00
0.550	4.5939E+00	0.650	4.3707E+00	0.750	4.1525E+00
0.850	3.8501E+00	0.950	3.4621E+00	1.125	3.2066E+00
1.375	2.7180E+00	1.625	2.2409E+00	1.875	1.8811E+00
2.250	1.5472E+00	2.750	9.9162E-01	3.250	6.1030E-01
3.750	3.7728E-01	4.250	1.9985E-01	4.790	3.2327E-02
6.350	-1.7409E-01	8.890	-6.1206E-01	11.430	-7.1490E-01
13.970	-7.6854E-01	16.510	-7.2256E-01	19.050	-6.6753E-01
21.590	-6.1125E-01	24.130	-5.5385E-01	26.670	-4.9542E-01
29.210	-4.3604E-01	31.750	-3.7583E-01	34.290	-3.1485E-01
36.830	-2.5319E-01	39.370	-1.9095E-01	41.910	-1.2818E-01
44.450	-6.4984E-02	46.990	-1.1180E-03	49.530	8.2000E-05
52.070	7.7733E-06	54.610	2.2080E-06	57.150	4.7055E-07
59.690	2.1840E-07	60.960	3.5082E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2004.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.013E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.639E+06	0.0300	292.65	12	1.250E+00	1.526E+06	0.0300	292.65
13	1.500E+00	1.422E+06	0.0300	292.65	14	1.750E+00	1.325E+06	0.0300	292.65
15	2.000E+00	1.234E+06	0.0300	292.65	16	2.500E+00	1.069E+06	0.0300	292.65
17	3.000E+00	9.216E+05	0.0300	292.65	18	3.500E+00	7.887E+05	0.0300	292.65
19	4.000E+00	6.676E+05	0.0300	292.65	20	4.500E+00	5.564E+05	0.0300	292.65
21	5.080E+00	4.377E+05	0.0300	292.65	22	7.620E+00	9.426E+03	0.0328	292.65
23	1.016E+01	2.922E+03	0.0412	292.65	24	1.270E+01	2.595E+03	0.0430	292.65
25	1.524E+01	2.397E+03	0.0443	292.65	26	1.778E+01	2.264E+03	0.0453	292.65
27	2.032E+01	2.168E+03	0.0461	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.038E+03	0.0473	292.65	30	2.794E+01	1.993E+03	0.0478	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.927E+03	0.0485	292.65
33	3.556E+01	1.904E+03	0.0488	292.65	34	3.810E+01	1.886E+03	0.0490	292.65
35	4.064E+01	1.872E+03	0.0492	292.65	36	4.318E+01	1.862E+03	0.0493	292.65
37	4.572E+01	1.856E+03	0.0494	292.65	38	4.826E+01	1.808E+03	0.0501	292.65
39	5.080E+01	1.710E+03	0.0501	292.65	40	5.334E+01	1.676E+03	0.0501	292.65
41	5.588E+01	1.669E+03	0.0501	292.65	42	5.842E+01	1.670E+03	0.0501	292.65
43	6.096E+01	1.670E+03	0.0501	292.65					

```
 Initial Water Storage =   2.7618 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04766     0.05009
 Head (cm)         = 8.54706E+05 5.79730E+05 2.00426E+03 1.66998E+03
 LiqWater Flow (cm)=-1.76156E-12-1.22847E-11-2.20103E-03 3.56986E-10
 IsoVapor Flow (cm)=-4.72967E-03-4.75261E-03-7.93604E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7618+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =    2.7571 vs.    2.7571

 Mass Balance = -6.7109E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03959     0.05724     0.05026
 Head (cm)         = 5.47835E+05 3.33729E+03 1.39350E+03 1.09031E+03
 LiqWater Flow (cm)=-4.65254E-11-1.52649E-02-7.15396E-03 1.19433E-08
 IsoVapor Flow (cm)=-1.50826E-02-5.09570E-05-4.33516E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2484+ 0.0000+ 0.0000 - 0.0151- 0.0000-  0.0000 =    3.2333 vs.    3.2333

 Mass Balance = -3.4143E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0151 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9889E+02	[cm]
Actual Evaporation	=	3.0508E+01	[cm]
Evaporation during Growth	=	3.0493E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0988E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.5232E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0988E+01	[cm]
Actual Rainfall	=	3.0988E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2333E+00	[cm]
Mass Balance Error	=	8.4663E-03	[cm]
Total Successful Time Steps	=	55159	
Total Attempted Time Steps	=	67598	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26687	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.8000E-01	0.050	1.8657E+01	0.150	1.2468E+01
0.250	1.0588E+01	0.350	8.8184E+00	0.450	7.8821E+00
0.550	7.1101E+00	0.650	6.1992E+00	0.750	5.6878E+00
0.850	5.3399E+00	0.950	4.9155E+00	1.125	4.5717E+00
1.375	3.9403E+00	1.625	3.2543E+00	1.875	2.6469E+00
2.250	2.2787E+00	2.750	1.6986E+00	3.250	1.3586E+00
3.750	1.1558E+00	4.250	1.0376E+00	4.790	8.4474E-01
6.350	7.1214E-01	8.890	5.1565E-01	11.430	3.4770E-01
13.970	3.2112E-01	16.510	2.9764E-01	19.050	2.7423E-01
21.590	2.5071E-01	24.130	2.2700E-01	26.670	2.0308E-01
29.210	1.7893E-01	31.750	1.5457E-01	34.290	1.3000E-01
36.830	1.0525E-01	39.370	8.0309E-02	41.910	5.5215E-02
44.450	2.9978E-02	46.990	4.7103E-03	49.530	4.6636E-03
52.070	2.0224E-03	54.610	5.3053E-04	57.150	9.3650E-05
59.690	1.5967E-05	60.960	7.5232E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2005.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.098E+05	0.0300	292.65
3	2.000E-01	4.728E+05	0.0300	292.65	4	3.000E-01	4.368E+05	0.0300	292.65
5	4.000E-01	4.017E+05	0.0300	292.65	6	5.000E-01	3.675E+05	0.0300	292.65
7	6.000E-01	3.341E+05	0.0300	292.65	8	7.000E-01	3.015E+05	0.0300	292.65
9	8.000E-01	2.696E+05	0.0300	292.65	10	9.000E-01	2.384E+05	0.0301	292.65
11	1.000E+00	2.080E+05	0.0301	292.65	12	1.250E+00	1.347E+05	0.0301	292.65
13	1.500E+00	6.502E+04	0.0303	292.65	14	1.750E+00	3.749E+03	0.0383	292.65
15	2.000E+00	3.337E+03	0.0396	292.65	16	2.500E+00	2.902E+03	0.0413	292.65
17	3.000E+00	2.656E+03	0.0426	292.65	18	3.500E+00	2.488E+03	0.0436	292.65
19	4.000E+00	2.363E+03	0.0445	292.65	20	4.500E+00	2.265E+03	0.0453	292.65
21	5.080E+00	2.173E+03	0.0460	292.65	22	7.620E+00	1.912E+03	0.0487	292.65
23	1.016E+01	1.762E+03	0.0506	292.65	24	1.270E+01	1.661E+03	0.0521	292.65
25	1.524E+01	1.587E+03	0.0533	292.65	26	1.778E+01	1.530E+03	0.0544	292.65
27	2.032E+01	1.485E+03	0.0553	292.65	28	2.286E+01	1.448E+03	0.0560	292.65
29	2.540E+01	1.418E+03	0.0567	292.65	30	2.794E+01	1.393E+03	0.0572	292.65
31	3.048E+01	1.373E+03	0.0577	292.65	32	3.302E+01	1.356E+03	0.0581	292.65
33	3.556E+01	1.342E+03	0.0585	292.65	34	3.810E+01	1.330E+03	0.0588	292.65
35	4.064E+01	1.321E+03	0.0590	292.65	36	4.318E+01	1.314E+03	0.0592	292.65
37	4.572E+01	1.310E+03	0.0593	292.65	38	4.826E+01	1.271E+03	0.0502	292.65
39	5.080E+01	7.627E+02	0.0506	292.65	40	5.334E+01	7.797E+02	0.0506	292.65
41	5.588E+01	9.116E+02	0.0504	292.65	42	5.842E+01	1.044E+03	0.0503	292.65
43	6.096E+01	1.090E+03	0.0503	292.65					

Initial Water Storage = 3.2333 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03820     0.05687     0.05026
 Head (cm)         = 6.47479E+05 3.80477E+03 1.40952E+03 1.08842E+03
 LiqWater Flow (cm)=-2.51728E-11-1.58187E-02-6.86561E-03 1.21158E-08
 IsoVapor Flow (cm)=-1.71006E-02-6.64782E-05-4.40308E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2333+ 0.0000+ 0.0000 - 0.0171- 0.0000-  0.0000 =    3.2162 vs.    3.2162

 Mass Balance = -3.2349E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0171 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04737     0.05166
 Head (cm)         = 1.93021E+06 1.28523E+06 2.03183E+03 5.21714E+02
 LiqWater Flow (cm)=-8.14226E-14-4.62430E-13-2.12919E-03 5.27905E-06
 IsoVapor Flow (cm)=-5.91546E-03-5.91385E-03-8.20707E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7594+ 0.0000+ 0.0000 - 0.0059- 0.0000-  0.0000 =    2.7535 vs.    2.7535

 Mass Balance =  1.0265E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0059 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9999E+02	[cm]
Actual Evaporation	=	3.3161E+01	[cm]
Evaporation during Growth	=	3.3161E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2690E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.9620E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2690E+01	[cm]
Actual Rainfall	=	3.2690E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7535E+00	[cm]
Mass Balance Error	=	7.3075E-03	[cm]
Total Successful Time Steps	=	59728	
Total Attempted Time Steps	=	73185	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29122	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7154E-01	0.050	1.5633E+01	0.150	1.0071E+01
0.250	8.2944E+00	0.350	7.0406E+00	0.450	6.1513E+00
0.550	5.3281E+00	0.650	4.7069E+00	0.750	4.3771E+00
0.850	4.0346E+00	0.950	3.6980E+00	1.125	3.4047E+00
1.375	2.7457E+00	1.625	2.3927E+00	1.875	2.1046E+00
2.250	1.7778E+00	2.750	1.2863E+00	3.250	9.1916E-01
3.750	7.1020E-01	4.250	4.8083E-01	4.790	3.0315E-01
6.350	8.9938E-02	8.890	-3.4045E-01	11.430	-3.3737E-01
13.970	-3.1328E-01	16.510	-2.8949E-01	19.050	-2.6561E-01
21.590	-2.4150E-01	24.130	-2.1711E-01	26.670	-1.9243E-01
29.210	-1.6747E-01	31.750	-1.4226E-01	34.290	-1.1681E-01
36.830	-9.1168E-02	39.370	-6.5341E-02	41.910	-3.9358E-02
44.450	-1.3250E-02	46.990	1.3394E-02	49.530	1.6881E-02
52.070	1.2028E-02	54.610	9.1666E-03	57.150	5.9178E-03
59.690	2.5888E-03	60.960	9.9620E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2006.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.890E+06	0.0300	292.65
3	2.000E-01	1.851E+06	0.0300	292.65	4	3.000E-01	1.813E+06	0.0300	292.65
5	4.000E-01	1.775E+06	0.0300	292.65	6	5.000E-01	1.739E+06	0.0300	292.65
7	6.000E-01	1.704E+06	0.0300	292.65	8	7.000E-01	1.670E+06	0.0300	292.65
9	8.000E-01	1.636E+06	0.0300	292.65	10	9.000E-01	1.603E+06	0.0300	292.65
11	1.000E+00	1.571E+06	0.0300	292.65	12	1.250E+00	1.494E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.162E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.437E+05	0.0300	292.65
19	4.000E+00	8.465E+05	0.0300	292.65	20	4.500E+00	7.557E+05	0.0300	292.65
21	5.080E+00	6.574E+05	0.0300	292.65	22	7.620E+00	2.935E+05	0.0300	292.65
23	1.016E+01	3.221E+03	0.0400	292.65	24	1.270E+01	2.692E+03	0.0424	292.65
25	1.524E+01	2.458E+03	0.0438	292.65	26	1.778E+01	2.314E+03	0.0449	292.65
27	2.032E+01	2.213E+03	0.0457	292.65	28	2.286E+01	2.138E+03	0.0463	292.65
29	2.540E+01	2.079E+03	0.0469	292.65	30	2.794E+01	2.032E+03	0.0474	292.65
31	3.048E+01	1.994E+03	0.0478	292.65	32	3.302E+01	1.963E+03	0.0481	292.65
33	3.556E+01	1.939E+03	0.0484	292.65	34	3.810E+01	1.919E+03	0.0486	292.65
35	4.064E+01	1.905E+03	0.0488	292.65	36	4.318E+01	1.894E+03	0.0489	292.65
37	4.572E+01	1.887E+03	0.0490	292.65	38	4.826E+01	1.605E+03	0.0501	292.65
39	5.080E+01	5.749E+02	0.0513	292.65	40	5.334E+01	5.469E+02	0.0515	292.65
41	5.588E+01	5.319E+02	0.0516	292.65	42	5.842E+01	5.242E+02	0.0516	292.65
43	6.096E+01	5.217E+02	0.0517	292.65					

Initial Water Storage = 2.7535 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04726     0.05166
 Head (cm)         = 2.25090E+06 1.43689E+06 2.04280E+03 5.22218E+02
 LiqWater Flow (cm)= 1.93735E-02 1.08714E-07-2.09294E-03 5.23710E-06
 IsoVapor Flow (cm)=-2.41874E-02-4.81159E-03-8.28131E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7535+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =    2.7487 vs.    2.7487

 Mass Balance = -2.2199E-05 cm;  Time step attempts =  895 and successes =  699
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   376

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03938     0.04627     0.05080
 Head (cm)         = 6.05038E+05 3.40050E+03 2.14621E+03 7.01004E+02
 LiqWater Flow (cm)= 3.67527E-02 3.79832E-03-7.75998E-04 4.61167E-07
 IsoVapor Flow (cm)=-2.78983E-02-1.16404E-05-4.36837E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8109+ 0.0508+ 0.0000 - 0.0419- 0.0000-  0.0000 =    2.8197 vs.    2.8196

 Mass Balance =  1.1324E-04 cm;  Time step attempts =  919 and successes =  710
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0419 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   267
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3548E+02	[cm]
Actual Evaporation	=	2.1103E+01	[cm]
Evaporation during Growth	=	2.1103E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1184E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7956E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1184E+01	[cm]
Actual Rainfall	=	2.1184E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8196E+00	[cm]
Mass Balance Error	=	1.4157E-02	[cm]
Total Successful Time Steps	=	212567	
Total Attempted Time Steps	=	268965	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	95332	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	8.0985E-02	0.050	1.4275E+01	0.150	1.2383E+01
0.250	1.0326E+01	0.350	8.6690E+00	0.450	7.3891E+00
0.550	6.3528E+00	0.650	5.4987E+00	0.750	4.8084E+00
0.850	4.2136E+00	0.950	3.6896E+00	1.125	3.1636E+00
1.375	2.3038E+00	1.625	1.7946E+00	1.875	1.4896E+00
2.250	1.2321E+00	2.750	9.6208E-01	3.250	7.9698E-01
3.750	6.9265E-01	4.250	6.1595E-01	4.790	5.5271E-01
6.350	4.7428E-01	8.890	3.9031E-01	11.430	2.2985E-01
13.970	1.7578E-01	16.510	1.3342E-01	19.050	9.0216E-02
21.590	4.9136E-02	24.130	5.2096E-03	26.670	-3.7715E-02
29.210	-3.8496E-02	31.750	-3.5476E-02	34.290	-3.1870E-02
36.830	-2.7890E-02	39.370	-2.3646E-02	41.910	-1.9215E-02
44.450	-1.4652E-02	46.990	-5.7518E-03	49.530	-1.1371E-03
52.070	-5.7348E-03	54.610	-4.4880E-03	57.150	-2.4719E-03
59.690	-3.7568E-04	60.960	6.7956E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2007.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.550E+05	0.0300	292.65
3	2.000E-01	5.068E+05	0.0300	292.65	4	3.000E-01	4.602E+05	0.0300	292.65
5	4.000E-01	4.151E+05	0.0300	292.65	6	5.000E-01	3.715E+05	0.0300	292.65
7	6.000E-01	3.292E+05	0.0300	292.65	8	7.000E-01	2.882E+05	0.0300	292.65
9	8.000E-01	2.484E+05	0.0301	292.65	10	9.000E-01	2.097E+05	0.0301	292.65
11	1.000E+00	1.722E+05	0.0301	292.65	12	1.250E+00	8.301E+04	0.0302	292.65
13	1.500E+00	4.183E+03	0.0373	292.65	14	1.750E+00	3.667E+03	0.0386	292.65
15	2.000E+00	3.401E+03	0.0394	292.65	16	2.500E+00	3.089E+03	0.0405	292.65
17	3.000E+00	2.912E+03	0.0413	292.65	18	3.500E+00	2.798E+03	0.0418	292.65
19	4.000E+00	2.719E+03	0.0423	292.65	20	4.500E+00	2.662E+03	0.0426	292.65
21	5.080E+00	2.613E+03	0.0429	292.65	22	7.620E+00	2.509E+03	0.0435	292.65
23	1.016E+01	2.418E+03	0.0441	292.65	24	1.270E+01	2.343E+03	0.0447	292.65
25	1.524E+01	2.287E+03	0.0451	292.65	26	1.778E+01	2.246E+03	0.0454	292.65
27	2.032E+01	2.215E+03	0.0457	292.65	28	2.286E+01	2.190E+03	0.0459	292.65
29	2.540E+01	2.167E+03	0.0461	292.65	30	2.794E+01	2.146E+03	0.0463	292.65
31	3.048E+01	2.127E+03	0.0465	292.65	32	3.302E+01	2.109E+03	0.0466	292.65
33	3.556E+01	2.093E+03	0.0468	292.65	34	3.810E+01	2.079E+03	0.0469	292.65
35	4.064E+01	2.068E+03	0.0470	292.65	36	4.318E+01	2.060E+03	0.0471	292.65
37	4.572E+01	2.054E+03	0.0471	292.65	38	4.826E+01	1.828E+03	0.0501	292.65
39	5.080E+01	1.143E+03	0.0502	292.65	40	5.334E+01	8.151E+02	0.0505	292.65
41	5.588E+01	7.376E+02	0.0507	292.65	42	5.842E+01	7.090E+02	0.0508	292.65
43	6.096E+01	7.010E+02	0.0508	292.65					

Initial Water Storage = 2.8196 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.04625     0.05079
 Head (cm)         = 8.36981E+05 1.36432E+05 2.14812E+03 7.01449E+02
 LiqWater Flow (cm)=-8.52495E-12-6.31840E-03-7.42674E-04 4.58759E-07
 IsoVapor Flow (cm)=-1.85182E-02-4.67860E-03-4.21758E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8196+ 0.0000+ 0.0000 - 0.0185- 0.0000-  0.0000 =    2.8011 vs.    2.8012

 Mass Balance = -3.4644E-05 cm;  Time step attempts =  146 and successes =  112
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0185 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   112

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.05870     0.05050
 Head (cm)         = 1.64351E+06 2.11127E+05 1.33352E+03 8.42765E+02
 LiqWater Flow (cm)=-6.38544E-13-2.08314E-04-8.69518E-03 1.00805E-07
 IsoVapor Flow (cm)=-2.22019E-02-2.19763E-02-4.21115E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3052+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =    3.2830 vs.    3.2830

 Mass Balance =  9.4992E-09 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0482E+02	[cm]
Actual Evaporation	=	2.5232E+01	[cm]
Evaporation during Growth	=	2.5232E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5705E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.9792E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5705E+01	[cm]
Actual Rainfall	=	2.5705E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2830E+00	[cm]
Mass Balance Error	=	9.4609E-03	[cm]
Total Successful Time Steps	=	69733	
Total Attempted Time Steps	=	86309	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32880	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.7294E-01	0.050	1.8104E+01	0.150	1.3388E+01
0.250	1.1117E+01	0.350	9.6540E+00	0.450	8.6193E+00
0.550	7.6959E+00	0.650	6.8990E+00	0.750	6.3194E+00
0.850	5.7974E+00	0.950	5.3637E+00	1.125	4.9872E+00
1.375	3.9594E+00	1.625	3.4052E+00	1.875	2.9670E+00
2.250	2.5967E+00	2.750	1.8514E+00	3.250	1.5265E+00
3.750	1.3104E+00	4.250	1.1337E+00	4.790	9.8108E-01
6.350	8.6009E-01	8.890	5.2380E-01	11.430	4.2982E-01
13.970	4.0721E-01	16.510	3.8278E-01	19.050	3.5651E-01
21.590	3.2859E-01	24.130	2.9920E-01	26.670	2.6857E-01
29.210	2.3689E-01	31.750	2.0436E-01	34.290	1.7113E-01
36.830	1.3734E-01	39.370	1.0310E-01	41.910	6.8507E-02
44.450	3.3641E-02	46.990	-1.1090E-03	49.530	3.3784E-04
52.070	-6.5065E-04	54.610	-9.8367E-04	57.150	-7.1306E-04
59.690	-2.0474E-04	60.960	7.9792E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2008.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.043E+06	0.0300	292.65	8	7.000E-01	9.635E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.178E+05	0.0300	292.65
11	1.000E+00	7.503E+05	0.0300	292.65	12	1.250E+00	5.946E+05	0.0300	292.65
13	1.500E+00	4.546E+05	0.0300	292.65	14	1.750E+00	3.275E+05	0.0300	292.65
15	2.000E+00	2.111E+05	0.0301	292.65	16	2.500E+00	3.306E+03	0.0397	292.65
17	3.000E+00	2.773E+03	0.0420	292.65	18	3.500E+00	2.512E+03	0.0435	292.65
19	4.000E+00	2.345E+03	0.0446	292.65	20	4.500E+00	2.224E+03	0.0456	292.65
21	5.080E+00	2.117E+03	0.0465	292.65	22	7.620E+00	1.840E+03	0.0496	292.65
23	1.016E+01	1.692E+03	0.0516	292.65	24	1.270E+01	1.593E+03	0.0532	292.65
25	1.524E+01	1.521E+03	0.0545	292.65	26	1.778E+01	1.466E+03	0.0556	292.65
27	2.032E+01	1.422E+03	0.0566	292.65	28	2.286E+01	1.387E+03	0.0574	292.65
29	2.540E+01	1.358E+03	0.0581	292.65	30	2.794E+01	1.334E+03	0.0587	292.65
31	3.048E+01	1.313E+03	0.0592	292.65	32	3.302E+01	1.297E+03	0.0597	292.65
33	3.556E+01	1.283E+03	0.0600	292.65	34	3.810E+01	1.272E+03	0.0604	292.65
35	4.064E+01	1.263E+03	0.0606	292.65	36	4.318E+01	1.256E+03	0.0608	292.65
37	4.572E+01	1.252E+03	0.0609	292.65	38	4.826E+01	1.228E+03	0.0502	292.65
39	5.080E+01	9.949E+02	0.0503	292.65	40	5.334E+01	9.264E+02	0.0504	292.65
41	5.588E+01	8.768E+02	0.0505	292.65	42	5.842E+01	8.507E+02	0.0505	292.65
43	6.096E+01	8.428E+02	0.0505	292.65					

Initial Water Storage = 3.2830 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03006     0.05826     0.05050
 Head (cm)         = 1.92914E+06 2.32087E+05 1.35086E+03 8.43033E+02
 LiqWater Flow (cm)=-3.74910E-13-8.54555E-05-8.25339E-03 1.00541E-07
 IsoVapor Flow (cm)=-2.40236E-02-2.39316E-02-4.26568E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2830+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =    3.2590 vs.    3.2590

 Mass Balance = -2.0923E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04892     0.05039
 Head (cm)         = 1.38020E+06 8.69865E+05 1.89147E+03 9.31475E+02
 LiqWater Flow (cm)=-3.25414E-13-2.84693E-12-2.19369E-03 4.39969E-08
 IsoVapor Flow (cm)=-6.60703E-03-6.60893E-03-6.09045E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8422+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8356 vs.    2.8356

 Mass Balance = -8.5965E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2814E+02	[cm]
Actual Evaporation	=	2.5460E+01	[cm]
Evaporation during Growth	=	2.5453E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5019E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.9656E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5019E+01	[cm]
Actual Rainfall	=	2.5019E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8356E+00	[cm]
Mass Balance Error	=	6.6188E-03	[cm]
Total Successful Time Steps	=	55284	
Total Attempted Time Steps	=	67285	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27483	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4083E-01	0.050	1.5839E+01	0.150	7.4894E+00
0.250	5.5674E+00	0.350	4.5760E+00	0.450	3.7463E+00
0.550	3.2460E+00	0.650	2.9357E+00	0.750	2.7672E+00
0.850	2.6394E+00	0.950	2.4729E+00	1.125	2.3701E+00
1.375	2.1146E+00	1.625	1.9103E+00	1.875	1.7440E+00
2.250	1.5569E+00	2.750	1.2960E+00	3.250	1.0379E+00
3.750	8.9391E-01	4.250	7.5265E-01	4.790	5.5691E-01
6.350	3.7874E-01	8.890	4.3173E-02	11.430	-1.7008E-03
13.970	-5.0008E-02	16.510	-9.0550E-02	19.050	-1.2392E-01
21.590	-1.6312E-01	24.130	-1.8036E-01	26.670	-1.9461E-01
29.210	-1.8370E-01	31.750	-1.5869E-01	34.290	-1.3315E-01
36.830	-1.0722E-01	39.370	-8.0963E-02	41.910	-5.4448E-02
44.450	-2.7739E-02	46.990	4.8555E-04	49.530	3.0656E-03
52.070	1.1099E-03	54.610	2.1970E-04	57.150	-6.9975E-05
59.690	-4.4964E-05	60.960	1.9656E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2009.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.290E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.808E+05	0.0300	292.65	14	1.750E+00	9.242E+05	0.0300	292.65
15	2.000E+00	8.699E+05	0.0300	292.65	16	2.500E+00	7.671E+05	0.0300	292.65
17	3.000E+00	6.715E+05	0.0300	292.65	18	3.500E+00	5.822E+05	0.0300	292.65
19	4.000E+00	4.982E+05	0.0300	292.65	20	4.500E+00	4.191E+05	0.0300	292.65
21	5.080E+00	3.326E+05	0.0300	292.65	22	7.620E+00	2.939E+03	0.0412	292.65
23	1.016E+01	2.519E+03	0.0434	292.65	24	1.270E+01	2.314E+03	0.0449	292.65
25	1.524E+01	2.185E+03	0.0459	292.65	26	1.778E+01	2.093E+03	0.0468	292.65
27	2.032E+01	2.024E+03	0.0475	292.65	28	2.286E+01	1.970E+03	0.0480	292.65
29	2.540E+01	1.926E+03	0.0485	292.65	30	2.794E+01	1.891E+03	0.0489	292.65
31	3.048E+01	1.863E+03	0.0493	292.65	32	3.302E+01	1.840E+03	0.0496	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.807E+03	0.0500	292.65
35	4.064E+01	1.795E+03	0.0501	292.65	36	4.318E+01	1.787E+03	0.0503	292.65
37	4.572E+01	1.781E+03	0.0503	292.65	38	4.826E+01	1.673E+03	0.0501	292.65
39	5.080E+01	1.155E+03	0.0502	292.65	40	5.334E+01	9.238E+02	0.0504	292.65
41	5.588E+01	8.950E+02	0.0504	292.65	42	5.842E+01	9.170E+02	0.0504	292.65
43	6.096E+01	9.315E+02	0.0504	292.65					

```
 Initial Water Storage =   2.8356 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04879     0.05039
 Head (cm)         = 1.61006E+06 9.83072E+05 1.90242E+03 9.31000E+02
 LiqWater Flow (cm)=-1.97427E-13-1.87342E-12-2.18015E-03 4.41843E-08
 IsoVapor Flow (cm)=-7.19707E-03-7.19391E-03-6.21740E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8356+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =    2.8284 vs.    2.8284

 Mass Balance =  1.0885E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.06805     0.05023
 Head (cm)         = 1.02625E+06 1.79438E+03 1.05087E+03 1.14663E+03
 LiqWater Flow (cm)=-1.41952E-09-8.67525E-02 9.87992E-03 7.93636E-09
 IsoVapor Flow (cm)=-1.09471E-01-9.40207E-06 7.07613E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8458+ 0.0000+ 0.0000 - 0.1095- 0.0000-  0.0000 =    3.7363 vs.    3.7364

 Mass Balance = -4.4255E-05 cm;  Time step attempts =  237 and successes =  185
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1095 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   169
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0884E+02	[cm]
Actual Evaporation	=	2.1139E+01	[cm]
Evaporation during Growth	=	2.1139E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2047E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.9568E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2047E+01	[cm]
Actual Rainfall	=	2.2047E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.7364E+00	[cm]
Mass Balance Error	=	7.8360E-03	[cm]
Total Successful Time Steps	=	59806	
Total Attempted Time Steps	=	73528	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29805	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.0866E-01	0.050	1.4431E+01	0.150	1.0186E+01
0.250	8.4585E+00	0.350	7.6842E+00	0.450	7.0186E+00
0.550	6.3728E+00	0.650	5.7447E+00	0.750	5.2471E+00
0.850	4.9204E+00	0.950	4.5623E+00	1.125	4.2227E+00
1.375	3.5033E+00	1.625	3.1323E+00	1.875	2.6603E+00
2.250	2.4783E+00	2.750	2.1781E+00	3.250	1.9571E+00
3.750	1.8077E+00	4.250	1.7231E+00	4.790	1.6153E+00
6.350	1.4978E+00	8.890	1.1754E+00	11.430	1.0245E+00
13.970	9.0062E-01	16.510	7.8382E-01	19.050	6.6642E-01
21.590	5.6929E-01	24.130	4.7843E-01	26.670	3.9189E-01
29.210	3.2454E-01	31.750	2.7622E-01	34.290	2.2876E-01
36.830	1.8201E-01	39.370	1.3583E-01	41.910	9.0094E-02
44.450	4.4625E-02	46.990	4.0872E-04	49.530	8.7144E-04
52.070	-2.2819E-05	54.610	-1.1855E-04	57.150	-1.0041E-04
59.690	-3.5336E-05	60.960	8.9568E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2010.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.521E+05	0.0300	292.65
3	2.000E-01	5.237E+05	0.0300	292.65	4	3.000E-01	3.279E+05	0.0300	292.65
5	4.000E-01	1.565E+05	0.0301	292.65	6	5.000E-01	3.886E+03	0.0380	292.65
7	6.000E-01	3.087E+03	0.0405	292.65	8	7.000E-01	2.751E+03	0.0421	292.65
9	8.000E-01	2.546E+03	0.0433	292.65	10	9.000E-01	2.402E+03	0.0442	292.65
11	1.000E+00	2.291E+03	0.0450	292.65	12	1.250E+00	2.097E+03	0.0467	292.65
13	1.500E+00	1.967E+03	0.0481	292.65	14	1.750E+00	1.870E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.680E+03	0.0518	292.65
17	3.000E+00	1.597E+03	0.0532	292.65	18	3.500E+00	1.533E+03	0.0543	292.65
19	4.000E+00	1.480E+03	0.0553	292.65	20	4.500E+00	1.437E+03	0.0563	292.65
21	5.080E+00	1.395E+03	0.0572	292.65	22	7.620E+00	1.269E+03	0.0604	292.65
23	1.016E+01	1.196E+03	0.0627	292.65	24	1.270E+01	1.147E+03	0.0643	292.65
25	1.524E+01	1.114E+03	0.0655	292.65	26	1.778E+01	1.090E+03	0.0664	292.65
27	2.032E+01	1.074E+03	0.0671	292.65	28	2.286E+01	1.063E+03	0.0676	292.65
29	2.540E+01	1.055E+03	0.0679	292.65	30	2.794E+01	1.051E+03	0.0680	292.65
31	3.048E+01	1.049E+03	0.0681	292.65	32	3.302E+01	1.048E+03	0.0682	292.65
33	3.556E+01	1.048E+03	0.0682	292.65	34	3.810E+01	1.049E+03	0.0681	292.65
35	4.064E+01	1.049E+03	0.0681	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.048E+03	0.0682	292.65	38	4.826E+01	1.065E+03	0.0503	292.65
39	5.080E+01	1.043E+03	0.0503	292.65	40	5.334E+01	1.103E+03	0.0503	292.65
41	5.588E+01	1.134E+03	0.0502	292.65	42	5.842E+01	1.144E+03	0.0502	292.65
43	6.096E+01	1.147E+03	0.0502	292.65					

Initial Water Storage = 3.7364 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.04886     0.06687     0.05023
 Head (cm)         = 3.59124E+05 1.89670E+03 1.07926E+03 1.14650E+03
 LiqWater Flow (cm)=-1.43390E-08-5.87083E-02-4.62940E-03 7.94335E-09
 IsoVapor Flow (cm)=-5.83115E-02-1.19578E-05-1.19832E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.7364+ 0.0000+ 0.0000 - 0.0583- 0.0000-  0.0000 =    3.6781 vs.    3.6781

 Mass Balance = -1.6949E-05 cm;  Time step attempts =  465 and successes =  375
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0583 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   148

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04053     0.04545     0.05019
 Head (cm)         = 9.30306E+05 3.08742E+03 2.24167E+03 1.23684E+03
 LiqWater Flow (cm)=-1.34775E-11-2.34778E-02-1.67742E-03 4.25575E-09
 IsoVapor Flow (cm)=-3.90227E-02-2.36185E-05-1.03994E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8480+ 0.0000+ 0.0000 - 0.0390- 0.0000-  0.0000 =    2.8090 vs.    2.8090

 Mass Balance = -5.3336E-05 cm;  Time step attempts =  307 and successes =  252
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0390 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   251
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0272E+02	[cm]
Actual Evaporation	=	1.7862E+01	[cm]
Evaporation during Growth	=	1.7862E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.6942E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.5495E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.6942E+01	[cm]
Actual Rainfall	=	1.6942E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8090E+00	[cm]
Mass Balance Error	=	6.8817E-03	[cm]
Total Successful Time Steps	=	64503	
Total Attempted Time Steps	=	79197	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33624	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2045E-01	0.050	1.2376E+01	0.150	9.3568E+00
0.250	7.9180E+00	0.350	6.8581E+00	0.450	6.0130E+00
0.550	5.2010E+00	0.650	4.7167E+00	0.750	4.2658E+00
0.850	3.8104E+00	0.950	3.2950E+00	1.125	3.0274E+00
1.375	2.4582E+00	1.625	1.8959E+00	1.875	1.5915E+00
2.250	1.3133E+00	2.750	7.5115E-01	3.250	4.0467E-01
3.750	2.2738E-01	4.250	7.2902E-02	4.790	-1.9209E-02
6.350	-1.2923E-01	8.890	-4.6869E-01	11.430	-6.1275E-01
13.970	-6.4447E-01	16.510	-6.5430E-01	19.050	-6.1756E-01
21.590	-5.5872E-01	24.130	-5.0012E-01	26.670	-4.4211E-01
29.210	-3.8483E-01	31.750	-3.2830E-01	34.290	-2.7253E-01
36.830	-2.1747E-01	39.370	-1.6302E-01	41.910	-1.0903E-01
44.450	-5.5291E-02	46.990	-1.1295E-03	49.530	2.5605E-04
52.070	2.5079E-06	54.610	-8.1683E-06	57.150	-7.3848E-06
59.690	-1.4050E-06	60.960	2.5495E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2011.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.424E+03	0.0368	292.65	14	1.750E+00	3.449E+03	0.0392	292.65
15	2.000E+00	3.087E+03	0.0405	292.65	16	2.500E+00	2.732E+03	0.0422	292.65
17	3.000E+00	2.542E+03	0.0433	292.65	18	3.500E+00	2.420E+03	0.0441	292.65
19	4.000E+00	2.333E+03	0.0447	292.65	20	4.500E+00	2.270E+03	0.0452	292.65
21	5.080E+00	2.217E+03	0.0457	292.65	22	7.620E+00	2.132E+03	0.0464	292.65
23	1.016E+01	2.189E+03	0.0459	292.65	24	1.270E+01	2.347E+03	0.0446	292.65
25	1.524E+01	2.511E+03	0.0435	292.65	26	1.778E+01	2.536E+03	0.0433	292.65
27	2.032E+01	2.463E+03	0.0438	292.65	28	2.286E+01	2.376E+03	0.0444	292.65
29	2.540E+01	2.302E+03	0.0450	292.65	30	2.794E+01	2.242E+03	0.0454	292.65
31	3.048E+01	2.194E+03	0.0458	292.65	32	3.302E+01	2.156E+03	0.0462	292.65
33	3.556E+01	2.126E+03	0.0465	292.65	34	3.810E+01	2.103E+03	0.0467	292.65
35	4.064E+01	2.086E+03	0.0468	292.65	36	4.318E+01	2.074E+03	0.0470	292.65
37	4.572E+01	2.067E+03	0.0470	292.65	38	4.826E+01	1.925E+03	0.0501	292.65
39	5.080E+01	1.593E+03	0.0501	292.65	40	5.334E+01	1.373E+03	0.0501	292.65
41	5.588E+01	1.275E+03	0.0502	292.65	42	5.842E+01	1.243E+03	0.0502	292.65
43	6.096E+01	1.237E+03	0.0502	292.65					

Initial Water Storage = 2.8090 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04538     0.05019
 Head (cm)         = 1.63309E+06 2.13733E+05 2.24981E+03 1.23720E+03
 LiqWater Flow (cm)=-8.25380E-13-8.93958E-03-1.62437E-03 4.24577E-09
 IsoVapor Flow (cm)=-2.68820E-02-9.93137E-03-1.03098E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8090+ 0.0000+ 0.0000 - 0.0269- 0.0000-  0.0000 =    2.7822 vs.    2.7822

 Mass Balance = -4.3163E-05 cm;  Time step attempts =  183 and successes =  140
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0269 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   140

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05348     0.05733     0.07692     0.05007
 Head (cm)         = 1.57853E+03 1.38956E+03 8.79260E+02 1.90876E+03
 LiqWater Flow (cm)=-1.18466E-02-7.98171E-02-4.01747E-02 1.18475E-10
 IsoVapor Flow (cm)=-5.21162E-02-4.74719E-06-2.43407E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1904+ 0.0000+ 0.0000 - 0.0628- 0.0000-  0.0000 =    4.1276 vs.    4.1276

 Mass Balance =  3.2495E-05 cm;  Time step attempts =  239 and successes =  204
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0628 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    60
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4173E+02	[cm]
Actual Evaporation	=	1.2592E+01	[cm]
Evaporation during Growth	=	1.2592E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.2791E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1276E+00	[cm]
Mass Balance Error	=	8.3741E-03	[cm]
Total Successful Time Steps	=	64974	
Total Attempted Time Steps	=	80029	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33269	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3269E+00	0.050	1.0574E+01	0.150	8.4879E+00
0.250	7.6133E+00	0.350	6.8859E+00	0.450	6.5596E+00
0.550	6.2836E+00	0.650	5.9957E+00	0.750	5.7439E+00
0.850	5.5419E+00	0.950	5.3863E+00	1.125	5.2225E+00
1.375	4.8584E+00	1.625	4.5211E+00	1.875	4.2500E+00
2.250	3.9879E+00	2.750	3.4655E+00	3.250	3.1147E+00
3.750	2.8662E+00	4.250	2.5965E+00	4.790	2.3595E+00
6.350	2.0609E+00	8.890	1.5865E+00	11.430	1.2668E+00
13.970	1.0451E+00	16.510	9.7100E-01	19.050	8.9654E-01
21.590	8.2008E-01	24.130	7.4228E-01	26.670	6.6334E-01
29.210	5.8333E-01	31.750	5.0233E-01	34.290	4.2043E-01
36.830	3.3770E-01	39.370	2.5425E-01	41.910	1.7014E-01
44.450	8.5464E-02	46.990	9.4273E-04	49.530	2.7682E-05
52.070	-2.1451E-06	54.610	-6.5187E-06	57.150	-7.0486E-06
59.690	-2.8355E-06	60.960	4.2791E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2012.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.579E+03	0.0535	292.65	2	1.000E-01	1.567E+03	0.0537	292.65
3	2.000E-01	1.555E+03	0.0539	292.65	4	3.000E-01	1.544E+03	0.0541	292.65
5	4.000E-01	1.533E+03	0.0543	292.65	6	5.000E-01	1.522E+03	0.0545	292.65
7	6.000E-01	1.512E+03	0.0547	292.65	8	7.000E-01	1.502E+03	0.0549	292.65
9	8.000E-01	1.492E+03	0.0551	292.65	10	9.000E-01	1.482E+03	0.0553	292.65
11	1.000E+00	1.473E+03	0.0555	292.65	12	1.250E+00	1.450E+03	0.0560	292.65
13	1.500E+00	1.429E+03	0.0564	292.65	14	1.750E+00	1.409E+03	0.0569	292.65
15	2.000E+00	1.390E+03	0.0573	292.65	16	2.500E+00	1.354E+03	0.0582	292.65
17	3.000E+00	1.323E+03	0.0590	292.65	18	3.500E+00	1.294E+03	0.0597	292.65
19	4.000E+00	1.268E+03	0.0605	292.65	20	4.500E+00	1.244E+03	0.0612	292.65
21	5.080E+00	1.219E+03	0.0619	292.65	22	7.620E+00	1.132E+03	0.0649	292.65
23	1.016E+01	1.070E+03	0.0672	292.65	24	1.270E+01	1.024E+03	0.0692	292.65
25	1.524E+01	9.868E+02	0.0710	292.65	26	1.778E+01	9.569E+02	0.0725	292.65
27	2.032E+01	9.322E+02	0.0738	292.65	28	2.286E+01	9.115E+02	0.0750	292.65
29	2.540E+01	8.941E+02	0.0760	292.65	30	2.794E+01	8.793E+02	0.0769	292.65
31	3.048E+01	8.667E+02	0.0777	292.65	32	3.302E+01	8.560E+02	0.0784	292.65
33	3.556E+01	8.470E+02	0.0790	292.65	34	3.810E+01	8.395E+02	0.0795	292.65
35	4.064E+01	8.334E+02	0.0799	292.65	36	4.318E+01	8.285E+02	0.0803	292.65
37	4.572E+01	8.248E+02	0.0805	292.65	38	4.826E+01	8.157E+02	0.0505	292.65
39	5.080E+01	1.549E+03	0.0501	292.65	40	5.334E+01	1.820E+03	0.0501	292.65
41	5.588E+01	1.893E+03	0.0501	292.65	42	5.842E+01	1.907E+03	0.0501	292.65
43	6.096E+01	1.909E+03	0.0501	292.65					

Initial Water Storage = 4.1276 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06538     0.06560     0.07521     0.05007
 Head (cm)         = 1.11766E+03 1.11165E+03 9.07483E+02 1.90827E+03
 LiqWater Flow (cm)=-5.95058E-04-2.21155E-02-3.43254E-02 1.18651E-10
 IsoVapor Flow (cm)=-9.60982E-08-8.08598E-07-2.48344E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1276+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =    4.1276 vs.    4.1276

 Mass Balance =  3.2337E-06 cm;  Time step attempts =   30 and successes =   28
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05502     0.05010
 Head (cm)         = 1.03684E+06 1.57449E+05 1.49665E+03 1.60471E+03
 LiqWater Flow (cm)=-2.94767E-12-2.40180E-04-3.24175E-03 4.96850E-10
 IsoVapor Flow (cm)=-1.69070E-02-1.66666E-02-3.05333E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1516+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =    3.1346 vs.    3.1346

 Mass Balance = -2.9870E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1811E+02	[cm]
Actual Evaporation	=	1.4374E+01	[cm]
Evaporation during Growth	=	1.4357E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3386E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0489E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3386E+01	[cm]
Actual Rainfall	=	1.3386E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1346E+00	[cm]
Mass Balance Error	=	4.9309E-03	[cm]
Total Successful Time Steps	=	52751	
Total Attempted Time Steps	=	63527	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28824	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.8804E-01	0.050	9.5712E+00	0.150	6.7431E+00
0.250	5.6309E+00	0.350	4.7515E+00	0.450	4.2635E+00
0.550	3.6591E+00	0.650	3.3068E+00	0.750	3.0138E+00
0.850	2.6808E+00	0.950	2.3340E+00	1.125	2.1142E+00
1.375	1.7008E+00	1.625	1.4169E+00	1.875	1.0462E+00
2.250	7.6613E-01	2.750	3.8758E-01	3.250	2.0711E-01
3.750	1.2412E-01	4.250	3.6186E-02	4.790	-2.1925E-02
6.350	-1.0794E-01	8.890	-3.8471E-01	11.430	-4.4997E-01
13.970	-4.9814E-01	16.510	-5.2776E-01	19.050	-5.4031E-01
21.590	-5.3483E-01	24.130	-5.2572E-01	26.670	-4.7272E-01
29.210	-4.1733E-01	31.750	-3.6061E-01	34.290	-3.0273E-01
36.830	-2.4383E-01	39.370	-1.8406E-01	41.910	-1.2353E-01
44.450	-6.2379E-02	46.990	-3.2530E-04	49.530	1.7933E-04
52.070	1.0381E-05	54.610	2.7930E-06	57.150	1.0075E-06
59.690	3.2502E-07	60.960	1.0489E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2013.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions				Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.636E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.160E+05	0.0300	292.65	10	9.000E-01	5.714E+05	0.0300	292.65
11	1.000E+00	5.282E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.412E+05	0.0301	292.65
15	2.000E+00	1.574E+05	0.0301	292.65	16	2.500E+00	3.640E+03	0.0386	292.65
17	3.000E+00	3.012E+03	0.0408	292.65	18	3.500E+00	2.719E+03	0.0423	292.65
19	4.000E+00	2.533E+03	0.0433	292.65	20	4.500E+00	2.400E+03	0.0442	292.65
21	5.080E+00	2.284E+03	0.0451	292.65	22	7.620E+00	1.988E+03	0.0478	292.65
23	1.016E+01	1.832E+03	0.0497	292.65	24	1.270E+01	1.733E+03	0.0510	292.65
25	1.524E+01	1.663E+03	0.0521	292.65	26	1.778E+01	1.611E+03	0.0529	292.65
27	2.032E+01	1.571E+03	0.0536	292.65	28	2.286E+01	1.540E+03	0.0542	292.65
29	2.540E+01	1.516E+03	0.0546	292.65	30	2.794E+01	1.497E+03	0.0550	292.65
31	3.048E+01	1.481E+03	0.0553	292.65	32	3.302E+01	1.469E+03	0.0556	292.65
33	3.556E+01	1.459E+03	0.0558	292.65	34	3.810E+01	1.451E+03	0.0560	292.65
35	4.064E+01	1.445E+03	0.0561	292.65	36	4.318E+01	1.440E+03	0.0562	292.65
37	4.572E+01	1.436E+03	0.0563	292.65	38	4.826E+01	1.439E+03	0.0501	292.65
39	5.080E+01	1.568E+03	0.0501	292.65	40	5.334E+01	1.613E+03	0.0501	292.65
41	5.588E+01	1.618E+03	0.0501	292.65	42	5.842E+01	1.609E+03	0.0501	292.65
43	6.096E+01	1.605E+03	0.0501	292.65					

Initial Water Storage = 3.1346 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05472     0.05010
 Head (cm)         = 6.62341E+05 1.10166E+05 1.51194E+03 1.60528E+03
 LiqWater Flow (cm)=-1.51965E-11-4.17488E-04-3.63559E-03 4.95335E-10
 IsoVapor Flow (cm)=-1.22119E-02-1.18416E-02-3.50101E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1346+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =    3.1224 vs.    3.1224

 Mass Balance = -5.3837E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04872     0.05187
 Head (cm)         = 1.00583E+06 5.21626E+05 1.90861E+03 4.98193E+02
 LiqWater Flow (cm)=-1.52522E-12-4.47614E-11-2.10306E-03 7.72381E-06
 IsoVapor Flow (cm)=-8.18404E-03-8.17958E-03-6.11604E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8638+ 0.0000+ 0.0000 - 0.0082- 0.0000-  0.0000 =    2.8556 vs.    2.8556

 Mass Balance = -3.9240E-07 cm;  Time step attempts =   28 and successes =   27
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0082 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    27
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1167E+02	[cm]
Actual Evaporation	=	2.4427E+01	[cm]
Evaporation during Growth	=	2.4427E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4155E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0346E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4155E+01	[cm]
Actual Rainfall	=	2.4155E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8556E+00	[cm]
Mass Balance Error	=	6.5954E-03	[cm]
Total Successful Time Steps	=	52541	
Total Attempted Time Steps	=	64596	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26613	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.7144E-01	0.050	1.1839E+01	0.150	7.8537E+00
0.250	6.7493E+00	0.350	5.9326E+00	0.450	5.2757E+00
0.550	4.7316E+00	0.650	4.3230E+00	0.750	3.9551E+00
0.850	3.5163E+00	0.950	3.2574E+00	1.125	3.0267E+00
1.375	2.4977E+00	1.625	2.1262E+00	1.875	1.9560E+00
2.250	1.8245E+00	2.750	1.4610E+00	3.250	1.2297E+00
3.750	9.4423E-01	4.250	6.3535E-01	4.790	5.0990E-01
6.350	3.9218E-01	8.890	1.1976E-01	11.430	-1.7740E-02
13.970	-1.4019E-01	16.510	-1.6868E-01	19.050	-1.5331E-01
21.590	-1.3756E-01	24.130	-1.2170E-01	26.670	-1.0581E-01
29.210	-8.9940E-02	31.750	-7.4116E-02	34.290	-5.8347E-02
36.830	-4.2643E-02	39.370	-2.6996E-02	41.910	-1.1391E-02
44.450	4.1920E-03	46.990	2.0460E-02	49.530	2.1755E-02
52.070	1.6058E-02	54.610	1.2010E-02	57.150	7.6231E-03
59.690	3.1283E-03	60.960	1.0346E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2014.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.769E+05	0.0300	292.65
3	2.000E-01	9.482E+05	0.0300	292.65	4	3.000E-01	9.203E+05	0.0300	292.65
5	4.000E-01	8.932E+05	0.0300	292.65	6	5.000E-01	8.668E+05	0.0300	292.65
7	6.000E-01	8.408E+05	0.0300	292.65	8	7.000E-01	8.154E+05	0.0300	292.65
9	8.000E-01	7.904E+05	0.0300	292.65	10	9.000E-01	7.659E+05	0.0300	292.65
11	1.000E+00	7.419E+05	0.0300	292.65	12	1.250E+00	6.835E+05	0.0300	292.65
13	1.500E+00	6.275E+05	0.0300	292.65	14	1.750E+00	5.736E+05	0.0300	292.65
15	2.000E+00	5.216E+05	0.0300	292.65	16	2.500E+00	4.232E+05	0.0300	292.65
17	3.000E+00	3.312E+05	0.0300	292.65	18	3.500E+00	2.450E+05	0.0301	292.65
19	4.000E+00	1.639E+05	0.0301	292.65	20	4.500E+00	8.727E+04	0.0302	292.65
21	5.080E+00	4.778E+03	0.0362	292.65	22	7.620E+00	2.864E+03	0.0415	292.65
23	1.016E+01	2.514E+03	0.0435	292.65	24	1.270E+01	2.323E+03	0.0448	292.65
25	1.524E+01	2.198E+03	0.0458	292.65	26	1.778E+01	2.108E+03	0.0466	292.65
27	2.032E+01	2.040E+03	0.0473	292.65	28	2.286E+01	1.986E+03	0.0478	292.65
29	2.540E+01	1.943E+03	0.0483	292.65	30	2.794E+01	1.909E+03	0.0487	292.65
31	3.048E+01	1.880E+03	0.0491	292.65	32	3.302E+01	1.857E+03	0.0493	292.65
33	3.556E+01	1.838E+03	0.0496	292.65	34	3.810E+01	1.823E+03	0.0498	292.65
35	4.064E+01	1.811E+03	0.0499	292.65	36	4.318E+01	1.803E+03	0.0500	292.65
37	4.572E+01	1.797E+03	0.0501	292.65	38	4.826E+01	1.542E+03	0.0501	292.65
39	5.080E+01	5.382E+02	0.0515	292.65	40	5.334E+01	5.178E+02	0.0517	292.65
41	5.588E+01	5.062E+02	0.0518	292.65	42	5.842E+01	5.001E+02	0.0518	292.65
43	6.096E+01	4.982E+02	0.0519	292.65					

Initial Water Storage = 2.8556 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04860     0.05186
 Head (cm)         = 1.15661E+06 5.86317E+05 1.91900E+03 4.98692E+02
 LiqWater Flow (cm)=-9.34819E-13-2.86557E-11-2.09079E-03 7.66019E-06
 IsoVapor Flow (cm)=-8.91193E-03-8.90699E-03-6.23505E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8556+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =    2.8467 vs.    2.8467

 Mass Balance = -1.2592E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03693     0.04933     0.05232
 Head (cm)         = 2.73526E+05 4.37804E+03 1.85790E+03 4.56828E+02
 LiqWater Flow (cm)=-5.81209E-10-8.92382E-03-9.50676E-04 1.58004E-05
 IsoVapor Flow (cm)=-7.33027E-03-1.63153E-04-2.81225E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9541+ 0.0000+ 0.0000 - 0.0073- 0.0000-  0.0000 =    2.9467 vs.    2.9467

 Mass Balance = -2.3029E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0073 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2121E+02	[cm]
Actual Evaporation	=	2.1664E+01	[cm]
Evaporation during Growth	=	2.1664E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1768E+01	[cm]
Total Basal Liquid Flux (drainage)	=	5.0824E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1768E+01	[cm]
Actual Rainfall	=	2.1768E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9467E+00	[cm]
Mass Balance Error	=	7.2329E-03	[cm]
Total Successful Time Steps	=	58244	
Total Attempted Time Steps	=	71322	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29144	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.0345E-01	0.050	1.1619E+01	0.150	7.6872E+00
0.250	6.3240E+00	0.350	5.3969E+00	0.450	4.9086E+00
0.550	4.3092E+00	0.650	3.6911E+00	0.750	3.3927E+00
0.850	3.0275E+00	0.950	2.8472E+00	1.125	2.7050E+00
1.375	2.2861E+00	1.625	1.9403E+00	1.875	1.8131E+00
2.250	1.6540E+00	2.750	1.4733E+00	3.250	1.3637E+00
3.750	1.2030E+00	4.250	1.0106E+00	4.790	9.1976E-01
6.350	8.1462E-01	8.890	6.1335E-01	11.430	4.0594E-01
13.970	2.4355E-01	16.510	1.1138E-01	19.050	2.6380E-02
21.590	2.1130E-02	24.130	1.8061E-02	26.670	1.5774E-02
29.210	1.4079E-02	31.750	1.2857E-02	34.290	1.2001E-02
36.830	1.1413E-02	39.370	1.1012E-02	41.910	1.0739E-02
44.450	1.0541E-02	46.990	1.3456E-02	49.530	1.8727E-02
52.070	9.5455E-03	54.610	8.1187E-03	57.150	6.8727E-03
59.690	5.6703E-03	60.960	5.0824E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2015.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.573E+05	0.0301	292.65
3	2.000E-01	2.415E+05	0.0301	292.65	4	3.000E-01	2.258E+05	0.0301	292.65
5	4.000E-01	2.102E+05	0.0301	292.65	6	5.000E-01	1.948E+05	0.0301	292.65
7	6.000E-01	1.796E+05	0.0301	292.65	8	7.000E-01	1.645E+05	0.0301	292.65
9	8.000E-01	1.496E+05	0.0301	292.65	10	9.000E-01	1.349E+05	0.0301	292.65
11	1.000E+00	1.203E+05	0.0301	292.65	12	1.250E+00	8.449E+04	0.0302	292.65
13	1.500E+00	4.951E+04	0.0304	292.65	14	1.750E+00	1.533E+04	0.0315	292.65
15	2.000E+00	4.378E+03	0.0369	292.65	16	2.500E+00	3.589E+03	0.0388	292.65
17	3.000E+00	3.224E+03	0.0400	292.65	18	3.500E+00	2.995E+03	0.0409	292.65
19	4.000E+00	2.831E+03	0.0417	292.65	20	4.500E+00	2.706E+03	0.0423	292.65
21	5.080E+00	2.593E+03	0.0430	292.65	22	7.620E+00	2.292E+03	0.0450	292.65
23	1.016E+01	2.139E+03	0.0463	292.65	24	1.270E+01	2.046E+03	0.0472	292.65
25	1.524E+01	1.986E+03	0.0479	292.65	26	1.778E+01	1.944E+03	0.0483	292.65
27	2.032E+01	1.914E+03	0.0487	292.65	28	2.286E+01	1.891E+03	0.0489	292.65
29	2.540E+01	1.873E+03	0.0491	292.65	30	2.794E+01	1.858E+03	0.0493	292.65
31	3.048E+01	1.845E+03	0.0495	292.65	32	3.302E+01	1.833E+03	0.0497	292.65
33	3.556E+01	1.822E+03	0.0498	292.65	34	3.810E+01	1.812E+03	0.0499	292.65
35	4.064E+01	1.804E+03	0.0500	292.65	36	4.318E+01	1.798E+03	0.0501	292.65
37	4.572E+01	1.793E+03	0.0502	292.65	38	4.826E+01	1.494E+03	0.0501	292.65
39	5.080E+01	4.844E+02	0.0520	292.65	40	5.334E+01	4.711E+02	0.0521	292.65
41	5.588E+01	4.628E+02	0.0522	292.65	42	5.842E+01	4.583E+02	0.0523	292.65
43	6.096E+01	4.568E+02	0.0523	292.65					

Initial Water Storage = 2.9467 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.03116     0.04927     0.05231
 Head (cm)         = 4.46116E+05 1.93620E+04 1.86314E+03 4.57399E+02
 LiqWater Flow (cm)=-8.82723E-11-8.11800E-03-1.02897E-03 1.56381E-05
 IsoVapor Flow (cm)=-1.10951E-02-3.57394E-04-3.02163E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9467+ 0.0000+ 0.0000 - 0.0111- 0.0000-  0.0000 =    2.9356 vs.    2.9356

 Mass Balance = -1.0289E-05 cm;  Time step attempts =   50 and successes =   40
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0111 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    40

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03015     0.06263     0.08349     0.05108
 Head (cm)         = 1.05228E+05 1.19662E+03 7.85751E+02 6.19851E+02
 LiqWater Flow (cm)=-6.72726E-02-1.46589E-01-4.79671E-02 1.27134E-06
 IsoVapor Flow (cm)=-9.64575E-02-3.40185E-06-1.78344E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.5979+ 0.0000+ 0.0000 - 0.1656- 0.0000-  0.0000 =    4.4323 vs.    4.4323

 Mass Balance = -2.2000E-05 cm;  Time step attempts =  227 and successes =  185
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1656 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    68
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8444E+02	[cm]
Actual Evaporation	=	2.9185E+01	[cm]
Evaporation during Growth	=	2.9185E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0683E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7430E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0683E+01	[cm]
Actual Rainfall	=	3.0683E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.4323E+00	[cm]
Mass Balance Error	=	1.0816E-02	[cm]
Total Successful Time Steps	=	74378	
Total Attempted Time Steps	=	91923	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33173	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.4982E+00	0.050	2.0253E+01	0.150	1.3993E+01
0.250	1.1713E+01	0.350	1.0174E+01	0.450	8.9778E+00
0.550	8.1743E+00	0.650	7.5728E+00	0.750	7.0640E+00
0.850	6.4015E+00	0.950	5.8512E+00	1.125	5.4653E+00
1.375	4.5207E+00	1.625	3.8770E+00	1.875	3.4751E+00
2.250	3.0819E+00	2.750	2.3848E+00	3.250	2.0460E+00
3.750	1.7783E+00	4.250	1.5436E+00	4.790	1.4696E+00
6.350	1.3314E+00	8.890	1.2610E+00	11.430	1.1921E+00
13.970	1.1200E+00	16.510	1.0448E+00	19.050	9.6674E-01
21.590	8.8611E-01	24.130	8.0314E-01	26.670	7.1811E-01
29.210	6.3126E-01	31.750	5.4282E-01	34.290	4.5301E-01
36.830	3.6200E-01	39.370	2.6999E-01	41.910	1.7711E-01
44.450	8.3519E-02	46.990	-1.0115E-02	49.530	-7.0075E-03
52.070	-8.8170E-03	54.610	-5.8959E-03	57.150	-2.8778E-03
59.690	1.9616E-04	60.960	1.7430E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2016.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.052E+05	0.0302	292.65	2	1.000E-01	1.302E+03	0.0595	292.65
3	2.000E-01	1.296E+03	0.0597	292.65	4	3.000E-01	1.290E+03	0.0599	292.65
5	4.000E-01	1.284E+03	0.0600	292.65	6	5.000E-01	1.278E+03	0.0602	292.65
7	6.000E-01	1.272E+03	0.0603	292.65	8	7.000E-01	1.266E+03	0.0605	292.65
9	8.000E-01	1.261E+03	0.0607	292.65	10	9.000E-01	1.255E+03	0.0608	292.65
11	1.000E+00	1.249E+03	0.0610	292.65	12	1.250E+00	1.236E+03	0.0614	292.65
13	1.500E+00	1.222E+03	0.0618	292.65	14	1.750E+00	1.209E+03	0.0622	292.65
15	2.000E+00	1.197E+03	0.0626	292.65	16	2.500E+00	1.173E+03	0.0634	292.65
17	3.000E+00	1.150E+03	0.0642	292.65	18	3.500E+00	1.129E+03	0.0650	292.65
19	4.000E+00	1.109E+03	0.0657	292.65	20	4.500E+00	1.090E+03	0.0664	292.65
21	5.080E+00	1.070E+03	0.0672	292.65	22	7.620E+00	9.975E+02	0.0705	292.65
23	1.016E+01	9.443E+02	0.0732	292.65	24	1.270E+01	9.042E+02	0.0754	292.65
25	1.524E+01	8.731E+02	0.0773	292.65	26	1.778E+01	8.483E+02	0.0789	292.65
27	2.032E+01	8.281E+02	0.0803	292.65	28	2.286E+01	8.115E+02	0.0815	292.65
29	2.540E+01	7.975E+02	0.0826	292.65	30	2.794E+01	7.858E+02	0.0835	292.65
31	3.048E+01	7.757E+02	0.0843	292.65	32	3.302E+01	7.672E+02	0.0850	292.65
33	3.556E+01	7.600E+02	0.0856	292.65	34	3.810E+01	7.538E+02	0.0861	292.65
35	4.064E+01	7.487E+02	0.0866	292.65	36	4.318E+01	7.444E+02	0.0869	292.65
37	4.572E+01	7.410E+02	0.0872	292.65	38	4.826E+01	7.330E+02	0.0507	292.65
39	5.080E+01	7.035E+02	0.0508	292.65	40	5.334E+01	6.555E+02	0.0509	292.65
41	5.588E+01	6.329E+02	0.0510	292.65	42	5.842E+01	6.228E+02	0.0511	292.65
43	6.096E+01	6.199E+02	0.0511	292.65					

Initial Water Storage = 4.4323 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05637     0.05966     0.08083     0.05108
 Head (cm)         = 1.43213E+03 1.29699E+03 8.20950E+02 6.20130E+02
 LiqWater Flow (cm)=-6.16171E-02-1.19964E-01-4.70017E-02 1.26665E-06
 IsoVapor Flow (cm)=-6.49603E-02-4.35047E-06-2.07659E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.4323+ 0.0000+ 0.0000 - 0.1253- 0.0000-  0.0000 =    4.3070 vs.    4.3070

 Mass Balance =  2.6513E-06 cm;  Time step attempts =  344 and successes =  277
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1253 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.04938     0.05347     0.06228     0.05070
 Head (cm)         = 1.85425E+03 1.57884E+03 1.20767E+03 7.37892E+02
 LiqWater Flow (cm)= 4.62667E-02 9.59103E-03-4.04452E-03 3.01529E-07
 IsoVapor Flow (cm)=-3.24227E-02-2.40985E-06-1.61645E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5563+ 0.1016+ 0.0000 - 0.0868- 0.0000-  0.0000 =    3.5711 vs.    3.5711

 Mass Balance =  4.2492E-05 cm;  Time step attempts =  313 and successes =  269
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0868 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    57
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1664E+02	[cm]
Actual Evaporation	=	2.4679E+01	[cm]
Evaporation during Growth	=	2.4592E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.3825E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.2832E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.3825E+01	[cm]
Actual Rainfall	=	2.3825E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5711E+00	[cm]
Mass Balance Error	=	7.0804E-03	[cm]
Total Successful Time Steps	=	59510	
Total Attempted Time Steps	=	73078	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29010	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5392E-01	0.050	1.3332E+01	0.150	7.7536E+00
0.250	6.1900E+00	0.350	5.0546E+00	0.450	4.2747E+00
0.550	3.8328E+00	0.650	3.4192E+00	0.750	3.2065E+00
0.850	2.9389E+00	0.950	2.5799E+00	1.125	2.3164E+00
1.375	1.6623E+00	1.625	1.4262E+00	1.875	1.1959E+00
2.250	9.3337E-01	2.750	5.7890E-01	3.250	2.3541E-01
3.750	9.0617E-02	4.250	2.0945E-02	4.790	-6.2023E-02
6.350	-1.9149E-01	8.890	-3.7856E-01	11.430	-5.1368E-01
13.970	-5.6125E-01	16.510	-6.2801E-01	19.050	-6.1439E-01
21.590	-5.6766E-01	24.130	-5.1804E-01	26.670	-4.6618E-01
29.210	-4.1246E-01	31.750	-3.5722E-01	34.290	-3.0070E-01
36.830	-2.4310E-01	39.370	-1.8460E-01	41.910	-1.2534E-01
44.450	-6.5474E-02	46.990	-3.3417E-03	49.530	1.2575E-03
52.070	-1.4566E-03	54.610	-1.7431E-03	57.150	-1.0520E-03
59.690	-2.0918E-04	60.960	2.2832E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2017.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.854E+03	0.0494	292.65	2	1.000E-01	1.833E+03	0.0496	292.65
3	2.000E-01	1.813E+03	0.0499	292.65	4	3.000E-01	1.794E+03	0.0502	292.65
5	4.000E-01	1.777E+03	0.0504	292.65	6	5.000E-01	1.760E+03	0.0506	292.65
7	6.000E-01	1.744E+03	0.0509	292.65	8	7.000E-01	1.728E+03	0.0511	292.65
9	8.000E-01	1.714E+03	0.0513	292.65	10	9.000E-01	1.700E+03	0.0515	292.65
11	1.000E+00	1.687E+03	0.0517	292.65	12	1.250E+00	1.656E+03	0.0522	292.65
13	1.500E+00	1.628E+03	0.0526	292.65	14	1.750E+00	1.602E+03	0.0531	292.65
15	2.000E+00	1.579E+03	0.0535	292.65	16	2.500E+00	1.538E+03	0.0542	292.65
17	3.000E+00	1.502E+03	0.0549	292.65	18	3.500E+00	1.472E+03	0.0555	292.65
19	4.000E+00	1.445E+03	0.0561	292.65	20	4.500E+00	1.422E+03	0.0566	292.65
21	5.080E+00	1.398E+03	0.0571	292.65	22	7.620E+00	1.324E+03	0.0589	292.65
23	1.016E+01	1.283E+03	0.0601	292.65	24	1.270E+01	1.258E+03	0.0607	292.65
25	1.524E+01	1.244E+03	0.0612	292.65	26	1.778E+01	1.235E+03	0.0614	292.65
27	2.032E+01	1.228E+03	0.0617	292.65	28	2.286E+01	1.221E+03	0.0619	292.65
29	2.540E+01	1.214E+03	0.0621	292.65	30	2.794E+01	1.208E+03	0.0623	292.65
31	3.048E+01	1.201E+03	0.0625	292.65	32	3.302E+01	1.195E+03	0.0627	292.65
33	3.556E+01	1.189E+03	0.0629	292.65	34	3.810E+01	1.183E+03	0.0631	292.65
35	4.064E+01	1.179E+03	0.0632	292.65	36	4.318E+01	1.175E+03	0.0634	292.65
37	4.572E+01	1.172E+03	0.0635	292.65	38	4.826E+01	1.159E+03	0.0502	292.65
39	5.080E+01	9.048E+02	0.0504	292.65	40	5.334E+01	7.884E+02	0.0506	292.65
41	5.588E+01	7.527E+02	0.0507	292.65	42	5.842E+01	7.407E+02	0.0507	292.65
43	6.096E+01	7.379E+02	0.0507	292.65					

```
 Initial Water Storage =   3.5711 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06299     0.06513     0.06610     0.05070
 Head (cm)         = 1.18572E+03 1.12444E+03 1.09870E+03 7.38030E+02
 LiqWater Flow (cm)= 3.14463E-01 2.36693E-01 1.42544E-02 3.01070E-07
 IsoVapor Flow (cm)=-5.05120E-02-1.10710E-06 2.37364E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5711+ 0.4572+ 0.0000 - 0.1926- 0.0000-  0.0000 =    3.8357 vs.    3.8356

 Mass Balance =  1.3085E-04 cm;  Time step attempts =  525 and successes =  444
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1926 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    63

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03134     0.06003     0.05053
 Head (cm)         = 1.50332E+06 1.72434E+04 1.28337E+03 8.26050E+02
 LiqWater Flow (cm)=-1.08059E-12-2.32193E-02-9.97334E-03 1.18790E-07
 IsoVapor Flow (cm)=-2.64827E-02-2.40812E-04-3.99316E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3662+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =    3.3397 vs.    3.3397

 Mass Balance = -7.8625E-06 cm;  Time step attempts =   43 and successes =   34
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    34
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2162E+02	[cm]
Actual Evaporation	=	2.5853E+01	[cm]
Evaporation during Growth	=	2.5853E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5629E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.6750E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5629E+01	[cm]
Actual Rainfall	=	2.5629E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3397E+00	[cm]
Mass Balance Error	=	7.0487E-03	[cm]
Total Successful Time Steps	=	53695	
Total Attempted Time Steps	=	65432	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26782	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2422E-01	0.050	1.6696E+01	0.150	9.1637E+00
0.250	7.7607E+00	0.350	6.4348E+00	0.450	5.9322E+00
0.550	5.5022E+00	0.650	5.2675E+00	0.750	4.9137E+00
0.850	4.5211E+00	0.950	4.1054E+00	1.125	3.8648E+00
1.375	2.9304E+00	1.625	2.3096E+00	1.875	1.9393E+00
2.250	1.6577E+00	2.750	1.0327E+00	3.250	8.2208E-01
3.750	7.1104E-01	4.250	5.8501E-01	4.790	4.6819E-01
6.350	3.9835E-01	8.890	1.6979E-01	11.430	2.4713E-02
13.970	-5.2915E-02	16.510	-6.6318E-02	19.050	-5.5122E-02
21.590	-4.5698E-02	24.130	-3.7830E-02	26.670	-3.1241E-02
29.210	-2.5689E-02	31.750	-2.0965E-02	34.290	-1.6861E-02
36.830	-1.3250E-02	39.370	-1.0009E-02	41.910	-7.0313E-03
44.450	-4.2330E-03	46.990	-8.6002E-04	49.530	1.5217E-03
52.070	-1.2201E-04	54.610	-5.2269E-04	57.150	-3.8561E-04
59.690	-9.4503E-05	60.960	6.6750E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2018.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.376E+06	0.0300	292.65
3	2.000E-01	1.259E+06	0.0300	292.65	4	3.000E-01	1.151E+06	0.0300	292.65
5	4.000E-01	1.051E+06	0.0300	292.65	6	5.000E-01	9.583E+05	0.0300	292.65
7	6.000E-01	8.711E+05	0.0300	292.65	8	7.000E-01	7.891E+05	0.0300	292.65
9	8.000E-01	7.116E+05	0.0300	292.65	10	9.000E-01	6.383E+05	0.0300	292.65
11	1.000E+00	5.687E+05	0.0300	292.65	12	1.250E+00	4.086E+05	0.0300	292.65
13	1.500E+00	2.653E+05	0.0301	292.65	14	1.750E+00	1.356E+05	0.0301	292.65
15	2.000E+00	1.724E+04	0.0313	292.65	16	2.500E+00	2.821E+03	0.0417	292.65
17	3.000E+00	2.570E+03	0.0431	292.65	18	3.500E+00	2.382E+03	0.0444	292.65
19	4.000E+00	2.243E+03	0.0454	292.65	20	4.500E+00	2.135E+03	0.0464	292.65
21	5.080E+00	2.037E+03	0.0473	292.65	22	7.620E+00	1.772E+03	0.0505	292.65
23	1.016E+01	1.628E+03	0.0526	292.65	24	1.270E+01	1.533E+03	0.0543	292.65
25	1.524E+01	1.463E+03	0.0557	292.65	26	1.778E+01	1.410E+03	0.0568	292.65
27	2.032E+01	1.368E+03	0.0578	292.65	28	2.286E+01	1.334E+03	0.0587	292.65
29	2.540E+01	1.307E+03	0.0594	292.65	30	2.794E+01	1.283E+03	0.0600	292.65
31	3.048E+01	1.264E+03	0.0606	292.65	32	3.302E+01	1.248E+03	0.0610	292.65
33	3.556E+01	1.235E+03	0.0614	292.65	34	3.810E+01	1.224E+03	0.0618	292.65
35	4.064E+01	1.216E+03	0.0620	292.65	36	4.318E+01	1.209E+03	0.0622	292.65
37	4.572E+01	1.205E+03	0.0624	292.65	38	4.826E+01	1.184E+03	0.0502	292.65
39	5.080E+01	9.904E+02	0.0503	292.65	40	5.334E+01	8.759E+02	0.0505	292.65
41	5.588E+01	8.370E+02	0.0505	292.65	42	5.842E+01	8.274E+02	0.0505	292.65
43	6.096E+01	8.261E+02	0.0505	292.65					

```
 Initial Water Storage =   3.3397 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05953     0.05053
 Head (cm)         = 7.20447E+05 1.13655E+05 1.30198E+03 8.26099E+02
 LiqWater Flow (cm)=-1.14423E-11-1.09915E-03-9.47492E-03 1.18734E-07
 IsoVapor Flow (cm)=-1.32743E-02-1.17298E-02-4.07395E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3397+ 0.0000+ 0.0000 - 0.0133- 0.0000-  0.0000 =    3.3265 vs.    3.3265

 Mass Balance = -5.2655E-06 cm;  Time step attempts =   57 and successes =   55
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0133 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    52

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04366     0.05413     0.05037
 Head (cm)         = 8.58098E+05 2.48410E+03 1.54251E+03 9.50907E+02
 LiqWater Flow (cm)=-2.60220E-11-3.36768E-02 5.10224E-03 3.71852E-08
 IsoVapor Flow (cm)=-4.74317E-02-1.88985E-05 4.56943E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2141+ 0.0000+ 0.0000 - 0.0474- 0.0000-  0.0000 =    3.1667 vs.    3.1668

 Mass Balance = -6.6357E-05 cm;  Time step attempts =  309 and successes =  240
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0474 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   240
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2377E+02	[cm]
Actual Evaporation	=	2.1425E+01	[cm]
Evaporation during Growth	=	2.1425E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1260E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.7100E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1260E+01	[cm]
Actual Rainfall	=	2.1260E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1668E+00	[cm]
Mass Balance Error	=	8.0100E-03	[cm]
Total Successful Time Steps	=	58105	
Total Attempted Time Steps	=	71747	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28855	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6492E-01	0.050	1.4460E+01	0.150	1.0405E+01
0.250	8.9428E+00	0.350	7.9462E+00	0.450	7.2957E+00
0.550	6.4660E+00	0.650	5.7963E+00	0.750	5.3499E+00
0.850	4.8582E+00	0.950	4.4620E+00	1.125	4.1182E+00
1.375	3.4096E+00	1.625	2.9781E+00	1.875	2.3414E+00
2.250	1.9378E+00	2.750	1.2915E+00	3.250	9.4429E-01
3.750	6.9836E-01	4.250	5.7933E-01	4.790	4.5184E-01
6.350	2.6577E-01	8.890	-7.7695E-02	11.430	-1.7625E-01
13.970	-2.0121E-01	16.510	-1.9909E-01	19.050	-1.9440E-01
21.590	-1.8712E-01	24.130	-1.7724E-01	26.670	-1.6479E-01
29.210	-1.4992E-01	31.750	-1.3285E-01	34.290	-1.1385E-01
36.830	-9.3269E-02	39.370	-7.1421E-02	41.910	-4.8627E-02
44.450	-2.5212E-02	46.990	-1.1508E-03	49.530	7.3374E-04
52.070	-1.0299E-04	54.610	-2.9943E-04	57.150	-2.4445E-04
59.690	-7.2813E-05	60.960	2.7100E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2019.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.581E+05	0.0300	292.65	2	1.000E-01	7.662E+05	0.0300	292.65
3	2.000E-01	6.766E+05	0.0300	292.65	4	3.000E-01	5.953E+05	0.0300	292.65
5	4.000E-01	5.177E+05	0.0300	292.65	6	5.000E-01	4.444E+05	0.0300	292.65
7	6.000E-01	3.748E+05	0.0300	292.65	8	7.000E-01	3.088E+05	0.0300	292.65
9	8.000E-01	2.459E+05	0.0301	292.65	10	9.000E-01	1.861E+05	0.0301	292.65
11	1.000E+00	1.294E+05	0.0301	292.65	12	1.250E+00	3.070E+03	0.0406	292.65
13	1.500E+00	2.817E+03	0.0418	292.65	14	1.750E+00	2.629E+03	0.0428	292.65
15	2.000E+00	2.484E+03	0.0437	292.65	16	2.500E+00	2.275E+03	0.0452	292.65
17	3.000E+00	2.135E+03	0.0464	292.65	18	3.500E+00	2.033E+03	0.0474	292.65
19	4.000E+00	1.954E+03	0.0482	292.65	20	4.500E+00	1.891E+03	0.0489	292.65
21	5.080E+00	1.832E+03	0.0497	292.65	22	7.620E+00	1.669E+03	0.0520	292.65
23	1.016E+01	1.585E+03	0.0534	292.65	24	1.270E+01	1.538E+03	0.0542	292.65
25	1.524E+01	1.513E+03	0.0547	292.65	26	1.778E+01	1.503E+03	0.0549	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.512E+03	0.0547	292.65
29	2.540E+01	1.526E+03	0.0544	292.65	30	2.794E+01	1.543E+03	0.0541	292.65
31	3.048E+01	1.560E+03	0.0538	292.65	32	3.302E+01	1.576E+03	0.0535	292.65
33	3.556E+01	1.589E+03	0.0533	292.65	34	3.810E+01	1.598E+03	0.0531	292.65
35	4.064E+01	1.604E+03	0.0530	292.65	36	4.318E+01	1.607E+03	0.0530	292.65
37	4.572E+01	1.607E+03	0.0530	292.65	38	4.826E+01	1.549E+03	0.0501	292.65
39	5.080E+01	1.050E+03	0.0503	292.65	40	5.334E+01	9.448E+02	0.0504	292.65
41	5.588E+01	9.455E+02	0.0504	292.65	42	5.842E+01	9.507E+02	0.0504	292.65
43	6.096E+01	9.509E+02	0.0504	292.65					

Initial Water Storage = 3.1668 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04278     0.05404     0.05037
 Head (cm)         = 6.36590E+05 2.62573E+03 1.54780E+03 9.50901E+02
 LiqWater Flow (cm)=-3.98934E-11-2.27173E-02 3.39434E-03 3.71869E-08
 IsoVapor Flow (cm)=-2.37598E-02-2.10146E-05 2.76832E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1668+ 0.0000+ 0.0000 - 0.0238- 0.0000-  0.0000 =    3.1430 vs.    3.1430

 Mass Balance =  1.7731E-08 cm;  Time step attempts =   56 and successes =   55
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0238 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    54

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04289     0.06265     0.05022
 Head (cm)         = 1.19840E+06 2.60670E+03 1.19600E+03 1.17959E+03
 LiqWater Flow (cm)=-3.96833E-12-3.13221E-02-1.21172E-02 6.27788E-09
 IsoVapor Flow (cm)=-3.54914E-02-2.81653E-05-3.45771E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4997+ 0.0000+ 0.0000 - 0.0355- 0.0000-  0.0000 =    3.4642 vs.    3.4642

 Mass Balance = -1.4163E-05 cm;  Time step attempts =   75 and successes =   61
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0355 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    61
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1575E+02	[cm]
Actual Evaporation	=	2.0217E+01	[cm]
Evaporation during Growth	=	2.0217E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0523E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.4887E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0523E+01	[cm]
Actual Rainfall	=	2.0523E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.4642E+00	[cm]
Mass Balance Error	=	9.0421E-03	[cm]
Total Successful Time Steps	=	67053	
Total Attempted Time Steps	=	83352	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32232	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.0649E-01	0.050	1.3719E+01	0.150	1.0414E+01
0.250	8.6543E+00	0.350	7.2737E+00	0.450	6.3615E+00
0.550	5.8475E+00	0.650	5.2074E+00	0.750	4.8324E+00
0.850	4.4678E+00	0.950	4.1568E+00	1.125	3.8959E+00
1.375	3.3349E+00	1.625	2.8694E+00	1.875	2.5304E+00
2.250	2.2534E+00	2.750	1.8093E+00	3.250	1.5050E+00
3.750	1.2511E+00	4.250	1.0522E+00	4.790	9.0495E-01
6.350	7.6929E-01	8.890	5.4395E-01	11.430	4.0349E-01
13.970	3.0624E-01	16.510	2.8012E-01	19.050	2.6829E-01
21.590	2.5402E-01	24.130	2.3720E-01	26.670	2.1787E-01
29.210	1.9611E-01	31.750	1.7217E-01	34.290	1.4630E-01
36.830	1.1882E-01	39.370	9.0078E-02	41.910	6.0391E-02
44.450	3.0054E-02	46.990	5.7226E-06	49.530	4.4786E-04
52.070	-2.4923E-05	54.610	-9.0519E-05	57.150	-8.5365E-05
59.690	-3.1632E-05	60.960	7.4887E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2020.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.654E+05	0.0300	292.65	4	3.000E-01	8.621E+05	0.0300	292.65
5	4.000E-01	7.661E+05	0.0300	292.65	6	5.000E-01	6.764E+05	0.0300	292.65
7	6.000E-01	5.921E+05	0.0300	292.65	8	7.000E-01	5.127E+05	0.0300	292.65
9	8.000E-01	4.376E+05	0.0300	292.65	10	9.000E-01	3.664E+05	0.0300	292.65
11	1.000E+00	2.987E+05	0.0300	292.65	12	1.250E+00	1.426E+05	0.0301	292.65
13	1.500E+00	3.199E+03	0.0401	292.65	14	1.750E+00	2.827E+03	0.0417	292.65
15	2.000E+00	2.607E+03	0.0429	292.65	16	2.500E+00	2.336E+03	0.0447	292.65
17	3.000E+00	2.168E+03	0.0461	292.65	18	3.500E+00	2.048E+03	0.0472	292.65
19	4.000E+00	1.956E+03	0.0482	292.65	20	4.500E+00	1.882E+03	0.0490	292.65
21	5.080E+00	1.812E+03	0.0499	292.65	22	7.620E+00	1.610E+03	0.0529	292.65
23	1.016E+01	1.492E+03	0.0551	292.65	24	1.270E+01	1.412E+03	0.0568	292.65
25	1.524E+01	1.353E+03	0.0582	292.65	26	1.778E+01	1.307E+03	0.0594	292.65
27	2.032E+01	1.270E+03	0.0604	292.65	28	2.286E+01	1.241E+03	0.0613	292.65
29	2.540E+01	1.216E+03	0.0620	292.65	30	2.794E+01	1.196E+03	0.0627	292.65
31	3.048E+01	1.179E+03	0.0632	292.65	32	3.302E+01	1.165E+03	0.0637	292.65
33	3.556E+01	1.153E+03	0.0641	292.65	34	3.810E+01	1.144E+03	0.0644	292.65
35	4.064E+01	1.136E+03	0.0647	292.65	36	4.318E+01	1.130E+03	0.0649	292.65
37	4.572E+01	1.126E+03	0.0651	292.65	38	4.826E+01	1.109E+03	0.0503	292.65
39	5.080E+01	9.703E+02	0.0504	292.65	40	5.334E+01	1.076E+03	0.0503	292.65
41	5.588E+01	1.147E+03	0.0502	292.65	42	5.842E+01	1.173E+03	0.0502	292.65
43	6.096E+01	1.180E+03	0.0502	292.65					

```
 Initial Water Storage =   3.4642 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04453     0.06201     0.05022
 Head (cm)         = 7.50500E+05 2.35860E+03 1.21627E+03 1.17929E+03
 LiqWater Flow (cm)=-1.74067E-11-2.45257E-02-1.16212E-02 6.29080E-09
 IsoVapor Flow (cm)=-2.25859E-02-1.98176E-05-3.59152E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4642+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =    3.4416 vs.    3.4416

 Mass Balance = -7.3041E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04403     0.05019
 Head (cm)         = 8.61063E+05 6.85621E+05 2.42988E+03 1.23412E+03
 LiqWater Flow (cm)=-1.02226E-12-3.15191E-12-1.28886E-03 4.34594E-09
 IsoVapor Flow (cm)=-2.91928E-03-2.91928E-03-1.18872E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.5884+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =    2.5855 vs.    2.5855

 Mass Balance = -4.4985E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration                =  0.0000E+00     [cm]
Potential Evaporation               =  3.2628E+02     [cm]
Actual Evaporation                  =  1.5706E+01     [cm]
Evaporation during Growth           =  1.5703E+01     [cm]
Total Runoff                        =  0.0000E+00     [cm]
Total Infiltration                  =  1.4834E+01     [cm]
Total Basal Liquid Flux (drainage) =  2.6809E-06     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                 =  1.4834E+01     [cm]
Actual Rainfall                     =  1.4834E+01     [cm]
Actual Irrigation                   =  0.0000E+00     [cm]
Total Final Moisture Storage        =  2.5855E+00     [cm]
Mass Balance Error                  =  6.0347E-03     [cm]
Total Successful Time Steps         =     50980
Total Attempted Time Steps          =     61958
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary   =     27305
Total Time Actually Simulated       =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7273E-01	0.050	1.0187E+01	0.150	7.1637E+00
0.250	6.2545E+00	0.350	5.7350E+00	0.450	5.2421E+00
0.550	4.9028E+00	0.650	4.4347E+00	0.750	4.1170E+00
0.850	3.8324E+00	0.950	3.5395E+00	1.125	3.2451E+00
1.375	2.6430E+00	1.625	2.2985E+00	1.875	2.0497E+00
2.250	1.7717E+00	2.750	1.1657E+00	3.250	8.2153E-01
3.750	5.6216E-01	4.250	3.2245E-01	4.790	1.3933E-01
6.350	-2.5065E-02	8.890	-5.3045E-01	11.430	-6.4026E-01
13.970	-6.2150E-01	16.510	-5.7534E-01	19.050	-5.2951E-01
21.590	-4.8352E-01	24.130	-4.3719E-01	26.670	-3.9043E-01
29.210	-3.4320E-01	31.750	-2.9553E-01	34.290	-2.4743E-01
36.830	-1.9894E-01	39.370	-1.5009E-01	41.910	-1.0094E-01
44.450	-5.1504E-02	46.990	-1.4521E-03	49.530	2.3424E-04
52.070	8.4719E-06	54.610	-1.2283E-06	57.150	-2.0665E-06
59.690	7.8899E-07	60.960	2.6809E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2021.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.151E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.971E+05	0.0300	292.65
9	8.000E-01	7.882E+05	0.0300	292.65	10	9.000E-01	7.793E+05	0.0300	292.65
11	1.000E+00	7.706E+05	0.0300	292.65	12	1.250E+00	7.488E+05	0.0300	292.65
13	1.500E+00	7.274E+05	0.0300	292.65	14	1.750E+00	7.064E+05	0.0300	292.65
15	2.000E+00	6.856E+05	0.0300	292.65	16	2.500E+00	6.450E+05	0.0300	292.65
17	3.000E+00	6.056E+05	0.0300	292.65	18	3.500E+00	5.673E+05	0.0300	292.65
19	4.000E+00	5.300E+05	0.0300	292.65	20	4.500E+00	4.937E+05	0.0300	292.65
21	5.080E+00	4.527E+05	0.0300	292.65	22	7.620E+00	2.864E+05	0.0300	292.65
23	1.016E+01	1.380E+05	0.0301	292.65	24	1.270E+01	4.149E+03	0.0374	292.65
25	1.524E+01	3.261E+03	0.0399	292.65	26	1.778E+01	2.922E+03	0.0412	292.65
27	2.032E+01	2.726E+03	0.0422	292.65	28	2.286E+01	2.595E+03	0.0430	292.65
29	2.540E+01	2.501E+03	0.0436	292.65	30	2.794E+01	2.430E+03	0.0440	292.65
31	3.048E+01	2.375E+03	0.0444	292.65	32	3.302E+01	2.333E+03	0.0447	292.65
33	3.556E+01	2.300E+03	0.0450	292.65	34	3.810E+01	2.274E+03	0.0452	292.65
35	4.064E+01	2.255E+03	0.0453	292.65	36	4.318E+01	2.242E+03	0.0454	292.65
37	4.572E+01	2.234E+03	0.0455	292.65	38	4.826E+01	2.060E+03	0.0501	292.65
39	5.080E+01	1.742E+03	0.0501	292.65	40	5.334E+01	1.493E+03	0.0501	292.65
41	5.588E+01	1.334E+03	0.0502	292.65	42	5.842E+01	1.256E+03	0.0502	292.65
43	6.096E+01	1.234E+03	0.0502	292.65					

```
 Initial Water Storage =   2.5855 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04395     0.05019
 Head (cm)         = 1.42694E+06 1.08415E+06 2.44120E+03 1.23534E+03
 LiqWater Flow (cm)=-1.76504E-13-6.37633E-13-1.28355E-03 4.31102E-09
 IsoVapor Flow (cm)=-4.12415E-03-4.10993E-03-1.20998E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.5855+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =    2.5813 vs.    2.5813

 Mass Balance =  6.0114E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08484     0.08517     0.07297     0.05055
 Head (cm)         = 7.69023E+02 7.65006E+02 9.47748E+02 8.12147E+02
 LiqWater Flow (cm)= 1.28774E+00 1.16652E+00 1.22701E-01 1.36310E-07
 IsoVapor Flow (cm)= 1.40113E-05 3.24591E-05 2.88303E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8200+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =    4.1106 vs.    4.1095

 Mass Balance =  1.0462E-03 cm;  Time step attempts = 2329 and successes = 1727
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1796E+02	[cm]
Actual Evaporation	=	2.9024E+01	[cm]
Evaporation during Growth	=	2.9024E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0556E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.4393E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0556E+01	[cm]
Actual Rainfall	=	3.0556E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1095E+00	[cm]
Mass Balance Error	=	7.9263E-03	[cm]
Total Successful Time Steps	=	57979	
Total Attempted Time Steps	=	70902	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27104	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5320E+00	0.050	1.5004E+01	0.150	8.7432E+00
0.250	7.2619E+00	0.350	6.0749E+00	0.450	5.5084E+00
0.550	5.1021E+00	0.650	4.7567E+00	0.750	4.5643E+00
0.850	4.3973E+00	0.950	4.2281E+00	1.125	4.1245E+00
1.375	3.8772E+00	1.625	3.6906E+00	1.875	3.5098E+00
2.250	3.3464E+00	2.750	3.0007E+00	3.250	2.7808E+00
3.750	2.6146E+00	4.250	2.4423E+00	4.790	2.2893E+00
6.350	2.0444E+00	8.890	1.4950E+00	11.430	1.1996E+00
13.970	9.1975E-01	16.510	6.7348E-01	19.050	5.5414E-01
21.590	4.5470E-01	24.130	3.6280E-01	26.670	2.7934E-01
29.210	2.0566E-01	31.750	1.4345E-01	34.290	9.4664E-02
36.830	6.0886E-02	39.370	4.0452E-02	41.910	2.6905E-02
44.450	1.5415E-02	46.990	5.1836E-03	49.530	7.2457E-03
52.070	4.3555E-03	54.610	2.6269E-03	57.150	1.0164E-03
59.690	2.1531E-04	60.960	8.4393E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2022.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
```

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.690E+02	0.0848	292.65	2	1.000E-01	7.729E+02	0.0845	292.65
3	2.000E-01	7.702E+02	0.0847	292.65	4	3.000E-01	7.693E+02	0.0848	292.65
5	4.000E-01	7.693E+02	0.0848	292.65	6	5.000E-01	7.692E+02	0.0848	292.65
7	6.000E-01	7.690E+02	0.0848	292.65	8	7.000E-01	7.687E+02	0.0849	292.65
9	8.000E-01	7.684E+02	0.0849	292.65	10	9.000E-01	7.681E+02	0.0849	292.65
11	1.000E+00	7.678E+02	0.0849	292.65	12	1.250E+00	7.671E+02	0.0850	292.65
13	1.500E+00	7.663E+02	0.0851	292.65	14	1.750E+00	7.656E+02	0.0851	292.65
15	2.000E+00	7.650E+02	0.0852	292.65	16	2.500E+00	7.638E+02	0.0853	292.65
17	3.000E+00	7.628E+02	0.0854	292.65	18	3.500E+00	7.619E+02	0.0854	292.65
19	4.000E+00	7.611E+02	0.0855	292.65	20	4.500E+00	7.604E+02	0.0856	292.65
21	5.080E+00	7.598E+02	0.0856	292.65	22	7.620E+00	7.590E+02	0.0857	292.65
23	1.016E+01	7.615E+02	0.0855	292.65	24	1.270E+01	7.678E+02	0.0849	292.65
25	1.524E+01	7.783E+02	0.0841	292.65	26	1.778E+01	7.939E+02	0.0828	292.65
27	2.032E+01	8.161E+02	0.0812	292.65	28	2.286E+01	8.466E+02	0.0790	292.65
29	2.540E+01	8.888E+02	0.0763	292.65	30	2.794E+01	9.477E+02	0.0730	292.65
31	3.048E+01	1.032E+03	0.0689	292.65	32	3.302E+01	1.159E+03	0.0639	292.65
33	3.556E+01	1.352E+03	0.0582	292.65	34	3.810E+01	1.595E+03	0.0532	292.65
35	4.064E+01	1.759E+03	0.0506	292.65	36	4.318E+01	1.810E+03	0.0499	292.65
37	4.572E+01	1.818E+03	0.0498	292.65	38	4.826E+01	1.677E+03	0.0501	292.65
39	5.080E+01	1.013E+03	0.0503	292.65	40	5.334E+01	8.207E+02	0.0505	292.65
41	5.588E+01	7.908E+02	0.0506	292.65	42	5.842E+01	8.010E+02	0.0506	292.65
43	6.096E+01	8.121E+02	0.0506	292.65					

```
 Initial Water Storage =   4.1095 cm

 NOTE:  There are no temperature data when plants are modelled.


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.06885     0.07205     0.05055
 Head (cm)         = 1.94159E+05 1.03254E+03 9.65377E+02 8.11724E+02
 LiqWater Flow (cm)=-6.13787E-02-1.00590E-01 1.22132E-01 1.36909E-07
 IsoVapor Flow (cm)=-7.69706E-02-1.07066E-06 1.08323E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1095+ 0.0508+ 0.0000 - 0.1919- 0.0000-  0.0000 =    3.9684 vs.    3.9684

 Mass Balance = -2.5828E-05 cm;  Time step attempts =  249 and successes =  212
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1919 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04538     0.05002     0.05040
 Head (cm)         = 7.13118E+05 2.24955E+03 1.80431E+03 9.19052E+02
 LiqWater Flow (cm)=-1.90941E-04-4.49894E-02-9.43795E-04 4.92348E-08
 IsoVapor Flow (cm)=-7.59010E-02-1.20362E-05-2.68710E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1553+ 0.0000+ 0.0000 - 0.0761- 0.0000-  0.0000 =    3.0791 vs.    3.0792

 Mass Balance = -6.8439E-05 cm;  Time step attempts =  384 and successes =  298
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0761 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   196
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1971E+02	[cm]
Actual Evaporation	=	2.3679E+01	[cm]
Evaporation during Growth	=	2.3679E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2657E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5058E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2657E+01	[cm]
Actual Rainfall	=	2.2657E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0792E+00	[cm]
Mass Balance Error	=	7.6719E-03	[cm]
Total Successful Time Steps	=	62600	
Total Attempted Time Steps	=	76696	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30520	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0226E+00	0.050	1.3262E+01	0.150	7.9358E+00
0.250	6.3469E+00	0.350	5.6242E+00	0.450	5.0484E+00
0.550	4.4957E+00	0.650	3.9954E+00	0.750	3.6262E+00
0.850	3.3856E+00	0.950	3.1337E+00	1.125	2.7920E+00
1.375	2.1757E+00	1.625	1.7327E+00	1.875	1.4342E+00
2.250	1.1971E+00	2.750	7.0736E-01	3.250	2.6499E-01
3.750	3.1814E-02	4.250	-1.3891E-01	4.790	-2.5948E-01
6.350	-3.2064E-01	8.890	-3.9560E-01	11.430	-4.1086E-01
13.970	-4.1255E-01	16.510	-4.1613E-01	19.050	-3.7729E-01
21.590	-3.0277E-01	24.130	-2.3149E-01	26.670	-1.6554E-01
29.210	-1.0737E-01	31.750	-5.9548E-02	34.290	-2.4580E-02
36.830	-4.3548E-03	39.370	2.6465E-03	41.910	2.7888E-03
44.450	8.7978E-04	46.990	-8.2617E-04	49.530	1.3764E-03
52.070	-2.0519E-05	54.610	-3.4592E-04	57.150	-2.6572E-04
59.690	-6.6489E-05	60.960	3.5058E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2023.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.880E+05	0.0300	292.65
3	2.000E-01	4.734E+05	0.0300	292.65	4	3.000E-01	3.675E+05	0.0300	292.65
5	4.000E-01	2.692E+05	0.0300	292.65	6	5.000E-01	1.775E+05	0.0301	292.65
7	6.000E-01	9.146E+04	0.0302	292.65	8	7.000E-01	1.063E+04	0.0324	292.65
9	8.000E-01	3.899E+03	0.0380	292.65	10	9.000E-01	3.425E+03	0.0393	292.65
11	1.000E+00	3.144E+03	0.0403	292.65	12	1.250E+00	2.740E+03	0.0422	292.65
13	1.500E+00	2.513E+03	0.0435	292.65	14	1.750E+00	2.361E+03	0.0445	292.65
15	2.000E+00	2.250E+03	0.0454	292.65	16	2.500E+00	2.092E+03	0.0468	292.65
17	3.000E+00	1.983E+03	0.0479	292.65	18	3.500E+00	1.903E+03	0.0488	292.65
19	4.000E+00	1.841E+03	0.0495	292.65	20	4.500E+00	1.791E+03	0.0502	292.65
21	5.080E+00	1.745E+03	0.0508	292.65	22	7.620E+00	1.625E+03	0.0527	292.65
23	1.016E+01	1.578E+03	0.0535	292.65	24	1.270E+01	1.571E+03	0.0536	292.65
25	1.524E+01	1.592E+03	0.0532	292.65	26	1.778E+01	1.633E+03	0.0525	292.65
27	2.032E+01	1.687E+03	0.0517	292.65	28	2.286E+01	1.741E+03	0.0509	292.65
29	2.540E+01	1.783E+03	0.0503	292.65	30	2.794E+01	1.804E+03	0.0500	292.65
31	3.048E+01	1.807E+03	0.0500	292.65	32	3.302E+01	1.799E+03	0.0501	292.65
33	3.556E+01	1.787E+03	0.0503	292.65	34	3.810E+01	1.775E+03	0.0504	292.65
35	4.064E+01	1.764E+03	0.0506	292.65	36	4.318E+01	1.756E+03	0.0507	292.65
37	4.572E+01	1.751E+03	0.0508	292.65	38	4.826E+01	1.644E+03	0.0501	292.65
39	5.080E+01	1.095E+03	0.0503	292.65	40	5.334E+01	9.291E+02	0.0504	292.65
41	5.588E+01	9.105E+02	0.0504	292.65	42	5.842E+01	9.162E+02	0.0504	292.65
43	6.096E+01	9.191E+02	0.0504	292.65					

Initial Water Storage = 3.0792 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03002     0.04259     0.05062     0.05040
 Head (cm)          = 7.09845E+05 2.65856E+03 1.75996E+03 9.18960E+02
 LiqWater Flow (cm)=-3.77650E-11-2.65466E-02 1.41622E-03 4.92759E-08
 IsoVapor Flow (cm)=-3.37138E-02-2.19733E-05 2.23954E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0792+ 0.0000+ 0.0000 - 0.0337- 0.0000-  0.0000 =    3.0455 vs.    3.0455

 Mass Balance = -3.0199E-05 cm;  Time step attempts =  188 and successes =  152
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0337 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   151

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03002     0.05008     0.05017
 Head (cm)          = 1.53614E+06 6.45743E+05 1.79963E+03 1.28813E+03
 LiqWater Flow (cm)=-4.67446E-13-6.35194E-11-1.47252E-03 3.04359E-09
 IsoVapor Flow (cm)=-1.32429E-02-1.32300E-02-3.47915E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9187+ 0.0000+ 0.0000 - 0.0132- 0.0000-  0.0000 =    2.9055 vs.    2.9055

 Mass Balance = -1.2203E-05 cm;  Time step attempts =   53 and successes =   43
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0132 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    43
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3745E+02	[cm]
Actual Evaporation	=	1.1190E+01	[cm]
Evaporation during Growth	=	1.1190E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1024E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.5042E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1024E+01	[cm]
Actual Rainfall	=	1.1024E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9055E+00	[cm]
Mass Balance Error	=	7.1604E-03	[cm]
Total Successful Time Steps	=	58166	
Total Attempted Time Steps	=	71682	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30988	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6654E-01	0.050	8.5541E+00	0.150	6.6400E+00
0.250	5.9689E+00	0.350	5.5754E+00	0.450	5.2071E+00
0.550	4.8866E+00	0.650	4.6127E+00	0.750	4.3524E+00
0.850	4.0912E+00	0.950	3.8981E+00	1.125	3.7007E+00
1.375	3.0843E+00	1.625	2.7186E+00	1.875	2.4351E+00
2.250	2.1806E+00	2.750	1.6134E+00	3.250	1.2663E+00
3.750	1.0188E+00	4.250	9.0474E-01	4.790	7.5423E-01
6.350	5.9553E-01	8.890	3.8750E-01	11.430	2.8098E-01
13.970	1.8077E-01	16.510	9.3399E-02	19.050	4.4657E-02
21.590	2.5445E-03	24.130	2.7413E-03	26.670	3.7609E-03
29.210	3.4500E-03	31.750	2.5123E-03	34.290	1.4076E-03
36.830	3.6622E-04	39.370	-5.3137E-04	41.910	-1.2815E-03
44.450	-1.9150E-03	46.990	-1.3030E-03	49.530	-6.9550E-06
52.070	-9.5667E-05	54.610	-1.4331E-04	57.150	-1.2430E-04
59.690	-4.7044E-05	60.960	9.5042E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2024.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.475E+06	0.0300	292.65
3	2.000E-01	1.416E+06	0.0300	292.65	4	3.000E-01	1.360E+06	0.0300	292.65
5	4.000E-01	1.306E+06	0.0300	292.65	6	5.000E-01	1.254E+06	0.0300	292.65
7	6.000E-01	1.204E+06	0.0300	292.65	8	7.000E-01	1.155E+06	0.0300	292.65
9	8.000E-01	1.109E+06	0.0300	292.65	10	9.000E-01	1.064E+06	0.0300	292.65
11	1.000E+00	1.020E+06	0.0300	292.65	12	1.250E+00	9.166E+05	0.0300	292.65
13	1.500E+00	8.203E+05	0.0300	292.65	14	1.750E+00	7.303E+05	0.0300	292.65
15	2.000E+00	6.457E+05	0.0300	292.65	16	2.500E+00	4.907E+05	0.0300	292.65
17	3.000E+00	3.514E+05	0.0300	292.65	18	3.500E+00	2.249E+05	0.0301	292.65
19	4.000E+00	1.090E+05	0.0301	292.65	20	4.500E+00	3.731E+03	0.0384	292.65
21	5.080E+00	3.224E+03	0.0400	292.65	22	7.620E+00	2.502E+03	0.0435	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.098E+03	0.0467	292.65
25	1.524E+01	2.003E+03	0.0477	292.65	26	1.778E+01	1.936E+03	0.0484	292.65
27	2.032E+01	1.887E+03	0.0490	292.65	28	2.286E+01	1.850E+03	0.0494	292.65
29	2.540E+01	1.822E+03	0.0498	292.65	30	2.794E+01	1.800E+03	0.0501	292.65
31	3.048E+01	1.782E+03	0.0503	292.65	32	3.302E+01	1.769E+03	0.0505	292.65
33	3.556E+01	1.759E+03	0.0506	292.65	34	3.810E+01	1.750E+03	0.0508	292.65
35	4.064E+01	1.744E+03	0.0508	292.65	36	4.318E+01	1.739E+03	0.0509	292.65
37	4.572E+01	1.735E+03	0.0510	292.65	38	4.826E+01	1.694E+03	0.0501	292.65
39	5.080E+01	1.492E+03	0.0501	292.65	40	5.334E+01	1.367E+03	0.0501	292.65
41	5.588E+01	1.314E+03	0.0502	292.65	42	5.842E+01	1.294E+03	0.0502	292.65
43	6.096E+01	1.288E+03	0.0502	292.65					

Initial Water Storage = 2.9055 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.03002     0.04992     0.05017
 Head (cm)          = 1.41657E+06 6.11101E+05 1.81176E+03 1.28849E+03
 LiqWater Flow (cm)=-5.31571E-13-3.38265E-11-1.63953E-03 3.03662E-09
 IsoVapor Flow (cm)=-1.14111E-02-1.14135E-02-3.91562E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9055+ 0.0000+ 0.0000 - 0.0114- 0.0000-  0.0000 =    2.8941 vs.    2.8941

 Mass Balance = -3.2587E-07 cm;  Time step attempts =   50 and successes =   48
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0114 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    47

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03000     0.03001     0.04883     0.05011
 Head (cm)          = 2.16723E+06 1.21629E+06 1.89917E+03 1.57469E+03
 LiqWater Flow (cm)=-7.63296E-14-8.77908E-13-2.50597E-03 5.79501E-10
 IsoVapor Flow (cm)=-8.28116E-03-8.28138E-03-6.96934E-07 0.00000E+00
 Plant Sink (cm)    = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8239+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.8156 vs.    2.8156

 Mass Balance = -2.8503E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4447E+02	[cm]
Actual Evaporation	=	1.1716E+01	[cm]
Evaporation during Growth	=	1.1716E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1633E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.6862E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1633E+01	[cm]
Actual Rainfall	=	1.1633E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8156E+00	[cm]
Mass Balance Error	=	6.7202E-03	[cm]
Total Successful Time Steps	=	54981	
Total Attempted Time Steps	=	67333	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29564	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.3142E-02	0.050	9.0335E+00	0.150	6.9946E+00
0.250	6.2631E+00	0.350	5.6213E+00	0.450	5.1782E+00
0.550	4.8359E+00	0.650	4.5296E+00	0.750	4.2362E+00
0.850	4.0020E+00	0.950	3.7215E+00	1.125	3.5439E+00
1.375	3.1244E+00	1.625	2.8629E+00	1.875	2.5104E+00
2.250	2.3036E+00	2.750	1.8906E+00	3.250	1.4986E+00
3.750	1.2892E+00	4.250	1.1080E+00	4.790	8.9021E-01
6.350	6.7382E-01	8.890	2.7221E-01	11.430	2.1388E-01
13.970	1.5743E-01	16.510	1.0701E-01	19.050	5.7268E-02
21.590	1.0768E-02	24.130	-1.9890E-02	26.670	-1.6783E-02
29.210	-1.3794E-02	31.750	-1.1137E-02	34.290	-8.8085E-03
36.830	-6.7786E-03	39.370	-5.0041E-03	41.910	-3.4136E-03
44.450	-1.9539E-03	46.990	4.1988E-05	49.530	4.0472E-05
52.070	1.6781E-07	54.610	-3.9210E-06	57.150	-4.1602E-06
59.690	-1.5565E-06	60.960	3.6862E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX III.I.1.D – UNSAT-H MODEL INPUT AND OUTPUT: NO PLANTS

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
0,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                         IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                          UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,4.6,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,23.7,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
```

```
0.20,1234,0.5,875.0,                    ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

Initial Water Storage = 6.4909 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.09064	0.09148	0.11152	0.07609
Head (cm)	= 7.04973E+02	6.96597E+02	5.43311E+02	1.72394E+02

```
 LiqWater Flow (cm)=-3.30934E-01-2.96830E-01-1.85300E-01 1.40052E-01
 IsoVapor Flow (cm)=-2.35437E-06-9.10224E-07-1.40543E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1401 =     6.0191 vs.     6.0191

 Mass Balance = -4.9484E-05 cm;  Time step attempts =  219 and successes =  197
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04795     0.05164
 Head (cm)         = 1.32310E+06 1.95513E+05 1.97735E+03 5.25300E+02
 LiqWater Flow (cm)= 5.23751E-02 1.17400E-02-1.02339E-03 4.16114E-06
 IsoVapor Flow (cm)=-4.34634E-02-2.98159E-03-4.48495E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8359+ 0.0762+ 0.0000 - 0.0673- 0.0000-  0.0000 =     2.8448 vs.     2.8446

 Mass Balance =  1.3370E-04 cm;  Time step attempts = 1382 and successes = 1068
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0673 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   449
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1660E+02     [cm]
 Actual Evaporation                 =  1.8814E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.5392E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.1868E-01     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.5392E+01     [cm]
Actual Rainfall                    =  1.5392E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8446E+00     [cm]
Mass Balance Error                 =  6.0031E-03     [cm]
Total Successful Time Steps        =     57521
Total Attempted Time Steps         =     70351
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30386
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4216E+00	0.050	8.5530E+00	0.150	5.3339E+00
0.250	3.9850E+00	0.350	3.2012E+00	0.450	2.6445E+00
0.550	2.0839E+00	0.650	1.7436E+00	0.750	1.3917E+00
0.850	1.0897E+00	0.950	7.2371E-01	1.125	4.4810E-01
1.375	-1.6629E-01	1.625	-6.1738E-01	1.875	-9.0390E-01
2.250	-1.0926E+00	2.750	-1.4609E+00	3.250	-1.7134E+00
3.750	-1.9646E+00	4.250	-2.1095E+00	4.790	-2.2048E+00
6.350	-2.2550E+00	8.890	-2.4396E+00	11.430	-2.4155E+00
13.970	-2.3801E+00	16.510	-2.3243E+00	19.050	-2.1800E+00
21.590	-2.0289E+00	24.130	-1.8788E+00	26.670	-1.7295E+00
29.210	-1.5809E+00	31.750	-1.4328E+00	34.290	-1.2852E+00
36.830	-1.1381E+00	39.370	-9.9119E-01	41.910	-8.4460E-01
44.450	-6.9822E-01	46.990	-5.4946E-01	49.530	-4.0137E-01
52.070	-2.6876E-01	54.610	-1.2923E-01	57.150	1.0036E-02
59.690	1.4915E-01	60.960	2.1868E-01		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.238E+06	0.0300	292.65
3	2.000E-01	1.159E+06	0.0300	292.65	4	3.000E-01	1.083E+06	0.0300	292.65
5	4.000E-01	1.012E+06	0.0300	292.65	6	5.000E-01	9.440E+05	0.0300	292.65
7	6.000E-01	8.793E+05	0.0300	292.65	8	7.000E-01	8.175E+05	0.0300	292.65
9	8.000E-01	7.583E+05	0.0300	292.65	10	9.000E-01	7.015E+05	0.0300	292.65
11	1.000E+00	6.470E+05	0.0300	292.65	12	1.250E+00	5.195E+05	0.0300	292.65
13	1.500E+00	4.028E+05	0.0300	292.65	14	1.750E+00	2.952E+05	0.0300	292.65
15	2.000E+00	1.955E+05	0.0301	292.65	16	2.500E+00	1.530E+04	0.0315	292.65
17	3.000E+00	4.914E+03	0.0360	292.65	18	3.500E+00	4.731E+03	0.0363	292.65
19	4.000E+00	4.769E+03	0.0363	292.65	20	4.500E+00	4.436E+03	0.0368	292.65
21	5.080E+00	3.894E+03	0.0380	292.65	22	7.620E+00	2.795E+03	0.0419	292.65
23	1.016E+01	2.481E+03	0.0437	292.65	24	1.270E+01	2.313E+03	0.0449	292.65
25	1.524E+01	2.207E+03	0.0457	292.65	26	1.778E+01	2.132E+03	0.0464	292.65
27	2.032E+01	2.078E+03	0.0469	292.65	28	2.286E+01	2.036E+03	0.0473	292.65
29	2.540E+01	2.003E+03	0.0477	292.65	30	2.794E+01	1.977E+03	0.0479	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.939E+03	0.0484	292.65
33	3.556E+01	1.925E+03	0.0485	292.65	34	3.810E+01	1.913E+03	0.0487	292.65
35	4.064E+01	1.904E+03	0.0488	292.65	36	4.318E+01	1.897E+03	0.0489	292.65
37	4.572E+01	1.892E+03	0.0489	292.65	38	4.826E+01	1.602E+03	0.0501	292.65
39	5.080E+01	5.861E+02	0.0512	292.65	40	5.334E+01	5.530E+02	0.0514	292.65
41	5.588E+01	5.364E+02	0.0516	292.65	42	5.842E+01	5.279E+02	0.0516	292.65
43	6.096E+01	5.253E+02	0.0516	292.65					

Initial Water Storage = 2.8446 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03005	0.04786	0.05163
Head (cm)	= 6.46939E+05	2.64598E+05	1.98486E+03	5.25739E+02

```
 LiqWater Flow (cm)=-1.04353E-11-1.40322E-07-1.06432E-03 4.13257E-06
 IsoVapor Flow (cm)=-9.19674E-03-9.20291E-03-4.71421E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8446+ 0.0000+ 0.0000 - 0.0092- 0.0000-  0.0000 =     2.8354 vs.     2.8355

 Mass Balance = -2.7207E-05 cm;  Time step attempts =  103 and successes =   81
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0092 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    78

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04628     0.05093
 Head (cm)         = 1.37244E+06 9.76165E+05 2.14499E+03 6.58202E+02
 LiqWater Flow (cm)=-2.06547E-13-9.99673E-13-1.46826E-03 6.46714E-07
 IsoVapor Flow (cm)=-4.94573E-03-4.94516E-03-8.85352E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.6965+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =     2.6915 vs.     2.6915

 Mass Balance =  2.1425E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3540E+02     [cm]
 Actual Evaporation                 =  2.1457E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1311E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.0918E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1311E+01     [cm]
Actual Rainfall                    =  2.1311E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6915E+00     [cm]
Mass Balance Error                 =  6.3878E-03     [cm]
Total Successful Time Steps        =     50967
Total Attempted Time Steps         =     61488
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26469
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4610E-01	0.050	1.5303E+01	0.150	8.2999E+00
0.250	6.4493E+00	0.350	5.2358E+00	0.450	4.4320E+00
0.550	3.9595E+00	0.650	3.6295E+00	0.750	3.4465E+00
0.850	3.1397E+00	0.950	2.9979E+00	1.125	2.7912E+00
1.375	2.4272E+00	1.625	2.2129E+00	1.875	2.0704E+00
2.250	1.9183E+00	2.750	1.6150E+00	3.250	1.4752E+00
3.750	1.3252E+00	4.250	1.1923E+00	4.790	1.0949E+00
6.350	9.3450E-01	8.890	4.5841E-01	11.430	2.3411E-01
13.970	1.1022E-01	16.510	-2.1620E-02	19.050	-4.9194E-02
21.590	-4.3707E-02	24.130	-3.8701E-02	26.670	-3.4193E-02
29.210	-3.0100E-02	31.750	-2.6353E-02	34.290	-2.2883E-02
36.830	-1.9624E-02	39.370	-1.6531E-02	41.910	-1.3559E-02
44.450	-1.0664E-02	46.990	-5.9001E-03	49.530	-1.0519E-03
52.070	-5.0177E-03	54.610	-3.5985E-03	57.150	-1.9528E-03
59.690	-2.5020E-04	60.960	6.0918E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.305E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.262E+06	0.0300	292.65
7	6.000E-01	1.241E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.200E+06	0.0300	292.65	10	9.000E-01	1.180E+06	0.0300	292.65
11	1.000E+00	1.160E+06	0.0300	292.65	12	1.250E+00	1.112E+06	0.0300	292.65
13	1.500E+00	1.065E+06	0.0300	292.65	14	1.750E+00	1.020E+06	0.0300	292.65
15	2.000E+00	9.762E+05	0.0300	292.65	16	2.500E+00	8.926E+05	0.0300	292.65
17	3.000E+00	8.137E+05	0.0300	292.65	18	3.500E+00	7.392E+05	0.0300	292.65
19	4.000E+00	6.685E+05	0.0300	292.65	20	4.500E+00	6.013E+05	0.0300	292.65
21	5.080E+00	5.272E+05	0.0300	292.65	22	7.620E+00	2.423E+05	0.0301	292.65
23	1.016E+01	4.947E+03	0.0360	292.65	24	1.270E+01	3.058E+03	0.0406	292.65
25	1.524E+01	2.685E+03	0.0424	292.65	26	1.778E+01	2.486E+03	0.0436	292.65
27	2.032E+01	2.357E+03	0.0445	292.65	28	2.286E+01	2.265E+03	0.0453	292.65
29	2.540E+01	2.197E+03	0.0458	292.65	30	2.794E+01	2.145E+03	0.0463	292.65
31	3.048E+01	2.104E+03	0.0467	292.65	32	3.302E+01	2.072E+03	0.0470	292.65
33	3.556E+01	2.046E+03	0.0472	292.65	34	3.810E+01	2.026E+03	0.0474	292.65
35	4.064E+01	2.011E+03	0.0476	292.65	36	4.318E+01	2.000E+03	0.0477	292.65
37	4.572E+01	1.993E+03	0.0478	292.65	38	4.826E+01	1.736E+03	0.0501	292.65
39	5.080E+01	9.141E+02	0.0504	292.65	40	5.334E+01	7.279E+02	0.0507	292.65
41	5.588E+01	6.817E+02	0.0509	292.65	42	5.842E+01	6.634E+02	0.0509	292.65
43	6.096E+01	6.582E+02	0.0509	292.65					

Initial Water Storage = 2.6915 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04619	0.05093
Head (cm)	= 1.39883E+06	9.92133E+05	2.15531E+03	6.58520E+02

```
 LiqWater Flow (cm)=-1.93373E-13-9.42340E-13-1.46981E-03 6.44141E-07
 IsoVapor Flow (cm)=-4.99903E-03-4.99863E-03-9.05855E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.6915+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =     2.6865 vs.     2.6865

 Mass Balance =  1.2593E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.05124     0.07399     0.05058
 Head (cm)         = 5.55168E+05 1.71695E+03 9.28870E+02 7.97508E+02
 LiqWater Flow (cm)=-1.25591E-09-6.47971E-02-2.72442E-02 1.32651E-07
 IsoVapor Flow (cm)=-7.01576E-02-9.62803E-06-2.63151E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.0401+ 0.0000+ 0.0000 - 0.0702- 0.0000-  0.0000 =     3.9700 vs.     3.9700

 Mass Balance = -1.3438E-05 cm;  Time step attempts =  106 and successes =   84
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0702 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    65
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.8279E+02     [cm]
 Actual Evaporation                 =  2.3170E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.4460E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.1399E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.4460E+01     [cm]
Actual Rainfall                    =  2.4460E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.9700E+00     [cm]
Mass Balance Error                 =  1.1831E-02     [cm]
Total Successful Time Steps        =     81675
Total Attempted Time Steps         =    102016
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     38109
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2904E+00	0.050	1.7795E+01	0.150	1.3673E+01
0.250	1.1751E+01	0.350	1.0355E+01	0.450	9.3016E+00
0.550	8.4322E+00	0.650	7.6790E+00	0.750	7.0336E+00
0.850	6.5895E+00	0.950	6.1165E+00	1.125	5.7004E+00
1.375	4.6234E+00	1.625	3.9974E+00	1.875	3.4912E+00
2.250	3.1282E+00	2.750	2.4964E+00	3.250	2.1583E+00
3.750	1.9172E+00	4.250	1.6718E+00	4.790	1.5194E+00
6.350	1.3664E+00	8.890	1.1405E+00	11.430	9.8696E-01
13.970	9.2072E-01	16.510	8.5501E-01	19.050	7.8865E-01
21.590	7.2133E-01	24.130	6.5296E-01	26.670	5.8352E-01
29.210	5.1306E-01	31.750	4.4167E-01	34.290	3.6941E-01
36.830	2.9636E-01	39.370	2.2263E-01	41.910	1.4829E-01
44.450	7.3438E-02	46.990	-1.2404E-03	49.530	1.5304E-06
52.070	-9.7184E-04	54.610	-1.3882E-03	57.150	-9.3634E-04
59.690	-2.5235E-04	60.960	1.1399E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.552E+05	0.0300	292.65	2	1.000E-01	3.917E+05	0.0300	292.65
3	2.000E-01	2.464E+05	0.0301	292.65	4	3.000E-01	1.160E+05	0.0301	292.65
5	4.000E-01	2.582E+03	0.0430	292.65	6	5.000E-01	2.438E+03	0.0440	292.65
7	6.000E-01	2.328E+03	0.0448	292.65	8	7.000E-01	2.240E+03	0.0455	292.65
9	8.000E-01	2.166E+03	0.0461	292.65	10	9.000E-01	2.102E+03	0.0467	292.65
11	1.000E+00	2.047E+03	0.0472	292.65	12	1.250E+00	1.934E+03	0.0484	292.65
13	1.500E+00	1.847E+03	0.0495	292.65	14	1.750E+00	1.776E+03	0.0504	292.65
15	2.000E+00	1.717E+03	0.0512	292.65	16	2.500E+00	1.623E+03	0.0527	292.65
17	3.000E+00	1.550E+03	0.0540	292.65	18	3.500E+00	1.491E+03	0.0551	292.65
19	4.000E+00	1.442E+03	0.0562	292.65	20	4.500E+00	1.400E+03	0.0571	292.65
21	5.080E+00	1.359E+03	0.0581	292.65	22	7.620E+00	1.230E+03	0.0616	292.65
23	1.016E+01	1.149E+03	0.0642	292.65	24	1.270E+01	1.092E+03	0.0664	292.65
25	1.524E+01	1.048E+03	0.0682	292.65	26	1.778E+01	1.014E+03	0.0697	292.65
27	2.032E+01	9.865E+02	0.0710	292.65	28	2.286E+01	9.638E+02	0.0721	292.65
29	2.540E+01	9.448E+02	0.0731	292.65	30	2.794E+01	9.289E+02	0.0740	292.65
31	3.048E+01	9.154E+02	0.0748	292.65	32	3.302E+01	9.041E+02	0.0754	292.65
33	3.556E+01	8.946E+02	0.0760	292.65	34	3.810E+01	8.867E+02	0.0765	292.65
35	4.064E+01	8.803E+02	0.0768	292.65	36	4.318E+01	8.753E+02	0.0772	292.65
37	4.572E+01	8.715E+02	0.0774	292.65	38	4.826E+01	8.608E+02	0.0505	292.65
39	5.080E+01	9.434E+02	0.0504	292.65	40	5.334E+01	8.844E+02	0.0504	292.65
41	5.588E+01	8.329E+02	0.0505	292.65	42	5.842E+01	8.059E+02	0.0506	292.65
43	6.096E+01	7.975E+02	0.0506	292.65					

Initial Water Storage = 3.9700 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03003	0.05000	0.07264	0.05058
Head (cm)	3.72655E+05	1.80564E+03	9.53849E+02	7.97785E+02

```
 LiqWater Flow (cm)=-5.38177E-10-5.82323E-02-2.50070E-02 1.32272E-07
 IsoVapor Flow (cm)=-6.14426E-02-1.09375E-05-2.74933E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9700+ 0.0000+ 0.0000 - 0.0614- 0.0000-  0.0000 =     3.9085 vs.     3.9085

 Mass Balance = -2.8098E-06 cm;  Time step attempts =   37 and successes =   31
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0614 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05686     0.05035
 Head (cm)         = 9.19880E+05 2.45277E+05 1.41005E+03 9.73624E+02
 LiqWater Flow (cm)=-3.18818E-12-6.80523E-07-5.73186E-03 2.55715E-08
 IsoVapor Flow (cm)=-1.33579E-02-1.33419E-02-4.41930E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.2124+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =     3.1990 vs.     3.1990

 Mass Balance = -6.0264E-06 cm;  Time step attempts =   94 and successes =   90
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0134 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    85
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9981E+02     [cm]
 Actual Evaporation                 =  1.7959E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.7196E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.6652E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.7196E+01     [cm]
Actual Rainfall                    =  1.7196E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1990E+00     [cm]
Mass Balance Error                 =  7.6198E-03     [cm]
Total Successful Time Steps        =     63438
Total Attempted Time Steps         =     77938
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31495
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.6328E-01	0.050	1.1429E+01	0.150	8.2647E+00
0.250	7.1350E+00	0.350	6.1800E+00	0.450	5.4287E+00
0.550	4.9157E+00	0.650	4.4186E+00	0.750	3.9611E+00
0.850	3.6072E+00	0.950	3.2607E+00	1.125	2.9651E+00
1.375	2.2105E+00	1.625	1.7303E+00	1.875	1.3007E+00
2.250	1.0574E+00	2.750	5.7972E-01	3.250	2.9236E-01
3.750	5.5740E-02	4.250	-4.2571E-02	4.790	-1.0034E-01
6.350	-1.7476E-01	8.890	-3.5247E-01	11.430	-4.2850E-01
13.970	-4.6691E-01	16.510	-4.8928E-01	19.050	-4.9079E-01
21.590	-4.5036E-01	24.130	-4.0864E-01	26.670	-3.6600E-01
29.210	-3.2255E-01	31.750	-2.7840E-01	34.290	-2.3360E-01
36.830	-1.8825E-01	39.370	-1.4240E-01	41.910	-9.6115E-02
44.450	-4.9466E-02	46.990	-1.7710E-03	49.530	4.4838E-04
52.070	-1.3983E-04	54.610	-3.2787E-04	57.150	-3.1580E-04
59.690	-1.0951E-04	60.960	2.6652E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	2	1.000E-01	8.770E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	4	3.000E-01	7.952E+05	0.0300	292.65
5	4.000E-01	7.560E+05	0.0300	292.65	6	5.000E-01	7.179E+05	0.0300	292.65
7	6.000E-01	6.808E+05	0.0300	292.65	8	7.000E-01	6.447E+05	0.0300	292.65
9	8.000E-01	6.095E+05	0.0300	292.65	10	9.000E-01	5.752E+05	0.0300	292.65
11	1.000E+00	5.417E+05	0.0300	292.65	12	1.250E+00	4.614E+05	0.0300	292.65
13	1.500E+00	3.856E+05	0.0300	292.65	14	1.750E+00	3.136E+05	0.0300	292.65
15	2.000E+00	2.453E+05	0.0301	292.65	16	2.500E+00	1.179E+05	0.0301	292.65
17	3.000E+00	3.052E+03	0.0407	292.65	18	3.500E+00	2.743E+03	0.0421	292.65
19	4.000E+00	2.548E+03	0.0432	292.65	20	4.500E+00	2.408E+03	0.0442	292.65
21	5.080E+00	2.286E+03	0.0451	292.65	22	7.620E+00	1.968E+03	0.0480	292.65
23	1.016E+01	1.800E+03	0.0501	292.65	24	1.270E+01	1.690E+03	0.0517	292.65
25	1.524E+01	1.611E+03	0.0529	292.65	26	1.778E+01	1.551E+03	0.0540	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.466E+03	0.0556	292.65
29	2.540E+01	1.436E+03	0.0563	292.65	30	2.794E+01	1.410E+03	0.0569	292.65
31	3.048E+01	1.389E+03	0.0573	292.65	32	3.302E+01	1.372E+03	0.0578	292.65
33	3.556E+01	1.357E+03	0.0581	292.65	34	3.810E+01	1.346E+03	0.0584	292.65
35	4.064E+01	1.337E+03	0.0586	292.65	36	4.318E+01	1.330E+03	0.0588	292.65
37	4.572E+01	1.325E+03	0.0589	292.65	38	4.826E+01	1.296E+03	0.0502	292.65
39	5.080E+01	1.019E+03	0.0503	292.65	40	5.334E+01	9.986E+02	0.0503	292.65
41	5.588E+01	9.984E+02	0.0503	292.65	42	5.842E+01	9.829E+02	0.0503	292.65
43	6.096E+01	9.736E+02	0.0503	292.65					

Initial Water Storage = 3.1990 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03004	0.05655	0.05035
Head (cm)	= 1.35965E+06	3.27437E+05	1.42364E+03	9.73909E+02

```
 LiqWater Flow (cm)=-8.32675E-13-2.60138E-09-5.56906E-03 2.55092E-08
 IsoVapor Flow (cm)=-1.66486E-02-1.66281E-02-4.49810E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1990+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =     3.1824 vs.     3.1824

 Mass Balance = -4.9288E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04558     0.06596     0.05024
 Head (cm)         = 8.66730E+05 2.22598E+03 1.10238E+03 1.13576E+03
 LiqWater Flow (cm)=-1.67325E-11-3.86446E-02-1.10895E-02 7.16000E-09
 IsoVapor Flow (cm)=-4.20348E-02-1.95531E-05-2.65098E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6559+ 0.0000+ 0.0000 - 0.0420- 0.0000-  0.0000 =     3.6139 vs.     3.6139

 Mass Balance = -1.8123E-05 cm;  Time step attempts =  102 and successes =   79
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0420 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    79
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0082E+02     [cm]
 Actual Evaporation                 =  2.0305E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.0726E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.9662E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.0726E+01     [cm]
Actual Rainfall                    =  2.0726E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.6139E+00     [cm]
Mass Balance Error                 =  6.5105E-03     [cm]
Total Successful Time Steps        =     49260
Total Attempted Time Steps         =     59592
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     25281
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.2139E-01	0.050	1.4096E+01	0.150	9.2845E+00
0.250	7.7256E+00	0.350	6.6492E+00	0.450	5.8424E+00
0.550	5.2020E+00	0.650	4.7766E+00	0.750	4.2826E+00
0.850	3.8464E+00	0.950	3.5936E+00	1.125	3.2904E+00
1.375	2.7010E+00	1.625	2.3325E+00	1.875	2.0691E+00
2.250	1.9375E+00	2.750	1.6728E+00	3.250	1.5410E+00
3.750	1.4371E+00	4.250	1.2958E+00	4.790	1.1884E+00
6.350	1.0046E+00	8.890	7.4586E-01	11.430	6.1642E-01
13.970	5.0334E-01	16.510	4.1794E-01	19.050	3.3936E-01
21.590	2.5820E-01	24.130	2.1142E-01	26.670	1.8800E-01
29.210	1.6466E-01	31.750	1.4126E-01	34.290	1.1779E-01
36.830	9.4233E-02	39.370	7.0603E-02	41.910	4.6898E-02
44.450	2.3103E-02	46.990	-5.0028E-06	49.530	5.3829E-04
52.070	3.0724E-05	54.610	-2.9751E-05	57.150	-4.4802E-05
59.690	-1.9052E-05	60.960	4.9662E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.511E+05	0.0300	292.65
3	2.000E-01	6.441E+05	0.0300	292.65	4	3.000E-01	5.450E+05	0.0300	292.65
5	4.000E-01	4.526E+05	0.0300	292.65	6	5.000E-01	3.659E+05	0.0300	292.65
7	6.000E-01	2.844E+05	0.0300	292.65	8	7.000E-01	2.074E+05	0.0301	292.65
9	8.000E-01	1.345E+05	0.0301	292.65	10	9.000E-01	6.528E+04	0.0303	292.65
11	1.000E+00	3.663E+03	0.0386	292.65	12	1.250E+00	2.876E+03	0.0415	292.65
13	1.500E+00	2.557E+03	0.0432	292.65	14	1.750E+00	2.363E+03	0.0445	292.65
15	2.000E+00	2.226E+03	0.0456	292.65	16	2.500E+00	2.038E+03	0.0473	292.65
17	3.000E+00	1.911E+03	0.0487	292.65	18	3.500E+00	1.816E+03	0.0499	292.65
19	4.000E+00	1.742E+03	0.0509	292.65	20	4.500E+00	1.681E+03	0.0518	292.65
21	5.080E+00	1.623E+03	0.0527	292.65	22	7.620E+00	1.453E+03	0.0559	292.65
23	1.016E+01	1.352E+03	0.0582	292.65	24	1.270E+01	1.283E+03	0.0600	292.65
25	1.524E+01	1.233E+03	0.0615	292.65	26	1.778E+01	1.194E+03	0.0627	292.65
27	2.032E+01	1.164E+03	0.0637	292.65	28	2.286E+01	1.139E+03	0.0646	292.65
29	2.540E+01	1.119E+03	0.0653	292.65	30	2.794E+01	1.102E+03	0.0660	292.65
31	3.048E+01	1.089E+03	0.0665	292.65	32	3.302E+01	1.077E+03	0.0670	292.65
33	3.556E+01	1.068E+03	0.0673	292.65	34	3.810E+01	1.060E+03	0.0677	292.65
35	4.064E+01	1.054E+03	0.0679	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.045E+03	0.0683	292.65	38	4.826E+01	1.037E+03	0.0503	292.65
39	5.080E+01	1.235E+03	0.0502	292.65	40	5.334E+01	1.141E+03	0.0502	292.65
41	5.588E+01	1.118E+03	0.0502	292.65	42	5.842E+01	1.129E+03	0.0502	292.65
43	6.096E+01	1.136E+03	0.0502	292.65					

Initial Water Storage = 3.6139 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.04491	0.06522	0.05024
Head (cm)	= 1.04627E+06	2.30896E+03	1.12200E+03	1.13548E+03

```
 LiqWater Flow (cm)=-6.00077E-12-3.37137E-02-1.16958E-02 7.17472E-09
 IsoVapor Flow (cm)=-3.60676E-02-2.12870E-05-2.97586E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6139+ 0.0000+ 0.0000 - 0.0361- 0.0000-  0.0000 =     3.5778 vs.     3.5779

 Mass Balance = -1.1454E-05 cm;  Time step attempts =   74 and successes =   59
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0361 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05566     0.05020
 Head (cm)         = 8.48906E+05 1.36533E+05 1.46520E+03 1.22725E+03
 LiqWater Flow (cm)=-5.05373E-12-2.08012E-04-4.32763E-03 3.78323E-09
 IsoVapor Flow (cm)=-1.46930E-02-1.44844E-02-4.12622E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1727+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =     3.1581 vs.     3.1581

 Mass Balance = -2.7162E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0228E+02     [cm]
 Actual Evaporation                 =  1.9269E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.8821E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.7750E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.8821E+01     [cm]
Actual Rainfall                    =  1.8821E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1581E+00     [cm]
Mass Balance Error                 =  7.9892E-03     [cm]
Total Successful Time Steps        =     60369
Total Attempted Time Steps         =     73990
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30877
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4787E-01	0.050	1.3790E+01	0.150	9.2170E+00
0.250	7.9422E+00	0.350	7.0846E+00	0.450	6.2951E+00
0.550	5.7758E+00	0.650	5.3168E+00	0.750	4.7933E+00
0.850	4.3870E+00	0.950	4.1347E+00	1.125	3.8738E+00
1.375	3.0384E+00	1.625	2.5022E+00	1.875	1.9957E+00
2.250	1.7168E+00	2.750	1.1506E+00	3.250	7.2996E-01
3.750	5.8479E-01	4.250	4.2780E-01	4.790	2.9940E-01
6.350	1.8255E-01	8.890	-1.0399E-01	11.430	-2.4825E-01
13.970	-2.9196E-01	16.510	-3.1574E-01	19.050	-2.9196E-01
21.590	-2.6731E-01	24.130	-2.4208E-01	26.670	-2.1639E-01
29.210	-1.9030E-01	31.750	-1.6389E-01	34.290	-1.3720E-01
36.830	-1.1027E-01	39.370	-8.3143E-02	41.910	-5.5835E-02
44.450	-2.8371E-02	46.990	-4.1043E-04	49.530	6.4138E-04
52.070	3.9823E-05	54.610	-5.4667E-06	57.150	-7.2319E-06
59.690	-1.8881E-06	60.960	1.7750E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	2	1.000E-01	8.031E+05	0.0300	292.65
3	2.000E-01	7.587E+05	0.0300	292.65	4	3.000E-01	7.157E+05	0.0300	292.65
5	4.000E-01	6.740E+05	0.0300	292.65	6	5.000E-01	6.335E+05	0.0300	292.65
7	6.000E-01	5.942E+05	0.0300	292.65	8	7.000E-01	5.559E+05	0.0300	292.65
9	8.000E-01	5.187E+05	0.0300	292.65	10	9.000E-01	4.825E+05	0.0300	292.65
11	1.000E+00	4.472E+05	0.0300	292.65	12	1.250E+00	3.628E+05	0.0300	292.65
13	1.500E+00	2.832E+05	0.0300	292.65	14	1.750E+00	2.079E+05	0.0301	292.65
15	2.000E+00	1.365E+05	0.0301	292.65	16	2.500E+00	3.984E+03	0.0378	292.65
17	3.000E+00	3.113E+03	0.0404	292.65	18	3.500E+00	2.772E+03	0.0420	292.65
19	4.000E+00	2.568E+03	0.0431	292.65	20	4.500E+00	2.424E+03	0.0441	292.65
21	5.080E+00	2.301E+03	0.0450	292.65	22	7.620E+00	1.992E+03	0.0478	292.65
23	1.016E+01	1.831E+03	0.0497	292.65	24	1.270E+01	1.727E+03	0.0511	292.65
25	1.524E+01	1.653E+03	0.0522	292.65	26	1.778E+01	1.597E+03	0.0532	292.65
27	2.032E+01	1.553E+03	0.0539	292.65	28	2.286E+01	1.518E+03	0.0546	292.65
29	2.540E+01	1.489E+03	0.0552	292.65	30	2.794E+01	1.465E+03	0.0557	292.65
31	3.048E+01	1.445E+03	0.0561	292.65	32	3.302E+01	1.429E+03	0.0564	292.65
33	3.556E+01	1.416E+03	0.0567	292.65	34	3.810E+01	1.405E+03	0.0570	292.65
35	4.064E+01	1.396E+03	0.0572	292.65	36	4.318E+01	1.390E+03	0.0573	292.65
37	4.572E+01	1.385E+03	0.0574	292.65	38	4.826E+01	1.362E+03	0.0502	292.65
39	5.080E+01	1.249E+03	0.0502	292.65	40	5.334E+01	1.231E+03	0.0502	292.65
41	5.588E+01	1.230E+03	0.0502	292.65	42	5.842E+01	1.228E+03	0.0502	292.65
43	6.096E+01	1.227E+03	0.0502	292.65					

Initial Water Storage = 3.1581 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05541	0.05020
Head (cm)	=	8.74418E+05	1.41905E+05	1.47744E+03	1.22731E+03

```
 LiqWater Flow (cm)=-4.53698E-12-1.03361E-04-4.30247E-03 3.78171E-09
 IsoVapor Flow (cm)=-1.49669E-02-1.48596E-02-4.25620E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1581+ 0.0000+ 0.0000 - 0.0150- 0.0000-  0.0000 =     3.1431 vs.     3.1431

 Mass Balance = -6.6952E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0150 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04464     0.04900     0.05011
 Head (cm)         = 8.82736E+05 2.34469E+03 1.88501E+03 1.54402E+03
 LiqWater Flow (cm)= 1.69846E-01 9.42150E-02-1.98821E-03 5.69678E-10
 IsoVapor Flow (cm)=-5.79369E-02 1.82264E-04-6.44867E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8341+ 0.2032+ 0.0000 - 0.0913- 0.0000-  0.0000 =     2.9460 vs.     2.9456

 Mass Balance =  4.5777E-04 cm;  Time step attempts = 1811 and successes = 1382
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0913 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   325
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0416E+02     [cm]
 Actual Evaporation                 =  1.1101E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.0897E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.7343E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.0897E+01     [cm]
Actual Rainfall                    =  1.0897E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9456E+00     [cm]
Mass Balance Error                 =  7.5948E-03     [cm]
Total Successful Time Steps        =     61541
Total Attempted Time Steps         =     76196
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31424
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.0488E-01	0.050	8.2830E+00	0.150	6.5620E+00
0.250	5.9107E+00	0.350	5.4484E+00	0.450	5.0285E+00
0.550	4.6886E+00	0.650	4.3356E+00	0.750	4.1038E+00
0.850	3.8920E+00	0.950	3.7253E+00	1.125	3.5500E+00
1.375	3.0756E+00	1.625	2.8258E+00	1.875	2.5772E+00
2.250	2.3776E+00	2.750	1.9976E+00	3.250	1.6936E+00
3.750	1.4480E+00	4.250	1.1336E+00	4.790	8.9895E-01
6.350	6.1827E-01	8.890	3.5760E-02	11.430	-1.3507E-01
13.970	-2.2022E-01	16.510	-2.0491E-01	19.050	-1.8883E-01
21.590	-1.7250E-01	24.130	-1.5597E-01	26.670	-1.3926E-01
29.210	-1.2241E-01	31.750	-1.0543E-01	34.290	-8.8307E-02
36.830	-7.1069E-02	39.370	-5.3727E-02	41.910	-3.6289E-02
44.450	-1.8763E-02	46.990	-6.6172E-04	49.530	1.3729E-05
52.070	-7.0077E-06	54.610	-8.2532E-06	57.150	-6.5131E-06
59.690	-2.1460E-06	60.960	6.7343E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.667E+04	0.0302	292.65	10	9.000E-01	4.341E+03	0.0370	292.65
11	1.000E+00	3.540E+03	0.0389	292.65	12	1.250E+00	2.899E+03	0.0414	292.65
13	1.500E+00	2.626E+03	0.0428	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.345E+03	0.0446	292.65	16	2.500E+00	2.192E+03	0.0459	292.65
17	3.000E+00	2.097E+03	0.0467	292.65	18	3.500E+00	2.034E+03	0.0473	292.65
19	4.000E+00	1.993E+03	0.0478	292.65	20	4.500E+00	1.966E+03	0.0481	292.65
21	5.080E+00	1.951E+03	0.0482	292.65	22	7.620E+00	2.040E+03	0.0473	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.280E+03	0.0451	292.65
25	1.524E+01	2.193E+03	0.0459	292.65	26	1.778E+01	2.100E+03	0.0467	292.65
27	2.032E+01	2.026E+03	0.0474	292.65	28	2.286E+01	1.968E+03	0.0480	292.65
29	2.540E+01	1.922E+03	0.0486	292.65	30	2.794E+01	1.885E+03	0.0490	292.65
31	3.048E+01	1.855E+03	0.0494	292.65	32	3.302E+01	1.831E+03	0.0497	292.65
33	3.556E+01	1.811E+03	0.0499	292.65	34	3.810E+01	1.795E+03	0.0501	292.65
35	4.064E+01	1.783E+03	0.0503	292.65	36	4.318E+01	1.775E+03	0.0504	292.65
37	4.572E+01	1.769E+03	0.0505	292.65	38	4.826E+01	1.727E+03	0.0501	292.65
39	5.080E+01	1.629E+03	0.0501	292.65	40	5.334E+01	1.583E+03	0.0501	292.65
41	5.588E+01	1.560E+03	0.0501	292.65	42	5.842E+01	1.548E+03	0.0501	292.65
43	6.096E+01	1.544E+03	0.0501	292.65					

Initial Water Storage = 2.9456 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04044	0.04889	0.05011
Head (cm)	=	4.99787E+05	3.10879E+03	1.89439E+03	1.54447E+03

```
 LiqWater Flow (cm)=-1.02167E-10-1.49731E-02-1.97279E-03 5.68307E-10
 IsoVapor Flow (cm)=-2.30510E-02-2.46817E-05-6.55152E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9456+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =     2.9225 vs.     2.9225

 Mass Balance = -2.0511E-05 cm;  Time step attempts =  130 and successes =  108
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   106

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.07316     0.05012
 Head (cm)         = 8.15596E+05 1.79425E+03 9.44111E+02 1.48670E+03
 LiqWater Flow (cm)=-3.72389E-11-5.97659E-02-2.62037E-02 7.75130E-10
 IsoVapor Flow (cm)=-5.99088E-02-1.16725E-05-2.72928E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9826+ 0.0000+ 0.0000 - 0.0599- 0.0000-  0.0000 =     3.9227 vs.     3.9227

 Mass Balance = -1.0969E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0599 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0470E+02     [cm]
 Actual Evaporation                 =  1.6515E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.7501E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.8946E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.7501E+01     [cm]
Actual Rainfall                    =  1.7501E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.9227E+00     [cm]
Mass Balance Error                 =  8.0348E-03     [cm]
Total Successful Time Steps        =     60109
Total Attempted Time Steps         =     73676
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30270
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.8518E-01	0.050	1.2313E+01	0.150	9.4304E+00
0.250	8.5348E+00	0.350	7.8240E+00	0.450	7.3196E+00
0.550	6.8618E+00	0.650	6.3546E+00	0.750	5.8116E+00
0.850	5.3160E+00	0.950	5.0528E+00	1.125	4.7842E+00
1.375	4.2036E+00	1.625	3.8071E+00	1.875	3.4933E+00
2.250	3.2140E+00	2.750	2.6954E+00	3.250	2.3251E+00
3.750	2.0780E+00	4.250	1.8400E+00	4.790	1.7359E+00
6.350	1.5867E+00	8.890	1.2521E+00	11.430	1.0246E+00
13.970	8.7760E-01	16.510	7.5010E-01	19.050	6.9241E-01
21.590	6.3439E-01	24.130	5.7517E-01	26.670	5.1479E-01
29.210	4.5333E-01	31.750	3.9090E-01	34.290	3.2760E-01
36.830	2.6353E-01	39.370	1.9880E-01	41.910	1.3349E-01
44.450	6.7693E-02	46.990	1.7328E-03	49.530	1.0438E-04
52.070	9.3589E-06	54.610	2.8122E-06	57.150	9.9961E-07
59.690	3.5831E-07	60.960	1.8946E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.414E+05	0.0300	292.65
3	2.000E-01	4.868E+05	0.0300	292.65	4	3.000E-01	3.478E+05	0.0300	292.65
5	4.000E-01	2.215E+05	0.0301	292.65	6	5.000E-01	1.058E+05	0.0302	292.65
7	6.000E-01	2.719E+03	0.0423	292.65	8	7.000E-01	2.542E+03	0.0433	292.65
9	8.000E-01	2.411E+03	0.0442	292.65	10	9.000E-01	2.308E+03	0.0449	292.65
11	1.000E+00	2.224E+03	0.0456	292.65	12	1.250E+00	2.066E+03	0.0470	292.65
13	1.500E+00	1.952E+03	0.0482	292.65	14	1.750E+00	1.865E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.685E+03	0.0517	292.65
17	3.000E+00	1.603E+03	0.0530	292.65	18	3.500E+00	1.539E+03	0.0542	292.65
19	4.000E+00	1.485E+03	0.0552	292.65	20	4.500E+00	1.440E+03	0.0562	292.65
21	5.080E+00	1.396E+03	0.0572	292.65	22	7.620E+00	1.260E+03	0.0607	292.65
23	1.016E+01	1.174E+03	0.0634	292.65	24	1.270E+01	1.114E+03	0.0655	292.65
25	1.524E+01	1.069E+03	0.0673	292.65	26	1.778E+01	1.033E+03	0.0688	292.65
27	2.032E+01	1.004E+03	0.0701	292.65	28	2.286E+01	9.804E+02	0.0713	292.65
29	2.540E+01	9.606E+02	0.0723	292.65	30	2.794E+01	9.441E+02	0.0732	292.65
31	3.048E+01	9.302E+02	0.0739	292.65	32	3.302E+01	9.185E+02	0.0746	292.65
33	3.556E+01	9.087E+02	0.0751	292.65	34	3.810E+01	9.007E+02	0.0756	292.65
35	4.064E+01	8.941E+02	0.0760	292.65	36	4.318E+01	8.889E+02	0.0763	292.65
37	4.572E+01	8.851E+02	0.0766	292.65	38	4.826E+01	8.748E+02	0.0505	292.65
39	5.080E+01	1.185E+03	0.0502	292.65	40	5.334E+01	1.360E+03	0.0502	292.65
41	5.588E+01	1.440E+03	0.0501	292.65	42	5.842E+01	1.476E+03	0.0501	292.65
43	6.096E+01	1.487E+03	0.0501	292.65					

Initial Water Storage = 3.9227 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04804	0.07187	0.05012
Head (cm)	=	1.31147E+06	1.96913E+03	9.68844E+02	1.48562E+03

```
 LiqWater Flow (cm)=-5.45174E-12-5.75570E-02-2.40460E-02 7.79741E-10
 IsoVapor Flow (cm)=-6.56139E-02-1.54583E-05-2.84470E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9227+ 0.0000+ 0.0000 - 0.0656- 0.0000-  0.0000 =     3.8571 vs.     3.8571

 Mass Balance = -3.5469E-05 cm;  Time step attempts =  189 and successes =  145
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0656 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   145

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04876     0.05010
 Head (cm)         = 2.20848E+06 1.23333E+06 1.90527E+03 1.57860E+03
 LiqWater Flow (cm)=-6.03901E-14-7.02484E-13-2.21993E-03 4.74343E-10
 IsoVapor Flow (cm)=-8.33690E-03-8.33663E-03-7.45309E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8070+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =     2.7987 vs.     2.7987

 Mass Balance = -4.3809E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2069E+02     [cm]
 Actual Evaporation                 =  1.1811E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.0693E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.0777E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.0693E+01     [cm]
Actual Rainfall                    =  1.0693E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.7987E+00     [cm]
Mass Balance Error                 =  6.9012E-03     [cm]
Total Successful Time Steps        =     58851
Total Attempted Time Steps         =     72478
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31350
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1171E+00	0.050	8.1387E+00	0.150	6.8730E+00
0.250	5.8920E+00	0.350	5.4591E+00	0.450	5.0176E+00
0.550	4.6325E+00	0.650	4.4048E+00	0.750	4.1812E+00
0.850	3.8716E+00	0.950	3.4818E+00	1.125	3.2178E+00
1.375	2.7133E+00	1.625	2.2174E+00	1.875	1.8604E+00
2.250	1.5131E+00	2.750	9.4054E-01	3.250	5.7947E-01
3.750	3.3322E-01	4.250	1.6185E-01	4.790	-3.5484E-02
6.350	-2.3036E-01	8.890	-6.5524E-01	11.430	-7.7073E-01
13.970	-8.0941E-01	16.510	-7.5379E-01	19.050	-6.9637E-01
21.590	-6.3767E-01	24.130	-5.7781E-01	26.670	-5.1687E-01
29.210	-4.5495E-01	31.750	-3.9215E-01	34.290	-3.2855E-01
36.830	-2.6423E-01	39.370	-1.9929E-01	41.910	-1.3380E-01
44.450	-6.7844E-02	46.990	-1.2262E-03	49.530	8.6885E-05
52.070	8.8971E-06	54.610	2.5161E-06	57.150	5.7301E-07
59.690	2.8313E-07	60.960	4.0777E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.012E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.638E+06	0.0300	292.65	12	1.250E+00	1.525E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.324E+06	0.0300	292.65
15	2.000E+00	1.233E+06	0.0300	292.65	16	2.500E+00	1.068E+06	0.0300	292.65
17	3.000E+00	9.208E+05	0.0300	292.65	18	3.500E+00	7.879E+05	0.0300	292.65
19	4.000E+00	6.668E+05	0.0300	292.65	20	4.500E+00	5.555E+05	0.0300	292.65
21	5.080E+00	4.368E+05	0.0300	292.65	22	7.620E+00	8.161E+03	0.0333	292.65
23	1.016E+01	2.805E+03	0.0418	292.65	24	1.270E+01	2.482E+03	0.0437	292.65
25	1.524E+01	2.291E+03	0.0450	292.65	26	1.778E+01	2.164E+03	0.0461	292.65
27	2.032E+01	2.072E+03	0.0470	292.65	28	2.286E+01	2.003E+03	0.0477	292.65
29	2.540E+01	1.948E+03	0.0483	292.65	30	2.794E+01	1.905E+03	0.0488	292.65
31	3.048E+01	1.871E+03	0.0492	292.65	32	3.302E+01	1.843E+03	0.0495	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.803E+03	0.0500	292.65
35	4.064E+01	1.790E+03	0.0502	292.65	36	4.318E+01	1.780E+03	0.0503	292.65
37	4.572E+01	1.774E+03	0.0504	292.65	38	4.826E+01	1.730E+03	0.0501	292.65
39	5.080E+01	1.634E+03	0.0501	292.65	40	5.334E+01	1.599E+03	0.0501	292.65
41	5.588E+01	1.587E+03	0.0501	292.65	42	5.842E+01	1.581E+03	0.0501	292.65
43	6.096E+01	1.579E+03	0.0501	292.65					

Initial Water Storage = 2.7987 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.04864	0.05010
Head (cm)	= 8.54706E+05	5.78860E+05	1.91576E+03	1.57890E+03

```
 LiqWater Flow (cm)=-1.47709E-12-1.03590E-11-2.18952E-03 4.73594E-10
 IsoVapor Flow (cm)=-4.74133E-03-4.76431E-03-7.54881E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.7987+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =     2.7939 vs.     2.7939

 Mass Balance = -6.6750E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04154     0.05920     0.05026
 Head (cm)         = 5.47835E+05 2.85906E+03 1.31418E+03 1.09478E+03
 LiqWater Flow (cm)=-3.92395E-11-1.54343E-02-7.49488E-03 9.64090E-09
 IsoVapor Flow (cm)=-1.51909E-02-3.17686E-05-4.07197E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3330+ 0.0000+ 0.0000 - 0.0152- 0.0000-  0.0000 =     3.3178 vs.     3.3178

 Mass Balance = -3.4530E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0152 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9889E+02     [cm]
 Actual Evaporation                 =  3.0460E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0988E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.6258E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.0988E+01     [cm]
Actual Rainfall                    =  3.0988E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.3178E+00     [cm]
Mass Balance Error                 =  8.5157E-03     [cm]
Total Successful Time Steps        =     55326
Total Attempted Time Steps         =     67735
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26759
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.2762E-01	0.050	1.8751E+01	0.150	1.2580E+01
0.250	1.0738E+01	0.350	8.9341E+00	0.450	7.9781E+00
0.550	7.1826E+00	0.650	6.2100E+00	0.750	5.7581E+00
0.850	5.4258E+00	0.950	5.0525E+00	1.125	4.6271E+00
1.375	4.0184E+00	1.625	3.3488E+00	1.875	2.7157E+00
2.250	2.3008E+00	2.750	1.7181E+00	3.250	1.4196E+00
3.750	1.1969E+00	4.250	1.0548E+00	4.790	8.7744E-01
6.350	7.4422E-01	8.890	5.4986E-01	11.430	3.8105E-01
13.970	3.5384E-01	16.510	3.2805E-01	19.050	3.0229E-01
21.590	2.7640E-01	24.130	2.5028E-01	26.670	2.2390E-01
29.210	1.9725E-01	31.750	1.7036E-01	34.290	1.4323E-01
36.830	1.1587E-01	39.370	8.8301E-02	41.910	6.0553E-02
44.450	3.2642E-02	46.990	4.6758E-03	49.530	4.5062E-03
52.070	1.8701E-03	54.610	4.4094E-04	57.150	7.4566E-05
59.690	1.2860E-05	60.960	6.6258E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.095E+05	0.0300	292.65
3	2.000E-01	4.723E+05	0.0300	292.65	4	3.000E-01	4.360E+05	0.0300	292.65
5	4.000E-01	4.007E+05	0.0300	292.65	6	5.000E-01	3.662E+05	0.0300	292.65
7	6.000E-01	3.326E+05	0.0300	292.65	8	7.000E-01	2.998E+05	0.0300	292.65
9	8.000E-01	2.677E+05	0.0300	292.65	10	9.000E-01	2.364E+05	0.0301	292.65
11	1.000E+00	2.058E+05	0.0301	292.65	12	1.250E+00	1.320E+05	0.0301	292.65
13	1.500E+00	6.199E+04	0.0303	292.65	14	1.750E+00	3.064E+03	0.0406	292.65
15	2.000E+00	2.859E+03	0.0415	292.65	16	2.500E+00	2.589E+03	0.0430	292.65
17	3.000E+00	2.412E+03	0.0441	292.65	18	3.500E+00	2.283E+03	0.0451	292.65
19	4.000E+00	2.182E+03	0.0460	292.65	20	4.500E+00	2.100E+03	0.0467	292.65
21	5.080E+00	2.022E+03	0.0475	292.65	22	7.620E+00	1.793E+03	0.0502	292.65
23	1.016E+01	1.657E+03	0.0522	292.65	24	1.270E+01	1.564E+03	0.0537	292.65
25	1.524E+01	1.496E+03	0.0550	292.65	26	1.778E+01	1.443E+03	0.0561	292.65
27	2.032E+01	1.400E+03	0.0571	292.65	28	2.286E+01	1.366E+03	0.0579	292.65
29	2.540E+01	1.338E+03	0.0586	292.65	30	2.794E+01	1.314E+03	0.0592	292.65
31	3.048E+01	1.295E+03	0.0597	292.65	32	3.302E+01	1.278E+03	0.0602	292.65
33	3.556E+01	1.265E+03	0.0606	292.65	34	3.810E+01	1.254E+03	0.0609	292.65
35	4.064E+01	1.246E+03	0.0611	292.65	36	4.318E+01	1.239E+03	0.0613	292.65
37	4.572E+01	1.235E+03	0.0614	292.65	38	4.826E+01	1.202E+03	0.0502	292.65
39	5.080E+01	7.460E+02	0.0507	292.65	40	5.334E+01	7.758E+02	0.0506	292.65
41	5.588E+01	9.195E+02	0.0504	292.65	42	5.842E+01	1.050E+03	0.0503	292.65
43	6.096E+01	1.095E+03	0.0503	292.65					

Initial Water Storage = 3.3178 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.04035	0.05882	0.05026
Head (cm)	= 6.47479E+05	3.13075E+03	1.32889E+03	1.09300E+03

```
 LiqWater Flow (cm)=-2.12061E-11-1.62724E-02-7.19156E-03 9.77095E-09
 IsoVapor Flow (cm)=-1.72057E-02-3.90605E-05-4.12967E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3178+ 0.0000+ 0.0000 - 0.0172- 0.0000-  0.0000 =     3.3006 vs.     3.3006

 Mass Balance = -2.7958E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0172 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04879     0.05167
 Head (cm)         = 1.93021E+06 1.28460E+06 1.90298E+03 5.21252E+02
 LiqWater Flow (cm)=-7.69435E-14-5.89533E-13-2.30467E-03 4.43588E-06
 IsoVapor Flow (cm)=-6.63769E-03-6.63467E-03-7.66530E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8171+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =     2.8105 vs.     2.8105

 Mass Balance = -7.2760E-06 cm;  Time step attempts =   50 and successes =   39
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0066 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    39
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9999E+02     [cm]
 Actual Evaporation                 =  3.3189E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.2690E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.7260E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.2690E+01     [cm]
Actual Rainfall                    =  3.2690E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8105E+00     [cm]
Mass Balance Error                 =  7.3410E-03     [cm]
Total Successful Time Steps        =     59159
Total Attempted Time Steps         =     72323
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28803
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.9929E-01	0.050	1.6211E+01	0.150	1.0283E+01
0.250	8.3461E+00	0.350	7.1739E+00	0.450	6.1775E+00
0.550	5.3781E+00	0.650	4.7355E+00	0.750	4.3997E+00
0.850	4.0475E+00	0.950	3.6663E+00	1.125	3.3779E+00
1.375	2.7271E+00	1.625	2.4224E+00	1.875	2.1279E+00
2.250	1.7830E+00	2.750	1.2704E+00	3.250	8.9599E-01
3.750	6.8205E-01	4.250	4.4568E-01	4.790	2.6262E-01
6.350	2.5745E-02	8.890	-3.7580E-01	11.430	-3.5593E-01
13.970	-3.3167E-01	16.510	-3.0695E-01	19.050	-2.8183E-01
21.590	-2.5635E-01	24.130	-2.3057E-01	26.670	-2.0450E-01
29.210	-1.7814E-01	31.750	-1.5152E-01	34.290	-1.2466E-01
36.830	-9.7583E-02	39.370	-7.0311E-02	41.910	-4.2869E-02
44.450	-1.5287E-02	46.990	1.2761E-02	49.530	1.6059E-02
52.070	1.1583E-02	54.610	8.7807E-03	57.150	5.5357E-03
59.690	2.2357E-03	60.960	6.7260E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.889E+06	0.0300	292.65
3	2.000E-01	1.849E+06	0.0300	292.65	4	3.000E-01	1.812E+06	0.0300	292.65
5	4.000E-01	1.774E+06	0.0300	292.65	6	5.000E-01	1.738E+06	0.0300	292.65
7	6.000E-01	1.703E+06	0.0300	292.65	8	7.000E-01	1.668E+06	0.0300	292.65
9	8.000E-01	1.634E+06	0.0300	292.65	10	9.000E-01	1.602E+06	0.0300	292.65
11	1.000E+00	1.570E+06	0.0300	292.65	12	1.250E+00	1.493E+06	0.0300	292.65
13	1.500E+00	1.420E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.161E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.438E+05	0.0300	292.65
19	4.000E+00	8.466E+05	0.0300	292.65	20	4.500E+00	7.559E+05	0.0300	292.65
21	5.080E+00	6.576E+05	0.0300	292.65	22	7.620E+00	2.936E+05	0.0300	292.65
23	1.016E+01	2.712E+03	0.0423	292.65	24	1.270E+01	2.435E+03	0.0440	292.65
25	1.524E+01	2.275E+03	0.0452	292.65	26	1.778E+01	2.159E+03	0.0462	292.65
27	2.032E+01	2.071E+03	0.0470	292.65	28	2.286E+01	2.002E+03	0.0477	292.65
29	2.540E+01	1.947E+03	0.0483	292.65	30	2.794E+01	1.903E+03	0.0488	292.65
31	3.048E+01	1.867E+03	0.0492	292.65	32	3.302E+01	1.839E+03	0.0496	292.65
33	3.556E+01	1.816E+03	0.0499	292.65	34	3.810E+01	1.798E+03	0.0501	292.65
35	4.064E+01	1.784E+03	0.0503	292.65	36	4.318E+01	1.774E+03	0.0504	292.65
37	4.572E+01	1.768E+03	0.0505	292.65	38	4.826E+01	1.539E+03	0.0501	292.65
39	5.080E+01	5.803E+02	0.0513	292.65	40	5.334E+01	5.486E+02	0.0515	292.65
41	5.588E+01	5.322E+02	0.0516	292.65	42	5.842E+01	5.239E+02	0.0516	292.65
43	6.096E+01	5.213E+02	0.0517	292.65					

Initial Water Storage = 2.8105 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03001	0.04867	0.05166
Head (cm)	= 2.25090E+06	1.43704E+06	1.91291E+03	5.21705E+02

```
 LiqWater Flow (cm)= 1.93955E-02 6.18236E-08-2.25475E-03 4.40417E-06
 IsoVapor Flow (cm)=-2.42458E-02-4.85178E-03-7.70157E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8105+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =     2.8056 vs.     2.8056

 Mass Balance = -1.5219E-05 cm;  Time step attempts =  901 and successes =  704
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   379

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03980     0.04722     0.05085
 Head (cm)         = 6.05038E+05 3.27684E+03 2.04689E+03 6.82283E+02
 LiqWater Flow (cm)= 3.69131E-02 3.43640E-03-8.99606E-04 4.81035E-07
 IsoVapor Flow (cm)=-2.80920E-02-1.09397E-05-4.70002E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8503+ 0.0508+ 0.0000 - 0.0420- 0.0000-  0.0000 =     2.8591 vs.     2.8590

 Mass Balance =  1.0953E-04 cm;  Time step attempts =  942 and successes =  725
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0420 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   275
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3548E+02     [cm]
 Actual Evaporation                 =  2.1120E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1184E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.1766E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1184E+01     [cm]
Actual Rainfall                    =  2.1184E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8590E+00     [cm]
Mass Balance Error                 =  1.4171E-02     [cm]
Total Successful Time Steps        =    213861
Total Attempted Time Steps         =    270799
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     95875
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	6.3285E-02	0.050	1.4300E+01	0.150	1.2390E+01
0.250	1.0336E+01	0.350	8.6629E+00	0.450	7.3714E+00
0.550	6.3320E+00	0.650	5.4749E+00	0.750	4.7834E+00
0.850	4.1890E+00	0.950	3.6614E+00	1.125	3.1270E+00
1.375	2.2598E+00	1.625	1.7576E+00	1.875	1.4602E+00
2.250	1.2039E+00	2.750	9.4591E-01	3.250	7.8806E-01
3.750	6.8879E-01	4.250	6.1434E-01	4.790	5.5346E-01
6.350	4.7368E-01	8.890	3.8271E-01	11.430	2.1977E-01
13.970	1.6295E-01	16.510	1.1483E-01	19.050	7.0051E-02
21.590	2.6902E-02	24.130	-2.6562E-02	26.670	-4.9678E-02
29.210	-4.6270E-02	31.750	-4.1948E-02	34.290	-3.7127E-02
36.830	-3.1962E-02	39.370	-2.6548E-02	41.910	-2.0954E-02
44.450	-1.5234E-02	46.990	-5.7524E-03	49.530	-1.0552E-03
52.070	-5.3722E-03	54.610	-4.2211E-03	57.150	-2.3370E-03
59.690	-3.7211E-04	60.960	6.1766E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.546E+05	0.0300	292.65
3	2.000E-01	5.060E+05	0.0300	292.65	4	3.000E-01	4.590E+05	0.0300	292.65
5	4.000E-01	4.136E+05	0.0300	292.65	6	5.000E-01	3.696E+05	0.0300	292.65
7	6.000E-01	3.271E+05	0.0300	292.65	8	7.000E-01	2.858E+05	0.0300	292.65
9	8.000E-01	2.458E+05	0.0301	292.65	10	9.000E-01	2.070E+05	0.0301	292.65
11	1.000E+00	1.694E+05	0.0301	292.65	12	1.250E+00	8.031E+04	0.0302	292.65
13	1.500E+00	4.003E+03	0.0377	292.65	14	1.750E+00	3.529E+03	0.0390	292.65
15	2.000E+00	3.277E+03	0.0398	292.65	16	2.500E+00	2.981E+03	0.0410	292.65
17	3.000E+00	2.814E+03	0.0418	292.65	18	3.500E+00	2.708E+03	0.0423	292.65
19	4.000E+00	2.635E+03	0.0427	292.65	20	4.500E+00	2.582E+03	0.0430	292.65
21	5.080E+00	2.536E+03	0.0433	292.65	22	7.620E+00	2.426E+03	0.0441	292.65
23	1.016E+01	2.328E+03	0.0448	292.65	24	1.270E+01	2.251E+03	0.0454	292.65
25	1.524E+01	2.195E+03	0.0458	292.65	26	1.778E+01	2.154E+03	0.0462	292.65
27	2.032E+01	2.122E+03	0.0465	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.070E+03	0.0470	292.65	30	2.794E+01	2.047E+03	0.0472	292.65
31	3.048E+01	2.026E+03	0.0474	292.65	32	3.302E+01	2.007E+03	0.0476	292.65
33	3.556E+01	1.990E+03	0.0478	292.65	34	3.810E+01	1.976E+03	0.0480	292.65
35	4.064E+01	1.965E+03	0.0481	292.65	36	4.318E+01	1.957E+03	0.0482	292.65
37	4.572E+01	1.951E+03	0.0482	292.65	38	4.826E+01	1.749E+03	0.0501	292.65
39	5.080E+01	1.083E+03	0.0503	292.65	40	5.334E+01	7.887E+02	0.0506	292.65
41	5.588E+01	7.170E+02	0.0508	292.65	42	5.842E+01	6.899E+02	0.0508	292.65
43	6.096E+01	6.823E+02	0.0509	292.65					

Initial Water Storage = 2.8590 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03011	0.04720	0.05085
Head (cm)	= 8.36981E+05	1.36252E+05	2.04888E+03	6.82685E+02

```
 LiqWater Flow (cm)=-7.16283E-12-6.19291E-03-8.54894E-04 4.78706E-07
 IsoVapor Flow (cm)=-1.85916E-02-4.51350E-03-4.51250E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8590+ 0.0000+ 0.0000 - 0.0186- 0.0000-  0.0000 =     2.8404 vs.     2.8404

 Mass Balance = -3.6319E-05 cm;  Time step attempts =  144 and successes =  111
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0186 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   111

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.06059     0.05056
 Head (cm)         = 1.64351E+06 2.11002E+05 1.26377E+03 8.07957E+02
 LiqWater Flow (cm)=-5.34070E-13-2.22420E-04-8.97308E-03 1.19115E-07
 IsoVapor Flow (cm)=-2.22025E-02-2.19628E-02-3.99009E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3848+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =     3.3626 vs.     3.3626

 Mass Balance =  3.2649E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0482E+02     [cm]
 Actual Evaporation                 =  2.5192E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5705E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.7779E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5705E+01     [cm]
Actual Rainfall                    =  2.5705E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.3626E+00     [cm]
Mass Balance Error                 =  9.4584E-03     [cm]
Total Successful Time Steps        =     70064
Total Attempted Time Steps         =     86834
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33200
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.1315E-01	0.050	1.8188E+01	0.150	1.3512E+01
0.250	1.1284E+01	0.350	9.7944E+00	0.450	8.7670E+00
0.550	7.8405E+00	0.650	7.0364E+00	0.750	6.4523E+00
0.850	5.9187E+00	0.950	5.4691E+00	1.125	5.0811E+00
1.375	4.1835E+00	1.625	3.4597E+00	1.875	3.0074E+00
2.250	2.5544E+00	2.750	1.9239E+00	3.250	1.5652E+00
3.750	1.3407E+00	4.250	1.1565E+00	4.790	1.0161E+00
6.350	8.7322E-01	8.890	5.4227E-01	11.430	4.6263E-01
13.970	4.3811E-01	16.510	4.1152E-01	19.050	3.8299E-01
21.590	3.5274E-01	24.130	3.2099E-01	26.670	2.8798E-01
29.210	2.5392E-01	31.750	2.1900E-01	34.290	1.8339E-01
36.830	1.4719E-01	39.370	1.1054E-01	41.910	7.3510E-02
44.450	3.6196E-02	46.990	-1.0662E-03	49.530	3.0182E-04
52.070	-7.2875E-04	54.610	-1.0247E-03	57.150	-7.2724E-04
59.690	-2.0337E-04	60.960	8.7779E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.042E+06	0.0300	292.65	8	7.000E-01	9.634E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.177E+05	0.0300	292.65
11	1.000E+00	7.502E+05	0.0300	292.65	12	1.250E+00	5.945E+05	0.0300	292.65
13	1.500E+00	4.545E+05	0.0300	292.65	14	1.750E+00	3.273E+05	0.0300	292.65
15	2.000E+00	2.110E+05	0.0301	292.65	16	2.500E+00	2.932E+03	0.0412	292.65
17	3.000E+00	2.546E+03	0.0433	292.65	18	3.500E+00	2.334E+03	0.0447	292.65
19	4.000E+00	2.191E+03	0.0459	292.65	20	4.500E+00	2.085E+03	0.0468	292.65
21	5.080E+00	1.991E+03	0.0478	292.65	22	7.620E+00	1.739E+03	0.0509	292.65
23	1.016E+01	1.601E+03	0.0531	292.65	24	1.270E+01	1.509E+03	0.0548	292.65
25	1.524E+01	1.442E+03	0.0562	292.65	26	1.778E+01	1.390E+03	0.0573	292.65
27	2.032E+01	1.348E+03	0.0583	292.65	28	2.286E+01	1.315E+03	0.0592	292.65
29	2.540E+01	1.287E+03	0.0599	292.65	30	2.794E+01	1.264E+03	0.0606	292.65
31	3.048E+01	1.245E+03	0.0611	292.65	32	3.302E+01	1.229E+03	0.0616	292.65
33	3.556E+01	1.215E+03	0.0620	292.65	34	3.810E+01	1.205E+03	0.0624	292.65
35	4.064E+01	1.196E+03	0.0626	292.65	36	4.318E+01	1.190E+03	0.0628	292.65
37	4.572E+01	1.186E+03	0.0630	292.65	38	4.826E+01	1.164E+03	0.0502	292.65
39	5.080E+01	9.495E+02	0.0504	292.65	40	5.334E+01	8.838E+02	0.0504	292.65
41	5.588E+01	8.386E+02	0.0505	292.65	42	5.842E+01	8.151E+02	0.0505	292.65
43	6.096E+01	8.080E+02	0.0506	292.65					

Initial Water Storage = 3.3626 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03006	0.06014	0.05056
Head (cm)	= 1.92914E+06	2.30598E+05	1.27963E+03	8.08190E+02

```
 LiqWater Flow (cm)=-3.13727E-13-1.14092E-04-8.52089E-03 1.18833E-07
 IsoVapor Flow (cm)=-2.40347E-02-2.39143E-02-4.03528E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3626+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =     3.3385 vs.     3.3385

 Mass Balance = -2.9499E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05017     0.05045
 Head (cm)         = 1.38020E+06 8.69982E+05 1.79324E+03 8.82110E+02
 LiqWater Flow (cm)=-2.72083E-13-2.37867E-12-2.23536E-03 5.75497E-08
 IsoVapor Flow (cm)=-6.60513E-03-6.60704E-03-5.70817E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8920+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =     2.8854 vs.     2.8854

 Mass Balance = -8.6051E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2814E+02     [cm]
 Actual Evaporation                 =  2.5490E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5019E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.5488E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5019E+01     [cm]
Actual Rainfall                    =  2.5019E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8854E+00     [cm]
Mass Balance Error                 =  6.6330E-03     [cm]
Total Successful Time Steps        =     55076
Total Attempted Time Steps         =     67117
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27369
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7054E-01	0.050	1.6178E+01	0.150	7.4897E+00
0.250	5.7656E+00	0.350	4.6058E+00	0.450	3.8431E+00
0.550	3.3108E+00	0.650	2.9942E+00	0.750	2.8271E+00
0.850	2.6661E+00	0.950	2.5075E+00	1.125	2.4116E+00
1.375	2.1264E+00	1.625	1.9193E+00	1.875	1.7370E+00
2.250	1.5482E+00	2.750	1.2958E+00	3.250	1.0281E+00
3.750	8.7567E-01	4.250	7.1550E-01	4.790	4.9960E-01
6.350	3.3813E-01	8.890	2.8987E-02	11.430	-2.3982E-02
13.970	-7.4610E-02	16.510	-1.1730E-01	19.050	-1.5619E-01
21.590	-1.9422E-01	24.130	-2.1211E-01	26.670	-2.2184E-01
29.210	-1.9620E-01	31.750	-1.6942E-01	34.290	-1.4214E-01
36.830	-1.1444E-01	39.370	-8.6382E-02	41.910	-5.8052E-02
44.450	-2.9497E-02	46.990	4.3460E-04	49.530	3.1020E-03
52.070	1.0744E-03	54.610	1.7985E-04	57.150	-9.6364E-05
59.690	-4.7676E-05	60.960	2.5488E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.291E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.809E+05	0.0300	292.65	14	1.750E+00	9.243E+05	0.0300	292.65
15	2.000E+00	8.700E+05	0.0300	292.65	16	2.500E+00	7.673E+05	0.0300	292.65
17	3.000E+00	6.717E+05	0.0300	292.65	18	3.500E+00	5.823E+05	0.0300	292.65
19	4.000E+00	4.984E+05	0.0300	292.65	20	4.500E+00	4.193E+05	0.0300	292.65
21	5.080E+00	3.328E+05	0.0300	292.65	22	7.620E+00	2.721E+03	0.0422	292.65
23	1.016E+01	2.367E+03	0.0445	292.65	24	1.270E+01	2.185E+03	0.0459	292.65
25	1.524E+01	2.067E+03	0.0470	292.65	26	1.778E+01	1.982E+03	0.0479	292.65
27	2.032E+01	1.918E+03	0.0486	292.65	28	2.286E+01	1.867E+03	0.0492	292.65
29	2.540E+01	1.826E+03	0.0497	292.65	30	2.794E+01	1.793E+03	0.0502	292.65
31	3.048E+01	1.766E+03	0.0505	292.65	32	3.302E+01	1.745E+03	0.0508	292.65
33	3.556E+01	1.727E+03	0.0511	292.65	34	3.810E+01	1.713E+03	0.0513	292.65
35	4.064E+01	1.703E+03	0.0515	292.65	36	4.318E+01	1.695E+03	0.0516	292.65
37	4.572E+01	1.689E+03	0.0517	292.65	38	4.826E+01	1.590E+03	0.0501	292.65
39	5.080E+01	1.053E+03	0.0503	292.65	40	5.334E+01	8.655E+02	0.0505	292.65
41	5.588E+01	8.476E+02	0.0505	292.65	42	5.842E+01	8.690E+02	0.0505	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 2.8854 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.05003	0.05045
Head (cm)	= 1.61006E+06	9.83207E+05	1.80325E+03	8.81709E+02

```
 LiqWater Flow (cm)=-1.65072E-13-1.56529E-12-2.22452E-03 5.77680E-08
 IsoVapor Flow (cm)=-7.19504E-03-7.19188E-03-5.82876E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8854+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =     2.8782 vs.     2.8782

 Mass Balance =  1.0888E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05140     0.06992     0.05029
 Head (cm)         = 1.02625E+06 1.70623E+03 1.00895E+03 1.04442E+03
 LiqWater Flow (cm)=-1.18078E-09-8.72441E-02 1.11995E-02 1.43161E-08
 IsoVapor Flow (cm)=-1.10828E-01-8.84836E-06 8.55545E-08 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9301+ 0.0000+ 0.0000 - 0.1108- 0.0000-  0.0000 =     3.8193 vs.     3.8193

 Mass Balance = -4.2886E-05 cm;  Time step attempts =  262 and successes =  209
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1108 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   181
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0884E+02     [cm]
 Actual Evaporation                 =  2.1105E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.2047E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3736E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.2047E+01     [cm]
Actual Rainfall                    =  2.2047E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.8193E+00     [cm]
Mass Balance Error                 =  7.7945E-03     [cm]
Total Successful Time Steps        =     60065
Total Attempted Time Steps         =     73986
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29914
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4177E-01	0.050	1.4571E+01	0.150	1.0366E+01
0.250	8.6301E+00	0.350	7.8599E+00	0.450	7.1707E+00
0.550	6.5331E+00	0.650	5.8628E+00	0.750	5.3560E+00
0.850	5.0144E+00	0.950	4.6261E+00	1.125	4.2428E+00
1.375	3.5465E+00	1.625	3.1706E+00	1.875	2.7008E+00
2.250	2.4901E+00	2.750	2.2167E+00	3.250	2.0035E+00
3.750	1.8544E+00	4.250	1.7575E+00	4.790	1.6510E+00
6.350	1.5309E+00	8.890	1.2039E+00	11.430	1.0484E+00
13.970	9.1629E-01	16.510	7.9111E-01	19.050	6.7398E-01
21.590	5.6876E-01	24.130	4.7515E-01	26.670	3.8369E-01
29.210	3.3177E-01	31.750	2.8218E-01	34.290	2.3347E-01
36.830	1.8558E-01	39.370	1.3838E-01	41.910	9.1719E-02
44.450	4.5386E-02	46.990	2.6152E-04	49.530	8.6803E-04
52.070	-6.6697E-05	54.610	-1.7645E-04	57.150	-1.4104E-04
59.690	-4.4626E-05	60.960	1.3736E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.520E+05	0.0300	292.65
3	2.000E-01	5.235E+05	0.0300	292.65	4	3.000E-01	3.276E+05	0.0300	292.65
5	4.000E-01	1.562E+05	0.0301	292.65	6	5.000E-01	3.437E+03	0.0393	292.65
7	6.000E-01	2.859E+03	0.0415	292.65	8	7.000E-01	2.576E+03	0.0431	292.65
9	8.000E-01	2.396E+03	0.0443	292.65	10	9.000E-01	2.266E+03	0.0452	292.65
11	1.000E+00	2.166E+03	0.0461	292.65	12	1.250E+00	1.988E+03	0.0478	292.65
13	1.500E+00	1.867E+03	0.0492	292.65	14	1.750E+00	1.777E+03	0.0504	292.65
15	2.000E+00	1.706E+03	0.0514	292.65	16	2.500E+00	1.599E+03	0.0531	292.65
17	3.000E+00	1.521E+03	0.0545	292.65	18	3.500E+00	1.460E+03	0.0558	292.65
19	4.000E+00	1.410E+03	0.0569	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.329E+03	0.0588	292.65	22	7.620E+00	1.211E+03	0.0622	292.65
23	1.016E+01	1.141E+03	0.0645	292.65	24	1.270E+01	1.096E+03	0.0662	292.65
25	1.524E+01	1.065E+03	0.0675	292.65	26	1.778E+01	1.043E+03	0.0684	292.65
27	2.032E+01	1.028E+03	0.0690	292.65	28	2.286E+01	1.018E+03	0.0695	292.65
29	2.540E+01	1.012E+03	0.0698	292.65	30	2.794E+01	1.009E+03	0.0699	292.65
31	3.048E+01	1.008E+03	0.0700	292.65	32	3.302E+01	1.008E+03	0.0700	292.65
33	3.556E+01	1.009E+03	0.0699	292.65	34	3.810E+01	1.011E+03	0.0698	292.65
35	4.064E+01	1.012E+03	0.0698	292.65	36	4.318E+01	1.012E+03	0.0698	292.65
37	4.572E+01	1.011E+03	0.0698	292.65	38	4.826E+01	1.028E+03	0.0503	292.65
39	5.080E+01	9.853E+02	0.0503	292.65	40	5.334E+01	1.032E+03	0.0503	292.65
41	5.588E+01	1.046E+03	0.0503	292.65	42	5.842E+01	1.046E+03	0.0503	292.65
43	6.096E+01	1.044E+03	0.0503	292.65					

Initial Water Storage = 3.8193 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03004	0.05005	0.06874	0.05029
Head (cm)	= 3.26692E+05	1.80221E+03	1.03484E+03	1.04447E+03

```
 LiqWater Flow (cm)=-7.55792E-09-5.94702E-02-3.12013E-03 1.43107E-08
 IsoVapor Flow (cm)=-5.89595E-02-1.13378E-05-9.64523E-08 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.8193+ 0.0000+ 0.0000 - 0.0590- 0.0000-  0.0000 =     3.7604 vs.     3.7604

 Mass Balance = -1.3270E-05 cm;  Time step attempts =  402 and successes =  321
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0590 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   123

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04106     0.04680     0.05024
 Head (cm)         = 9.30306E+05 2.96420E+03 2.08955E+03 1.12827E+03
 LiqWater Flow (cm)=-1.13124E-11-2.26587E-02-1.75084E-03 7.57639E-09
 IsoVapor Flow (cm)=-3.91078E-02-2.23882E-05-9.19655E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8979+ 0.0000+ 0.0000 - 0.0391- 0.0000-  0.0000 =     2.8587 vs.     2.8588

 Mass Balance = -5.5538E-05 cm;  Time step attempts =  311 and successes =  256
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0391 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   255
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0272E+02     [cm]
 Actual Evaporation                 =  1.7895E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.6942E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.4306E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.6942E+01     [cm]
Actual Rainfall                    =  1.6942E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8588E+00     [cm]
Mass Balance Error                 =  6.8764E-03     [cm]
Total Successful Time Steps        =     64119
Total Attempted Time Steps         =     78822
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33409
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.5366E-01	0.050	1.2404E+01	0.150	9.5410E+00
0.250	8.0181E+00	0.350	7.0281E+00	0.450	6.1468E+00
0.550	5.2994E+00	0.650	4.8119E+00	0.750	4.3700E+00
0.850	3.8769E+00	0.950	3.3845E+00	1.125	3.0843E+00
1.375	2.4696E+00	1.625	1.9236E+00	1.875	1.6096E+00
2.250	1.2946E+00	2.750	7.0608E-01	3.250	3.8045E-01
3.750	1.8416E-01	4.250	5.5345E-02	4.790	-4.4717E-02
6.350	-1.6918E-01	8.890	-5.1454E-01	11.430	-6.4497E-01
13.970	-6.7576E-01	16.510	-6.8852E-01	19.050	-6.2981E-01
21.590	-5.6914E-01	24.130	-5.0894E-01	26.670	-4.4947E-01
29.210	-3.9086E-01	31.750	-3.3315E-01	34.290	-2.7634E-01
36.830	-2.2037E-01	39.370	-1.6513E-01	41.910	-1.1044E-01
44.450	-5.6064E-02	46.990	-1.3371E-03	49.530	2.4991E-04
52.070	-1.3946E-05	54.610	-2.5069E-05	57.150	-1.9098E-05
59.690	-4.4275E-06	60.960	4.4306E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.258E+03	0.0372	292.65	14	1.750E+00	3.311E+03	0.0397	292.65
15	2.000E+00	2.964E+03	0.0411	292.65	16	2.500E+00	2.625E+03	0.0428	292.65
17	3.000E+00	2.445E+03	0.0439	292.65	18	3.500E+00	2.329E+03	0.0448	292.65
19	4.000E+00	2.248E+03	0.0454	292.65	20	4.500E+00	2.190E+03	0.0459	292.65
21	5.080E+00	2.141E+03	0.0463	292.65	22	7.620E+00	2.073E+03	0.0470	292.65
23	1.016E+01	2.144E+03	0.0463	292.65	24	1.270E+01	2.299E+03	0.0450	292.65
25	1.524E+01	2.404E+03	0.0442	292.65	26	1.778E+01	2.375E+03	0.0444	292.65
27	2.032E+01	2.291E+03	0.0450	292.65	28	2.286E+01	2.210E+03	0.0457	292.65
29	2.540E+01	2.143E+03	0.0463	292.65	30	2.794E+01	2.090E+03	0.0468	292.65
31	3.048E+01	2.047E+03	0.0472	292.65	32	3.302E+01	2.013E+03	0.0476	292.65
33	3.556E+01	1.987E+03	0.0478	292.65	34	3.810E+01	1.966E+03	0.0481	292.65
35	4.064E+01	1.950E+03	0.0482	292.65	36	4.318E+01	1.939E+03	0.0484	292.65
37	4.572E+01	1.932E+03	0.0484	292.65	38	4.826E+01	1.805E+03	0.0501	292.65
39	5.080E+01	1.457E+03	0.0501	292.65	40	5.334E+01	1.244E+03	0.0502	292.65
41	5.588E+01	1.161E+03	0.0502	292.65	42	5.842E+01	1.134E+03	0.0502	292.65
43	6.096E+01	1.128E+03	0.0502	292.65					

Initial Water Storage = 2.8588 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03007	0.04672	0.05024
Head (cm)	=	1.63309E+06	2.13165E+05	2.09791E+03	1.12853E+03

```
 LiqWater Flow (cm)=-6.93514E-13-8.92615E-03-1.71002E-03 7.56218E-09
 IsoVapor Flow (cm)=-2.69927E-02-9.66092E-03-9.19205E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8588+ 0.0000+ 0.0000 - 0.0270- 0.0000-  0.0000 =     2.8318 vs.     2.8319

 Mass Balance = -4.3839E-05 cm;  Time step attempts =  180 and successes =  138
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0270 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   138

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.05757     0.07834     0.05009
 Head (cm)         = 1.93406E+05 1.37937E+03 8.57116E+02 1.68511E+03
 LiqWater Flow (cm)=-1.48295E-08-7.41189E-02-3.64072E-02 2.77874E-10
 IsoVapor Flow (cm)=-6.01614E-02-5.17880E-06-2.35506E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.2409+ 0.0000+ 0.0000 - 0.0602- 0.0000-  0.0000 =     4.1807 vs.     4.1807

 Mass Balance =  1.9180E-05 cm;  Time step attempts =  171 and successes =  151
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0602 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    90
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.4173E+02     [cm]
 Actual Evaporation                 =  1.2589E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.3919E+01     [cm]
 Total Basal Liquid Flux (drainage) =  9.2968E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.3919E+01     [cm]
Actual Rainfall                    =  1.3919E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  4.1807E+00     [cm]
Mass Balance Error                 =  8.3141E-03     [cm]
Total Successful Time Steps        =     64938
Total Attempted Time Steps         =     80077
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33261
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3302E+00	0.050	1.0626E+01	0.150	8.5538E+00
0.250	7.5587E+00	0.350	6.9268E+00	0.450	6.5789E+00
0.550	6.3023E+00	0.650	6.0189E+00	0.750	5.7703E+00
0.850	5.5641E+00	0.950	5.4138E+00	1.125	5.2522E+00
1.375	4.8883E+00	1.625	4.5547E+00	1.875	4.2961E+00
2.250	4.0180E+00	2.750	3.4990E+00	3.250	3.1340E+00
3.750	2.8882E+00	4.250	2.6059E+00	4.790	2.3704E+00
6.350	2.0845E+00	8.890	1.5819E+00	11.430	1.2372E+00
13.970	1.0454E+00	16.510	9.7340E-01	19.050	8.9864E-01
21.590	8.2211E-01	24.130	7.4424E-01	26.670	6.6517E-01
29.210	5.8500E-01	31.750	5.0381E-01	34.290	4.2168E-01
36.830	3.3870E-01	39.370	2.5496E-01	41.910	1.7056E-01
44.450	8.5566E-02	46.990	7.3096E-04	49.530	2.2898E-05
52.070	-7.1335E-06	54.610	-1.4925E-05	57.150	-1.5449E-05
59.690	-6.1756E-06	60.960	9.2968E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.934E+05	0.0301	292.65	2	1.000E-01	7.846E+04	0.0302	292.65
3	2.000E-01	1.584E+03	0.0534	292.65	4	3.000E-01	1.570E+03	0.0536	292.65
5	4.000E-01	1.556E+03	0.0539	292.65	6	5.000E-01	1.542E+03	0.0541	292.65
7	6.000E-01	1.529E+03	0.0544	292.65	8	7.000E-01	1.516E+03	0.0546	292.65
9	8.000E-01	1.504E+03	0.0549	292.65	10	9.000E-01	1.491E+03	0.0551	292.65
11	1.000E+00	1.480E+03	0.0554	292.65	12	1.250E+00	1.452E+03	0.0559	292.65
13	1.500E+00	1.426E+03	0.0565	292.65	14	1.750E+00	1.402E+03	0.0570	292.65
15	2.000E+00	1.379E+03	0.0576	292.65	16	2.500E+00	1.339E+03	0.0586	292.65
17	3.000E+00	1.304E+03	0.0595	292.65	18	3.500E+00	1.273E+03	0.0603	292.65
19	4.000E+00	1.245E+03	0.0611	292.65	20	4.500E+00	1.221E+03	0.0619	292.65
21	5.080E+00	1.195E+03	0.0627	292.65	22	7.620E+00	1.109E+03	0.0657	292.65
23	1.016E+01	1.048E+03	0.0682	292.65	24	1.270E+01	1.001E+03	0.0703	292.65
25	1.524E+01	9.639E+02	0.0721	292.65	26	1.778E+01	9.341E+02	0.0737	292.65
27	2.032E+01	9.095E+02	0.0751	292.65	28	2.286E+01	8.890E+02	0.0763	292.65
29	2.540E+01	8.717E+02	0.0774	292.65	30	2.794E+01	8.571E+02	0.0783	292.65
31	3.048E+01	8.448E+02	0.0792	292.65	32	3.302E+01	8.343E+02	0.0799	292.65
33	3.556E+01	8.255E+02	0.0805	292.65	34	3.810E+01	8.182E+02	0.0810	292.65
35	4.064E+01	8.121E+02	0.0815	292.65	36	4.318E+01	8.073E+02	0.0818	292.65
37	4.572E+01	8.037E+02	0.0821	292.65	38	4.826E+01	7.949E+02	0.0506	292.65
39	5.080E+01	1.509E+03	0.0501	292.65	40	5.334E+01	1.708E+03	0.0501	292.65
41	5.588E+01	1.721E+03	0.0501	292.65	42	5.842E+01	1.697E+03	0.0501	292.65
43	6.096E+01	1.685E+03	0.0501	292.65					

Initial Water Storage = 4.1807 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.06537	0.06560	0.07668	0.05009
Head (cm)	= 1.11780E+03	1.11184E+03	8.83015E+02	1.68690E+03

```
 LiqWater Flow (cm)=-1.71788E-03-2.57592E-02-3.23945E-02 2.75352E-10
 IsoVapor Flow (cm)=-5.54926E-05-1.16636E-06-2.45205E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.1807+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =     4.1807 vs.     4.1807

 Mass Balance =  2.2094E-05 cm;  Time step attempts =  107 and successes =   95
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05609     0.05011
 Head (cm)         = 1.03684E+06 1.57500E+05 1.44500E+03 1.53378E+03
 LiqWater Flow (cm)=-2.46492E-12-2.23950E-04-2.66652E-03 6.01803E-10
 IsoVapor Flow (cm)=-1.69046E-02-1.66803E-02-2.61679E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1966+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =     3.1797 vs.     3.1797

 Mass Balance = -3.0048E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1811E+02     [cm]
 Actual Evaporation                 =  1.4382E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.3386E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3865E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.3386E+01     [cm]
Actual Rainfall                    =  1.3386E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1797E+00     [cm]
Mass Balance Error                 =  4.9321E-03     [cm]
Total Successful Time Steps        =     52650
Total Attempted Time Steps         =     63414
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28860
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.9601E-01	0.050	9.6302E+00	0.150	6.8230E+00
0.250	5.7318E+00	0.350	4.8757E+00	0.450	4.3365E+00
0.550	3.8037E+00	0.650	3.3583E+00	0.750	3.0732E+00
0.850	2.7259E+00	0.950	2.3739E+00	1.125	2.1501E+00
1.375	1.7397E+00	1.625	1.4334E+00	1.875	1.0189E+00
2.250	7.7207E-01	2.750	4.0090E-01	3.250	2.1718E-01
3.750	8.5544E-02	4.250	4.4295E-02	4.790	-1.9564E-02
6.350	-1.1548E-01	8.890	-3.9065E-01	11.430	-4.6616E-01
13.970	-5.1804E-01	16.510	-5.5938E-01	19.050	-5.6868E-01
21.590	-5.6579E-01	24.130	-5.3752E-01	26.670	-4.8282E-01
29.210	-4.2647E-01	31.750	-3.6872E-01	34.290	-3.0970E-01
36.830	-2.4957E-01	39.370	-1.8848E-01	41.910	-1.2655E-01
44.450	-6.3968E-02	46.990	-4.7922E-04	49.530	1.7982E-04
52.070	1.1294E-05	54.610	3.1300E-06	57.150	1.1260E-06
59.690	3.6838E-07	60.960	1.3865E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.637E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.161E+05	0.0300	292.65	10	9.000E-01	5.715E+05	0.0300	292.65
11	1.000E+00	5.283E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.413E+05	0.0301	292.65
15	2.000E+00	1.575E+05	0.0301	292.65	16	2.500E+00	3.484E+03	0.0391	292.65
17	3.000E+00	2.882E+03	0.0414	292.65	18	3.500E+00	2.602E+03	0.0429	292.65
19	4.000E+00	2.425E+03	0.0441	292.65	20	4.500E+00	2.298E+03	0.0450	292.65
21	5.080E+00	2.187E+03	0.0459	292.65	22	7.620E+00	1.904E+03	0.0488	292.65
23	1.016E+01	1.757E+03	0.0507	292.65	24	1.270E+01	1.663E+03	0.0521	292.65
25	1.524E+01	1.597E+03	0.0532	292.65	26	1.778E+01	1.549E+03	0.0540	292.65
27	2.032E+01	1.512E+03	0.0547	292.65	28	2.286E+01	1.484E+03	0.0553	292.65
29	2.540E+01	1.462E+03	0.0557	292.65	30	2.794E+01	1.445E+03	0.0561	292.65
31	3.048E+01	1.431E+03	0.0564	292.65	32	3.302E+01	1.421E+03	0.0566	292.65
33	3.556E+01	1.412E+03	0.0568	292.65	34	3.810E+01	1.406E+03	0.0570	292.65
35	4.064E+01	1.400E+03	0.0571	292.65	36	4.318E+01	1.396E+03	0.0572	292.65
37	4.572E+01	1.393E+03	0.0573	292.65	38	4.826E+01	1.399E+03	0.0501	292.65
39	5.080E+01	1.514E+03	0.0501	292.65	40	5.334E+01	1.548E+03	0.0501	292.65
41	5.588E+01	1.546E+03	0.0501	292.65	42	5.842E+01	1.538E+03	0.0501	292.65
43	6.096E+01	1.534E+03	0.0501	292.65					

Initial Water Storage = 3.1797 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03014	0.05579	0.05011
Head (cm)	= 6.62341E+05	1.10405E+05	1.45890E+03	1.53421E+03

```
 LiqWater Flow (cm)=-1.27037E-11-3.84751E-04-3.13025E-03 6.00400E-10
 IsoVapor Flow (cm)=-1.22067E-02-1.18689E-02-3.09256E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1797+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =     3.1675 vs.     3.1675

 Mass Balance = -5.3866E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05004     0.05185
 Head (cm)         = 1.00583E+06 5.20808E+05 1.80296E+03 4.99792E+02
 LiqWater Flow (cm)=-1.38143E-12-5.88668E-11-2.18112E-03 6.27447E-06
 IsoVapor Flow (cm)=-8.77296E-03-8.76710E-03-5.72794E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9175+ 0.0000+ 0.0000 - 0.0088- 0.0000-  0.0000 =     2.9088 vs.     2.9088

 Mass Balance = -1.0826E-05 cm;  Time step attempts =   43 and successes =   35
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0088 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    35
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1167E+02     [cm]
 Actual Evaporation                 =  2.4419E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.4155E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.8706E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.4155E+01     [cm]
Actual Rainfall                    =  2.4155E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9088E+00     [cm]
Mass Balance Error                 =  6.5881E-03     [cm]
Total Successful Time Steps        =     52807
Total Attempted Time Steps         =     64683
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26908
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.6369E-01	0.050	1.2368E+01	0.150	8.1024E+00
0.250	6.9024E+00	0.350	6.0521E+00	0.450	5.4175E+00
0.550	4.8381E+00	0.650	4.3850E+00	0.750	3.9380E+00
0.850	3.5882E+00	0.950	3.3276E+00	1.125	3.0813E+00
1.375	2.3765E+00	1.625	2.1797E+00	1.875	2.0014E+00
2.250	1.8430E+00	2.750	1.4390E+00	3.250	1.2312E+00
3.750	8.8164E-01	4.250	6.3063E-01	4.790	5.1191E-01
6.350	3.9154E-01	8.890	1.2712E-01	11.430	-1.7845E-02
13.970	-1.4013E-01	16.510	-1.6082E-01	19.050	-1.4555E-01
21.590	-1.3010E-01	24.130	-1.1465E-01	26.670	-9.9275E-02
29.210	-8.4029E-02	31.750	-6.8931E-02	34.290	-5.3988E-02
36.830	-3.9195E-02	39.370	-2.4533E-02	41.910	-9.9723E-03
44.450	4.5259E-03	46.990	1.9588E-02	49.530	2.0807E-02
52.070	1.5434E-02	54.610	1.1477E-02	57.150	7.1425E-03
59.690	2.7150E-03	60.960	6.8706E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.771E+05	0.0300	292.65
3	2.000E-01	9.485E+05	0.0300	292.65	4	3.000E-01	9.207E+05	0.0300	292.65
5	4.000E-01	8.936E+05	0.0300	292.65	6	5.000E-01	8.672E+05	0.0300	292.65
7	6.000E-01	8.412E+05	0.0300	292.65	8	7.000E-01	8.158E+05	0.0300	292.65
9	8.000E-01	7.907E+05	0.0300	292.65	10	9.000E-01	7.661E+05	0.0300	292.65
11	1.000E+00	7.420E+05	0.0300	292.65	12	1.250E+00	6.834E+05	0.0300	292.65
13	1.500E+00	6.271E+05	0.0300	292.65	14	1.750E+00	5.729E+05	0.0300	292.65
15	2.000E+00	5.208E+05	0.0300	292.65	16	2.500E+00	4.221E+05	0.0300	292.65
17	3.000E+00	3.301E+05	0.0300	292.65	18	3.500E+00	2.438E+05	0.0301	292.65
19	4.000E+00	1.626E+05	0.0301	292.65	20	4.500E+00	8.594E+04	0.0302	292.65
21	5.080E+00	3.952E+03	0.0378	292.65	22	7.620E+00	2.688E+03	0.0424	292.65
23	1.016E+01	2.368E+03	0.0445	292.65	24	1.270E+01	2.191E+03	0.0459	292.65
25	1.524E+01	2.075E+03	0.0469	292.65	26	1.778E+01	1.990E+03	0.0478	292.65
27	2.032E+01	1.926E+03	0.0485	292.65	28	2.286E+01	1.876E+03	0.0491	292.65
29	2.540E+01	1.836E+03	0.0496	292.65	30	2.794E+01	1.803E+03	0.0500	292.65
31	3.048E+01	1.776E+03	0.0504	292.65	32	3.302E+01	1.754E+03	0.0507	292.65
33	3.556E+01	1.736E+03	0.0510	292.65	34	3.810E+01	1.722E+03	0.0512	292.65
35	4.064E+01	1.711E+03	0.0513	292.65	36	4.318E+01	1.703E+03	0.0514	292.65
37	4.572E+01	1.697E+03	0.0515	292.65	38	4.826E+01	1.487E+03	0.0501	292.65
39	5.080E+01	5.446E+02	0.0515	292.65	40	5.334E+01	5.213E+02	0.0517	292.65
41	5.588E+01	5.085E+02	0.0518	292.65	42	5.842E+01	5.019E+02	0.0518	292.65
43	6.096E+01	4.998E+02	0.0519	292.65					

Initial Water Storage = 2.9088 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.04991	0.05185
Head (cm)	=	1.15661E+06	5.84796E+05	1.81255E+03	5.00235E+02

```
 LiqWater Flow (cm)=-7.83563E-13-2.42562E-11-2.17015E-03 6.22876E-06
 IsoVapor Flow (cm)=-8.93144E-03-8.92652E-03-5.83959E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9088+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =     2.8998 vs.     2.8998

 Mass Balance =  3.3405E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03714     0.05082     0.05240
 Head (cm)         = 2.73526E+05 4.27114E+03 1.74601E+03 4.50940E+02
 LiqWater Flow (cm)=-5.09371E-10-9.48934E-03-1.15948E-03 1.46696E-05
 IsoVapor Flow (cm)=-7.63440E-03-1.03328E-04-2.95223E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.0179+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =     3.0102 vs.     3.0102

 Mass Balance =  3.8508E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0076 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2121E+02     [cm]
 Actual Evaporation                 =  2.1655E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1768E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.0816E-03     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1768E+01     [cm]
Actual Rainfall                    =  2.1768E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.0102E+00     [cm]
Mass Balance Error                 =  7.1795E-03     [cm]
Total Successful Time Steps        =     58450
Total Attempted Time Steps         =     71740
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29263
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1271E-01	0.050	1.2009E+01	0.150	7.7434E+00
0.250	6.3572E+00	0.350	5.5262E+00	0.450	4.9294E+00
0.550	4.2400E+00	0.650	3.7168E+00	0.750	3.3362E+00
0.850	3.0930E+00	0.950	2.9043E+00	1.125	2.7246E+00
1.375	2.2775E+00	1.625	1.9882E+00	1.875	1.8554E+00
2.250	1.6989E+00	2.750	1.5064E+00	3.250	1.3804E+00
3.750	1.1927E+00	4.250	1.0010E+00	4.790	9.3725E-01
6.350	8.2966E-01	8.890	6.1956E-01	11.430	3.9918E-01
13.970	2.2939E-01	16.510	1.0103E-01	19.050	3.0562E-02
21.590	2.5930E-02	24.130	2.2522E-02	26.670	1.9843E-02
29.210	1.7727E-02	31.750	1.6056E-02	34.290	1.4722E-02
36.830	1.3626E-02	39.370	1.2698E-02	41.910	1.1882E-02
44.450	1.1129E-02	46.990	1.3107E-02	49.530	1.8264E-02
52.070	9.3692E-03	54.610	7.6958E-03	57.150	6.2179E-03
59.690	4.7844E-03	60.960	4.0816E-03		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.564E+05	0.0301	292.65
3	2.000E-01	2.398E+05	0.0301	292.65	4	3.000E-01	2.233E+05	0.0301	292.65
5	4.000E-01	2.069E+05	0.0301	292.65	6	5.000E-01	1.907E+05	0.0301	292.65
7	6.000E-01	1.748E+05	0.0301	292.65	8	7.000E-01	1.590E+05	0.0301	292.65
9	8.000E-01	1.434E+05	0.0301	292.65	10	9.000E-01	1.279E+05	0.0301	292.65
11	1.000E+00	1.126E+05	0.0301	292.65	12	1.250E+00	7.518E+04	0.0302	292.65
13	1.500E+00	3.866E+04	0.0305	292.65	14	1.750E+00	5.848E+03	0.0349	292.65
15	2.000E+00	4.271E+03	0.0371	292.65	16	2.500E+00	3.409E+03	0.0393	292.65
17	3.000E+00	3.043E+03	0.0407	292.65	18	3.500E+00	2.820E+03	0.0417	292.65
19	4.000E+00	2.665E+03	0.0426	292.65	20	4.500E+00	2.547E+03	0.0433	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	22	7.620E+00	2.162E+03	0.0461	292.65
23	1.016E+01	2.019E+03	0.0475	292.65	24	1.270E+01	1.931E+03	0.0485	292.65
25	1.524E+01	1.873E+03	0.0491	292.65	26	1.778E+01	1.833E+03	0.0496	292.65
27	2.032E+01	1.803E+03	0.0500	292.65	28	2.286E+01	1.780E+03	0.0503	292.65
29	2.540E+01	1.762E+03	0.0506	292.65	30	2.794E+01	1.746E+03	0.0508	292.65
31	3.048E+01	1.732E+03	0.0510	292.65	32	3.302E+01	1.720E+03	0.0512	292.65
33	3.556E+01	1.709E+03	0.0514	292.65	34	3.810E+01	1.699E+03	0.0515	292.65
35	4.064E+01	1.691E+03	0.0516	292.65	36	4.318E+01	1.684E+03	0.0517	292.65
37	4.572E+01	1.680E+03	0.0518	292.65	38	4.826E+01	1.429E+03	0.0501	292.65
39	5.080E+01	4.800E+02	0.0520	292.65	40	5.334E+01	4.659E+02	0.0522	292.65
41	5.588E+01	4.573E+02	0.0523	292.65	42	5.842E+01	4.525E+02	0.0524	292.65
43	6.096E+01	4.509E+02	0.0524	292.65					

Initial Water Storage = 3.0102 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03003	0.03417	0.05075	0.05239
Head (cm)	=	4.46116E+05	6.68903E+03	1.75097E+03	4.51470E+02

```
 LiqWater Flow (cm)=-7.72381E-11-8.94834E-03-1.21834E-03 1.45276E-05
 IsoVapor Flow (cm)=-1.15374E-02-1.60151E-04-3.09998E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.0102+ 0.0000+ 0.0000 - 0.0115- 0.0000-  0.0000 =     2.9987 vs.     2.9987

 Mass Balance = -9.1430E-06 cm;  Time step attempts =   55 and successes =   44
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0115 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    44

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03013     0.06276     0.08544     0.05117
 Head (cm)          = 1.20186E+05 1.19275E+03 7.61901E+02 6.00783E+02
 LiqWater Flow (cm)=-6.34932E-02-1.43312E-01-4.41809E-02 1.37268E-06
 IsoVapor Flow (cm)=-9.87435E-02-3.68917E-06-1.71695E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.6754+ 0.0000+ 0.0000 - 0.1642- 0.0000-  0.0000 =     4.5112 vs.     4.5112

 Mass Balance = -2.3310E-05 cm;  Time step attempts =  194 and successes =  147
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1642 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    30
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.8444E+02     [cm]
 Actual Evaporation                 =  2.9170E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0683E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.7248E-03     [cm]
```

```
 Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
 Total Applied Water                =  3.0683E+01     [cm]
 Actual Rainfall                    =  3.0683E+01     [cm]
 Actual Irrigation                  =  0.0000E+00     [cm]
 Total Final Moisture Storage       =  4.5112E+00     [cm]
 Mass Balance Error                 =  1.0704E-02     [cm]
 Total Successful Time Steps        =     73933
 Total Attempted Time Steps         =     91409
 Total Time Step Reductions (DHMAX) =         0
 Total Changes in Surface Boundary  =     32787
 Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5134E+00	0.050	2.0348E+01	0.150	1.4075E+01
0.250	1.1809E+01	0.350	1.0265E+01	0.450	9.0517E+00
0.550	8.1675E+00	0.650	7.6598E+00	0.750	7.1403E+00
0.850	6.4682E+00	0.950	5.8626E+00	1.125	5.4985E+00
1.375	4.5449E+00	1.625	3.8734E+00	1.875	3.4718E+00
2.250	3.0838E+00	2.750	2.3917E+00	3.250	2.0620E+00
3.750	1.7576E+00	4.250	1.5568E+00	4.790	1.4789E+00
6.350	1.3450E+00	8.890	1.2779E+00	11.430	1.2082E+00
13.970	1.1352E+00	16.510	1.0589E+00	19.050	9.7973E-01
21.590	8.9793E-01	24.130	8.1380E-01	26.670	7.2761E-01
29.210	6.3960E-01	31.750	5.5001E-01	34.290	4.5905E-01
36.830	3.6691E-01	39.370	2.7376E-01	41.910	1.7975E-01
44.450	8.4990E-02	46.990	-9.8953E-03	49.530	-7.1173E-03
52.070	-8.7067E-03	54.610	-5.8320E-03	57.150	-2.8514E-03
59.690	1.9202E-04	60.960	1.7248E-03		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.202E+05	0.0301	292.65	2	1.000E-01	1.324E+03	0.0590	292.65
3	2.000E-01	1.316E+03	0.0592	292.65	4	3.000E-01	1.308E+03	0.0594	292.65
5	4.000E-01	1.300E+03	0.0596	292.65	6	5.000E-01	1.293E+03	0.0598	292.65
7	6.000E-01	1.285E+03	0.0600	292.65	8	7.000E-01	1.278E+03	0.0602	292.65
9	8.000E-01	1.271E+03	0.0604	292.65	10	9.000E-01	1.264E+03	0.0606	292.65
11	1.000E+00	1.257E+03	0.0608	292.65	12	1.250E+00	1.240E+03	0.0613	292.65
13	1.500E+00	1.224E+03	0.0618	292.65	14	1.750E+00	1.208E+03	0.0623	292.65
15	2.000E+00	1.193E+03	0.0628	292.65	16	2.500E+00	1.164E+03	0.0637	292.65
17	3.000E+00	1.138E+03	0.0646	292.65	18	3.500E+00	1.114E+03	0.0655	292.65
19	4.000E+00	1.092E+03	0.0664	292.65	20	4.500E+00	1.071E+03	0.0672	292.65
21	5.080E+00	1.049E+03	0.0681	292.65	22	7.620E+00	9.721E+02	0.0717	292.65
23	1.016E+01	9.177E+02	0.0746	292.65	24	1.270E+01	8.776E+02	0.0770	292.65
25	1.524E+01	8.469E+02	0.0790	292.65	26	1.778E+01	8.226E+02	0.0807	292.65
27	2.032E+01	8.030E+02	0.0822	292.65	28	2.286E+01	7.868E+02	0.0834	292.65
29	2.540E+01	7.733E+02	0.0845	292.65	30	2.794E+01	7.619E+02	0.0854	292.65
31	3.048E+01	7.522E+02	0.0863	292.65	32	3.302E+01	7.439E+02	0.0870	292.65
33	3.556E+01	7.368E+02	0.0876	292.65	34	3.810E+01	7.308E+02	0.0882	292.65
35	4.064E+01	7.258E+02	0.0886	292.65	36	4.318E+01	7.216E+02	0.0890	292.65
37	4.572E+01	7.183E+02	0.0893	292.65	38	4.826E+01	7.105E+02	0.0508	292.65
39	5.080E+01	6.799E+02	0.0509	292.65	40	5.334E+01	6.343E+02	0.0510	292.65
41	5.588E+01	6.131E+02	0.0511	292.65	42	5.842E+01	6.036E+02	0.0512	292.65
43	6.096E+01	6.008E+02	0.0512	292.65					

Initial Water Storage = 4.5112 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.05546	0.05967	0.08286	0.05117
Head (cm)	= 1.47496E+03	1.29651E+03	7.93712E+02	6.01038E+02

```
 LiqWater Flow (cm)=-5.24966E-02-1.17013E-01-4.46999E-02 1.36790E-06
 IsoVapor Flow (cm)=-7.15645E-02-4.73932E-06-2.01760E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   4.5112+ 0.0000+ 0.0000 - 0.1228- 0.0000-  0.0000 =     4.3884 vs.     4.3884

 Mass Balance = -1.9060E-06 cm;  Time step attempts =  352 and successes =  274
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1228 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    62

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05004     0.05450     0.06356     0.05079
 Head (cm)         = 1.80298E+03 1.52344E+03 1.16876E+03 7.02518E+02
 LiqWater Flow (cm)= 4.66811E-02 9.74416E-03-3.79147E-03 3.77331E-07
 IsoVapor Flow (cm)=-3.25437E-02-2.30104E-06-1.55793E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6161+ 0.1016+ 0.0000 - 0.0865- 0.0000-  0.0000 =     3.6313 vs.     3.6312

 Mass Balance =  4.2927E-05 cm;  Time step attempts =  318 and successes =  273
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0865 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    59
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1664E+02     [cm]
 Actual Evaporation                 =  2.4698E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.3825E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.5834E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.3825E+01     [cm]
Actual Rainfall                    =  2.3825E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.6312E+00     [cm]
Mass Balance Error                 =  6.9570E-03     [cm]
Total Successful Time Steps        =     59852
Total Attempted Time Steps         =     73546
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29255
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7278E-01	0.050	1.3549E+01	0.150	7.8886E+00
0.250	6.3369E+00	0.350	5.1669E+00	0.450	4.3629E+00
0.550	3.9008E+00	0.650	3.4830E+00	0.750	3.2630E+00
0.850	2.9031E+00	0.950	2.6077E+00	1.125	2.3241E+00
1.375	1.6848E+00	1.625	1.4288E+00	1.875	1.1923E+00
2.250	9.1418E-01	2.750	5.4712E-01	3.250	2.1084E-01
3.750	8.0325E-02	4.250	3.5609E-03	4.790	-8.5649E-02
6.350	-2.0461E-01	8.890	-4.0931E-01	11.430	-5.4619E-01
13.970	-6.0036E-01	16.510	-6.7511E-01	19.050	-6.3408E-01
21.590	-5.8562E-01	24.130	-5.3433E-01	26.670	-4.8076E-01
29.210	-4.2532E-01	31.750	-3.6834E-01	34.290	-3.1004E-01
36.830	-2.5063E-01	39.370	-1.9029E-01	41.910	-1.2916E-01
44.450	-6.7396E-02	46.990	-3.5432E-03	49.530	1.2433E-03
52.070	-1.6633E-03	54.610	-1.7559E-03	57.150	-1.0308E-03
59.690	-1.8134E-04	60.960	2.5834E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.803E+03	0.0500	292.65	2	1.000E-01	1.781E+03	0.0503	292.65
3	2.000E-01	1.760E+03	0.0506	292.65	4	3.000E-01	1.741E+03	0.0509	292.65
5	4.000E-01	1.723E+03	0.0512	292.65	6	5.000E-01	1.705E+03	0.0514	292.65
7	6.000E-01	1.689E+03	0.0517	292.65	8	7.000E-01	1.674E+03	0.0519	292.65
9	8.000E-01	1.659E+03	0.0521	292.65	10	9.000E-01	1.645E+03	0.0524	292.65
11	1.000E+00	1.631E+03	0.0526	292.65	12	1.250E+00	1.600E+03	0.0531	292.65
13	1.500E+00	1.572E+03	0.0536	292.65	14	1.750E+00	1.547E+03	0.0541	292.65
15	2.000E+00	1.523E+03	0.0545	292.65	16	2.500E+00	1.483E+03	0.0553	292.65
17	3.000E+00	1.448E+03	0.0560	292.65	18	3.500E+00	1.418E+03	0.0567	292.65
19	4.000E+00	1.392E+03	0.0573	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.346E+03	0.0584	292.65	22	7.620E+00	1.277E+03	0.0602	292.65
23	1.016E+01	1.238E+03	0.0613	292.65	24	1.270E+01	1.216E+03	0.0620	292.65
25	1.524E+01	1.204E+03	0.0624	292.65	26	1.778E+01	1.196E+03	0.0627	292.65
27	2.032E+01	1.189E+03	0.0629	292.65	28	2.286E+01	1.182E+03	0.0631	292.65
29	2.540E+01	1.176E+03	0.0633	292.65	30	2.794E+01	1.169E+03	0.0636	292.65
31	3.048E+01	1.162E+03	0.0638	292.65	32	3.302E+01	1.156E+03	0.0640	292.65
33	3.556E+01	1.150E+03	0.0642	292.65	34	3.810E+01	1.145E+03	0.0644	292.65
35	4.064E+01	1.140E+03	0.0646	292.65	36	4.318E+01	1.136E+03	0.0647	292.65
37	4.572E+01	1.133E+03	0.0648	292.65	38	4.826E+01	1.120E+03	0.0502	292.65
39	5.080E+01	8.442E+02	0.0505	292.65	40	5.334E+01	7.456E+02	0.0507	292.65
41	5.588E+01	7.152E+02	0.0508	292.65	42	5.842E+01	7.049E+02	0.0508	292.65
43	6.096E+01	7.025E+02	0.0508	292.65					

Initial Water Storage = 3.6312 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.06430	0.06661	0.06693	0.05079
Head (cm)	= 1.14743E+03	1.08568E+03	1.07774E+03	7.02637E+02

```
 LiqWater Flow (cm)= 3.14902E-01 2.35926E-01 1.03990E-02 3.76809E-07
 IsoVapor Flow (cm)=-5.05616E-02-1.06421E-06 1.71256E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6312+ 0.4572+ 0.0000 - 0.1922- 0.0000-  0.0000 =     3.8963 vs.     3.8961

 Mass Balance =  1.3058E-04 cm;  Time step attempts =  529 and successes =  442
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1922 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03040     0.06153     0.05061
 Head (cm)         = 1.50332E+06 4.69196E+04 1.23187E+03 7.77678E+02
 LiqWater Flow (cm)=-9.03240E-13-2.26255E-02-9.71717E-03 1.63082E-07
 IsoVapor Flow (cm)=-2.64699E-02-2.88345E-04-3.81421E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.4285+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =     3.4020 vs.     3.4020

 Mass Balance = -1.1567E-05 cm;  Time step attempts =   55 and successes =   42
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    42
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2162E+02     [cm]
 Actual Evaporation                 =  2.5851E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5629E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.7196E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5629E+01     [cm]
Actual Rainfall                    =  2.5629E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.4020E+00     [cm]
Mass Balance Error                 =  6.9867E-03     [cm]
Total Successful Time Steps        =     53456
Total Attempted Time Steps         =     65118
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26714
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2213E-01	0.050	1.6857E+01	0.150	9.2527E+00
0.250	7.8425E+00	0.350	6.5009E+00	0.450	6.0172E+00
0.550	5.5713E+00	0.650	5.3263E+00	0.750	4.9606E+00
0.850	4.5875E+00	0.950	4.1565E+00	1.125	3.9106E+00
1.375	2.9709E+00	1.625	2.4363E+00	1.875	1.9723E+00
2.250	1.6844E+00	2.750	9.6905E-01	3.250	8.4539E-01
3.750	7.0963E-01	4.250	5.8468E-01	4.790	4.7032E-01
6.350	4.0616E-01	8.890	1.6757E-01	11.430	1.2537E-02
13.970	-6.4498E-02	16.510	-5.9786E-02	19.050	-4.8834E-02
21.590	-3.9805E-02	24.130	-3.2405E-02	26.670	-2.6336E-02
29.210	-2.1333E-02	31.750	-1.7160E-02	34.290	-1.3654E-02
36.830	-1.0664E-02	39.370	-8.0665E-03	41.910	-5.7571E-03
44.450	-3.6415E-03	46.990	-1.0137E-03	49.530	1.4848E-03
52.070	-2.8803E-04	54.610	-6.2782E-04	57.150	-4.2068E-04
59.690	-9.0434E-05	60.960	8.7196E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.379E+06	0.0300	292.65
3	2.000E-01	1.265E+06	0.0300	292.65	4	3.000E-01	1.160E+06	0.0300	292.65
5	4.000E-01	1.062E+06	0.0300	292.65	6	5.000E-01	9.704E+05	0.0300	292.65
7	6.000E-01	8.847E+05	0.0300	292.65	8	7.000E-01	8.040E+05	0.0300	292.65
9	8.000E-01	7.278E+05	0.0300	292.65	10	9.000E-01	6.557E+05	0.0300	292.65
11	1.000E+00	5.871E+05	0.0300	292.65	12	1.250E+00	4.293E+05	0.0300	292.65
13	1.500E+00	2.881E+05	0.0300	292.65	14	1.750E+00	1.608E+05	0.0301	292.65
15	2.000E+00	4.692E+04	0.0304	292.65	16	2.500E+00	2.639E+03	0.0427	292.65
17	3.000E+00	2.444E+03	0.0439	292.65	18	3.500E+00	2.277E+03	0.0452	292.65
19	4.000E+00	2.148E+03	0.0463	292.65	20	4.500E+00	2.046E+03	0.0472	292.65
21	5.080E+00	1.953E+03	0.0482	292.65	22	7.620E+00	1.700E+03	0.0515	292.65
23	1.016E+01	1.562E+03	0.0538	292.65	24	1.270E+01	1.470E+03	0.0555	292.65
25	1.524E+01	1.404E+03	0.0570	292.65	26	1.778E+01	1.354E+03	0.0582	292.65
27	2.032E+01	1.313E+03	0.0592	292.65	28	2.286E+01	1.281E+03	0.0601	292.65
29	2.540E+01	1.254E+03	0.0609	292.65	30	2.794E+01	1.232E+03	0.0615	292.65
31	3.048E+01	1.213E+03	0.0621	292.65	32	3.302E+01	1.198E+03	0.0626	292.65
33	3.556E+01	1.185E+03	0.0630	292.65	34	3.810E+01	1.175E+03	0.0633	292.65
35	4.064E+01	1.167E+03	0.0636	292.65	36	4.318E+01	1.161E+03	0.0638	292.65
37	4.572E+01	1.156E+03	0.0640	292.65	38	4.826E+01	1.136E+03	0.0502	292.65
39	5.080E+01	9.257E+02	0.0504	292.65	40	5.334E+01	8.211E+02	0.0505	292.65
41	5.588E+01	7.877E+02	0.0506	292.65	42	5.842E+01	7.791E+02	0.0506	292.65
43	6.096E+01	7.777E+02	0.0506	292.65					

Initial Water Storage = 3.4020 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.03014	0.06103	0.05061
Head (cm)	=	7.20447E+05	1.14410E+05	1.24858E+03	7.77730E+02

```
 LiqWater Flow (cm)=-9.41296E-12-7.83704E-04-9.27695E-03 1.62996E-07
 IsoVapor Flow (cm)=-1.31360E-02-1.22687E-02-3.89091E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.4020+ 0.0000+ 0.0000 - 0.0131- 0.0000-  0.0000 =     3.3889 vs.     3.3889

 Mass Balance = -1.0060E-06 cm;  Time step attempts =   58 and successes =   56
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0131 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    53

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number        =       1          15          30          43
 Depth (cm)         =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)    =     0.03001     0.04447     0.05551     0.05045
 Head (cm)          = 8.58098E+05 2.36711E+03 1.47251E+03 8.82114E+02
 LiqWater Flow (cm)=-2.23125E-11-3.41122E-02 4.41607E-03 5.76756E-08
 IsoVapor Flow (cm)=-4.83108E-02-1.76663E-05 3.63275E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.2799+ 0.0000+ 0.0000 - 0.0483- 0.0000-  0.0000 =     3.2316 vs.     3.2316

 Mass Balance = -5.7639E-05 cm;  Time step attempts =  293 and successes =  228
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0483 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   227
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2377E+02     [cm]
 Actual Evaporation                 =  2.1422E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1260E+01     [cm]
 Total Basal Liquid Flux (drainage) =  3.9114E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1260E+01     [cm]
Actual Rainfall                    =  2.1260E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.2316E+00     [cm]
Mass Balance Error                 =  8.0353E-03     [cm]
Total Successful Time Steps        =     58101
Total Attempted Time Steps         =     71538
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28966
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6230E-01	0.050	1.4549E+01	0.150	1.0475E+01
0.250	9.0283E+00	0.350	8.0494E+00	0.450	7.3823E+00
0.550	6.6063E+00	0.650	5.8517E+00	0.750	5.3948E+00
0.850	4.8779E+00	0.950	4.5168E+00	1.125	4.2655E+00
1.375	3.3820E+00	1.625	2.9954E+00	1.875	2.2928E+00
2.250	1.9388E+00	2.750	1.2631E+00	3.250	9.3559E-01
3.750	7.1133E-01	4.250	5.8516E-01	4.790	4.5431E-01
6.350	2.5657E-01	8.890	-8.7253E-02	11.430	-1.9146E-01
13.970	-2.0297E-01	16.510	-2.0105E-01	19.050	-1.9642E-01
21.590	-1.8906E-01	24.130	-1.7897E-01	26.670	-1.6625E-01
29.210	-1.5106E-01	31.750	-1.3367E-01	34.290	-1.1441E-01
36.830	-9.3621E-02	39.370	-7.1629E-02	41.910	-4.8772E-02
44.450	-2.5337E-02	46.990	-1.3010E-03	49.530	7.1558E-04
52.070	-2.0713E-04	54.610	-4.1797E-04	57.150	-3.1207E-04
59.690	-8.6013E-05	60.960	3.9114E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.581E+05	0.0300	292.65	2	1.000E-01	7.469E+05	0.0300	292.65
3	2.000E-01	6.392E+05	0.0300	292.65	4	3.000E-01	5.432E+05	0.0300	292.65
5	4.000E-01	4.522E+05	0.0300	292.65	6	5.000E-01	3.670E+05	0.0300	292.65
7	6.000E-01	2.868E+05	0.0300	292.65	8	7.000E-01	2.110E+05	0.0301	292.65
9	8.000E-01	1.392E+05	0.0301	292.65	10	9.000E-01	7.089E+04	0.0302	292.65
11	1.000E+00	6.475E+03	0.0343	292.65	12	1.250E+00	3.156E+03	0.0403	292.65
13	1.500E+00	2.751E+03	0.0421	292.65	14	1.750E+00	2.522E+03	0.0434	292.65
15	2.000E+00	2.367E+03	0.0445	292.65	16	2.500E+00	2.162E+03	0.0461	292.65
17	3.000E+00	2.029E+03	0.0474	292.65	18	3.500E+00	1.932E+03	0.0484	292.65
19	4.000E+00	1.858E+03	0.0493	292.65	20	4.500E+00	1.799E+03	0.0501	292.65
21	5.080E+00	1.743E+03	0.0509	292.65	22	7.620E+00	1.590E+03	0.0533	292.65
23	1.016E+01	1.511E+03	0.0547	292.65	24	1.270E+01	1.468E+03	0.0556	292.65
25	1.524E+01	1.445E+03	0.0561	292.65	26	1.778E+01	1.437E+03	0.0563	292.65
27	2.032E+01	1.438E+03	0.0562	292.65	28	2.286E+01	1.446E+03	0.0561	292.65
29	2.540E+01	1.458E+03	0.0558	292.65	30	2.794E+01	1.473E+03	0.0555	292.65
31	3.048E+01	1.487E+03	0.0552	292.65	32	3.302E+01	1.499E+03	0.0550	292.65
33	3.556E+01	1.508E+03	0.0548	292.65	34	3.810E+01	1.514E+03	0.0547	292.65
35	4.064E+01	1.518E+03	0.0546	292.65	36	4.318E+01	1.518E+03	0.0546	292.65
37	4.572E+01	1.517E+03	0.0546	292.65	38	4.826E+01	1.465E+03	0.0501	292.65
39	5.080E+01	9.716E+02	0.0504	292.65	40	5.334E+01	8.870E+02	0.0504	292.65
41	5.588E+01	8.854E+02	0.0504	292.65	42	5.842E+01	8.844E+02	0.0504	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 3.2316 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.04334	0.05545	0.05045
Head (cm)	= 6.36590E+05	2.53410E+03	1.47512E+03	8.82181E+02

```
 LiqWater Flow (cm)=-3.71215E-11-2.40150E-02 3.06965E-03 5.76387E-08
 IsoVapor Flow (cm)=-2.58388E-02-2.26761E-05 2.27088E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.2316+ 0.0000+ 0.0000 - 0.0258- 0.0000-  0.0000 =     3.2058 vs.     3.2058

 Mass Balance = -8.9513E-06 cm;  Time step attempts =   95 and successes =   83
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0258 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    82

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04393     0.06482     0.05028
 Head (cm)         = 1.19840E+06 2.44439E+03 1.13268E+03 1.06308E+03
 LiqWater Flow (cm)=-3.46012E-12-3.24701E-02-1.24756E-02 1.23723E-08
 IsoVapor Flow (cm)=-3.67543E-02-2.62342E-05-3.26469E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.5921+ 0.0000+ 0.0000 - 0.0368- 0.0000-  0.0000 =     3.5553 vs.     3.5554

 Mass Balance = -1.4396E-05 cm;  Time step attempts =   70 and successes =   53
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0368 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    53
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1575E+02     [cm]
 Actual Evaporation                 =  2.0190E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.0523E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.2828E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.0523E+01     [cm]
Actual Rainfall                    =  2.0523E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.5554E+00     [cm]
Mass Balance Error                 =  8.9914E-03     [cm]
Total Successful Time Steps        =     67254
Total Attempted Time Steps         =     83746
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     32257
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.3273E-01	0.050	1.3774E+01	0.150	1.0483E+01
0.250	8.7808E+00	0.350	7.3702E+00	0.450	6.5017E+00
0.550	5.8800E+00	0.650	5.2931E+00	0.750	4.8904E+00
0.850	4.5162E+00	0.950	4.1625E+00	1.125	3.9198E+00
1.375	3.3622E+00	1.625	2.8637E+00	1.875	2.5182E+00
2.250	2.2861E+00	2.750	1.8524E+00	3.250	1.5531E+00
3.750	1.3095E+00	4.250	1.1034E+00	4.790	9.3901E-01
6.350	7.9309E-01	8.890	5.6177E-01	11.430	4.1563E-01
13.970	3.2088E-01	16.510	3.0247E-01	19.050	2.8921E-01
21.590	2.7329E-01	24.130	2.5466E-01	26.670	2.3337E-01
29.210	2.0960E-01	31.750	1.8361E-01	34.290	1.5570E-01
36.830	1.2624E-01	39.370	9.5556E-02	41.910	6.3976E-02
44.450	3.1779E-02	46.990	-1.6477E-04	49.530	4.5167E-04
52.070	-6.8048E-05	54.610	-1.5511E-04	57.150	-1.4147E-04
59.690	-4.9737E-05	60.960	1.2828E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.652E+05	0.0300	292.65	4	3.000E-01	8.620E+05	0.0300	292.65
5	4.000E-01	7.660E+05	0.0300	292.65	6	5.000E-01	6.762E+05	0.0300	292.65
7	6.000E-01	5.919E+05	0.0300	292.65	8	7.000E-01	5.125E+05	0.0300	292.65
9	8.000E-01	4.374E+05	0.0300	292.65	10	9.000E-01	3.662E+05	0.0300	292.65
11	1.000E+00	2.984E+05	0.0300	292.65	12	1.250E+00	1.424E+05	0.0301	292.65
13	1.500E+00	2.906E+03	0.0413	292.65	14	1.750E+00	2.624E+03	0.0428	292.65
15	2.000E+00	2.444E+03	0.0439	292.65	16	2.500E+00	2.211E+03	0.0457	292.65
17	3.000E+00	2.056E+03	0.0471	292.65	18	3.500E+00	1.942E+03	0.0483	292.65
19	4.000E+00	1.854E+03	0.0494	292.65	20	4.500E+00	1.783E+03	0.0503	292.65
21	5.080E+00	1.716E+03	0.0513	292.65	22	7.620E+00	1.524E+03	0.0545	292.65
23	1.016E+01	1.413E+03	0.0568	292.65	24	1.270E+01	1.337E+03	0.0586	292.65
25	1.524E+01	1.281E+03	0.0601	292.65	26	1.778E+01	1.238E+03	0.0613	292.65
27	2.032E+01	1.203E+03	0.0624	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.152E+03	0.0641	292.65	30	2.794E+01	1.133E+03	0.0648	292.65
31	3.048E+01	1.117E+03	0.0654	292.65	32	3.302E+01	1.103E+03	0.0659	292.65
33	3.556E+01	1.092E+03	0.0664	292.65	34	3.810E+01	1.083E+03	0.0667	292.65
35	4.064E+01	1.075E+03	0.0670	292.65	36	4.318E+01	1.070E+03	0.0673	292.65
37	4.572E+01	1.066E+03	0.0674	292.65	38	4.826E+01	1.051E+03	0.0503	292.65
39	5.080E+01	9.238E+02	0.0504	292.65	40	5.334E+01	1.015E+03	0.0503	292.65
41	5.588E+01	1.060E+03	0.0503	292.65	42	5.842E+01	1.065E+03	0.0503	292.65
43	6.096E+01	1.063E+03	0.0503	292.65					

Initial Water Storage = 3.5554 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04584	0.06416	0.05028
Head (cm)	=	7.50500E+05	2.19449E+03	1.15133E+03	1.06316E+03

```
 LiqWater Flow (cm)=-1.45651E-11-2.47285E-02-1.19994E-02 1.23642E-08
 IsoVapor Flow (cm)=-2.25943E-02-1.72107E-05-3.39095E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.5554+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =     3.5328 vs.     3.5328

 Mass Balance = -7.2661E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04512     0.05025
 Head (cm)         = 8.61063E+05 6.85429E+05 2.28256E+03 1.11631E+03
 LiqWater Flow (cm)=-8.55997E-13-2.64299E-12-1.31436E-03 8.28772E-09
 IsoVapor Flow (cm)=-2.92266E-03-2.92266E-03-1.06713E-06 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.6300+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =     2.6271 vs.     2.6271

 Mass Balance = -4.5638E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2628E+02     [cm]
 Actual Evaporation                 =  1.5756E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.4834E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.5471E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.4834E+01     [cm]
Actual Rainfall                    =  1.4834E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6271E+00     [cm]
Mass Balance Error                 =  5.9940E-03     [cm]
Total Successful Time Steps        =     50879
Total Attempted Time Steps         =     61797
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27333
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2231E-01	0.050	1.0309E+01	0.150	7.2574E+00
0.250	6.4006E+00	0.350	5.8049E+00	0.450	5.3515E+00
0.550	4.9830E+00	0.650	4.5178E+00	0.750	4.1966E+00
0.850	3.8978E+00	0.950	3.5870E+00	1.125	3.2950E+00
1.375	2.6672E+00	1.625	2.3083E+00	1.875	2.0397E+00
2.250	1.6984E+00	2.750	1.1390E+00	3.250	7.7352E-01
3.750	5.1126E-01	4.250	2.2814E-01	4.790	8.3418E-02
6.350	-1.0243E-01	8.890	-5.9324E-01	11.430	-6.8378E-01
13.970	-6.5666E-01	16.510	-6.0870E-01	19.050	-5.6069E-01
21.590	-5.1231E-01	24.130	-4.6343E-01	26.670	-4.1400E-01
29.210	-3.6402E-01	31.750	-3.1352E-01	34.290	-2.6255E-01
36.830	-2.1114E-01	39.370	-1.5934E-01	41.910	-1.0720E-01
44.450	-5.4744E-02	46.990	-1.6860E-03	49.530	2.2692E-04
52.070	-7.1239E-06	54.610	-1.4950E-05	57.150	-1.0146E-05
59.690	-7.2527E-07	60.960	4.5471E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.150E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.970E+05	0.0300	292.65
9	8.000E-01	7.881E+05	0.0300	292.65	10	9.000E-01	7.792E+05	0.0300	292.65
11	1.000E+00	7.705E+05	0.0300	292.65	12	1.250E+00	7.487E+05	0.0300	292.65
13	1.500E+00	7.273E+05	0.0300	292.65	14	1.750E+00	7.062E+05	0.0300	292.65
15	2.000E+00	6.854E+05	0.0300	292.65	16	2.500E+00	6.448E+05	0.0300	292.65
17	3.000E+00	6.053E+05	0.0300	292.65	18	3.500E+00	5.670E+05	0.0300	292.65
19	4.000E+00	5.297E+05	0.0300	292.65	20	4.500E+00	4.933E+05	0.0300	292.65
21	5.080E+00	4.523E+05	0.0300	292.65	22	7.620E+00	2.858E+05	0.0300	292.65
23	1.016E+01	1.373E+05	0.0301	292.65	24	1.270E+01	3.518E+03	0.0390	292.65
25	1.524E+01	2.963E+03	0.0411	292.65	26	1.778E+01	2.701E+03	0.0424	292.65
27	2.032E+01	2.539E+03	0.0433	292.65	28	2.286E+01	2.428E+03	0.0440	292.65
29	2.540E+01	2.345E+03	0.0446	292.65	30	2.794E+01	2.283E+03	0.0451	292.65
31	3.048E+01	2.234E+03	0.0455	292.65	32	3.302E+01	2.195E+03	0.0458	292.65
33	3.556E+01	2.164E+03	0.0461	292.65	34	3.810E+01	2.141E+03	0.0463	292.65
35	4.064E+01	2.123E+03	0.0465	292.65	36	4.318E+01	2.111E+03	0.0466	292.65
37	4.572E+01	2.103E+03	0.0467	292.65	38	4.826E+01	1.941E+03	0.0501	292.65
39	5.080E+01	1.605E+03	0.0501	292.65	40	5.334E+01	1.350E+03	0.0502	292.65
41	5.588E+01	1.201E+03	0.0502	292.65	42	5.842E+01	1.135E+03	0.0502	292.65
43	6.096E+01	1.116E+03	0.0502	292.65					

Initial Water Storage = 2.6271 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.04504	0.05025
Head (cm)	= 1.42694E+06	1.08397E+06	2.29221E+03	1.11705E+03

```
 LiqWater Flow (cm)=-1.47721E-13-5.34144E-13-1.30647E-03 8.24271E-09
 IsoVapor Flow (cm)=-4.12682E-03-4.11260E-03-1.08211E-06 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.6271+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =     2.6229 vs.     2.6229

 Mass Balance =  6.0153E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08653     0.08752     0.07301     0.05058
 Head (cm)         = 7.49185E+02 7.38039E+02 9.46956E+02 7.96306E+02
 LiqWater Flow (cm)= 1.28766E+00 1.16127E+00 9.67814E-02 1.33728E-07
 IsoVapor Flow (cm)= 1.45604E-05 3.41266E-05 2.76437E-06 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8664+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =     4.1569 vs.     4.1559

 Mass Balance =  1.0595E-03 cm;  Time step attempts = 2307 and successes = 1729
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1796E+02     [cm]
 Actual Evaporation                 =  2.9019E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0556E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.2857E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.0556E+01     [cm]
Actual Rainfall                    =  3.0556E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  4.1559E+00     [cm]
Mass Balance Error                 =  7.8821E-03     [cm]
Total Successful Time Steps        =     57974
Total Attempted Time Steps         =     70806
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27145
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5367E+00	0.050	1.5375E+01	0.150	8.7842E+00
0.250	7.2983E+00	0.350	6.0681E+00	0.450	5.5426E+00
0.550	5.1104E+00	0.650	4.7733E+00	0.750	4.6095E+00
0.850	4.4096E+00	0.950	4.2644E+00	1.125	4.1658E+00
1.375	3.9068E+00	1.625	3.7132E+00	1.875	3.5227E+00
2.250	3.3130E+00	2.750	2.9895E+00	3.250	2.7765E+00
3.750	2.6101E+00	4.250	2.4357E+00	4.790	2.2728E+00
6.350	2.0253E+00	8.890	1.4800E+00	11.430	1.1812E+00
13.970	8.7885E-01	16.510	6.4813E-01	19.050	5.2711E-01
21.590	4.2666E-01	24.130	3.3465E-01	26.670	2.5230E-01
29.210	1.8129E-01	31.750	1.2366E-01	34.290	8.1509E-02
36.830	5.5178E-02	39.370	3.9243E-02	41.910	2.7028E-02
44.450	1.5685E-02	46.990	5.3446E-03	49.530	7.4396E-03
52.070	4.4976E-03	54.610	2.7253E-03	57.150	1.0627E-03
59.690	2.2001E-04	60.960	8.2857E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.492E+02	0.0865	292.65	2	1.000E-01	7.416E+02	0.0872	292.65
3	2.000E-01	7.434E+02	0.0870	292.65	4	3.000E-01	7.430E+02	0.0871	292.65
5	4.000E-01	7.424E+02	0.0871	292.65	6	5.000E-01	7.421E+02	0.0871	292.65
7	6.000E-01	7.419E+02	0.0872	292.65	8	7.000E-01	7.417E+02	0.0872	292.65
9	8.000E-01	7.414E+02	0.0872	292.65	10	9.000E-01	7.411E+02	0.0872	292.65
11	1.000E+00	7.408E+02	0.0873	292.65	12	1.250E+00	7.401E+02	0.0873	292.65
13	1.500E+00	7.393E+02	0.0874	292.65	14	1.750E+00	7.387E+02	0.0875	292.65
15	2.000E+00	7.380E+02	0.0875	292.65	16	2.500E+00	7.369E+02	0.0876	292.65
17	3.000E+00	7.359E+02	0.0877	292.65	18	3.500E+00	7.350E+02	0.0878	292.65
19	4.000E+00	7.342E+02	0.0879	292.65	20	4.500E+00	7.336E+02	0.0879	292.65
21	5.080E+00	7.330E+02	0.0880	292.65	22	7.620E+00	7.326E+02	0.0880	292.65
23	1.016E+01	7.356E+02	0.0877	292.65	24	1.270E+01	7.426E+02	0.0871	292.65
25	1.524E+01	7.543E+02	0.0861	292.65	26	1.778E+01	7.716E+02	0.0846	292.65
27	2.032E+01	7.961E+02	0.0827	292.65	28	2.286E+01	8.304E+02	0.0802	292.65
29	2.540E+01	8.784E+02	0.0770	292.65	30	2.794E+01	9.470E+02	0.0730	292.65
31	3.048E+01	1.048E+03	0.0682	292.65	32	3.302E+01	1.204E+03	0.0624	292.65
33	3.556E+01	1.429E+03	0.0564	292.65	34	3.810E+01	1.632E+03	0.0526	292.65
35	4.064E+01	1.716E+03	0.0513	292.65	36	4.318E+01	1.731E+03	0.0510	292.65
37	4.572E+01	1.730E+03	0.0511	292.65	38	4.826E+01	1.600E+03	0.0501	292.65
39	5.080E+01	9.382E+02	0.0504	292.65	40	5.334E+01	7.835E+02	0.0506	292.65
41	5.588E+01	7.635E+02	0.0506	292.65	42	5.842E+01	7.809E+02	0.0506	292.65
43	6.096E+01	7.963E+02	0.0506	292.65					

Initial Water Storage = 4.1559 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03007	0.07064	0.07314	0.05058
Head (cm)	= 1.98374E+05	9.93641E+02	9.44585E+02	7.95756E+02

```
 LiqWater Flow (cm)=-6.07483E-02-9.88876E-02 1.20797E-01 1.34505E-07
 IsoVapor Flow (cm)=-7.72573E-02-1.03629E-06 1.24158E-06 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1559+ 0.0508+ 0.0000 - 0.1916- 0.0000-  0.0000 =    4.0150 vs.    4.0151

 Mass Balance = -2.6415E-05 cm;  Time step attempts =  248 and successes =  210
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1916 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04633     0.05131     0.05046
 Head (cm)         = 7.13118E+05 2.13938E+03 1.71252E+03 8.74989E+02
 LiqWater Flow (cm)=-1.83405E-04-4.47956E-02-1.42134E-03 6.16353E-08
 IsoVapor Flow (cm)=-7.69419E-02-1.12819E-05-3.39111E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2154+ 0.0000+ 0.0000 - 0.0771- 0.0000-  0.0000 =    3.1383 vs.    3.1383

 Mass Balance = -7.0153E-05 cm;  Time step attempts =  383 and successes =  304
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0771 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   201
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1971E+02     [cm]
 Actual Evaporation                 =  2.3667E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.2657E+01     [cm]
 Total Basal Liquid Flux (drainage) =  3.9583E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.2657E+01     [cm]
Actual Rainfall                    =  2.2657E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1383E+00     [cm]
Mass Balance Error                 =  7.6074E-03     [cm]
Total Successful Time Steps        =     62633
Total Attempted Time Steps         =     76742
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30594
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0099E+00	0.050	1.3406E+01	0.150	8.0691E+00
0.250	6.4709E+00	0.350	5.6810E+00	0.450	5.1205E+00
0.550	4.5368E+00	0.650	4.0134E+00	0.750	3.6789E+00
0.850	3.4251E+00	0.950	3.1542E+00	1.125	2.7857E+00
1.375	2.2144E+00	1.625	1.7686E+00	1.875	1.4624E+00
2.250	1.2264E+00	2.750	7.0410E-01	3.250	2.8531E-01
3.750	6.1545E-02	4.250	-1.1171E-01	4.790	-2.4058E-01
6.350	-2.9611E-01	8.890	-3.6925E-01	11.430	-3.8787E-01
13.970	-3.9072E-01	16.510	-4.0599E-01	19.050	-3.4356E-01
21.590	-2.6768E-01	24.130	-1.9619E-01	26.670	-1.3155E-01
29.210	-7.6539E-02	31.750	-3.3993E-02	34.290	-6.4978E-03
36.830	5.3791E-03	39.370	6.9308E-03	41.910	4.7725E-03
44.450	1.7352E-03	46.990	-9.0028E-04	49.530	1.3492E-03
52.070	-8.7299E-05	54.610	-3.7467E-04	57.150	-2.4570E-04
59.690	-4.8142E-05	60.960	3.9583E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.871E+05	0.0300	292.65
3	2.000E-01	4.716E+05	0.0300	292.65	4	3.000E-01	3.650E+05	0.0300	292.65
5	4.000E-01	2.661E+05	0.0301	292.65	6	5.000E-01	1.738E+05	0.0301	292.65
7	6.000E-01	8.734E+04	0.0302	292.65	8	7.000E-01	6.317E+03	0.0345	292.65
9	8.000E-01	3.755E+03	0.0383	292.65	10	9.000E-01	3.257E+03	0.0399	292.65
11	1.000E+00	2.981E+03	0.0410	292.65	12	1.250E+00	2.599E+03	0.0429	292.65
13	1.500E+00	2.387E+03	0.0443	292.65	14	1.750E+00	2.244E+03	0.0454	292.65
15	2.000E+00	2.139E+03	0.0463	292.65	16	2.500E+00	1.991E+03	0.0478	292.65
17	3.000E+00	1.889E+03	0.0489	292.65	18	3.500E+00	1.814E+03	0.0499	292.65
19	4.000E+00	1.755E+03	0.0507	292.65	20	4.500E+00	1.709E+03	0.0514	292.65
21	5.080E+00	1.665E+03	0.0520	292.65	22	7.620E+00	1.555E+03	0.0539	292.65
23	1.016E+01	1.513E+03	0.0547	292.65	24	1.270E+01	1.510E+03	0.0548	292.65
25	1.524E+01	1.533E+03	0.0543	292.65	26	1.778E+01	1.574E+03	0.0536	292.65
27	2.032E+01	1.624E+03	0.0527	292.65	28	2.286E+01	1.671E+03	0.0519	292.65
29	2.540E+01	1.702E+03	0.0515	292.65	30	2.794E+01	1.713E+03	0.0513	292.65
31	3.048E+01	1.708E+03	0.0514	292.65	32	3.302E+01	1.697E+03	0.0515	292.65
33	3.556E+01	1.684E+03	0.0517	292.65	34	3.810E+01	1.672E+03	0.0519	292.65
35	4.064E+01	1.661E+03	0.0521	292.65	36	4.318E+01	1.653E+03	0.0522	292.65
37	4.572E+01	1.648E+03	0.0523	292.65	38	4.826E+01	1.556E+03	0.0501	292.65
39	5.080E+01	1.018E+03	0.0503	292.65	40	5.334E+01	8.834E+02	0.0504	292.65
41	5.588E+01	8.701E+02	0.0505	292.65	42	5.842E+01	8.737E+02	0.0505	292.65
43	6.096E+01	8.750E+02	0.0505	292.65					

Initial Water Storage = 3.1383 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04342	0.05187	0.05046
Head (cm)	=	7.09845E+05	2.52160E+03	1.67568E+03	8.74950E+02

```
 LiqWater Flow (cm)=-3.25950E-11-2.68190E-02 7.28023E-04 6.16577E-08
 IsoVapor Flow (cm)=-3.45174E-02-2.06315E-05 7.62073E-08 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1383+ 0.0000+ 0.0000 - 0.0345- 0.0000-  0.0000 =     3.1038 vs.     3.1039

 Mass Balance = -3.2708E-05 cm;  Time step attempts =  197 and successes =  157
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0345 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   156

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05125     0.05023
 Head (cm)         = 1.53614E+06 5.72974E+05 1.71650E+03 1.14847E+03
 LiqWater Flow (cm)=-3.94946E-13-5.63822E-11-1.45656E-03 6.55251E-09
 IsoVapor Flow (cm)=-1.33724E-02-1.33619E-02-3.27938E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9673+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =     2.9539 vs.     2.9539

 Mass Balance = -4.1195E-06 cm;  Time step attempts =   28 and successes =   26
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0134 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    26
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3745E+02     [cm]
 Actual Evaporation                 =  1.1201E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.1024E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3305E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.1024E+01     [cm]
Actual Rainfall                    =  1.1024E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9539E+00     [cm]
Mass Balance Error                 =  7.1438E-03     [cm]
Total Successful Time Steps        =     58525
Total Attempted Time Steps         =     72070
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31150
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.7731E-01	0.050	8.5643E+00	0.150	6.6354E+00
0.250	5.9816E+00	0.350	5.5777E+00	0.450	5.2074E+00
0.550	4.8888E+00	0.650	4.6139E+00	0.750	4.3545E+00
0.850	4.0922E+00	0.950	3.8994E+00	1.125	3.7057E+00
1.375	3.1063E+00	1.625	2.7385E+00	1.875	2.4496E+00
2.250	2.2020E+00	2.750	1.6182E+00	3.250	1.2590E+00
3.750	1.0109E+00	4.250	8.9616E-01	4.790	7.4015E-01
6.350	5.9081E-01	8.890	3.8483E-01	11.430	2.7566E-01
13.970	1.6716E-01	16.510	8.2211E-02	19.050	2.8136E-02
21.590	-5.7786E-03	24.130	-3.0442E-03	26.670	-1.9587E-03
29.210	-1.9442E-03	31.750	-2.3480E-03	34.290	-2.7813E-03
36.830	-3.0714E-03	39.370	-3.1728E-03	41.910	-3.0998E-03
44.450	-2.8948E-03	46.990	-1.5080E-03	49.530	-1.7529E-05
52.070	-1.3331E-04	54.610	-1.8787E-04	57.150	-1.6291E-04
59.690	-5.9882E-05	60.960	1.3305E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.469E+06	0.0300	292.65
3	2.000E-01	1.404E+06	0.0300	292.65	4	3.000E-01	1.342E+06	0.0300	292.65
5	4.000E-01	1.283E+06	0.0300	292.65	6	5.000E-01	1.227E+06	0.0300	292.65
7	6.000E-01	1.172E+06	0.0300	292.65	8	7.000E-01	1.120E+06	0.0300	292.65
9	8.000E-01	1.069E+06	0.0300	292.65	10	9.000E-01	1.020E+06	0.0300	292.65
11	1.000E+00	9.732E+05	0.0300	292.65	12	1.250E+00	8.618E+05	0.0300	292.65
13	1.500E+00	7.587E+05	0.0300	292.65	14	1.750E+00	6.627E+05	0.0300	292.65
15	2.000E+00	5.730E+05	0.0300	292.65	16	2.500E+00	4.093E+05	0.0300	292.65
17	3.000E+00	2.633E+05	0.0301	292.65	18	3.500E+00	1.314E+05	0.0301	292.65
19	4.000E+00	1.098E+04	0.0323	292.65	20	4.500E+00	3.539E+03	0.0389	292.65
21	5.080E+00	3.083E+03	0.0405	292.65	22	7.620E+00	2.376E+03	0.0444	292.65
23	1.016E+01	2.133E+03	0.0464	292.65	24	1.270E+01	1.997E+03	0.0477	292.65
25	1.524E+01	1.908E+03	0.0487	292.65	26	1.778E+01	1.845E+03	0.0495	292.65
27	2.032E+01	1.799E+03	0.0501	292.65	28	2.286E+01	1.764E+03	0.0506	292.65
29	2.540E+01	1.737E+03	0.0509	292.65	30	2.794E+01	1.716E+03	0.0512	292.65
31	3.048E+01	1.700E+03	0.0515	292.65	32	3.302E+01	1.688E+03	0.0517	292.65
33	3.556E+01	1.678E+03	0.0518	292.65	34	3.810E+01	1.670E+03	0.0520	292.65
35	4.064E+01	1.664E+03	0.0521	292.65	36	4.318E+01	1.659E+03	0.0521	292.65
37	4.572E+01	1.655E+03	0.0522	292.65	38	4.826E+01	1.614E+03	0.0501	292.65
39	5.080E+01	1.392E+03	0.0501	292.65	40	5.334E+01	1.261E+03	0.0502	292.65
41	5.588E+01	1.198E+03	0.0502	292.65	42	5.842E+01	1.162E+03	0.0502	292.65
43	6.096E+01	1.148E+03	0.0502	292.65					

Initial Water Storage = 2.9539 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.05109	0.05023
Head (cm)	= 1.41657E+06	6.10843E+05	1.72739E+03	1.14906E+03

```
 LiqWater Flow (cm)=-4.53606E-13-3.34251E-11-1.61955E-03 6.52490E-09
 IsoVapor Flow (cm)=-1.16201E-02-1.16201E-02-3.67610E-07 0.00000E+00

                                          LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9539+ 0.0000+ 0.0000 - 0.0116- 0.0000-  0.0000 =    2.9423 vs.    2.9423

 Mass Balance = -6.2022E-06 cm;  Time step attempts =   64 and successes =   58
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0116 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    57

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.05000     0.05013
 Head (cm)         = 2.16723E+06 1.21638E+06 1.80603E+03 1.46495E+03
 LiqWater Flow (cm)=-6.38283E-14-7.33809E-13-2.53177E-03 8.78066E-10
 IsoVapor Flow (cm)=-8.27982E-03-8.28004E-03-6.56984E-07 0.00000E+00

                                          LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8696+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.8613 vs.    2.8613

 Mass Balance = -2.8309E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.4447E+02     [cm]
 Actual Evaporation                 =  1.1719E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.1633E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.1990E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.1633E+01     [cm]
Actual Rainfall                    =  1.1633E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8613E+00     [cm]
Mass Balance Error                 =  6.6786E-03     [cm]
Total Successful Time Steps        =     55052
Total Attempted Time Steps         =     67567
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29649
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5925E-02	0.050	9.0392E+00	0.150	6.9847E+00
0.250	6.2650E+00	0.350	5.6683E+00	0.450	5.2342E+00
0.550	4.8918E+00	0.650	4.5887E+00	0.750	4.2915E+00
0.850	4.0521E+00	0.950	3.7820E+00	1.125	3.5889E+00
1.375	3.1565E+00	1.625	2.8897E+00	1.875	2.5731E+00
2.250	2.3133E+00	2.750	1.8990E+00	3.250	1.4995E+00
3.750	1.2919E+00	4.250	1.1012E+00	4.790	8.7650E-01
6.350	6.6167E-01	8.890	2.7643E-01	11.430	2.1497E-01
13.970	1.5462E-01	16.510	1.0014E-01	19.050	5.0029E-02
21.590	-3.4339E-03	24.130	-1.9952E-02	26.670	-1.6570E-02
29.210	-1.3535E-02	31.750	-1.0882E-02	34.290	-8.5937E-03
36.830	-6.6310E-03	39.370	-4.9339E-03	41.910	-3.4387E-03
44.450	-2.0893E-03	46.990	-1.9108E-04	49.530	3.9153E-05
52.070	-3.3472E-06	54.610	-1.0431E-05	57.150	-1.1550E-05
59.690	-4.7625E-06	60.960	8.1990E-07		

APPENDIX III.I.1.E – LABORATORY SOIL DATA

Summary of Sample Preparation

	Proctor Data		Target Remold Densities	Actual Remold Values		
Sample Number	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm^3)	Dry Bulk Density (g/cm^3)	Moisture Content (% g/g)	Dry Bulk Density (g/cm^3)	% of Max. Dry Bulk Density (%)
El Paso 75%			1.37	6.1	1.41	77.2%
El Paso 80%			1.46	6.1	1.50	82.2%
El Paso 85%	10.9	1.83	1.56	6.2	1.60	87.3%
El Paso 90%			1.65	6.2	1.69	92.4%
El Paso 95%			1.74	6.1	1.79	97.6%

Summary of Saturated Hydraulic Conductivity Tests

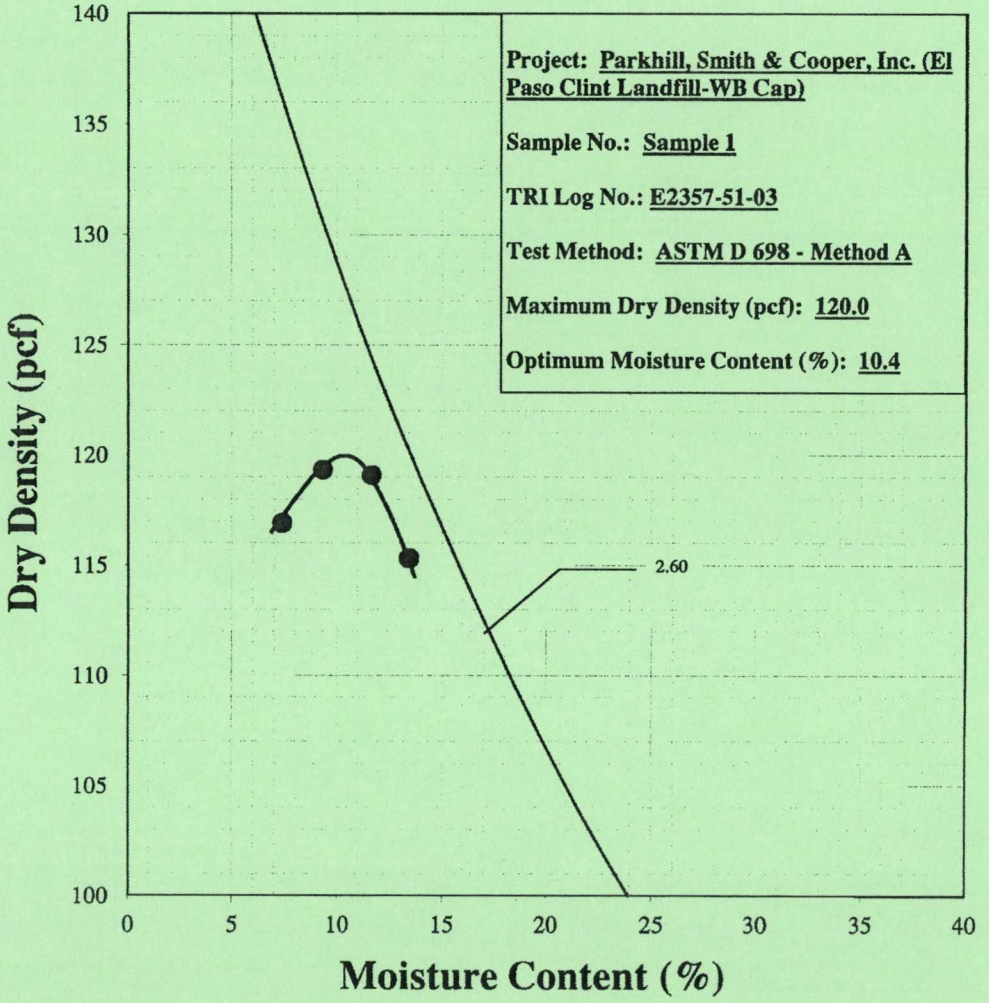
Sample Number	K_{sat} (cm/sec)	Method of Analysis	
		Constant Head	Falling Head
El Paso 75%	1.2E-02	X	
El Paso 80%	6.6E-03	X	
El Paso 85%	3.1E-03	X	
El Paso 90%	1.3E-03	X	
El Paso 95%	7.9E-04	X	

Summary of Moisture Characteristics of the Initial Drainage Curve

Sample Number	Pressure Head (-cm water)	Moisture Content (%, cm^3/cm^3)
El Paso 75%	0	46.0
	12	41.3
	38	40.1
	79	18.7
	510	13.8
	11728	5.2
	851293	1.2
El Paso 80%	0	45.2
	12	41.5
	38	39.7
	79	18.8
	510	10.4
	11728	5.6
	851293	1.2
El Paso 85%	0	43.4
	12	40.1
	38	39.3
	79	21.5
	510	10.8
	11728	5.9
	851293	1.3
El Paso 90%	0	37.7
	11	36.1
	40	34.8
	83	33.6
	510	11.5
	11728	6.3
	851293	1.4

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Proctor Compaction Test



John M. Allen, P.E., 09/16/11

Quality Review/Date

Tested by: Joe Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

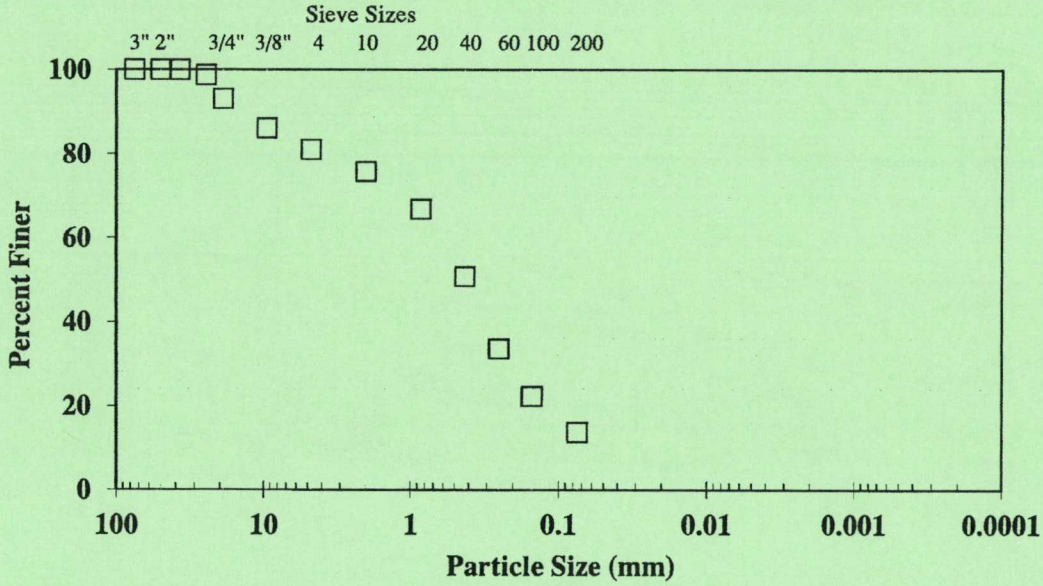
9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Particle Size Analysis for Soils

Client: Parkhill, Smith, & Cooper, Inc.
Project: El Paso Clint Landfill-WB Cap
Sample: Sample 1

TRI Log#: E2357-51-03
Test Method: ASTM D 422
Test Date: 09/13/11



Sieve Analysis	
Sieve Size	Percentage Passing (%)
3 in.	100.0
2 in.	100.0
1.5 in.	100.0
1 in.	98.8
3/4 in.	93.1
3/8 in.	86.1
No. 4 (4.75 mm)	81.1
No. 10 (2.00 mm)	75.7
No. 20 (850 µm)	66.8
No. 40 (425 µm)	50.8
No. 60 (250 µm)	33.5
No. 100 (150 µm)	22.3
No. 200 (75 µm)	13.7

Notes: Soil classifies as a silty sand with gravel (SM) in accordance with ASTM D 2487.

Plastic Index (ASTM D 4318) Results	
Liquid Limit	NL
Plastic Limit	NP
Plastic Index	NP
Notes: Specimen was air dried, 3 point Liquid Limit procedure was used.	

John M. Allen, P.E., 09/15/11
Quality Review/Date
Tested by: Joe Vasquez & Tierra Jackson

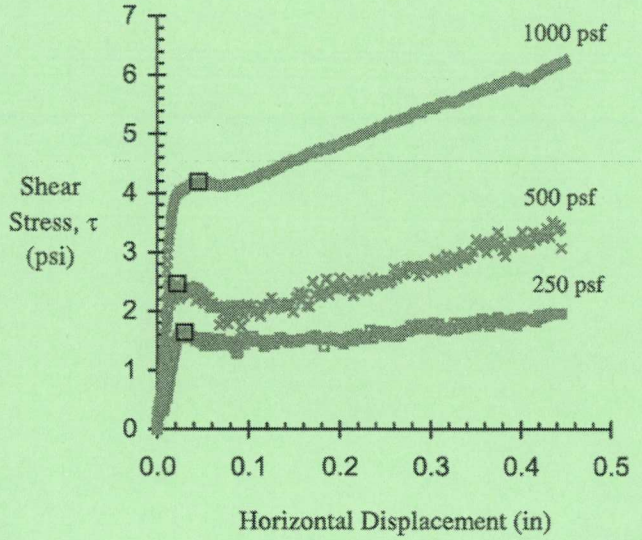
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

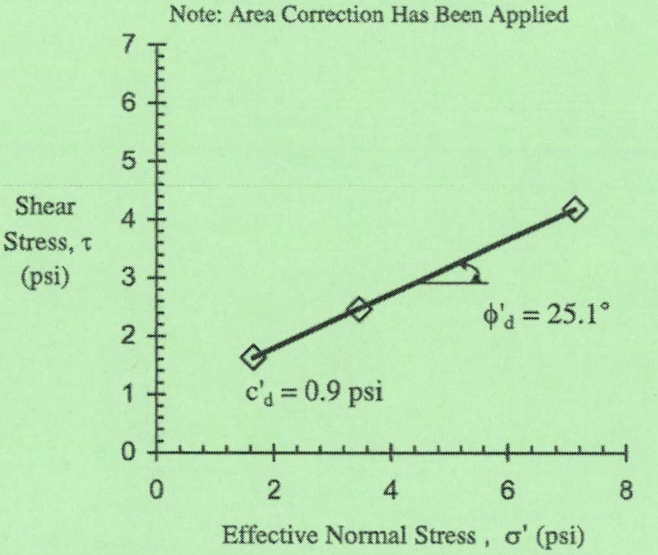
Direct Shear of Soil Under Consolidated-Drained Conditions

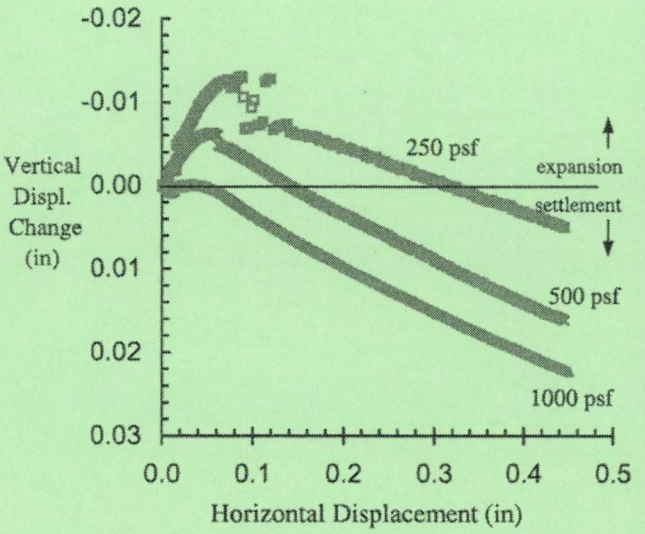
Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1

TRI Log#: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11



Note: Area Correction Has Been Applied





Sample Number		1	2	3
Initial Condition	Diameter, in	2.50	2.50	2.50
	Height, in (before consol)	0.99	0.99	1.00
	Water Content, %	10.0	10.1	10.0
	Saturation, %	51.0	51.7	51.2
	Dry Density, pcf	108.2	108.4	108.3
	Void Ratio	0.52	0.51	0.51
Post Consol	Height, in (prior to shear)	0.99	0.98	0.99
	Final Water Content, %	16.8	17.9	16.5
	Dry Density, pcf	108.8	108.9	109.1
	Void Ratio	0.51	0.51	0.50
Peak Normal Stress, σ' (psi)		1.6	3.5	7.1
Peak Shear Stress, τ (psi)		1.6	2.5	4.2
Displacement at Failure (in)		0.03	0.02	0.05
Displacement rate (in/min)		0.001	0.001	0.001
Sample Type	Remolded	ϕ'_d, degrees		**25.1**
G_s (measured)	2.626	c'_d, psi		**0.9**

Note: The soil was air dried and passed through a No. 4 sieve to eliminate any over sized particles. Specimens were remolded a target dry density of 90% standard compaction at optimum moisture content or 108.0 pcf dry density at a moisture content of 10.4 %.

Cheng-Wei Chen, 09/28/11
Analysis & Quality Review/Date
Specimens prepared by: Chirag Rakholia

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 250

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 1

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.10
3	0.000	0.003	4.89	0.39
4	0.001	0.006	4.88	0.37
5	0.001	0.008	4.87	0.38
6	0.001	0.011	4.87	0.52
7	0.001	0.013	4.86	0.76
8	-0.002	0.016	4.85	1.06
9	-0.005	0.018	4.85	1.23
10	-0.005	0.020	4.84	1.42
11	-0.006	0.026	4.83	1.58
12	-0.008	0.033	4.81	1.61
13	-0.009	0.041	4.79	1.53
14	-0.011	0.048	4.77	1.47
15	-0.011	0.056	4.75	1.52
16	-0.012	0.063	4.74	1.46
17	-0.013	0.071	4.72	1.48
18	-0.012	0.078	4.70	1.47
19	-0.013	0.086	4.68	1.37
20	-0.007	0.093	4.66	1.52
21	-0.007	0.105	4.63	1.57
22	-0.013	0.120	4.59	1.44
23	-0.007	0.135	4.56	1.55
24	-0.006	0.150	4.52	1.51
25	-0.006	0.165	4.48	1.53
26	-0.005	0.180	4.44	1.53
27	-0.005	0.195	4.41	1.52
28	-0.004	0.210	4.37	1.55
29	-0.003	0.240	4.29	1.64
30	-0.002	0.270	4.22	1.65
31	-0.001	0.300	4.15	1.77
32	0.001	0.330	4.07	1.71
33	0.002	0.360	4.00	1.84
34	0.003	0.390	3.92	1.77
35	0.004	0.420	3.85	1.92

TRI/ENVIRONMENTAL, INC.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 500

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 2

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.08
3	0.000	0.003	4.88	0.36
4	0.000	0.006	4.88	0.74
5	-0.002	0.008	4.87	1.27
6	-0.002	0.011	4.87	1.87
7	-0.002	0.013	4.86	2.22
8	-0.003	0.016	4.85	2.25
9	-0.003	0.018	4.85	2.41
10	-0.004	0.021	4.84	2.44
11	-0.005	0.028	4.82	2.33
12	-0.005	0.036	4.80	2.42
13	-0.006	0.043	4.78	2.18
14	-0.006	0.051	4.77	2.27
15	-0.006	0.057	4.75	2.22
16	-0.005	0.064	4.73	2.07
17	-0.005	0.072	4.71	2.06
18	-0.004	0.079	4.69	1.99
19	-0.004	0.087	4.68	2.09
20	-0.003	0.094	4.66	2.01
21	-0.002	0.108	4.62	1.98
22	-0.001	0.120	4.59	2.06
23	0.000	0.135	4.56	2.07
24	0.001	0.150	4.52	1.98
25	0.002	0.165	4.48	2.09
26	0.002	0.180	4.44	2.24
27	0.003	0.195	4.41	2.38
28	0.004	0.210	4.37	2.35
29	0.006	0.240	4.29	2.49
30	0.007	0.270	4.22	2.63
31	0.009	0.300	4.15	2.80
32	0.011	0.330	4.07	2.82
33	0.012	0.360	4.00	3.15
34	0.014	0.390	3.92	3.10
35	0.015	0.420	3.85	3.32

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 1000

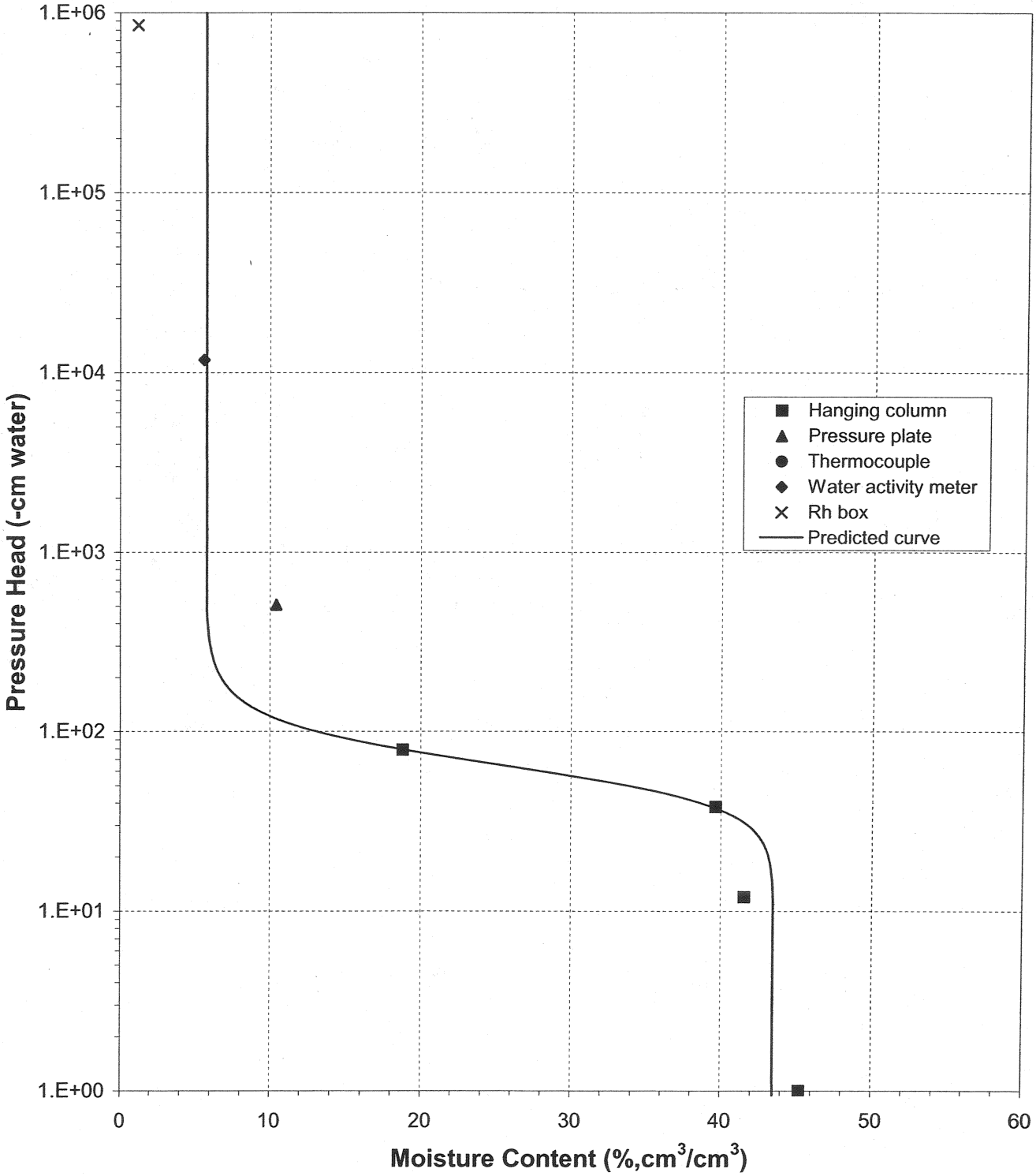
TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 3

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.000	4.90	-0.01
3	0.000	0.003	4.90	0.54
4	0.000	0.006	4.89	0.96
5	0.000	0.008	4.88	1.48
6	0.000	0.011	4.88	2.47
7	0.000	0.013	4.87	3.21
8	0.000	0.016	4.87	3.60
9	0.000	0.018	4.86	3.87
10	0.000	0.021	4.85	4.00
11	0.000	0.023	4.85	4.02
12	0.000	0.026	4.84	4.04
13	0.000	0.032	4.83	4.11
14	0.000	0.038	4.81	4.16
15	0.000	0.045	4.79	4.18
16	0.000	0.053	4.77	4.17
17	0.001	0.060	4.75	4.16
18	0.001	0.068	4.74	4.14
19	0.002	0.075	4.72	4.14
20	0.002	0.083	4.70	4.15
21	0.003	0.090	4.68	4.19
22	0.003	0.098	4.66	4.21
23	0.004	0.110	4.63	4.29
24	0.005	0.125	4.59	4.38
25	0.006	0.140	4.56	4.52
26	0.007	0.155	4.52	4.59
27	0.008	0.170	4.48	4.69
28	0.009	0.185	4.44	4.75
29	0.011	0.215	4.37	4.93
30	0.012	0.245	4.29	5.11
31	0.014	0.275	4.22	5.30
32	0.015	0.305	4.14	5.46
33	0.017	0.335	4.07	5.64
34	0.018	0.365	4.00	5.78
35	0.020	0.395	3.92	5.96
36	0.020	0.410	3.88	5.94

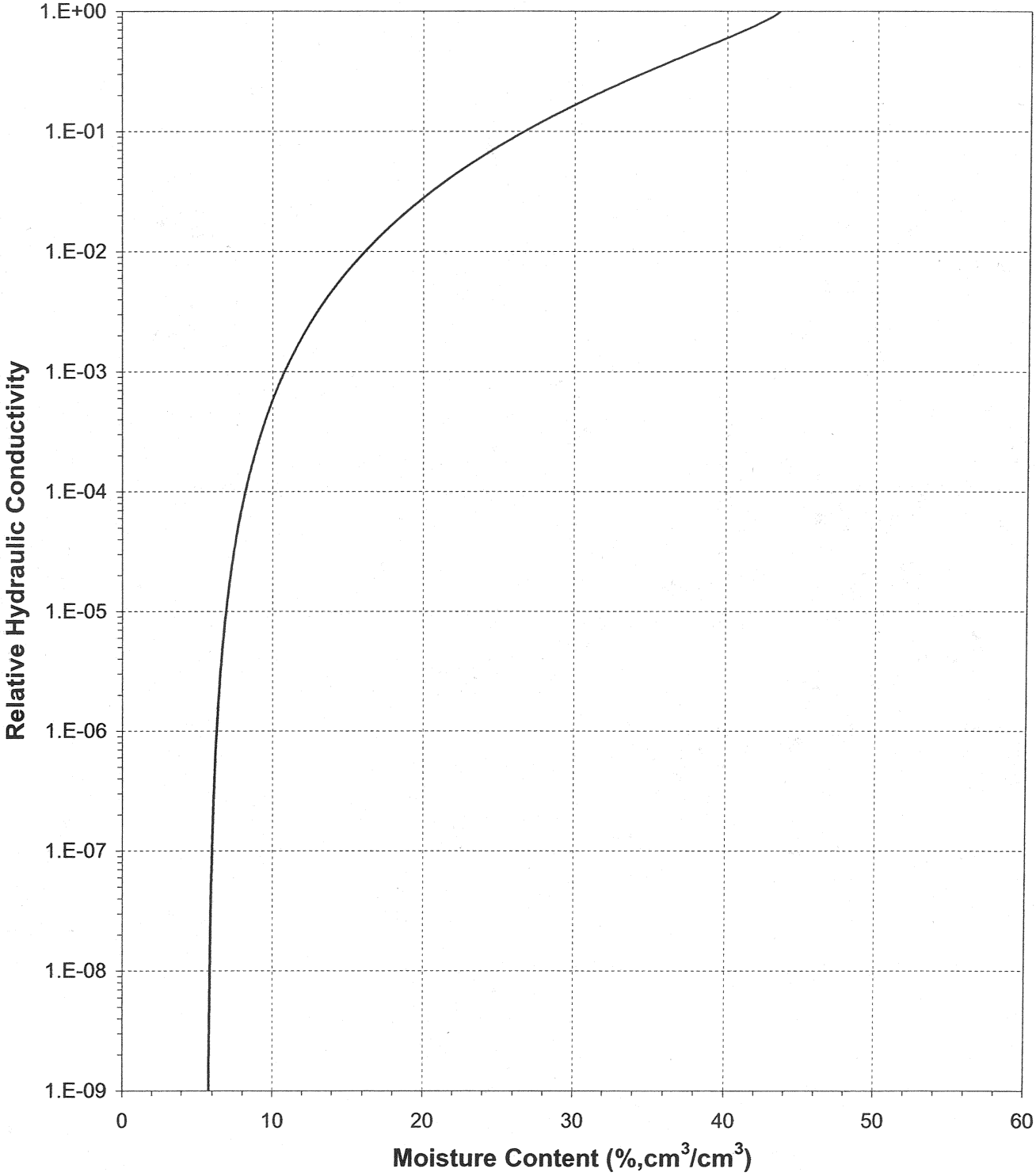
Predicted Water Retention Curve and Data Points

Sample Number: El Paso 80%



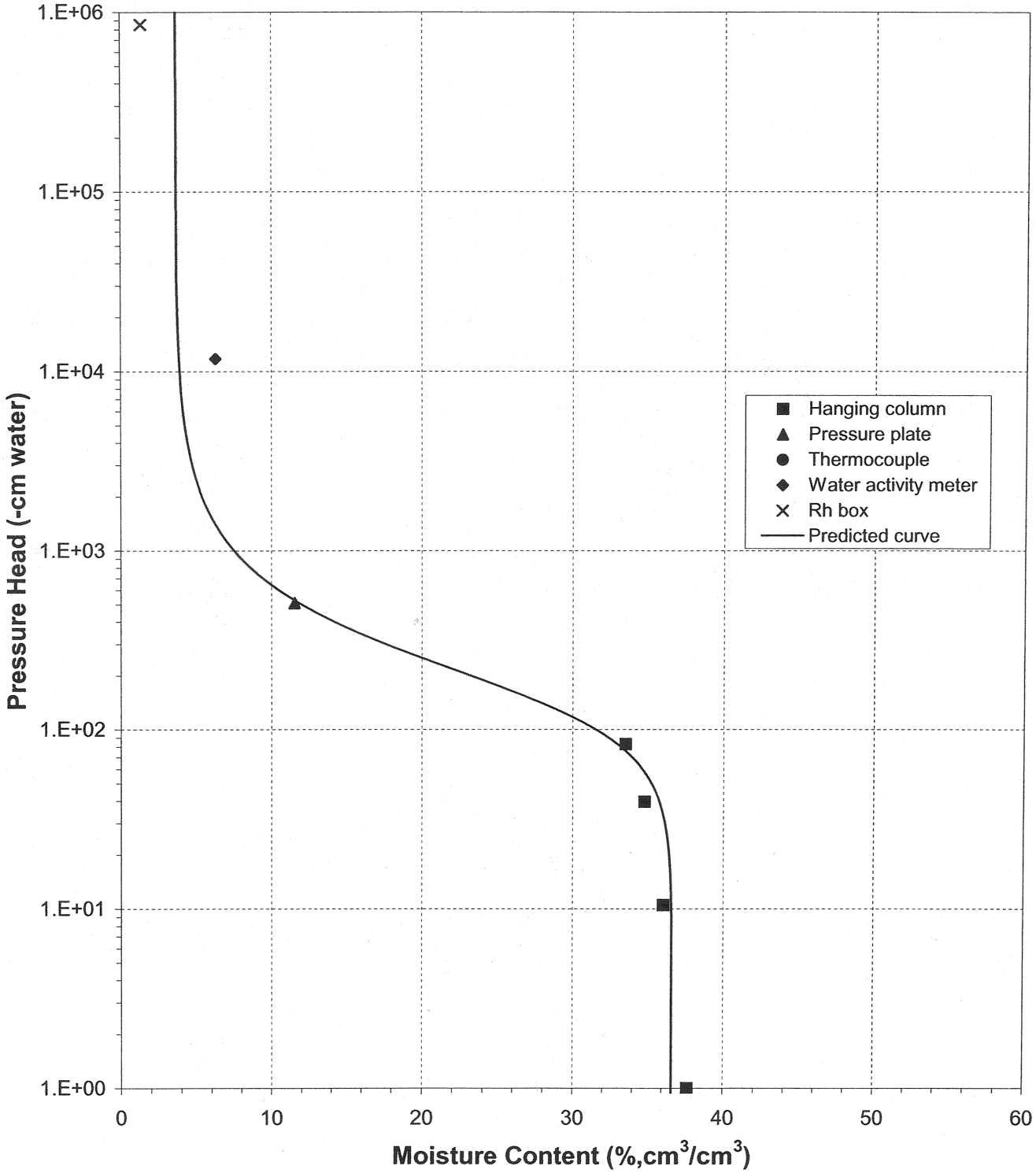
Plot of Relative Hydraulic Conductivity vs Moisture Content

Sample Number: El Paso 80%



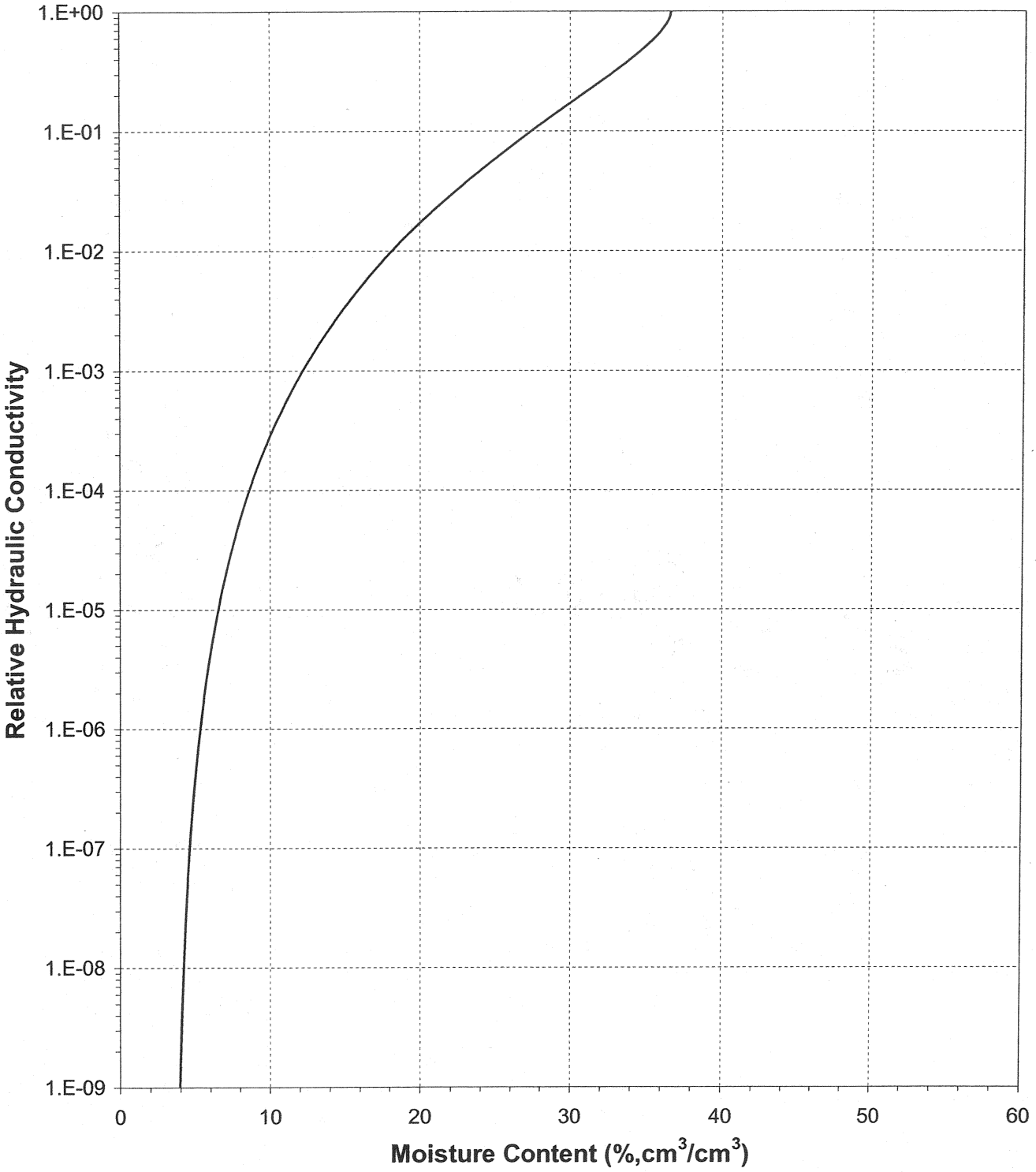
Predicted Water Retention Curve and Data Points

Sample Number: El Paso 90%



Plot of Relative Hydraulic Conductivity vs Moisture Content

Sample Number: El Paso 90%



Please replace Appendix III.J with the following pages

III. Post-Closure Care Status of Landfill Units at the Facility

Check the applicable box for the post-closure care status of the units at the facility and complete the applicable tables as indicated:

A. ☒ ☐ No landfill unit is in post-closure care in this facility at the time this application is submitted (skip Table 1 and complete Table 2 below if you check this item)

B. ☐ ☒ This facility includes landfill units currently in post-closure care and landfill units that are not yet in post-closure care (complete Tables 1 and 2 below if you check this item).

C. ☐ This facility contains only landfill units currently in post-closure care (complete Table 1 below if you check this item; do not complete Table 2).

Table 1: Landfill Units Currently in Post-Closure Care

Landfill Unit Name	Drawing Number Showing the Landfill Unit	Date TCEQ Acknowledged Closure of Unit	Date Post-Closure Care Commenced	Projected Date of End of Post-Closure Care
~~Phase 1~~	~~III.A.3 in Appendix III.A~~	~~7/14/2023~~	~~7/14/2023~~	~~7/14/2053~~

Table 2: Landfill Units Not yet in Post-Closure Care

Category of Landfill Unit (Regarding Status of Waste Receipt)	Landfill Unit Names or Descriptors	Site Development Plan Drawing Titles and Numbers Showing the Units
Stopped Receiving Waste Prior to October 9, 1993		
Received Waste on or after October 9, 1993	**Phase 1 ~~Vertical Expansion~~ and Phase 2**	**Drawing III.A.3 in Appendix III.A**
Proposed to be Constructed		

XI. Engineer's Seal and Signature

Name: Tonya Koller

Title: Project Engineer

Date: 9/12/2025~~5/16/2025~~

Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

Signature

Please replace Appendix III.K with the following pages

Texas Commission on Environmental Quality

Closure Cost Estimate Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators to provide cost estimates for closure of MSW Type I landfills to meet the requirements in 30 Texas Administrative Code (TAC) Chapter 330, Section 330.63(j) and 30 TAC Chapter 330 Subchapter L. The costs to be provided herein are cost estimates for hiring a third party to close the largest waste fill area that could potentially be open in the year to follow and those areas that have not received final cover. If you need assistance in completing this form, please contact the MSW Permits Section in the Waste Permits Division at (512) 239-2335.

Facility Name: Greater El Paso Landfill

MSW Permit No.: 2284A

Site Operator/Permittee Name and Mailing Address: City of El Paso, 7968 San Paulo Drive, El Paso, TX 79915

Total Closure Cost Estimate (2024 Dollar Amount): $13,963,373

I. Professional Engineer's Statement, Seal, and Signature

I am a licensed professional engineer in the State of Texas. To the best of my knowledge, this Closure Cost Estimate has been completed in substantial conformance with the facility Closure Plan and, in my professional opinion, is in compliance with Title 30 of the Texas Administrative Code, Chapter 330.

Name: Tonya Koller

Title: Project Engineer

Date: ~~10/31/2024~~9/12/2025

Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

Professional Engineer's Signature

the worksheet. Provide the total cost of all additional engineering cost items in the "Cost" column.

1.9. Engineering Costs Subtotal

1.9.1. Enter the sum of engineering costs in Items 1.1 through 1.8.

2. Construction Costs

Closure construction costs include those for construction of the final cover system, site grading, and drainage improvements. Other costs may be added as site-specific issues warrant.

2.1. Mobilization

2.1.1. Mobilization of Personnel and Equipment

The cost of mobilizing personnel and construction heavy equipment must be included as part of the construction costs.

Enter additional work or cost element details for mobilization of personnel and equipment as site-specific conditions warrant:

2.2. Final Cover System

The owner or operator must install a final cover system that is designed to minimize infiltration and erosion. The final cover system is subdivided into the sideslope cover and cap cover with their associated components to facilitate cost calculations. If an alternative final cover is proposed, the closure cost estimate will still be based on a design that utilizes the conventional composite cover system.

Enter additional final cover system work or cost element details as site-specific conditions warrant: ~~———~~Due to the costs associated with installing the alternative final cover being greater than the costs associated with installing the prescriptive cover option, the closure cost estimate was completed for the alternative final cover. No prescriptive cover is planned for this facility.

2.2.1. Side Slope Cover

Enter information for Items 2.2.1a through 2.2.1h.

2.2.2. Top Slope Cover

Enter information for Items 2.2.2a through 2.2.2h.

2.2.3. Cells for Class 1 Nonhazardous Industrial Waste

2.3. Site Grading

Site grading includes the final grading of the site, including the landfill cap and sideslopes.

Enter additional site grading work or cost element details as site-specific conditions warrant:

2.4. Site Fencing and Security

Site fencing and security must be included for the area which has received waste and have no existing approved fencing.

Enter additional site fencing and security work or cost element details as site-specific conditions warrant:

2.5. Landfill Gas Monitoring and Control Systems

Enter information for Items 2.5.1 through 2.5.6.

Final installation of the landfill gas monitoring and control systems must include the installation costs of pipes and appurtenances. In the event of a forced closure, the systems may not have been completed, thus, the estimated costs to complete the landfill gas monitoring and control system must be provided.

Enter additional landfill gas monitoring and control systems work or cost element details as site-specific conditions warrant:

2.6. Groundwater Monitoring System

2.6.1. Monitor Well Installation

Upon closure of the site, it may be necessary to relocate the compliance boundary. This requires the installation of new monitor wells.

Enter additional groundwater monitoring system work or cost element details as site-specific conditions warrant:

2.6.2. Piezometer and Monitor Well Plugging and Abandonment

Piezometer or monitor well abandonment is the cost of abandoning (plugging) piezometers or monitor wells that are no longer needed. Determine the number of piezometers or monitor wells to be abandoned and include the total cost.

Enter additional plugging and abandonment work or cost element details as site-specific conditions warrant:

2.7. Leachate Management

2.7.1. Completion of Existing Leachate Collection System

In the event of a forced closure, there may be circumstances where the leachate collection system has not been completed. In this event, the

leachate collection system must be closed with a permanent outfalls and permanent cleanouts installed.

Enter additional leachate management work or cost element details as site-specific conditions warrant:

2.8. Stormwater Management

2.8.1. Stormwater Drainage Management System

To reduce the potential long-term impacts of the landfill on surface water quality, drainage features must be incorporated into the final cover design to direct runoff, minimize erosion, control sediments, and avoid ponding of stormwater. The drainage system construction costs must be included.

Enter additional stormwater drainage management work or cost element details as site-specific conditions warrant:

2.9. Additional Construction Cost Items Not Listed on Worksheet

List the Attachments detailing any additional construction cost items necessary to close the site that is not already included as a line item on the worksheet: Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional construction cost items in the "Cost" column.

2.10. Construction Costs Subtotal

2.10.1. Enter the sum of construction costs in Items 2.1 through 2.9.

3. Storage and Processing Unit Closure Costs

For landfills that incorporate storage and/or processing operations that are not separately authorized, all waste and processed and unprocessed materials associated with storage and/or processing units must be removed during the closure process.

3.1. Waste Disposal

The cost of disposal of waste at an authorized facility. *Enter additional waste disposal work or cost element information as necessary.*

3.2. Material Removal and Disinfection

The cost of removal, including transportation, of any remaining processed and unprocessed materials to an authorized off-site location. *Enter additional material removal and disinfection work or cost element information as necessary.*

3.3. Demolition and Disposal

The cost of dismantling and/or disinfection of storage and/or processing units and disposal, as applicable. *Enter additional demolition and disposal work or cost element information as necessary.*

3.4. Additional Storage and Processing Unit Closure Cost Items Not Listed in Worksheet

List the Attachments detailing any additional storage and processing unit closure cost items necessary to close the site that is not already included as a line item on the worksheet. Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional storage and processing unit closure cost items in the "Cost" column.

3.5. Storage and Processing Unit Closure Costs Subtotal

4. Sum of Cost Subtotals

4.1. Enter the sum of engineering, construction, and storage and processing unit closure cost subtotals from lines 1.9.1, 2.10.1, and 3.5.1.

5. Contingency

5.1. Add an amount equal to at least 10 percent of the sum of cost subtotals to cover unanticipated events during implementation of closure activities.

6. Contract Performance Bond

6.1. Add an amount equal to at least 2 percent of the sum of cost subtotals for purchase of a surety bond to guarantee satisfactory completion of the closure activities.

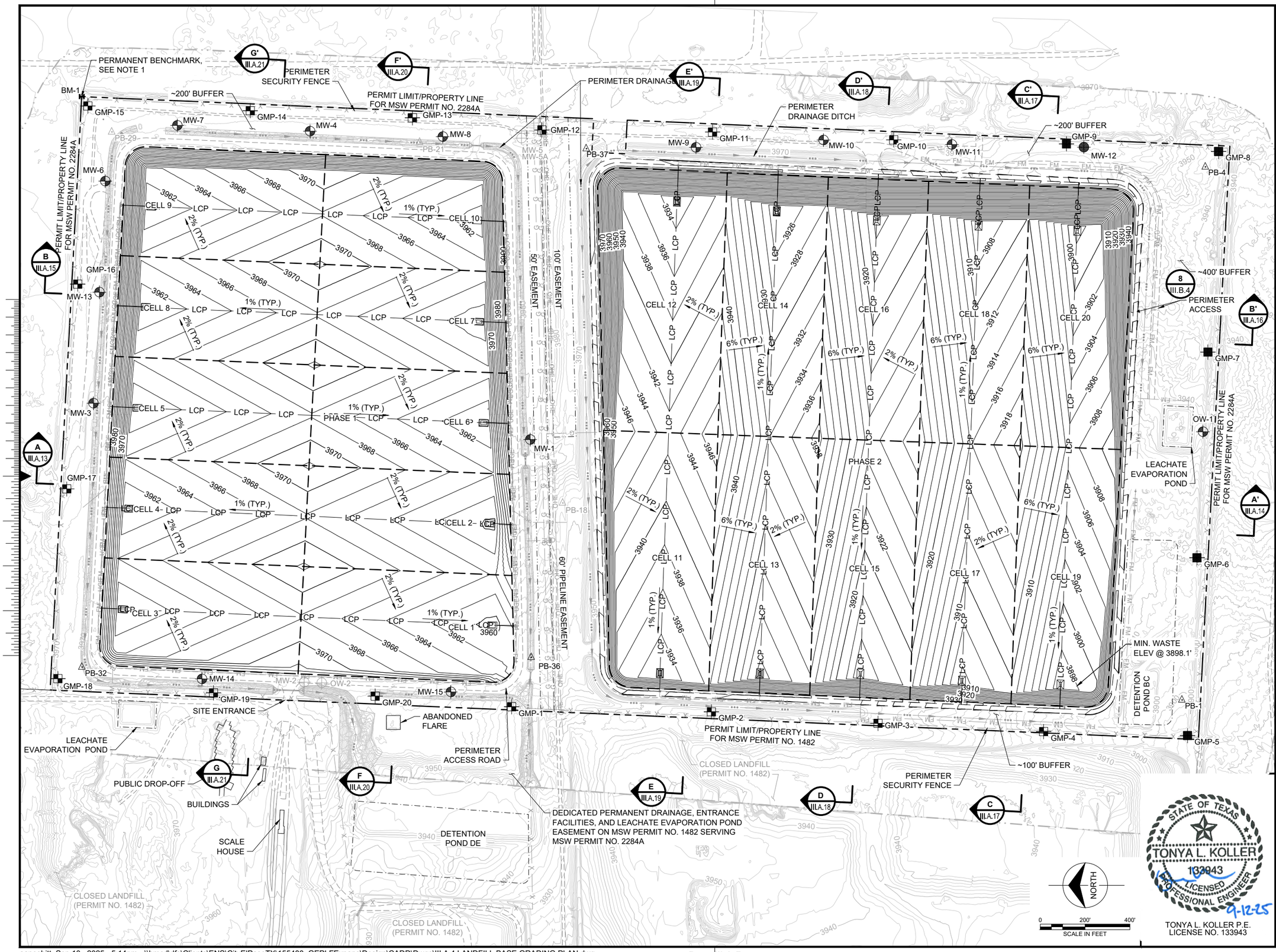
7. Third Party Administration and Project Management Costs

7.1. Add an amount equal to at least 2.5 percent of the sum of cost subtotals to cover the cost for a third party hired by TCEQ to administer the closure activities.

8. Total Closure Cost

8.1. Enter the sum of the amounts on lines 4.1, 5.1, 6.1, and 7.1.

Please replace Appendix III.A with the following pages



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. PERMANENT BENCHMARK 3" Ø BRASS CAP SET IN CONCRETE (NAD83)
   N: 10,594,029.88 FEET
   E: 482,320.00 FEET
   ELEV:3986.67 FEET (NAVD88)
   LATITUDE: 31.602233
   LONGITUDE: -106.163511
2. INDEX CONTOUR INTERVAL, 2 FEET.
3. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11-14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
4. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
5. DESIGN CONTOURS ARE FROM 2284 PERMIT AND REPRESENT TOP OF PROTECTIVE COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

LANDFILL BASE GRADING PLAN

project	contract
155488	-

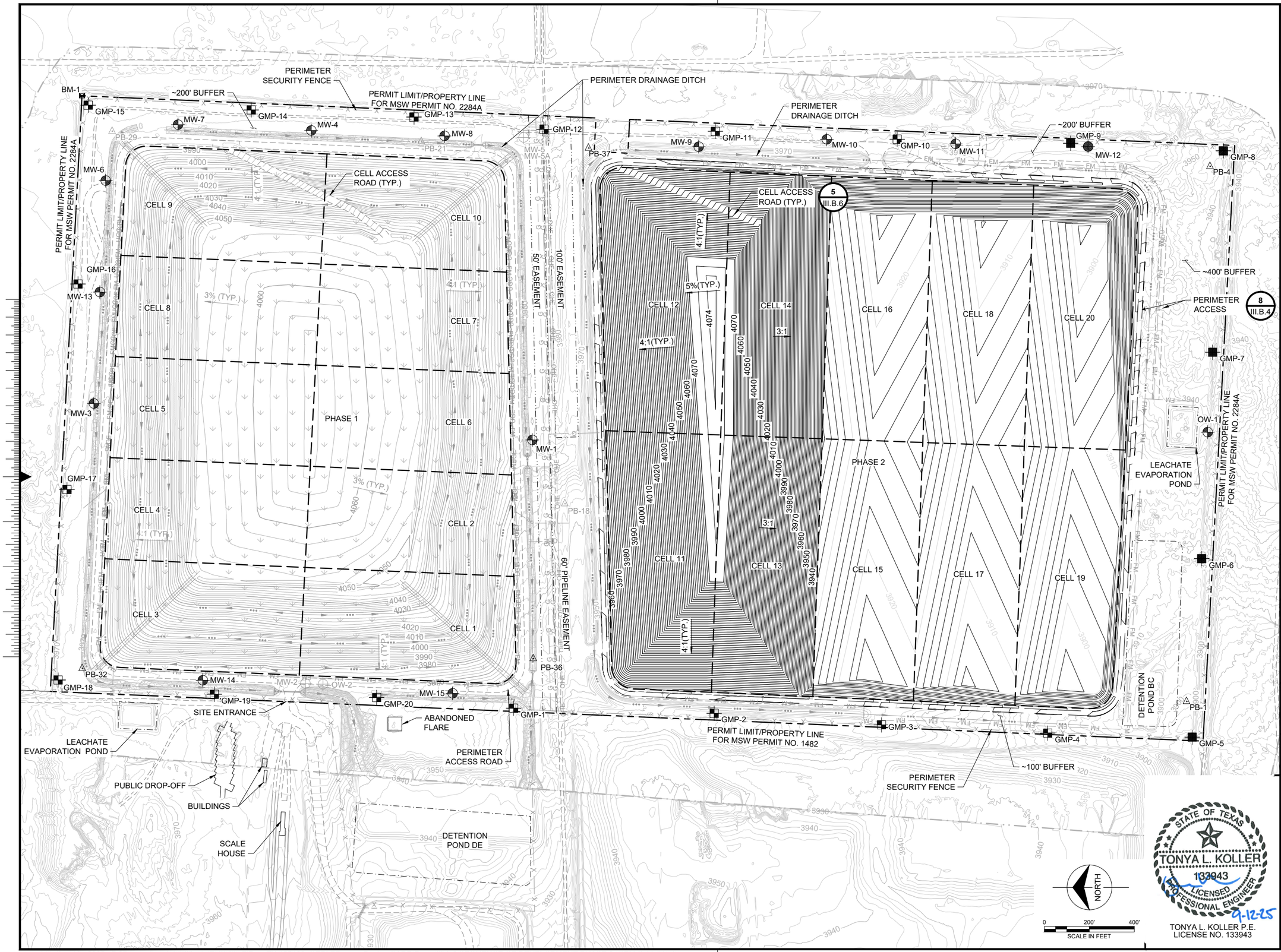
drawing **III.A.4 – 2** rev.

file III.A.4 LANDFILL BASE GRADING PLAN.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-14). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 11-14)

project	contract
155488	-

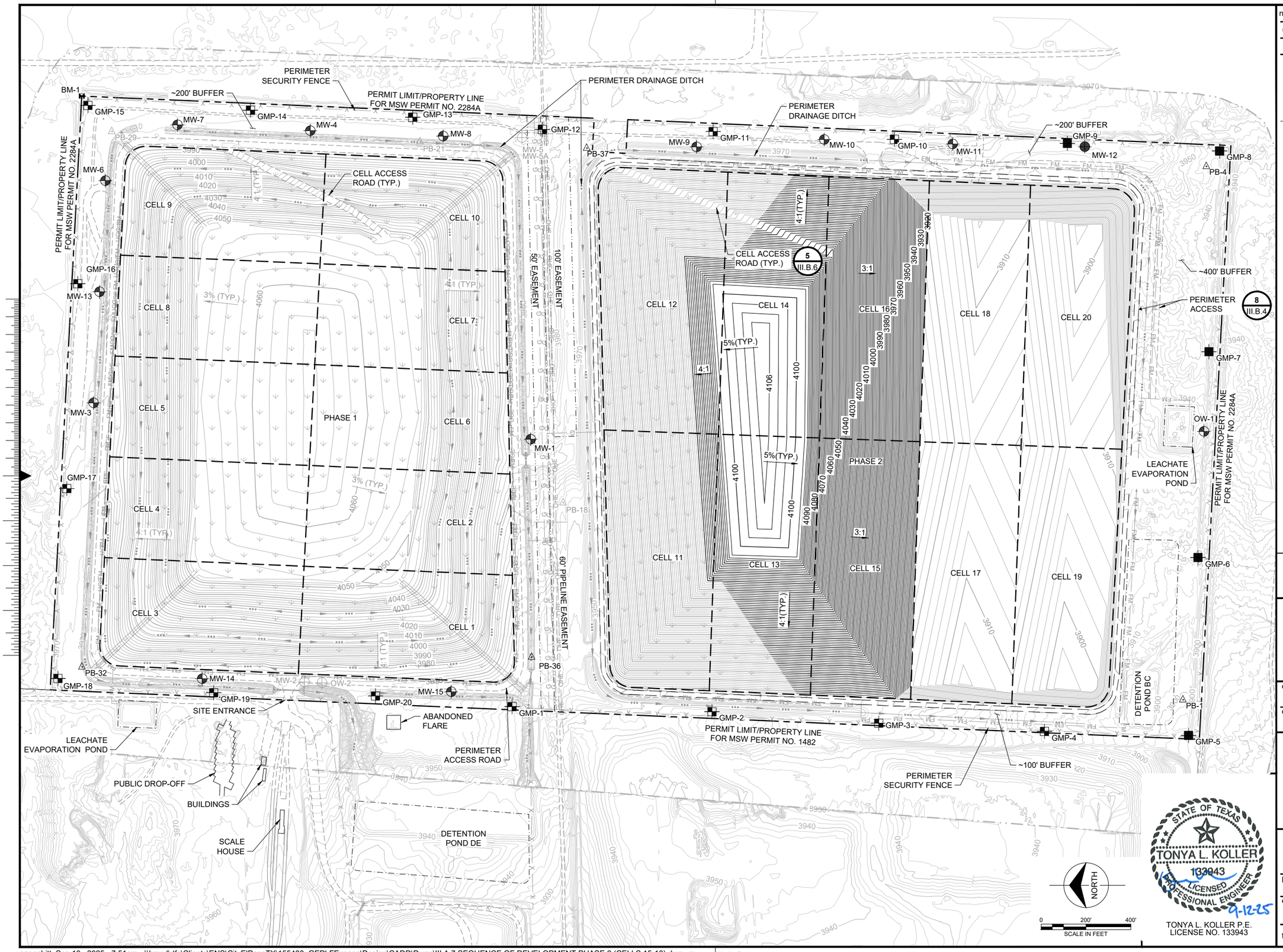
drawing **III.A.6** rev. **1**

file III.A.6 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 11-14).dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-16). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 15-16)

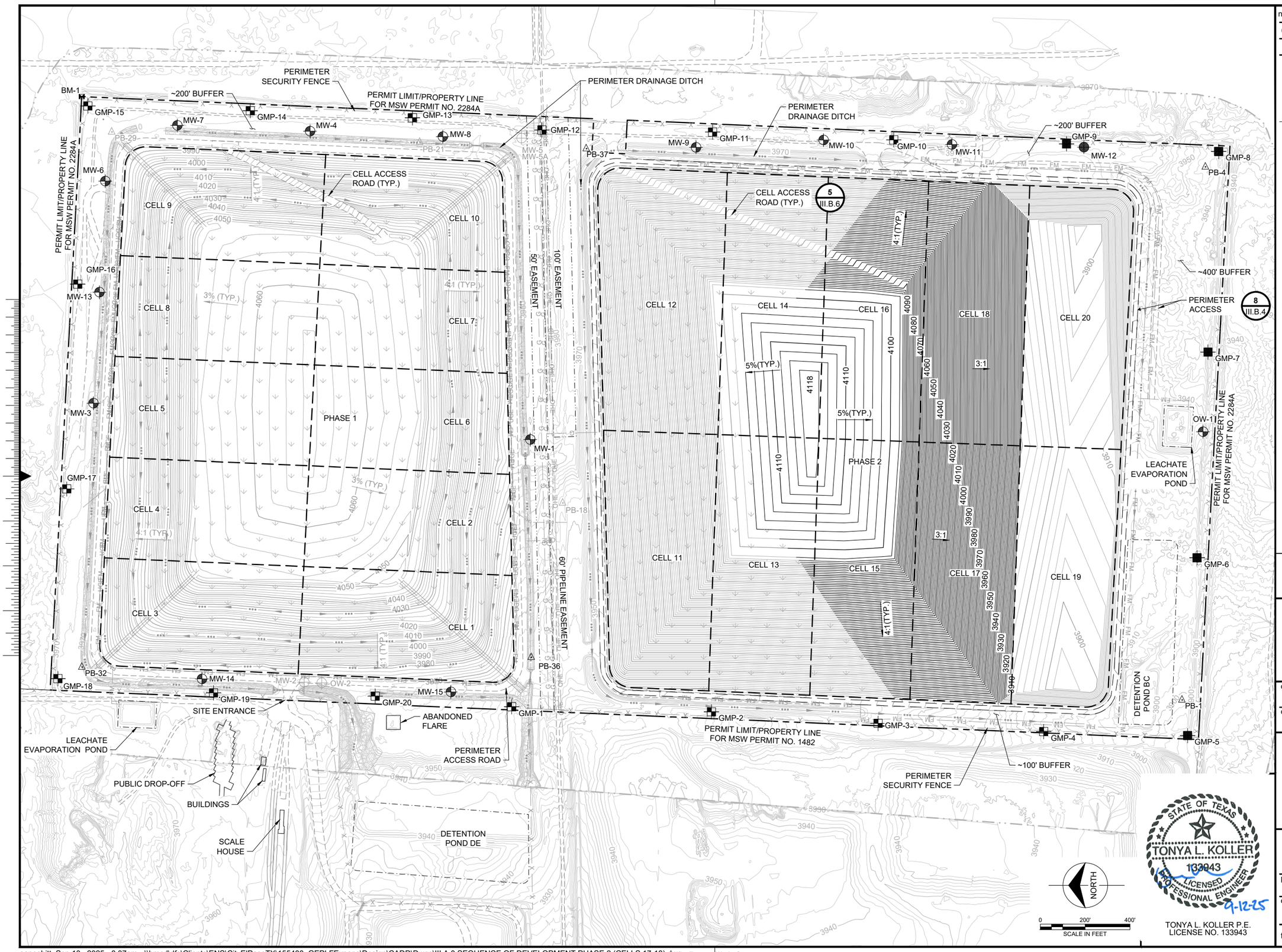
project	contract
155488	-

drawing **III.A.7** – rev. **1**

file III.A.7 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 15-16).dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-18). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 17-18)

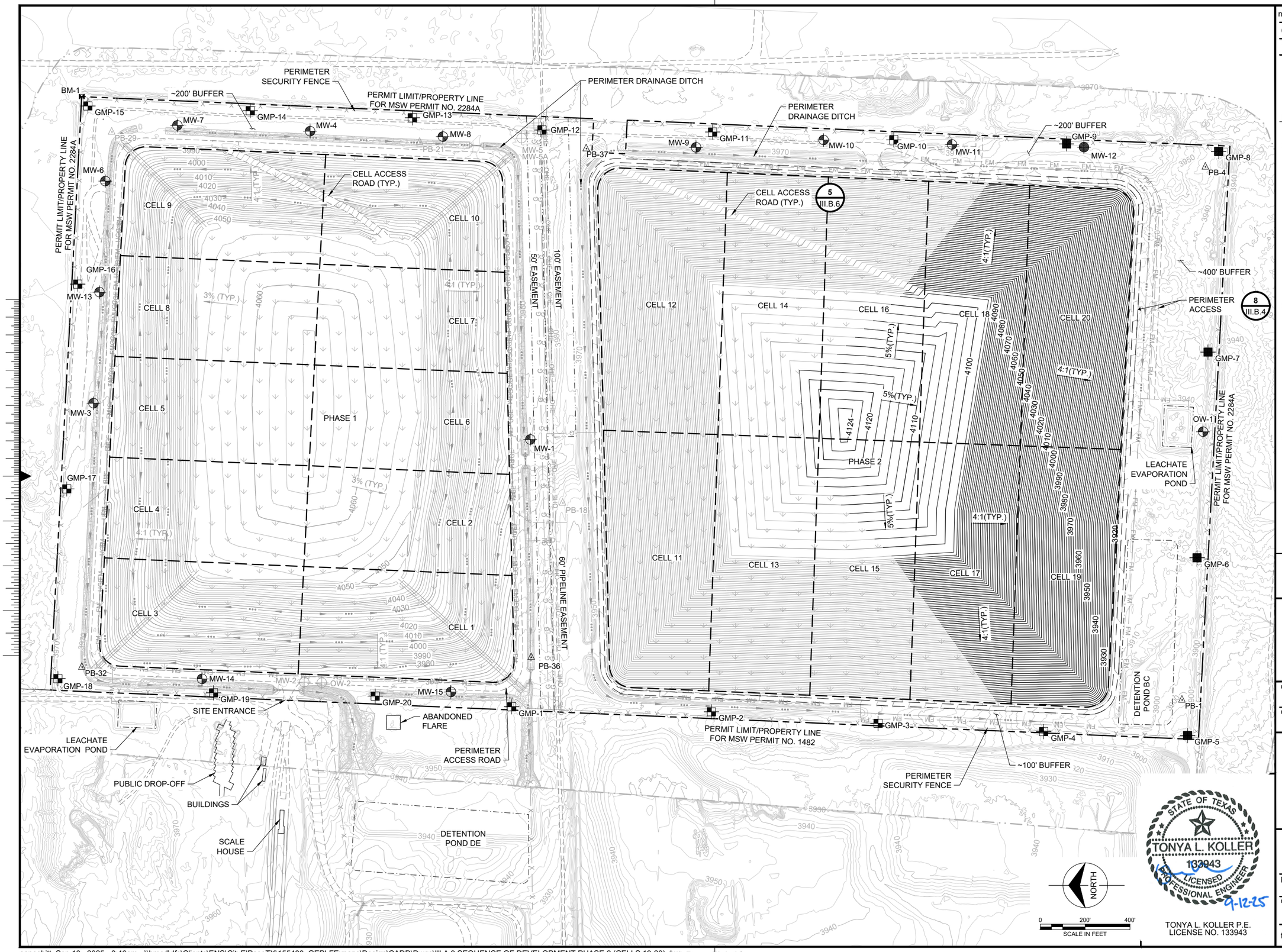
project	contract
155488	-

drawing **III.A.8** rev. **1**

file III.A.8 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 17-18).dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-20). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 19-20)

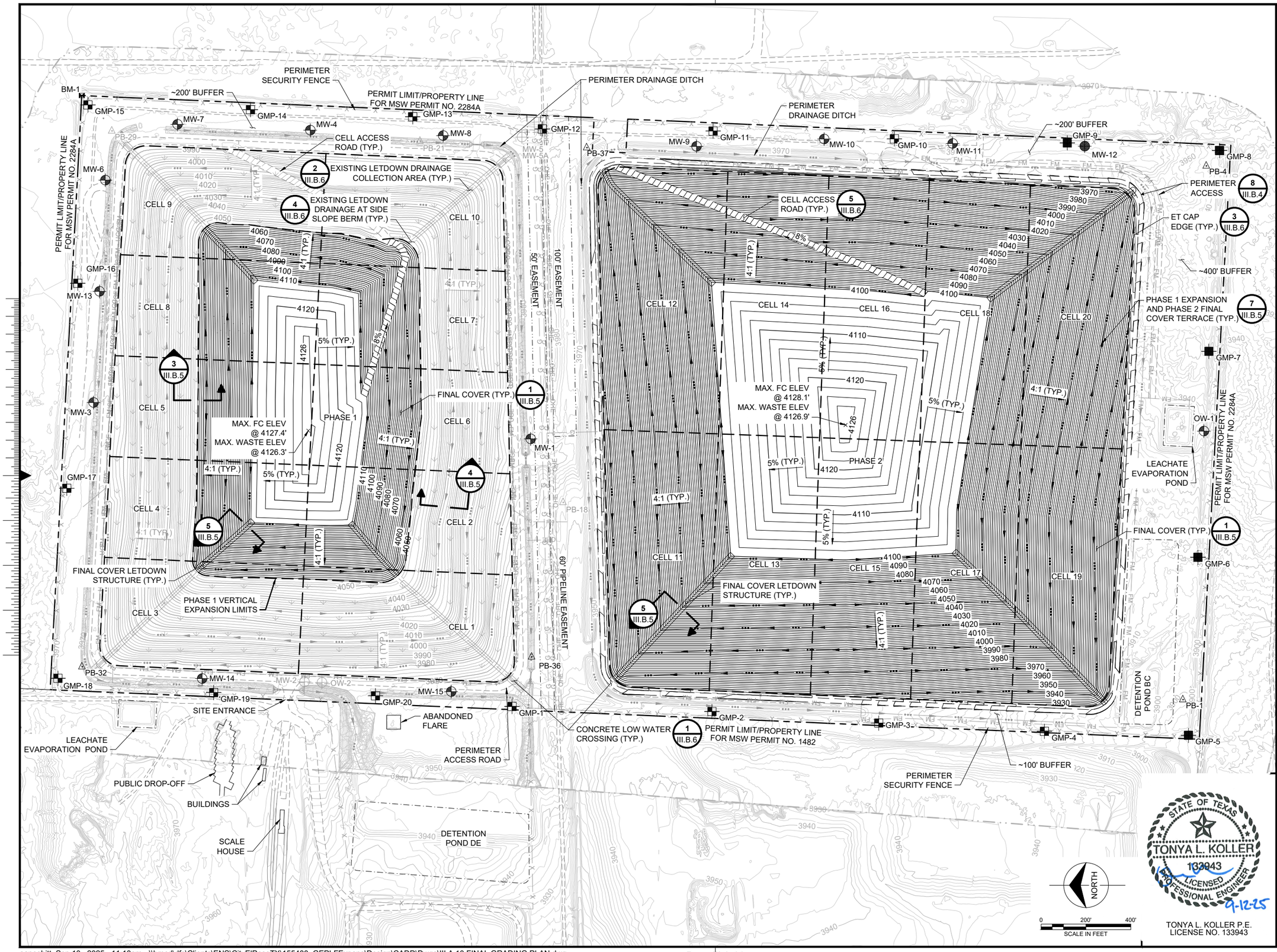
project	contract
155488	-

drawing **III.A.9** rev. **1**

file III.A.9 SEQUENCE OF DEVELOPMENT PHASE 2 (CELLS 19-20).dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

FINAL GRADING PLAN

project	contract
155488	-

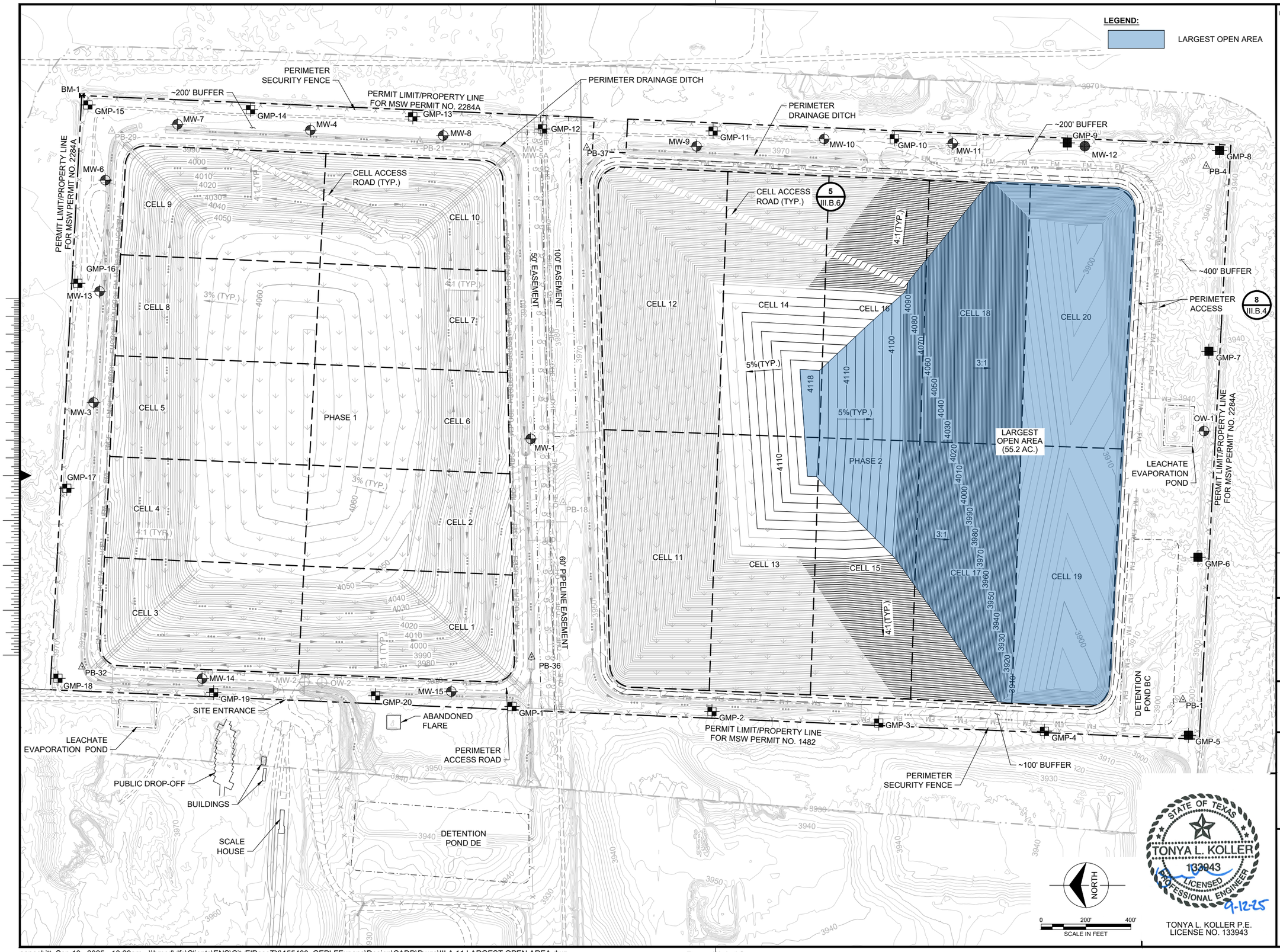
drawing **III.A.10** rev. **1**

file III.A.10 FINAL GRADING PLAN.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	9/12/25	AAN	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL INTERMEDIATE SURFACE FOR PHASE 2 (CELLS 11-18). CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

LARGEST OPEN AREA

project	contract
155488	-

drawing III.A.11 — rev. 1

file III.A.11 LARGEST OPEN AREA.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming
Millimeters
Inches

Please replace Appendix III.B with the following pages

MSW AUTH NO. 2284A

APPENDIX III.B – SURFACE WATER DRAINAGE REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 2
SEPTEMBER 12, 2025

Part III, Appendix B
Surface Water Drainage Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

III.B.1.0 Introduction 1

III.B.2.0 Pre-Development Conditions 2
III.B.2.1 Pre-Development Conditions Drainage Patterns 2
III.B.2.2 Pre-Development Conditions Drainage Area Map 2
III.B.2.3 Pre-Development Conditions Modeling 2
III.B.2.3.1 Rainfall Depth/Duration 3
III.B.2.3.2 Pre-Development Rainfall Intensity 4
III.B.2.3.3 Pre-Development T_c and T_{lag} 4
III.B.2.3.4 Pre-Development Loss Rates 4
III.B.2.3.5 Pre-Development HEC-HMS Model 4

III.B.3.0 Post-Development Conditions 6
III.B.3.1 Post-Development Conditions Modeling 6
III.B.3.1.1 Post-Development Rainfall Depth/Duration 6
III.B.3.1.2 Post-Development Rainfall Intensity 6
III.B.3.1.3 Post-Development T_c and T_{lag} 6
III.B.3.1.4 Post-Development Conditions HEC-HMS Model 7
III.B.3.2 Post-Development Conditions Drainage Controls 8
III.B.3.2.1 Runoff from Landfill Slopes 8
III.B.3.2.1.1 Top Berms 8
III.B.3.2.1.2 Sideslope Interceptors 8
III.B.3.2.1.3 Down Chutes/Let Down Structures 9
III.B.3.2.2 Perimeter Ditches 9
III.B.3.2.3 Detention Ponds 9
III.B.3.3 Sequence of Development for Drainage Appurtenances 10
III.B.3.4 Maintenance of Drainage Appurtenances 10
III.B.3.5 Contaminated Water 10

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns 11
III.B.4.1 Point A 11
III.B.4.2 Point BC 11
III.B.4.3 Point DE 11

ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS
ATTACHMENT III.B.2 – EROSION AND SEDIMENTATION CONTROL PLAN
ATTACHMENT III.B.3 – DRAWINGS

TABLES

Table III.B.2-1: Hydro 35/TP-40 Rainfall Depth/Duration Data (Inches) 3
Table III.B.2-2: Atlas 14 Rainfall Depth/Duration Data (Inches) 3
Table III.B.2-3: Site Soil Hydrologic Groups 4
Table III.B.2-4: Pre-Development: SCS Parameters in HEC-HMS 5
Table III.B.3-1: Post-Development Conditions: SCS Parameters in HEC-HMS 7
Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison 11

III.B.2.3.1 Rainfall Depth/Duration

For the previous permit, rainfall depth/duration data for durations of one hour and less were obtained from the NOAA Technical Memorandum Hydro 35. Also, rainfall depth/duration data for storm durations greater than one hour were obtained from National Weather Service Technical Paper TP-40. This data was used to create the HEC-1 and HEC-HMS models for the previous permit, which are included for reference in **Attachment III.B.1**. **Table III.B.2-1** contains the rainfall data for the previous permit models.

Table III.B.2-1: Hydro 35/TP-40 Rainfall Depth/Duration Data (Inches)

Duration	Return Period (Years)	
	25	100
5 min	0.44	0.55
10 min	0.81	1.04
15 min	1.08	1.40
30 min	1.47	1.89
60 min	1.87	2.40
2 hr	2.01	2.58
3 hr	2.15	2.75
6 hr	2.50	3.20
12 hr	2.81	3.60
24 hr	3.12	4.00

Rainfall depth and duration data for were updated using the 2025 NOAA Atlas 14, Volume 11 (Version 2) values, as shown in **Table III.B.2-2** for outfall comparison under Permit 2284A.

Table III.B.2-2: Atlas 14 Rainfall Depth/Duration Data (Inches)

Duration	Return Period (Years)	
	25	100
5 min	0.615	0.819
10 min	1.03	1.37
15 min	1.18	1.57
30 min	1.46	1.95
60 min	1.75	2.34
2 hr	2.02	2.68
3 hr	2.18	2.89
6 hr	2.47	3.28
12 hr	2.79	3.78
24 hr	3.17	4.39

III.B.2.3.2 Pre-Development Rainfall Intensity

Rainfall intensity for the rational method calculations was calculated based on the Texas Department of Transportation (TxDOT) Bridge Division Hydraulic Manual. Rainfall intensity (inches per hour [in/hr]) was computed as follows:

$$I = \frac{b}{(t+d)^e}$$

b = TxDOT factor for 25 year event in El Paso County = 60
d = TxDOT factor for 25 year event in El Paso County = 12.0
e = TxDOT factor for 25 year event in El Paso County = 0.843
t = longest time of concentration for basin being considered; minimum of 10 minutes per 30 TAC §330.305(f)(1)

III.B.2.3.3 Pre-Development T_c and T_{lag}

Pre-development Times of Concentration (T_c) and Lag Times (T_{lag}) were developed from USGS topographic maps and the previous permit plans shown in Drawings III.B.1 and III.B.2 in **Attachment III.B.3**. The methods presented in "Urban Hydrology for Small Watersheds" (Technical Release 55 [TR-55]) developed by the Natural Resources Conservation Service (NRCS) (formerly SCS) were used to calculate T_c. The T_{lag} for each subbasin was calculated using the following equation:

$$T_{lag} = T_c \times 0.6 \text{ (Haan, 1994)}$$

Attachment III.B.1 contains calculations for T_c and T_{lag}.

III.B.2.3.4 Pre-Development Loss Rates

According to the NRCS Web Soil Survey, site soils belong to the following hydrologic groups:

Table III.B.2-3: Site Soil Hydrologic Groups

Soil Classification	Hydrologic Soil Group
Hueco- Wink	A
Bluepoint association, rolling	A
Bluepoint gravelly association, rolling	A

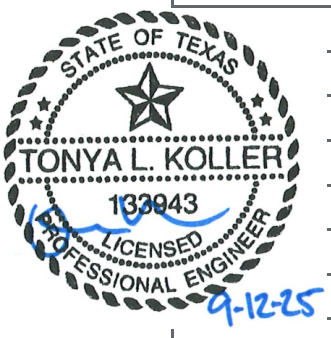
CNs for Pre-development Conditions were found by combining hydrologic soil classification with existing land use. Soil classification and land use are combined to select values for each subbasin CN from Tables 2.2a —2.2d in TR-55. A CN of 63 was used for desert shrub (poor condition). The tables from TR-55 are reproduced in **Attachment III.B.1**. Curve numbers used for all subbasins modeled are provided in **Table III.B.2-4**.

III.B.2.3.5 Pre-Development HEC-HMS Model

The output from the HEC-HMS model is included in **Attachment III.B.1**. Pre-development flows calculated by HEC-HMS, using the 2025 storm events for comparison, are summarized in **Table III.B.2-4**.

Table III.B.2-4: Pre-Development: SCS Parameters in HEC-HMS

Discharge	Subbasin	Area (acres)	Area (sq. mi.)	T_{lag} (hr.)	CN	Peak Discharge (cfs)	Peak Runoff (ac-ft)	Peak Velocity (fps)
	A1	5.0	0.008	0.12	63	4.57	0.25	1.61
Outfall A		**5.0**	0.008			**4.57**	**0.25**	**1.61**
	B1	17.5	0.027	0.16	96	81.2	4.22	2.31
	B2	18.1	0.028	0.16	96	89.85	4.67	2.31
	B3	19.3	0.030	0.16	96	90.15	4.69	2.31
	B4	15.3	0.024	0.07	96	100.36	3.78	2.39
	B5	9.9	0.015	0.08	96	60.58	2.36	2.39
	B6	7.4	0.012	0.07	96	47.94	1.87	2.39
	B7	19.4	0.030	0.57	73	14.68	1.74	4.46
	B8	17.9	0.028	0.24	75	32.05	2.05	4.46
	Cos	151.4	0.237	0.76	63	43.91	7.5	1.14
	C1	18.5	0.029	0.16	96	89.55	4.66	2.31
	C2	10.6	0.017	0.07	96	71.03	2.67	2.39
	C3	10.2	0.016	0.36	96	29.66	2.5	4.46
Inflow @ Pond BC		**315.5**	**0.493**			**476.2**	**42.5**	
Outflow @ Pond BC						**99.1**	**31.37**	**55.99**
	D1	9.7	0.015	0.18	96	42.14	2.33	19.1
	D2	10.3	0.016	0.21	96	41.18	2.48	19.1
	D3	12.5	0.020	0.12	96	68.52	3.11	19.1
	D4	7.7	0.012	0.12	96	41.11	1.86	19.1
	D5	24.8	0.039	0.14	76	56	2.64	4.23
	D6	12.9	0.020	0.17	88	45.14	2.29	3.09
	E1	9.9	0.015	0.18	96	42.14	2.33	19.1
	E2	10.5	0.016	0.13	96	52.91	2.49	19.1
	E3	12.9	0.020	0.11	96	70.98	3.11	19.1
	E4	12.5	0.020	0.11	80	39.7	1.63	4.28
	E5	8.2	0.013	0.12	96	44.54	2.02	19.1
	E6	11.9	0.019	0.04	80	50.61	1.55	12.11
Inflow @ Pond DE		**143.8**	**0.225**			**439.7**	**27.61**	
Outflow @ Pond DE						**36.4**	**26.3**	**10.3**



III.B.3.0 Post-Development Conditions

Post-development condition grading for the GEP Landfill is provided in Drawings III.B.3 and III.B.4 in **Attachment III.B.3**. Side slopes are graded at a 4H:1V and the cap is graded at a five percent slope. Sheet flow on the side slopes is cut off by "side slope interceptors" immediately above and roughly parallel to each 20-foot-wide bench constructed Phase 1 and every 100 horizontal feet for the vertical expansion of Phase 1 and for Phase 2. These interceptors reduce the erosion potential of sheet flows down the side slopes by minimizing the length of sheet flow and diverting it to armored down chutes. High points are located at the center of the north and south sections as indicated in the drawings in **Attachment III.B.3**.

III.B.3.1 Post-Development Conditions Modeling

Twenty-four sub-areas make up the post-development conditions drainage area as shown on Drawing III.B.4 in **Attachment III.B.3**. Sub-area D2, shown in the pre-development drainage map and calculations, is now included in sub-area E2 of the post-development conditions. Proposed grading and drainage controls are included in Drawings III.B.5 and III.B.6 in **Attachment III.B.3**. Post-development conditions T_c and T_{lag} were calculated using the TR-55 method, see **Table III.B.2-2**Error! Reference source not found.. Peak flows were calculated for sub-areas and the discharge point. The output from the HEC-HMS model is included in **Attachment III.B.1**. Post-development Conditions flows calculated by HEC-HMS are in **Table III.B.3-1**.

III.B.3.1.1 Post-Development Rainfall Depth/Duration

Rainfall data was obtained from the NOAA Atlas 14, Volume 11 (version 2) precipitation frequency tables for the project location. A 25-year recurrence interval and 24-hour duration event were selected for a cumulative depth of 3.37-inches at the time of the permit. **Table III.B.2-2** contains the values that were used in the HEC-HMS models for 24-hour rainfall depths for comparison of the pre-developed and post-developed conditions under Permit 2284A.

III.B.3.1.2 Post-Development Rainfall Intensity

Rainfall intensity for the rational method calculations was calculated based on the TxDOT Bridge Division Hydraulic Manual as shown on Page III.B-120. Rainfall intensity (in/hr) was computed as follows:

$$I = \frac{b}{(t+d)^e} = 6.12$$

b = TxDOT factor for 25 year event in El Paso County = 80.75
d = TxDOT factor for 25 year event in El Paso County = 7.36
e = TxDOT factor for 25 year event in El Paso County = 0.904
t = longest time of concentration for basin being considered; minimum of 10 minutes per 30 TAC §330.305(f)(1)

III.B.3.1.3 Post-Development T_c and T_{lag}

Post-Development T_c and T_{lag} were developed from USGS topographic maps and the previous permit plans shown in Drawings III.B.1 and III.B.2 in **Attachment III.B.3**. The methods presented in TR-55 were used to calculate T_c. The T_{lag} for each subbasin was calculated using the following equation:

$$T_{lag} = T_c \times 0.6 \text{ (Haan, 1994)}$$

Attachment III.B.1 contains calculations for T_c and T_{lag}.

III.B.3.1.4 Post-Development Conditions HEC-HMS Model

The output from the HEC-HMS model is included in **Attachment III.B.1.** Post-development condition flows calculated by HEC-HMS are summarized in **Table III.B.3-1.**

Table III.B.3-1: Post-Development Conditions: SCS Parameters in HEC-HMS

Discharge	Subbasin	Area (acres)	Area (sq. mi.)	T_{lag} (hr.)	CN	Peak Discharge (cfs)	Peak Runoff (ac-ft)	Peak Velocity (fps)
	A1	5	0.01	0.12	63	4.57	0.25	1.61
@A		**5**	**0.01**			**4.57**	**0.25**	**1.61**
	B1	6.5	0.01	0.09	96	38.91	1.59	2.47
	B2	5.6	0.01	0.1	96	32.49	1.37	2.47
	B3	12.0	0.02	0.11	96	66.37	2.91	2.47
	B4	24.8	0.04	0.09	96	147.65	6.01	2.4
	B5	30.4	0.05	0.14	96	151.27	7.36	2.4
	B6	16.0	0.03	0.09	96	95.76	3.9	2.4
	B7	16.3	0.03	0.56	73	12.51	1.47	4.46
	B8	15.4	0.02	0.23	76	25.96	1.62	4.46
	Cos	151.4	0.24	0.78	63	42.5	7.4	1.14
	C1	7.1	0.01	0.1	96	40.61	1.71	2.47
	C2	20.8	0.03	0.08	96	129.52	5.05	2.4
	C3	9.4	0.01	0.36	96	26.89	2.26	4.46
Inflow @ Pond BC		**315.5**	**0.493**			**545.27**	**42.38**	
Outflow @ Pond BC						**95.71**	**31.35**	**54.1**
	D1	2.8	0.004	0.07	96	66.08	2.49	2.47
	D2	-	-	-	-	-	-	-
	D3	19.2	0.030	0.12	96	68.52	3.11	19.1
	D4	15.0	0.023	0.12	96	44.54	2.02	19.1
	D5	24.8	0.039	0.14	76	56	2.64	4.27
	D6	12.9	0.020	0.17	88	45.14	2.29	3.08
	E1	3.2	0.005	0.08	96	63.77	2.49	2.47
	E2	6.1	0.010	0.10	96	62.76	2.64	2.47
	E3	20.7	0.032	0.11	96	70.98	3.11	19.1
	E4	12.5	0.020	0.11	80	39.7	1.63	4.27
	E5	14.6	0.023	0.12	96	44.54	2.02	19.1
	E6	11.9	0.019	0.04	80	50.61	1.55	12.06
Inflow @ Pond DE		**143.8**	**0.225**			**396.8**	**25.76**	
Outflow @ Pond DE						**35.12**	**24.82**	**5.21**

III.B.3.2 Post-Development Conditions Drainage Controls

Drainage controls are incorporated into the site in order to reduce flooding and minimize the amount of sediment carried off the site. Drainage controls include berms, interceptor ditches, down chutes, culverts, channels, and detention ponds. Drainage controls are shown in Drawing III. B.3 in **Attachment III.B.3**, with details in Drawings III. B.5 and III.B.6 in **Attachment III.B.3**.

III.B.3.2.1 Runoff from Landfill Slopes

Sheet flows from the landfill cap will be intercepted by stormwater berms designed to channelize flows into stabilized down chutes to minimize erosion of the cap and side slopes. Flows from the down chutes enter the perimeter ditches. Sheet flows from the lowest portions of the 4H:1V side slopes collect in perimeter ditches before being routed to the detention ponds.

In accordance with 30 TAC §330.305(f)(2), calculations for peak runoff (Q) for a 25-year, 24-hour storm event were completed in HEC-HMS and can be found in **Attachment III.B.1**. The TxDOT Drainage Manual and NRCS method was used to calculate the time of concentrations and velocities for the sub-areas. The velocities for the final cover are reflected in **Attachment III.B.1.** Phase 1 sideslope interceptors below the cap were previously sized in accordance with 30 TAC §330.305(f)(1), as a part of the previous permit.

Calculations based on TxDOT Bridge Division Hydraulic Manual and provided in **Attachment III.B.1**, were computed as follows:

$$Q = cIA$$

Where: Q = Peak runoff from 25-year, 24-hour storm event, cubic feet per second (cfs)
C = Runoff coefficient, dimensionless
I = Rainfall intensity, in/hr (calculated above)
A = Area of sub-basin, acres

III.B.3.2.1.1 Top Berms

Top berms for phase 1 and phase 2 are designed in accordance with 30 TAC §330.305(f)(1). All berms are sized based on the largest calculated flow for a cap sub-area during a 24-hour, 25-year storm. Using the Rational Method for the largest runoff area contributing to a top berm, E2, the peak runoff is 18.9 cfs. Solving Manning's Equation yields a flow depth of 0.97-feet. Therefore, berms with a height of 2-feet will have a minimum 1.03-feet freeboard for the 24-hour, 25-year storm. A cross-sectional view and calculations are provided in **Attachment III.B.1.**

III.B.3.2.1.2 Sideslope Interceptors

For a 2:1 berm built on 4:1 sideslopes, Manning's equation is used to determine flow depth. The highest flow contributing to an interceptor is considered for calculating flow depth and available freeboard.

During Phase 1, under the previous permit, the maximum flow of 9.5 cfs results in a flow depth of 1.23 feet. The interceptor berms are designed to a depth of 2 feet, providing 0.77 feet of freeboard during a 24-hour, 25-year storm event.

For Phase 2, the expected flow is 13.1 cfs, yielding a flow depth of 1.39 feet during the 25-year design storm. A 2-foot interceptor berm will maintain a minimum freeboard of 0.61 feet.

III.B.3.2.1.3 Down Chutes/Let Down Structures

Down chutes (or let down structures) convey flows from the cap of the landfill or from the terrace/interceptors down the 4H:1V slopes and discharge into perimeter ditches. All down chutes will be lined with Flexamat Plus or equivalent and include a 3-foot by 3-foot gabion revetment and/or a water energy dissipator at the bottom. A plan view of a typical down chute is provided in Drawing III.B.3 in **Attachment III.B.3.** The typical section is provided in Drawings III.B.5 and III.B.6 in **Attachment III.B.3**. Down chute hydraulic calculations are included in **Attachment III.B.1**.

III.B.3.2.2 Perimeter Ditches

Perimeter ditches collect stormwater runoff from landfill slopes and buffer areas and discharge to the detention ponds. Ditches are trapezoidal with an 8-foot bottom and 3H:1V side slopes. Ditches will be lined with concrete stabilized rock riprap, gabion mattresses, concrete, or other suitable erosion control material. Table III.B.2.4-1 in **Attachment III.B.2** provides a summary of these ditches and Drawing III.B.5 in **Attachment III.B.3** provides a typical perimeter ditch section.

Supporting Manning's Equation calculations for interceptors, top berms, down chutes, and perimeter ditches, performed using Haestead Methods Flowmaster program, as well as Rational Method and HEC-HMS results, are included in **Attachment III.B.1**.

A culvert will be required to provide access across the perimeter ditches for this expansion. Culverts are shown on Drawing III.B.4 in **Attachment III.B.3**. Culvert C2 is the only culvert that has not yet been installed. Culvert C2 was sized using the HEC-HMS and HY-8 computer programs and calculations are provided in **Attachment III.B.1**.

III.B.3.2.3 Detention Ponds

Each phase of the facility will utilize a detention pond to control storm water runoff. Pond BC is located in the southern portion of the site and captures the runoff for Phase 2. Pond DE performs the same function for the northern phase; however, Pond DE is located west of the site on property owned by the City of El Paso within the permit limits of the Clint Landfill (MSW Permit No. 1482). Plan views for Ponds BC and DE are provided in Drawings III.B.11 and III.B.12 in **Attachment III.B.3**, respectively. Outfalls and Sections for Ponds BC and DE are provided on Drawings III.B.13 and III.B.14 in **Attachment III.B.3**. The purpose of the detention ponds is to attenuate post-development peak discharges at points BC and DE so as not to alter natural drainage patterns. Storage of runoff in the pond reduces peak discharge from ditches.

Pond DE has been designed to be drained by two 18-inch reinforced concrete pipe (RCP) riser barrel low-level outlets. The entrance to the low-level outlets are a minimum of 3-feet above the pond sump elevations to provide sediment storage. A concrete overflow spillway is designed to convey any overflow encountered during exceptional storm events. The pond is sized to convey the 25-year frequency storm without overtopping the spillways. Storm routing through the pond is incorporated in the HEC-HMS post-development conditions run. Stage-storage calculations for pond DE is provided in **Attachment III.B.1**.

Pond BC is designed to be drained by an 18-inch RCP riser barrel low level outlet and a concrete overflow spillway. The entrance of the low level outlet is a minimum of 3-feet above the pond sump elevation to provide sediment storage. Pond BC will be expanded upon as a part of the Phase II development. Final conditions storm routing through pond BC is incorporated in the HEC-HMS post-development conditions run included in **Attachment III.B.1**.

III.B.3.3 Sequence of Development for Drainage Appurtenances

Pond DE and the outlets to the existing landfill ditches have been constructed and will remain in place prior to beginning the vertical expansion for Phase 1. For Pond BC, the perimeter ditches adjacent to Cell 11 and 12 have been constructed along with Culverts B1 and C1. When filling operations allow, construction of interceptor ditches and down chutes can begin. Generally, top berms, down chutes, and interceptor ditches will be constructed as soon as practicable after final grades are attained.

III.B.3.4 Maintenance of Drainage Appurtenances

The landfill manager is responsible for maintaining drainage appurtenances. Refer to Table III.B.2.3-5, Structural Control Inspection Parameters in **Attachment III.B.2**, and the Site Operating Plan in Part IV, Table IV.3-3 for inspection and maintenance requirements.

III.B.3.5 Contaminated Water

The handling, storage, treatment, and disposal of contaminated surface or groundwater shall be in accordance with 30 TAC §330.207. Rainfall that shall come in contact and percolate through the working face of the waste unit shall be considered leachate, which is discussed in Appendix III.C – Leachate and Contaminated Water Plan, Section III.C.3.0.

The working face shall be maintained to prevent run on flow and to prevent runoff from leaving the landfill boundary after contacting exposed waste. Furthermore, the working face shall be enclosed within a soil diversion berm and will typically have minimal slopes, as to limit runoff and provide means for rainfall to percolate through the waste. Calculations are provided in **Attachment III.B.1** in the contaminated water containment and diversion berm calculations**.**

The leachate management system shall convey leachate collected from the bottom of each cell to evaporation ponds within the Facility. Drawings III.C.1, 5, and 7 in Attachment III.C.1 provide information on the force main layout and evaporation ponds. Additional discussion is also provided in Appendix III.C – Leachate and Contaminated Water Plan. All leachate transferred to offsite facilities will be handled in compliance with TCEQ requirements in accordance with 30 TAC §330.207(e).

III.B.4.0 Comparison of Pre- and Post-Development Drainage Patterns

Final drainage patterns will not be significantly altered by construction of the landfill. Similar to pre-development conditions, stormwater runoff from the site leaves the site at points in the same location, and from direct runoff areas adjacent to the site. Updates to NOAA Atlas 14 design storm depths were applied to the pre-development conditions in order to compare with the post-development conditions. All calculations for the outfalls are included in **Attachment III.B.1. Table III.B.4-1** provides a summary of the pre- and post-development conditions comparison.

Table III.B.4-1: Pre- vs. Post-Development Conditions Comparison

	Outfall	Discharge (cfs)	Volume (acre-ft)	Velocity (fps)
Pre-	A	4.57	0.25	1.61
	BC	99.1	31.37	55.99
	DE	36.4	26.3	10.3
Post-	A	4.57	0.25	1.61
	BC	95.71	31.35	54.1
	DE	35.12	24.82	9.9

III.B.4.1 Point A

Runoff from the far southeastern corner of the site exits at Point A. Development has minimal to no impact on the drainage area and does not significantly alter flow patterns. The peak discharge for Outfall A remains constant for pre-development and post-development conditions at 4.57 cfs. The pre- and post-development runoff volume does not change from 0.25 acre-feet for both. Discharge velocity remains relatively unchanged at 1.61 fps, as overland flow characteristics are largely governed by surface conditions rather than direct precipitation inputs in the NRCS method.

III.B.4.2 Point BC

Runoff from the southern half of the tract leaves the site at point BC. The 25-year flow at discharge point BC for pre-development conditions is 99.1 cfs. The 25-year flows combined at discharge point BC for the post-development conditions is 95.71 cfs. The outlet for basin BC remains the same from pre- to post-development, but the depth of the pond has been increased by 1 foot to maintain 1-foot of freeboard due to higher peak inflows. The velocity through the outlet is reduced from 56 fps to 54.1 fps and outfall BC has a lower runoff volume in total. Overall, point BC will not be adversely impacted due to development.

III.B.4.3 Point DE

Similar to pre-development conditions, runoff from the detention ponds exits into two pre-existing drainage ditches associated with the adjacent landfill. The combined pre-development flow leaving Pond DE is 36.4 cfs, with 35.12 cfs per outlet. Velocity and volume are also reduced in post-development conditions as shown in **Table III.B.4-1**.

THIS PAGE INTENTIONALLY LEFT BLANK

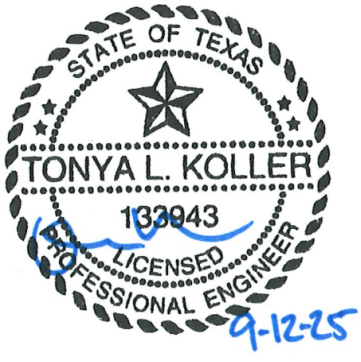
ATTACHMENT III.B.1 – DRAINAGE STRUCTURES – DESIGN CALCULATIONS

HYDRO 35/TP-40
HEC-HMS Printouts

Pre-Developed Conditions

Parkhill
May 2022,October, 2021

PRE-DEVELOPED CONDITIONS (ATLAS 14) HEC-HMS CALCULATIONS



Project: GEPLandfill_Balanced
Simulation Run: 2022ExistingConditions25-Yr
Simulation Start: 31 December 1999, 24:00
Simulation End: 1 January 2000, 24:00

HMS Version: 4.13
Executed: 16 September 2025, 13:20

Global Parameter Summary - Subbasin

	Area (MI2)
Element Name	**Area (MI2)**
B3	0.03
B6	0.01
Cos	0.24
B2	0.03
B5	0.02
B8	0.03
B7	0.03
B1	0.03
B4	0.02
C1	0.03
C2	0.02
C3	0.02
A1	0.01
D2	0.02
D4	0.01
D6	0.02
D1	0.01
D5	0.04
D3	0.02
E6	0.02
E2	0.02
E5	0.01
E4	0.02
E3	0.02
E1	0.01

Downstream

Element Name	Downstream
B3	B3 Junction
B6	B3 Junction
Cos	Ditch B1
B2	B2 Junction
B5	B2 Junction
B8	Ditch B2
B7	Ditch B2
B1	B1 Junction
B4	B1 Junction
C1	C1 Junction
C2	C1 Junction
C3	Ditch C2
A1	Outfall A
D2	D4 Junction
D4	D4 Junction
D6	Ditch D1
D1	D1 Junction
D5	Ditch D2
D3	Ditch D2
E6	Ditch D3
E2	E2 Junction
E5	E2 Junction
E4	Ditch E1
E3	E1 Junction
E1	E1 Junction

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
B3	0	96
B6	0	96
Cos	0	63
B2	0	96
B5	0	96
B8	0	76
B7	0	73
B1	0	96
B4	0	96
C1	0	96
C2	0	96
C3	0	96
A1	0	63
D2	0	96
D4	0	96
D6	0	88
D1	0	96
D5	0	76
D3	0	96
E6	0	80
E2	0	96
E5	0	96
E4	0	80
E3	0	96
E1	0	96

Transform: Scs		
Element Name	**Lag**	**Unitgraph Type**
B3	9.6	Standard
B6	4.8	Standard
Cos	45.6	Standard
B2	9.6	Standard
B5	4.8	Standard
B8	14.4	Standard
B7	34.2	Standard
B1	9.6	Standard
B4	4.2	Standard
C1	9.6	Standard
C2	4.2	Standard
C3	21.6	Standard
A1	7.2	Standard
D2	12.6	Standard
D4	7.2	Standard
D6	10.2	Standard
D1	10.8	Standard
D5	8.4	Standard
D3	7.2	Standard
E6	2.4	Standard
E2	7.8	Standard
E5	7.2	Standard
E4	6.6	Standard
E3	6.6	Standard
E1	10.8	Standard

Global Parameter Summary - Reach

	Downstream
Element Name	**Downstream**
Ditch B1	Ditch B2
Ditch B2	Basin BC
Ditch C1	Culvert C2
Ditch C2	Basin BC
Ditch D1	D1 Junction
Ditch D2	Junction - 2
Ditch D3	Basin DE
Ditch E1	E1 Junction
Ditch E2	Basin DE

Route: Kinematic Wave

Element Name	Method	Channel	Length (FT)	Energy Slope (FT/FT)	Mannings n	Shape	Number of Subreaches	Width (FT)	Side Slope (FT/FT)	Initial Variable	Index Parameter Type	Index Flow
Ditch B1	Kinematic Wave	Kinematic Wave	2769	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch B2	Kinematic Wave	Kinematic Wave	1596	0.03	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C1	Kinematic Wave	Kinematic Wave	2080	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C2	Kinematic Wave	Kinematic Wave	2335	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D1	Kinematic Wave	Kinematic Wave	1300	0	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D2	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D3	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E1	Kinematic Wave	Kinematic Wave	2425	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E2	Kinematic Wave	Kinematic Wave	570	0.05	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
B3	0.03	90.15	01Jan2000, 12:11	2.91
B6	0.01	47.94	01Jan2000, 12:06	2.91
Cos	0.24	43.91	01Jan2000, 12:57	0.59
B3 Junction	0.04	127.09	01Jan2000, 12:08	2.91
Ditch B1	0.28	128.75	01Jan2000, 12:18	0.93
B2	0.03	89.85	01Jan2000, 12:11	2.91
B5	0.02	60.58	01Jan2000, 12:06	2.91
B2 Junction	0.05	138.27	01Jan2000, 12:08	2.91
B8	0.03	32.05	01Jan2000, 12:17	1.27
B7	0.03	14.68	01Jan2000, 12:40	1.08
Ditch B2	0.39	248.22	01Jan2000, 12:18	1.19
B1	0.03	81.19	01Jan2000, 12:11	2.91
B4	0.02	100.36	01Jan2000, 12:05	2.91
C1	0.03	89.55	01Jan2000, 12:11	2.91
C2	0.02	71.03	01Jan2000, 12:05	2.91
C1 Junction	0.05	143.67	01Jan2000, 12:07	2.91
Ditch C1	0.05	143.19	01Jan2000, 12:12	2.9
Culvert C2	0.05	133.29	01Jan2000, 12:14	2.9
C3	0.02	29.66	01Jan2000, 12:23	2.91
Ditch C2	0.06	157.62	01Jan2000, 12:20	2.89
B1 Junction	0.05	163.93	01Jan2000, 12:07	2.91
Basin BC	0.5	99.1	01Jan2000, 13:06	1.17
Outfall BC	0.5	99.1	01Jan2000, 13:06	1.17
A1	0.01	4.57	01Jan2000, 12:10	0.6
D2	0.02	41.18	01Jan2000, 12:14	2.91
D4	0.01	41.11	01Jan2000, 12:08	2.91
D4 Junction	0.03	76.54	01Jan2000, 12:10	2.91
D6	0.02	45.14	01Jan2000, 12:12	2.15
Ditch D1	0.05	120.89	01Jan2000, 12:17	2.58
D1	0.01	42.14	01Jan2000, 12:12	2.91
D1 Junction	0.06	157.26	01Jan2000, 12:16	2.66

D5	0.04	56	01Jan2000, 12:10	1.27
D3	0.02	68.52	01Jan2000, 12:08	2.91
Ditch D2	0.12	247.17	01Jan2000, 12:14	2.25
Junction - 2	0.12	247.17	01Jan2000, 12:14	2.25
E6	0.02	50.61	01Jan2000, 12:04	1.53
Ditch D3	0.14	258.74	01Jan2000, 12:15	2.16
E2	0.02	52.91	01Jan2000, 12:09	2.91
E5	0.01	44.54	01Jan2000, 12:08	2.91
E2 Junction	0.03	97.07	01Jan2000, 12:09	2.91
E4	0.02	39.7	01Jan2000, 12:08	1.53
Ditch E1	0.05	136.59	01Jan2000, 12:16	2.33
E3	0.02	70.98	01Jan2000, 12:08	2.91
E1	0.01	42.14	01Jan2000, 12:12	2.91
E1 Junction	0.08	208.61	01Jan2000, 12:15	2.57
Culvert E2	0.08	194.13	01Jan2000, 12:18	2.55
Ditch E2	0.08	193.77	01Jan2000, 12:18	2.55
Basin DE	0.23	36.43	01Jan2000, 13:07	2.19
Outfall DE	0.23	36.43	01Jan2000, 13:07	2.19
Outfall A	0.01	4.57	01Jan2000, 12:10	0.6

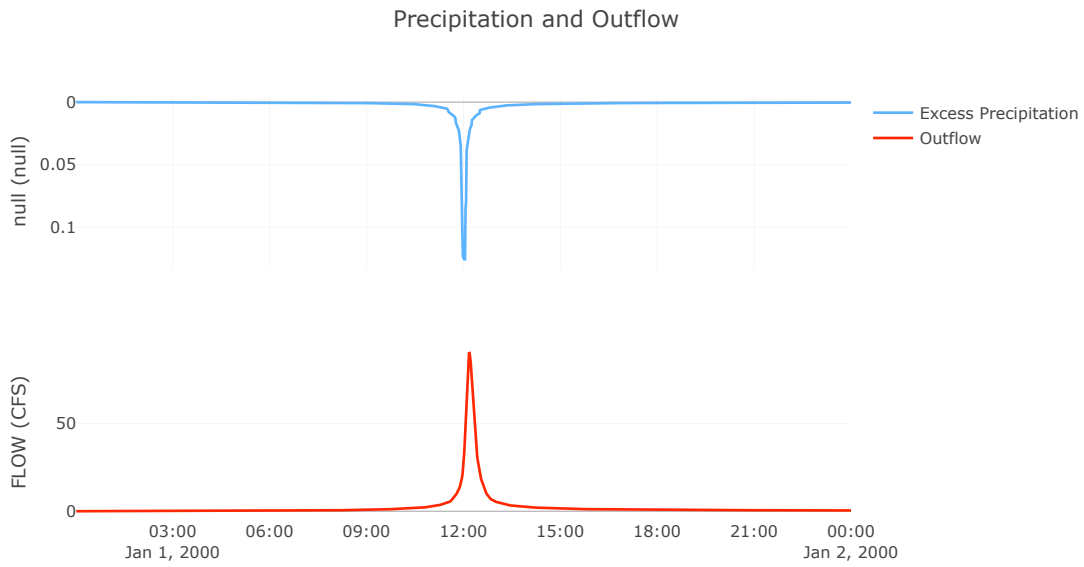
Subbasin: B3

Area (MI2) : 0.03
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B3	
Peak Discharge (CFS)	90.15
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.43
Loss Volume (AC - FT)	0.73
Excess Volume (AC - FT)	4.7
Direct Runoff Volume (AC - FT)	4.69
Baseflow Volume (AC - FT)	0



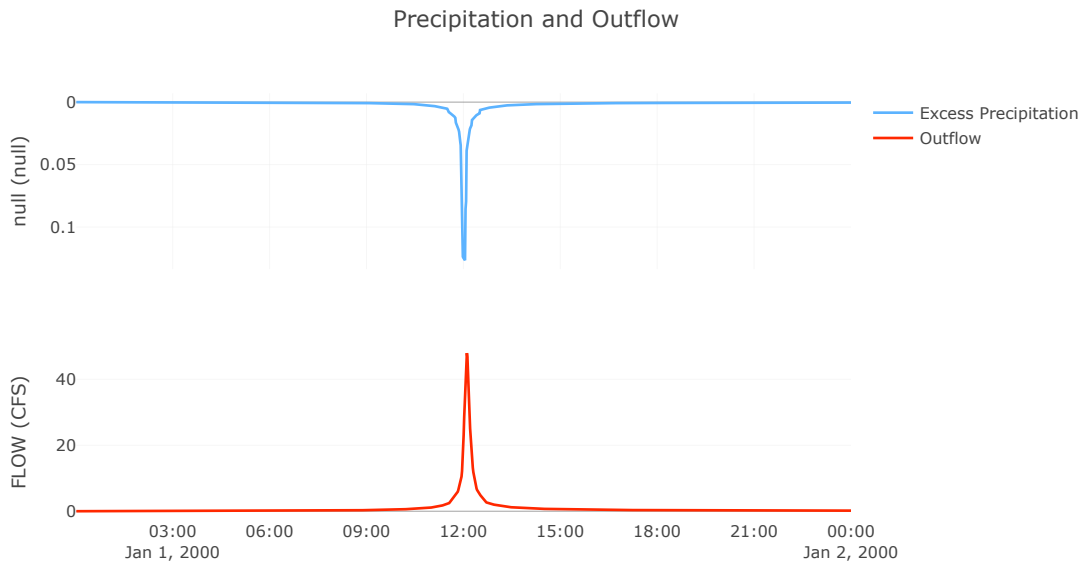
Subbasin: B6

Area (MI2) : 0.01
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: B6	
Peak Discharge (CFS)	47.94
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.16
Loss Volume (AC - FT)	0.29
Excess Volume (AC - FT)	1.87
Direct Runoff Volume (AC - FT)	1.87
Baseflow Volume (AC - FT)	0



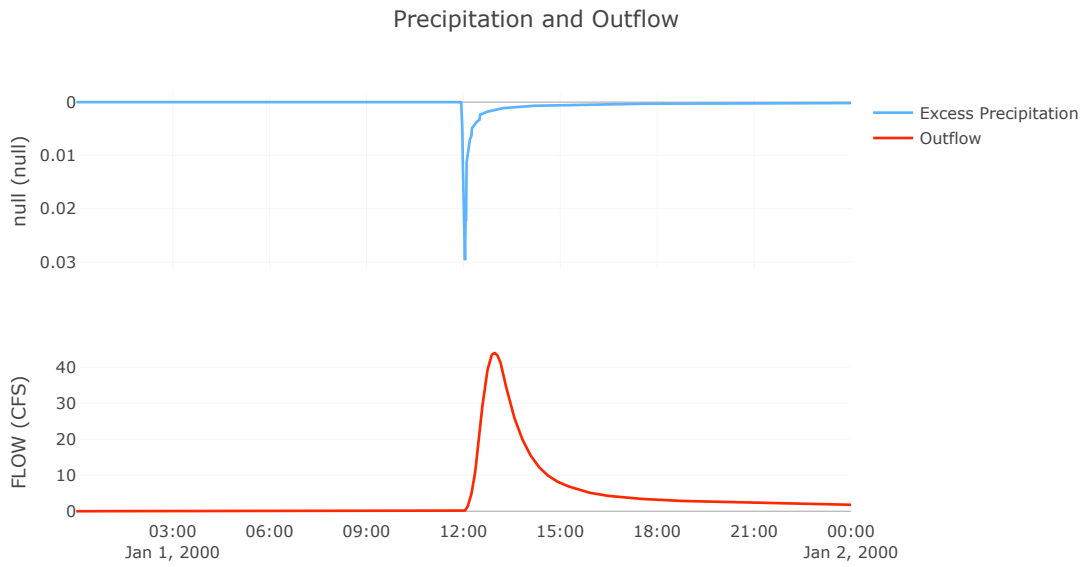
Subbasin: COS

Area (MI2) : 0.24
Downstream : Ditch B1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	45.6
Unitgraph Type	Standard

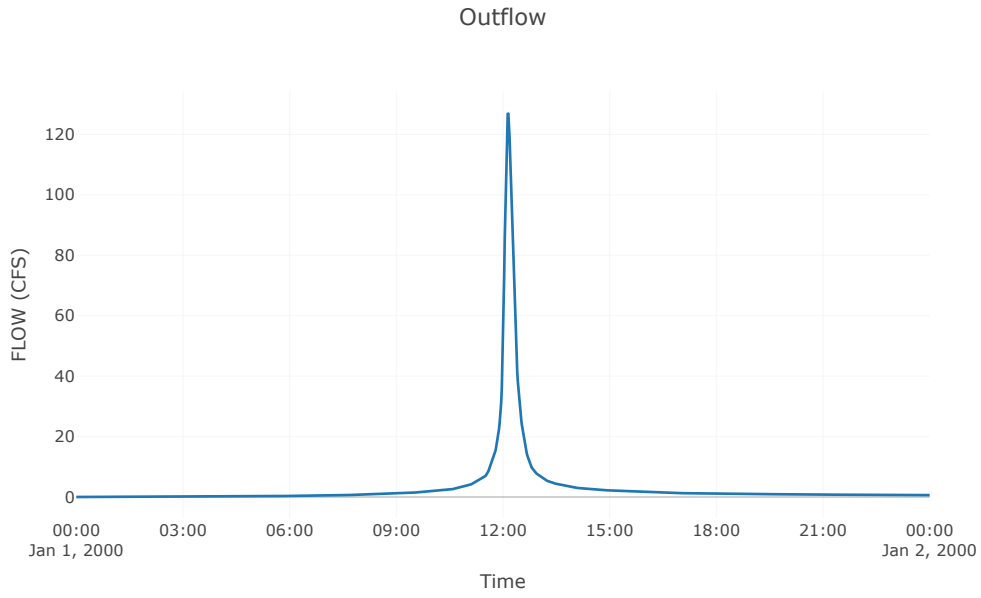
Results: COS	
Peak Discharge (CFS)	43.91
Time of Peak Discharge	01Jan2000, 12:57
Volume (IN)	0.59
Precipitation Volume (AC - FT)	43.14
Loss Volume (AC - FT)	35.49
Excess Volume (AC - FT)	7.65
Direct Runoff Volume (AC - FT)	7.5
Baseflow Volume (AC - FT)	0



Junction: B3 Junction

Downstream : Ditch B1

Results: B3 Junction	
Peak Discharge (CFS)	127.09
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91

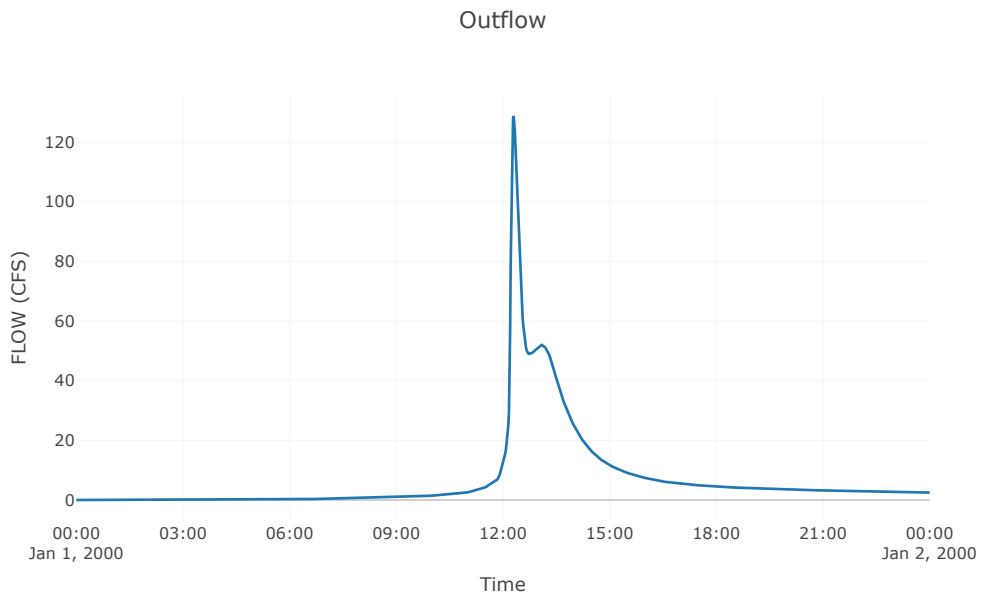


Reach: Ditch B1

Downstream : Ditch B2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2769
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B1	
Peak Discharge (CFS)	128.75
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	0.93
Peak Inflow (CFS)	128.81
Inflow Volume (AC - FT)	14.07



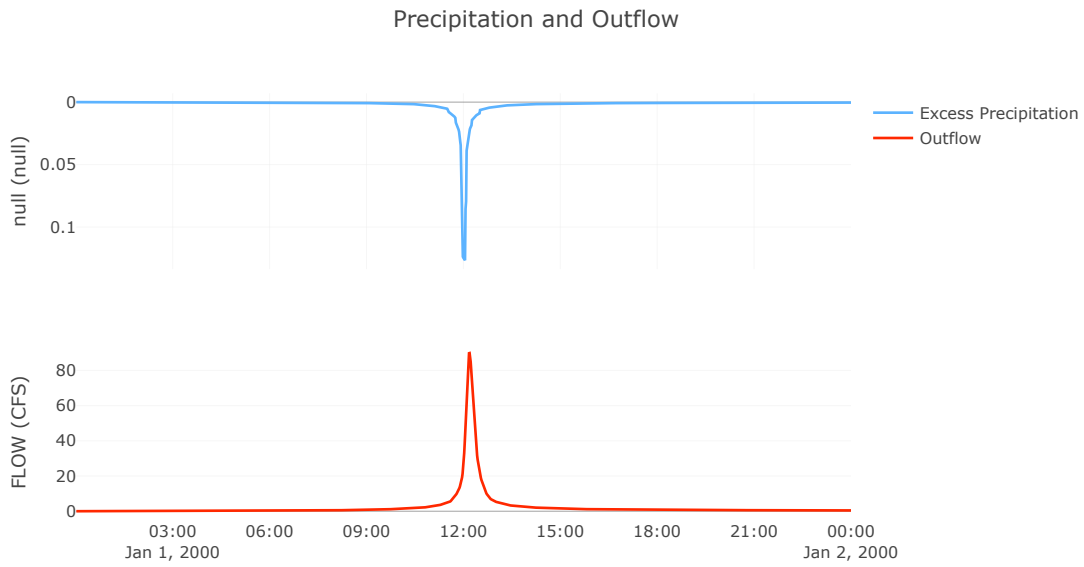
Subbasin: B2

Area (MI2) : 0.03
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B2	
Peak Discharge (CFS)	89.85
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.41
Loss Volume (AC - FT)	0.73
Excess Volume (AC - FT)	4.68
Direct Runoff Volume (AC - FT)	4.67
Baseflow Volume (AC - FT)	0



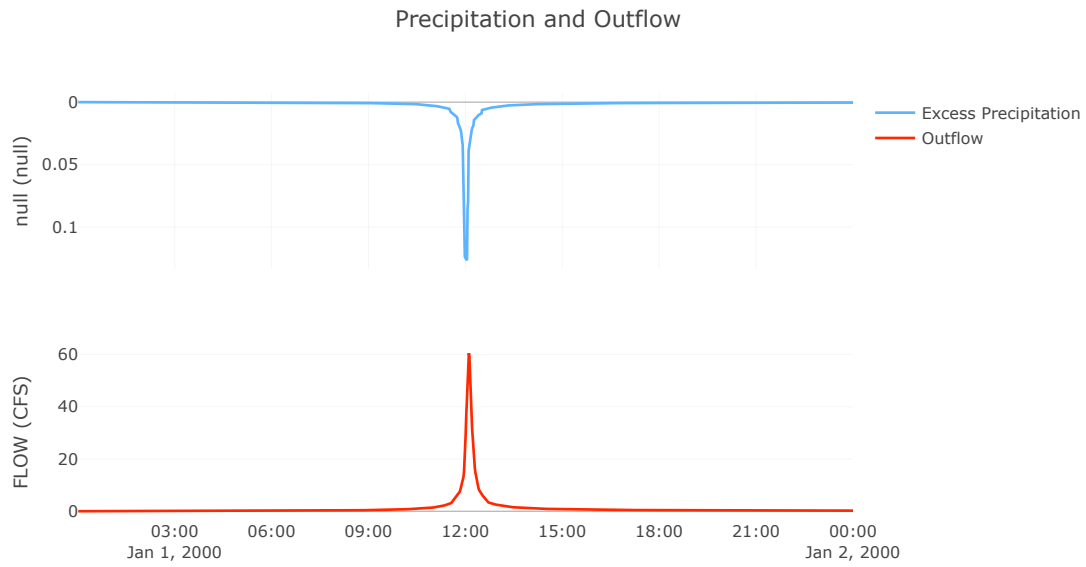
Subbasin: B5

Area (MI2) : 0.02
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

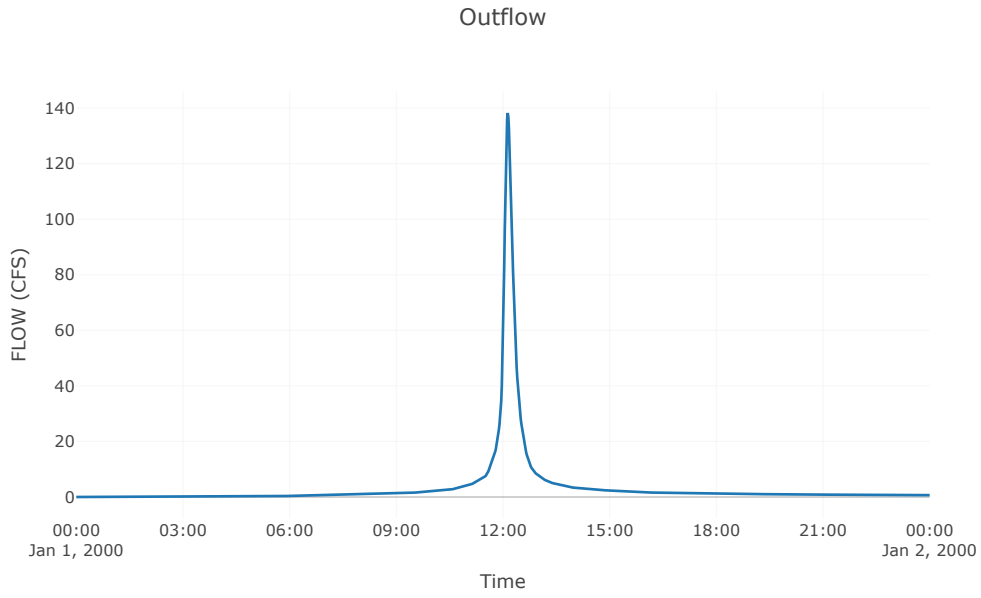
Results: B5	
Peak Discharge (CFS)	60.58
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.73
Loss Volume (AC - FT)	0.37
Excess Volume (AC - FT)	2.36
Direct Runoff Volume (AC - FT)	2.36
Baseflow Volume (AC - FT)	0



Junction: B2 Junction

Downstream : Ditch B2

Results: B2 Junction	
Peak Discharge (CFS)	138.27
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91



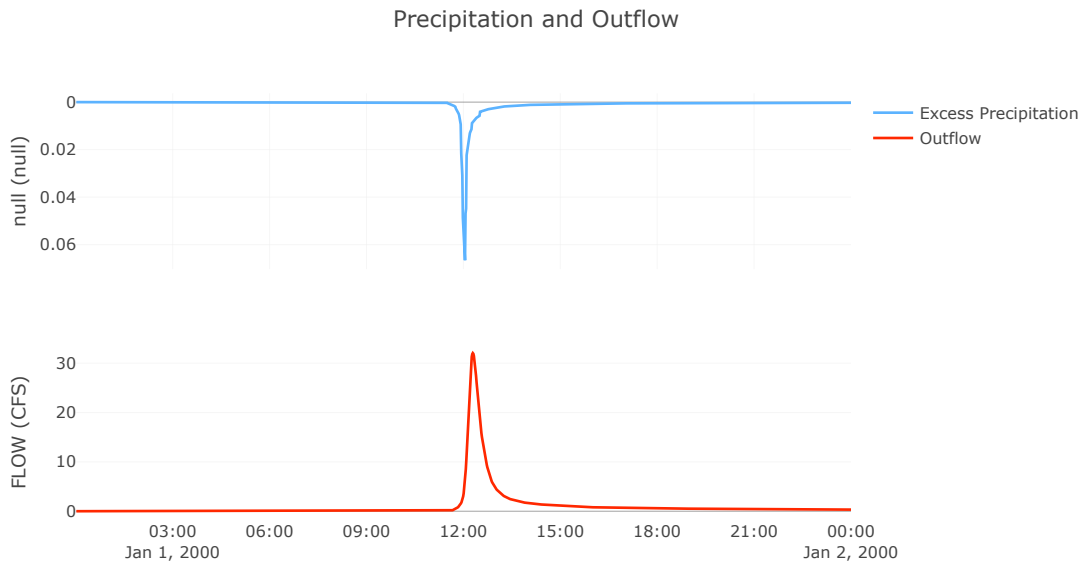
Subbasin: B8

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	14.4
Unitgraph Type	Standard

Results: B8	
Peak Discharge (CFS)	32.05
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	1.27
Precipitation Volume (AC - FT)	5.46
Loss Volume (AC - FT)	3.4
Excess Volume (AC - FT)	2.06
Direct Runoff Volume (AC - FT)	2.05
Baseflow Volume (AC - FT)	0



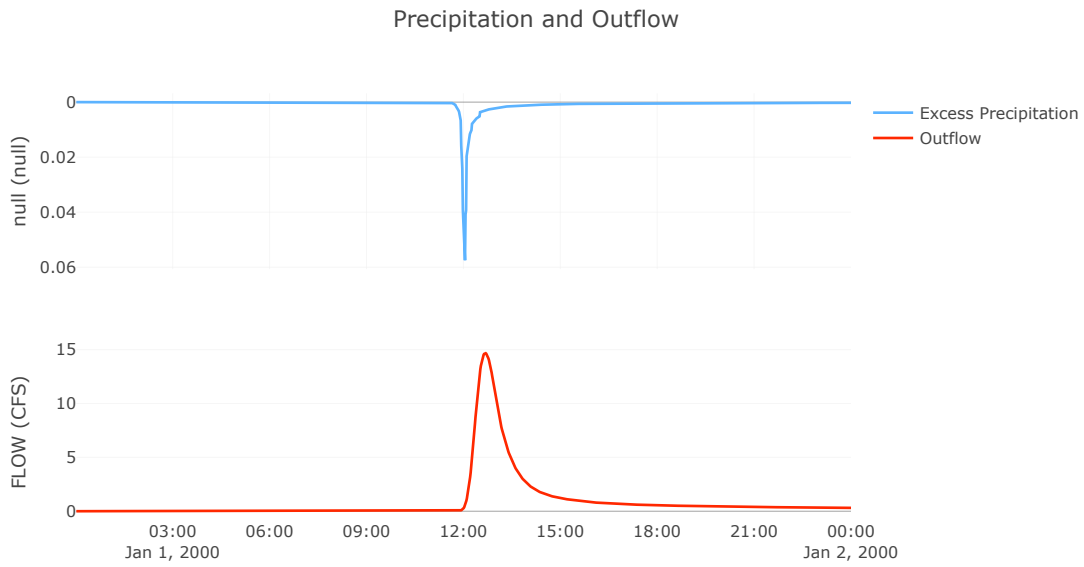
Subbasin: B7

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73

Transform: Scs	
Lag	34.2
Unitgraph Type	Standard

Results: B7	
Peak Discharge (CFS)	14.68
Time of Peak Discharge	01Jan2000, 12:40
Volume (IN)	1.08
Precipitation Volume (AC - FT)	5.43
Loss Volume (AC - FT)	3.67
Excess Volume (AC - FT)	1.76
Direct Runoff Volume (AC - FT)	1.74
Baseflow Volume (AC - FT)	0

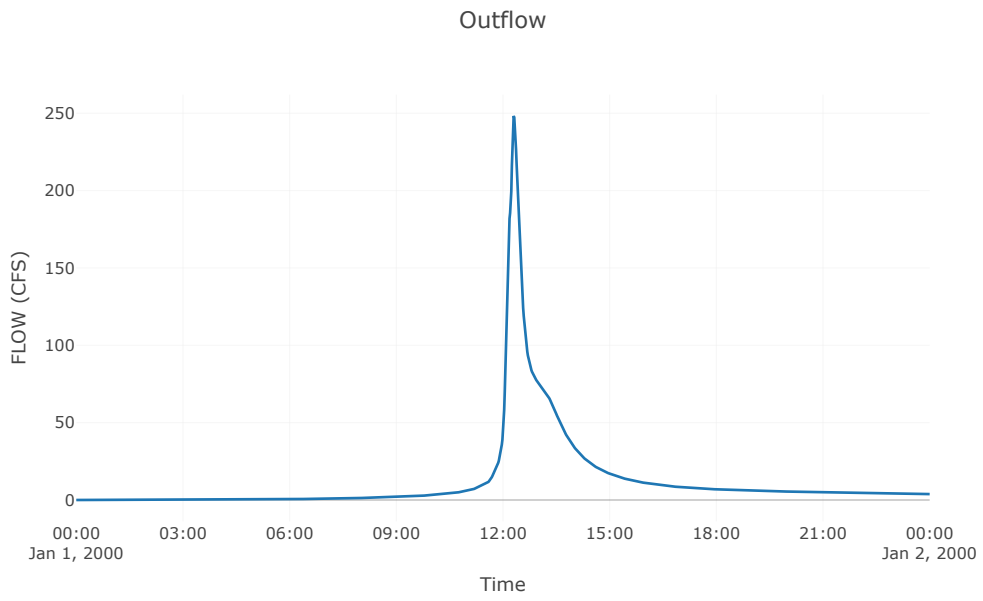


Reach: Ditch B2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1596
Energy Slope (FT/FT)	0.03
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B2	
Peak Discharge (CFS)	248.22
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	1.19
Peak Inflow (CFS)	248.98
Inflow Volume (AC - FT)	24.77



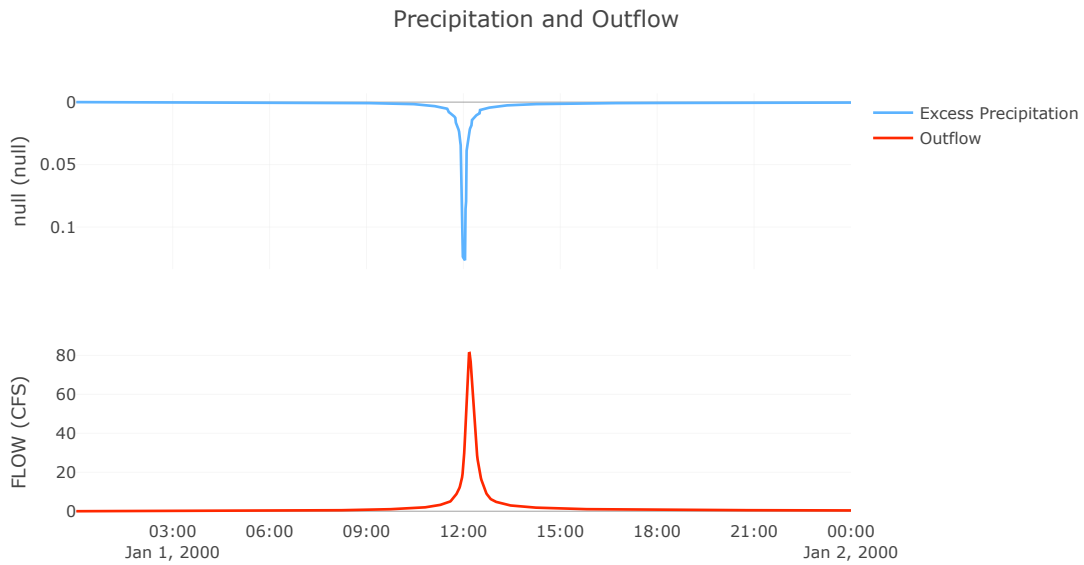
Subbasin: B1

Area (MI2) : 0.03
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: B1	
Peak Discharge (CFS)	81.19
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.89
Loss Volume (AC - FT)	0.66
Excess Volume (AC - FT)	4.23
Direct Runoff Volume (AC - FT)	4.22
Baseflow Volume (AC - FT)	0



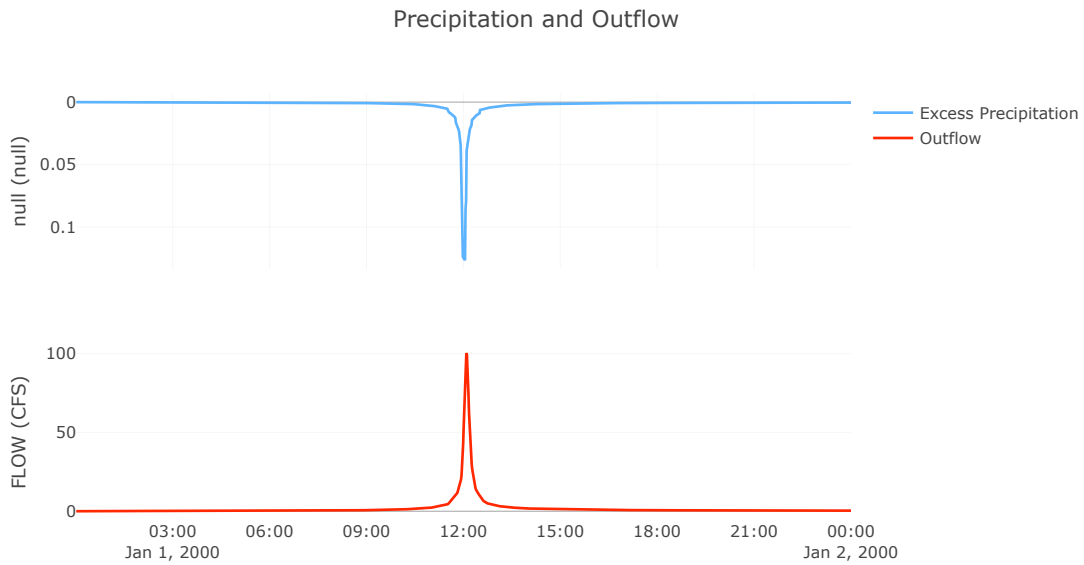
Subbasin: B4

Area (MI2) : 0.02
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

Results: B4	
Peak Discharge (CFS)	100.36
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.37
Loss Volume (AC - FT)	0.59
Excess Volume (AC - FT)	3.78
Direct Runoff Volume (AC - FT)	3.78
Baseflow Volume (AC - FT)	0



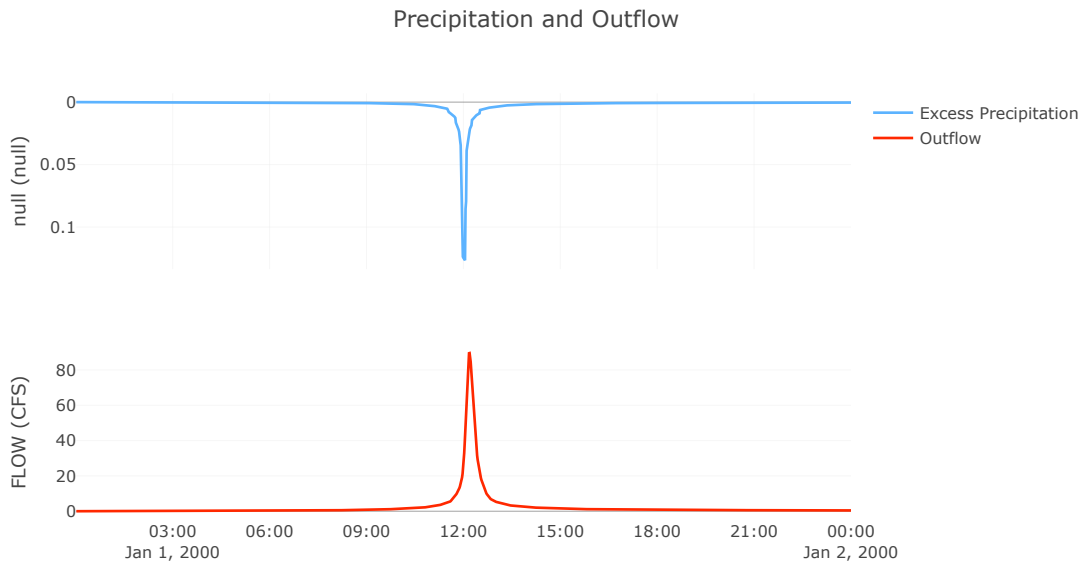
Subbasin: C1

Area (MI2) : 0.03
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	9.6
Unitgraph Type	Standard

Results: C1	
Peak Discharge (CFS)	89.55
Time of Peak Discharge	01Jan2000, 12:11
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.39
Loss Volume (AC - FT)	0.72
Excess Volume (AC - FT)	4.67
Direct Runoff Volume (AC - FT)	4.66
Baseflow Volume (AC - FT)	0



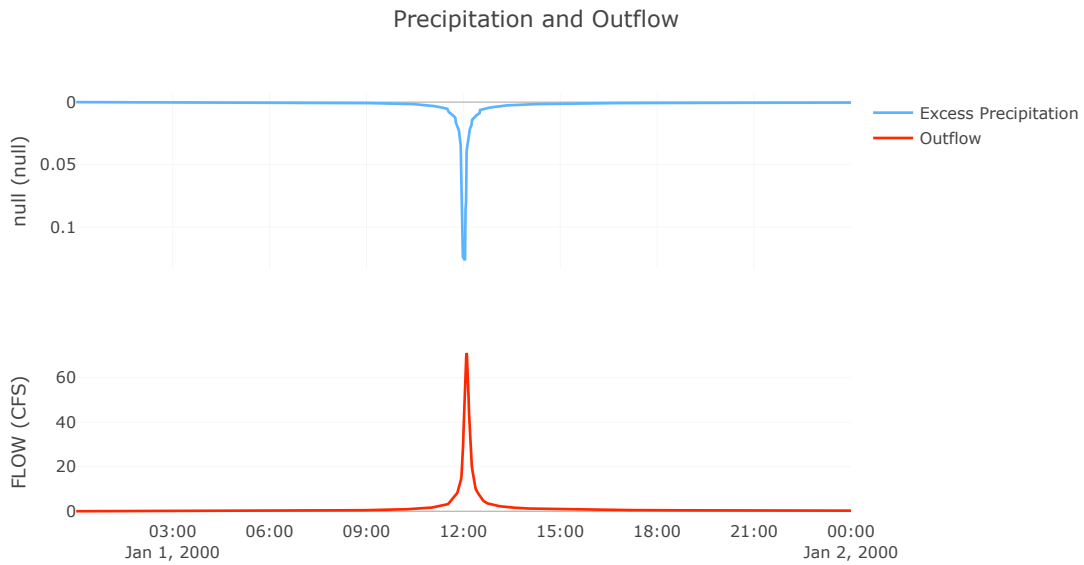
Subbasin: C2

Area (MI2) : 0.02
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

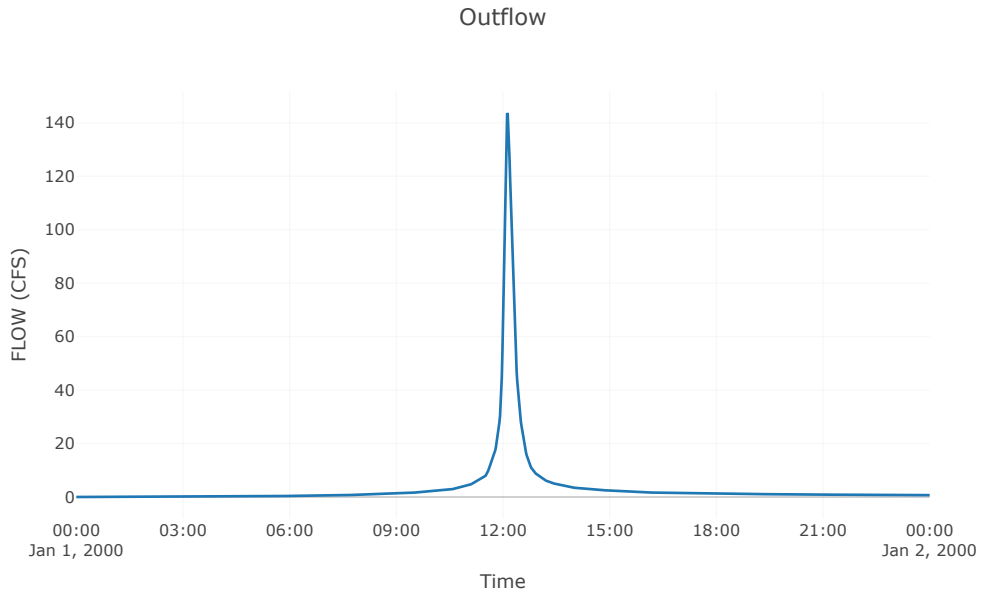
Results: C2	
Peak Discharge (CFS)	71.03
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.09
Loss Volume (AC - FT)	0.42
Excess Volume (AC - FT)	2.68
Direct Runoff Volume (AC - FT)	2.67
Baseflow Volume (AC - FT)	0



Junction: C1 Junction

Downstream : Ditch C1

Results: C1 Junction	
Peak Discharge (CFS)	143.67
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91

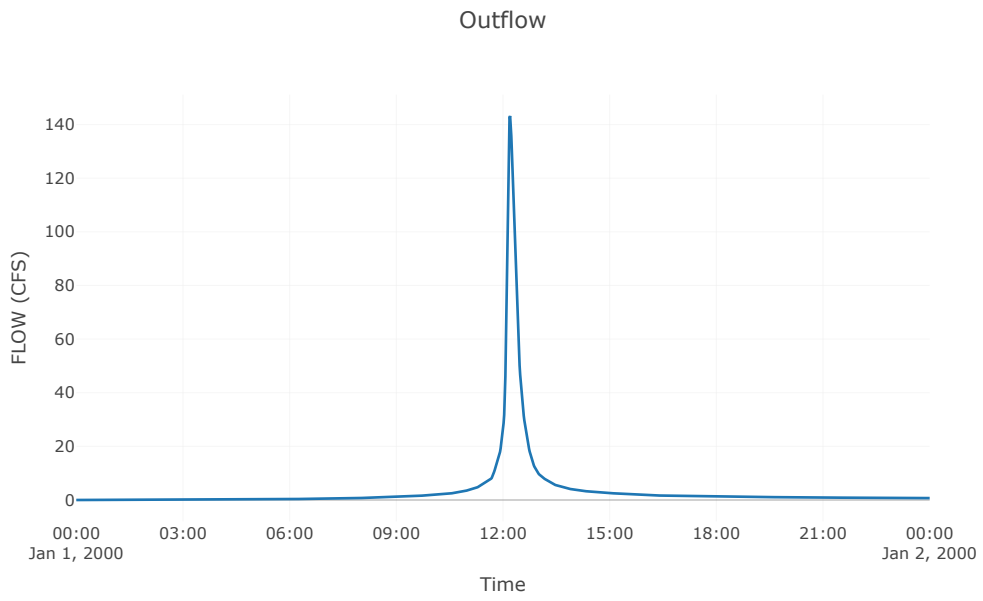


Reach: Ditch C1

Downstream : Culvert C2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2080
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

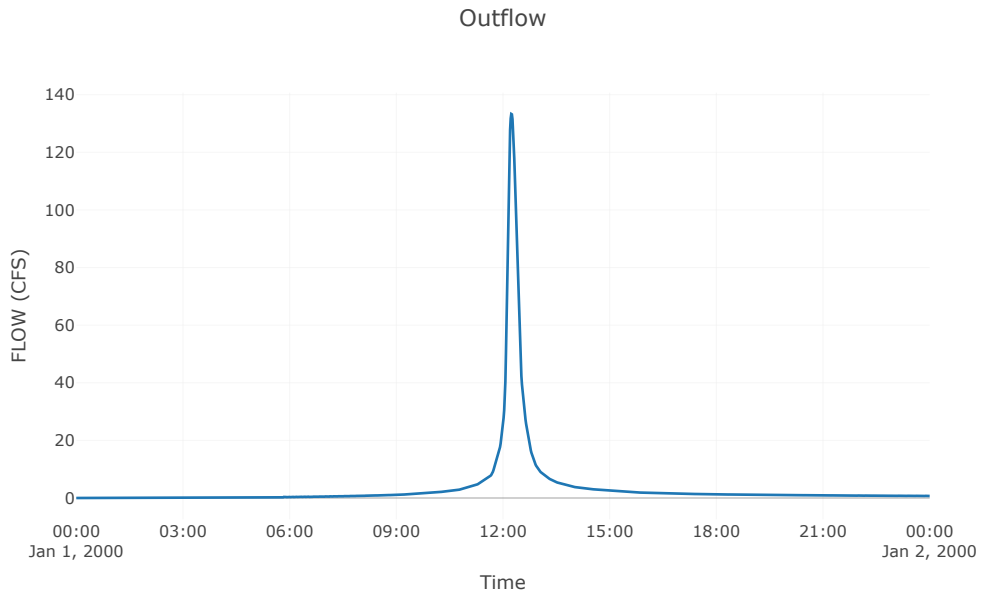
Results: Ditch C1	
Peak Discharge (CFS)	143.19
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.9
Peak Inflow (CFS)	143.67
Inflow Volume (AC - FT)	7.33



Reservoir: Culvert C2

Downstream : Ditch C2

Results: Culvert C2	
Peak Discharge (CFS)	133.29
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.9
Peak Inflow (CFS)	143.19
Time of Peak Inflow	01Jan2000, 12:12
Inflow Volume (AC - FT)	7.3
Maximum Storage (AC - FT)	0.32
Peak Elevation (FT)	3934.07
Discharge Volume (AC - FT)	7.29



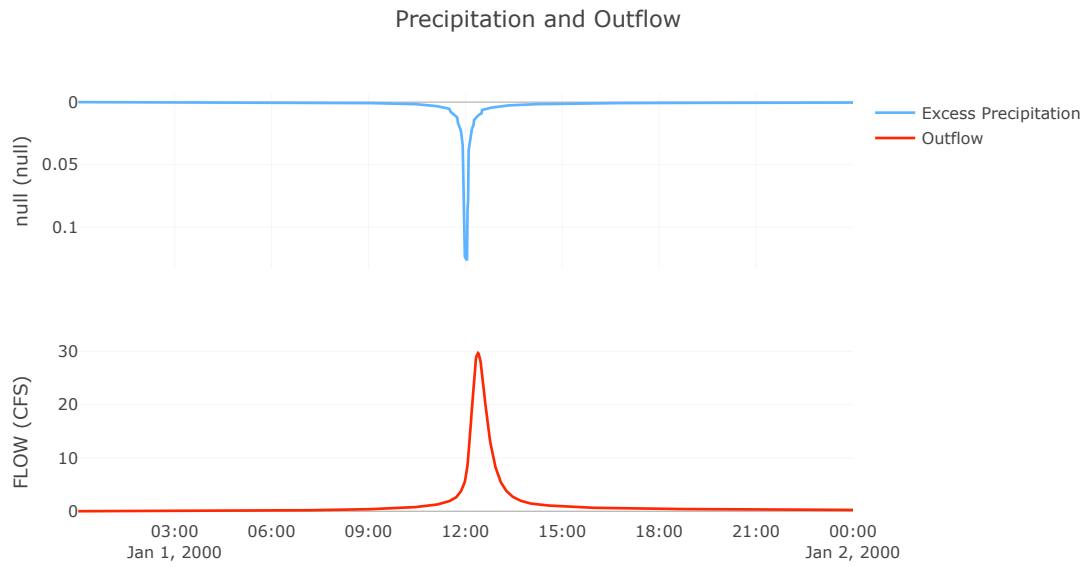
Subbasin: C3

Area (MI2) : 0.02
Downstream : Ditch C2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	21.6
Unitgraph Type	Standard

Results: C3	
Peak Discharge (CFS)	29.66
Time of Peak Discharge	01Jan2000, 12:23
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.89
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.5
Direct Runoff Volume (AC - FT)	2.5
Baseflow Volume (AC - FT)	0

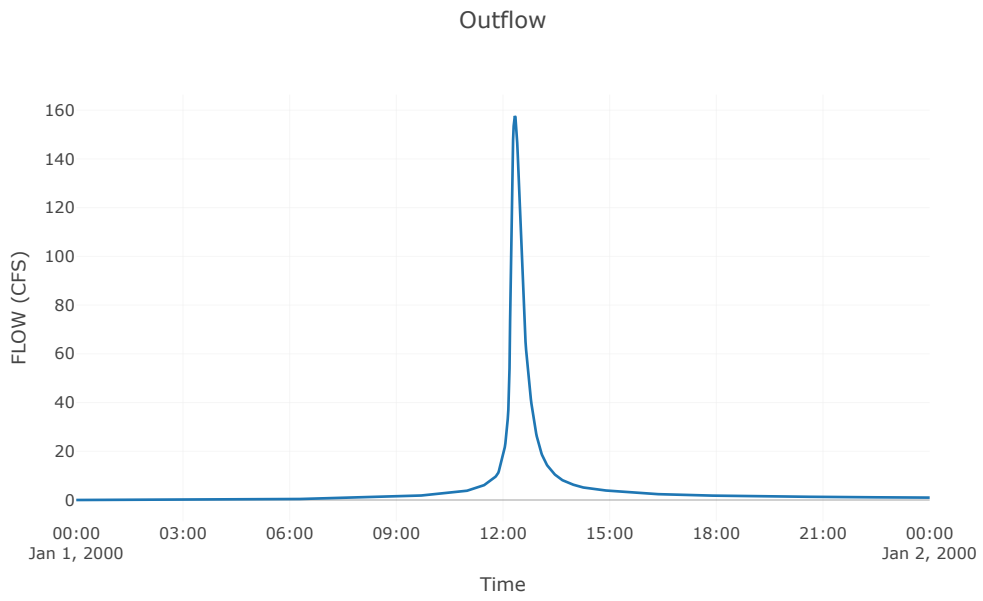


Reach: Ditch C2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2335
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

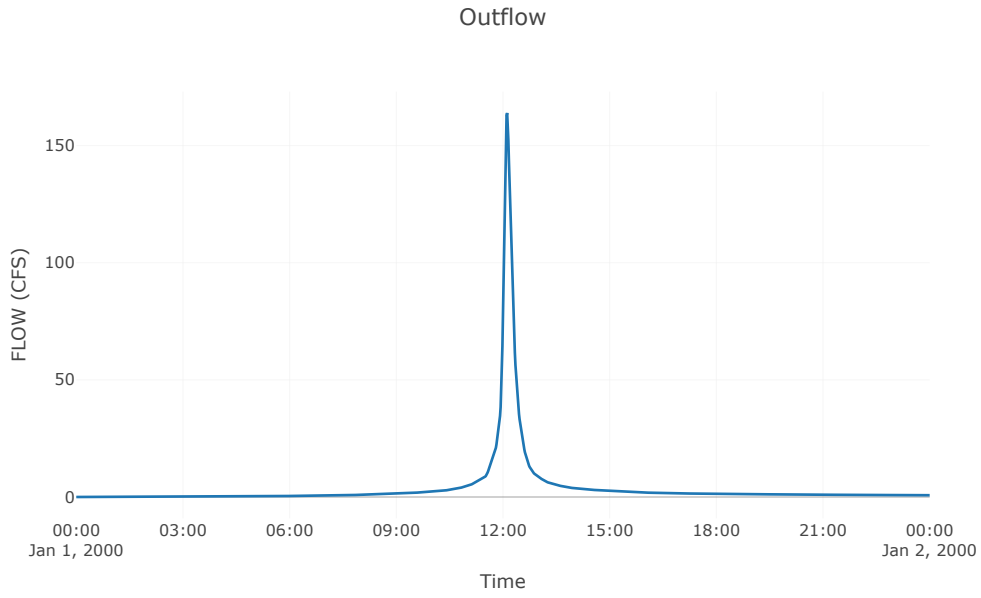
Results: Ditch C2	
Peak Discharge (CFS)	157.62
Time of Peak Discharge	01Jan2000, 12:20
Volume (IN)	2.89
Peak Inflow (CFS)	157.65
Inflow Volume (AC - FT)	9.79



Junction: B1 Junction

Downstream : Basin BC

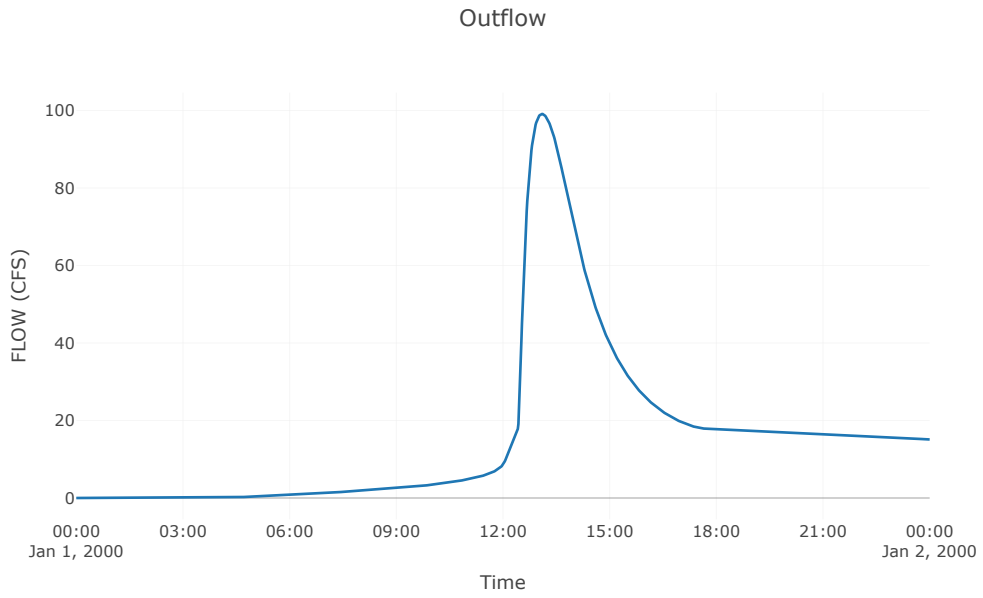
Results: B1 Junction	
Peak Discharge (CFS)	163.93
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91



Reservoir: Basin BC

Downstream : Outfall BC

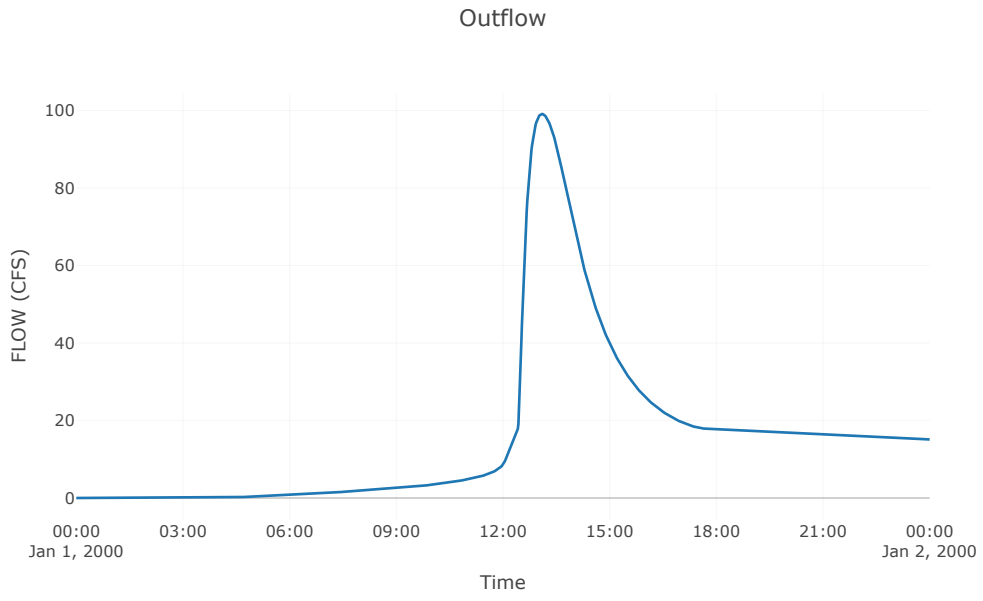
Results: Basin BC	
Peak Discharge (CFS)	99.1
Time of Peak Discharge	01Jan2000, 13:06
Volume (IN)	1.17
Peak Inflow (CFS)	476.17
Time of Peak Inflow	01Jan2000, 12:18
Inflow Volume (AC - FT)	42.47
Maximum Storage (AC - FT)	24.7
Peak Elevation (FT)	3895.03
Discharge Volume (AC - FT)	31.37



Sink: Outfall BC

Results: Outfall BC

Peak Discharge (CFS)	99.1
Time of Peak Discharge	01Jan2000, 13:06
Volume (IN)	1.17



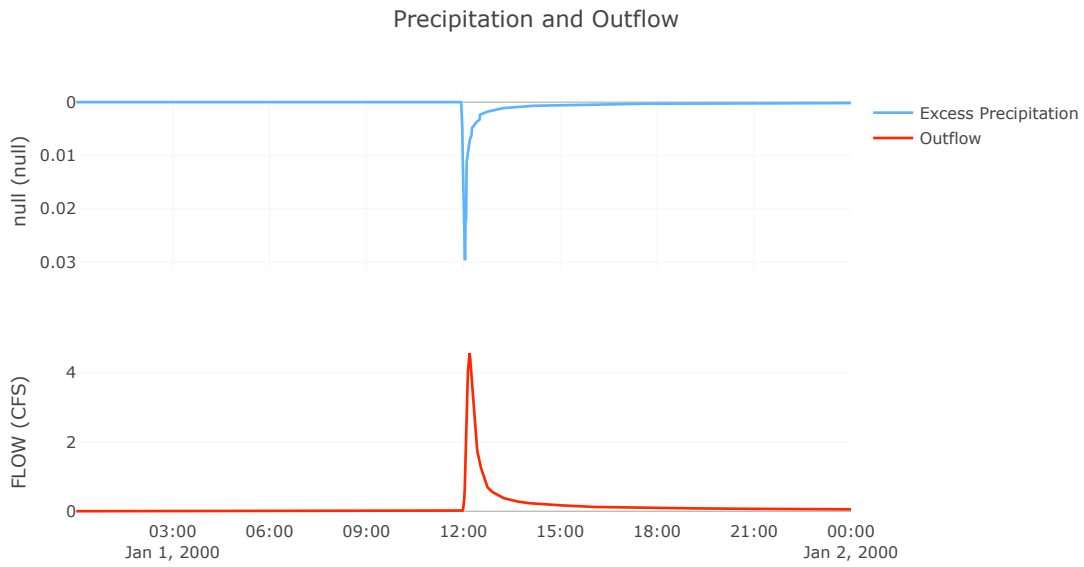
Subbasin: A1

Area (MI2) : 0.01
Downstream : Outfall A

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: A1	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6
Precipitation Volume (AC - FT)	1.4
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	0.25
Direct Runoff Volume (AC - FT)	0.25
Baseflow Volume (AC - FT)	0



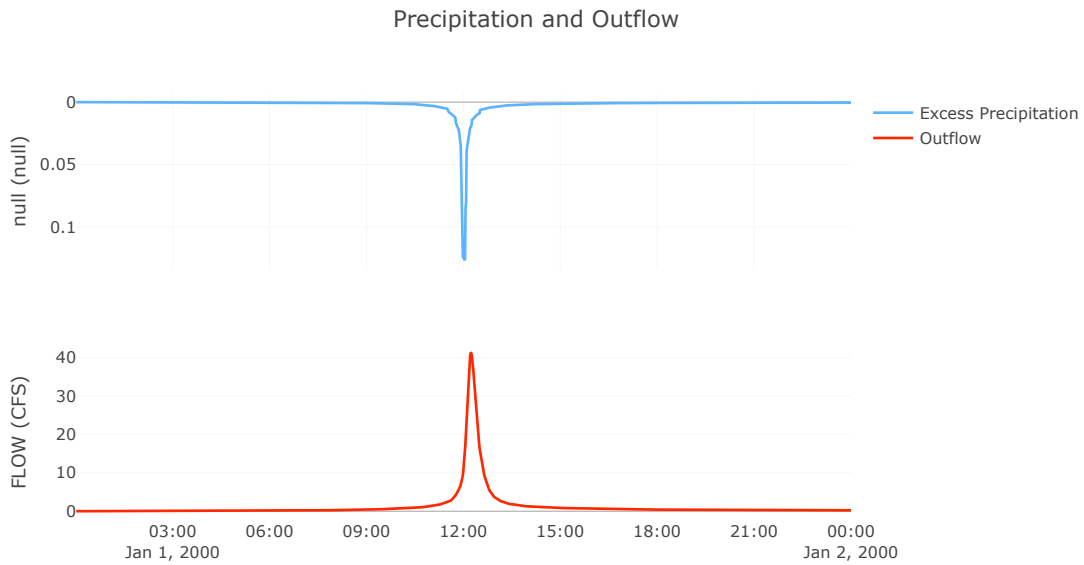
Subbasin: D2

Area (MI2) : 0.02
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	12.6
Unitgraph Type	Standard

Results: D2	
Peak Discharge (CFS)	41.18
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.48
Baseflow Volume (AC - FT)	0



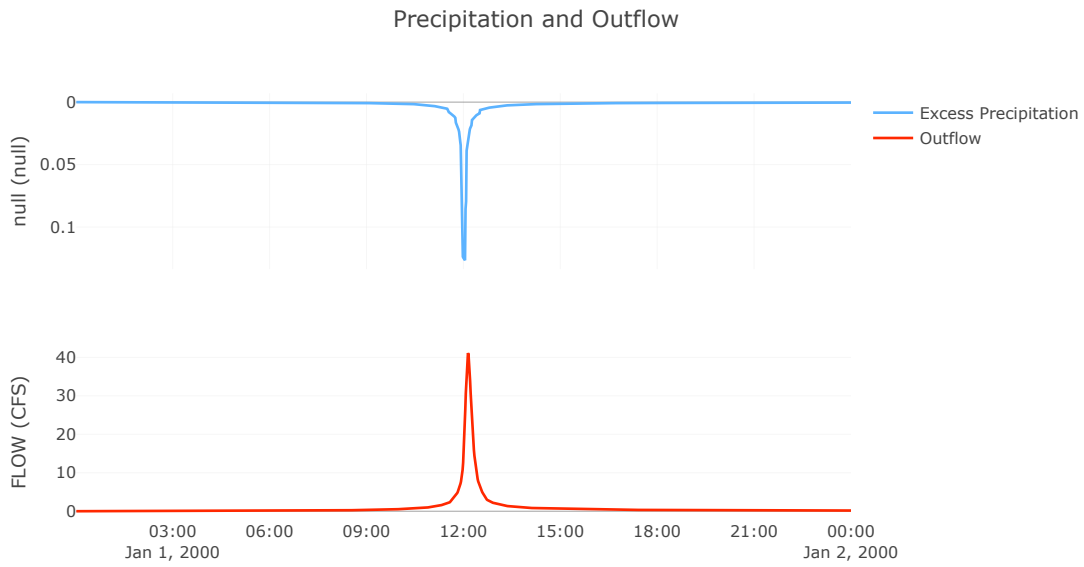
Subbasin: D4

Area (MI2) : 0.01
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

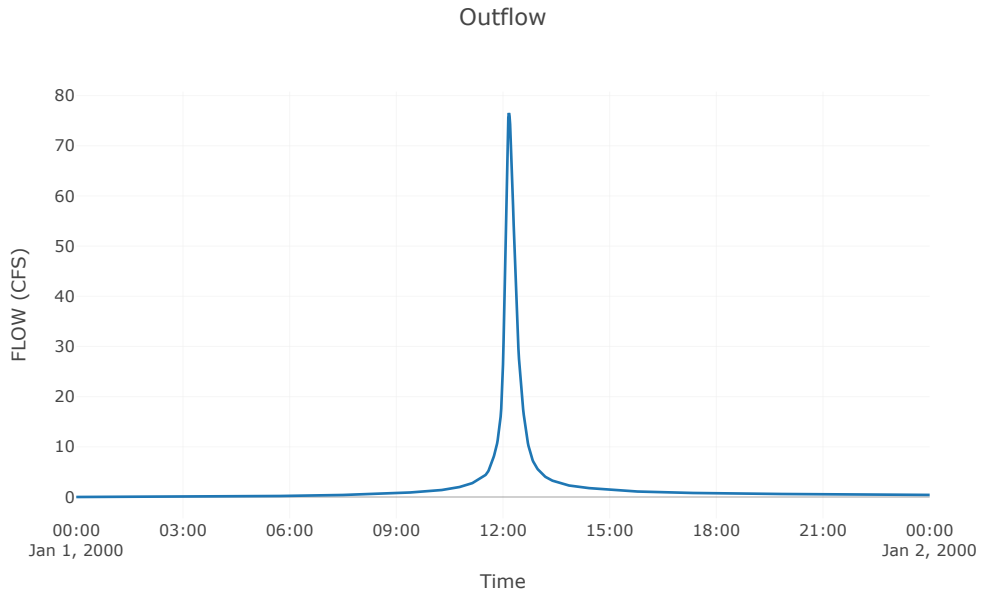
Results: D4	
Peak Discharge (CFS)	41.11
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.16
Loss Volume (AC - FT)	0.29
Excess Volume (AC - FT)	1.87
Direct Runoff Volume (AC - FT)	1.86
Baseflow Volume (AC - FT)	0



Junction: D4 Junction

Downstream : Ditch D1

Results: D4 Junction	
Peak Discharge (CFS)	76.54
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	2.91



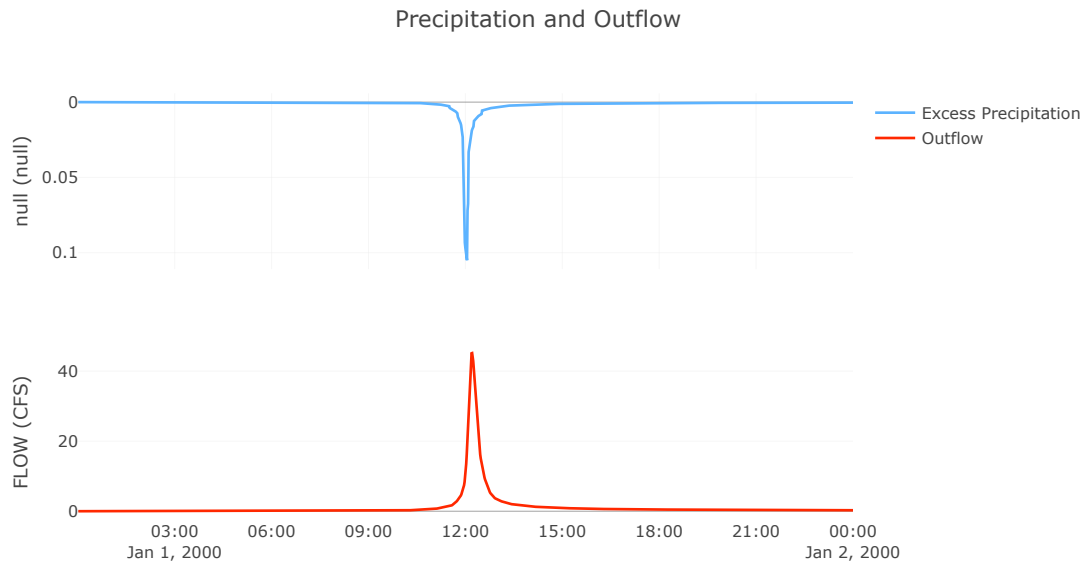
Subbasin: D6

Area (MI2) : 0.02
Downstream : Ditch D1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	88

Transform: Scs	
Lag	10.2
Unitgraph Type	Standard

Results: D6	
Peak Discharge (CFS)	45.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.15
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.3
Excess Volume (AC - FT)	2.29
Direct Runoff Volume (AC - FT)	2.29
Baseflow Volume (AC - FT)	0

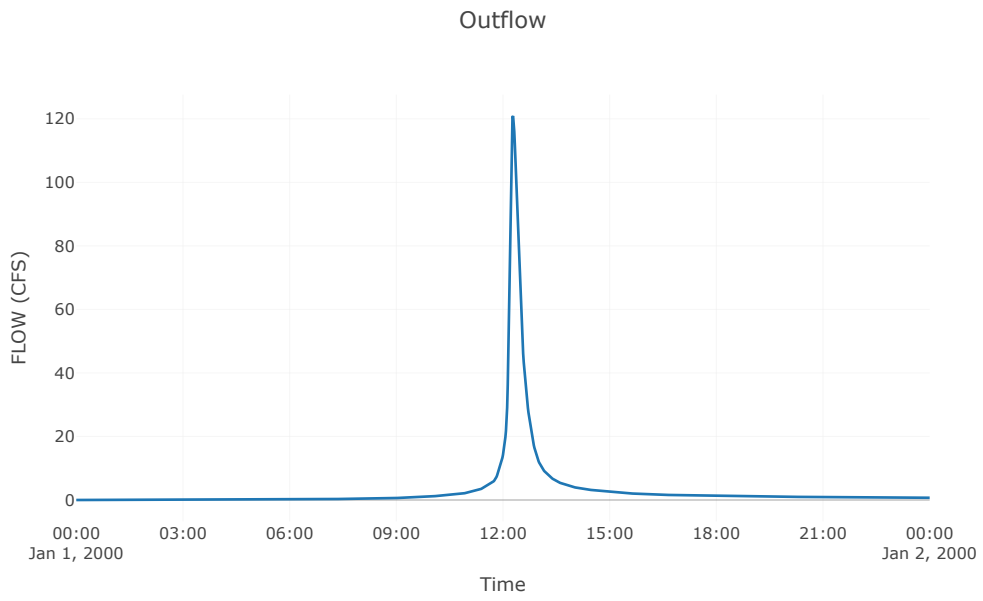


Reach: Ditch D1

Downstream : D1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1300
Energy Slope (FT/FT)	0
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D1	
Peak Discharge (CFS)	120.89
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.58
Peak Inflow (CFS)	121.06
Inflow Volume (AC - FT)	6.64



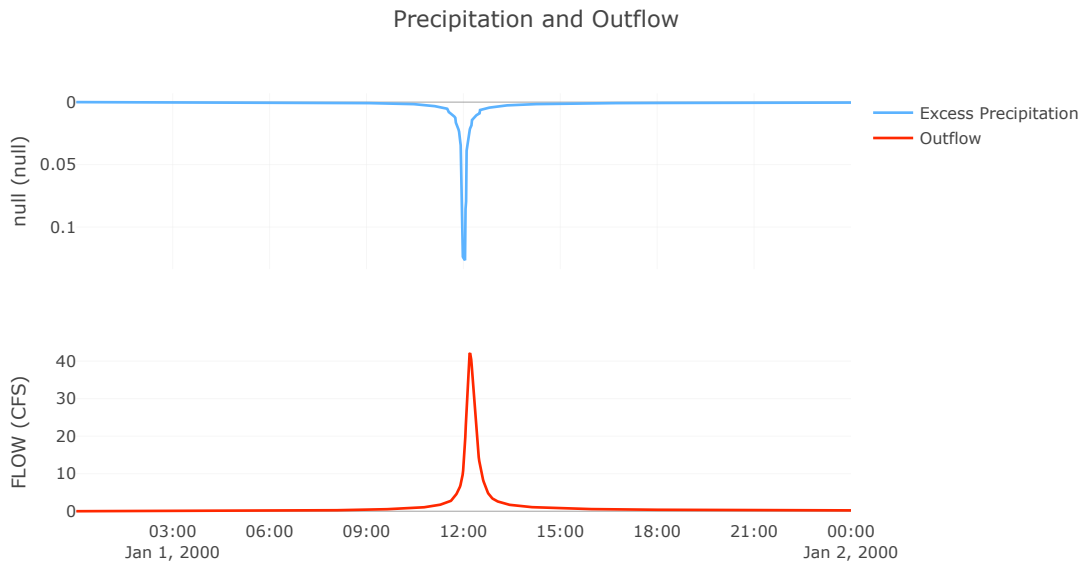
Subbasin: D1

Area (MI2) : 0.01
Downstream : D1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	10.8
Unitgraph Type	Standard

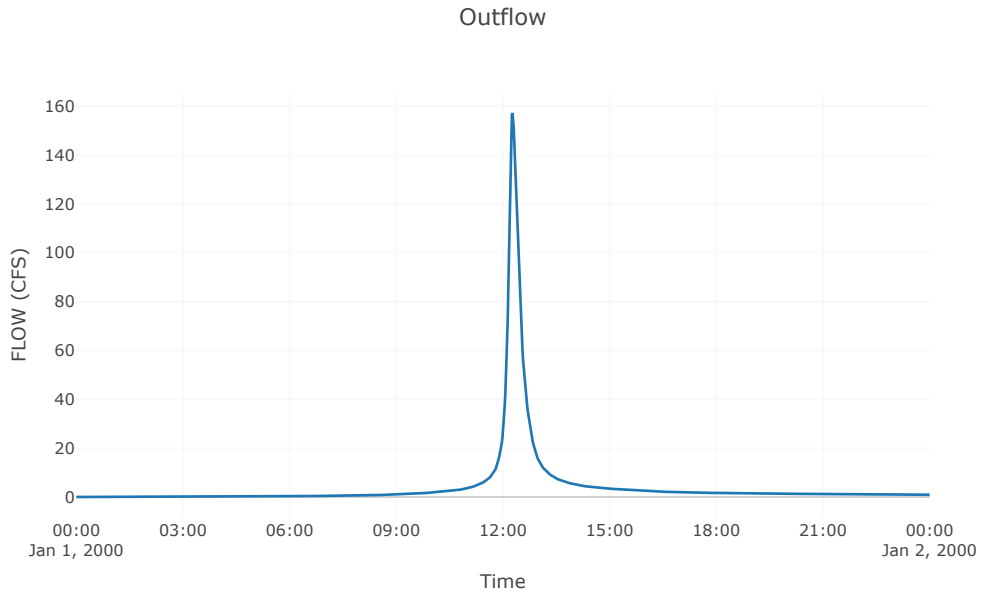
Results: D1	
Peak Discharge (CFS)	42.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.7
Loss Volume (AC - FT)	0.36
Excess Volume (AC - FT)	2.33
Direct Runoff Volume (AC - FT)	2.33
Baseflow Volume (AC - FT)	0



Junction: D1 Junction

Downstream : Ditch D2

Results: D1 Junction	
Peak Discharge (CFS)	157.26
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.66



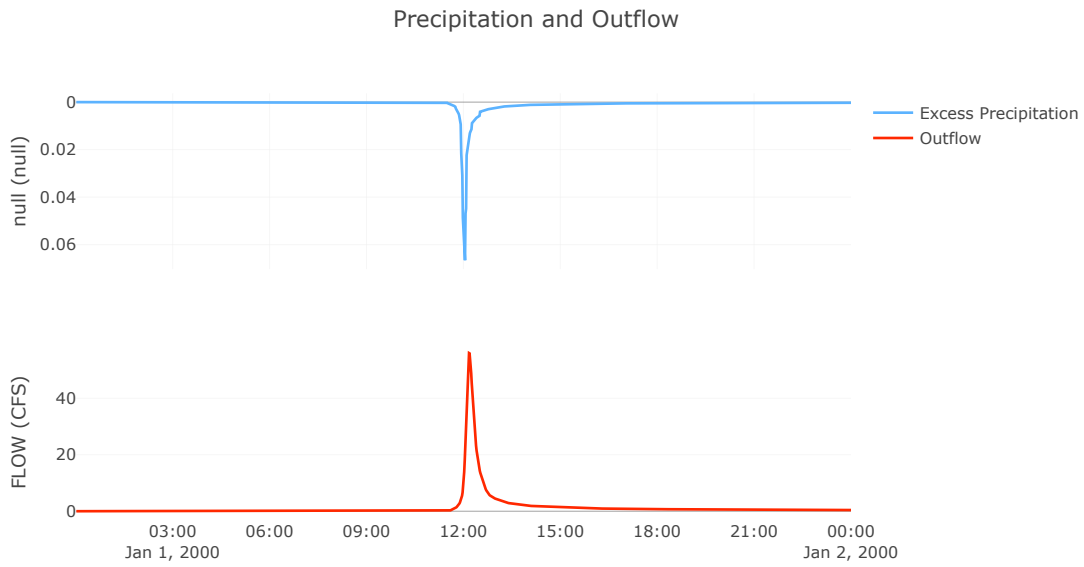
Subbasin: D5

Area (MI2) : 0.04
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: D5	
Peak Discharge (CFS)	56
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	1.27
Precipitation Volume (AC - FT)	7.01
Loss Volume (AC - FT)	4.36
Excess Volume (AC - FT)	2.65
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



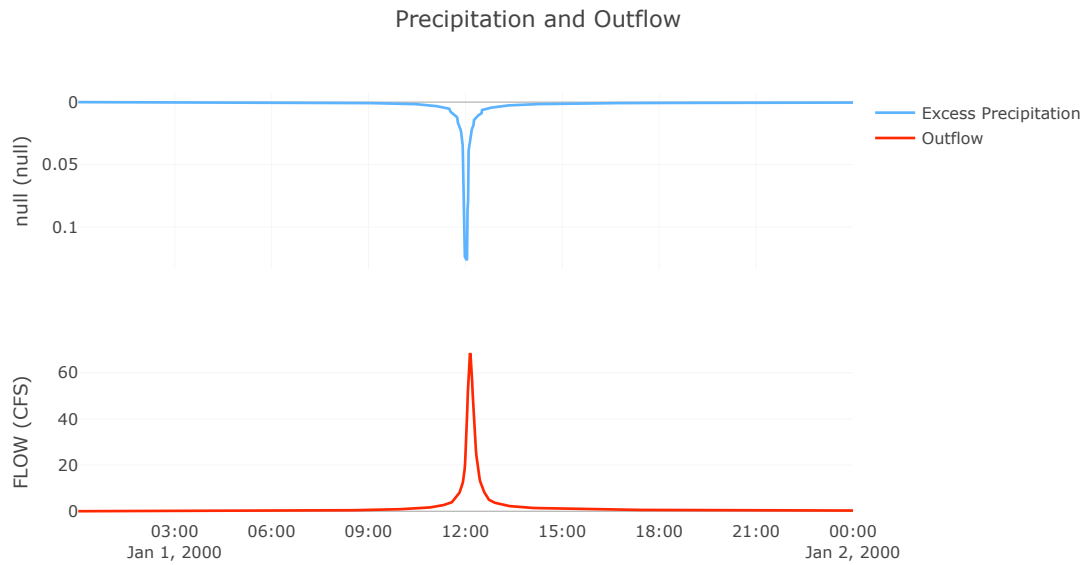
Subbasin: D3

Area (MI2) : 0.02
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D3	
Peak Discharge (CFS)	68.52
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0

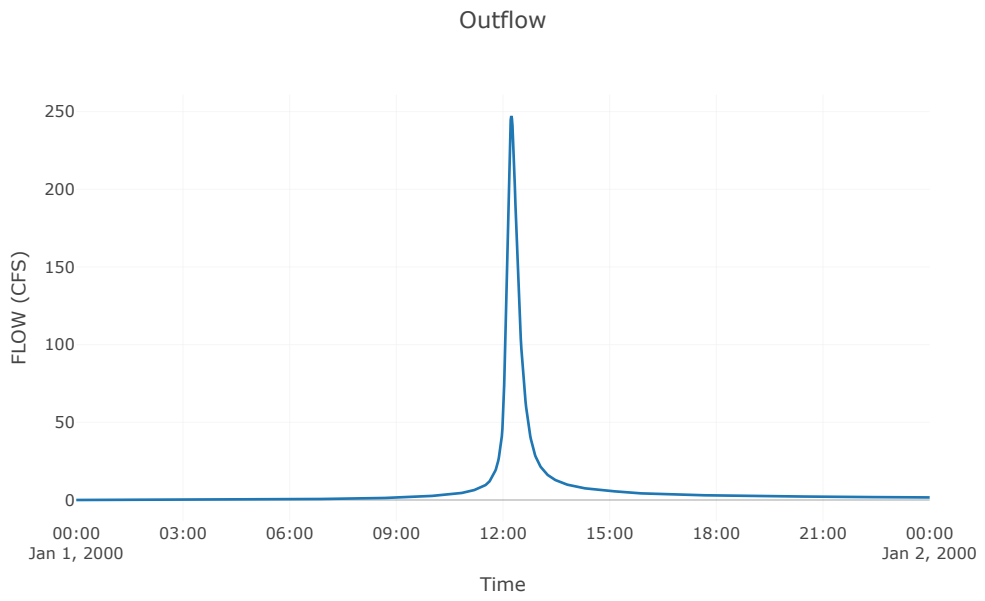


Reach: Ditch D2

Downstream : Junction - 2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

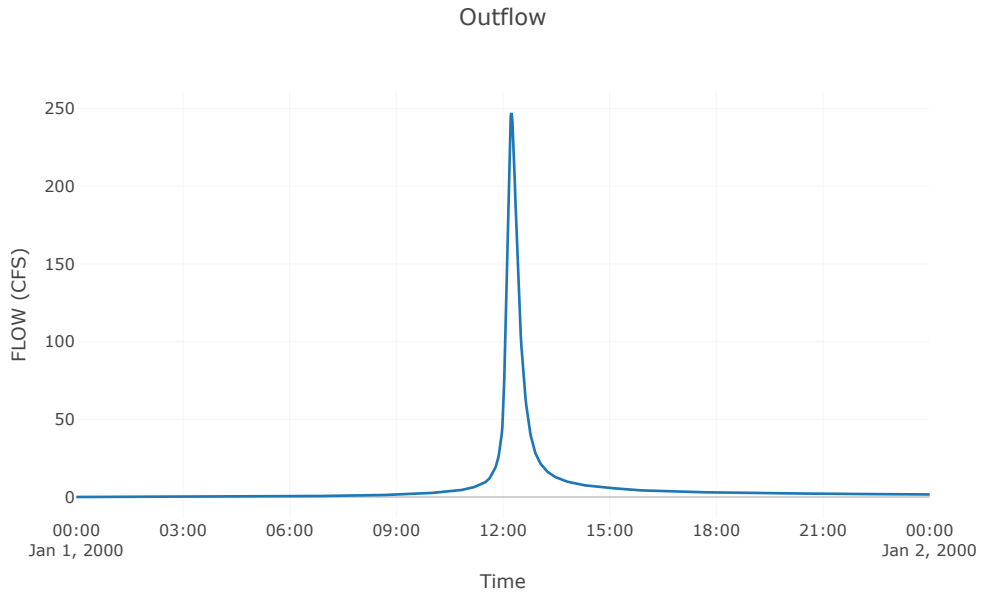
Results: Ditch D2	
Peak Discharge (CFS)	247.17
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.25
Peak Inflow (CFS)	247.31
Inflow Volume (AC - FT)	14.68



Junction: Junction-2

Downstream : Ditch D3

Results: Junction-2	
Peak Discharge (CFS)	247.17
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.25



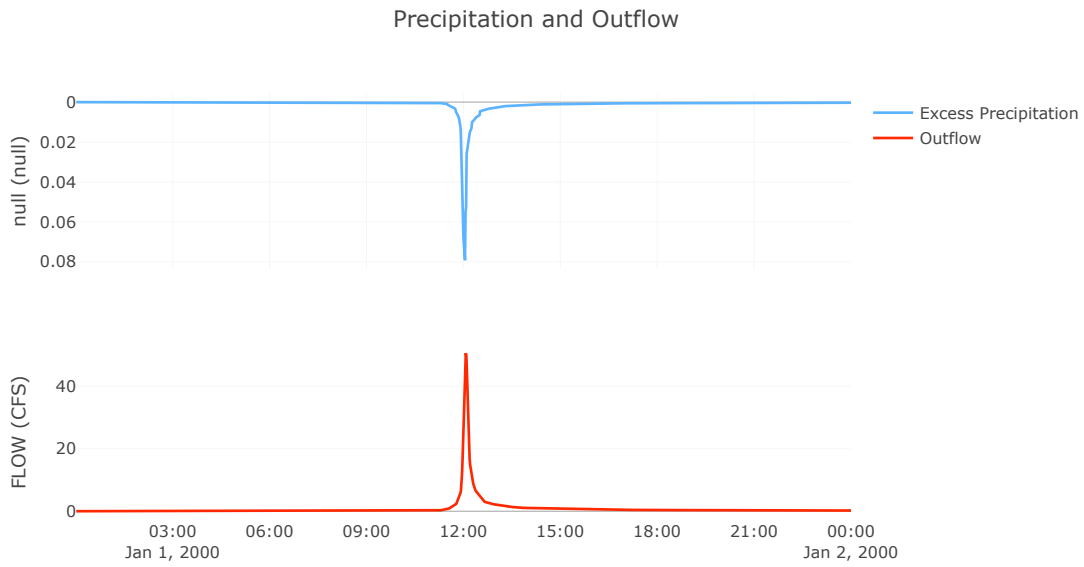
Subbasin: E6

Area (MI2) : 0.02
Downstream : Ditch D3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	2.4
Unitgraph Type	Standard

Results: E6	
Peak Discharge (CFS)	50.61
Time of Peak Discharge	01Jan2000, 12:04
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.41
Loss Volume (AC - FT)	1.86
Excess Volume (AC - FT)	1.55
Direct Runoff Volume (AC - FT)	1.55
Baseflow Volume (AC - FT)	0

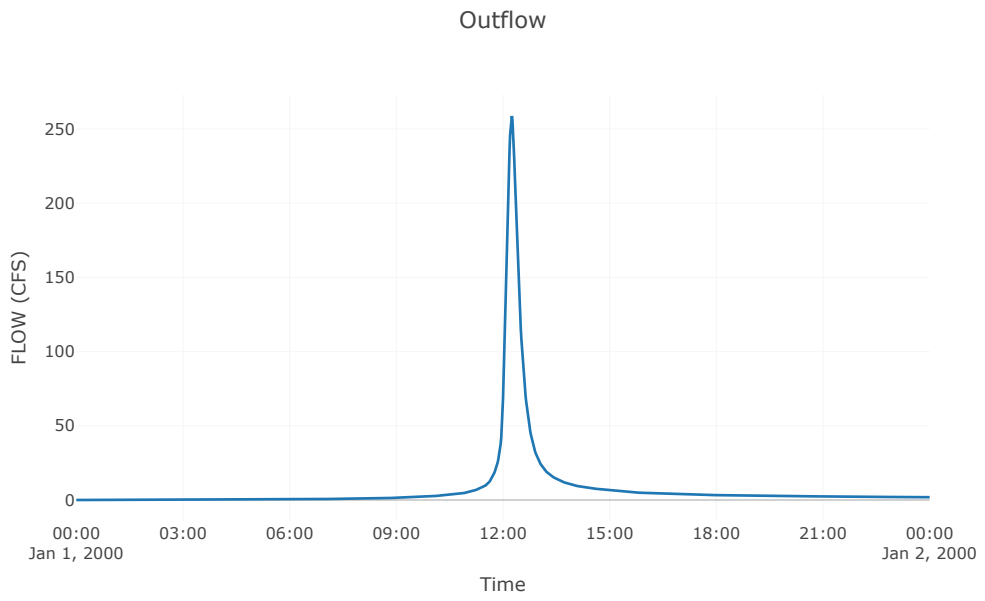


Reach: Ditch D3

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D3	
Peak Discharge (CFS)	258.74
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.16
Peak Inflow (CFS)	259.41
Inflow Volume (AC - FT)	16.22



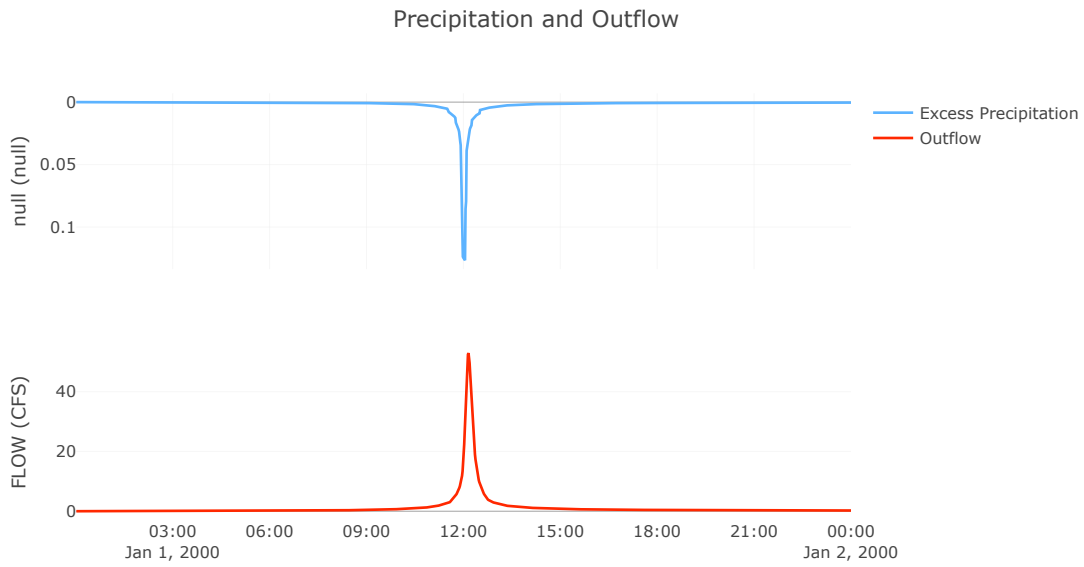
Subbasin: E2

Area (MI2) : 0.02
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.8
Unitgraph Type	Standard

Results: E2	
Peak Discharge (CFS)	52.91
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0



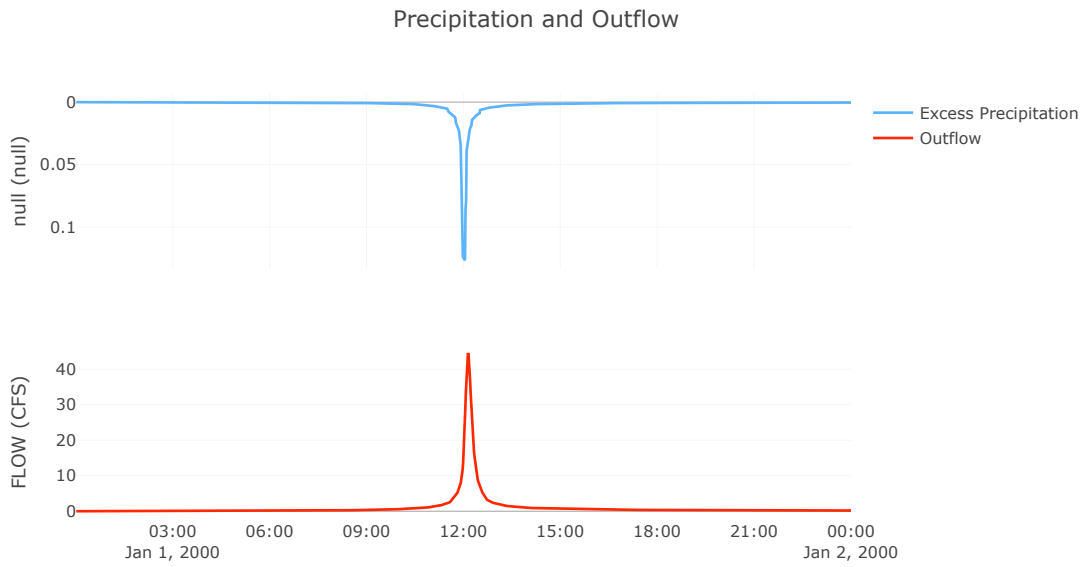
Subbasin: E5

Area (MI2) : 0.01
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

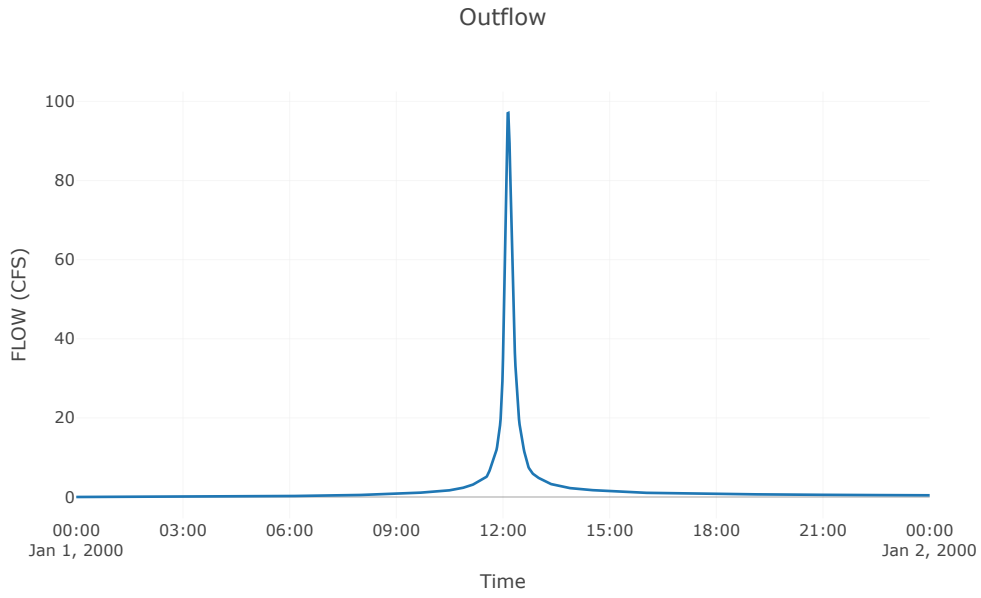
Results: E5	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0



Junction: E2 Junction

Downstream : Ditch E1

Results: E2 Junction	
Peak Discharge (CFS)	97.07
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91



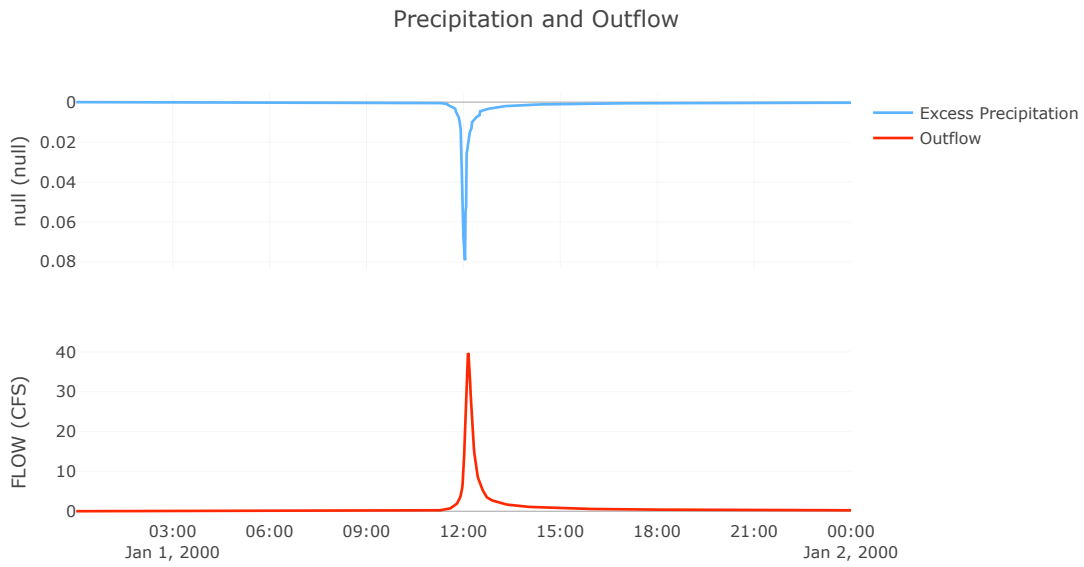
Subbasin: E4

Area (MI2) : 0.02
Downstream : Ditch E1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E4	
Peak Discharge (CFS)	39.7
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.96
Excess Volume (AC - FT)	1.64
Direct Runoff Volume (AC - FT)	1.63
Baseflow Volume (AC - FT)	0

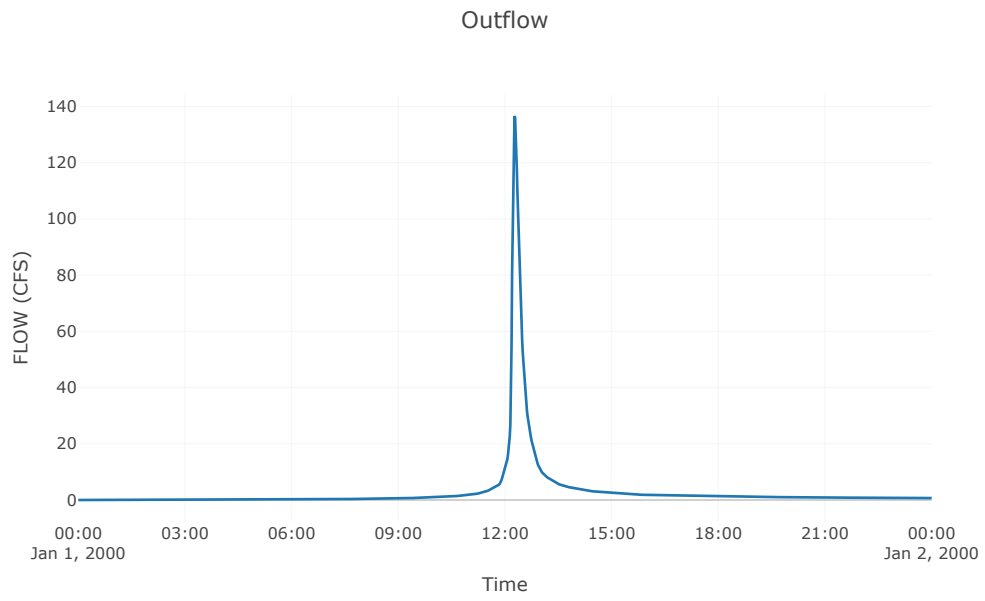


Reach: Ditch E1

Downstream : E1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2425
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch E1	
Peak Discharge (CFS)	136.59
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.33
Peak Inflow (CFS)	136.71
Inflow Volume (AC - FT)	6.14



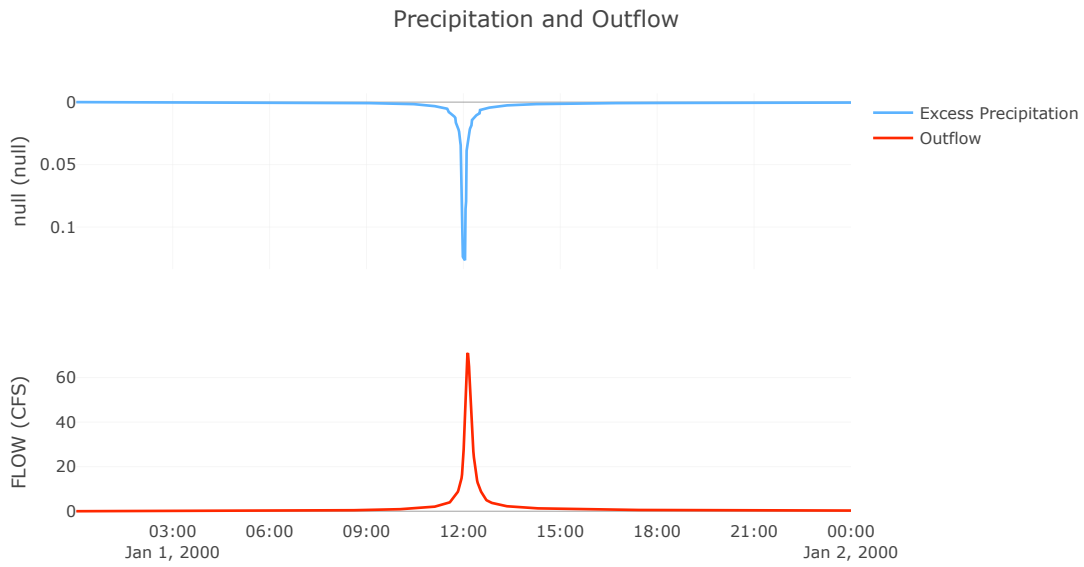
Subbasin: E3

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E3	
Peak Discharge (CFS)	70.98
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0



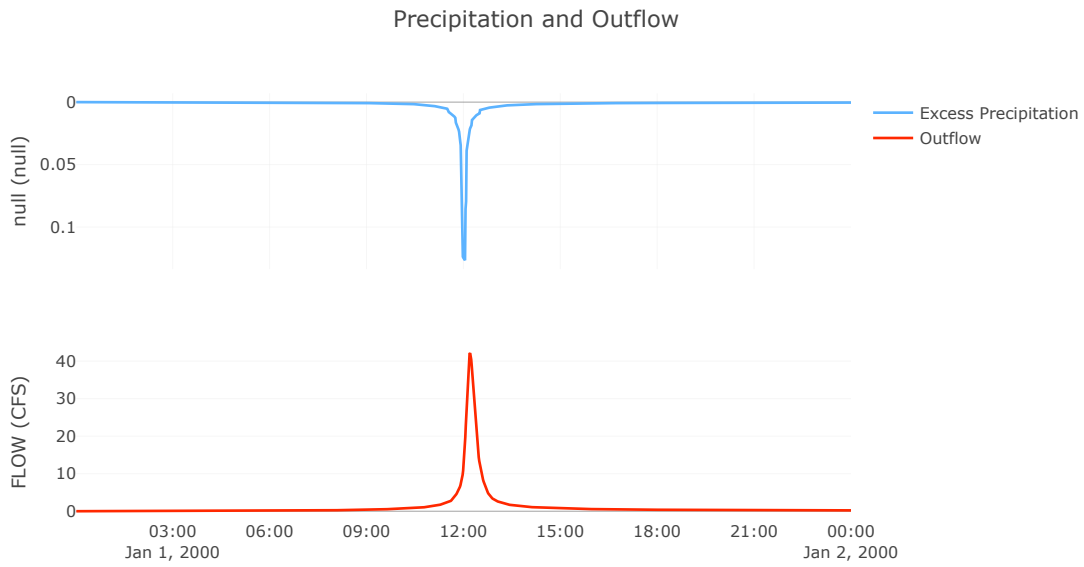
Subbasin: E1

Area (MI2) : 0.01
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	10.8
Unitgraph Type	Standard

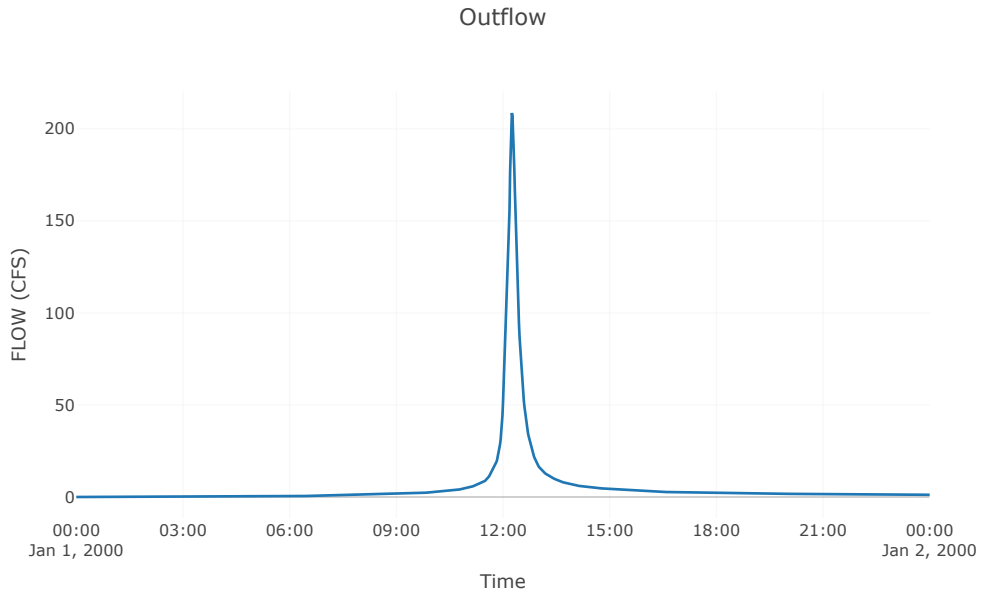
Results: E1	
Peak Discharge (CFS)	42.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.7
Loss Volume (AC - FT)	0.36
Excess Volume (AC - FT)	2.33
Direct Runoff Volume (AC - FT)	2.33
Baseflow Volume (AC - FT)	0



Junction: E1 Junction

Downstream : Culvert E2

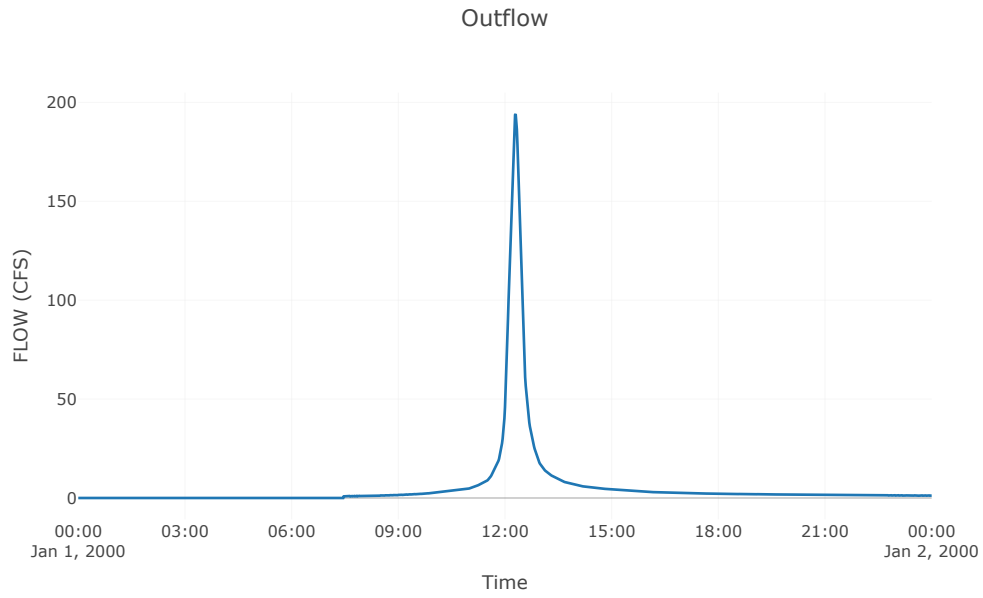
Results: E1 Junction	
Peak Discharge (CFS)	208.61
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.57



Reservoir: Culvert E2

Downstream : Ditch E2

Results: Culvert E2	
Peak Discharge (CFS)	194.13
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.55
Peak Inflow (CFS)	208.61
Time of Peak Inflow	01Jan2000, 12:15
Inflow Volume (AC - FT)	11.53
Maximum Storage (AC - FT)	1.27
Peak Elevation (FT)	3956.01
Discharge Volume (AC - FT)	11.41

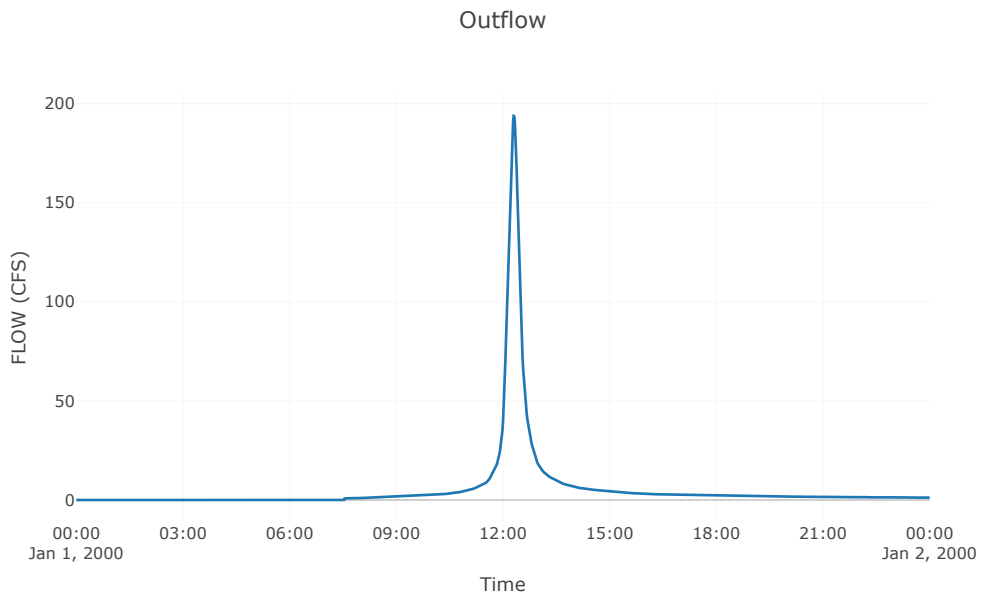


Reach: Ditch E2

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	570
Energy Slope (FT/FT)	0.05
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

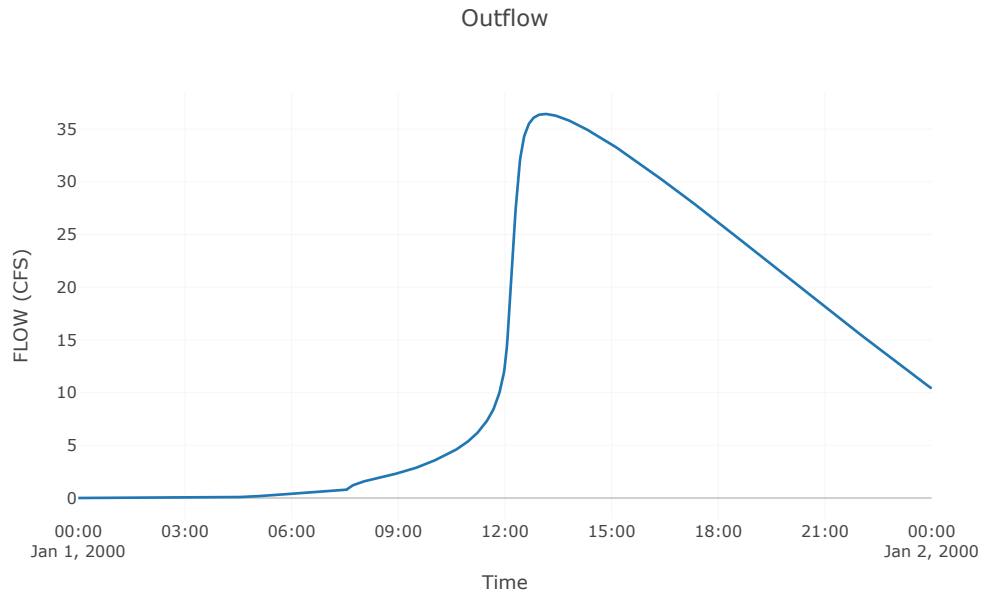
Results: Ditch E2	
Peak Discharge (CFS)	193.77
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.55
Peak Inflow (CFS)	194.13
Inflow Volume (AC - FT)	11.41



Reservoir: Basin DE

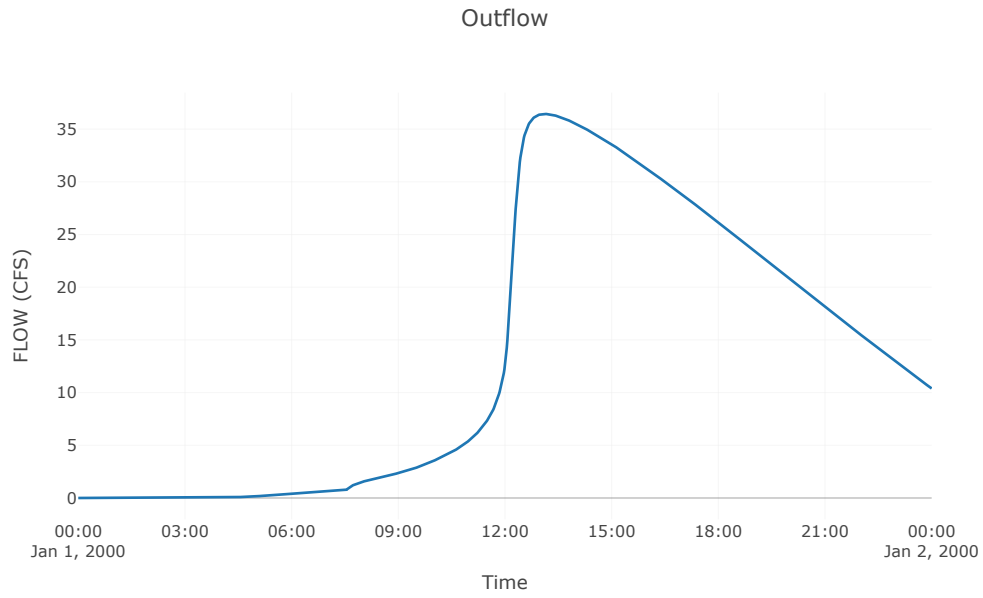
Downstream : Outfall DE

Results: Basin DE	
Peak Discharge (CFS)	36.43
Time of Peak Discharge	01Jan2000, 13:07
Volume (IN)	2.19
Peak Inflow (CFS)	439.66
Time of Peak Inflow	01Jan2000, 12:17
Inflow Volume (AC - FT)	27.61
Maximum Storage (AC - FT)	20.85
Peak Elevation (FT)	3930.44
Discharge Volume (AC - FT)	26.32



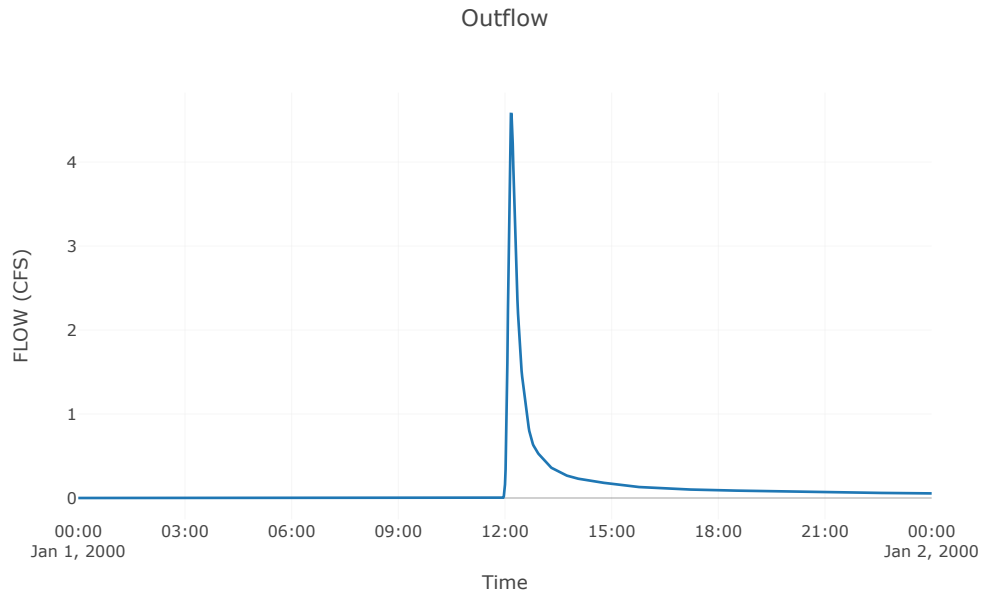
Sink: Outfall DE

Results: Outfall DE	
Peak Discharge (CFS)	36.43
Time of Peak Discharge	01Jan2000, 13:07
Volume (IN)	2.19

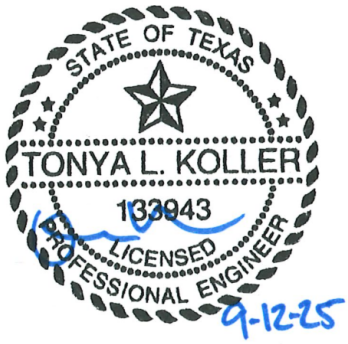


Sink: Outfall A

Results: Outfall A	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6



DEVELOPED CONDITIONS
(ATLAS 14)
HEC-HMS CALCULATIONS



Project: GEPLandfill_Sept2025
Simulation Run: ProposedConditions25Year
Simulation Start: 31 December 1999, 24:00
Simulation End: 1 January 2000, 24:00

HMS Version: 4.13
Executed: 16 September 2025, 10:58

Global Parameter Summary - Subbasin

	Area (MI2)
Element Name	Area (MI2)
B4	0.04
B1	0.01
B6	0.03
B3	0.02
Cos	0.24
B5	0.05
B2	0.01
B7	0.03
B8	0.02
C2	0.03
C1	0.01
C3	0.01
A1	0.01
D4	0.01
D6	0.02
D1	0.02
D5	0.04
D3	0.02
E6	0.02
E2	0.02
E5	0.01
E4	0.02
E3	0.02
E1	0.02

Downstream

Element Name	Downstream
B4	B1 Junction
B1	B1 Junction
B6	B3 Junction
B3	B3 Junction
Cos	Ditch B1
B5	B2 Junction
B2	B2 Junction
B7	Ditch B2
B8	Ditch B2
C2	C1 Junction
C1	C1 Junction
C3	Ditch C2
A1	Outfall A
D4	D4 Junction
D6	Ditch D1
D1	D1 Junction
D5	Ditch D2
D3	Ditch D2
E6	Ditch D3
E2	E2 Junction
E5	E2 Junction
E4	Ditch E1
E3	E1 Junction
E1	E1 Junction

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
B4	0	96
B1	0	96
B6	0	96
B3	0	96
Cos	0	63
B5	0	96
B2	0	96
B7	0	73
B8	0	76
C2	0	96
C1	0	96
C3	0	96
A1	0	63
D4	0	96
D6	0	88
D1	0	96
D5	0	76
D3	0	96
E6	0	80
E2	0	96
E5	0	96
E4	0	80
E3	0	96
E1	0	96

Transform: Scs		
Element Name	**Lag**	**Unitgraph Type**
B4	5.4	Standard
B1	5.4	Standard
B6	5.4	Standard
B3	6.6	Standard
Cos	46.8	Standard
B5	8.4	Standard
B2	6	Standard
B7	33.6	Standard
B8	13.8	Standard
C2	4.8	Standard
C1	6	Standard
C3	21.6	Standard
A1	7.2	Standard
D4	7.2	Standard
D6	10.2	Standard
D1	4.2	Standard
D5	8.4	Standard
D3	7.2	Standard
E6	2.4	Standard
E2	6	Standard
E5	7.2	Standard
E4	6.6	Standard
E3	6.6	Standard
E1	4.8	Standard

Global Parameter Summary - Reach

Downstream	
Element Name	**Downstream**
Ditch B1	Ditch B2
Ditch B2	Basin BC
Ditch C1	Culvert C2
Ditch C2	Basin BC
Ditch D1	D1 Junction
Ditch D2	Junction - 2
Ditch D3	Basin DE
Ditch E1	E1 Junction
Ditch E2	Basin DE

Route: Kinematic Wave

Element Name	Method	Channel	Length (FT)	Energy Slope (FT/FT)	Mannings n	Shape	Number of Subreaches	Width (FT)	Side Slope (FT/FT)	Initial Variable	Index Parameter Type	Index Flow
Ditch B1	Kinematic Wave	Kinematic Wave	2769	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch B2	Kinematic Wave	Kinematic Wave	1596	0.03	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C1	Kinematic Wave	Kinematic Wave	2080	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch C2	Kinematic Wave	Kinematic Wave	2335	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D1	Kinematic Wave	Kinematic Wave	1300	0	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D2	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch D3	Kinematic Wave	Kinematic Wave	400	0.02	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E1	Kinematic Wave	Kinematic Wave	2425	0.01	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05
Ditch E2	Kinematic Wave	Kinematic Wave	570	0.05	0.04	Trapezoid	2	8	5	Combined Inflow	Index Flow	0.05

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
B4	0.04	147.65	01Jan2000, 12:06	2.91
B1	0.01	38.91	01Jan2000, 12:06	2.91
B6	0.03	95.76	01Jan2000, 12:06	2.91
B3	0.02	66.37	01Jan2000, 12:08	2.91
Cos	0.24	42.48	01Jan2000, 12:58	0.59
B3 Junction	0.04	161.75	01Jan2000, 12:07	2.91
Ditch B1	0.28	161.62	01Jan2000, 12:16	0.94
B5	0.05	151.27	01Jan2000, 12:09	2.91
B2	0.01	32.49	01Jan2000, 12:07	2.91
B2 Junction	0.06	181.57	01Jan2000, 12:09	2.91
B7	0.03	12.51	01Jan2000, 12:39	1.08
B8	0.02	25.96	01Jan2000, 12:16	1.27
Ditch B2	0.39	318.12	01Jan2000, 12:16	1.25
C2	0.03	129.52	01Jan2000, 12:06	2.91
C1	0.01	40.61	01Jan2000, 12:07	2.91
C1 Junction	0.04	169.25	01Jan2000, 12:06	2.91
Ditch C1	0.04	168.55	01Jan2000, 12:10	2.9
Culvert C2	0.04	148.65	01Jan2000, 12:13	2.9
C3	0.01	26.89	01Jan2000, 12:23	2.91
Ditch C2	0.06	168.15	01Jan2000, 12:18	2.89
B1 Junction	0.05	186.56	01Jan2000, 12:06	2.91
Basin BC	0.49	95.71	01Jan2000, 13:02	1.19
Outfall BC	0.49	95.71	01Jan2000, 13:02	1.19
A1	0.01	4.57	01Jan2000, 12:10	0.6
D4	0.01	44.54	01Jan2000, 12:08	2.91
D6	0.02	45.14	01Jan2000, 12:12	2.15
D4 Junction	0.01	44.54	01Jan2000, 12:08	2.91
Ditch D1	0.03	86.38	01Jan2000, 12:16	2.43
D1	0.02	66.08	01Jan2000, 12:05	2.91
D1 Junction	0.05	104.3	01Jan2000, 12:15	2.59
D5	0.04	56	01Jan2000, 12:10	1.27

D3	0.02	68.52	01Jan2000, 12:08	2.91
Ditch D2	0.11	204.15	01Jan2000, 12:12	2.17
Junction - 2	0.11	204.15	01Jan2000, 12:12	2.17
E6	0.02	50.61	01Jan2000, 12:04	1.53
Ditch D3	0.13	224.54	01Jan2000, 12:08	2.07
E2	0.02	62.76	01Jan2000, 12:07	2.91
E5	0.01	44.54	01Jan2000, 12:08	2.91
E2 Junction	0.03	106.29	01Jan2000, 12:07	2.91
E4	0.02	39.7	01Jan2000, 12:08	1.53
Ditch E1	0.05	145.11	01Jan2000, 12:16	2.34
E3	0.02	70.98	01Jan2000, 12:08	2.91
E1	0.02	63.77	01Jan2000, 12:06	2.91
E1 Junction	0.09	206.41	01Jan2000, 12:14	2.58
Culvert E2	0.09	193.17	01Jan2000, 12:17	2.56
Ditch E2	0.09	193.17	01Jan2000, 12:17	2.55
Basin DE	0.21	35.12	01Jan2000, 13:03	2.18
Outfall DE	0.21	35.12	01Jan2000, 13:03	2.18
Outfall A	0.01	4.57	01Jan2000, 12:10	0.6

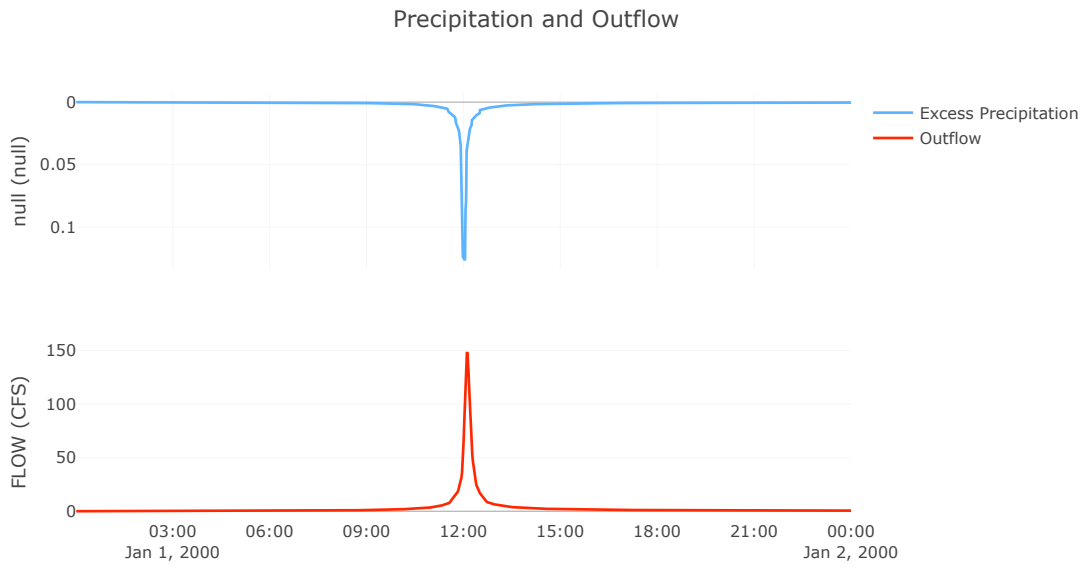
Subbasin: B4

Area (MI2) : 0.04
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B4	
Peak Discharge (CFS)	147.65
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	6.96
Loss Volume (AC - FT)	0.94
Excess Volume (AC - FT)	6.02
Direct Runoff Volume (AC - FT)	6.01
Baseflow Volume (AC - FT)	0



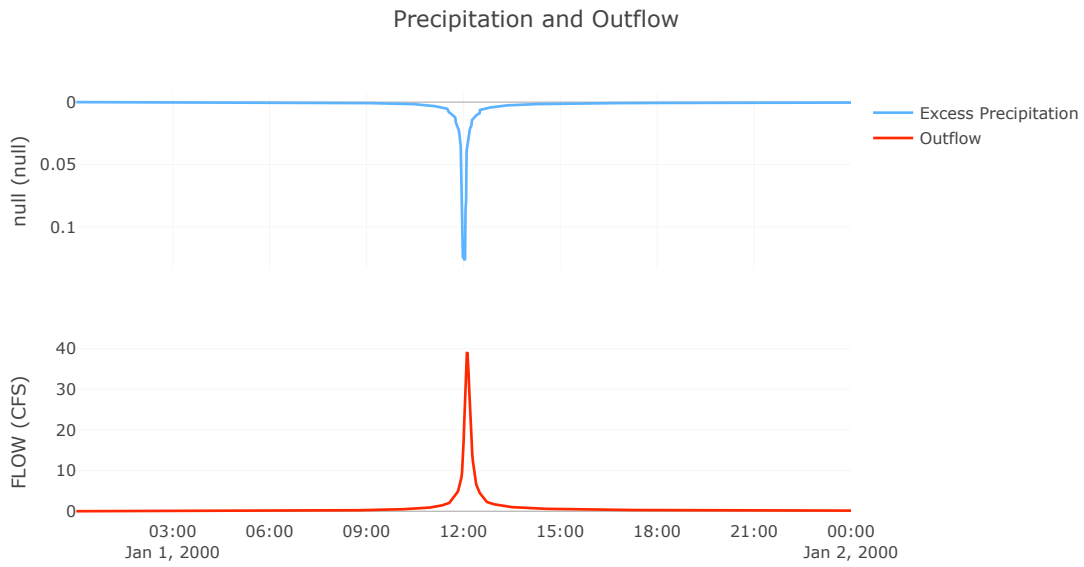
Subbasin: B1

Area (MI2) : 0.01
Downstream : B1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B1	
Peak Discharge (CFS)	38.91
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.83
Loss Volume (AC - FT)	0.25
Excess Volume (AC - FT)	1.59
Direct Runoff Volume (AC - FT)	1.59
Baseflow Volume (AC - FT)	0



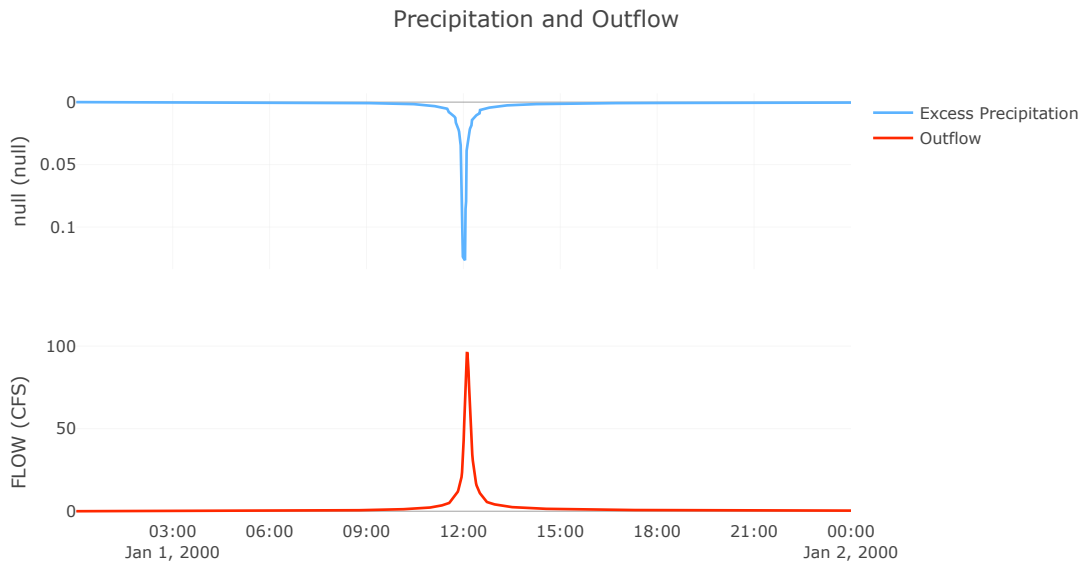
Subbasin: B6

Area (MI2) : 0.03
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	5.4
Unitgraph Type	Standard

Results: B6	
Peak Discharge (CFS)	95.76
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	4.51
Loss Volume (AC - FT)	0.61
Excess Volume (AC - FT)	3.9
Direct Runoff Volume (AC - FT)	3.9
Baseflow Volume (AC - FT)	0



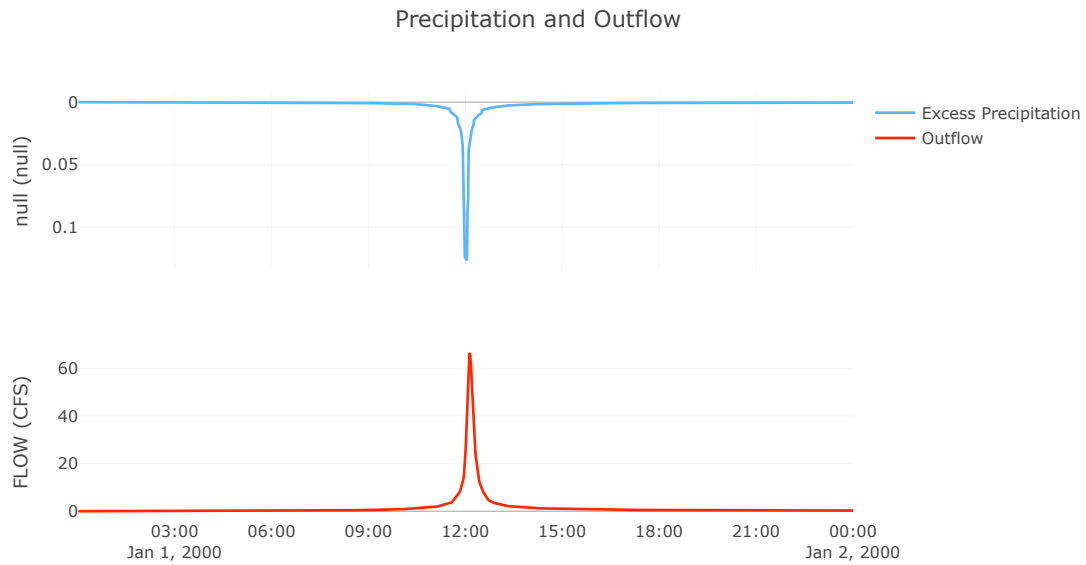
Subbasin: B3

Area (MI2) : 0.02
Downstream : B3 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: B3	
Peak Discharge (CFS)	66.37
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.36
Loss Volume (AC - FT)	0.45
Excess Volume (AC - FT)	2.91
Direct Runoff Volume (AC - FT)	2.91
Baseflow Volume (AC - FT)	0



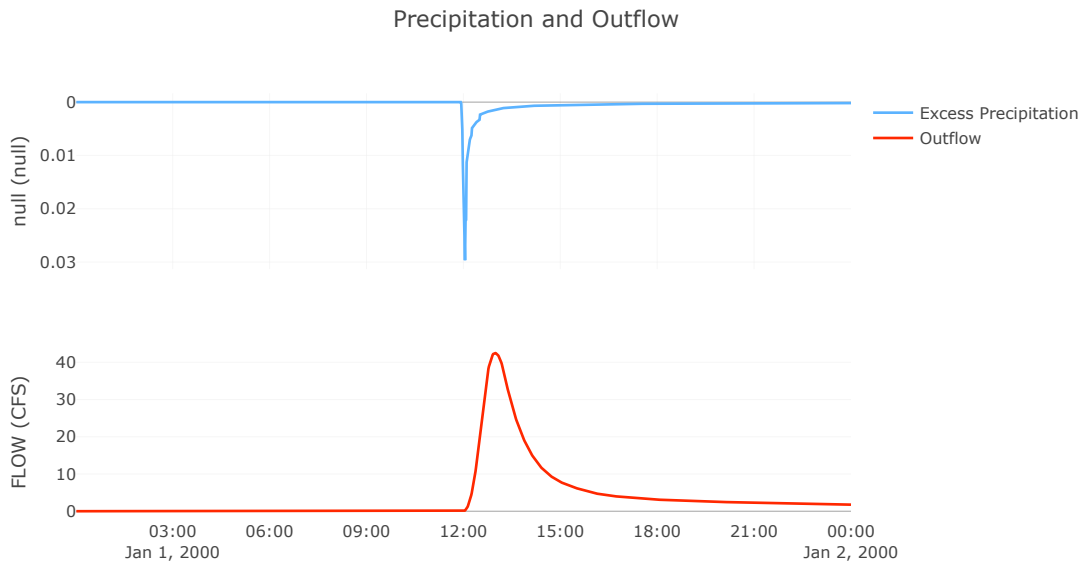
Subbasin: COS

Area (MI2) : 0.24
Downstream : Ditch B1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	46.8
Unitgraph Type	Standard

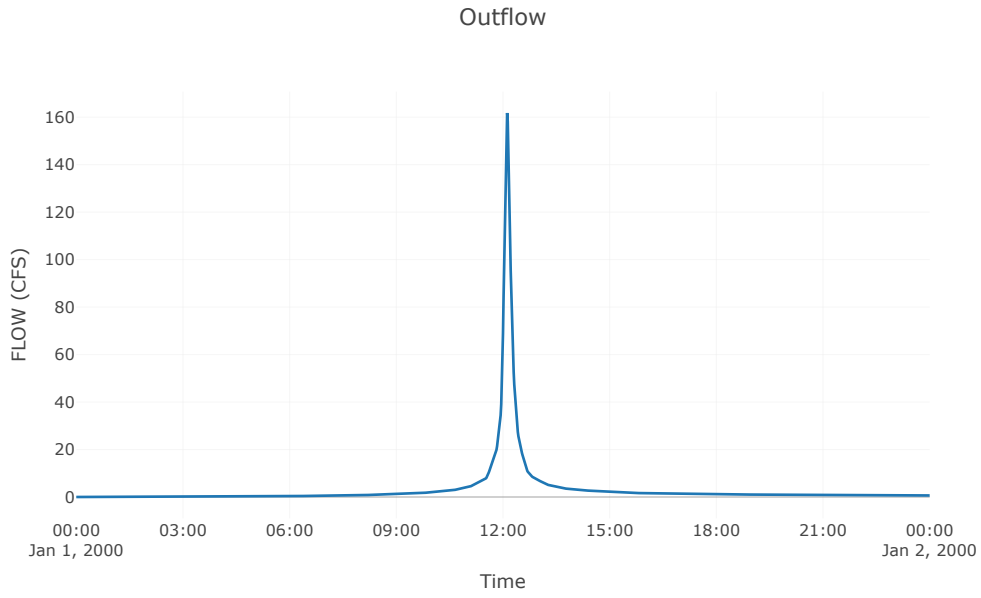
Results: COS	
Peak Discharge (CFS)	42.48
Time of Peak Discharge	01Jan2000, 12:58
Volume (IN)	0.59
Precipitation Volume (AC - FT)	42.52
Loss Volume (AC - FT)	34.99
Excess Volume (AC - FT)	7.54
Direct Runoff Volume (AC - FT)	7.39
Baseflow Volume (AC - FT)	0



Junction: B3 Junction

Downstream : Ditch B1

Results: B3 Junction	
Peak Discharge (CFS)	161.75
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91

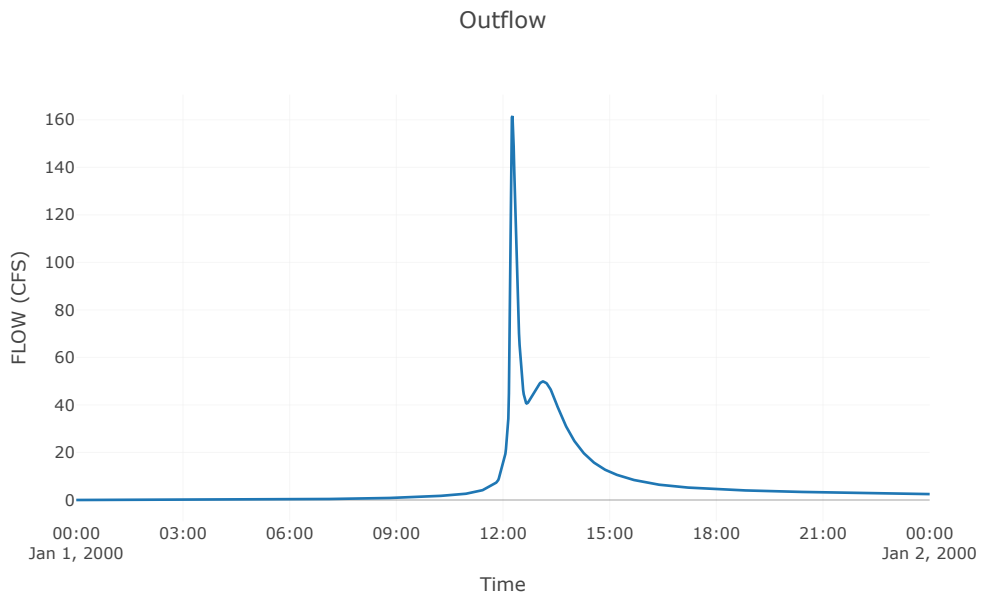


Reach: Ditch B1

Downstream : Ditch B2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2769
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B1	
Peak Discharge (CFS)	161.62
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	0.94
Peak Inflow (CFS)	162.86
Inflow Volume (AC - FT)	14.2



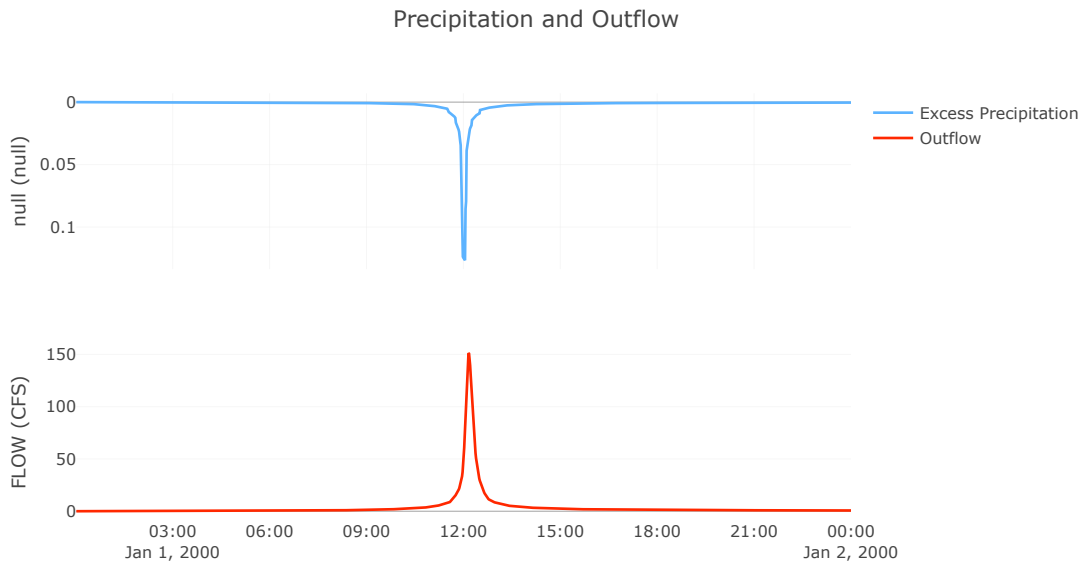
Subbasin: B5

Area (MI2) : 0.05
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: B5	
Peak Discharge (CFS)	151.27
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91
Precipitation Volume (AC - FT)	8.52
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	7.37
Direct Runoff Volume (AC - FT)	7.36
Baseflow Volume (AC - FT)	0



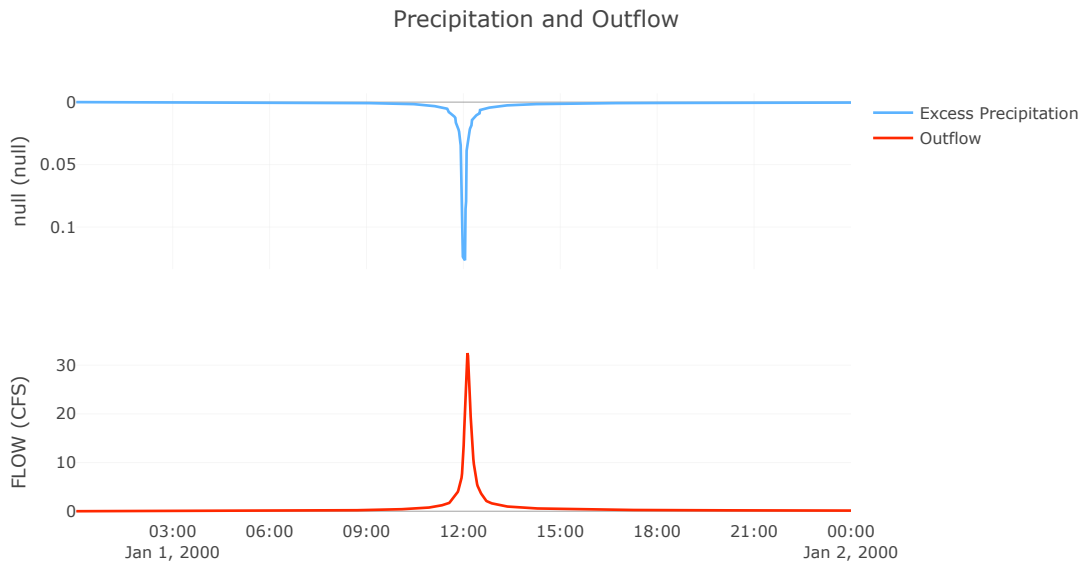
Subbasin: B2

Area (MI2) : 0.01
Downstream : B2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

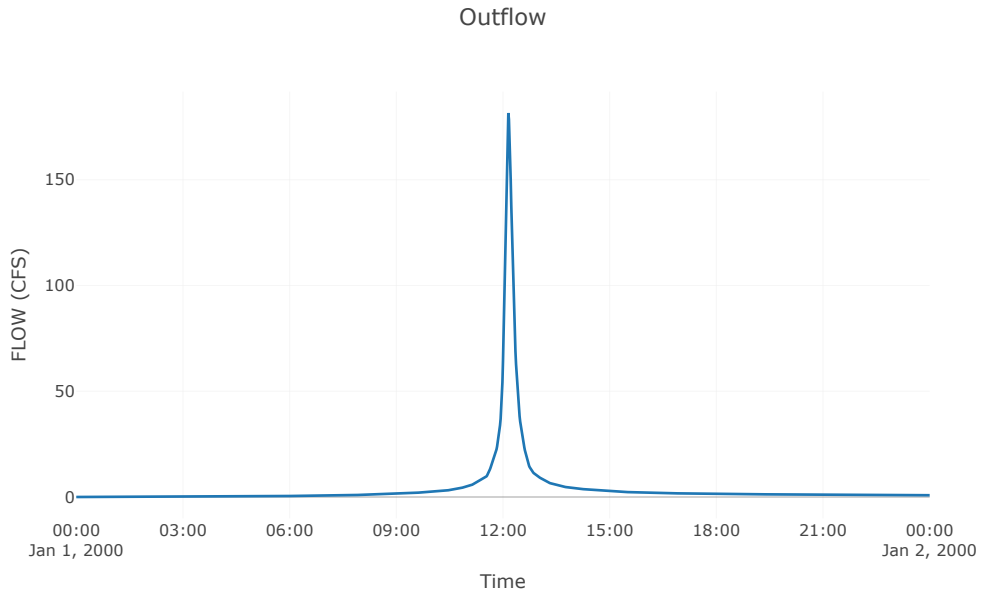
Results: B2	
Peak Discharge (CFS)	32.49
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.58
Loss Volume (AC - FT)	0.21
Excess Volume (AC - FT)	1.37
Direct Runoff Volume (AC - FT)	1.37
Baseflow Volume (AC - FT)	0



Junction: B2 Junction

Downstream : Ditch B2

Results: B2 Junction	
Peak Discharge (CFS)	181.57
Time of Peak Discharge	01Jan2000, 12:09
Volume (IN)	2.91



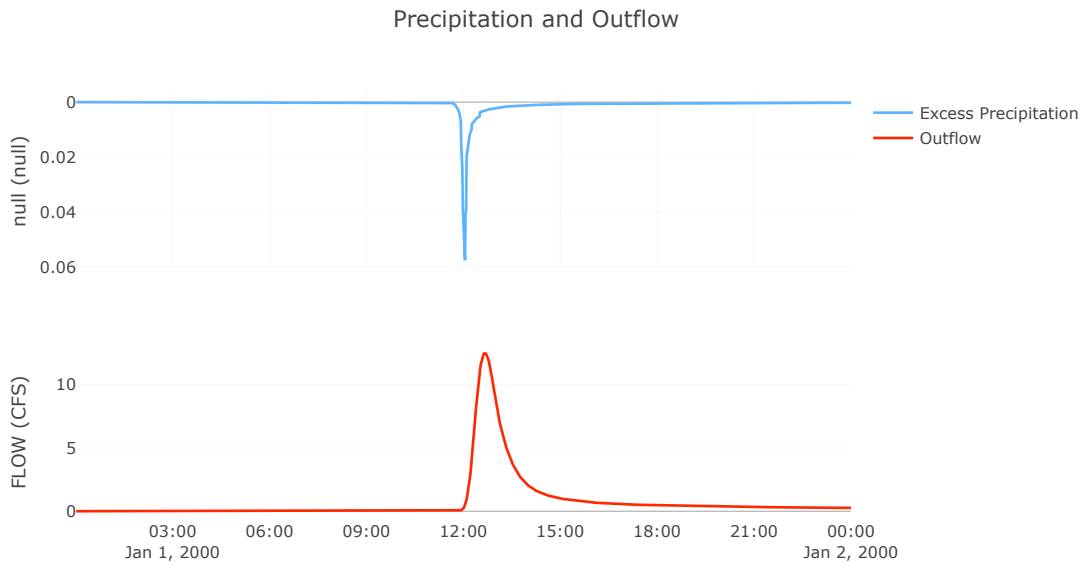
Subbasin: B7

Area (MI2) : 0.03
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73

Transform: Scs	
Lag	33.6
Unitgraph Type	Standard

Results: B7	
Peak Discharge (CFS)	12.51
Time of Peak Discharge	01Jan2000, 12:39
Volume (IN)	1.08
Precipitation Volume (AC - FT)	4.57
Loss Volume (AC - FT)	3.08
Excess Volume (AC - FT)	1.48
Direct Runoff Volume (AC - FT)	1.47
Baseflow Volume (AC - FT)	0



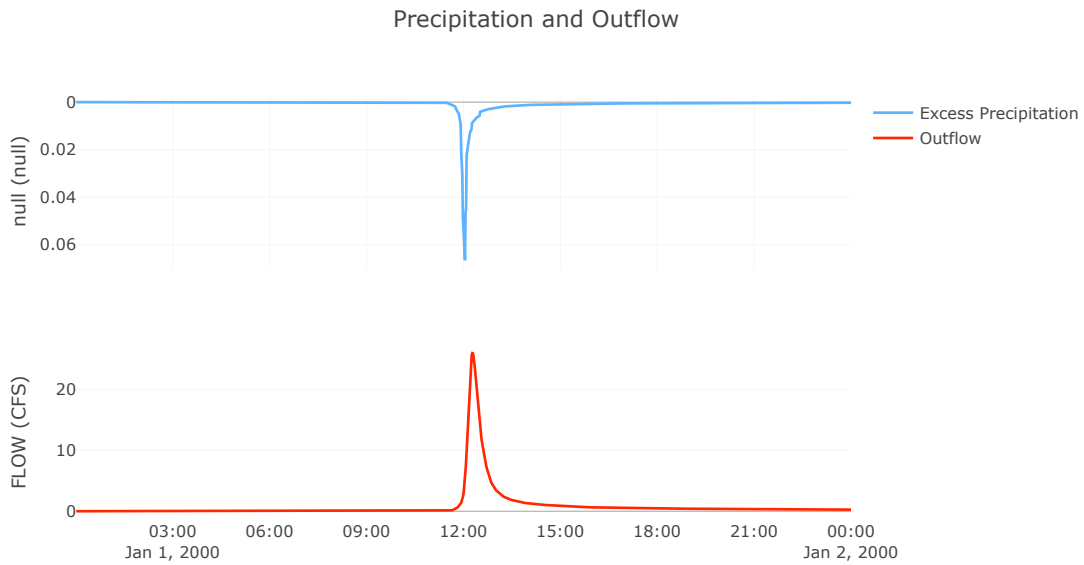
Subbasin: B8

Area (MI2) : 0.02
Downstream : Ditch B2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	13.8
Unitgraph Type	Standard

Results: B8	
Peak Discharge (CFS)	25.96
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	1.27
Precipitation Volume (AC - FT)	4.31
Loss Volume (AC - FT)	2.69
Excess Volume (AC - FT)	1.63
Direct Runoff Volume (AC - FT)	1.62
Baseflow Volume (AC - FT)	0

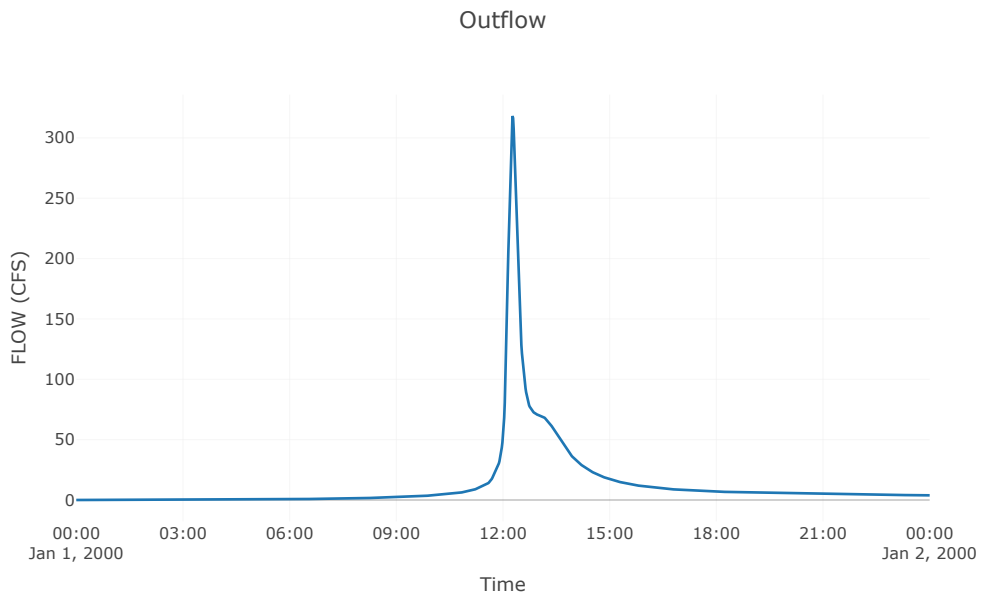


Reach: Ditch B2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1596
Energy Slope (FT/FT)	0.03
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch B2	
Peak Discharge (CFS)	318.12
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	1.25
Peak Inflow (CFS)	319.25
Inflow Volume (AC - FT)	25.89



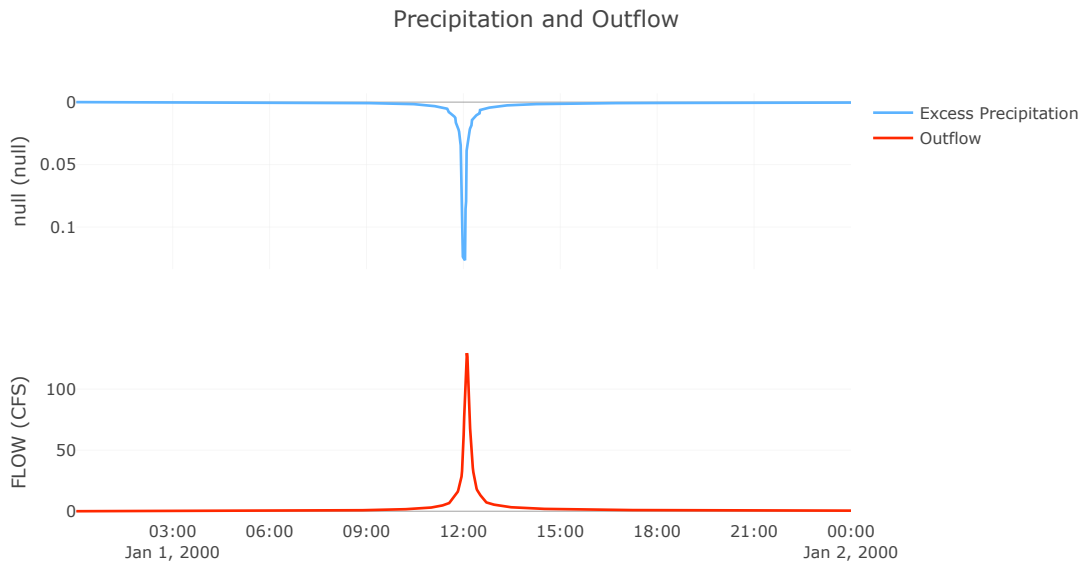
Subbasin: C2

Area (MI2) : 0.03
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

Results: C2	
Peak Discharge (CFS)	129.52
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	5.84
Loss Volume (AC - FT)	0.79
Excess Volume (AC - FT)	5.06
Direct Runoff Volume (AC - FT)	5.05
Baseflow Volume (AC - FT)	0



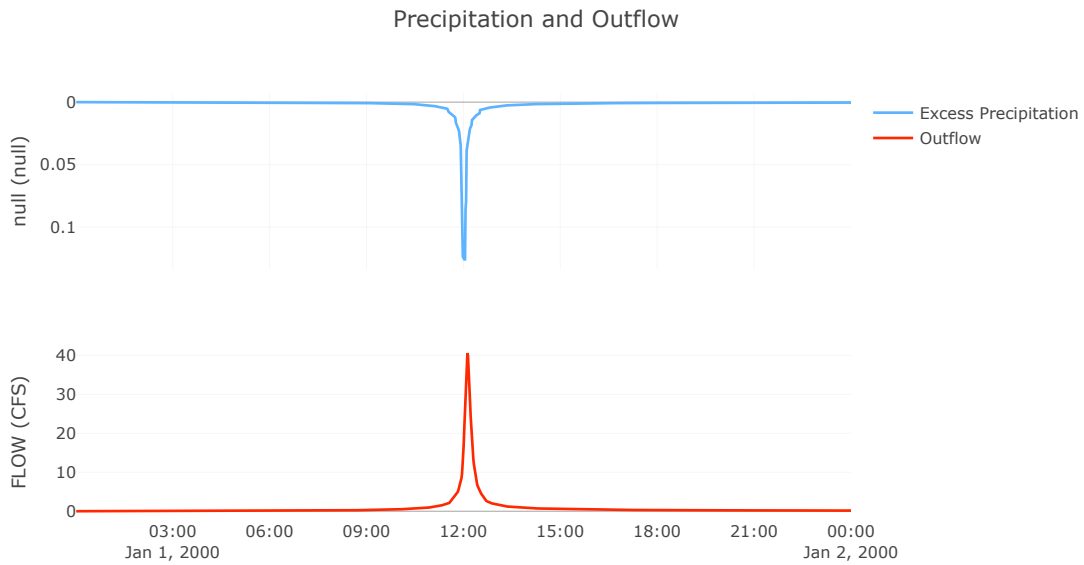
Subbasin: C1

Area (MI2) : 0.01
Downstream : C1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

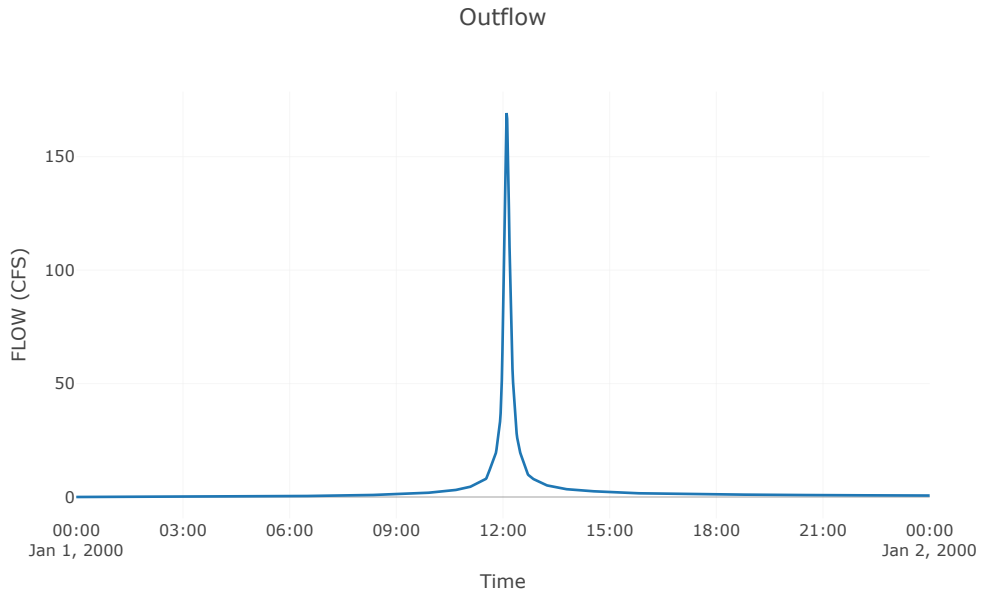
Results: C1	
Peak Discharge (CFS)	40.61
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	1.98
Loss Volume (AC - FT)	0.27
Excess Volume (AC - FT)	1.71
Direct Runoff Volume (AC - FT)	1.71
Baseflow Volume (AC - FT)	0



Junction: C1 Junction

Downstream : Ditch C1

Results: C1 Junction	
Peak Discharge (CFS)	169.25
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91

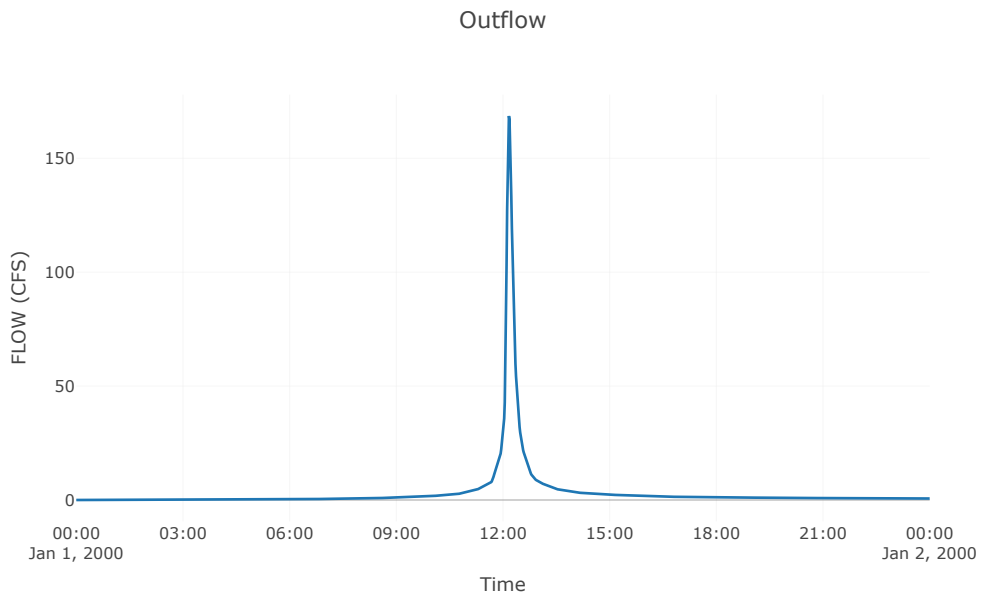


Reach: Ditch C1

Downstream : Culvert C2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2080
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

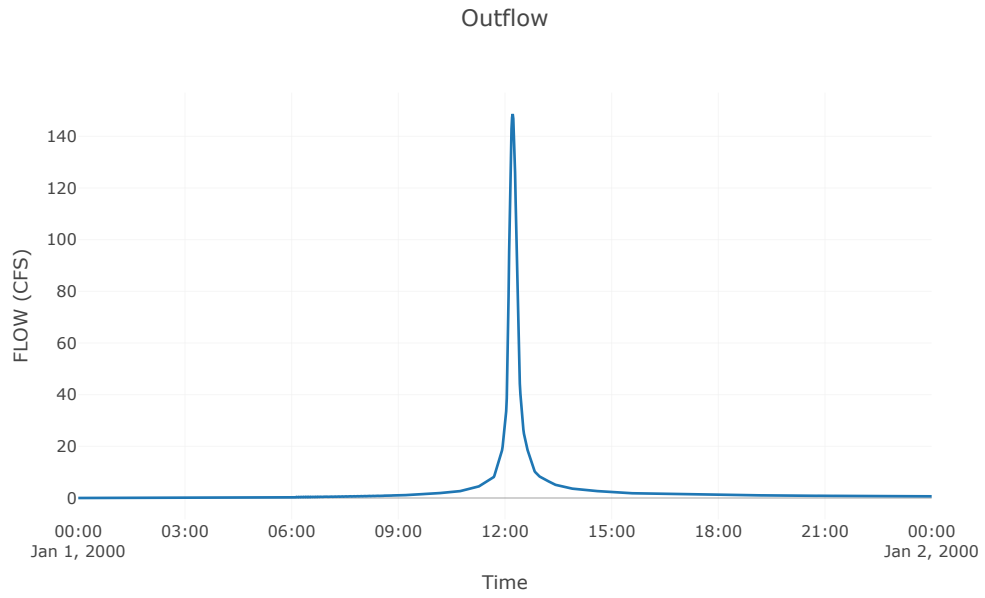
Results: Ditch C1	
Peak Discharge (CFS)	168.55
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	2.9
Peak Inflow (CFS)	169.25
Inflow Volume (AC - FT)	6.76



Reservoir: Culvert C2

Downstream : Ditch C2

Results: Culvert C2	
Peak Discharge (CFS)	148.65
Time of Peak Discharge	01Jan2000, 12:13
Volume (IN)	2.9
Peak Inflow (CFS)	168.55
Time of Peak Inflow	01Jan2000, 12:10
Inflow Volume (AC - FT)	6.73
Maximum Storage (AC - FT)	0.4
Peak Elevation (FT)	3945.14
Discharge Volume (AC - FT)	6.72



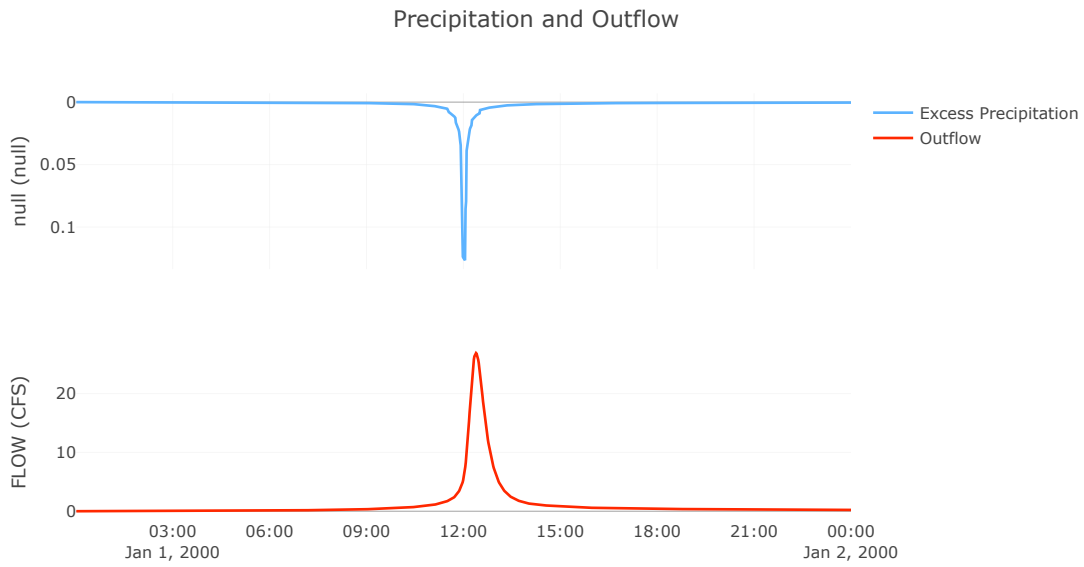
Subbasin: C3

Area (MI2) : 0.01
Downstream : Ditch C2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	21.6
Unitgraph Type	Standard

Results: C3	
Peak Discharge (CFS)	26.89
Time of Peak Discharge	01Jan2000, 12:23
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.62
Loss Volume (AC - FT)	0.35
Excess Volume (AC - FT)	2.27
Direct Runoff Volume (AC - FT)	2.26
Baseflow Volume (AC - FT)	0

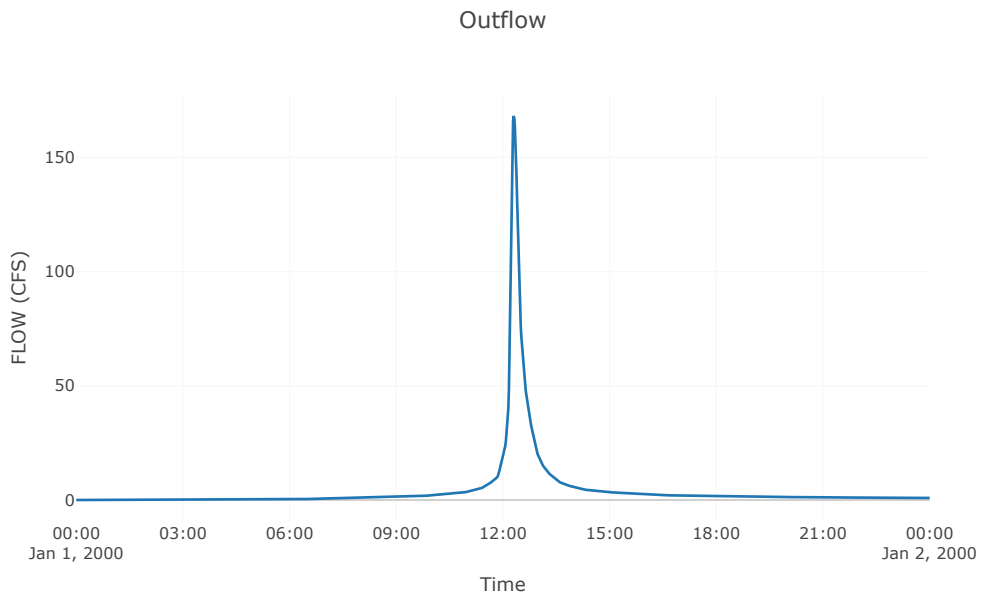


Reach: Ditch C2

Downstream : Basin BC

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2335
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

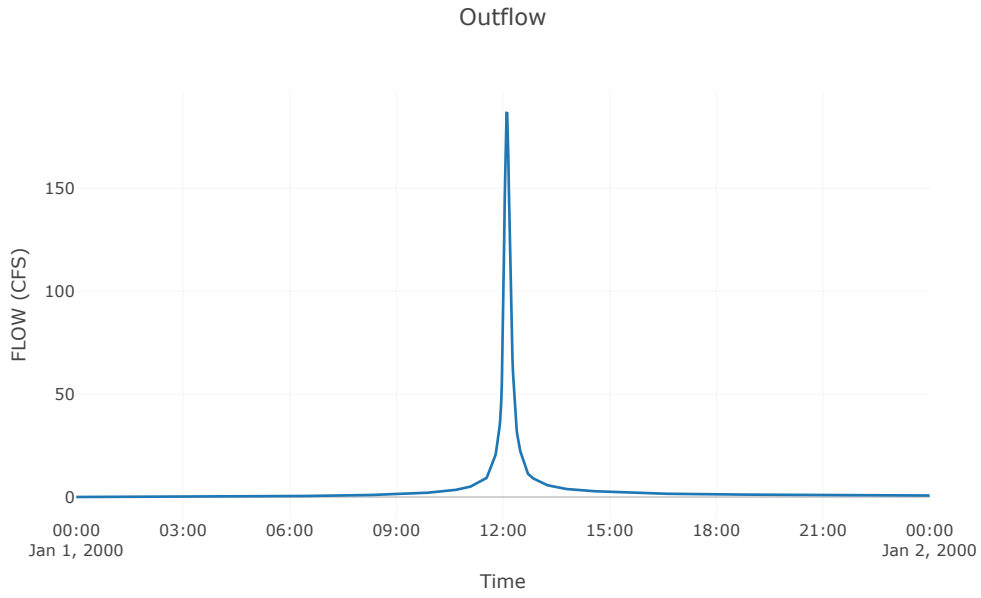
Results: Ditch C2	
Peak Discharge (CFS)	168.15
Time of Peak Discharge	01Jan2000, 12:18
Volume (IN)	2.89
Peak Inflow (CFS)	168.23
Inflow Volume (AC - FT)	8.98



Junction: B1 Junction

Downstream : Basin BC

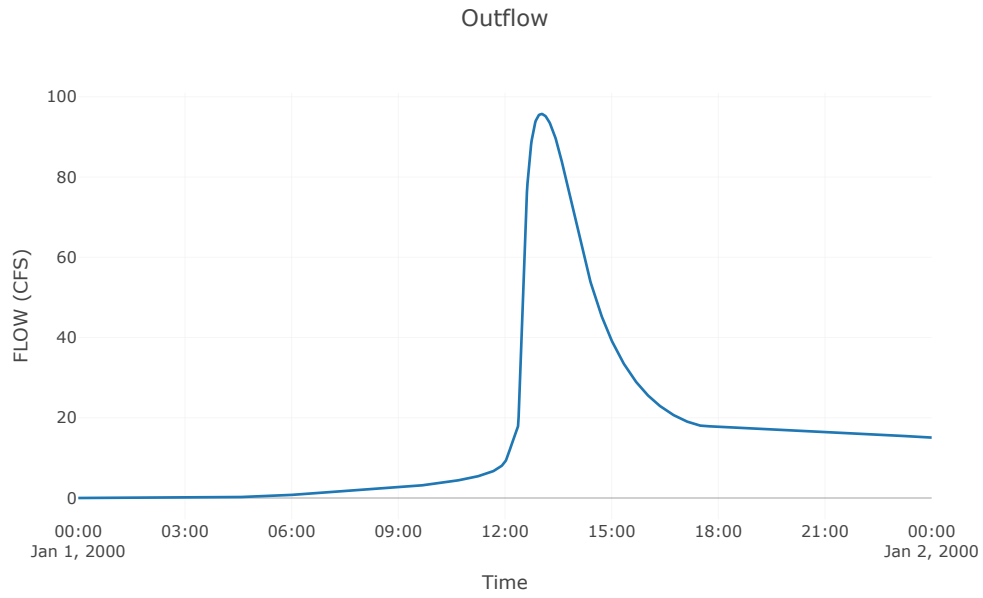
Results: B1 Junction	
Peak Discharge (CFS)	186.56
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91



Reservoir: Basin BC

Downstream : Outfall BC

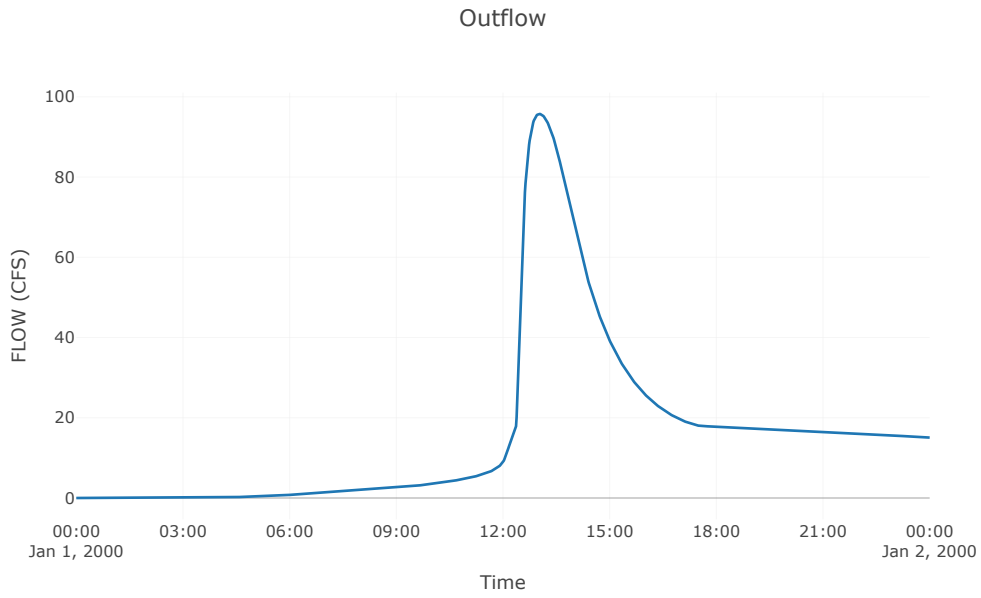
Results: Basin BC	
Peak Discharge (CFS)	95.71
Time of Peak Discharge	01Jan2000, 13:02
Volume (IN)	1.19
Peak Inflow (CFS)	545.27
Time of Peak Inflow	01Jan2000, 12:16
Inflow Volume (AC - FT)	42.38
Maximum Storage (AC - FT)	24.54
Peak Elevation (FT)	3905.39
Discharge Volume (AC - FT)	31.35



Sink: Outfall BC

Results: Outfall BC

Peak Discharge (CFS)	95.71
Time of Peak Discharge	01Jan2000, 13:02
Volume (IN)	1.19



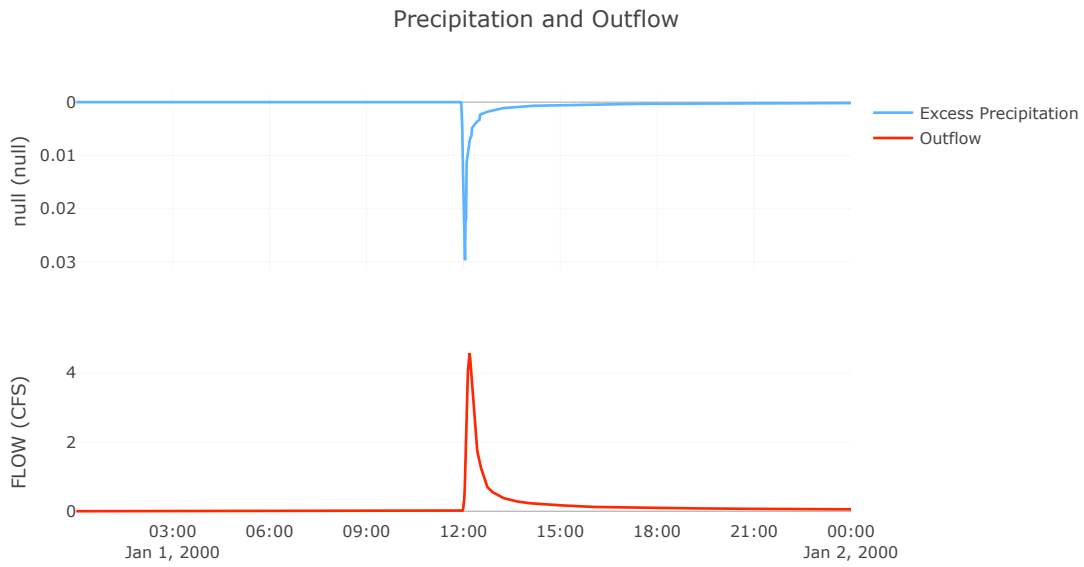
Subbasin: A1

Area (MI2) : 0.01
Downstream : Outfall A

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	63

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: A1	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6
Precipitation Volume (AC - FT)	1.4
Loss Volume (AC - FT)	1.15
Excess Volume (AC - FT)	0.25
Direct Runoff Volume (AC - FT)	0.25
Baseflow Volume (AC - FT)	0



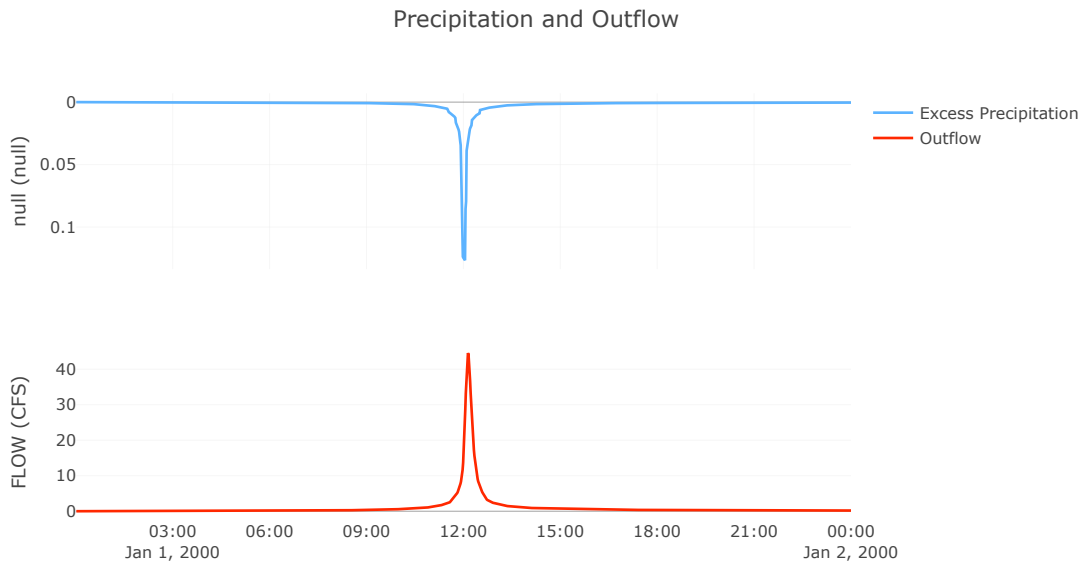
Subbasin: D4

Area (MI2) : 0.01
Downstream : D4 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D4	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0



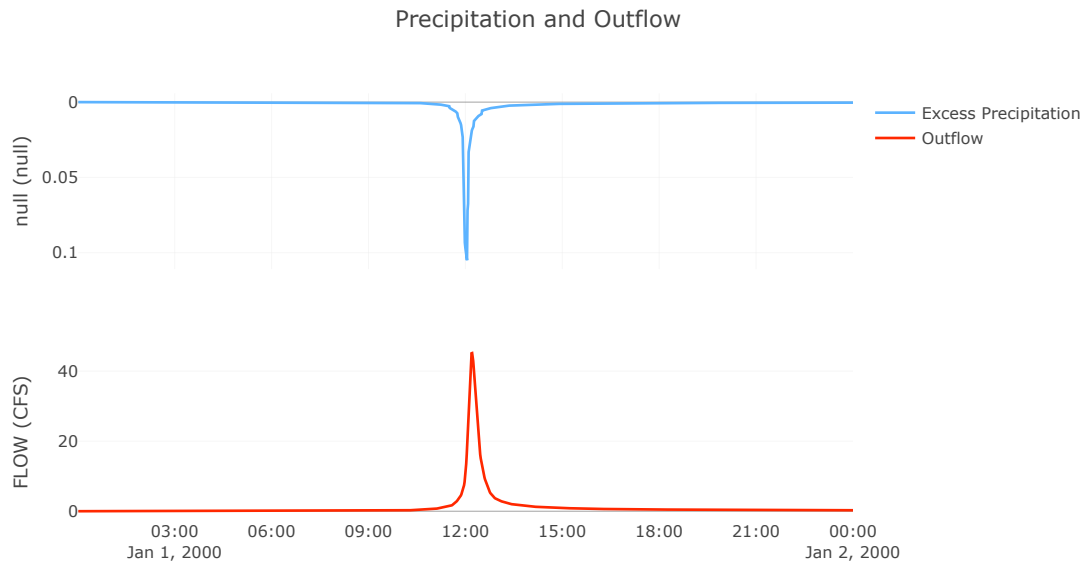
Subbasin: D6

Area (MI2) : 0.02
Downstream : Ditch D1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	88

Transform: Scs	
Lag	10.2
Unitgraph Type	Standard

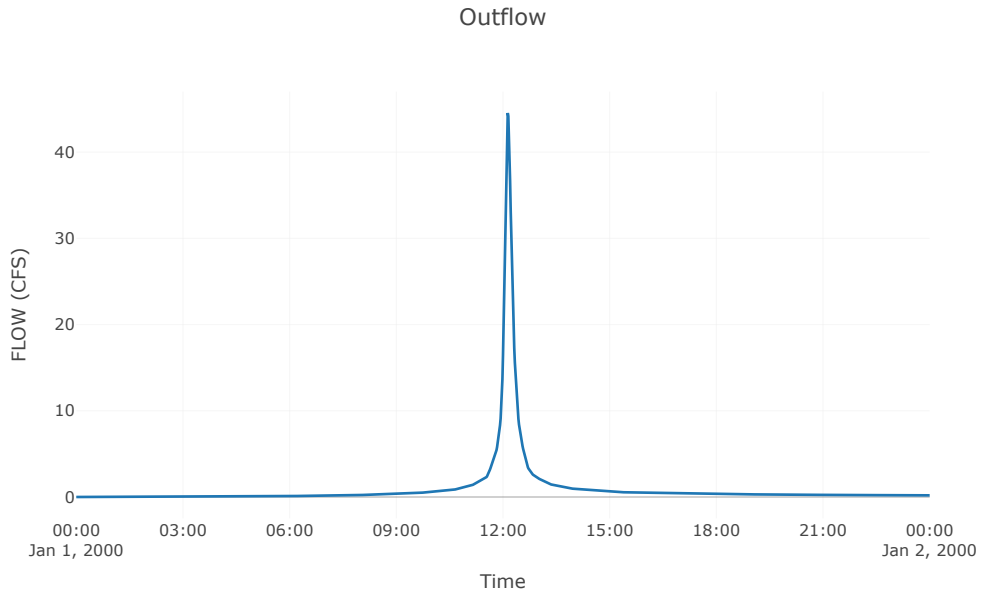
Results: D6	
Peak Discharge (CFS)	45.14
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.15
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.3
Excess Volume (AC - FT)	2.29
Direct Runoff Volume (AC - FT)	2.29
Baseflow Volume (AC - FT)	0



Junction: D4 Junction

Downstream : Ditch D1

Results: D4 Junction	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91

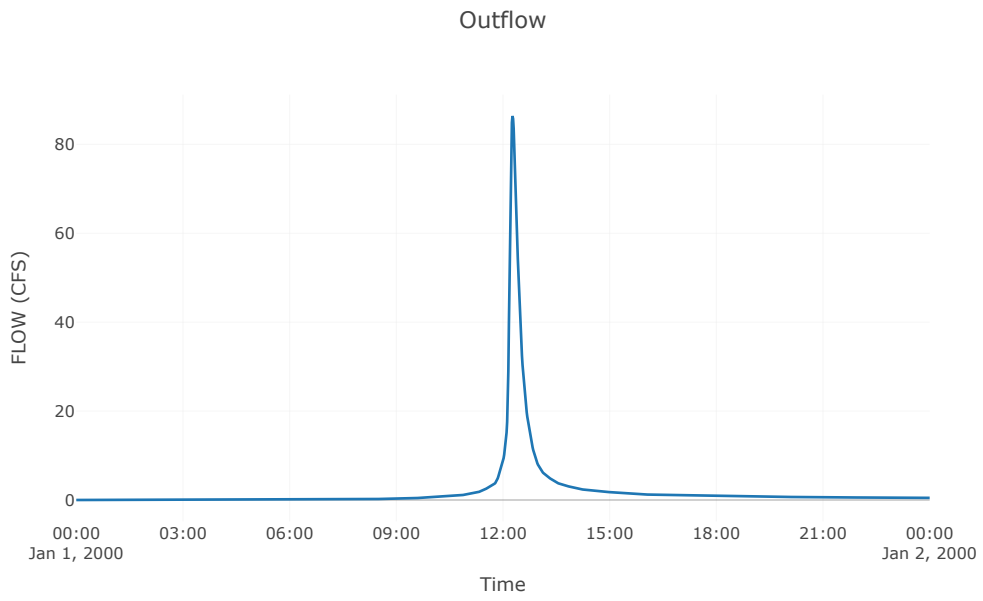


Reach: Ditch D1

Downstream : D1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	1300
Energy Slope (FT/FT)	0
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D1	
Peak Discharge (CFS)	86.38
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.43
Peak Inflow (CFS)	86.54
Inflow Volume (AC - FT)	4.31



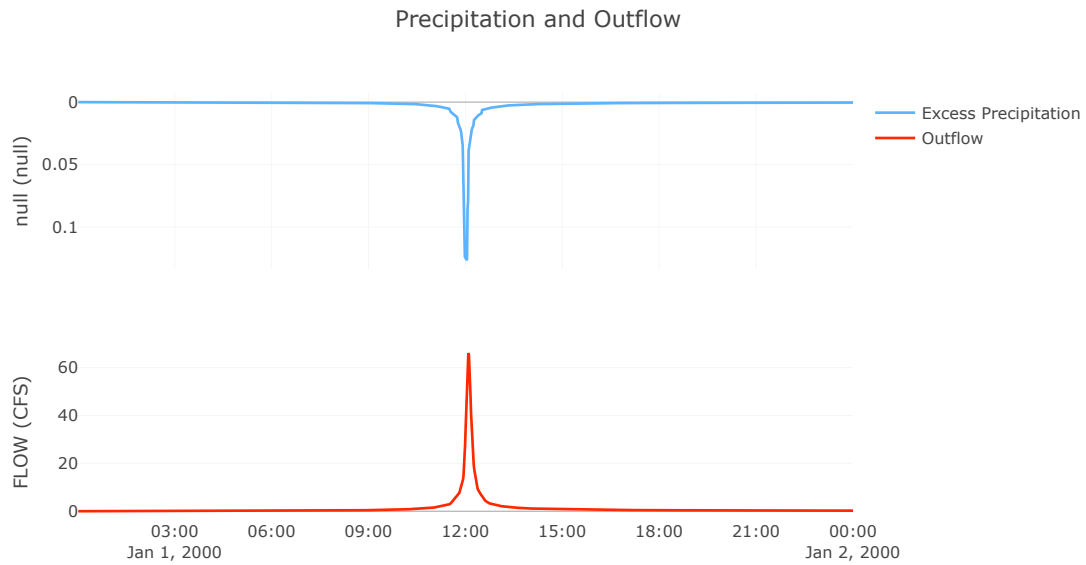
Subbasin: D1

Area (MI2) : 0.02
Downstream : D1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.2
Unitgraph Type	Standard

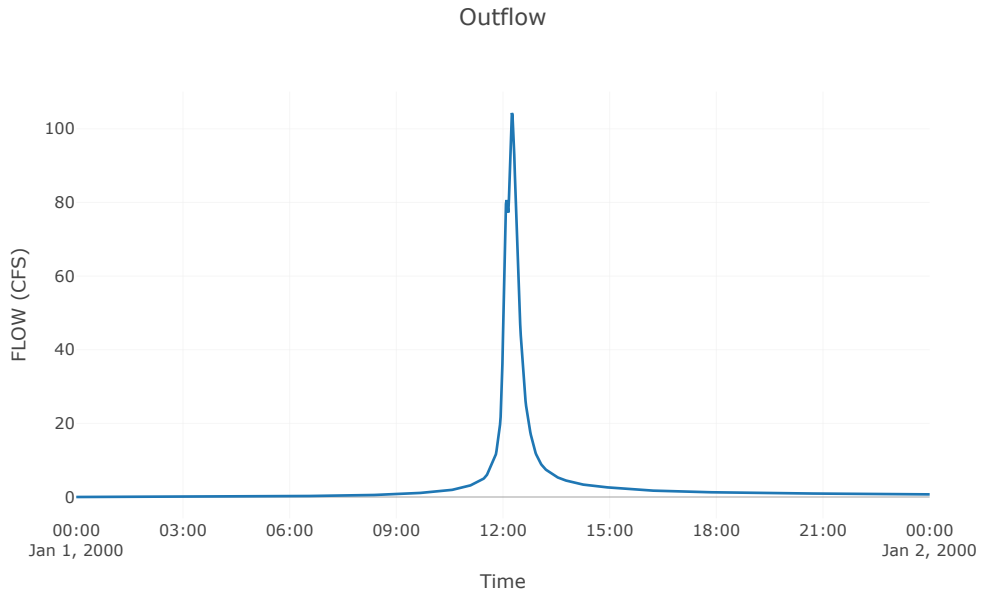
Results: D1	
Peak Discharge (CFS)	66.08
Time of Peak Discharge	01Jan2000, 12:05
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0



Junction: D1 Junction

Downstream : Ditch D2

Results: D1 Junction	
Peak Discharge (CFS)	104.3
Time of Peak Discharge	01Jan2000, 12:15
Volume (IN)	2.59



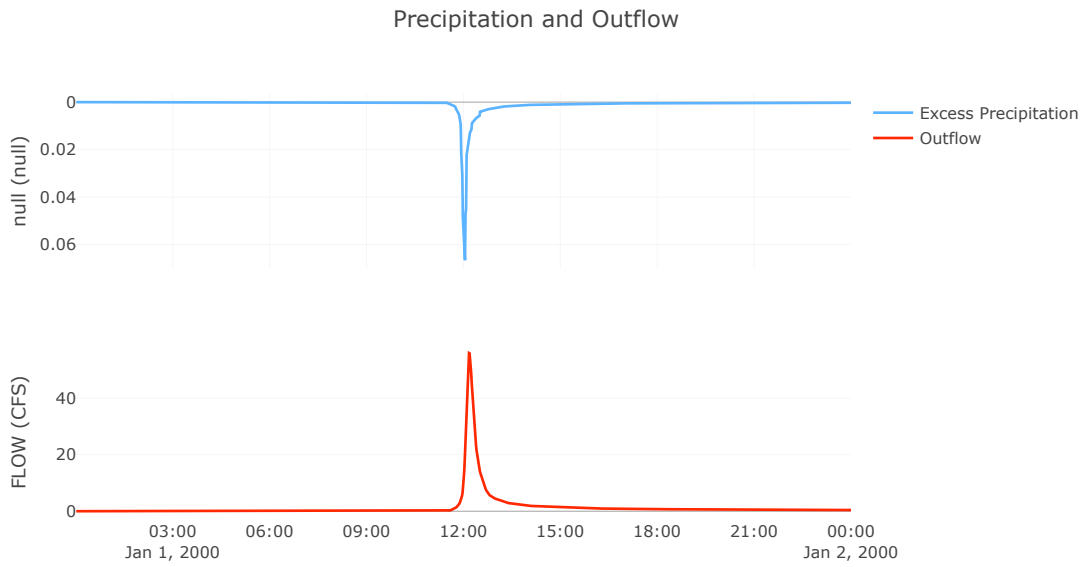
Subbasin: D5

Area (MI2) : 0.04
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	76

Transform: Scs	
Lag	8.4
Unitgraph Type	Standard

Results: D5	
Peak Discharge (CFS)	56
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	1.27
Precipitation Volume (AC - FT)	7.01
Loss Volume (AC - FT)	4.36
Excess Volume (AC - FT)	2.65
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



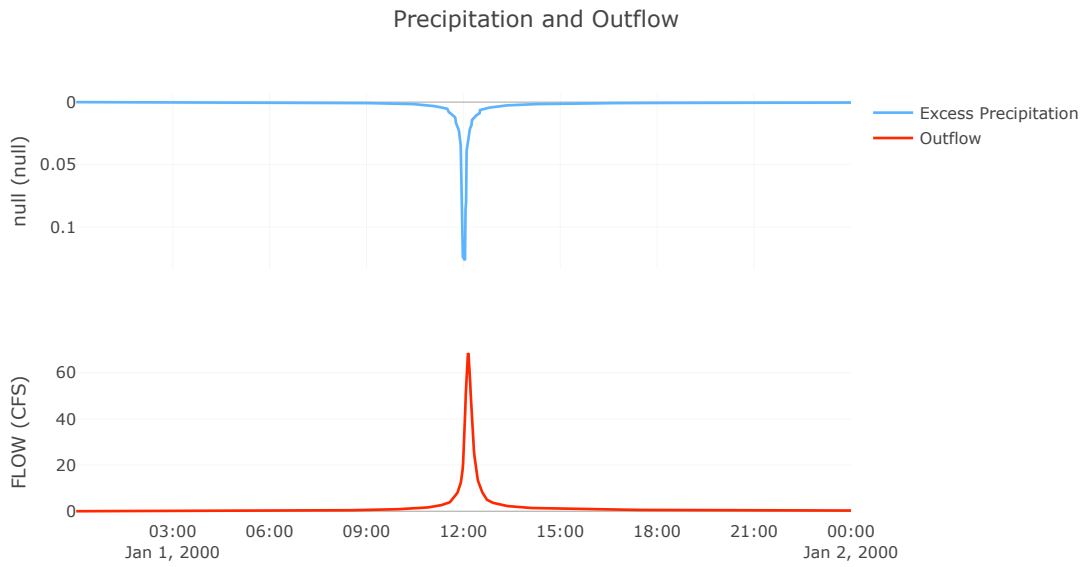
Subbasin: D3

Area (MI2) : 0.02
Downstream : Ditch D2

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

Results: D3	
Peak Discharge (CFS)	68.52
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0

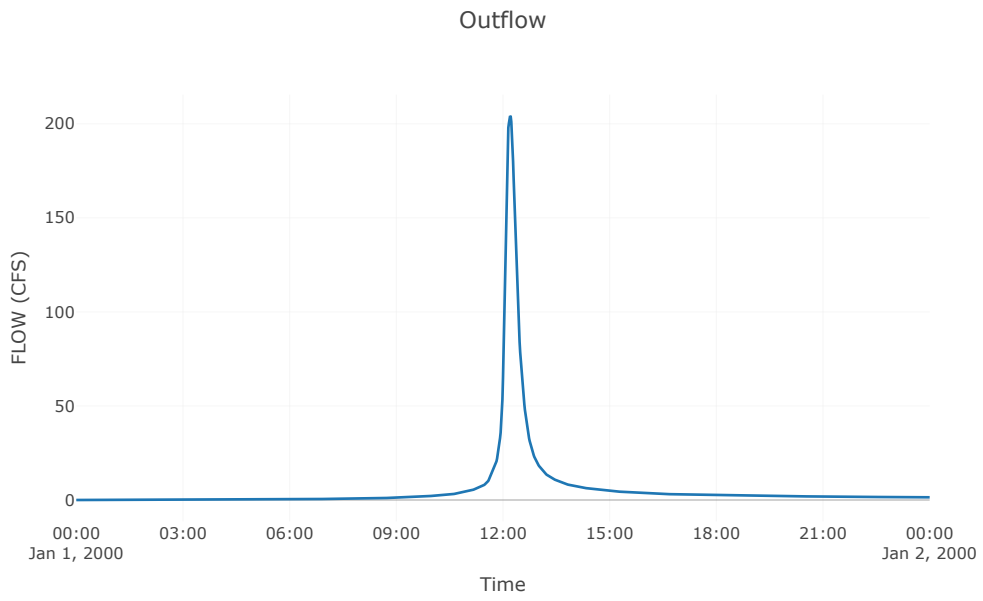


Reach: Ditch D2

Downstream : Junction - 2

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

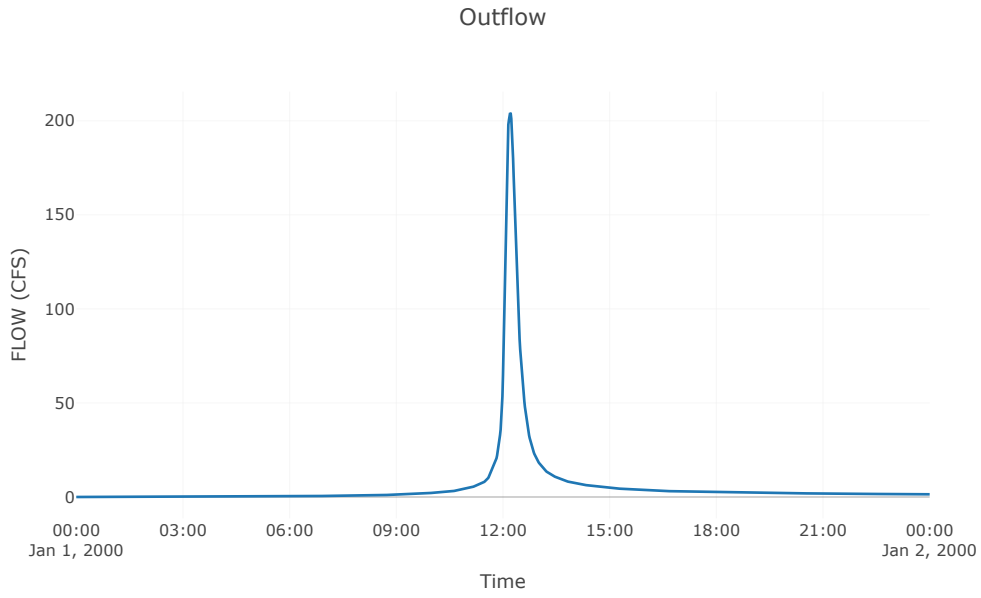
Results: Ditch D2	
Peak Discharge (CFS)	204.15
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.17
Peak Inflow (CFS)	204.3
Inflow Volume (AC - FT)	12.52



Junction: Junction-2

Downstream : Ditch D3

Results: Junction-2	
Peak Discharge (CFS)	204.15
Time of Peak Discharge	01Jan2000, 12:12
Volume (IN)	2.17



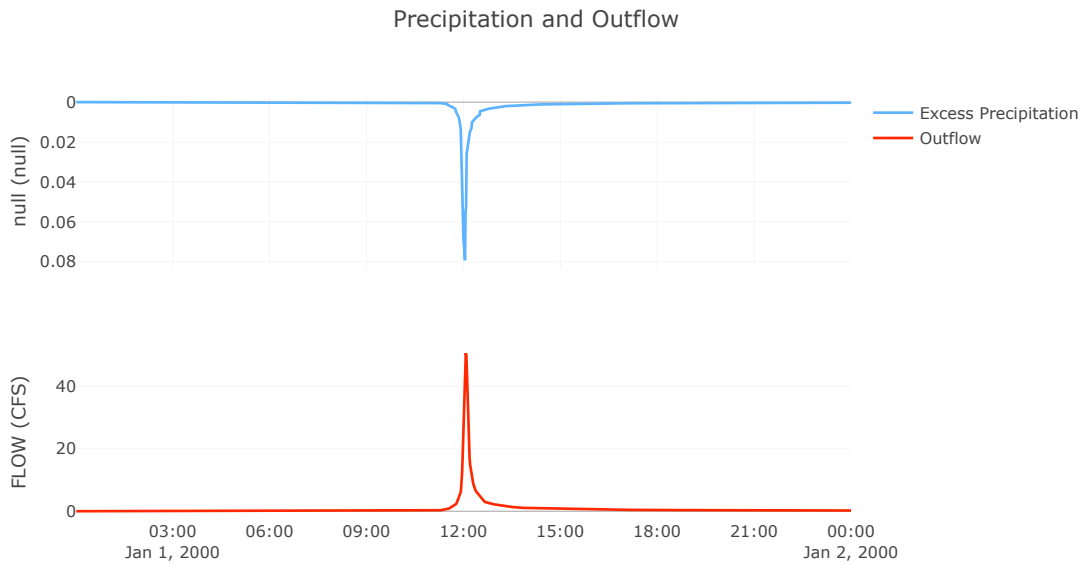
Subbasin: E6

Area (MI2) : 0.02
Downstream : Ditch D3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	2.4
Unitgraph Type	Standard

Results: E6	
Peak Discharge (CFS)	50.61
Time of Peak Discharge	01Jan2000, 12:04
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.41
Loss Volume (AC - FT)	1.86
Excess Volume (AC - FT)	1.55
Direct Runoff Volume (AC - FT)	1.55
Baseflow Volume (AC - FT)	0

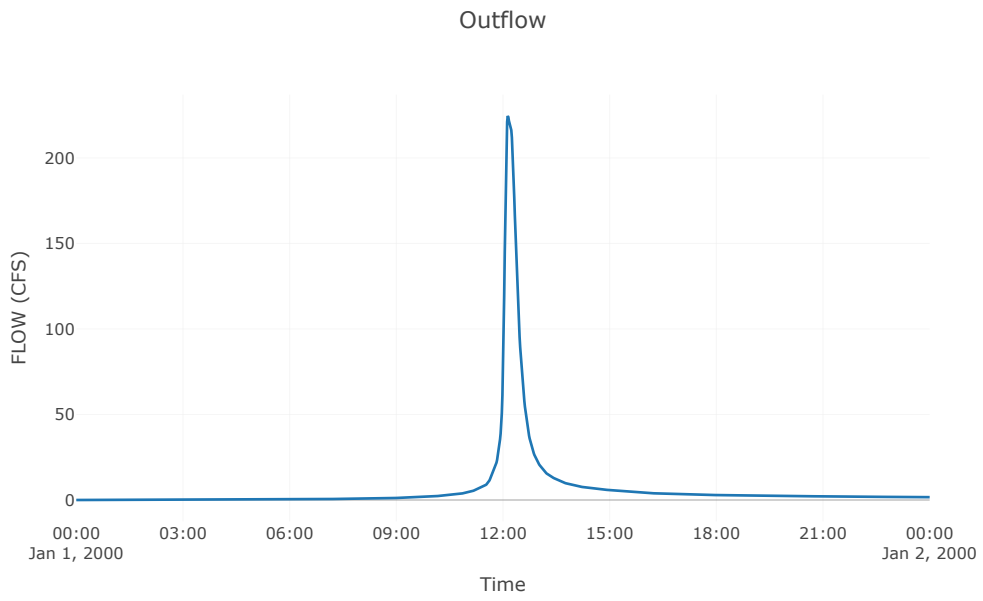


Reach: Ditch D3

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	400
Energy Slope (FT/FT)	0.02
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch D3	
Peak Discharge (CFS)	224.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.07
Peak Inflow (CFS)	224.56
Inflow Volume (AC - FT)	14.06



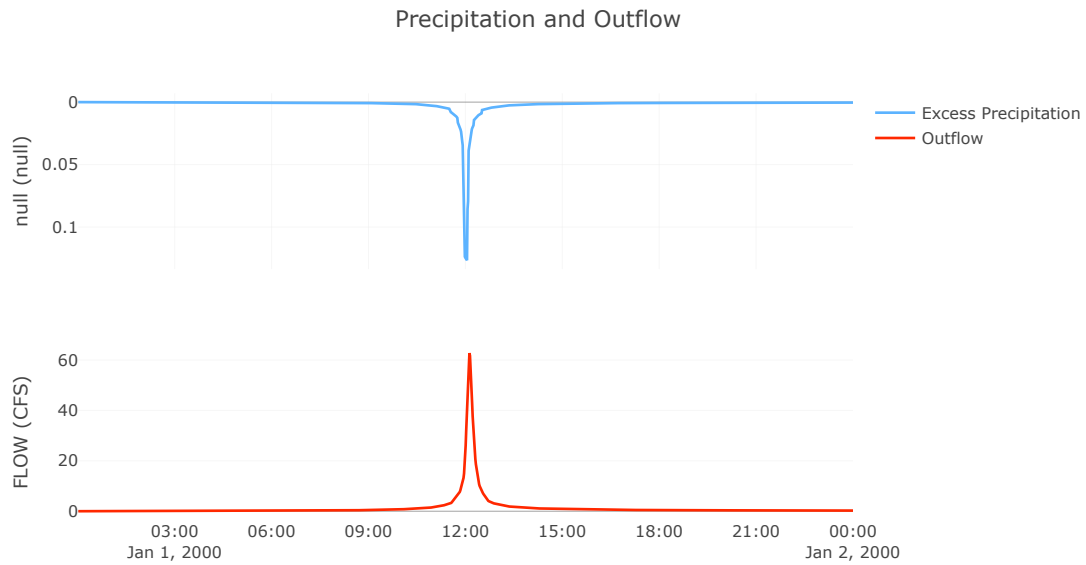
Subbasin: E2

Area (MI2) : 0.02
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6
Unitgraph Type	Standard

Results: E2	
Peak Discharge (CFS)	62.76
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.06
Loss Volume (AC - FT)	0.41
Excess Volume (AC - FT)	2.64
Direct Runoff Volume (AC - FT)	2.64
Baseflow Volume (AC - FT)	0



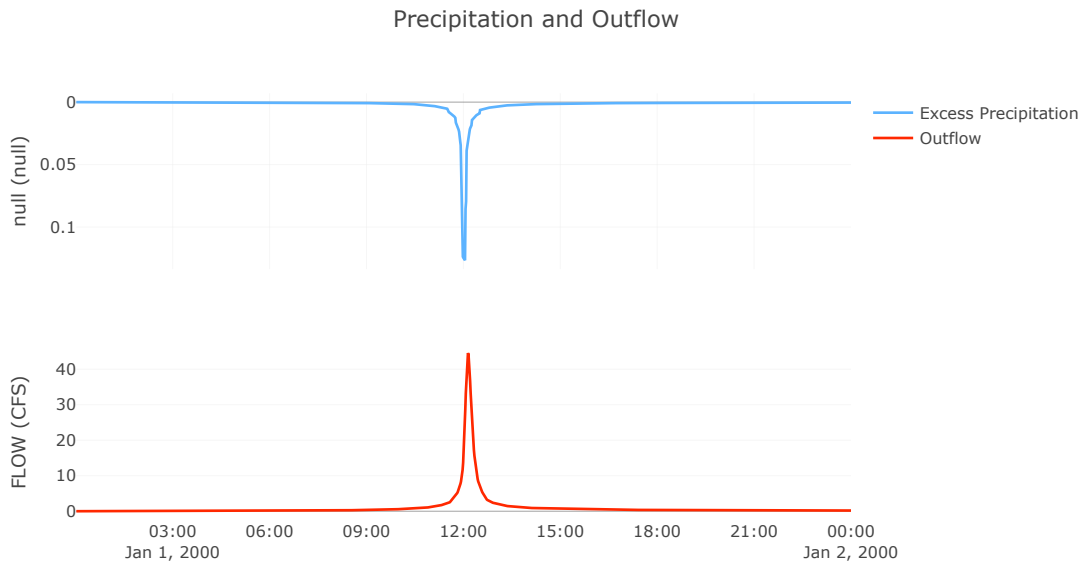
Subbasin: E5

Area (MI2) : 0.01
Downstream : E2 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	7.2
Unitgraph Type	Standard

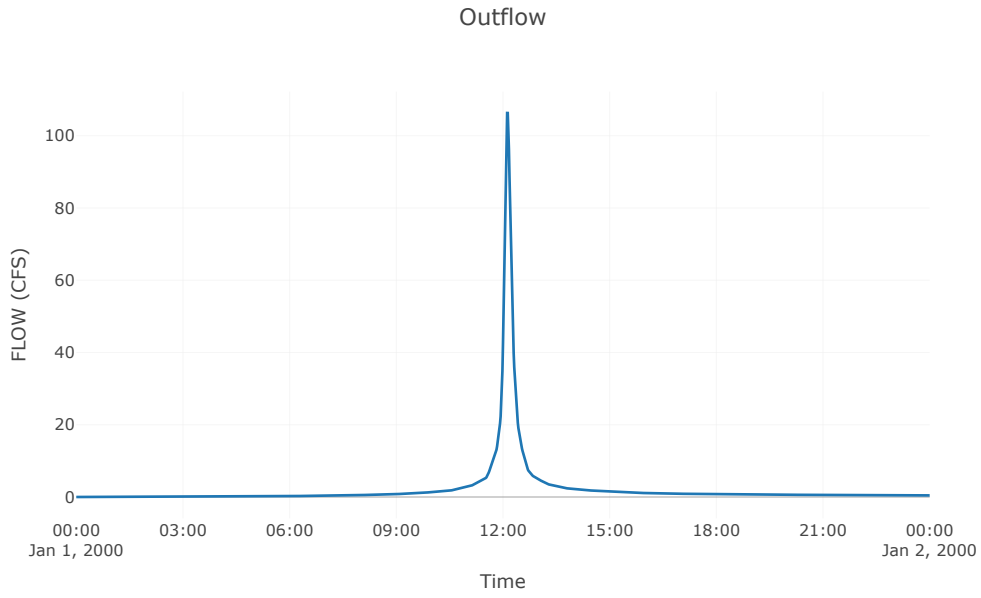
Results: E5	
Peak Discharge (CFS)	44.54
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.34
Loss Volume (AC - FT)	0.31
Excess Volume (AC - FT)	2.02
Direct Runoff Volume (AC - FT)	2.02
Baseflow Volume (AC - FT)	0



Junction: E2 Junction

Downstream : Ditch E1

Results: E2 Junction	
Peak Discharge (CFS)	106.29
Time of Peak Discharge	01Jan2000, 12:07
Volume (IN)	2.91



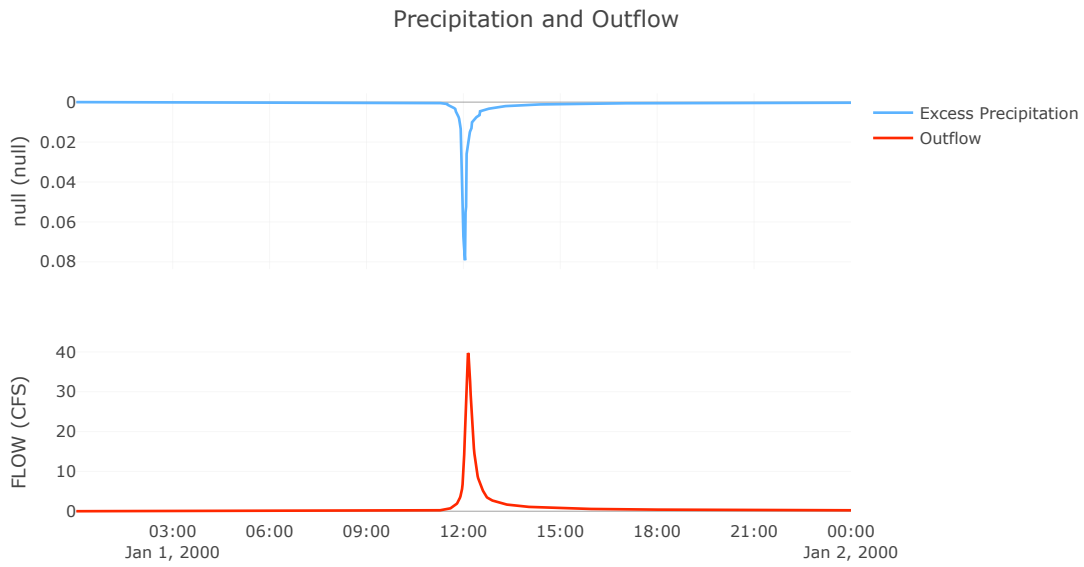
Subbasin: E4

Area (MI2) : 0.02
Downstream : Ditch E1

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	80

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E4	
Peak Discharge (CFS)	39.7
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	1.53
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	1.96
Excess Volume (AC - FT)	1.64
Direct Runoff Volume (AC - FT)	1.63
Baseflow Volume (AC - FT)	0

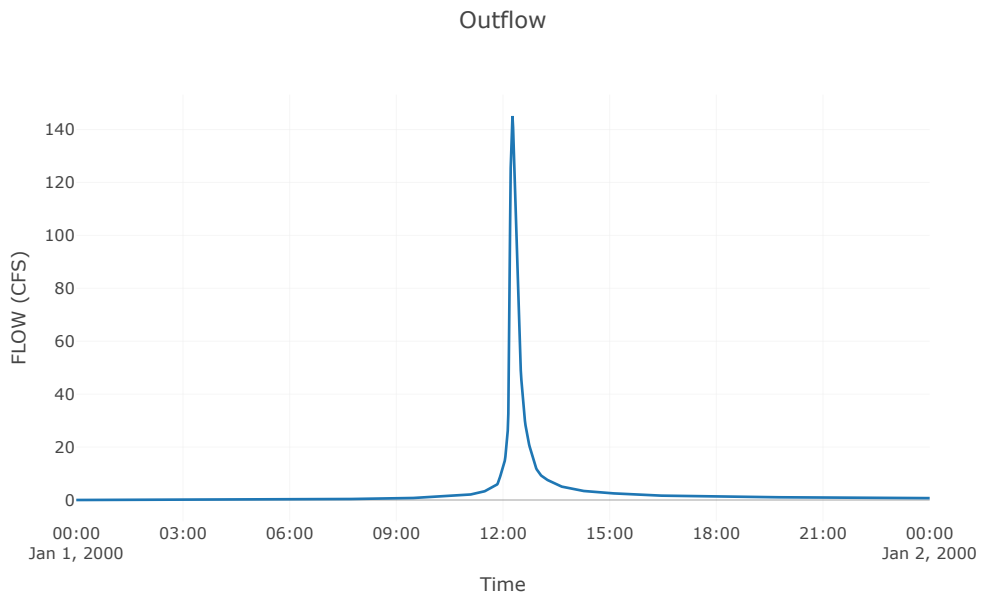


Reach: Ditch E1

Downstream : E1 Junction

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	2425
Energy Slope (FT/FT)	0.01
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

Results: Ditch E1	
Peak Discharge (CFS)	145.11
Time of Peak Discharge	01Jan2000, 12:16
Volume (IN)	2.34
Peak Inflow (CFS)	145.99
Inflow Volume (AC - FT)	6.3



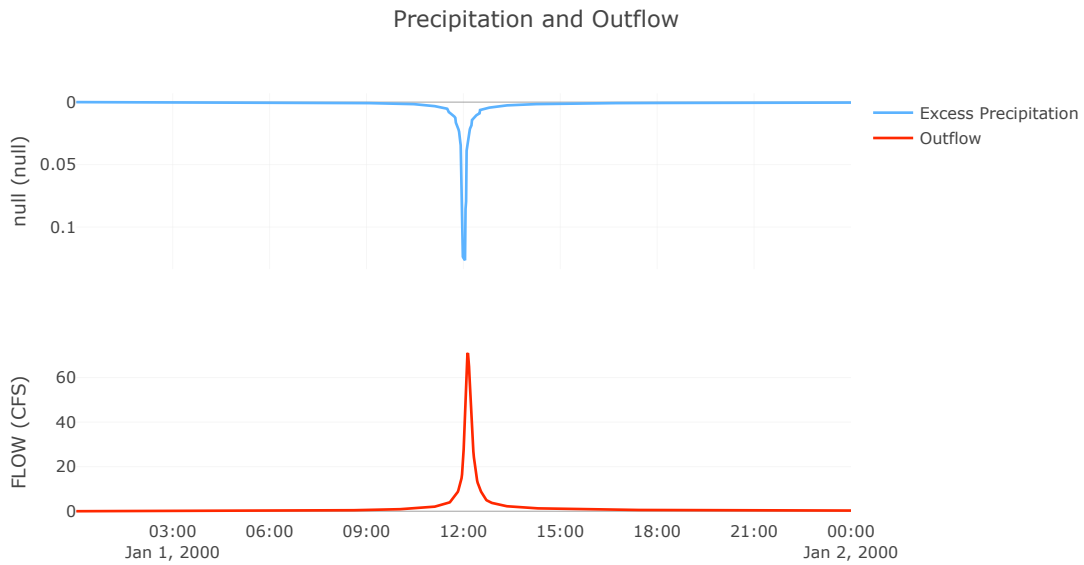
Subbasin: E3

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	6.6
Unitgraph Type	Standard

Results: E3	
Peak Discharge (CFS)	70.98
Time of Peak Discharge	01Jan2000, 12:08
Volume (IN)	2.91
Precipitation Volume (AC - FT)	3.59
Loss Volume (AC - FT)	0.48
Excess Volume (AC - FT)	3.11
Direct Runoff Volume (AC - FT)	3.11
Baseflow Volume (AC - FT)	0



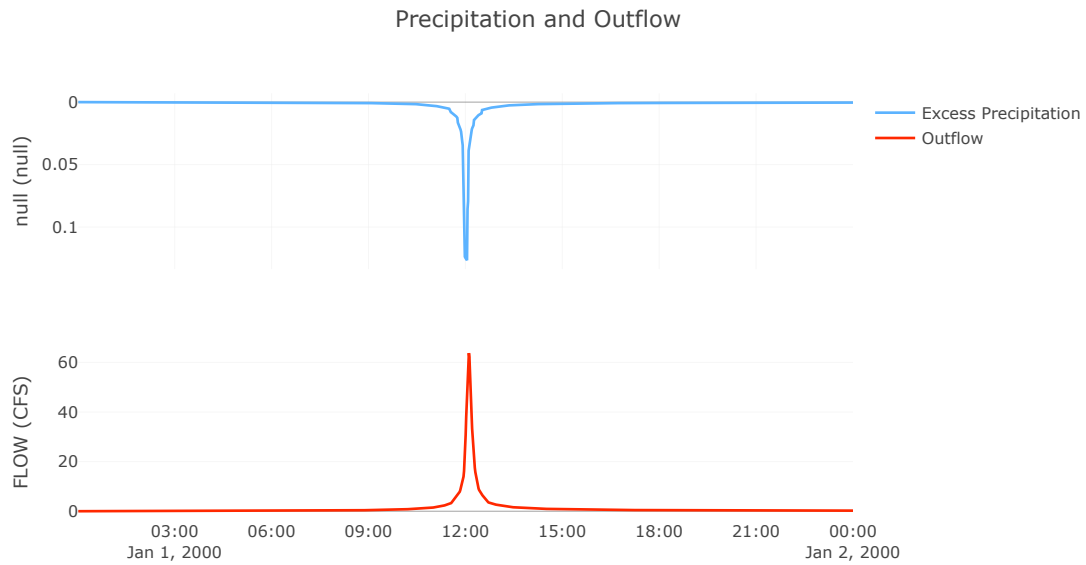
Subbasin: E1

Area (MI2) : 0.02
Downstream : E1 Junction

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	96

Transform: Scs	
Lag	4.8
Unitgraph Type	Standard

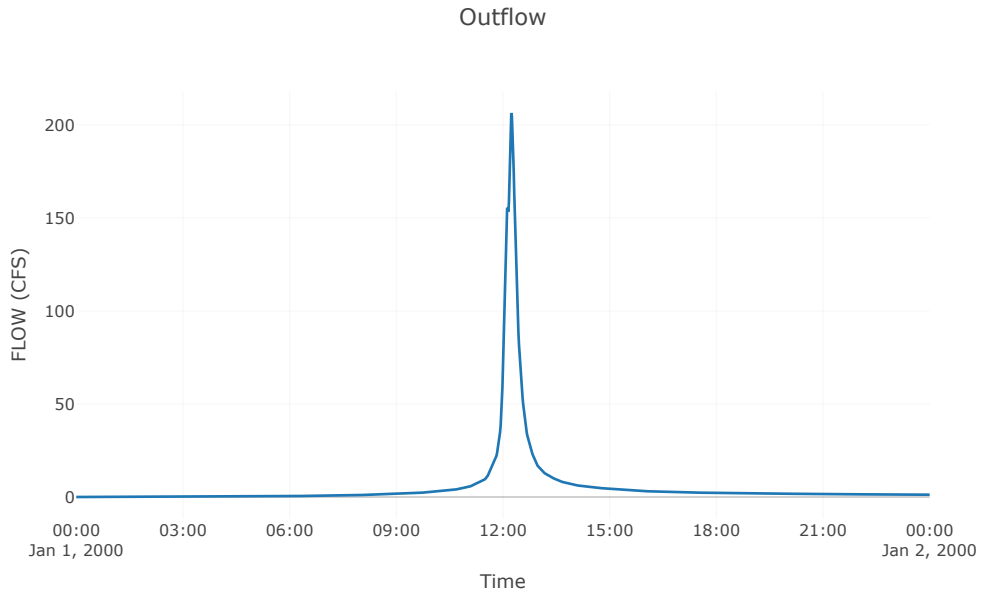
Results: E1	
Peak Discharge (CFS)	63.77
Time of Peak Discharge	01Jan2000, 12:06
Volume (IN)	2.91
Precipitation Volume (AC - FT)	2.88
Loss Volume (AC - FT)	0.39
Excess Volume (AC - FT)	2.49
Direct Runoff Volume (AC - FT)	2.49
Baseflow Volume (AC - FT)	0



Junction: E1 Junction

Downstream : Culvert E2

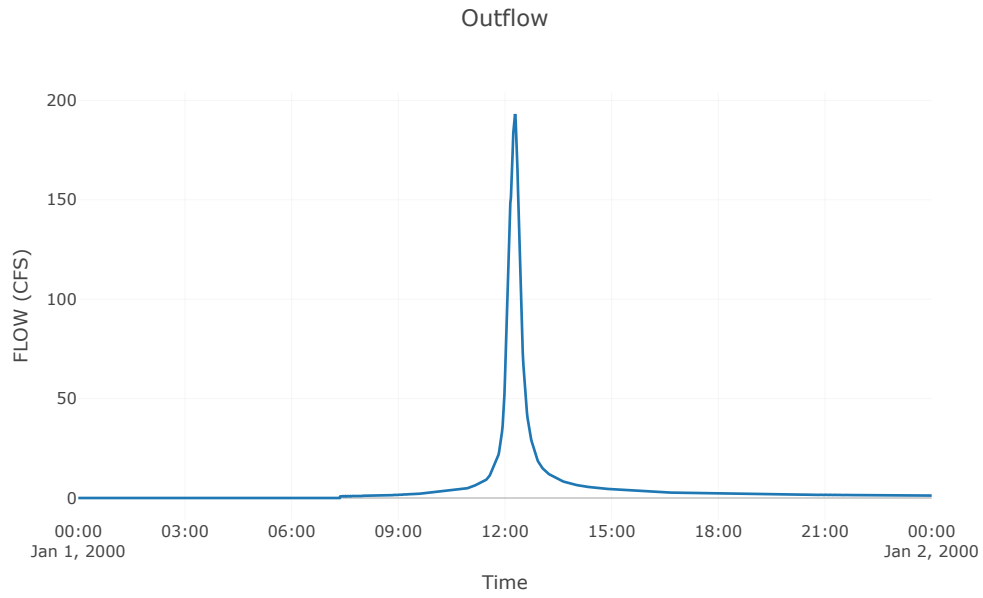
Results: E1 Junction	
Peak Discharge (CFS)	206.41
Time of Peak Discharge	01Jan2000, 12:14
Volume (IN)	2.58



Reservoir: Culvert E2

Downstream : Ditch E2

Results: Culvert E2	
Peak Discharge (CFS)	193.17
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.56
Peak Inflow (CFS)	206.41
Time of Peak Inflow	01Jan2000, 12:14
Inflow Volume (AC - FT)	11.84
Maximum Storage (AC - FT)	1.27
Peak Elevation (FT)	3966.39
Discharge Volume (AC - FT)	11.73

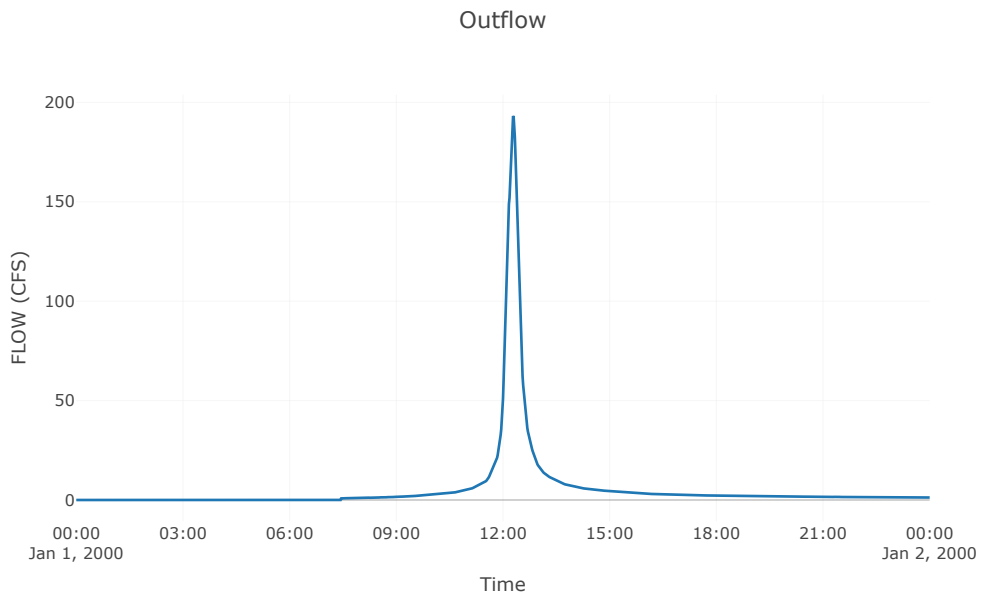


Reach: Ditch E2

Downstream : Basin DE

Route: Kinematic Wave	
Method	Kinematic Wave
Channel	Kinematic Wave
Length (FT)	570
Energy Slope (FT/FT)	0.05
Mannings n	0.04
Shape	Trapezoid
Number of Subreaches	2
Width (FT)	8
Side Slope (FT/FT)	5
Initial Variable	Combined Inflow
Index Parameter Type	Index Flow
Index Flow	0.05

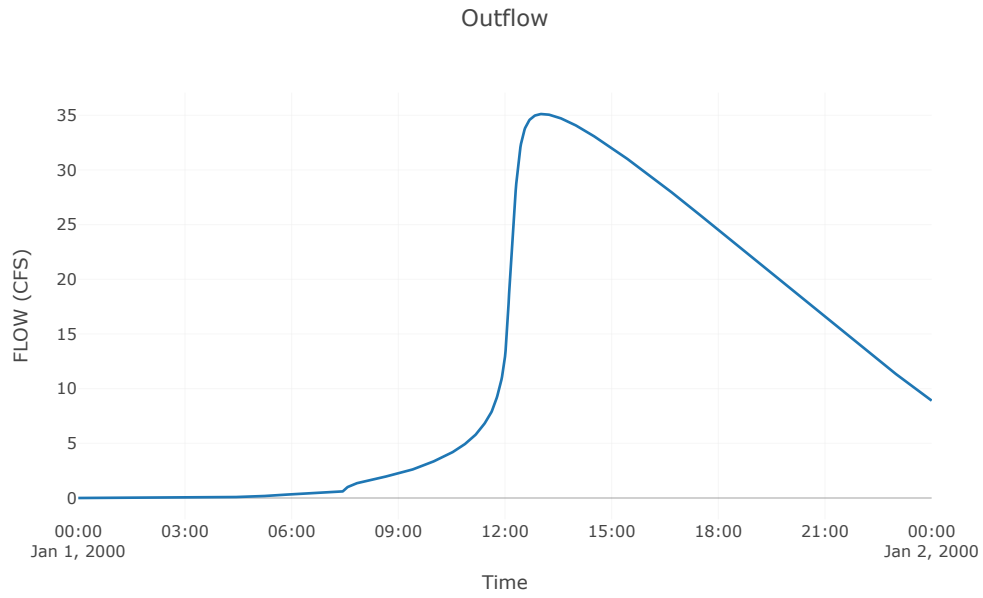
Results: Ditch E2	
Peak Discharge (CFS)	193.17
Time of Peak Discharge	01Jan2000, 12:17
Volume (IN)	2.55
Peak Inflow (CFS)	193.17
Inflow Volume (AC - FT)	11.73



Reservoir: Basin DE

Downstream : Outfall DE

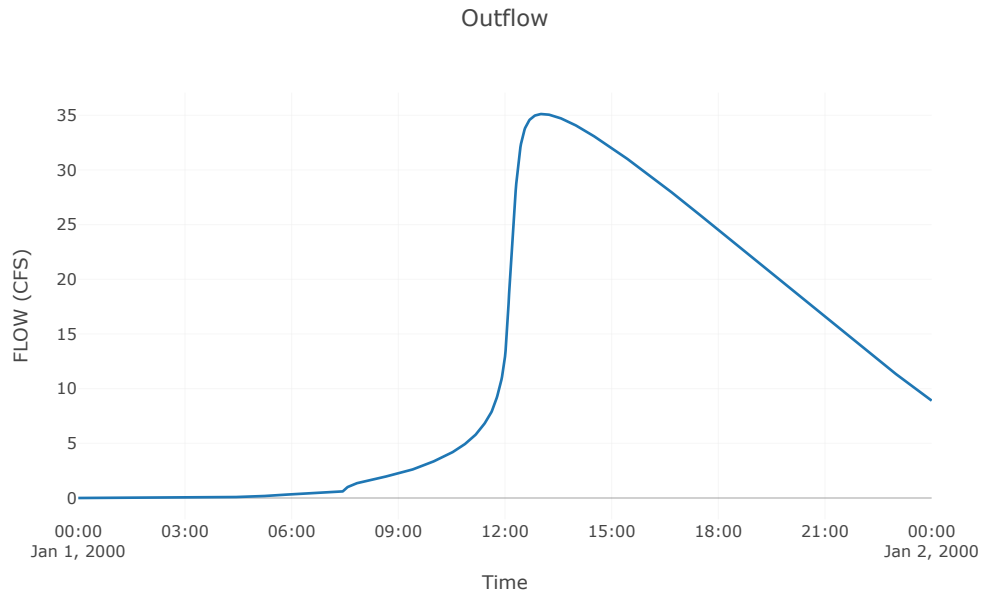
Results: Basin DE	
Peak Discharge (CFS)	35.12
Time of Peak Discharge	01Jan2000, 13:03
Volume (IN)	2.18
Peak Inflow (CFS)	396.8
Time of Peak Inflow	01Jan2000, 12:15
Inflow Volume (AC - FT)	25.76
Maximum Storage (AC - FT)	19.61
Peak Elevation (FT)	3940.59
Discharge Volume (AC - FT)	24.82



Sink: Outfall DE

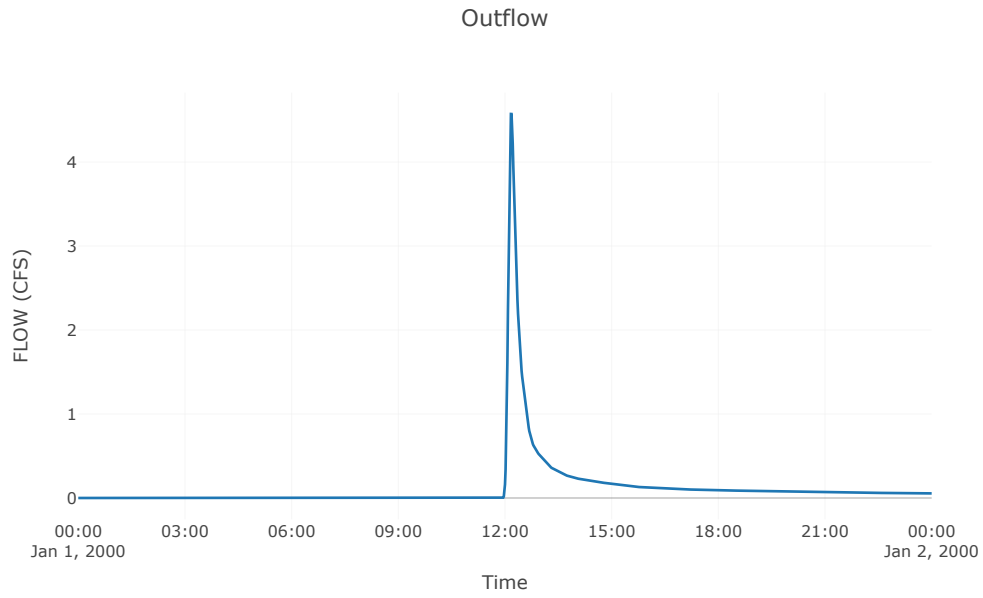
Results: Outfall DE

Peak Discharge (CFS)	35.12
Time of Peak Discharge	01Jan2000, 13:03
Volume (IN)	2.18

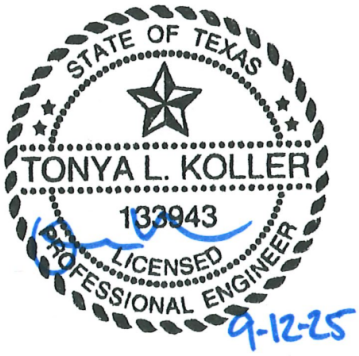


Sink: Outfall A

Results: Outfall A	
Peak Discharge (CFS)	4.57
Time of Peak Discharge	01Jan2000, 12:10
Volume (IN)	0.6



RATIONAL METHOD AND MANNING'S EQUATION CALCULATIONS



Worksheet for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs

Results	
Normal Depth	22.5 in
Flow Area	25.5 ft²
Wetted Perimeter	19.8 ft
Hydraulic Radius	15.4 in
Top Width	19.23 ft
Critical Depth	22.1 in
Critical Slope	0.017 ft/ft
Velocity	6.35 ft/s
Velocity Head	0.63 ft
Specific Energy	2.50 ft
Froude Number	0.972
Flow Type	Subcritical

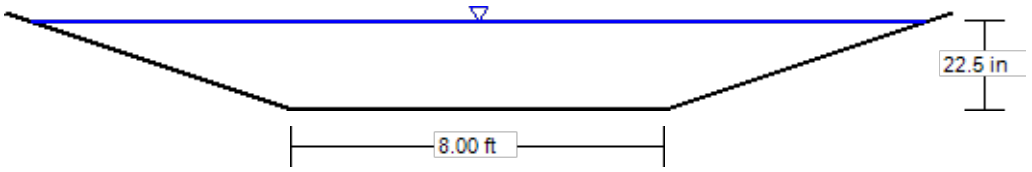
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

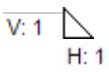
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	22.5 in
Critical Depth	22.1 in
Channel Slope	0.016 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	22.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs





Worksheet for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.006 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs

Results	
Normal Depth	28.7 in
Flow Area	36.4 ft²
Wetted Perimeter	23.1 ft
Hydraulic Radius	18.9 in
Top Width	22.37 ft
Critical Depth	22.1 in
Critical Slope	0.017 ft/ft
Velocity	4.44 ft/s
Velocity Head	0.31 ft
Specific Energy	2.70 ft
Froude Number	0.614
Flow Type	Subcritical

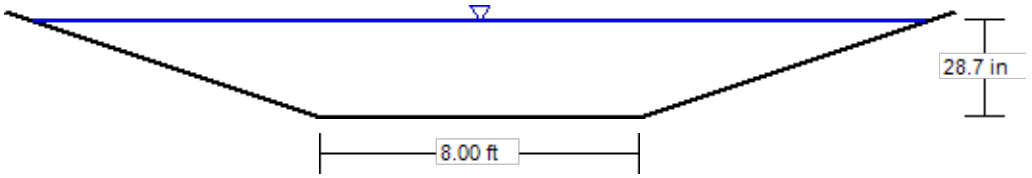
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

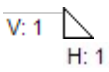
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	28.7 in
Critical Depth	22.1 in
Channel Slope	0.006 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch B1 - Flow from B3, B6, B7, & C-Offsite

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.006 ft/ft
Normal Depth	28.7 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	161.62 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.043 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	24.6 in
Flow Area	29.0 ft²
Wetted Perimeter	21.0 ft
Hydraulic Radius	16.6 in
Top Width	20.31 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	10.95 ft/s
Velocity Head	1.86 ft
Specific Energy	3.92 ft
Froude Number	1.615
Flow Type	Supercritical

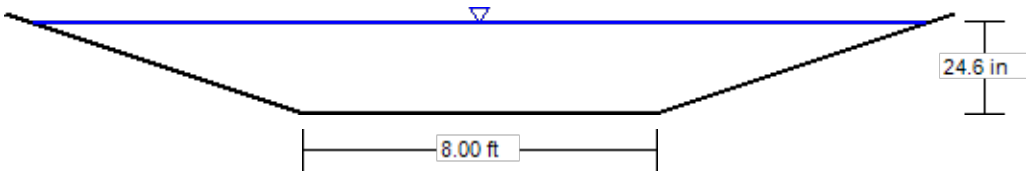
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

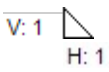
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	24.6 in
Critical Depth	31.8 in
Channel Slope	0.043 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.043 ft/ft
Normal Depth	24.6 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.021 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	29.3 in
Flow Area	37.5 ft²
Wetted Perimeter	23.5 ft
Hydraulic Radius	19.2 in
Top Width	22.67 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	8.49 ft/s
Velocity Head	1.12 ft
Specific Energy	3.56 ft
Froude Number	1.164
Flow Type	Supercritical

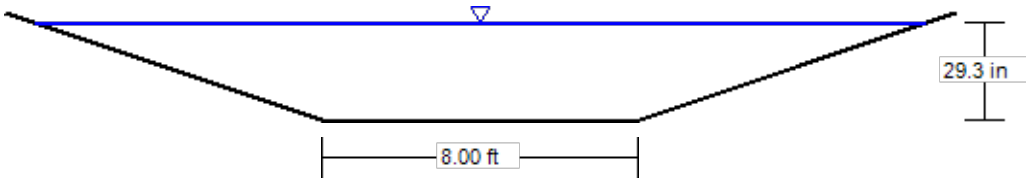
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

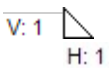
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	29.3 in
Critical Depth	31.8 in
Channel Slope	0.021 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.021 ft/ft
Normal Depth	29.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs

Results	
Normal Depth	31.5 in
Flow Area	41.7 ft²
Wetted Perimeter	24.6 ft
Hydraulic Radius	20.3 in
Top Width	23.75 ft
Critical Depth	31.8 in
Critical Slope	0.015 ft/ft
Velocity	7.63 ft/s
Velocity Head	0.91 ft
Specific Energy	3.53 ft
Froude Number	1.016
Flow Type	Supercritical

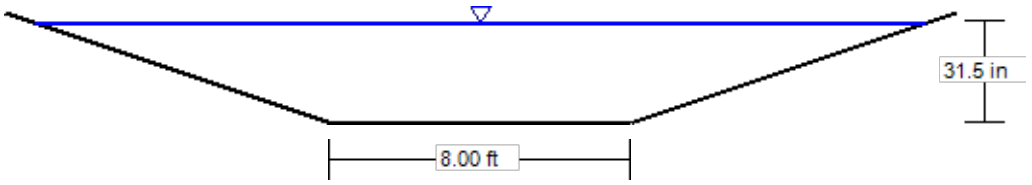
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

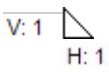
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	31.5 in
Critical Depth	31.8 in
Channel Slope	0.016 ft/ft
Critical Slope	0.015 ft/ft

Cross Section for Ditch B2 - Flow from B2, B5, B8, & Ditch B1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	31.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	318.12 cfs





Worksheet for Ditch C1 - Flow from C3-2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.027 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	20.1 in
Flow Area	21.8 ft²
Wetted Perimeter	18.6 ft
Hydraulic Radius	14.1 in
Top Width	18.04 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	7.74 ft/s
Velocity Head	0.93 ft
Specific Energy	2.60 ft
Froude Number	1.242
Flow Type	Supercritical

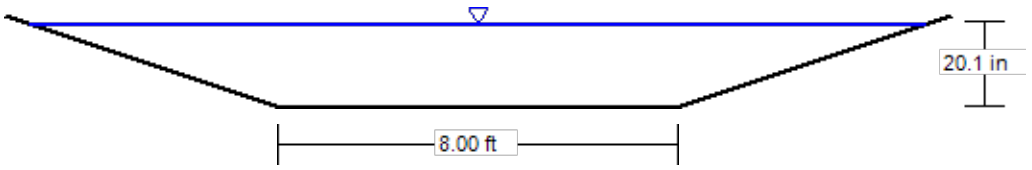
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

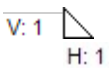
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	20.1 in
Critical Depth	22.6 in
Channel Slope	0.027 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3-2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.027 ft/ft
Normal Depth	20.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C1 - Flow from C3-3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	32.4 in
Flow Area	43.5 ft²
Wetted Perimeter	25.1 ft
Hydraulic Radius	20.8 in
Top Width	24.21 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	3.88 ft/s
Velocity Head	0.23 ft
Specific Energy	2.93 ft
Froude Number	0.510
Flow Type	Subcritical

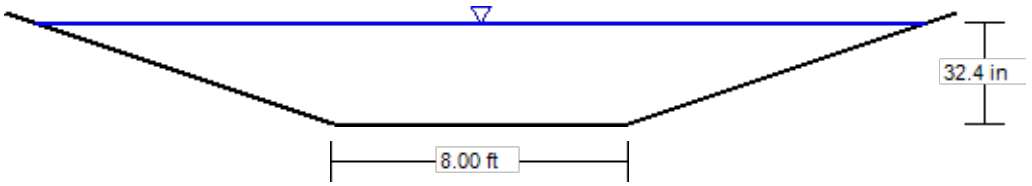
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

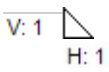
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	32.4 in
Critical Depth	22.6 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3-3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	32.4 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C1 - Flow from C3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.008 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs

Results	
Normal Depth	27.8 in
Flow Area	34.6 ft²
Wetted Perimeter	22.6 ft
Hydraulic Radius	18.3 in
Top Width	21.88 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	4.88 ft/s
Velocity Head	0.37 ft
Specific Energy	2.68 ft
Froude Number	0.684
Flow Type	Subcritical

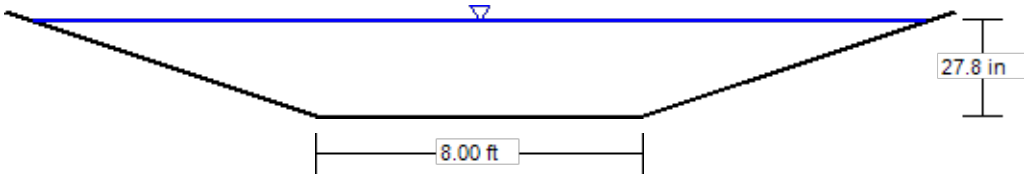
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

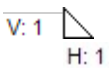
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	27.8 in
Critical Depth	22.6 in
Channel Slope	0.008 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C1 - Flow from C3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.008 ft/ft
Normal Depth	27.8 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.55 cfs





Worksheet for Ditch C2 - Flows from C1, C2, Ditch C1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	32.4 in
Flow Area	43.4 ft²
Wetted Perimeter	25.1 ft
Hydraulic Radius	20.8 in
Top Width	24.19 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	3.87 ft/s
Velocity Head	0.23 ft
Specific Energy	2.93 ft
Froude Number	0.510
Flow Type	Subcritical

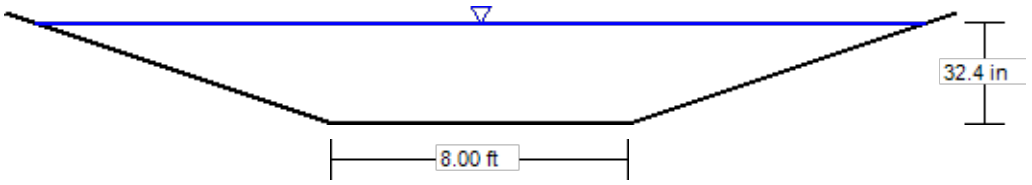
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

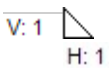
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	32.4 in
Critical Depth	22.6 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, Ditch C1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	32.4 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch C2 - Flows from C1, C2, & Ditch C1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.039 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	18.1 in
Flow Area	19.0 ft²
Wetted Perimeter	17.6 ft
Hydraulic Radius	13.0 in
Top Width	17.07 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	8.87 ft/s
Velocity Head	1.22 ft
Specific Energy	2.73 ft
Froude Number	1.484
Flow Type	Supercritical

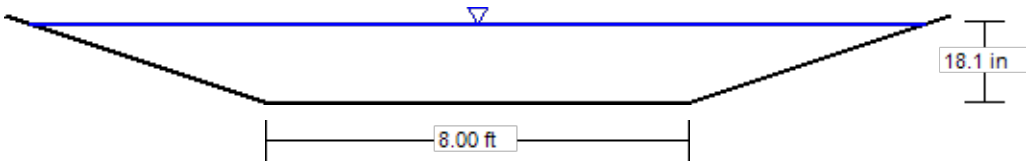
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

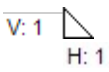
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	18.1 in
Critical Depth	22.6 in
Channel Slope	0.039 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, & Ditch C1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.039 ft/ft
Normal Depth	18.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch C2 - Flows from C1, C2, & Ditch C1.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.076 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs

Results	
Normal Depth	15.3 in
Flow Area	15.0 ft²
Wetted Perimeter	16.1 ft
Hydraulic Radius	11.2 in
Top Width	15.64 ft
Critical Depth	22.6 in
Critical Slope	0.017 ft/ft
Velocity	11.17 ft/s
Velocity Head	1.94 ft
Specific Energy	3.21 ft
Froude Number	2.008
Flow Type	Supercritical

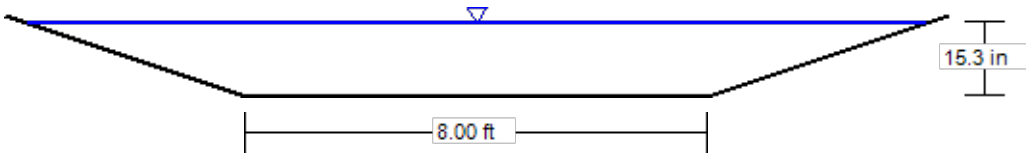
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

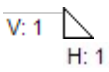
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	15.3 in
Critical Depth	22.6 in
Channel Slope	0.076 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch C2 - Flows from C1, C2, & Ditch C1.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.076 ft/ft
Normal Depth	15.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	168.15 cfs





Worksheet for Ditch D1 - Flow from D4, D6

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	86.38 cfs

Results	
Normal Depth	25.0 in
Flow Area	29.7 ft²
Wetted Perimeter	21.2 ft
Hydraulic Radius	16.8 in
Top Width	20.49 ft
Critical Depth	15.6 in
Critical Slope	0.019 ft/ft
Velocity	2.91 ft/s
Velocity Head	0.13 ft
Specific Energy	2.21 ft
Froude Number	0.427
Flow Type	Subcritical

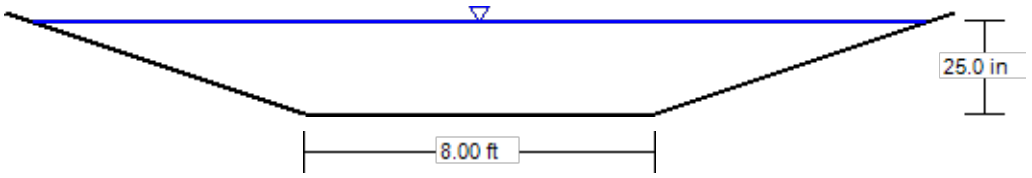
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

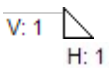
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	25.0 in
Critical Depth	15.6 in
Channel Slope	0.003 ft/ft
Critical Slope	0.019 ft/ft

Cross Section for Ditch D1 - Flow from D4, D6

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	25.0 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	86.38 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	22.3 in
Flow Area	25.2 ft²
Wetted Perimeter	19.8 ft
Hydraulic Radius	15.3 in
Top Width	19.15 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	8.09 ft/s
Velocity Head	1.02 ft
Specific Energy	2.88 ft
Froude Number	1.242
Flow Type	Supercritical

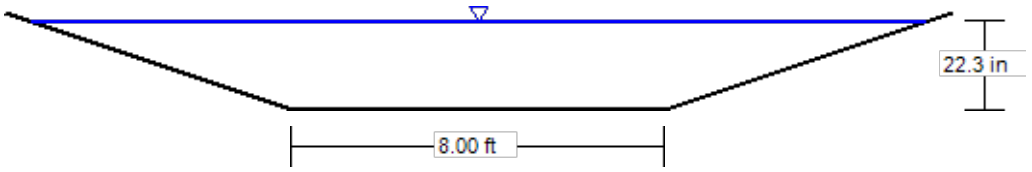
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

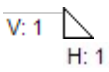
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	22.3 in
Critical Depth	25.1 in
Channel Slope	0.026 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Normal Depth	22.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	38.1 in
Flow Area	55.6 ft²
Wetted Perimeter	28.1 ft
Hydraulic Radius	23.8 in
Top Width	27.05 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	3.67 ft/s
Velocity Head	0.21 ft
Specific Energy	3.38 ft
Froude Number	0.451
Flow Type	Subcritical

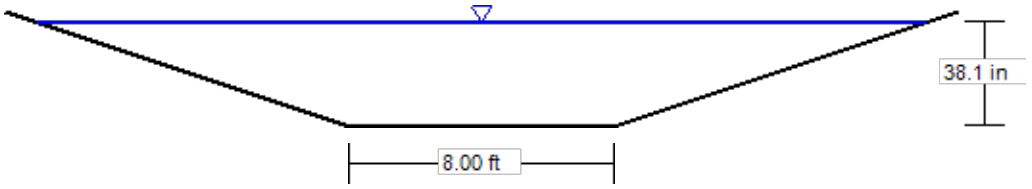
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

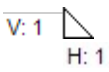
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	38.1 in
Critical Depth	25.1 in
Channel Slope	0.003 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	38.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs

Results	
Normal Depth	25.1 in
Flow Area	29.9 ft²
Wetted Perimeter	21.2 ft
Hydraulic Radius	16.9 in
Top Width	20.56 ft
Critical Depth	25.1 in
Critical Slope	0.016 ft/ft
Velocity	6.83 ft/s
Velocity Head	0.72 ft
Specific Energy	2.82 ft
Froude Number	0.998
Flow Type	Subcritical

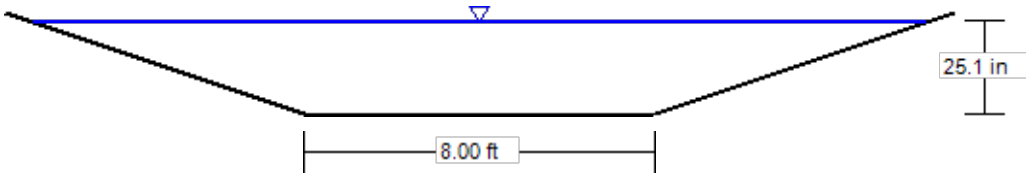
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

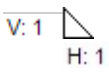
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	25.1 in
Critical Depth	25.1 in
Channel Slope	0.016 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D2 - Flow from D1, D3, D5, & Ditch D1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.016 ft/ft
Normal Depth	25.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	204.15 cfs





Worksheet for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.034 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs

Results	
Normal Depth	21.9 in
Flow Area	24.6 ft²
Wetted Perimeter	19.5 ft
Hydraulic Radius	15.1 in
Top Width	18.95 ft
Critical Depth	26.4 in
Critical Slope	0.016 ft/ft
Velocity	9.13 ft/s
Velocity Head	1.29 ft
Specific Energy	3.12 ft
Froude Number	1.412
Flow Type	Supercritical

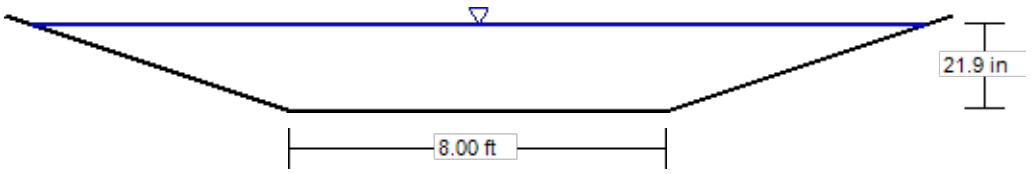
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

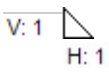
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	21.9 in
Critical Depth	26.4 in
Channel Slope	0.034 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.034 ft/ft
Normal Depth	21.9 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs





Worksheet for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs

Results	
Normal Depth	23.5 in
Flow Area	27.1 ft²
Wetted Perimeter	20.4 ft
Hydraulic Radius	16.0 in
Top Width	19.73 ft
Critical Depth	26.4 in
Critical Slope	0.016 ft/ft
Velocity	8.28 ft/s
Velocity Head	1.07 ft
Specific Energy	3.02 ft
Froude Number	1.246
Flow Type	Supercritical

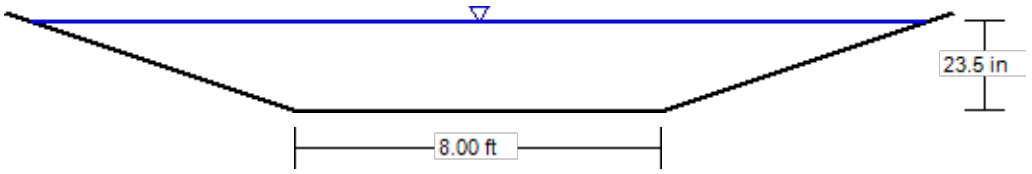
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

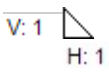
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	23.5 in
Critical Depth	26.4 in
Channel Slope	0.026 ft/ft
Critical Slope	0.016 ft/ft

Cross Section for Ditch D3 - Flow From E6 & Ditch D2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.026 ft/ft
Normal Depth	23.5 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	224.54 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & D5.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.019 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	20.3 in
Flow Area	22.2 ft²
Wetted Perimeter	18.7 ft
Hydraulic Radius	14.2 in
Top Width	18.16 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	6.55 ft/s
Velocity Head	0.67 ft
Specific Energy	2.36 ft
Froude Number	1.045
Flow Type	Supercritical

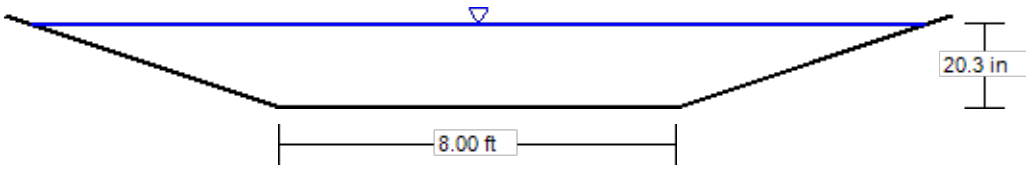
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

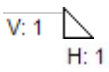
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	20.3 in
Critical Depth	20.8 in
Channel Slope	0.019 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & D5.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.019 ft/ft
Normal Depth	20.3 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & D5.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	30.1 in
Flow Area	39.0 ft²
Wetted Perimeter	23.9 ft
Hydraulic Radius	19.6 in
Top Width	23.06 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	3.72 ft/s
Velocity Head	0.22 ft
Specific Energy	2.73 ft
Froude Number	0.505
Flow Type	Subcritical

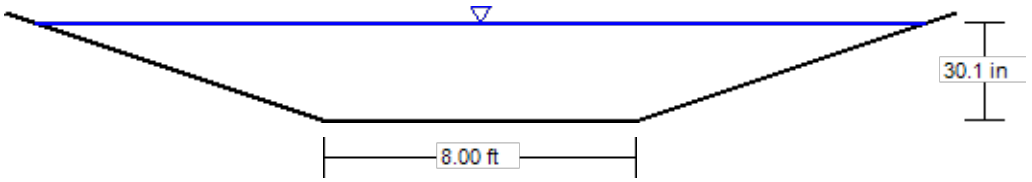
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

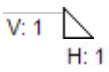
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	30.1 in
Critical Depth	20.8 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & D5.3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	30.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E1 - Flow from E2, E4, & E5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs

Results	
Normal Depth	33.8 in
Flow Area	46.3 ft²
Wetted Perimeter	25.8 ft
Hydraulic Radius	21.5 in
Top Width	24.89 ft
Critical Depth	20.8 in
Critical Slope	0.017 ft/ft
Velocity	3.13 ft/s
Velocity Head	0.15 ft
Specific Energy	2.97 ft
Froude Number	0.405
Flow Type	Subcritical

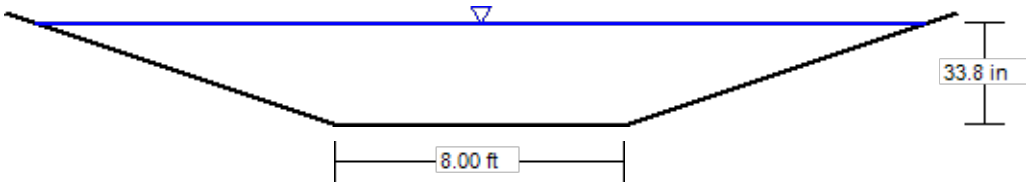
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

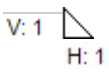
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	33.8 in
Critical Depth	20.8 in
Channel Slope	0.003 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E1 - Flow from E2, E4, & E5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.003 ft/ft
Normal Depth	33.8 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	145.11 cfs





Worksheet for Ditch E2 - Flow from E1, E3, & Ditch E1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.051 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs

Results	
Normal Depth	18.2 in
Flow Area	19.1 ft²
Wetted Perimeter	17.6 ft
Hydraulic Radius	13.0 in
Top Width	17.12 ft
Critical Depth	24.4 in
Critical Slope	0.017 ft/ft
Velocity	10.12 ft/s
Velocity Head	1.59 ft
Specific Energy	3.11 ft
Froude Number	1.691
Flow Type	Supercritical

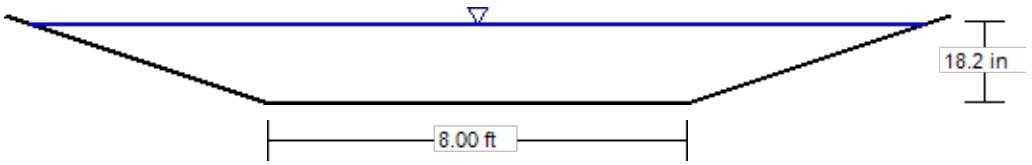
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

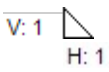
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	18.2 in
Critical Depth	24.4 in
Channel Slope	0.051 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E2 - Flow from E1, E3, & Ditch E1.2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.051 ft/ft
Normal Depth	18.2 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs





Worksheet for Ditch E2 - Flow from E1, E3, & Ditch E1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs

Results	
Normal Depth	35.1 in
Flow Area	49.0 ft²
Wetted Perimeter	26.5 ft
Hydraulic Radius	22.2 in
Top Width	25.53 ft
Critical Depth	24.4 in
Critical Slope	0.017 ft/ft
Velocity	3.94 ft/s
Velocity Head	0.24 ft
Specific Energy	3.16 ft
Froude Number	0.502
Flow Type	Subcritical

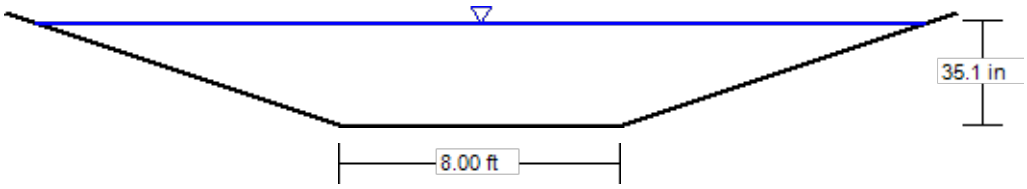
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

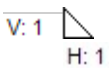
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	35.1 in
Critical Depth	24.4 in
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Cross Section for Ditch E2 - Flow from E1, E3, & Ditch E1

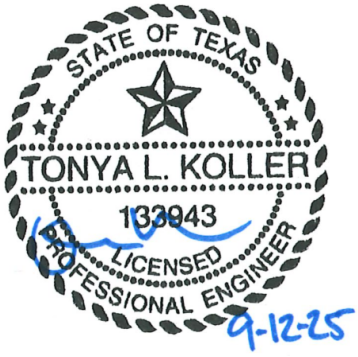
Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.035
Channel Slope	0.004 ft/ft
Normal Depth	35.1 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	8.00 ft
Discharge	193.17 cfs





CONTAMINATED WATER CONTAINMENT AND DIVERSION BERM CALCULATIONS



Greater El Paso Landfill
CONTAMINATED WATER CONTAINMENT AND DIVERSION BERM CALCULATION

BURNS McDONNELL

PROJECT	Greater El Paso Landfill Permit 2284A
SUBJECT	Contaminated Water Containment and Diversion Berms
PROJECT NUMBER	155488
DATE	Sep-25

Purpose: The purpose of this calculation is to determine the height of the contaminated water containment berm at the downstream edge of the active face and the height of the diversion berm controlling stormwater run-on to the active face.

Methodology: These calculations are organized into two parts: those pertaining to the containment berm and those pertaining to the diversion berm. First, the containment berm height was calculated by estimating the volume of runoff within the active area, then solving for the required height based on this volume, the length of the berm and the geometry of the v-shaped water cross-section. Second, the diversion berm height was calculated using the Rational Method to estimate the peak flow from a typical run-on drainage basin and Mannings Equation to size the v-shaped swale. Runoff peak flows and volumes were calculated using the 25-year, 24-hour storm event for El Paso, TX.

Assumptions:

1. Runoff coefficient for the active face is determined according to exposed waste at 3% slopes.
2. The average weekly waste placement rate, used to size the active face was determined using the 2019 annual disposal tonnage, a 1,300 lb/cy factor, and a compaction ratio of 2:1 (volume in truck:volume in landfill)
3. The lift thickness, used to size the active face, is 10 feet. This is typical for landfill operations.
4. The active face is square-shaped.
5. The active face has a slope of 3%.
6. The containment/diversion berms shall have 2:1 slopes and no minimum top width.
7. Time of concentration is assumed to be 10 min.
8. Runoff coefficient for the run-on basin is determined according to interim cover material at 3:1 slopes that extend to touch the flowine of the berm.
9. Area of the run-on basin is 4 acres. This is equivalent to approximately 14 former active faces.
10. A 0.5% flowline slope was used to design the run-on berm. Actual slopes at time of installation should be 1.0%. This accounts for settlement.

References:

1. Texas DOT Hydraulic Design Manual, 2019
2. NOAA Atlas 14, Volume 11, Version 2 Estimates for El Paso, TX
3. Rainfall Intensity-Duration-Frequency Coefficients for Texas Version 2.1, 2015
4. Flowmaster Output

7222	= Data Input Cell
7222	= Calculated and/or Referenced

Conclusions: 2-foot containment and diversion berms with 2:1 side slopes shall be installed around the active face. The diversion portion of the berm, along the upstream edge of the active face, shall have a flowline of at least 0.5% for the duration of the active face.

Prepared By:	J. Pistorius	Date:	Sep-25
Checked By:	K. Benjamin	Date:	Sep-25

Greater El Paso Landfill
CONTAMINATED WATER CONTAINMENT CALCULATION

Calculation by: JGP Date: Sep-25

					Reference
1) PEAK VOLUME OF CONTMINATED WATER					
MSW Runoff Coefficient, C					
Watershed Relief Component, Cr		**Cr =**	0.09		Reference 1, Assumption 1
Soil Infiltration Component, Ci		**Ci =**	0.06		Reference 1, Assumption 1
Vegetal Cover Component, Cv		**Cv =**	0.16		Reference 1, Assumption 1
Surface Type Component, Cs		**Cs =**	0.04		Reference 1, Assumption 1
Overall Runoff Coefficient, C = Cr + Ci + Cv + Cs		**C =**	0.35		Reference 1
25-year, 24-hour Rainfall Depth, D					
Rainfall Depth		**D =**	3.17	in	Reference 2
			0.26	ft	
Area, A					
In-place waste volume per year, Wyear		**W_{year} =**	767,385	CY	Assumption 2
In-place waste volume per week	**$W = W_{year} / 52$**	**W =**	14,757	CY	Assumption 2
			398,450	ft^3	
Lift Thickness, T		**T =**	10	ft	Assumption 3
Contact Water Area	**A = W/T**	**A =**	39,845	ft^2	
			0.91	acres	
Contaminated Water Volume, V					
V = Total Contaminated Water = C x D x A		**V =**	3,684	ft^3	
2) REQUIRED CONTAINMENT BERM HEIGHT					
Downstream Berm Length, L	**$L = A^{0.5}$**	**L =**	199.61	ft	Assumption 4
Required Cross-Sectional Area	**$A_x = V/L$**	**A_x =**	18.46	ft^2	
Slope of Active Area (inside edge of triangular cross-sectional area, A_x)		**S_1 =**	0.03	ft/ft	Assumption 5
Slope of Berm (outside edge of triangular cross-sectional area, Ax)		**S_2 =**	0.50	ft/ft	Assumption 6
Height of Contaminated Water	**$H_W = (2Ax / [(1/S_2)+(1/S_1)])^{0.5}$**	**H_W =**	1.02	ft	
Height of Containment Berm	**$H_B = H_W$ + 12 inches freeboard**	**H_B =**	2.02	ft	

Use a berm height of 2.25 feet.

NOTE:
Areas and Lengths calculated using AutoCAD Civil3D

Greater El Paso Landfill
ACTIVE FACE RUN-ON DIVERSION CALCULATION

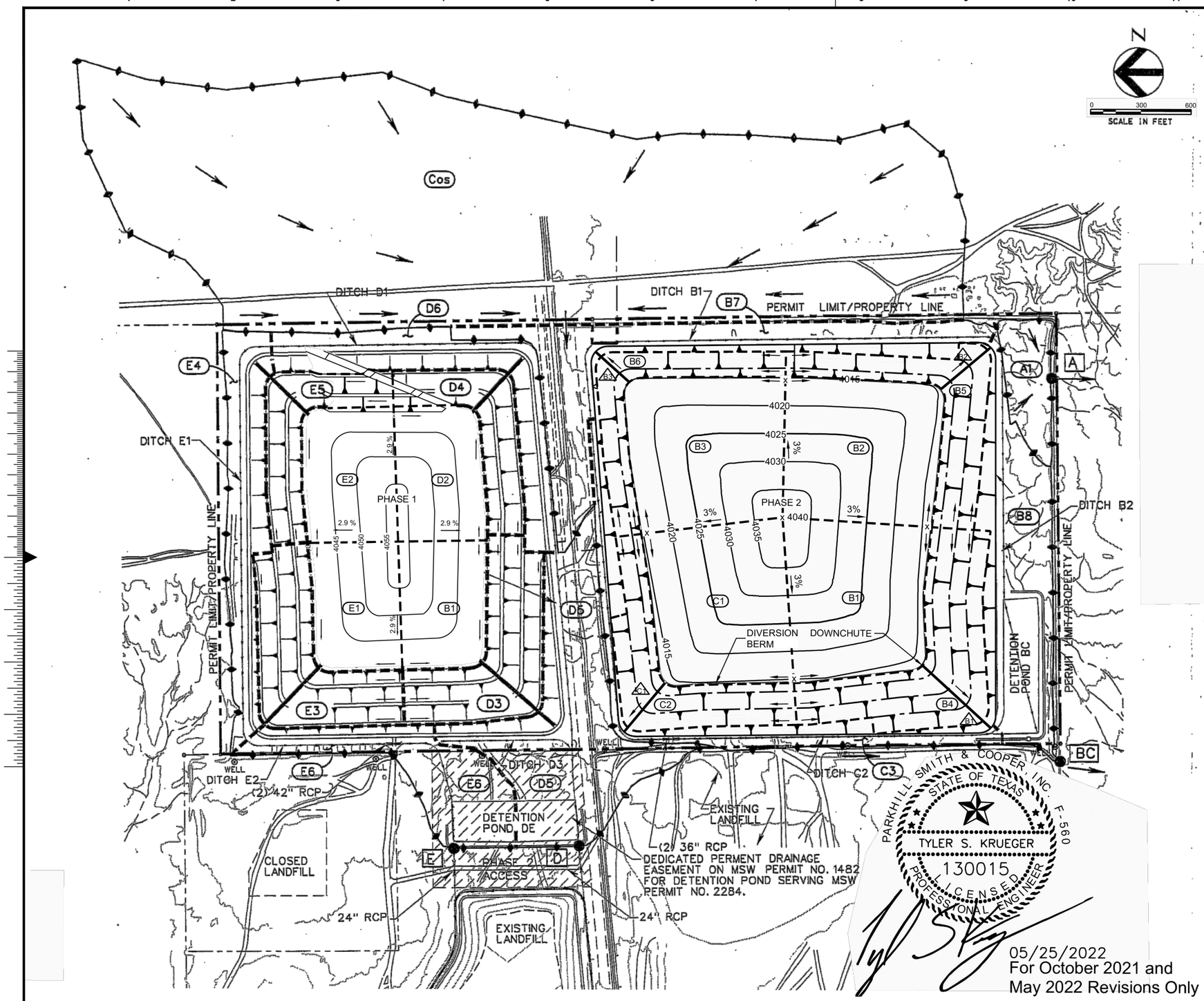
Calculation by: JGP Date: Sep-25

				Reference
1) PEAK FLOW OF RUN-ON WATER				
Runoff Coefficient, C				
Watershed Relief Component, Cr	**Cr =**	0.30		Reference 1, Assumption 8
Soil Infiltration Component, Ci	**Ci =**	0.08		Reference 1, Assumption 8
Vegetal Cover Component, Cv	**Cv =**	0.12		Reference 1, Assumption 8
Surface Type Component, Cs	**Cs =**	0.08		Reference 1, Assumption 8
Overall Runoff Coefficient, C = Cr + Ci + Cv + Cs		0.58		
Average Rainfall Intensity, I				
Time of Concentration, T	**T_c =**	10.0	min	Assumption 7
25- Year Intensity-Frequency-Duration Coefficient, e	**e =**	0.9037		Reference 3
25- Year Intensity-Frequency-Duration Coefficient, b	**b =**	80.750	in	Reference 3
25- Year Intensity-Frequency-Duration Coefficient, d	**d =**	7.360	min	Reference 3
Average Rainfall Intensity, $I = b/(T_c + d)^e$	**I =**	6.123	in/hr	Reference 3
Drainage Area, A				
Drainage Area, A	**A =**	4.00	Ac	Assumption 9
Peak Flow, Q				
Q= Total Discharge from Watershed = C x I x A	**Q =**	14.2	**cfs**	
2) REQUIRED DIVERSION BERM HEIGHT				
Slope of Run-on Basin (inside edge of triangular cross-sectional area)	**S =**	0.33	ft/ft	Assumption 8
Slope of Berm (outside edge of triangular cross-sectional area)	**S =**	0.50	ft/ft	Assumption 6
Slope of Swale Flowline	**S =**	0.50	%	Assumption 10
Mannings Roughness Coefficient, n	**n =**	0.018		Reference 1
Depth of Flow	**H_W =**	1.200	ft	Reference 4
Height of Diversion Berm **$H_B = H_W$ + 12 inches freeboard**	**H_B =**	2.20	ft	

Use a berm height of 2.25 feet.

NOTE:
Areas and Lengths calculated using AutoCAD Civil3D. Depth of flow calculated in Flowmaster.

ATTACHMENT III.B.3 – DRAWINGS



LEGEND

- DRAINAGE BASIN
- DRAINAGE SUB-BASIN
- PERMIT LIMIT
- FLOW DIRECTION
- [A] DISCHARGE POINT
- (1) DRAINAGE BASIN IDENTIFIER
- STREAM OR DITCH
- CULVERT
- SIDESLOPE INTERCEPTORS

PRE-DEVELOPED CONDITIONS SUMMARY

Discharge Point	Subbasin	Area (acres)	Discharge (cfs)
A	A1	5.0	4.57
			4.57
Pond BC	B1	17.5	81.2
	B2	18.1	89.85
	B3	19.3	90.15
	B4	15.3	100.36
	B5	9.9	60.58
	B6	7.4	47.94
	B7	19.4	14.68
	B8	17.9	32.05
	Cos	151.4	43.91
	C1	18.5	89.55
	C2	10.6	71.03
	C3	10.2	29.66
Inflow @ Pond BC[1]			476.2
Outflow @ Pond BC[1]			**99.1**
Pond DE	D1	9.7	42.14
	D2	10.3	41.18
	D3	12.5	68.52
	D4	7.7	41.11
	D5	24.8	56
	D6	12.9	45.14
	E1	9.9	42.14
	E2	10.5	52.91
	E3	12.9	70.98
	E4	12.5	39.7
	E5	8.2	44.54
	E6	11.9	50.61
Inflow @ Pond DE[2]			439.7
Outflow @ Pond DE[2]			**36.4**

[1]From the HEC HMS Output included in ATTACHMENT III.B.1 of this Attachment

[2]From the HEC HMS Output included in ATTACHMENT III.B.1 of this Attachment

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. DRAWING ORIGINALLY FROM THE 2022 PERMIT MODIFICATION (2284) COMPLETED BY PARKHILL, SMITH AND ASSOCIATES AND SIGNED BY TYLER S. KRUEGER ON MAY 25, 2022. THE DISCHARGE (CFS) FOR THE PRE-DEVELOPMENT CONDITIONS HAS BEEN REVISED FROM THE ORIGINAL APPLICATION TO REFLECT THE NOAA ATLAS 14 RAINFALL RESULTS.
2. TOPOGRAPHICAL DATUM ASSUMED TO BE CITY DATUM.

PARKHILL SMITH & COOPER, INC. F-560
STATE OF TEXAS
TYLER S. KRUEGER
130015
LICENSED PROFESSIONAL ENGINEER

05/25/2022
For October 2021 and May 2022 Revisions Only

STATE OF TEXAS
MICHAEL K. STACEY
65460
REGISTERED PROFESSIONAL ENGINEER
9/12/25

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

REVISION FOR PRE-DEVELOPED (ATLAS 14) RAINFALL DATA CHANGE ONLY. SEE NOTE 1.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO F-845

date	detailed
5/16/2025	A. NESBITT
designed	checked
T. SCHMIDT	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

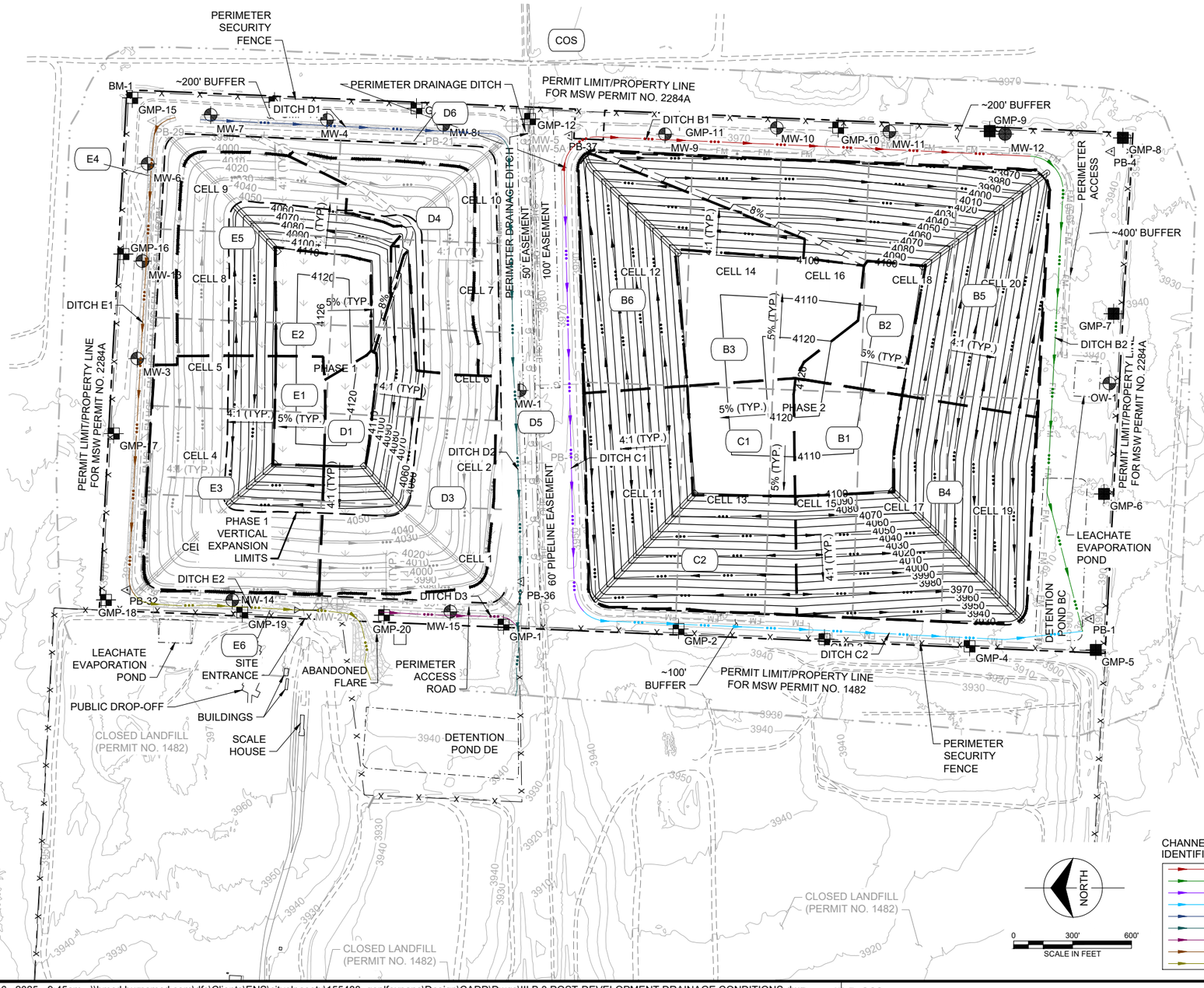
PRE-DEVELOPMENT DRAINAGE CONDITIONS

project	contract
155488	-

drawing **III.B.2** rev. **2**

file III.B.2PRE-DEVELOPMENTDRAINAGECONDITIONS.DWG

Scale For Microfilming: Millimeters / Inches



PLAN LEGEND

- DRAINAGE SUBBASIN
- PERMIT LIMIT
- FLOW DIRECTION
- A — DISCHARGE POINT
- B5 — DRAINAGE BASIN IDENTIFIER
- STREAM OR DITCH
- CULVERT

NOTE: SEE DRAWING III.A.1 FOR COMPLETE LEGEND.

DEVELOPED CONDITIONS SUMMARY

DISCHARGE	SUBBASIN	AREA (AC.)	DISCHARGE (CFS)
	A1	5	4.57
@A		5	4.57
	B1	17	38.91
	B2	18	32.49
	B3	19	66.37
	B4	13	147.65
	B5	10	151.27
	B6	7	95.76
	B7	19	12.51
	B8	18	25.96
	COS	151	42.5
	C1	19	40.61
	C2	11	129.52
	C3	10	26.89
INFLOW @ POND BC		315	545.27
OUTFLOW @ POND BC			95.71
	D1	10	66.08
	D3	13	68.52
	D4	8	44.54
	D5	25	56
	D6	12	45.14
	E1	10	63.77
	E2	11	62.76
	E3	13	70.98
	E4	13	39.7
	E5	8	44.54
	E6	12	50.61
INFLOW @ POND DE		143	396.8
OUTFLOW @ POND DE			35.12

CHANNEL IDENTIFICATION	SIDE SLOPES	CHANNEL SLOPE (FT/FT) (SEE ATT.III.B.1, P. III.B-128)	BOTTOM WIDTH (FT)
DITCH B1	3:1	VARIES	8
DITCH B2	3:1		8
DITCH C1	3:1		8
DITCH C2	3:1		8
DITCH D1	3:1		8
DITCH D2	3:1		8
DITCH D3	3:1		8
DITCH E1	3:1		8
DITCH E2	3:1		8

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 10 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 10 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 10 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POST-DEVELOPMENT DRAINAGE CONDITIONS

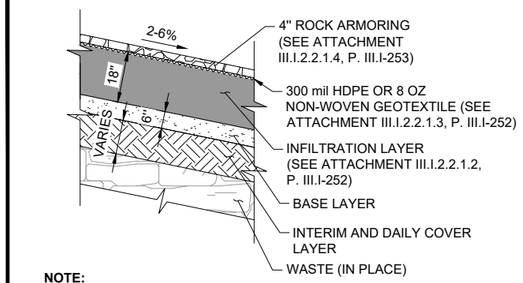
project	contract
155488	-

drawing **III.B.3** rev. **2**

file III.B.3 POST-DEVELOPMENT DRAINAGE CONDITIONS.dwg

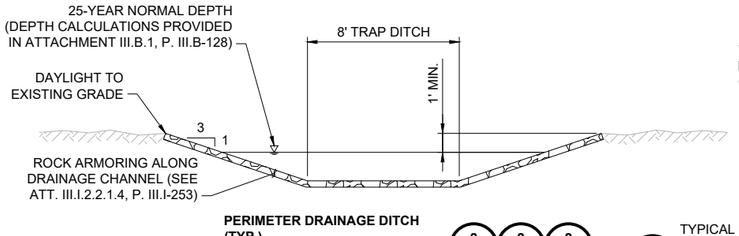
STATE OF TEXAS — TONYA L. KOLLER — 133943 — LICENSED PROFESSIONAL ENGINEER — 9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

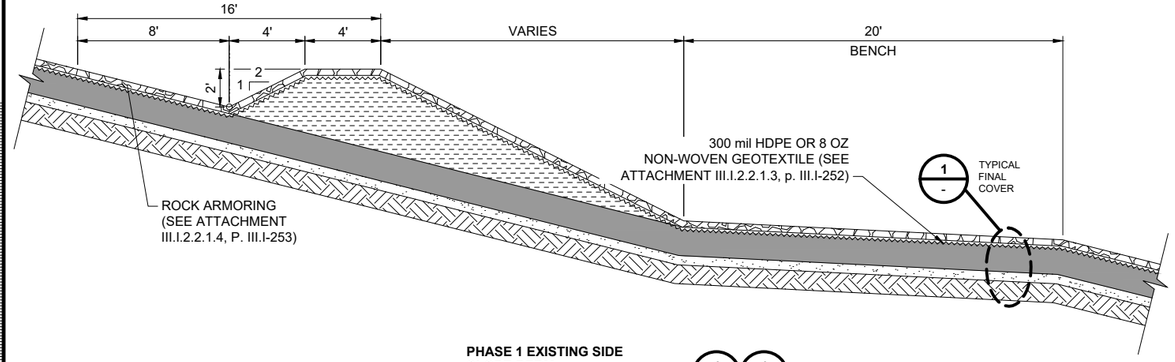


NOTE:
THICKNESS ARE MEASURED PERPENDICULAR TO SURFACE

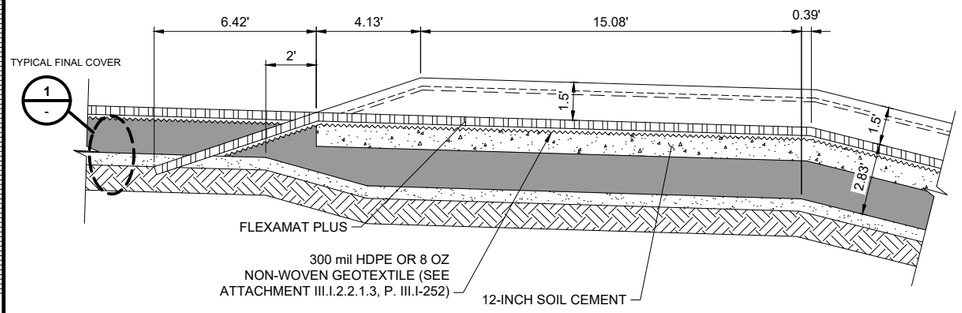
FINAL COVER (TYP.) — 1 - | 1 III.B.4 | 1 III.B.6 | 1 III.B.11 | 1 III.B.12
NOT TO SCALE



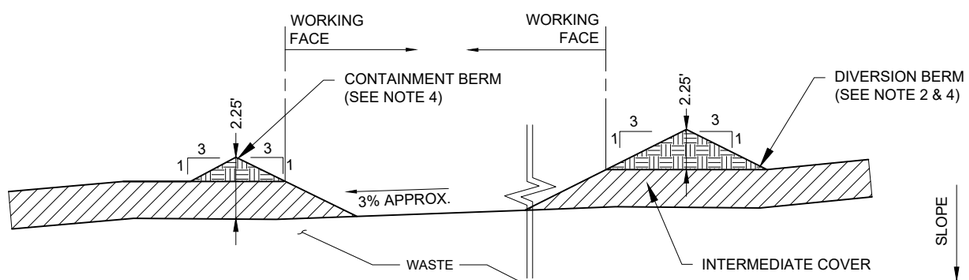
PERIMETER DRAINAGE DITCH (TYP.) — 2 III.B.4 | 2 III.B.11 | 2 III.B.12



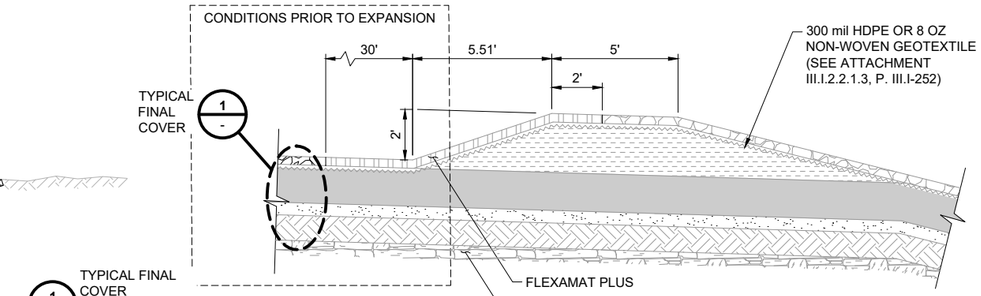
PHASE 1 EXISTING SIDE SLOPE BERM — 4 III.B.4 | 4 III.B.6

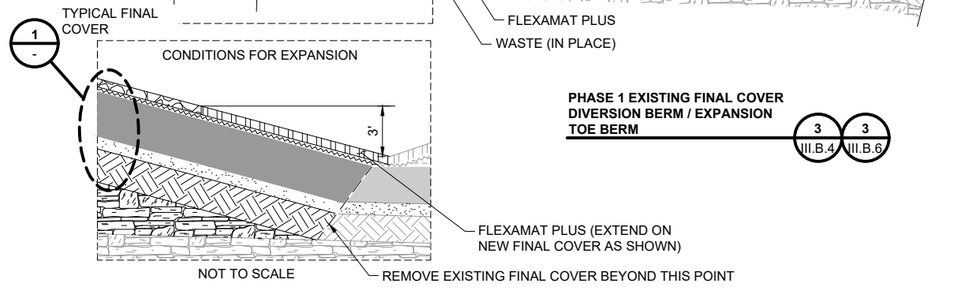


FINAL COVER LETDOWN STRUCTURE (TYP.) — 6 III.B.4

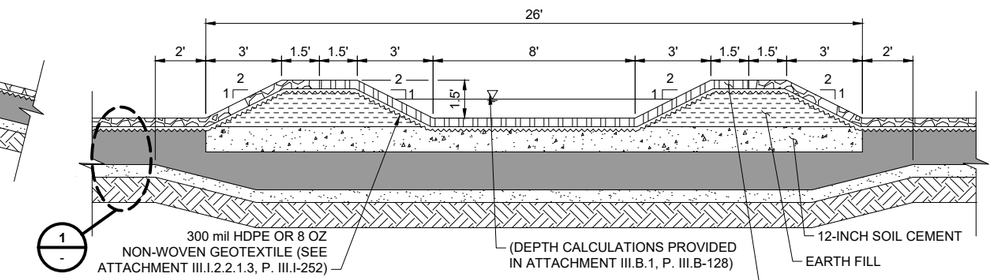


WORKING FACE DIVERSION AND CONTAINMENT BERM — 8 III.B.5
NOT TO SCALE

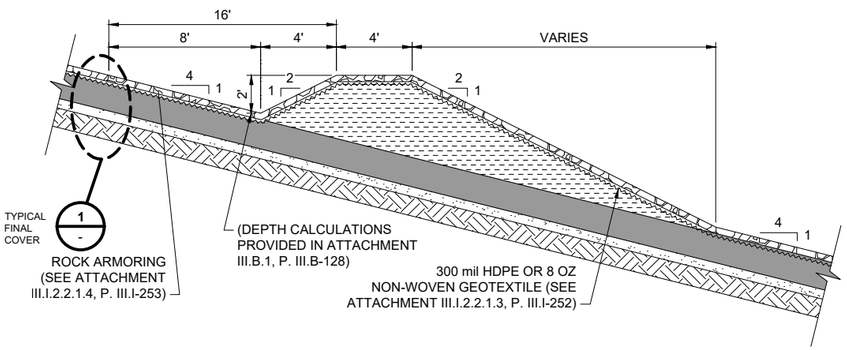


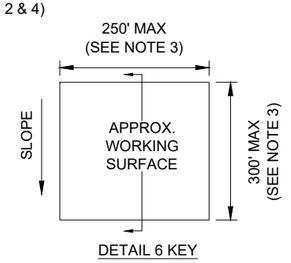


PHASE 1 EXISTING FINAL COVER DIVERSION BERM / EXPANSION TOE BERM — 3 III.B.4 | 3 III.B.6



FINAL COVER LETDOWN STRUCTURE (TYP.) — 5 III.B.4 | 5 III.B.6 | 5 III.B.11 | 5 III.B.12





PHASE 1 EXPANSION AND PHASE 2 FINAL COVER TERRACE DETAIL — 7 III.B.4 | 7 III.B.11

NOTES FOR DETAIL 8:

1. WORKING FACE WILL RELOCATE IN CONJUNCTION WITH CURRENT WASTE FILLING PATTERNS.
2. DIVERSION BERM FLOWLINE SHALL BE 0.5% MINIMUM TO CONVEY UNCONTAMINATED WATER AROUND WORKING FACE.
3. MAXIMUM WORKING FACE DIMENSIONS ARE DEPENDENT UPON WASTE QUANTITY.
4. SIZING CALCULATIONS FOR CONTAINMENT AND DIVERSION BERMS INCLUDING WATER DEPTH AND DESIGN FREEBOARD OF 1-FOOT CAN BE FOUND IN ATTACHMENT III.B.1, P.III.B-187.

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

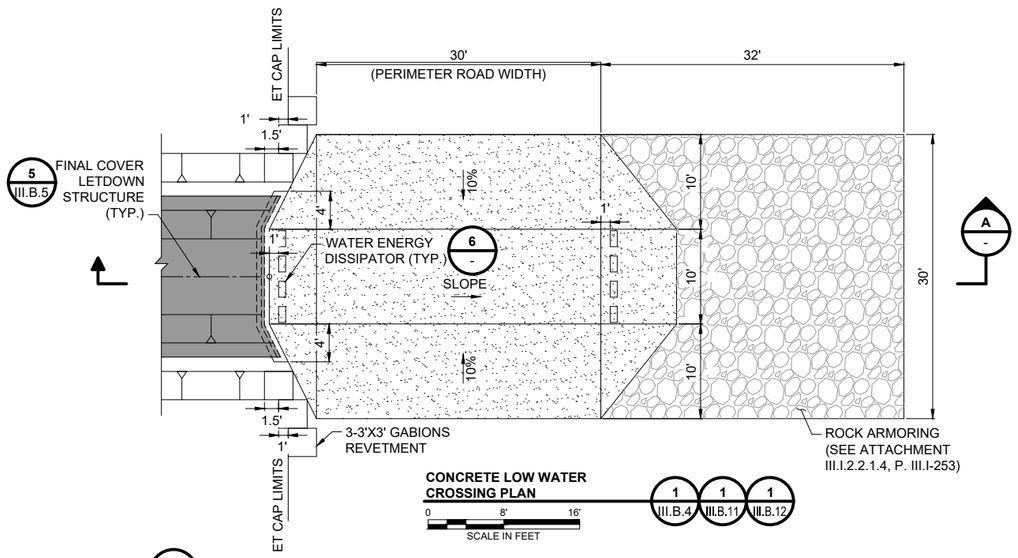
DRAINAGE DETAILS, 1 OF 2

project	contract
155488	-

drawing **III.B.5 – 2**

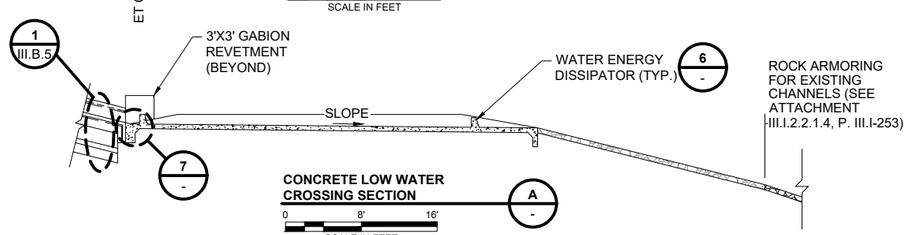
file III.B.5 DRAINAGE DETAILS, 1 OF 2.dwg

Scale For Microfilming
Millimeters
Inches



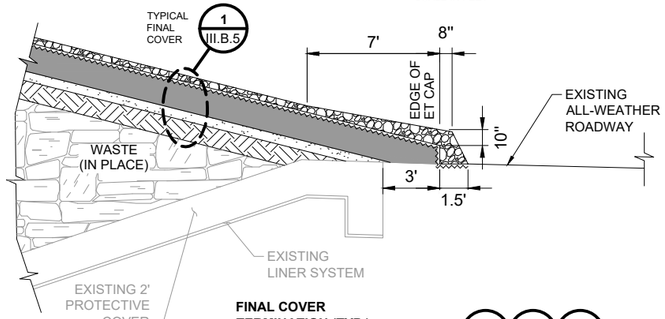
CONCRETE LOW WATER CROSSING PLAN — 1 III.B.4 | 1 III.B.11 | 1 III.B.12

0 8' 16' SCALE IN FEET



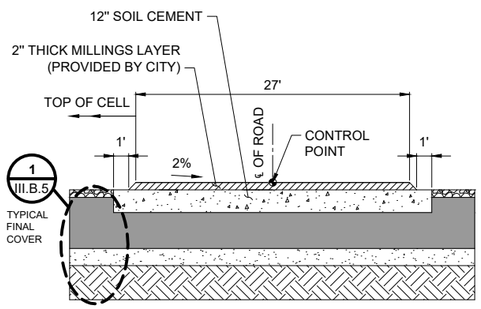
CONCRETE LOW WATER CROSSING SECTION — A -

0 8' 16' SCALE IN FEET

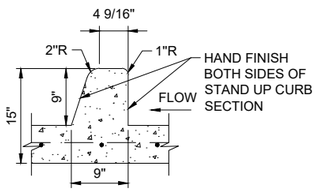


FINAL COVER TERMINATION (TYP.) — 3 III.B.4 | 3 III.B.11 | 3 III.B.12

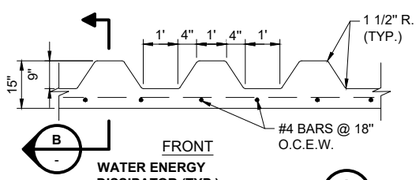
0 8' 16' SCALE IN FEET



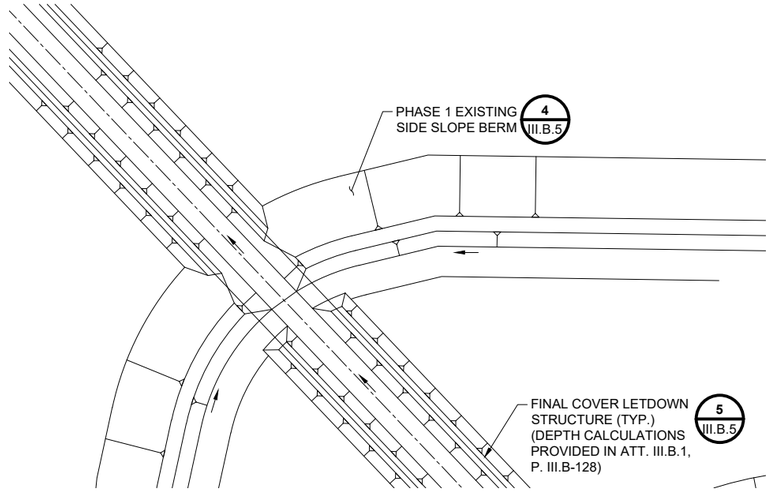
CELL ACCESS ROAD NOT TO SCALE — 5 III.B.4



WATER ENERGY DISSIPATOR (TYP.) SECTION SCALE: 1" = 1' — B -

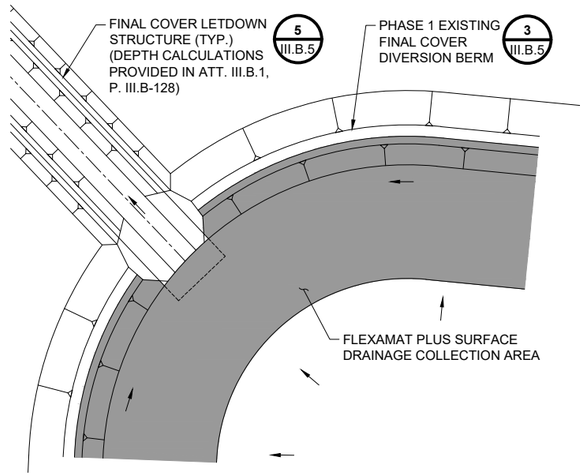


WATER ENERGY DISSIPATOR (TYP.) NOT TO SCALE — 6 -



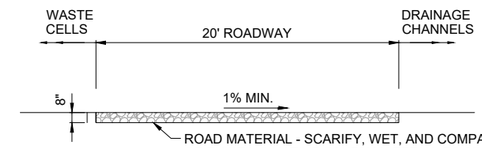
LET-DOWN DRAINAGE COLLECTION AREA (TYP.) — 2 III.B.4 | 2 III.B.11

0 10' 20' 40' SCALE IN FEET

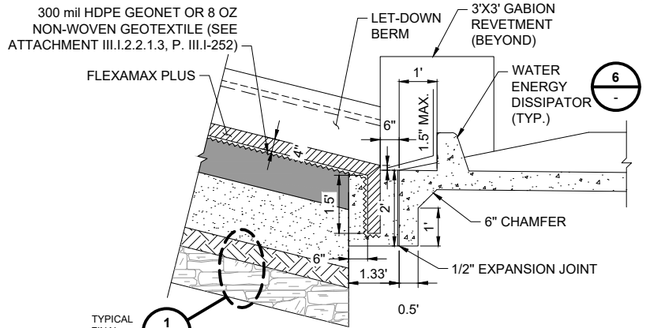


LET-DOWN DRAINAGE AT SIDE SLOPE BERM (TYP.) — 4 III.B.4

0 10' 20' 40' SCALE IN FEET



PERIMETER ROAD NOT TO SCALE — 8 III.B.4



LET DOWN CONNECTION — 7 -

0 2' 4' SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE DETAILS, 2 OF 2

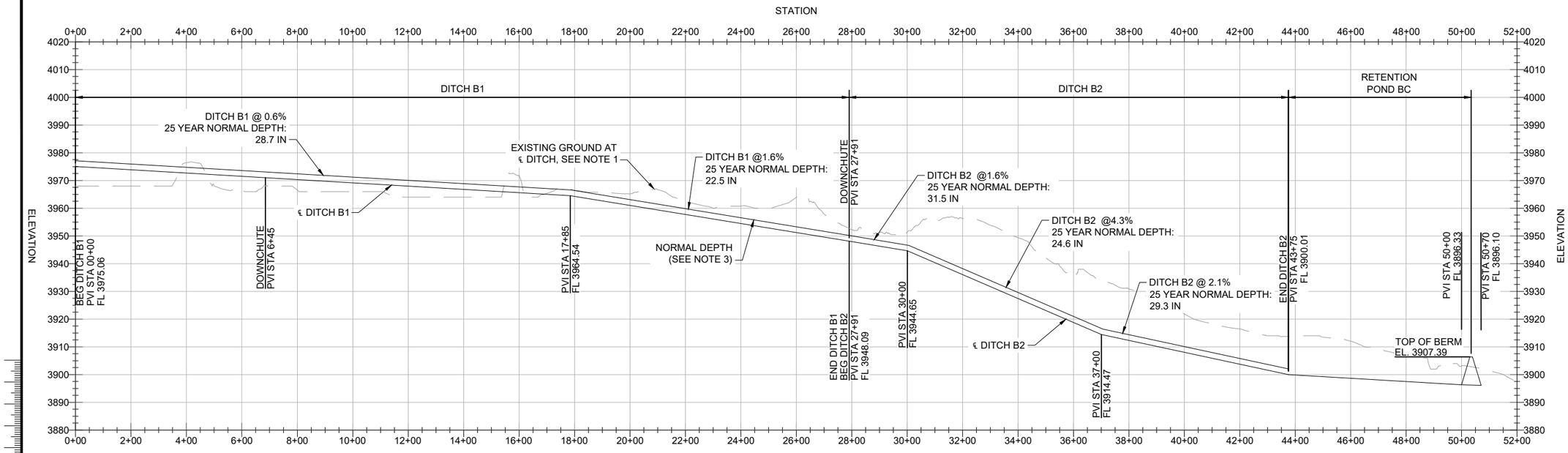
project	contract
155488	-

drawing **III.B.6 – 2** rev.

file III.B.6 DRAINAGE DETAILS 2 OF 2.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

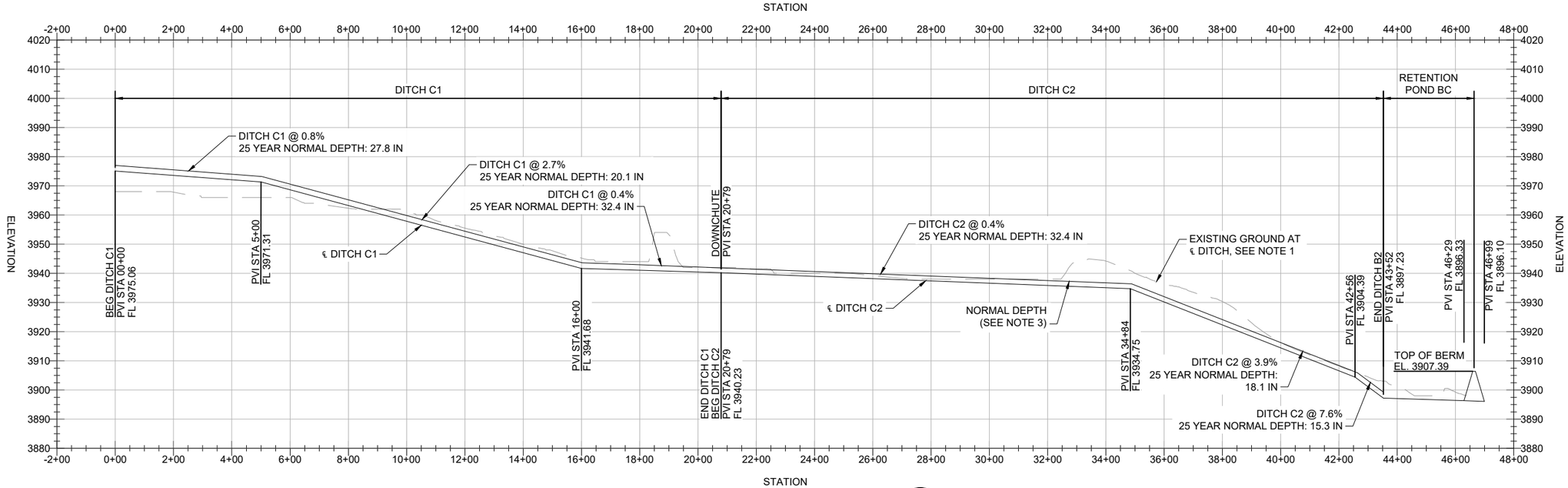
TONYA L. KOLLER P.E.
LICENSE NO. 133943



DITCH B1-B2 PROFILE (A, III.B.7)

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'



DITCH C1-C2 PROFILE (B, III.B.7)

SCALE IN FEET: 0, 10', 20', 40'

SCALE IN FEET: 0, 200', 400'

TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

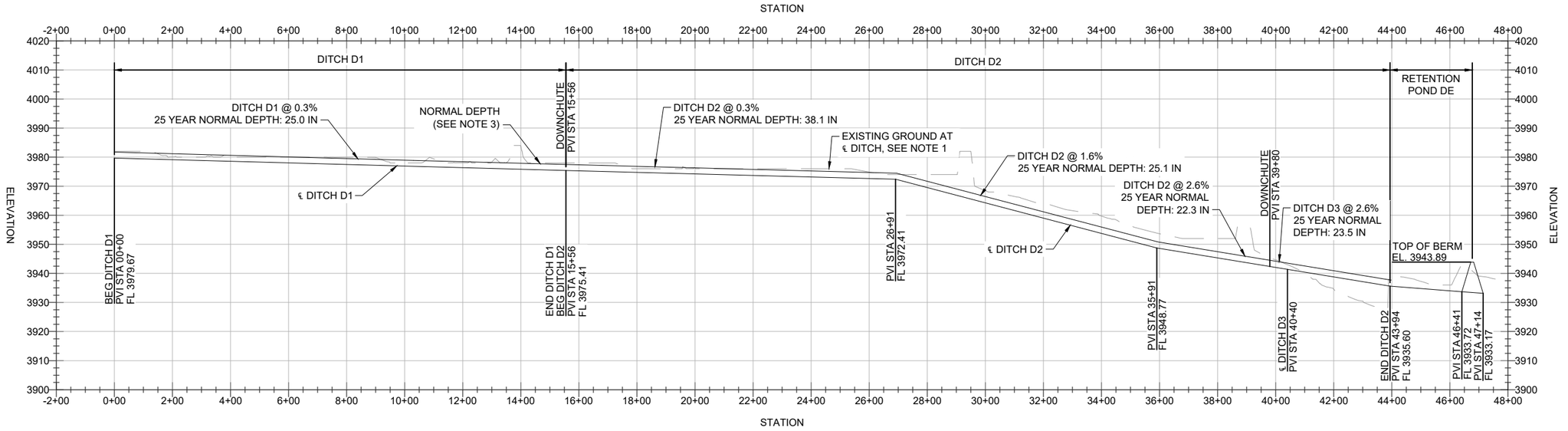
DRAINAGE PROFILES DITCH B1, B2, C1, C2

project	contract
155488	-

drawing **III.B.8** – rev. **2**

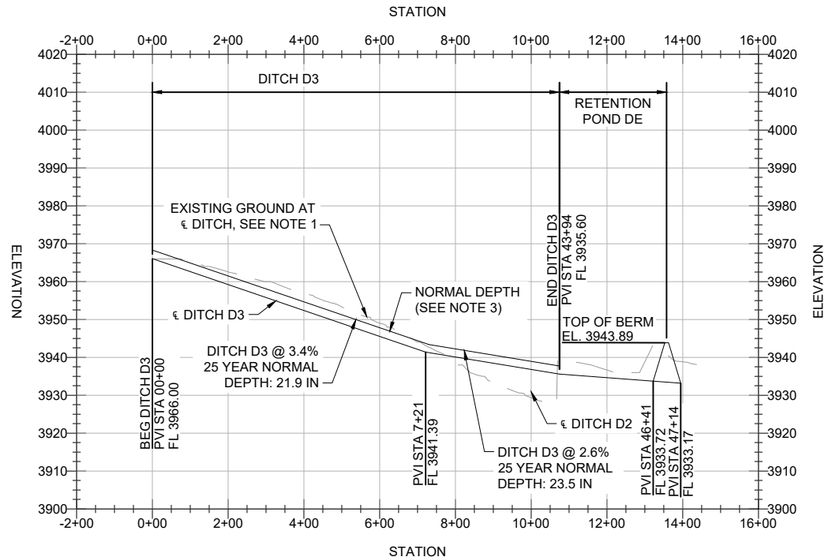
file III.B.8 DRAINAGE PROFILES DITCH B1, B2, C1, C2.dwg

Millimeters
Scale For Microfilming
Inches



DITCH D1-D2 PROFILE — C, III.B.7

0 10' 20' 40'
SCALE IN FEET
0 200' 400'
SCALE IN FEET



DITCH D3 PROFILE — D, III.B.7

0 10' 20' 40'
SCALE IN FEET
0 200' 400'
SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE PROFILES DITCH D1, D2, D3

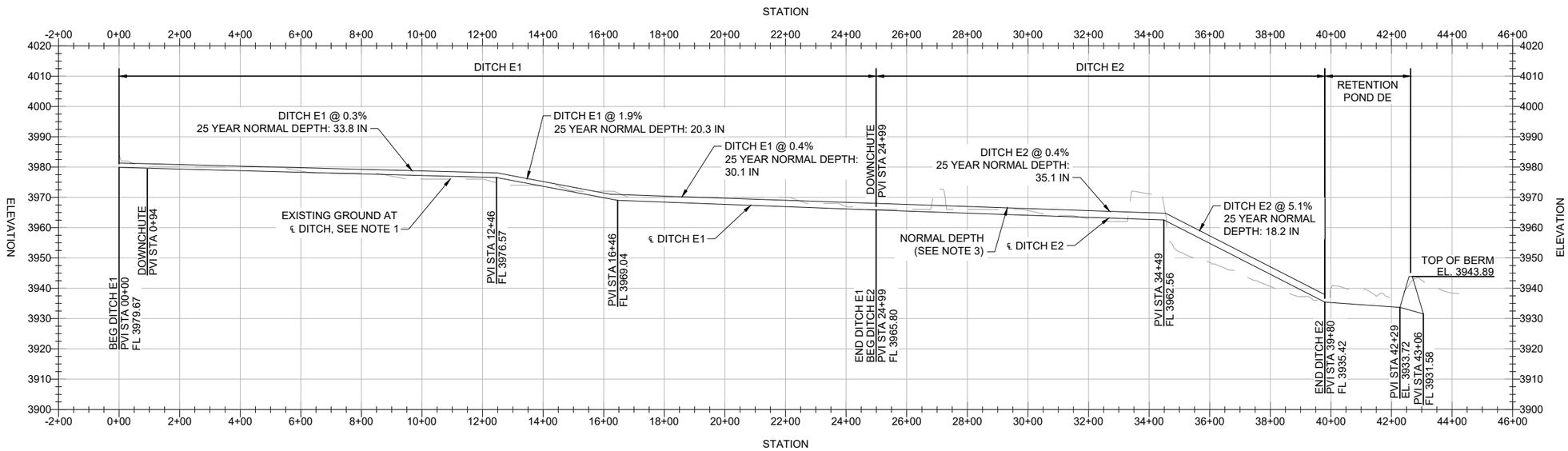
project	contract
155488	-

drawing **III.B.9 – 2**

file III.B.9 DRAINAGE PROFILES DITCH D1, D2, D3.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



DITCH E1-E2 PROFLE — E, III.B.7

0 10' 20' 40'
SCALE IN FEET

0 200' 400'
SCALE IN FEET

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022.
2. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. 25-YEAR NORMAL DEPTH CALCULATIONS PROVIDED IN ATTACHMENT III.B.1, P. III.B-128.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

DRAINAGE PROFILES DITCH E1, E2

project	contract
155488	-

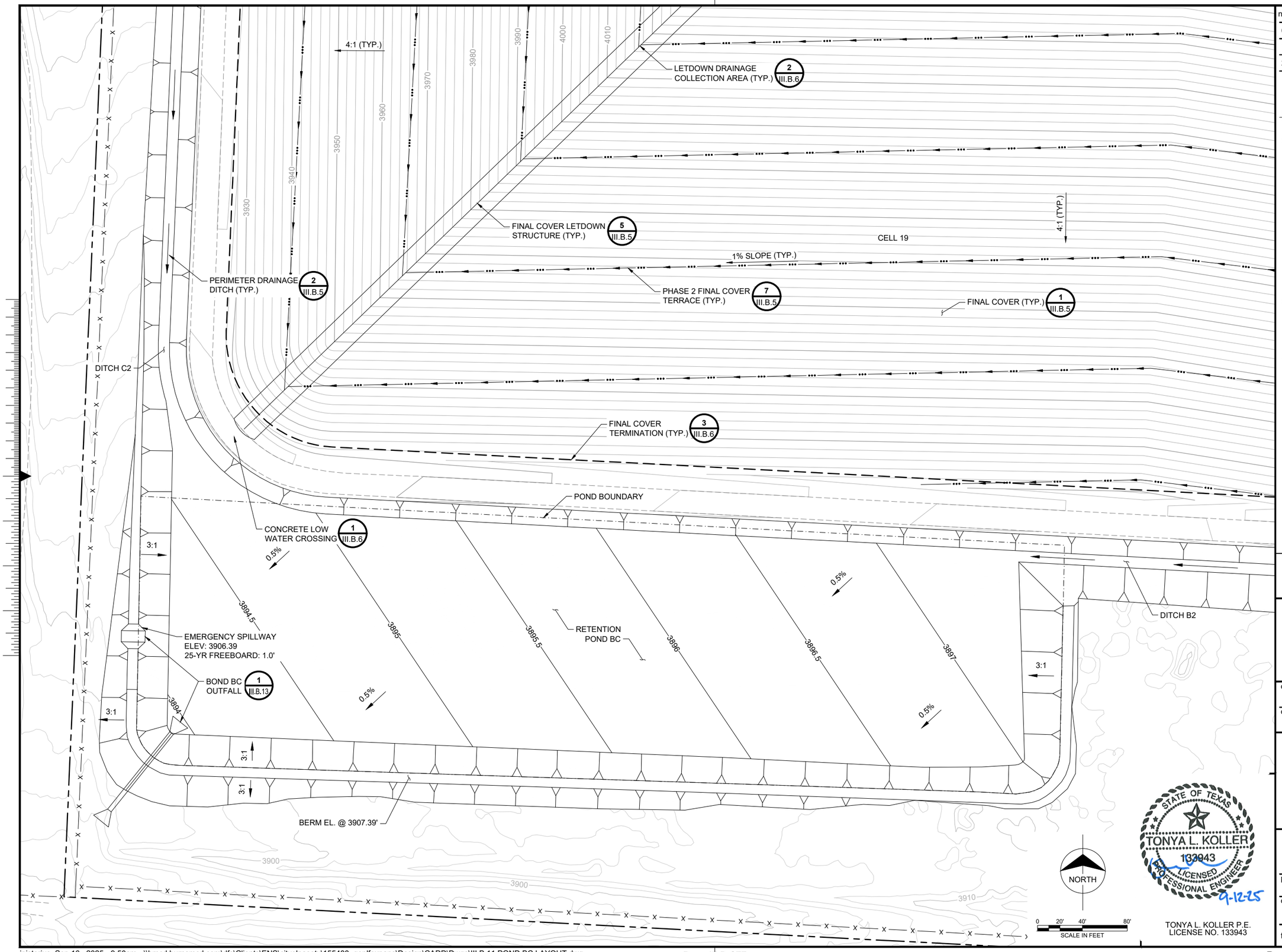
drawing **III.B.10** rev. **2**

file III.B.10 DRAINAGE PROFILES DITCH E1, E2.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Scale For Microfilming: Millimeters / Inches



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

City of El Paso, Texas

2284A PERMIT AMENDMENT

POND BC LAYOUT

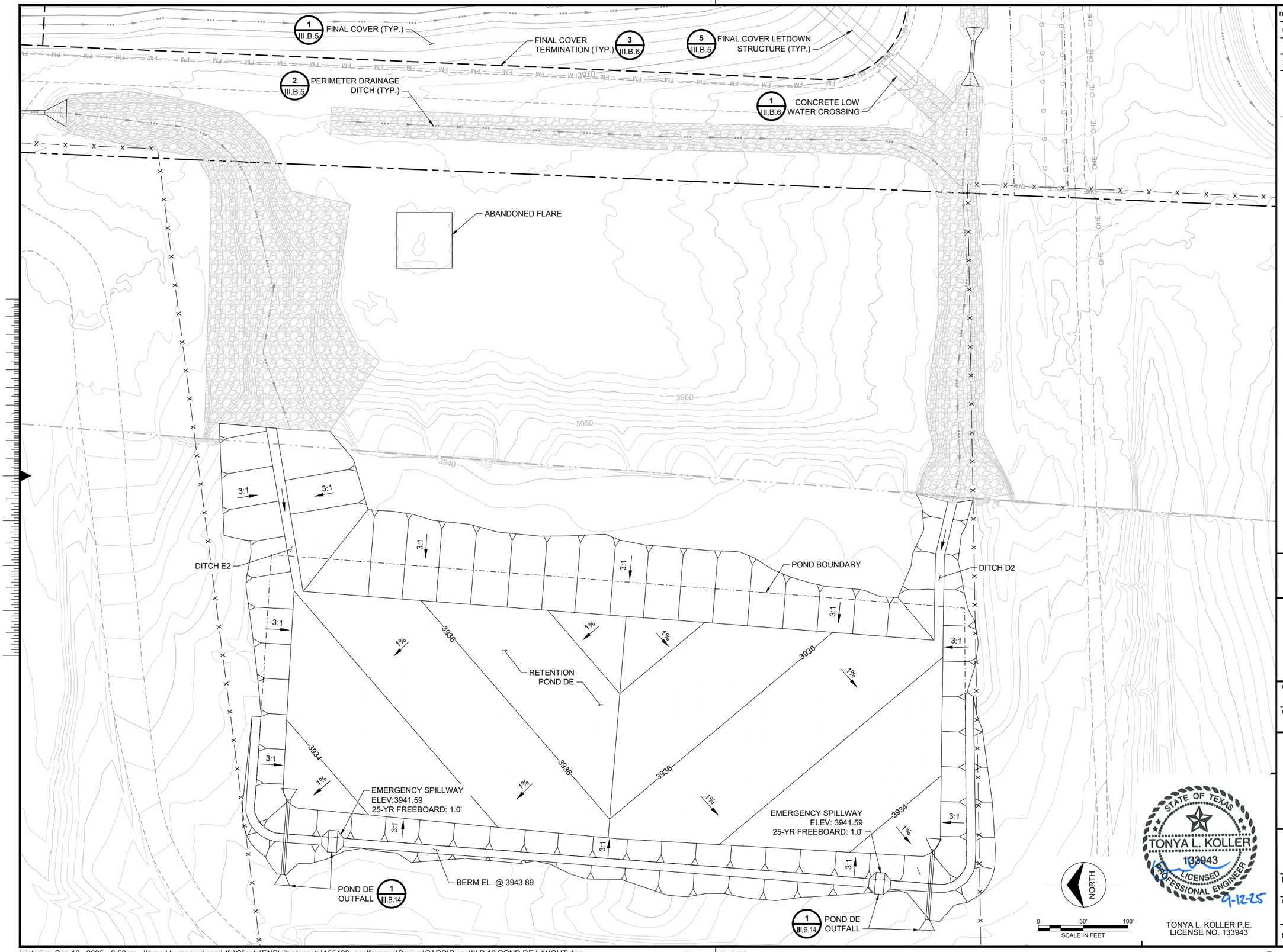
project	contract
155488	-

drawing III.B.11 — rev. 2

file III.B.11 POND BC LAYOUT.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POND DE LAYOUT

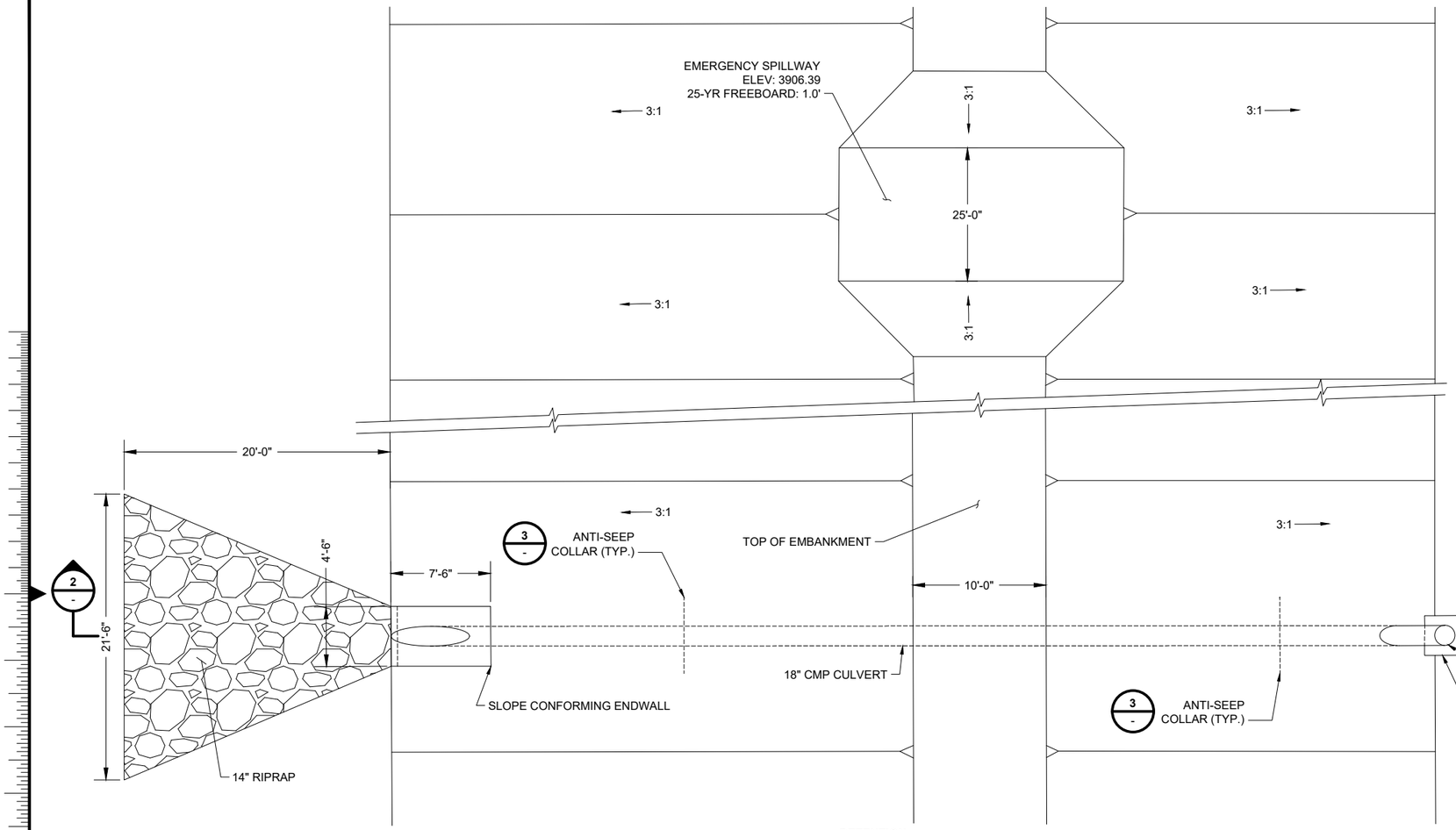
project	contract
155488	-

drawing III.B.12 – rev. 2

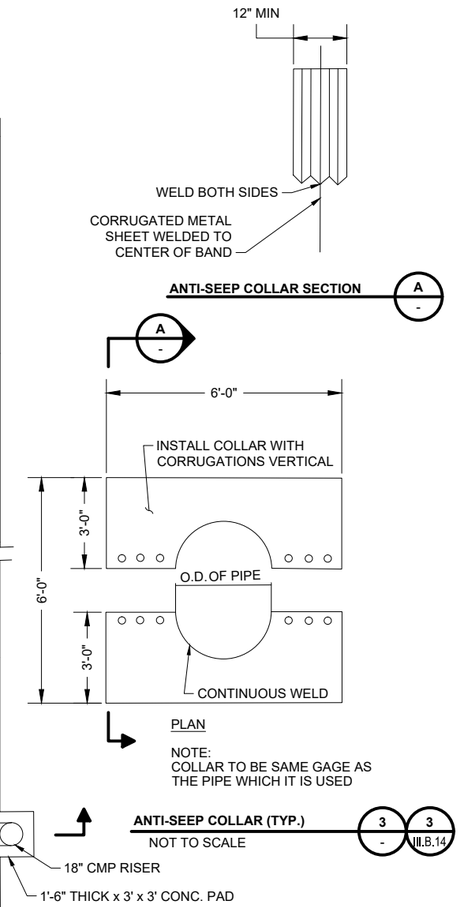
file III.B.12 POND DE LAYOUT.dwg

STATE OF TEXAS TONYA L. KOLLER 133943 LICENSED PROFESSIONAL ENGINEER 9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943



DETENTION
POND BC OUTFALL PLAN
1 III.B.11
0 5' 10'
SCALE IN FEET

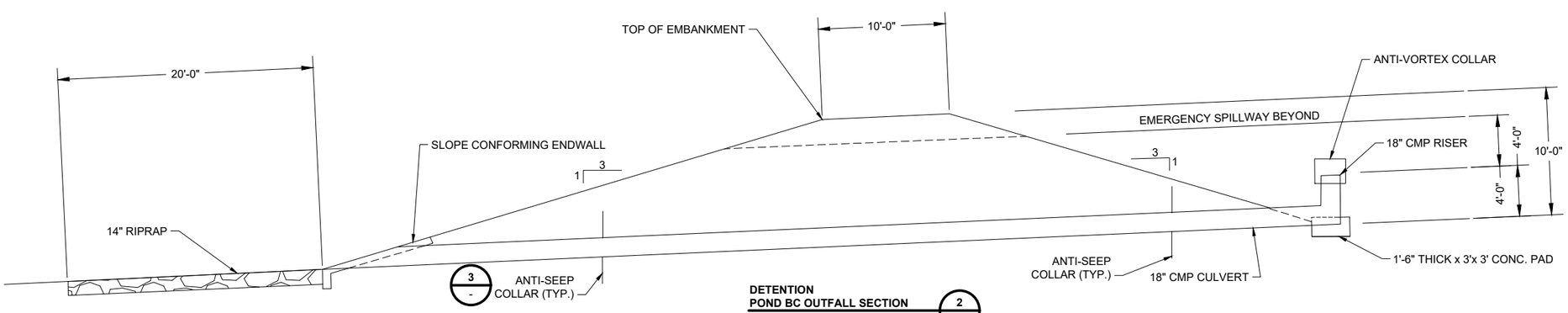


ANTI-SEEP COLLAR SECTION A -

PLAN

NOTE:
COLLAR TO BE SAME GAGE AS THE PIPE WHICH IT IS USED

ANTI-SEEP COLLAR (TYP.) 3 - 3 III.B.14
NOT TO SCALE



DETENTION
POND BC OUTFALL SECTION 2 -
0 5' 10'
SCALE IN FEET

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EPTX CITY OF EL PASO

City of El Paso, Texas

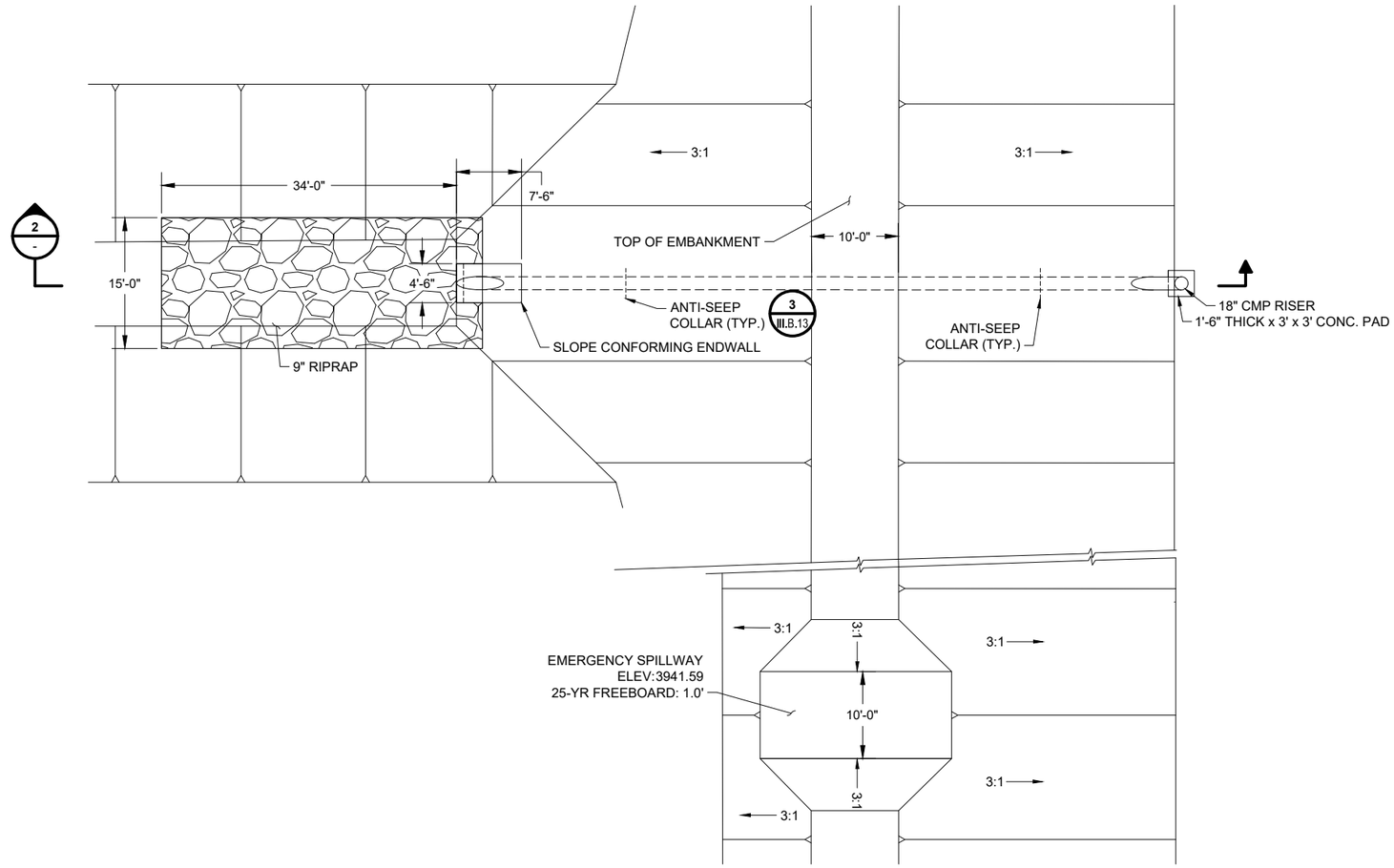
2284A PERMIT AMENDMENT

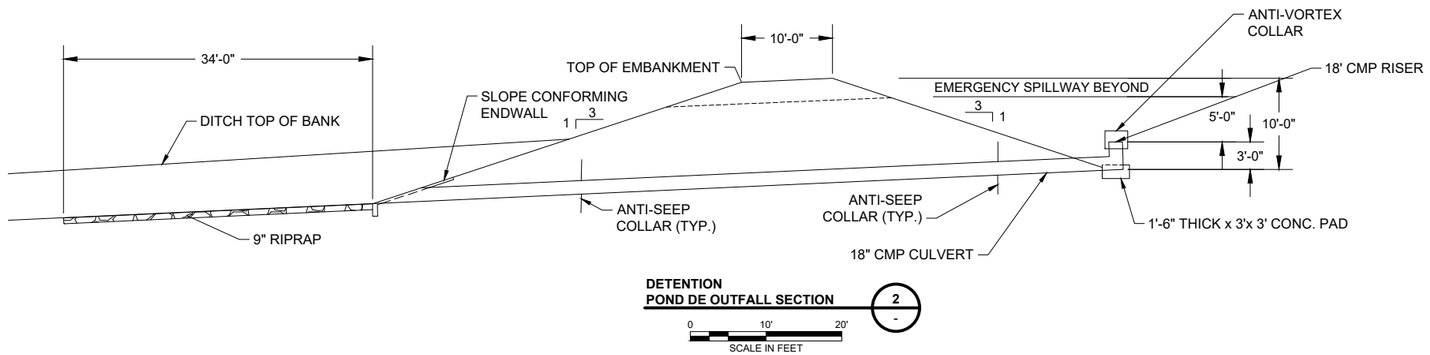
POND BC OUTFALL AND SECTIONS

project	contract
155488	-

drawing **III.B.13** — rev. **2**

file III.B.13 POND BC OUTFALL AND SECTIONS.dwg





no.	date	by	ckd	description
0	5/1/24	TMC	TLK	2284A PERMIT MOD
1	5/16/25	AAN	TJS	TCEQ NOD 1
2	9/12/25	JGP	TLK	TCEQ NOD 2

NORTH

NOT TO SCALE

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
MAY 2024	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POND DE OUTFALL AND SECTIONS

project	contract
155488	-

drawing **III.B.14** rev. **2**

file III.B.14 POND DE OUTFALL AND SECTIONS.dwg

STATE OF TEXAS
TONYA L. KOLLER
133943
LICENSED PROFESSIONAL ENGINEER
9-12-25

TONYA L. KOLLER P.E.
LICENSE NO. 133943

Millimeters
Scale For Microfilming
Inches

Please replace Appendix III.C with the following pages

MSW AUTH NO. 2284A

APPENDIX III.C – LEACHATE AND CONTAMINATED WATER PLAN

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 2
SEPTEMBER 12, 2025

Part III, Appendix III.C
Leachate and Contaminated Water Plan
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

III.C.1.0 Introduction 1

III.C.2.0 Leachate Management [30 TAC §§330.331(a), (b), 330.333] 2

III.C.2.1 Facility Design 2

III.C.2.1.1 Sequence of Development 2

III.C.2.1.2 Alternate Liner Profile 2

III.C.2.1.3 Alternate Final Cover Profile 2

III.C.2.2 Leachate Collection [30 TAC §330.333(3)] 3

III.C.2.2.1 Drainage Layer 3

III.C.2.2.2 Leachate Collection Piping 4

III.C.2.2.3 Leachate Collection Sumps 4

III.C.2.2.4 Leachate Conveyance 4

III.C.2.2.5 Leachate Storage, Treatment and Disposal 5

III.C.2.2.6 Monitoring and Maintenance Activities 5

III.C.2.3 Leachate Generation 6

III.C.2.3.1 Fate and Transport 6

III.C.3.0 Contaminated Water Minimization and Management [30 TAC §§330.207(b), (e), (f), 330.227] 7

ATTACHMENT III.C.1 – DRAWINGS

ATTACHMENT III.C.2 – HISTORICAL HELP AND MULTIMED MODELING FOR ALTERNATE LINER PROFILE

ATTACHMENT III.C.3 – HELP MODELING

ATTACHMENT III.C.4 – PIPE STRENGTH CALCULATIONS

ATTACHMENT III.C.5 – HISTORICAL SUMP CAPACITY CALCULATIONS

ATTACHMENT III.C.6 – LEACHATE EVAPORATION POND CAPACITY CALCULATIONS

ATTACHMENT III.C.7 – CHEMICAL RESISTANCE OF PLASTIC PIPING MATERIALS TECHNICAL REPORT FROM THE PLASTICS PIPE INSTITUTE

Backflow prevention is installed at each sump to prevent leachate from flowing into the sumps from the force main system. Occasionally it may be necessary to withdraw leachate from the collection sumps into tanker trucks for transportation to an authorized and permitted facility for treatment and disposal. In this case, spill containment for truck hose connection and loading is provided by a portable trough or similar spill containment device. Protection is provided at hose connection locations.

III.C.2.2.5 Leachate Storage, Treatment and Disposal

Leachate storage is provided on-site in the sumps and the evaporation ponds. Leachate evaporation pond capacity calculations are provided in **Attachment III.C.6**. These calculations were developed using historical precipitation records rather than a single design storm event (i.e., 25-year, 24-hour of 3.17 inches from NOAA Atlas 14). Historical rainfall data was obtained from Station USW00023044 at the El Paso International Airport for the previous 30 years (1994-2024) to determine an average annual rainfall of 8.40-inches and maximum rainfall of 17.51-inches. Evaluating historical annual precipitation trends provides a more representative basis for assessing pond capacity. This design approach therefore reflects realistic long-term operating conditions.

The pond and force main layouts are shown on Drawing III.C.1 in **Attachment III.C.1**. Pond details are shown on Drawing III.C.5 and III.C.7 in **Attachment III.C.1**. Evaporation pond capacity calculations were completed for each pond under the average and maximum precipitation conditions. Under average precipitation conditions, the Phase 1 and Phase 2 leachate evaporation ponds provide sufficient capacity to evaporate all leachate generated onsite. Under maximum precipitation conditions, the Phase 1 pond continues to meet evaporation requirements for Phase 1 leachate; however, the Phase 2 pond storage requirements exceed its evaporation capacity. If evaporation ponds approach or reach their storage capacity, leachate will be collected in tanker trucks and transported to a permitted facility for treatment and disposal. All leachate transferred to offsite facilities will be handled in compliance with TCEQ requirements in accordance with 30 §TAC 330.207(e).

III.C.2.2.6 Monitoring and Maintenance Activities

Regular maintenance and monitoring for the leachate collection and transfer system is performed and will continue to be performed throughout the development of the GEP Landfill, and for at least 30 years after closure. The following monitoring and maintenance activities are performed:

- Depth of leachate on liner: The depth of leachate is measured with an electric liquid level indicator located in the leachate sump. The depth of fluid (if any) above the liner at the top of the sump is read and recorded monthly and after significant rainfall events during the active life of the GEP Landfill, and will be recorded semi-annually during the post-closure period. Monitors are located at the sump.
- Pump maintenance/replacement: Portable pumps are maintained as appropriate. The permanent sump pumps are checked annually and maintained as necessary. Backup pumps (portable pumps) are provided so the primary pumps may be removed and repaired. Maintenance activities on the pumps will continue to occur during the post-closure period.
- Cleanout: Cleanouts have been provided on all collectors. Cleanout activities occur on an annual basis, or more often as needed, and will continue during the post-closure period.
- Storage facilities: Leachate is pumped to the evaporation ponds. The evaporation ponds are inspected annually for leaks, tears, or damage to the liner. Inspections are performed as outlined in the Site Operating Plan and is completed when the ponds are dry. Any sediment remaining after the ponds are dry is washed or swept to the deepest part of the pond. Following sediment removal, the liner may be thoroughly inspected. A concrete pad at the deep end allows equipment to access the bottom of the ponds and remove any sediment. If the ponds are

III.C.3.0 Contaminated Water Minimization and Management [30 TAC §§330.207(b), (e), (f), 330.227]

Stormwater is managed to limit the quantity that may come into contact with waste. Berms are utilized to segregate uncontaminated rainfall from leachate in parts of the cell area that have not yet received waste. As operations progress to an aerial fill, an intermediate layer of soil is placed over inactive areas that are not filled to final grade. As landfill areas are brought to final grade, final cover will be installed in accordance with Appendix III.D.

The GEP Landfill's leachate collection system collects leachate and conveys it via a force main system to two lined evaporation ponds, as discussed in **Section III.C.2.2.5**. Leachate evaporation pond capacity calculations are provided in **Attachment III.C.6**. The City tracks operations at the GEP Landfill to evaluate leachate generation.

Containment berms and liner termination berms have been and will be constructed to prevent water from undeveloped areas of the GEP Landfill from entering the lined area. The berms have been designed for the 25-year 24-hour storm event. Refer to Part III, Appendix III.B for berm design calculations and Attachment III.B.3, Drawings III.B.4, III.B7, III.B.8, and III.B.9 for berm locations and profiles. In addition, working face berms are constructed as operations progress to an aerial fill. Any water that comes in contact with waste is confined in the working face area and is collected in the leachate collection system. Should a rainfall event occur whereby the collected contaminated surface water run-off remains on the working face for 48 hours, the excess contaminated water will be pumped out of the area to tanker trucks and transported to the on-site storage facilities (e.g., leachate evaporation ponds) or off-site for proper disposal/treatment. There will be no off-site discharge of contaminated water.

The interim drainage controls help to minimize the amount of water entering the leachate collection system and potential flooding in the developed cell area. Water that is collected outside the working face area, but within the cell area, is considered to be uncontaminated and can be pumped out of the excavated area if water accumulation is excessive (does not evaporate within 48 hours).

ATTACHMENT III.C.6 – LEACHATE EVAPORATION POND CAPACITY CALCULATIONS

Phase 1 Leachate Evaporation Pond Calculations - Average Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	147	Based on design
Width	feet	97	Based on design
Total Liner Surface Area	square feet	20,006	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,250	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	30,879	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	230,978	Volume provided converted to gallons (1 CF = 7.48 gal)

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	3,677	5,105	2,764	1,975	3,480	9,863	20,009	20,358	18,464	7,816	5,286	5,913	104,709
Monthly Leachate Generation from Landfill[4]	gallons	1,053	1,463	792	566	997	2,826	5,733	5,833	5,290	2,239	1,514	1,694	30,000
Net Volume in (Precip + Leachate)	gallons	4,730	6,567	3,555	2,541	4,476	12,689	25,741	26,191	23,754	10,055	6,800	7,607	134,709

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Precipitation - Depth[1]	feet	0.02	0.03	0.02	0.01	0.02	0.07	0.13	0.14	0.12	0.05	0.04	0.04
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.22	0.27	0.51	0.70	0.84	0.91	0.67	0.65	0.55	0.46	0.28	0.18
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	3,066	3,915	7,305	10,023	11,925	12,926	9,553	9,208	7,830	6,600	3,960	2,542
Net Volume Out (ET Vol)	gallons	22,935	29,286	54,642	74,976	89,199	96,683	71,457	68,876	58,568	49,365	29,623	19,011

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed (In less Out)	gallons	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

Conclusion: **Under average precipitation levels, the evaporation exceeds leachate generation for every month. Therefore, there is no accumulation of leachate in the Phase 1 Leachate Evaporation Pond.**

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the HELP simulated precipitation (average of 10.29 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation (HELP model results included in Attachment III.C.3). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. In order to simulate a worst case scenario, these calculations assume all 30,000 gallons are directed to the Phase 1 Leachate Evaporation Pond for this calculation. The current open area in Phase 2 Cells 11-14 is 51.0 acres and the Phase 1 vertical expansion area is 34.6 acres, so this assumption is conservative.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

Phase 2 Leachate Evaporation Pond Calculations - Average Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	148	Based on design
Width	feet	98	Based on design
Total Liner Surface Area	square feet	19,256	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,504	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	31,524	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	235,800	Volume provided converted to gallons (1 CF = 7.48 gal)
Cell 11-14 Area	acres	51.0	
Cell 15-20 Area	acres	71.5	
Phase 2 Area (Cell 11-20)	acres	122.5	
Phase 2 Area : Cell 11-14 Area ratio	N/A	2.4	

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	3,539	4,913	2,660	1,901	3,349	9,494	19,259	19,596	17,772	7,523	5,088	5,692	100,786
Monthly Leachate Generation from Landfill[4]	gallons	2,529	3,512	1,901	1,359	2,394	6,786	13,765	14,006	12,703	5,377	3,636	4,068	72,036
Net Volume in (Precip + Leachate)	gallons	6,068	8,425	4,561	3,260	5,743	16,280	33,024	33,602	30,475	12,900	8,724	9,760	172,822

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Precipitation - Depth[1]	feet	0.02	0.03	0.02	0.01	0.02	0.07	0.13	0.14	0.12	0.05	0.04	0.04
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.22	0.27	0.51	0.70	0.84	0.91	0.67	0.65	0.55	0.46	0.28	0.18
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	3,121	3,985	7,436	10,202	12,138	13,156	9,724	9,373	7,970	6,717	4,031	2,587
Net Volume Out (ET Vol)	gallons	23,345	29,809	55,618	76,315	90,792	98,410	72,733	70,106	59,614	50,246	30,152	19,350

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed	gallons	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

<u>Conclusion:</u> Under average precipitation levels, the evaporation exceeds leachate generation for every month. Therefore, there is no accumulation of leachate in the Phase 2 Leachate Evaporation Pond.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the HELP simulated precipitation (average of 10.29 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation (HELP model results included in Attachment III.C.3). Based on conversations with the City, the Landfill currently generates approximately 30,000 gallons of leachate per year on average. The total area of Phase 2 when fully developed (Cells 11-20) will be 122.5 acres, representing an area increase by a factor of 2.4 relative to the area of Phase 2 currently open (Cells 11-14, 51.0 acres). In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor or 2.4, which represents 72,036 gallons to the Phase 2 Leachate Evaporation Pond.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

Phase 1 Leachate Evaporation Pond Calculations - Maximum Precipitation Conditions

Greater El Paso Landfill, 2284A **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	147	Based on design
Width	feet	97	Based on design
Total Liner Surface Area	square feet	20,006	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,250	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	30,879	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	230,978	Volume provided converted to gallons (1 CF = 7.48 gal)
Maximum Annual : Average Annual ratio	N/A	2.1	The increase from the average annual precipitation to the maximum annual precipitation for 1994-2024.

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Monthly Precipitation Based on Max Annual Rainfall[7]	inches	0.61	0.85	0.46	0.33	0.58	1.65	3.35	3.40	3.09	1.31	0.88	0.99	17.51
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	7,667	10,645	5,763	4,119	7,256	20,569	41,724	42,454	38,503	16,299	11,022	12,331	218,352
Monthly Leachate Generation from Landfill[4]	gallons	2,197	3,050	1,651	1,180	2,079	5,893	11,954	12,163	11,031	4,670	3,158	3,533	62,560
Net Volume in (Precip + Leachate)	gallons	9,864	13,695	7,414	5,299	9,335	26,462	53,679	54,617	49,535	20,969	14,180	15,864	280,912

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Monthly Precipitation - Depth[7]	feet	0.05	0.07	0.04	0.03	0.05	0.14	0.28	0.28	0.26	0.11	0.07	0.08
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22
Net Evaporation Depth (ET = PET - Precip)	feet	0.19	0.24	0.49	0.69	0.81	0.84	0.53	0.50	0.42	0.41	0.24	0.14
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	2,686	3,388	7,020	9,819	11,565	11,906	7,485	7,104	5,922	5,792	3,414	1,930
Net Volume Out (ET Vol)	gallons	20,093	25,340	52,506	73,449	86,509	89,058	55,990	53,138	44,294	43,323	25,537	14,439

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Pond Storage Needed	gallons	-	-	-	-	-	-	-	1,479	5,240	-	-	1,425
Monthly Pond Storage Needed Beyond Existing Pond Capacity	gallons	-	-	-	-	-	-	-	-	-	-	-	-

Conclusion: **Under maximum precipitation levels, the evapotranspiration exceeds leachate generation for January-July, October, and November. Leachate generation exceeds evapotranspiration in August, September, and December. The volume of leachate generated is significantly less than the capacity provided by the Phase 1 Leachate Evaporation Pond.**

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation for intermediate conditions (HELP model results included in Attachment III.C.6). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. This is assumed to be under the average annual precipitation of 8.40 inches. The maximum average annual precipitation at the Landfill is 17.51 inches, representing 2.1 times the average annual precipitation. In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor of 2.1, which represents 62,560 gallons, all of which is assumed to be directed to the Phase 1 Leachate Evaporation Pond. The current open area in Phase 2 Cells 11-14 is 51.0 acres and the Phase 1 vertical expansion area is 34.6 acres, so this assumption is conservative.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

[7] Calculated based on the maximum precipitation times the percentage of annual rainfall each month.

Phase 2 Leachate Evaporation Pond Calculations - Maximum Precipitation Conditions **Greater El Paso Landfill, 2284A** **9/12/2025**

Evaporation Pond Data	Units	Value	Sources/Notes/Equations
Length	feet	148	Based on design
Width	feet	98	Based on design
Total Liner Surface Area	square feet	19,256	Based on design
Depth (3:1)	feet	3	The depths of the evaporation ponds ranges from 3 feet to 4 feet (see Drawing III.C.6, detail 5). A depth of 3 feet was used for the entire pond as a conservative estimate.
Total Water Surface Area at Depth	square feet	14,504	= Design L * W at 3-ft Pond Depth
Volume Provided	cubic feet	31,524	$V = \frac{(Ab + aB + 2(ab + AB)) \cdot h}{6}$
Volume Provided	gallons	235,800	Volume provided converted to gallons (1 CF = 7.48 gal)
Maximum Annual : Average Annual ratio	N/A	2.1	The increase from the average annual precipitation to the maximum annual precipitation for 1994-2024.

Pond Inputs	Units	Value	Sources/Notes/Equations
HELP Model Annual Leachate Generation Max Precip	cu ft/acre	10,313.7	Annual Leachate Generation Modeled in HELP with maximum annual precipitation (17.51 inches)
HELP Model Annual Leachate Generation Max Precip	gal/acre	77,146	Leachate generation converted to gallons/acre
Leachate Generated from Cells 15-18 (HELP)	gallons	3,681,478	Leachate generation multiplied by acreage of Cells 15-18 (47.7 acres)
Leachate Generated from Cells 11-14[8]	gallons	62,560	Normal average leachate generation of 30,000 gallons times precipitation ratio.

Pond Input	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	inches	0.29	0.41	0.22	0.16	0.28	0.79	1.60	1.63	1.48	0.63	0.42	0.47	8.40
Percentage of Annual Rainfall Each Month[2]	%	3.5%	4.9%	2.6%	1.9%	3.3%	9.4%	19.1%	19.4%	17.6%	7.5%	5.0%	5.6%	100%
Monthly Precipitation Based on Max Annual Rainfall[7]	inches	0.61	0.85	0.46	0.33	0.58	1.65	3.35	3.40	3.09	1.31	0.88	0.99	17.51
Mean Monthly Precipitation Generation in Ponds (Precip * Liner Area) - Volume[3]	gallons	7,380	10,246	5,547	3,964	6,984	19,798	40,161	40,863	37,060	15,688	10,609	11,869	210,171
Monthly Leachate Generation from Landfill[4]	gallons	131,466	182,527	98,815	70,623	124,418	352,685	715,438	727,951	660,205	279,472	189,000	211,438	3,744,037
Net Volume in (Precip + Leachate)	gallons	138,845	192,773	104,362	74,588	131,402	372,482	755,599	768,815	697,265	295,160	199,609	223,307	3,954,208

Pond Output	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Monthly Precipitation - Depth[1]	feet	0.05	0.07	0.04	0.03	0.05	0.14	0.28	0.28	0.26	0.11	0.07	0.08	
Monthly Reference ET for Open-Water (ETo)[5]	inches	2.74	3.53	6.07	8.19	9.83	11.12	9.19	8.94	7.69	5.89	3.58	2.49	
Open-water Coefficient (Kc)[6]	--	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	
Potential Evaporation Depth (PET = ETo * Kc)	feet	0.24	0.31	0.53	0.72	0.86	0.97	0.80	0.78	0.67	0.52	0.31	0.22	
Net Evaporation Depth (ET = PET - Precip)	feet	0.19	0.24	0.49	0.69	0.81	0.84	0.53	0.50	0.42	0.41	0.24	0.14	
Potential Evaporation Volume (ET * Surface Water Area)	cubic feet	2,734	3,448	7,145	9,995	11,772	12,119	7,619	7,231	6,027	5,895	3,475	1,965	
Net Volume Out (ET Vol)	gallons	20,452	25,792	53,444	74,761	88,054	90,649	56,989	54,087	45,085	44,096	25,993	14,697	594,100

	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Pond Storage Needed	gallons	118,394	166,981	50,918	-	43,348	281,834	698,609	714,728	652,180	251,064	173,616	208,610	
Cumulative Pond Volume	gallons	118,394	285,375	286,718	235,627	278,974	517,633	934,409	950,527	887,979	486,864	409,416	444,409	
Excess Volume of Leachate to be Hauled	gallons	-	49,575	50,918	-	43,175	281,834	698,609	714,728	652,180	251,064	173,616	208,610	3,124,309

Conclusion: Under maximum precipitation levels, leachate pond storage requirements exceed the leachate evaporation pond capacity. During excessive rain condtions, the City may have to haul leachate to a permitted facility as discussed in Section III.C.2.2.5 of Part III, Appendix III.C.

Sources/Notes/Equations:

[1] NOAA National Centers for Environmental Information Climate Data for El Paso International Airport, 1994-2024.

[2] Mean monthly precipitation divided by 8.40 inches

[3] Mean monthly precipitation depth converted to gallons (precip inches * 1 ft / 12 inches * pond area * 7.48 gal / 1 CF)

[4] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 10,313.7 cf/acre for leachate generation for Cells 15-18 under open conditions (HELP model results included in Attachment III.C.6). For Cells 11-14, see note 8, which is added to the Cell 15-18 HELP model data, all of which is assumed to be directed to the Phase 2 Leachate Evaporation Pond. When the City moves into Cells 15-18, this is the "worst case" for leachate generation with 47.7 acres under open condition and Cells 11-14 (51.0 acres) under intermediate condition.

[5] Texas A&M AgriLife Extension - historic Eto for El Paso. https://texaset.tamu.edu/ (select "average Eto" from "ET and Weather Data" drop down)

[6] Food and Agriculture Organization of the United Nations - Irrigation and Drainage paper No. 56. https://www.fao.org/4/x0490e/x0490e0b.htm

[7] Calculated based on the maximum precipitation times the percentage of annual rainfall each month.

[8] The HELP model results using the maximum precipitation (17.51 inches per year) for the location of the Landfill resulted in 0 gallons of leachate generation for intermediate conditions (HELP model results included in Attachment III.C.6). Based on conversations with the City, the Landfill generates approximately 30,000 gallons of leachate per year on average. This is assumed to be under the average annual precipitation of 8.40 inches. The maximum average annual precipitation at the Landfill is 17.51 inches, representing 2.1 times the average annual precipitation. In order to simulate a worst case scenario, yearly leachate generation was assumed to be 30,000 gallons multiplied by a factor of 2.1, which represents 62,560 gallons, all of which is assumed to be directed to the Phase 2 Leachate Evaporation Pond.

LEACHATE EVAPORATION PONDS – OPEN CONDITION HELP MODEL OUTPUT (MAXIMUM PRECIPITATION)

HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
HELP MODEL VERSION 4.0 BETA (2018)
DEVELOPED BY USEPA NATIONAL RISK MANAGEMENT RESEARCH LABORATORY

Title: GEP Landfill - Open Condition **Simulated On:** 9/5/2025 11:58

Layer 1

Type 1 - Vertical Percolation Layer (Cover Soil)
Daily Cover
Material Texture Number 45

Thickness	=	6	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 2

Type 1 - Vertical Percolation Layer (Waste)
Municipal Solid Waste (MSW) (900 pcy)
Material Texture Number 18

Thickness	=	120	inches
Porosity	=	0.671	vol/vol
Field Capacity	=	0.292	vol/vol
Wilting Point	=	0.077	vol/vol
Initial Soil Water Content	=	0.2	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-03	cm/sec

Layer 3

Type 1 - Vertical Percolation Layer
Drainage Layer
Material Texture Number 44

Thickness	=	24	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 4

Type 2 - Lateral Drainage Layer
Geonet Geocomposite
Material Texture Number 43

Thickness	=	0.24	inches
Porosity	=	0.85	vol/vol
Field Capacity	=	0.01	vol/vol
Wilting Point	=	0.005	vol/vol
Initial Soil Water Content	=	0.01	vol/vol
Effective Sat. Hyd. Conductivity	=	2.00E+00	cm/sec
Slope	=	2	%
Drainage Length	=	260	ft

Layer 5
Type 4 - Flexible Membrane Liner
HDPE Membrane
Material Texture Number 35

Thickness	=	0.06	inches
Effective Sat. Hyd. Conductivity	=	2.00E-13	cm/sec
FML Pinhole Density	=	4	Holes/Acre
FML Installation Defects	=	4	Holes/Acre
FML Placement Quality	=	3	Good

Layer 6
Type 3 - Barrier Soil Liner
Bentonite (High)
Material Texture Number 17

Thickness	=	0.24	inches
Porosity	=	0.75	vol/vol
Field Capacity	=	0.747	vol/vol
Wilting Point	=	0.4	vol/vol
Initial Soil Water Content	=	0.75	vol/vol
Effective Sat. Hyd. Conductivity	=	3.00E-09	cm/sec

Note: Initial moisture content of the layers and snow water were specified by the user.

General Design and Evaporative Zone Data

SCS Runoff Curve Number	=	97	
Fraction of Area Allowing Runoff	=	0	%
Area projected on a horizontal plane	=	1	acres
Evaporative Zone Depth	=	24	inches

Initial Water in Evaporative Zone	=	4.74	inches
Upper Limit of Evaporative Storage	=	14.796	inches
Lower Limit of Evaporative Storage	=	1.896	inches
Initial Snow Water	=	0	inches
Initial Water in Layer Materials	=	29.882	inches
Total Initial Water	=	29.882	inches
Total Subsurface Inflow	=	0	inches/year

Note: SCS Runoff Curve Number was calculated by HELP.

Evapotranspiration and Weather Data

Station Latitude	=	31.63	Degrees
Maximum Leaf Area Index	=	0	
Start of Growing Season (Julian Date)	=	66	days
End of Growing Season (Julian Date)	=	315	days
Average Wind Speed	=	9.2	mph
Average 1st Quarter Relative Humidity	=	40	%
Average 2nd Quarter Relative Humidity	=	27	%
Average 3rd Quarter Relative Humidity	=	46	%
Average 4th Quarter Relative Humidity	=	48	%

Note: Evapotranspiration data was obtained for El Paso, Texas

Normal Mean Monthly Precipitation (inches)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
0.79	0.8	0.43	0.35	0.67	1.46
3.47	3.5	3.03	1.07	0.77	1.134516

Note: Precipitation was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0

Normal Mean Monthly Temperature (Degrees Fahrenheit)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
46.5	51.2	58.8	66.5	76	84
84.3	82.7	77.3	67.2	55.1	46.6

Note: Temperature was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0
Solar radiation was simulated using NSRDB data for the following location:

Average Annual Totals Summary

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:00

	Average Annual Totals for Years 1 - 10*			
	(inches)	[std dev]	(cubic feet)	(percent)
Precipitation	17.40	[0.35]	63,162.0	100.00
Runoff	0.000	[0]	0.0000	0.00
Evapotranspiration	13.457	[2.147]	48,847.4	77.34
Subprofile1				
Lateral drainage collected from Layer 4	2.8412	[2.8978]	10,313.7	16.33
Percolation/leakage through Layer 6	0.000003	[0.000002]	0.0113	0.00
Average Head on Top of Layer 5	0.0089	[0.0091]	---	---
Water storage				
Change in water storage	1.1022	[1.5064]	4,000.9	6.33

* Note: Average inches are converted to volume based on the user-specified area.

Peak Values Summary

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:00

	Peak Values for Years 1 - 10*		
	(inches)		(cubic feet)
Precipitation	3.50		12,705.0
Runoff	0.000		0.0000
Subprofile1			
Drainage collected from Layer 4	0.1723		625.3
Percolation/leakage through Layer 6	0.000000		0.0003
Average head on Layer 5	0.1976		---
Maximum head on Layer 5	0.3850		---
Location of maximum head in Layer 4	6.62	(feet from drain)	
Other Parameters			
Snow water	0.7803		2,832.5
Maximum vegetation soil water	0.3731	(vol/vol)	
Minimum vegetation soil water	0.1666	(vol/vol)	

Final Water Storage in Landfill Profile at End of Simulation Period

Title: GEP Landfill - Open Condition
Simulated on: 9/5/2025 12:01
Simulation period: 10 years

	Final Water Storage	
Layer	(inches)	(vol/vol)
1	0.6032	0.1005
2	33.9322	0.2828
3	6.1695	0.2571
4	0.0192	0.0798
5	0.0000	0.0000
6	0.1800	0.7500
Snow water	0.0000	---

LEACHATE EVAPORATION PONDS – INTERMEDIATE CONDITION HELP MODEL OUTPUT (MAXIMUM PRECIPITATION)

HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
HELP MODEL VERSION 4.0 BETA (2018)
DEVELOPED BY USEPA NATIONAL RISK MANAGEMENT RESEARCH LABORATORY

Title: GEP Landfill - Int. Cover **Simulated On:** 9/8/2025 9:15

Layer 1

Type 1 - Vertical Percolation Layer (Cover Soil)
Intermediate Cover
Material Texture Number 45

Thickness	=	12	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 2

Type 1 - Vertical Percolation Layer (Waste)
Municipal Solid Waste (MSW) (900 pcy)
Material Texture Number 18

Thickness	=	2364	inches
Porosity	=	0.671	vol/vol
Field Capacity	=	0.292	vol/vol
Wilting Point	=	0.077	vol/vol
Initial Soil Water Content	=	0.2	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-03	cm/sec

Layer 3

Type 1 - Vertical Percolation Layer
Drainage Layer
Material Texture Number 44

Thickness	=	24	inches
Porosity	=	0.453	vol/vol
Field Capacity	=	0.19	vol/vol
Wilting Point	=	0.085	vol/vol
Initial Soil Water Content	=	0.19	vol/vol
Effective Sat. Hyd. Conductivity	=	1.00E-04	cm/sec

Layer 4

Type 2 - Lateral Drainage Layer
Geonet Geocomposite
Material Texture Number 43

Thickness	=	0.24	inches
Porosity	=	0.85	vol/vol
Field Capacity	=	0.01	vol/vol
Wilting Point	=	0.005	vol/vol
Initial Soil Water Content	=	0.01	vol/vol
Effective Sat. Hyd. Conductivity	=	2.00E+00	cm/sec
Slope	=	2	%
Drainage Length	=	260	ft

Layer 5
Type 4 - Flexible Membrane Liner
HDPE Membrane
Material Texture Number 35

Thickness	=	0.06	inches
Effective Sat. Hyd. Conductivity	=	2.00E-13	cm/sec
FML Pinhole Density	=	4	Holes/Acre
FML Installation Defects	=	4	Holes/Acre
FML Placement Quality	=	3	Good

Layer 6
Type 3 - Barrier Soil Liner
Bentonite (High)
Material Texture Number 17

Thickness	=	0.24	inches
Porosity	=	0.75	vol/vol
Field Capacity	=	0.747	vol/vol
Wilting Point	=	0.4	vol/vol
Initial Soil Water Content	=	0.75	vol/vol
Effective Sat. Hyd. Conductivity	=	3.00E-09	cm/sec

Note: Initial moisture content of the layers and snow water were specified by the user.

General Design and Evaporative Zone Data

SCS Runoff Curve Number	=	97	
Fraction of Area Allowing Runoff	=	0	%
Area projected on a horizontal plane	=	1	acres
Evaporative Zone Depth	=	24	inches

Initial Water in Evaporative Zone	=	4.68	inches
Upper Limit of Evaporative Storage	=	13.488	inches
Lower Limit of Evaporative Storage	=	1.944	inches
Initial Snow Water	=	0	inches
Initial Water in Layer Materials	=	479.822	inches
Total Initial Water	=	479.822	inches
Total Subsurface Inflow	=	0	inches/year

Note: SCS Runoff Curve Number was calculated by HELP.

Evapotranspiration and Weather Data

Station Latitude	=	31.63	Degrees
Maximum Leaf Area Index	=	0	
Start of Growing Season (Julian Date)	=	66	days
End of Growing Season (Julian Date)	=	315	days
Average Wind Speed	=	9.2	mph
Average 1st Quarter Relative Humidity	=	40	%
Average 2nd Quarter Relative Humidity	=	27	%
Average 3rd Quarter Relative Humidity	=	46	%
Average 4th Quarter Relative Humidity	=	48	%

Note: Evapotranspiration data was obtained for El Paso, Texas

Normal Mean Monthly Precipitation (inches)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
0.79	0.8	0.43	0.35	0.67	1.46
3.47	3.5	3.03	1.07	0.77	1.134516

Note: Precipitation was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0

Normal Mean Monthly Temperature (Degrees Fahrenheit)

Jan/Jul	Feb/Aug	Mar/Sep	Apr/Oct	May/Nov	Jun/Dec
46.5	51.2	58.8	66.5	76	84
84.3	82.7	77.3	67.2	55.1	46.6

Note: Temperature was simulated using NOAA data for the following weather stations:
EL PASO INTERNATIONAL AIRPORT, TX US, 0, 0
Solar radiation was simulated using NSRDB data for the following location:

Average Annual Totals Summary

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:20

	Average Annual Totals for Years 1 - 20*			
	(inches)	[std dev]	(cubic feet)	(percent)
Precipitation	17.46	[0.25]	63,361.7	100.00
Runoff	0.000	[0]	0.0000	0.00
Evapotranspiration	12.799	[1.435]	46,459.0	73.32
Subprofile1				
Lateral drainage collected from Layer 4	0.0000	[0]	0.0000	0.00
Percolation/leakage through Layer 6	0.000000	[0]	0.0000	0.00
Average Head on Top of Layer 5	0.0000	[0]	---	---
Water storage				
Change in water storage	4.6564	[1.4239]	16,902.7	26.68

* Note: Average inches are converted to volume based on the user-specified area.

Peak Values Summary

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:21

	Peak Values for Years 1 - 20*		
	(inches)		(cubic feet)
Precipitation	3.50		12,705.0
Runoff	0.000		0.0000
Subprofile1			
Drainage collected from Layer 4	0.0000		0.0000
Percolation/leakage through Layer 6	0.000000		0.0000
Average head on Layer 5	0.0000		---
Maximum head on Layer 5	0.0000		---
Location of maximum head in Layer 4	0.00	(feet from drain)	
Other Parameters			
Snow water	0.7803		2,832.5
Maximum vegetation soil water	0.3787	(vol/vol)	
Minimum vegetation soil water	0.1724	(vol/vol)	

Final Water Storage in Landfill Profile at End of Simulation Period

Title: GEP Landfill - Int. Cover
Simulated on: 9/8/2025 9:21
Simulation period: 20 years

	Final Water Storage	
Layer	(inches)	(vol/vol)
1	2.0622	0.1719
2	566.1454	0.2395
3	4.5600	0.1900
4	0.0024	0.0100
5	0.0000	0.0000
6	0.1800	0.7500
Snow water	0.0000	---

Please replace Appendix III.E with the following pages

MSW AUTH NO. 2284A

APPENDIX III.E – GEOLOGY REPORT

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 2
SEPTEMBER 12, 2025

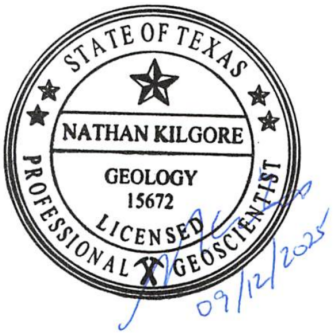
Part III, Appendix III.E
Geology Report
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025



prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

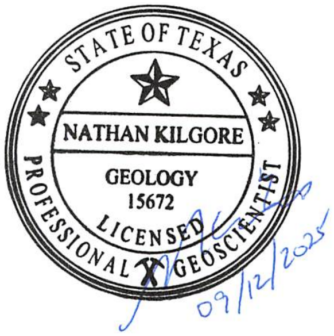
III.E.1.0 Project Information 1
III.E.1.1 Purpose 1
III.E.1.1.1 Report Organization 1
III.E.2.0 Regional Physiography and Topography 2
III.E.3.0 Regional Geology 3
III.E.3.1 Stratigraphy and Lithology 3
III.E.4.0 Geological Processes 5
III.E.4.1 Regional Geological Processes 5
III.E.4.1.1 Faults 5
III.E.4.1.2 Subsidence 5
III.E.4.1.3 Erosion 5
III.E.4.1.4 Earthquake 6
III.E.4.1.5 Liquification Potential 6
III.E.4.1.6 Wetlands 6
III.E.5.0 Regional Hydrogeology 7
III.E.5.1 Regional Aquifers 7
III.E.5.2 Groundwater Composition 7
III.E.5.3 Aquifer Recharge Characteristics 8
III.E.5.4 Aquifer Withdrawal 8
III.E.6.0 Subsurface Investigation 9
III.E.6.1 Boring Plan 9
III.E.6.2 Soil Borings and Sampling Procedures 9
III.E.6.3 General Subsurface Stratigraphy 11
III.E.6.4 Piezometer Borings 11
III.E.6.5 Groundwater Monitoring Well Installation 12
III.E.6.6 Groundwater 12
III.E.6.6.1 Historical Groundwater Elevation 13
III.E.6.6.2 Aquifer Testing 13
III.E.6.6.3 Groundwater Flow Direction 14
III.E.6.6.4 Point of Compliance 15
III.E.6.6.5 Pollutant Migration 15
III.E.7.0 Laboratory Testing 16
III.E.7.1 Soil Testing 16
III.E.7.2 Slope Stability Analysis 16

III.E.7.3 Soil Suitability for Construction..... 16

ATTACHMENT III.E.1 – BOLSONS MAP
ATTACHMENT III.E.2 – USDA WEB SOIL SURVEY
ATTACHMENT III.E.3 – GEOLOGIC ATLAS OF TEXAS, VAN HORN-EL PASO SHEET
ATTACHMENT III.E.4 – REGIONAL GEOLOGIC CROSS-SECTION
ATTACHMENT III.E.5 – GENERALIZED STRATIGRAPHIC COLUMN
ATTACHMENT III.E.6 – SEISMIC HAZARD MAP
ATTACHMENT III.E.7 – TEXAS MAJOR AQUIFERS MAP
ATTACHMENT III.E.8 – HUECO BOLSON CONCEPTUAL CROSS-SECTION
ATTACHMENT III.E.9 – REGIONAL POTENTIOMETRIC SURFACE MAP
ATTACHMENT III.E.10 – BORING LOCATIONS MAP
ATTACHMENT III.E.11 – BORING LIST
ATTACHMENT III.E.12 – HISTORICAL BORING LOGS
ATTACHMENT III.E.13 – HISTORICAL BORING LOG NOTES
ATTACHMENT III.E.14 – FACILITY CROSS SECTIONS
ATTACHMENT III.E.15 – MONITORING WELL SURVEYS
ATTACHMENT III.E.16 – MONITORING WELL AND PIEZOMETER BORING DIAGRAMS
ATTACHMENT III.E.17 – MONITORING WELL LOCATION MAP
ATTACHMENT III.E.18 – MONITORING WELL DATA SHEETS
ATTACHMENT III.E.19 – MONITORING WELL PLUGGING REPORTS
ATTACHMENT III.E.20 – GROUNDWATER ELEVATIONS TABLE
ATTACHMENT III.E.21 –SEASONAL HIGH POTENTIOMETRIC SURFACE MAP AND TABLE
ATTACHMENT III.E.22 – TOTAL DISSOLVED SOLIDS LAB RESULTS
ATTACHMENT III.E.23 – TEXAS WATER WELL DEVELOPMENT BOARD WATER WELL MAP
ATTACHMENT III.E.24 – TEXAS WATER DEVELOPMENT BOARD WELL DATA
ATTACHMENT III.E.25 – ASTM PROCEDURE FOR SLUG TEST
ATTACHMENT III.E.26 – SLUG TEST RESULTS
ATTACHMENT III.E.27 – CONSTANT HEAD PERMEABILITY TEST AND CALCULATION
ATTACHMENT III.E.28 – GEOTECHNICAL RESULTS

TABLES

Table III.E.6-1: Boring Completion Depths and Associated Number of Samples 10
Table III.E.7-1: Geotechnical Testing Procedures 16



an arid region with typical annual rainfall of less than 9 inches per year. Windblown sands are prevalent at the ground surface at the facility and form dunes.

The Surface Water Drainage Report provided in **Part III, Appendix III.B** incorporates armor, berms, and other measures to mitigate surficial erosion from water flow during the life of the facility. Rainfall data obtained from NOAA Atlas 14, Volume 11 (version 2) is provided in **Part III, Appendix III.B.2.3.1**.

Stream flow during storm events is diverted by either the berms or a perimeter drainage ditch during site development of the landfill. Diversion measures are depicted in **Part III, Appendix III.B, Attachment III.B.4**. A narrative description of erosion control is presented in **Part III, Appendix III.B, Attachment III.B.1**.

III.E.4.1.4 Earthquake

The Seismic Hazard Map, “2014 Seismic Hazard Map – Texas”, published by the United States Geological Survey) indicates that the facility is located in a low to moderate seismic impact area. Seismic impact within this area is expected to be low and the potential for severe damage is anticipated to be low during the service life of the facility. The referenced map is presented as **Attachment III.E.6**. Seismic impact zone considerations were incorporated into the slope stability analysis provided in Part III, Appendix III.G, as discussed on page III.G-8. Calculations are presented in Attachment III.G.5. An initial screening-level seismic stability evaluation, using the maximum credible earthquake ground acceleration from the U.S. Geological Survey, indicated a factor of safety of less than 1.0. Accordingly, a more detailed Makdisi and Seed (1978) displacement analysis was conducted. This method accounts for yield accelerations, slope geometry, and site-specific earthquake characteristics to estimate displacements during the design seismic event. The calculated displacement was less than 15 centimeters, which is within the published allowable range for landfill containment systems. Based on these results, the potential for severe damage to the landfill containment structures due to seismic activity is anticipated to be low.

III.E.4.1.5 Liquification Potential

Based on the density of the sandy soils encountered, the depth to groundwater, lack of surface water, and the designated seismic hazard, the liquefaction potential at this facility is considered negligible.

III.E.4.1.6 Wetlands

This is an existing facility and prior to initial permit issuance, the U.S. Army Corps of Engineers, Albuquerque District, determined that there were no regulated wetlands at the facility. A copy of the U.S. Army Corps of Engineers correspondence is provided in **Part I/II, Appendix I/II.G**.

Please replace Appendix III.I with the following pages

MSW AUTH NO. 2284A

APPENDIX III.I – CLOSURE PLAN

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 2
SEPTEMBER 12, 2025

Part III, Appendix I
Closure Plan
MSW Auth No. 2284A

prepared for

City of El Paso, Texas
Greater El Paso Landfill Major Amendment
El Paso County, Texas

Project No. 155488

Revision 0, October 31, 2024
Revision 1, May 16, 2025
Revision 2, September 12, 2025

prepared by

Burns & McDonnell Engineering Company, Inc.
6200 Bridge Point Pkwy, Building 4, Suite 400, Austin, TX 78730
Texas Firm Registration No. F-845

CONTENTS

Closure Plan for MSW Type I Landfill Units/Form TCEQ-20720……..... III.I-1
Attachment III.I.1 – Alternative Final Cover Demonstration……..... III.I-17
Attachment III.I.2 – Final Cover Quality Control Plan……..... III.I-245
Attachment III.I.3 – Closure Schedule…….. III.I-257

Table 2. Description of Waste Storage or Processing Units or Operations Associated with this Permit.

Type of Storage or Processing Unit or Operation (individual units may be closed at any time prior to or during the final facility closure as described in this plan)	Operational Status of Unit	Size of the Area Used for the Storage or Processing Unit or Operation (Acres)	Maximum Inventory of Waste Ever in Storage or Processing Unit or Operation (indicate cubic yards or tons)	Other Information (enter other necessary information that pertains to the unit)
Lined Evaporation Pond	Active	0.46	0 ☒cubic yards ☐tons	Leachate pond
Lined Evaporation Pond	Active	0.44	0 ☒cubic yards ☐tons	Leachate pond
Totals		1.0 acres	0	

B. Waste Inventory Summary

Table 3. Maximum Inventory of Wastes Ever On Site.

Item	Quantity (indicate cubic yards or tons)
Maximum inventory of waste in landfill units (total from Table 1)	34,864,506 ☒cubic yards or ☐tons
Maximum inventory of waste in storage or processing units or operations (total from Table 2)	0 ☒cubic yards or ☐tons
Total Maximum Inventory of Wastes ever on site over the active life of the MSW facility (sum of totals from Tables 1 and 2)	34,864,506 ☒cubic yards or ☐tons

C. Drawings Showing Details of the Waste Management Units at Closure

Table 4. Location of the Drawings showing Details of the Waste Management Units at Closure (outlines, dimensions, maximum elevations of waste and final cover of

landfill units, and waste storage or processing units or operations at closure of the facility).

Drawing Location in the SDP	Drawing Figure Number	Drawing Title	Waste Management Units Details Shown
Part I/II, App. I/II.B	Drawing I/II.B.3	Landfill Cell Expansion Plan	Cell dimensions and outlines.
Part III, App. III.A	Drawing III.A.10	Final Grading Plan	Existing Area and Expansion Area: Top of final cover elevations and maximum waste elevations.
Part III, App. III.C	Drawing III.C.5 and III.C.7	Phase 1 Leachate Evaporation Pond Layout and Phase 2 Leachate Evaporation Pond Layout	Waste storage (leachate) ponds.
Part III, App III.I	Drawing III.I.1	Post-Development Drainage Map	Final contours and surface drainage features (e.g. berms, downchutes, channels, ponds, etc.).

III. Description of the Final Cover System Design

A. Types and Descriptions of the Final Cover Systems

Table 5. Types and Descriptions of the Final Cover Systems Permitted or Proposed for Closure of the Landfill Units.

Landfill Unit Name or Descriptor	Type of Final Cover System	Final Cover System Components Description	Other Information (Enter other information as applicable)
Phase 1 and 2	Alternative Final Cover	6" base layer, 18" infiltration layer, non-woven geotextile, and 4" rock armoring	Attachment III.I.1

B. Design Details

Table 6. Design Details of the Final Cover Top and Side Slopes for the Landfill Units.

Landfill Unit Name or Descriptor	Maximum Final Elevation of Waste (feet above mean sea level [ft-msl])	Maximum Elevation of Top of Final Cover (ft-msl)	Minimum Grade of the Final Cover Top Slope (%)	Maximum Grade of the Final Cover Side Slope (%)	Other Information (enter other information as applicable, e.g. above-grade Class 1 Cell Dikes)
Vertical Expansion of Phase 1	4,126.3 (NAVD 88)	4,127.4 (NAVD 88)	5	25	
Phase 2	4,126.9 (NAVD 88)	4,128.1 (NAVD 88)	5	25	

C. Final Cover Drainage Features

Stormwater drainage and erosion and sediment control features incorporated on the final cover of the landfill units to protect the integrity and effectiveness of the final cover system include *(please list and describe the drainage features to be installed on the final cover at or prior to closure for each landfill unit, or list the drainage features and provide cross references on the location(s) of the descriptive and details (drawing) information in other parts of the SDP)*:

Drawing III.I.1 depicts final contours and surface drainage features (e.g. berms, downchutes, channels, ponds, etc.).

Appendix III.B contains the Surface Water Drainage Report. The report describes the drainage controls incorporated into the site, including perimeter ditches, down chutes, benches, and roadway culverts.

Additional drainage features are detailed in Attachment III.B.3. The drainage profiles for ditches are shown in Drawings III.B.8-III.B.10. For post-development drainage, Drawings III.B.3 and III.B.4 display the map and conditions.

Attachment III.B.2 contains the Erosion and Sedimentation Control Plan. To provide long term erosional stability, rock armoring and diversional berms will be added.

Alternative final cover rock armoring is detailed in Attachment III.B.3 (Drawing III.B.5).

D. Final Cover Vegetation or Other Ground Cover Material

Upon completion of the water balance alternate final cover system, no vegetation will be planted. Instead, a rock armoring layer will be placed on top of the cap to provide erosion protection. The estimated percent ground cover to minimize soil loss and maintain long-term erosional stability of the final cover top and side slopes is: **100**%. The minimum material specifications for ground cover materials are summarized in the table below.

For a landfill with water balance final cover design, the percentage vegetation cover (excluding other ground cover types) will not be less than that assumed in the water balance final cover model.

Table 7. Minimum Specification for Ground Cover Materials Other Than Vegetation, if Applicable.

Other Ground Cover Material	Maximum Particle Size (inches)	Minimum Particle Size (inches)	Material Placement Method	Thickness of Layer (inches)	Percentage Coverage (%)	Other (specify)
Rock Armoring	100% Passing 4-inch	0-5% Passing 2-inch	Place in single uncompacted lift	4-inch thick	100	Crushed rock or river-run rock

E. Final Contour Map

Drawing III.A.10, a facility final contour map is included in Appendix III.A. The map shows the final contours of the landfill units and the entire facility at closure.

Drawings III.A.13 through **III.A.21** showing the cross–sections of the landfill units at closure are also provided in Appendix III.A.

The facility final contour and cross-section maps/drawings depict the following information:

(1) Final constructed contours of the landfill at closure. **Drawing III.A.10 in Appendix III.A**

(2) Top slopes and side slopes of the landfill units. **Drawing III.A.10 in Appendix III.A**

(3) Surface drainage features. **Drawing III.B.3 – III.B.10 in Appendix III.B, and Drawing III.I.1 in Appendix III.I.**

(4) 100-year floodplain, as applicable. **Figure I/II.A.11 in Part I/II, Appendix I/II.A**

(5) Constructed features providing protection of/from the 100-year floodplain. **N/A**

(6) Other (specify):
N/A

IV. Description of the Final Cover System Installation Procedure

A. Mode of Installation

Table 8. Mode of Final Cover Installation on the Landfill Units.

Landfill Unit Name or Descriptor	Largest Area of Unit Ever Requiring Final Cover (Acres)	Check this Column if Final Cover will be Placed in Installments as Permitted Elevation is Reached	Check this Column if Final Cover will be Placed when Entire Unit Area Reaches Permitted Elevation	Final Cover Installation Status
Vertical Expansion of Phase 1	34.6 Acres (Drawing III.A.10)	☐	☒	A portion of Phase 1 Final Cover will be removed with the vertical expansion.
Phase 2	55.2 Acres (Drawing III.A.11)	☒	☐	Final Cover will be installed once Phase 2 reaches final grade.

B. Installation Drawings for Final Cover and Drainage Features

The following attached plan and cross-section drawings show the final cover design details, the largest area requiring final cover, details of the sequence of installation of the final cover system, and all drainage features.

Table 9. List of Attached Installation Drawings for Final Cover and Drainage Features.

Drawings below provided in Appendix III.A, Appendix III.B, and Appendix III.I.

Drawing No.	Drawing Title	Description of Information Contained in Drawing
III.A.6	Sequence of Development Phase 2 (Cells 11-14)	Details of the sequence of landfill development.
III.A.7	Sequence of Development Phase 2 (Cells 15-16)	Details of the sequence of landfill development.

Drawing No.	Drawing Title	Description of Information Contained in Drawing
III.A.8	Sequence of Development Phase 2 (Cells 17-18)	Details of the sequence of landfill development.
III.A.9	Sequence of Development Phase 2 (Cells 19-20)	Details of the sequence of landfill development.
III.A.10	Final Grading Plan	Final cover design details.
III.A.11	Largest Open Area	Largest open area.
III.A.13-III.A.21	Landfill Section A-A' through G-G'	Cross sectional drawings.
III.B.3	Post-Development Drainage Conditions	Drainage features and developed conditions summary.
III.B.4 and III.I.1	Post-Development Drainage Map	Drainage features after closure.
III.B.5	Drainage Details, 1 of 2	Details of drainage features.
III.B.6	Drainage Details, 2 of 2	Details of drainage features.
III.B.8 - III.B.10	Drainage Profiles Ditches	Drainage features for ditches.

C. Final Cover Quality Control Plan

A final cover quality control plan (FCQCP) is located in **Attachment III.I.2**. The FCQCP describes the final cover system design, construction, and evaluation protocol and processes, including the personnel, materials, methods, sampling and testing standards, procedures, and practices to be used in procuring, handling, installing, and evaluating all elements of the final cover system. It establishes the material requirements; personnel qualifications and roles; installation requirements; quality control and quality assurance monitoring, testing, documentation, and reporting programs to be used during construction of each component of the final cover system to assure and to verify that the final cover system is constructed as designed and in accordance with applicable rules and technical standards.

D. Documentation and Reporting of Final Cover System Construction and Testing

The professional of record will document all aspects and stages of the final cover installation, including materials used, equipment and construction methods, and the type and rate of sampling and quality control testing performed. Following completion of construction of the final cover, the site operator/permittee will submit to the TCEQ executive director, a Final Cover System Evaluation Report (FCSER) for each landfill unit.

V. Closure Activities and Completion Schedules for Each Landfill Unit and for the Final Facility Closure

A. Closure of a Landfill Unit

The following activities will be conducted to satisfy the closure criteria for a landfill unit:

(1) Closure Notification to the TCEQ Executive Director:

The site operator will inform the executive director of the TCEQ, in writing, of the intent to close the unit no later than 45 days prior to the initiation of closure activities and place this notice of intent in the operating record.

(2) Stoppage of Waste Acceptance and Commencement of Other Closure Activities for the Unit:

The site operator will stop accepting waste upon receiving the known final receipt of waste. The site operator will ensure that the permitted top elevations of the in-place waste, as depicted in/derived from the unit's final contour map approved by the TCEQ executive director, are not exceeded at any section or part of the landfill unit. The site operator will begin closure activities for the unit no later than:

- Thirty days after the date on which the unit receives the known final receipt of wastes; or
- One year after the most recent receipt of wastes if the unit has remaining capacity and there is a reasonable likelihood that the unit will receive additional wastes.

(3) Request for Extension Beyond the 1-Year Deadline for Commencing Closure Activities for a Unit:

The site operator may submit a written request to the executive director of the TCEQ for review and approval for an extension beyond the one-year deadline for the initiation of closure. The request will include the following:

(a) All applicable documentation necessary to demonstrate that the unit has the capacity to receive additional waste; and

(b) All documentation necessary to demonstrate that the site operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the MSW landfill unit.

(4) Construction of Final Cover:

The site operator will construct the permitted final cover over the waste mass utilizing methods, procedures, and specifications described in the FCQCP. The final constructed contours, elevations, and slopes of the installed final cover will match the permitted final cover contours, elevations, and slopes shown in closure drawings contained in this closure plan.

(5) Construction of Drainage Features:

The site operator will construct the drainage structures shown in drawings referenced or contained in this closure plan or in the facility surface water drainage report.

(6) Completion of Outstanding or Replacement of Damaged Groundwater or Landfill Gas Monitoring Components:

The site operator will complete installation of any outstanding or replacement of any damaged groundwater or landfill gas monitoring system components and landfill gas control systems as needed to maintain current and effective groundwater or landfill gas monitoring and control systems.

(7) Submittal of Final Cover System Evaluation Report (FCSER) to the TCEQ Executive Director:

Following completion of construction of the final cover for the subject landfill unit, the site operator will submit to the TCEQ executive director for review and acceptance, a FCSER for the unit.

(8) Completion of Closure Activities for the Landfill Unit:

The site operator will complete closure activities for the unit within 180 days following the start of closure activities, unless the executive director of the TCEQ grants an extension as described in Item V.A.8(a) below.

(a) Request for Extension of the Completion of Closure Activities for the Landfill Unit:

The site operator may submit a written request for an extension for the completion of closure activities to the TCEQ for review and approval. The extension request will include:

- All applicable documentation necessary to demonstrate that closure will, of necessity, take longer than 180 days; and
- All applicable documentation necessary to document that all steps have been taken and will continue to be taken to prevent threats to human health and the environment from the unclosed MSW landfill unit.

(9) Submittal of Engineer's Certification of Closure to the TCEQ Executive Director and Request of Closure Inspection to TCEQ Regional Office:

Following completion of all closure activities for the landfill unit, the site operator will submit:

(a) Closure Inspection

A written request to the local TCEQ regional office for a closure inspection of the unit.

(b) Closure Certification

A certification, signed by an independent licensed professional engineer, to the executive director of the TCEQ for review and approval verifying that closure has been completed in accordance with this closure plan. The site operator will submit the certification via registered mail, and the submittal will contain all applicable documentation necessary for certification of closure of the unit, including:

- A final cover system evaluation report (FCSER) documenting the installation of the final cover. The FCSER may be submitted as a separate document for review and approval following the completion of the final cover installation. In that case, the certification of closure will be submitted subsequently;
- A final contour map as described under Section III.E that includes the relevant unit; and
- Copy of the letter to the TCEQ regional office requesting a closure inspection of the relevant unit.

(10) TCEQ's Acknowledgement of Termination of Operation and Closure of a Unit:

Upon receipt, the TCEQ executive director will review the closure documents for completeness and accuracy; and following receipt of the closure inspection report from the agency's regional office verifying proper closure of the MSW landfill unit according to this closure plan, the executive director will, in writing, acknowledge the termination of operation and closure of the unit and deem it properly closed. Thereafter, the site operator will comply with the post-closure care requirements described in the post-closure care plan for the unit.

(11) Deed Recordation for Disposed Regulated Asbestos Containing Materials (RACM):

Upon closure of the unit that accepted RACM, the site operator will place a specific notation that the unit accepted RACM in the deed records for the facility with a diagram identifying the RACM disposal areas. Concurrently, the site operator will submit to the TCEQ executive director, a notice of the deed recordation and a copy of the diagram identifying the asbestos disposal areas.

(12) Placement of all Closure Documentation in the Site Operating Record:

Once approved, the closure certification and all other documentation of closure will be placed in the site operating record.

(13) Closure Schedule for the Landfill Unit:

A closure schedule, **Attachment III.I.3**, is attached. The schedule shows all the closure activities listed within Section V.A and the timelines for commencing and completing each activity. Also, the schedule shows that closure activities for the landfill unit will be completed within 180 days following the initiation of closure activities as required, unless an extension is granted by the TCEQ executive director.

(14) Other: (enter as applicable).

(7) TCEQ's Acceptance of Termination of Operation and Closure of a Landfill Facility:

Following the TCEQ executive director's receipt and completion of the review of the professional engineer's certification of the completion of facility closure and the final closure documents, and receipt of the inspection report from the agency's regional office verifying proper closure of the facility according to this closure plan, the executive director will, in writing, accept the termination of operation and closure of the facility and deem it properly closed. Thereafter, the site operator will comply with the post closure care requirements described in the post closure plan for the facility.

(8) Final Closure Schedule for the Facility:

Attachment III.I.3, Final Closure Schedule, provides the closure schedule for the final facility closure. It incorporates the schedule for closure of a unit as discussed in Section V.A and also shows the commencement and completion timelines for the final closure activities listed within this Section.

VI. Summary of Attachments

A. Drawings and Maps

The following Drawings and Maps are provided in **Appendix III.A**, **Appendix III.B**, **Appendix III.C,** and **Appendix III.I** to supplement this plan.

- **Drawing III.A.10**, Final Contour Map.
- **Drawings III.A.13** through **III.A.21** , Cross-Section Drawings of the Landfill Units at Closure.
- **Drawings III.B.1** through **III.B.14 and III.I.1**, Final Cover and Drainage Features Installation Drawings.

Other Drawings/Maps: **Drawings III.C.5** through **III.C.8**, Leachate Evaporation Pond Layout

B. Documents

- **Attachment III.I.1**, Alternative Final Cover Demonstration Water Balance Cap.
- **Attachment III.I.2**, Final Cover Quality Control Plan (FCQCP).
- **Attachment III.I.3**, Final Closure Schedule Chart.

C. Additional Items Attached (enter as applicable)

N/A

VII. Professional Engineer's Statement, Seal, and Signature

Name: Tonya Koller

Title: Project Engineer

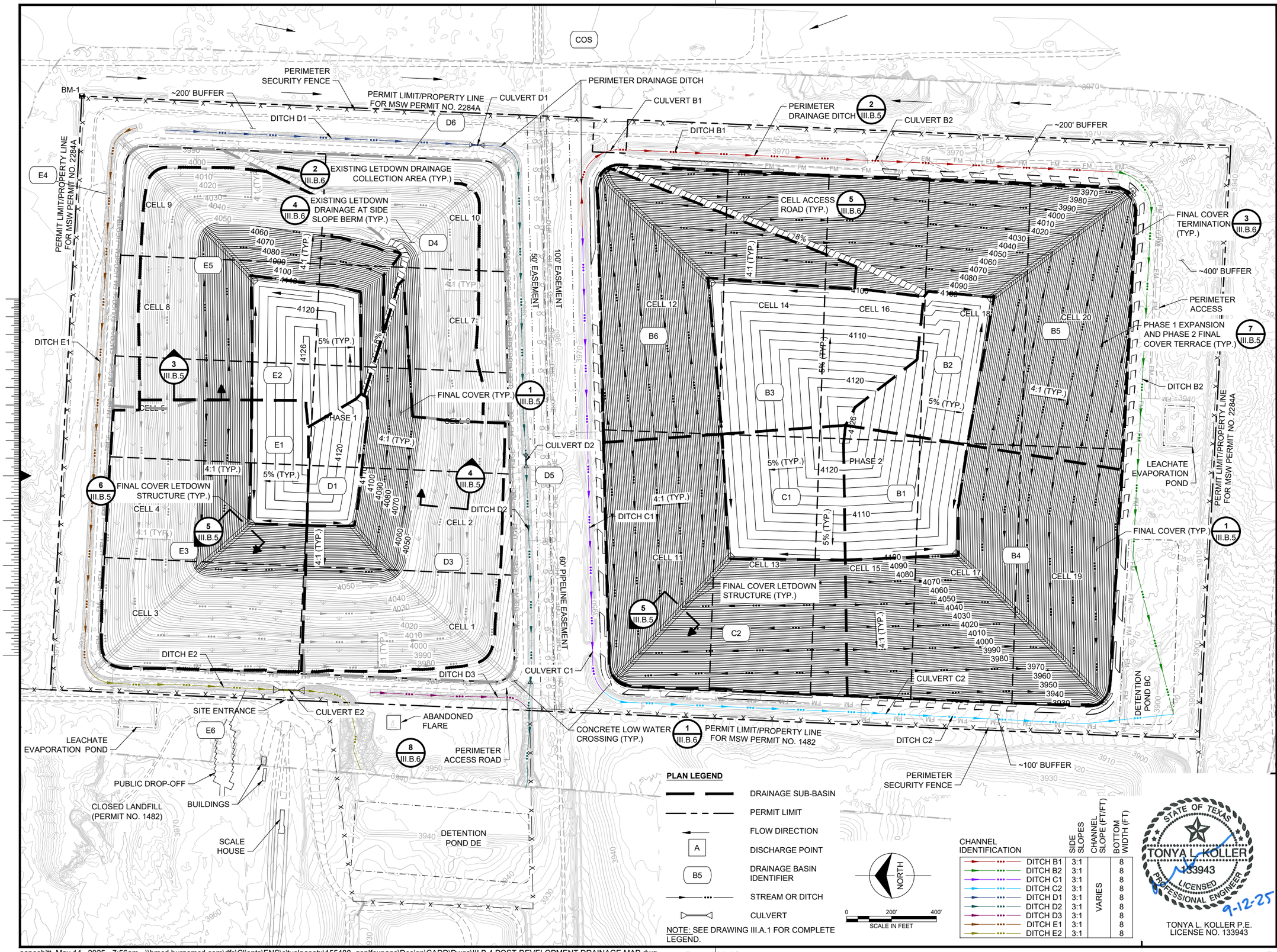
Date: 9/12/2025

Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

Signature



no.	date	by	ckd	description
0	9/12/25	TMC	TLK	2284A PERMIT MOD

NOTES:

1. INDEX CONTOUR INTERVAL, 2 FEET.
2. GREATER EL PASO LANDFILL EXISTING SITE TOPOGRAPHY (2284A PERMIT AREA) DERIVED FROM ORTHO-PHOTOGRAPHY FROM AN UNMANNED AERIAL SURVEY TIED TO GROUND CONTROL PANELS PROVIDED BY PARKHILL, SMITH & COOPER, AUGUST 28, 2019. TOPOGRAPHY WITHIN CELLS 11 THROUGH 14 COMPLETED WITH GROUND CONTROL POINTS PROVIDED BY THE CITY OF EL PASO, AUGUST 2022. TOPOGRAPHY OUTSIDE OF THE SURVEY EXTENTS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM, DATED APRIL 2008.
3. THE SURVEY COORDINATES ARE ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
4. EXISTING TOP OF FINAL COVER SURFACE FOR PHASE 1 PREPARED BY PARKHILL, SMITH & COOPER, INC. AND REPRESENTS DESIGN FINAL COVER ELEVATIONS. CONTOUR INTERVAL IS 2 FEET. PHASE 1 RECEIVED FINAL COVER IN 2021.
5. DESIGN CONTOURS REPRESENT TOP OF FINAL COVER SURFACE FOR PHASE 1 AND PHASE 2. CONTOUR INTERVAL IS 2 FEET. 2284 PERMITTED DESIGN CONTOURS WERE BASED ON CITY DATUM ELEVATIONS AND WERE ADJUSTED TO NAVD88 BY ADDING 10.39 FEET AS CERTIFIED BY BROCK & BUSTILLOS INC. ON DECEMBER 7, 2023. DATUM CERTIFICATION LETTER INCLUDED IN APPENDIX I/II.B.

FOR PERMITTING PURPOSES ONLY

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.
FIRM REG. NO. F-845

date	detailed
SEPTEMBER 2025	D. KAMBLE
designed	checked
T. CAMMACK	T. KOLLER

EP TX CITY OF EL PASO

City of El Paso, Texas

2284A PERMIT AMENDMENT

POST-DEVELOPMENT DRAINAGE MAP

project	contract
155488	-

drawing **III.I.1** – rev. **0**

file III.B.4 POST-DEVELOPMENT DRAINAGE MAP.dwg

Scale For Microfilming: Millimeters / Inches

ATTACHMENT III.I.1 – ALTERNATIVE FINAL COVER DEMONSTRATION

MSW AUTH NO. 2284A

ATTACHMENT III.I.1 – ALTERNATIVE FINAL COVER DEMONSTRATION

CITY OF EL PASO, TEXAS
GREATER EL PASO LANDFILL MAJOR AMENDMENT
PROJECT NO. 155488

REVISION 0
SEPTEMBER 12, 2025

CONTENTS

III.I.1.1.0 Introduction 22
III.I.1.2.0 Water Balance Cover System Potential 23
III.I.1.3.0 Soil Property Description 24
III.I.1.4.0 Climate Data 26
III.I.1.5.0 Water Balance Final Cover Design 27
III.I.1.5.1 Slope Stability Calculations 27
III.I.1.5.2 Equivalent Erosion Protection 28
III.I.1.5.3 Final Cover Storage Capacity 28
III.I.1.6.0 UNSAT-H Final Cover Model 30
III.I.1.6.1 Model Input Setup 30
III.I.1.6.2 Options, Constants, and Limits 30
III.I.1.6.3 Soil Property Description 35
III.I.1.6.4 Initial Conditions 36
III.I.1.6.5 Plant Information 36
III.I.1.6.6 Boundary Conditions 37
III.I.1.7.0 UNSAT-H Final Cover Model Results 39
III.I.1.7.1 Design Demonstration Summary 39
APPENDIX III.I.1.A – DAILY CLIMATOLOGICAL DATA
APPENDIX III.I.1.B – UNSAT-H MODEL INPUT AND OUTPUT: NORMAL
APPENDIX III.I.1.C – UNSAT-H MODEL INPUT AND OUTPUT: +20% HC
APPENDIX III.I.1.D – UNSAT-H MODEL INPUT AND OUTPUT: NO PLANTS
APPENDIX III.I.1.E – LABORATORY SOIL DATA

FIGURES

Figure III.I.1.2-1: Average Monthly Precipitation for El Paso, Texas (NOAA) 23
Figure III.I.1.5-1: Typical Water Balance Cover 27
Figure III.I.1.7-1: Storage Requirement and Storage Capacity: Normal 46
Figure III.I.1.7-2: Storage Requirement and Storage Capacity: No Plants 47
Figure III.I.1.7-3: Storage Requirement and Storage Capacity: +20% HC 48

TABLES

Table III.I.1.3-1: Soil Testing Results 24
Table III.I.1.4-1: Meteorological Data Sources 26
Table III.I.1.6-1: Summary of UNSAT-H Input Parameters 31
Table III.I.1.6-2: Summary of UNSAT-H Input Parameters – Soil 35
Table III.I.1.6-3: Summary of UNSAT-H Input Parameters – Initial Conditions 36
Table III.I.1.6-4: Summary of UNSAT-H Input Parameters – Plant Information[1] 37
Table III.I.1.6-5: Summary of UNSAT-H Input Parameters – Boundary Conditions 38
Table III.I.1.7-1: Summary of UNSAT-H WB AFC Performance: Normal 40
Table III.I.1.7-2: Summary of UNSAT-H WB AFC Performance: No Plants 42
Table III.I.1.7-3: Summary of UNSAT-H WB AFC Performance: +20% HC 44

List of Abbreviations

Abbreviation	Term/Phrase/Name
AFC	Alternative Final Cover
DBS	Daniel B Stephen, Inc.
FCQCP	Final Cover Quality Control Plan
GEP Landfill or Facility	Greater El Paso Landfill, MSW Authorization Number 2284A
HELP	Hydrologic Evaluation of Landfill Performance
MSW	Municipal Solid Waste
NCDC	National Climatic Data Center
NSW	National Weather Service
NOAA	National Oceanic and Atmospheric Administration
P	Precipitation
PET	Potential Evapotranspiration
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TRI	Texas Research International
WB	Water Balance

III.I.1.1.0 Introduction

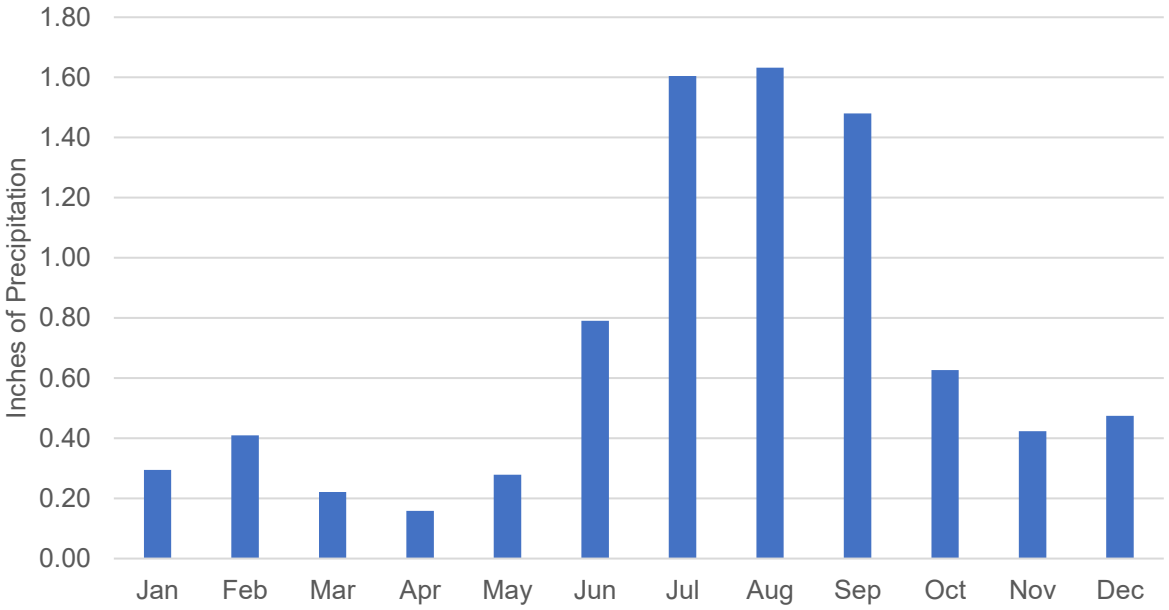
The purpose of this attachment is to present a Water Balance (WB) Alternative Final Cover (AFC) system for the Greater El Paso Landfill, Municipal Solid Waste (MSW) Authorization Number 2284A (GEP Landfill or Facility). This final cover system has been prepared in accordance with Chapter 30 of Texas Administrative Code (TAC) §330.457(d) and Texas Commission on Environmental Quality's (TCEQ's) "Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill" (Revised March 2017).

This report was originally prepared by Parkhill, Smith & Cooper, Inc. in March 2012 for Permit Authorization 2284. This report includes updates to incorporate current meteorological data into the UNSAT-H modeling in support of the vertical expansion permit amendment.

III.I.1.2.0 Water Balance Cover System Potential

The GEP Landfill is located southeast of the city of El Paso in El Paso County. This area is ideal for water balance cover systems due to climate and local soils. The area has a warm, desert climate with very hot summers, usually with little or no humidity, and mild, dry winters. Rainfall averages 8.4-inches per year, most of which occur during the monsoon season from July to September (see **Figure III.I.1.2-1**). According to the National Weather Service (NWS), El Paso Weather Bureau, the sun shines during 83.8 percent of daylight hours.

Figure III.I.1.2-1: Average Monthly Precipitation for El Paso, Texas (NOAA)



Existing vegetation at the landfill site consists of sparse shrubs and grasses. Due to the mild climate, the El Paso area has a long growing season (March 23 - November 9). However, high temperatures and low rainfall make sustaining vegetative growth without irrigation extremely difficult. Therefore, the GEP Landfill's WB cap has been designed with no vegetative cover.

The soils available for construction of the WB cap will be obtained from future cell development areas (e.g., Phase 2). These soils are stockpiled on adjacent City owned property during cell excavation. These soils are sandy in nature with high hydraulic conductivity. They exhibit favorable compaction characteristics as they can be placed in a controlled manner from 75 percent to 95 percent standard proctor. These soils also have beneficial soil water retention characteristics as they are able to achieve 37 percent - 46 percent volumetric water storage based upon compaction. The ability of these soils to sustain native or non-native plants is inconsequential as plant growth will not be required for the WB cap to perform as designed.

III.I.1.3.0 Soil Property Description

Soil samples were previously collected from the GEP Landfill Phase 2 area in 2011 for analysis and results are provided in **Appendix III.I.1.E**. Soil samples obtained from the site were analyzed by Daniel B. Stephen, Inc. (DBS) in Albuquerque, New Mexico and Texas Research International (TRI) in Austin, Texas. DBS completed the soil-water retention curve, saturated hydraulic conductivity, and bulk density testing. TRI completed the USCS classification, standard proctor, optimum moisture, and shear strength testing. For soil characteristics which vary by compaction, tests were run at 75 percent, 80 percent, 85 percent, 90 percent, and 95 percent of standard proctor. **Table III.I.1.3-1** summarizes the results of soil testing.

Table III.I.1.3-1: Soil Testing Results

Parameter	Value	
USCS Classification	Silty sand with gravel (SM)	
Bulk Density	163.9 lb/cf	
Maximum Dry Density (Standard Proctor)	120.0 lb/cf	
Percent Optimum Moisture	10.4%	
Soil Water Retention Curve - 80%	Pressure Head (cm)	Moisture Content (%)
	0.00	0.4523
	12.00	0.4154
	38.00	0.3966
	79.00	0.1882
	509.90	0.1043
	11,727.7	0.0558
	851,293	0.0123
Soil Water Retention Curve - 90%	Pressure Head (cm)	Moisture Content
	0.00	0.3766
	10.50	0.3609
	39.50	0.3483
	83.00	0.3355
	509.90	0.1154
	11,727.7	0.0628
	851,293	0.0138
Saturated Hydraulic Conductivity - 80%	6.6E-03 cm/sec (23.7 cm/hr)	
Saturated Hydraulic Conductivity - 90%	1.3E-03 cm/sec (4.6 cm/hr)	

Notes: pounds per cubic foot = lb/cf; centimeters = cm; centimeters/second = cm/sec; centimeters per hour = cm/hr

The following soil parameters are required to simulate final cover performance: saturated water content, residual water content, saturated hydraulic conductivity, and van Genuchten parameters. Saturated water content was directly determined by DBS during lab testing. The water content and van Genuchten parameters were determined by fitting the soil's moisture retention data to the van Genuchten equation.

Curves of best fit for 80 percent and 90 percent compaction of soils and curves showing the relationship between hydraulic conductivity and water content are provided in **Appendix III.I.1.E**.

III.I.1.4.0 Climate Data

In order to accurately simulate the performance of a water balance cap at the GEP Landfill, historical recent weather data from the region was used. In accordance with TCEQ guidelines the selected weather station needed to be representative of conditions at the site and have sufficient records for 30 years of climate data. Daily meteorological data from the El Paso International Airport weather station was provided for the model for current modeling years, between 1995 and 2024, where available. Data sources are summarized in **Table III.I.1.4-1**.

Table III.I.1.4-1: Meteorological Data Sources

Data Type	Date Range	Source
Daily Precipitation	1995-2024	National Oceanic and Atmospheric Administration (NOAA)
Maximum Dew Point Temperature	1995-2011	NOAA
	2012-2024	Weather Underground
Air Temperature	1995-2024	NOAA
Solar Radiation	1995-2024	Synthetic generation using the Hydrologic Evaluation of Landfill Performance (HELP) model
Wind Speed	1995-2024	NOAA
Cloud Cover	1995-2024	Synthetic generation using the HELP model

Note in 2006, precipitation reached 208 percent of the annual average precipitation, and the severe August 2006 storm events led to widespread flooding and substantial damage throughout the area. Given the extreme and atypical nature of these conditions, 2006 is considered a force majeure event and is not representative of the region's typical meteorological patterns. As such, including this outlier in long-term performance modeling would not produce results reflective of expected final cover performance. To account for this anomaly, daily precipitation values for 2006 were replaced with the daily average precipitation calculated over the 30-year modeling period, inclusive of the 2006 data points.

Climatological data input files are provided for reference in **Appendix III.I.1.A**.

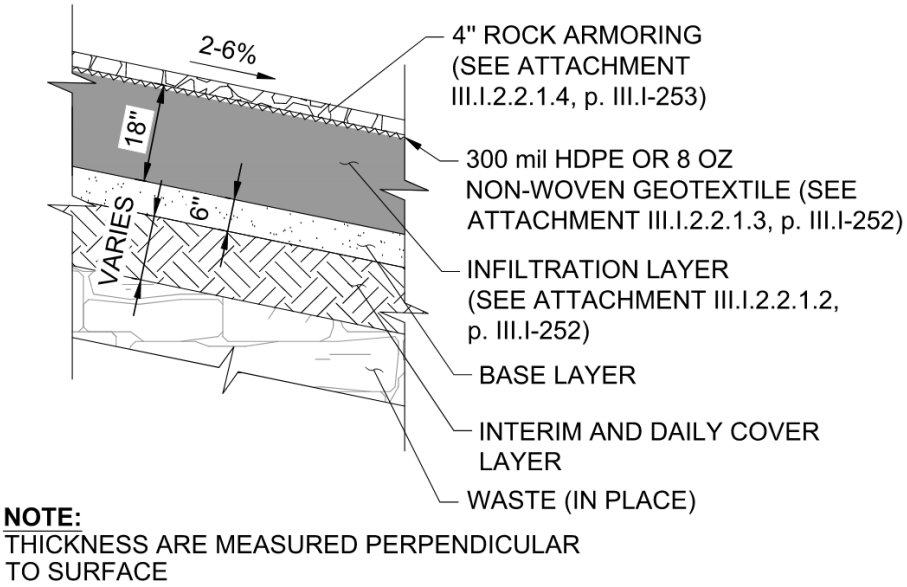
III.I.1.5.0 Water Balance Final Cover Design

The water balance final cover design for the GEP Landfill will be a multilayer soil cap. This final cover system has been designed to maximize precipitation infiltration and to minimize percolation to less than 4 millimeters annually in accordance with TCEQ 2017 guidance document requirements. The final cover system will consist of the following layers, from top to bottom:

- **Erosion Control Layer.** This 4-inch thick layer of rock armoring will be placed as the top layer of the cap and will consist of either crushed stone or river rock. It will be constructed to prevent erosion while allowing infiltration into the lower portion of the cap. A geonet or geotextile will be placed below this layer to provide separation between the rock armoring and the soil.
- **Infiltration Layer.** This 18-inch thick soil layer will be constructed from on-site borrow soil. It will provide the water storage required by the 30-year weather period simulation.
- **Base Layer.** This 6-inch thick soil layer will be constructed from on-site borrow soil. It will serve as a base layer for placement of the infiltration layer.

As previously discussed, the final cover system is designed with no vegetation. The erosion control layer will provide more consistent, year-round erosion control than vegetation. A detail of the water balance final cover system is provided as **Figure III.I.1.5-1**. Details for the termination of the liner and tie-ins are provided in Part III, Appendix III.B, Attachment III.B.3, Drawings III.B.5 and III.B.6.

Figure III.I.1.5-1: Typical Water Balance Cover



III.I.1.5.1 Slope Stability Calculations

The slope stability of the WB AFC has been calculated using infinite slope analysis using the following equation:

$FS = \frac{\tan \emptyset}{\tan B}$ Where:

FS = Factor of Safety

$\emptyset$ = WB Cap Soil Friction

B = Slope Angle

The maximum slope the WB AFC will be installed at B 4:1 (H:V) or 14.1º. The soil friction has been determined by ASTM D3080. Results of this test are available in **Appendix III.I.1.E**. Using this data the factor of safety was calculated as:

$$FS = \frac{\tan(25.1°)}{\tan(14.1°)}$$

$$FS = \frac{0.4684}{0.2511}$$

FS = 1.86

The calculated factor of safety is greater than the typical landfill slope factor of safety of 1.5.

III.I.1.5.2 Equivalent Erosion Protection

As required by 30 TAC §330.457(d)(2) the WB AFC must provide equivalent protection from wind and water as the prescriptive cover. The WB AFC will provide the same erosion protection from wind and water as the prescriptive cover as they both have identical erosion protection. The same erosion controls, both structural and non-structural, will also be used on the WB AFC system. The noted erosion controls are located in the Erosion and Sedimentation Control Plan (Part III, Appendix III.B, Attachment III.B.2).

Soil loss calculations provided in Part III, Appendix III.B, Attachment III.B.2 show that both cover systems keep erosion below 2-3 tons of soil per year, meeting the requirements of 30 TAC §330 Subchapter G. No additional restraints will be used to hold the rock armor in place. An identical placement of rock armoring was utilized on Phase 1 of the GEP Landfill, as well as on the Clint Landfill (MSW No. 1482) adjacent to this Facility, and both have performed as designed. Based on this information, the WB AFC provides equivalent protection from wind and water erosion as the prescriptive cover.

III.I.1.5.3 Final Cover Storage Capacity

The theoretical water storage capacity of a unit of soil is the volumetric difference between the soil's saturated water content and residual water content. The storage capacity for the final cover system is the total of the capacity of all the layers in the system.

Erosion Protection Layer

No storage capacity

Infiltration Layer (18”)

$\Theta_S = 0.37$ (Saturated Water Content, measured)

$\Theta_{FC} = 0.85 * \Theta_S$ (Field Capacity Water Content)

$\Theta_{FC} = 0.32$

$\Theta_{WP} = 0.03$ (Wilting Point Water Content)

$\Theta_V = \Theta_{FC} - \Theta_{WP}$

$\Theta_V = 0.32 - 0.03 = \mathbf{0.29}$ (Volumetric Storage Capacity)

$S = T * \Theta_V$ (Layer Storage = Thickness * Θ_V)

$S = 18\ in. * 0.29 = \mathbf{5.22\ in.}$

Base Layer (6")

$\Theta_S = 0.44$ (Saturated Water Content, measured)

$\Theta_{FC} = 0.85 * \Theta_S$ (Field Capacity Water Content)

$\Theta_{FC} = 0.37$

$\Theta_{WP} = 0.05$ (Wilting Point Water Content)

$\Theta_V = \Theta_{FC} - \Theta_{WP}$

$\Theta_V = 0.37 - 0.05 = \mathbf{0.32}$ (Volumetric Storage Capacity)

$S = T * \Theta_V$ (Layer Storage = Thickness * Θ_V)

$S = 6\ in. * 0.32 = \mathbf{1.92\ in.}$

Total Final Cover System Storage

$S_T = 5.22 + 1.92 = \mathbf{7.14\ in.} = \mathbf{18.14\ cm}$

III.I.1.6.0 UNSAT-H Final Cover Model

UNSAT-H is a one-dimensional, physically based model and is commonly used to model alternative final covers. UNSAT-H is able to address soil water infiltration, redistribution, evaporation, plant transpiration, deep drainage, and soil heat flow in one-dimension. UNSAT-H simulates liquid water flow using Richards' equation, water vapor diffusion using Flick's law, and sensible heat flow using the Fourier equation. These calculations are run by calculating the finite differences between nodes in a soil network. Starting with the input file, hundreds of these calculations are run for each day in the simulation, the results of the previous day serving as the initial conditions for the following day. Totals for each movement (infiltration, evaporation, etc.) are summed at the end of each year.

For analysis of the Alternative Final Cover at the GEP Landfill, three simulation runs were completed to demonstrate the effectiveness of the alternative final cover, which include “Greater El Paso Landfill 2284A - 2025 ET Cap Design” (Normal), “Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity Increase” (+20% hydraulic conductivity data for the infiltration layer and base layer material, to reflect the soil types allowed for use in the Final Cover Quality Control Plan [+20% HC]), and “Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants” (No Plants). The following paragraphs outline the input values used, the source of those values, and any assumptions made. Results for these simulations are discussed in **Section III.I.1.7.0** and model files are included in **Appendix III.I.1.B** (Normal), **Appendix III.I.1.C** (+20% HC), and **Appendix III.I.1.D** (No Plants).

III.I.1.6.1 Model Input Setup

UNSAT-H input parameters are classified into one of the five following categories:

- Options, Contracts, and Limits
- Soil Property Description
- Initial Conditions
- Plant Information
- Boundary Conditions

III.I.1.6.2 Options, Constants, and Limits

These input parameters define the components of groundwater flow to be modeled, the equations to be used, the soil profile, and model preferences. **Table III.I.1.6-1** provides a tabular view of model input options used for alternative final cover design.

Under the “Normal” and “+20% HC” simulations, the plant option selected was to include plants to simulate the rock armoring, not actual plant grades. The lower boundary condition specified was a unit gradient. The goal of the WB AFC design is to limit infiltration into the bottom of the cap. The unit gradient condition assumes a constant hydraulic conductivity of the bottom layer. The profile orientation is vertical. UNSAT-H is a one-dimensional model and can only simulate horizontal flow or vertical flow independently. The time step control was based on the total mass balance, rather than on the change in theta. Theta, representing water content, is assumed to be the source of the largest error. Heat flow was not simulated, as not enough soil information is available to accurately simulate it.

The level of output specified was for end of day and end of simulation. The ending day of the simulation and the number of days data are provided was set at 366, which is the maximum UNSAT-H allows. The

simulation was performed for a period of 30 years, which allows the cover to be tested using real data and under various climate situations. The water application information was set to use the meteorological data since actual data was available. Convective heat flow was not included. The DELSUB period was set to zero. The DELSUB period determines the level of output generated, and daily summaries were specified previously.

Next, the option was selected to allow evaporation to occur independent of plant growth. Daily potential evapotranspiration was set to be distributed throughout the day using a sinewave function. This option was selected to calculate the surface boundary condition when heat flow is not modeled. The flux option was selected as the surface boundary condition, as head on the top of the soil profile will vary. The option to input meteorological data was selected, but the option to use the cloud cover from the meteorological data was not selected due to lack of measured data. Instead, the solar radiation provided as part of the data will be used to determine a similar effect.

The van Genuchten method was selected to represent the soil hydraulic properties. Samples tested by DBS provided van Genuchten parameters required by UNSAT-H. It was decided to simulate the soil hydraulic properties without hysteresis as site specific soil data on the hysteric behavior of the soils is not available and it was determined to be more accurate to simulate without it.

The Van Genuchten parameters describe the relationship between suction pressure, water content, and hydraulic conductivity in a soil layer. This allows UNSAT-H to automatically adjust the hydraulic conductivity of each layer of the WB AFC infinitely between the "saturated" and "unsaturated" times of the year. This also allows UNSAT-H to simulate capillary breaks between layers of soil as capillary breaks are caused by a difference in metric potential or suction between two adjacent layers.

The geometric mean was selected as the option for estimating liquid conductivity at the midpoint between the nodes and is the most commonly used method by UNSAT-H. Vapor flow was included in the analysis. The option for determining an upper limit for surface head was calculated daily based on atmospheric humidity, as opposed to a constant head. The number of iterations used to solve both the heat and water flow equations was set at the default value of two each. A summary of these parameters is included in **Table III.I.1.6-1**.

Table III.I.1.6-1: Summary of UNSAT-H Input Parameters

Parameter Name	Parameter Description	Value	Source/Notes
TITLE	Input file description	Greater El Paso Landfill 2284A - 2025 ET Cap Design	Normal simulation
		Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity Increase	+20% HC simulation
		Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants	No Plants simulation
IPLANT	Option of plants	1 (Plants)	Normal and +20% HC Simulations

Parameter Name	Parameter Description	Value	Source/Notes
		0 (No Plants)	No Plants simulation
NGRAV	Domain orientation	1 (Vertical)	Simulation of vertical network
IFDEND	Last day of the last year of the simulation	365	365 days each year
IDTBEG	First day for which data have been provided	1	Data provided for Day 1, Year 1
IDTEND	Last day for which data have been provided	365	Data provided for Day 365, Year 30
IYS	Year of the simulation	1995	Simulation to begin in Year 1995
NYEARS	Number of years to simulate	30	Simulation to run to Year 30
ISTEAD	Steady state option	0 (Transient Solution)	Each year only simulated once
IFLIST	Options for entering weather data	2 (Data provided in separate files)	Matches weather data files provided
NFLIST	Number of file names	30	30 weather data files
NPRINT	Option for level of output	0 (Daily summaries and end-of-simulation summary)	Larger files not needed
STOPHR	Time to stop daily simulation	24.0	Simulation to stop at end of day
ISMETH	Option for method of solution	0 (Crank-Nicholson)	Standard method of UNSAT-H solution
INMAX	Number of iterations allowed for solving water flow	4	2 is minimum, selected for stability and mass balance error
ISWDIF	Option for time-step control	1 (Reduce time step if mass balance exceeds DMAXBA)	Standard method of UNSAT-H solution
DMAXBA	Time-step control parameter	1.0E-06	Suggested value is 0.01, selected to reduce mass balance error
DELMAX	Maximum time-step	1.0	Normally 1 hour
DELMIN	Minimum time-step	1.0E-8	Selected to reduce mass balance error
OUTIIM	Time-step parameter	1.00	Selected to reduce mass balance error
RFACT	Maximum time-step factor	1.2	Selected to increase stability
RAINIF	Rainfall time-step reduction factor	1.0E-04	Selected to increase stability

Parameter Name	Parameter Description	Value	Source/Notes
DHTOL	Iteration control parameter	0.0	Selected to increase stability
DHMAX	Iteration control parameter	0.0	Selected to increase stability
DHFACT	Time-step reduction factor	n/a	DHMAX = 0
KOPT	Options for describing soil hydraulic properties	4 (van Genuchten)	Site soils were tested for van Genuchten parameters
KEST	Option for estimating liquid conductivity between nodes	3 (Geometric mean)	Selected to increase stability
WTF	Weighting factor	n/a	KEST ≠ 1
OPBC	Option for the surface-boundary condition	0 (Flux)	Flux to simulate changes soil-atmosphere interaction
IEVOPT	Option to allow evaporation	1 (Evaporation)	Simulation must include evaporation
NFHOUR	Option to distribute daily potential evapotranspiration (PET)	2 (Distributed with sine function)	Data on site specific distribution not available
LOWER	Lower boundary condition option	1 (Unit gradient)	Selected to allow for free drainage at the lower boundary
HIRRI	Minimum head to which the soil can wet	1.0	Typical soil value, confirmed by laboratory results
HDRY	Maximum head to which the soil can dry	1.0E06	Typical soil value, confirmed by laboratory results
HTOP	Constant head of surface node	n/a	ITOPBC ≠ 1
RHA	Relative humidity of the air	n/a	HDRY ≠ 1
IETOPT	Option to input daily meteorological data	1 (Daily data are entered)	30 years of daily data must be used in simulation
ICLOUD	Options to include cloud cover	0 (No)	Cloud cover is already included in the daily solar radiation values in the weather data files
ISHOPT	Options for the upper surface head limit	1 (HDRY based on calculated humidity)	Selected to utilize weather data
IRAIN	Option for water application	1 (Apply precipitation at HPR rate)	Selected as hourly precipitation data is not available
HPR	Hourly precipitation rate	1.0	Default value is 1.0, this value is conservative and allows greater infiltration
IHYS	Option for hysteresis	0 (No hysteresis)	Hysteresis data for this soil not available

Parameter Name	Parameter Description	Value	Source/Notes
AIRTOL	Tolerance limit for entrapped air	n/a	IHYS = 0
HYSTOL	Tolerance limit on head changes	n/a	IHYS = 0
HYSMXH	Maximum head value	n/a	IHYS = 0
HYFILE	Name of restart file	n/a	IHYS = 0
IHEAT	Option for simulating heat flow	0 (No heat flow)	Heat flow parameters not available for this soil
ICONVH	Option to allow convective heat flow	0 (No convective heat flow)	Heat flow parameters not available for this soil
DMAXHE	Time-step control parameter	n/a	IHEAT ≠ 1
UPPERH	Option for the upper boundary condition for heat flow	n/a	IHEAT ≠ 1
TSMEAN	Daily mean temperature	n/a	IHEAT ≠ 1
TSAMP	Daily surface temperature amplitude	n/a	IHEAT ≠ 1
QHCTOP	User-specified surface heat flux	n/a	IHEAT ≠ 1
LOWERH	Option for the lower boundary condition for heat flow	n/a	IHEAT ≠ 1
QHLEAK	Heat flux at bottom boundary	n/a	IHEAT ≠ 1
TGRAD	Temperature gradient	n/a	IHEAT ≠ 1
IVAPOR	Option to allow vapor flow	1 (Yes)	Typical soil values for vapor flow are available
TORT	Tortuosity	0.66	Average soil values are between 0-2, 0.66 is conservative estimate for sandy soils
TSOIL	Average temperature of soil	292.65	Average air temperature for site is 292.65 K (67.1 F)
VAPDIF	Diffusion coefficient of vapor in air	0.24	Coefficient of vapor at 292.65 K, per Bolz and Tuve (1976)
MATN	Number of different soil materials	2	Base and infiltration layer soils
NPT	Number of nodes	43	43 nodes at irregular spacing
MAT,Z	Soil material, depth below surface	(see input file)	

III.I.1.6.3 Soil Property Description

Soil samples were collected from the landfill site for analysis in order to determine their suitability for use in the AFC system. Soil samples obtained from the site were analyzed by DBS for their hydraulic properties and results are provided in **Appendix III.I.1.E**.

UNSAT-H uses the following input parameters to classify soil layers: saturated water content, residual water content, saturated hydraulic conductivity, van Genuchten parameters, and initial suction head. **Table III.I.1.6-2** summarizes the input parameters used by UNSAT-H for the analyses. As specified in the Final Cover Quality Control Plan (Part III, Appendix III.I, Attachment III.I.2) the constructed WB AFC will be tested to verify that each layer is representative of the parameters listed in **Table III.I.1.6-2**. All of these parameters were determined using site-specific laboratory data.

The collected soil sample was classified as Silty Sand (SM). The facility's soil boring plan shows that the proposed borrow area contains several classifications of sand (SM, SC, SW, and SP). To allow for use of these classifications for cap construction the soils will be tested for hydraulic conductivity as noted in Final Cover Quality Control Plan (FCQCP).

Table III.I.1.7-3 summarizes the results of the "+20% HC" simulation run utilizing soils with hydraulic conductivity at the maximum allowed by the FCQCP. These results show that these soils still perform within the required criteria.

Table III.I.1.6-2: Summary of UNSAT-H Input Parameters – Soil

Parameter Name	Parameter Description	Value	Source/Notes
DUMMY	Soil Type Name	90% Compaction Soil	n/a
THET	Saturated water content	0.38	Calculated using lab data
THTR	Residual water content	0.03	Calculated using lab data
VGA	Van Genuchten -	0.006	Calculated using lab data
VGN	Van Genuchten - n	2.2	Calculated using lab data
RKMOD	Conductivity model options	2 (Mualem)	Typical option utilized
SK	Saturated hydraulic conductivity	4.6	Lab measurement, Normal and No Plants simulations
		5.5	Lab measurement, +20% HC simulation
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option
DUMMY	Soil Type Name	80% Compaction Soil	n/a
THET	Saturated water content	0.44	Calculated using lab data
THTR	Residual water content	0.05	Calculated using lab data
VGA	Van Genuchten -	0.017	Calculated using lab data
VGN	Van Genuchten - n	3.5	Calculated using lab data
RKMOD	Conductivity model options	2 (Mualem)	Typical option utilized

Parameter Name	Parameter Description	Value	Source/Notes
SK	Saturated hydraulic conductivity	23.7	Lab measurement, Normal and No Plants simulations
		28.4	Lab measurement, +20% HC simulation
EPIT	Exponent of the pore interaction term	0.5	Value for use with Mualem option

Table III.I.1.6-2 provides names of the various layers of the modeled cover system. The AFC system was represented by a network of nodes in a vertical profile, with two layers. For design, the thickness of each layer was varied until the WB AFC design met performance criteria.

III.I.1.6.4 Initial Conditions

UNSAT-H utilizes initial suction head of the soil for initial hydraulic conditions. In accordance with the FCQCP, soils will be placed within 2 percent of the optimum moisture of the soil. The initial suction head was determined for each soil layer at 10.4 percent moisture content. The infiltration layer will have an initial suction head of 575 centimeters. The base layer will have an initial suction head of 125 centimeters. **Table III.I.1.6-3** summarizes the UNSAT-H initial condition input parameters.

Table III.I.1.6-3: Summary of UNSAT-H Input Parameters – Initial Conditions

Parameter Name	Parameter Description	Value (cm)	Source
NDAY	Day before suction head values are set	0	Sets initial suction head values for Day 1
H	Suction Head - 90% Soil	575 (Nodes 1 - 19)	Calculated value soil suction at optimum moisture
H	Suction Head - 80% Soil	125 (Nodes 20 - 25)	Calculated value soil suction at optimum moisture

III.I.1.6.5 Plant Information

Upon completion of the WB AFC system no vegetation will be planted. Instead, a rock armoring layer will be placed on top of the cap to provide erosion protection. The rock armoring will be well graded and placed to allow precipitation free access to the infiltration surface.

The “Normal” and “+20% HC” simulations were modeled in UNSAT-H by simulating the rock layer as a year-round plant canopy covering 80 percent of the ground surface. This is accomplished by having the plant canopy germinate on Day 1 and go dormant on Day 365 of every year. To verify that this method did not result in inappropriate transpiration, the root system does not start growth until Day 365 of every year. This method was utilized to simulate the rock layer because the layer will provide some cover to the soil but will not behave as a soil in any way. This is similar to the function of a plant canopy on a cover.

This is confirmed by no modeled transpiration occurring during the 30-year simulation. **Table III.I.1.6-4** summarizes the plant input parameters for the “Normal” and the “+20% HC” simulations. For the “No

Plant" simulation, these parameters were removed. **Table III.I.1.7-2** summarizes the results of a 30-year simulation with "No Plant" simulation (IPLANTS = 0). These results show that the addition of the rock layer does not affect the performance of the WB cap.

Table III.I.1.6-4: Summary of UNSAT-H Input Parameters – Plant Information[1]

Parameter Name	Parameter Description	Value	Source
LEAF	Option for leaf area index	0 (LAI values not needed)	NFPET = 1
NFROOT	Option for root growth	1 (Exponential relationship)	Only option available
NUPTAK	Option for plant water intake	1 (Sink term approximation proposed by Feddes)	Only option available
NFPET	Option for portioning PET	1 (Partitioning using LAI of Ritchie and Burnett (1971))	Typical option used for partitioning
NSOW	Day of the year when seeds germinate	1	Rocks will be present on Dav l of each year
NHRVST	Day of the year which the plants cease transpiration	365	Rocks wil1 be present on Dav 365 of each year
BARE	Fraction of soil surface bare of plants	0.2	Average percentage of exposed soil under rock cover
Parameter Name	Parameter Description	Value	Source
AA, Bl, B2	Root growth coefficients	n/a	Roots not allowed to grow
NTROOT	Growth day on which roots reach the corresponding node	365 (All nodes)	Roots not allowed to grow
HW,HD,HN	Head values for wilting, transpiration decrease, and anaerobic conditions	n/a	Roots not allowed to grow, so there will be no transpiration
PETPC (1:5)	Coefficients for the partitioning of PET using LAI	0.0, 0.52, 0.5, 0.1, 2.7	All default values for Ritchie and Burnett (1971)

[1] Parameters apply for only the "Normal" and the "+20% HC" simulations. Plant information parameters were removed for the "No Plant" simulation.

III.I.1.6.6 Boundary Conditions

The boundary conditions include the meteorological input data and identification of the site where it is measured. Meteorological input required by UNSAT-H includes daily maximum and minimum temperatures, dew point, solar radiation, wind speed, and precipitation. The climate of the area was researched for use in the model.

The climate of the area is desert. Actual daily climate data obtained from the NWS weather station at El Paso International Airport from 1994-2024 were used in the simulations. The data set provided the most comprehensive actual measured data nearest the facility. The average annual rainfall in El Paso is 8.4-inches. The data from NOAA as entered in UNSAT-H model is included in **Appendix III.I.1.A**. **Table III.I.1.6-5** summarizes the boundary condition input parameters.

Table III.I.1.6-5: Summary of UNSAT-H Input Parameters – Boundary Conditions

Parameter Name	Parameter Description	Value	Source
ALBEDO	Potential evapotranspiration	0.20 (unitless)	Average daily pan evaporation for El Paso
ALT	Altitude of site	1234 meters	Average elevation of final cap
ZU	Height of wind speed measurement	0.5 meters	Height of wind speed meter at weather station
PMB	Average annual atmospheric pressure	875 millibars	Average pressure measure at weather station

III.I.1.7.0 UNSAT-H Final Cover Model Results

To meet the requirements of 30 TAC §330.457(d)(I) the modeled performance of the WB AFC must show that percolation at the base of the final cover system is less than 4.0 millimeters annually for the entire simulation. The results of the simulation are summarized in **Table III.I.1.7-1** (Normal), **Table III.I.1.7-2** (No Plants), and **Table III.I.1.7-3** (+20% HC). These tables include annual data on precipitation (P), potential evapotranspiration (PET), P/PET ratio, evaporation, runoff percentage, storage, percolation, and total mass balance.

Model-estimated storage requirements plotted by year and the calculated available storage capacity for the WB cover are provided in **Figure III.I.1.7-1** (Normal), **Figure III.I.1.7-2** (No Plants), and **Figure III.I.1.7-3** (+20% HC). Based on the results, the annual storage requirement never exceeds the overall storage capacity.

III.I.1.7.1 Design Demonstration Summary

The water balance alternative final cover design satisfies the requirements of 30 TAC §330.457(d). It has been demonstrated that the alternative final cover design achieves an equivalent reduction in infiltration compared to the clay-rich soil cover layers specified in 30 TAC §330.457(a)(1) or (2), in accordance with the methodology outlined in the TCEQ's Guidance for Requesting a Water Balance Alternative Final Cover for a Municipal Solid Waste Landfill (Revised March 2017). Furthermore, the design has been shown to provide comparable protection against wind and water erosion as the erosion layer described in 30 TAC §330.457(a).

Table III.I.1.7-1: Summary of UNSAT-H WB AFC Performance: Normal

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.8	0.00%	2.84	2.19	6.00E-03	2.25
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.69	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.97	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.20	0.00	7.62E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.61	0.00	6.51E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.16	0.00	7.99E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.95	0.00	7.59E-03	0.08
Year 8	2002	17.50	305	0.0574	16.5	0.00%	3.92	0.00	8.03E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.80	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.1037	30.5	0.00%	3.32	0.00	8.52E-03	0.09
Year 11	2005	32.69	300	0.1090	33.2	0.00%	2.81	0.01	7.34E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.86	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.36	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.89	0.00	6.63E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.82	0.00	7.79E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.86	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.18	0.00	8.31E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.18	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.91	0.01	6.59E-03	0.07
Year 20	2014	21.77	321	0.0678	21.7	0.00%	3.01	0.04	7.18E-03	0.11
Year 21	2015	30.68	284	0.1079	29.2	0.00%	4.51	0.02	1.07E-02	0.12
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.63	0.00	6.96E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.40	0.00	6.99E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.23	0.00	8.04E-03	0.08

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.56	0.00	8.99E-03	0.09
Year 26	2020	14.83	326	0.0455	15.8	0.00%	2.63	0.00	5.99E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.16	0.00	7.88E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.14	0.00	7.61E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.95	0.00	7.14E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.86	0.00	6.68E-03	0.07

Table III.I.1.7-2: Summary of UNSAT-H WB AFC Performance: No Plants

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.8	0.00%	2.84	2.19	6.00E-03	2.25
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.69	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.97	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.20	0.00	7.62E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.61	0.00	6.51E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.16	0.00	7.99E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.95	0.00	7.59E-03	0.08
Year 8	2002	17.50	305	0.0574	16.5	0.00%	3.92	0.00	8.03E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.80	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.1040	30.5	0.00%	3.32	0.00	8.52E-03	0.09
Year 11	2005	32.69	300	0.1090	33.2	0.00%	2.81	0.01	7.34E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.86	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.36	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.89	0.00	6.63E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.82	0.00	7.79E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.86	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.18	0.00	8.31E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.18	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.91	0.01	6.59E-03	0.07
Year 20	2014	21.77	321	0.0678	21.7	0.00%	3.01	0.04	7.18E-03	0.11
Year 21	2015	30.68	284	0.1080	29.2	0.00%	4.51	0.02	1.07E-02	0.12
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.63	0.00	6.96E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.40	0.00	6.99E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.23	0.00	8.04E-03	0.08

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.56	0.00	8.99E-03	0.09
Year 26	2020	14.83	326	0.0455	15.8	0.00%	2.63	0.00	5.99E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.16	0.00	7.88E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.14	0.00	7.61E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.95	0.00	7.14E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.86	0.00	6.68E-03	0.07

Table III.I.1.7-3: Summary of UNSAT-H WB AFC Performance: +20% HC

	Climate Data Year	Precipitation P (cm)	Potential Evaporation PE (cm)	P/PE Ratio	Actual Evaporation (cm)	Runoff (% of P)	End of Year Storage (cm)	Percolation (mm)	Mass Balance Error (cm)	Percolation + Mass Balance Error (mm)
Year 1	1995	15.39	317	0.0486	18.9	0.00%	2.79	2.18	5.98E-03	2.24
Year 2	1996	21.31	335	0.0635	21.5	0.00%	2.64	0.01	6.39E-03	0.07
Year 3	1997	24.46	283	0.0865	23.2	0.00%	3.89	0.00	1.18E-02	0.12
Year 4	1998	17.20	300	0.0574	18.0	0.00%	3.13	0.00	7.60E-03	0.08
Year 5	1999	20.73	301	0.0689	20.3	0.00%	3.56	0.00	6.62E-03	0.07
Year 6	2000	18.82	302	0.0623	19.3	0.00%	3.10	0.00	8.06E-03	0.08
Year 7	2001	10.90	304	0.0358	11.1	0.00%	2.90	0.00	7.60E-03	0.08
Year 8	2002	17.50	305	0.0574	16.6	0.00%	3.84	0.00	8.02E-03	0.08
Year 9	2003	10.69	321	0.0333	11.8	0.00%	2.76	0.00	6.90E-03	0.07
Year 10	2004	30.99	299	0.0104	30.5	0.00%	3.23	0.00	8.47E-03	0.08
Year 11	2005	32.69	300	0.0109	33.2	0.00%	2.75	0.01	7.31E-03	0.08
Year 12	2006	21.18	335	0.0631	21.1	0.00%	2.82	0.01	1.42E-02	0.15
Year 13	2007	25.71	305	0.0843	25.2	0.00%	3.28	0.00	9.46E-03	0.10
Year 14	2008	25.02	328	0.0762	25.5	0.00%	2.84	0.00	6.62E-03	0.07
Year 15	2009	22.05	309	0.0714	21.1	0.00%	3.74	0.00	7.84E-03	0.08
Year 16	2010	16.94	303	0.0560	17.9	0.00%	2.81	0.00	6.88E-03	0.07
Year 17	2011	13.92	342	0.0407	12.6	0.00%	4.13	0.00	8.37E-03	0.08
Year 18	2012	13.39	318	0.0421	14.4	0.00%	3.13	0.00	4.93E-03	0.05
Year 19	2013	24.16	312	0.0775	24.4	0.00%	2.86	0.01	6.60E-03	0.08
Year 20	2014	21.77	321	0.0678	21.7	0.00%	2.95	0.05	7.23E-03	0.12
Year 21	2015	30.68	284	0.0108	29.2	0.00%	4.43	0.02	1.08E-02	0.13
Year 22	2016	23.83	317	0.0752	24.7	0.00%	3.57	0.00	7.08E-03	0.07
Year 23	2017	25.63	322	0.0797	25.9	0.00%	3.34	0.00	7.05E-03	0.07
Year 24	2018	21.26	324	0.0657	21.4	0.00%	3.17	0.00	8.01E-03	0.08

Year 25	2019	20.52	316	0.0650	20.2	0.00%	3.46	0.00	9.04E-03	0.09
Year 26	2020	14.83	326	0.0455	15.7	0.00%	2.59	0.00	6.03E-03	0.06
Year 27	2021	30.56	318	0.0961	29.0	0.00%	4.11	0.00	7.93E-03	0.08
Year 28	2022	22.66	320	0.0709	23.7	0.00%	3.08	0.00	7.67E-03	0.08
Year 29	2023	11.02	337	0.0327	11.2	0.00%	2.91	0.00	7.16E-03	0.07
Year 30	2024	11.63	344	0.0338	11.7	0.00%	2.82	0.00	6.72E-03	0.07

Figure III.I.1.7-1: Storage Requirement and Storage Capacity: Normal

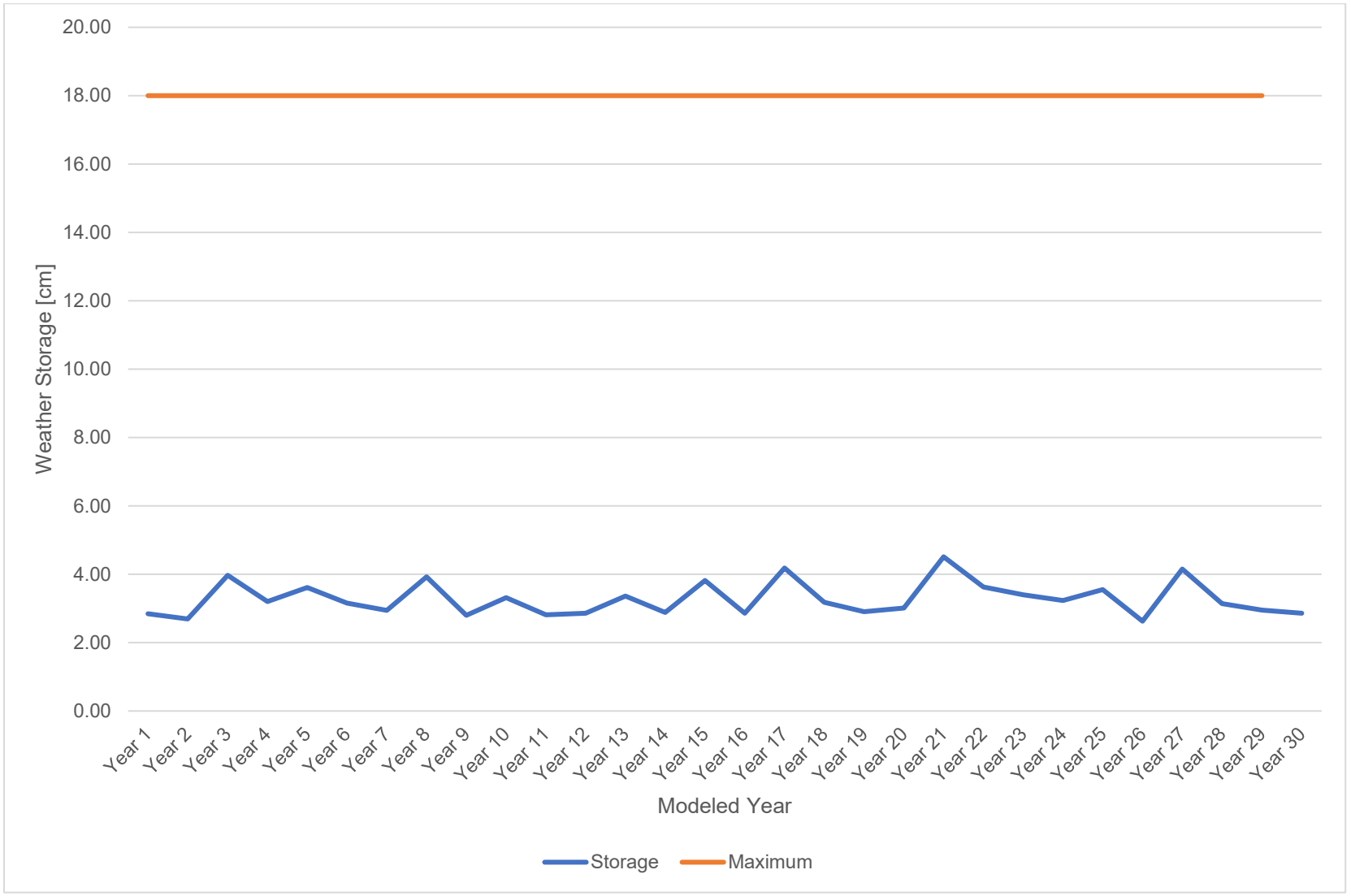


Figure III.I.1.7-2: Storage Requirement and Storage Capacity: No Plants

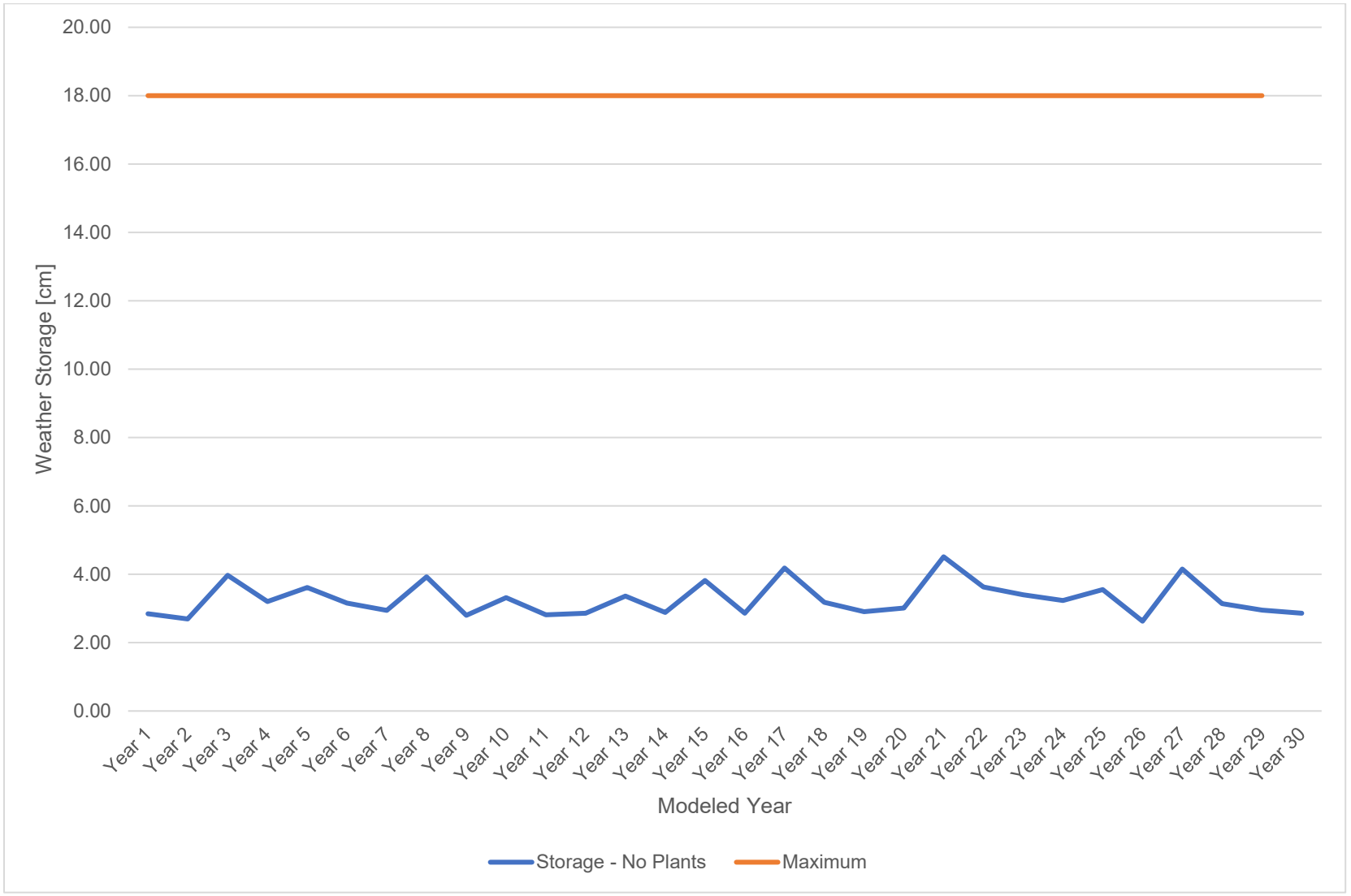
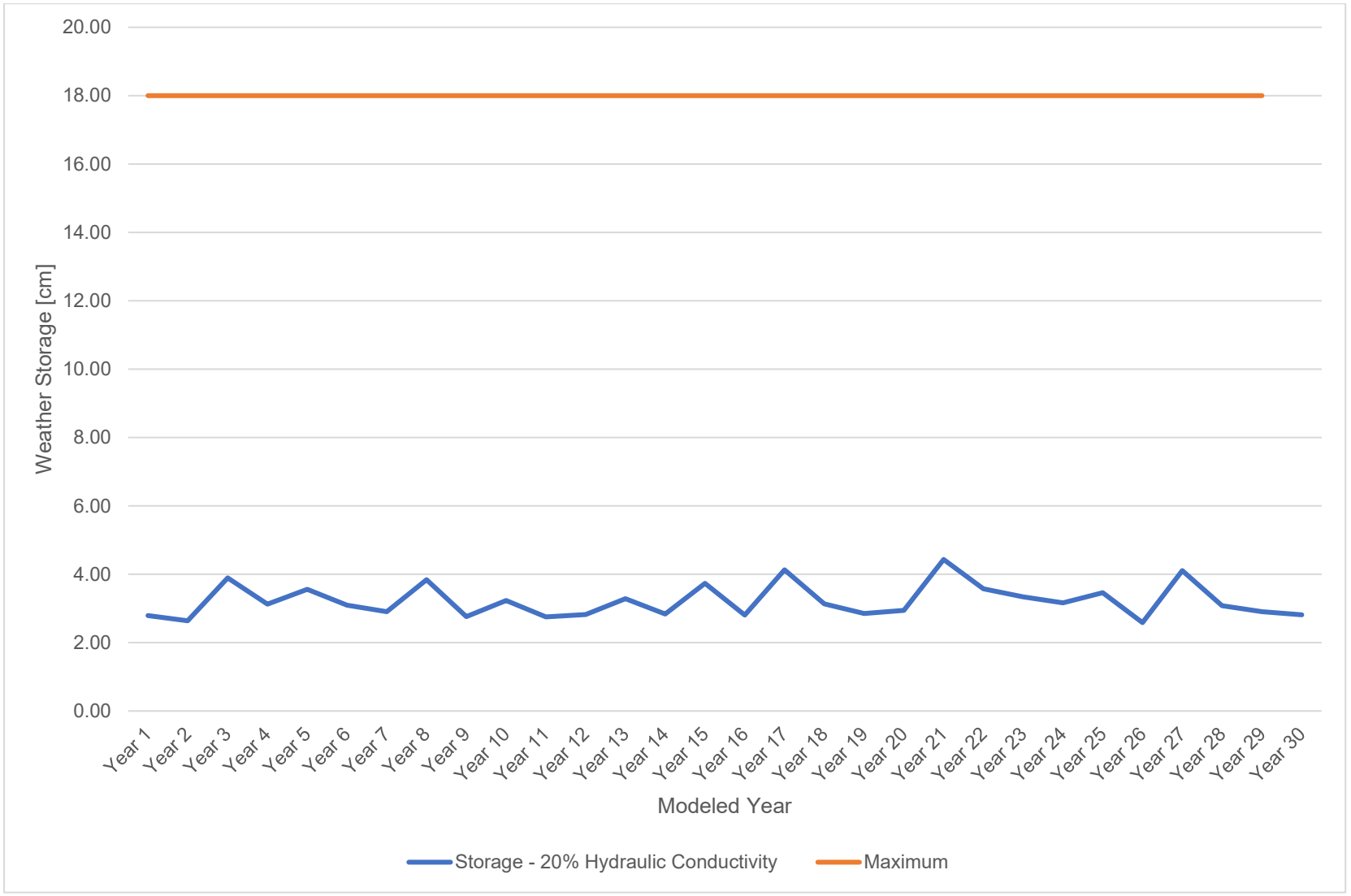


Figure III.I.1.7-3: Storage Requirement and Storage Capacity: +20% HC



APPENDIX III.I.1.A – DAILY CLIMATOLOGICAL DATA

```
1,53,30,28,326.7,7.5,0.7,0.00,
2,45,30,28,338.9,6.6,0.7,0.00,
3,54,30,30,359.7,5.4,0.7,0.00,
4,46,33,31,196.4,7.3,0.9,0.00,
5,61,37,33,279.8,13.0,0.9,0.16,
6,55,43,28,271.0,17.6,0.1,0.00,
7,58,38,29,343.4,8.2,0.3,0.00,
8,66,34,32,306.8,7.2,0.6,0.00,
9,67,34,32,365.6,5.6,0.5,0.00,
10,65,34,31,256.6,7.0,0.8,0.00,
11,67,40,24,263.8,8.0,0.7,0.00,
12,61,49,35,281.7,11.7,0.6,0.01,
13,62,38,33,128.6,7.2,0.2,0.00,
14,65,35,33,356.4,6.3,0.1,0.00,
15,69,41,31,341.5,7.5,0.8,0.00,
16,63,42,25,252.8,15.4,0.5,0.00,
17,55,34,24,174.3,7.9,0.6,0.00,
18,50,33,16,213.1,9.6,0.1,0.00,
19,52,26,17,265.8,4.8,0.7,0.00,
20,63,38,18,390.8,5.8,0.7,0.00,
21,63,32,21,368.3,6.5,0.4,0.00,
22,59,41,21,274.6,8.6,0.3,0.00,
23,60,29,24,332.9,6.7,0.4,0.00,
24,61,35,25,246.7,7.1,0.7,0.00,
25,65,36,31,269.0,6.4,0.9,0.00,
26,59,43,34,391.6,14.7,0.2,0.09,
27,56,42,28,409.5,18.2,0.1,0.00,
28,56,35,20,412.4,7.7,0.2,0.00,
29,56,30,24,415.3,7.8,0.2,0.00,
30,53,27,21,266.4,6.2,0,0.00,
31,60,26,17,209.3,7.0,0.3,0.00,
32,72,35,22,318.8,5.1,0.1,0.00,
33,74,35,28,363.9,5.1,0,0.00,
34,65,41,22,342.4,9.1,0,0.00,
35,68,33,18,273.8,4.9,0,0.00,
36,72,34,20,336.6,6.1,0,0.00,
37,74,34,18,427.9,6.6,0,0.00,
38,76,36,20,444.5,8.4,0.1,0.00,
39,67,36,28,369.0,6.4,0.1,0.00,
40,73,39,32,262.9,1.5,0.4,0.00,
41,63,47,34,251.1,1.4,0.9,0.30,
42,61,45,32,458.7,11.7,0.2,0.00,
43,67,46,33,462.3,1.9,0.6,0.00,
44,70,52,43,383.3,11.9,0.7,0.00,
45,71,53,45,469.7,14.7,0.9,0.03,
46,62,49,47,448.2,8.7,1,0.45,
47,65,47,43,298.6,6.8,0.6,0.03,
48,61,37,35,359.6,5.8,0.5,0.00,
49,71,42,36,246.2,5.7,0.4,0.00,
50,67,44,29,321.7,7.6,0,0.00,
```

```
51,75,37,28,270.4,5.4,0.4,0.00,
52,67,47,35,496.6,6.4,0.8,0.00,
53,72,46,42,280.6,6.2,0.4,0.02,
54,73,49,39,192.6,7.6,0.3,0.00,
55,68,47,42,101.7,12.2,0.4,0.00,
56,73,52,41,281.6,7.1,0.5,0.00,
57,68,47,35,357.3,1.8,0.7,0.00,
58,72,54,35,444.0,9.8,0.5,0.00,
59,72,46,37,341.4,7.4,0.4,0.05,
60,60,42,40,410.7,7.4,0.9,0.00,
61,65,35,32,438.7,7.0,0.5,0.00,
62,74,43,28,536.5,9.6,0.6,0.00,
63,73,57,29,340.6,11.9,0.3,0.00,
64,74,50,37,544.7,12.4,0.6,0.00,
65,65,50,42,272.8,11.0,0.8,0.08,
66,59,36,25,360.5,9.4,0.4,0.00,
67,59,35,15,556.9,6.6,0.6,0.00,
68,70,41,19,531.3,5.8,0.4,0.00,
69,77,46,27,520.2,6.7,0,0.00,
70,81,54,36,448.7,13.0,0.3,0.00,
71,60,48,40,364.7,13.5,0.6,0.34,
72,70,43,29,202.4,8.0,0.1,0.00,
73,77,42,27,581.0,7.7,0.3,0.00,
74,72,47,33,511.3,8.5,0.3,0.00,
75,74,46,39,429.0,4.9,0.3,0.00,
76,78,48,37,134.9,7.0,0.5,0.00,
77,77,55,39,356.2,8.7,0.2,0.00,
78,82,58,35,600.8,11.9,0.3,0.00,
79,81,56,36,383.6,1.2,0.2,0.00,
80,85,62,34,250.9,14.8,0.3,0.00,
81,75,57,28,594.4,13.9,0.8,0.00,
82,80,45,30,616.2,8.4,0.6,0.00,
83,80,58,32,620.0,12.4,0.2,0.00,
84,69,47,25,490.4,12.2,0,0.00,
85,64,35,10,535.0,7.3,0,0.00,
86,76,36,17,330.3,8.4,0.7,0.00,
87,75,47,30,528.8,9.5,0.1,0.00,
88,72,41,30,638.5,7.9,0.3,0.00,
89,74,46,33,567.9,8.3,0.3,0.00,
90,70,45,35,501.2,6.7,0.3,0.00,
91,74,44,35,403.7,6.7,0.1,0.00,
92,79,48,23,443.4,9.9,0.3,0.00,
93,73,49,26,518.7,9.5,0.1,0.00,
94,71,46,37,616.0,8.8,0.5,0.02,
95,79,48,32,549.7,7.8,0,0.00,
96,83,54,20,353.7,9.7,0.2,0.00,
97,84,59,15,451.8,8.7,0.1,0.00,
98,86,59,16,291.3,12.1,0.1,0.00,
99,85,55,21,459.9,18.8,0.2,0.00,
100,63,47,13,561.0,13.0,0.4,0.00,
```

```
101,73,42,14,678.5,8.2,0.1,0.00,
102,83,40,12,539.9,7.0,0,0.00,
103,92,44,18,656.1,7.7,0.4,0.00,
104,86,64,17,436.6,13.3,0.4,0.00,
105,81,61,15,453.7,8.9,1,0.00,
106,80,57,21,578.7,11.5,0.9,0.00,
107,72,51,23,677.2,18.4,0,0.00,
108,74,44,19,439.9,7.5,0.2,0.00,
109,62,42,24,583.4,15.9,0.2,0.02,
110,70,43,23,705.2,12.9,0.1,0.00,
111,81,56,20,703.1,12.8,0,0.00,
112,74,47,25,609.7,8.1,0,0.00,
113,72,41,26,545.1,6.8,0,0.00,
114,79,43,22,718.6,5.7,0,0.00,
115,85,46,21,543.5,9.7,0,0.00,
116,86,60,12,723.5,1.0,0.1,0.00,
117,84,51,31,725.8,7.3,0.5,0.00,
118,86,56,23,726.0,1.4,0.5,0.00,
119,89,67,22,730.4,12.0,0,0.00,
120,91,69,31,502.9,15.5,0.7,0.00,
121,85,66,37,375.0,11.0,0.7,0.00,
122,88,61,36,509.6,1.6,0.3,0.00,
123,85,63,22,544.6,1.1,0,0.00,
124,90,53,29,657.9,8.4,0.3,0.00,
125,87,69,24,513.0,14.0,0.6,0.01,
126,86,52,18,743.4,1.4,0.3,0.00,
127,70,53,23,746.7,16.8,0.4,0.00,
128,75,48,26,655.1,14.4,0.1,0.00,
129,82,54,28,750.2,9.3,0,0.00,
130,86,55,28,751.9,7.7,0.3,0.00,
131,89,56,29,598.6,1.9,0.7,0.00,
132,90,69,30,755.2,16.7,0.6,0.00,
133,89,67,33,756.8,15.7,0,0.00,
134,92,62,34,485.9,7.0,0.6,0.00,
135,98,63,29,717.8,9.3,0.7,0.00,
136,92,65,26,693.8,15.2,0.6,0.00,
137,74,56,30,644.8,18.1,0,0.00,
138,84,55,34,589.8,8.1,0,0.00,
139,90,57,27,765.2,5.8,0.7,0.00,
140,93,56,24,627.4,9.4,0.4,0.00,
141,95,70,25,721.3,8.9,0.8,0.00,
142,97,73,24,768.8,13.2,0.1,0.00,
143,90,73,30,769.9,13.7,0.3,0.00,
144,88,62,22,709.6,9.4,0,0.00,
145,93,58,30,771.9,11.8,0,0.00,
146,88,62,30,579.5,13.5,0.3,0.00,
147,86,64,28,690.3,12.0,0.3,0.00,
148,91,58,29,595.1,7.9,0.5,0.00,
149,91,62,37,680.9,1.3,0.3,0.00,
150,88,59,40,776.3,8.5,0.2,0.00,
```

```
151,91,63,26,460.9,1.5,0.3,0.00,
152,94,64,30,777.8,5.5,0.2,0.00,
153,99,68,32,760.3,16.3,0.3,0.00,
154,89,68,24,704.9,12.9,0.4,0.00,
155,91,55,30,623.3,8.7,0.3,0.00,
156,95,64,34,562.5,11.5,0.4,0.00,
157,94,77,32,631.7,18.9,0.4,0.00,
158,93,67,35,454.8,14.0,0.3,0.00,
159,93,71,33,729.1,16.8,0.3,0.00,
160,89,61,32,636.4,6.3,0.3,0.00,
161,95,58,35,508.3,7.0,0.2,0.00,
162,86,61,48,518.5,1.7,0.2,0.00,
163,96,62,43,689.5,6.1,0.2,0.00,
164,99,70,38,783.0,6.9,0.2,0.00,
165,101,69,31,733.6,8.2,0.2,0.00,
166,99,69,33,783.2,11.6,0.3,0.00,
167,96,66,38,670.1,1.7,0.2,0.00,
168,94,63,56,725.4,11.5,0.2,0.00,
169,92,63,55,637.9,8.5,0.3,0.00,
170,95,69,54,653.3,8.7,0.3,0.00,
171,94,65,52,574.5,7.2,0.3,0.00,
172,98,68,48,783.2,7.6,0.3,0.00,
173,98,70,43,783.0,6.1,0.4,0.00,
174,100,70,36,738.6,7.7,0.3,0.00,
175,96,64,45,782.6,7.2,0.3,0.00,
176,94,62,52,782.3,13.0,0.3,0.00,
177,94,65,51,752.6,7.6,0.2,0.00,
178,94,62,47,781.7,5.0,0.3,0.00,
179,97,63,44,781.3,7.5,0.4,0.00,
180,98,66,45,459.7,12.4,0.4,0.00,
181,89,68,57,780.4,8.5,0.4,0.00,
182,87,65,58,779.9,8.3,0.4,0.00,
183,94,67,54,779.4,7.4,0.4,0.00,
184,94,77,36,653.5,17.6,0.4,0.00,
185,95,72,28,717.2,14.0,0.4,0.00,
186,96,70,36,314.9,7.0,0.4,0.00,
187,97,68,46,776.8,8.7,0.4,0.00,
188,95,69,50,597.2,8.9,0.4,0.00,
189,94,73,54,377.8,5.6,0.4,0.00,
190,95,68,48,684.1,7.8,0.4,0.00,
191,98,68,41,760.5,11.8,0.5,0.00,
192,97,67,38,772.7,8.6,0.5,0.00,
193,96,73,43,771.8,7.4,0.4,0.00,
194,97,70,47,770.8,8.4,0.4,0.00,
195,96,75,52,769.8,7.3,0.4,0.00,
196,95,69,58,663.4,7.4,0.5,0.09,
197,89,68,61,767.6,7.2,0.5,0.00,
198,88,63,63,765.0,9.3,0.5,0.08,
199,92,68,58,493.9,7.5,0.4,0.00,
200,92,69,58,636.3,8.4,0.5,0.00,
```

```
201,94,68,61,705.9,9.2,0.5,0.07,
202,94,68,60,553.5,6.9,0.5,0.00,
203,98,68,53,758.7,6.4,0.5,0.00,
204,99,71,32,662.9,11.8,0.5,0.00,
205,103,65,27,688.2,5.4,0.5,0.00,
206,105,66,30,755.7,4.5,0.5,0.00,
207,106,66,33,607.0,5.8,0.5,0.00,
208,108,72,38,276.5,6.1,0.6,0.00,
209,104,72,37,404.9,9.3,0.6,0.00,
210,101,69,39,749.3,6.7,0.5,0.00,
211,99,76,52,495.7,8.5,0.4,0.00,
212,95,68,55,745.9,6.8,0.5,0.04,
213,90,67,56,744.1,7.0,0.6,0.00,
214,95,66,54,720.5,3.6,0.6,0.00,
215,102,71,47,621.6,5.5,0.5,0.00,
216,100,71,53,551.6,6.0,0.5,0.00,
217,98,73,58,617.6,8.6,0.5,0.00,
218,98,69,55,513.5,6.6,0.4,0.00,
219,98,73,53,593.8,8.4,0.5,0.00,
220,99,75,57,607.3,8.0,0.5,0.00,
221,100,72,56,509.3,5.3,0.5,0.00,
222,98,73,51,481.4,7.4,0.5,0.00,
223,99,71,53,481.1,6.9,0.5,0.00,
224,99,74,52,518.5,9.6,0.5,0.00,
225,98,71,59,500.4,7.1,0.5,0.00,
226,89,70,62,506.2,8.8,0.5,0.12,
227,88,69,63,639.9,7.0,0.5,0.00,
228,90,65,66,526.3,8.4,0.5,0.07,
229,90,70,67,709.2,6.7,0.4,0.22,
230,90,67,63,706.6,4.5,0.5,0.00,
231,93,70,58,584.0,14.1,0.5,0.03,
232,87,70,59,533.0,8.1,0.4,0.07,
233,93,69,57,692.9,8.1,0.4,0.01,
234,96,71,59,610.9,8.2,0.5,0.00,
235,93,71,60,693.1,7.0,0.4,0.16,
236,94,68,55,619.7,4.7,0.5,0.00,
237,98,68,51,464.6,4.9,0.4,0.00,
238,98,70,54,684.5,7.5,0.4,0.08,
239,95,70,56,681.5,6.8,0.4,0.00,
240,93,71,53,526.0,5.2,0.4,0.00,
241,96,69,53,675.5,4.9,0.4,0.00,
242,97,68,55,672.4,5.9,0.4,0.00,
243,96,72,54,564.2,7.5,0.4,0.00,
244,93,69,52,436.5,1.6,0.4,0.00,
245,92,65,48,580.5,9.0,0.5,0.00,
246,93,67,48,525.9,6.9,0.5,0.00,
247,96,67,47,607.6,5.4,0.4,0.00,
248,98,63,45,612.4,5.4,0.5,0.00,
249,101,69,44,642.5,5.1,0.4,0.00,
250,99,67,46,617.0,8.8,0.4,0.00,
```

```
251,94,68,56,244.9,9.1,0.4,0.02,
252,89,67,58,516.4,1.2,0.4,0.00,
253,82,64,61,586.9,5.3,0.4,0.60,
254,85,62,59,535.2,4.8,0.4,0.38,
255,91,65,55,558.6,4.2,0.4,0.00,
256,88,66,52,528.1,9.7,0.4,0.00,
257,77,61,58,214.4,8.4,0.5,0.19,
258,64,60,60,618.0,12.0,0.4,0.79,
259,79,61,61,551.1,5.6,0.3,0.00,
260,85,61,60,299.3,4.8,0.3,0.00,
261,89,63,58,546.7,9.1,0.3,1.03,
262,83,62,60,562.2,4.6,0.3,0.00,
263,87,62,58,475.6,5.5,0.3,0.00,
264,82,50,51,595.5,12.2,0.4,0.00,
265,58,47,42,591.7,8.1,0.4,0.00,
266,81,49,50,438.1,5.2,0.4,0.00,
267,88,64,50,344.6,7.5,0.3,0.00,
268,85,59,50,580.2,4.6,0.3,0.00,
269,88,61,51,576.3,6.1,0.3,0.00,
270,90,61,50,572.4,5.0,0.3,0.00,
271,82,61,57,544.9,6.6,0.3,0.17,
272,85,58,52,564.6,11.1,0.3,0.00,
273,80,58,41,475.3,6.9,0.3,0.00,
274,86,54,46,258.3,6.4,0.3,0.00,
275,83,58,41,389.0,8.9,0.3,0.00,
276,83,52,41,313.4,4.6,0.3,0.00,
277,88,53,30,452.0,15.4,0.3,0.00,
278,74,54,16,428.5,9.3,0.4,0.00,
279,75,48,27,537.0,7.7,0.3,0.00,
280,85,47,30,455.5,6.1,0.3,0.00,
281,85,61,31,529.1,8.3,0.2,0.00,
282,84,54,35,494.2,5.0,0.2,0.00,
283,86,52,36,282.0,5.2,0.3,0.00,
284,86,49,28,222.5,7.1,0.2,0.00,
285,84,47,33,367.1,5.4,0.2,0.00,
286,86,47,34,448.9,6.8,0.3,0.00,
287,77,49,38,388.6,4.3,0.2,0.00,
288,83,46,38,417.5,4.6,0.3,0.00,
289,85,50,34,312.0,5.6,0.3,0.00,
290,85,51,30,340.2,5.3,0.2,0.00,
291,87,43,31,316.1,5.3,0.3,0.00,
292,87,50,30,335.5,7.4,0.3,0.00,
293,73,47,25,482.6,5.8,0.4,0.00,
294,83,44,29,478.9,7.0,0.4,0.00,
295,84,54,32,475.2,2.0,0.4,0.00,
296,70,50,13,405.5,9.8,0.3,0.00,
297,78,45,26,285.6,5.6,0.3,0.00,
298,79,46,27,425.2,5.8,0.3,0.00,
299,81,44,16,165.4,12.0,0.3,0.00,
300,80,46,22,259.7,6.1,0.3,0.00,
```

```
301,82,43,26,357.3,3.9,0.3,0.00,
302,81,51,31,214.5,3.3,0.3,0.00,
303,77,52,36,380.1,6.3,0.2,0.00,
304,71,57,42,284.4,13.0,0.2,0.00,
305,70,53,41,389.5,14.2,0.3,0.00,
306,71,48,38,377.1,8.3,0.2,0.00,
307,60,42,34,346.2,6.5,0.3,0.00,
308,61,36,34,241.9,6.1,0.2,0.00,
309,67,42,41,419.3,5.3,0.2,0.00,
310,63,53,47,423.6,12.7,0.3,0.00,
311,70,42,43,420.5,5.6,0.4,0.00,
312,71,42,43,417.5,4.0,0.3,0.00,
313,76,43,41,298.6,13.7,0.2,0.00,
314,76,56,37,411.6,14.3,0.3,0.00,
315,66,39,26,363.5,5.9,0.3,0.00,
316,73,34,31,406.0,6.0,0.3,0.00,
317,75,38,32,403.2,4.4,0.4,0.00,
318,73,41,33,400.5,4.3,0.3,0.00,
319,72,43,34,381.4,9.2,0.4,0.00,
320,66,48,43,395.3,6.4,0.4,0.00,
321,71,41,36,268.8,7.1,0.4,0.00,
322,69,37,32,390.4,5.4,0.4,0.00,
323,71,33,31,100.7,6.1,0.3,0.00,
324,72,35,27,358.0,5.0,0.3,0.00,
325,69,42,35,269.1,4.2,0.4,0.00,
326,75,44,30,381.3,6.3,0.4,0.00,
327,72,40,24,379.2,5.6,0.5,0.00,
328,70,35,23,302.6,3.6,0.3,0.00,
329,72,33,23,156.0,5.9,0.4,0.00,
330,74,39,25,217.4,13.7,0.3,0.00,
331,66,45,21,137.2,9.1,0.3,0.00,
332,55,32,19,344.8,6.5,0.3,0.00,
333,67,28,19,73.6,4.2,0.3,0.00,
334,69,31,24,200.7,4.8,0.3,0.00,
335,73,31,23,298.6,5.1,0.3,0.00,
336,75,47,25,290.9,12.1,0.3,0.00,
337,73,42,27,203.2,5.0,0.3,0.00,
338,74,34,26,360.8,11.7,0.3,0.00,
339,71,41,26,359.6,5.5,0.4,0.00,
340,73,46,31,253.1,8.7,0.2,0.00,
341,74,51,37,235.2,11.8,0.3,0.07,
342,63,41,37,356.4,8.9,0.4,0.00,
343,57,31,26,355.5,4.3,0.4,0.00,
344,60,27,27,354.7,3.1,0.4,0.00,
345,67,28,27,354.0,5.5,0.4,0.00,
346,71,35,21,353.3,1.9,0.4,0.00,
347,71,34,21,326.9,13.1,0.4,0.00,
348,71,36,23,263.9,9.3,0.4,0.00,
349,61,37,27,252.8,6.9,0.3,0.00,
350,61,32,24,351.5,5.8,0.4,0.00,
```

```
351,51,39,30,280.4,6.6,0.4,0.00,
352,47,30,30,277.9,4.6,0.5,0.10,
353,47,29,27,350.9,3.0,0.4,0.00,
354,53,33,29,350.9,3.5,0.4,0.00,
355,42,31,30,351.0,5.3,0.4,0.03,
356,46,39,31,320.2,4.9,0.4,0.00,
357,43,31,28,243.5,5.1,0.4,0.00,
358,47,30,30,351.7,5.6,0.4,0.00,
359,51,28,28,352.1,8.1,0.5,0.00,
360,55,33,27,352.6,6.9,0.6,0.00,
361,57,32,25,353.1,6.2,0.5,0.00,
362,59,33,29,353.8,6.0,0.5,0.00,
363,56,31,23,354.5,8.1,0.5,0.00,
364,60,28,19,355.3,1.9,0.4,0.00,
365,64,42,27,316.1,17.8,0.4,0.03,
```

```
1,47,38,30,326.7,9.2,0.5,0.00,
2,38,27,24,338.9,7.8,0.4,0.11,
3,55,27,23,359.7,11.6,0.5,0.00,
4,64,43,20,196.4,8.0,0.4,0.00,
5,62,35,23,279.8,11.1,0.5,0.00,
6,56,31,26,271.0,8.0,0.5,0.00,
7,52,24,24,343.4,3.8,0.4,0.00,
8,59,24,25,306.8,4.5,0.4,0.00,
9,62,25,25,365.6,2.9,0.4,0.00,
10,66,27,24,256.6,7.8,0.4,0.00,
11,60,31,23,263.8,5.3,0.4,0.00,
12,64,26,21,281.7,5.5,0.4,0.00,
13,67,30,21,128.6,8.3,0.4,0.00,
14,70,31,18,356.4,5.9,0.3,0.00,
15,69,32,18,341.5,6.0,0.4,0.00,
16,73,43,21,252.8,11.2,0.4,0.00,
17,69,50,27,174.3,33.4,0.5,0.00,
18,52,28,0,213.1,11.4,0.4,0.00,
19,65,26,8,265.8,12.1,0.4,0.00,
20,57,32,17,390.8,1.0,0.5,0.00,
21,61,21,10,368.3,5.0,0.4,0.00,
22,68,33,14,274.6,12.6,0.4,0.00,
23,51,34,13,332.9,14.4,0.4,0.00,
24,54,20,3,246.7,7.7,0.3,0.00,
25,62,22,4,269.0,1.3,0.3,0.00,
26,62,36,16,391.6,11.7,0.3,0.00,
27,61,32,10,409.5,6.9,0.4,0.00,
28,68,35,12,412.4,8.9,0.4,0.00,
29,69,30,10,415.3,9.4,0.4,0.00,
30,73,38,12,266.4,8.4,0.5,0.00,
31,68,50,24,209.3,15.3,0.5,0.00,
32,61,47,36,318.8,1.5,0.4,0.08,
33,52,36,32,363.9,8.4,0.5,0.09,
34,59,39,31,342.4,7.4,0.4,0.02,
35,60,31,29,273.8,3.7,0.4,0.00,
36,67,32,30,336.6,3.0,0.4,0.00,
37,71,34,30,427.9,4.5,0.5,0.00,
38,73,39,30,444.5,5.5,0.4,0.00,
39,74,38,27,369.0,6.3,0.5,0.00,
40,76,36,26,262.9,5.5,0.4,0.00,
41,77,45,25,251.1,7.9,0.4,0.00,
42,57,40,11,458.7,12.3,0.3,0.00,
43,60,36,8,462.3,8.8,0.3,0.00,
44,66,36,20,383.3,3.7,0.4,0.00,
45,71,36,32,469.7,8.6,0.4,0.00,
46,71,43,27,448.2,6.7,0.4,0.00,
47,66,40,26,298.6,6.1,0.4,0.00,
48,76,38,24,359.6,6.5,0.3,0.00,
49,80,55,22,246.2,19.5,0.4,0.00,
50,76,56,21,321.7,11.2,0.4,0.00,
```

```
51,77,56,35,270.4,9.8,0.4,0.00,
52,74,46,30,496.6,5.3,0.4,0.00,
53,79,47,23,280.6,17.4,0.4,0.00,
54,66,50,22,192.6,11.5,0.4,0.00,
55,68,45,19,101.7,6.8,0.4,0.00,
56,66,54,32,281.6,15.3,0.4,0.00,
57,65,43,30,357.3,17.2,0.5,0.00,
58,60,37,21,444.0,9.9,0.4,0.00,
59,57,28,14,341.4,8.4,0.4,0.00,
60,61,33,7,410.7,1.1,0.4,0.00,
61,59,37,7,438.7,9.8,0.5,0.00,
62,64,32,6,536.5,6.2,0.4,0.00,
63,69,26,5,340.6,4.0,0.3,0.00,
64,72,47,11,544.7,14.6,0.3,0.00,
65,73,49,18,272.8,16.0,0.3,0.00,
66,65,31,22,360.5,14.1,0.3,0.00,
67,53,24,13,556.9,5.4,0.4,0.00,
68,52,32,5,531.3,9.2,0.4,0.00,
69,62,21,4,520.2,3.5,0.5,0.00,
70,73,31,8,448.7,3.6,0.4,0.00,
71,79,38,12,364.7,8.5,0.3,0.00,
72,78,52,11,202.4,13.2,0.3,0.00,
73,80,41,13,581.0,18.6,0.4,0.00,
74,65,44,24,511.3,11.3,0.4,0.00,
75,64,38,25,429.0,1.6,0.3,0.00,
76,69,41,24,134.9,9.2,0.3,0.00,
77,75,38,23,356.2,15.5,0.4,0.00,
78,65,40,20,600.8,6.0,0.4,0.00,
79,64,39,15,383.6,7.1,0.4,0.00,
80,71,31,12,250.9,5.6,0.4,0.00,
81,80,50,13,594.4,4.8,0.3,0.00,
82,79,57,19,616.2,13.3,0.3,0.00,
83,78,59,25,620.0,24.3,0.3,0.00,
84,68,50,10,490.4,22.8,0.3,0.00,
85,68,42,9,535.0,8.2,0.4,0.00,
86,57,32,11,330.3,11.6,0.4,0.00,
87,69,37,17,528.8,5.6,0.3,0.00,
88,74,42,19,638.5,11.2,0.3,0.00,
89,73,54,22,567.9,25.1,0.3,0.00,
90,72,51,9,501.2,9.0,0.2,0.00,
91,75,49,23,403.7,8.2,0.3,0.00,
92,79,44,22,443.4,8.9,0.2,0.00,
93,84,55,29,518.7,8.9,0.3,0.00,
94,76,54,25,616.0,15.0,0.3,0.00,
95,69,48,27,549.7,1.1,0.3,0.02,
96,48,37,31,353.7,11.6,0.4,0.47,
97,56,36,31,451.8,5.5,0.3,0.00,
98,68,35,28,291.3,5.3,0.3,0.00,
99,79,44,27,459.9,6.3,0.3,0.00,
100,87,54,27,561.0,7.7,0.2,0.00,
```

```
101,89,57,22,678.5,14.3,0.3,0.00,
102,80,56,13,539.9,16.3,0.3,0.00,
103,77,54,23,656.1,12.7,0.3,0.00,
104,78,59,17,436.6,25.3,0.3,0.00,
105,69,46,4,453.7,9.7,0.3,0.00,
106,72,44,16,578.7,8.2,0.4,0.00,
107,81,46,16,677.2,6.8,0.3,0.00,
108,83,60,10,439.9,18.0,0.3,0.00,
109,85,58,20,583.4,15.0,0.3,0.00,
110,78,59,19,705.2,15.5,0.2,0.00,
111,83,49,4,703.1,11.7,0.3,0.00,
112,82,53,7,609.7,12.5,0.3,0.00,
113,78,51,14,545.1,6.4,0.3,0.00,
114,85,47,17,718.6,6.1,0.3,0.00,
115,93,56,18,543.5,1.5,0.3,0.00,
116,92,68,13,723.5,23.0,0.3,0.00,
117,91,66,22,725.8,7.1,0.3,0.00,
118,96,64,23,726.0,15.7,0.3,0.00,
119,91,54,24,730.4,16.7,0.3,0.00,
120,69,46,16,502.9,6.4,0.4,0.00,
121,86,42,12,375.0,9.3,0.3,0.00,
122,91,52,11,509.6,11.4,0.4,0.00,
123,92,64,13,544.6,1.3,0.3,0.00,
124,92,63,17,657.9,12.4,0.3,0.00,
125,93,64,17,513.0,9.4,0.4,0.00,
126,95,53,19,743.4,7.8,0.4,0.00,
127,95,55,17,746.7,7.8,0.3,0.00,
128,96,65,30,655.1,6.0,0.2,0.00,
129,96,58,25,750.2,6.1,0.2,0.00,
130,94,60,32,751.9,9.3,0.3,0.00,
131,92,64,31,598.6,6.4,0.2,0.00,
132,97,61,43,755.2,5.0,0.3,0.00,
133,100,66,45,756.8,5.1,0.2,0.00,
134,102,66,39,485.9,12.6,0.3,0.00,
135,97,79,32,717.8,15.0,0.3,0.00,
136,96,76,26,693.8,12.7,0.3,0.00,
137,97,71,33,644.8,11.4,0.4,0.00,
138,95,69,34,589.8,11.3,0.3,0.00,
139,99,75,35,765.2,13.5,0.4,0.00,
140,97,76,30,627.4,13.3,0.3,0.00,
141,97,77,29,721.3,14.7,0.3,0.00,
142,98,73,28,768.8,1.8,0.4,0.00,
143,97,70,24,769.9,15.9,0.3,0.00,
144,92,72,32,709.6,17.8,0.4,0.00,
145,94,72,38,771.9,13.8,0.3,0.00,
146,86,67,30,579.5,13.5,0.3,0.00,
147,80,62,24,690.3,15.3,0.3,0.00,
148,87,58,26,595.1,13.1,0.3,0.00,
149,88,71,18,680.9,11.5,0.3,0.00,
150,95,58,20,776.3,6.5,0.3,0.00,
```

```
151,95,62,22,460.9,8.2,0.3,0.00,
152,93,63,19,777.8,1.3,0.2,0.00,
153,96,56,19,760.3,5.7,0.3,0.00,
154,99,63,31,704.9,5.5,0.4,0.00,
155,99,68,47,623.3,8.4,0.3,0.00,
156,100,67,36,562.5,4.9,0.4,0.00,
157,103,72,28,631.7,9.7,0.4,0.00,
158,105,82,27,454.8,11.3,0.3,0.00,
159,91,69,46,729.1,12.2,0.3,0.00,
160,98,67,48,636.4,7.0,0.3,0.00,
161,101,69,42,508.3,9.4,0.2,0.00,
162,102,68,38,518.5,5.0,0.2,0.00,
163,101,78,39,689.5,8.0,0.2,0.00,
164,98,70,44,783.0,1.9,0.2,0.00,
165,86,70,55,733.6,6.9,0.2,0.05,
166,91,66,58,783.2,6.8,0.3,0.08,
167,93,63,51,670.1,4.8,0.2,0.00,
168,98,65,50,725.4,8.0,0.2,0.00,
169,99,69,51,637.9,6.0,0.3,0.00,
170,103,73,46,653.3,3.8,0.3,0.00,
171,105,67,38,574.5,8.2,0.3,0.00,
172,106,74,35,783.2,6.9,0.3,0.00,
173,107,74,40,783.0,9.8,0.4,0.00,
174,102,76,46,738.6,1.4,0.3,0.00,
175,98,74,45,782.6,9.0,0.3,0.00,
176,99,73,43,782.3,13.8,0.3,0.00,
177,98,72,48,752.6,8.6,0.2,0.00,
178,95,67,60,781.7,12.6,0.3,0.90,
179,80,67,65,781.3,8.5,0.4,0.18,
180,87,68,64,459.7,5.4,0.4,0.00,
181,88,65,62,780.4,9.4,0.4,1.15,
182,90,67,55,779.9,9.4,0.4,0.00,
183,94,69,54,779.4,6.0,0.4,0.00,
184,93,71,56,653.5,6.7,0.4,0.00,
185,89,67,59,717.2,9.1,0.4,0.25,
186,94,73,57,314.9,6.1,0.4,0.00,
187,98,73,55,776.8,6.0,0.4,0.00,
188,99,74,45,597.2,5.3,0.4,0.00,
189,99,73,46,377.8,7.9,0.4,0.00,
190,100,77,50,684.1,7.8,0.4,0.00,
191,98,77,53,760.5,9.9,0.5,0.00,
192,93,69,63,772.7,9.0,0.5,0.56,
193,92,68,63,771.8,4.7,0.4,0.02,
194,95,73,59,770.8,5.8,0.4,0.00,
195,94,70,61,769.8,7.8,0.4,0.13,
196,85,68,63,663.4,6.2,0.5,0.28,
197,86,67,65,767.6,8.1,0.5,0.35,
198,90,69,64,765.0,5.4,0.5,0.02,
199,92,71,60,493.9,7.4,0.4,0.00,
200,97,70,61,636.3,8.7,0.5,0.23,
```

```
201,92,69,61,705.9,5.9,0.5,0.00,
202,97,72,61,553.5,7.8,0.5,0.02,
203,93,69,60,758.7,7.3,0.5,0.01,
204,97,72,58,662.9,7.9,0.5,0.00,
205,97,74,57,688.2,7.0,0.5,0.00,
206,96,72,55,755.7,8.5,0.5,0.01,
207,92,70,55,607.0,9.7,0.5,0.00,
208,94,70,53,276.5,4.8,0.6,0.00,
209,95,73,53,404.9,8.9,0.6,0.00,
210,95,75,56,749.3,7.5,0.5,0.00,
211,98,72,53,495.7,5.3,0.4,0.00,
212,100,72,57,745.9,7.9,0.5,0.00,
213,93,71,62,744.1,5.0,0.6,0.09,
214,94,72,59,720.5,6.2,0.6,0.05,
215,90,74,57,621.6,8.0,0.5,0.00,
216,90,71,61,551.6,8.3,0.5,0.00,
217,91,72,58,617.6,11.9,0.5,0.00,
218,95,76,50,513.5,9.2,0.4,0.00,
219,96,73,52,593.8,1.5,0.5,0.00,
220,92,67,54,607.3,11.9,0.5,0.00,
221,88,68,46,509.3,8.9,0.5,0.02,
222,83,70,61,481.4,7.6,0.5,0.12,
223,91,67,59,481.1,5.9,0.5,0.00,
224,95,69,53,518.5,6.6,0.5,0.00,
225,96,64,48,500.4,6.2,0.5,0.00,
226,97,66,45,506.2,5.4,0.5,0.00,
227,99,70,45,639.9,6.3,0.5,0.00,
228,98,70,45,526.3,5.0,0.5,0.00,
229,98,73,46,709.2,6.7,0.4,0.00,
230,94,66,55,706.6,8.2,0.5,0.86,
231,88,66,58,584.0,6.7,0.5,0.00,
232,92,73,56,533.0,9.1,0.4,0.01,
233,89,68,61,692.9,6.9,0.4,0.02,
234,91,68,58,610.9,6.5,0.5,0.00,
235,91,72,51,693.1,8.4,0.4,0.00,
236,85,69,56,619.7,1.7,0.5,0.09,
237,85,62,59,464.6,8.3,0.4,0.00,
238,79,69,63,684.5,7.0,0.4,0.00,
239,84,69,63,681.5,5.1,0.4,0.07,
240,85,68,62,526.0,7.3,0.4,0.02,
241,77,68,65,675.5,5.6,0.4,0.61,
242,87,64,54,672.4,8.2,0.4,0.00,
243,87,67,60,564.2,7.1,0.4,0.00,
244,90,68,59,436.5,7.8,0.4,0.00,
245,94,66,56,580.5,8.4,0.5,0.47,
246,87,64,56,525.9,9.8,0.5,0.00,
247,87,67,56,607.6,8.9,0.4,0.00,
248,88,63,58,612.4,5.2,0.5,0.00,
249,88,63,58,642.5,5.9,0.4,0.00,
250,91,67,56,617.0,5.7,0.4,0.00,
```

```
251,92,68,57,244.9,9.3,0.4,0.03,
252,90,64,59,516.4,6.9,0.4,0.60,
253,88,65,56,586.9,6.3,0.4,0.00,
254,86,66,56,535.2,6.8,0.4,0.02,
255,83,67,61,558.6,9.2,0.4,0.05,
256,76,63,58,528.1,9.0,0.4,0.00,
257,82,61,57,214.4,4.7,0.5,0.02,
258,76,62,57,618.0,8.3,0.4,0.03,
259,81,62,46,551.1,13.1,0.3,0.01,
260,84,64,49,299.3,7.6,0.3,0.00,
261,86,57,47,546.7,7.2,0.3,0.00,
262,86,67,44,562.2,1.8,0.3,0.00,
263,83,61,46,475.6,8.5,0.3,0.00,
264,86,63,42,595.5,9.2,0.4,0.00,
265,90,53,37,591.7,3.9,0.4,0.00,
266,93,56,42,438.1,5.6,0.4,0.00,
267,91,57,40,344.6,4.9,0.3,0.00,
268,87,57,51,580.2,8.7,0.3,0.01,
269,87,59,54,576.3,11.4,0.3,0.00,
270,85,64,47,572.4,1.5,0.3,0.00,
271,80,58,36,544.9,12.4,0.3,0.00,
272,80,49,34,564.6,6.1,0.3,0.00,
273,85,49,30,475.3,5.5,0.3,0.00,
274,86,52,37,258.3,5.3,0.3,0.00,
275,90,62,42,389.0,3.3,0.3,0.00,
276,91,56,39,313.4,9.8,0.3,0.00,
277,75,58,50,452.0,11.7,0.3,0.00,
278,82,57,53,428.5,1.4,0.4,0.00,
279,81,58,52,537.0,7.2,0.3,0.00,
280,84,54,48,455.5,3.5,0.3,0.00,
281,86,56,44,529.1,2.9,0.2,0.00,
282,86,56,46,494.2,4.4,0.2,0.00,
283,92,53,42,282.0,3.8,0.3,0.00,
284,91,53,41,222.5,5.6,0.2,0.00,
285,91,59,32,367.1,5.6,0.2,0.00,
286,91,59,36,448.9,5.2,0.3,0.00,
287,91,57,36,388.6,6.4,0.2,0.00,
288,86,56,38,417.5,7.1,0.3,0.00,
289,83,62,45,312.0,7.9,0.3,0.00,
290,83,58,42,340.2,13.1,0.2,0.00,
291,81,57,37,316.1,6.7,0.3,0.00,
292,76,51,31,335.5,5.8,0.3,0.00,
293,82,56,40,482.6,13.6,0.4,0.00,
294,79,61,41,478.9,17.9,0.4,0.00,
295,67,35,29,475.2,17.3,0.4,0.00,
296,56,26,18,405.5,3.4,0.3,0.00,
297,69,28,18,285.6,5.1,0.3,0.00,
298,71,47,22,425.2,11.7,0.3,0.00,
299,76,51,27,165.4,19.2,0.3,0.00,
300,73,46,30,259.7,13.3,0.3,0.00,
```

```
301,76,47,31,357.3,12.1,0.3,0.00,
302,70,48,29,214.5,11.9,0.3,0.00,
303,64,38,18,380.1,9.6,0.2,0.00,
304,74,32,19,284.4,3.7,0.2,0.00,
305,81,46,20,389.5,8.7,0.3,0.00,
306,71,43,22,377.1,6.0,0.2,0.00,
307,65,50,24,346.2,8.4,0.3,0.00,
308,75,52,27,241.9,1.6,0.2,0.00,
309,69,43,23,419.3,4.9,0.2,0.00,
310,70,36,22,423.6,4.6,0.3,0.00,
311,74,36,17,420.5,7.6,0.4,0.00,
312,77,50,38,417.5,6.2,0.3,0.00,
313,77,46,38,298.6,5.5,0.2,0.00,
314,83,44,36,411.6,5.2,0.3,0.00,
315,82,55,37,363.5,3.1,0.3,0.00,
316,75,36,30,406.0,3.9,0.3,0.00,
317,76,38,33,403.2,5.1,0.4,0.00,
318,75,38,33,400.5,4.5,0.3,0.00,
319,76,46,32,381.4,7.0,0.4,0.00,
320,69,47,28,395.3,1.8,0.4,0.00,
321,66,44,26,268.8,15.4,0.4,0.00,
322,67,32,24,390.4,5.3,0.4,0.00,
323,75,37,14,100.7,6.2,0.3,0.00,
324,78,38,16,358.0,8.9,0.3,0.00,
325,66,36,20,269.1,11.8,0.4,0.00,
326,65,32,19,381.3,9.3,0.4,0.00,
327,78,41,15,379.2,2.7,0.5,0.00,
328,65,47,18,302.6,8.3,0.3,0.00,
329,58,37,16,156.0,10.8,0.4,0.00,
330,61,30,20,217.4,12.9,0.3,0.00,
331,65,27,23,137.2,9.3,0.3,0.00,
332,50,32,25,344.8,10.0,0.3,0.00,
333,41,36,26,73.6,5.4,0.3,0.02,
334,57,36,21,200.7,11.7,0.3,0.14,
335,50,37,20,298.6,21.8,0.3,0.00,
336,53,26,22,290.9,7.1,0.3,0.00,
337,58,30,21,203.2,7.2,0.3,0.00,
338,59,28,17,360.8,5.3,0.3,0.00,
339,64,25,14,359.6,7.5,0.4,0.00,
340,65,27,15,253.1,1.9,0.2,0.00,
341,69,47,19,235.2,11.7,0.3,0.00,
342,68,44,32,356.4,9.5,0.4,0.00,
343,68,35,30,355.5,6.5,0.4,0.00,
344,74,35,30,354.7,6.6,0.4,0.00,
345,72,56,33,354.0,12.6,0.4,0.00,
346,69,48,28,353.3,13.4,0.4,0.00,
347,68,39,30,326.9,4.4,0.4,0.00,
348,69,35,30,263.9,5.3,0.4,0.00,
349,69,35,27,252.8,4.0,0.3,0.00,
350,45,28,11,351.5,11.0,0.4,0.00,
```

```
351,53,17,10,280.4,7.2,0.4,0.00,
352,51,19,10,277.9,8.5,0.5,0.00,
353,34,6,-4,350.9,6.2,0.4,0.00,
354,46,11,-8,350.9,8.9,0.4,0.00,
355,52,11,-1,351.0,11.8,0.4,0.00,
356,62,28,9,320.2,9.3,0.4,0.00,
357,70,37,12,243.5,2.7,0.4,0.00,
358,60,38,19,351.7,8.3,0.4,0.00,
359,55,32,10,352.1,9.8,0.5,0.00,
360,51,30,12,352.6,6.5,0.6,0.00,
361,64,31,15,353.1,5.3,0.5,0.00,
362,66,37,20,353.8,7.9,0.5,0.00,
363,64,47,23,354.5,11.6,0.5,0.00,
364,64,34,24,355.3,3.9,0.4,0.00,
365,65,28,21,316.1,3.5,0.4,0.00,
366,65,34,23,300.0,4.6,0.4,0.00,
```

```
1,68,48,30,326.7,7.7,0.5,0.00,
2,71,40,31,338.9,1.4,0.4,0.00,
3,74,53,30,359.7,16.4,0.5,0.01,
4,63,49,30,196.4,13.6,0.4,0.23,
5,57,44,31,279.8,6.2,0.5,0.00,
6,45,23,25,271.0,12.8,0.5,0.09,
7,28,18,18,343.4,7.5,0.4,0.03,
8,33,10,19,306.8,4.0,0.4,0.00,
9,43,17,20,365.6,9.6,0.4,0.00,
10,51,31,26,256.6,9.5,0.4,0.00,
11,58,37,28,263.8,8.8,0.4,0.00,
12,46,21,18,281.7,9.5,0.4,0.00,
13,28,19,10,128.6,9.7,0.4,0.00,
14,56,23,21,356.4,1.8,0.3,0.00,
15,52,31,15,341.5,8.1,0.4,0.00,
16,47,26,18,252.8,9.4,0.4,0.00,
17,54,26,21,174.3,7.6,0.5,0.00,
18,56,32,20,213.1,6.6,0.4,0.00,
19,50,31,26,265.8,4.1,0.4,0.00,
20,62,40,30,390.8,5.6,0.5,0.00,
21,62,43,28,368.3,1.2,0.4,0.02,
22,60,33,28,274.6,6.9,0.4,0.00,
23,64,44,26,332.9,11.5,0.4,0.00,
24,61,44,27,246.7,1.2,0.3,0.00,
25,68,31,24,269.0,6.4,0.3,0.00,
26,67,39,26,391.6,13.2,0.3,0.00,
27,64,38,28,409.5,1.7,0.4,0.00,
28,52,31,17,412.4,7.6,0.4,0.00,
29,58,31,15,415.3,11.7,0.4,0.00,
30,60,35,24,266.4,6.2,0.5,0.00,
31,67,28,23,209.3,6.1,0.5,0.00,
32,71,36,19,318.8,8.1,0.4,0.00,
33,70,32,21,363.9,7.1,0.5,0.00,
34,64,38,22,342.4,7.3,0.4,0.00,
35,62,34,18,273.8,1.2,0.4,0.00,
36,63,42,24,336.6,7.7,0.4,0.00,
37,65,41,17,427.9,17.2,0.5,0.00,
38,53,28,11,444.5,7.3,0.4,0.00,
39,57,32,22,369.0,7.6,0.5,0.00,
40,60,25,18,262.9,5.5,0.4,0.00,
41,66,25,9,251.1,5.4,0.4,0.00,
42,71,27,18,458.7,9.3,0.3,0.00,
43,60,36,27,462.3,8.3,0.3,0.00,
44,51,33,29,383.3,9.3,0.4,0.06,
45,54,26,28,469.7,3.2,0.4,0.00,
46,63,25,22,448.2,3.7,0.4,0.00,
47,69,32,19,298.6,7.1,0.4,0.00,
48,73,45,20,359.6,4.4,0.3,0.00,
49,71,45,29,246.2,6.9,0.4,0.19,
50,59,40,36,321.7,6.4,0.4,0.00,
```

```
51,67,38,32,270.4,15.3,0.4,0.00,
52,58,38,22,496.6,12.2,0.4,0.00,
53,56,32,28,280.6,9.4,0.4,0.00,
54,63,36,33,192.6,6.5,0.4,0.00,
55,61,35,31,101.7,11.1,0.4,0.00,
56,39,33,28,281.6,1.6,0.4,0.00,
57,56,34,27,357.3,15.6,0.5,0.00,
58,62,38,23,444.0,12.1,0.4,0.00,
59,64,42,32,341.4,12.3,0.4,0.04,
60,53,35,31,410.7,8.5,0.4,0.10,
61,62,27,24,438.7,8.0,0.5,0.00,
62,72,38,24,536.5,1.6,0.4,0.00,
63,74,40,19,340.6,11.4,0.3,0.00,
64,63,40,10,544.7,1.4,0.3,0.00,
65,70,31,23,272.8,6.6,0.3,0.00,
66,77,39,30,360.5,2.6,0.3,0.00,
67,80,43,26,556.9,7.3,0.4,0.00,
68,76,46,20,531.3,1.4,0.4,0.00,
69,74,44,29,520.2,4.9,0.5,0.00,
70,76,42,32,448.7,5.3,0.4,0.00,
71,78,47,38,364.7,6.8,0.3,0.00,
72,81,43,25,202.4,12.1,0.3,0.00,
73,68,44,26,581.0,7.7,0.4,0.00,
74,78,38,26,511.3,4.2,0.4,0.00,
75,81,50,30,429.0,9.2,0.3,0.00,
76,80,59,26,134.9,12.3,0.3,0.00,
77,75,49,28,356.2,1.9,0.4,0.00,
78,73,41,24,600.8,4.5,0.4,0.00,
79,81,38,24,383.6,3.7,0.4,0.00,
80,86,38,25,250.9,4.9,0.4,0.00,
81,78,49,31,594.4,7.1,0.3,0.00,
82,83,50,30,616.2,11.8,0.3,0.00,
83,75,59,26,620.0,12.7,0.3,0.00,
84,63,43,35,490.4,12.1,0.3,0.15,
85,66,41,41,535.0,9.3,0.4,0.39,
86,71,43,38,330.3,14.6,0.4,0.00,
87,76,50,30,528.8,11.1,0.3,0.00,
88,76,51,30,638.5,1.4,0.3,0.00,
89,60,49,22,567.9,12.5,0.3,0.00,
90,69,50,35,501.2,8.0,0.2,0.00,
91,76,52,34,403.7,12.6,0.3,0.00,
92,79,47,26,443.4,8.8,0.2,0.00,
93,78,50,33,518.7,11.9,0.3,0.00,
94,57,43,30,616.0,2.9,0.3,0.02,
95,66,45,32,549.7,16.6,0.3,0.00,
96,70,50,32,353.7,7.2,0.4,0.00,
97,78,42,31,451.8,7.0,0.3,0.00,
98,75,45,31,291.3,6.6,0.3,0.00,
99,83,43,35,459.9,11.8,0.3,0.00,
100,79,51,24,561.0,19.1,0.2,0.00,
```

```
101,62,45,26,678.5,11.7,0.3,0.00,
102,63,33,25,539.9,6.7,0.3,0.00,
103,64,37,25,656.1,8.8,0.3,0.00,
104,74,40,28,436.6,6.0,0.3,0.00,
105,79,44,30,453.7,4.2,0.3,0.00,
106,81,44,36,578.7,7.7,0.4,0.00,
107,74,57,45,677.2,8.9,0.3,0.03,
108,79,49,47,439.9,7.1,0.3,0.00,
109,84,46,40,583.4,6.9,0.3,0.00,
110,85,53,35,705.2,12.2,0.2,0.00,
111,87,67,38,703.1,19.2,0.3,0.00,
112,86,63,40,609.7,14.5,0.3,0.00,
113,76,56,45,545.1,9.4,0.3,0.00,
114,78,44,39,718.6,2.4,0.3,0.10,
115,51,39,37,543.5,12.4,0.3,0.15,
116,52,38,38,723.5,5.6,0.3,0.13,
117,68,42,39,725.8,6.2,0.3,0.00,
118,84,54,34,726.0,14.1,0.3,0.00,
119,87,65,29,730.4,19.8,0.3,0.00,
120,83,66,29,502.9,11.9,0.4,0.00,
121,88,63,32,375.0,19.3,0.3,0.00,
122,83,53,32,509.6,7.6,0.4,0.00,
123,87,50,28,544.6,5.7,0.3,0.00,
124,90,57,41,657.9,5.2,0.3,0.00,
125,94,55,39,513.0,6.0,0.4,0.00,
126,98,62,44,743.4,7.5,0.4,0.00,
127,94,63,38,746.7,1.1,0.3,0.00,
128,93,58,38,655.1,7.5,0.2,0.00,
129,76,59,48,750.2,14.1,0.2,0.00,
130,77,54,49,751.9,7.7,0.3,0.07,
131,79,56,51,598.6,7.2,0.2,0.02,
132,78,56,51,755.2,6.9,0.3,0.00,
133,89,54,46,756.8,6.9,0.2,0.00,
134,92,67,41,485.9,9.4,0.3,0.00,
135,90,60,45,717.8,9.1,0.3,0.00,
136,89,64,50,693.8,7.0,0.3,0.00,
137,93,61,49,644.8,5.4,0.4,0.00,
138,91,67,50,589.8,14.6,0.3,0.00,
139,89,60,51,765.2,1.9,0.4,0.13,
140,81,56,55,627.4,8.7,0.3,0.16,
141,83,60,55,721.3,6.6,0.3,0.00,
142,82,55,54,768.8,5.6,0.4,0.14,
143,87,55,49,769.9,4.8,0.3,0.00,
144,90,67,45,709.6,16.0,0.4,0.00,
145,87,67,42,771.9,18.6,0.3,0.00,
146,88,71,40,579.5,13.5,0.3,0.00,
147,88,57,33,690.3,8.2,0.3,0.00,
148,93,63,47,595.1,4.7,0.3,0.00,
149,97,64,50,680.9,8.3,0.3,0.00,
150,100,64,44,776.3,7.1,0.3,0.00,
```

```
151,93,68,62,460.9,8.2,0.3,0.00,
152,101,65,51,777.8,6.2,0.2,0.00,
153,100,77,44,760.3,11.2,0.3,0.00,
154,102,71,39,704.9,6.4,0.4,0.00,
155,100,71,56,623.3,7.4,0.3,0.00,
156,95,66,51,562.5,9.2,0.4,0.00,
157,92,63,54,631.7,11.6,0.4,0.15,
158,83,62,60,454.8,12.4,0.3,0.01,
159,88,61,50,729.1,7.3,0.3,0.00,
160,91,58,43,636.4,5.1,0.3,0.00,
161,95,63,53,508.3,5.3,0.2,0.00,
162,98,67,50,518.5,9.2,0.2,0.00,
163,93,72,44,689.5,13.6,0.2,0.01,
164,95,72,46,783.0,14.7,0.2,0.00,
165,81,61,56,733.6,1.0,0.2,0.67,
166,76,58,55,783.2,7.8,0.3,0.27,
167,85,63,42,670.1,8.8,0.2,0.00,
168,93,58,48,725.4,4.3,0.2,0.00,
169,97,67,47,637.9,4.6,0.3,0.00,
170,100,69,47,653.3,8.3,0.3,0.00,
171,99,69,44,574.5,9.6,0.3,0.00,
172,98,77,39,783.2,11.5,0.3,0.00,
173,100,71,40,783.0,1.2,0.4,0.00,
174,98,65,44,738.6,9.6,0.3,0.00,
175,98,71,37,782.6,1.4,0.3,0.00,
176,100,64,49,782.3,6.9,0.3,0.00,
177,93,68,56,752.6,11.0,0.2,0.00,
178,94,69,53,781.7,4.9,0.3,0.00,
179,99,67,51,781.3,6.4,0.4,0.00,
180,102,69,47,459.7,6.3,0.4,0.00,
181,104,73,49,780.4,5.9,0.4,0.00,
182,105,68,47,779.9,4.7,0.4,0.00,
183,105,76,49,779.4,8.2,0.4,0.00,
184,104,72,54,653.5,6.7,0.4,0.00,
185,92,74,55,717.2,14.5,0.4,0.00,
186,96,65,40,314.9,6.9,0.4,0.00,
187,97,72,38,776.8,1.4,0.4,0.00,
188,96,68,40,597.2,9.2,0.4,0.21,
189,93,66,46,377.8,6.7,0.4,0.03,
190,95,67,53,684.1,7.7,0.4,0.00,
191,83,69,58,760.5,7.9,0.5,0.00,
192,93,67,47,772.7,1.3,0.5,0.00,
193,98,70,49,771.8,8.4,0.4,0.00,
194,99,72,54,770.8,7.8,0.4,0.00,
195,100,69,53,769.8,6.9,0.4,0.01,
196,99,67,53,663.4,8.5,0.5,0.00,
197,96,73,52,767.6,6.7,0.5,0.00,
198,100,72,50,765.0,7.1,0.5,0.00,
199,101,72,49,493.9,7.5,0.4,0.00,
200,99,74,52,636.3,7.9,0.5,0.00,
```

```
201,97,71,56,705.9,8.1,0.5,0.03,
202,92,67,61,553.5,6.8,0.5,0.23,
203,93,70,61,758.7,5.5,0.5,0.00,
204,96,71,61,662.9,4.9,0.5,0.00,
205,95,68,62,688.2,8.8,0.5,0.17,
206,93,66,63,755.7,6.7,0.5,0.00,
207,95,73,61,607.0,8.6,0.5,0.00,
208,94,73,61,276.5,7.2,0.6,0.00,
209,87,67,63,404.9,6.5,0.6,0.10,
210,90,68,63,749.3,6.6,0.5,0.00,
211,87,68,65,495.7,7.1,0.4,0.08,
212,90,69,65,745.9,6.3,0.5,0.05,
213,94,71,63,744.1,7.4,0.6,0.00,
214,94,72,60,720.5,1.2,0.6,0.00,
215,93,70,58,621.6,5.9,0.5,0.00,
216,96,70,58,551.6,9.9,0.5,0.00,
217,88,72,64,617.6,7.3,0.5,0.01,
218,93,66,64,513.5,5.6,0.4,0.90,
219,82,70,61,593.8,6.5,0.5,0.00,
220,89,69,60,607.3,5.1,0.5,0.00,
221,92,70,57,509.3,1.8,0.5,0.00,
222,92,72,58,481.4,7.8,0.5,0.00,
223,95,73,56,481.1,2.8,0.5,0.00,
224,94,70,60,518.5,3.8,0.5,0.11,
225,90,66,60,500.4,3.3,0.5,0.01,
226,89,67,60,506.2,7.3,0.5,0.26,
227,94,68,55,639.9,1.9,0.5,0.00,
228,95,74,55,526.3,8.8,0.5,0.00,
229,95,73,59,709.2,1.0,0.4,0.00,
230,88,69,63,706.6,7.3,0.5,0.00,
231,93,75,62,584.0,7.3,0.5,0.00,
232,97,69,62,533.0,4.4,0.4,0.00,
233,95,69,60,692.9,6.8,0.4,0.00,
234,97,75,58,610.9,8.4,0.5,0.00,
235,91,70,62,693.1,9.2,0.4,0.02,
236,93,71,59,619.7,7.4,0.5,0.10,
237,93,69,50,464.6,6.0,0.4,0.00,
238,93,66,49,684.5,4.9,0.4,0.00,
239,96,63,47,681.5,4.8,0.4,0.00,
240,99,67,46,526.0,7.1,0.4,0.00,
241,99,69,52,675.5,8.9,0.4,0.00,
242,98,69,54,672.4,6.4,0.4,0.00,
243,95,70,53,564.2,9.7,0.4,0.00,
244,93,69,52,436.5,9.1,0.4,0.00,
245,94,69,51,580.5,1.0,0.5,0.00,
246,91,69,56,525.9,9.8,0.5,0.07,
247,90,68,49,607.6,7.4,0.4,0.00,
248,91,69,58,612.4,5.8,0.5,0.00,
249,92,69,58,642.5,4.6,0.4,0.01,
250,95,70,55,617.0,4.2,0.4,0.00,
```

```
251,97,67,49,244.9,7.0,0.4,0.00,
252,96,67,54,516.4,7.8,0.4,0.00,
253,91,68,60,586.9,6.7,0.4,0.09,
254,91,67,60,535.2,5.6,0.4,0.23,
255,90,67,61,558.6,4.9,0.4,0.00,
256,92,65,58,528.1,3.5,0.4,0.00,
257,94,69,62,214.4,8.0,0.5,0.42,
258,92,68,62,618.0,5.8,0.4,0.00,
259,94,69,60,551.1,6.2,0.3,0.00,
260,97,73,57,299.3,5.9,0.3,0.00,
261,93,71,57,546.7,7.5,0.3,0.00,
262,97,71,57,562.2,5.6,0.3,0.00,
263,91,71,56,475.6,15.4,0.3,0.00,
264,84,60,58,595.5,12.9,0.4,0.70,
265,79,59,60,591.7,5.5,0.4,0.03,
266,81,62,59,438.1,6.6,0.4,0.00,
267,76,63,54,344.6,7.7,0.3,0.00,
268,84,62,50,580.2,5.5,0.3,0.00,
269,88,63,55,576.3,2.5,0.3,0.00,
270,90,66,54,572.4,3.7,0.3,0.00,
271,90,61,49,544.9,7.4,0.3,0.00,
272,86,60,53,564.6,4.3,0.3,0.00,
273,91,61,55,475.3,4.3,0.3,0.00,
274,93,67,53,258.3,9.9,0.3,0.00,
275,88,67,53,389.0,7.5,0.3,0.00,
276,91,62,53,313.4,8.3,0.3,0.00,
277,89,63,48,452.0,6.4,0.3,0.00,
278,90,57,44,428.5,4.5,0.4,0.00,
279,89,63,51,537.0,4.7,0.3,0.00,
280,84,61,53,455.5,7.4,0.3,0.01,
281,81,58,51,529.1,8.1,0.2,0.00,
282,88,55,51,494.2,11.6,0.2,0.00,
283,88,65,58,282.0,1.8,0.3,0.00,
284,92,63,52,222.5,14.2,0.2,0.00,
285,66,45,24,367.1,14.8,0.2,0.00,
286,67,40,16,448.9,8.4,0.3,0.00,
287,72,37,22,388.6,6.9,0.2,0.00,
288,74,37,24,417.5,4.4,0.3,0.00,
289,74,39,25,312.0,7.1,0.3,0.00,
290,74,41,28,340.2,3.9,0.2,0.00,
291,79,39,26,316.1,5.5,0.3,0.00,
292,82,48,25,335.5,6.1,0.3,0.00,
293,79,49,33,482.6,6.5,0.4,0.00,
294,75,47,43,478.9,6.0,0.4,0.00,
295,75,53,49,475.2,8.1,0.4,0.04,
296,71,52,41,405.5,12.5,0.3,0.00,
297,74,41,37,285.6,19.6,0.3,0.04,
298,58,37,28,425.2,12.7,0.3,0.10,
299,59,35,26,165.4,3.5,0.3,0.00,
300,62,32,29,259.7,3.5,0.3,0.00,
```

```
301,72,40,33,357.3,4.3,0.3,0.00,
302,74,42,34,214.5,9.2,0.3,0.00,
303,75,51,31,380.1,8.6,0.2,0.00,
304,81,42,29,284.4,9.9,0.2,0.00,
305,79,45,29,389.5,5.1,0.3,0.00,
306,71,43,18,377.1,7.5,0.2,0.00,
307,72,37,24,346.2,3.8,0.3,0.00,
308,77,41,24,241.9,4.6,0.2,0.00,
309,72,46,28,419.3,6.8,0.2,0.00,
310,73,44,34,423.6,6.8,0.3,0.00,
311,75,45,34,420.5,6.4,0.4,0.00,
312,74,43,34,417.5,7.5,0.3,0.00,
313,72,43,35,298.6,1.6,0.2,0.00,
314,56,40,30,411.6,8.8,0.3,0.00,
315,54,40,38,363.5,4.7,0.3,0.34,
316,51,45,47,406.0,4.6,0.3,0.40,
317,57,47,40,403.2,17.2,0.4,0.05,
318,62,43,41,400.5,12.4,0.3,0.00,
319,50,32,32,381.4,5.0,0.4,0.00,
320,53,29,33,395.3,2.4,0.4,0.00,
321,55,32,38,268.8,3.7,0.4,0.00,
322,60,32,34,390.4,3.9,0.4,0.00,
323,65,31,31,100.7,7.6,0.3,0.00,
324,70,44,30,358.0,8.4,0.3,0.00,
325,62,44,30,269.1,9.3,0.4,0.00,
326,63,39,25,381.3,8.9,0.4,0.00,
327,65,36,25,379.2,5.5,0.5,0.00,
328,70,34,29,302.6,3.5,0.3,0.00,
329,72,35,32,156.0,5.5,0.4,0.00,
330,72,40,31,217.4,5.8,0.3,0.00,
331,70,49,36,137.2,14.9,0.3,0.00,
332,58,43,30,344.8,12.7,0.3,0.00,
333,60,32,29,73.6,4.4,0.3,0.00,
334,61,29,27,200.7,6.2,0.3,0.00,
335,63,44,33,298.6,6.2,0.3,0.25,
336,51,40,38,290.9,13.8,0.3,0.03,
337,54,37,34,203.2,1.3,0.3,0.00,
338,52,32,26,360.8,5.0,0.3,0.00,
339,56,27,28,359.6,4.1,0.4,0.00,
340,57,34,30,253.1,7.8,0.2,0.00,
341,55,47,44,235.2,15.2,0.3,0.22,
342,62,46,40,356.4,23.9,0.4,0.00,
343,50,39,25,355.5,19.5,0.4,0.00,
344,46,28,23,354.7,7.0,0.4,0.00,
345,37,26,16,354.0,9.7,0.4,0.00,
346,42,19,11,353.3,4.1,0.4,0.00,
347,50,17,14,326.9,2.1,0.4,0.00,
348,55,20,17,263.9,3.5,0.4,0.00,
349,57,23,19,252.8,3.7,0.3,0.00,
350,60,24,19,351.5,6.8,0.4,0.00,
```

```
351,58,22,19,280.4,3.9,0.4,0.00,
352,61,24,20,277.9,1.7,0.5,0.00,
353,64,27,22,350.9,6.8,0.4,0.00,
354,50,33,32,350.9,1.0,0.4,0.22,
355,53,36,36,351.0,1.4,0.4,0.01,
356,54,33,35,320.2,8.9,0.4,0.42,
357,45,33,33,243.5,8.0,0.4,0.11,
358,47,35,31,351.7,12.7,0.4,0.00,
359,38,29,31,352.1,6.3,0.5,0.15,
360,37,26,23,352.6,1.1,0.6,0.00,
361,41,19,22,353.1,7.1,0.5,0.00,
362,44,25,18,353.8,7.9,0.5,0.00,
363,50,21,22,354.5,3.6,0.5,0.00,
364,55,24,28,355.3,4.2,0.4,0.00,
365,55,29,31,316.1,5.6,0.4,0.00,
```

```
1,57,29,32,326.7,4.2,0.5,0.00,
2,64,28,34,338.9,2.8,0.4,0.00,
3,66,34,37,359.7,6.3,0.5,0.00,
4,61,36,40,196.4,3.6,0.4,0.03,
5,55,38,38,279.8,7.1,0.5,0.01,
6,51,33,26,271.0,6.1,0.5,0.00,
7,50,24,24,343.4,5.0,0.4,0.00,
8,52,28,22,306.8,6.1,0.4,0.00,
9,60,37,23,365.6,9.9,0.4,0.00,
10,61,37,29,256.6,8.7,0.4,0.00,
11,59,45,33,263.8,13.3,0.4,0.00,
12,61,32,31,281.7,8.1,0.4,0.00,
13,60,30,31,128.6,1.1,0.4,0.00,
14,58,36,28,356.4,8.5,0.3,0.00,
15,56,24,21,341.5,5.8,0.4,0.00,
16,63,38,30,252.8,7.2,0.4,0.00,
17,68,36,34,174.3,1.6,0.5,0.00,
18,68,35,32,213.1,5.4,0.4,0.00,
19,70,34,28,265.8,9.2,0.4,0.00,
20,63,47,29,390.8,7.8,0.5,0.00,
21,57,38,35,368.3,4.8,0.4,0.01,
22,56,31,31,274.6,6.1,0.4,0.00,
23,62,31,26,332.9,6.9,0.4,0.00,
24,63,28,23,246.7,3.5,0.3,0.00,
25,65,29,22,269.0,5.4,0.3,0.00,
26,63,32,19,391.6,6.4,0.3,0.00,
27,68,24,18,409.5,3.0,0.4,0.00,
28,70,30,19,412.4,6.6,0.4,0.00,
29,67,29,19,415.3,5.3,0.4,0.00,
30,64,33,26,266.4,11.0,0.5,0.00,
31,60,34,26,209.3,6.6,0.5,0.00,
32,58,29,22,318.8,6.9,0.4,0.00,
33,64,27,25,363.9,7.2,0.5,0.00,
34,70,31,24,342.4,9.7,0.4,0.00,
35,57,43,31,273.8,12.6,0.4,0.04,
36,55,35,30,336.6,13.3,0.4,0.00,
37,59,23,27,427.9,4.8,0.5,0.00,
38,65,32,30,444.5,12.3,0.4,0.00,
39,65,49,34,369.0,14.1,0.5,0.00,
40,53,40,40,262.9,14.9,0.4,0.10,
41,55,38,30,251.1,1.6,0.4,0.00,
42,57,29,29,458.7,7.0,0.3,0.00,
43,57,38,26,462.3,7.8,0.3,0.00,
44,60,32,28,383.3,4.6,0.4,0.00,
45,62,44,34,469.7,9.2,0.4,0.00,
46,53,42,35,448.2,1.9,0.4,0.00,
47,51,38,26,298.6,16.2,0.4,0.00,
48,56,37,24,359.6,11.1,0.3,0.00,
49,51,38,31,246.2,17.3,0.4,0.01,
50,56,26,27,321.7,6.3,0.4,0.00,
```

```
51,60,34,25,270.4,5.2,0.4,0.00,
52,59,39,33,496.6,11.8,0.4,0.00,
53,66,45,31,280.6,17.7,0.4,0.00,
54,69,43,31,192.6,8.7,0.4,0.00,
55,80,40,27,101.7,16.5,0.4,0.00,
56,55,42,27,281.6,24.0,0.4,0.00,
57,54,39,19,357.3,2.2,0.5,0.00,
58,53,36,18,444.0,16.5,0.4,0.00,
59,51,22,6,341.4,6.5,0.4,0.00,
60,55,23,6,410.7,7.7,0.4,0.00,
61,61,30,11,438.7,6.7,0.5,0.00,
62,72,32,17,536.5,8.2,0.4,0.00,
63,75,53,21,340.6,18.8,0.3,0.00,
64,71,50,21,544.7,11.2,0.3,0.00,
65,70,50,34,272.8,15.5,0.3,0.01,
66,57,37,27,360.5,26.0,0.3,0.01,
67,54,25,22,556.9,5.4,0.4,0.00,
68,62,28,20,531.3,4.0,0.4,0.00,
69,60,29,20,520.2,7.4,0.5,0.00,
70,64,31,22,448.7,11.3,0.4,0.00,
71,62,31,30,364.7,5.2,0.3,0.00,
72,70,37,34,202.4,5.8,0.3,0.00,
73,75,45,39,581.0,7.2,0.4,0.02,
74,60,42,37,511.3,1.6,0.4,0.09,
75,63,37,38,429.0,9.6,0.3,0.00,
76,64,48,41,134.9,13.9,0.3,0.00,
77,70,48,37,356.2,15.5,0.4,0.00,
78,63,36,21,600.8,5.8,0.4,0.00,
79,69,33,28,383.6,5.6,0.4,0.00,
80,71,42,31,250.9,4.7,0.4,0.00,
81,79,45,30,594.4,6.5,0.3,0.00,
82,82,58,31,616.2,1.4,0.3,0.00,
83,86,47,32,620.0,1.5,0.3,0.00,
84,83,49,31,490.4,9.7,0.3,0.00,
85,81,46,39,535.0,19.5,0.4,0.00,
86,66,45,36,330.3,15.6,0.4,0.00,
87,79,39,31,528.8,12.7,0.3,0.00,
88,76,47,33,638.5,17.2,0.3,0.00,
89,50,38,29,567.9,2.1,0.3,0.05,
90,62,36,25,501.2,13.4,0.2,0.00,
91,75,30,20,403.7,8.8,0.3,0.00,
92,60,42,25,443.4,19.8,0.2,0.00,
93,69,33,23,518.7,4.7,0.3,0.00,
94,79,37,24,616.0,8.2,0.3,0.00,
95,76,43,26,549.7,6.2,0.3,0.00,
96,66,48,29,353.7,18.6,0.4,0.00,
97,68,43,27,451.8,15.1,0.3,0.00,
98,66,43,21,291.3,12.3,0.3,0.00,
99,73,40,21,459.9,5.7,0.3,0.00,
100,83,36,25,561.0,5.5,0.2,0.00,
```

```
101,88,48,30,678.5,12.7,0.3,0.00,
102,78,56,30,539.9,24.6,0.3,0.00,
103,75,52,32,656.1,11.6,0.3,0.00,
104,80,45,26,436.6,17.9,0.3,0.00,
105,71,43,24,453.7,17.0,0.3,0.00,
106,64,41,24,578.7,11.0,0.4,0.00,
107,63,38,23,677.2,6.8,0.3,0.00,
108,70,35,26,439.9,7.5,0.3,0.00,
109,74,44,26,583.4,5.8,0.3,0.00,
110,80,42,29,705.2,9.0,0.2,0.00,
111,74,45,32,703.1,8.7,0.3,0.00,
112,81,47,29,609.7,7.2,0.3,0.00,
113,89,57,37,545.1,5.4,0.3,0.00,
114,88,61,32,718.6,16.7,0.3,0.00,
115,83,61,33,543.5,19.2,0.3,0.00,
116,68,47,35,723.5,16.1,0.3,0.00,
117,67,39,0,725.8,8.4,0.3,0.00,
118,71,40,0,726.0,9.2,0.3,0.00,
119,77,51,39,730.4,7.3,0.3,0.04,
120,80,47,41,502.9,3.8,0.4,0.00,
121,85,55,32,375.0,13.3,0.3,0.00,
122,89,52,28,509.6,8.9,0.4,0.00,
123,89,55,24,544.6,9.5,0.3,0.00,
124,89,60,25,657.9,16.9,0.3,0.00,
125,88,63,28,513.0,16.1,0.4,0.00,
126,86,62,31,743.4,11.5,0.4,0.00,
127,85,56,29,746.7,8.6,0.3,0.00,
128,78,56,24,655.1,19.9,0.2,0.00,
129,82,58,32,750.2,11.3,0.2,0.00,
130,90,53,27,751.9,1.7,0.3,0.00,
131,86,62,29,598.6,14.8,0.2,0.00,
132,87,59,28,755.2,9.0,0.3,0.00,
133,91,63,30,756.8,14.7,0.2,0.00,
134,81,54,32,485.9,13.5,0.3,0.00,
135,79,50,25,717.8,6.9,0.3,0.00,
136,94,46,22,693.8,8.6,0.3,0.00,
137,93,65,34,644.8,5.3,0.4,0.00,
138,98,63,48,589.8,6.9,0.3,0.00,
139,95,63,48,765.2,6.6,0.4,0.00,
140,96,61,42,627.4,6.3,0.3,0.00,
141,90,66,40,721.3,11.6,0.3,0.00,
142,89,69,37,768.8,13.9,0.4,0.00,
143,90,67,24,769.9,1.2,0.3,0.00,
144,90,60,24,709.6,11.4,0.4,0.00,
145,90,66,30,771.9,12.3,0.3,0.00,
146,91,59,32,579.5,9.2,0.3,0.00,
147,91,58,32,690.3,7.8,0.3,0.00,
148,97,54,33,595.1,5.9,0.3,0.00,
149,97,61,34,680.9,6.3,0.3,0.00,
150,95,62,35,776.3,1.9,0.3,0.00,
```

```
151,97,64,35,460.9,8.5,0.3,0.00,
152,102,61,39,777.8,9.1,0.2,0.00,
153,102,71,43,760.3,11.5,0.3,0.00,
154,99,75,40,704.9,15.4,0.4,0.00,
155,89,64,38,623.3,16.2,0.3,0.00,
156,88,58,35,562.5,8.2,0.4,0.00,
157,87,59,47,631.7,9.2,0.4,0.00,
158,95,68,44,454.8,14.3,0.3,0.00,
159,91,64,36,729.1,15.4,0.3,0.00,
160,89,62,40,636.4,8.1,0.3,0.00,
161,79,56,54,508.3,8.9,0.2,0.27,
162,84,54,55,518.5,8.7,0.2,0.00,
163,92,64,55,689.5,7.3,0.2,0.00,
164,95,74,51,783.0,18.8,0.2,0.00,
165,92,71,38,733.6,15.7,0.2,0.00,
166,93,63,41,783.2,9.7,0.3,0.00,
167,97,72,42,670.1,15.5,0.2,0.00,
168,95,74,37,725.4,18.1,0.2,0.00,
169,96,71,44,637.9,7.6,0.3,0.00,
170,101,62,46,653.3,7.5,0.3,0.00,
171,102,64,46,574.5,8.9,0.3,0.00,
172,100,76,46,783.2,12.5,0.3,0.00,
173,100,69,42,783.0,9.7,0.4,0.00,
174,102,62,45,738.6,6.6,0.3,0.00,
175,104,67,51,782.6,7.6,0.3,0.00,
176,104,73,54,782.3,9.1,0.3,0.00,
177,104,77,51,752.6,1.9,0.2,0.00,
178,105,77,48,781.7,9.6,0.3,0.00,
179,107,72,46,781.3,5.8,0.4,0.00,
180,106,73,57,459.7,5.6,0.4,0.00,
181,105,76,63,780.4,7.8,0.4,0.00,
182,97,72,62,779.9,11.8,0.4,0.00,
183,85,68,65,779.4,9.7,0.4,0.06,
184,95,70,65,653.5,8.7,0.4,0.45,
185,97,69,66,717.2,7.1,0.4,0.00,
186,96,73,65,314.9,1.6,0.4,0.00,
187,92,71,65,776.8,12.1,0.4,0.00,
188,93,71,65,597.2,1.8,0.4,0.02,
189,96,69,64,377.8,8.6,0.4,0.43,
190,92,68,63,684.1,5.9,0.4,0.00,
191,99,73,61,760.5,6.2,0.5,0.00,
192,104,74,59,772.7,4.2,0.5,0.00,
193,105,77,56,771.8,7.7,0.4,0.00,
194,104,79,59,770.8,8.6,0.4,0.00,
195,102,75,58,769.8,7.5,0.4,0.01,
196,99,70,56,663.4,8.6,0.5,0.00,
197,93,73,57,767.6,9.5,0.5,0.00,
198,91,69,61,765.0,12.1,0.5,0.16,
199,95,70,56,493.9,6.9,0.4,0.00,
200,98,74,56,636.3,7.7,0.5,0.00,
```

```
201,99,74,58,705.9,12.4,0.5,0.00,
202,95,69,60,553.5,9.1,0.5,0.50,
203,90,69,61,758.7,8.3,0.5,0.00,
204,87,69,63,662.9,8.5,0.5,0.00,
205,90,69,64,688.2,7.5,0.5,0.31,
206,90,69,64,755.7,5.3,0.5,0.00,
207,95,72,62,607.0,8.1,0.5,0.00,
208,91,70,63,276.5,8.3,0.6,0.04,
209,96,73,60,404.9,8.0,0.6,0.00,
210,99,74,59,749.3,6.9,0.5,0.00,
211,97,74,61,495.7,1.5,0.4,0.02,
212,94,70,62,745.9,6.9,0.5,0.07,
213,89,67,63,744.1,4.3,0.6,0.12,
214,94,70,63,720.5,7.4,0.6,0.00,
215,95,73,62,621.6,6.2,0.5,0.00,
216,93,64,61,551.6,1.4,0.5,0.22,
217,85,63,60,617.6,9.1,0.5,0.00,
218,88,63,57,513.5,6.0,0.4,0.00,
219,92,65,55,593.8,4.9,0.5,0.00,
220,96,67,52,607.3,5.2,0.5,0.00,
221,96,71,53,509.3,5.2,0.5,0.00,
222,97,71,57,481.4,5.2,0.5,0.00,
223,96,75,59,481.1,6.1,0.5,0.00,
224,95,69,62,518.5,8.0,0.5,0.15,
225,86,66,63,500.4,7.4,0.5,0.01,
226,91,65,57,506.2,5.0,0.5,0.00,
227,93,66,55,639.9,5.9,0.5,0.00,
228,93,67,56,526.3,5.7,0.5,0.00,
229,94,68,56,709.2,6.1,0.4,0.00,
230,95,71,60,706.6,5.7,0.5,0.00,
231,95,71,64,584.0,7.4,0.5,0.03,
232,87,68,65,533.0,1.3,0.4,0.00,
233,89,69,61,692.9,1.1,0.4,0.00,
234,92,68,57,610.9,5.0,0.5,0.00,
235,93,67,59,693.1,4.7,0.4,0.00,
236,96,70,59,619.7,5.4,0.5,0.00,
237,98,73,61,464.6,6.5,0.4,0.00,
238,94,74,65,684.5,7.3,0.4,0.00,
239,97,74,66,681.5,5.5,0.4,0.00,
240,92,73,64,526.0,1.7,0.4,0.00,
241,91,69,60,675.5,9.0,0.4,0.00,
242,92,63,54,672.4,6.8,0.4,0.00,
243,91,65,55,564.2,5.1,0.4,0.00,
244,92,65,54,436.5,9.3,0.4,0.00,
245,89,68,53,580.5,11.6,0.5,0.00,
246,80,67,62,525.9,7.0,0.5,0.13,
247,87,68,63,607.6,6.3,0.4,0.01,
248,90,69,55,612.4,8.6,0.5,0.00,
249,93,64,50,642.5,8.4,0.4,0.00,
250,91,64,50,617.0,6.9,0.4,0.00,
```

```
251,93,64,50,244.9,8.1,0.4,0.00,
252,91,68,53,516.4,8.8,0.4,0.00,
253,91,67,58,586.9,8.4,0.4,0.00,
254,90,66,49,535.2,7.7,0.4,0.00,
255,90,63,54,558.6,4.6,0.4,0.00,
256,97,64,51,528.1,6.7,0.4,0.00,
257,98,70,49,214.4,8.3,0.5,0.00,
258,91,67,57,618.0,1.5,0.4,0.00,
259,88,67,55,551.1,7.3,0.3,0.00,
260,88,65,55,299.3,6.0,0.3,0.00,
261,90,66,55,546.7,3.9,0.3,0.00,
262,95,63,52,562.2,6.1,0.3,0.00,
263,91,75,55,475.6,9.8,0.3,0.00,
264,89,72,57,595.5,8.1,0.4,0.00,
265,92,67,58,591.7,8.0,0.4,0.04,
266,94,67,62,438.1,8.6,0.4,0.09,
267,95,70,57,344.6,6.6,0.3,0.00,
268,94,71,58,580.2,7.0,0.3,0.00,
269,92,67,48,576.3,6.7,0.3,0.00,
270,95,60,47,572.4,4.2,0.3,0.00,
271,94,66,58,544.9,5.1,0.3,0.00,
272,94,68,59,564.6,6.5,0.3,0.00,
273,93,63,60,475.3,5.7,0.3,0.39,
274,85,65,59,258.3,8.0,0.3,0.11,
275,84,64,39,389.0,11.2,0.3,0.00,
276,86,62,47,313.4,14.4,0.3,0.00,
277,87,69,53,452.0,15.7,0.3,0.00,
278,76,54,34,428.5,13.5,0.4,0.00,
279,73,46,27,537.0,5.8,0.3,0.00,
280,79,46,34,455.5,5.0,0.3,0.00,
281,83,47,35,529.1,2.9,0.2,0.00,
282,88,51,39,494.2,2.4,0.2,0.00,
283,90,54,42,282.0,6.0,0.3,0.00,
284,88,52,37,222.5,5.2,0.2,0.00,
285,90,61,42,367.1,8.5,0.2,0.00,
286,88,57,46,448.9,4.0,0.3,0.00,
287,90,60,44,388.6,7.3,0.2,0.00,
288,89,63,44,417.5,14.7,0.3,0.00,
289,83,64,34,312.0,18.1,0.3,0.00,
290,73,50,30,340.2,1.8,0.2,0.00,
291,75,49,34,316.1,12.6,0.3,0.00,
292,72,57,51,335.5,1.0,0.3,0.13,
293,58,51,52,482.6,1.4,0.4,0.13,
294,56,51,49,478.9,9.2,0.4,0.16,
295,56,50,49,475.2,6.8,0.4,0.23,
296,59,51,53,405.5,5.4,0.3,0.00,
297,71,57,56,285.6,2.0,0.3,0.00,
298,81,53,55,425.2,7.0,0.3,0.00,
299,82,60,54,165.4,9.4,0.3,0.11,
300,61,50,54,259.7,1.6,0.3,1.13,
```

```
301,71,48,49,357.3,4.8,0.3,0.00,
302,75,48,52,214.5,2.0,0.3,0.00,
303,80,52,52,380.1,6.7,0.2,0.00,
304,66,52,45,284.4,11.0,0.2,0.14,
305,65,43,43,389.5,4.2,0.3,0.00,
306,71,44,42,377.1,5.0,0.2,0.00,
307,70,42,38,346.2,3.8,0.3,0.00,
308,65,45,45,241.9,4.2,0.2,0.00,
309,65,42,43,419.3,6.3,0.2,0.00,
310,70,44,40,423.6,8.8,0.3,0.00,
311,69,47,40,420.5,8.6,0.4,0.00,
312,71,46,40,417.5,9.9,0.3,0.00,
313,72,49,39,298.6,2.1,0.2,0.00,
314,58,43,26,411.6,7.0,0.3,0.00,
315,69,36,31,363.5,6.5,0.3,0.00,
316,69,45,40,406.0,7.6,0.3,0.00,
317,65,45,44,403.2,7.0,0.4,0.01,
318,69,37,38,400.5,3.2,0.3,0.00,
319,71,39,36,381.4,4.6,0.4,0.00,
320,73,37,37,395.3,2.2,0.4,0.00,
321,76,38,37,268.8,5.7,0.4,0.00,
322,73,54,41,390.4,9.1,0.4,0.00,
323,72,48,38,100.7,8.2,0.3,0.00,
324,58,43,38,358.0,6.0,0.3,0.00,
325,65,35,34,269.1,4.9,0.4,0.00,
326,70,30,33,381.3,4.6,0.4,0.00,
327,73,34,34,379.2,4.9,0.5,0.00,
328,74,40,35,302.6,6.6,0.3,0.00,
329,72,40,33,156.0,3.9,0.4,0.00,
330,73,35,32,217.4,6.3,0.3,0.00,
331,73,39,37,137.2,4.2,0.3,0.00,
332,76,42,43,344.8,5.7,0.3,0.00,
333,63,44,43,73.6,14.1,0.3,0.33,
334,61,35,40,200.7,6.3,0.3,0.00,
335,67,39,42,298.6,7.3,0.3,0.00,
336,56,44,47,290.9,8.1,0.3,0.25,
337,57,42,41,203.2,14.8,0.3,0.00,
338,65,40,42,360.8,7.4,0.3,0.00,
339,66,42,37,359.6,12.3,0.4,0.00,
340,50,37,30,253.1,12.9,0.2,0.01,
341,46,32,22,235.2,9.5,0.3,0.00,
342,48,29,19,356.4,8.1,0.4,0.00,
343,55,28,26,355.5,6.2,0.4,0.00,
344,45,37,30,354.7,16.0,0.4,0.00,
345,47,34,27,354.0,4.4,0.4,0.00,
346,52,23,27,353.3,2.3,0.4,0.00,
347,57,24,26,326.9,4.1,0.4,0.00,
348,60,27,27,263.9,6.0,0.4,0.00,
349,63,37,30,252.8,9.9,0.3,0.00,
350,64,34,32,351.5,7.8,0.4,0.00,
```

```
351,60,40,36,280.4,9.5,0.4,0.00,
352,60,42,43,277.9,16.0,0.5,0.08,
353,59,41,39,350.9,7.8,0.4,0.00,
354,68,38,30,350.9,11.4,0.4,0.00,
355,67,44,25,351.0,12.3,0.4,0.00,
356,44,25,19,320.2,6.4,0.4,0.00,
357,47,23,23,243.5,4.2,0.4,0.00,
358,49,28,21,351.7,3.9,0.4,0.00,
359,55,21,23,352.1,3.2,0.5,0.00,
360,59,24,26,352.6,6.3,0.6,0.00,
361,64,33,30,353.1,4.4,0.5,0.00,
362,66,32,30,353.8,5.2,0.5,0.00,
363,69,34,30,354.5,4.3,0.5,0.00,
364,64,36,29,355.3,3.7,0.4,0.00,
365,62,34,30,316.1,6.2,0.4,0.00,
```

```
1,61,42,25,326.7,14.9,0.5,0.00,
2,57,31,26,338.9,4.9,0.4,0.00,
3,47,28,18,359.7,5.1,0.5,0.00,
4,53,21,17,196.4,5.6,0.4,0.00,
5,60,22,14,279.8,7.5,0.5,0.00,
6,63,26,17,271.0,3.4,0.5,0.00,
7,66,26,17,343.4,6.1,0.4,0.00,
8,66,43,20,306.8,8.2,0.4,0.00,
9,53,31,26,365.6,5.1,0.4,0.00,
10,61,24,23,256.6,4.4,0.4,0.00,
11,64,30,23,263.8,5.5,0.4,0.00,
12,67,43,23,281.7,11.6,0.4,0.00,
13,60,35,28,128.6,4.0,0.4,0.00,
14,59,33,24,356.4,5.2,0.3,0.00,
15,62,25,22,341.5,7.0,0.4,0.00,
16,69,38,22,252.8,1.4,0.4,0.00,
17,66,48,28,174.3,14.9,0.5,0.00,
18,70,36,32,213.1,9.1,0.4,0.00,
19,72,38,32,265.8,8.2,0.4,0.00,
20,71,41,30,390.8,13.8,0.5,0.00,
21,64,43,31,368.3,25.8,0.4,0.00,
22,55,40,19,274.6,1.9,0.4,0.00,
23,63,26,17,332.9,7.3,0.4,0.00,
24,77,40,20,246.7,5.1,0.3,0.00,
25,77,40,20,269.0,5.3,0.3,0.00,
26,63,42,25,391.6,9.1,0.3,0.00,
27,64,37,23,409.5,4.5,0.4,0.00,
28,58,30,20,412.4,5.8,0.4,0.00,
29,43,34,34,415.3,6.3,0.4,0.10,
30,55,28,34,266.4,2.6,0.5,0.00,
31,58,32,34,209.3,6.6,0.5,0.00,
32,64,38,25,318.8,7.4,0.4,0.00,
33,63,37,20,363.9,8.4,0.5,0.00,
34,67,33,19,342.4,6.1,0.4,0.00,
35,70,33,22,273.8,4.1,0.4,0.00,
36,71,46,30,336.6,8.0,0.4,0.00,
37,63,48,28,427.9,16.1,0.5,0.00,
38,68,34,26,444.5,1.2,0.4,0.00,
39,72,49,30,369.0,1.4,0.5,0.00,
40,74,46,30,262.9,7.5,0.4,0.00,
41,77,41,24,251.1,16.3,0.4,0.00,
42,48,31,4,458.7,13.2,0.3,0.00,
43,56,20,6,462.3,5.8,0.3,0.00,
44,64,27,10,383.3,7.2,0.4,0.00,
45,72,31,19,469.7,4.7,0.4,0.00,
46,75,39,21,448.2,12.2,0.4,0.00,
47,61,37,21,298.6,4.7,0.4,0.00,
48,68,30,19,359.6,1.8,0.3,0.00,
49,73,41,21,246.2,9.9,0.4,0.00,
50,76,52,23,321.7,12.6,0.4,0.00,
```

```
51,71,49,29,270.4,7.4,0.4,0.00,
52,67,43,31,496.6,8.5,0.4,0.00,
53,71,44,24,280.6,9.9,0.4,0.00,
54,67,35,11,192.6,7.5,0.4,0.00,
55,73,31,11,101.7,4.4,0.4,0.00,
56,73,39,18,281.6,6.7,0.4,0.00,
57,75,48,20,357.3,13.4,0.5,0.00,
58,70,37,17,444.0,5.5,0.4,0.00,
59,75,37,20,341.4,7.3,0.4,0.00,
60,80,45,22,410.7,13.8,0.4,0.00,
61,76,49,20,438.7,9.2,0.5,0.00,
62,74,40,24,536.5,6.9,0.4,0.00,
63,75,54,18,340.6,16.8,0.3,0.00,
64,74,51,27,544.7,9.2,0.3,0.00,
65,68,45,26,272.8,7.6,0.3,0.00,
66,73,46,37,360.5,14.1,0.3,0.00,
67,62,42,28,556.9,14.3,0.4,0.00,
68,74,35,24,531.3,5.1,0.4,0.00,
69,72,40,22,520.2,6.2,0.5,0.00,
70,77,43,21,448.7,1.6,0.4,0.00,
71,60,45,24,364.7,15.9,0.3,0.00,
72,62,36,26,202.4,6.0,0.3,0.00,
73,71,32,23,581.0,3.9,0.4,0.00,
74,77,34,21,511.3,4.1,0.4,0.00,
75,79,43,24,429.0,1.3,0.3,0.00,
76,54,40,36,134.9,8.2,0.3,0.04,
77,45,31,35,356.2,7.7,0.4,0.00,
78,63,30,31,600.8,5.6,0.4,0.00,
79,73,36,33,383.6,5.9,0.4,0.00,
80,82,42,33,250.9,7.7,0.4,0.00,
81,81,45,27,594.4,12.0,0.3,0.00,
82,80,56,25,616.2,11.5,0.3,0.00,
83,77,49,25,620.0,8.2,0.3,0.00,
84,72,47,43,490.4,8.8,0.3,0.00,
85,74,48,46,535.0,1.4,0.4,0.00,
86,74,49,42,330.3,9.9,0.4,0.00,
87,77,40,32,528.8,5.7,0.3,0.00,
88,79,46,39,638.5,9.1,0.3,0.00,
89,83,46,34,567.9,8.8,0.3,0.00,
90,80,60,28,501.2,22.6,0.2,0.00,
91,78,57,30,403.7,18.8,0.3,0.00,
92,73,47,30,443.4,19.4,0.2,0.00,
93,60,41,17,518.7,12.7,0.3,0.00,
94,70,38,20,616.0,14.8,0.3,0.00,
95,65,38,20,549.7,11.0,0.3,0.00,
96,81,35,21,353.7,5.4,0.4,0.00,
97,85,54,30,451.8,13.7,0.3,0.00,
98,71,49,22,291.3,9.1,0.3,0.00,
99,81,37,22,459.9,16.2,0.3,0.00,
100,71,44,17,561.0,6.6,0.2,0.00,
```

```
101,79,44,21,678.5,8.3,0.3,0.00,
102,75,50,40,539.9,5.8,0.3,0.00,
103,68,54,30,656.1,16.6,0.3,0.00,
104,81,49,34,436.6,12.8,0.3,0.00,
105,65,44,25,453.7,1.5,0.3,0.00,
106,65,38,21,578.7,7.6,0.4,0.00,
107,71,39,20,677.2,6.7,0.3,0.00,
108,81,41,25,439.9,3.8,0.3,0.00,
109,89,43,25,583.4,5.6,0.3,0.00,
110,88,46,27,705.2,1.5,0.2,0.00,
111,87,64,31,703.1,22.9,0.3,0.00,
112,90,67,31,609.7,24.0,0.3,0.00,
113,91,60,37,545.1,1.7,0.3,0.00,
114,80,59,46,718.6,11.5,0.3,0.00,
115,75,55,28,543.5,17.1,0.3,0.00,
116,81,55,34,723.5,15.0,0.3,0.00,
117,86,54,35,725.8,5.2,0.3,0.00,
118,81,59,29,726.0,9.6,0.3,0.00,
119,85,49,29,730.4,9.9,0.3,0.00,
120,78,51,26,502.9,1.0,0.4,0.00,
121,73,57,23,375.0,17.6,0.3,0.00,
122,78,49,27,509.6,12.5,0.4,0.00,
123,83,60,36,544.6,23.1,0.3,0.00,
124,79,59,34,657.9,26.8,0.3,0.00,
125,79,59,27,513.0,17.8,0.4,0.00,
126,83,50,24,743.4,9.5,0.4,0.00,
127,86,55,26,746.7,6.9,0.3,0.00,
128,92,54,32,655.1,8.0,0.2,0.00,
129,87,71,32,750.2,17.2,0.2,0.00,
130,85,63,32,751.9,15.6,0.3,0.00,
131,86,63,30,598.6,1.6,0.2,0.00,
132,88,52,36,755.2,5.7,0.3,0.00,
133,90,58,38,756.8,12.3,0.2,0.00,
134,90,66,30,485.9,16.7,0.3,0.00,
135,90,63,30,717.8,15.4,0.3,0.00,
136,89,64,29,693.8,13.5,0.3,0.00,
137,87,55,27,644.8,6.9,0.4,0.00,
138,90,61,48,589.8,13.0,0.3,0.00,
139,96,66,42,765.2,12.3,0.4,0.00,
140,92,63,32,627.4,7.9,0.3,0.00,
141,96,52,40,721.3,8.8,0.3,0.00,
142,94,63,51,768.8,5.5,0.4,0.00,
143,86,66,54,769.9,9.4,0.3,0.00,
144,87,62,56,709.6,1.5,0.4,0.00,
145,89,59,45,771.9,8.7,0.3,0.00,
146,88,61,42,579.5,8.6,0.3,0.00,
147,89,57,46,690.3,7.5,0.3,0.00,
148,92,61,54,595.1,9.3,0.3,0.02,
149,93,59,47,680.9,6.9,0.3,0.00,
150,95,73,38,776.3,7.7,0.3,0.00,
```

```
151,92,72,37,460.9,12.0,0.3,0.00,
152,91,70,36,777.8,8.3,0.2,0.00,
153,92,63,39,760.3,11.2,0.3,0.00,
154,98,65,43,704.9,12.5,0.4,0.00,
155,97,67,39,623.3,19.0,0.3,0.00,
156,84,57,31,562.5,11.6,0.4,0.00,
157,90,52,31,631.7,5.3,0.4,0.00,
158,99,60,43,454.8,6.8,0.3,0.00,
159,96,67,47,729.1,11.5,0.3,0.00,
160,92,63,37,636.4,9.2,0.3,0.00,
161,94,64,36,508.3,7.0,0.2,0.00,
162,94,63,37,518.5,8.2,0.2,0.00,
163,90,63,52,689.5,9.1,0.2,0.00,
164,85,65,53,783.0,13.5,0.2,0.00,
165,78,64,54,733.6,11.5,0.2,0.00,
166,86,57,52,783.2,4.8,0.3,0.00,
167,93,66,55,670.1,8.9,0.2,0.02,
168,87,64,60,725.4,11.5,0.2,0.83,
169,84,65,61,637.9,5.8,0.3,0.08,
170,87,63,60,653.3,5.8,0.3,0.14,
171,87,67,61,574.5,1.2,0.3,0.11,
172,93,67,60,783.2,6.6,0.3,0.00,
173,91,71,58,783.0,8.5,0.4,0.00,
174,94,72,54,738.6,6.6,0.3,0.00,
175,100,72,56,782.6,6.2,0.3,0.00,
176,102,70,58,782.3,5.8,0.3,0.00,
177,103,76,55,752.6,1.2,0.2,0.00,
178,103,78,56,781.7,7.1,0.3,0.00,
179,104,77,59,781.3,9.2,0.4,0.26,
180,98,73,62,459.7,9.3,0.4,0.00,
181,105,79,53,780.4,8.4,0.4,0.00,
182,106,80,52,779.9,1.0,0.4,0.00,
183,103,82,56,779.4,14.3,0.4,0.00,
184,97,71,61,653.5,9.7,0.4,0.02,
185,95,69,63,717.2,9.6,0.4,0.00,
186,95,73,63,314.9,8.4,0.4,0.00,
187,93,70,64,776.8,8.5,0.4,0.20,
188,93,72,58,597.2,6.3,0.4,0.00,
189,95,73,59,377.8,6.4,0.4,0.00,
190,98,73,62,684.1,8.6,0.4,0.02,
191,84,65,64,760.5,11.4,0.5,0.06,
192,81,62,59,772.7,11.2,0.5,0.06,
193,87,66,59,771.8,8.9,0.4,0.00,
194,92,71,63,770.8,8.1,0.4,0.00,
195,91,69,61,769.8,1.6,0.4,0.00,
196,88,70,62,663.4,15.5,0.5,0.00,
197,90,67,64,767.6,1.5,0.5,0.99,
198,89,67,66,765.0,6.6,0.5,0.03,
199,87,65,64,493.9,7.4,0.4,0.54,
200,87,67,63,636.3,6.1,0.5,0.00,
```

```
201,87,69,66,705.9,4.7,0.5,0.07,
202,85,68,65,553.5,6.4,0.5,0.01,
203,88,68,64,758.7,6.2,0.5,0.00,
204,90,68,64,662.9,7.3,0.5,0.00,
205,93,69,62,688.2,5.1,0.5,0.00,
206,96,70,62,755.7,6.6,0.5,0.00,
207,96,74,59,607.0,8.8,0.5,0.00,
208,92,74,61,276.5,9.3,0.6,0.00,
209,93,69,61,404.9,8.3,0.6,0.00,
210,93,70,61,749.3,11.3,0.5,0.00,
211,94,76,57,495.7,12.4,0.4,0.00,
212,94,72,60,745.9,9.4,0.5,0.00,
213,92,68,60,744.1,6.7,0.6,0.00,
214,86,70,65,720.5,8.1,0.6,0.03,
215,84,69,66,621.6,5.8,0.5,0.02,
216,86,67,64,551.6,8.5,0.5,0.07,
217,87,64,64,617.6,7.9,0.5,0.85,
218,86,63,65,513.5,5.2,0.4,0.12,
219,92,71,63,593.8,3.6,0.5,0.00,
220,95,70,65,607.3,7.0,0.5,0.29,
221,91,67,64,509.3,8.1,0.5,0.00,
222,90,73,63,481.4,6.9,0.5,0.00,
223,91,71,64,481.1,8.1,0.5,0.00,
224,95,72,62,518.5,6.9,0.5,0.00,
225,96,70,57,500.4,6.3,0.5,0.00,
226,95,73,58,506.2,7.7,0.5,0.00,
227,96,70,54,639.9,6.5,0.5,0.00,
228,97,72,55,526.3,7.0,0.5,0.00,
229,94,70,52,709.2,5.4,0.4,0.00,
230,95,68,54,706.6,8.4,0.5,0.00,
231,94,71,59,584.0,1.3,0.5,0.00,
232,95,71,56,533.0,7.7,0.4,0.00,
233,96,71,52,692.9,3.8,0.4,0.00,
234,96,70,57,610.9,6.9,0.5,0.05,
235,97,73,57,693.1,9.2,0.4,0.00,
236,91,68,59,619.7,8.6,0.5,0.00,
237,89,72,61,464.6,1.4,0.4,0.00,
238,90,73,63,684.5,8.5,0.4,0.00,
239,96,71,62,681.5,7.8,0.4,0.00,
240,94,70,60,526.0,5.7,0.4,0.00,
241,94,67,54,675.5,8.5,0.4,0.00,
242,94,70,54,672.4,7.3,0.4,0.00,
243,94,71,51,564.2,6.0,0.4,0.00,
244,87,68,58,436.5,7.9,0.4,0.02,
245,91,70,61,580.5,7.9,0.5,0.00,
246,91,67,62,525.9,6.7,0.5,0.00,
247,92,68,59,607.6,5.3,0.4,0.00,
248,94,69,60,612.4,8.8,0.5,0.91,
249,89,68,65,642.5,7.6,0.4,0.03,
250,91,69,64,617.0,4.4,0.4,0.00,
```

```
251,91,68,60,244.9,9.2,0.4,0.00,
252,90,69,60,516.4,8.3,0.4,0.00,
253,90,67,62,586.9,5.5,0.4,0.00,
254,89,69,60,535.2,8.0,0.4,0.00,
255,93,68,55,558.6,9.8,0.4,0.00,
256,84,65,58,528.1,1.6,0.4,0.18,
257,86,61,58,214.4,6.2,0.5,0.00,
258,87,64,56,618.0,7.7,0.4,0.00,
259,87,65,58,551.1,6.7,0.3,0.27,
260,68,62,62,299.3,1.4,0.3,0.46,
261,83,59,59,546.7,4.3,0.3,0.00,
262,87,60,58,562.2,4.8,0.3,0.00,
263,88,64,58,475.6,5.7,0.3,0.00,
264,74,61,56,595.5,8.7,0.4,0.00,
265,82,59,54,591.7,5.8,0.4,0.00,
266,88,62,58,438.1,4.7,0.4,0.07,
267,88,64,58,344.6,12.9,0.3,0.00,
268,88,63,48,580.2,6.8,0.3,0.00,
269,92,62,50,576.3,9.0,0.3,0.00,
270,92,68,50,572.4,7.7,0.3,0.00,
271,91,58,48,544.9,1.9,0.3,0.00,
272,72,50,39,564.6,8.2,0.3,0.00,
273,82,49,44,475.3,3.0,0.3,0.00,
274,89,53,44,258.3,5.7,0.3,0.00,
275,89,58,39,389.0,6.4,0.3,0.00,
276,90,55,41,313.4,4.8,0.3,0.00,
277,87,58,49,452.0,7.5,0.3,0.00,
278,87,61,48,428.5,5.5,0.4,0.00,
279,89,57,46,537.0,7.3,0.3,0.00,
280,82,65,41,455.5,15.2,0.3,0.00,
281,80,52,38,529.1,7.7,0.2,0.00,
282,80,51,42,494.2,3.1,0.2,0.00,
283,84,49,39,282.0,4.8,0.3,0.00,
284,83,52,42,222.5,5.6,0.2,0.00,
285,82,53,44,367.1,3.5,0.2,0.00,
286,86,48,37,448.9,3.6,0.3,0.00,
287,84,48,36,388.6,4.4,0.2,0.00,
288,86,49,34,417.5,7.4,0.3,0.00,
289,77,55,44,312.0,11.2,0.3,0.02,
290,58,36,38,340.2,12.7,0.2,0.54,
291,54,36,38,316.1,4.7,0.3,0.00,
292,63,40,39,335.5,6.3,0.3,0.00,
293,68,39,39,482.6,3.4,0.4,0.00,
294,74,42,41,478.9,4.7,0.4,0.00,
295,77,44,39,475.2,4.3,0.4,0.00,
296,78,45,35,405.5,5.4,0.3,0.00,
297,78,43,35,285.6,4.6,0.3,0.00,
298,76,46,38,425.2,3.0,0.3,0.00,
299,78,47,37,165.4,5.3,0.3,0.00,
300,79,61,43,259.7,7.5,0.3,0.00,
```

```
301,78,50,40,357.3,6.8,0.3,0.00,
302,81,53,35,214.5,13.8,0.3,0.00,
303,66,43,32,380.1,6.7,0.2,0.00,
304,71,36,29,284.4,3.9,0.2,0.00,
305,78,36,29,389.5,3.9,0.3,0.00,
306,63,42,24,377.1,9.2,0.2,0.00,
307,70,36,29,346.2,3.9,0.3,0.00,
308,76,41,32,241.9,4.2,0.2,0.00,
309,80,40,31,419.3,4.7,0.2,0.00,
310,81,50,33,423.6,6.8,0.3,0.00,
311,77,47,42,420.5,6.3,0.4,0.00,
312,77,47,47,417.5,3.9,0.3,0.00,
313,79,49,44,298.6,3.0,0.2,0.00,
314,79,48,37,411.6,5.5,0.3,0.00,
315,80,48,38,363.5,5.4,0.3,0.00,
316,74,45,43,406.0,5.5,0.3,0.00,
317,75,47,45,403.2,4.2,0.4,0.00,
318,77,47,40,400.5,6.7,0.3,0.00,
319,73,47,38,381.4,5.0,0.4,0.00,
320,74,40,35,395.3,3.5,0.4,0.00,
321,77,37,35,268.8,6.2,0.4,0.00,
322,78,59,39,390.4,14.6,0.4,0.00,
323,72,46,33,100.7,4.1,0.3,0.00,
324,75,42,36,358.0,4.8,0.3,0.00,
325,71,46,32,269.1,17.2,0.4,0.00,
326,61,44,26,381.3,1.7,0.4,0.00,
327,56,37,19,379.2,7.7,0.5,0.00,
328,54,33,28,302.6,6.7,0.3,0.00,
329,57,24,19,156.0,6.3,0.4,0.00,
330,64,28,18,217.4,5.6,0.3,0.00,
331,72,30,21,137.2,3.6,0.3,0.00,
332,73,32,23,344.8,5.1,0.3,0.00,
333,66,35,31,73.6,6.9,0.3,0.00,
334,67,31,33,200.7,3.9,0.3,0.00,
335,68,32,32,298.6,5.8,0.3,0.00,
336,66,48,26,290.9,14.7,0.3,0.00,
337,63,40,25,203.2,17.8,0.3,0.00,
338,53,31,24,360.8,9.8,0.3,0.00,
339,53,27,23,359.6,2.9,0.4,0.00,
340,56,28,22,253.1,6.5,0.2,0.00,
341,64,23,22,235.2,6.6,0.3,0.00,
342,65,34,21,356.4,14.3,0.4,0.00,
343,52,26,23,355.5,4.3,0.4,0.00,
344,67,26,18,354.7,6.5,0.4,0.00,
345,52,35,27,354.0,8.1,0.4,0.00,
346,52,28,26,353.3,6.0,0.4,0.00,
347,54,25,22,326.9,6.4,0.4,0.00,
348,51,36,11,263.9,11.3,0.4,0.00,
349,50,27,0,252.8,7.8,0.3,0.00,
350,54,18,1,351.5,4.6,0.4,0.00,
```

```
351,62,22,14,280.4,4.4,0.4,0.00,
352,61,29,26,277.9,5.8,0.5,0.00,
353,55,33,19,350.9,8.1,0.4,0.00,
354,54,25,19,350.9,4.0,0.4,0.00,
355,48,26,22,351.0,4.6,0.4,0.00,
356,50,28,23,320.2,9.2,0.4,0.00,
357,49,25,25,243.5,7.8,0.4,0.00,
358,44,32,30,351.7,5.9,0.4,0.62,
359,41,34,36,352.1,6.2,0.5,0.01,
360,46,39,38,352.6,7.9,0.6,0.00,
361,54,37,37,353.1,7.0,0.5,0.00,
362,57,34,34,353.8,4.7,0.5,0.00,
363,59,33,36,354.5,6.3,0.5,0.00,
364,61,41,34,355.3,4.4,0.4,0.00,
365,66,43,37,316.1,4.6,0.4,0.00,
```

```
1,66,44,34,326.7,13.5,0.5,0.00,
2,59,33,26,338.9,16.6,0.4,0.00,
3,47,34,13,359.7,13.7,0.5,0.00,
4,46,26,12,196.4,6.6,0.4,0.00,
5,55,21,16,279.8,4.9,0.5,0.00,
6,54,30,20,271.0,12.8,0.5,0.00,
7,49,32,25,343.4,5.2,0.4,0.00,
8,55,24,24,306.8,7.7,0.4,0.00,
9,59,39,13,365.6,12.8,0.4,0.00,
10,65,43,12,256.6,9.4,0.4,0.00,
11,67,32,17,263.8,8.0,0.4,0.00,
12,70,34,21,281.7,9.4,0.4,0.00,
13,68,32,23,128.6,5.8,0.4,0.00,
14,60,35,24,356.4,6.9,0.3,0.00,
15,67,34,29,341.5,5.3,0.4,0.00,
16,70,35,31,252.8,5.1,0.4,0.00,
17,72,35,30,174.3,4.7,0.5,0.00,
18,73,39,30,213.1,4.2,0.4,0.00,
19,74,37,30,265.8,4.4,0.4,0.00,
20,69,40,32,390.8,4.0,0.5,0.00,
21,70,34,32,368.3,8.8,0.4,0.00,
22,66,54,35,274.6,1.4,0.4,0.00,
23,68,46,28,332.9,8.9,0.4,0.00,
24,71,38,29,246.7,8.2,0.3,0.00,
25,70,41,31,269.0,7.8,0.3,0.00,
26,74,45,33,391.6,14.8,0.3,0.00,
27,62,47,28,409.5,14.9,0.4,0.00,
28,62,33,20,412.4,11.6,0.4,0.00,
29,53,26,21,415.3,3.1,0.4,0.00,
30,62,27,20,266.4,5.8,0.5,0.00,
31,62,45,26,209.3,11.8,0.5,0.00,
32,50,31,34,318.8,1.8,0.4,0.03,
33,53,24,29,363.9,3.3,0.5,0.00,
34,63,25,26,342.4,3.1,0.4,0.00,
35,55,30,25,273.8,1.2,0.4,0.00,
36,61,30,26,336.6,3.9,0.4,0.00,
37,69,37,26,427.9,5.0,0.5,0.00,
38,70,35,24,444.5,6.7,0.4,0.00,
39,68,33,24,369.0,4.5,0.5,0.00,
40,77,41,25,262.9,8.9,0.4,0.00,
41,72,48,23,251.1,1.7,0.4,0.00,
42,70,46,22,458.7,11.0,0.3,0.00,
43,70,36,20,462.3,15.6,0.3,0.00,
44,64,48,31,383.3,12.9,0.4,0.00,
45,73,55,38,469.7,13.7,0.4,0.00,
46,78,51,31,448.2,8.9,0.4,0.00,
47,78,40,26,298.6,7.2,0.4,0.00,
48,77,48,33,359.6,18.0,0.3,0.00,
49,64,39,24,246.2,6.3,0.4,0.00,
50,73,36,22,321.7,5.8,0.4,0.00,
```

```
51,75,40,34,270.4,5.8,0.4,0.00,
52,79,44,37,496.6,8.8,0.4,0.00,
53,63,49,34,280.6,13.8,0.4,0.00,
54,67,43,29,192.6,8.3,0.4,0.00,
55,72,41,25,101.7,14.4,0.4,0.00,
56,59,45,26,281.6,18.4,0.4,0.00,
57,60,40,18,357.3,8.0,0.5,0.00,
58,74,30,17,444.0,3.7,0.4,0.00,
59,78,45,20,341.4,14.3,0.4,0.00,
60,66,40,16,410.7,4.3,0.4,0.00,
61,75,41,20,438.7,1.8,0.5,0.00,
62,67,47,24,536.5,13.5,0.4,0.00,
63,70,36,24,340.6,5.7,0.3,0.00,
64,76,39,28,544.7,5.5,0.3,0.00,
65,66,51,30,272.8,13.6,0.3,0.00,
66,73,39,29,360.5,5.8,0.3,0.00,
67,63,41,29,556.9,2.5,0.4,0.06,
68,63,36,25,531.3,9.7,0.4,0.00,
69,69,33,24,520.2,6.7,0.5,0.00,
70,71,47,20,448.7,11.4,0.4,0.00,
71,64,39,23,364.7,5.4,0.3,0.00,
72,75,34,22,202.4,5.0,0.3,0.00,
73,73,43,23,581.0,5.3,0.4,0.00,
74,76,45,23,511.3,7.2,0.4,0.00,
75,79,37,23,429.0,9.8,0.3,0.00,
76,68,41,28,134.9,13.4,0.3,0.00,
77,73,36,30,356.2,1.3,0.4,0.00,
78,76,43,21,600.8,14.5,0.4,0.00,
79,67,34,21,383.6,5.8,0.4,0.00,
80,79,45,23,250.9,14.9,0.4,0.00,
81,63,41,34,594.4,1.7,0.3,0.00,
82,59,39,36,616.2,9.3,0.3,0.00,
83,64,39,29,620.0,1.2,0.3,0.00,
84,74,36,27,490.4,3.2,0.3,0.00,
85,80,47,27,535.0,8.1,0.4,0.00,
86,80,43,26,330.3,9.7,0.4,0.00,
87,80,52,28,528.8,7.4,0.3,0.00,
88,76,60,37,638.5,18.0,0.3,0.00,
89,74,54,35,567.9,1.7,0.3,0.00,
90,79,45,29,501.2,8.5,0.2,0.00,
91,76,50,25,403.7,12.3,0.3,0.00,
92,65,43,38,443.4,11.9,0.2,0.28,
93,63,42,34,518.7,8.2,0.3,0.00,
94,67,40,33,616.0,7.4,0.3,0.00,
95,78,41,32,549.7,3.7,0.3,0.00,
96,86,49,32,353.7,8.7,0.4,0.00,
97,83,63,30,451.8,13.6,0.3,0.00,
98,86,60,32,291.3,11.5,0.3,0.00,
99,71,50,27,459.9,14.7,0.3,0.00,
100,81,49,30,561.0,7.0,0.2,0.00,
```

```
101,84,67,30,678.5,12.7,0.3,0.00,
102,78,53,34,539.9,9.7,0.3,0.00,
103,74,46,40,656.1,4.5,0.3,0.00,
104,82,47,30,436.6,5.7,0.3,0.00,
105,88,49,24,453.7,13.3,0.3,0.00,
106,77,57,26,578.7,16.2,0.4,0.00,
107,83,44,24,677.2,6.4,0.3,0.00,
108,87,48,26,439.9,6.4,0.3,0.00,
109,92,57,30,583.4,14.8,0.3,0.00,
110,82,51,30,705.2,14.4,0.2,0.00,
111,84,53,27,703.1,1.3,0.3,0.00,
112,91,58,35,609.7,8.1,0.3,0.00,
113,78,65,30,545.1,2.1,0.3,0.00,
114,83,60,36,718.6,16.4,0.3,0.00,
115,89,62,35,543.5,7.6,0.3,0.00,
116,90,58,36,723.5,7.5,0.3,0.00,
117,94,60,46,725.8,6.1,0.3,0.00,
118,95,65,47,726.0,8.4,0.3,0.00,
119,94,62,49,730.4,1.0,0.3,0.00,
120,92,63,39,502.9,15.5,0.4,0.00,
121,82,59,29,375.0,1.9,0.3,0.00,
122,75,51,39,509.6,6.7,0.4,0.00,
123,87,51,37,544.6,5.8,0.3,0.00,
124,95,59,37,657.9,6.6,0.3,0.00,
125,96,58,36,513.0,6.6,0.4,0.00,
126,96,63,26,743.4,9.3,0.4,0.00,
127,95,69,27,746.7,12.4,0.3,0.00,
128,93,71,19,655.1,15.9,0.2,0.00,
129,94,69,24,750.2,17.6,0.2,0.00,
130,90,67,35,751.9,7.4,0.3,0.00,
131,96,69,30,598.6,15.7,0.2,0.00,
132,95,70,27,755.2,2.1,0.3,0.00,
133,83,63,25,756.8,12.4,0.2,0.00,
134,82,55,29,485.9,12.6,0.3,0.00,
135,94,60,39,717.8,6.2,0.3,0.00,
136,102,64,43,693.8,8.1,0.3,0.00,
137,95,76,30,644.8,17.1,0.4,0.00,
138,86,62,22,589.8,19.3,0.3,0.00,
139,85,61,21,765.2,6.8,0.4,0.00,
140,83,60,33,627.4,7.1,0.3,0.00,
141,90,56,37,721.3,5.5,0.3,0.00,
142,93,62,38,768.8,5.6,0.4,0.00,
143,96,66,41,769.9,7.6,0.3,0.00,
144,102,68,37,709.6,1.8,0.4,0.00,
145,102,77,37,771.9,14.8,0.3,0.00,
146,95,79,32,579.5,18.7,0.3,0.00,
147,89,72,32,690.3,13.1,0.3,0.00,
148,95,65,36,595.1,8.1,0.3,0.00,
149,97,71,46,680.9,5.9,0.3,0.00,
150,99,70,40,776.3,5.4,0.3,0.00,
```

```
151,100,67,47,460.9,7.8,0.3,0.00,
152,94,74,53,777.8,1.3,0.2,0.00,
153,93,70,54,760.3,1.0,0.3,0.00,
154,92,64,57,704.9,8.7,0.4,0.76,
155,86,63,57,623.3,5.9,0.3,0.13,
156,95,65,50,562.5,6.3,0.4,0.00,
157,88,68,53,631.7,9.0,0.4,0.00,
158,90,68,50,454.8,6.2,0.3,0.00,
159,92,68,47,729.1,6.8,0.3,0.00,
160,94,70,48,636.4,9.9,0.3,0.00,
161,89,66,53,508.3,1.7,0.2,0.04,
162,91,72,43,518.5,8.4,0.2,0.00,
163,96,70,45,689.5,7.3,0.2,0.00,
164,97,65,58,783.0,7.9,0.2,0.77,
165,96,64,52,733.6,7.9,0.2,0.00,
166,91,66,44,783.2,8.4,0.3,0.00,
167,100,69,43,670.1,7.7,0.2,0.00,
168,101,81,37,725.4,1.3,0.2,0.00,
169,90,62,56,637.9,1.8,0.3,0.14,
170,82,62,59,653.3,6.1,0.3,0.00,
171,93,68,58,574.5,6.6,0.3,0.12,
172,91,67,58,783.2,9.0,0.3,0.02,
173,93,68,56,783.0,7.4,0.4,0.00,
174,92,68,55,738.6,9.1,0.3,0.00,
175,92,72,54,782.6,11.0,0.3,0.00,
176,95,76,48,782.3,1.6,0.3,0.00,
177,100,71,46,752.6,4.9,0.2,0.00,
178,93,75,56,781.7,13.2,0.3,0.00,
179,87,67,60,781.3,9.2,0.4,0.00,
180,91,71,60,459.7,6.4,0.4,0.00,
181,86,67,64,780.4,5.7,0.4,0.46,
182,87,68,64,779.9,7.3,0.4,0.01,
183,92,67,64,779.4,9.2,0.4,1.36,
184,93,70,60,653.5,1.1,0.4,0.00,
185,95,74,53,717.2,9.7,0.4,0.00,
186,97,74,52,314.9,6.5,0.4,0.00,
187,96,76,56,776.8,8.0,0.4,0.00,
188,95,68,56,597.2,7.3,0.4,0.20,
189,91,68,59,377.8,6.4,0.4,0.00,
190,91,69,59,684.1,6.9,0.4,0.00,
191,90,68,58,760.5,4.6,0.5,0.00,
192,95,72,58,772.7,8.1,0.5,0.00,
193,95,72,56,771.8,9.4,0.4,0.00,
194,97,74,58,770.8,9.0,0.4,0.00,
195,92,70,60,769.8,7.2,0.4,0.00,
196,94,73,57,663.4,8.6,0.5,0.00,
197,95,74,53,767.6,8.7,0.5,0.00,
198,98,77,53,765.0,1.4,0.5,0.00,
199,98,70,54,493.9,6.1,0.4,0.00,
200,100,73,53,636.3,4.8,0.5,0.00,
```

```
201,98,74,49,705.9,7.5,0.5,0.00,
202,99,73,50,553.5,5.7,0.5,0.00,
203,101,76,50,758.7,7.4,0.5,0.00,
204,99,73,51,662.9,6.8,0.5,0.00,
205,97,73,49,688.2,8.1,0.5,0.00,
206,99,70,50,755.7,5.3,0.5,0.00,
207,103,73,47,607.0,6.4,0.5,0.00,
208,100,74,49,276.5,5.8,0.6,0.00,
209,100,75,52,404.9,8.3,0.6,0.03,
210,98,71,56,749.3,5.4,0.5,0.00,
211,95,72,53,495.7,9.5,0.4,0.00,
212,93,71,52,745.9,8.9,0.5,0.00,
213,92,69,49,744.1,8.8,0.6,0.00,
214,94,65,46,720.5,4.4,0.6,0.00,
215,96,70,49,621.6,5.8,0.5,0.00,
216,98,70,42,551.6,5.0,0.5,0.00,
217,98,75,46,617.6,6.5,0.5,0.00,
218,96,76,49,513.5,6.3,0.4,0.00,
219,90,72,50,593.8,7.3,0.5,0.00,
220,92,71,58,607.3,8.5,0.5,0.00,
221,93,71,58,509.3,6.3,0.5,0.00,
222,93,70,60,481.4,8.0,0.5,0.08,
223,94,68,60,481.1,9.3,0.5,0.05,
224,92,69,59,518.5,6.6,0.5,0.01,
225,97,69,53,500.4,4.2,0.5,0.00,
226,96,69,48,506.2,6.9,0.5,0.00,
227,96,72,45,639.9,6.2,0.5,0.00,
228,96,69,45,526.3,7.9,0.5,0.00,
229,92,72,57,709.2,9.2,0.4,0.00,
230,82,66,65,706.6,8.9,0.5,0.29,
231,92,65,60,584.0,6.2,0.5,0.00,
232,96,71,55,533.0,4.5,0.4,0.00,
233,99,69,50,692.9,4.4,0.4,0.00,
234,97,72,46,610.9,7.9,0.5,0.00,
235,93,73,52,693.1,12.0,0.4,0.00,
236,92,71,54,619.7,8.8,0.5,0.00,
237,92,66,54,464.6,5.3,0.4,0.00,
238,94,65,52,684.5,3.6,0.4,0.00,
239,96,74,53,681.5,5.8,0.4,0.00,
240,95,70,55,526.0,7.6,0.4,0.00,
241,93,71,55,675.5,8.9,0.4,0.00,
242,89,65,59,672.4,7.9,0.4,0.26,
243,89,65,58,564.2,6.7,0.4,0.01,
244,88,60,50,436.5,6.9,0.4,0.00,
245,96,62,46,580.5,5.8,0.5,0.00,
246,96,67,48,525.9,4.4,0.5,0.00,
247,98,67,48,607.6,4.0,0.4,0.00,
248,98,70,43,612.4,5.1,0.5,0.00,
249,97,71,44,642.5,6.6,0.4,0.00,
250,100,70,44,617.0,5.0,0.4,0.00,
```

```
251,100,69,45,244.9,7.4,0.4,0.00,
252,96,72,51,516.4,9.6,0.4,0.00,
253,95,71,53,586.9,6.9,0.4,0.00,
254,92,74,48,535.2,7.3,0.4,0.00,
255,95,71,46,558.6,9.2,0.4,0.00,
256,97,65,39,528.1,6.7,0.4,0.00,
257,95,68,45,214.4,7.3,0.5,0.00,
258,94,66,46,618.0,8.2,0.4,0.00,
259,91,65,49,551.1,11.5,0.3,0.00,
260,92,63,48,299.3,6.1,0.3,0.00,
261,91,62,45,546.7,5.8,0.3,0.00,
262,92,65,45,562.2,5.7,0.3,0.00,
263,92,65,47,475.6,6.9,0.3,0.00,
264,89,68,48,595.5,11.2,0.4,0.00,
265,87,62,49,591.7,6.3,0.4,0.00,
266,93,69,50,438.1,13.0,0.4,0.00,
267,86,70,53,344.6,11.9,0.3,0.00,
268,85,60,43,580.2,9.2,0.3,0.00,
269,74,50,35,576.3,8.7,0.3,0.00,
270,83,50,37,572.4,2.5,0.3,0.00,
271,90,58,40,544.9,3.2,0.3,0.00,
272,90,68,33,564.6,5.4,0.3,0.00,
273,89,57,28,475.3,5.1,0.3,0.00,
274,90,57,30,258.3,4.4,0.3,0.00,
275,94,59,35,389.0,5.8,0.3,0.00,
276,95,59,36,313.4,5.7,0.3,0.00,
277,94,61,39,452.0,5.3,0.3,0.00,
278,95,60,44,428.5,9.0,0.4,0.08,
279,88,61,44,537.0,7.4,0.3,0.00,
280,76,55,49,455.5,11.5,0.3,0.00,
281,56,42,41,529.1,13.6,0.2,0.00,
282,43,37,34,494.2,11.7,0.2,0.03,
283,47,37,33,282.0,8.7,0.3,0.02,
284,64,38,40,222.5,4.8,0.2,0.00,
285,77,51,53,367.1,6.3,0.2,0.03,
286,83,58,52,448.9,9.8,0.3,0.00,
287,80,53,46,388.6,5.2,0.2,0.00,
288,80,53,44,417.5,5.3,0.3,0.10,
289,79,56,48,312.0,5.4,0.3,0.09,
290,80,50,41,340.2,4.5,0.2,0.00,
291,80,53,41,316.1,6.4,0.3,0.00,
292,75,51,47,335.5,7.5,0.3,0.00,
293,64,55,53,482.6,5.4,0.4,0.02,
294,76,53,52,478.9,7.7,0.4,0.00,
295,67,56,52,475.2,5.4,0.4,0.03,
296,71,52,47,405.5,7.6,0.3,0.05,
297,73,58,51,285.6,1.5,0.3,0.08,
298,72,45,42,425.2,5.7,0.3,0.00,
299,73,47,41,165.4,5.2,0.3,0.00,
300,76,47,36,259.7,5.2,0.3,0.00,
```

```
301,76,49,39,357.3,9.1,0.3,0.00,
302,64,50,43,214.5,15.0,0.3,0.29,
303,65,45,38,380.1,6.4,0.2,0.00,
304,70,40,41,284.4,3.5,0.2,0.00,
305,65,47,35,389.5,11.2,0.3,0.00,
306,61,41,24,377.1,6.7,0.2,0.00,
307,66,36,29,346.2,4.6,0.3,0.00,
308,70,49,42,241.9,9.2,0.2,0.18,
309,67,51,50,419.3,5.2,0.2,0.32,
310,61,49,40,423.6,16.3,0.3,0.00,
311,58,46,39,420.5,1.4,0.4,0.39,
312,47,31,35,417.5,11.4,0.3,0.17,
313,44,31,26,298.6,6.4,0.2,0.00,
314,54,33,29,411.6,8.1,0.3,0.00,
315,66,34,35,363.5,7.1,0.3,0.00,
316,59,42,35,406.0,12.1,0.3,0.00,
317,55,38,26,403.2,8.4,0.4,0.00,
318,55,32,18,400.5,8.3,0.3,0.00,
319,59,33,32,381.4,5.3,0.4,0.00,
320,61,44,30,395.3,9.3,0.4,0.00,
321,58,40,28,268.8,5.9,0.4,0.00,
322,58,38,24,390.4,6.2,0.4,0.00,
323,48,31,25,100.7,1.3,0.3,0.00,
324,54,24,18,358.0,3.6,0.3,0.00,
325,59,26,18,269.1,4.9,0.4,0.00,
326,59,30,24,381.3,7.0,0.4,0.00,
327,64,43,29,379.2,5.9,0.5,0.00,
328,57,37,28,302.6,1.2,0.3,0.00,
329,59,32,26,156.0,5.4,0.4,0.00,
330,59,30,22,217.4,6.4,0.3,0.00,
331,60,27,20,137.2,5.2,0.3,0.00,
332,64,28,21,344.8,5.4,0.3,0.00,
333,68,37,21,73.6,5.3,0.3,0.00,
334,62,34,28,200.7,5.6,0.3,0.00,
335,68,31,29,298.6,4.4,0.3,0.00,
336,59,40,28,290.9,1.6,0.3,0.00,
337,48,36,23,203.2,9.2,0.3,0.05,
338,47,34,34,360.8,3.3,0.3,0.01,
339,57,29,34,359.6,2.6,0.4,0.00,
340,58,31,33,253.1,4.1,0.2,0.00,
341,56,36,24,235.2,5.6,0.3,0.00,
342,61,28,24,356.4,4.8,0.4,0.00,
343,64,34,27,355.5,5.1,0.4,0.00,
344,64,40,27,354.7,6.9,0.4,0.00,
345,65,34,27,354.0,5.5,0.4,0.00,
346,59,41,32,353.3,8.6,0.4,0.00,
347,51,33,25,326.9,6.9,0.4,0.03,
348,57,43,34,263.9,11.2,0.4,0.27,
349,56,34,36,252.8,3.8,0.3,0.00,
350,60,37,26,351.5,14.5,0.4,0.00,
```

```
351,60,38,17,280.4,7.7,0.4,0.00,
352,60,28,15,277.9,6.9,0.5,0.00,
353,52,29,0,350.9,14.1,0.4,0.00,
354,50,21,4,350.9,3.6,0.4,0.00,
355,64,26,5,351.0,9.1,0.4,0.00,
356,53,32,19,320.2,3.7,0.4,0.00,
357,62,25,20,243.5,5.7,0.4,0.00,
358,65,31,20,351.7,4.8,0.4,0.00,
359,60,32,22,352.1,4.6,0.5,0.00,
360,60,37,32,352.6,6.9,0.6,0.06,
361,37,30,24,353.1,6.8,0.5,0.00,
362,46,23,24,353.8,2.8,0.5,0.00,
363,52,23,25,354.5,3.2,0.5,0.00,
364,51,27,23,355.3,3.3,0.4,0.00,
365,54,24,23,316.1,3.1,0.4,0.00,
```

```
1,54,25,23,326.7,2.8,0.5,0.00,
2,48,30,26,338.9,7.6,0.4,0.00,
3,50,23,22,359.7,4.0,0.5,0.00,
4,56,22,20,196.4,3.3,0.4,0.00,
5,63,28,21,279.8,2.9,0.5,0.00,
6,62,34,28,271.0,7.2,0.5,0.00,
7,58,38,31,343.4,9.0,0.4,0.00,
8,54,31,24,306.8,6.0,0.4,0.00,
9,59,37,26,365.6,9.5,0.4,0.00,
10,53,38,33,256.6,7.6,0.4,0.00,
11,56,28,31,263.8,4.4,0.4,0.00,
12,63,30,29,281.7,1.2,0.4,0.00,
13,51,35,25,128.6,15.8,0.4,0.00,
14,52,24,23,356.4,5.9,0.3,0.00,
15,60,25,21,341.5,6.4,0.4,0.00,
16,55,28,20,252.8,8.9,0.4,0.00,
17,38,30,26,174.3,1.9,0.5,0.00,
18,42,24,20,213.1,7.8,0.4,0.00,
19,45,18,15,265.8,2.2,0.4,0.00,
20,52,21,19,390.8,6.4,0.5,0.00,
21,53,29,15,368.3,5.8,0.4,0.00,
22,51,26,17,274.6,6.9,0.4,0.00,
23,61,34,24,332.9,7.4,0.4,0.00,
24,61,30,31,246.7,6.5,0.3,0.00,
25,64,37,27,269.0,8.5,0.3,0.00,
26,62,28,17,391.6,4.4,0.3,0.00,
27,55,40,38,409.5,8.2,0.4,0.01,
28,46,33,32,412.4,9.5,0.4,0.05,
29,45,33,26,415.3,18.8,0.4,0.00,
30,52,34,24,266.4,1.6,0.5,0.00,
31,49,29,22,209.3,7.5,0.5,0.00,
32,51,29,15,318.8,12.5,0.4,0.00,
33,52,23,12,363.9,5.3,0.5,0.00,
34,62,22,14,342.4,4.0,0.4,0.00,
35,67,31,23,273.8,5.4,0.4,0.00,
36,69,30,24,336.6,5.7,0.4,0.00,
37,74,43,22,427.9,1.1,0.5,0.00,
38,71,49,29,444.5,11.0,0.4,0.00,
39,63,34,28,369.0,2.5,0.5,0.00,
40,52,30,16,262.9,8.2,0.4,0.00,
41,62,26,14,251.1,4.0,0.4,0.00,
42,68,38,17,458.7,8.1,0.3,0.00,
43,71,37,19,462.3,5.9,0.3,0.00,
44,55,43,44,383.3,9.2,0.4,0.17,
45,65,42,32,469.7,11.0,0.4,0.00,
46,53,33,24,448.2,11.3,0.4,0.00,
47,54,28,23,298.6,4.9,0.4,0.00,
48,60,33,27,359.6,7.5,0.3,0.00,
49,69,38,28,246.2,4.4,0.4,0.00,
50,74,41,23,321.7,6.9,0.4,0.00,
```

```
51,74,38,21,270.4,5.9,0.4,0.00,
52,74,39,17,496.6,6.3,0.4,0.00,
53,73,34,18,280.6,4.3,0.4,0.00,
54,72,45,25,192.6,16.1,0.4,0.00,
55,56,38,20,101.7,17.4,0.4,0.00,
56,58,37,20,281.6,6.1,0.4,0.00,
57,66,45,32,357.3,9.2,0.5,0.00,
58,65,47,44,444.0,1.8,0.4,0.07,
59,59,41,36,341.4,6.2,0.4,0.00,
60,57,37,30,410.7,5.5,0.4,0.01,
61,52,41,39,438.7,6.9,0.5,0.38,
62,56,41,29,536.5,15.1,0.4,0.00,
63,61,36,28,340.6,4.2,0.3,0.00,
64,67,38,29,544.7,8.2,0.3,0.00,
65,74,50,31,272.8,6.1,0.3,0.00,
66,75,46,33,360.5,8.1,0.3,0.00,
67,60,42,36,556.9,13.2,0.4,0.00,
68,67,37,34,531.3,4.3,0.4,0.00,
69,72,43,26,520.2,12.6,0.5,0.00,
70,59,44,25,448.7,13.0,0.4,0.00,
71,64,42,22,364.7,11.4,0.3,0.00,
72,67,35,24,202.4,6.4,0.3,0.00,
73,71,50,27,581.0,2.5,0.4,0.00,
74,63,38,1,511.3,9.3,0.4,0.00,
75,66,37,14,429.0,6.5,0.3,0.00,
76,66,41,28,134.9,9.7,0.3,0.00,
77,65,35,22,356.2,7.0,0.4,0.00,
78,65,39,28,600.8,5.2,0.4,0.00,
79,73,38,23,383.6,2.8,0.4,0.00,
80,83,43,21,250.9,6.0,0.4,0.00,
81,82,56,21,594.4,8.6,0.3,0.00,
82,80,48,20,616.2,8.8,0.3,0.00,
83,71,47,33,620.0,11.0,0.3,0.00,
84,73,43,39,490.4,4.4,0.3,0.00,
85,82,47,30,535.0,8.0,0.4,0.00,
86,79,47,31,330.3,13.8,0.4,0.00,
87,73,49,33,528.8,11.4,0.3,0.00,
88,78,47,31,638.5,14.6,0.3,0.00,
89,77,52,37,567.9,13.8,0.3,0.01,
90,77,48,21,501.2,5.4,0.2,0.00,
91,85,48,24,403.7,9.9,0.3,0.00,
92,81,60,27,443.4,14.8,0.2,0.00,
93,83,58,25,518.7,11.3,0.3,0.00,
94,83,50,21,616.0,5.7,0.3,0.00,
95,84,58,24,549.7,1.4,0.3,0.00,
96,70,51,32,353.7,17.1,0.4,0.00,
97,74,40,28,451.8,1.0,0.3,0.00,
98,82,56,21,291.3,15.4,0.3,0.00,
99,82,49,19,459.9,9.7,0.3,0.00,
100,79,44,25,561.0,19.8,0.2,0.00,
```

```
101,64,40,18,678.5,13.9,0.3,0.00,
102,72,37,16,539.9,9.4,0.3,0.00,
103,77,39,18,656.1,4.9,0.3,0.00,
104,84,51,22,436.6,1.4,0.3,0.00,
105,83,45,19,453.7,3.9,0.3,0.00,
106,88,46,19,578.7,4.6,0.4,0.00,
107,67,46,41,677.2,15.2,0.3,0.00,
108,78,46,44,439.9,5.5,0.3,0.00,
109,90,57,37,583.4,1.1,0.3,0.00,
110,86,66,28,705.2,17.8,0.2,0.00,
111,91,58,25,703.1,2.0,0.3,0.00,
112,68,45,22,609.7,2.7,0.3,0.00,
113,75,42,21,545.1,5.4,0.3,0.00,
114,79,52,22,718.6,12.0,0.3,0.00,
115,77,54,35,543.5,8.9,0.3,0.00,
116,82,51,36,723.5,5.7,0.3,0.00,
117,84,55,33,725.8,5.7,0.3,0.00,
118,86,56,41,726.0,6.7,0.3,0.00,
119,90,63,43,730.4,7.2,0.3,0.00,
120,89,53,36,502.9,3.4,0.4,0.00,
121,93,54,23,375.0,8.6,0.3,0.00,
122,88,67,23,509.6,12.7,0.4,0.00,
123,86,62,21,544.6,12.3,0.3,0.00,
124,75,57,21,657.9,15.3,0.3,0.00,
125,78,52,15,513.0,14.1,0.4,0.00,
126,84,51,22,743.4,7.3,0.4,0.00,
127,90,51,27,746.7,6.8,0.3,0.00,
128,92,61,47,655.1,1.8,0.2,0.00,
129,90,58,41,750.2,7.2,0.2,0.00,
130,92,61,39,751.9,5.8,0.3,0.00,
131,93,68,38,598.6,1.4,0.2,0.00,
132,84,64,47,755.2,9.4,0.3,0.00,
133,85,61,51,756.8,11.5,0.2,0.00,
134,87,59,50,485.9,8.7,0.3,0.00,
135,90,55,41,717.8,9.9,0.3,0.00,
136,94,69,28,693.8,11.6,0.3,0.00,
137,96,71,21,644.8,15.2,0.4,0.00,
138,94,68,30,589.8,12.1,0.3,0.00,
139,85,64,48,765.2,12.5,0.4,0.18,
140,86,61,43,627.4,14.6,0.3,0.00,
141,77,60,37,721.3,14.4,0.3,0.00,
142,85,56,31,768.8,6.1,0.4,0.00,
143,94,57,30,769.9,4.9,0.3,0.00,
144,97,55,27,709.6,8.1,0.4,0.00,
145,96,67,37,771.9,7.2,0.3,0.00,
146,100,65,34,579.5,9.5,0.3,0.00,
147,101,72,34,690.3,9.3,0.3,0.00,
148,98,70,30,595.1,12.1,0.3,0.00,
149,93,68,24,680.9,13.1,0.3,0.00,
150,97,64,30,776.3,6.3,0.3,0.00,
```

```
151,95,68,47,460.9,8.0,0.3,0.00,
152,101,69,38,777.8,1.0,0.2,0.00,
153,100,75,28,760.3,15.8,0.3,0.00,
154,96,76,25,704.9,19.0,0.4,0.00,
155,95,74,36,623.3,19.2,0.3,0.00,
156,94,73,22,562.5,1.9,0.4,0.00,
157,97,66,25,631.7,4.5,0.4,0.00,
158,98,64,38,454.8,11.1,0.3,0.11,
159,90,71,53,729.1,8.8,0.3,0.00,
160,93,68,53,636.4,6.9,0.3,0.00,
161,101,71,42,508.3,6.3,0.2,0.00,
162,102,71,35,518.5,1.9,0.2,0.00,
163,98,78,43,689.5,15.5,0.2,0.00,
164,95,75,36,783.0,23.5,0.2,0.00,
165,89,67,32,733.6,9.6,0.2,0.00,
166,96,62,28,783.2,7.2,0.3,0.00,
167,97,72,46,670.1,9.1,0.2,0.00,
168,94,70,50,725.4,7.9,0.2,0.00,
169,96,72,48,637.9,8.9,0.3,0.00,
170,99,72,47,653.3,9.1,0.3,0.02,
171,97,69,48,574.5,6.5,0.3,0.00,
172,95,69,47,783.2,8.7,0.3,0.00,
173,95,71,48,783.0,7.2,0.4,0.00,
174,100,73,47,738.6,8.3,0.3,0.00,
175,100,75,49,782.6,9.6,0.3,0.00,
176,97,67,56,782.3,9.1,0.3,0.16,
177,85,67,60,752.6,6.5,0.2,0.01,
178,88,65,57,781.7,5.6,0.3,0.00,
179,98,69,55,781.3,6.6,0.4,0.00,
180,98,69,54,459.7,6.2,0.4,0.00,
181,98,72,52,780.4,7.0,0.4,0.00,
182,100,74,50,779.9,9.8,0.4,0.00,
183,93,75,53,779.4,11.6,0.4,0.00,
184,92,70,52,653.5,11.4,0.4,0.00,
185,94,71,53,717.2,1.4,0.4,0.00,
186,94,72,57,314.9,7.3,0.4,0.01,
187,92,70,58,776.8,8.5,0.4,0.00,
188,95,70,58,597.2,9.2,0.4,0.06,
189,96,67,55,377.8,1.4,0.4,0.00,
190,95,68,57,684.1,7.6,0.4,0.22,
191,94,65,57,760.5,4.6,0.5,0.00,
192,99,73,54,772.7,7.9,0.5,0.00,
193,102,72,49,771.8,6.0,0.4,0.00,
194,102,73,44,770.8,8.2,0.4,0.00,
195,100,77,49,769.8,7.5,0.4,0.00,
196,102,75,51,663.4,9.6,0.5,0.00,
197,100,74,53,767.6,8.1,0.5,0.00,
198,95,71,56,765.0,8.8,0.5,0.00,
199,94,77,56,493.9,8.2,0.4,0.00,
200,92,70,60,636.3,8.9,0.5,0.00,
```

```
201,93,70,63,705.9,7.7,0.5,0.02,
202,95,69,59,553.5,5.6,0.5,0.00,
203,99,73,57,758.7,6.6,0.5,0.00,
204,101,75,55,662.9,9.8,0.5,0.00,
205,99,74,56,688.2,6.5,0.5,0.00,
206,96,71,56,755.7,6.2,0.5,0.00,
207,97,76,55,607.0,9.6,0.5,0.00,
208,93,72,60,276.5,5.9,0.6,0.04,
209,94,71,61,404.9,6.5,0.6,0.01,
210,96,73,59,749.3,8.7,0.5,0.00,
211,99,74,58,495.7,8.1,0.4,0.00,
212,94,76,58,745.9,9.7,0.5,0.00,
213,91,70,58,744.1,7.7,0.6,0.00,
214,97,74,55,720.5,7.2,0.6,0.00,
215,95,73,55,621.6,7.7,0.5,0.00,
216,95,74,48,551.6,7.4,0.5,0.00,
217,97,70,47,617.6,6.6,0.5,0.00,
218,97,72,45,513.5,7.2,0.4,0.00,
219,93,70,51,593.8,9.4,0.5,0.35,
220,93,68,54,607.3,6.3,0.5,0.04,
221,92,65,56,509.3,8.5,0.5,0.37,
222,85,64,61,481.4,4.8,0.5,0.03,
223,87,73,60,481.1,6.3,0.5,0.00,
224,94,69,62,518.5,8.0,0.5,0.28,
225,94,70,57,500.4,8.5,0.5,0.00,
226,93,72,57,506.2,7.5,0.5,0.00,
227,92,70,60,639.9,7.3,0.5,0.00,
228,90,68,61,526.3,8.4,0.5,0.60,
229,89,68,61,709.2,6.4,0.4,0.00,
230,82,71,62,706.6,3.9,0.5,0.00,
231,92,66,57,584.0,4.5,0.5,0.00,
232,93,70,55,533.0,6.0,0.4,0.00,
233,84,70,56,692.9,9.2,0.4,0.00,
234,95,66,53,610.9,5.3,0.5,0.00,
235,97,69,51,693.1,5.0,0.4,0.00,
236,99,68,50,619.7,5.3,0.5,0.00,
237,101,72,52,464.6,7.7,0.4,0.00,
238,93,71,57,684.5,8.4,0.4,0.00,
239,94,70,56,681.5,7.4,0.4,0.00,
240,92,69,54,526.0,8.1,0.4,0.00,
241,89,69,57,675.5,9.6,0.4,0.01,
242,91,66,55,672.4,7.3,0.4,0.00,
243,92,67,55,564.2,5.3,0.4,0.04,
244,92,63,55,436.5,4.8,0.4,0.00,
245,96,67,47,580.5,6.9,0.5,0.00,
246,97,67,45,525.9,4.0,0.5,0.00,
247,93,70,55,607.6,8.1,0.4,0.02,
248,91,64,54,612.4,4.6,0.5,0.00,
249,97,71,51,642.5,15.2,0.4,0.00,
250,94,77,44,617.0,18.4,0.4,0.00,
```

```
251,93,76,38,244.9,13.1,0.4,0.00,
252,83,59,46,516.4,1.0,0.4,0.00,
253,85,60,55,586.9,11.9,0.4,0.00,
254,87,66,57,535.2,7.8,0.4,0.00,
255,90,70,57,558.6,7.6,0.4,0.00,
256,82,67,63,528.1,14.2,0.4,0.08,
257,82,67,65,214.4,5.5,0.5,0.04,
258,88,67,63,618.0,7.3,0.4,0.00,
259,92,66,60,551.1,7.0,0.3,0.16,
260,90,64,59,299.3,4.7,0.3,0.00,
261,93,64,53,546.7,6.1,0.3,0.00,
262,94,65,48,562.2,5.6,0.3,0.00,
263,95,70,46,475.6,7.5,0.3,0.00,
264,94,65,48,595.5,7.2,0.4,0.00,
265,91,67,46,591.7,6.2,0.4,0.00,
266,85,64,47,438.1,1.4,0.4,0.00,
267,83,59,46,344.6,8.8,0.3,0.00,
268,82,55,42,580.2,5.8,0.3,0.00,
269,85,52,30,576.3,2.9,0.3,0.00,
270,88,52,25,572.4,3.1,0.3,0.00,
271,89,54,27,544.9,6.9,0.3,0.00,
272,88,57,32,564.6,6.9,0.3,0.00,
273,79,66,40,475.3,14.5,0.3,0.00,
274,69,63,41,258.3,9.3,0.3,0.00,
275,81,59,40,389.0,3.6,0.3,0.00,
276,86,59,44,313.4,7.4,0.3,0.00,
277,85,59,46,452.0,12.1,0.3,0.00,
278,80,55,47,428.5,1.9,0.4,0.00,
279,77,50,45,537.0,4.3,0.3,0.00,
280,83,59,48,455.5,5.3,0.3,0.00,
281,82,63,45,529.1,1.4,0.2,0.00,
282,79,59,43,494.2,12.1,0.2,0.00,
283,81,56,42,282.0,8.8,0.3,0.00,
284,77,48,36,222.5,6.2,0.2,0.00,
285,78,47,26,367.1,17.6,0.2,0.00,
286,75,39,23,448.9,5.1,0.3,0.00,
287,81,44,25,388.6,5.2,0.2,0.00,
288,84,50,30,417.5,1.1,0.3,0.00,
289,75,48,31,312.0,5.3,0.3,0.00,
290,84,47,34,340.2,5.5,0.2,0.00,
291,88,54,27,316.1,9.6,0.3,0.00,
292,84,52,22,335.5,5.5,0.3,0.00,
293,86,46,21,482.6,4.9,0.4,0.00,
294,86,51,26,478.9,5.9,0.4,0.00,
295,84,61,35,475.2,1.9,0.4,0.00,
296,81,53,36,405.5,13.4,0.3,0.00,
297,80,57,31,285.6,1.0,0.3,0.00,
298,81,48,25,425.2,4.5,0.3,0.00,
299,83,50,34,165.4,7.7,0.3,0.00,
300,81,54,49,259.7,7.3,0.3,0.00,
```

```
301,80,63,50,357.3,3.7,0.3,0.00,
302,85,55,46,214.5,4.1,0.3,0.00,
303,85,56,41,380.1,5.0,0.2,0.00,
304,85,60,34,284.4,1.8,0.2,0.00,
305,79,59,39,389.5,9.2,0.3,0.00,
306,79,50,37,377.1,5.4,0.2,0.00,
307,82,58,40,346.2,1.3,0.3,0.00,
308,77,60,48,241.9,11.5,0.2,0.00,
309,72,54,44,419.3,6.9,0.2,0.00,
310,66,49,46,423.6,4.4,0.3,0.02,
311,74,44,44,420.5,4.3,0.4,0.00,
312,69,46,36,417.5,11.2,0.3,0.01,
313,63,47,38,298.6,8.0,0.2,0.00,
314,58,47,46,411.6,6.3,0.3,0.13,
315,72,43,46,363.5,5.0,0.3,0.00,
316,77,44,44,406.0,5.2,0.3,0.00,
317,78,50,37,403.2,7.0,0.4,0.00,
318,67,52,37,400.5,8.0,0.3,0.00,
319,58,47,46,381.4,7.3,0.4,0.24,
320,59,46,47,395.3,5.6,0.4,0.07,
321,65,43,47,268.8,4.9,0.4,0.00,
322,71,43,45,390.4,3.8,0.4,0.00,
323,58,41,40,100.7,9.5,0.3,0.00,
324,58,36,38,358.0,3.7,0.3,0.00,
325,65,35,34,269.1,6.2,0.4,0.00,
326,72,46,28,381.3,12.6,0.4,0.00,
327,64,48,31,379.2,26.3,0.5,0.01,
328,63,39,18,302.6,6.9,0.3,0.00,
329,72,42,30,156.0,17.2,0.4,0.00,
330,59,42,18,217.4,9.6,0.3,0.00,
331,53,32,20,137.2,12.2,0.3,0.00,
332,36,24,20,344.8,1.8,0.3,0.12,
333,43,23,22,73.6,9.1,0.3,0.00,
334,56,27,25,200.7,3.7,0.3,0.00,
335,63,41,28,298.6,4.0,0.3,0.00,
336,65,31,27,290.9,3.4,0.3,0.00,
337,71,35,31,203.2,5.1,0.3,0.00,
338,72,37,29,360.8,11.5,0.3,0.00,
339,57,37,19,359.6,6.8,0.4,0.00,
340,57,31,16,253.1,3.9,0.2,0.00,
341,59,29,14,235.2,4.5,0.3,0.00,
342,52,36,13,356.4,1.3,0.4,0.00,
343,51,24,11,355.5,4.2,0.4,0.00,
344,56,25,21,354.7,6.4,0.4,0.00,
345,53,28,30,354.0,9.2,0.4,0.05,
346,46,34,27,353.3,12.9,0.4,0.00,
347,47,31,21,326.9,7.2,0.4,0.00,
348,48,22,21,263.9,3.6,0.4,0.00,
349,57,27,22,252.8,8.3,0.3,0.00,
350,50,32,29,351.5,7.0,0.4,0.00,
```

```
351,53,24,20,280.4,4.6,0.4,0.00,
352,56,23,21,277.9,4.0,0.5,0.00,
353,58,24,15,350.9,4.8,0.4,0.00,
354,63,30,17,350.9,7.7,0.4,0.00,
355,70,29,16,351.0,14.1,0.4,0.00,
356,54,32,14,320.2,6.8,0.4,0.00,
357,53,28,12,243.5,5.8,0.4,0.00,
358,44,29,23,351.7,9.9,0.4,0.00,
359,48,19,21,352.1,3.5,0.5,0.00,
360,51,19,17,352.6,3.6,0.6,0.00,
361,50,23,14,353.1,3.9,0.5,0.00,
362,60,21,16,353.8,4.2,0.5,0.00,
363,64,41,20,354.5,7.0,0.5,0.00,
364,65,36,23,355.3,9.3,0.4,0.00,
365,48,27,21,316.1,3.7,0.4,0.08,
```

```
1,43,32,28,326.7,5.6,0.5,0.00,
2,39,29,25,338.9,6.3,0.4,0.00,
3,50,23,26,359.7,3.3,0.5,0.00,
4,59,34,26,196.4,12.6,0.4,0.00,
5,52,30,20,279.8,3.5,0.5,0.00,
6,57,25,17,271.0,3.6,0.5,0.00,
7,63,28,19,343.4,3.0,0.4,0.00,
8,64,30,24,306.8,3.5,0.4,0.00,
9,68,33,21,365.6,5.6,0.4,0.00,
10,65,43,24,256.6,12.3,0.4,0.00,
11,53,37,29,263.8,5.9,0.4,0.00,
12,56,27,22,281.7,5.0,0.4,0.00,
13,65,35,18,128.6,8.4,0.4,0.00,
14,62,28,13,356.4,5.5,0.3,0.00,
15,67,34,14,341.5,7.3,0.4,0.00,
16,69,49,16,252.8,15.3,0.4,0.00,
17,67,44,28,174.3,8.0,0.5,0.00,
18,66,40,23,213.1,13.9,0.4,0.00,
19,52,34,3,265.8,8.6,0.4,0.00,
20,60,36,1,390.8,11.8,0.5,0.00,
21,57,23,3,368.3,3.2,0.4,0.00,
22,68,34,11,274.6,12.0,0.4,0.00,
23,65,33,14,332.9,11.2,0.4,0.00,
24,50,35,27,246.7,1.4,0.3,0.00,
25,53,24,16,269.0,2.9,0.3,0.00,
26,59,22,14,391.6,4.6,0.3,0.00,
27,69,32,20,409.5,5.8,0.4,0.00,
28,72,43,23,412.4,11.2,0.4,0.00,
29,56,46,37,415.3,1.2,0.4,0.00,
30,60,36,35,266.4,11.3,0.5,0.00,
31,46,30,15,209.3,12.7,0.5,0.00,
32,50,23,15,318.8,8.6,0.4,0.00,
33,52,36,25,363.9,6.0,0.5,0.14,
34,49,40,42,342.4,6.0,0.4,0.30,
35,45,41,40,273.8,6.4,0.4,0.47,
36,48,37,35,336.6,9.0,0.4,0.31,
37,52,31,24,427.9,3.4,0.5,0.00,
38,57,27,26,444.5,3.1,0.4,0.00,
39,64,30,25,369.0,7.6,0.5,0.00,
40,57,37,7,262.9,15.2,0.4,0.00,
41,51,31,3,251.1,8.9,0.4,0.00,
42,53,23,4,458.7,5.4,0.3,0.00,
43,58,24,10,462.3,2.3,0.3,0.00,
44,52,32,18,383.3,7.4,0.4,0.00,
45,67,30,22,469.7,6.3,0.4,0.00,
46,58,42,20,448.2,7.9,0.4,0.00,
47,63,38,25,298.6,3.6,0.4,0.00,
48,72,46,29,359.6,7.4,0.3,0.00,
49,67,48,29,246.2,2.6,0.4,0.00,
50,60,42,19,321.7,16.1,0.4,0.00,
```

```
51,67,34,21,270.4,1.1,0.4,0.00,
52,58,40,23,496.6,12.7,0.4,0.00,
53,62,28,17,280.6,6.0,0.4,0.00,
54,74,32,16,192.6,5.3,0.4,0.00,
55,76,53,13,101.7,13.6,0.4,0.00,
56,76,47,11,281.6,11.0,0.4,0.00,
57,48,26,7,357.3,1.7,0.5,0.00,
58,54,22,4,444.0,3.0,0.4,0.00,
59,70,37,11,341.4,9.4,0.4,0.00,
60,70,50,20,410.7,2.9,0.4,0.00,
61,54,28,9,438.7,11.5,0.5,0.00,
62,45,20,-1,536.5,5.6,0.4,0.00,
63,55,18,-6,340.6,3.7,0.3,0.00,
64,65,21,-3,544.7,6.1,0.3,0.00,
65,72,40,1,272.8,8.4,0.3,0.00,
66,76,46,8,360.5,11.5,0.3,0.00,
67,73,56,19,556.9,21.9,0.4,0.00,
68,67,40,14,531.3,1.7,0.4,0.00,
69,70,38,17,520.2,5.8,0.5,0.00,
70,72,45,13,448.7,1.7,0.4,0.00,
71,78,36,12,364.7,5.8,0.3,0.00,
72,83,54,17,202.4,16.3,0.3,0.00,
73,76,58,22,581.0,23.7,0.4,0.00,
74,63,47,13,511.3,9.2,0.4,0.00,
75,70,41,15,429.0,14.6,0.3,0.00,
76,65,39,10,134.9,9.9,0.3,0.00,
77,73,44,12,356.2,9.4,0.4,0.00,
78,63,43,16,600.8,6.6,0.4,0.00,
79,68,39,25,383.6,7.3,0.4,0.00,
80,76,36,24,250.9,9.5,0.4,0.00,
81,66,35,28,594.4,6.5,0.3,0.00,
82,83,46,26,616.2,15.7,0.3,0.00,
83,76,57,21,620.0,23.8,0.3,0.00,
84,68,48,14,490.4,7.6,0.3,0.00,
85,73,38,23,535.0,6.0,0.4,0.00,
86,81,42,24,330.3,9.9,0.4,0.00,
87,84,62,23,528.8,1.1,0.3,0.00,
88,76,53,27,638.5,12.1,0.3,0.00,
89,78,49,31,567.9,1.6,0.3,0.00,
90,82,48,37,501.2,4.3,0.2,0.00,
91,86,48,32,403.7,7.3,0.3,0.00,
92,86,55,26,443.4,1.4,0.2,0.00,
93,71,45,30,518.7,9.0,0.3,0.00,
94,83,49,30,616.0,5.8,0.3,0.00,
95,85,54,33,549.7,7.1,0.3,0.00,
96,84,52,32,353.7,11.3,0.4,0.00,
97,68,55,32,451.8,2.0,0.3,0.00,
98,79,57,31,291.3,13.7,0.3,0.00,
99,84,53,34,459.9,6.6,0.3,0.00,
100,89,55,35,561.0,7.1,0.2,0.00,
```

```
101,88,62,28,678.5,1.2,0.3,0.00,
102,89,52,28,539.9,6.9,0.3,0.00,
103,87,64,32,656.1,8.8,0.3,0.00,
104,89,57,36,436.6,6.9,0.3,0.00,
105,87,61,30,453.7,16.8,0.3,0.00,
106,82,62,30,578.7,17.3,0.4,0.00,
107,81,57,27,677.2,1.5,0.3,0.00,
108,83,60,19,439.9,14.3,0.3,0.00,
109,87,60,21,583.4,11.6,0.3,0.00,
110,83,60,16,705.2,15.8,0.2,0.00,
111,76,50,7,703.1,5.8,0.3,0.00,
112,87,44,14,609.7,5.5,0.3,0.00,
113,90,57,21,545.1,9.2,0.3,0.00,
114,91,63,23,718.6,5.0,0.3,0.00,
115,74,56,43,543.5,9.8,0.3,0.00,
116,84,50,39,723.5,15.7,0.3,0.00,
117,83,54,23,725.8,12.7,0.3,0.00,
118,87,54,22,726.0,6.2,0.3,0.00,
119,92,56,27,730.4,9.8,0.3,0.00,
120,92,65,32,502.9,15.0,0.4,0.00,
121,87,67,28,375.0,2.2,0.3,0.00,
122,84,61,19,509.6,17.9,0.4,0.00,
123,79,51,18,544.6,6.3,0.3,0.00,
124,86,49,22,657.9,4.3,0.3,0.00,
125,91,55,29,513.0,11.0,0.4,0.00,
126,91,65,19,743.4,11.2,0.4,0.00,
127,89,60,10,746.7,13.6,0.3,0.00,
128,87,66,11,655.1,13.8,0.2,0.00,
129,88,53,19,750.2,6.8,0.2,0.00,
130,94,59,28,751.9,9.7,0.3,0.00,
131,91,64,20,598.6,15.8,0.2,0.00,
132,87,65,16,755.2,12.7,0.3,0.00,
133,78,58,33,756.8,15.1,0.2,0.00,
134,88,58,42,485.9,9.7,0.3,0.00,
135,93,65,35,717.8,15.0,0.3,0.00,
136,88,71,29,693.8,15.3,0.3,0.00,
137,88,58,38,644.8,1.9,0.4,0.00,
138,86,57,48,589.8,12.9,0.3,0.00,
139,88,62,49,765.2,11.4,0.4,0.00,
140,89,56,44,627.4,6.9,0.3,0.00,
141,95,62,38,721.3,14.0,0.3,0.00,
142,90,58,26,768.8,12.6,0.4,0.00,
143,89,61,19,769.9,15.0,0.3,0.00,
144,88,64,20,709.6,9.2,0.4,0.00,
145,90,58,27,771.9,7.3,0.3,0.00,
146,89,67,41,579.5,9.1,0.3,0.00,
147,89,57,38,690.3,8.4,0.3,0.00,
148,93,59,28,595.1,7.0,0.3,0.00,
149,97,60,29,680.9,3.7,0.3,0.00,
150,102,60,32,776.3,6.4,0.3,0.00,
```

```
151,101,69,41,460.9,7.9,0.3,0.00,
152,100,72,42,777.8,6.1,0.2,0.00,
153,102,67,38,760.3,9.2,0.3,0.00,
154,98,75,31,704.9,14.7,0.4,0.00,
155,92,70,30,623.3,13.3,0.3,0.00,
156,90,65,46,562.5,8.3,0.4,0.00,
157,89,65,55,631.7,9.4,0.4,0.00,
158,90,64,53,454.8,6.2,0.3,0.00,
159,97,68,51,729.1,6.8,0.3,0.00,
160,102,73,40,636.4,1.4,0.3,0.00,
161,98,69,30,508.3,9.3,0.2,0.00,
162,100,71,34,518.5,5.5,0.2,0.00,
163,102,74,51,689.5,7.6,0.2,0.00,
164,104,69,42,783.0,8.6,0.2,0.00,
165,94,70,62,733.6,12.4,0.2,0.18,
166,102,66,52,783.2,1.7,0.3,0.00,
167,100,76,39,670.1,11.6,0.2,0.00,
168,103,73,33,725.4,9.1,0.2,0.00,
169,104,77,28,637.9,1.8,0.3,0.00,
170,103,77,35,653.3,1.7,0.3,0.00,
171,102,79,50,574.5,12.4,0.3,0.00,
172,96,74,58,783.2,13.2,0.3,0.00,
173,100,74,55,783.0,9.3,0.4,0.00,
174,101,74,55,738.6,7.9,0.3,0.00,
175,99,70,52,782.6,5.8,0.3,0.00,
176,103,74,43,782.3,4.7,0.3,0.00,
177,102,71,47,752.6,7.1,0.2,0.04,
178,101,71,51,781.7,7.0,0.3,0.00,
179,98,72,56,781.3,9.3,0.4,0.13,
180,95,66,56,459.7,4.6,0.4,0.00,
181,102,73,54,780.4,6.4,0.4,0.00,
182,102,77,54,779.9,6.2,0.4,0.00,
183,103,71,51,779.4,8.5,0.4,0.00,
184,103,75,52,653.5,7.1,0.4,0.00,
185,96,68,59,717.2,7.9,0.4,0.54,
186,96,64,52,314.9,6.1,0.4,0.00,
187,99,70,55,776.8,6.3,0.4,0.00,
188,84,72,61,597.2,8.2,0.4,0.00,
189,87,69,64,377.8,9.1,0.4,0.02,
190,93,72,58,684.1,7.1,0.4,0.00,
191,95,71,53,760.5,7.3,0.5,0.00,
192,94,71,54,772.7,8.1,0.5,0.00,
193,97,71,57,771.8,1.4,0.4,0.00,
194,95,70,58,770.8,6.4,0.4,0.00,
195,96,70,58,769.8,9.0,0.4,0.01,
196,93,71,58,663.4,6.3,0.5,0.01,
197,90,69,59,767.6,9.1,0.5,0.03,
198,90,68,65,765.0,6.9,0.5,0.01,
199,91,67,65,493.9,9.7,0.4,0.32,
200,86,67,67,636.3,6.8,0.5,0.10,
```

```
201,83,68,68,705.9,6.6,0.5,0.26,
202,88,68,67,553.5,5.7,0.5,0.04,
203,91,70,64,758.7,6.8,0.5,0.00,
204,90,70,61,662.9,8.7,0.5,0.00,
205,94,71,55,688.2,5.6,0.5,0.00,
206,97,74,55,755.7,6.9,0.5,0.00,
207,99,76,56,607.0,8.8,0.5,0.00,
208,96,74,58,276.5,12.6,0.6,0.00,
209,96,73,56,404.9,11.4,0.6,0.00,
210,97,74,54,749.3,11.6,0.5,0.00,
211,93,70,60,495.7,5.8,0.4,0.00,
212,95,71,57,745.9,7.9,0.5,0.00,
213,100,76,57,744.1,11.7,0.6,0.01,
214,88,64,63,720.5,9.0,0.6,0.54,
215,89,69,64,621.6,4.5,0.5,0.00,
216,92,71,61,551.6,5.0,0.5,0.02,
217,93,70,53,617.6,9.0,0.5,0.00,
218,93,69,54,513.5,6.8,0.4,0.00,
219,91,73,58,593.8,5.0,0.5,0.00,
220,94,72,59,607.3,5.9,0.5,0.00,
221,97,73,59,509.3,4.5,0.5,0.00,
222,94,74,61,481.4,8.4,0.5,0.00,
223,91,68,60,481.1,5.3,0.5,0.00,
224,100,72,58,518.5,8.1,0.5,0.00,
225,102,79,56,500.4,9.7,0.5,0.00,
226,99,71,56,506.2,7.5,0.5,0.00,
227,104,79,48,639.9,11.6,0.5,0.00,
228,95,75,51,526.3,1.2,0.5,0.00,
229,96,78,51,709.2,7.8,0.4,0.00,
230,96,75,58,706.6,1.4,0.5,0.00,
231,93,71,61,584.0,7.4,0.5,0.07,
232,95,75,59,533.0,12.5,0.4,0.00,
233,96,75,54,692.9,9.5,0.4,0.00,
234,96,69,56,610.9,6.0,0.5,0.00,
235,99,73,57,693.1,5.8,0.4,0.00,
236,101,72,49,619.7,5.2,0.5,0.00,
237,104,69,44,464.6,5.0,0.4,0.00,
238,103,71,48,684.5,5.7,0.4,0.00,
239,102,72,45,681.5,8.1,0.4,0.00,
240,101,75,48,526.0,7.9,0.4,0.00,
241,93,73,55,675.5,1.3,0.4,0.00,
242,98,73,53,672.4,7.1,0.4,0.00,
243,93,72,57,564.2,7.0,0.4,0.12,
244,91,65,51,436.5,5.0,0.4,0.00,
245,94,68,50,580.5,4.5,0.5,0.00,
246,94,70,51,525.9,7.0,0.5,0.00,
247,94,70,51,607.6,7.7,0.4,0.00,
248,95,70,54,612.4,5.1,0.5,0.00,
249,95,72,54,642.5,7.6,0.4,0.00,
250,93,71,53,617.0,6.6,0.4,0.00,
```

```
251,94,69,56,244.9,6.7,0.4,0.00,
252,92,73,62,516.4,9.1,0.4,0.00,
253,89,71,60,586.9,9.9,0.4,0.00,
254,88,69,61,535.2,11.5,0.4,0.27,
255,89,65,61,558.6,8.0,0.4,0.18,
256,88,64,57,528.1,6.8,0.4,0.01,
257,87,66,53,214.4,11.5,0.5,0.00,
258,81,64,54,618.0,1.5,0.4,0.00,
259,84,62,56,551.1,3.7,0.3,0.00,
260,93,67,55,299.3,1.2,0.3,0.00,
261,92,61,58,546.7,2.1,0.3,0.01,
262,76,60,46,562.2,6.3,0.3,0.01,
263,87,57,42,475.6,6.9,0.3,0.00,
264,91,56,38,595.5,6.9,0.4,0.00,
265,83,63,42,591.7,1.8,0.4,0.00,
266,86,58,44,438.1,7.6,0.4,0.00,
267,85,61,44,344.6,5.5,0.3,0.00,
268,86,56,43,580.2,4.0,0.3,0.00,
269,91,61,38,576.3,4.6,0.3,0.00,
270,94,62,38,572.4,7.4,0.3,0.00,
271,87,63,43,544.9,6.1,0.3,0.00,
272,84,68,50,564.6,9.2,0.3,0.00,
273,86,69,58,475.3,6.4,0.3,0.00,
274,87,71,50,258.3,1.6,0.3,0.00,
275,85,61,46,389.0,9.3,0.3,0.00,
276,80,62,40,313.4,12.3,0.3,0.00,
277,79,47,27,452.0,5.7,0.3,0.00,
278,88,53,38,428.5,6.0,0.4,0.00,
279,89,61,53,537.0,6.4,0.3,0.00,
280,73,59,56,455.5,9.8,0.3,0.06,
281,74,57,51,529.1,5.4,0.2,0.00,
282,82,51,48,494.2,4.4,0.2,0.00,
283,86,55,44,282.0,4.8,0.3,0.00,
284,88,55,43,222.5,6.4,0.2,0.00,
285,85,54,43,367.1,9.5,0.2,0.00,
286,62,47,45,448.9,9.7,0.3,0.14,
287,70,49,49,388.6,4.8,0.2,0.00,
288,77,50,52,417.5,5.5,0.3,0.00,
289,80,58,50,312.0,5.6,0.3,0.03,
290,78,58,49,340.2,6.9,0.2,0.05,
291,65,53,50,316.1,8.4,0.3,0.15,
292,69,49,46,335.5,5.7,0.3,0.00,
293,70,48,47,482.6,3.7,0.4,0.00,
294,69,54,53,478.9,5.0,0.4,0.20,
295,69,50,51,475.2,6.0,0.4,0.00,
296,75,53,53,405.5,6.3,0.3,0.01,
297,75,54,51,285.6,4.5,0.3,0.01,
298,73,47,49,425.2,4.3,0.3,0.00,
299,76,56,54,165.4,6.4,0.3,0.04,
300,66,53,53,259.7,5.3,0.3,0.09,
```

```
301,64,50,47,357.3,9.2,0.3,0.31,
302,68,49,40,214.5,9.2,0.3,0.00,
303,70,43,42,380.1,5.7,0.2,0.00,
304,65,45,47,284.4,4.6,0.2,0.00,
305,58,49,47,389.5,9.2,0.3,0.00,
306,66,48,47,377.1,4.2,0.2,0.00,
307,76,47,46,346.2,7.7,0.3,0.00,
308,56,45,40,241.9,6.4,0.2,0.00,
309,65,40,33,419.3,7.3,0.2,0.00,
310,67,37,23,423.6,4.8,0.3,0.00,
311,71,38,29,420.5,6.0,0.4,0.00,
312,75,50,33,417.5,1.4,0.3,0.00,
313,75,55,35,298.6,14.0,0.2,0.00,
314,71,54,41,411.6,21.4,0.3,0.00,
315,66,39,31,363.5,7.9,0.3,0.00,
316,60,41,30,406.0,8.2,0.3,0.00,
317,66,36,32,403.2,6.0,0.4,0.00,
318,70,45,27,400.5,8.1,0.3,0.00,
319,60,38,24,381.4,13.8,0.4,0.00,
320,57,33,27,395.3,4.3,0.4,0.00,
321,64,30,23,268.8,5.2,0.4,0.00,
322,68,40,16,390.4,8.9,0.4,0.00,
323,66,34,17,100.7,5.2,0.3,0.00,
324,67,38,17,358.0,6.5,0.3,0.00,
325,68,34,17,269.1,4.1,0.4,0.00,
326,70,39,21,381.3,5.3,0.4,0.00,
327,71,32,22,379.2,3.8,0.5,0.00,
328,69,44,19,302.6,8.9,0.3,0.00,
329,54,36,31,156.0,7.5,0.4,0.00,
330,47,38,28,217.4,11.3,0.3,0.00,
331,47,32,25,137.2,4.9,0.3,0.00,
332,53,30,30,344.8,5.7,0.3,0.00,
333,58,42,34,73.6,5.8,0.3,0.00,
334,65,38,36,200.7,5.0,0.3,0.00,
335,67,38,38,298.6,4.1,0.3,0.00,
336,66,45,44,290.9,6.9,0.3,0.38,
337,59,42,46,203.2,9.6,0.3,0.27,
338,53,39,38,360.8,5.8,0.3,0.00,
339,51,34,36,359.6,3.0,0.4,0.00,
340,52,32,37,253.1,3.8,0.2,0.00,
341,56,34,39,235.2,5.5,0.3,0.00,
342,58,41,40,356.4,1.8,0.4,0.26,
343,50,35,35,355.5,3.1,0.4,0.00,
344,52,32,35,354.7,2.4,0.4,0.00,
345,56,32,32,354.0,6.1,0.4,0.00,
346,57,34,25,353.3,5.8,0.4,0.00,
347,58,32,29,326.9,3.2,0.4,0.00,
348,60,31,32,263.9,3.6,0.4,0.00,
349,62,35,30,252.8,3.9,0.3,0.00,
350,66,35,26,351.5,8.7,0.4,0.00,
```

```
351,69,45,29,280.4,2.6,0.4,0.00,
352,49,39,32,277.9,17.3,0.5,0.12,
353,49,35,23,350.9,11.7,0.4,0.00,
354,51,25,22,350.9,3.6,0.4,0.00,
355,54,35,17,351.0,1.5,0.4,0.00,
356,49,32,22,320.2,8.6,0.4,0.19,
357,45,30,36,243.5,5.6,0.4,0.33,
358,43,29,29,351.7,3.9,0.4,0.10,
359,40,25,28,352.1,6.5,0.5,0.00,
360,46,25,26,352.6,3.5,0.6,0.00,
361,50,27,25,353.1,4.1,0.5,0.00,
362,55,25,26,353.8,3.7,0.5,0.00,
363,53,28,28,354.5,6.5,0.5,0.00,
364,54,35,27,355.3,13.6,0.4,0.00,
365,56,25,25,316.1,9.0,0.4,0.00,
```

```
1,56,36,21,326.7,11.5,0.5,0.00,
2,53,26,23,338.9,4.5,0.4,0.00,
3,58,26,23,359.7,4.4,0.5,0.00,
4,63,29,26,196.4,3.1,0.4,0.00,
5,65,28,27,279.8,4.9,0.5,0.00,
6,56,37,33,271.0,13.2,0.5,0.00,
7,59,42,36,343.4,9.2,0.4,0.00,
8,61,39,40,306.8,6.6,0.4,0.00,
9,64,44,36,365.6,9.2,0.4,0.00,
10,62,33,27,256.6,3.8,0.4,0.00,
11,64,38,34,263.8,4.7,0.4,0.00,
12,61,36,33,281.7,6.5,0.4,0.00,
13,61,33,27,128.6,3.8,0.4,0.00,
14,65,30,27,356.4,1.7,0.3,0.00,
15,71,33,24,341.5,7.8,0.4,0.00,
16,55,37,19,252.8,8.0,0.4,0.00,
17,56,26,17,174.3,3.5,0.5,0.00,
18,59,27,20,213.1,5.4,0.4,0.00,
19,67,28,23,265.8,5.0,0.4,0.00,
20,70,37,30,390.8,8.2,0.5,0.00,
21,65,40,34,368.3,1.1,0.4,0.00,
22,65,42,34,274.6,6.0,0.4,0.00,
23,60,34,29,332.9,3.4,0.4,0.00,
24,65,38,30,246.7,4.6,0.3,0.00,
25,68,36,30,269.0,4.8,0.3,0.00,
26,63,38,27,391.6,4.3,0.3,0.00,
27,65,30,24,409.5,4.7,0.4,0.00,
28,73,35,21,412.4,11.2,0.4,0.00,
29,67,36,21,415.3,4.6,0.4,0.00,
30,70,31,23,266.4,5.3,0.5,0.00,
31,67,37,25,209.3,7.1,0.5,0.00,
32,72,32,26,318.8,6.1,0.4,0.00,
33,76,48,34,363.9,18.4,0.5,0.00,
34,59,37,13,342.4,12.2,0.4,0.00,
35,64,32,15,273.8,4.2,0.4,0.00,
36,58,43,28,336.6,16.1,0.4,0.00,
37,56,37,18,427.9,9.6,0.5,0.00,
38,46,29,24,444.5,9.1,0.4,0.00,
39,44,32,35,369.0,5.6,0.5,0.20,
40,54,36,27,262.9,12.8,0.4,0.00,
41,57,28,24,251.1,5.7,0.4,0.00,
42,67,35,29,458.7,4.9,0.3,0.00,
43,66,44,30,462.3,7.2,0.3,0.00,
44,64,49,40,383.3,8.8,0.4,0.02,
45,63,47,42,469.7,15.9,0.4,0.00,
46,60,42,40,448.2,5.5,0.4,0.00,
47,60,37,35,298.6,4.0,0.4,0.00,
48,72,39,34,359.6,6.1,0.3,0.00,
49,74,52,33,246.2,15.9,0.4,0.00,
50,64,49,37,321.7,6.6,0.4,0.04,
```

```
51,56,39,43,270.4,8.9,0.4,0.99,
52,61,40,35,496.6,8.8,0.4,0.03,
53,66,36,26,280.6,17.1,0.4,0.00,
54,61,43,24,192.6,7.5,0.4,0.00,
55,60,34,31,101.7,7.8,0.4,0.01,
56,58,29,27,281.6,5.4,0.4,0.00,
57,57,41,35,357.3,13.4,0.5,0.08,
58,59,43,29,444.0,13.6,0.4,0.00,
59,61,42,30,341.4,8.9,0.4,0.00,
60,59,44,29,410.7,8.2,0.4,0.00,
61,61,36,28,438.7,6.9,0.5,0.04,
62,58,38,34,536.5,6.8,0.4,0.00,
63,67,45,27,340.6,19.6,0.3,0.00,
64,61,43,27,544.7,14.7,0.3,0.00,
65,63,40,23,272.8,1.2,0.3,0.00,
66,68,35,24,360.5,4.1,0.3,0.00,
67,72,39,25,556.9,6.1,0.4,0.00,
68,74,38,22,531.3,4.4,0.4,0.00,
69,77,42,21,520.2,5.8,0.5,0.00,
70,78,41,22,448.7,6.6,0.4,0.00,
71,79,50,24,364.7,9.3,0.3,0.00,
72,79,43,28,202.4,6.5,0.3,0.00,
73,80,55,37,581.0,8.8,0.4,0.00,
74,77,53,33,511.3,6.9,0.4,0.00,
75,75,55,34,429.0,14.9,0.3,0.00,
76,62,42,37,134.9,2.1,0.3,0.05,
77,54,38,32,356.2,21.7,0.4,0.00,
78,61,45,31,600.8,18.1,0.4,0.00,
79,64,43,35,383.6,4.8,0.4,0.00,
80,57,43,35,250.9,7.8,0.4,0.09,
81,69,37,31,594.4,5.5,0.3,0.00,
82,79,41,24,616.2,5.3,0.3,0.00,
83,78,48,21,620.0,13.5,0.3,0.00,
84,72,51,31,490.4,9.9,0.3,0.00,
85,78,41,32,535.0,8.1,0.4,0.00,
86,82,44,27,330.3,18.4,0.4,0.00,
87,49,40,22,528.8,16.4,0.3,0.00,
88,54,37,15,638.5,8.1,0.3,0.00,
89,64,31,19,567.9,4.8,0.3,0.00,
90,78,32,18,501.2,4.3,0.2,0.00,
91,85,44,24,403.7,9.2,0.3,0.00,
92,84,61,39,443.4,17.2,0.2,0.00,
93,76,58,33,518.7,23.9,0.3,0.00,
94,71,49,19,616.0,11.5,0.3,0.00,
95,77,38,16,549.7,14.8,0.3,0.00,
96,69,49,17,353.7,1.8,0.4,0.00,
97,72,44,16,451.8,8.8,0.3,0.00,
98,65,43,27,291.3,1.9,0.3,0.00,
99,71,38,19,459.9,6.8,0.3,0.00,
100,71,44,21,561.0,5.9,0.2,0.00,
```

```
101,83,52,26,678.5,9.9,0.3,0.00,
102,86,48,25,539.9,7.3,0.3,0.00,
103,88,58,31,656.1,1.8,0.3,0.00,
104,86,60,42,436.6,1.1,0.3,0.02,
105,77,55,37,453.7,23.3,0.3,0.00,
106,78,62,18,578.7,8.0,0.4,0.00,
107,87,57,26,677.2,13.0,0.3,0.00,
108,74,52,20,439.9,11.3,0.3,0.00,
109,70,52,23,583.4,14.7,0.3,0.00,
110,76,46,29,705.2,9.2,0.2,0.00,
111,81,53,37,703.1,1.6,0.3,0.00,
112,85,50,34,609.7,13.4,0.3,0.00,
113,74,52,24,545.1,22.5,0.3,0.00,
114,79,55,20,718.6,14.3,0.3,0.00,
115,83,58,23,543.5,11.9,0.3,0.00,
116,85,51,26,723.5,8.3,0.3,0.00,
117,86,53,27,725.8,7.3,0.3,0.00,
118,88,56,27,726.0,9.9,0.3,0.00,
119,87,52,28,730.4,14.0,0.3,0.00,
120,82,65,26,502.9,15.5,0.4,0.00,
121,84,54,24,375.0,1.4,0.3,0.00,
122,88,56,23,509.6,9.4,0.4,0.00,
123,90,64,25,544.6,16.6,0.3,0.00,
124,80,65,22,657.9,19.9,0.3,0.00,
125,82,62,25,513.0,13.5,0.4,0.00,
126,83,59,28,743.4,11.1,0.4,0.00,
127,90,58,27,746.7,16.5,0.3,0.00,
128,84,64,28,655.1,17.2,0.2,0.00,
129,89,59,26,750.2,19.4,0.2,0.00,
130,84,60,26,751.9,11.9,0.3,0.00,
131,85,53,24,598.6,6.3,0.2,0.00,
132,93,57,36,755.2,5.9,0.3,0.00,
133,98,56,33,756.8,8.1,0.2,0.00,
134,94,64,32,485.9,5.6,0.3,0.00,
135,96,66,27,717.8,17.3,0.3,0.00,
136,93,68,31,693.8,8.5,0.3,0.00,
137,99,62,35,644.8,4.6,0.4,0.00,
138,98,62,35,589.8,12.0,0.3,0.00,
139,95,68,36,765.2,8.4,0.4,0.00,
140,72,55,45,627.4,14.9,0.3,0.00,
141,83,53,46,721.3,4.9,0.3,0.00,
142,96,59,45,768.8,4.0,0.4,0.00,
143,99,69,48,769.9,7.0,0.3,0.00,
144,98,69,43,709.6,9.6,0.4,0.00,
145,92,65,38,771.9,9.3,0.3,0.00,
146,86,64,45,579.5,6.6,0.3,0.00,
147,87,62,52,690.3,9.8,0.3,0.00,
148,86,62,50,595.1,1.4,0.3,0.00,
149,91,64,45,680.9,4.6,0.3,0.00,
150,95,69,45,776.3,6.7,0.3,0.00,
```

```
151,98,73,39,460.9,7.8,0.3,0.00,
152,99,69,40,777.8,8.2,0.2,0.00,
153,99,73,43,760.3,7.2,0.3,0.00,
154,101,68,40,704.9,9.5,0.4,0.00,
155,99,70,40,623.3,8.0,0.3,0.00,
156,95,71,46,562.5,1.4,0.4,0.00,
157,87,63,46,631.7,1.9,0.4,0.00,
158,96,62,38,454.8,7.9,0.3,0.00,
159,95,65,49,729.1,1.2,0.3,0.00,
160,94,68,52,636.4,7.2,0.3,0.00,
161,94,61,41,508.3,13.1,0.2,0.00,
162,92,76,36,518.5,16.1,0.2,0.00,
163,93,67,31,689.5,14.1,0.2,0.00,
164,93,71,32,783.0,1.6,0.2,0.00,
165,95,64,44,733.6,5.6,0.2,0.00,
166,95,71,49,783.2,1.2,0.3,0.00,
167,94,67,52,670.1,13.6,0.2,0.06,
168,91,63,54,725.4,9.2,0.2,0.01,
169,90,64,53,637.9,6.4,0.3,0.00,
170,96,69,50,653.3,9.7,0.3,0.00,
171,97,71,46,574.5,11.7,0.3,0.00,
172,96,65,37,783.2,1.4,0.3,0.00,
173,99,69,35,783.0,8.9,0.4,0.00,
174,100,65,36,738.6,8.6,0.3,0.00,
175,99,67,34,782.6,8.7,0.3,0.00,
176,98,67,30,782.3,7.4,0.3,0.00,
177,95,67,50,752.6,12.7,0.2,0.00,
178,95,68,58,781.7,9.4,0.3,0.32,
179,93,64,55,781.3,6.9,0.4,0.10,
180,94,67,53,459.7,7.5,0.4,0.00,
181,92,67,53,780.4,9.4,0.4,0.00,
182,94,70,52,779.9,5.7,0.4,0.00,
183,99,73,50,779.4,5.5,0.4,0.00,
184,102,71,51,653.5,5.6,0.4,0.08,
185,99,67,51,717.2,5.1,0.4,0.00,
186,100,74,50,314.9,7.3,0.4,0.00,
187,99,72,54,776.8,7.1,0.4,0.00,
188,96,71,58,597.2,9.6,0.4,0.00,
189,95,70,60,377.8,8.4,0.4,0.00,
190,100,72,58,684.1,7.0,0.4,0.00,
191,101,76,57,760.5,9.3,0.5,0.00,
192,101,75,48,772.7,8.8,0.5,0.00,
193,100,75,44,771.8,5.1,0.4,0.00,
194,103,74,42,770.8,5.8,0.4,0.00,
195,106,76,42,769.8,8.8,0.4,0.00,
196,103,74,45,663.4,1.3,0.5,0.00,
197,97,72,48,767.6,14.2,0.5,0.00,
198,91,66,62,765.0,13.9,0.5,0.35,
199,92,67,62,493.9,5.0,0.4,0.00,
200,96,71,59,636.3,6.7,0.5,0.00,
```

```
201,99,75,52,705.9,6.2,0.5,0.00,
202,101,74,51,553.5,4.9,0.5,0.00,
203,102,81,50,758.7,9.3,0.5,0.00,
204,102,77,48,662.9,7.9,0.5,0.00,
205,97,73,54,688.2,9.4,0.5,0.00,
206,101,73,52,755.7,7.1,0.5,0.00,
207,95,71,58,607.0,7.0,0.5,0.08,
208,93,68,54,276.5,8.8,0.6,0.00,
209,91,67,54,404.9,5.5,0.6,0.01,
210,87,67,58,749.3,5.1,0.5,0.00,
211,93,68,57,495.7,6.2,0.4,0.00,
212,96,73,59,745.9,8.4,0.5,0.03,
213,96,73,58,744.1,7.3,0.6,0.00,
214,97,72,59,720.5,11.0,0.6,0.31,
215,100,78,56,621.6,10.4,0.5,0.00,
216,102,74,52,551.6,6.7,0.5,0.00,
217,103,74,49,617.6,7.9,0.5,0.00,
218,98,79,51,513.5,9.5,0.4,0.00,
219,99,79,48,593.8,7.6,0.5,0.00,
220,100,78,45,607.3,4.4,0.5,0.00,
221,106,74,45,509.3,6.6,0.5,0.00,
222,99,80,55,481.4,6.8,0.5,0.00,
223,99,79,52,481.1,8.9,0.5,0.00,
224,97,74,50,518.5,7.1,0.5,0.00,
225,85,68,52,500.4,8.8,0.5,0.02,
226,85,65,49,506.2,8.8,0.5,0.11,
227,86,64,53,639.9,8.9,0.5,0.00,
228,90,68,56,526.3,9.3,0.5,0.00,
229,94,70,55,709.2,8.1,0.4,0.00,
230,99,72,54,706.6,6.9,0.5,0.00,
231,98,74,53,584.0,7.6,0.5,0.00,
232,99,72,51,533.0,6.1,0.4,0.00,
233,98,75,52,692.9,7.8,0.4,0.06,
234,95,75,52,610.9,13.1,0.5,0.00,
235,91,71,53,693.1,10.9,0.4,0.00,
236,92,73,56,619.7,8.7,0.5,0.00,
237,91,72,56,464.6,7.4,0.4,0.00,
238,91,70,58,684.5,8.8,0.4,0.00,
239,93,70,58,681.5,9.2,0.4,0.16,
240,95,72,59,526.0,10.6,0.4,0.00,
241,95,71,57,675.5,10.9,0.4,0.00,
242,90,67,60,672.4,10.6,0.4,0.00,
243,86,64,56,564.2,7.7,0.4,0.00,
244,86,64,54,436.5,7.8,0.4,0.00,
245,88,67,50,580.5,6.9,0.5,0.00,
246,90,67,47,525.9,7.5,0.5,0.00,
247,89,67,50,607.6,1.2,0.4,0.00,
248,87,66,52,612.4,4.1,0.5,0.00,
249,94,69,56,642.5,7.3,0.4,0.04,
250,93,64,55,617.0,5.2,0.4,0.00,
```

```
251,93,66,53,244.9,8.2,0.4,0.00,
252,96,72,59,516.4,11.4,0.4,0.03,
253,91,68,56,586.9,15.0,0.4,0.00,
254,88,69,53,535.2,7.9,0.4,0.00,
255,88,63,43,558.6,6.8,0.4,0.00,
256,92,59,39,528.1,7.3,0.4,0.00,
257,84,64,52,214.4,1.9,0.5,0.00,
258,92,60,51,618.0,5.9,0.4,0.00,
259,93,67,46,551.1,7.1,0.3,0.00,
260,95,66,41,299.3,9.2,0.3,0.00,
261,93,64,40,546.7,7.1,0.3,0.00,
262,86,58,49,562.2,7.5,0.3,0.00,
263,89,63,52,475.6,6.5,0.3,0.00,
264,90,63,51,595.5,4.9,0.4,0.00,
265,89,66,48,591.7,8.1,0.4,0.00,
266,85,71,57,438.1,6.3,0.4,0.00,
267,88,64,56,344.6,8.7,0.3,0.01,
268,84,69,55,580.2,5.6,0.3,0.00,
269,91,60,50,576.3,4.0,0.3,0.00,
270,92,61,45,572.4,7.8,0.3,0.00,
271,89,65,53,544.9,8.5,0.3,0.00,
272,92,68,51,564.6,8.4,0.3,0.00,
273,93,64,46,475.3,6.0,0.3,0.00,
274,88,64,50,258.3,7.3,0.3,0.00,
275,88,61,41,389.0,7.3,0.3,0.00,
276,89,62,49,313.4,8.3,0.3,0.18,
277,81,59,56,452.0,5.3,0.3,0.01,
278,88,61,52,428.5,3.9,0.4,0.00,
279,89,58,47,537.0,5.8,0.3,0.00,
280,80,66,56,455.5,9.5,0.3,0.00,
281,76,64,61,529.1,3.7,0.2,0.08,
282,77,62,59,494.2,5.9,0.2,0.00,
283,78,65,60,282.0,6.5,0.3,0.00,
284,84,58,52,222.5,8.9,0.2,0.00,
285,74,59,51,367.1,6.6,0.2,0.04,
286,85,57,51,448.9,9.2,0.3,0.00,
287,76,58,30,388.6,9.3,0.2,0.00,
288,85,51,40,417.5,4.8,0.3,0.00,
289,88,58,42,312.0,5.2,0.3,0.00,
290,84,58,36,340.2,6.2,0.2,0.00,
291,85,53,39,316.1,4.3,0.3,0.00,
292,85,53,38,335.5,4.6,0.3,0.00,
293,88,52,37,482.6,3.7,0.4,0.00,
294,87,53,32,478.9,5.2,0.4,0.00,
295,87,52,26,475.2,6.3,0.4,0.00,
296,84,47,26,405.5,5.7,0.3,0.00,
297,87,52,23,285.6,6.0,0.3,0.00,
298,70,44,30,425.2,12.5,0.3,0.02,
299,56,42,32,165.4,8.5,0.3,0.00,
300,69,33,29,259.7,7.3,0.3,0.00,
```

```
301,77,46,27,357.3,6.5,0.3,0.00,
302,84,60,27,214.5,16.3,0.3,0.00,
303,77,61,32,380.1,15.9,0.2,0.00,
304,78,53,38,284.4,7.6,0.2,0.00,
305,84,51,41,389.5,5.1,0.3,0.00,
306,82,50,36,377.1,8.3,0.2,0.00,
307,79,57,36,346.2,16.3,0.3,0.00,
308,70,44,27,241.9,8.0,0.2,0.00,
309,73,41,17,419.3,4.3,0.2,0.00,
310,76,36,22,423.6,5.0,0.3,0.00,
311,70,43,41,420.5,4.7,0.4,0.00,
312,72,43,40,417.5,4.0,0.3,0.00,
313,70,46,45,298.6,4.3,0.2,0.00,
314,82,50,47,411.6,5.2,0.3,0.00,
315,79,56,43,363.5,7.0,0.3,0.00,
316,75,58,45,406.0,8.1,0.3,0.00,
317,59,45,39,403.2,11.1,0.4,0.13,
318,61,45,51,400.5,4.2,0.3,0.39,
319,67,47,47,381.4,6.3,0.4,0.00,
320,70,44,43,395.3,4.0,0.4,0.00,
321,64,52,32,268.8,14.8,0.4,0.00,
322,61,43,27,390.4,8.3,0.4,0.00,
323,64,38,26,100.7,3.0,0.3,0.00,
324,70,36,29,358.0,7.1,0.3,0.00,
325,74,47,25,269.1,1.6,0.4,0.00,
326,72,49,24,381.3,16.5,0.4,0.00,
327,53,30,4,379.2,12.0,0.5,0.00,
328,53,21,3,302.6,3.3,0.3,0.00,
329,66,34,19,156.0,7.6,0.4,0.00,
330,65,48,25,217.4,12.2,0.3,0.00,
331,54,32,9,137.2,11.8,0.3,0.00,
332,52,26,15,344.8,5.2,0.3,0.00,
333,58,29,15,73.6,5.9,0.3,0.00,
334,66,30,17,200.7,3.7,0.3,0.00,
335,70,38,22,298.6,6.9,0.3,0.00,
336,67,37,31,290.9,5.6,0.3,0.00,
337,65,39,23,203.2,6.9,0.3,0.00,
338,67,37,22,360.8,6.6,0.3,0.00,
339,52,36,27,359.6,9.0,0.4,0.00,
340,56,29,28,253.1,2.7,0.2,0.00,
341,70,32,33,235.2,6.9,0.3,0.00,
342,66,43,37,356.4,17.0,0.4,0.00,
343,54,32,16,355.5,9.3,0.4,0.00,
344,58,26,15,354.7,3.6,0.4,0.00,
345,63,29,21,354.0,7.6,0.4,0.00,
346,54,39,25,353.3,16.4,0.4,0.01,
347,55,28,22,326.9,6.4,0.4,0.00,
348,62,28,19,263.9,6.8,0.4,0.00,
349,57,36,14,252.8,22.5,0.3,0.00,
350,47,24,5,351.5,5.1,0.4,0.00,
```

```
351,52,20,3,280.4,3.9,0.4,0.00,
352,57,22,9,277.9,5.6,0.5,0.00,
353,58,27,11,350.9,5.1,0.4,0.00,
354,62,27,12,350.9,4.6,0.4,0.00,
355,68,29,14,351.0,6.9,0.4,0.00,
356,61,39,26,320.2,12.3,0.4,0.00,
357,55,27,23,243.5,4.6,0.4,0.00,
358,55,31,22,351.7,7.0,0.4,0.00,
359,63,43,28,352.1,11.0,0.5,0.00,
360,72,37,26,352.6,12.6,0.6,0.00,
361,48,38,15,353.1,15.2,0.5,0.00,
362,40,23,0,353.8,8.9,0.5,0.00,
363,46,13,-1,354.5,5.1,0.5,0.00,
364,53,19,-2,355.3,5.8,0.4,0.00,
365,55,31,3,316.1,7.9,0.4,0.00,
```

```
1,62,40,34,326.7,6.8,0.5,0.0,
2,66,31,34,338.9,4.7,0.4,0.0,
3,70,32,27,359.7,12.1,0.5,0.0,
4,55,34,21,196.4,9.4,0.4,0.0,
5,54,27,4,279.8,8.9,0.5,0.0,
6,53,28,15,271.0,6.7,0.5,0.0,
7,60,26,23,343.4,3.7,0.4,0.0,
8,60,36,25,306.8,7.5,0.4,0.0,
9,62,32,18,365.6,8.7,0.4,0.0,
10,63,33,15,256.6,7.9,0.4,0.0,
11,61,36,21,263.8,5.7,0.4,0.0,
12,67,38,34,281.7,4.0,0.4,0.0,
13,66,36,30,128.6,7.0,0.4,0.0,
14,51,45,37,356.4,1.2,0.3,0.2,
15,51,45,46,341.5,7.9,0.4,0.1,
16,56,45,42,252.8,7.9,0.4,0.0,
17,54,40,35,174.3,5.6,0.5,0.0,
18,55,40,34,213.1,6.4,0.4,0.0,
19,57,37,33,265.8,7.8,0.4,0.0,
20,59,36,32,390.8,6.2,0.5,0.0,
21,55,36,32,368.3,6.1,0.4,0.0,
22,57,38,33,274.6,9.0,0.4,0.0,
23,51,35,37,332.9,5.2,0.4,0.0,
24,55,37,34,246.7,11.4,0.3,0.0,
25,53,41,31,269.0,18.1,0.3,0.0,
26,46,32,11,391.6,9.8,0.3,0.0,
27,51,24,8,409.5,4.1,0.4,0.0,
28,56,25,15,412.4,4.8,0.4,0.0,
29,59,38,22,415.3,6.0,0.4,0.0,
30,61,27,21,266.4,6.2,0.5,0.0,
31,61,42,22,209.3,15.5,0.5,0.0,
32,53,35,19,318.8,15.6,0.4,0.0,
33,54,25,5,363.9,5.6,0.5,0.0,
34,59,30,16,342.4,8.2,0.4,0.0,
35,48,36,29,273.8,13.3,0.4,0.0,
36,50,33,24,336.6,13.6,0.4,0.0,
37,49,27,22,427.9,4.8,0.5,0.0,
38,53,24,18,444.5,5.3,0.4,0.0,
39,62,33,15,369.0,9.0,0.5,0.0,
40,59,34,8,262.9,7.9,0.4,0.0,
41,53,30,24,251.1,8.0,0.4,0.0,
42,58,27,25,458.7,6.4,0.3,0.0,
43,46,26,21,462.3,12.6,0.3,0.0,
44,37,24,21,383.3,8.4,0.4,0.0,
45,54,19,14,469.7,5.2,0.4,0.0,
46,63,28,11,448.2,5.8,0.4,0.0,
47,63,31,11,298.6,4.3,0.4,0.0,
48,70,30,9,359.6,4.7,0.3,0.0,
49,75,35,14,246.2,6.5,0.4,0.0,
50,67,49,19,321.7,18.7,0.4,0.0,
```

```
51,63,39,23,270.4,4.5,0.4,0.0,
52,63,45,28,496.6,6.1,0.4,0.0,
53,68,49,24,280.6,8.8,0.4,0.0,
54,56,43,35,192.6,9.6,0.4,0.0,
55,58,38,31,101.7,11.2,0.4,0.0,
56,60,31,25,281.6,5.7,0.4,0.0,
57,67,32,22,357.3,6.3,0.5,0.0,
58,72,36,21,444.0,9.4,0.4,0.0,
59,60,40,29,341.4,12.2,0.4,0.0,
60,53,34,19,410.7,15.8,0.4,0.0,
61,59,35,17,438.7,7.4,0.5,0.0,
62,71,33,21,536.5,9.4,0.4,0.0,
63,66,47,36,340.6,12.7,0.3,0.0,
64,53,41,34,544.7,19.4,0.3,0.0,
65,54,38,32,272.8,15.1,0.3,0.0,
66,65,36,30,360.5,7.3,0.3,0.0,
67,69,38,26,556.9,8.6,0.4,0.0,
68,72,40,22,531.3,4.7,0.4,0.0,
69,74,43,26,520.2,11.0,0.5,0.0,
70,79,44,31,448.7,5.3,0.4,0.0,
71,64,43,38,364.7,13.1,0.3,0.1,
72,49,44,44,202.4,6.5,0.3,0.6,
73,65,38,43,581.0,5.7,0.4,0.0,
74,70,44,44,511.3,5.7,0.4,0.0,
75,77,47,39,429.0,7.9,0.3,0.0,
76,78,47,23,134.9,7.8,0.3,0.0,
77,82,51,24,356.2,9.0,0.4,0.0,
78,82,49,24,600.8,5.3,0.4,0.0,
79,85,49,26,383.6,4.6,0.4,0.0,
80,88,51,27,250.9,9.7,0.4,0.0,
81,68,52,39,594.4,13.3,0.3,0.0,
82,66,52,47,616.2,9.3,0.3,0.0,
83,79,53,46,620.0,6.1,0.3,0.0,
84,85,57,39,490.4,8.1,0.3,0.0,
85,84,60,31,535.0,8.3,0.4,0.0,
86,85,54,26,330.3,12.6,0.4,0.0,
87,80,62,21,528.8,11.5,0.3,0.0,
88,74,53,14,638.5,11.3,0.3,0.0,
89,77,50,20,567.9,11.1,0.3,0.0,
90,78,49,28,501.2,9.2,0.2,0.0,
91,80,54,39,403.7,6.5,0.3,0.0,
92,80,60,40,443.4,9.6,0.2,0.0,
93,74,50,44,518.7,7.2,0.3,0.1,
94,73,49,44,616.0,9.5,0.3,0.1,
95,59,48,46,549.7,13.2,0.3,0.2,
96,53,46,45,353.7,9.1,0.4,0.2,
97,68,46,41,451.8,11.4,0.3,0.0,
98,73,51,41,291.3,6.9,0.3,0.0,
99,77,52,34,459.9,8.8,0.3,0.0,
100,76,51,34,561.0,11.1,0.2,0.0,
```

```
101,65,45,40,678.5,8.3,0.3,0.1,
102,46,39,38,539.9,9.4,0.3,0.5,
103,63,39,35,656.1,5.0,0.3,0.0,
104,72,45,36,436.6,5.7,0.3,0.0,
105,82,53,29,453.7,6.8,0.3,0.0,
106,82,56,29,578.7,8.4,0.4,0.0,
107,85,65,29,677.2,7.2,0.3,0.0,
108,84,58,41,439.9,11.6,0.3,0.0,
109,80,61,35,583.4,7.5,0.3,0.0,
110,83,50,28,705.2,12.0,0.2,0.0,
111,78,61,21,703.1,13.7,0.3,0.0,
112,81,58,18,609.7,13.8,0.3,0.0,
113,85,56,19,545.1,15.3,0.3,0.0,
114,76,54,25,718.6,8.1,0.3,0.0,
115,76,47,30,543.5,5.8,0.3,0.0,
116,81,48,28,723.5,6.9,0.3,0.0,
117,80,55,31,725.8,11.5,0.3,0.0,
118,78,57,37,726.0,1.2,0.3,0.0,
119,83,55,41,730.4,13.9,0.3,0.0,
120,81,61,34,502.9,17.9,0.4,0.0,
121,79,58,27,375.0,16.6,0.3,0.0,
122,72,51,32,509.6,9.6,0.4,0.0,
123,75,48,27,544.6,5.3,0.3,0.0,
124,83,48,24,657.9,4.5,0.3,0.0,
125,89,52,26,513.0,5.0,0.4,0.0,
126,92,61,29,743.4,6.2,0.4,0.0,
127,93,57,34,746.7,6.9,0.3,0.0,
128,92,62,37,655.1,6.4,0.2,0.0,
129,95,63,38,750.2,6.9,0.2,0.0,
130,92,74,40,751.9,11.2,0.3,0.0,
131,93,66,44,598.6,1.9,0.2,0.0,
132,90,66,40,755.2,16.2,0.3,0.0,
133,89,67,34,756.8,18.0,0.2,0.0,
134,84,66,29,485.9,12.5,0.3,0.0,
135,83,55,36,717.8,9.7,0.3,0.0,
136,89,61,49,693.8,1.4,0.3,0.0,
137,93,61,41,644.8,6.9,0.4,0.0,
138,95,63,21,589.8,9.1,0.3,0.0,
139,97,60,24,765.2,7.3,0.4,0.0,
140,100,71,37,627.4,9.8,0.3,0.0,
141,98,67,38,721.3,7.6,0.3,0.0,
142,94,65,36,768.8,12.2,0.4,0.0,
143,91,69,32,769.9,17.3,0.3,0.0,
144,92,68,27,709.6,11.8,0.4,0.0,
145,94,68,32,771.9,16.4,0.3,0.0,
146,92,71,32,579.5,1.2,0.3,0.0,
147,91,70,35,690.3,12.1,0.3,0.0,
148,78,55,48,595.1,9.5,0.3,0.5,
149,89,56,38,680.9,1.4,0.3,0.0,
150,88,68,30,776.3,19.4,0.3,0.0,
```

```
151,89,70,33,460.9,15.5,0.3,0.0,
152,92,65,27,777.8,8.1,0.2,0.0,
153,98,63,25,760.3,6.1,0.3,0.0,
154,102,66,32,704.9,5.7,0.4,0.0,
155,95,72,52,623.3,11.8,0.3,0.0,
156,96,67,50,562.5,6.1,0.4,0.0,
157,101,70,43,631.7,8.8,0.4,0.0,
158,101,72,40,454.8,8.5,0.3,0.0,
159,100,74,40,729.1,13.1,0.3,0.0,
160,97,74,44,636.4,13.6,0.3,0.0,
161,95,70,44,508.3,13.8,0.2,0.0,
162,93,72,36,518.5,15.2,0.2,0.0,
163,91,63,29,689.5,8.8,0.2,0.0,
164,95,61,32,783.0,8.5,0.2,0.0,
165,98,57,27,733.6,7.0,0.2,0.0,
166,102,65,25,783.2,7.6,0.3,0.0,
167,102,77,27,670.1,9.3,0.2,0.0,
168,98,66,32,725.4,9.0,0.2,0.0,
169,97,73,43,637.9,1.2,0.3,0.0,
170,100,71,46,653.3,7.2,0.3,0.0,
171,97,71,54,574.5,9.9,0.3,0.0,
172,97,65,52,783.2,6.3,0.3,0.0,
173,97,68,45,783.0,15.1,0.4,0.0,
174,83,69,52,738.6,1.8,0.3,0.0,
175,88,67,52,782.6,7.6,0.3,0.0,
176,93,68,50,782.3,7.4,0.3,0.0,
177,91,64,50,752.6,7.4,0.2,0.0,
178,93,69,48,781.7,9.2,0.3,0.0,
179,93,69,50,781.3,6.8,0.4,0.0,
180,84,62,57,459.7,9.9,0.4,0.3,
181,84,62,57,780.4,8.1,0.4,0.6,
182,92,66,49,779.9,7.7,0.4,0.0,
183,96,66,42,779.4,4.7,0.4,0.0,
184,99,66,46,653.5,6.0,0.4,0.0,
185,94,72,46,717.2,7.7,0.4,0.0,
186,97,72,41,314.9,9.4,0.4,0.0,
187,99,67,39,776.8,6.9,0.4,0.0,
188,101,73,41,597.2,6.7,0.4,0.0,
189,102,68,44,377.8,8.5,0.4,0.0,
190,101,74,44,684.1,1.9,0.4,0.0,
191,100,76,51,760.5,14.5,0.5,0.0,
192,96,73,56,772.7,9.0,0.5,0.0,
193,94,72,56,771.8,6.3,0.4,0.0,
194,96,73,53,770.8,8.7,0.4,0.0,
195,94,72,56,769.8,9.6,0.4,0.0,
196,96,73,57,663.4,8.0,0.5,0.0,
197,97,75,56,767.6,8.1,0.5,0.0,
198,99,71,49,765.0,6.9,0.5,0.0,
199,98,75,45,493.9,8.5,0.4,0.0,
200,100,73,46,636.3,5.3,0.5,0.0,
```

```
201,100,74,49,705.9,6.1,0.5,0.0,
202,103,79,51,553.5,8.9,0.5,0.0,
203,100,78,55,758.7,8.1,0.5,0.0,
204,95,74,55,662.9,9.3,0.5,0.0,
205,92,69,55,688.2,12.1,0.5,0.1,
206,83,67,61,755.7,12.6,0.5,0.0,
207,81,69,61,607.0,11.6,0.5,0.1,
208,73,63,61,276.5,8.3,0.6,0.1,
209,85,64,63,404.9,5.2,0.6,1.3,
210,91,63,58,749.3,8.6,0.5,0.1,
211,90,65,55,495.7,4.8,0.4,0.0,
212,94,69,54,745.9,5.2,0.5,0.0,
213,94,70,50,744.1,7.7,0.6,0.0,
214,92,72,59,720.5,8.1,0.6,0.2,
215,93,70,63,621.6,6.0,0.5,0.0,
216,94,71,61,551.6,5.8,0.5,0.0,
217,97,72,55,617.6,5.8,0.5,0.0,
218,95,74,56,513.5,9.0,0.4,0.0,
219,98,72,52,593.8,5.3,0.5,0.0,
220,99,76,51,607.3,9.3,0.5,0.1,
221,97,74,57,509.3,7.2,0.5,0.0,
222,93,72,55,481.4,8.7,0.5,0.0,
223,93,70,53,481.1,6.9,0.5,0.0,
224,96,71,54,518.5,7.0,0.5,0.1,
225,94,66,55,500.4,4.7,0.5,0.0,
226,90,60,56,506.2,9.6,0.5,1.4,
227,75,63,61,639.9,5.6,0.5,0.6,
228,78,66,59,526.3,7.7,0.5,0.0,
229,81,63,60,709.2,6.2,0.4,0.6,
230,80,63,59,706.6,4.2,0.5,0.0,
231,87,68,58,584.0,5.1,0.5,0.0,
232,91,66,49,533.0,9.9,0.4,0.0,
233,92,66,48,692.9,7.6,0.4,0.0,
234,92,68,52,610.9,6.0,0.5,0.0,
235,92,68,47,693.1,9.6,0.4,0.0,
236,94,67,43,619.7,9.1,0.5,0.0,
237,85,70,53,464.6,9.7,0.4,0.0,
238,91,63,48,684.5,6.8,0.4,0.0,
239,94,64,44,681.5,8.1,0.4,0.0,
240,96,65,42,526.0,6.3,0.4,0.0,
241,88,67,51,675.5,9.0,0.4,0.0,
242,90,66,57,672.4,6.8,0.4,0.0,
243,89,62,53,564.2,7.5,0.4,0.0,
244,85,62,54,436.5,6.8,0.4,0.0,
245,83,62,55,580.5,7.9,0.5,0.0,
246,85,61,54,525.9,5.0,0.5,0.0,
247,91,63,51,607.6,6.3,0.4,0.0,
248,85,67,56,612.4,8.8,0.5,0.0,
249,86,69,55,642.5,5.9,0.4,0.0,
250,89,66,41,617.0,11.7,0.4,0.0,
```

```
251,85,64,42,244.9,1.8,0.4,0.0,
252,85,62,39,516.4,8.1,0.4,0.0,
253,86,55,36,586.9,5.3,0.4,0.0,
254,87,56,37,535.2,4.1,0.4,0.0,
255,93,57,39,558.6,2.7,0.4,0.0,
256,93,61,44,528.1,5.1,0.4,0.0,
257,97,66,49,214.4,5.8,0.5,0.0,
258,94,71,49,618.0,12.9,0.4,0.0,
259,93,70,43,551.1,7.8,0.3,0.0,
260,96,62,40,299.3,3.3,0.3,0.0,
261,94,67,49,546.7,5.8,0.3,0.0,
262,90,69,52,562.2,6.1,0.3,0.0,
263,80,66,65,475.6,8.7,0.3,0.6,
264,82,63,56,595.5,8.1,0.4,0.0,
265,86,63,53,591.7,6.0,0.4,0.0,
266,83,61,45,438.1,6.5,0.4,0.0,
267,85,61,37,344.6,8.3,0.3,0.0,
268,88,61,51,580.2,7.8,0.3,0.2,
269,68,60,56,576.3,7.9,0.3,0.0,
270,70,59,55,572.4,7.0,0.3,0.1,
271,75,59,54,544.9,3.2,0.3,0.0,
272,72,59,54,564.6,6.0,0.3,0.0,
273,78,56,55,475.3,9.4,0.3,0.1,
274,77,57,55,258.3,5.1,0.3,0.0,
275,81,58,47,389.0,5.8,0.3,0.0,
276,73,60,54,313.4,11.1,0.3,0.0,
277,82,59,59,452.0,5.5,0.3,0.0,
278,85,62,58,428.5,7.5,0.4,0.0,
279,85,64,56,537.0,9.0,0.3,0.0,
280,85,59,53,455.5,5.4,0.3,0.0,
281,81,61,48,529.1,7.0,0.2,0.0,
282,83,57,40,494.2,9.1,0.2,0.0,
283,78,54,44,282.0,6.0,0.3,0.0,
284,79,52,45,222.5,5.7,0.2,0.0,
285,73,55,54,367.1,12.2,0.2,0.1,
286,74,53,53,448.9,4.6,0.3,0.0,
287,78,50,51,388.6,7.9,0.2,0.1,
288,66,49,44,417.5,4.3,0.3,0.0,
289,77,45,41,312.0,8.5,0.3,0.0,
290,84,55,34,340.2,9.4,0.2,0.0,
291,81,61,42,316.1,15.9,0.3,0.0,
292,76,61,37,335.5,11.2,0.3,0.0,
293,79,53,38,482.6,7.1,0.4,0.0,
294,82,56,38,478.9,7.0,0.4,0.0,
295,78,54,41,475.2,9.1,0.4,0.0,
296,71,59,45,405.5,1.8,0.3,0.0,
297,72,49,35,285.6,5.2,0.3,0.0,
298,78,48,46,425.2,7.1,0.3,0.0,
299,65,53,57,165.4,7.1,0.3,0.1,
300,74,51,53,259.7,3.5,0.3,0.0,
```

```
301,77,57,51,357.3,7.2,0.3,0.0,
302,78,52,43,214.5,12.1,0.3,0.0,
303,67,48,38,380.1,12.3,0.2,0.0,
304,69,44,35,284.4,4.1,0.2,0.0,
305,70,57,37,389.5,13.4,0.3,0.0,
306,59,39,35,377.1,14.0,0.2,0.1,
307,53,37,29,346.2,6.2,0.3,0.0,
308,60,33,28,241.9,4.6,0.2,0.0,
309,70,33,28,419.3,6.4,0.2,0.0,
310,70,39,30,423.6,6.2,0.3,0.0,
311,69,43,30,420.5,6.0,0.4,0.0,
312,72,47,32,417.5,5.5,0.3,0.0,
313,78,46,36,298.6,7.6,0.2,0.0,
314,75,51,38,411.6,8.4,0.3,0.0,
315,67,44,30,363.5,5.8,0.3,0.0,
316,61,43,35,406.0,6.9,0.3,0.0,
317,62,40,35,403.2,11.7,0.4,0.0,
318,51,39,40,400.5,9.9,0.3,0.4,
319,45,35,39,381.4,13.7,0.4,0.9,
320,49,42,44,395.3,8.7,0.4,0.5,
321,54,43,47,268.8,7.1,0.4,0.0,
322,61,39,45,390.4,5.9,0.4,0.0,
323,65,42,46,100.7,4.2,0.3,0.0,
324,64,42,43,358.0,5.5,0.3,0.0,
325,64,42,39,269.1,7.8,0.4,0.0,
326,61,42,41,381.3,4.6,0.4,0.0,
327,57,44,48,379.2,8.0,0.5,0.3,
328,48,42,38,302.6,16.8,0.3,0.0,
329,56,34,37,156.0,7.3,0.4,0.0,
330,59,34,37,217.4,5.8,0.3,0.0,
331,63,45,31,137.2,18.4,0.3,0.0,
332,62,37,32,344.8,8.3,0.3,0.0,
333,63,48,34,73.6,16.0,0.3,0.0,
334,52,32,16,200.7,13.1,0.3,0.0,
335,45,27,14,298.6,5.5,0.3,0.0,
336,51,22,17,290.9,4.6,0.3,0.0,
337,54,27,20,203.2,8.3,0.3,0.0,
338,55,31,23,360.8,5.7,0.3,0.0,
339,53,39,33,359.6,4.6,0.4,0.2,
340,54,42,37,253.1,7.8,0.2,0.1,
341,50,38,35,235.2,15.3,0.3,0.1,
342,53,38,33,356.4,6.8,0.4,0.0,
343,58,40,33,355.5,14.8,0.4,0.0,
344,64,43,35,354.7,9.2,0.4,0.0,
345,64,40,33,354.0,7.0,0.4,0.0,
346,64,34,34,353.3,3.6,0.4,0.0,
347,67,35,35,326.9,3.6,0.4,0.0,
348,52,38,25,263.9,1.6,0.4,0.0,
349,50,32,20,252.8,7.0,0.3,0.0,
350,54,27,24,351.5,4.0,0.4,0.0,
```

```
351,54,35,27,280.4,12.4,0.4,0.0,
352,51,31,26,277.9,4.9,0.5,0.0,
353,55,27,22,350.9,4.2,0.4,0.0,
354,57,27,19,350.9,3.8,0.4,0.0,
355,59,28,26,351.0,8.1,0.4,0.0,
356,61,39,32,320.2,1.6,0.4,0.0,
357,51,30,30,243.5,11.8,0.4,0.0,
358,33,25,24,351.7,9.2,0.4,0.0,
359,32,16,15,352.1,4.4,0.5,0.0,
360,45,19,18,352.6,3.3,0.6,0.0,
361,52,22,24,353.1,5.5,0.5,0.0,
362,56,32,28,353.8,6.4,0.5,0.0,
363,59,34,31,354.5,4.0,0.5,0.0,
364,59,43,36,355.3,6.3,0.4,0.0,
365,67,45,44,316.1,9.0,0.4,0.0,
366,65,35,39,300.0,3.0,0.4,0.0,
```

```
1,64,38,38,326.7,4.8,0.5,0.00,
2,56,43,43,338.9,4.9,0.4,0.04,
3,55,40,46,359.7,5.9,0.5,0.05,
4,63,44,46,196.4,1.6,0.4,0.16,
5,51,38,26,279.8,1.8,0.5,0.00,
6,52,28,30,271.0,6.3,0.5,0.00,
7,59,34,24,343.4,4.4,0.4,0.00,
8,67,33,30,306.8,4.2,0.4,0.00,
9,67,32,32,365.6,2.8,0.4,0.00,
10,71,42,30,256.6,5.3,0.4,0.00,
11,74,44,27,263.8,14.4,0.4,0.00,
12,62,40,25,281.7,23.6,0.4,0.00,
13,53,29,20,128.6,4.5,0.4,0.00,
14,54,30,19,356.4,3.0,0.3,0.00,
15,60,33,20,341.5,6.7,0.4,0.00,
16,63,30,24,252.8,4.7,0.4,0.00,
17,63,32,27,174.3,6.3,0.5,0.00,
18,61,33,31,213.1,2.9,0.4,0.00,
19,65,35,30,265.8,5.8,0.4,0.00,
20,63,34,29,390.8,1.5,0.5,0.00,
21,63,44,44,368.3,5.9,0.4,0.07,
22,60,44,35,274.6,11.8,0.4,0.00,
23,51,38,20,332.9,4.2,0.4,0.00,
24,62,41,40,246.7,4.0,0.3,0.00,
25,67,43,35,269.0,8.2,0.3,0.00,
26,51,42,42,391.6,4.6,0.3,0.22,
27,58,47,45,409.5,7.0,0.4,0.12,
28,59,40,34,412.4,8.9,0.4,0.00,
29,63,33,33,415.3,6.0,0.4,0.00,
30,54,38,26,266.4,1.4,0.5,0.00,
31,52,31,28,209.3,9.7,0.5,0.00,
32,44,34,31,318.8,5.5,0.4,0.00,
33,46,30,25,363.9,4.6,0.5,0.00,
34,52,26,23,342.4,8.6,0.4,0.00,
35,53,35,27,273.8,8.1,0.4,0.01,
36,45,39,39,336.6,8.7,0.4,0.97,
37,53,39,39,427.9,11.2,0.5,0.09,
38,59,37,36,444.5,6.3,0.4,0.00,
39,61,36,34,369.0,6.4,0.5,0.00,
40,58,41,31,262.9,9.0,0.4,0.00,
41,53,43,39,251.1,9.9,0.4,0.06,
42,55,44,47,458.7,7.3,0.3,0.20,
43,63,46,45,462.3,12.0,0.3,0.18,
44,62,46,39,383.3,13.5,0.4,0.00,
45,66,40,40,469.7,9.6,0.4,0.00,
46,71,43,39,448.2,5.6,0.4,0.00,
47,69,48,41,298.6,4.3,0.4,0.00,
48,59,48,41,359.6,8.2,0.3,0.00,
49,62,46,44,246.2,3.3,0.4,0.00,
50,72,47,43,321.7,11.2,0.4,0.02,
```

```
51,70,47,38,270.4,1.5,0.4,0.00,
52,67,41,36,496.6,4.6,0.4,0.00,
53,69,49,40,280.6,6.7,0.4,0.02,
54,66,45,45,192.6,7.0,0.4,0.09,
55,52,40,39,101.7,1.3,0.4,0.28,
56,48,40,37,281.6,8.2,0.4,0.00,
57,57,40,38,357.3,6.6,0.5,0.00,
58,57,43,34,444.0,1.1,0.4,0.00,
59,62,33,31,341.4,6.0,0.4,0.00,
60,65,40,29,410.7,9.8,0.4,0.00,
61,66,40,31,438.7,4.4,0.5,0.00,
62,67,45,31,536.5,1.5,0.4,0.00,
63,65,42,31,340.6,5.0,0.3,0.00,
64,67,48,38,544.7,7.4,0.3,0.05,
65,64,45,45,272.8,6.8,0.3,0.01,
66,65,39,34,360.5,5.5,0.3,0.00,
67,71,39,33,556.9,7.9,0.4,0.00,
68,66,44,31,531.3,5.2,0.4,0.00,
69,75,41,31,520.2,4.0,0.5,0.00,
70,70,48,29,448.7,6.6,0.4,0.00,
71,79,44,28,364.7,15.9,0.3,0.00,
72,76,58,31,202.4,2.6,0.3,0.00,
73,73,48,33,581.0,12.8,0.4,0.00,
74,55,34,29,511.3,16.1,0.4,0.02,
75,55,29,14,429.0,4.8,0.3,0.00,
76,67,36,13,134.9,12.7,0.3,0.00,
77,64,47,22,356.2,11.5,0.4,0.00,
78,67,50,33,600.8,14.1,0.4,0.00,
79,71,47,35,383.6,15.7,0.4,0.00,
80,66,48,26,250.9,16.5,0.4,0.00,
81,68,39,22,594.4,6.6,0.3,0.00,
82,77,41,25,616.2,17.0,0.3,0.00,
83,69,50,29,620.0,15.5,0.3,0.00,
84,67,42,28,490.4,12.0,0.3,0.00,
85,60,41,27,535.0,16.7,0.4,0.00,
86,66,33,25,330.3,6.1,0.4,0.00,
87,75,39,24,528.8,9.3,0.3,0.00,
88,68,56,27,638.5,22.6,0.3,0.00,
89,69,43,22,567.9,17.4,0.3,0.00,
90,61,42,16,501.2,13.4,0.2,0.00,
91,62,35,20,403.7,5.9,0.3,0.00,
92,71,33,21,443.4,4.5,0.2,0.00,
93,82,42,27,518.7,8.7,0.3,0.00,
94,82,62,25,616.0,23.5,0.3,0.00,
95,75,51,17,549.7,17.7,0.3,0.00,
96,74,47,21,353.7,7.5,0.4,0.00,
97,78,49,21,451.8,7.1,0.3,0.00,
98,87,58,23,291.3,14.1,0.3,0.00,
99,80,54,26,459.9,22.2,0.3,0.00,
100,66,46,20,561.0,17.9,0.2,0.00,
```

```
101,71,39,19,678.5,11.7,0.3,0.00,
102,76,41,18,539.9,5.6,0.3,0.00,
103,81,48,25,656.1,7.6,0.3,0.00,
104,83,54,34,436.6,7.0,0.3,0.00,
105,85,52,40,453.7,9.0,0.3,0.00,
106,79,58,46,578.7,13.6,0.4,0.00,
107,84,53,45,677.2,6.9,0.3,0.00,
108,86,58,32,439.9,13.1,0.3,0.00,
109,87,59,25,583.4,15.9,0.3,0.00,
110,84,55,22,705.2,11.8,0.2,0.00,
111,82,53,21,703.1,7.4,0.3,0.00,
112,86,51,25,609.7,1.4,0.3,0.00,
113,77,59,34,545.1,12.3,0.3,0.00,
114,77,54,38,718.6,16.4,0.3,0.14,
115,72,54,31,543.5,14.3,0.3,0.00,
116,76,48,29,723.5,9.2,0.3,0.00,
117,82,50,26,725.8,15.0,0.3,0.00,
118,85,62,26,726.0,19.5,0.3,0.00,
119,78,53,28,730.4,16.1,0.3,0.00,
120,76,42,29,502.9,5.3,0.4,0.00,
121,84,52,28,375.0,7.6,0.3,0.00,
122,73,49,38,509.6,11.5,0.4,0.00,
123,75,48,41,544.6,8.1,0.3,0.00,
124,79,47,41,657.9,5.6,0.3,0.00,
125,87,58,48,513.0,9.7,0.4,0.00,
126,87,55,40,743.4,1.9,0.4,0.00,
127,79,63,29,746.7,12.2,0.3,0.00,
128,80,53,27,655.1,1.2,0.2,0.00,
129,86,58,23,750.2,8.8,0.2,0.00,
130,90,53,23,751.9,11.0,0.3,0.00,
131,85,60,29,598.6,1.3,0.2,0.00,
132,85,52,24,755.2,6.1,0.3,0.00,
133,88,51,21,756.8,5.8,0.2,0.00,
134,88,51,41,485.9,1.2,0.3,0.00,
135,82,58,51,717.8,12.6,0.3,0.17,
136,88,52,47,693.8,5.9,0.3,0.00,
137,89,66,33,644.8,17.3,0.4,0.00,
138,88,69,39,589.8,11.9,0.3,0.00,
139,96,61,41,765.2,5.3,0.4,0.00,
140,100,65,44,627.4,5.6,0.3,0.00,
141,101,71,46,721.3,4.3,0.3,0.00,
142,105,70,48,768.8,8.0,0.4,0.00,
143,105,70,43,769.9,6.7,0.3,0.00,
144,101,79,38,709.6,1.8,0.4,0.00,
145,99,76,41,771.9,7.9,0.3,0.00,
146,86,61,56,579.5,12.7,0.3,0.02,
147,72,61,60,690.3,6.4,0.3,0.61,
148,75,60,58,595.1,6.9,0.3,0.10,
149,87,60,52,680.9,8.5,0.3,0.03,
150,90,67,48,776.3,12.8,0.3,0.00,
```

```
151,90,71,35,460.9,13.9,0.3,0.00,
152,93,65,36,777.8,9.5,0.2,0.00,
153,93,67,35,760.3,12.9,0.3,0.00,
154,89,69,35,704.9,17.2,0.4,0.00,
155,89,70,36,623.3,1.6,0.3,0.00,
156,93,63,36,562.5,7.0,0.4,0.00,
157,95,63,40,631.7,9.3,0.4,0.00,
158,94,75,36,454.8,13.0,0.3,0.00,
159,95,61,35,729.1,9.1,0.3,0.00,
160,95,66,31,636.4,12.4,0.3,0.00,
161,92,68,32,508.3,12.5,0.2,0.00,
162,93,67,38,518.5,11.5,0.2,0.00,
163,90,72,43,689.5,13.3,0.2,0.00,
164,96,65,39,783.0,4.9,0.2,0.00,
165,101,64,42,733.6,1.3,0.2,0.00,
166,100,70,50,783.2,7.5,0.3,0.00,
167,103,74,43,670.1,8.1,0.2,0.00,
168,101,73,29,725.4,11.8,0.2,0.00,
169,100,71,25,637.9,8.4,0.3,0.00,
170,102,66,31,653.3,5.7,0.3,0.00,
171,102,73,45,574.5,7.7,0.3,0.00,
172,95,73,48,783.2,11.4,0.3,0.00,
173,95,71,43,783.0,7.3,0.4,0.00,
174,99,71,41,738.6,4.9,0.3,0.00,
175,101,69,38,782.6,5.9,0.3,0.00,
176,100,74,47,782.3,7.1,0.3,0.00,
177,98,78,50,752.6,9.1,0.2,0.00,
178,101,74,51,781.7,6.4,0.3,0.00,
179,104,77,49,781.3,7.8,0.4,0.00,
180,105,79,47,459.7,5.8,0.4,0.00,
181,107,79,46,780.4,7.5,0.4,0.00,
182,107,77,44,779.9,7.1,0.4,0.00,
183,106,76,45,779.4,1.8,0.4,0.00,
184,105,72,35,653.5,11.5,0.4,0.00,
185,103,79,29,717.2,6.3,0.4,0.00,
186,103,71,47,314.9,8.1,0.4,0.00,
187,103,77,47,776.8,8.6,0.4,0.00,
188,105,71,39,597.2,6.5,0.4,0.00,
189,106,76,40,377.8,6.0,0.4,0.00,
190,97,75,49,684.1,7.8,0.4,0.00,
191,102,72,50,760.5,7.7,0.5,0.00,
192,100,68,50,772.7,7.0,0.5,0.00,
193,98,75,52,771.8,8.4,0.4,0.11,
194,98,69,53,770.8,6.9,0.4,0.00,
195,99,73,50,769.8,5.1,0.4,0.00,
196,101,73,51,663.4,6.9,0.5,0.00,
197,97,74,54,767.6,6.3,0.5,0.00,
198,100,75,52,765.0,5.5,0.5,0.00,
199,101,74,52,493.9,7.1,0.4,0.01,
200,101,72,55,636.3,8.5,0.5,0.00,
```

```
201,101,78,57,705.9,1.3,0.5,0.00,
202,94,75,58,553.5,11.6,0.5,0.00,
203,95,75,57,758.7,1.9,0.5,0.00,
204,96,77,54,662.9,7.0,0.5,0.00,
205,100,72,51,688.2,5.0,0.5,0.00,
206,102,73,57,755.7,9.0,0.5,0.00,
207,100,69,62,607.0,8.2,0.5,0.26,
208,81,66,62,276.5,11.6,0.6,0.00,
209,83,62,60,404.9,9.1,0.6,0.00,
210,89,69,62,749.3,7.1,0.5,0.00,
211,89,71,66,495.7,4.4,0.4,0.28,
212,93,69,58,745.9,9.0,0.5,0.00,
213,93,71,54,744.1,8.6,0.6,0.00,
214,93,72,52,720.5,8.5,0.6,0.00,
215,94,71,51,621.6,6.7,0.5,0.00,
216,93,72,58,551.6,1.5,0.5,0.00,
217,86,71,59,617.6,11.5,0.5,0.00,
218,90,67,59,513.5,8.4,0.4,0.00,
219,92,69,61,593.8,5.8,0.5,0.00,
220,94,69,59,607.3,5.2,0.5,0.00,
221,95,70,62,509.3,5.8,0.5,0.07,
222,96,75,59,481.4,6.6,0.5,0.00,
223,98,66,61,481.1,12.1,0.5,0.63,
224,79,64,65,518.5,6.2,0.5,2.26,
225,87,69,63,500.4,9.0,0.5,0.00,
226,79,63,64,506.2,7.5,0.5,0.46,
227,84,66,63,639.9,5.6,0.5,0.00,
228,90,69,62,526.3,4.7,0.5,0.00,
229,90,72,63,709.2,7.9,0.4,0.09,
230,91,70,63,706.6,7.2,0.5,0.11,
231,84,66,64,584.0,6.9,0.5,0.64,
232,83,67,64,533.0,5.8,0.4,0.00,
233,89,68,62,692.9,7.3,0.4,0.00,
234,85,72,63,610.9,5.0,0.5,0.00,
235,89,70,61,693.1,7.8,0.4,0.07,
236,89,67,60,619.7,5.3,0.5,0.00,
237,95,73,63,464.6,3.9,0.4,0.00,
238,98,72,62,684.5,4.7,0.4,0.00,
239,97,73,62,681.5,6.5,0.4,0.00,
240,97,70,58,526.0,8.5,0.4,0.02,
241,89,66,54,675.5,6.0,0.4,0.00,
242,96,65,51,672.4,6.2,0.4,0.00,
243,99,69,49,564.2,6.2,0.4,0.00,
244,96,66,56,436.5,9.3,0.4,0.03,
245,90,67,52,580.5,12.0,0.5,0.00,
246,89,69,54,525.9,6.4,0.5,0.00,
247,86,70,66,607.6,6.4,0.4,0.07,
248,85,68,66,612.4,5.5,0.5,1.10,
249,86,67,66,642.5,6.1,0.4,1.25,
250,85,68,60,617.0,9.3,0.4,0.06,
```

```
251,85,68,52,244.9,5.6,0.4,0.00,
252,87,62,51,516.4,4.3,0.4,0.00,
253,87,67,60,586.9,8.5,0.4,0.24,
254,88,65,62,535.2,5.3,0.4,0.00,
255,90,68,58,558.6,7.2,0.4,0.00,
256,89,67,51,528.1,8.7,0.4,0.00,
257,90,63,42,214.4,11.6,0.5,0.00,
258,87,56,36,618.0,5.3,0.4,0.00,
259,93,57,49,551.1,4.8,0.3,0.00,
260,95,67,57,299.3,8.1,0.3,0.02,
261,94,64,57,546.7,3.2,0.3,0.00,
262,96,70,57,562.2,6.8,0.3,0.00,
263,92,66,54,475.6,9.1,0.3,0.00,
264,92,68,54,595.5,3.1,0.4,0.00,
265,95,67,50,591.7,4.0,0.4,0.00,
266,94,65,50,438.1,6.1,0.4,0.00,
267,95,68,47,344.6,5.7,0.3,0.00,
268,93,64,45,580.2,6.8,0.3,0.00,
269,97,61,45,576.3,6.8,0.3,0.00,
270,95,71,49,572.4,6.5,0.3,0.00,
271,95,65,45,544.9,6.1,0.3,0.00,
272,83,61,48,564.6,1.1,0.3,0.00,
273,89,61,45,475.3,7.9,0.3,0.00,
274,91,55,41,258.3,6.1,0.3,0.00,
275,83,68,51,389.0,7.9,0.3,0.01,
276,91,65,57,313.4,8.2,0.3,0.14,
277,88,64,59,452.0,8.0,0.3,0.00,
278,88,66,55,428.5,7.6,0.4,0.00,
279,67,53,49,537.0,12.5,0.3,0.10,
280,66,49,49,455.5,5.2,0.3,0.00,
281,81,51,54,529.1,6.5,0.2,0.09,
282,77,56,49,494.2,11.5,0.2,0.09,
283,72,50,37,282.0,1.3,0.3,0.00,
284,74,43,36,222.5,4.9,0.2,0.00,
285,78,46,38,367.1,6.5,0.2,0.00,
286,64,53,53,448.9,9.6,0.3,0.32,
287,69,53,54,388.6,6.5,0.2,0.00,
288,70,54,54,417.5,5.0,0.3,0.61,
289,76,53,56,312.0,5.2,0.3,0.00,
290,81,56,53,340.2,6.1,0.2,0.00,
291,85,57,55,316.1,6.8,0.3,0.00,
292,77,60,42,335.5,9.5,0.3,0.00,
293,77,50,37,482.6,4.9,0.4,0.00,
294,81,51,39,478.9,5.3,0.4,0.00,
295,81,53,45,475.2,4.3,0.4,0.00,
296,75,50,43,405.5,11.2,0.3,0.00,
297,65,48,37,285.6,4.1,0.3,0.00,
298,74,44,41,425.2,4.2,0.3,0.00,
299,76,51,36,165.4,7.6,0.3,0.00,
300,76,50,37,259.7,8.1,0.3,0.00,
```

```
301,76,48,47,357.3,5.7,0.3,0.00,
302,76,51,40,214.5,6.9,0.3,0.00,
303,76,50,34,380.1,8.1,0.2,0.00,
304,71,49,24,284.4,9.5,0.2,0.00,
305,71,41,0,389.5,2.8,0.3,0.00,
306,79,42,30,377.1,4.9,0.2,0.00,
307,82,46,31,346.2,5.6,0.3,0.00,
308,80,49,32,241.9,9.1,0.2,0.00,
309,78,55,26,419.3,1.3,0.2,0.00,
310,78,42,28,423.6,4.4,0.3,0.00,
311,81,44,30,420.5,4.9,0.4,0.00,
312,83,47,33,417.5,2.7,0.3,0.00,
313,84,51,31,298.6,6.4,0.2,0.00,
314,80,48,35,411.6,3.5,0.3,0.00,
315,83,55,35,363.5,12.1,0.3,0.00,
316,70,46,29,406.0,8.9,0.3,0.00,
317,71,39,26,403.2,5.0,0.4,0.00,
318,74,37,24,400.5,8.9,0.3,0.00,
319,67,41,24,381.4,11.5,0.4,0.00,
320,58,33,13,395.3,5.2,0.4,0.00,
321,64,35,18,268.8,5.4,0.4,0.00,
322,62,40,20,390.4,8.7,0.4,0.00,
323,62,32,22,100.7,7.9,0.3,0.00,
324,60,32,22,358.0,3.8,0.3,0.00,
325,66,31,19,269.1,4.2,0.4,0.00,
326,69,36,18,381.3,5.6,0.4,0.00,
327,65,31,18,379.2,4.0,0.5,0.00,
328,72,44,23,302.6,5.3,0.3,0.00,
329,72,41,24,156.0,5.4,0.4,0.00,
330,72,44,23,217.4,18.4,0.3,0.00,
331,60,37,9,137.2,25.5,0.3,0.00,
332,50,32,-1,344.8,14.2,0.3,0.00,
333,55,23,1,73.6,2.4,0.3,0.00,
334,69,29,14,200.7,1.0,0.3,0.00,
335,65,31,22,298.6,6.7,0.3,0.00,
336,74,44,18,290.9,1.9,0.3,0.00,
337,74,48,17,203.2,13.8,0.3,0.00,
338,60,41,16,360.8,1.8,0.3,0.00,
339,50,27,-6,359.6,8.7,0.4,0.00,
340,55,22,-3,253.1,6.9,0.2,0.00,
341,49,23,2,235.2,7.4,0.3,0.00,
342,41,13,2,356.4,6.2,0.4,0.00,
343,51,20,4,355.5,5.3,0.4,0.00,
344,59,21,5,354.7,4.3,0.4,0.00,
345,55,34,7,354.0,4.0,0.4,0.00,
346,60,35,10,353.3,3.6,0.4,0.00,
347,63,49,27,326.9,11.5,0.4,0.00,
348,59,36,20,263.9,6.6,0.4,0.00,
349,51,33,3,252.8,1.8,0.3,0.00,
350,56,35,17,351.5,7.8,0.4,0.00,
```

```
351,58,40,20,280.4,8.9,0.4,0.00,
352,63,30,20,277.9,4.5,0.5,0.00,
353,65,34,17,350.9,4.9,0.4,0.00,
354,62,30,19,350.9,3.8,0.4,0.00,
355,63,29,21,351.0,3.3,0.4,0.00,
356,67,29,21,320.2,3.5,0.4,0.00,
357,73,39,21,243.5,7.5,0.4,0.00,
358,64,39,19,351.7,5.9,0.4,0.00,
359,66,28,16,352.1,4.1,0.5,0.00,
360,69,46,21,352.6,1.5,0.6,0.00,
361,67,49,21,353.1,1.0,0.5,0.00,
362,67,39,15,353.8,5.4,0.5,0.00,
363,70,37,23,354.5,9.7,0.5,0.00,
364,64,36,17,355.3,6.1,0.4,0.00,
365,70,43,19,316.1,1.5,0.4,0.00,
```

```
1,67,50,15,326.7,18.5,0.5,0.01
2,70,46,15,338.9,8.2,0.4,0.02
3,72,43,18,359.7,7.4,0.5,0.01
4,69,42,8,196.4,6.9,0.4,0.01
5,59,39,13,279.8,9.2,0.5,0.01
6,61,28,12,271,2.7,0.5,0.01
7,67,27,11,343.4,4.6,0.4,0.00
8,72,48,7,306.8,9.9,0.4,0.02
9,56,32,0,365.6,12.4,0.4,0.00
10,56,20,5,256.6,1.9,0.4,0.01
11,63,20,1,263.8,5,0.4,0.00
12,68,36,5,281.7,11.7,0.4,0.00
13,61,33,10,128.6,6,0.4,0.00
14,59,35,13,356.4,5.5,0.3,0.01
15,70,43,18,341.5,14.8,0.4,0.02
16,51,32,15,252.8,16.3,0.4,0.01
17,53,24,7,174.3,6.7,0.5,0.00
18,62,25,3,213.1,5.8,0.4,0.00
19,71,40,3,265.8,13.9,0.4,0.02
20,53,33,10,390.8,8.5,0.5,0.01
21,58,26,14,368.3,6.9,0.4,0.02
22,59,28,15,274.6,6.3,0.4,0.01
23,57,29,18,332.9,7.6,0.4,0.02
24,63,35,15,246.7,8.5,0.3,0.00
25,63,45,33,269,11,0.3,0.00
26,65,42,34,391.6,5.5,0.3,0.03
27,65,35,25,409.5,8.7,0.4,0.01
28,57,42,11,412.4,13.7,0.4,0.01
29,64,41,14,415.3,17.7,0.4,0.00
30,66,39,20,266.4,6.1,0.5,0.02
31,72,35,19,209.3,10.7,0.5,0.01
32,65,36,24,318.8,12.7,0.4,0.01
33,72,52,21,363.9,15.5,0.5,0.02
34,66,44,15,342.4,10.1,0.4,0.04
35,66,39,8,273.8,7.6,0.4,0.03
36,75,35,7,336.6,14.7,0.4,0.05
37,57,33,4,427.9,6.9,0.5,0.00
38,60,24,1,444.5,4.2,0.4,0.00
39,69,28,-2,369,5.7,0.5,0.01
40,68,41,7,262.9,8.1,0.4,0.00
41,55,39,29,251.1,7.8,0.4,0.03
42,50,29,11,458.7,6.6,0.3,0.02
43,57,20,7,462.3,3.7,0.3,0.01
44,65,24,1,383.3,7.6,0.4,0.02
45,71,34,8,469.7,8.8,0.4,0.02
46,75,54,19,448.2,19.9,0.4,0.02
47,73,49,13,298.6,13.3,0.4,0.02
48,54,37,12,359.6,7.6,0.3,0.00
49,53,40,19,246.2,5.9,0.4,0.01
50,66,39,34,321.7,12.4,0.4,0.03
```

```
51,69,41,29,270.4,10.7,0.4,0.03
52,68,49,19,496.6,12.7,0.4,0.00
53,66,44,17,280.6,8,0.4,0.00
54,58,47,32,192.6,8,0.4,0.01
55,65,43,44,101.7,6,0.4,0.01
56,68,38,33,281.6,6,0.4,0.00
57,68,41,34,357.3,6.7,0.5,0.00
58,76,42,29,444,6.6,0.4,0.00
59,83,48,23,341.4,9.4,0.4,0.01
60,81,50,29,410.7,8.3,0.4,0.00
61,79,53,33,438.7,4.7,0.5,0.02
62,75,52,35,536.5,5.8,0.4,0.03
63,81,55,30,340.6,11.9,0.3,0.01
64,77,45,11,544.7,5.6,0.3,0.00
65,83,45,8,272.8,6.8,0.3,0.00
66,78,57,17,360.5,12.3,0.3,0.00
67,71,46,25,556.9,25.3,0.4,0.01
68,62,42,13,531.3,17.3,0.4,0.00
69,67,51,19,520.2,27.1,0.5,0.00
70,70,45,18,448.7,15,0.4,0.02
71,61,44,19,364.7,19.5,0.3,0.04
72,58,37,5,202.4,7,0.3,0.01
73,71,35,5,581,8.8,0.4,0.01
74,79,45,16,511.3,9.5,0.4,0.00
75,79,45,15,429,6.3,0.3,0.00
76,75,53,21,134.9,5.2,0.3,0.02
77,72,54,30,356.2,10.6,0.4,0.01
78,71,41,23,600.8,16.4,0.4,0.00
79,59,37,20,383.6,20.7,0.4,0.00
80,70,35,18,250.9,7.1,0.4,0.01
81,59,39,17,594.4,10.6,0.3,0.00
82,59,32,23,616.2,9.7,0.3,0.00
83,67,34,18,620,4.7,0.3,0.00
84,78,36,17,490.4,5.7,0.3,0.00
85,78,55,9,535,14.3,0.4,0.01
86,75,58,23,330.3,8,0.4,0.00
87,75,51,36,528.8,7.8,0.3,0.00
88,79,42,28,638.5,14.7,0.3,0.00
89,74,55,29,567.9,13.5,0.3,0.00
90,82,47,22,501.2,5,0.2,0.00
91,80,54,23,403.7,15,0.3,0.01
92,79,54,21,443.4,8.8,0.2,0.00
93,81,50,16,518.7,8.7,0.3,0.00
94,88,53,28,616,6.8,0.3,0.01
95,83,65,30,549.7,14.3,0.3,0.02
96,71,51,11,353.7,21.6,0.4,0.00
97,76,51,12,451.8,11,0.3,0.00
98,77,46,24,291.3,7.4,0.3,0.00
99,87,47,17,459.9,6.9,0.3,0.00
100,82,63,23,561,16.1,0.2,0.01
```

```
101,84,57,36,678.5,10.5,0.3,0.01
102,89,51,24,539.9,3.9,0.3,0.01
103,91,60,34,656.1,5.8,0.3,0.00
104,93,61,23,436.6,10,0.3,0.00
105,86,64,21,453.7,14.3,0.3,0.00
106,84,64,16,578.7,12.8,0.4,0.00
107,87,57,14,677.2,13.6,0.3,0.00
108,85,58,14,439.9,13.1,0.3,0.00
109,85,57,8,583.4,8.5,0.3,0.02
110,83,56,10,705.2,11,0.2,0.00
111,87,52,20,703.1,5.2,0.3,0.00
112,94,61,23,609.7,7.8,0.3,0.00
113,93,62,8,545.1,13.6,0.3,0.02
114,84,61,8,718.6,10.9,0.3,0.01
115,83,51,11,543.5,8,0.3,0.00
116,85,48,30,723.5,6.4,0.3,0.00
117,92,60,25,725.8,10.5,0.3,0.00
118,69,55,22,726,17,0.3,0.01
119,74,46,30,730.4,8.4,0.3,0.01
120,87,52,20,502.9,9,0.4,0.00
121,91,52,18,375,5.1,0.3,0.00
122,95,55,18,509.6,8.4,0.4,0.00
123,91,72,13,544.6,14.3,0.3,0.00
124,88,62,12,657.9,11.5,0.3,0.01
125,88,58,10,513,13.2,0.4,0.00
126,83,62,16,743.4,8.6,0.4,0.00
127,88,62,11,746.7,11.5,0.3,0.00
128,90,65,15,655.1,13.5,0.2,0.02
129,91,65,14,750.2,15.8,0.2,0.01
130,88,63,27,751.9,7.9,0.3,0.01
131,85,58,33,598.6,10.8,0.2,0.01
132,95,62,25,755.2,5.1,0.3,0.02
133,97,69,17,756.8,10.4,0.2,0.00
134,93,63,36,485.9,10.7,0.3,0.02
135,84,60,48,717.8,13,0.3,0.02
136,83,61,44,693.8,5.9,0.3,0.01
137,89,63,33,644.8,4.6,0.4,0.00
138,94,60,31,589.8,6.4,0.3,0.00
139,98,64,34,765.2,7.7,0.4,0.01
140,97,67,32,627.4,8.5,0.3,0.01
141,99,68,26,721.3,7.5,0.3,0.02
142,98,73,28,768.8,11.9,0.4,0.03
143,93,67,23,769.9,9.7,0.3,0.00
144,100,62,19,709.6,6.9,0.4,0.01
145,102,67,21,771.9,7.7,0.3,0.00
146,96,73,19,579.5,12.6,0.3,0.00
147,92,72,28,690.3,16.3,0.3,0.04
148,91,70,26,595.1,13.9,0.3,0.01
149,92,64,26,680.9,7.2,0.3,0.00
150,96,65,20,776.3,6.4,0.3,0.00
```

```
151,95,63,41,460.9,9,0.3,0.01
152,90,60,48,777.8,11.1,0.2,0.02
153,93,67,45,760.3,6.9,0.3,0.03
154,94,68,41,704.9,4.7,0.4,0.02
155,99,70,34,623.3,6,0.3,0.01
156,102,72,32,562.5,6,0.4,0.00
157,101,68,35,631.7,9.5,0.4,0.01
158,99,75,41,454.8,9.6,0.3,0.01
159,97,69,43,729.1,8,0.3,0.01
160,97,72,45,636.4,8.9,0.3,0.00
161,99,67,42,508.3,7.3,0.2,0.03
162,102,68,24,518.5,6.6,0.2,0.00
163,105,70,22,689.5,4.6,0.2,0.03
164,104,72,32,783,6.7,0.2,0.00
165,106,75,31,733.6,8.7,0.2,0.03
166,105,77,31,783.2,14.2,0.3,0.01
167,95,80,25,670.1,16,0.2,0.03
168,97,67,21,725.4,6.6,0.2,0.03
169,102,70,21,637.9,6.5,0.3,0.00
170,102,75,43,653.3,9.1,0.3,0.02
171,103,70,36,574.5,5.9,0.3,0.02
172,103,82,37,783.2,10.3,0.3,0.01
173,99,74,44,783,9.1,0.4,0.00
174,93,70,52,738.6,10.1,0.3,0.01
175,97,70,45,782.6,8.5,0.3,0.00
176,92,72,49,782.3,13.2,0.3,0.03
177,79,62,55,752.6,10.5,0.2,0.03
178,87,63,52,781.7,8.7,0.3,0.07
179,85,66,54,781.3,9.8,0.4,0.14
180,90,67,55,459.7,6.3,0.4,0.09
181,94,67,54,780.4,4.4,0.4,0.09
182,95,71,48,779.9,8,0.4,0.08
183,95,72,47,779.4,7,0.4,0.01
184,98,75,49,653.5,6.3,0.4,0.06
185,97,77,51,717.2,7.8,0.4,0.03
186,94,70,59,314.9,10.2,0.4,0.05
187,89,68,62,776.8,7.7,0.4,0.05
188,87,71,63,597.2,5.4,0.4,0.03
189,91,70,64,377.8,7.8,0.4,0.02
190,95,70,58,684.1,9,0.4,0.06
191,97,72,54,760.5,8.5,0.5,0.07
192,101,76,51,772.7,5.6,0.5,0.06
193,104,79,50,771.8,11.1,0.4,0.02
194,103,79,49,770.8,8.2,0.4,0.09
195,102,73,45,769.8,8.2,0.4,0.04
196,90,68,57,663.4,7.7,0.5,0.09
197,91,67,57,767.6,5.4,0.5,0.05
198,94,73,53,765,5.7,0.5,0.03
199,100,75,50,493.9,7.9,0.4,0.11
200,98,78,47,636.3,11.5,0.5,0.01
```

```
201,99,77,45,705.9,8.8,0.5,0.02
202,100,75,45,553.5,8.3,0.5,0.05
203,95,77,50,758.7,9.5,0.5,0.03
204,94,73,51,662.9,6.4,0.5,0.02
205,98,70,47,688.2,5.5,0.5,0.06
206,99,77,45,755.7,5,0.5,0.06
207,101,75,49,607,7,0.5,0.12
208,95,70,59,276.5,8.3,0.6,0.06
209,87,67,63,404.9,7.1,0.6,0.07
210,85,68,64,749.3,7.9,0.5,0.05
211,85,69,64,495.7,9.2,0.4,0.08
212,76,68,65,745.9,11.6,0.5,0.04
213,71,64,64,744.1,8.2,0.6,0.11
214,87,66,63,720.5,8.1,0.6,0.06
215,84,65,63,621.6,7.5,0.5,0.05
216,83,68,64,551.6,6.9,0.5,0.06
217,86,69,65,617.6,6.4,0.5,0.03
218,88,69,62,513.5,7,0.4,0.04
219,92,71,59,593.8,6.8,0.5,0.03
220,92,75,59,607.3,5.6,0.5,0.03
221,93,74,59,509.3,5.4,0.5,0.03
222,97,73,57,481.4,6.4,0.5,0.03
223,98,73,57,481.1,8.7,0.5,0.06
224,95,73,57,518.5,10.8,0.5,0.16
225,90,69,58,500.4,9.3,0.5,0.09
226,89,73,61,506.2,8.9,0.5,0.12
227,85,68,64,639.9,8.7,0.5,0.05
228,83,66,64,526.3,8.1,0.5,0.07
229,87,65,64,709.2,6.9,0.4,0.09
230,90,70,61,706.6,6,0.5,0.02
231,83,65,63,584,10.7,0.5,0.08
232,87,68,62,533,7,0.4,0.04
233,87,70,63,692.9,8.7,0.4,0.06
234,88,67,62,610.9,10.7,0.5,0.04
235,92,70,57,693.1,4,0.4,0.05
236,93,69,57,619.7,7,0.5,0.02
237,90,71,58,464.6,11.1,0.4,0.00
238,89,69,62,684.5,4.4,0.4,0.04
239,93,70,60,681.5,7,0.4,0.04
240,89,69,60,526,8,0.4,0.03
241,87,69,57,675.5,9.9,0.4,0.05
242,87,68,59,672.4,5.8,0.4,0.03
243,87,66,63,564.2,7.1,0.4,0.03
244,90,65,61,436.5,6.4,0.4,0.06
245,75,64,62,580.5,8.5,0.5,0.02
246,69,61,62,525.9,7.7,0.5,0.05
247,70,62,61,607.6,8.9,0.4,0.05
248,75,63,60,612.4,6.5,0.5,0.08
249,80,61,56,642.5,4.4,0.4,0.08
250,81,61,53,617,6.9,0.4,0.06
```

```
251,80,66,59,244.9,6.9,0.4,0.08
252,85,62,56,516.4,5.1,0.4,0.01
253,87,64,54,586.9,4.8,0.4,0.11
254,88,64,55,535.2,6.6,0.4,0.04
255,84,65,58,558.6,9.3,0.4,0.13
256,83,62,59,528.1,7.9,0.4,0.05
257,81,61,60,214.4,6.3,0.5,0.05
258,84,66,52,618,9.2,0.4,0.04
259,85,60,48,551.1,7.5,0.3,0.05
260,83,57,42,299.3,7.5,0.3,0.10
261,80,58,30,546.7,7.6,0.3,0.07
262,85,52,44,562.2,3.1,0.3,0.06
263,87,61,47,475.6,12.2,0.3,0.03
264,83,69,44,595.5,15.7,0.4,0.03
265,87,64,46,591.7,16.1,0.4,0.03
266,80,60,45,438.1,9.6,0.4,0.04
267,71,59,45,344.6,11,0.3,0.01
268,80,54,47,580.2,5.9,0.3,0.00
269,86,58,52,576.3,5.6,0.3,0.02
270,90,59,45,572.4,5.8,0.3,0.02
271,82,58,45,544.9,7.3,0.3,0.05
272,87,55,42,564.6,5,0.3,0.00
273,87,54,37,475.3,3.7,0.3,0.07
274,90,55,39,258.3,4.9,0.3,0.02
275,89,57,43,389,4.4,0.3,0.00
276,90,58,46,313.4,4.2,0.3,0.03
277,89,60,50,452,8.6,0.3,0.04
278,84,62,52,428.5,11.4,0.4,0.01
279,84,63,48,537,9.2,0.3,0.03
280,83,61,52,455.5,8.2,0.3,0.03
281,77,60,55,529.1,5.3,0.2,0.04
282,68,58,53,494.2,8.1,0.2,0.02
283,75,52,47,282,7.3,0.3,0.00
284,79,51,42,222.5,6,0.2,0.01
285,79,51,41,367.1,3.6,0.2,0.03
286,82,50,42,448.9,4.2,0.3,0.02
287,70,59,55,388.6,7.2,0.2,0.01
288,73,57,51,417.5,7.9,0.3,0.03
289,71,50,39,312,14.6,0.3,0.01
290,78,57,38,340.2,17,0.2,0.02
291,74,52,45,316.1,9.1,0.3,0.01
292,67,46,37,335.5,5.2,0.3,0.04
293,73,40,35,482.6,7.5,0.4,0.01
294,78,47,35,478.9,7,0.4,0.03
295,71,48,39,475.2,5.9,0.4,0.01
296,76,45,42,405.5,5.8,0.3,0.04
297,64,57,53,285.6,5.9,0.3,0.03
298,74,54,51,425.2,8.5,0.3,0.01
299,71,51,33,165.4,10.1,0.3,0.01
300,67,44,28,259.7,7.8,0.3,0.04
```

```
301,71,39,32,357.3,4.2,0.3,0.02
302,74,41,33,214.5,6.2,0.3,0.03
303,75,56,32,380.1,10.6,0.2,0.01
304,73,48,29,284.4,9,0.2,0.01
305,74,44,28,389.5,3.6,0.3,0.00
306,68,41,35,377.1,6.4,0.2,0.00
307,73,43,43,346.2,5,0.3,0.01
308,78,45,38,241.9,5,0.2,0.03
309,74,44,31,419.3,5.7,0.2,0.00
310,73,44,29,423.6,4.6,0.3,0.03
311,75,40,31,420.5,4.1,0.4,0.01
312,81,44,32,417.5,5.5,0.3,0.01
313,79,58,31,298.6,14.1,0.2,0.00
314,75,51,26,411.6,8.7,0.3,0.01
315,71,44,28,363.5,8.3,0.3,0.01
316,73,52,30,406,9.4,0.3,0.02
317,66,44,28,403.2,8.4,0.4,0.02
318,73,50,31,400.5,14.6,0.3,0.04
319,61,38,14,381.4,8.1,0.4,0.02
320,67,34,16,395.3,5.7,0.4,0.00
321,73,38,19,268.8,4.8,0.4,0.01
322,74,37,23,390.4,4.1,0.4,0.00
323,70,48,28,100.7,10.9,0.3,0.01
324,67,40,36,358,5,0.3,0.00
325,69,38,32,269.1,3.5,0.4,0.00
326,71,37,32,381.3,2.9,0.4,0.02
327,72,36,29,379.2,3.4,0.5,0.00
328,72,41,28,302.6,3.5,0.3,0.03
329,71,43,26,156,7.7,0.4,0.01
330,66,48,29,217.4,4.6,0.3,0.00
331,69,48,36,137.2,8.3,0.3,0.04
332,68,46,33,344.8,14.7,0.3,0.01
333,67,34,30,73.6,17.8,0.3,0.02
334,42,26,12,200.7,9.2,0.3,0.03
335,52,19,11,298.6,3.3,0.3,0.02
336,58,25,14,290.9,6,0.3,0.03
337,46,28,19,203.2,6.5,0.3,0.02
338,50,23,16,360.8,4.8,0.3,0.01
339,59,30,17,359.6,4.4,0.4,0.02
340,63,26,12,253.1,4.7,0.2,0.01
341,53,30,18,235.2,9.2,0.3,0.02
342,49,33,26,356.4,7.2,0.4,0.01
343,55,42,35,355.5,6.7,0.4,0.03
344,64,34,32,354.7,10.5,0.4,0.01
345,59,37,23,354,14.9,0.4,0.00
346,58,28,17,353.3,4.3,0.4,0.01
347,60,28,15,326.9,2.5,0.4,0.01
348,64,30,19,263.9,4.4,0.4,0.00
349,66,30,21,252.8,6.8,0.3,0.00
350,71,38,19,351.5,7.3,0.4,0.00
```

```
351,69,43,24,280.4,8.5,0.4,0.01
352,68,35,29,277.9,7.2,0.5,0.02
353,50,38,33,350.9,8.7,0.4,0.00
354,48,33,19,350.9,16.4,0.4,0.01
355,53,35,17,351,10.4,0.4,0.00
356,52,23,18,320.2,4.4,0.4,0.03
357,54,34,27,243.5,9.8,0.4,0.04
358,57,24,25,351.7,9.4,0.4,0.03
359,52,26,18,352.1,5.6,0.5,0.01
360,61,24,14,352.6,4,0.6,0.05
361,69,32,15,353.1,5.9,0.5,0.02
362,55,32,25,353.8,11.6,0.5,0.00
363,50,25,26,354.5,6.1,0.5,0.01
364,46,32,28,355.3,7.8,0.4,0.01
365,54,23,27,316.1,4.7,0.4,0.02
```

```
1,57,27,26,326.7,9.2,0.5,0.00,
2,44,32,31,338.9,5.8,0.4,0.25,
3,52,36,33,359.7,6.6,0.5,0.00,
4,65,33,27,196.4,12.1,0.4,0.00,
5,68,41,25,279.8,9.8,0.5,0.00,
6,49,36,29,271.0,6.2,0.5,0.00,
7,52,30,18,343.4,8.9,0.4,0.00,
8,58,26,16,306.8,3.0,0.4,0.00,
9,59,31,20,365.6,7.1,0.4,0.00,
10,62,29,27,256.6,7.4,0.4,0.00,
11,68,46,41,263.8,8.1,0.4,0.00,
12,66,45,38,281.7,9.9,0.4,0.00,
13,67,40,28,128.6,8.7,0.4,0.00,
14,54,33,13,356.4,1.3,0.3,0.00,
15,43,27,15,341.5,1.1,0.4,0.00,
16,33,28,13,252.8,1.8,0.4,0.00,
17,39,28,22,174.3,4.8,0.5,0.00,
18,46,33,29,213.1,4.9,0.4,0.05,
19,41,33,35,265.8,1.0,0.4,0.76,
20,46,33,30,390.8,13.9,0.5,0.07,
21,50,34,28,368.3,11.7,0.4,0.00,
22,41,29,26,274.6,12.0,0.4,0.02,
23,39,28,28,332.9,4.0,0.4,0.17,
24,50,30,27,246.7,6.3,0.3,0.00,
25,49,31,27,269.0,7.7,0.3,0.00,
26,46,32,33,391.6,1.0,0.3,0.28,
27,56,34,31,409.5,6.8,0.4,0.00,
28,55,31,32,412.4,2.2,0.4,0.00,
29,61,36,32,415.3,5.0,0.4,0.00,
30,45,36,35,266.4,4.8,0.5,0.19,
31,55,35,34,209.3,9.1,0.5,0.02,
32,51,39,30,318.8,16.5,0.4,0.03,
33,50,33,24,363.9,9.2,0.5,0.00,
34,57,24,19,342.4,2.9,0.4,0.00,
35,62,27,20,273.8,3.8,0.4,0.00,
36,65,30,22,336.6,2.6,0.4,0.00,
37,69,32,25,427.9,3.0,0.5,0.00,
38,74,34,25,444.5,4.7,0.4,0.00,
39,73,38,24,369.0,7.5,0.5,0.00,
40,73,42,27,262.9,8.1,0.4,0.00,
41,72,45,32,251.1,5.9,0.4,0.00,
42,69,46,34,458.7,9.3,0.3,0.00,
43,63,47,31,462.3,16.4,0.3,0.00,
44,54,36,34,383.3,8.0,0.4,0.12,
45,50,34,32,469.7,9.3,0.4,0.04,
46,55,32,24,448.2,5.9,0.4,0.00,
47,62,29,22,298.6,6.8,0.4,0.00,
48,63,33,24,359.6,7.8,0.3,0.00,
49,64,36,23,246.2,6.6,0.4,0.00,
50,70,40,27,321.7,13.7,0.4,0.00,
```

```
51,59,46,28,270.4,12.7,0.4,0.00,
52,66,32,25,496.6,4.9,0.4,0.00,
53,69,34,23,280.6,3.7,0.4,0.00,
54,74,43,20,192.6,18.3,0.4,0.00,
55,55,39,9,101.7,19.4,0.4,0.00,
56,64,26,10,281.6,8.2,0.4,0.00,
57,71,49,11,357.3,9.7,0.5,0.00,
58,73,45,14,444.0,13.7,0.4,0.00,
59,71,43,5,341.4,24.6,0.4,0.00,
60,55,36,3,410.7,12.0,0.4,0.00,
61,60,29,5,438.7,12.5,0.5,0.00,
62,49,32,0,536.5,1.3,0.4,0.00,
63,57,23,3,340.6,5.0,0.3,0.00,
64,61,27,7,544.7,6.5,0.3,0.00,
65,73,35,8,272.8,6.2,0.3,0.00,
66,77,42,17,360.5,6.4,0.3,0.00,
67,80,50,23,556.9,6.8,0.4,0.00,
68,77,46,26,531.3,5.2,0.4,0.00,
69,82,49,21,520.2,6.0,0.5,0.00,
70,73,48,26,448.7,8.9,0.4,0.00,
71,65,43,37,364.7,5.7,0.3,0.00,
72,80,45,30,202.4,12.1,0.3,0.00,
73,85,65,19,581.0,15.4,0.4,0.00,
74,85,46,21,511.3,5.2,0.4,0.00,
75,75,51,41,429.0,7.1,0.3,0.00,
76,84,43,31,134.9,3.2,0.3,0.00,
77,87,60,22,356.2,12.5,0.4,0.00,
78,83,58,17,600.8,1.9,0.4,0.00,
79,83,46,17,383.6,1.7,0.4,0.00,
80,78,54,28,250.9,1.1,0.4,0.00,
81,75,56,39,594.4,8.1,0.3,0.01,
82,76,50,39,616.2,14.5,0.3,0.01,
83,69,43,28,620.0,9.4,0.3,0.00,
84,77,47,37,490.4,9.6,0.3,0.00,
85,79,47,36,535.0,8.3,0.4,0.00,
86,81,56,28,330.3,12.4,0.4,0.00,
87,71,50,18,528.8,13.0,0.3,0.00,
88,64,38,10,638.5,6.2,0.3,0.00,
89,67,44,17,567.9,13.1,0.3,0.00,
90,71,37,23,501.2,6.4,0.2,0.00,
91,80,46,18,403.7,5.4,0.3,0.00,
92,85,43,16,443.4,7.8,0.2,0.00,
93,85,52,17,518.7,5.3,0.3,0.00,
94,85,54,35,616.0,6.5,0.3,0.00,
95,87,53,34,549.7,5.4,0.3,0.00,
96,74,45,41,353.7,12.6,0.4,0.00,
97,49,36,31,451.8,11.1,0.3,0.00,
98,75,33,33,291.3,7.5,0.3,0.00,
99,78,58,35,459.9,16.1,0.3,0.00,
100,78,58,33,561.0,22.4,0.2,0.00,
```

```
101,80,49,24,678.5,14.8,0.3,0.00,
102,82,60,22,539.9,17.3,0.3,0.00,
103,64,47,30,656.1,19.3,0.3,0.00,
104,66,38,25,436.6,5.5,0.3,0.00,
105,82,42,19,453.7,11.3,0.3,0.00,
106,81,50,15,578.7,11.1,0.4,0.00,
107,73,49,16,677.2,12.3,0.3,0.00,
108,81,45,22,439.9,9.0,0.3,0.00,
109,83,56,18,583.4,1.3,0.3,0.00,
110,86,48,16,705.2,8.4,0.2,0.00,
111,82,57,16,703.1,17.4,0.3,0.00,
112,76,42,21,609.7,8.7,0.3,0.00,
113,87,57,20,545.1,16.7,0.3,0.00,
114,73,53,23,718.6,19.8,0.3,0.00,
115,80,53,24,543.5,8.5,0.3,0.00,
116,86,50,21,723.5,5.7,0.3,0.00,
117,88,51,27,725.8,8.3,0.3,0.00,
118,81,57,48,726.0,13.7,0.3,0.23,
119,70,56,51,730.4,7.6,0.3,0.06,
120,86,54,47,502.9,1.1,0.4,0.02,
121,88,59,43,375.0,7.4,0.3,0.01,
122,77,54,47,509.6,7.5,0.4,0.03,
123,87,48,35,544.6,1.6,0.3,0.00,
124,90,65,25,657.9,17.4,0.3,0.00,
125,86,63,25,513.0,2.0,0.4,0.00,
126,73,54,22,743.4,1.4,0.4,0.00,
127,81,47,27,746.7,11.9,0.3,0.04,
128,72,52,49,655.1,12.0,0.2,0.47,
129,78,55,46,750.2,7.0,0.2,0.00,
130,87,54,42,751.9,4.9,0.3,0.00,
131,88,60,42,598.6,7.4,0.2,0.00,
132,86,63,41,755.2,7.6,0.3,0.00,
133,88,62,41,756.8,5.1,0.2,0.00,
134,92,65,44,485.9,5.2,0.3,0.00,
135,88,59,49,717.8,14.7,0.3,0.36,
136,73,58,55,693.8,1.4,0.3,0.39,
137,78,59,53,644.8,7.6,0.4,0.00,
138,83,59,51,589.8,6.2,0.3,0.00,
139,84,64,52,765.2,8.8,0.4,0.00,
140,90,61,48,627.4,8.4,0.3,0.00,
141,88,62,33,721.3,12.1,0.3,0.00,
142,87,63,25,768.8,14.4,0.4,0.00,
143,88,67,28,769.9,9.7,0.3,0.00,
144,87,60,39,709.6,12.7,0.4,0.00,
145,81,61,50,771.9,12.9,0.3,0.00,
146,86,59,45,579.5,5.9,0.3,0.00,
147,91,64,42,690.3,8.1,0.3,0.00,
148,93,62,36,595.1,7.1,0.3,0.00,
149,91,62,24,680.9,13.6,0.3,0.00,
150,92,70,20,776.3,9.7,0.3,0.00,
```

```
151,95,62,27,460.9,7.0,0.3,0.00,
152,94,67,20,777.8,1.9,0.2,0.00,
153,95,67,26,760.3,5.6,0.3,0.00,
154,93,69,41,704.9,7.7,0.4,0.00,
155,95,61,41,623.3,6.1,0.3,0.03,
156,98,65,39,562.5,6.4,0.4,0.00,
157,95,77,28,631.7,21.6,0.4,0.00,
158,91,67,29,454.8,15.5,0.3,0.00,
159,90,58,39,729.1,11.5,0.3,0.15,
160,92,65,54,636.4,7.8,0.3,0.00,
161,90,63,52,508.3,7.1,0.2,0.00,
162,89,61,53,518.5,11.3,0.2,0.11,
163,86,59,47,689.5,9.9,0.2,0.00,
164,93,61,38,783.0,7.6,0.2,0.00,
165,95,68,40,733.6,6.1,0.2,0.00,
166,101,69,36,783.2,7.8,0.3,0.00,
167,95,74,53,670.1,6.3,0.2,0.00,
168,96,69,42,725.4,7.6,0.2,0.00,
169,99,73,27,637.9,12.7,0.3,0.00,
170,100,67,28,653.3,6.5,0.3,0.00,
171,96,67,47,574.5,6.8,0.3,0.05,
172,95,62,47,783.2,3.8,0.3,0.00,
173,100,70,44,783.0,6.7,0.4,0.00,
174,101,71,43,738.6,8.1,0.3,0.00,
175,99,72,45,782.6,6.8,0.3,0.00,
176,102,69,46,782.3,6.6,0.3,0.00,
177,106,77,29,752.6,8.4,0.2,0.00,
178,99,71,48,781.7,5.3,0.3,0.08,
179,94,69,51,781.3,7.5,0.4,0.00,
180,95,71,51,459.7,5.2,0.4,0.09,
181,100,67,46,780.4,6.0,0.4,0.00,
182,101,74,45,779.9,6.6,0.4,0.00,
183,101,72,45,779.4,5.8,0.4,0.00,
184,103,73,46,653.5,5.8,0.4,0.00,
185,96,72,54,717.2,13.1,0.4,0.00,
186,89,69,53,314.9,9.4,0.4,0.00,
187,88,67,57,776.8,8.8,0.4,0.10,
188,91,67,54,597.2,4.7,0.4,0.00,
189,101,73,51,377.8,8.6,0.4,0.00,
190,100,76,51,684.1,8.2,0.4,0.00,
191,100,77,51,760.5,8.0,0.5,0.00,
192,91,72,60,772.7,1.9,0.5,0.00,
193,90,69,61,771.8,8.1,0.4,0.01,
194,96,69,59,770.8,6.7,0.4,0.81,
195,90,67,62,769.8,6.5,0.4,0.27,
196,95,70,56,663.4,4.4,0.5,0.00,
197,98,71,52,767.6,5.6,0.5,0.00,
198,98,75,50,765.0,7.4,0.5,0.00,
199,96,74,48,493.9,8.0,0.4,0.00,
200,96,71,53,636.3,9.1,0.5,0.00,
```

```
201,92,69,60,705.9,7.5,0.5,0.18,
202,88,70,61,553.5,7.6,0.5,0.01,
203,87,70,61,758.7,1.0,0.5,0.00,
204,91,72,58,662.9,7.4,0.5,0.00,
205,94,70,56,688.2,5.7,0.5,0.00,
206,92,71,55,755.7,5.9,0.5,0.00,
207,94,70,55,607.0,4.8,0.5,0.00,
208,93,72,54,276.5,7.3,0.6,0.00,
209,93,70,58,404.9,8.0,0.6,0.05,
210,88,67,60,749.3,4.7,0.5,0.19,
211,80,67,64,495.7,5.6,0.4,0.46,
212,87,70,64,745.9,3.6,0.5,0.00,
213,84,72,65,744.1,6.2,0.6,0.00,
214,88,70,64,720.5,6.6,0.6,0.00,
215,85,71,64,621.6,6.4,0.5,0.01,
216,88,69,62,551.6,6.5,0.5,0.00,
217,93,71,61,617.6,8.7,0.5,0.00,
218,91,69,60,513.5,1.2,0.4,0.08,
219,92,70,58,593.8,8.4,0.5,0.00,
220,95,72,59,607.3,5.0,0.5,0.22,
221,97,75,58,509.3,1.3,0.5,0.00,
222,96,70,54,481.4,5.8,0.5,0.00,
223,99,73,53,481.1,6.0,0.5,0.00,
224,98,75,51,518.5,8.5,0.5,0.00,
225,95,72,52,500.4,9.8,0.5,0.00,
226,95,72,51,506.2,8.9,0.5,0.00,
227,94,73,50,639.9,6.0,0.5,0.00,
228,95,72,48,526.3,7.7,0.5,0.00,
229,94,74,55,709.2,7.4,0.4,0.00,
230,98,72,56,706.6,5.4,0.5,0.00,
231,102,77,53,584.0,8.6,0.5,0.00,
232,103,78,56,533.0,9.8,0.4,0.00,
233,104,77,57,692.9,7.7,0.4,0.00,
234,96,74,59,610.9,1.3,0.5,0.00,
235,97,70,56,693.1,7.5,0.4,0.00,
236,97,74,56,619.7,8.5,0.5,0.00,
237,93,71,57,464.6,7.7,0.4,0.00,
238,94,69,54,684.5,7.2,0.4,0.00,
239,93,72,57,681.5,5.6,0.4,0.00,
240,95,72,56,526.0,5.7,0.4,0.00,
241,94,71,51,675.5,8.5,0.4,0.00,
242,91,71,54,672.4,11.3,0.4,0.00,
243,91,73,58,564.2,7.4,0.4,0.26,
244,90,70,54,436.5,7.4,0.4,0.00,
245,89,66,49,580.5,1.2,0.5,0.00,
246,90,64,45,525.9,6.5,0.5,0.00,
247,91,67,49,607.6,5.0,0.4,0.00,
248,92,68,51,612.4,6.7,0.5,0.00,
249,86,70,58,642.5,8.2,0.4,0.00,
250,90,67,59,617.0,4.1,0.4,0.00,
```

```
251,98,71,54,244.9,6.7,0.4,0.00,
252,86,66,60,516.4,9.2,0.4,0.18,
253,88,65,62,586.9,5.8,0.4,1.30,
254,78,63,57,535.2,8.9,0.4,0.00,
255,86,62,57,558.6,3.1,0.4,0.00,
256,94,64,53,528.1,5.7,0.4,0.00,
257,95,67,48,214.4,7.0,0.5,0.00,
258,89,68,53,618.0,7.0,0.4,0.00,
259,90,69,53,551.1,5.2,0.3,0.00,
260,87,71,54,299.3,13.7,0.3,0.00,
261,89,70,52,546.7,9.4,0.3,0.00,
262,91,64,52,562.2,6.6,0.3,0.00,
263,87,68,57,475.6,8.9,0.3,0.01,
264,88,63,52,595.5,5.9,0.4,0.00,
265,90,61,50,591.7,5.4,0.4,0.01,
266,88,67,59,438.1,8.0,0.4,0.03,
267,85,65,55,344.6,8.3,0.3,0.00,
268,87,61,50,580.2,5.3,0.3,0.00,
269,89,67,54,576.3,5.2,0.3,0.00,
270,91,63,50,572.4,6.0,0.3,0.00,
271,90,69,56,544.9,11.3,0.3,0.18,
272,87,63,56,564.6,7.8,0.3,0.00,
273,90,63,52,475.3,5.3,0.3,0.00,
274,86,69,60,258.3,6.0,0.3,0.08,
275,88,66,58,389.0,4.7,0.3,0.00,
276,90,65,50,313.4,8.7,0.3,0.00,
277,91,68,54,452.0,8.4,0.3,0.01,
278,91,65,53,428.5,8.4,0.4,0.00,
279,89,72,45,537.0,12.5,0.3,0.00,
280,82,59,34,455.5,7.9,0.3,0.00,
281,83,53,20,529.1,1.3,0.2,0.00,
282,85,59,45,494.2,9.1,0.2,0.00,
283,88,62,55,282.0,4.9,0.3,0.00,
284,91,61,47,222.5,5.3,0.2,0.00,
285,91,61,42,367.1,8.1,0.2,0.00,
286,87,61,24,448.9,13.0,0.3,0.00,
287,77,56,30,388.6,8.7,0.2,0.00,
288,79,47,28,417.5,5.0,0.3,0.00,
289,81,49,28,312.0,1.4,0.3,0.00,
290,78,61,27,340.2,19.8,0.2,0.00,
291,78,54,27,316.1,1.6,0.3,0.00,
292,81,46,22,335.5,6.0,0.3,0.00,
293,88,46,26,482.6,7.2,0.4,0.00,
294,83,48,21,478.9,17.2,0.4,0.00,
295,61,41,16,475.2,6.9,0.4,0.00,
296,70,35,14,405.5,2.5,0.3,0.00,
297,78,45,25,285.6,4.6,0.3,0.00,
298,79,45,28,425.2,4.5,0.3,0.00,
299,82,41,23,165.4,4.4,0.3,0.00,
300,81,44,25,259.7,7.3,0.3,0.00,
```

```
301,76,52,32,357.3,5.8,0.3,0.00,
302,77,41,27,214.5,4.8,0.3,0.00,
303,81,43,21,380.1,4.5,0.2,0.00,
304,80,48,24,284.4,6.4,0.2,0.00,
305,73,45,32,389.5,5.2,0.3,0.00,
306,80,46,28,377.1,5.6,0.2,0.00,
307,77,50,30,346.2,6.8,0.3,0.00,
308,78,50,35,241.9,5.2,0.2,0.00,
309,81,46,31,419.3,4.4,0.2,0.00,
310,67,51,26,423.6,7.9,0.3,0.00,
311,76,42,31,420.5,3.3,0.4,0.00,
312,80,44,32,417.5,2.6,0.3,0.00,
313,81,46,28,298.6,3.2,0.2,0.00,
314,78,45,27,411.6,5.3,0.3,0.00,
315,77,45,29,363.5,5.3,0.3,0.00,
316,73,46,32,406.0,4.1,0.3,0.00,
317,78,53,33,403.2,5.5,0.4,0.00,
318,80,46,28,400.5,6.9,0.3,0.00,
319,60,42,14,381.4,7.3,0.4,0.00,
320,61,41,28,395.3,7.4,0.4,0.01,
321,71,39,36,268.8,3.1,0.4,0.00,
322,76,37,29,390.4,2.6,0.4,0.00,
323,77,37,26,100.7,4.4,0.3,0.00,
324,79,44,24,358.0,7.8,0.3,0.00,
325,76,49,27,269.1,9.6,0.4,0.00,
326,49,34,30,381.3,9.2,0.4,0.18,
327,54,31,27,379.2,7.0,0.5,0.00,
328,40,30,30,302.6,8.7,0.3,0.68,
329,46,31,30,156.0,7.9,0.4,0.00,
330,48,31,32,217.4,4.4,0.3,0.00,
331,58,33,34,137.2,5.4,0.3,0.00,
332,67,39,38,344.8,7.1,0.3,0.00,
333,61,42,38,73.6,2.2,0.3,0.00,
334,63,49,51,200.7,3.2,0.3,0.20,
335,67,56,45,298.6,18.5,0.3,0.07,
336,60,42,34,290.9,1.1,0.3,0.00,
337,61,36,29,203.2,5.8,0.3,0.00,
338,67,36,30,360.8,3.6,0.3,0.00,
339,71,38,30,359.6,3.3,0.4,0.00,
340,72,45,36,253.1,15.3,0.2,0.00,
341,71,55,42,235.2,18.0,0.3,0.00,
342,70,46,37,356.4,12.9,0.4,0.00,
343,65,46,36,355.5,7.8,0.4,0.00,
344,52,45,43,354.7,6.4,0.4,0.39,
345,52,39,33,354.0,7.9,0.4,0.00,
346,54,36,33,353.3,4.4,0.4,0.00,
347,53,32,29,326.9,5.6,0.4,0.00,
348,56,33,24,263.9,13.8,0.4,0.00,
349,46,28,10,252.8,6.8,0.3,0.00,
350,50,23,13,351.5,2.5,0.4,0.00,
```

```
351,57,28,18,280.4,5.9,0.4,0.00,
352,63,29,21,277.9,5.3,0.5,0.00,
353,63,30,19,350.9,9.9,0.4,0.00,
354,61,33,22,350.9,9.2,0.4,0.00,
355,66,37,22,351.0,16.9,0.4,0.00,
356,45,31,12,320.2,11.2,0.4,0.00,
357,50,21,13,243.5,4.7,0.4,0.00,
358,52,26,14,351.7,4.7,0.4,0.00,
359,62,30,15,352.1,13.8,0.5,0.00,
360,46,23,10,352.6,5.8,0.6,0.00,
361,45,26,7,353.1,17.3,0.5,0.00,
362,42,22,3,353.8,6.2,0.5,0.00,
363,50,23,11,354.5,3.9,0.5,0.00,
364,56,27,19,355.3,11.6,0.4,0.00,
365,64,37,19,316.1,9.8,0.4,0.00,
```

```
1,48,27,3,326.7,9.6,0.5,0.00,
2,49,31,5,338.9,9.6,0.4,0.00,
3,51,28,13,359.7,4.5,0.5,0.00,
4,62,32,25,196.4,5.7,0.4,0.00,
5,68,41,33,279.8,9.7,0.5,0.00,
6,69,51,32,271.0,19.0,0.5,0.00,
7,66,46,31,343.4,16.9,0.4,0.00,
8,57,38,24,306.8,8.2,0.4,0.00,
9,63,29,23,365.6,7.8,0.4,0.00,
10,57,37,17,256.6,7.2,0.4,0.00,
11,60,30,18,263.8,6.0,0.4,0.00,
12,55,32,11,281.7,7.8,0.4,0.00,
13,55,31,10,128.6,11.5,0.4,0.00,
14,55,35,13,356.4,11.4,0.3,0.00,
15,54,31,15,341.5,8.7,0.4,0.00,
16,57,35,12,252.8,8.6,0.4,0.00,
17,42,26,10,174.3,6.9,0.5,0.00,
18,48,20,3,213.1,6.5,0.4,0.00,
19,46,25,3,265.8,6.5,0.4,0.00,
20,56,18,6,390.8,4.5,0.5,0.00,
21,60,30,12,368.3,8.0,0.4,0.00,
22,55,32,12,274.6,1.0,0.4,0.00,
23,60,34,15,332.9,4.5,0.4,0.00,
24,48,41,32,246.7,5.2,0.3,0.05,
25,59,38,36,269.0,4.4,0.3,0.00,
26,59,35,29,391.6,5.2,0.3,0.00,
27,64,42,29,409.5,4.6,0.4,0.00,
28,62,51,39,412.4,19.1,0.4,0.09,
29,57,43,26,415.3,14.1,0.4,0.00,
30,63,39,20,266.4,19.5,0.5,0.00,
31,46,25,-2,209.3,9.5,0.5,0.00,
32,59,21,1,318.8,5.4,0.4,0.00,
33,65,31,16,363.9,11.8,0.5,0.00,
34,70,40,18,342.4,17.4,0.4,0.00,
35,71,40,22,273.8,18.3,0.4,0.00,
36,49,35,17,336.6,16.9,0.4,0.00,
37,54,22,9,427.9,7.5,0.5,0.00,
38,61,34,16,444.5,9.5,0.4,0.00,
39,71,46,16,369.0,11.3,0.5,0.00,
40,67,39,10,262.9,6.0,0.4,0.00,
41,72,35,12,251.1,6.3,0.4,0.00,
42,73,33,12,458.7,9.8,0.3,0.00,
43,65,38,17,462.3,4.9,0.3,0.00,
44,72,33,16,383.3,7.4,0.4,0.00,
45,74,46,12,469.7,12.7,0.4,0.00,
46,62,38,21,448.2,9.0,0.4,0.00,
47,54,37,30,298.6,16.7,0.4,0.00,
48,63,40,26,359.6,13.5,0.3,0.00,
49,62,31,20,246.2,4.6,0.4,0.00,
50,71,35,20,321.7,5.6,0.4,0.00,
```

```
51,70,47,22,270.4,15.3,0.4,0.00,
52,63,50,25,496.6,16.1,0.4,0.00,
53,65,45,25,280.6,1.6,0.4,0.00,
54,70,54,23,192.6,19.3,0.4,0.00,
55,76,40,21,101.7,7.3,0.4,0.05,
56,75,50,18,281.6,17.1,0.4,0.00,
57,62,41,18,357.3,8.2,0.5,0.00,
58,67,32,16,444.0,3.6,0.4,0.00,
59,79,37,9,341.4,6.6,0.4,0.09,
60,78,48,17,410.7,7.6,0.4,0.00,
61,80,45,22,438.7,7.6,0.5,0.00,
62,72,40,20,536.5,18.5,0.4,0.00,
63,52,36,11,340.6,9.7,0.3,0.00,
64,64,38,6,544.7,1.8,0.3,0.00,
65,69,49,7,272.8,14.0,0.3,0.00,
66,58,34,15,360.5,11.6,0.3,0.00,
67,56,27,9,556.9,6.4,0.4,0.00,
68,65,32,1,531.3,7.0,0.4,0.00,
69,64,33,15,520.2,8.7,0.5,0.00,
70,65,36,15,448.7,4.6,0.4,0.00,
71,71,36,10,364.7,5.1,0.3,0.00,
72,77,36,10,202.4,8.7,0.3,0.00,
73,77,53,19,581.0,19.1,0.4,0.00,
74,81,55,15,511.3,19.1,0.4,0.00,
75,80,44,13,429.0,14.6,0.3,0.00,
76,81,49,17,134.9,2.5,0.3,0.00,
77,59,44,12,356.2,12.0,0.4,0.00,
78,66,42,13,600.8,11.0,0.4,0.00,
79,70,34,14,383.6,4.3,0.4,0.00,
80,81,44,10,250.9,8.4,0.4,0.00,
81,79,56,9,594.4,7.0,0.3,0.00,
82,79,42,3,616.2,4.8,0.3,0.00,
83,59,39,31,620.0,12.9,0.3,0.00,
84,70,35,33,490.4,4.0,0.3,0.00,
85,83,43,18,535.0,11.9,0.4,0.00,
86,82,55,6,330.3,11.5,0.4,0.00,
87,82,55,11,528.8,15.2,0.3,0.00,
88,81,50,19,638.5,8.5,0.3,0.00,
89,82,47,20,567.9,12.3,0.3,0.00,
90,84,57,17,501.2,15.5,0.2,0.00,
91,79,57,20,403.7,14.4,0.3,0.00,
92,78,46,19,443.4,7.2,0.2,0.00,
93,82,51,20,518.7,9.0,0.3,0.00,
94,78,55,11,616.0,12.5,0.3,0.00,
95,70,43,22,549.7,5.8,0.3,0.00,
96,81,45,15,353.7,1.8,0.4,0.00,
97,78,59,13,451.8,11.5,0.3,0.00,
98,82,58,20,291.3,16.6,0.3,0.00,
99,80,53,19,459.9,7.9,0.3,0.00,
100,81,55,21,561.0,2.6,0.2,0.00,
```

```
101,70,49,13,678.5,24.8,0.3,0.00,
102,71,41,3,539.9,8.5,0.3,0.00,
103,65,43,6,656.1,7.1,0.3,0.00,
104,72,38,12,436.6,8.7,0.3,0.00,
105,83,45,18,453.7,5.1,0.3,0.00,
106,91,54,13,578.7,13.7,0.4,0.00,
107,86,64,3,677.2,19.4,0.3,0.00,
108,67,47,5,439.9,15.1,0.3,0.00,
109,77,40,10,583.4,4.4,0.3,0.00,
110,87,47,5,705.2,7.9,0.2,0.00,
111,84,68,7,703.1,18.5,0.3,0.00,
112,84,48,6,609.7,9.2,0.3,0.00,
113,87,47,3,545.1,5.0,0.3,0.00,
114,87,62,3,718.6,13.0,0.3,0.00,
115,87,58,13,543.5,13.6,0.3,0.00,
116,80,55,-1,723.5,9.1,0.3,0.00,
117,86,43,-4,725.8,8.4,0.3,0.00,
118,69,51,15,726.0,15.0,0.3,0.00,
119,77,42,10,730.4,4.6,0.3,0.00,
120,88,48,3,502.9,8.2,0.4,0.00,
121,89,68,12,375.0,23.4,0.3,0.00,
122,85,64,15,509.6,23.9,0.4,0.00,
123,81,50,0,544.6,13.5,0.3,0.00,
124,79,49,12,657.9,8.7,0.3,0.00,
125,85,58,32,513.0,6.2,0.4,0.00,
126,91,62,35,743.4,6.6,0.4,0.00,
127,89,61,21,746.7,15.0,0.3,0.00,
128,83,57,25,655.1,19.3,0.2,0.00,
129,88,62,20,750.2,14.1,0.2,0.00,
130,87,62,16,751.9,12.1,0.3,0.00,
131,88,63,7,598.6,11.8,0.2,0.00,
132,84,57,20,755.2,8.8,0.3,0.00,
133,93,62,8,756.8,18.0,0.2,0.00,
134,91,62,8,485.9,16.8,0.3,0.00,
135,76,60,26,717.8,9.0,0.3,0.00,
136,77,54,32,693.8,11.1,0.3,0.00,
137,62,51,47,644.8,8.4,0.4,0.03,
138,81,46,42,589.8,8.6,0.3,0.00,
139,87,52,35,765.2,6.6,0.4,0.00,
140,96,61,28,627.4,8.1,0.3,0.00,
141,100,62,26,721.3,6.6,0.3,0.00,
142,99,76,26,768.8,2.6,0.4,0.00,
143,87,67,30,769.9,22.5,0.3,0.00,
144,82,62,33,709.6,13.3,0.4,0.00,
145,89,57,30,771.9,9.3,0.3,0.00,
146,93,62,23,579.5,9.7,0.3,0.00,
147,93,67,18,690.3,14.0,0.3,0.00,
148,93,61,20,595.1,5.1,0.3,0.00,
149,96,63,46,680.9,11.6,0.3,0.00,
150,97,69,36,776.3,8.1,0.3,0.00,
```

```
151,98,64,16,460.9,7.2,0.3,0.00,
152,100,62,16,777.8,7.0,0.2,0.00,
153,103,62,14,760.3,6.2,0.3,0.00,
154,101,70,19,704.9,11.8,0.4,0.00,
155,99,74,22,623.3,13.8,0.3,0.00,
156,99,73,20,562.5,2.8,0.4,0.00,
157,88,72,23,631.7,22.6,0.4,0.00,
158,92,62,24,454.8,6.7,0.3,0.00,
159,101,65,32,729.1,9.8,0.3,0.00,
160,98,75,29,636.4,11.9,0.3,0.00,
161,98,67,26,508.3,6.7,0.2,0.00,
162,104,75,41,518.5,8.9,0.2,0.00,
163,101,77,27,689.5,13.9,0.2,0.00,
164,97,78,30,783.0,1.4,0.2,0.00,
165,99,70,17,733.6,8.2,0.2,0.00,
166,103,65,26,783.2,5.3,0.3,0.00,
167,105,74,30,670.1,8.3,0.2,0.00,
168,106,74,28,725.4,9.2,0.2,0.00,
169,106,78,38,637.9,7.4,0.3,0.00,
170,103,75,41,653.3,6.5,0.3,0.00,
171,104,79,20,574.5,13.0,0.3,0.00,
172,95,73,48,783.2,12.6,0.3,0.00,
173,95,73,48,783.0,12.7,0.4,0.00,
174,96,67,45,738.6,5.9,0.3,0.00,
175,100,75,42,782.6,9.1,0.3,0.00,
176,101,76,42,782.3,9.6,0.3,0.01,
177,99,75,42,752.6,1.1,0.2,0.00,
178,99,78,43,781.7,11.7,0.3,0.00,
179,96,77,45,781.3,9.3,0.4,0.00,
180,100,73,43,459.7,1.0,0.4,0.00,
181,81,67,54,780.4,1.9,0.4,0.02,
182,83,66,57,779.9,9.6,0.4,0.45,
183,90,65,57,779.4,4.4,0.4,0.00,
184,94,72,57,653.5,6.8,0.4,0.00,
185,94,70,54,717.2,1.6,0.4,0.00,
186,93,71,55,314.9,8.5,0.4,0.00,
187,95,72,53,776.8,6.3,0.4,0.00,
188,97,75,54,597.2,1.0,0.4,0.00,
189,95,68,59,377.8,9.5,0.4,0.48,
190,84,68,63,684.1,1.5,0.4,0.01,
191,78,67,66,760.5,7.2,0.5,0.98,
192,82,67,65,772.7,11.8,0.5,0.17,
193,88,68,61,771.8,7.6,0.4,0.00,
194,92,71,60,770.8,9.9,0.4,0.00,
195,88,68,61,769.8,9.2,0.4,0.10,
196,89,66,60,663.4,7.8,0.5,0.37,
197,92,70,59,767.6,1.3,0.5,0.00,
198,97,76,58,765.0,9.4,0.5,0.00,
199,93,71,62,493.9,6.4,0.4,0.04,
200,93,73,62,636.3,6.1,0.5,0.01,
```

```
201,86,70,62,705.9,5.1,0.5,0.25,
202,90,67,58,553.5,6.6,0.5,0.00,
203,93,71,58,758.7,6.2,0.5,0.00,
204,95,72,58,662.9,6.4,0.5,0.00,
205,95,72,58,688.2,6.4,0.5,0.00,
206,94,72,55,755.7,5.9,0.5,0.02,
207,90,71,60,607.0,9.5,0.5,0.01,
208,76,68,67,276.5,13.8,0.6,1.77,
209,81,68,65,404.9,9.6,0.6,0.13,
210,89,70,61,749.3,12.2,0.5,0.00,
211,96,72,54,495.7,5.8,0.4,0.00,
212,97,74,54,745.9,7.5,0.5,0.00,
213,96,71,55,744.1,4.8,0.6,0.00,
214,98,72,49,720.5,7.0,0.6,0.00,
215,94,69,53,621.6,7.2,0.5,0.01,
216,93,72,56,551.6,7.3,0.5,0.00,
217,90,70,62,617.6,6.1,0.5,0.09,
218,93,71,56,513.5,5.4,0.4,0.00,
219,96,73,51,593.8,5.6,0.5,0.00,
220,95,73,56,607.3,6.9,0.5,0.25,
221,88,67,61,509.3,6.5,0.5,0.03,
222,92,71,61,481.4,8.4,0.5,0.00,
223,93,74,61,481.1,7.1,0.5,0.00,
224,94,71,62,518.5,5.7,0.5,0.06,
225,95,70,60,500.4,7.7,0.5,0.33,
226,93,68,59,506.2,4.6,0.5,0.00,
227,94,69,60,639.9,8.6,0.5,0.29,
228,89,67,61,526.3,8.2,0.5,0.07,
229,81,66,62,709.2,7.1,0.4,0.29,
230,86,64,61,706.6,5.9,0.5,0.02,
231,91,66,57,584.0,6.4,0.5,0.00,
232,89,70,58,533.0,6.0,0.4,0.00,
233,91,69,55,692.9,7.4,0.4,0.00,
234,90,67,57,610.9,8.0,0.5,0.00,
235,92,68,56,693.1,8.0,0.4,0.00,
236,90,70,56,619.7,7.5,0.5,0.00,
237,85,69,58,464.6,8.6,0.4,0.00,
238,88,69,54,684.5,8.0,0.4,0.00,
239,89,67,58,681.5,6.7,0.4,0.32,
240,80,66,62,526.0,5.8,0.4,0.00,
241,89,65,62,675.5,3.6,0.4,0.26,
242,83,67,59,672.4,12.9,0.4,0.00,
243,79,66,62,564.2,8.7,0.4,0.38,
244,79,64,63,436.5,9.1,0.4,0.21,
245,87,63,60,580.5,5.8,0.5,0.00,
246,91,65,60,525.9,7.9,0.5,0.04,
247,81,65,59,607.6,5.0,0.4,0.02,
248,88,64,56,612.4,2.9,0.5,0.00,
249,91,65,52,642.5,4.5,0.4,0.00,
250,92,67,51,617.0,4.7,0.4,0.00,
```

```
251,88,61,59,244.9,11.3,0.4,1.22,
252,83,63,60,516.4,4.9,0.4,0.03,
253,79,65,59,586.9,8.9,0.4,0.00,
254,80,64,60,535.2,4.0,0.4,0.00,
255,72,66,62,558.6,6.3,0.4,0.21,
256,82,64,59,528.1,5.7,0.4,0.00,
257,85,64,56,214.4,5.7,0.5,0.00,
258,73,59,51,618.0,1.4,0.4,0.00,
259,71,57,50,551.1,8.8,0.3,0.00,
260,77,53,47,299.3,8.1,0.3,0.00,
261,79,57,46,546.7,7.1,0.3,0.00,
262,80,56,48,562.2,3.7,0.3,0.00,
263,85,58,49,475.6,4.6,0.3,0.00,
264,87,59,49,595.5,4.4,0.4,0.00,
265,86,62,49,591.7,4.2,0.4,0.00,
266,86,61,47,438.1,5.3,0.4,0.00,
267,88,62,47,344.6,5.4,0.3,0.00,
268,87,59,47,580.2,9.4,0.3,0.00,
269,83,60,49,576.3,9.2,0.3,0.00,
270,83,59,46,572.4,4.4,0.3,0.00,
271,83,58,43,544.9,6.7,0.3,0.00,
272,83,55,41,564.6,8.8,0.3,0.00,
273,82,54,40,475.3,8.2,0.3,0.00,
274,82,55,37,258.3,6.9,0.3,0.00,
275,84,53,34,389.0,5.1,0.3,0.00,
276,84,50,31,313.4,4.1,0.3,0.00,
277,87,53,35,452.0,4.7,0.3,0.00,
278,87,64,42,428.5,11.3,0.4,0.00,
279,78,59,48,537.0,11.0,0.3,0.01,
280,77,56,38,455.5,9.5,0.3,0.00,
281,78,51,41,529.1,7.3,0.2,0.00,
282,82,51,37,494.2,3.2,0.2,0.00,
283,88,51,40,282.0,7.4,0.3,0.00,
284,88,62,47,222.5,9.7,0.2,0.02,
285,85,66,56,367.1,6.4,0.2,0.01,
286,85,63,53,448.9,8.7,0.3,0.06,
287,80,53,42,388.6,4.9,0.2,0.00,
288,68,52,51,417.5,12.3,0.3,0.05,
289,74,47,41,312.0,7.3,0.3,0.00,
290,75,46,43,340.2,4.4,0.2,0.00,
291,80,46,41,316.1,5.6,0.3,0.00,
292,80,47,37,335.5,3.6,0.3,0.00,
293,84,50,41,482.6,3.2,0.4,0.00,
294,85,57,48,478.9,4.7,0.4,0.00,
295,85,61,39,475.2,8.1,0.4,0.00,
296,75,48,12,405.5,12.9,0.3,0.00,
297,69,37,16,285.6,4.7,0.3,0.00,
298,79,37,17,425.2,5.3,0.3,0.00,
299,81,41,18,165.4,4.6,0.3,0.00,
300,87,46,24,259.7,8.5,0.3,0.00,
```

```
301,67,50,32,357.3,1.1,0.3,0.00,
302,75,43,36,214.5,3.6,0.3,0.00,
303,78,48,39,380.1,4.4,0.2,0.00,
304,81,48,37,284.4,3.4,0.2,0.00,
305,81,48,34,389.5,4.4,0.3,0.00,
306,81,47,28,377.1,4.9,0.2,0.00,
307,80,44,32,346.2,3.0,0.3,0.00,
308,81,56,35,241.9,8.0,0.2,0.00,
309,81,56,40,419.3,14.4,0.2,0.00,
310,72,49,32,423.6,14.9,0.3,0.00,
311,62,41,8,420.5,8.2,0.4,0.00,
312,61,31,4,417.5,5.9,0.3,0.00,
313,66,28,5,298.6,2.3,0.2,0.00,
314,76,31,17,411.6,8.5,0.3,0.00,
315,69,54,32,363.5,12.3,0.3,0.00,
316,65,39,25,406.0,9.1,0.3,0.00,
317,66,37,23,403.2,5.9,0.4,0.00,
318,72,35,24,400.5,5.2,0.3,0.00,
319,77,45,28,381.4,8.7,0.4,0.00,
320,59,38,12,395.3,5.5,0.4,0.00,
321,65,32,17,268.8,5.4,0.4,0.00,
322,71,35,16,390.4,4.2,0.4,0.00,
323,71,37,18,100.7,4.6,0.3,0.00,
324,71,35,20,358.0,3.0,0.3,0.00,
325,66,38,22,269.1,1.5,0.4,0.00,
326,55,31,21,381.3,2.9,0.4,0.00,
327,64,35,23,379.2,4.6,0.5,0.00,
328,72,36,22,302.6,3.9,0.3,0.00,
329,64,42,17,156.0,8.7,0.4,0.00,
330,64,36,18,217.4,4.6,0.3,0.00,
331,69,41,25,137.2,2.7,0.3,0.00,
332,64,45,45,344.8,4.8,0.3,0.17,
333,60,44,37,73.6,1.0,0.3,0.00,
334,61,37,33,200.7,6.9,0.3,0.00,
335,67,36,29,298.6,8.9,0.3,0.00,
336,67,35,28,290.9,4.1,0.3,0.00,
337,72,35,25,203.2,8.7,0.3,0.00,
338,67,42,24,360.8,1.4,0.3,0.00,
339,62,36,23,359.6,2.6,0.4,0.00,
340,55,32,15,253.1,4.2,0.2,0.00,
341,65,27,17,235.2,3.8,0.3,0.00,
342,66,28,17,356.4,6.8,0.4,0.00,
343,65,45,27,355.5,11.4,0.4,0.02,
344,54,32,32,354.7,9.3,0.4,0.24,
345,48,27,26,354.0,3.8,0.4,0.00,
346,58,28,28,353.3,1.4,0.4,0.00,
347,62,30,29,326.9,2.9,0.4,0.00,
348,68,43,28,263.9,17.1,0.4,0.00,
349,67,44,32,252.8,2.7,0.3,0.00,
350,64,38,28,351.5,5.4,0.4,0.00,
```

```
351,66,32,21,280.4,1.7,0.4,0.00,
352,62,50,33,277.9,6.4,0.5,0.00,
353,70,43,35,350.9,11.7,0.4,0.00,
354,57,33,29,350.9,6.6,0.4,0.00,
355,65,35,16,351.0,7.9,0.4,0.00,
356,60,28,6,320.2,4.9,0.4,0.00,
357,56,25,14,243.5,4.6,0.4,0.00,
358,64,39,24,351.7,2.2,0.4,0.00,
359,61,40,33,352.1,4.3,0.5,0.00,
360,66,37,33,352.6,1.1,0.6,0.00,
361,66,35,31,353.1,18.3,0.5,0.00,
362,45,28,7,353.8,9.5,0.5,0.01,
363,51,22,7,354.5,2.9,0.5,0.00,
364,60,24,12,355.3,2.0,0.4,0.00,
365,64,27,17,316.1,4.5,0.4,0.00,
366,59,29,18,300.0,4.6,0.4,0.00,
```

```
1,68,27,17,326.7,5.1,0.5,0.00,
2,65,28,22,338.9,5.3,0.4,0.00,
3,66,43,29,359.7,9.3,0.5,0.00,
4,57,33,20,196.4,6.4,0.4,0.00,
5,53,31,20,279.8,8.9,0.5,0.00,
6,53,39,26,271.0,15.4,0.5,0.01,
7,60,30,23,343.4,5.1,0.4,0.00,
8,66,31,22,306.8,3.5,0.4,0.00,
9,70,42,18,365.6,9.5,0.4,0.00,
10,51,30,24,256.6,5.5,0.4,0.00,
11,56,20,13,263.8,2.6,0.4,0.00,
12,63,23,14,281.7,4.7,0.4,0.00,
13,56,30,14,128.6,4.1,0.4,0.00,
14,59,23,16,356.4,2.4,0.3,0.00,
15,64,24,14,341.5,2.2,0.4,0.00,
16,62,27,21,252.8,3.8,0.4,0.00,
17,66,31,16,174.3,5.9,0.5,0.00,
18,66,37,12,213.1,5.5,0.4,0.00,
19,67,38,11,265.8,5.5,0.4,0.00,
20,68,37,12,390.8,5.8,0.5,0.00,
21,70,35,13,368.3,4.0,0.4,0.00,
22,65,42,27,274.6,4.2,0.4,0.00,
23,70,51,46,332.9,7.0,0.4,0.00,
24,69,44,39,246.7,6.2,0.3,0.00,
25,72,48,33,269.0,7.7,0.3,0.00,
26,74,42,22,391.6,12.5,0.3,0.00,
27,59,39,17,409.5,11.7,0.4,0.00,
28,57,26,5,412.4,3.0,0.4,0.00,
29,59,29,6,415.3,8.8,0.4,0.00,
30,59,22,4,266.4,3.6,0.5,0.00,
31,63,28,6,209.3,4.8,0.5,0.00,
32,67,32,10,318.8,5.4,0.4,0.00,
33,61,29,12,363.9,3.3,0.5,0.00,
34,67,26,9,342.4,1.5,0.4,0.00,
35,69,34,6,273.8,4.6,0.4,0.00,
36,72,37,8,336.6,4.5,0.4,0.00,
37,77,42,12,427.9,6,0.5,0.00,
38,79,45,10,444.5,4.6,0.4,0.00,
39,66,44,23,369.0,11,0.5,0.00,
40,61,38,22,262.9,9.2,0.4,0.00,
41,51,34,18,251.1,17.5,0.4,0.00,
42,55,27,16,458.7,8,0.3,0.00,
43,68,34,10,462.3,8.2,0.3,0.00,
44,66,36,10,383.3,6.7,0.4,0.00,
45,67,39,6,469.7,9.2,0.4,0.00,
46,62,36,10,448.2,5,0.4,0.00,
47,65,43,21,298.6,5.2,0.4,0.00,
48,72,40,18,359.6,12.8,0.3,0.00,
49,63,36,18,246.2,6.8,0.4,0.00,
50,62,34,1,321.7,8.2,0.4,0.00,
```

```
51,67,31,-2,270.4,5,0.4,0.00,
52,61,33,8,496.6,6.4,0.4,0.00,
53,69,29,9,280.6,2.2,0.4,0.00,
54,78,39,13,192.6,3.8,0.4,0.00,
55,83,43,22,101.7,6.6,0.4,0.00,
56,83,55,24,281.6,4.9,0.4,0.00,
57,83,55,16,357.3,11.2,0.5,0.00,
58,78,57,4,444.0,9.5,0.4,0.00,
59,67,41,11,341.4,9.4,0.4,0.00,
60,67,39,9,410.7,4.3,0.4,0.00,
61,78,37,9,438.7,5,0.5,0.00,
62,85,38,10,536.5,2.8,0.4,0.00,
63,84,44,16,340.6,10.9,0.3,0.00,
64,81,61,23,544.7,13,0.3,0.00,
65,79,54,25,272.8,9.6,0.3,0.00,
66,77,54,22,360.5,16.1,0.3,0.00,
67,70,45,21,556.9,8.1,0.4,0.00,
68,62,51,45,531.3,8.2,0.4,0.01,
69,69,48,32,520.2,6.8,0.5,0.00,
70,59,38,29,448.7,6.4,0.4,0.05,
71,66,33,30,364.7,4.5,0.3,0.00,
72,64,40,34,202.4,7.3,0.3,0.00,
73,63,35,30,581.0,4.9,0.4,0.00,
74,69,42,23,511.3,7.2,0.4,0.00,
75,76,37,15,429.0,3.4,0.3,0.00,
76,82,39,13,134.9,3.9,0.3,0.00,
77,84,43,11,356.2,4.5,0.4,0.00,
78,81,48,27,600.8,7.2,0.4,0.00,
79,83,57,37,383.6,6.6,0.4,0.00,
80,84,52,33,250.9,4.6,0.4,0.00,
81,83,59,22,594.4,12.6,0.3,0.00,
82,79,57,12,616.2,16.5,0.3,0.00,
83,68,47,7,620.0,5.5,0.3,0.00,
84,74,53,4,490.4,11.7,0.3,0.00,
85,76,47,6,535.0,17.1,0.4,0.00,
86,57,40,15,330.3,10.7,0.4,0.00,
87,66,33,10,528.8,3.8,0.3,0.00,
88,79,40,7,638.5,13.7,0.3,0.00,
89,76,50,20,567.9,19.5,0.3,0.00,
90,71,43,11,501.2,7.5,0.2,0.00,
91,72,48,12,403.7,16.6,0.3,0.00,
92,74,41,13,443.4,5.8,0.2,0.00,
93,81,57,27,518.7,17.7,0.3,0.00,
94,74,57,24,616.0,23.8,0.3,0.00,
95,66,46,7,549.7,6.0,0.3,0.00,
96,65,43,11,353.7,7.2,0.4,0.00,
97,79,37,15,451.8,5.1,0.3,0.00,
98,87,54,25,291.3,17.2,0.3,0.00,
99,75,53,13,459.9,15.4,0.3,0.00,
100,81,53,19,561.0,8.0,0.2,0.00,
```

```
101,69,50,30,678.5,14.4,0.3,0.01,
102,69,46,31,539.9,13.7,0.3,0.00,
103,76,46,28,656.1,3.9,0.3,0.00,
104,87,54,19,436.6,9.5,0.3,0.00,
105,81,62,21,453.7,15.9,0.3,0.00,
106,67,46,19,578.7,12.7,0.4,0.00,
107,66,39,12,677.2,9.0,0.3,0.00,
108,77,47,15,439.9,7.4,0.3,0.00,
109,76,48,25,583.4,7.0,0.3,0.00,
110,82,52,23,705.2,2.5,0.2,0.00,
111,88,49,12,703.1,3.5,0.3,0.00,
112,91,54,15,609.7,6.9,0.3,0.00,
113,87,69,16,545.1,12.4,0.3,0.00,
114,87,65,14,718.6,9.7,0.3,0.00,
115,87,67,16,543.5,13.6,0.3,0.00,
116,81,63,20,723.5,14.3,0.3,0.00,
117,82,53,9,725.8,5.1,0.3,0.00,
118,90,53,14,726.0,6.0,0.3,0.00,
119,88,60,12,730.4,9.8,0.3,0.00,
120,89,55,10,502.9,7.5,0.4,0.00,
121,93,62,9,375.0,8.5,0.3,0.00,
122,89,73,24,509.6,16.3,0.4,0.00,
123,89,66,30,544.6,9.2,0.3,0.00,
124,92,67,26,657.9,11.7,0.3,0.00,
125,92,69,25,513.0,11.8,0.4,0.00,
126,94,68,21,743.4,7.4,0.4,0.00,
127,99,68,22,746.7,10.5,0.3,0.00,
128,99,67,19,655.1,9.5,0.2,0.00,
129,93,68,37,750.2,6.3,0.2,0.00,
130,98,67,29,751.9,5.0,0.3,0.00,
131,96,64,35,598.6,5.7,0.2,0.00,
132,96,68,27,755.2,12.8,0.3,0.00,
133,95,74,17,756.8,12.0,0.2,0.00,
134,92,66,23,485.9,6.2,0.3,0.00,
135,97,67,28,717.8,7.7,0.3,0.00,
136,84,62,44,693.8,12.4,0.3,0.00,
137,86,60,48,644.8,6.8,0.4,0.00,
138,90,63,37,589.8,5.7,0.3,0.00,
139,90,65,36,765.2,7.7,0.4,0.00,
140,87,63,41,627.4,6.0,0.3,0.00,
141,80,62,53,721.3,6.6,0.3,0.09,
142,76,56,54,768.8,6.1,0.4,0.59,
143,82,56,49,769.9,2.8,0.3,0.00,
144,88,63,45,709.6,5.3,0.4,0.04,
145,88,60,42,771.9,6.3,0.3,0.00,
146,88,59,34,579.5,7.7,0.3,0.00,
147,89,64,39,690.3,7.0,0.3,0.00,
148,90,65,45,595.1,6.4,0.3,0.05,
149,88,60,46,680.9,6.2,0.3,0.00,
150,87,67,44,776.3,6.2,0.3,0.00,
```

```
151,93,62,36,460.9,8.2,0.3,0.00,
152,92,62,26,777.8,6.2,0.2,0.00,
153,94,61,22,760.3,5.2,0.3,0.00,
154,92,66,42,704.9,6.4,0.4,0.00,
155,98,70,42,623.3,4.5,0.3,0.00,
156,96,74,37,562.5,9.2,0.4,0.00,
157,97,66,30,631.7,13.6,0.4,0.00,
158,94,76,23,454.8,14.9,0.3,0.00,
159,93,69,22,729.1,10.3,0.3,0.00,
160,88,74,38,636.4,8.0,0.3,0.00,
161,93,66,35,508.3,12.5,0.2,0.00,
162,94,71,30,518.5,14.0,0.2,0.00,
163,95,71,33,689.5,10.6,0.2,0.00,
164,98,68,35,783.0,8.0,0.2,0.00,
165,100,73,43,733.6,7.3,0.2,0.00,
166,99,70,32,783.2,10.5,0.3,0.00,
167,97,67,27,670.1,4.4,0.2,0.00,
168,96,74,34,725.4,6.4,0.2,0.00,
169,88,71,51,637.9,7.1,0.3,0.00,
170,85,67,54,653.3,5.6,0.3,0.00,
171,92,68,45,574.5,8.8,0.3,0.00,
172,98,67,42,783.2,4.7,0.3,0.00,
173,98,73,57,783.0,7.3,0.4,0.05,
174,87,71,63,738.6,5.3,0.3,0.09,
175,94,70,60,782.6,4.9,0.3,0.00,
176,97,72,50,782.3,7.0,0.3,0.00,
177,98,72,53,752.6,5.5,0.2,0.00,
178,99,74,55,781.7,7.9,0.3,0.02,
179,92,68,63,781.3,9.8,0.4,1.85,
180,90,68,62,459.7,4.7,0.4,0.07,
181,90,67,61,780.4,6.5,0.4,0.16,
182,92,69,57,779.9,7.1,0.4,0.00,
183,93,75,60,779.4,6.5,0.4,0.00,
184,94,75,62,653.5,7.7,0.4,0.00,
185,91,70,62,717.2,4.4,0.4,0.08,
186,92,73,60,314.9,5.8,0.4,0.00,
187,95,74,57,776.8,5.8,0.4,0.00,
188,100,78,54,597.2,9.1,0.4,0.00,
189,102,77,53,377.8,6.5,0.4,0.00,
190,103,81,53,684.1,7.2,0.4,0.00,
191,102,77,43,760.5,6.6,0.5,0.00,
192,100,76,44,772.7,6.8,0.5,0.00,
193,99,75,48,771.8,4.2,0.4,0.00,
194,102,76,49,770.8,3.5,0.4,0.00,
195,105,79,46,769.8,6.8,0.4,0.00,
196,105,80,48,663.4,6.8,0.5,0.00,
197,100,80,54,767.6,8.6,0.5,0.02,
198,96,72,53,765.0,5.5,0.5,0.00,
199,99,74,50,493.9,7.1,0.4,0.00,
200,100,75,49,636.3,6.9,0.5,0.00,
```

```
201,102,74,46,705.9,7.7,0.5,0.00,
202,98,72,51,553.5,6.0,0.5,0.12,
203,92,68,62,758.7,7.5,0.5,0.23,
204,92,72,61,662.9,5.5,0.5,0.00,
205,97,73,57,688.2,4.6,0.5,0.00,
206,101,75,52,755.7,3.7,0.5,0.00,
207,103,76,51,607.0,5.3,0.5,0.01,
208,100,78,55,276.5,4.6,0.6,0.00,
209,102,77,55,404.9,5.5,0.6,0.03,
210,102,74,54,749.3,9.4,0.5,0.00,
211,98,77,52,495.7,8.3,0.4,0.00,
212,95,70,56,745.9,6.2,0.5,0.00,
213,97,75,57,744.1,7.5,0.6,0.01,
214,96,70,56,720.5,6.4,0.6,0.00,
215,97,71,58,621.6,5.1,0.5,0.00,
216,102,74,56,551.6,5.6,0.5,0.00,
217,98,72,56,617.6,5.9,0.5,0.00,
218,99,73,56,513.5,5.9,0.4,0.00,
219,99,68,52,593.8,5.8,0.5,0.00,
220,97,76,47,607.3,7.5,0.5,0.00,
221,98,76,50,509.3,7.8,0.5,0.00,
222,98,73,54,481.4,5.2,0.5,0.21,
223,97,73,54,481.1,6.3,0.5,0.00,
224,94,73,58,518.5,5.6,0.5,0.00,
225,95,72,58,500.4,6.6,0.5,0.03,
226,92,66,59,506.2,7.2,0.5,0.32,
227,97,74,51,639.9,6.3,0.5,0.00,
228,99,75,46,526.3,4.9,0.5,0.00,
229,102,76,47,709.2,5.0,0.4,0.00,
230,101,75,50,706.6,7.5,0.5,0.00,
231,99,76,47,584.0,7.1,0.5,0.00,
232,101,76,48,533.0,6.6,0.4,0.00,
233,95,74,57,692.9,7.8,0.4,0.00,
234,93,72,57,610.9,4.8,0.5,0.00,
235,96,70,55,693.1,4.4,0.4,0.00,
236,87,71,58,619.7,6.7,0.5,0.02,
237,86,72,56,464.6,7.9,0.4,0.00,
238,93,68,53,684.5,4.9,0.4,0.00,
239,95,69,51,681.5,6.2,0.4,0.00,
240,95,69,45,526.0,6.4,0.4,0.00,
241,94,66,46,675.5,5.1,0.4,0.00,
242,93,72,43,672.4,4.9,0.4,0.00,
243,91,69,44,564.2,6.9,0.4,0.00,
244,93,69,45,436.5,5.1,0.4,0.00,
245,93,68,50,580.5,3.5,0.5,0.00,
246,93,74,50,525.9,5.1,0.5,0.00,
247,90,71,52,607.6,6.5,0.4,0.00,
248,89,66,50,612.4,6.0,0.5,0.00,
249,91,68,51,642.5,5.5,0.4,0.04,
250,91,68,56,617.0,5.0,0.4,0.00,
```

```
251,90,64,55,244.9,5.6,0.4,0.26,
252,92,67,54,516.4,4.9,0.4,0.00,
253,88,64,58,586.9,8.5,0.4,0.29,
254,84,64,59,535.2,4.7,0.4,0.00,
255,87,65,53,558.6,5.6,0.4,0.00,
256,84,63,53,528.1,3.4,0.4,0.00,
257,90,65,50,214.4,4.0,0.5,0.00,
258,93,70,47,618.0,5.9,0.4,0.00,
259,88,65,53,551.1,7.3,0.3,0.26,
260,77,62,59,299.3,11.4,0.3,0.80,
261,79,61,57,546.7,6.2,0.3,0.47,
262,83,61,56,562.2,4.8,0.3,0.38,
263,86,62,52,475.6,6.8,0.3,0.00,
264,91,65,47,595.5,6.8,0.4,0.00,
265,73,55,36,591.7,9.2,0.4,0.00,
266,73,55,35,438.1,7.4,0.4,0.00,
267,77,58,47,344.6,5.2,0.3,0.00,
268,85,61,49,580.2,2.8,0.3,0.00,
269,89,61,43,576.3,2.5,0.3,0.00,
270,92,59,37,572.4,4.0,0.3,0.00,
271,86,59,39,544.9,6.6,0.3,0.00,
272,91,61,51,564.6,4.1,0.3,0.00,
273,94,68,48,475.3,11.2,0.3,0.00,
274,87,64,33,258.3,8.6,0.3,0.00,
275,85,57,28,389.0,5.2,0.3,0.00,
276,75,59,45,313.4,8.8,0.3,0.02,
277,80,55,61,452.0,5.8,0.3,0.07,
278,82,64,58,428.5,12.2,0.4,0.00,
279,82,62,50,537.0,2.7,0.3,0.00,
280,87,61,49,455.5,6.2,0.3,0.00,
281,78,64,35,529.1,13.2,0.2,0.00,
282,77,54,25,494.2,7.1,0.2,0.00,
283,81,49,31,282.0,3.2,0.3,0.00,
284,82,57,42,222.5,9.4,0.2,0.00,
285,79,56,50,367.1,9.0,0.2,0.00,
286,83,60,57,448.9,7.3,0.3,0.00,
287,86,63,48,388.6,8.1,0.2,0.00,
288,86,59,38,417.5,3.7,0.3,0.00,
289,87,58,39,312.0,7.3,0.3,0.00,
290,79,56,40,340.2,8.2,0.2,0.00,
291,82,56,45,316.1,3.3,0.3,0.00,
292,86,60,48,335.5,7.6,0.3,0.00,
293,84,57,50,482.6,9.7,0.4,0.04,
294,71,53,38,478.9,6.7,0.4,0.00,
295,73,47,40,475.2,4.5,0.4,0.00,
296,74,50,34,405.5,5.0,0.3,0.00,
297,79,47,25,285.6,9.0,0.3,0.00,
298,78,56,28,425.2,8.8,0.3,0.00,
299,61,44,34,165.4,6.1,0.3,0.00,
300,78,39,30,259.7,11.2,0.3,0.00,
```

```
301,65,36,32,357.3,9.9,0.3,0.07,
302,53,35,21,214.5,11.1,0.3,0.01,
303,59,38,14,380.1,8.5,0.2,0.00,
304,65,33,23,284.4,2.0,0.2,0.00,
305,73,40,27,389.5,2.9,0.3,0.00,
306,78,38,29,377.1,2.2,0.2,0.00,
307,77,45,28,346.2,3.1,0.3,0.00,
308,79,45,29,241.9,4.0,0.2,0.00,
309,79,50,31,419.3,3.8,0.2,0.00,
310,79,42,28,423.6,2.0,0.3,0.00,
311,74,48,28,420.5,4.8,0.4,0.00,
312,77,43,33,417.5,2.5,0.3,0.00,
313,79,44,30,298.6,2.9,0.2,0.00,
314,76,50,43,411.6,4.6,0.3,0.00,
315,73,46,42,363.5,3.9,0.3,0.00,
316,77,50,38,406.0,5.2,0.3,0.00,
317,73,57,39,403.2,10.1,0.4,0.00,
318,68,51,40,400.5,8.1,0.3,0.00,
319,65,44,24,381.4,11.5,0.4,0.00,
320,57,33,11,395.3,6.8,0.4,0.00,
321,62,29,11,268.8,4.0,0.4,0.00,
322,68,34,16,390.4,6.0,0.4,0.00,
323,70,39,22,100.7,3.6,0.3,0.00,
324,65,37,21,358.0,2.5,0.3,0.00,
325,68,34,22,269.1,4.1,0.4,0.00,
326,69,39,19,381.3,5.5,0.4,0.00,
327,71,40,18,379.2,7.2,0.5,0.00,
328,59,37,13,302.6,5.5,0.3,0.00,
329,62,34,8,156.0,7.0,0.4,0.00,
330,63,37,11,217.4,5.9,0.3,0.00,
331,66,41,22,137.2,4.6,0.3,0.00,
332,67,40,38,344.8,4.0,0.3,0.01,
333,54,40,42,73.6,9.8,0.3,0.27,
334,41,33,33,200.7,8.5,0.3,0.68,
335,50,32,33,298.6,6.6,0.3,0.33,
336,50,29,32,290.9,4.0,0.3,0.00,
337,39,28,29,203.2,7.6,0.3,0.07,
338,38,23,22,360.8,5.1,0.3,0.00,
339,46,21,26,359.6,3.4,0.4,0.00,
340,59,36,26,253.1,8.7,0.2,0.00,
341,62,32,27,235.2,5.8,0.3,0.00,
342,61,39,33,356.4,16.5,0.4,0.00,
343,59,35,28,355.5,5.9,0.4,0.00,
344,59,34,28,354.7,4.6,0.4,0.00,
345,62,33,31,354.0,4.7,0.4,0.00,
346,62,35,31,353.3,6.2,0.4,0.00,
347,64,36,29,326.9,6.8,0.4,0.00,
348,64,39,30,263.9,5.6,0.4,0.00,
349,58,39,28,252.8,10.5,0.3,0.00,
350,60,36,29,351.5,4.9,0.4,0.00,
```

```
351,63,32,31,280.4,2.9,0.4,0.00,
352,62,33,24,277.9,4.9,0.5,0.00,
353,58,39,26,350.9,4.9,0.4,0.00,
354,60,30,26,350.9,3.2,0.4,0.00,
355,63,35,29,351.0,4.5,0.4,0.00,
356,62,48,28,320.2,10.2,0.4,0.00,
357,51,38,31,243.5,11.3,0.4,0.15,
358,51,30,26,351.7,5.4,0.4,0.00,
359,51,24,20,352.1,4.2,0.5,0.00,
360,49,27,13,352.6,4.9,0.6,0.00,
361,50,24,14,353.1,4.7,0.5,0.00,
362,51,30,19,353.8,8.5,0.5,0.00,
363,40,33,32,354.5,5.0,0.5,0.29,
364,54,32,30,355.3,8.9,0.4,0.00,
365,52,33,23,316.1,10.3,0.4,0.00,
```

```
1,52,25,23,326.7,0.9,0.5,0.00,
2,56,26,21,338.9,2.2,0.4,0.00,
3,57,33,24,359.7,3.7,0.5,0.00,
4,55,29,25,196.4,4.8,0.4,0.00,
5,57,28,26,279.8,2.9,0.5,0.00,
6,62,28,25,271.0,2.8,0.5,0.00,
7,44,30,17,343.4,8.3,0.4,0.00,
8,39,25,10,306.8,5.6,0.4,0.00,
9,47,18,18,365.6,1.4,0.4,0.00,
10,56,23,18,256.6,6.0,0.4,0.00,
11,56,34,16,263.8,5.5,0.4,0.00,
12,59,28,15,281.7,2.6,0.4,0.00,
13,57,25,16,128.6,2.5,0.4,0.00,
14,57,30,22,356.4,5.0,0.3,0.00,
15,59,33,23,341.5,4.3,0.4,0.00,
16,60,28,22,252.8,3.7,0.4,0.00,
17,62,32,20,174.3,6.4,0.5,0.00,
18,63,43,24,213.1,7.2,0.4,0.00,
19,65,42,23,265.8,10.0,0.4,0.00,
20,58,41,26,390.8,12.7,0.5,0.01,
21,66,42,31,368.3,11.5,0.4,0.00,
22,59,42,37,274.6,11.2,0.4,0.18,
23,49,39,29,332.9,20.9,0.4,0.17,
24,50,35,21,246.7,12.9,0.3,0.00,
25,52,28,20,269.0,2.3,0.3,0.00,
26,56,29,22,391.6,2.3,0.3,0.00,
27,59,34,28,409.5,6.9,0.4,0.08,
28,48,30,38,412.4,10.3,0.4,0.22,
29,47,30,28,415.3,5.4,0.4,0.00,
30,54,29,30,266.4,3.4,0.5,0.00,
31,59,38,34,209.3,3.3,0.5,0.00,
32,63,40,35,318.8,4.0,0.4,0.00,
33,64,40,33,363.9,7.9,0.5,0.00,
34,46,43,40,342.4,8.0,0.4,0.78,
35,56,42,36,273.8,7.0,0.4,0.03,
36,61,43,33,336.6,6.8,0.4,0.00,
37,64,39,31,427.9,5.2,0.5,0.00,
38,65,39,28,444.5,9.7,0.4,0.00,
39,55,39,22,369.0,8.7,0.5,0.00,
40,56,32,30,262.9,5.0,0.4,0.00,
41,58,35,33,251.1,4.8,0.4,0.41,
42,56,41,33,458.7,8.8,0.3,0.10,
43,58,34,26,462.3,5.1,0.3,0.00,
44,62,36,26,383.3,2.6,0.4,0.00,
45,62,36,25,469.7,6.8,0.4,0.00,
46,52,31,20,448.2,4.3,0.4,0.00,
47,58,35,20,298.6,4.3,0.4,0.00,
48,63,31,23,359.6,1.6,0.3,0.00,
49,70,39,26,246.2,4.6,0.4,0.00,
50,67,45,22,321.7,9.6,0.4,0.00,
```

```
51,67,42,26,270.4,14.0,0.4,0.00,
52,62,43,29,496.6,10.1,0.4,0.00,
53,59,44,32,280.6,12.1,0.4,0.06,
54,47,29,19,192.6,9.2,0.4,0.01,
55,56,30,17,101.7,6.7,0.4,0.00,
56,65,41,22,281.6,13.3,0.4,0.00,
57,59,39,20,357.3,6.4,0.5,0.00,
58,65,39,23,444.0,4.3,0.4,0.00,
59,60,44,30,341.4,13.3,0.4,0.04,
60,59,41,32,410.7,9.1,0.4,0.00,
61,61,37,28,438.7,1.9,0.5,0.00,
62,70,38,26,536.5,4.0,0.4,0.00,
63,74,42,25,340.6,7.2,0.3,0.00,
64,70,47,21,544.7,7.2,0.3,0.00,
65,73,40,26,272.8,6.9,0.3,0.00,
66,75,52,37,360.5,7.1,0.3,0.00,
67,59,45,29,556.9,17.7,0.4,0.01,
68,66,42,24,531.3,19.7,0.4,0.00,
69,58,40,17,520.2,16.5,0.5,0.00,
70,59,39,20,448.7,14.1,0.4,0.00,
71,66,36,15,364.7,4.0,0.3,0.00,
72,76,39,11,202.4,5.5,0.3,0.00,
73,72,47,21,581.0,10.3,0.4,0.00,
74,56,37,32,511.3,8.0,0.4,0.01,
75,64,32,29,429.0,4.2,0.3,0.00,
76,70,40,26,134.9,2.6,0.3,0.00,
77,78,37,19,356.2,6.4,0.4,0.00,
78,73,51,22,600.8,13.0,0.4,0.00,
79,58,37,19,383.6,8.7,0.4,0.00,
80,64,30,10,250.9,2.6,0.4,0.00,
81,75,36,9,594.4,4.3,0.3,0.00,
82,75,53,24,616.2,11.1,0.3,0.00,
83,66,47,26,620.0,10.6,0.3,0.00,
84,70,37,20,490.4,4.6,0.3,0.00,
85,81,47,9,535.0,18.6,0.4,0.00,
86,67,48,16,330.3,14.9,0.4,0.00,
87,66,38,19,528.8,3.0,0.3,0.00,
88,75,35,11,638.5,4.1,0.3,0.00,
89,86,44,9,567.9,12.2,0.3,0.00,
90,86,61,12,501.2,14.7,0.2,0.00,
91,81,53,17,403.7,17.4,0.3,0.00,
92,65,48,12,443.4,10.6,0.2,0.00,
93,77,45,16,518.7,7.6,0.3,0.00,
94,83,56,19,616.0,7.8,0.3,0.00,
95,87,58,17,549.7,13.9,0.3,0.00,
96,78,58,20,353.7,15.4,0.4,0.00,
97,66,45,0,451.8,9.5,0.3,0.00,
98,73,43,12,291.3,4.2,0.3,0.00,
99,83,50,13,459.9,7.1,0.3,0.00,
100,83,53,16,561.0,8.7,0.2,0.00,
```

```
101,85,50,21,678.5,4.5,0.3,0.00,
102,85,54,45,539.9,6.4,0.3,0.08,
103,85,57,34,656.1,6.6,0.3,0.00,
104,84,57,45,436.6,5.6,0.3,0.00,
105,83,53,45,453.7,4.7,0.3,0.00,
106,80,54,47,578.7,8.5,0.4,0.00,
107,69,54,45,677.2,7.4,0.3,0.03,
108,75,51,43,439.9,3.2,0.3,0.00,
109,73,52,44,583.4,6.4,0.3,0.00,
110,80,47,42,705.2,4.6,0.2,0.00,
111,86,60,39,703.1,9.9,0.3,0.00,
112,68,49,35,609.7,16.0,0.3,0.01,
113,61,46,28,545.1,17.6,0.3,0.00,
114,74,48,29,718.6,16.6,0.3,0.00,
115,81,49,20,543.5,7.0,0.3,0.00,
116,85,51,20,723.5,5.5,0.3,0.00,
117,78,51,36,725.8,5.5,0.3,0.00,
118,88,54,27,726.0,13.1,0.3,0.00,
119,84,57,26,730.4,25.5,0.3,0.00,
120,63,49,15,502.9,16.3,0.4,0.01,
121,67,48,13,375.0,11.5,0.3,0.00,
122,73,49,21,509.6,17.3,0.4,0.01,
123,75,45,26,544.6,7.0,0.3,0.00,
124,89,50,16,657.9,6.8,0.3,0.00,
125,94,51,13,513.0,10.2,0.4,0.00,
126,95,69,11,743.4,15.2,0.4,0.00,
127,91,62,15,746.7,7.0,0.3,0.00,
128,79,58,38,655.1,8.2,0.2,0.00,
129,92,53,27,750.2,9.6,0.2,0.00,
130,88,70,17,751.9,14.8,0.3,0.00,
131,92,59,11,598.6,14.2,0.2,0.00,
132,78,56,13,755.2,10.1,0.3,0.00,
133,85,47,16,756.8,3.1,0.2,0.00,
134,88,61,33,485.9,9.0,0.3,0.00,
135,86,55,36,717.8,5.3,0.3,0.00,
136,88,59,32,693.8,2.9,0.3,0.00,
137,93,57,27,644.8,3.8,0.4,0.00,
138,92,56,31,589.8,9.7,0.3,0.00,
139,88,67,27,765.2,13.1,0.4,0.00,
140,92,57,22,627.4,4.4,0.3,0.00,
141,98,59,25,721.3,7.9,0.3,0.00,
142,94,66,20,768.8,11.0,0.4,0.00,
143,94,71,22,769.9,11.5,0.3,0.00,
144,83,64,24,709.6,10.4,0.4,0.00,
145,89,54,22,771.9,4.9,0.3,0.00,
146,95,62,48,579.5,7.6,0.3,0.00,
147,95,70,49,690.3,7.8,0.3,0.00,
148,95,69,42,595.1,5.9,0.3,0.00,
149,97,69,40,680.9,7.3,0.3,0.00,
150,96,65,35,776.3,6.0,0.3,0.00,
```

```
151,98,64,38,460.9,5.4,0.3,0.00,
152,93,74,33,777.8,10.3,0.2,0.00,
153,92,71,25,760.3,9.5,0.3,0.00,
154,97,63,26,704.9,6.1,0.4,0.00,
155,101,73,28,623.3,6.0,0.3,0.00,
156,106,74,33,562.5,7.0,0.4,0.00,
157,110,72,43,631.7,10.6,0.4,0.00,
158,97,73,50,454.8,8.8,0.3,0.00,
159,103,69,40,729.1,8.4,0.3,0.00,
160,104,79,33,636.4,5.3,0.3,0.00,
161,98,78,31,508.3,10.9,0.2,0.00,
162,97,76,36,518.5,12.0,0.2,0.00,
163,98,69,28,689.5,12.4,0.2,0.00,
164,90,72,30,783.0,9.9,0.2,0.00,
165,93,63,25,733.6,6.8,0.2,0.00,
166,98,62,28,783.2,5.7,0.3,0.00,
167,101,74,42,670.1,7.8,0.2,0.00,
168,101,69,31,725.4,4.6,0.2,0.00,
169,103,68,35,637.9,5.8,0.3,0.00,
170,102,76,47,653.3,5.3,0.3,0.00,
171,103,75,38,574.5,4.0,0.3,0.00,
172,103,76,43,783.2,7.2,0.3,0.00,
173,101,80,49,783.0,8.9,0.4,0.00,
174,103,77,50,738.6,7.7,0.3,0.10,
175,97,72,53,782.6,8.7,0.3,0.00,
176,99,73,50,782.3,5.6,0.3,0.00,
177,96,73,49,752.6,6.1,0.2,0.00,
178,100,71,50,781.7,6.5,0.3,0.06,
179,97,66,53,781.3,9.2,0.4,0.92,
180,88,66,57,459.7,8.6,0.4,0.00,
181,88,69,59,780.4,7.8,0.4,0.00,
182,90,70,60,779.9,9.0,0.4,0.00,
183,88,71,62,779.4,8.1,0.4,0.00,
184,97,71,62,653.5,4.8,0.4,0.00,
185,97,71,42,717.2,10.0,0.4,0.00,
186,98,74,35,314.9,4.0,0.4,0.00,
187,97,73,53,776.8,8.4,0.4,0.13,
188,93,70,55,597.2,8.9,0.4,0.00,
189,90,71,57,377.8,9.8,0.4,0.00,
190,88,70,60,684.1,6.9,0.4,0.00,
191,87,72,64,760.5,4.6,0.5,0.31,
192,90,68,66,772.7,7.0,0.5,0.44,
193,94,67,62,771.8,4.4,0.4,0.14,
194,102,75,55,770.8,3.7,0.4,0.00,
195,99,80,55,769.8,7.9,0.4,0.00,
196,100,81,58,663.4,5.5,0.5,0.00,
197,93,73,61,767.6,6.0,0.5,0.02,
198,98,74,55,765.0,4.8,0.5,0.00,
199,100,75,51,493.9,3.9,0.4,0.00,
200,102,75,53,636.3,4.9,0.5,0.00,
```

```
201,100,75,56,705.9,6.4,0.5,0.00,
202,98,75,61,553.5,6.2,0.5,0.03,
203,94,71,61,758.7,6.4,0.5,0.00,
204,94,72,61,662.9,7.3,0.5,0.00,
205,88,72,62,688.2,6.8,0.5,0.00,
206,86,71,63,755.7,7.1,0.5,0.00,
207,87,71,60,607.0,6.6,0.5,0.00,
208,93,73,57,276.5,5.0,0.6,0.00,
209,94,71,61,404.9,4.3,0.6,0.00,
210,92,70,61,749.3,6.8,0.5,0.00,
211,92,69,62,495.7,6.4,0.4,0.00,
212,90,73,63,745.9,7.5,0.5,0.00,
213,92,71,59,744.1,7.8,0.6,0.00,
214,98,71,53,720.5,4.9,0.6,0.00,
215,100,71,51,621.6,4.1,0.5,0.00,
216,103,73,49,551.6,5.5,0.5,0.00,
217,98,77,51,617.6,7.6,0.5,0.00,
218,99,75,51,513.5,6.8,0.4,0.00,
219,99,75,53,593.8,5.7,0.5,0.00,
220,96,74,56,607.3,8.5,0.5,0.00,
221,96,70,53,509.3,5.4,0.5,0.00,
222,100,73,53,481.4,4.2,0.5,0.00,
223,100,76,56,481.1,3.9,0.5,0.00,
224,100,77,57,518.5,4.2,0.5,0.00,
225,102,77,57,500.4,5.0,0.5,0.07,
226,101,74,55,506.2,5.3,0.5,0.00,
227,99,76,59,639.9,7.0,0.5,0.00,
228,95,73,60,526.3,8.0,0.5,0.04,
229,97,70,58,709.2,4.0,0.4,0.00,
230,101,75,57,706.6,7.1,0.5,0.00,
231,97,75,60,584.0,4.6,0.5,0.00,
232,101,77,57,533.0,6.7,0.4,0.01,
233,98,73,59,692.9,6.2,0.4,0.03,
234,98,71,60,610.9,3.4,0.5,0.00,
235,101,75,56,693.1,4.0,0.4,0.01,
236,86,71,59,619.7,12.0,0.5,0.01,
237,85,66,45,464.6,7.4,0.4,0.00,
238,89,63,43,684.5,6.0,0.4,0.00,
239,93,68,53,681.5,5.2,0.4,0.00,
240,91,73,59,526.0,5.5,0.4,0.00,
241,94,67,60,675.5,4.5,0.4,0.14,
242,90,66,62,672.4,5.4,0.4,0.00,
243,93,70,60,564.2,6.8,0.4,0.00,
244,97,71,56,436.5,4.2,0.4,0.00,
245,100,71,51,580.5,4.4,0.5,0.00,
246,82,70,52,525.9,10.5,0.5,0.00,
247,89,63,48,607.6,4.2,0.4,0.00,
248,95,65,48,612.4,5.6,0.5,0.00,
249,97,68,47,642.5,4.0,0.4,0.00,
250,93,68,51,617.0,6.4,0.4,0.00,
```

```
251,92,68,58,244.9,4.8,0.4,0.19,
252,91,69,56,516.4,8.7,0.4,0.00,
253,90,74,43,586.9,10.6,0.4,0.00,
254,93,61,29,535.2,5.7,0.4,0.00,
255,94,61,45,558.6,5.9,0.4,0.01,
256,92,69,60,528.1,7.1,0.4,0.00,
257,91,68,58,214.4,3.2,0.5,0.00,
258,96,73,57,618.0,5.1,0.4,0.03,
259,95,66,59,551.1,5.3,0.3,0.07,
260,87,62,59,299.3,6.2,0.3,0.00,
261,91,66,57,546.7,5.8,0.3,0.00,
262,87,68,57,562.2,9.8,0.3,0.00,
263,89,70,59,475.6,7.2,0.3,0.00,
264,93,71,59,595.5,5.0,0.4,0.02,
265,84,71,64,591.7,6.8,0.4,0.20,
266,82,67,65,438.1,3.0,0.4,1.09,
267,90,68,60,344.6,7.0,0.3,0.01,
268,89,69,60,580.2,6.8,0.3,0.00,
269,82,67,55,576.3,7.7,0.3,0.00,
270,81,61,50,572.4,1.5,0.3,0.00,
271,90,59,48,544.9,4.1,0.3,0.00,
272,95,61,44,564.6,2.4,0.3,0.00,
273,90,63,46,475.3,7.3,0.3,0.00,
274,90,61,43,258.3,2.5,0.3,0.00,
275,91,59,43,389.0,5.6,0.3,0.00,
276,82,64,50,313.4,7.2,0.3,0.00,
277,82,61,52,452.0,5.1,0.3,0.16,
278,80,62,52,428.5,6.0,0.4,0.00,
279,87,63,46,537.0,5.9,0.3,0.00,
280,85,59,42,455.5,4.5,0.3,0.00,
281,87,59,38,529.1,2.9,0.2,0.00,
282,85,55,29,494.2,4.6,0.2,0.00,
283,81,55,30,282.0,5.7,0.3,0.00,
284,83,50,30,222.5,4.6,0.2,0.00,
285,84,53,31,367.1,3.9,0.2,0.00,
286,82,60,41,448.9,8.5,0.3,0.00,
287,81,54,38,388.6,3.3,0.2,0.00,
288,82,54,36,417.5,2.9,0.3,0.01,
289,82,58,42,312.0,4.8,0.3,0.00,
290,85,61,40,340.2,3.9,0.2,0.00,
291,82,59,35,316.1,4.6,0.3,0.00,
292,81,52,36,335.5,3.0,0.3,0.00,
293,83,60,49,482.6,6.2,0.4,0.01,
294,75,55,42,478.9,7.3,0.4,0.00,
295,69,49,36,475.2,8.5,0.4,0.00,
296,72,52,35,405.5,11.8,0.3,0.00,
297,75,52,34,285.6,10.6,0.3,0.00,
298,79,59,36,425.2,14.4,0.3,0.00,
299,79,49,38,165.4,8.0,0.3,0.00,
300,76,57,37,259.7,8.3,0.3,0.00,
```

```
301,74,49,21,357.3,9.1,0.3,0.00,
302,80,47,31,214.5,2.5,0.3,0.00,
303,86,49,36,380.1,7.0,0.2,0.00,
304,78,53,26,284.4,6.7,0.2,0.00,
305,78,47,26,389.5,6.0,0.3,0.00,
306,72,46,30,377.1,3.3,0.2,0.00,
307,77,46,28,346.2,7.8,0.3,0.00,
308,68,47,30,241.9,4.2,0.2,0.00,
309,72,45,26,419.3,1.5,0.2,0.00,
310,74,38,23,423.6,2.1,0.3,0.00,
311,79,45,22,420.5,4.4,0.4,0.00,
312,78,41,19,417.5,7.0,0.3,0.00,
313,70,55,24,298.6,12.2,0.2,0.00,
314,67,41,21,411.6,5.1,0.3,0.00,
315,70,43,24,363.5,4.7,0.3,0.00,
316,62,40,21,406.0,6.5,0.3,0.00,
317,62,31,15,403.2,3.4,0.4,0.00,
318,66,32,12,400.5,5.0,0.3,0.00,
319,65,50,20,381.4,13.6,0.4,0.00,
320,67,35,23,395.3,12.6,0.4,0.00,
321,67,46,17,268.8,7.7,0.4,0.00,
322,67,35,18,390.4,3.2,0.4,0.00,
323,72,38,20,100.7,5.3,0.3,0.00,
324,70,41,22,358.0,5.0,0.3,0.00,
325,73,43,27,269.1,13.3,0.4,0.00,
326,69,42,25,381.3,11.2,0.4,0.00,
327,66,32,16,379.2,4.4,0.5,0.00,
328,68,48,5,302.6,9.8,0.3,0.00,
329,60,37,13,156.0,9.9,0.4,0.00,
330,53,23,-6,217.4,3.7,0.3,0.00,
331,59,23,2,137.2,1.8,0.3,0.00,
332,67,32,14,344.8,14.5,0.3,0.00,
333,49,37,13,73.6,17.0,0.3,0.00,
334,50,22,9,200.7,3.9,0.3,0.00,
335,57,20,5,298.6,3.7,0.3,0.00,
336,65,28,7,290.9,2.2,0.3,0.00,
337,69,27,5,203.2,3.5,0.3,0.00,
338,69,35,13,360.8,4.5,0.3,0.00,
339,66,37,23,359.6,1.8,0.4,0.00,
340,63,33,20,253.1,3.1,0.2,0.00,
341,68,35,19,235.2,7.0,0.3,0.00,
342,63,30,15,356.4,2.7,0.4,0.00,
343,67,26,12,355.5,2.9,0.4,0.00,
344,73,39,20,354.7,12.7,0.4,0.00,
345,71,47,27,354.0,8.1,0.4,0.00,
346,60,39,15,353.3,3.2,0.4,0.00,
347,66,30,18,326.9,1.3,0.4,0.00,
348,71,32,19,263.9,5.4,0.4,0.00,
349,73,51,24,252.8,10.4,0.3,0.00,
350,67,44,28,351.5,5.6,0.4,0.00,
```

```
351,61,48,33,280.4,8.3,0.4,0.00,
352,64,38,33,277.9,12.9,0.5,0.00,
353,69,46,37,350.9,7.7,0.4,0.00,
354,69,48,33,350.9,7.6,0.4,0.00,
355,72,48,32,351.0,6.4,0.4,0.00,
356,71,40,28,320.2,2.0,0.4,0.00,
357,67,38,32,243.5,8.0,0.4,0.00,
358,60,35,28,351.7,3.6,0.4,0.00,
359,58,37,23,352.1,4.1,0.5,0.00,
360,59,27,19,352.6,2.1,0.6,0.00,
361,60,32,21,353.1,3.0,0.5,0.00,
362,63,44,24,353.8,5.7,0.5,0.00,
363,62,42,24,354.5,15.8,0.5,0.00,
364,62,33,29,355.3,18.1,0.4,0.16,
365,36,30,16,316.1,12.5,0.4,0.00,
```

```
1,58,31,14,326.7,7.61,0.5,0
2,66,40,14,338.9,9.4,0.4,0
3,62,31,22,359.7,7.38,0.5,0
4,63,35,23,196.4,6.71,0.4,0
5,71,35,19,279.8,11.41,0.5,0
6,69,38,19,271,16.11,0.5,0
7,53,24,19,343.4,6.71,0.4,0
8,56,20,22,306.8,4.7,0.4,0
9,59,24,21,365.6,6.04,0.4,0
10,61,23,21,256.6,7.16,0.4,0
11,58,28,20,263.8,6.26,0.4,0
12,59,25,22,281.7,8.28,0.4,0
13,62,23,22,128.6,5.82,0.4,0
14,64,23,22,356.4,5.37,0.3,0
15,62,32,22,341.5,5.59,0.4,0
16,68,37,22,252.8,10.74,0.4,0
17,62,28,33,174.3,6.04,0.5,0
18,67,26,31,213.1,5.37,0.4,0
19,68,25,31,265.8,4.92,0.4,0
20,71,29,31,390.8,7.38,0.5,0
21,61,31,21,368.3,6.93,0.4,0
22,60,29,21,274.6,5.14,0.4,0
23,63,29,23,332.9,4.7,0.4,0
24,71,40,22,246.7,6.93,0.3,0
25,71,42,19,269,11.63,0.3,0
26,56,41,17,391.6,12.08,0.3,0
27,56,34,18,409.5,8.5,0.4,0
28,46,32,13,412.4,10.07,0.4,0.02
29,44,32,13,415.3,5.59,0.4,0.01
30,55,30,20,266.4,9.62,0.5,0
31,42,22,29,209.3,8.28,0.5,0
32,46,16,30,318.8,8.72,0.4,0
33,52,15,7,363.9,5.82,0.5,0
34,63,24,1,342.4,6.93,0.4,0
35,61,42,9,273.8,10.96,0.4,0
36,64,32,26,336.6,6.71,0.4,0
37,66,27,21,427.9,6.49,0.5,0
38,74,35,21,444.5,9.62,0.4,0
39,61,45,20,369,9.62,0.5,0.23
40,58,39,12,262.9,9.17,0.4,0
41,60,38,10,251.1,7.61,0.4,0
42,73,42,10,458.7,13.65,0.3,0
43,59,36,9,462.3,10.51,0.3,0
44,56,27,9,383.3,7.83,0.4,0
45,64,37,10,469.7,5.82,0.4,0
46,72,38,13,448.2,6.71,0.4,0
47,76,34,18,298.6,5.37,0.4,0
48,76,40,30,359.6,6.93,0.3,0
49,76,52,31,246.2,14.54,0.4,0
50,62,45,29,321.7,13.42,0.4,0
```

```
51,61,38,30,270.4,6.49,0.4,0
52,64,40,23,496.6,9.84,0.4,0
53,58,45,18,280.6,16.11,0.4,0
54,58,33,20,192.6,6.49,0.4,0
55,66,24,24,101.7,6.93,0.4,0
56,75,32,21,281.6,7.38,0.4,0
57,70,38,9,357.3,5.37,0.5,0
58,74,46,29,444,7.83,0.4,0
59,67,51,11,341.4,12.75,0.4,0
60,68,38,14,410.7,6.71,0.4,0
61,68,37,17,438.7,6.49,0.5,0
62,73,40,27,536.5,5.82,0.4,0
63,78,48,20,340.6,6.93,0.3,0
64,77,50,30,544.7,10.74,0.3,0
65,79,40,19,272.8,7.61,0.3,0
66,81,43,21,360.5,10.07,0.3,0
67,64,38,24,556.9,11.63,0.4,0.02
68,59,35,20,531.3,7.61,0.4,0
69,68,30,10,520.2,7.38,0.5,0
70,76,37,17,448.7,9.62,0.4,0
71,68,47,15,364.7,11.63,0.3,0
72,59,42,16,202.4,11.41,0.3,0.04
73,59,46,31,581,7.61,0.4,0.31
74,75,50,29,511.3,6.26,0.4,0
75,77,48,20,429,6.26,0.3,0
76,83,53,22,134.9,9.17,0.3,0
77,82,54,20,356.2,8.72,0.4,0
78,78,62,25,600.8,10.29,0.4,0
79,68,56,10,383.6,14.09,0.4,0
80,74,47,18,250.9,5.14,0.4,0
81,80,47,35,594.4,10.96,0.3,0
82,76,59,19,616.2,13.87,0.3,0
83,78,58,13,620,8.95,0.3,0
84,80,50,17,490.4,11.63,0.3,0
85,67,49,23,535,17.9,0.4,0
86,60,36,25,330.3,11.63,0.4,0
87,60,29,22,528.8,6.71,0.3,0
88,72,33,28,638.5,6.71,0.3,0
89,66,41,35,567.9,11.18,0.3,0
90,78,37,23,501.2,5.37,0.2,0
91,83,50,21,403.7,8.5,0.3,0
92,82,56,20,443.4,10.07,0.2,0
93,79,45,28,518.7,6.93,0.3,0
94,79,56,28,616,14.76,0.3,0
95,73,48,18,549.7,16.33,0.3,0
96,74,40,36,353.7,8.05,0.4,0
97,82,46,36,451.8,11.41,0.3,0
98,83,53,31,291.3,13.2,0.3,0
99,81,61,34,459.9,16.78,0.3,0
100,81,51,30,561,13.65,0.2,0
```

```
101,72,47,10,678.5,8.05,0.3,0
102,78,42,13,539.9,5.59,0.3,0
103,83,45,20,656.1,8.5,0.3,0
104,86,62,14,436.6,12.53,0.3,0
105,82,56,7,453.7,9.17,0.3,0
106,81,51,9,578.7,10.51,0.4,0
107,85,45,17,677.2,6.93,0.3,0
108,90,50,24,439.9,5.59,0.3,0
109,95,52,25,583.4,5.82,0.3,0
110,88,59,28,705.2,8.72,0.2,0
111,91,59,28,703.1,6.49,0.3,0
112,87,63,25,609.7,8.95,0.3,0.02
113,81,60,27,545.1,8.5,0.3,0.63
114,83,57,29,718.6,12.08,0.3,0
115,77,51,30,543.5,16.11,0.3,0
116,81,58,25,723.5,14.32,0.3,0
117,78,52,13,725.8,13.2,0.3,0
118,79,43,12,726,9.17,0.3,0
119,75,48,16,730.4,10.96,0.3,0
120,79,44,17,502.9,7.61,0.4,0
121,85,51,24,375,10.74,0.3,0
122,83,57,26,509.6,9.4,0.4,0
123,87,61,17,544.6,8.95,0.3,0
124,93,55,22,657.9,5.82,0.3,0
125,96,63,25,513,8.5,0.4,0
126,92,64,31,743.4,10.29,0.4,0
127,88,68,9,746.7,10.96,0.3,0
128,80,60,6,655.1,12.53,0.2,0
129,85,53,12,750.2,8.28,0.2,0
130,86,49,25,751.9,7.61,0.3,0
131,86,58,24,598.6,6.93,0.2,0
132,84,61,27,755.2,9.17,0.3,0
133,86,59,27,756.8,11.41,0.2,0
134,91,63,34,485.9,7.61,0.3,0
135,94,63,37,717.8,10.51,0.3,0
136,94,66,37,693.8,10.51,0.3,0
137,94,61,24,644.8,6.93,0.4,0
138,93,64,34,589.8,7.61,0.3,0
139,92,63,38,765.2,8.05,0.4,0
140,93,62,23,627.4,6.93,0.3,0
141,91,65,31,721.3,8.28,0.3,0
142,80,61,24,768.8,9.17,0.4,0.16
143,92,57,21,769.9,6.93,0.3,0.12
144,91,62,31,709.6,7.61,0.4,0.25
145,88,63,14,771.9,11.41,0.3,0
146,81,59,19,579.5,8.95,0.3,0
147,89,61,21,690.3,5.82,0.3,0
148,97,63,27,595.1,4.92,0.3,0
149,99,65,29,680.9,6.04,0.3,0
150,103,68,41,776.3,5.59,0.3,0
```

```
151,101,73,59,460.9,9.62,0.3,0.27
152,101,68,62,777.8,10.96,0.2,0.37
153,98,67,56,760.3,8.5,0.3,0
154,96,65,54,704.9,8.95,0.4,0.3
155,97,67,51,623.3,6.26,0.3,0
156,100,67,47,562.5,7.61,0.4,0
157,102,72,49,631.7,8.5,0.4,0
158,100,79,43,454.8,11.18,0.3,0
159,100,76,27,729.1,9.62,0.3,0
160,102,73,24,636.4,7.83,0.3,0
161,107,68,12,508.3,8.28,0.2,0
162,102,77,15,518.5,12.53,0.2,0
163,103,73,23,689.5,10.29,0.2,0
164,102,76,27,783,8.28,0.2,0
165,104,78,12,733.6,9.4,0.2,0
166,100,82,17,783.2,10.51,0.3,0
167,104,79,22,670.1,8.28,0.2,0
168,106,79,27,725.4,12.08,0.2,0
169,101,74,38,637.9,10.29,0.3,0
170,97,74,28,653.3,10.29,0.3,0
171,99,73,34,574.5,9.62,0.3,0
172,94,76,30,783.2,7.83,0.3,0
173,98,72,47,783,7.83,0.4,0
174,104,72,40,738.6,9.4,0.3,0
175,107,71,35,782.6,6.71,0.3,0
176,111,79,28,782.3,7.61,0.3,0
177,112,80,25,752.6,7.61,0.2,0
178,113,81,42,781.7,9.84,0.3,0
179,113,81,47,781.3,9.17,0.4,0
180,111,82,52,459.7,7.61,0.4,0
181,114,77,50,780.4,7.16,0.4,0
182,111,85,54,779.9,7.61,0.4,0
183,108,83,55,779.4,9.62,0.4,0
184,108,85,56,653.5,10.51,0.4,0
185,103,84,52,717.2,12.75,0.4,0
186,102,78,46,314.9,12.75,0.4,0
187,100,78,45,776.8,11.86,0.4,0
188,104,78,43,597.2,8.05,0.4,0
189,102,72,46,377.8,11.41,0.4,0.02
190,101,71,48,684.1,8.28,0.4,0
191,102,71,52,760.5,7.38,0.5,0
192,103,75,56,772.7,9.17,0.5,0
193,107,79,65,771.8,8.5,0.4,0
194,107,76,66,770.8,8.5,0.4,0
195,102,70,65,769.8,9.4,0.4,0
196,102,75,61,663.4,10.29,0.5,0
197,98,72,56,767.6,11.86,0.5,0
198,92,69,52,765,7.61,0.5,0.08
199,96,69,52,493.9,7.16,0.4,0
200,98,75,53,636.3,9.17,0.5,0
```

```
201,102,79,55,705.9,9.4,0.5,0
202,101,75,61,553.5,10.96,0.5,0.02
203,99,72,63,758.7,7.16,0.5,0
204,102,71,63,662.9,6.71,0.5,0
205,103,73,64,688.2,6.93,0.5,0
206,105,73,64,755.7,7.61,0.5,0
207,99,78,67,607,8.5,0.5,0
208,97,74,68,276.5,7.16,0.6,0
209,91,66,65,404.9,9.4,0.6,0.06
210,97,66,65,749.3,8.95,0.5,0
211,98,70,62,495.7,8.05,0.4,0
212,102,73,63,745.9,7.16,0.5,0
213,100,76,61,744.1,7.83,0.6,0
214,99,74,59,720.5,7.61,0.6,0.01
215,99,72,59,621.6,8.5,0.5,0.01
216,97,73,58,551.6,10.29,0.5,0
217,95,72,56,617.6,9.62,0.5,0
218,100,73,59,513.5,6.71,0.4,0
219,106,78,57,593.8,9.17,0.5,0
220,101,78,69,607.3,10.29,0.5,0
221,102,73,61,509.3,8.5,0.5,0
222,97,75,59,481.4,8.5,0.5,0
223,94,70,64,481.1,10.29,0.5,0
224,97,73,62,518.5,6.26,0.5,0
225,102,71,64,500.4,6.71,0.5,0
226,96,72,65,506.2,11.41,0.5,0
227,89,72,65,639.9,8.28,0.5,0
228,99,74,66,526.3,6.26,0.5,0
229,104,71,67,709.2,6.26,0.4,0
230,106,71,64,706.6,7.61,0.5,0
231,103,78,66,584,9.4,0.5,0
232,100,70,60,533,9.4,0.4,0
233,100,69,61,692.9,6.71,0.4,0
234,101,74,62,610.9,5.59,0.5,0
235,103,75,55,693.1,4.92,0.4,0
236,98,75,54,619.7,8.05,0.5,0
237,99,71,55,464.6,6.49,0.4,0
238,102,71,56,684.5,7.38,0.4,0
239,99,73,51,681.5,7.83,0.4,0
240,102,74,46,526,6.26,0.4,0
241,101,72,43,675.5,8.72,0.4,0
242,98,71,48,672.4,8.28,0.4,0
243,93,71,47,564.2,8.05,0.4,0
244,91,71,49,436.5,9.84,0.4,0
245,92,70,52,580.5,10.74,0.5,0
246,91,71,53,525.9,8.95,0.5,0
247,90,71,57,607.6,7.61,0.4,0.03
248,95,67,56,612.4,8.28,0.5,0
249,88,72,39,642.5,8.72,0.4,0
250,93,67,45,617,6.71,0.4,0
```

```
251,96,64,31,244.9,7.16,0.4,0
252,97,69,34,516.4,6.04,0.4,0
253,99,71,53,586.9,6.93,0.4,0
254,96,68,45,535.2,8.72,0.4,0
255,96,70,48,558.6,9.4,0.4,0
256,94,67,50,528.1,8.72,0.4,0
257,92,70,61,214.4,6.49,0.5,0
258,92,63,61,618,8.28,0.4,0
259,86,60,61,551.1,10.96,0.3,0
260,87,60,61,299.3,9.17,0.3,0
261,88,55,50,546.7,6.93,0.3,0
262,92,61,48,562.2,4.92,0.3,0
263,95,64,49,475.6,5.14,0.3,0
264,82,72,44,595.5,7.61,0.4,0
265,75,58,46,591.7,10.07,0.4,0
266,91,58,46,438.1,6.93,0.4,0
267,92,59,39,344.6,8.05,0.3,0
268,91,59,36,580.2,7.38,0.3,0
269,93,63,37,576.3,7.61,0.3,0
270,96,58,43,572.4,6.26,0.3,0
271,97,55,43,544.9,6.26,0.3,0
272,97,61,45,564.6,5.82,0.3,0
273,97,63,43,475.3,5.82,0.3,0
274,89,71,47,258.3,9.17,0.3,0
275,87,58,54,389,9.84,0.3,0
276,87,68,53,313.4,7.38,0.3,0
277,91,62,55,452,5.37,0.3,0
278,96,65,52,428.5,13.65,0.4,0
279,81,64,44,537,12.3,0.3,0
280,76,57,41,455.5,10.29,0.3,0.19
281,73,52,29,529.1,9.84,0.2,0
282,73,47,31,494.2,8.5,0.2,0
283,75,43,42,282,5.37,0.3,0
284,80,41,45,222.5,4.7,0.2,0
285,84,45,30,367.1,5.59,0.2,0
286,84,51,28,448.9,13.2,0.3,0
287,66,54,26,388.6,14.32,0.2,0.13
288,78,52,27,417.5,12.3,0.3,0
289,79,62,34,312,9.17,0.3,0
290,67,55,28,340.2,9.17,0.2,0.03
291,75,48,36,316.1,6.49,0.3,0
292,80,49,27,335.5,5.59,0.3,0
293,83,54,31,482.6,7.83,0.4,0
294,82,47,29,478.9,6.04,0.4,0
295,83,45,29,475.2,5.59,0.4,0
296,85,49,22,405.5,5.82,0.3,0
297,85,57,46,285.6,5.82,0.3,0
298,71,52,51,425.2,9.17,0.3,0
299,71,50,46,165.4,6.04,0.3,0
300,79,45,46,259.7,6.71,0.3,0
```

```
301,85,46,36,357.3,6.49,0.3,0
302,86,47,35,214.5,6.71,0.3,0
303,79,55,34,380.1,8.95,0.2,0
304,77,50,29,284.4,8.05,0.2,0
305,79,42,28,389.5,8.72,0.3,0
306,75,60,22,377.1,14.99,0.2,0.06
307,69,58,20,346.2,11.18,0.3,0
308,62,44,33,241.9,12.3,0.2,0.09
309,69,32,36,419.3,6.49,0.2,0
310,79,38,34,423.6,6.49,0.3,0
311,82,45,36,420.5,8.5,0.4,0
312,72,56,24,417.5,9.84,0.3,0.04
313,72,45,25,298.6,8.5,0.2,0
314,76,39,22,411.6,6.49,0.3,0
315,66,45,20,363.5,10.29,0.3,0.08
316,63,53,42,406,6.93,0.3,0.27
317,64,47,49,403.2,7.61,0.4,0
318,63,40,51,400.5,9.17,0.3,0
319,59,41,39,381.4,9.62,0.4,0
320,73,44,35,395.3,8.05,0.4,0
321,62,43,28,268.8,12.97,0.4,0
322,71,41,31,390.4,7.38,0.4,0
323,73,39,33,100.7,12.53,0.3,0
324,56,33,35,358,13.42,0.3,0
325,66,29,41,269.1,6.26,0.4,0
326,69,38,37,381.3,9.17,0.4,0
327,53,45,29,379.2,8.72,0.5,0
328,64,40,43,302.6,5.82,0.3,0
329,70,43,50,156,6.26,0.4,0
330,75,47,34,217.4,16.55,0.3,0
331,58,37,23,137.2,13.65,0.3,0
332,59,25,27,344.8,8.05,0.3,0
333,54,34,26,73.6,11.63,0.3,0
334,61,24,25,200.7,6.93,0.3,0
335,68,30,28,298.6,5.82,0.3,0
336,69,35,37,290.9,6.93,0.3,0
337,68,32,38,203.2,6.71,0.3,0
338,71,39,37,360.8,6.49,0.3,0
339,56,46,31,359.6,6.26,0.4,0.26
340,66,49,21,253.1,10.29,0.2,0.07
341,67,40,26,235.2,6.71,0.3,0
342,64,39,28,356.4,6.49,0.4,0
343,54,38,27,355.5,8.05,0.4,0
344,53,33,31,354.7,9.62,0.4,0
345,61,33,37,354,6.93,0.4,0
346,56,39,41,353.3,6.93,0.4,0.01
347,55,42,48,326.9,6.26,0.4,0.02
348,62,34,39,263.9,4.92,0.4,0
349,62,32,33,252.8,6.71,0.3,0
350,61,34,31,351.5,6.93,0.4,0
```

```
351,64,27,40,280.4,7.16,0.4,0
352,69,34,43,277.9,7.38,0.5,0
353,67,32,38,350.9,6.71,0.4,0
354,65,35,36,350.9,5.14,0.4,0
355,67,32,34,351,7.61,0.4,0
356,65,42,35,320.2,9.17,0.4,0
357,55,43,28,243.5,9.84,0.4,0.37
358,51,43,29,351.7,6.04,0.4,0.01
359,58,43,28,352.1,5.37,0.5,0
360,60,43,27,352.6,9.62,0.6,0.76
361,57,40,27,353.1,6.71,0.5,0.11
362,57,42,28,353.8,4.47,0.5,0
363,60,37,27,354.5,3.8,0.5,0
364,60,39,31,355.3,10.51,0.4,0
365,53,34,37,316.1,9.17,0.4,0
```

```
1,40,22,31,326.7,7.61,0.5,0
2,45,20,24,338.9,6.26,0.4,0
3,53,25,26,359.7,5.14,0.5,0
4,59,24,27,196.4,6.49,0.4,0
5,52,26,25,279.8,5.59,0.5,0
6,51,29,22,271,3.36,0.5,0
7,63,27,22,343.4,6.71,0.4,0
8,60,32,40,306.8,10.51,0.4,0
9,60,41,36,365.6,8.05,0.4,0
10,60,40,34,256.6,4.7,0.4,0
11,48,26,33,263.8,10.07,0.4,0
12,47,27,30,281.7,5.82,0.4,0
13,55,22,27,128.6,4.03,0.4,0
14,61,24,24,356.4,0.89,0.3,0
15,61,32,35,341.5,6.04,0.4,0
16,63,31,38,252.8,13.42,0.4,0
17,72,36,38,174.3,5.82,0.5,0
18,69,40,31,213.1,10.51,0.4,0
19,73,42,24,265.8,8.05,0.4,0
20,61,36,18,390.8,9.4,0.5,0
21,63,26,16,368.3,12.53,0.4,0
22,67,32,28,274.6,19.69,0.4,0
23,56,37,19,332.9,4.92,0.4,0
24,61,26,36,246.7,7.38,0.3,0
25,52,27,36,269,6.93,0.3,0
26,58,28,26,391.6,5.82,0.3,0
27,57,25,27,409.5,8.5,0.4,0
28,62,22,26,412.4,9.17,0.4,0
29,66,31,25,415.3,2.91,0.4,0
30,66,44,22,266.4,5.14,0.5,0
31,61,39,25,209.3,8.05,0.5,0
32,43,14,24,318.8,5.14,0.4,0.05
33,15,6,18,363.9,7.61,0.5,0.06
34,18,1,18,342.4,6.26,0.4,0
35,37,3,26,273.8,12.97,0.4,0
36,58,15,25,336.6,9.4,0.4,0
37,57,27,27,427.9,3.58,0.5,0
38,56,26,27,444.5,10.07,0.4,0
39,74,30,30,369,6.49,0.5,0
40,37,21,29,262.9,7.38,0.4,0
41,49,17,30,251.1,4.7,0.4,0
42,59,16,26,458.7,7.83,0.3,0
43,62,21,34,462.3,6.49,0.3,0
44,69,26,33,383.3,10.96,0.4,0
45,74,33,31,469.7,14.09,0.4,0
46,77,34,27,448.2,8.5,0.4,0
47,80,41,31,298.6,11.41,0.4,0
48,78,54,37,359.6,8.95,0.3,0
49,76,45,35,246.2,5.59,0.4,0
50,78,42,21,321.7,13.65,0.4,0
```

```
51,71,50,28,270.4,10.51,0.4,0
52,64,43,18,496.6,5.59,0.4,0
53,71,36,21,280.6,13.2,0.4,0
54,70,38,21,192.6,14.76,0.4,0
55,62,47,17,101.7,6.49,0.4,0
56,68,40,18,281.6,4.7,0.4,0
57,72,34,27,357.3,7.16,0.5,0
58,60,41,30,444,7.38,0.4,0
59,61,31,30,341.4,15.88,0.4,0
60,73,34,16,410.7,13.2,0.4,0
61,81,37,15,438.7,15.66,0.5,0
62,80,58,6,536.5,7.16,0.4,0
63,73,52,8,340.6,2.68,0.3,0
64,62,42,13,544.7,4.03,0.3,0
65,70,34,8,272.8,12.97,0.3,0
66,79,49,21,360.5,19.01,0.3,0
67,68,51,22,556.9,11.86,0.4,0
68,71,43,27,531.3,12.08,0.4,0
69,76,40,31,520.2,7.38,0.5,0
70,82,39,30,448.7,10.29,0.4,0
71,78,54,20,364.7,5.59,0.3,0
72,80,53,8,202.4,3.58,0.3,0
73,78,43,13,581,6.93,0.4,0
74,82,46,6,511.3,4.25,0.4,0
75,83,47,7,429,5.82,0.3,0
76,85,57,22,134.9,14.54,0.3,0
77,84,53,30,356.2,23.26,0.4,0
78,82,51,37,600.8,13.42,0.4,0
79,83,46,28,383.6,15.66,0.4,0
80,87,54,19,250.9,6.71,0.4,0
81,72,57,23,594.4,7.61,0.3,0
82,74,41,22,616.2,7.61,0.3,0
83,79,48,23,620,3.36,0.3,0
84,79,43,22,490.4,5.59,0.3,0
85,78,56,21,535,8.5,0.4,0
86,77,53,20,330.3,6.49,0.4,0
87,82,54,34,528.8,6.71,0.3,0
88,80,58,36,638.5,10.29,0.3,0
89,80,45,14,567.9,7.83,0.3,0
90,83,59,18,501.2,10.29,0.2,0
91,88,62,13,403.7,17.45,0.3,0
92,92,54,29,443.4,19.24,0.2,0
93,87,68,31,518.7,9.17,0.3,0
94,70,51,34,616,8.5,0.3,0
95,86,42,14,549.7,9.17,0.3,0
96,89,67,14,353.7,8.05,0.4,0
97,81,59,24,451.8,10.51,0.3,0
98,83,60,49,291.3,8.95,0.3,0
99,86,52,54,459.9,5.37,0.3,0
100,64,50,52,561,7.38,0.2,0
```

```
101,72,39,54,678.5,11.18,0.3,0
102,86,48,33,539.9,13.87,0.3,0
103,82,54,26,656.1,9.17,0.3,0
104,79,57,28,436.6,19.91,0.3,0
105,77,51,20,453.7,14.32,0.3,0
106,86,41,25,578.7,4.03,0.4,0
107,91,54,16,677.2,5.82,0.3,0
108,88,67,23,439.9,8.05,0.3,0
109,86,63,19,583.4,16.11,0.3,0
110,88,63,31,705.2,7.83,0.2,0
111,89,57,31,703.1,2.91,0.3,0
112,88,63,27,609.7,4.92,0.3,0
113,86,67,35,545.1,6.26,0.3,0
114,84,67,34,718.6,6.49,0.3,0
115,81,63,29,543.5,8.5,0.3,0
116,84,60,29,723.5,14.09,0.3,0
117,75,51,27,725.8,11.18,0.3,0
118,85,53,24,726,7.61,0.3,0
119,94,57,31,730.4,6.49,0.3,0
120,88,63,25,502.9,8.28,0.4,0
121,78,51,30,375,13.87,0.3,0
122,68,43,22,509.6,15.66,0.4,0
123,74,46,19,544.6,8.95,0.3,0
124,87,48,16,657.9,11.18,0.3,0
125,87,53,18,513,16.11,0.4,0
126,93,60,16,743.4,15.43,0.4,0
127,94,57,46,746.7,11.41,0.3,0
128,92,63,50,655.1,15.88,0.2,0
129,91,70,53,750.2,7.83,0.2,0
130,91,62,53,751.9,3.58,0.3,0
131,77,56,53,598.6,3.58,0.2,0
132,84,55,52,755.2,9.62,0.3,0
133,86,61,49,756.8,8.72,0.2,0
134,91,62,49,485.9,8.05,0.3,0
135,90,55,47,717.8,6.71,0.3,0
136,90,54,43,693.8,7.16,0.3,0
137,86,62,38,644.8,5.82,0.4,0
138,87,64,29,589.8,17.67,0.3,0
139,83,63,29,765.2,11.41,0.4,0
140,79,58,53,627.4,8.95,0.3,0
141,85,60,53,721.3,8.72,0.3,0
142,91,61,51,768.8,10.74,0.4,0
143,91,72,25,769.9,21.03,0.3,0
144,88,70,34,709.6,19.24,0.4,0
145,90,63,28,771.9,12.3,0.3,0
146,98,60,50,579.5,14.32,0.3,0
147,99,67,30,690.3,10.07,0.3,0
148,99,75,21,595.1,5.82,0.3,0
149,99,70,21,680.9,7.38,0.3,0
150,94,72,14,776.3,12.75,0.3,0
```

```
151,97,65,51,460.9,8.72,0.3,0
152,99,70,58,777.8,5.82,0.2,0
153,102,69,46,760.3,9.17,0.3,0.05
154,98,65,25,704.9,6.71,0.4,0
155,98,68,38,623.3,9.62,0.3,0
156,98,69,48,562.5,5.82,0.4,0
157,100,73,25,631.7,6.93,0.4,0
158,100,71,24,454.8,6.93,0.3,0
159,100,67,23,729.1,8.72,0.3,0
160,97,66,18,636.4,14.09,0.3,0
161,96,71,21,508.3,14.09,0.2,0
162,98,68,26,518.5,5.82,0.2,0
163,102,59,30,689.5,4.7,0.2,0
164,102,71,45,783,6.93,0.2,0
165,102,77,47,733.6,11.18,0.2,0
166,103,72,50,783.2,13.42,0.3,0
167,103,77,54,670.1,6.93,0.2,0
168,101,81,54,725.4,4.92,0.2,0
169,103,74,44,637.9,10.07,0.3,0
170,104,69,22,653.3,12.97,0.3,0
171,96,78,21,574.5,7.16,0.3,0
172,98,68,49,783.2,11.18,0.3,0
173,102,70,52,783,9.17,0.4,0
174,105,75,47,738.6,8.5,0.3,0
175,107,75,46,782.6,5.37,0.3,0
176,107,74,48,782.3,6.71,0.3,0
177,108,71,42,752.6,7.61,0.2,0
178,108,76,38,781.7,6.93,0.3,0
179,102,79,42,781.3,5.59,0.4,0
180,102,77,45,459.7,5.14,0.4,0
181,102,77,49,780.4,9.4,0.4,0
182,100,77,50,779.9,9.62,0.4,0.01
183,97,73,54,779.4,8.28,0.4,0
184,97,72,65,653.5,9.62,0.4,0
185,99,76,65,717.2,8.5,0.4,0
186,100,77,64,314.9,10.74,0.4,0
187,99,76,66,776.8,3.8,0.4,0
188,100,78,66,597.2,6.04,0.4,0
189,102,77,60,377.8,6.71,0.4,0
190,102,77,64,684.1,9.84,0.4,0
191,101,75,63,760.5,8.05,0.5,0
192,99,75,66,772.7,7.38,0.5,0
193,94,70,63,771.8,6.71,0.4,0.14
194,96,68,56,770.8,5.14,0.4,0.75
195,92,70,53,769.8,5.82,0.4,0
196,100,74,53,663.4,6.04,0.5,0
197,101,79,58,767.6,8.72,0.5,0
198,98,79,61,765,8.05,0.5,0
199,99,78,60,493.9,8.5,0.4,0
200,102,79,57,636.3,8.95,0.5,0
```

```
201,103,80,63,705.9,9.17,0.5,0
202,101,74,64,553.5,6.49,0.5,0
203,100,75,57,758.7,5.37,0.5,0.01
204,96,73,57,662.9,6.26,0.5,0
205,94,73,64,688.2,7.38,0.5,0.01
206,96,71,59,755.7,12.3,0.5,0.05
207,99,68,60,607,6.26,0.5,1.08
208,98,73,65,276.5,8.28,0.6,0.01
209,99,69,64,404.9,8.5,0.6,0.53
210,89,70,60,749.3,5.82,0.5,0
211,95,72,59,495.7,4.47,0.4,0
212,94,77,54,745.9,6.04,0.5,0
213,98,76,57,744.1,7.38,0.6,0
214,102,77,54,720.5,12.08,0.6,0
215,101,79,58,621.6,10.51,0.5,0.05
216,100,76,55,551.6,5.59,0.5,0
217,101,80,61,617.6,14.09,0.5,0
218,100,75,55,513.5,6.93,0.4,0
219,103,78,54,593.8,4.03,0.5,0
220,104,77,52,607.3,6.71,0.5,0
221,102,79,54,509.3,7.61,0.5,0
222,100,78,51,481.4,9.62,0.5,0
223,96,72,48,481.1,4.7,0.5,0.02
224,96,73,46,518.5,4.25,0.5,0
225,94,70,56,500.4,8.28,0.5,0.15
226,88,70,56,506.2,4.7,0.5,0
227,94,74,54,639.9,5.59,0.5,0.22
228,97,74,62,526.3,9.4,0.5,0
229,97,77,65,709.2,10.07,0.4,0.23
230,98,74,67,706.6,3.8,0.5,0.37
231,93,70,65,584,10.29,0.5,0.04
232,96,74,62,533,5.14,0.4,0
233,98,75,54,692.9,6.71,0.4,0.02
234,100,76,59,610.9,8.05,0.5,0.01
235,102,76,66,693.1,8.5,0.4,0
236,100,80,64,619.7,12.3,0.5,0
237,99,76,58,464.6,8.05,0.4,0
238,99,74,61,684.5,6.26,0.4,0
239,99,73,61,681.5,9.17,0.4,0
240,100,72,58,526,7.16,0.4,0
241,101,74,48,675.5,5.59,0.4,0
242,103,76,52,672.4,4.25,0.4,0
243,101,75,39,564.2,3.58,0.4,0
244,98,76,43,436.5,4.25,0.4,0
245,99,74,52,580.5,2.68,0.5,0
246,101,72,52,525.9,7.61,0.5,0
247,87,71,56,607.6,9.17,0.4,0
248,85,66,59,612.4,9.17,0.5,0
249,92,63,64,642.5,8.72,0.4,0
250,95,65,65,617,8.72,0.4,0
```

```
251,86,69,67,244.9,15.43,0.4,0
252,91,69,53,516.4,7.83,0.4,0
253,89,69,55,586.9,3.8,0.4,0
254,90,69,58,535.2,10.74,0.4,0
255,96,73,56,558.6,8.28,0.4,0
256,94,72,56,528.1,14.32,0.4,0
257,86,64,52,214.4,7.61,0.5,0.14
258,83,63,50,618,3.58,0.4,0.13
259,86,63,47,551.1,8.05,0.3,0.16
260,88,67,38,299.3,9.17,0.3,0
261,89,63,46,546.7,4.7,0.3,0
262,91,67,50,562.2,3.36,0.3,0
263,94,67,39,475.6,5.37,0.3,0
264,94,66,36,595.5,4.7,0.4,0
265,88,69,34,591.7,4.7,0.4,0
266,91,61,31,438.1,3.13,0.4,0
267,93,62,33,344.6,3.8,0.3,0
268,94,64,40,580.2,4.92,0.3,0
269,93,67,48,576.3,7.83,0.3,0
270,93,64,57,572.4,6.93,0.3,0
271,92,63,63,544.9,6.93,0.3,0
272,93,67,56,564.6,6.26,0.3,0
273,83,66,56,475.3,5.82,0.3,0
274,85,60,51,258.3,5.82,0.3,0
275,88,66,48,389,4.7,0.3,0
276,84,61,41,313.4,8.95,0.3,0
277,84,65,36,452,7.83,0.3,0
278,85,61,38,428.5,9.62,0.4,0
279,88,65,45,537,7.83,0.3,0
280,85,58,45,455.5,5.14,0.3,0
281,72,48,43,529.1,4.7,0.2,0
282,75,52,36,494.2,6.26,0.2,0
283,80,51,43,282,5.14,0.3,0
284,85,51,57,222.5,8.28,0.2,0
285,84,60,57,367.1,11.41,0.2,0
286,86,49,31,448.9,8.95,0.3,0
287,89,50,33,388.6,8.95,0.2,0
288,90,59,43,417.5,4.25,0.3,0
289,90,51,52,312,9.17,0.3,0
290,90,54,30,340.2,12.75,0.2,0
291,73,54,30,316.1,4.25,0.3,0
292,76,50,30,335.5,4.7,0.3,0
293,87,48,44,482.6,7.38,0.4,0
294,85,55,55,478.9,9.4,0.4,0
295,85,53,52,475.2,8.28,0.4,0
296,86,54,45,405.5,4.92,0.3,0
297,85,51,41,285.6,9.4,0.3,0
298,85,65,33,425.2,8.95,0.3,0
299,85,59,36,165.4,9.62,0.3,0.01
300,65,43,31,259.7,3.8,0.3,0
```

```
301,66,38,34,357.3,3.8,0.3,0
302,71,43,31,214.5,2.91,0.3,0
303,78,42,27,380.1,3.58,0.2,0
304,80,46,21,284.4,2.46,0.2,0
305,84,46,23,389.5,3.8,0.3,0
306,74,44,26,377.1,3.58,0.2,0
307,62,35,36,346.2,4.03,0.3,0
308,75,41,37,241.9,2.24,0.2,0
309,67,48,29,419.3,3.58,0.2,0
310,67,38,25,423.6,3.58,0.3,0
311,68,40,26,420.5,4.7,0.4,0
312,58,37,37,417.5,7.83,0.3,0
313,59,33,41,298.6,9.84,0.2,0
314,59,34,42,411.6,16.11,0.3,0
315,61,34,22,363.5,13.87,0.3,0
316,71,51,9,406,8.95,0.3,0
317,71,50,11,403.2,7.38,0.4,0.01
318,68,54,17,400.5,5.82,0.3,0
319,67,49,16,381.4,6.71,0.4,0
320,68,47,29,395.3,4.92,0.4,0
321,67,42,40,268.8,2.91,0.4,0
322,72,40,51,390.4,4.7,0.4,0
323,71,49,46,100.7,3.13,0.3,0
324,72,47,31,358,7.83,0.3,0
325,68,46,47,269.1,6.71,0.4,0.01
326,65,36,46,381.3,3.58,0.4,0
327,69,33,36,379.2,9.62,0.5,0
328,67,40,30,302.6,2.46,0.3,0
329,60,49,33,156,4.03,0.4,0.21
330,56,37,31,217.4,4.25,0.3,0
331,55,29,27,137.2,4.03,0.3,0
332,63,29,37,344.8,4.7,0.3,0
333,65,31,37,73.6,4.7,0.3,0
334,62,32,29,200.7,3.58,0.3,0
335,67,35,28,298.6,4.92,0.3,0
336,49,37,25,290.9,5.14,0.3,0.25
337,53,36,35,203.2,11.86,0.3,0
338,49,34,35,360.8,6.71,0.3,0.11
339,38,23,30,359.6,3.36,0.4,0.05
340,36,18,29,253.1,5.82,0.2,0
341,42,23,29,235.2,6.71,0.3,0
342,49,21,30,356.4,10.29,0.4,0
343,54,28,31,355.5,14.09,0.4,0
344,51,30,14,354.7,5.59,0.4,0
345,51,32,6,354,2.91,0.4,0
346,56,37,13,353.3,2.68,0.4,0
347,60,41,22,326.9,5.37,0.4,0
348,56,35,42,263.9,19.91,0.4,0
349,53,34,33,252.8,8.05,0.3,0
350,55,33,34,351.5,11.41,0.4,0
```

```
351,54,43,30,280.4,12.75,0.4,0
352,59,44,30,277.9,5.37,0.5,0.01
353,53,39,33,350.9,20.8,0.4,0.13
354,49,36,8,350.9,9.17,0.4,0
355,54,29,4,351,8.95,0.4,0
356,54,37,13,320.2,6.04,0.4,0
357,37,27,27,243.5,4.25,0.4,0.18
358,37,25,30,351.7,12.3,0.4,0.01
359,44,22,31,352.1,13.2,0.5,0
360,53,23,16,352.6,3.58,0.6,0
361,54,23,27,353.1,11.41,0.5,0
362,58,27,28,353.8,8.95,0.5,0
363,62,28,12,354.5,8.5,0.5,0
364,65,32,28,355.3,6.49,0.4,0
365,70,33,31,316.1,16.33,0.4,0
```

```
1,46,29,25,326.7,4.7,0.5,0
2,49,28,18,338.9,11.18,0.4,0
3,34,28,30,359.7,10.74,0.5,0.28
4,34,28,28,196.4,4.92,0.4,0.02
5,38,22,29,279.8,2.24,0.5,0
6,49,21,29,271,4.47,0.5,0
7,56,33,35,343.4,10.29,0.4,0
8,58,39,33,306.8,6.71,0.4,0
9,57,37,27,365.6,9.17,0.4,0
10,60,28,36,256.6,6.49,0.4,0
11,54,31,35,263.8,11.41,0.4,0
12,44,28,9,281.7,11.41,0.4,0
13,42,18,13,128.6,3.8,0.4,0
14,44,22,20,356.4,4.7,0.3,0
15,39,24,13,341.5,8.5,0.4,0
16,47,18,7,252.8,2.91,0.4,0
17,57,23,21,174.3,7.16,0.5,0
18,59,30,22,213.1,4.03,0.4,0
19,62,29,19,265.8,4.7,0.4,0
20,64,29,15,390.8,4.03,0.5,0
21,66,37,12,368.3,8.05,0.4,0
22,67,37,16,274.6,4.7,0.4,0
23,70,29,20,332.9,2.46,0.4,0
24,71,33,30,246.7,5.59,0.3,0
25,63,47,41,269,3.13,0.3,0
26,67,47,47,391.6,6.26,0.3,0
27,66,46,46,409.5,5.82,0.4,0
28,66,41,39,412.4,13.65,0.4,0
29,51,34,33,415.3,22.59,0.4,0
30,50,32,21,266.4,12.75,0.5,0
31,56,24,18,209.3,2.46,0.5,0
32,64,27,18,318.8,4.03,0.4,0
33,68,31,16,363.9,5.37,0.5,0
34,63,38,30,342.4,3.8,0.4,0
35,65,45,31,273.8,7.38,0.4,0
36,67,37,30,336.6,3.8,0.4,0
37,68,39,29,427.9,8.05,0.5,0
38,65,46,31,444.5,4.7,0.4,0
39,70,42,28,369,8.28,0.5,0
40,64,41,21,262.9,16.78,0.4,0
41,54,36,17,251.1,8.05,0.4,0
42,60,27,28,458.7,6.93,0.3,0
43,52,31,33,462.3,10.51,0.3,0.01
44,55,24,11,383.3,6.04,0.4,0
45,61,25,14,469.7,4.7,0.4,0
46,56,37,27,448.2,5.37,0.4,0
47,61,29,22,298.6,2.46,0.4,0
48,69,27,9,359.6,9.17,0.3,0
49,64,49,10,246.2,11.63,0.4,0
50,59,37,46,321.7,6.26,0.4,0.4
```

```
51,61,37,21,270.4,14.76,0.4,0
52,51,33,25,496.6,19.46,0.4,0
53,55,33,24,280.6,10.51,0.4,0
54,58,32,23,192.6,6.93,0.4,0
55,63,35,22,101.7,19.69,0.4,0
56,53,32,16,281.6,9.62,0.4,0
57,65,37,11,357.3,14.32,0.5,0
58,55,33,12,444,7.38,0.4,0
59,57,32,16,341.4,3.8,0.4,0
60,63,34,12,410.7,5.82,0.4,0
61,70,35,17,438.7,3.36,0.5,0
62,81,39,16,536.5,12.75,0.4,0
63,79,53,27,340.6,17.9,0.3,0
64,64,41,29,544.7,8.5,0.3,0
65,76,48,23,272.8,4.25,0.3,0
66,78,50,24,360.5,8.72,0.3,0
67,72,54,45,556.9,12.3,0.4,0
68,60,44,34,531.3,21.03,0.4,0
69,56,33,28,520.2,4.47,0.5,0
70,66,34,21,448.7,8.72,0.4,0
71,72,40,23,364.7,7.61,0.3,0
72,76,42,23,202.4,3.58,0.3,0
73,80,41,13,581,2.91,0.4,0
74,85,45,14,511.3,5.14,0.4,0
75,85,60,16,429,10.74,0.3,0
76,80,59,17,134.9,18.57,0.3,0
77,77,56,23,356.2,12.3,0.4,0
78,78,49,19,600.8,10.51,0.4,0
79,71,44,31,383.6,5.82,0.4,0
80,80,55,30,250.9,14.76,0.4,0
81,79,57,26,594.4,17,0.3,0
82,74,47,24,616.2,23.49,0.3,0
83,63,33,4,620,6.71,0.3,0
84,61,37,10,490.4,9.62,0.3,0
85,72,39,14,535,8.72,0.4,0
86,79,49,22,330.3,4.7,0.4,0
87,81,49,26,528.8,7.38,0.3,0
88,83,57,21,638.5,6.93,0.3,0
89,83,51,23,567.9,7.38,0.3,0
90,82,56,25,501.2,3.36,0.2,0
91,84,53,31,403.7,6.93,0.3,0
92,82,52,23,443.4,12.08,0.2,0
93,73,44,37,518.7,4.25,0.3,0
94,79,45,30,616,4.25,0.3,0
95,86,59,25,549.7,10.96,0.3,0
96,83,60,26,353.7,10.74,0.4,0
97,84,60,24,451.8,14.09,0.3,0
98,86,65,27,291.3,17.67,0.3,0
99,70,52,35,459.9,19.69,0.3,0
100,67,47,28,561,14.76,0.2,0
```

```
101,73,42,21,678.5,7.61,0.3,0
102,80,49,22,539.9,5.82,0.3,0
103,82,57,19,656.1,11.41,0.3,0
104,83,62,24,436.6,19.69,0.3,0
105,85,62,28,453.7,19.01,0.3,0
106,87,63,25,578.7,16.33,0.4,0
107,83,52,25,677.2,21.47,0.3,0
108,66,46,21,439.9,11.41,0.3,0
109,68,36,1,583.4,7.61,0.3,0
110,81,41,6,705.2,12.3,0.2,0
111,83,49,15,703.1,6.93,0.3,0
112,89,57,12,609.7,10.96,0.3,0
113,88,54,25,545.1,12.75,0.3,0
114,75,42,28,718.6,6.93,0.3,0
115,85,54,38,543.5,9.62,0.3,0
116,84,58,19,723.5,8.05,0.3,0
117,85,53,25,725.8,3.8,0.3,0
118,86,56,37,726,4.25,0.3,0
119,91,59,41,730.4,8.05,0.3,0
120,93,65,14,502.9,12.97,0.4,0
121,89,64,18,375,14.09,0.3,0
122,65,47,34,509.6,13.65,0.4,0
123,68,40,20,544.6,6.26,0.3,0
124,85,44,19,657.9,4.7,0.3,0
125,84,59,25,513,10.51,0.4,0
126,84,63,36,743.4,11.86,0.4,0
127,84,65,31,746.7,15.21,0.3,0
128,82,65,29,655.1,13.42,0.2,0
129,82,61,26,750.2,7.38,0.2,0
130,79,55,50,751.9,10.29,0.3,0.18
131,76,51,46,598.6,9.17,0.2,0
132,79,53,40,755.2,8.5,0.3,0
133,83,57,35,756.8,4.92,0.2,0
134,84,61,41,485.9,8.05,0.3,0
135,93,66,40,717.8,15.88,0.3,0
136,93,71,27,693.8,9.62,0.3,0
137,95,65,26,644.8,8.5,0.4,0
138,90,72,26,589.8,15.21,0.3,0
139,90,69,27,765.2,13.2,0.4,0
140,92,69,27,627.4,15.66,0.3,0
141,87,62,30,721.3,8.5,0.3,0
142,95,61,18,768.8,8.05,0.4,0
143,98,66,49,769.9,8.72,0.3,0
144,94,63,50,709.6,4.92,0.4,0
145,97,70,54,771.9,8.5,0.3,0
146,96,66,49,579.5,10.51,0.3,0
147,94,64,15,690.3,8.05,0.3,0
148,95,69,18,595.1,14.99,0.3,0
149,90,72,29,680.9,18.12,0.3,0
150,93,72,37,776.3,14.32,0.3,0
```

```
151,97,78,34,460.9,11.63,0.3,0
152,97,72,41,777.8,11.63,0.2,0
153,96,70,58,760.3,13.2,0.3,0
154,98,65,56,704.9,7.61,0.4,0
155,100,67,44,623.3,9.62,0.3,0
156,99,73,33,562.5,8.95,0.4,0
157,93,69,47,631.7,6.93,0.4,0
158,94,69,57,454.8,10.29,0.3,0
159,101,64,52,729.1,9.4,0.3,0
160,99,77,48,636.4,10.51,0.3,0
161,104,75,48,508.3,6.04,0.2,0
162,104,75,45,518.5,6.04,0.2,0
163,106,77,51,689.5,7.61,0.2,0
164,98,74,57,783,9.4,0.2,0
165,95,70,63,733.6,7.61,0.2,0.1
166,98,67,61,783.2,4.92,0.3,0
167,101,76,51,670.1,8.28,0.2,0
168,100,77,63,725.4,8.72,0.2,0.02
169,99,70,59,637.9,7.38,0.3,0
170,104,77,59,653.3,9.62,0.3,0
171,103,79,52,574.5,13.2,0.3,0
172,103,72,53,783.2,7.61,0.3,0
173,102,77,55,783,9.62,0.4,0
174,101,77,51,738.6,8.5,0.3,0
175,100,78,48,782.6,9.4,0.3,0
176,101,79,44,782.3,8.5,0.3,0
177,104,77,25,752.6,9.17,0.2,0
178,107,73,39,781.7,4.92,0.3,0
179,101,78,42,781.3,5.82,0.4,0
180,103,74,44,459.7,6.71,0.4,0
181,98,69,59,780.4,10.51,0.4,0.04
182,84,66,62,779.9,10.51,0.4,0.06
183,89,65,62,779.4,8.72,0.4,0
184,93,68,59,653.5,8.28,0.4,0
185,96,67,54,717.2,3.8,0.4,0
186,100,75,50,314.9,7.16,0.4,0
187,101,75,57,776.8,6.49,0.4,0
188,102,80,56,597.2,9.84,0.4,0.02
189,98,79,55,377.8,10.07,0.4,0
190,100,77,58,684.1,8.28,0.4,0
191,98,76,59,760.5,8.95,0.5,0
192,98,79,60,772.7,8.5,0.5,0
193,100,77,58,771.8,7.16,0.4,0
194,99,76,58,770.8,6.49,0.4,0
195,101,77,59,769.8,7.61,0.4,0.15
196,83,70,63,663.4,10.51,0.5,0
197,86,67,54,767.6,8.5,0.5,0
198,78,67,61,765,11.63,0.5,0
199,76,65,66,493.9,6.04,0.4,0.35
200,82,68,65,636.3,7.61,0.5,0.02
```

```
201,87,69,64,705.9,5.82,0.5,0
202,93,71,61,553.5,6.04,0.5,0
203,95,73,64,758.7,11.18,0.5,0
204,95,73,63,662.9,11.63,0.5,0
205,95,70,66,688.2,8.95,0.5,0.2
206,89,64,65,755.7,7.38,0.5,1.52
207,94,68,68,607,6.71,0.5,0.31
208,84,67,65,276.5,8.5,0.6,0.02
209,92,69,64,404.9,7.38,0.6,0.01
210,97,73,64,749.3,6.71,0.5,0
211,98,77,65,495.7,8.05,0.4,0.47
212,98,73,64,745.9,4.47,0.5,0
213,95,75,64,744.1,6.26,0.6,0
214,97,76,62,720.5,7.83,0.6,0
215,98,78,60,621.6,3.58,0.5,0
216,100,78,61,551.6,6.26,0.5,0
217,97,76,63,617.6,8.05,0.5,0.02
218,95,74,59,513.5,12.53,0.4,0
219,92,73,57,593.8,10.74,0.5,0
220,96,68,55,607.3,6.49,0.5,0
221,97,70,52,509.3,5.59,0.5,0
222,88,74,62,481.4,11.18,0.5,0.01
223,93,66,63,481.1,12.3,0.5,0
224,96,74,60,518.5,5.37,0.5,0
225,95,76,60,500.4,8.05,0.5,0
226,96,72,64,506.2,8.95,0.5,0.03
227,95,70,65,639.9,5.82,0.5,0.3
228,97,69,63,526.3,4.7,0.5,0
229,100,72,57,709.2,5.82,0.4,0
230,98,72,54,706.6,5.82,0.5,0
231,97,73,55,584,6.04,0.5,0
232,95,75,56,533,6.04,0.4,0
233,95,73,57,692.9,7.16,0.4,0
234,93,71,53,610.9,5.59,0.5,0
235,92,72,55,693.1,8.95,0.4,0
236,89,71,61,619.7,6.71,0.5,0
237,94,71,58,464.6,9.17,0.4,0
238,92,73,55,684.5,9.62,0.4,0
239,86,71,64,681.5,7.38,0.4,0.11
240,79,71,65,526,2.91,0.4,0.03
241,80,66,68,675.5,5.14,0.4,0.62
242,91,68,66,672.4,3.13,0.4,0
243,96,70,66,564.2,4.92,0.4,0
244,98,73,60,436.5,5.14,0.4,0
245,95,74,57,580.5,8.95,0.5,0
246,93,74,59,525.9,9.17,0.5,0
247,92,71,54,607.6,6.49,0.4,0
248,94,72,53,612.4,8.28,0.5,0
249,93,71,55,642.5,7.38,0.4,0
250,93,73,55,617,6.93,0.4,0
```

```
251,93,73,56,244.9,8.28,0.4,0
252,89,69,63,516.4,8.28,0.4,0.02
253,79,67,67,586.9,5.37,0.4,0.92
254,79,68,70,535.2,6.93,0.4,0.17
255,70,64,66,558.6,9.4,0.4,1.9
256,73,65,65,528.1,12.3,0.4,0.3
257,83,65,62,214.4,7.83,0.5,0
258,85,65,61,618,6.71,0.4,0
259,83,66,65,551.1,11.41,0.3,0
260,85,67,62,299.3,7.83,0.3,0
261,87,68,61,546.7,6.93,0.3,0
262,86,68,68,562.2,6.49,0.3,0.54
263,82,66,64,475.6,7.61,0.3,0
264,80,62,60,595.5,5.82,0.4,0
265,85,62,55,591.7,7.38,0.4,0
266,85,67,54,438.1,9.84,0.4,0
267,86,59,43,344.6,5.82,0.3,0
268,90,58,51,580.2,5.37,0.3,0
269,88,68,51,576.3,8.5,0.3,0
270,87,67,56,572.4,12.08,0.3,0
271,77,56,41,544.9,10.51,0.3,0
272,82,49,40,564.6,3.8,0.3,0
273,88,56,41,475.3,8.05,0.3,0
274,89,60,33,258.3,10.29,0.3,0
275,88,62,39,389,5.82,0.3,0
276,86,60,41,313.4,7.61,0.3,0
277,85,62,45,452,10.51,0.3,0
278,75,54,35,428.5,11.41,0.4,0
279,76,45,30,537,6.71,0.3,0
280,80,46,30,455.5,3.8,0.3,0
281,86,48,37,529.1,5.82,0.2,0
282,85,60,40,494.2,8.05,0.2,0
283,85,58,45,282,17,0.3,0
284,77,51,38,222.5,6.26,0.2,0
285,81,47,40,367.1,6.49,0.2,0
286,81,59,54,448.9,5.14,0.3,0
287,77,66,47,388.6,9.84,0.2,0
288,71,57,54,417.5,8.28,0.3,0
289,76,56,50,312,6.26,0.3,0
290,76,46,38,340.2,5.37,0.2,0
291,77,42,31,316.1,5.59,0.3,0
292,73,41,31,335.5,2.01,0.3,0
293,78,38,33,482.6,5.59,0.4,0
294,72,46,35,478.9,5.82,0.4,0
295,75,46,38,475.2,4.47,0.4,0
296,79,42,34,405.5,4.7,0.3,0
297,82,53,39,285.6,7.83,0.3,0
298,79,57,47,425.2,6.71,0.3,0
299,77,54,45,165.4,10.07,0.3,0
300,77,47,40,259.7,3.8,0.3,0
```

```
301,80,49,42,357.3,8.95,0.3,0
302,75,64,31,214.5,7.61,0.3,0
303,71,59,44,380.1,14.09,0.2,0
304,69,45,24,284.4,11.63,0.2,0
305,71,41,25,389.5,5.82,0.3,0
306,72,39,24,377.1,6.04,0.2,0
307,76,52,49,346.2,7.16,0.3,0
308,74,52,50,241.9,5.14,0.2,0
309,69,54,50,419.3,9.62,0.2,0
310,64,45,28,423.6,11.41,0.3,0
311,68,33,20,420.5,6.49,0.4,0
312,71,43,44,417.5,4.7,0.3,0
313,74,47,46,298.6,2.68,0.2,0
314,76,42,34,411.6,4.25,0.3,0
315,78,46,39,363.5,6.71,0.3,0
316,60,45,43,406,11.18,0.3,0
317,61,45,40,403.2,4.47,0.4,0
318,69,43,44,400.5,5.82,0.3,0
319,72,49,49,381.4,10.51,0.4,0
320,75,57,48,395.3,16.11,0.4,0
321,70,51,42,268.8,9.84,0.4,0
322,72,49,37,390.4,3.36,0.4,0
323,75,47,41,100.7,5.82,0.3,0
324,72,51,42,358,8.5,0.3,0
325,74,53,40,269.1,6.04,0.4,0
326,62,35,36,381.3,11.86,0.4,0
327,39,31,29,379.2,12.3,0.5,0.02
328,35,28,28,302.6,5.82,0.3,0.08
329,47,31,31,156,5.59,0.4,0
330,54,27,30,217.4,3.36,0.3,0
331,50,24,27,137.2,4.47,0.3,0
332,58,31,27,344.8,5.59,0.3,0
333,64,36,34,73.6,5.37,0.3,0
334,65,41,36,200.7,5.14,0.3,0
335,57,44,39,298.6,3.58,0.3,0
336,67,32,35,290.9,7.38,0.3,0
337,72,46,38,203.2,11.63,0.3,0
338,71,56,43,360.8,23.04,0.3,0
339,57,44,48,359.6,9.84,0.4,0.2
340,53,34,33,253.1,6.49,0.2,0
341,41,31,31,235.2,5.82,0.3,0
342,56,28,30,356.4,6.04,0.4,0
343,56,30,30,355.5,10.96,0.4,0
344,49,26,6,354.7,9.62,0.4,0
345,56,31,20,354,6.71,0.4,0
346,46,37,36,353.3,8.5,0.4,0.03
347,58,33,37,326.9,10.51,0.4,0
348,55,33,31,263.9,5.82,0.4,0
349,57,26,25,252.8,2.01,0.3,0
350,61,25,25,351.5,2.01,0.4,0
```

```
351,65,30,24,280.4,1.57,0.4,0
352,62,30,26,277.9,4.92,0.5,0
353,70,39,25,350.9,11.41,0.4,0
354,59,41,45,350.9,8.72,0.4,0.01
355,48,36,34,351,17.45,0.4,0.02
356,54,32,28,320.2,7.61,0.4,0
357,55,24,24,243.5,5.37,0.4,0
358,58,27,24,351.7,4.03,0.4,0
359,54,31,27,352.1,5.37,0.5,0
360,52,24,25,352.6,3.36,0.6,0
361,56,26,25,353.1,4.92,0.5,0
362,57,22,28,353.8,6.49,0.5,0
363,53,32,25,354.5,7.38,0.5,0
364,56,23,22,355.3,2.68,0.4,0
365,57,25,22,316.1,2.91,0.4,0
```

```
1,63,25,22,326.7,2.46,0.5,0
2,57,33,26,338.9,4.47,0.4,0
3,61,31,25,359.7,8.05,0.5,0
4,66,44,25,196.4,10.07,0.4,0
5,57,31,19,279.8,11.41,0.5,0
6,48,22,11,271,3.36,0.5,0
7,52,19,19,343.4,3.36,0.4,0
8,65,35,19,306.8,4.92,0.4,0
9,63,31,28,365.6,6.93,0.4,0
10,63,45,31,256.6,14.32,0.4,0
11,65,33,19,263.8,5.59,0.4,0
12,68,40,22,281.7,15.43,0.4,0
13,60,40,13,128.6,9.17,0.4,0
14,62,30,11,356.4,3.8,0.3,0
15,62,29,18,341.5,5.59,0.4,0
16,64,29,16,252.8,4.47,0.4,0
17,61,28,18,174.3,2.24,0.5,0
18,65,27,15,213.1,3.36,0.4,0
19,64,30,14,265.8,4.92,0.4,0
20,69,31,13,390.8,3.58,0.5,0
21,63,38,16,368.3,2.91,0.4,0
22,64,35,15,274.6,4.25,0.4,0
23,51,29,18,332.9,11.86,0.4,0
24,49,26,15,246.7,2.68,0.3,0
25,62,30,22,269,3.13,0.3,0
26,71,45,29,391.6,12.97,0.3,0
27,61,41,27,409.5,7.16,0.4,0
28,50,25,25,412.4,5.82,0.4,0
29,55,21,13,415.3,4.03,0.4,0
30,73,38,26,266.4,14.54,0.5,0
31,71,57,31,209.3,23.49,0.5,0
32,66,53,33,318.8,14.54,0.4,0
33,57,39,38,363.9,7.61,0.5,0
34,61,36,33,342.4,8.05,0.4,0
35,54,38,27,273.8,12.3,0.4,0
36,46,27,22,336.6,8.72,0.4,0
37,42,20,18,427.9,6.04,0.5,0
38,59,34,27,444.5,10.07,0.4,0
39,67,46,27,369,12.75,0.5,0
40,74,47,31,262.9,13.65,0.4,0
41,75,53,26,251.1,11.41,0.4,0
42,62,33,26,458.7,4.7,0.3,0
43,66,31,24,462.3,6.04,0.3,0
44,76,41,20,383.3,9.17,0.4,0
45,80,58,22,469.7,8.72,0.4,0
46,83,46,20,448.2,6.26,0.4,0
47,82,50,17,298.6,9.62,0.4,0
48,74,49,17,359.6,5.82,0.3,0
49,80,44,18,246.2,6.71,0.4,0
50,77,49,17,321.7,13.42,0.4,0
```

```
51,67,46,16,270.4,13.42,0.4,0
52,70,38,4,496.6,6.71,0.4,0
53,74,47,8,280.6,6.71,0.4,0
54,76,52,26,192.6,7.38,0.4,0
55,77,54,26,101.7,5.59,0.4,0
56,74,50,35,281.6,11.63,0.4,0
57,69,47,36,357.3,8.5,0.5,0
58,76,51,30,444,14.99,0.4,0
59,76,55,33,341.4,11.41,0.4,0
60,78,51,40,410.7,14.09,0.4,0
61,63,48,46,438.7,12.97,0.5,0.16
62,61,43,37,536.5,4.7,0.4,0
63,64,39,33,340.6,5.59,0.3,0
64,71,51,33,544.7,8.95,0.3,0
65,72,44,31,272.8,3.36,0.3,0
66,77,46,28,360.5,10.07,0.3,0
67,64,49,31,556.9,13.87,0.4,0
68,62,42,25,531.3,6.04,0.4,0
69,71,35,31,520.2,8.05,0.5,0
70,75,53,25,448.7,13.42,0.4,0
71,63,41,25,364.7,12.53,0.3,0
72,69,36,24,202.4,4.92,0.3,0
73,74,46,39,581,8.28,0.4,0.02
74,70,47,43,511.3,15.21,0.4,0
75,62,42,32,429,8.05,0.3,0
76,77,47,13,134.9,15.21,0.3,0
77,77,55,11,356.2,13.65,0.4,0
78,70,43,17,600.8,5.82,0.4,0
79,78,39,17,383.6,3.58,0.4,0
80,79,60,16,250.9,12.97,0.4,0
81,80,54,17,594.4,9.17,0.3,0
82,67,47,28,616.2,7.16,0.3,0
83,77,42,26,620,3.58,0.3,0
84,71,49,42,490.4,10.74,0.3,0
85,78,44,45,535,17.45,0.4,0
86,77,59,28,330.3,21.25,0.4,0
87,74,51,29,528.8,13.87,0.3,0
88,78,44,26,638.5,5.37,0.3,0
89,85,53,30,567.9,12.3,0.3,0
90,81,54,21,501.2,12.53,0.2,0
91,84,56,19,403.7,15.43,0.3,0
92,81,61,21,443.4,22.15,0.2,0
93,68,50,24,518.7,16.33,0.3,0
94,72,38,20,616,8.5,0.3,0
95,72,48,29,549.7,12.97,0.3,0
96,72,47,22,353.7,11.63,0.4,0
97,74,51,22,451.8,10.74,0.3,0
98,79,42,25,291.3,5.14,0.3,0
99,87,50,15,459.9,5.82,0.3,0
100,88,53,11,561,7.61,0.2,0
```

```
101,87,50,24,678.5,8.05,0.3,0
102,84,61,43,539.9,15.21,0.3,0
103,81,62,37,656.1,19.69,0.3,0
104,70,45,32,436.6,11.41,0.3,0
105,71,38,15,453.7,4.92,0.3,0
106,86,48,16,578.7,8.5,0.4,0
107,82,53,29,677.2,9.4,0.3,0
108,83,54,42,439.9,9.4,0.3,0
109,76,53,51,583.4,7.61,0.3,0.45
110,79,50,50,705.2,6.04,0.2,0
111,86,55,45,703.1,2.91,0.3,0
112,89,63,47,609.7,10.74,0.3,0
113,86,66,25,545.1,17.67,0.3,0
114,82,59,21,718.6,7.61,0.3,0
115,87,57,22,543.5,12.97,0.3,0
116,84,57,34,723.5,23.04,0.3,0
117,72,53,31,725.8,26.62,0.3,0
118,80,59,20,726,19.69,0.3,0
119,69,51,19,730.4,12.75,0.3,0
120,68,51,22,502.9,15.43,0.4,0
121,65,51,33,375,11.41,0.3,0
122,77,45,34,509.6,6.04,0.4,0
123,86,51,23,544.6,5.59,0.3,0
124,93,55,15,657.9,7.61,0.3,0
125,91,68,26,513,14.54,0.4,0
126,88,66,29,743.4,19.69,0.4,0
127,85,65,19,746.7,18.34,0.3,0
128,77,57,22,655.1,11.18,0.2,0
129,84,48,26,750.2,9.17,0.2,0
130,90,59,22,751.9,14.99,0.3,0
131,90,67,27,598.6,23.26,0.2,0
132,79,59,24,755.2,10.51,0.3,0
133,67,49,25,756.8,12.08,0.2,0
134,70,49,23,485.9,6.49,0.3,0
135,81,51,15,717.8,3.13,0.3,0
136,91,51,16,693.8,6.26,0.3,0
137,94,61,26,644.8,6.04,0.4,0
138,96,59,21,589.8,11.41,0.3,0
139,95,69,12,765.2,13.2,0.4,0
140,92,63,17,627.4,8.72,0.3,0
141,94,64,26,721.3,9.62,0.3,0
142,89,66,36,768.8,9.17,0.4,0
143,90,64,56,769.9,8.5,0.3,0.01
144,89,59,56,709.6,10.74,0.4,0
145,85,60,37,771.9,8.72,0.3,0
146,88,61,42,579.5,7.61,0.3,0
147,95,61,39,690.3,4.7,0.3,0
148,97,68,43,595.1,8.05,0.3,0
149,95,72,48,680.9,8.28,0.3,0
150,95,71,47,776.3,7.38,0.3,0
```

```
151,102,73,46,460.9,4.92,0.3,0
152,102,70,37,777.8,9.84,0.2,0
153,104,70,33,760.3,4.25,0.3,0
154,109,72,46,704.9,6.93,0.4,0
155,107,78,39,623.3,8.5,0.3,0
156,107,70,26,562.5,5.14,0.4,0
157,106,69,27,631.7,8.28,0.4,0
158,101,76,18,454.8,6.04,0.3,0
159,98,71,57,729.1,10.29,0.3,0
160,96,74,38,636.4,10.07,0.3,0
161,99,68,45,508.3,6.04,0.2,0
162,102,76,37,518.5,12.97,0.2,0
163,100,82,50,689.5,14.76,0.2,0
164,100,73,61,783,11.86,0.2,0
165,100,76,49,733.6,17.22,0.2,0
166,99,76,43,783.2,12.97,0.3,0
167,100,71,44,670.1,9.62,0.2,0
168,99,79,45,725.4,10.51,0.2,0
169,96,76,48,637.9,10.29,0.3,0
170,97,69,48,653.3,7.83,0.3,0
171,96,73,55,574.5,9.17,0.3,0
172,99,70,59,783.2,4.47,0.3,0
173,103,74,50,783,10.96,0.4,0
174,99,73,46,738.6,6.49,0.3,0.01
175,99,73,58,782.6,8.5,0.3,0
176,101,78,54,782.3,10.51,0.3,0
177,102,76,53,752.6,12.97,0.2,0
178,101,83,48,781.7,16.78,0.3,0
179,101,81,39,781.3,11.41,0.4,0
180,106,81,37,459.7,11.41,0.4,0
181,107,77,46,780.4,12.53,0.4,0
182,100,69,58,779.9,13.65,0.4,0.08
183,92,69,59,779.4,11.18,0.4,0
184,91,72,58,653.5,8.72,0.4,0
185,95,74,53,717.2,8.05,0.4,0
186,97,76,51,314.9,7.83,0.4,0
187,95,72,60,776.8,10.74,0.4,0
188,92,70,62,597.2,7.61,0.4,0
189,96,73,57,377.8,7.83,0.4,0
190,96,74,59,684.1,6.71,0.4,0.05
191,98,73,58,760.5,6.93,0.5,0
192,97,75,57,772.7,8.28,0.5,0
193,93,73,64,771.8,7.16,0.4,0.19
194,91,70,61,770.8,6.93,0.4,0
195,96,75,59,769.8,8.5,0.4,0
196,94,71,58,663.4,6.93,0.5,0
197,96,68,63,767.6,8.05,0.5,0.03
198,98,74,61,765,8.28,0.5,0
199,99,70,58,493.9,6.04,0.4,0
200,104,77,57,636.3,10.51,0.5,0
```

```
201,104,77,59,705.9,12.08,0.5,0
202,102,77,61,553.5,8.5,0.5,0.04
203,101,74,68,758.7,7.38,0.5,0.06
204,96,70,69,662.9,8.95,0.5,0.08
205,98,74,55,688.2,5.82,0.5,0
206,100,73,54,755.7,4.47,0.5,0
207,103,75,52,607,6.71,0.5,0
208,99,79,55,276.5,6.93,0.6,0
209,94,74,64,404.9,12.53,0.6,0.02
210,89,68,66,749.3,7.38,0.5,0.09
211,101,71,68,495.7,6.93,0.4,0.01
212,90,71,63,745.9,9.17,0.5,0.04
213,78,66,66,744.1,8.72,0.6,0.16
214,80,64,64,720.5,10.29,0.6,0.37
215,85,67,62,621.6,7.16,0.5,0.03
216,88,73,60,551.6,8.05,0.5,0
217,92,72,61,617.6,6.04,0.5,0
218,95,71,66,513.5,6.93,0.4,0
219,94,71,66,593.8,8.28,0.5,0.27
220,89,73,67,607.3,4.7,0.5,0
221,89,68,66,509.3,5.82,0.5,0.13
222,92,71,63,481.4,9.17,0.5,0.01
223,85,70,62,481.1,11.63,0.5,0
224,86,71,62,518.5,7.16,0.5,0.05
225,92,69,60,500.4,6.71,0.5,0
226,91,73,63,506.2,7.38,0.5,0
227,94,71,62,639.9,7.61,0.5,0
228,96,73,60,526.3,5.82,0.5,0
229,94,71,57,709.2,7.16,0.4,0
230,94,70,59,706.6,5.59,0.5,0
231,93,72,59,584,11.63,0.5,0
232,92,69,59,533,10.51,0.4,0
233,95,68,57,692.9,8.05,0.4,0.01
234,80,64,65,610.9,5.59,0.5,0.67
235,89,66,62,693.1,6.71,0.4,0
236,93,70,63,619.7,6.93,0.5,0
237,83,70,62,464.6,7.16,0.4,0.01
238,90,69,65,684.5,7.83,0.4,0.06
239,88,69,67,681.5,4.92,0.4,0.02
240,94,69,62,526,3.58,0.4,0
241,94,70,56,675.5,6.04,0.4,0
242,97,72,54,672.4,5.37,0.4,0
243,100,70,50,564.2,6.93,0.4,0
244,99,72,47,436.5,7.61,0.4,0
245,100,69,47,580.5,4.7,0.5,0
246,99,70,54,525.9,6.49,0.5,0
247,93,67,64,607.6,12.08,0.4,0.11
248,83,65,67,612.4,10.29,0.5,0.35
249,83,69,66,642.5,10.74,0.4,0
250,74,66,64,617,6.71,0.4,0.01
```

```
251,90,68,62,244.9,6.04,0.4,0
252,91,72,63,516.4,11.41,0.4,0
253,91,75,55,586.9,8.28,0.4,0
254,83,68,60,535.2,6.93,0.4,0
255,76,58,63,558.6,8.28,0.4,0.22
256,74,56,54,528.1,8.72,0.4,0
257,79,62,58,214.4,8.28,0.5,0
258,79,65,65,618,6.26,0.4,0.05
259,80,65,66,551.1,9.84,0.3,0.61
260,84,65,66,299.3,9.84,0.3,1.86
261,71,65,66,546.7,9.62,0.3,0.5
262,83,66,65,562.2,4.25,0.3,0
263,88,67,65,475.6,4.7,0.3,0
264,88,70,65,595.5,6.49,0.4,0
265,75,65,67,591.7,6.93,0.4,0.52
266,83,66,64,438.1,3.13,0.4,0
267,87,65,61,344.6,5.14,0.3,0
268,84,64,56,580.2,6.71,0.3,0
269,81,64,54,576.3,6.71,0.3,0
270,80,60,55,572.4,5.37,0.3,0
271,86,64,58,544.9,3.8,0.3,0
272,90,66,59,564.6,7.61,0.3,0
273,86,65,57,475.3,9.17,0.3,0
274,85,63,42,258.3,8.28,0.3,0
275,83,59,39,389,7.83,0.3,0
276,84,53,37,313.4,5.59,0.3,0
277,87,52,43,452,4.92,0.3,0
278,87,58,38,428.5,6.71,0.4,0
279,85,54,37,537,4.25,0.3,0
280,87,55,41,455.5,4.47,0.3,0
281,88,59,49,529.1,3.8,0.2,0
282,86,62,55,494.2,10.51,0.2,0
283,80,59,52,282,8.05,0.3,0
284,77,56,51,222.5,4.25,0.2,0
285,84,55,47,367.1,16.78,0.2,0
286,74,49,29,448.9,4.47,0.3,0
287,79,46,33,388.6,4.03,0.2,0
288,83,50,36,417.5,5.14,0.3,0
289,88,52,44,312,3.8,0.3,0
290,87,57,46,340.2,6.49,0.2,0
291,79,61,56,316.1,8.5,0.3,0.1
292,80,58,56,335.5,12.08,0.3,0.88
293,73,57,55,482.6,8.5,0.4,0
294,73,57,55,478.9,5.14,0.4,0
295,77,60,57,475.2,2.91,0.4,0
296,80,55,56,405.5,1.79,0.3,0
297,84,54,53,285.6,2.01,0.3,0
298,85,55,51,425.2,2.68,0.3,0
299,86,55,48,165.4,5.37,0.3,0
300,81,62,50,259.7,8.5,0.3,0
```

```
301,78,54,48,357.3,3.8,0.3,0
302,80,52,44,214.5,4.7,0.3,0
303,82,51,44,380.1,7.16,0.2,0
304,75,56,49,284.4,10.51,0.2,0
305,77,57,49,389.5,8.72,0.3,0
306,81,57,54,377.1,10.96,0.2,0
307,68,56,56,346.2,5.59,0.3,0.06
308,61,51,52,241.9,11.63,0.2,0
309,61,50,47,419.3,6.71,0.2,0
310,58,50,45,423.6,5.82,0.3,0.02
311,67,43,44,420.5,6.26,0.4,0
312,68,45,43,417.5,8.5,0.3,0
313,69,44,42,298.6,4.7,0.2,0
314,78,52,40,411.6,15.21,0.3,0
315,74,53,43,363.5,8.5,0.3,0
316,54,34,36,406,9.62,0.3,0
317,48,29,20,403.2,7.83,0.4,0
318,65,32,40,400.5,5.37,0.3,0
319,70,49,43,381.4,10.74,0.4,0
320,64,31,42,395.3,12.75,0.4,0.01
321,49,26,23,268.8,4.92,0.4,0
322,58,28,19,390.4,4.92,0.4,0
323,63,25,20,100.7,2.91,0.3,0
324,69,33,24,358,5.59,0.3,0
325,69,40,28,269.1,3.58,0.4,0
326,67,51,43,381.3,12.3,0.4,0.02
327,64,47,26,379.2,21.92,0.5,0
328,57,34,7,302.6,8.72,0.3,0
329,55,34,15,156,7.38,0.4,0
330,67,30,21,217.4,3.58,0.3,0
331,68,32,23,137.2,2.01,0.3,0
332,69,32,24,344.8,3.58,0.3,0
333,73,33,20,73.6,6.49,0.3,0
334,71,41,22,200.7,8.72,0.3,0
335,63,33,22,298.6,4.7,0.3,0
336,61,35,27,290.9,3.8,0.3,0
337,71,49,42,203.2,4.92,0.3,0
338,65,48,47,360.8,6.04,0.3,0
339,66,45,43,359.6,6.93,0.4,0
340,68,48,38,253.1,9.17,0.2,0
341,68,47,38,235.2,6.93,0.3,0
342,69,42,39,356.4,6.93,0.4,0
343,68,48,47,355.5,7.38,0.4,0
344,68,43,48,354.7,3.13,0.4,0
345,71,43,47,354,2.68,0.4,0
346,72,41,40,353.3,3.58,0.4,0
347,72,45,40,326.9,11.41,0.4,0
348,59,41,33,263.9,11.18,0.4,0
349,58,33,28,252.8,2.68,0.3,0
350,61,34,29,351.5,7.61,0.4,0
```

```
351,62,35,35,280.4,11.41,0.4,0
352,55,35,40,277.9,6.93,0.5,0.01
353,55,33,39,350.9,4.7,0.4,0
354,57,26,29,350.9,4.7,0.4,0
355,63,34,31,351,11.18,0.4,0
356,67,48,36,320.2,14.09,0.4,0
357,55,30,36,243.5,12.75,0.4,0
358,51,23,22,351.7,6.49,0.4,0
359,68,34,22,352.1,10.51,0.5,0
360,52,36,35,352.6,9.62,0.6,0.11
361,46,32,35,353.1,4.92,0.5,0
362,49,24,30,353.8,6.71,0.5,0
363,58,33,30,354.5,11.63,0.5,0
364,45,28,25,355.3,10.07,0.4,0
365,30,24,22,316.1,12.3,0.4,0
```

```
1,46,29,29,326.7,6.93,0.5,0
2,45,29,32,338.9,7.61,0.4,0.01
3,49,32,26,359.7,13.42,0.5,0
4,55,23,24,196.4,2.46,0.4,0
5,60,22,26,279.8,5.82,0.5,0
6,63,24,26,271,3.36,0.5,0
7,59,30,32,343.4,12.75,0.4,0
8,43,30,26,306.8,2.46,0.4,0
9,44,31,27,365.6,9.4,0.4,0
10,50,35,35,256.6,5.59,0.4,0
11,61,32,38,263.8,6.04,0.4,0
12,61,35,38,281.7,8.05,0.4,0
13,42,32,34,128.6,6.71,0.4,0
14,44,35,36,356.4,7.61,0.3,0
15,55,26,35,341.5,3.8,0.4,0
16,58,29,31,252.8,5.59,0.4,0
17,64,26,27,174.3,3.8,0.5,0
18,66,31,24,213.1,3.8,0.4,0
19,70,34,29,265.8,4.03,0.4,0
20,69,36,28,390.8,3.8,0.5,0
21,60,38,41,368.3,5.82,0.4,0.01
22,41,31,34,274.6,12.75,0.4,0.24
23,46,22,28,332.9,3.58,0.4,0
24,54,27,29,246.7,6.49,0.3,0
25,63,30,29,269,5.82,0.3,0
26,61,37,35,391.6,7.38,0.3,0
27,69,46,41,409.5,3.58,0.4,0
28,73,42,42,412.4,2.91,0.4,0
29,62,43,38,266.4,12.3,0.4,0
30,48,41,43,209.3,8.28,0.5,0.44
31,58,43,48,318.8,6.26,0.5,0.15
32,61,41,45,363.9,5.37,0.4,0
33,62,37,41,342.4,2.91,0.5,0
34,67,37,42,273.8,4.25,0.4,0
35,72,39,38,336.6,4.92,0.4,0
36,66,36,34,427.9,3.8,0.4,0
37,74,37,34,444.5,4.7,0.5,0
38,78,44,35,369,7.61,0.4,0
39,79,45,33,262.9,4.47,0.5,0
40,77,44,34,251.1,3.8,0.4,0
41,78,43,33,458.7,5.59,0.4,0
42,66,43,33,462.3,13.42,0.3,0
43,56,42,31,383.3,7.83,0.3,0
44,65,35,37,469.7,3.58,0.4,0
45,69,39,44,448.2,4.92,0.4,0
46,76,46,46,298.6,11.63,0.4,0
47,69,46,44,359.6,10.51,0.4,0
48,60,36,29,246.2,5.82,0.3,0
49,71,32,25,321.7,2.68,0.4,0
50,77,38,20,270.4,5.82,0.4,0
```

```
51,72,54,30,496.6,13.42,0.4,0
52,75,57,34,280.6,11.18,0.4,0
53,65,37,42,192.6,13.87,0.4,0
54,44,30,27,101.7,10.29,0.4,0.01
55,65,29,35,281.6,10.74,0.4,0.02
56,63,37,32,357.3,9.17,0.4,0
57,56,33,32,444,11.86,0.5,0
58,46,29,25,341.4,9.4,0.4,0
59,69,26,31,410.7,5.82,0.4,0
60,76,42,32,,6.71,0.4,0
61,61,50,51,438.7,6.71,0.5,0.08
62,61,52,50,536.5,7.61,0.4,0.04
63,62,37,44,340.6,12.08,0.3,0
64,50,30,27,544.7,6.71,0.3,0
65,65,27,27,272.8,4.47,0.3,0
66,66,43,36,360.5,6.93,0.3,0
67,71,50,40,556.9,5.82,0.4,0
68,72,43,41,531.3,6.49,0.4,0.01
69,72,40,38,520.2,4.25,0.5,0
70,73,42,33,448.7,6.93,0.4,0
71,69,49,37,364.7,2.46,0.3,0
72,71,49,31,202.4,9.84,0.3,0
73,70,49,32,581,13.65,0.4,0
74,70,45,26,511.3,10.07,0.4,0
75,72,47,46,429,5.82,0.3,0
76,62,50,55,134.9,6.49,0.3,0.38
77,67,48,51,356.2,5.82,0.4,0.04
78,71,54,49,600.8,9.62,0.4,0
79,71,49,45,383.6,6.49,0.4,0
80,63,53,50,250.9,6.71,0.4,0.06
81,80,46,46,594.4,6.04,0.3,0
82,82,53,34,616.2,10.07,0.3,0
83,82,53,26,620,8.28,0.3,0
84,76,56,23,490.4,13.65,0.3,0
85,69,46,31,535,5.82,0.4,0
86,80,45,31,330.3,5.82,0.4,0
87,88,52,24,528.8,7.61,0.3,0
88,88,51,20,638.5,6.93,0.3,0
89,84,61,35,567.9,6.71,0.3,0
90,84,62,43,501.2,12.97,0.2,0
91,84,58,43,403.7,14.99,0.3,0
92,85,63,38,443.4,17.67,0.2,0
93,80,59,32,518.7,8.28,0.3,0
94,72,50,40,616,9.84,0.3,0
95,85,55,44,549.7,10.51,0.3,0
96,86,60,33,353.7,15.66,0.4,0
97,87,54,28,451.8,13.42,0.3,0
98,86,66,40,291.3,14.76,0.3,0
99,79,57,20,459.9,6.04,0.3,0
100,87,46,35,561,8.95,0.2,0
```

```
101,86,62,42,678.5,12.53,0.3,0
102,69,55,54,539.9,11.86,0.3,0.11
103,63,52,50,656.1,11.41,0.3,0.13
104,71,46,41,436.6,4.25,0.3,0
105,82,51,41,453.7,13.87,0.3,0
106,77,57,38,578.7,17.45,0.4,0
107,71,43,12,677.2,11.18,0.3,0
108,76,47,20,439.9,12.75,0.3,0
109,81,53,29,583.4,8.5,0.3,0
110,81,51,34,705.2,4.92,0.2,0
111,84,56,26,703.1,9.4,0.3,0
112,82,62,22,609.7,11.18,0.3,0
113,79,63,40,545.1,12.3,0.3,0
114,74,57,43,718.6,15.21,0.3,0
115,80,54,32,543.5,14.32,0.3,0
116,68,52,41,723.5,20.36,0.3,0
117,72,48,39,725.8,11.63,0.3,0
118,71,43,36,726,5.82,0.3,0
119,76,45,29,730.4,4.03,0.3,0
120,85,46,21,502.9,5.59,0.4,0
121,91,57,22,375,5.59,0.3,0
122,93,56,30,509.6,9.4,0.4,0
123,89,64,44,544.6,7.61,0.3,0
124,86,63,58,657.9,8.28,0.3,0.16
125,80,57,53,513,13.2,0.4,0
126,84,58,41,743.4,8.95,0.4,0
127,85,62,34,746.7,10.29,0.3,0
128,87,60,35,655.1,13.87,0.2,0
129,77,62,27,750.2,14.76,0.2,0
130,78,54,27,751.9,9.84,0.3,0
131,84,51,48,598.6,10.96,0.2,0
132,77,58,57,755.2,9.84,0.3,0.54
133,77,55,56,756.8,6.49,0.2,0.02
134,85,61,51,485.9,8.72,0.3,0
135,83,60,52,717.8,14.32,0.3,0.04
136,78,57,40,693.8,19.46,0.3,0
137,81,56,34,644.8,6.04,0.4,0
138,92,56,54,589.8,9.4,0.3,0
139,87,65,39,765.2,13.87,0.4,0
140,88,55,55,627.4,5.59,0.3,0
141,79,56,55,721.3,10.96,0.3,0.05
142,91,56,54,768.8,10.74,0.4,0
143,83,65,27,769.9,13.65,0.3,0
144,82,62,29,709.6,13.65,0.4,0
145,84,61,33,771.9,11.18,0.3,0
146,88,57,40,579.5,5.14,0.3,0
147,92,57,41,690.3,4.47,0.3,0
148,94,68,51,595.1,9.4,0.3,0
149,96,63,26,680.9,6.04,0.3,0
150,90,68,53,776.3,11.86,0.3,0
```

```
151,93,65,54,460.9,6.04,0.3,0
152,98,69,47,777.8,5.82,0.2,0
153,99,72,46,760.3,9.84,0.3,0
154,98,73,27,704.9,11.63,0.4,0
155,98,65,44,623.3,7.61,0.3,0
156,98,73,57,562.5,7.16,0.4,0
157,97,72,60,631.7,5.82,0.4,0.04
158,93,73,62,454.8,7.16,0.3,0
159,92,76,56,729.1,9.62,0.3,0
160,94,71,63,636.4,6.49,0.3,0.03
161,98,72,58,508.3,7.16,0.2,0
162,98,73,50,518.5,10.51,0.2,0
163,97,73,43,689.5,6.93,0.2,0
164,99,68,53,783,7.38,0.2,0
165,98,69,55,733.6,5.82,0.2,0
166,97,71,57,783.2,8.28,0.3,0
167,94,70,60,670.1,6.93,0.2,0
168,98,70,56,725.4,4.92,0.2,0
169,102,76,53,637.9,8.28,0.3,0
170,97,75,59,653.3,10.96,0.3,0
171,104,76,58,574.5,5.59,0.3,0
172,104,75,52,783.2,5.82,0.3,0
173,104,74,62,783,8.5,0.4,0
174,92,70,60,738.6,12.3,0.3,0
175,91,72,60,782.6,10.51,0.3,0
176,93,74,60,782.3,8.72,0.3,0
177,97,74,60,752.6,7.83,0.2,0
178,91,70,64,781.7,8.72,0.3,0.09
179,95,72,59,781.3,7.16,0.4,0
180,99,71,58,459.7,6.49,0.4,0.02
181,94,69,59,780.4,8.5,0.4,0
182,97,71,55,779.9,4.92,0.4,0
183,101,74,54,779.4,6.26,0.4,0
184,96,74,60,653.5,11.18,0.4,0
185,96,72,68,717.2,7.16,0.4,0.3
186,94,71,67,314.9,10.51,0.4,0
187,97,74,60,776.8,10.74,0.4,0
188,95,70,63,597.2,6.71,0.4,0.04
189,92,68,63,377.8,5.82,0.4,0
190,94,68,62,684.1,6.71,0.4,0.27
191,91,68,68,760.5,7.83,0.5,0.6
192,94,66,68,772.7,5.14,0.5,0.02
193,98,75,64,771.8,5.37,0.4,0
194,99,75,59,770.8,8.28,0.4,0.04
195,94,75,60,769.8,8.05,0.4,0
196,94,75,57,663.4,10.07,0.5,0
197,97,79,55,767.6,8.72,0.5,0
198,97,79,56,765,10.07,0.5,0
199,99,73,58,493.9,10.51,0.4,0
200,96,71,64,636.3,8.72,0.5,0
```

```
201,99,75,63,705.9,6.26,0.5,0.03
202,98,71,66,553.5,6.93,0.5,0.12
203,95,70,67,758.7,5.59,0.5,0.27
204,97,71,67,662.9,5.82,0.5,0
205,100,77,62,688.2,5.59,0.5,0
206,101,79,60,755.7,6.49,0.5,0
207,97,73,64,607,7.38,0.5,0
208,100,75,58,276.5,8.5,0.6,0
209,100,72,65,404.9,9.62,0.6,0.32
210,94,71,66,749.3,7.61,0.5,0.13
211,91,68,67,495.7,8.95,0.4,0.72
212,93,72,67,745.9,6.26,0.5,0.02
213,96,75,60,744.1,7.38,0.6,0
214,96,71,66,720.5,6.93,0.6,0.3
215,94,72,65,621.6,6.04,0.5,0
216,99,72,63,551.6,5.14,0.5,0
217,103,75,57,617.6,5.82,0.5,0
218,103,75,56,513.5,6.04,0.4,0
219,102,78,56,593.8,7.61,0.5,0
220,96,77,59,607.3,7.83,0.5,0.02
221,98,72,66,509.3,6.26,0.5,0.12
222,97,73,67,481.4,7.83,0.5,0.01
223,96,74,63,481.1,12.53,0.5,0.04
224,98,74,47,518.5,6.71,0.5,0
225,99,77,56,500.4,3.8,0.5,0
226,102,75,55,506.2,5.14,0.5,0
227,102,78,58,639.9,8.05,0.5,0
228,97,73,64,526.3,8.28,0.5,0.02
229,97,73,61,709.2,7.61,0.4,0
230,102,79,60,706.6,9.17,0.5,0
231,99,77,57,584,12.53,0.5,0
232,100,69,60,533,7.83,0.4,0
233,100,74,59,692.9,10.96,0.4,0
234,97,72,59,610.9,10.29,0.5,0.01
235,94,73,59,693.1,9.62,0.4,0
236,92,68,67,619.7,8.05,0.5,0.45
237,95,71,64,464.6,6.04,0.4,0.03
238,97,74,59,684.5,5.37,0.4,0.39
239,95,74,57,681.5,4.92,0.4,0
240,98,72,61,526,5.82,0.4,0.12
241,93,71,65,675.5,8.05,0.4,0.04
242,93,68,55,672.4,5.82,0.4,0
243,97,69,51,564.2,4.92,0.4,0
244,99,68,49,436.5,4.47,0.4,0
245,99,72,51,580.5,6.93,0.5,0
246,92,77,53,525.9,7.38,0.5,0
247,91,72,58,607.6,5.37,0.4,0
248,95,75,56,612.4,6.49,0.5,0
249,100,75,65,642.5,7.16,0.4,0
250,96,73,64,617,5.82,0.4,0
```

```
251,98,74,60,244.9,10.29,0.4,0
252,91,73,61,516.4,6.71,0.4,0
253,89,72,61,586.9,4.92,0.4,0
254,92,70,60,535.2,5.59,0.4,0
255,92,68,56,558.6,4.92,0.4,0
256,96,71,52,528.1,7.83,0.4,0
257,95,68,46,214.4,7.38,0.5,0
258,94,73,55,618,8.5,0.4,0
259,96,71,60,551.1,8.05,0.3,0
260,95,72,62,299.3,9.62,0.3,0
261,96,69,57,546.7,7.16,0.3,0
262,85,67,63,562.2,5.37,0.3,0.25
263,80,64,64,475.6,4.47,0.3,0.03
264,77,66,65,595.5,3.36,0.4,0.03
265,84,67,65,591.7,5.82,0.4,0
266,90,70,66,438.1,3.36,0.4,0.02
267,90,67,63,344.6,7.61,0.3,0
268,84,68,58,580.2,9.17,0.3,0
269,87,62,53,576.3,3.8,0.3,0
270,93,61,47,572.4,6.26,0.3,0
271,97,62,44,544.9,4.92,0.3,0
272,94,65,47,564.6,6.04,0.3,0
273,91,66,48,475.3,5.37,0.3,0
274,93,67,44,258.3,3.8,0.3,0
275,96,66,45,389,7.38,0.3,0
276,88,65,60,313.4,9.17,0.3,0.59
277,67,61,60,452,6.93,0.3,0.07
278,74,60,61,428.5,5.82,0.4,0.37
279,78,59,61,537,4.7,0.3,0.62
280,75,60,59,455.5,7.61,0.3,0.01
281,72,57,55,529.1,5.82,0.2,0
282,75,59,57,494.2,8.05,0.2,0
283,82,60,57,282,3.58,0.3,0
284,88,58,57,222.5,6.93,0.2,0
285,87,65,51,367.1,5.37,0.2,0
286,89,61,48,448.9,2.24,0.3,0
287,92,60,49,388.6,3.58,0.2,0
288,90,62,48,417.5,3.13,0.3,0
289,76,62,49,312,12.3,0.3,0
290,77,58,59,340.2,8.05,0.2,0.02
291,80,61,58,316.1,6.04,0.3,0
292,86,62,56,335.5,6.49,0.3,0.01
293,84,62,59,482.6,7.16,0.4,0.04
294,78,54,57,478.9,12.08,0.4,0.3
295,72,53,51,475.2,6.26,0.4,0.09
296,76,51,51,405.5,6.26,0.3,0
297,72,54,47,285.6,10.29,0.3,0
298,74,50,46,425.2,4.7,0.3,0
299,76,50,43,165.4,2.68,0.3,0
300,81,53,44,259.7,11.41,0.3,0
```

```
301,77,52,36,357.3,4.92,0.3,0
302,60,53,54,214.5,4.92,0.3,0.94
303,61,49,53,380.1,5.82,0.2,0.18
304,68,44,48,284.4,2.24,0.2,0
305,74,45,46,389.5,4.92,0.3,0
306,77,47,46,377.1,4.03,0.2,0
307,78,52,45,346.2,4.7,0.3,0
308,77,53,45,241.9,15.66,0.2,0
309,64,45,36,419.3,10.96,0.2,0
310,70,41,31,423.6,6.26,0.3,0
311,66,46,38,420.5,12.97,0.4,0
312,66,46,43,417.5,4.7,0.3,0
313,75,44,47,298.6,4.7,0.2,0
314,76,46,34,411.6,12.3,0.3,0
315,64,39,36,363.5,10.96,0.3,0
316,65,38,20,406,7.61,0.3,0
317,68,43,32,403.2,8.72,0.4,0
318,73,48,49,400.5,5.82,0.3,0
319,67,56,55,381.4,12.3,0.4,0.05
320,74,42,53,395.3,18.79,0.4,0.01
321,57,39,26,268.8,20.8,0.4,0
322,65,36,27,390.4,7.83,0.4,0
323,65,41,28,100.7,5.14,0.3,0
324,70,39,31,358,6.04,0.3,0
325,54,39,28,269.1,10.07,0.4,0
326,60,31,23,381.3,3.8,0.4,0
327,62,37,27,379.2,5.37,0.5,0
328,70,34,31,302.6,6.04,0.3,0
329,77,42,56,156,7.38,0.4,0.11
330,65,53,56,217.4,5.59,0.3,0.11
331,59,39,56,137.2,6.49,0.3,0
332,47,38,43,344.8,4.47,0.3,0
333,63,43,49,73.6,4.03,0.3,0
334,60,39,26,200.7,6.04,0.3,0
335,59,33,25,298.6,4.25,0.3,0
336,59,30,22,290.9,4.92,0.3,0
337,61,27,20,203.2,4.25,0.3,0
338,63,33,28,360.8,5.37,0.3,0
339,67,34,31,359.6,5.37,0.4,0
340,64,37,28,253.1,5.59,0.2,0
341,63,36,26,235.2,6.71,0.3,0
342,63,30,26,356.4,2.91,0.4,0
343,69,33,27,355.5,3.58,0.4,0
344,74,40,28,354.7,6.71,0.4,0
345,74,49,29,354,10.51,0.4,0
346,58,38,42,353.3,15.88,0.4,0.11
347,55,39,32,326.9,17.9,0.4,0
348,67,40,28,263.9,15.43,0.4,0
349,48,36,22,252.8,15.21,0.3,0
350,48,25,19,351.5,6.26,0.4,0
```

```
351,51,28,16,280.4,4.92,0.4,0
352,58,25,15,277.9,4.7,0.5,0
353,60,35,24,350.9,5.14,0.4,0
354,67,44,38,350.9,11.41,0.4,0
355,62,44,30,351,7.61,0.4,0
356,60,37,36,320.2,12.08,0.4,0
357,64,48,41,243.5,11.18,0.4,0.01
358,66,45,39,351.7,10.74,0.4,0
359,68,41,33,352.1,11.18,0.5,0
360,57,29,38,352.6,12.75,0.6,0.58
361,38,27,28,353.1,8.72,0.5,0.37
362,39,23,28,353.8,4.25,0.5,0
363,47,28,34,354.5,7.38,0.5,0.01
364,49,28,30,355.3,6.49,0.4,0
365,50,33,32,316.1,10.74,0.4,0
```

```
1,40,36,31,326.7,8.95,0.5,0
2,42,30,33,338.9,5.14,0.4,0
3,50,27,32,359.7,2.91,0.5,0
4,47,31,36,196.4,9.4,0.4,0
5,48,37,43,279.8,6.93,0.5,0.27
6,57,41,45,271,8.95,0.5,0.08
7,57,36,35,343.4,13.42,0.4,0
8,48,37,36,306.8,17.67,0.4,0.11
9,50,34,28,365.6,8.28,0.4,0
10,47,26,31,256.6,6.04,0.4,0
11,50,30,31,263.8,4.92,0.4,0
12,52,24,22,281.7,2.01,0.4,0
13,55,24,23,128.6,3.13,0.4,0
14,63,28,24,356.4,11.41,0.3,0
15,61,40,31,341.5,20.58,0.4,0
16,54,37,29,252.8,4.92,0.4,0
17,66,36,27,174.3,5.37,0.5,0
18,62,30,24,213.1,6.49,0.4,0
19,67,40,22,265.8,8.5,0.4,0
20,68,41,25,390.8,13.42,0.5,0
21,57,38,28,368.3,8.28,0.4,0
22,58,26,21,274.6,2.01,0.4,0
23,64,30,20,332.9,4.25,0.4,0
24,71,38,22,246.7,14.54,0.3,0
25,60,34,20,269,6.71,0.3,0
26,53,32,27,391.6,10.74,0.3,0
27,53,23,28,409.5,4.7,0.4,0
28,61,26,24,412.4,4.03,0.4,0
29,68,28,22,415.3,6.04,0.4,0
30,73,46,20,266.4,13.87,0.5,0
31,72,50,23,209.3,11.63,0.5,0
32,58,35,33,318.8,21.25,0.4,0.07
33,46,35,26,363.9,16.11,0.5,0
34,45,23,13,342.4,4.92,0.4,0
35,49,24,8,273.8,7.83,0.4,0
36,54,26,10,336.6,12.3,0.4,0
37,58,21,9,427.9,4.92,0.5,0
38,63,26,16,444.5,4.25,0.4,0
39,63,36,20,369,4.47,0.5,0
40,66,32,19,262.9,2.46,0.4,0
41,72,33,20,251.1,4.92,0.4,0
42,72,32,20,458.7,3.58,0.3,0
43,76,33,18,462.3,3.13,0.3,0
44,78,37,17,383.3,4.92,0.4,0
45,76,37,15,469.7,7.83,0.4,0
46,73,45,18,448.2,7.38,0.4,0
47,77,39,25,298.6,4.03,0.4,0
48,81,36,24,359.6,3.58,0.3,0
49,85,49,24,246.2,9.17,0.4,0
50,81,49,30,321.7,5.82,0.4,0
```

```
51,81,48,28,270.4,4.47,0.4,0
52,79,53,38,496.6,8.05,0.4,0
53,75,46,45,280.6,13.65,0.4,0
54,61,40,27,192.6,14.76,0.4,0
55,58,34,27,101.7,4.03,0.4,0
56,67,36,19,281.6,7.83,0.4,0
57,71,36,22,357.3,4.25,0.5,0
58,77,39,21,444,5.82,0.4,0
59,80,45,17,341.4,6.49,0.4,0
60,79,44,22,410.7,6.93,0.4,0
61,84,49,22,438.7,13.87,0.5,0
62,80,45,19,536.5,4.7,0.4,0
63,83,46,21,340.6,5.82,0.3,0
64,79,49,17,544.7,5.82,0.3,0
65,80,59,15,272.8,14.99,0.3,0
66,70,56,25,360.5,15.43,0.3,0
67,61,44,36,556.9,9.17,0.4,0.01
68,71,45,35,531.3,10.07,0.4,0
69,75,38,35,520.2,6.04,0.5,0
70,73,45,33,448.7,4.25,0.4,0
71,76,45,27,364.7,19.91,0.3,0
72,76,52,26,202.4,11.63,0.3,0
73,80,53,26,581,14.32,0.4,0
74,78,53,28,511.3,8.5,0.4,0
75,80,47,19,429,6.04,0.3,0
76,81,47,21,134.9,8.72,0.3,0
77,81,49,29,356.2,8.28,0.4,0
78,65,40,31,600.8,8.5,0.4,0
79,66,42,27,383.6,6.49,0.4,0
80,81,48,33,250.9,4.92,0.4,0
81,84,54,27,594.4,19.91,0.3,0
82,71,52,22,616.2,20.58,0.3,0
83,69,39,13,620,3.8,0.3,0
84,76,40,10,490.4,13.87,0.3,0
85,80,54,17,535,12.97,0.4,0
86,73,46,29,330.3,5.82,0.4,0
87,81,50,27,528.8,10.74,0.3,0
88,83,53,34,638.5,18.12,0.3,0
89,70,52,33,567.9,13.2,0.3,0
90,68,46,27,501.2,11.41,0.2,0
91,63,41,34,403.7,9.4,0.3,0
92,67,36,30,443.4,4.92,0.2,0
93,76,36,24,518.7,4.47,0.3,0
94,84,44,17,616,3.8,0.3,0
95,89,53,18,549.7,10.74,0.3,0
96,80,54,21,353.7,7.61,0.4,0
97,77,54,31,451.8,6.71,0.3,0
98,80,56,50,291.3,9.84,0.3,0.04
99,81,53,51,459.9,7.83,0.3,0
100,80,50,36,561,14.99,0.2,0
```

```
101,74,54,37,678.5,8.5,0.3,0
102,67,49,42,539.9,8.72,0.3,0
103,78,42,42,656.1,3.8,0.3,0
104,87,50,33,436.6,5.37,0.3,0
105,86,66,33,453.7,19.01,0.3,0
106,71,53,32,578.7,17.67,0.4,0
107,73,41,27,677.2,5.82,0.3,0
108,78,50,41,439.9,8.72,0.3,0
109,79,51,42,583.4,6.71,0.3,0
110,86,51,24,705.2,10.74,0.2,0
111,87,58,42,703.1,7.38,0.3,0
112,87,60,50,609.7,10.96,0.3,0
113,87,57,51,545.1,10.51,0.3,0
114,86,66,37,718.6,19.24,0.3,0
115,87,64,37,543.5,20.13,0.3,0
116,76,58,36,723.5,20.8,0.3,0
117,80,56,21,725.8,11.41,0.3,0
118,84,56,30,726,14.99,0.3,0
119,74,58,30,730.4,16.55,0.3,0
120,78,54,30,502.9,6.49,0.4,0
121,69,47,37,375,13.42,0.3,0
122,73,44,35,509.6,6.93,0.4,0
123,84,50,36,544.6,5.14,0.3,0
124,85,57,36,657.9,6.93,0.3,0
125,91,64,30,513,10.29,0.4,0
126,97,64,31,743.4,12.97,0.4,0
127,84,58,24,746.7,9.84,0.3,0
128,80,59,24,655.1,16.11,0.2,0
129,82,60,32,750.2,17,0.2,0
130,87,59,30,751.9,10.07,0.3,0
131,92,55,28,598.6,7.61,0.2,0
132,86,59,52,755.2,9.62,0.3,0
133,94,66,57,756.8,7.83,0.2,0
134,85,65,52,485.9,12.08,0.3,0
135,91,63,53,717.8,9.62,0.3,0
136,90,65,42,693.8,18.34,0.3,0
137,82,59,45,644.8,12.08,0.4,0
138,73,54,49,589.8,11.41,0.3,0
139,81,51,47,765.2,4.7,0.4,0
140,91,57,39,627.4,8.05,0.3,0
141,92,59,25,721.3,7.61,0.3,0
142,92,62,31,768.8,13.2,0.4,0
143,92,67,27,769.9,13.42,0.3,0
144,91,66,27,709.6,14.09,0.4,0
145,93,66,31,771.9,13.42,0.3,0
146,87,70,32,579.5,18.34,0.3,0
147,84,57,24,690.3,10.29,0.3,0
148,92,58,19,595.1,7.83,0.3,0
149,94,69,35,680.9,6.71,0.3,0
150,91,65,57,776.3,8.05,0.3,0.04
```

```
151,87,63,59,460.9,9.62,0.3,0.02
152,84,58,54,777.8,7.83,0.2,0.12
153,89,55,51,760.3,5.14,0.3,0
154,100,63,46,704.9,6.26,0.4,0
155,96,69,49,623.3,8.28,0.3,0
156,94,70,51,562.5,6.71,0.4,0
157,98,71,52,631.7,6.71,0.4,0
158,99,77,51,454.8,10.07,0.3,0
159,99,74,53,729.1,8.95,0.3,0.02
160,102,73,53,636.4,9.62,0.3,0
161,102,75,58,508.3,11.18,0.2,0
162,96,74,55,518.5,10.74,0.2,0
163,99,72,57,689.5,9.4,0.2,0
164,98,81,39,783,12.75,0.2,0
165,97,68,38,733.6,7.83,0.2,0
166,101,67,33,783.2,8.72,0.3,0
167,100,74,32,670.1,10.51,0.2,0
168,104,66,29,725.4,6.04,0.2,0
169,108,69,21,637.9,6.93,0.3,0
170,100,73,48,653.3,8.05,0.3,0
171,97,71,52,574.5,12.3,0.3,0
172,98,74,57,783.2,4.92,0.3,0
173,105,78,53,783,8.5,0.4,0
174,105,76,60,738.6,9.17,0.3,0.04
175,101,75,63,782.6,9.62,0.3,0
176,99,74,57,782.3,8.5,0.3,0
177,95,71,61,752.6,9.17,0.2,0
178,94,72,61,781.7,11.41,0.3,0
179,84,70,67,781.3,8.05,0.4,0.15
180,95,69,63,459.7,9.4,0.4,0
181,97,74,57,780.4,7.38,0.4,0
182,89,72,67,779.9,6.49,0.4,0
183,96,70,64,779.4,13.42,0.4,0
184,101,73,51,653.5,10.29,0.4,0
185,104,75,49,717.2,7.83,0.4,0
186,105,76,46,314.9,8.05,0.4,0
187,104,84,50,776.8,10.96,0.4,0
188,101,80,56,597.2,13.2,0.4,0
189,102,75,59,377.8,9.62,0.4,0
190,102,76,58,684.1,9.4,0.4,0
191,105,77,51,760.5,9.62,0.5,0
192,105,78,45,772.7,10.74,0.5,0
193,104,79,41,771.8,10.51,0.4,0
194,107,80,39,770.8,6.71,0.4,0
195,108,75,42,769.8,7.61,0.4,0
196,104,76,56,663.4,10.96,0.5,0.05
197,101,71,58,767.6,7.38,0.5,0
198,103,78,51,765,7.83,0.5,0
199,102,76,61,493.9,7.38,0.4,0.04
200,99,74,58,636.3,9.17,0.5,0
```

```
201,100,74,57,705.9,6.49,0.5,0
202,101,78,61,553.5,6.93,0.5,0.04
203,105,76,51,758.7,5.37,0.5,0
204,104,78,51,662.9,3.8,0.5,0
205,106,78,51,688.2,6.49,0.5,0
206,100,79,55,755.7,9.84,0.5,0
207,100,75,61,607,10.07,0.5,0
208,96,73,66,276.5,6.26,0.6,0.11
209,98,74,61,404.9,8.28,0.6,0
210,98,75,59,749.3,9.17,0.5,0
211,97,75,61,495.7,8.05,0.4,0
212,95,75,58,745.9,7.61,0.5,0
213,96,74,62,744.1,9.4,0.6,0
214,95,74,63,720.5,7.61,0.6,0
215,92,70,66,621.6,7.16,0.5,0.08
216,95,67,65,551.6,9.4,0.5,0.3
217,100,71,64,617.6,7.16,0.5,0.11
218,99,74,64,513.5,9.84,0.4,0
219,101,76,58,593.8,9.4,0.5,0
220,102,78,63,607.3,7.83,0.5,0.07
221,91,74,63,509.3,8.5,0.5,0
222,90,69,66,481.4,7.61,0.5,0.03
223,97,71,68,481.1,8.28,0.5,0.02
224,102,69,67,518.5,9.62,0.5,0.48
225,87,65,68,500.4,9.62,0.5,1.01
226,88,69,61,506.2,9.17,0.5,0
227,92,64,55,639.9,4.7,0.5,0
228,93,69,51,526.3,7.61,0.5,0
229,93,69,50,709.2,7.61,0.4,0
230,95,71,62,706.6,6.71,0.5,0
231,96,68,62,584,5.82,0.5,0
232,84,73,61,533,6.49,0.4,0
233,86,63,66,692.9,9.4,0.4,1.53
234,89,66,65,610.9,6.49,0.5,0
235,91,66,67,693.1,5.82,0.4,0.41
236,90,68,64,619.7,6.93,0.5,0
237,88,68,57,464.6,6.71,0.4,0
238,91,66,61,684.5,5.59,0.4,0
239,90,67,65,681.5,6.93,0.4,0.33
240,90,67,63,526,5.37,0.4,0
241,88,67,63,675.5,7.83,0.4,0
242,78,67,66,672.4,6.93,0.4,0.23
243,82,69,66,564.2,5.14,0.4,0.16
244,83,66,67,436.5,5.14,0.4,0.23
245,88,68,66,580.5,5.82,0.5,0
246,91,70,65,525.9,5.82,0.5,0
247,94,71,65,607.6,7.83,0.4,0
248,93,74,63,612.4,12.3,0.5,0
249,80,68,68,642.5,7.83,0.4,0.45
250,84,66,68,617,7.38,0.4,0.43
```

```
251,84,70,62,244.9,11.41,0.4,0
252,93,68,63,516.4,5.59,0.4,0
253,82,67,56,586.9,10.29,0.4,0
254,88,64,58,535.2,3.36,0.4,0
255,91,73,56,558.6,9.4,0.4,0
256,89,67,55,528.1,5.37,0.4,0
257,90,62,62,214.4,4.92,0.5,0.05
258,92,69,62,618,6.26,0.4,0
259,90,66,60,551.1,6.04,0.3,0
260,93,64,60,299.3,3.36,0.3,0
261,95,64,56,546.7,3.13,0.3,0
262,97,64,44,562.2,4.7,0.3,0
263,96,69,55,475.6,5.82,0.3,0
264,95,71,53,595.5,6.04,0.4,0
265,93,69,51,591.7,8.72,0.4,0
266,91,66,50,438.1,10.51,0.4,0
267,84,64,48,344.6,7.61,0.3,0
268,80,62,46,580.2,14.09,0.3,0
269,65,55,49,576.3,10.07,0.3,0.08
270,77,56,50,572.4,2.68,0.3,0
271,85,56,54,544.9,4.25,0.3,0
272,86,64,55,564.6,8.5,0.3,0
273,76,58,60,475.3,8.05,0.3,0.88
274,85,63,60,258.3,7.61,0.3,0
275,87,62,47,389,6.49,0.3,0
276,86,65,54,313.4,13.2,0.3,0
277,83,62,37,452,8.28,0.3,0
278,84,53,44,428.5,6.93,0.4,0
279,85,58,44,537,5.59,0.3,0
280,74,61,50,455.5,10.51,0.3,0
281,73,59,56,529.1,8.72,0.2,0
282,79,63,57,494.2,7.61,0.2,0
283,86,58,57,282,4.03,0.3,0
284,90,62,57,222.5,6.04,0.2,0
285,89,58,50,367.1,4.47,0.2,0
286,85,63,49,448.9,4.92,0.3,0
287,88,54,49,388.6,4.7,0.2,0
288,90,54,42,417.5,4.92,0.3,0
289,90,53,37,312,7.61,0.3,0
290,90,58,33,340.2,10.29,0.2,0
291,89,61,31,316.1,6.93,0.3,0
292,88,54,31,335.5,6.71,0.3,0
293,76,59,39,482.6,11.63,0.4,0
294,78,48,42,478.9,2.68,0.4,0
295,81,51,45,475.2,3.13,0.4,0
296,87,50,40,405.5,3.36,0.3,0
297,87,54,39,285.6,4.03,0.3,0
298,87,60,44,425.2,4.92,0.3,0
299,88,61,40,165.4,7.61,0.3,0
300,85,58,46,259.7,4.03,0.3,0
```

```
301,84,58,46,357.3,4.25,0.3,0
302,87,57,42,214.5,3.13,0.3,0
303,85,53,38,380.1,2.24,0.2,0
304,86,58,38,284.4,6.49,0.2,0
305,81,64,38,389.5,8.72,0.3,0
306,79,61,52,377.1,8.28,0.2,0
307,72,61,51,346.2,14.54,0.3,0
308,73,60,56,241.9,14.32,0.2,0.38
309,77,59,56,419.3,8.28,0.2,0
310,76,50,55,423.6,4.92,0.3,0
311,77,49,47,420.5,5.37,0.4,0
312,70,54,41,417.5,10.07,0.3,0
313,63,47,33,298.6,8.95,0.2,0
314,64,44,42,411.6,6.93,0.3,0
315,67,48,45,363.5,5.82,0.3,0
316,66,48,42,406,5.59,0.3,0
317,70,42,43,403.2,4.7,0.4,0
318,74,42,37,400.5,3.13,0.3,0
319,76,41,31,381.4,3.58,0.4,0
320,77,40,29,395.3,4.92,0.4,0
321,78,57,37,268.8,14.76,0.4,0
322,67,41,19,390.4,9.62,0.4,0
323,64,40,25,100.7,6.04,0.3,0
324,71,40,34,358,4.25,0.3,0
325,69,47,42,269.1,7.16,0.4,0
326,65,44,36,381.3,10.51,0.4,0
327,65,36,28,379.2,4.92,0.5,0
328,68,36,26,302.6,10.29,0.3,0
329,61,43,37,156,8.05,0.4,0
330,65,46,44,217.4,2.91,0.3,0
331,67,51,45,137.2,17.22,0.3,0
332,58,43,29,344.8,19.91,0.3,0
333,53,36,34,73.6,16.11,0.3,0.01
334,53,26,17,200.7,4.47,0.3,0
335,60,27,27,298.6,4.03,0.3,0
336,63,36,34,290.9,7.83,0.3,0
337,48,39,39,203.2,10.51,0.3,0.24
338,57,37,38,360.8,6.71,0.3,0
339,62,32,34,359.6,9.84,0.4,0
340,64,44,34,253.1,8.95,0.2,0
341,57,49,35,235.2,6.93,0.3,0
342,52,30,34,356.4,9.4,0.4,0
343,47,29,31,355.5,3.36,0.4,0
344,58,32,38,354.7,6.71,0.4,0
345,72,45,37,354,10.96,0.4,0
346,70,43,33,353.3,6.71,0.4,0
347,72,51,36,326.9,8.5,0.4,0
348,72,46,36,263.9,5.37,0.4,0
349,74,41,33,252.8,6.49,0.3,0
350,76,52,29,351.5,19.24,0.4,0
```

```
351,65,36,35,280.4,21.47,0.4,0
352,51,29,15,277.9,4.92,0.5,0
353,53,34,16,350.9,4.03,0.4,0
354,59,29,24,350.9,2.24,0.4,0
355,62,44,41,351,4.92,0.4,0.04
356,54,44,45,320.2,5.82,0.4,0.43
357,63,39,43,243.5,5.14,0.4,0
358,69,41,43,351.7,6.71,0.4,0
359,55,36,33,352.1,14.32,0.5,0
360,53,31,29,352.6,3.13,0.6,0
361,56,35,31,353.1,5.82,0.5,0
362,65,37,34,353.8,3.13,0.5,0
363,52,39,34,354.5,9.84,0.5,0.11
364,49,40,39,355.3,5.59,0.4,0
365,59,40,46,316.1,8.72,0.4,0.04
```

```
1,60,42,43,326.7,8.28,0.5,0.18
2,55,37,32,338.9,10.51,0.4,0
3,60,36,34,359.7,7.38,0.5,0
4,66,49,36,196.4,9.84,0.4,0
5,65,46,36,279.8,8.05,0.5,0
6,60,29,35,271,13.65,0.5,0
7,50,26,19,343.4,4.7,0.4,0
8,60,31,28,306.8,5.14,0.4,0
9,72,36,32,365.6,8.5,0.4,0
10,71,48,31,256.6,9.62,0.4,0
11,72,49,28,263.8,7.38,0.4,0
12,66,38,27,281.7,2.91,0.4,0
13,71,45,39,128.6,5.59,0.4,0
14,70,50,50,356.4,8.95,0.3,0.06
15,51,41,45,341.5,17.22,0.4,0.51
16,56,41,38,252.8,8.28,0.4,0
17,53,38,41,174.3,7.61,0.5,0.01
18,56,33,39,213.1,8.05,0.4,0
19,57,45,36,265.8,13.65,0.4,0
20,60,38,39,390.8,14.76,0.5,0.03
21,49,42,39,368.3,24.61,0.4,0.26
22,54,38,27,274.6,12.08,0.4,0
23,68,39,32,332.9,9.62,0.4,0
24,59,45,34,246.7,18.34,0.3,0
25,50,38,15,269,13.42,0.3,0
26,51,31,15,391.6,6.26,0.3,0
27,47,33,18,409.5,11.63,0.4,0
28,50,27,14,412.4,4.92,0.4,0
29,58,28,16,415.3,4.03,0.4,0
30,64,27,18,266.4,4.47,0.5,0
31,68,30,17,209.3,6.04,0.5,0
32,70,38,19,318.8,4.7,0.4,0
33,70,32,19,363.9,4.47,0.5,0
34,72,37,26,342.4,2.46,0.4,0
35,74,40,28,273.8,5.82,0.4,0
36,73,40,25,336.6,5.14,0.4,0
37,70,52,24,427.9,10.07,0.5,0
38,68,52,36,444.5,19.91,0.4,0
39,72,43,38,369,4.92,0.5,0
40,78,43,34,262.9,2.91,0.4,0
41,83,43,33,251.1,6.26,0.4,0
42,84,52,30,458.7,12.08,0.3,0
43,68,49,32,462.3,13.42,0.3,0
44,49,41,39,383.3,9.62,0.4,0.12
45,53,41,41,469.7,5.59,0.4,0.04
46,56,35,31,448.2,2.68,0.4,0
47,62,32,27,298.6,5.82,0.4,0
48,65,45,34,359.6,12.53,0.3,0
49,67,44,35,246.2,10.07,0.4,0
50,59,44,35,321.7,13.42,0.4,0
```

```
51,68,46,35,270.4,12.3,0.4,0
52,76,38,34,496.6,6.49,0.4,0
53,79,47,34,280.6,9.4,0.4,0
54,73,54,33,192.6,20.58,0.4,0
55,63,43,11,101.7,13.42,0.4,0
56,66,40,9,281.6,8.72,0.4,0
57,68,42,21,357.3,9.17,0.5,0
58,72,38,29,444,12.53,0.4,0
59,75,51,29,341.4,18.12,0.4,0
60,64,45,29,410.7,9.17,0.4,0
61,69,41,18,438.7,11.63,0.5,0
62,67,47,19,536.5,7.61,0.4,0
63,76,44,29,340.6,6.93,0.3,0
64,77,50,35,544.7,14.99,0.3,0
65,77,59,38,272.8,18.34,0.3,0
66,73,47,20,360.5,9.62,0.3,0
67,80,43,16,556.9,6.04,0.4,0
68,82,47,21,531.3,5.14,0.4,0
69,83,50,31,520.2,6.93,0.5,0
70,84,49,43,448.7,7.83,0.4,0
71,78,48,40,364.7,7.61,0.3,0
72,74,51,31,202.4,6.49,0.3,0
73,85,47,34,581,4.47,0.4,0
74,86,52,19,511.3,5.14,0.4,0
75,85,54,22,429,11.41,0.3,0
76,86,49,24,134.9,3.8,0.3,0
77,88,52,22,356.2,5.37,0.4,0
78,90,60,37,600.8,4.92,0.4,0
79,89,59,31,383.6,4.7,0.4,0
80,89,55,29,250.9,4.03,0.4,0
81,93,53,27,594.4,8.5,0.3,0
82,83,53,35,616.2,21.03,0.3,0
83,74,49,25,620,19.24,0.3,0
84,82,44,22,490.4,10.29,0.3,0
85,75,57,25,535,13.65,0.4,0
86,80,54,26,330.3,9.17,0.4,0
87,67,53,34,528.8,15.66,0.3,0
88,69,51,36,638.5,12.3,0.3,0
89,81,44,31,567.9,12.08,0.3,0
90,82,56,24,501.2,20.36,0.2,0
91,66,48,28,403.7,7.61,0.3,0
92,70,48,32,443.4,13.65,0.2,0
93,78,58,27,518.7,18.34,0.3,0
94,73,56,25,616,23.26,0.3,0
95,71,42,23,549.7,4.7,0.3,0
96,79,45,22,353.7,4.7,0.4,0
97,88,47,21,451.8,7.61,0.3,0
98,88,55,18,291.3,12.75,0.3,0
99,81,66,18,459.9,12.3,0.3,0
100,81,49,17,561,5.82,0.2,0
```

```
101,86,56,50,678.5,7.83,0.3,0
102,90,60,55,539.9,10.07,0.3,0
103,86,56,50,656.1,4.92,0.3,0
104,89,61,51,436.6,8.5,0.3,0
105,87,62,19,453.7,6.71,0.3,0
106,89,52,20,578.7,6.93,0.4,0
107,89,56,17,677.2,8.5,0.3,0
108,90,57,16,439.9,8.95,0.3,0
109,89,62,25,583.4,8.5,0.3,0
110,91,55,26,705.2,6.71,0.2,0
111,90,61,12,703.1,10.07,0.3,0
112,79,55,43,609.7,12.75,0.3,0
113,83,51,34,545.1,8.28,0.3,0
114,91,66,37,718.6,18.12,0.3,0
115,85,68,33,543.5,25.28,0.3,0
116,80,53,32,723.5,12.53,0.3,0
117,88,62,32,725.8,18.57,0.3,0
118,86,65,41,726,22.59,0.3,0
119,65,43,47,730.4,14.99,0.3,0.14
120,76,39,33,502.9,12.3,0.4,0
121,85,50,18,375,5.59,0.3,0
122,90,51,21,509.6,11.18,0.4,0
123,87,61,35,544.6,7.61,0.3,0
124,82,54,36,657.9,8.95,0.3,0
125,91,60,27,513,5.59,0.4,0
126,94,64,41,743.4,10.74,0.4,0
127,92,62,30,746.7,10.96,0.3,0
128,88,62,37,655.1,9.17,0.2,0
129,83,57,35,750.2,10.74,0.2,0
130,73,52,32,751.9,14.54,0.3,0
131,83,53,31,598.6,5.82,0.2,0
132,86,60,39,755.2,6.71,0.3,0
133,94,64,36,756.8,5.82,0.2,0
134,92,67,26,485.9,9.17,0.3,0
135,89,63,30,717.8,11.63,0.3,0
136,81,60,37,693.8,19.69,0.3,0
137,85,57,25,644.8,16.11,0.4,0
138,84,67,25,589.8,18.12,0.3,0
139,82,61,23,765.2,11.41,0.4,0
140,83,58,31,627.4,8.05,0.3,0
141,91,63,50,721.3,6.93,0.3,0
142,95,64,50,768.8,7.38,0.4,0
143,87,64,41,769.9,8.95,0.3,0
144,95,58,40,709.6,8.28,0.4,0
145,95,76,22,771.9,18.34,0.3,0
146,94,72,33,579.5,18.79,0.3,0
147,94,71,35,690.3,13.87,0.3,0
148,88,64,38,595.1,8.95,0.3,0
149,91,66,55,680.9,11.41,0.3,0.03
150,87,60,48,776.3,9.4,0.3,0
```

```
151,86,66,51,460.9,7.61,0.3,0
152,85,64,53,777.8,8.5,0.2,0
153,89,65,48,760.3,7.83,0.3,0
154,92,66,47,704.9,6.26,0.4,0
155,95,66,50,623.3,5.37,0.3,0
156,101,70,47,562.5,5.82,0.4,0
157,98,75,56,631.7,8.28,0.4,0
158,94,67,56,454.8,8.05,0.3,0.16
159,95,65,57,729.1,6.93,0.3,0
160,100,75,47,636.4,6.93,0.3,0
161,101,76,43,508.3,12.53,0.2,0
162,97,79,29,518.5,14.54,0.2,0
163,97,69,37,689.5,10.29,0.2,0
164,97,72,31,783,8.72,0.2,0
165,102,65,22,733.6,7.61,0.2,0
166,105,66,24,783.2,5.37,0.3,0
167,105,65,20,670.1,6.93,0.2,0
168,105,79,14,725.4,8.5,0.2,0
169,101,70,58,637.9,8.5,0.3,0
170,104,77,62,653.3,6.26,0.3,0
171,103,79,66,574.5,8.05,0.3,0
172,104,77,63,783.2,9.4,0.3,0.11
173,109,76,61,783,7.61,0.4,0
174,111,79,59,738.6,11.41,0.3,0
175,94,73,60,782.6,14.32,0.3,0
176,97,64,63,782.3,9.17,0.3,0.89
177,93,71,65,752.6,6.04,0.2,0
178,96,69,61,781.7,4.25,0.3,0
179,102,76,55,781.3,11.86,0.4,0
180,102,80,38,459.7,12.3,0.4,0
181,103,83,43,780.4,9.17,0.4,0
182,100,76,64,779.9,11.18,0.4,0
183,100,73,58,779.4,6.04,0.4,0
184,102,78,53,653.5,7.83,0.4,0
185,104,79,51,717.2,8.05,0.4,0
186,99,74,60,314.9,9.84,0.4,0
187,99,75,57,776.8,9.4,0.4,0
188,94,72,59,597.2,9.84,0.4,0
189,97,74,58,377.8,6.26,0.4,0
190,97,76,53,684.1,8.05,0.4,0
191,100,75,56,760.5,7.38,0.5,0
192,100,76,61,772.7,9.62,0.5,0
193,99,72,61,771.8,8.05,0.4,0.07
194,99,72,61,770.8,8.95,0.4,0
195,89,70,63,769.8,10.51,0.4,0
196,81,69,69,663.4,7.38,0.5,1.45
197,88,68,69,767.6,6.71,0.5,0.39
198,92,69,66,765,6.93,0.5,0
199,93,72,64,493.9,6.93,0.4,0
200,91,72,68,636.3,7.16,0.5,0.01
```

```
201,92,71,65,705.9,6.71,0.5,0
202,92,71,67,553.5,5.14,0.5,0
203,92,71,70,758.7,5.37,0.5,0.08
204,90,71,71,662.9,5.59,0.5,0.13
205,93,71,69,688.2,7.83,0.5,0
206,96,71,66,755.7,6.93,0.5,0
207,98,77,67,607,6.71,0.5,0
208,92,70,69,276.5,6.93,0.6,0.01
209,96,71,66,404.9,6.49,0.6,0
210,94,68,69,749.3,7.16,0.5,1.06
211,93,72,66,495.7,6.71,0.4,0
212,94,69,70,745.9,10.29,0.5,0.17
213,89,69,69,744.1,8.95,0.6,0.04
214,89,73,68,720.5,8.05,0.6,0
215,92,70,59,621.6,5.59,0.5,0
216,94,73,58,551.6,6.26,0.5,0
217,96,74,67,617.6,9.17,0.5,0.06
218,98,71,69,513.5,6.26,0.4,0
219,99,74,65,593.8,6.26,0.5,0
220,94,73,66,607.3,9.4,0.5,0
221,98,72,64,509.3,6.26,0.5,0
222,97,77,63,481.4,7.83,0.5,0
223,98,70,70,481.1,10.96,0.5,0.03
224,92,68,68,518.5,8.5,0.5,0.12
225,96,76,66,500.4,9.17,0.5,0
226,96,65,66,506.2,8.28,0.5,1.18
227,94,65,66,639.9,8.5,0.5,0.15
228,95,75,60,526.3,6.49,0.5,0
229,96,69,62,709.2,4.25,0.4,0
230,96,72,63,706.6,6.93,0.5,0
231,90,70,63,584,6.04,0.5,0.01
232,81,66,68,533,6.71,0.4,0.37
233,88,67,68,692.9,3.8,0.4,0.01
234,95,70,69,610.9,4.7,0.5,0
235,94,69,65,693.1,7.16,0.4,0.01
236,87,67,64,619.7,6.49,0.5,0.03
237,90,68,65,464.6,3.8,0.4,0
238,89,71,64,684.5,7.38,0.4,0
239,92,70,63,681.5,6.93,0.4,0
240,92,69,58,526,7.61,0.4,0
241,91,68,60,675.5,6.93,0.4,0
242,90,65,49,672.4,5.82,0.4,0
243,90,64,48,564.2,6.26,0.4,0
244,91,67,44,436.5,5.14,0.4,0
245,92,69,44,580.5,5.59,0.5,0
246,96,69,51,525.9,9.17,0.5,0
247,94,68,52,607.6,5.82,0.4,0
248,91,68,53,612.4,8.72,0.5,0
249,89,67,56,642.5,5.59,0.4,0
250,94,67,52,617,5.59,0.4,0
```

```
251,93,69,56,244.9,7.83,0.4,0
252,88,68,53,516.4,6.71,0.4,0
253,90,68,55,586.9,8.5,0.4,0
254,92,69,48,535.2,4.7,0.4,0
255,95,62,45,558.6,3.58,0.4,0
256,100,66,46,528.1,6.49,0.4,0
257,97,68,49,214.4,10.51,0.5,0
258,94,73,56,618,12.3,0.4,0
259,92,70,60,551.1,8.95,0.3,0
260,94,68,57,299.3,8.05,0.3,0
261,95,70,55,546.7,7.61,0.3,0
262,94,71,57,562.2,12.97,0.3,0
263,93,73,55,475.6,10.51,0.3,0
264,94,71,53,595.5,8.5,0.4,0
265,96,68,48,591.7,9.17,0.4,0
266,91,71,65,438.1,8.72,0.4,0.01
267,88,64,47,344.6,5.14,0.3,0
268,87,65,61,580.2,6.49,0.3,0
269,85,60,60,576.3,8.95,0.3,0
270,70,61,63,572.4,10.29,0.3,0.72
271,78,62,62,544.9,9.17,0.3,0.43
272,81,65,62,564.6,10.74,0.3,0
273,80,65,63,475.3,8.05,0.3,0
274,89,65,64,258.3,8.72,0.3,0
275,89,66,56,389,8.72,0.3,0
276,89,62,64,313.4,7.61,0.3,0
277,87,69,67,452,10.74,0.3,0
278,91,75,66,428.5,9.17,0.4,0
279,92,68,65,537,10.07,0.3,0
280,85,59,31,455.5,8.05,0.3,0
281,89,52,35,529.1,10.74,0.2,0
282,85,56,49,494.2,13.65,0.2,0
283,70,50,38,282,9.17,0.3,0
284,82,49,52,222.5,4.47,0.2,0
285,89,62,55,367.1,2.91,0.2,0
286,91,66,57,448.9,4.03,0.3,0
287,90,73,58,388.6,8.5,0.2,0
288,80,58,36,417.5,8.72,0.3,0
289,80,56,41,312,3.36,0.3,0
290,85,53,44,340.2,2.91,0.2,0
291,87,60,54,316.1,4.03,0.3,0
292,85,59,57,335.5,8.5,0.3,0.03
293,86,57,54,482.6,9.84,0.4,0
294,80,62,47,478.9,10.51,0.4,0
295,80,53,32,475.2,7.38,0.4,0
296,85,48,31,405.5,3.8,0.3,0
297,72,53,38,285.6,9.4,0.3,0
298,75,46,33,425.2,3.58,0.3,0
299,86,48,37,165.4,12.3,0.3,0
300,67,47,35,259.7,10.74,0.3,0
```

```
301,68,43,28,357.3,3.36,0.3,0
302,76,38,31,214.5,4.92,0.3,0
303,81,51,33,380.1,9.17,0.2,0
304,70,45,39,284.4,6.71,0.2,0.02
305,78,52,44,389.5,12.3,0.3,0
306,77,59,44,377.1,10.29,0.2,0
307,78,50,46,346.2,8.72,0.3,0
308,75,50,54,241.9,7.38,0.2,0
309,81,55,54,419.3,8.95,0.2,0
310,81,56,40,423.6,7.38,0.3,0
311,80,54,45,420.5,5.82,0.4,0
312,67,48,54,417.5,6.49,0.3,0.28
313,69,44,49,298.6,2.91,0.2,0
314,75,46,50,411.6,3.36,0.3,0
315,81,53,49,363.5,6.71,0.3,0
316,79,50,43,406,6.71,0.3,0
317,76,49,49,403.2,3.36,0.4,0
318,83,47,48,400.5,5.14,0.3,0
319,77,48,34,381.4,6.04,0.4,0
320,81,46,33,395.3,4.92,0.4,0
321,82,48,32,268.8,11.18,0.4,0
322,71,45,35,390.4,11.41,0.4,0
323,63,40,23,100.7,5.37,0.3,0
324,68,39,25,358,6.93,0.3,0
325,74,43,21,269.1,4.7,0.4,0
326,68,45,27,381.3,3.8,0.4,0
327,73,41,28,379.2,4.7,0.5,0
328,78,40,28,302.6,5.14,0.3,0
329,78,45,29,156,4.92,0.4,0
330,76,43,35,217.4,3.13,0.3,0
331,79,43,31,137.2,5.37,0.3,0
332,77,50,29,344.8,11.41,0.3,0
333,63,40,30,73.6,4.92,0.3,0
334,70,44,30,200.7,6.04,0.3,0
335,67,47,31,298.6,3.13,0.3,0
336,71,49,31,290.9,7.83,0.3,0
337,74,47,34,203.2,6.93,0.3,0
338,71,53,35,360.8,9.17,0.3,0
339,55,46,33,359.6,6.49,0.4,0
340,46,36,42,253.1,5.14,0.2,0.19
341,39,28,33,235.2,8.5,0.3,0.13
342,47,24,28,356.4,5.82,0.4,0
343,55,27,33,355.5,2.91,0.4,0
344,59,31,30,354.7,4.47,0.4,0
345,60,33,30,354,4.92,0.4,0
346,60,31,28,353.3,6.04,0.4,0
347,63,32,30,326.9,5.82,0.4,0
348,65,36,33,263.9,7.61,0.4,0
349,53,32,27,252.8,3.8,0.3,0
350,56,26,32,351.5,6.49,0.4,0
```

```
351,54,35,45,280.4,5.82,0.4,0.32
352,57,42,46,277.9,5.37,0.5,0.04
353,58,39,43,350.9,8.5,0.4,0
354,62,36,36,350.9,8.5,0.4,0
355,67,42,35,351,10.51,0.4,0
356,51,33,26,320.2,9.84,0.4,0
357,55,27,22,243.5,6.49,0.4,0
358,65,35,25,351.7,4.7,0.4,0
359,71,35,26,352.1,8.95,0.5,0
360,72,36,26,352.6,7.38,0.6,0
361,60,43,29,353.1,4.47,0.5,0
362,67,35,30,353.8,4.7,0.5,0
363,70,30,26,354.5,4.92,0.5,0
364,70,32,26,355.3,6.49,0.4,0
365,72,37,25,316.1,8.72,0.4,0
```

```
1,46,27,23,326.7,5.14,0.5,0
2,57,30,22,338.9,5.14,0.4,0
3,56,24,16,359.7,3.8,0.5,0
4,53,37,19,196.4,5.59,0.4,0
5,64,32,29,279.8,4.25,0.5,0
6,66,35,29,271,5.82,0.5,0
7,69,47,34,343.4,10.51,0.4,0
8,66,32,31,306.8,3.8,0.4,0
9,69,39,35,365.6,4.03,0.4,0
10,60,47,44,256.6,23.04,0.4,0.1
11,61,39,36,263.8,11.41,0.4,0
12,64,33,29,281.7,4.03,0.4,0
13,64,40,26,128.6,5.82,0.4,0
14,65,33,24,356.4,4.92,0.3,0
15,63,32,25,341.5,5.59,0.4,0
16,37,27,20,252.8,8.5,0.4,0
17,43,21,18,174.3,4.7,0.5,0
18,55,25,18,213.1,4.92,0.4,0
19,64,26,22,265.8,5.37,0.4,0
20,70,33,25,390.8,6.93,0.5,0
21,56,39,35,368.3,19.24,0.4,0
22,52,26,15,274.6,6.04,0.4,0
23,57,27,7,332.9,8.72,0.4,0
24,60,32,9,246.7,8.72,0.3,0
25,62,29,22,269,5.14,0.3,0
26,66,40,23,391.6,10.96,0.3,0
27,61,39,15,409.5,7.61,0.4,0
28,63,31,12,412.4,5.82,0.4,0
29,65,35,20,266.4,6.71,0.4,0
30,67,29,30,209.3,3.58,0.5,0
31,71,32,31,318.8,6.93,0.5,0
32,74,38,20,363.9,5.14,0.4,0
33,65,39,28,342.4,5.59,0.5,0
34,74,50,39,273.8,11.63,0.4,0
35,74,41,21,336.6,6.71,0.4,0
36,76,48,21,427.9,9.84,0.4,0
37,73,47,33,444.5,12.53,0.5,0
38,66,42,34,369,7.38,0.4,0
39,69,31,25,262.9,3.58,0.5,0
40,74,33,20,251.1,4.47,0.4,0
41,75,52,28,458.7,16.11,0.4,0
42,63,40,29,462.3,10.29,0.3,0
43,70,37,24,383.3,4.25,0.3,0
44,73,43,26,469.7,4.7,0.4,0
45,75,50,42,448.2,6.04,0.4,0
46,69,52,54,298.6,11.18,0.4,0.01
47,62,49,54,359.6,9.4,0.4,0.66
48,61,49,50,246.2,5.37,0.3,0
49,70,45,49,321.7,11.41,0.4,0
50,70,54,42,270.4,16.11,0.4,0
```

```
51,64,48,37,496.6,14.32,0.4,0
52,61,41,36,280.6,7.16,0.4,0
53,63,35,27,192.6,8.05,0.4,0
54,68,37,26,101.7,9.62,0.4,0
55,57,43,22,281.6,14.32,0.4,0
56,62,35,11,357.3,9.62,0.4,0
57,70,30,13,444,4.7,0.5,0
58,67,42,36,341.4,8.95,0.4,0
59,61,44,32,410.7,18.12,0.4,0
60,62,34,27,,6.49,0.4,0
61,74,36,23,438.7,4.47,0.5,0
62,79,39,24,536.5,7.61,0.4,0
63,76,49,11,340.6,11.41,0.3,0
64,63,45,18,544.7,9.4,0.3,0
65,68,37,4,272.8,10.96,0.3,0
66,70,40,12,360.5,4.92,0.3,0
67,75,49,20,556.9,5.82,0.4,0
68,80,55,22,531.3,11.41,0.4,0
69,77,56,34,520.2,12.08,0.5,0
70,66,47,46,448.7,9.4,0.4,0.2
71,65,43,35,364.7,5.82,0.3,0
72,72,43,31,202.4,7.83,0.3,0
73,75,50,33,581,8.72,0.4,0
74,78,57,39,511.3,21.7,0.4,0
75,71,51,25,429,7.83,0.3,0
76,74,56,34,134.9,12.53,0.3,0
77,72,53,34,356.2,21.47,0.4,0
78,66,43,15,600.8,8.5,0.4,0
79,72,44,12,383.6,7.61,0.4,0
80,83,46,29,250.9,6.93,0.4,0
81,88,52,30,594.4,6.26,0.3,0
82,87,57,30,616.2,12.53,0.3,0
83,84,58,41,620,13.42,0.3,0.01
84,83,54,42,490.4,17.45,0.3,0
85,70,56,42,535,13.87,0.4,0
86,69,54,42,330.3,9.17,0.4,0
87,70,41,33,528.8,12.3,0.3,0
88,77,50,17,638.5,7.38,0.3,0
89,83,50,18,567.9,5.82,0.3,0
90,85,54,21,501.2,8.05,0.2,0
91,87,59,20,403.7,10.29,0.3,0
92,83,59,18,443.4,16.11,0.2,0
93,82,60,22,518.7,13.42,0.3,0
94,80,46,25,616,5.14,0.3,0
95,85,54,27,549.7,8.5,0.3,0
96,86,62,26,353.7,14.09,0.4,0
97,88,62,34,451.8,14.76,0.3,0
98,89,66,41,291.3,16.11,0.3,0
99,85,63,32,459.9,8.5,0.3,0
100,84,53,40,561,5.59,0.2,0
```

```
101,94,58,42,678.5,11.18,0.3,0
102,90,68,30,539.9,23.71,0.3,0
103,73,54,30,656.1,25.95,0.3,0
104,70,49,8,436.6,8.28,0.3,0
105,80,46,6,453.7,4.25,0.3,0
106,89,50,14,578.7,10.29,0.4,0
107,87,66,14,677.2,21.7,0.3,0
108,82,56,18,439.9,9.84,0.3,0
109,84,57,40,583.4,13.42,0.3,0
110,78,61,49,705.2,18.34,0.2,0
111,78,51,30,703.1,9.62,0.3,0
112,77,53,35,609.7,5.59,0.3,0
113,88,55,34,545.1,3.36,0.3,0
114,93,55,29,718.6,5.82,0.3,0
115,75,53,40,543.5,10.51,0.3,0
116,88,52,40,723.5,5.82,0.3,0
117,76,59,33,725.8,8.72,0.3,0
118,87,57,35,726,5.59,0.3,0
119,91,65,40,730.4,13.42,0.3,0
120,87,69,35,502.9,18.12,0.4,0
121,85,63,32,375,14.09,0.3,0
122,86,63,28,509.6,18.79,0.4,0
123,78,55,25,544.6,9.4,0.3,0
124,84,53,30,657.9,7.61,0.3,0
125,87,57,35,513,6.04,0.4,0
126,92,62,31,743.4,5.14,0.4,0
127,98,65,36,746.7,6.04,0.3,0
128,99,67,32,655.1,8.72,0.2,0
129,100,66,23,750.2,6.04,0.2,0
130,101,65,24,751.9,8.95,0.3,0
131,97,73,31,598.6,19.24,0.2,0
132,95,76,33,755.2,15.66,0.3,0
133,91,67,38,756.8,10.51,0.2,0
134,93,64,33,485.9,7.61,0.3,0
135,95,68,31,717.8,6.04,0.3,0
136,98,62,23,693.8,5.82,0.3,0
137,99,69,32,644.8,12.97,0.4,0
138,93,65,17,589.8,13.65,0.3,0
139,91,57,13,765.2,6.26,0.4,0
140,89,58,53,627.4,9.84,0.3,0
141,93,66,60,721.3,9.84,0.3,0.41
142,93,65,58,768.8,5.82,0.4,0
143,93,64,54,769.9,6.93,0.3,0
144,96,68,52,709.6,3.58,0.4,0
145,98,63,49,771.9,6.26,0.3,0
146,100,63,26,579.5,6.93,0.3,0
147,97,73,27,690.3,8.05,0.3,0
148,95,66,21,595.1,8.28,0.3,0
149,98,69,25,680.9,10.51,0.3,0
150,98,76,24,776.3,11.41,0.3,0
```

```
151,102,65,26,460.9,6.71,0.3,0
152,102,69,22,777.8,9.62,0.2,0
153,106,73,35,760.3,9.62,0.3,0
154,97,69,59,704.9,15.43,0.4,0.06
155,99,64,59,623.3,6.04,0.3,0
156,103,77,47,562.5,13.87,0.4,0
157,102,80,49,631.7,12.08,0.4,0
158,103,78,41,454.8,8.05,0.3,0
159,103,76,45,729.1,10.51,0.3,0
160,96,80,50,636.4,12.08,0.3,0
161,101,78,50,508.3,11.86,0.2,0
162,102,74,24,518.5,9.17,0.2,0
163,105,66,35,689.5,5.37,0.2,0
164,100,78,55,783,10.51,0.2,0
165,99,74,50,733.6,8.05,0.2,0
166,96,73,55,783.2,9.17,0.3,0
167,83,67,67,670.1,10.51,0.2,0.31
168,89,64,55,725.4,7.38,0.2,0
169,98,68,53,637.9,4.25,0.3,0
170,102,75,50,653.3,5.14,0.3,0
171,105,72,58,574.5,8.28,0.3,0
172,103,76,59,783.2,5.37,0.3,0
173,108,76,52,783,10.29,0.4,0
174,107,80,29,738.6,10.07,0.3,0
175,101,79,44,782.6,16.78,0.3,0
176,101,75,50,782.3,7.38,0.3,0
177,106,78,54,752.6,6.71,0.2,0
178,105,76,47,781.7,6.26,0.3,0
179,104,79,52,781.3,11.18,0.4,0
180,96,78,50,459.7,12.3,0.4,0
181,96,72,50,780.4,12.3,0.4,0
182,100,73,46,779.9,8.72,0.4,0
183,101,74,38,779.4,7.61,0.4,0
184,101,78,53,653.5,7.61,0.4,0
185,104,84,49,717.2,8.5,0.4,0
186,96,77,58,314.9,13.87,0.4,0
187,94,73,59,776.8,11.86,0.4,0
188,92,72,64,597.2,7.16,0.4,0.1
189,91,69,61,377.8,9.4,0.4,0
190,89,75,62,684.1,8.95,0.4,0.06
191,87,71,62,760.5,8.5,0.5,0
192,91,72,61,772.7,8.5,0.5,0
193,91,73,63,771.8,6.04,0.4,0
194,97,65,64,770.8,9.62,0.4,1.05
195,93,72,63,769.8,5.82,0.4,0
196,96,72,66,663.4,9.4,0.5,0
197,91,71,66,767.6,5.59,0.5,0.15
198,94,68,66,765,3.8,0.5,0
199,100,73,61,493.9,6.04,0.4,0
200,105,76,56,636.3,5.14,0.5,0
```

```
201,103,79,56,705.9,6.71,0.5,0
202,103,78,55,553.5,6.26,0.5,0
203,107,76,48,758.7,3.8,0.5,0
204,105,78,46,662.9,6.71,0.5,0
205,101,79,55,688.2,10.07,0.5,0
206,104,78,60,755.7,6.49,0.5,0
207,97,81,59,607,8.5,0.5,0
208,95,70,63,276.5,12.97,0.6,0
209,98,76,61,404.9,6.26,0.6,0
210,101,78,49,749.3,4.25,0.5,0
211,100,76,57,495.7,6.93,0.4,0
212,91,74,59,745.9,8.05,0.5,0
213,99,74,58,744.1,5.59,0.6,0
214,103,77,52,720.5,8.5,0.6,0
215,102,77,62,621.6,8.28,0.5,0.01
216,102,75,60,551.6,6.04,0.5,0
217,101,77,50,617.6,7.16,0.5,0
218,100,74,52,513.5,6.71,0.4,0
219,99,75,49,593.8,6.49,0.5,0
220,100,78,56,607.3,9.17,0.5,0.01
221,89,73,58,509.3,6.49,0.5,0
222,84,69,63,481.4,6.04,0.5,0.12
223,90,65,63,481.1,7.38,0.5,0.91
224,86,69,61,518.5,7.61,0.5,0
225,94,67,60,500.4,5.14,0.5,0
226,97,72,60,506.2,9.4,0.5,0
227,97,76,58,639.9,9.17,0.5,0
228,99,75,63,526.3,10.29,0.5,0.03
229,94,72,63,709.2,5.82,0.4,0.03
230,99,75,62,706.6,8.28,0.5,0
231,99,72,63,584,6.04,0.5,0
232,96,77,61,533,8.95,0.4,0
233,95,76,62,692.9,9.4,0.4,0.02
234,95,70,61,610.9,9.4,0.5,0.01
235,91,71,62,693.1,7.61,0.4,0.02
236,93,72,61,619.7,10.07,0.5,0
237,94,74,60,464.6,6.49,0.4,0
238,99,73,58,684.5,7.83,0.4,0
239,99,77,57,681.5,10.07,0.4,0
240,100,71,42,526,5.82,0.4,0
241,102,76,51,675.5,7.38,0.4,0
242,99,73,52,672.4,5.14,0.4,0
243,99,76,51,564.2,5.82,0.4,0
244,91,76,54,436.5,11.18,0.4,0
245,88,70,59,580.5,8.28,0.5,0
246,91,69,56,525.9,8.28,0.5,0
247,93,66,54,607.6,5.59,0.4,0
248,93,69,57,612.4,5.82,0.5,0
249,83,66,63,642.5,7.38,0.4,0.33
250,83,68,61,617,5.82,0.4,0
```

```
251,89,64,57,244.9,5.14,0.4,0
252,90,64,55,516.4,5.59,0.4,0
253,94,69,53,586.9,6.26,0.4,0
254,93,70,54,535.2,5.37,0.4,0
255,97,69,50,558.6,5.14,0.4,0
256,98,71,51,528.1,5.82,0.4,0
257,96,72,54,214.4,8.5,0.5,0
258,91,70,57,618,9.17,0.4,0
259,92,66,58,551.1,5.82,0.3,0
260,93,71,60,299.3,6.71,0.3,0
261,94,69,62,546.7,5.82,0.3,0
262,92,71,63,562.2,10.07,0.3,0.1
263,78,65,65,475.6,4.92,0.3,0.78
264,85,64,62,595.5,9.62,0.4,0
265,80,61,56,591.7,4.92,0.4,0
266,85,59,53,438.1,2.91,0.4,0
267,91,61,51,344.6,3.58,0.3,0
268,93,69,53,580.2,6.49,0.3,0
269,81,63,53,576.3,9.17,0.3,0
270,89,61,55,572.4,3.8,0.3,0
271,94,66,52,544.9,5.37,0.3,0
272,93,68,48,564.6,5.59,0.3,0
273,92,66,52,475.3,4.92,0.3,0
274,87,70,65,258.3,5.14,0.3,0.1
275,90,70,64,389,6.71,0.3,0
276,90,70,62,313.4,7.38,0.3,0
277,91,69,57,452,8.28,0.3,0
278,92,68,55,428.5,8.05,0.4,0
279,88,67,57,537,10.07,0.3,0
280,84,65,49,455.5,12.08,0.3,0
281,65,54,53,529.1,5.82,0.2,0.22
282,71,52,49,494.2,13.42,0.2,0
283,76,51,40,282,7.16,0.3,0
284,80,55,43,222.5,7.38,0.2,0
285,69,58,58,367.1,7.38,0.2,0.82
286,72,58,56,448.9,6.04,0.3,0
287,74,54,55,388.6,7.61,0.2,0
288,54,43,40,417.5,11.86,0.3,0
289,52,43,34,312,10.29,0.3,0
290,58,48,46,340.2,9.62,0.2,0.01
291,55,49,48,316.1,6.04,0.3,0.07
292,70,52,54,335.5,7.83,0.3,0
293,72,58,54,482.6,8.5,0.4,0
294,70,57,49,478.9,7.38,0.4,0
295,72,57,53,475.2,4.47,0.4,0
296,69,56,59,405.5,9.62,0.3,1.08
297,72,55,55,285.6,8.72,0.3,0.13
298,75,54,51,425.2,6.26,0.3,0
299,76,51,48,165.4,5.14,0.3,0
300,77,49,47,259.7,2.46,0.3,0
```

```
301,80,50,47,357.3,2.68,0.3,0
302,83,50,46,214.5,5.82,0.3,0
303,76,62,47,380.1,11.63,0.2,0
304,67,44,48,284.4,10.74,0.2,0.01
305,67,42,40,389.5,5.82,0.3,0
306,70,42,36,377.1,6.26,0.2,0
307,75,50,33,346.2,8.5,0.3,0
308,70,45,35,241.9,5.82,0.2,0
309,79,59,33,419.3,14.99,0.2,0
310,78,60,37,423.6,12.3,0.3,0
311,79,52,39,420.5,7.38,0.4,0
312,77,54,42,417.5,9.4,0.3,0
313,59,44,42,298.6,10.96,0.2,0
314,63,44,40,411.6,3.8,0.3,0
315,73,43,43,363.5,12.97,0.3,0
316,52,29,23,406,11.86,0.3,0
317,47,26,16,403.2,4.03,0.4,0
318,56,23,22,400.5,2.24,0.3,0
319,62,34,22,381.4,3.8,0.4,0
320,65,30,21,395.3,3.8,0.4,0
321,70,35,27,268.8,5.14,0.4,0
322,65,40,31,390.4,4.7,0.4,0
323,66,36,30,100.7,6.04,0.3,0
324,65,38,36,358,8.05,0.3,0
325,65,40,35,269.1,3.36,0.4,0
326,64,39,39,381.3,5.14,0.4,0
327,66,50,34,379.2,7.16,0.5,0
328,68,45,28,302.6,8.72,0.3,0
329,62,42,31,156,11.41,0.4,0
330,60,37,20,217.4,3.58,0.3,0
331,64,32,25,137.2,5.14,0.3,0
332,70,35,29,344.8,9.4,0.3,0
333,71,45,30,73.6,8.05,0.3,0
334,60,45,39,200.7,18.34,0.3,0.01
335,59,48,35,298.6,11.41,0.3,0
336,59,38,35,290.9,8.28,0.3,0
337,55,37,26,203.2,6.49,0.3,0
338,58,35,26,360.8,9.84,0.3,0
339,58,38,33,359.6,4.03,0.4,0
340,61,45,41,253.1,4.92,0.2,0
341,52,45,46,235.2,5.37,0.3,0.05
342,52,42,43,356.4,4.03,0.4,0.1
343,57,36,42,355.5,3.58,0.4,0
344,57,35,34,354.7,6.04,0.4,0
345,59,42,41,354,5.59,0.4,0
346,66,41,40,353.3,12.53,0.4,0
347,54,32,28,326.9,13.65,0.4,0
348,56,26,16,263.9,3.13,0.4,0
349,57,28,18,252.8,4.03,0.3,0
350,60,44,25,351.5,4.92,0.4,0
```

```
351,58,47,40,280.4,5.37,0.4,0
352,58,46,45,277.9,13.2,0.5,0.08
353,66,39,35,350.9,8.95,0.4,0
354,60,39,27,350.9,4.7,0.4,0
355,63,32,27,351,6.71,0.4,0
356,71,46,27,320.2,8.72,0.4,0
357,64,40,26,243.5,5.82,0.4,0
358,67,33,28,351.7,6.49,0.4,0
359,66,38,27,352.1,4.25,0.5,0
360,54,42,40,352.6,16.78,0.6,0.08
361,54,42,31,353.1,15.66,0.5,0
362,42,30,36,353.8,9.17,0.5,0.09
363,35,28,29,354.5,12.08,0.5,0.03
364,42,25,27,355.3,8.95,0.4,0
365,53,34,27,316.1,11.63,0.4,0
```

```
1,49,25,25,326.7,7.83,0.5,0
2,37,24,27,338.9,6.93,0.4,0
3,49,24,27,359.7,5.14,0.5,0
4,54,27,24,196.4,3.8,0.4,0
5,58,24,28,279.8,3.13,0.5,0
6,59,43,50,271,8.72,0.5,0
7,61,41,36,343.4,8.5,0.4,0
8,57,39,31,306.8,7.61,0.4,0
9,55,39,38,365.6,6.04,0.4,0.02
10,58,41,46,256.6,8.05,0.4,0.08
11,60,47,45,263.8,11.63,0.4,0
12,56,35,30,281.7,6.04,0.4,0
13,59,40,33,128.6,7.38,0.4,0
14,58,34,36,356.4,4.92,0.3,0
15,65,41,37,341.5,3.8,0.4,0
16,67,42,39,252.8,6.71,0.4,0
17,66,37,35,174.3,3.36,0.5,0
18,65,48,37,213.1,16.78,0.4,0
19,58,34,20,265.8,6.04,0.4,0
20,62,30,20,390.8,2.91,0.5,0
21,75,36,22,368.3,14.76,0.4,0
22,55,35,30,274.6,15.21,0.4,0
23,54,27,17,332.9,6.71,0.4,0
24,59,29,14,246.7,4.92,0.3,0
25,60,25,15,269,4.25,0.3,0
26,61,33,12,391.6,8.72,0.3,0
27,60,28,15,409.5,6.26,0.4,0
28,66,33,23,412.4,5.14,0.4,0
29,51,37,24,415.3,4.7,0.4,0
30,59,40,26,266.4,4.7,0.5,0
31,69,42,27,209.3,4.7,0.5,0
32,68,42,39,318.8,5.82,0.4,0
33,66,39,41,363.9,9.17,0.5,0
34,73,47,42,342.4,10.74,0.4,0
35,73,43,41,273.8,11.41,0.4,0
36,66,54,49,336.6,15.21,0.4,0.07
37,65,43,47,427.9,17.45,0.5,0.04
38,51,36,22,444.5,9.62,0.4,0
39,56,31,21,369,9.4,0.5,0
40,59,34,26,262.9,5.14,0.4,0
41,58,44,39,251.1,4.25,0.4,0
42,59,40,41,458.7,14.54,0.3,0
43,58,31,10,462.3,6.93,0.3,0
44,67,30,20,383.3,7.83,0.4,0
45,72,52,39,469.7,10.51,0.4,0
46,74,59,47,448.2,17.45,0.4,0
47,69,46,41,298.6,15.88,0.4,0
48,59,42,21,359.6,9.62,0.3,0
49,63,33,22,246.2,6.04,0.4,0
50,47,29,30,321.7,10.51,0.4,0
```

```
51,53,29,15,270.4,7.61,0.4,0
52,66,31,21,496.6,8.95,0.4,0
53,69,36,33,280.6,16.11,0.4,0.01
54,55,35,27,192.6,15.88,0.4,0
55,65,24,19,101.7,4.92,0.4,0
56,71,30,19,281.6,6.26,0.4,0
57,74,37,20,357.3,6.71,0.5,0
58,73,45,20,444,6.71,0.4,0
59,78,42,22,341.4,7.38,0.4,0
60,79,51,25,410.7,10.74,0.4,0
61,79,56,29,438.7,18.12,0.5,0
62,77,48,38,536.5,10.74,0.4,0
63,61,34,29,340.6,8.28,0.3,0
64,65,34,23,544.7,5.82,0.3,0
65,78,40,25,272.8,5.59,0.3,0
66,82,59,26,360.5,16.11,0.3,0
67,74,51,40,556.9,17.67,0.4,0
68,66,45,28,531.3,11.41,0.4,0
69,70,52,48,520.2,7.38,0.5,0.03
70,72,52,48,448.7,6.04,0.4,0
71,79,44,54,364.7,19.69,0.3,0.08
72,60,42,35,202.4,32.44,0.3,0
73,61,45,22,581,11.41,0.4,0
74,56,40,22,511.3,13.87,0.4,0
75,46,37,38,429,12.08,0.3,0.14
76,65,39,38,134.9,8.05,0.3,0
77,63,46,31,356.2,7.83,0.4,0
78,71,39,30,600.8,2.46,0.4,0
79,70,44,37,383.6,9.17,0.4,0
80,74,49,46,250.9,8.05,0.4,0
81,72,49,47,594.4,10.29,0.3,0
82,74,42,21,616.2,7.61,0.3,0
83,77,47,22,620,7.83,0.3,0
84,80,44,26,490.4,4.7,0.3,0
85,85,55,49,535,8.5,0.4,0
86,86,59,52,330.3,4.7,0.4,0
87,87,55,26,528.8,8.28,0.3,0
88,82,60,19,638.5,16.33,0.3,0
89,68,48,28,567.9,15.21,0.3,0
90,62,40,24,501.2,14.32,0.2,0
91,67,40,35,403.7,5.14,0.3,0
92,80,44,22,443.4,11.63,0.2,0
93,80,59,26,518.7,19.01,0.3,0
94,78,52,24,616,8.95,0.3,0
95,80,46,25,549.7,7.83,0.3,0
96,77,53,32,353.7,10.07,0.4,0
97,83,52,35,451.8,4.7,0.3,0
98,87,54,24,291.3,6.26,0.3,0
99,92,55,22,459.9,13.2,0.3,0
100,80,56,19,561,25.5,0.2,0
```

```
101,68,51,14,678.5,19.69,0.3,0
102,65,46,30,539.9,8.05,0.3,0
103,69,44,36,656.1,7.38,0.3,0
104,79,41,36,436.6,8.95,0.3,0
105,88,50,22,453.7,7.83,0.3,0
106,84,65,27,578.7,13.42,0.4,0
107,69,53,42,677.2,18.79,0.3,0
108,79,49,44,439.9,5.14,0.3,0
109,85,51,32,583.4,5.59,0.3,0
110,93,59,25,705.2,12.75,0.2,0
111,87,66,32,703.1,15.88,0.3,0
112,82,56,53,609.7,8.5,0.3,0.08
113,77,54,49,545.1,12.3,0.3,0
114,78,53,45,718.6,7.16,0.3,0
115,89,56,37,543.5,4.25,0.3,0
116,94,63,44,723.5,7.83,0.3,0
117,93,60,32,725.8,7.16,0.3,0
118,92,65,25,726,10.29,0.3,0
119,89,64,21,730.4,8.5,0.3,0
120,83,65,51,502.9,14.99,0.4,0
121,86,58,30,375,10.51,0.3,0
122,88,56,22,509.6,7.61,0.4,0
123,88,64,21,544.6,7.38,0.3,0
124,91,58,20,657.9,7.16,0.3,0
125,92,60,31,513,9.17,0.4,0
126,90,65,24,743.4,9.84,0.4,0
127,82,65,34,746.7,15.21,0.3,0
128,80,60,41,655.1,14.54,0.2,0
129,80,55,42,750.2,8.5,0.2,0
130,69,51,48,751.9,11.18,0.3,0.1
131,79,50,47,598.6,6.93,0.2,0
132,75,57,51,755.2,8.28,0.3,0.06
133,78,54,50,756.8,6.04,0.2,0
134,89,57,44,485.9,5.59,0.3,0
135,94,61,41,717.8,4.7,0.3,0
136,96,68,48,693.8,10.51,0.3,0
137,86,69,27,644.8,20.8,0.4,0
138,81,65,26,589.8,13.65,0.3,0
139,89,56,23,765.2,9.62,0.4,0
140,81,56,31,627.4,20.13,0.3,0
141,80,54,26,721.3,20.8,0.3,0
142,93,63,22,768.8,15.21,0.4,0
143,86,59,28,769.9,11.41,0.3,0
144,90,56,23,709.6,5.14,0.4,0
145,95,59,30,771.9,8.5,0.3,0
146,95,67,31,579.5,15.21,0.3,0
147,94,66,33,690.3,17.9,0.3,0
148,85,63,32,595.1,11.18,0.3,0
149,86,62,14,680.9,8.72,0.3,0
150,90,57,53,776.3,7.38,0.3,0
```

```
151,92,65,59,460.9,7.38,0.3,0
152,99,67,61,777.8,7.38,0.2,0.01
153,97,70,58,760.3,9.4,0.3,0
154,95,68,56,704.9,7.38,0.4,0
155,91,63,58,623.3,6.93,0.3,0.26
156,92,61,53,562.5,9.17,0.4,0
157,96,64,47,631.7,4.92,0.4,0
158,100,74,41,454.8,6.93,0.3,0
159,98,76,37,729.1,8.95,0.3,0
160,101,66,51,636.4,10.29,0.3,0
161,72,58,57,508.3,10.51,0.2,0.69
162,86,56,60,518.5,5.37,0.2,0
163,91,67,59,689.5,10.51,0.2,0
164,101,69,58,783,9.4,0.2,0.01
165,99,72,56,733.6,14.99,0.2,0
166,95,78,39,783.2,14.99,0.3,0
167,97,71,34,670.1,6.71,0.2,0
168,97,68,39,725.4,9.17,0.2,0
169,98,67,51,637.9,8.05,0.3,0
170,98,73,32,653.3,11.63,0.3,0
171,99,79,26,574.5,14.32,0.3,0
172,98,75,35,783.2,15.66,0.3,0
173,95,76,25,783,16.78,0.4,0
174,94,71,34,738.6,8.28,0.3,0
175,98,69,28,782.6,6.71,0.3,0
176,102,63,46,782.3,6.49,0.3,0
177,102,73,51,752.6,9.62,0.2,0
178,102,77,56,781.7,7.83,0.3,0
179,101,76,60,781.3,9.84,0.4,0
180,99,76,56,459.7,8.72,0.4,0
181,100,72,48,780.4,5.82,0.4,0
182,103,72,49,779.9,7.83,0.4,0
183,102,77,51,779.4,7.38,0.4,0
184,101,76,49,653.5,12.08,0.4,0
185,100,81,48,717.2,12.97,0.4,0
186,102,78,56,314.9,10.96,0.4,0
187,95,71,59,776.8,10.07,0.4,0
188,92,72,58,597.2,5.82,0.4,0.01
189,98,69,59,377.8,6.49,0.4,0
190,101,68,42,684.1,5.59,0.4,0
191,104,77,52,760.5,7.38,0.5,0
192,100,78,61,772.7,8.05,0.5,0.01
193,97,70,61,771.8,5.37,0.4,0.02
194,101,72,53,770.8,5.37,0.4,0
195,101,78,53,769.8,5.14,0.4,0
196,103,76,49,663.4,4.92,0.5,0
197,104,75,49,767.6,7.83,0.5,0
198,102,79,59,765,9.62,0.5,0.05
199,100,74,62,493.9,9.17,0.4,0
200,102,78,57,636.3,10.07,0.5,0
```

```
201,104,80,57,705.9,10.74,0.5,0
202,106,81,53,553.5,8.5,0.5,0
203,92,79,59,758.7,11.86,0.5,0
204,90,68,65,662.9,9.62,0.5,0.09
205,93,70,55,688.2,5.14,0.5,0
206,98,72,47,755.7,4.92,0.5,0
207,100,73,44,607,5.37,0.5,0
208,101,77,53,276.5,5.82,0.6,0
209,103,80,60,404.9,5.82,0.6,0
210,97,75,60,749.3,9.62,0.5,0
211,97,74,59,495.7,8.5,0.4,0
212,99,75,60,745.9,7.83,0.5,0
213,100,77,60,744.1,7.38,0.6,0
214,104,77,61,720.5,6.71,0.6,0.02
215,104,75,65,621.6,8.5,0.5,0.25
216,97,73,65,551.6,9.17,0.5,0
217,101,79,63,617.6,4.92,0.5,0
218,100,81,59,513.5,9.4,0.4,0
219,103,82,58,593.8,7.61,0.5,0
220,99,75,62,607.3,10.29,0.5,0
221,101,76,61,509.3,8.95,0.5,0
222,92,68,66,481.4,7.38,0.5,0.34
223,95,74,64,481.1,8.5,0.5,0
224,101,77,58,518.5,5.82,0.5,0
225,100,79,55,500.4,6.49,0.5,0
226,98,74,59,506.2,10.07,0.5,0
227,98,74,57,639.9,8.5,0.5,0
228,101,76,59,526.3,8.5,0.5,0
229,103,79,55,709.2,10.07,0.4,0
230,103,78,47,706.6,6.04,0.5,0
231,102,84,52,584,6.04,0.5,0
232,102,77,59,533,6.93,0.4,0
233,101,75,60,692.9,7.16,0.4,0.12
234,95,71,63,610.9,5.59,0.5,0
235,99,74,62,693.1,8.05,0.4,0
236,95,73,58,619.7,10.74,0.5,0
237,103,76,61,464.6,9.84,0.4,0
238,106,78,58,684.5,6.71,0.4,0
239,103,77,60,681.5,8.72,0.4,0
240,97,76,56,526,5.59,0.4,0
241,100,69,63,675.5,8.95,0.4,0.09
242,92,70,65,672.4,7.16,0.4,0.07
243,96,69,62,564.2,5.59,0.4,0
244,96,74,55,436.5,5.59,0.4,0
245,96,70,54,580.5,5.14,0.5,0
246,96,73,55,525.9,5.82,0.5,0
247,93,73,49,607.6,9.62,0.4,0
248,92,73,53,612.4,3.8,0.5,0
249,98,74,56,642.5,5.59,0.4,0
250,97,75,62,617,5.82,0.4,0
```

```
251,96,70,65,244.9,8.5,0.4,0.92
252,89,73,66,516.4,7.61,0.4,0
253,92,70,66,586.9,8.28,0.4,0.07
254,92,71,64,535.2,6.93,0.4,0
255,96,71,61,558.6,6.71,0.4,0
256,90,72,61,528.1,8.95,0.4,0
257,86,72,62,214.4,6.49,0.5,0
258,77,68,65,618,6.93,0.4,0.14
259,85,66,63,551.1,4.25,0.3,0
260,92,70,61,299.3,5.14,0.3,0
261,94,71,55,546.7,5.82,0.3,0
262,94,73,59,562.2,6.71,0.3,0
263,95,73,58,475.6,8.5,0.3,0
264,83,66,63,595.5,7.83,0.4,0.15
265,86,66,64,591.7,4.7,0.4,0
266,90,69,62,438.1,7.61,0.4,0
267,89,66,58,344.6,8.95,0.3,0
268,91,65,56,580.2,5.14,0.3,0
269,93,66,56,576.3,8.28,0.3,0
270,91,64,53,572.4,7.38,0.3,0
271,89,63,53,544.9,4.25,0.3,0
272,92,64,60,564.6,6.71,0.3,0.01
273,86,68,67,475.3,8.95,0.3,0.25
274,83,67,66,258.3,8.05,0.3,0.24
275,84,63,61,389,5.82,0.3,0
276,85,68,63,313.4,6.26,0.3,0
277,83,63,65,452,4.92,0.3,0.63
278,88,66,65,428.5,4.92,0.4,0
279,89,64,54,537,7.38,0.3,0
280,77,59,49,455.5,8.5,0.3,0
281,86,63,61,529.1,6.04,0.2,0.47
282,84,62,61,494.2,10.29,0.2,0
283,84,67,50,282,12.3,0.3,0
284,71,48,33,222.5,12.08,0.2,0
285,72,49,41,367.1,4.47,0.2,0
286,82,51,53,448.9,4.47,0.3,0
287,77,63,60,388.6,8.95,0.2,0
288,84,64,62,417.5,5.37,0.3,0
289,76,57,40,312,6.71,0.3,0
290,82,50,49,340.2,5.14,0.2,0
291,82,64,53,316.1,14.09,0.3,0
292,79,54,36,335.5,7.38,0.3,0
293,80,61,46,482.6,14.76,0.4,0
294,77,52,20,478.9,7.83,0.4,0
295,76,51,22,475.2,6.93,0.4,0
296,80,45,27,405.5,4.03,0.3,0
297,68,40,32,285.6,10.74,0.3,0
298,59,34,26,425.2,3.8,0.3,0
299,71,33,22,165.4,6.93,0.3,0
300,81,51,32,259.7,9.84,0.3,0
```

```
301,78,55,41,357.3,12.53,0.3,0
302,78,46,31,214.5,10.07,0.3,0
303,65,34,30,380.1,12.97,0.2,0
304,58,28,22,284.4,4.92,0.2,0
305,70,37,14,389.5,5.14,0.3,0
306,64,38,23,377.1,4.92,0.2,0
307,73,44,37,346.2,7.16,0.3,0
308,81,47,36,241.9,5.14,0.2,0
309,81,48,43,419.3,3.8,0.2,0
310,73,55,53,423.6,9.4,0.3,0.42
311,63,49,51,420.5,10.07,0.4,0
312,59,44,44,417.5,2.46,0.3,0
313,71,41,44,298.6,3.13,0.2,0
314,79,49,51,411.6,5.82,0.3,0
315,67,39,50,363.5,12.53,0.3,0
316,43,37,21,406,7.61,0.3,0
317,63,33,32,403.2,3.36,0.4,0
318,63,35,34,400.5,5.37,0.3,0
319,64,37,30,381.4,2.01,0.4,0
320,69,39,37,395.3,4.47,0.4,0
321,65,43,31,268.8,5.82,0.4,0
322,74,36,29,390.4,2.91,0.4,0
323,74,42,55,100.7,6.26,0.3,0.19
324,69,52,54,358,8.72,0.3,0.14
325,69,47,46,269.1,6.26,0.4,0.03
326,59,44,44,381.3,6.26,0.4,0.01
327,62,39,36,379.2,4.25,0.5,0
328,64,39,35,302.6,6.49,0.3,0
329,64,45,44,156,10.74,0.4,0
330,61,42,37,217.4,20.58,0.3,0
331,52,38,37,137.2,8.05,0.3,0.85
332,50,41,44,344.8,12.08,0.3,0.09
333,72,43,48,73.6,12.3,0.3,0
334,56,42,41,200.7,8.95,0.3,0
335,56,35,29,298.6,4.47,0.3,0
336,62,34,33,290.9,4.7,0.3,0
337,67,35,36,203.2,2.24,0.3,0
338,59,43,38,360.8,4.92,0.3,0
339,69,49,46,359.6,8.95,0.4,0
340,65,45,37,253.1,6.49,0.2,0
341,68,45,39,235.2,6.93,0.3,0
342,67,52,46,356.4,12.3,0.4,0.01
343,58,42,47,355.5,6.04,0.4,0.57
344,56,41,42,354.7,4.7,0.4,0
345,54,37,41,354,2.46,0.4,0
346,60,37,42,353.3,5.14,0.4,0
347,69,38,39,326.9,9.17,0.4,0
348,70,54,37,263.9,12.08,0.4,0
349,72,54,37,252.8,19.24,0.3,0
350,55,37,29,351.5,10.96,0.4,0
```

```
351,45,31,17,280.4,7.83,0.4,0
352,49,24,16,277.9,5.14,0.5,0
353,52,27,25,350.9,5.82,0.4,0
354,55,31,21,350.9,4.92,0.4,0
355,57,24,20,351,4.92,0.4,0
356,57,28,20,320.2,3.58,0.4,0
357,60,33,27,243.5,5.37,0.4,0
358,59,37,43,351.7,3.13,0.4,0.13
359,60,35,39,352.1,8.5,0.5,0
360,63,34,38,352.6,4.7,0.6,0
361,63,38,38,353.1,8.05,0.5,0
362,48,34,31,353.8,14.32,0.5,0.01
363,46,30,26,354.5,13.87,0.5,0
364,48,25,19,355.3,7.16,0.4,0
365,54,29,19,316.1,7.16,0.4,0
```

```
1,59,28,29,326.7,9.62,0.5,0
2,50,37,36,338.9,10.96,0.4,0.03
3,53,30,32,359.7,4.25,0.5,0
4,58,27,25,196.4,4.7,0.4,0
5,64,29,27,279.8,2.91,0.5,0
6,60,32,24,271,10.51,0.5,0
7,59,32,14,343.4,7.83,0.4,0
8,65,32,22,306.8,7.83,0.4,0
9,67,42,24,365.6,10.96,0.4,0
10,58,35,34,256.6,12.3,0.4,0.01
11,52,24,19,263.8,4.92,0.4,0
12,62,32,19,281.7,7.61,0.4,0
13,69,36,20,128.6,6.26,0.4,0
14,70,30,18,356.4,3.8,0.3,0
15,67,43,24,341.5,2.46,0.4,0
16,61,45,42,252.8,7.38,0.4,0.16
17,66,40,45,174.3,8.5,0.5,0
18,63,40,30,213.1,7.83,0.4,0
19,62,36,31,265.8,6.26,0.4,0
20,58,39,28,390.8,5.37,0.5,0
21,50,43,42,368.3,6.04,0.4,0.07
22,62,46,43,274.6,13.65,0.4,0
23,61,35,33,332.9,4.25,0.4,0
24,64,34,31,246.7,2.24,0.3,0
25,67,39,30,269,4.25,0.3,0
26,67,36,32,391.6,4.7,0.3,0
27,64,46,39,409.5,12.97,0.4,0
28,59,39,24,412.4,6.93,0.4,0
29,64,32,21,415.3,4.7,0.4,0
30,60,39,26,266.4,5.14,0.5,0
31,58,39,24,209.3,7.16,0.5,0
32,64,31,21,318.8,4.03,0.4,0
33,64,36,18,363.9,4.47,0.5,0
34,70,51,36,342.4,18.12,0.4,0
35,55,29,41,273.8,12.53,0.4,0.33
36,39,25,28,336.6,6.93,0.4,0.07
37,55,31,26,427.9,14.09,0.5,0
38,66,40,31,444.5,9.84,0.4,0
39,70,36,32,369,6.49,0.5,0
40,70,50,31,262.9,8.72,0.4,0
41,63,49,47,251.1,4.92,0.4,0.19
42,53,33,44,458.7,7.61,0.3,0.19
43,51,34,35,462.3,6.26,0.3,0
44,59,33,35,383.3,4.25,0.4,0
45,66,37,35,469.7,5.59,0.4,0
46,69,40,37,448.2,6.93,0.4,0
47,71,41,30,298.6,11.86,0.4,0
48,73,49,28,359.6,11.63,0.3,0
49,70,44,35,246.2,7.16,0.4,0
50,63,44,39,321.7,4.7,0.4,0
```

```
51,56,38,38,270.4,12.3,0.4,0
52,51,37,33,496.6,6.04,0.4,0
53,68,43,40,280.6,4.7,0.4,0
54,63,50,45,192.6,17,0.4,0
55,68,40,33,101.7,9.84,0.4,0
56,56,36,23,281.6,15.66,0.4,0
57,50,27,14,357.3,4.7,0.5,0
58,64,25,12,444,4.03,0.4,0
59,66,33,17,341.4,2.91,0.4,0
60,67,58,31,410.7,15.66,0.4,0
61,66,49,34,438.7,8.05,0.5,0
62,58,42,46,536.5,8.5,0.4,0.83
63,61,40,42,340.6,6.49,0.3,0.34
64,66,38,40,544.7,3.8,0.3,0
65,67,46,38,272.8,10.07,0.3,0
66,76,46,48,360.5,6.93,0.3,0
67,65,53,53,556.9,7.61,0.4,0.12
68,70,47,48,531.3,6.26,0.4,0
69,71,50,48,520.2,5.82,0.5,0
70,76,55,48,448.7,5.82,0.4,0
71,68,57,56,364.7,6.49,0.3,0.24
72,75,56,55,202.4,11.18,0.3,0.26
73,72,49,43,581,6.04,0.4,0
74,76,52,53,511.3,5.14,0.4,0
75,80,48,52,429,5.14,0.3,0
76,69,51,48,134.9,8.95,0.3,0
77,58,48,50,356.2,5.37,0.4,0.23
78,65,47,44,600.8,15.43,0.4,0
79,68,41,37,383.6,8.28,0.4,0
80,75,48,42,250.9,8.5,0.4,0
81,74,52,35,594.4,7.83,0.3,0
82,83,51,34,616.2,13.42,0.3,0
83,76,55,28,620,7.61,0.3,0
84,85,48,35,490.4,9.62,0.3,0
85,83,57,38,535,15.88,0.4,0
86,79,47,39,330.3,21.47,0.4,0
87,64,41,21,528.8,8.28,0.3,0
88,73,44,24,638.5,4.03,0.3,0
89,72,50,24,567.9,12.08,0.3,0
90,77,46,27,501.2,4.47,0.2,0
91,83,60,29,403.7,14.76,0.3,0
92,80,63,31,443.4,16.33,0.2,0
93,76,58,31,518.7,8.28,0.3,0
94,80,50,37,616,10.96,0.3,0
95,79,57,33,549.7,8.28,0.3,0
96,78,58,40,353.7,10.51,0.4,0
97,80,50,39,451.8,8.72,0.3,0
98,81,54,42,291.3,7.38,0.3,0
99,82,63,40,459.9,10.29,0.3,0
100,80,51,29,561,4.03,0.2,0
```

```
101,75,47,29,678.5,11.86,0.3,0
102,73,48,35,539.9,21.7,0.3,0
103,77,53,36,656.1,17.67,0.3,0
104,73,48,36,436.6,7.16,0.3,0
105,75,45,32,453.7,6.04,0.3,0
106,82,51,25,578.7,10.74,0.4,0
107,81,58,31,677.2,8.5,0.3,0
108,83,55,32,439.9,16.33,0.3,0
109,79,60,30,583.4,12.97,0.3,0
110,82,59,28,705.2,10.29,0.2,0
111,87,64,26,703.1,14.99,0.3,0
112,82,59,31,609.7,13.87,0.3,0
113,86,54,33,545.1,12.75,0.3,0
114,90,67,31,718.6,13.42,0.3,0
115,85,61,34,543.5,7.83,0.3,0
116,95,60,37,723.5,4.47,0.3,0
117,95,59,34,725.8,8.05,0.3,0
118,93,69,27,726,12.53,0.3,0
119,84,65,42,730.4,11.41,0.3,0
120,94,62,38,502.9,2.91,0.4,0
121,97,64,40,375,12.3,0.3,0
122,96,71,37,509.6,11.41,0.4,0
123,96,73,35,544.6,12.53,0.3,0
124,95,67,31,657.9,10.74,0.3,0
125,85,68,49,513,12.75,0.4,0
126,94,61,41,743.4,3.8,0.4,0
127,100,68,42,746.7,12.97,0.3,0
128,86,63,28,655.1,13.2,0.2,0
129,90,57,32,750.2,4.47,0.2,0
130,87,65,55,751.9,5.82,0.3,0.02
131,90,61,53,598.6,6.04,0.2,0.19
132,91,62,49,755.2,11.63,0.3,0
133,89,71,36,756.8,14.09,0.2,0
134,88,67,31,485.9,10.51,0.3,0
135,90,70,27,717.8,9.4,0.3,0
136,94,68,32,693.8,8.05,0.3,0
137,97,64,32,644.8,6.93,0.4,0
138,100,64,33,589.8,6.04,0.3,0
139,97,77,37,765.2,11.18,0.4,0
140,90,69,32,627.4,10.96,0.3,0
141,89,60,22,721.3,11.18,0.3,0
142,91,56,22,768.8,6.93,0.4,0
143,92,74,25,769.9,14.09,0.3,0
144,89,73,32,709.6,16.33,0.4,0
145,89,62,44,771.9,10.07,0.3,0
146,89,60,47,579.5,5.82,0.3,0
147,99,68,31,690.3,5.37,0.3,0
148,101,68,45,595.1,9.17,0.3,0
149,94,69,44,680.9,9.84,0.3,0
150,94,70,45,776.3,9.17,0.3,0
```

```
151,93,68,42,460.9,8.28,0.3,0
152,93,68,52,777.8,5.82,0.2,0
153,99,67,54,760.3,5.37,0.3,0
154,102,70,54,704.9,5.59,0.4,0
155,104,73,53,623.3,4.92,0.3,0
156,107,73,50,562.5,9.84,0.4,0
157,105,81,54,631.7,11.41,0.4,0
158,100,74,29,454.8,13.42,0.3,0
159,95,77,48,729.1,16.55,0.3,0
160,87,60,27,636.4,10.51,0.3,0
161,96,57,34,508.3,6.26,0.2,0
162,96,71,59,518.5,11.63,0.2,0.01
163,96,66,63,689.5,10.74,0.2,0.24
164,95,67,60,783,8.95,0.2,0
165,97,73,43,733.6,8.72,0.2,0
166,98,72,46,783.2,5.37,0.3,0
167,97,70,48,670.1,7.16,0.2,0
168,99,79,49,725.4,12.53,0.2,0
169,98,77,31,637.9,10.96,0.3,0
170,99,69,39,653.3,10.29,0.3,0
171,100,73,39,574.5,10.07,0.3,0
172,102,73,41,783.2,10.74,0.3,0
173,105,80,30,783,12.53,0.4,0
174,98,76,54,738.6,9.4,0.3,0
175,99,72,54,782.6,8.5,0.3,0
176,99,71,55,782.3,7.61,0.3,0
177,106,75,49,752.6,8.5,0.2,0
178,102,69,50,781.7,8.95,0.3,0
179,95,76,49,781.3,17.22,0.4,0
180,97,76,56,459.7,19.01,0.4,0
181,97,77,55,780.4,13.42,0.4,0
182,93,70,49,779.9,8.28,0.4,0
183,99,75,54,779.4,6.93,0.4,0
184,103,80,55,653.5,8.72,0.4,0
185,104,78,55,717.2,7.61,0.4,0
186,103,78,56,314.9,7.83,0.4,0
187,104,77,58,776.8,9.4,0.4,0.01
188,102,74,54,597.2,6.93,0.4,0
189,106,78,52,377.8,6.26,0.4,0
190,109,82,47,684.1,7.61,0.4,0
191,109,83,51,760.5,7.38,0.5,0
192,108,82,57,772.7,6.49,0.5,0
193,107,79,45,771.8,7.38,0.4,0
194,110,81,49,770.8,10.07,0.4,0
195,107,78,55,769.8,9.62,0.4,0
196,104,75,57,663.4,10.29,0.5,0
197,101,75,56,767.6,8.95,0.5,0
198,103,76,53,765,6.93,0.5,0
199,103,81,55,493.9,10.07,0.4,0
200,100,80,55,636.3,7.83,0.5,0
```

```
201,102,78,58,705.9,6.71,0.5,0.01
202,98,74,61,553.5,7.61,0.5,0.23
203,96,74,61,758.7,10.29,0.5,0
204,95,71,63,662.9,7.83,0.5,0.13
205,91,66,66,688.2,7.16,0.5,1.09
206,90,67,65,755.7,5.59,0.5,0
207,96,73,66,607,7.83,0.5,0
208,95,76,62,276.5,7.38,0.6,0
209,98,77,58,404.9,6.26,0.6,0
210,103,75,58,749.3,5.14,0.5,0
211,109,77,57,495.7,5.59,0.4,0
212,100,74,61,745.9,10.74,0.5,0
213,99,77,58,744.1,9.4,0.6,0
214,100,74,55,720.5,9.4,0.6,0
215,99,73,57,621.6,4.7,0.5,0
216,102,76,53,551.6,7.61,0.5,0
217,104,74,54,617.6,8.05,0.5,0.01
218,99,80,56,513.5,6.71,0.4,0
219,101,76,55,593.8,8.5,0.5,0
220,99,75,56,607.3,5.59,0.5,0.04
221,102,73,60,509.3,4.7,0.5,0
222,105,75,54,481.4,7.38,0.5,0
223,106,80,53,481.1,6.71,0.5,0
224,107,81,50,518.5,7.38,0.5,0
225,106,81,48,500.4,6.49,0.5,0
226,107,78,48,506.2,7.83,0.5,0
227,106,79,48,639.9,8.5,0.5,0
228,100,80,55,526.3,9.62,0.5,0
229,97,74,53,709.2,7.38,0.4,0
230,98,71,53,706.6,6.49,0.5,0
231,100,69,47,584,4.25,0.5,0
232,103,75,45,533,6.04,0.4,0
233,102,73,48,692.9,6.71,0.4,0
234,103,74,55,610.9,6.04,0.5,0
235,102,75,52,693.1,4.7,0.4,0
236,98,74,51,619.7,6.93,0.5,0
237,96,71,48,464.6,6.71,0.4,0
238,98,72,49,684.5,5.82,0.4,0
239,100,73,46,681.5,4.47,0.4,0
240,104,76,44,526,4.92,0.4,0
241,104,78,49,675.5,5.82,0.4,0
242,92,75,56,672.4,6.26,0.4,0
243,96,76,61,564.2,15.66,0.4,0
244,95,74,60,436.5,14.76,0.4,0
245,96,67,55,580.5,5.59,0.5,0
246,101,67,43,525.9,4.03,0.5,0
247,99,76,52,607.6,10.29,0.4,0
248,94,73,58,612.4,11.18,0.5,0
249,93,71,57,642.5,4.25,0.4,0
250,100,71,49,617,7.61,0.4,0
```

```
251,100,60,61,244.9,13.87,0.4,0.32
252,65,50,50,516.4,12.3,0.4,0.01
253,66,50,47,586.9,8.95,0.4,0
254,78,54,54,535.2,6.26,0.4,0
255,83,62,56,558.6,9.17,0.4,0
256,88,64,53,528.1,9.17,0.4,0
257,81,66,62,214.4,7.38,0.5,0.26
258,84,60,57,618,3.58,0.4,0
259,93,63,58,551.1,4.47,0.3,0
260,90,65,51,299.3,6.71,0.3,0
261,85,63,53,546.7,8.05,0.3,0
262,86,61,49,562.2,5.59,0.3,0
263,89,62,51,475.6,4.47,0.3,0
264,90,59,45,595.5,4.25,0.4,0
265,94,58,38,591.7,4.47,0.4,0
266,96,60,42,438.1,6.71,0.4,0
267,96,64,41,344.6,3.36,0.3,0
268,98,64,44,580.2,5.37,0.3,0
269,98,64,37,576.3,9.4,0.3,0
270,98,66,37,572.4,11.41,0.3,0
271,76,58,47,544.9,11.41,0.3,0
272,81,53,29,564.6,2.91,0.3,0
273,89,52,29,475.3,3.13,0.3,0
274,90,56,29,258.3,6.93,0.3,0
275,90,59,33,389,4.92,0.3,0
276,92,56,33,313.4,5.14,0.3,0
277,87,60,44,452,4.7,0.3,0
278,92,59,42,428.5,4.92,0.4,0
279,94,59,26,537,5.14,0.3,0
280,93,55,29,455.5,3.13,0.3,0
281,93,56,29,529.1,2.91,0.2,0
282,94,54,25,494.2,3.8,0.2,0
283,91,55,29,282,7.61,0.3,0
284,90,59,36,222.5,8.28,0.2,0
285,85,61,29,367.1,6.04,0.2,0
286,91,56,31,448.9,2.91,0.3,0
287,95,54,33,388.6,11.41,0.2,0
288,83,57,33,417.5,8.72,0.3,0
289,76,54,33,312,7.38,0.3,0
290,90,49,37,340.2,6.93,0.2,0
291,90,65,28,316.1,9.62,0.3,0
292,90,53,22,335.5,5.14,0.3,0
293,89,57,24,482.6,4.7,0.4,0
294,90,53,24,478.9,2.24,0.4,0
295,88,56,37,475.2,10.29,0.4,0
296,85,54,47,405.5,8.28,0.3,0
297,85,51,43,285.6,4.25,0.3,0
298,87,62,40,425.2,14.76,0.3,0
299,75,32,39,165.4,13.2,0.3,0.12
300,36,29,29,259.7,10.07,0.3,0.06
```

```
301,56,32,34,357.3,6.93,0.3,0
302,66,36,35,214.5,5.14,0.3,0
303,73,42,39,380.1,5.59,0.2,0
304,77,48,39,284.4,5.82,0.2,0
305,73,55,36,389.5,8.5,0.3,0
306,76,46,36,377.1,4.92,0.2,0
307,78,47,38,346.2,4.25,0.3,0
308,83,46,36,241.9,5.59,0.2,0
309,85,56,35,419.3,9.17,0.2,0
310,83,50,29,423.6,6.49,0.3,0
311,85,55,34,420.5,8.28,0.4,0
312,79,65,27,417.5,13.42,0.3,0
313,73,52,43,298.6,14.99,0.2,0
314,62,42,30,411.6,7.16,0.3,0
315,67,36,27,363.5,4.25,0.3,0
316,74,38,30,406,5.14,0.3,0
317,74,48,32,403.2,6.49,0.4,0
318,74,52,35,400.5,13.42,0.3,0
319,70,45,15,381.4,6.71,0.4,0
320,77,45,13,395.3,6.93,0.4,0
321,80,45,22,268.8,6.04,0.4,0
322,80,44,37,390.4,2.91,0.4,0
323,85,53,40,100.7,3.8,0.3,0
324,82,50,38,358,2.91,0.3,0
325,80,48,38,269.1,3.58,0.4,0
326,76,51,46,381.3,10.51,0.4,0
327,77,54,50,379.2,8.72,0.5,0
328,67,45,27,302.6,15.66,0.3,0
329,66,35,19,156,6.49,0.4,0
330,71,38,21,217.4,5.37,0.3,0
331,65,37,27,137.2,4.92,0.3,0
332,57,34,30,344.8,5.82,0.3,0
333,63,31,25,73.6,7.38,0.3,0
334,55,33,20,200.7,5.14,0.3,0
335,62,26,23,298.6,6.71,0.3,0
336,49,32,24,290.9,9.17,0.3,0
337,48,30,12,203.2,4.7,0.3,0
338,54,21,13,360.8,3.8,0.3,0
339,60,29,19,359.6,4.25,0.4,0
340,62,27,19,253.1,4.47,0.2,0
341,63,30,17,235.2,5.14,0.3,0
342,65,36,15,356.4,5.82,0.4,0
343,66,33,19,355.5,3.58,0.4,0
344,57,41,46,354.7,6.49,0.4,0.02
345,60,45,38,354,14.09,0.4,0
346,64,40,33,353.3,12.3,0.4,0
347,54,33,26,326.9,11.18,0.4,0
348,54,24,20,263.9,4.25,0.4,0
349,54,33,19,252.8,12.75,0.3,0
350,55,21,16,351.5,2.01,0.4,0
```

```
351,58,25,16,280.4,2.68,0.4,0
352,62,39,25,277.9,8.05,0.5,0
353,58,34,22,350.9,4.7,0.4,0
354,61,27,19,350.9,4.7,0.4,0
355,62,27,15,351,2.68,0.4,0
356,65,26,20,320.2,6.26,0.4,0
357,65,35,19,243.5,16.11,0.4,0
358,45,22,-1,351.7,4.25,0.4,0
359,51,22,-4,352.1,2.46,0.5,0
360,61,22,20,352.6,6.26,0.6,0
361,69,32,22,353.1,4.25,0.5,0
362,73,37,19,353.8,7.61,0.5,0
363,60,37,29,354.5,9.62,0.5,0
364,47,31,22,355.3,10.74,0.4,0
365,50,22,20,316.1,4.7,0.4,0
```

```
1,51,23,11,326.7,4.25,0.5,0
2,56,18,15,338.9,6.93,0.4,0
3,60,26,14,359.7,6.93,0.5,0
4,64,31,16,196.4,3.58,0.4,0
5,66,30,19,279.8,9.62,0.5,0
6,59,32,14,271,6.04,0.5,0
7,61,26,9,343.4,3.13,0.4,0
8,63,27,17,306.8,4.25,0.4,0
9,63,32,24,365.6,4.92,0.4,0
10,43,29,23,256.6,6.49,0.4,0
11,45,18,21,263.8,3.13,0.4,0
12,53,19,19,281.7,3.13,0.4,0
13,59,20,15,128.6,5.37,0.4,0
14,69,28,14,356.4,4.7,0.3,0
15,65,36,8,341.5,6.04,0.4,0
16,66,30,8,252.8,6.71,0.4,0
17,67,26,14,174.3,5.82,0.5,0
18,71,33,21,213.1,5.82,0.4,0
19,53,43,23,265.8,14.09,0.4,0
20,50,37,36,390.8,4.7,0.5,0.06
21,54,41,45,368.3,4.92,0.4,0.04
22,61,39,43,274.6,7.61,0.4,0
23,65,40,39,332.9,7.83,0.4,0
24,64,34,32,246.7,12.75,0.3,0
25,54,39,25,269,17.45,0.3,0
26,50,33,32,391.6,13.42,0.3,0.05
27,52,25,23,409.5,5.37,0.4,0
28,62,35,20,412.4,8.72,0.4,0
29,60,43,37,266.4,6.26,0.4,0.03
30,61,44,29,209.3,13.42,0.5,0
31,62,37,22,318.8,10.74,0.5,0
32,66,36,24,363.9,6.26,0.4,0
33,72,45,29,342.4,4.7,0.5,0
34,77,46,29,273.8,10.74,0.4,0
35,73,58,35,336.6,16.11,0.4,0
36,68,42,20,427.9,9.4,0.4,0
37,65,44,16,444.5,10.07,0.5,0
38,73,40,12,369,8.05,0.4,0
39,74,49,13,262.9,9.17,0.5,0
40,74,46,16,251.1,7.83,0.4,0
41,72,42,19,458.7,9.84,0.4,0
42,70,39,18,462.3,4.25,0.3,0
43,70,43,33,383.3,7.83,0.3,0
44,65,39,33,469.7,9.62,0.4,0
45,40,14,21,448.2,8.72,0.4,0.38
46,34,14,22,298.6,8.72,0.4,0
47,49,24,35,359.6,9.4,0.4,0.02
48,56,32,30,246.2,11.86,0.3,0
49,50,32,30,321.7,6.71,0.4,0
50,59,28,24,270.4,4.7,0.4,0
```

```
51,73,33,30,496.6,9.62,0.4,0
52,65,39,17,280.6,13.2,0.4,0
53,67,29,14,192.6,3.8,0.4,0
54,73,31,15,101.7,3.8,0.4,0
55,76,36,11,281.6,7.83,0.4,0
56,76,38,20,357.3,8.28,0.4,0
57,69,34,25,444,5.82,0.5,0
58,73,37,8,341.4,13.87,0.4,0
59,69,43,5,410.7,12.53,0.4,0
60,56,36,23,,10.96,0.4,0
61,61,30,22,438.7,2.68,0.5,0
62,74,34,21,536.5,4.92,0.4,0
63,70,53,32,340.6,17.22,0.3,0
64,72,44,31,544.7,11.41,0.3,0
65,66,42,32,272.8,8.72,0.3,0
66,73,38,28,360.5,4.03,0.3,0
67,82,46,32,556.9,5.82,0.4,0
68,81,53,30,531.3,12.97,0.4,0
69,78,56,28,520.2,18.57,0.5,0
70,76,42,12,448.7,7.61,0.4,0
71,78,56,21,364.7,9.62,0.3,0
72,64,44,22,202.4,18.57,0.3,0
73,61,41,21,581,22.15,0.4,0
74,70,48,23,511.3,11.63,0.4,0
75,77,45,21,429,19.91,0.3,0
76,68,40,19,134.9,7.83,0.3,0
77,71,42,24,356.2,5.82,0.4,0
78,75,44,21,600.8,5.59,0.4,0
79,83,42,23,383.6,5.82,0.4,0
80,79,50,27,250.9,12.3,0.4,0
81,67,53,27,594.4,20.8,0.3,0
82,69,42,18,616.2,10.51,0.3,0
83,61,44,33,620,14.09,0.3,0
84,66,40,32,490.4,11.63,0.3,0
85,73,51,22,535,12.97,0.4,0
86,67,46,28,330.3,9.17,0.4,0
87,72,45,30,528.8,6.49,0.3,0
88,82,46,25,638.5,7.16,0.3,0
89,84,58,17,567.9,14.54,0.3,0
90,70,47,17,501.2,10.29,0.2,0
91,73,46,26,403.7,11.18,0.3,0
92,86,49,35,443.4,5.59,0.2,0
93,87,56,41,518.7,5.37,0.3,0
94,87,52,43,616,4.47,0.3,0
95,92,57,44,549.7,10.07,0.3,0
96,86,63,21,353.7,17.67,0.4,0
97,83,53,14,451.8,7.83,0.3,0
98,88,66,16,291.3,19.91,0.3,0
99,85,67,26,459.9,14.99,0.3,0
100,85,53,24,561,10.29,0.2,0
```

```
101,86,59,17,678.5,9.4,0.3,0
102,88,65,29,539.9,8.05,0.3,0
103,77,53,35,656.1,8.95,0.3,0
104,84,52,37,436.6,8.05,0.3,0
105,83,62,35,453.7,15.66,0.3,0
106,74,60,19,578.7,8.95,0.4,0
107,68,47,34,677.2,15.21,0.3,0
108,63,44,32,439.9,11.63,0.3,0
109,73,46,33,583.4,6.49,0.3,0
110,83,51,34,705.2,9.84,0.2,0
111,75,44,27,703.1,9.84,0.3,0
112,81,46,30,609.7,13.65,0.3,0
113,76,62,23,545.1,18.79,0.3,0
114,83,53,24,718.6,8.72,0.3,0
115,90,52,19,543.5,10.96,0.3,0
116,87,71,21,723.5,18.79,0.3,0
117,80,63,30,725.8,14.99,0.3,0
118,68,54,39,726,10.51,0.3,0.01
119,56,47,45,730.4,12.75,0.3,0.17
120,73,51,45,502.9,8.28,0.4,0.06
121,84,48,45,375,7.38,0.3,0
122,90,68,26,509.6,15.88,0.4,0
123,82,61,36,544.6,15.88,0.3,0
124,80,52,38,657.9,6.04,0.3,0
125,90,57,36,513,3.36,0.4,0
126,94,59,46,743.4,8.95,0.4,0
127,97,62,48,746.7,8.05,0.3,0.01
128,90,61,48,655.1,16.55,0.2,0
129,89,66,24,750.2,12.97,0.2,0
130,90,71,31,751.9,17.45,0.3,0
131,89,64,46,598.6,14.09,0.2,0
132,83,59,47,755.2,8.95,0.3,0
133,90,59,49,756.8,8.95,0.2,0
134,93,59,57,485.9,7.61,0.3,0.16
135,88,64,51,717.8,10.96,0.3,0
136,90,,32,693.8,13.42,0.3,0
137,87,68,25,644.8,15.88,0.4,0
138,84,60,29,589.8,11.86,0.3,0
139,92,64,44,765.2,7.16,0.4,0
140,94,65,43,627.4,9.4,0.3,0
141,88,65,33,721.3,9.17,0.3,0
142,98,66,46,768.8,10.74,0.4,0
143,91,64,49,769.9,7.38,0.3,0
144,91,63,47,709.6,8.28,0.4,0
145,94,60,16,771.9,5.82,0.3,0
146,96,63,32,579.5,6.71,0.3,0
147,94,71,24,690.3,8.05,0.3,0
148,96,63,22,595.1,6.04,0.3,0
149,98,67,58,680.9,6.49,0.3,0
150,94,70,57,776.3,9.17,0.3,0
```

```
151,94,66,58,460.9,8.28,0.3,0.01
152,90,63,54,777.8,8.72,0.2,0
153,94,62,51,760.3,7.38,0.3,0.01
154,86,67,48,704.9,8.28,0.4,0.01
155,88,65,46,623.3,5.14,0.3,0
156,99,62,45,562.5,8.05,0.4,0
157,100,80,37,631.7,19.91,0.4,0
158,98,80,31,454.8,14.76,0.3,0
159,98,75,37,729.1,10.96,0.3,0
160,101,67,31,636.4,4.7,0.3,0
161,106,71,31,508.3,6.71,0.2,0
162,106,69,26,518.5,4.92,0.2,0
163,109,71,49,689.5,8.5,0.2,0
164,103,77,51,783,8.28,0.2,0
165,103,76,53,733.6,8.05,0.2,0
166,98,72,52,783.2,10.96,0.3,0
167,100,73,47,670.1,8.28,0.2,0
168,98,74,48,725.4,9.62,0.2,0
169,100,72,46,637.9,5.59,0.3,0
170,104,72,37,653.3,4.47,0.3,0
171,109,73,42,574.5,8.05,0.3,0
172,103,79,54,783.2,13.42,0.3,0
173,100,73,57,783,9.17,0.4,0
174,102,81,49,738.6,10.74,0.3,0
175,102,82,56,782.6,9.17,0.3,0
176,102,80,54,782.3,10.74,0.3,0
177,101,75,48,752.6,7.61,0.2,0
178,88,62,64,781.7,14.99,0.3,1.47
179,70,62,63,781.3,11.86,0.4,0.61
180,71,63,62,459.7,12.53,0.4,0.12
181,80,64,65,780.4,8.95,0.4,0.15
182,89,69,67,779.9,5.37,0.4,0.87
183,86,70,68,779.4,3.36,0.4,0.04
184,93,70,67,653.5,4.03,0.4,0.82
185,96,73,66,717.2,7.61,0.4,0
186,97,70,67,314.9,5.82,0.4,0.59
187,89,70,64,776.8,8.5,0.4,0
188,90,72,64,597.2,7.83,0.4,0
189,93,72,60,377.8,6.04,0.4,0
190,98,74,57,684.1,4.92,0.4,0
191,101,74,56,760.5,5.59,0.5,0
192,97,67,62,772.7,11.41,0.5,0.24
193,92,69,64,771.8,6.93,0.4,0
194,92,71,60,770.8,6.04,0.4,0
195,95,73,56,769.8,5.59,0.4,0
196,97,74,57,663.4,7.83,0.5,0
197,96,74,58,767.6,8.05,0.5,0
198,98,72,59,765,6.71,0.5,0
199,93,67,66,493.9,7.61,0.4,1.93
200,87,71,66,636.3,7.16,0.5,0
```

```
201,92,71,64,705.9,8.5,0.5,0
202,92,71,55,553.5,7.16,0.5,0
203,92,70,53,758.7,5.14,0.5,0
204,94,68,63,662.9,8.5,0.5,0.09
205,90,67,63,688.2,6.49,0.5,0.01
206,90,69,63,755.7,4.92,0.5,0
207,94,72,66,607,5.59,0.5,0.01
208,97,71,61,276.5,5.37,0.6,0.2
209,97,75,60,404.9,6.71,0.6,0
210,92,71,57,749.3,9.62,0.5,0
211,92,69,55,495.7,7.16,0.4,0
212,91,74,61,745.9,4.92,0.5,0
213,93,74,65,744.1,6.93,0.6,0.1
214,88,71,63,720.5,7.61,0.6,0.01
215,92,71,60,621.6,6.71,0.5,0
216,94,68,58,551.6,8.05,0.5,0.04
217,95,72,57,617.6,6.49,0.5,0
218,96,71,58,513.5,5.14,0.4,0
219,100,71,51,593.8,6.26,0.5,0
220,100,78,59,607.3,8.28,0.5,0.03
221,98,77,58,509.3,9.4,0.5,0
222,94,69,63,481.4,7.38,0.5,0
223,91,68,63,481.1,8.28,0.5,0.09
224,91,65,66,518.5,9.4,0.5,1.27
225,83,69,67,500.4,4.47,0.5,0.03
226,79,66,66,506.2,7.16,0.5,0.22
227,81,65,65,639.9,4.03,0.5,0.26
228,80,67,65,526.3,5.82,0.5,0.01
229,87,68,62,709.2,6.93,0.4,0
230,90,72,63,706.6,10.29,0.5,0
231,90,72,61,584,7.61,0.5,0
232,93,70,60,533,5.59,0.4,0
233,93,72,63,692.9,8.05,0.4,0
234,93,69,63,610.9,6.49,0.5,0
235,96,73,60,693.1,4.92,0.4,0
236,96,73,59,619.7,4.92,0.5,0
237,97,72,59,464.6,7.16,0.4,0
238,93,73,57,684.5,6.71,0.4,0
239,95,72,65,681.5,4.7,0.4,0.29
240,95,70,58,526,6.93,0.4,0
241,93,71,60,675.5,9.62,0.4,0
242,94,71,61,672.4,7.83,0.4,0
243,93,70,66,564.2,5.37,0.4,0.11
244,88,70,66,436.5,6.93,0.4,0.06
245,90,72,65,580.5,7.61,0.5,0
246,95,72,64,525.9,4.7,0.5,0.02
247,92,71,63,607.6,7.38,0.4,0
248,84,69,65,612.4,6.71,0.5,0.07
249,93,67,63,642.5,4.7,0.4,0
250,96,68,59,617,4.03,0.4,0
```

```
251,95,69,55,244.9,9.17,0.4,0
252,94,69,55,516.4,5.37,0.4,0
253,95,66,50,586.9,3.36,0.4,0
254,95,65,45,535.2,3.13,0.4,0
255,94,61,43,558.6,4.03,0.4,0
256,93,59,42,528.1,2.68,0.4,0
257,98,64,40,214.4,4.7,0.5,0
258,96,67,54,618,6.26,0.4,0
259,97,70,53,551.1,4.92,0.3,0
260,98,69,47,299.3,5.59,0.3,0
261,97,64,47,546.7,5.14,0.3,0
262,97,66,52,562.2,6.71,0.3,0
263,95,76,53,475.6,11.41,0.3,0
264,84,68,43,595.5,10.51,0.4,0
265,82,58,42,591.7,5.82,0.4,0
266,88,60,50,438.1,6.26,0.4,0
267,86,64,59,344.6,4.03,0.3,0.01
268,81,63,57,580.2,9.4,0.3,0.04
269,87,58,56,576.3,5.14,0.3,0.01
270,82,61,56,572.4,7.61,0.3,0
271,82,62,55,544.9,9.62,0.3,0
272,85,64,50,564.6,8.28,0.3,0
273,76,59,55,475.3,9.4,0.3,0.26
274,78,56,55,258.3,6.04,0.3,0
275,81,56,48,389,7.61,0.3,0
276,86,60,46,313.4,5.37,0.3,0
277,87,60,50,452,3.8,0.3,0
278,86,60,46,428.5,4.25,0.4,0
279,89,65,48,537,4.03,0.3,0
280,90,58,46,455.5,6.71,0.3,0
281,92,60,44,529.1,4.92,0.2,0
282,92,64,42,494.2,14.32,0.2,0
283,79,55,44,282,16.55,0.3,0
284,85,51,39,222.5,10.51,0.2,0
285,88,60,43,367.1,19.24,0.2,0
286,74,50,36,448.9,3.8,0.3,0
287,77,50,36,388.6,11.41,0.2,0
288,74,53,24,417.5,11.86,0.3,0
289,76,50,30,312,7.38,0.3,0
290,81,52,42,340.2,4.7,0.2,0
291,85,56,45,316.1,10.51,0.3,0
292,81,59,47,335.5,9.62,0.3,0
293,83,48,37,482.6,3.8,0.4,0
294,87,53,33,478.9,6.26,0.4,0
295,86,55,47,475.2,3.58,0.4,0
296,83,58,44,405.5,11.41,0.3,0
297,81,57,37,285.6,6.71,0.3,0
298,88,52,40,425.2,4.92,0.3,0
299,79,56,44,165.4,20.58,0.3,0
300,69,51,19,259.7,14.09,0.3,0
```

```
301,73,47,24,357.3,6.04,0.3,0
302,78,43,23,214.5,4.25,0.3,0
303,83,42,26,380.1,5.14,0.2,0
304,80,49,31,284.4,4.47,0.2,0
305,80,49,37,389.5,5.14,0.3,0
306,80,46,32,377.1,6.04,0.2,0
307,73,43,40,346.2,6.04,0.3,0
308,68,43,39,241.9,2.01,0.2,0
309,79,42,36,419.3,2.46,0.2,0
310,81,43,31,423.6,2.68,0.3,0
311,82,43,30,420.5,2.68,0.4,0
312,79,46,31,417.5,3.36,0.3,0
313,81,47,33,298.6,4.25,0.2,0
314,76,50,26,411.6,8.5,0.3,0
315,74,50,24,363.5,8.95,0.3,0
316,74,37,22,406,5.59,0.3,0
317,75,39,24,403.2,3.8,0.4,0
318,77,38,25,400.5,3.58,0.3,0
319,78,38,23,381.4,4.7,0.4,0
320,79,46,20,395.3,8.72,0.4,0
321,76,51,25,268.8,8.28,0.4,0
322,58,41,20,390.4,8.28,0.4,0
323,66,34,28,100.7,3.13,0.3,0
324,76,37,33,358,5.59,0.3,0
325,67,47,32,269.1,9.84,0.4,0
326,66,44,28,381.3,5.82,0.4,0
327,69,43,31,379.2,5.59,0.5,0
328,70,55,42,302.6,10.29,0.3,0.02
329,57,40,37,156,11.41,0.4,0.02
330,54,34,39,217.4,4.7,0.3,0.04
331,60,42,44,137.2,4.47,0.3,0.26
332,63,39,38,344.8,3.36,0.3,0
333,68,34,37,73.6,2.46,0.3,0
334,71,42,38,200.7,3.58,0.3,0
335,64,41,36,298.6,3.58,0.3,0
336,73,42,38,290.9,4.47,0.3,0
337,73,41,39,203.2,4.47,0.3,0
338,69,39,34,360.8,3.36,0.3,0
339,73,43,34,359.6,4.03,0.4,0
340,56,39,24,253.1,4.92,0.2,0
341,70,39,27,235.2,6.93,0.3,0
342,68,37,27,356.4,5.59,0.4,0
343,69,46,33,355.5,10.51,0.4,0
344,64,51,43,354.7,17.9,0.4,0.01
345,56,36,26,354,8.72,0.4,0
346,64,33,28,353.3,4.25,0.4,0
347,68,33,33,326.9,5.59,0.4,0
348,72,39,30,263.9,2.91,0.4,0
349,71,46,37,252.8,12.75,0.3,0
350,62,36,32,351.5,3.36,0.4,0
```

```
351,65,40,32,280.4,4.25,0.4,0
352,56,39,20,277.9,11.41,0.5,0
353,53,36,28,350.9,3.36,0.4,0
354,60,29,25,350.9,2.91,0.4,0
355,64,27,24,351,3.36,0.4,0
356,69,40,23,320.2,3.13,0.4,0
357,73,39,31,243.5,6.26,0.4,0
358,76,50,43,351.7,15.88,0.4,0
359,73,42,42,352.1,7.16,0.5,0
360,73,50,38,352.6,12.3,0.6,0
361,68,42,33,353.1,10.51,0.5,0
362,61,44,35,353.8,10.29,0.5,0
363,60,39,23,354.5,13.2,0.5,0
364,59,32,40,355.3,7.16,0.4,0
365,50,45,45,316.1,10.29,0.4,0.58
```

```
1,56,34,39,326.7,25.28,0.5,0.02
2,44,24,19,338.9,4.92,0.4,0
3,50,23,22,359.7,4.25,0.5,0
4,62,25,25,196.4,10.29,0.4,0
5,63,29,22,279.8,4.92,0.5,0
6,66,33,28,271,4.03,0.5,0
7,70,31,29,343.4,6.04,0.4,0
8,69,50,29,306.8,11.63,0.4,0
9,53,41,27,365.6,7.38,0.4,0
10,47,40,32,256.6,9.17,0.4,0
11,55,35,31,263.8,4.03,0.4,0
12,63,29,27,281.7,2.91,0.4,0
13,64,26,24,128.6,3.36,0.4,0
14,71,32,22,356.4,8.28,0.3,0
15,52,35,22,341.5,5.37,0.4,0
16,57,26,19,252.8,2.24,0.4,0
17,65,27,24,174.3,5.82,0.5,0
18,67,44,42,213.1,9.84,0.4,0.01
19,62,43,41,265.8,8.28,0.4,0
20,49,30,22,390.8,6.04,0.5,0
21,53,26,27,368.3,3.36,0.4,0
22,54,33,23,274.6,11.41,0.4,0
23,54,27,26,332.9,4.7,0.4,0
24,60,30,29,246.7,4.7,0.3,0
25,64,37,25,269,8.5,0.3,0
26,58,34,27,391.6,6.26,0.3,0
27,62,31,22,409.5,8.05,0.4,0
28,52,30,18,412.4,6.26,0.4,0
29,58,29,20,415.3,5.14,0.4,0
30,63,32,25,266.4,6.93,0.5,0
31,65,34,30,209.3,5.37,0.5,0
32,64,43,22,318.8,10.07,0.4,0
33,58,29,32,363.9,10.74,0.5,0.29
34,33,20,26,342.4,7.61,0.4,0.11
35,39,18,20,273.8,2.68,0.4,0
36,47,22,21,336.6,3.13,0.4,0
37,57,24,22,427.9,7.16,0.5,0
38,53,28,23,444.5,4.25,0.4,0
39,61,25,24,369,3.36,0.5,0
40,65,34,20,262.9,5.82,0.4,0
41,67,30,20,251.1,5.82,0.4,0
42,71,38,20,458.7,4.92,0.3,0
43,52,37,26,462.3,7.83,0.3,0
44,62,28,24,383.3,3.13,0.4,0
45,69,27,23,469.7,3.36,0.4,0
46,75,37,13,448.2,11.41,0.4,0
47,71,41,27,298.6,15.88,0.4,0
48,55,35,26,359.6,9.84,0.3,0
49,59,25,21,246.2,3.58,0.4,0
50,66,29,16,321.7,4.47,0.4,0
```

```
51,73,33,20,270.4,7.61,0.4,0
52,71,48,25,496.6,18.12,0.4,0
53,71,41,26,280.6,11.86,0.4,0
54,68,39,18,192.6,13.42,0.4,0
55,58,33,25,101.7,11.18,0.4,0
56,60,30,18,281.6,5.14,0.4,0
57,69,32,18,357.3,5.14,0.5,0
58,65,35,16,444,6.71,0.4,0
59,68,38,13,341.4,7.83,0.4,0
60,74,49,16,410.7,6.93,0.4,0
61,79,41,17,438.7,4.92,0.5,0
62,77,44,20,536.5,4.7,0.4,0
63,79,52,34,340.6,14.76,0.3,0
64,73,46,23,544.7,11.86,0.3,0
65,62,48,21,272.8,17.22,0.3,0
66,63,33,15,360.5,8.05,0.3,0
67,59,31,15,556.9,5.82,0.4,0
68,66,30,11,531.3,9.84,0.4,0
69,71,37,13,520.2,13.42,0.5,0
70,57,30,31,448.7,8.28,0.4,0.11
71,60,29,22,364.7,3.8,0.3,0
72,71,25,16,202.4,6.71,0.3,0
73,70,47,17,581,13.42,0.4,0
74,74,36,23,511.3,3.36,0.4,0
75,82,40,16,429,10.74,0.3,0
76,71,44,28,134.9,17,0.3,0
77,64,35,26,356.2,4.03,0.4,0
78,74,37,16,600.8,3.8,0.4,0
79,83,46,27,383.6,11.86,0.4,0
80,59,46,40,250.9,17.9,0.4,0.04
81,53,42,40,594.4,8.05,0.3,0
82,61,40,31,616.2,7.83,0.3,0
83,75,43,16,620,7.16,0.3,0
84,82,40,22,490.4,3.58,0.3,0
85,87,42,20,535,4.7,0.4,0
86,88,44,10,330.3,4.7,0.4,0
87,85,57,25,528.8,10.07,0.3,0
88,73,48,33,638.5,22.15,0.3,0
89,70,46,34,567.9,21.03,0.3,0
90,74,46,33,501.2,6.49,0.2,0
91,80,48,26,403.7,10.51,0.3,0
92,84,49,26,443.4,4.92,0.2,0
93,84,49,22,518.7,6.49,0.3,0
94,80,53,27,616,10.74,0.3,0
95,87,59,32,549.7,18.57,0.3,0
96,83,61,29,353.7,8.5,0.4,0
97,75,48,8,451.8,8.5,0.3,0
98,76,39,7,291.3,6.04,0.3,0
99,88,39,21,459.9,10.74,0.3,0
100,84,66,31,561,22.37,0.2,0
```

```
101,85,61,39,678.5,19.01,0.3,0
102,81,61,34,539.9,23.94,0.3,0
103,72,52,32,656.1,16.11,0.3,0
104,80,39,5,436.6,6.04,0.3,0
105,87,51,7,453.7,8.5,0.3,0
106,85,54,13,578.7,10.29,0.4,0
107,89,61,11,677.2,8.72,0.3,0
108,93,45,47,439.9,8.5,0.3,0
109,91,60,44,583.4,11.41,0.3,0
110,92,67,18,705.2,13.42,0.2,0
111,90,60,23,703.1,8.95,0.3,0
112,92,65,24,609.7,19.91,0.3,0
113,82,60,28,545.1,11.41,0.3,0
114,81,47,20,718.6,8.28,0.3,0
115,79,53,37,543.5,12.3,0.3,0
116,81,53,46,723.5,11.63,0.3,0
117,91,61,48,725.8,8.72,0.3,0
118,89,59,22,726,14.76,0.3,0
119,85,68,18,730.4,14.99,0.3,0
120,86,51,19,502.9,7.61,0.4,0
121,91,60,41,375,11.18,0.3,0
122,89,66,27,509.6,16.55,0.4,0
123,88,66,29,544.6,12.75,0.3,0
124,88,70,26,657.9,15.21,0.3,0
125,85,56,16,513,8.28,0.4,0
126,94,59,18,743.4,9.4,0.4,0
127,96,66,16,746.7,14.32,0.3,0
128,94,69,22,655.1,19.46,0.2,0
129,92,69,30,750.2,17.22,0.2,0
130,95,60,26,751.9,6.04,0.3,0
131,97,63,29,598.6,10.96,0.2,0
132,91,68,24,755.2,10.74,0.3,0
133,92,53,1,756.8,5.59,0.2,0
134,96,54,9,485.9,5.37,0.3,0
135,99,50,13,717.8,3.13,0.3,0
136,101,61,24,693.8,7.16,0.3,0
137,96,76,18,644.8,14.54,0.4,0
138,96,72,23,589.8,11.86,0.3,0
139,95,70,23,765.2,16.11,0.4,0
140,92,73,35,627.4,19.91,0.3,0
141,92,65,40,721.3,8.28,0.3,0
142,76,60,36,768.8,10.51,0.4,0
143,92,57,42,769.9,9.84,0.3,0
144,89,60,31,709.6,13.65,0.4,0
145,90,52,38,771.9,5.37,0.3,0
146,97,60,28,579.5,5.14,0.3,0
147,103,64,28,690.3,7.38,0.3,0
148,102,76,30,595.1,16.11,0.3,0
149,96,73,31,680.9,19.01,0.3,0
150,93,71,36,776.3,14.09,0.3,0
```

```
151,95,64,35,460.9,5.82,0.3,0
152,100,63,57,777.8,8.28,0.2,0
153,93,68,62,760.3,7.61,0.3,0.12
154,98,65,56,704.9,8.28,0.4,0
155,98,68,40,623.3,10.51,0.3,0
156,98,74,26,562.5,11.41,0.4,0
157,101,75,34,631.7,11.18,0.4,0
158,104,79,35,454.8,10.07,0.3,0
159,106,76,58,729.1,12.08,0.3,0
160,99,72,52,636.4,5.82,0.3,0
161,105,72,47,508.3,4.47,0.2,0
162,107,76,42,518.5,5.82,0.2,0
163,106,79,40,689.5,11.41,0.2,0
164,105,83,40,783,14.09,0.2,0
165,102,80,49,733.6,12.75,0.2,0
166,102,73,52,783.2,7.38,0.3,0
167,103,74,57,670.1,9.84,0.2,0.02
168,99,72,58,725.4,8.95,0.2,0
169,99,73,55,637.9,9.84,0.3,0
170,96,68,62,653.3,9.84,0.3,0.38
171,85,66,64,574.5,4.92,0.3,0.3
172,80,66,64,783.2,8.95,0.3,0.14
173,89,68,64,783,10.51,0.4,0.06
174,94,71,60,738.6,8.5,0.3,0
175,96,72,57,782.6,7.16,0.3,0
176,98,75,55,782.3,8.05,0.3,0
177,92,71,56,752.6,14.54,0.2,0
178,91,72,55,781.7,10.29,0.3,0
179,93,71,58,781.3,10.29,0.4,0
180,94,72,63,459.7,7.61,0.4,0.22
181,97,72,63,780.4,4.7,0.4,0
182,98,75,55,779.9,6.71,0.4,0
183,99,72,57,779.4,6.49,0.4,0.01
184,98,72,58,653.5,6.26,0.4,0
185,98,72,63,717.2,8.95,0.4,0
186,95,71,64,314.9,5.82,0.4,0
187,98,75,59,776.8,8.28,0.4,0
188,99,73,65,597.2,6.71,0.4,0.09
189,98,71,64,377.8,7.38,0.4,0.01
190,101,74,63,684.1,8.05,0.4,0
191,99,76,63,760.5,5.59,0.5,0.04
192,101,72,61,772.7,4.47,0.5,0.03
193,100,76,54,771.8,8.72,0.4,0
194,100,76,55,770.8,8.95,0.4,0
195,98,75,55,769.8,6.71,0.4,0
196,102,74,49,663.4,6.93,0.5,0
197,100,73,50,767.6,7.61,0.5,0
198,101,76,53,765,6.71,0.5,0
199,104,75,48,493.9,6.04,0.4,0
200,107,77,45,636.3,5.59,0.5,0
```

```
201,108,83,55,705.9,9.4,0.5,0
202,105,81,52,553.5,8.5,0.5,0
203,101,81,57,758.7,8.72,0.5,0
204,101,77,58,662.9,6.71,0.5,0
205,97,74,57,688.2,8.95,0.5,0.01
206,96,72,62,755.7,8.5,0.5,0.05
207,95,70,62,607,10.51,0.5,0
208,92,72,58,276.5,7.38,0.6,0
209,97,71,61,404.9,6.49,0.6,0
210,96,72,64,749.3,7.38,0.5,0
211,97,72,63,495.7,6.71,0.4,0
212,100,73,58,745.9,8.95,0.5,0
213,104,75,56,744.1,5.37,0.6,0
214,103,75,63,720.5,7.83,0.6,0.11
215,102,72,61,621.6,9.4,0.5,0.01
216,100,68,63,551.6,7.83,0.5,0.03
217,101,72,63,617.6,8.28,0.5,0
218,100,76,50,513.5,8.28,0.4,0
219,99,76,64,593.8,5.59,0.5,0
220,94,71,61,607.3,5.37,0.5,0
221,96,71,59,509.3,6.93,0.5,0
222,97,71,59,481.4,8.95,0.5,0
223,88,73,60,481.1,10.07,0.5,0
224,96,71,63,518.5,8.05,0.5,0.04
225,94,74,59,500.4,6.49,0.5,0
226,98,72,55,506.2,5.82,0.5,0
227,98,73,55,639.9,7.83,0.5,0
228,90,68,64,526.3,9.84,0.5,0.03
229,78,67,67,709.2,8.05,0.4,0.91
230,85,70,64,706.6,9.4,0.5,0
231,86,68,66,584,8.05,0.5,0.45
232,85,67,67,533,9.62,0.4,0.74
233,85,70,68,692.9,6.71,0.4,0.02
234,89,71,66,610.9,3.8,0.5,0.46
235,83,71,63,693.1,6.04,0.4,0
236,85,71,62,619.7,6.49,0.5,0
237,89,69,58,464.6,6.49,0.4,0
238,91,70,61,684.5,5.37,0.4,0
239,94,71,61,681.5,5.59,0.4,0
240,96,73,63,526,5.82,0.4,0
241,97,72,60,675.5,6.71,0.4,0
242,86,67,57,672.4,10.74,0.4,0
243,82,69,63,564.2,8.05,0.4,0.04
244,82,68,64,436.5,7.83,0.4,0
245,89,69,63,580.5,5.37,0.5,0
246,88,70,63,525.9,9.62,0.5,0
247,88,68,58,607.6,8.5,0.4,0
248,90,65,56,612.4,4.92,0.5,0
249,92,63,51,642.5,5.82,0.4,0
250,91,65,47,617,7.61,0.4,0
```

```
251,90,64,49,244.9,5.37,0.4,0
252,94,69,53,516.4,7.16,0.4,0
253,95,69,58,586.9,6.04,0.4,0
254,86,70,56,535.2,10.51,0.4,0
255,91,65,59,558.6,5.59,0.4,1.49
256,87,67,60,528.1,8.05,0.4,0.03
257,88,63,60,214.4,4.47,0.5,0
258,91,68,61,618,4.47,0.4,0
259,93,65,57,551.1,5.82,0.3,0
260,93,70,53,299.3,6.71,0.3,0
261,89,67,65,546.7,7.16,0.3,0.13
262,90,67,64,562.2,6.49,0.3,0
263,93,69,64,475.6,4.25,0.3,0
264,94,70,62,595.5,3.8,0.4,0
265,93,71,57,591.7,4.92,0.4,0
266,94,70,53,438.1,4.47,0.4,0
267,96,66,54,344.6,5.82,0.3,0
268,86,73,52,580.2,9.17,0.3,0
269,89,71,57,576.3,10.29,0.3,0
270,88,62,51,572.4,7.38,0.3,0
271,88,63,45,544.9,9.17,0.3,0
272,85,60,40,564.6,6.04,0.3,0
273,87,58,43,475.3,3.58,0.3,0
274,87,60,49,258.3,6.04,0.3,0
275,86,64,51,389,6.71,0.3,0
276,86,63,50,313.4,5.82,0.3,0.04
277,83,58,59,452,5.37,0.3,0.2
278,81,61,58,428.5,4.47,0.4,0.05
279,75,61,59,537,9.17,0.3,0.29
280,71,61,59,455.5,8.28,0.3,0.45
281,74,60,57,529.1,8.95,0.2,0.2
282,75,58,56,494.2,7.83,0.2,0.38
283,76,56,55,282,4.7,0.3,0.01
284,80,55,55,222.5,5.14,0.2,0
285,85,59,53,367.1,4.25,0.2,0
286,84,56,49,448.9,2.01,0.3,0
287,81,58,54,388.6,3.58,0.2,0
288,89,59,55,417.5,5.82,0.3,0
289,80,56,56,312,9.62,0.3,0.19
290,60,54,52,340.2,10.96,0.2,0.01
291,69,51,48,316.1,5.14,0.3,0
292,73,48,43,335.5,4.25,0.3,0
293,79,47,43,482.6,2.46,0.4,0
294,84,50,49,478.9,5.82,0.4,0
295,85,64,53,475.2,11.86,0.4,0
296,82,63,51,405.5,18.57,0.3,0
297,64,46,43,285.6,15.43,0.3,0.09
298,69,39,29,425.2,5.37,0.3,0
299,75,41,37,165.4,6.26,0.3,0
300,75,49,36,259.7,15.88,0.3,0
```

```
301,68,40,33,357.3,5.37,0.3,0
302,71,42,37,214.5,3.13,0.3,0
303,75,43,34,380.1,3.13,0.2,0
304,76,49,34,284.4,5.37,0.2,0
305,75,44,36,389.5,2.24,0.3,0
306,79,48,37,377.1,6.04,0.2,0
307,79,51,37,346.2,14.99,0.3,0
308,60,44,33,241.9,14.99,0.2,0
309,68,37,26,419.3,7.83,0.2,0
310,78,44,30,423.6,4.25,0.3,0
311,74,45,32,420.5,6.04,0.4,0
312,82,47,40,417.5,4.25,0.3,0
313,81,46,38,298.6,8.95,0.2,0
314,71,53,40,411.6,9.17,0.3,0
315,63,43,32,363.5,7.61,0.3,0
316,64,35,22,406,2.91,0.3,0
317,67,37,32,403.2,5.14,0.4,0
318,61,43,23,400.5,11.41,0.3,0
319,59,35,21,381.4,4.92,0.4,0
320,55,39,24,395.3,9.62,0.4,0
321,58,32,22,268.8,4.7,0.4,0
322,58,35,26,390.4,8.95,0.4,0
323,48,36,30,100.7,10.07,0.3,0
324,50,35,31,358,3.13,0.3,0
325,60,27,29,269.1,4.03,0.4,0
326,64,34,31,381.3,7.16,0.4,0
327,68,35,32,379.2,7.38,0.5,0
328,59,37,27,302.6,9.4,0.3,0
329,46,36,36,156,10.29,0.4,0.12
330,65,36,33,217.4,15.21,0.3,0
331,66,45,15,137.2,10.51,0.3,0
332,67,42,18,344.8,13.2,0.3,0
333,71,47,23,73.6,11.41,0.3,0
334,66,39,29,200.7,4.92,0.3,0
335,67,35,32,298.6,4.03,0.3,0
336,79,43,39,290.9,10.51,0.3,0
337,68,46,46,203.2,5.59,0.3,0
338,64,44,52,360.8,3.58,0.3,0.09
339,72,54,52,359.6,8.72,0.4,0
340,72,49,49,253.1,5.37,0.2,0
341,63,50,52,235.2,4.47,0.3,0.01
342,68,45,48,356.4,4.25,0.4,0
343,62,47,40,355.5,6.71,0.4,0
344,69,41,40,354.7,5.14,0.4,0
345,69,33,30,354,4.25,0.4,0
346,71,38,32,353.3,15.88,0.4,0
347,51,30,35,326.9,17,0.4,0.05
348,51,37,23,263.9,12.53,0.4,0
349,53,28,23,252.8,8.28,0.3,0
350,50,35,21,351.5,8.72,0.4,0
```

```
351,51,29,9,280.4,7.16,0.4,0
352,51,33,36,277.9,6.04,0.5,0.03
353,58,26,37,350.9,3.8,0.4,0
354,59,29,29,350.9,4.92,0.4,0
355,61,33,23,351,6.71,0.4,0
356,68,27,20,320.2,13.65,0.4,0
357,37,18,0,243.5,6.93,0.4,0
358,50,21,6,351.7,2.91,0.4,0
359,58,22,19,352.1,4.03,0.5,0
360,64,26,28,352.6,4.92,0.6,0
361,65,31,28,353.1,6.49,0.5,0
362,68,49,31,353.8,16.11,0.5,0
363,61,41,36,354.5,6.93,0.5,0
364,58,43,46,355.3,8.05,0.4,0.16
365,64,45,40,316.1,11.86,0.4,0
```

```
1,67,44,41,326.7,7.16,0.5,0
2,58,40,39,338.9,13.42,0.4,0.08
3,56,41,30,359.7,13.42,0.5,0
4,59,40,31,196.4,11.41,0.4,0
5,65,36,30,279.8,4.25,0.5,0
6,71,34,32,271,5.14,0.5,0
7,62,40,25,343.4,8.28,0.4,0
8,67,33,32,306.8,4.92,0.4,0
9,70,36,32,365.6,6.04,0.4,0
10,69,41,31,256.6,,0.4,0
11,66,43,23,263.8,11.86,0.4,0
12,60,32,19,281.7,,0.4,0
13,64,26,19,128.6,,0.4,0
14,68,27,27,356.4,5.59,0.3,0
15,68,54,32,341.5,18.79,0.4,0
16,53,47,43,252.8,9.62,0.4,0.04
17,57,44,43,174.3,8.5,0.5,0.04
18,51,33,28,213.1,14.32,0.4,0
19,51,28,25,265.8,3.36,0.4,0
20,64,24,21,390.8,8.05,0.5,0
21,52,28,17,368.3,6.71,0.4,0
22,56,25,18,274.6,3.58,0.4,0
23,63,36,35,332.9,7.61,0.4,0.07
24,52,33,34,246.7,11.86,0.3,0
25,54,30,24,269,6.49,0.3,0
26,49,29,24,391.6,7.83,0.3,0
27,54,20,23,409.5,4.47,0.4,0
28,66,27,23,412.4,6.71,0.4,0
29,68,34,30,415.3,5.37,0.4,0
30,71,38,24,266.4,7.38,0.5,0
31,60,36,25,209.3,7.38,0.5,0
32,53,33,34,318.8,3.8,0.4,0
33,63,31,33,363.9,,0.5,0
34,62,30,23,342.4,5.14,0.4,0
35,69,34,24,273.8,4.25,0.4,0
36,76,35,20,336.6,4.92,0.4,0
37,77,41,23,427.9,11.86,0.5,0
38,56,37,25,444.5,6.93,0.4,0
39,58,28,25,369,7.83,0.5,0
40,57,31,18,262.9,12.53,0.4,0
41,50,26,18,251.1,2.46,0.4,0
42,61,24,10,458.7,5.82,0.3,0
43,71,34,20,462.3,4.92,0.3,0
44,68,36,37,383.3,12.97,0.4,0.03
45,59,38,34,469.7,19.46,0.4,0
46,50,38,29,448.2,18.79,0.4,0
47,49,33,8,298.6,8.95,0.4,0
48,54,20,8,359.6,6.93,0.3,0
49,64,41,37,246.2,5.37,0.4,0
50,62,45,49,321.7,10.29,0.4,0.38
```

```
51,68,50,47,270.4,10.51,0.4,0
52,65,49,46,496.6,12.3,0.4,0
53,66,40,32,280.6,21.47,0.4,0
54,66,36,31,192.6,7.61,0.4,0
55,71,38,28,101.7,4.47,0.4,0
56,72,45,32,281.6,2.68,0.4,0
57,76,44,38,357.3,20.36,0.5,0
58,64,33,21,444,7.38,0.4,0
59,71,36,21,341.4,11.18,0.4,0
60,72,50,18,410.7,13.65,0.4,0
61,58,35,31,438.7,17,0.5,0.01
62,63,35,27,536.5,10.29,0.4,0
63,73,38,23,340.6,6.71,0.3,0
64,76,50,18,544.7,9.62,0.3,0
65,78,42,21,272.8,4.92,0.3,0
66,76,47,35,360.5,6.49,0.3,0
67,81,42,33,556.9,6.04,0.4,0
68,75,54,32,531.3,7.16,0.4,0
69,82,44,26,520.2,9.4,0.5,0
70,78,59,37,448.7,17,0.4,0
71,77,61,38,364.7,16.11,0.3,0
72,75,46,26,202.4,7.16,0.3,0
73,76,50,31,581,6.26,0.4,0
74,81,48,36,511.3,12.08,0.4,0
75,68,52,44,429,13.42,0.3,0.01
76,58,39,37,134.9,10.51,0.3,0.02
77,53,41,32,356.2,13.42,0.4,0
78,58,31,32,600.8,8.95,0.4,0
79,74,42,39,383.6,11.41,0.4,0.01
80,79,57,37,250.9,20.36,0.4,0
81,80,56,39,594.4,11.41,0.3,0
82,73,49,39,616.2,12.53,0.3,0
83,63,50,24,620,17.67,0.3,0
84,67,41,21,490.4,8.28,0.3,0
85,72,38,16,535,8.5,0.4,0
86,74,41,16,330.3,9.17,0.4,0
87,66,44,18,528.8,12.75,0.3,0
88,81,43,29,638.5,6.93,0.3,0
89,81,55,17,567.9,19.01,0.3,0
90,70,49,26,501.2,13.42,0.2,0
91,82,43,10,403.7,6.26,0.3,0
92,82,60,18,443.4,12.75,0.2,0
93,85,48,13,518.7,15.21,0.3,0
94,77,47,13,616,20.58,0.3,0
95,62,38,11,549.7,8.05,0.3,0
96,73,41,17,353.7,12.97,0.4,0
97,72,46,30,451.8,9.4,0.3,0
98,82,47,40,291.3,5.37,0.3,0
99,86,51,41,459.9,3.13,0.3,0
100,86,56,50,561,9.62,0.2,0
```

```
101,88,59,41,678.5,6.71,0.3,0
102,89,56,41,539.9,6.04,0.3,0
103,87,65,37,656.1,15.43,0.3,0
104,80,60,31,436.6,19.24,0.3,0
105,80,61,24,453.7,9.84,0.3,0
106,82,50,28,578.7,8.5,0.4,0
107,89,57,33,677.2,10.07,0.3,0
108,86,66,21,439.9,17,0.3,0
109,86,65,20,583.4,15.43,0.3,0
110,83,62,12,705.2,13.2,0.2,0
111,81,56,7,703.1,10.74,0.3,0
112,87,53,24,609.7,7.16,0.3,0
113,75,48,35,545.1,8.05,0.3,0
114,86,49,36,718.6,9.84,0.3,0
115,86,63,28,543.5,14.32,0.3,0
116,81,54,33,723.5,10.51,0.3,0
117,85,48,32,725.8,8.95,0.3,0
118,82,53,34,726,13.65,0.3,0
119,82,46,29,730.4,4.03,0.3,0
120,94,54,21,502.9,6.26,0.4,0
121,91,68,32,375,7.61,0.3,0
122,88,65,37,509.6,7.16,0.4,0
123,90,58,47,544.6,7.38,0.3,0
124,87,66,37,657.9,11.86,0.3,0
125,89,57,22,513,15.43,0.4,0
126,86,61,21,743.4,9.62,0.4,0
127,90,53,18,746.7,6.93,0.3,0
128,93,56,20,655.1,5.82,0.2,0
129,94,58,18,750.2,7.16,0.2,0
130,91,65,19,751.9,16.11,0.3,0
131,84,55,20,598.6,10.96,0.2,0
132,91,59,18,755.2,5.82,0.3,0
133,85,63,46,756.8,13.87,0.2,0
134,84,65,45,485.9,6.71,0.3,0
135,88,66,53,717.8,8.72,0.3,0
136,90,63,53,693.8,5.59,0.3,0
137,92,64,55,644.8,9.84,0.4,0.04
138,89,70,53,589.8,9.4,0.3,0
139,90,61,51,765.2,7.61,0.4,0
140,83,61,56,627.4,12.08,0.3,0.07
141,89,57,55,721.3,6.49,0.3,0
142,93,62,47,768.8,6.49,0.4,0
143,96,65,46,769.9,6.49,0.3,0
144,96,76,27,709.6,7.83,0.4,0
145,96,65,57,771.9,7.83,0.3,0
146,97,70,58,579.5,6.93,0.3,0
147,95,76,55,690.3,12.08,0.3,0
148,94,66,50,595.1,9.4,0.3,0
149,96,67,42,680.9,6.93,0.3,0
150,97,68,29,776.3,7.16,0.3,0
```

```
151,95,74,32,460.9,11.63,0.3,0
152,89,73,30,777.8,11.63,0.2,0
153,90,74,27,760.3,10.74,0.3,0
154,93,64,31,704.9,6.04,0.4,0
155,94,69,50,623.3,7.61,0.3,0
156,92,67,51,562.5,10.07,0.4,0
157,94,65,54,631.7,11.41,0.4,0.03
158,93,61,54,454.8,9.62,0.3,0
159,95,67,28,729.1,7.61,0.3,0
160,90,71,32,636.4,11.18,0.3,0
161,97,62,32,508.3,8.95,0.2,0
162,100,67,36,518.5,12.75,0.2,0
163,96,77,38,689.5,16.11,0.2,0
164,95,63,23,783,10.96,0.2,0
165,98,64,24,733.6,10.74,0.2,0
166,99,75,25,783.2,15.43,0.3,0
167,101,78,29,670.1,12.97,0.2,0
168,101,71,30,725.4,10.51,0.2,0
169,102,73,29,637.9,8.5,0.3,0
170,103,80,34,653.3,11.18,0.3,0
171,102,77,38,574.5,7.38,0.3,0
172,105,76,37,783.2,8.28,0.3,0
173,107,77,41,783,10.74,0.4,0
174,107,74,36,738.6,10.51,0.3,0
175,107,76,32,782.6,9.62,0.3,0
176,108,75,32,782.3,5.37,0.3,0
177,110,73,37,752.6,6.71,0.2,0
178,109,79,41,781.7,7.61,0.3,0
179,107,80,46,781.3,8.5,0.4,0
180,104,80,50,459.7,8.95,0.4,0
181,101,85,44,780.4,8.28,0.4,0
182,104,73,52,779.9,7.61,0.4,0
183,103,75,55,779.4,8.5,0.4,0
184,102,72,53,653.5,6.71,0.4,0
185,103,73,54,717.2,4.92,0.4,0
186,107,78,54,314.9,7.38,0.4,0
187,106,80,58,776.8,8.5,0.4,0
188,109,82,59,597.2,10.29,0.4,0
189,108,83,57,377.8,9.17,0.4,0
190,107,78,54,684.1,6.93,0.4,0
191,107,77,64,760.5,6.49,0.5,0.22
192,105,79,64,772.7,9.84,0.5,0.05
193,104,78,61,771.8,11.41,0.4,0
194,105,81,62,770.8,9.62,0.4,0.03
195,107,80,59,769.8,7.38,0.4,0
196,103,85,57,663.4,7.61,0.5,0
197,105,80,58,767.6,6.49,0.5,0
198,109,79,51,765,5.82,0.5,0
199,109,76,40,493.9,5.82,0.4,0
200,111,76,41,636.3,4.92,0.5,0
```

```
201,109,82,43,705.9,8.05,0.5,0
202,107,80,49,553.5,9.62,0.5,0
203,101,82,57,758.7,10.96,0.5,0
204,100,79,63,662.9,5.59,0.5,0
205,104,74,59,688.2,5.14,0.5,0
206,105,78,42,755.7,5.37,0.5,0
207,108,75,44,607,6.71,0.5,0
208,106,77,48,276.5,8.72,0.6,0
209,105,75,46,404.9,8.5,0.6,0
210,102,81,47,749.3,10.29,0.5,0
211,97,77,50,495.7,10.74,0.4,0
212,100,78,58,745.9,6.93,0.5,0
213,102,78,57,744.1,8.5,0.6,0
214,104,76,58,720.5,6.04,0.6,0
215,101,77,58,621.6,5.59,0.5,0
216,107,77,55,551.6,4.7,0.5,0
217,109,81,53,617.6,4.92,0.5,0
218,112,81,47,513.5,4.7,0.4,0
219,109,79,56,593.8,10.51,0.5,0
220,102,79,56,607.3,9.62,0.5,0
221,103,75,54,509.3,11.18,0.5,0.01
222,102,79,55,481.4,11.63,0.5,0
223,99,74,60,481.1,12.53,0.5,0
224,98,75,59,518.5,9.62,0.5,0
225,98,80,55,500.4,6.93,0.5,0
226,93,70,65,506.2,12.75,0.5,0.27
227,94,65,63,639.9,8.05,0.5,0.34
228,99,76,56,526.3,4.03,0.5,0
229,103,75,57,709.2,5.82,0.4,0
230,102,77,53,706.6,10.51,0.5,0
231,100,76,49,584,10.07,0.5,0
232,100,79,54,533,14.54,0.4,0
233,98,78,54,692.9,10.29,0.4,0
234,96,74,55,610.9,9.17,0.5,0
235,80,67,66,693.1,8.95,0.4,0.37
236,94,66,67,619.7,6.26,0.5,0
237,96,76,65,464.6,7.61,0.4,0
238,98,75,64,684.5,9.84,0.4,0
239,99,76,58,681.5,6.93,0.4,0
240,99,76,61,526,5.82,0.4,0
241,92,68,66,675.5,7.16,0.4,0.45
242,95,73,60,672.4,5.82,0.4,0
243,98,71,49,564.2,4.25,0.4,0
244,100,72,47,436.5,6.04,0.4,0
245,99,71,51,580.5,4.7,0.5,0
246,100,68,44,525.9,4.92,0.5,0
247,100,73,53,607.6,10.96,0.4,0
248,100,73,46,612.4,5.82,0.5,0
249,104,68,40,642.5,5.14,0.4,0
250,105,75,51,617,6.49,0.4,0
```

```
251,106,76,44,244.9,7.83,0.4,0
252,104,72,44,516.4,6.93,0.4,0
253,102,75,47,586.9,6.26,0.4,0
254,100,76,59,535.2,9.84,0.4,0.04
255,84,69,64,558.6,8.28,0.4,0.12
256,88,68,61,528.1,8.95,0.4,0
257,93,67,54,214.4,7.61,0.5,0
258,94,67,55,618,7.38,0.4,0
259,89,69,56,551.1,10.51,0.3,0
260,91,70,61,299.3,6.93,0.3,0.02
261,94,67,62,546.7,4.7,0.3,0
262,96,71,50,562.2,8.05,0.3,0
263,99,66,54,475.6,7.16,0.3,0
264,90,67,57,595.5,6.26,0.4,0
265,97,70,54,591.7,5.59,0.4,0
266,98,68,48,438.1,5.14,0.4,0
267,96,70,41,344.6,7.16,0.3,0
268,96,67,57,580.2,7.16,0.3,0
269,96,66,63,576.3,6.71,0.3,0.54
270,95,62,56,572.4,3.36,0.3,0
271,98,67,51,544.9,5.82,0.3,0
272,97,70,46,564.6,5.82,0.3,0
273,95,62,62,475.3,8.5,0.3,0.23
274,91,68,59,258.3,7.16,0.3,0
275,93,69,58,389,9.84,0.3,0
276,89,68,52,313.4,7.16,0.3,0
277,89,65,42,452,7.61,0.3,0
278,89,65,50,428.5,8.5,0.4,0
279,86,61,49,537,9.62,0.3,0
280,80,61,47,455.5,9.62,0.3,0
281,83,55,47,529.1,2.46,0.2,0
282,87,58,47,494.2,3.58,0.2,0
283,89,60,43,282,5.14,0.3,0
284,90,62,46,222.5,12.3,0.2,0
285,87,70,44,367.1,16.33,0.2,0
286,83,63,33,448.9,8.28,0.3,0
287,83,59,35,388.6,5.82,0.2,0
288,84,60,39,417.5,6.26,0.3,0
289,83,57,36,312,4.7,0.3,0
290,89,54,42,340.2,4.25,0.2,0
291,92,65,43,316.1,5.82,0.3,0
292,90,57,39,335.5,2.91,0.3,0
293,91,57,34,482.6,4.25,0.4,0
294,88,62,32,478.9,4.47,0.4,0
295,87,61,44,475.2,7.16,0.4,0
296,84,61,52,405.5,5.14,0.3,0
297,81,58,56,285.6,9.17,0.3,0.35
298,71,54,54,425.2,9.62,0.3,0
299,78,52,47,165.4,7.83,0.3,0
300,81,52,44,259.7,3.8,0.3,0
```

```
301,84,55,46,357.3,6.04,0.3,0
302,78,40,41,214.5,10.74,0.3,0
303,52,36,26,380.1,9.62,0.2,0
304,59,35,22,284.4,6.71,0.2,0
305,67,35,31,389.5,4.47,0.3,0
306,73,42,31,377.1,5.82,0.2,0
307,78,40,31,346.2,2.68,0.3,0
308,82,41,26,241.9,3.13,0.2,0
309,84,50,37,419.3,4.47,0.2,0
310,87,52,38,423.6,5.37,0.3,0
311,86,52,38,420.5,11.41,0.4,0
312,85,64,40,417.5,11.18,0.3,0
313,71,50,45,298.6,9.4,0.2,0.02
314,52,46,43,411.6,6.26,0.3,0.19
315,64,47,44,363.5,5.37,0.3,0
316,67,43,49,406,6.26,0.3,0
317,64,55,49,403.2,7.61,0.4,0
318,67,50,49,400.5,2.91,0.3,0
319,73,46,47,381.4,3.8,0.4,0
320,72,52,46,395.3,7.38,0.4,0
321,79,56,47,268.8,4.7,0.4,0
322,83,63,49,390.4,6.93,0.4,0
323,71,58,47,100.7,16.11,0.3,0
324,64,51,34,358,13.42,0.3,0
325,61,43,33,269.1,8.28,0.4,0
326,62,33,22,381.3,4.47,0.4,0
327,64,32,22,379.2,4.92,0.5,0
328,68,39,29,302.6,6.04,0.3,0
329,65,41,34,156,8.05,0.4,0
330,59,43,29,217.4,9.62,0.3,0
331,60,38,28,137.2,7.61,0.3,0
332,63,41,31,344.8,7.38,0.3,0
333,67,43,39,73.6,5.14,0.3,0
334,60,46,37,200.7,14.99,0.3,0.06
335,62,42,33,298.6,8.72,0.3,0
336,59,43,38,290.9,10.29,0.3,0.02
337,64,39,28,203.2,9.62,0.3,0
338,67,33,22,360.8,1.79,0.3,0
339,72,41,27,359.6,7.16,0.4,0
340,72,41,25,253.1,5.37,0.2,0
341,74,39,29,235.2,6.93,0.3,0
342,73,50,23,356.4,14.99,0.4,0
343,56,36,19,355.5,14.32,0.4,0
344,52,23,17,354.7,2.68,0.4,0
345,63,28,11,354,2.24,0.4,0
346,65,39,20,353.3,5.82,0.4,0
347,68,38,47,326.9,8.28,0.4,0
348,67,44,47,263.9,7.83,0.4,0
349,63,38,30,252.8,8.05,0.3,0
350,64,34,25,351.5,5.59,0.4,0
```

```
351,66,28,23,280.4,3.58,0.4,0
352,66,32,23,277.9,4.47,0.5,0
353,64,40,26,350.9,2.68,0.4,0
354,64,43,46,350.9,8.05,0.4,0.17
355,58,42,48,351,5.37,0.4,0
356,70,42,47,320.2,6.71,0.4,0
357,63,50,47,243.5,11.18,0.4,0.01
358,58,40,35,351.7,11.41,0.4,0
359,55,37,30,352.1,5.37,0.5,0
360,56,29,22,352.6,5.82,0.6,0
361,56,27,14,353.1,2.46,0.5,0
362,58,27,19,353.8,4.7,0.5,0
363,59,27,18,354.5,3.8,0.5,0
364,58,26,21,355.3,2.91,0.4,0
365,63,29,17,316.1,6.26,0.4,0
```

```
1,64,30,20,326.7,4.92,0.5,0
2,60,39,34,338.9,6.93,0.4,0
3,60,32,33,359.7,3.8,0.5,0
4,51,42,31,196.4,13.87,0.4,0
5,55,36,27,279.8,11.41,0.5,0
6,55,36,26,271,8.28,0.5,0
7,66,28,27,343.4,15.88,0.4,0.01
8,43,33,20,306.8,25.28,0.4,0
9,50,22,15,365.6,6.49,0.4,0
10,61,35,19,256.6,9.62,0.4,0
11,61,38,35,263.8,29.08,0.4,0.02
12,54,36,17,281.7,19.01,0.4,0
13,63,32,17,128.6,15.21,0.4,0
14,67,44,23,356.4,12.53,0.3,0
15,66,41,25,341.5,12.3,0.4,0
16,50,21,12,252.8,4.03,0.4,0
17,67,25,18,174.3,6.26,0.5,0
18,73,51,28,213.1,12.08,0.4,0
19,58,39,27,265.8,6.04,0.4,0
20,56,33,15,390.8,5.37,0.5,0
21,62,42,35,368.3,5.14,0.4,0
22,64,37,38,274.6,6.93,0.4,0
23,59,45,45,332.9,6.93,0.4,0.09
24,58,46,40,246.7,9.62,0.3,0
25,60,41,38,269,10.96,0.3,0
26,61,45,41,391.6,10.74,0.3,0.14
27,60,35,35,409.5,2.24,0.4,0
28,64,35,31,412.4,6.04,0.4,0
29,68,40,31,266.4,6.93,0.4,0
30,71,44,33,209.3,7.83,0.5,0
31,72,54,37,318.8,8.5,0.5,0
32,75,48,38,363.9,4.47,0.4,0
33,58,44,41,342.4,17.9,0.5,0.1
34,55,41,32,273.8,28.86,0.4,0
35,62,43,27,336.6,10.96,0.4,0
36,66,36,27,427.9,4.7,0.4,0
37,61,47,28,444.5,4.92,0.5,0
38,61,43,43,369,15.21,0.4,0.01
39,61,34,32,262.9,8.28,0.5,0
40,56,45,30,251.1,7.16,0.4,0
41,55,38,36,458.7,11.86,0.4,0.04
42,53,35,30,462.3,11.41,0.3,0
43,58,30,24,383.3,4.03,0.3,0
44,66,33,28,469.7,5.82,0.4,0
45,69,36,19,448.2,8.05,0.4,0
46,69,36,19,298.6,7.38,0.4,0
47,71,39,20,359.6,7.38,0.4,0
48,55,36,31,246.2,7.61,0.3,0
49,62,29,25,321.7,4.03,0.4,0
50,74,39,27,270.4,6.93,0.4,0
```

```
51,78,48,19,496.6,5.82,0.4,0
52,81,42,21,280.6,12.53,0.4,0
53,71,48,24,192.6,8.28,0.4,0
54,70,46,24,101.7,7.38,0.4,0
55,76,44,22,281.6,7.61,0.4,0
56,83,48,27,357.3,6.26,0.4,0
57,82,55,35,444,10.07,0.5,0
58,75,60,39,341.4,21.7,0.4,0
59,60,41,37,410.7,10.51,0.4,0.19
60,72,47,38,,7.61,0.4,0
61,76,48,33,438.7,11.86,0.5,0
62,76,52,17,536.5,12.3,0.4,0
63,72,47,32,340.6,9.84,0.3,0
64,72,50,29,544.7,9.4,0.3,0
65,73,54,24,272.8,12.3,0.3,0
66,70,52,31,360.5,15.43,0.3,0
67,64,46,33,556.9,12.08,0.4,0
68,61,41,31,531.3,5.82,0.4,0
69,67,39,25,520.2,4.47,0.5,0
70,75,42,30,448.7,4.7,0.4,0
71,77,53,22,364.7,10.29,0.3,0
72,77,51,29,202.4,15.88,0.3,0
73,74,47,29,581,6.49,0.4,0
74,67,48,36,511.3,15.88,0.4,0
75,69,49,41,429,7.61,0.3,0
76,70,47,42,134.9,7.83,0.3,0
77,60,50,45,356.2,14.32,0.4,0.03
78,72,52,41,600.8,4.92,0.4,0
79,71,51,38,383.6,10.51,0.4,0
80,75,53,38,250.9,15.43,0.4,0
81,79,50,32,594.4,6.26,0.3,0
82,82,54,23,616.2,11.41,0.3,0
83,68,47,34,620,26.62,0.3,0
84,60,42,32,490.4,19.91,0.3,0
85,61,42,34,535,13.87,0.4,0.01
86,68,42,31,330.3,11.41,0.4,0
87,82,41,22,528.8,6.26,0.3,0
88,84,64,19,638.5,17.67,0.3,0
89,77,58,22,567.9,8.72,0.3,0
90,74,55,36,501.2,7.61,0.2,0
91,63,47,39,403.7,15.88,0.3,0.02
92,65,47,37,443.4,6.04,0.2,0
93,76,39,31,518.7,4.7,0.3,0
94,83,44,19,616,6.49,0.3,0
95,81,51,23,549.7,9.17,0.3,0
96,65,51,32,353.7,21.25,0.4,0
97,72,38,16,451.8,6.71,0.3,0
98,79,43,13,291.3,6.26,0.3,0
99,66,49,35,459.9,10.51,0.3,0
100,80,41,33,561,5.14,0.2,0
```

```
101,84,47,21,678.5,4.47,0.3,0
102,85,60,22,539.9,8.28,0.3,0
103,87,55,27,656.1,7.16,0.3,0
104,87,62,32,436.6,10.51,0.3,0
105,87,62,17,453.7,20.8,0.3,0
106,81,52,18,578.7,8.05,0.4,0
107,88,50,16,677.2,7.61,0.3,0
108,90,57,20,439.9,8.72,0.3,0
109,87,60,42,583.4,7.61,0.3,0
110,81,55,46,705.2,7.61,0.2,0
111,73,50,41,703.1,9.62,0.3,0
112,86,51,47,609.7,4.7,0.3,0
113,92,64,41,545.1,8.5,0.3,0
114,91,65,29,718.6,10.29,0.3,0
115,87,68,24,543.5,19.46,0.3,0
116,83,60,30,723.5,17.67,0.3,0
117,77,63,25,725.8,17,0.3,0
118,81,55,31,726,9.62,0.3,0
119,85,55,28,730.4,5.14,0.3,0
120,91,56,21,502.9,7.61,0.4,0
121,91,66,20,375,12.3,0.3,0
122,88,69,25,509.6,11.18,0.4,0
123,90,63,23,544.6,8.5,0.3,0
124,91,60,25,657.9,7.16,0.3,0
125,91,60,54,513,9.62,0.4,0
126,87,67,25,743.4,17.67,0.4,0
127,89,62,24,746.7,15.88,0.3,0
128,89,70,24,655.1,15.21,0.2,0
129,88,68,27,750.2,12.75,0.2,0
130,87,63,51,751.9,10.07,0.3,0
131,92,63,53,598.6,11.63,0.2,0
132,86,61,43,755.2,11.63,0.3,0
133,90,62,25,756.8,5.82,0.2,0
134,93,59,26,485.9,6.71,0.3,0
135,93,70,30,717.8,12.97,0.3,0
136,86,67,40,693.8,10.96,0.3,0
137,91,56,43,644.8,7.61,0.4,0
138,97,66,28,589.8,7.61,0.3,0
139,97,73,25,765.2,11.86,0.4,0
140,99,73,25,627.4,14.99,0.3,0
141,93,73,33,721.3,11.63,0.3,0
142,94,66,23,768.8,13.2,0.4,0
143,93,65,9,769.9,14.54,0.3,0
144,93,73,9,709.6,11.41,0.4,0
145,96,72,18,771.9,22.59,0.3,0
146,94,69,27,579.5,9.17,0.3,0
147,99,61,19,690.3,9.17,0.3,0
148,101,63,23,595.1,8.28,0.3,0
149,99,71,57,680.9,8.95,0.3,0
150,98,70,14,776.3,8.95,0.3,0
```

```
151,99,73,35,460.9,6.71,0.3,0
152,100,68,61,777.8,7.83,0.2,0
153,98,68,49,760.3,12.08,0.3,0
154,99,75,17,704.9,12.97,0.4,0
155,98,76,27,623.3,14.54,0.3,0
156,105,71,32,562.5,5.59,0.4,0
157,108,73,39,631.7,6.71,0.4,0
158,107,80,44,454.8,8.72,0.3,0
159,104,80,42,729.1,13.87,0.3,0
160,98,80,45,636.4,12.3,0.3,0
161,96,70,52,508.3,8.95,0.2,0
162,102,69,49,518.5,5.82,0.2,0
163,106,76,59,689.5,4.92,0.2,0
164,109,76,48,783,5.82,0.2,0
165,107,81,47,733.6,8.95,0.2,0
166,104,79,54,783.2,6.04,0.3,0
167,106,74,26,670.1,9.4,0.2,0
168,103,80,35,725.4,13.65,0.2,0
169,101,78,36,637.9,8.95,0.3,0
170,106,74,64,653.3,11.63,0.3,0.07
171,90,74,63,574.5,18.34,0.3,0
172,93,74,66,783.2,14.32,0.3,0
173,99,74,60,783,7.38,0.4,0
174,103,76,62,738.6,7.16,0.3,0
175,105,79,54,782.6,6.26,0.3,0
176,108,82,54,782.3,6.93,0.3,0
177,108,80,62,752.6,8.5,0.2,0
178,98,78,63,781.7,8.72,0.3,0
179,104,81,60,781.3,5.82,0.4,0
180,108,84,56,459.7,10.51,0.4,0
181,99,75,67,780.4,9.84,0.4,0.64
182,100,73,65,779.9,8.95,0.4,0
183,103,73,68,779.4,10.07,0.4,0.24
184,96,73,67,653.5,5.82,0.4,0
185,99,80,64,717.2,6.71,0.4,0
186,103,73,63,314.9,9.62,0.4,0.9
187,98,69,63,776.8,6.04,0.4,0
188,105,75,58,597.2,5.14,0.4,0
189,91,77,57,377.8,12.53,0.4,0
190,99,75,58,684.1,9.62,0.4,0
191,99,74,56,760.5,8.95,0.5,0
192,98,73,53,772.7,8.28,0.5,0
193,98,76,53,771.8,10.07,0.4,0
194,98,74,49,770.8,7.61,0.4,0
195,100,77,58,769.8,7.38,0.4,0
196,101,76,59,663.4,7.38,0.5,0
197,103,78,57,767.6,6.93,0.5,0
198,101,76,57,765,9.4,0.5,0
199,92,77,60,493.9,10.51,0.4,0
200,98,73,60,636.3,6.93,0.5,0
```

```
201,102,73,61,705.9,8.05,0.5,0.02
202,90,70,65,553.5,10.74,0.5,0.02
203,88,68,65,758.7,10.29,0.5,0.15
204,93,68,63,662.9,7.83,0.5,0
205,96,71,54,688.2,3.8,0.5,0
206,99,74,51,755.7,5.37,0.5,0
207,100,74,52,607,6.71,0.5,0
208,101,79,56,276.5,6.71,0.6,0
209,104,80,61,404.9,9.84,0.6,0.01
210,103,76,62,749.3,6.93,0.5,0
211,104,81,58,495.7,8.28,0.4,0
212,99,81,60,745.9,15.66,0.5,0
213,102,78,61,744.1,5.59,0.6,0
214,105,80,57,720.5,8.72,0.6,0
215,102,78,52,621.6,6.93,0.5,0
216,103,79,58,551.6,6.26,0.5,0
217,100,75,58,617.6,8.95,0.5,0
218,99,73,56,513.5,4.7,0.4,0
219,99,77,56,593.8,5.82,0.5,0
220,104,79,58,607.3,4.92,0.5,0
221,99,79,57,509.3,12.75,0.5,0
222,99,78,56,481.4,6.71,0.5,0
223,103,76,52,481.1,5.82,0.5,0
224,104,80,55,518.5,11.41,0.5,0
225,99,75,61,500.4,7.61,0.5,0.03
226,98,76,63,506.2,3.13,0.5,0
227,104,78,62,639.9,6.93,0.5,0
228,105,76,58,526.3,6.04,0.5,0
229,105,81,55,709.2,9.4,0.4,0
230,103,80,55,706.6,7.38,0.5,0
231,104,79,56,584,8.5,0.5,0
232,102,78,54,533,5.82,0.4,0
233,103,78,55,692.9,7.83,0.4,0
234,103,79,56,610.9,9.4,0.5,0
235,103,79,52,693.1,6.71,0.4,0
236,101,73,53,619.7,6.71,0.5,0
237,101,77,54,464.6,7.38,0.4,0.02
238,98,69,66,684.5,10.07,0.4,0.14
239,85,68,65,681.5,9.4,0.4,0.39
240,91,75,63,526,4.92,0.4,0
241,96,71,61,675.5,6.04,0.4,0
242,94,72,63,672.4,9.4,0.4,0.02
243,87,71,62,564.2,8.28,0.4,0
244,85,70,59,436.5,7.61,0.4,0
245,78,65,64,580.5,8.72,0.5,0.47
246,83,62,59,525.9,5.59,0.5,0
247,87,66,60,607.6,5.37,0.4,0
248,90,68,62,612.4,8.5,0.5,0
249,88,70,58,642.5,10.51,0.4,0
250,88,69,56,617,8.72,0.4,0
```

```
251,88,66,51,244.9,8.05,0.4,0
252,89,61,47,516.4,5.82,0.4,0
253,93,62,41,586.9,2.24,0.4,0
254,97,65,37,535.2,5.82,0.4,0
255,98,68,37,558.6,8.28,0.4,0
256,98,73,51,528.1,8.05,0.4,0
257,98,77,54,214.4,6.93,0.5,0
258,95,70,53,618,8.28,0.4,0
259,96,71,59,551.1,6.49,0.3,0
260,97,74,58,299.3,7.16,0.3,0
261,95,70,49,546.7,4.92,0.3,0
262,97,67,47,562.2,4.03,0.3,0
263,98,74,61,475.6,4.25,0.3,0.03
264,96,71,54,595.5,9.4,0.4,0
265,90,66,50,591.7,7.38,0.4,0
266,90,62,57,438.1,5.59,0.4,0
267,94,68,59,344.6,4.47,0.3,0
268,93,69,49,580.2,7.83,0.3,0
269,94,66,50,576.3,2.68,0.3,0
270,100,68,45,572.4,3.13,0.3,0
271,96,68,43,544.9,7.16,0.3,0
272,93,68,43,564.6,5.37,0.3,0
273,96,62,39,475.3,4.03,0.3,0
274,88,65,37,258.3,10.29,0.3,0
275,89,64,44,389,4.25,0.3,0
276,93,62,40,313.4,5.37,0.3,0
277,91,64,40,452,8.72,0.3,0
278,89,59,44,428.5,3.8,0.4,0
279,96,63,42,537,6.93,0.3,0
280,90,63,48,455.5,6.93,0.3,0
281,88,61,48,529.1,3.36,0.2,0
282,92,61,42,494.2,3.13,0.2,0
283,93,61,36,282,2.91,0.3,0
284,94,63,33,222.5,2.91,0.2,0
285,94,62,32,367.1,4.7,0.2,0
286,91,61,27,448.9,5.59,0.3,0
287,90,58,29,388.6,4.25,0.2,0
288,90,64,32,417.5,3.8,0.3,0
289,79,62,35,312,11.63,0.3,0
290,79,62,52,340.2,8.05,0.2,0
291,83,60,53,316.1,10.96,0.3,0
292,82,58,56,335.5,8.05,0.3,0.05
293,87,59,55,482.6,7.16,0.4,0
294,84,57,45,478.9,6.71,0.4,0
295,88,57,37,475.2,8.5,0.4,0
296,91,59,37,405.5,5.59,0.3,0
297,93,57,36,285.6,5.82,0.3,0
298,85,56,35,425.2,6.71,0.3,0
299,89,59,40,165.4,4.25,0.3,0
300,91,59,38,259.7,4.47,0.3,0
```

```
301,91,59,32,357.3,7.38,0.3,0
302,86,64,38,214.5,16.55,0.3,0
303,73,48,40,380.1,9.17,0.2,0
304,75,48,21,284.4,6.04,0.2,0
305,81,50,33,389.5,6.71,0.3,0
306,80,52,44,377.1,7.61,0.2,0
307,74,52,50,346.2,14.54,0.3,0.14
308,59,42,40,241.9,13.87,0.2,0.01
309,65,38,36,419.3,7.83,0.2,0
310,74,43,40,423.6,8.28,0.3,0
311,56,45,43,420.5,11.86,0.4,0.12
312,57,38,39,417.5,4.03,0.3,0.06
313,65,33,33,298.6,3.58,0.2,0
314,71,37,32,411.6,4.47,0.3,0
315,76,45,34,363.5,5.59,0.3,0
316,78,44,35,406,9.4,0.3,0
317,70,42,21,403.2,9.17,0.4,0
318,75,40,21,400.5,5.59,0.3,0
319,81,44,29,381.4,7.38,0.4,0
320,78,54,28,395.3,11.18,0.4,0
321,63,47,50,268.8,10.51,0.4,0.37
322,60,45,40,390.4,15.21,0.4,0.02
323,65,46,30,100.7,10.07,0.3,0
324,65,42,31,358,7.16,0.3,0
325,69,41,33,269.1,4.7,0.4,0
326,70,39,32,381.3,3.36,0.4,0
327,72,40,32,379.2,4.7,0.5,0
328,76,50,32,302.6,6.49,0.3,0
329,76,53,28,156,7.83,0.4,0
330,77,45,33,217.4,6.71,0.3,0
331,76,56,35,137.2,10.07,0.3,0
332,63,46,35,344.8,5.59,0.3,0
333,59,40,34,73.6,3.8,0.3,0
334,64,43,32,200.7,3.8,0.3,0
335,69,41,26,298.6,6.49,0.3,0
336,69,45,38,290.9,7.83,0.3,0
337,64,45,46,203.2,6.04,0.3,0
338,69,45,46,360.8,6.04,0.3,0
339,63,49,40,359.6,11.63,0.4,0
340,53,47,45,253.1,8.5,0.2,0
341,60,44,40,235.2,6.04,0.3,0
342,67,44,39,356.4,11.63,0.4,0
343,67,50,25,355.5,11.86,0.4,0
344,55,30,17,354.7,10.51,0.4,0
345,55,23,7,354,3.58,0.4,0
346,52,33,10,353.3,4.92,0.4,0
347,67,32,28,326.9,5.82,0.4,0
348,66,34,17,263.9,3.13,0.4,0
349,69,35,18,252.8,5.82,0.3,0
350,69,38,16,351.5,5.82,0.4,0
```

```
351,68,31,17,280.4,5.14,0.4,0
352,64,41,22,277.9,9.17,0.5,0
353,67,37,23,350.9,5.82,0.4,0
354,67,37,21,350.9,4.7,0.4,0
355,67,38,25,351,3.58,0.4,0
356,69,31,26,320.2,4.92,0.4,0
357,72,36,18,243.5,4.7,0.4,0
358,68,39,23,351.7,4.7,0.4,0
359,70,38,26,352.1,10.96,0.5,0
360,61,38,25,352.6,9.4,0.6,0
361,66,39,24,353.1,12.75,0.5,0
362,67,45,23,353.8,9.4,0.5,0
363,70,35,23,354.5,6.49,0.5,0
364,76,54,21,355.3,9.4,0.4,0
365,71,40,14,316.1,11.08,0.4,0
```

APPENDIX III.I.1.B – UNSAT-H MODEL INPUT AND OUTPUT: NORMAL

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design
1,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                         IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                          UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,4.6,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,23.7,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
```

```
0,1,1,1,1,365,                                  LEAF,NFROOT,NUPTAK,NFPET,NSOW,NHRVST
0.2,                                            BARE
0.0,0.0,0.0,                                    AA,B1,B2
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,                                   HW,HD,HN
0.1,0.05,0.0,                                   HW,HD,HN
0.0,0.52,0.5,0.1,2.7,                           PETPC1,PETPC2,PETPC3,PETPC4,PETPC5
0.20,1234,0.5,875.0,                            ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1995.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

Initial Water Storage = 6.4909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.09064     0.09148     0.11152     0.07609
 Head (cm)         = 7.04973E+02 6.96597E+02 5.43311E+02 1.72394E+02
 LiqWater Flow (cm)=-3.30934E-01-2.96830E-01-1.85300E-01 1.40052E-01
 IsoVapor Flow (cm)=-2.35437E-06-9.10224E-07-1.40543E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1401 =    6.0191 vs.    6.0191

 Mass Balance = -4.9484E-05 cm;  Time step attempts =  219 and successes =  197
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04795     0.05164
 Head (cm)         = 1.32310E+06 1.95513E+05 1.97735E+03 5.25300E+02
 LiqWater Flow (cm)= 5.23751E-02 1.17400E-02-1.02339E-03 4.16114E-06
 IsoVapor Flow (cm)=-4.34634E-02-2.98159E-03-4.48495E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8359+ 0.0762+ 0.0000 - 0.0673- 0.0000-  0.0000 =    2.8448 vs.    2.8446

 Mass Balance =  1.3370E-04 cm;  Time step attempts = 1382 and successes = 1068
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0673 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   449
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.1660E+02     [cm]
Actual Evaporation                 =  1.8814E+01     [cm]
Evaporation during Growth          =  1.8814E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.5392E+01     [cm]
Total Basal Liquid Flux (drainage) =  2.1868E-01     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.5392E+01     [cm]
Actual Rainfall                    =  1.5392E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8446E+00     [cm]
Mass Balance Error                 =  6.0031E-03     [cm]
Total Successful Time Steps        =     57521
Total Attempted Time Steps         =     70351
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30386
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4216E+00	0.050	8.5530E+00	0.150	5.3339E+00
0.250	3.9850E+00	0.350	3.2012E+00	0.450	2.6445E+00
0.550	2.0839E+00	0.650	1.7436E+00	0.750	1.3917E+00
0.850	1.0897E+00	0.950	7.2371E-01	1.125	4.4810E-01
1.375	-1.6629E-01	1.625	-6.1738E-01	1.875	-9.0390E-01
2.250	-1.0926E+00	2.750	-1.4609E+00	3.250	-1.7134E+00
3.750	-1.9646E+00	4.250	-2.1095E+00	4.790	-2.2048E+00
6.350	-2.2550E+00	8.890	-2.4396E+00	11.430	-2.4155E+00
13.970	-2.3801E+00	16.510	-2.3243E+00	19.050	-2.1800E+00
21.590	-2.0289E+00	24.130	-1.8788E+00	26.670	-1.7295E+00
29.210	-1.5809E+00	31.750	-1.4328E+00	34.290	-1.2852E+00
36.830	-1.1381E+00	39.370	-9.9119E-01	41.910	-8.4460E-01
44.450	-6.9822E-01	46.990	-5.4946E-01	49.530	-4.0137E-01
52.070	-2.6876E-01	54.610	-1.2923E-01	57.150	1.0036E-02
59.690	1.4915E-01	60.960	2.1868E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1996.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.238E+06	0.0300	292.65
3	2.000E-01	1.159E+06	0.0300	292.65	4	3.000E-01	1.083E+06	0.0300	292.65
5	4.000E-01	1.012E+06	0.0300	292.65	6	5.000E-01	9.440E+05	0.0300	292.65
7	6.000E-01	8.793E+05	0.0300	292.65	8	7.000E-01	8.175E+05	0.0300	292.65
9	8.000E-01	7.583E+05	0.0300	292.65	10	9.000E-01	7.015E+05	0.0300	292.65
11	1.000E+00	6.470E+05	0.0300	292.65	12	1.250E+00	5.195E+05	0.0300	292.65
13	1.500E+00	4.028E+05	0.0300	292.65	14	1.750E+00	2.952E+05	0.0300	292.65
15	2.000E+00	1.955E+05	0.0301	292.65	16	2.500E+00	1.530E+04	0.0315	292.65
17	3.000E+00	4.914E+03	0.0360	292.65	18	3.500E+00	4.731E+03	0.0363	292.65
19	4.000E+00	4.769E+03	0.0363	292.65	20	4.500E+00	4.436E+03	0.0368	292.65
21	5.080E+00	3.894E+03	0.0380	292.65	22	7.620E+00	2.795E+03	0.0419	292.65
23	1.016E+01	2.481E+03	0.0437	292.65	24	1.270E+01	2.313E+03	0.0449	292.65
25	1.524E+01	2.207E+03	0.0457	292.65	26	1.778E+01	2.132E+03	0.0464	292.65
27	2.032E+01	2.078E+03	0.0469	292.65	28	2.286E+01	2.036E+03	0.0473	292.65
29	2.540E+01	2.003E+03	0.0477	292.65	30	2.794E+01	1.977E+03	0.0479	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.939E+03	0.0484	292.65
33	3.556E+01	1.925E+03	0.0485	292.65	34	3.810E+01	1.913E+03	0.0487	292.65
35	4.064E+01	1.904E+03	0.0488	292.65	36	4.318E+01	1.897E+03	0.0489	292.65
37	4.572E+01	1.892E+03	0.0489	292.65	38	4.826E+01	1.602E+03	0.0501	292.65
39	5.080E+01	5.861E+02	0.0512	292.65	40	5.334E+01	5.530E+02	0.0514	292.65
41	5.588E+01	5.364E+02	0.0516	292.65	42	5.842E+01	5.279E+02	0.0516	292.65
43	6.096E+01	5.253E+02	0.0516	292.65					

Initial Water Storage = 2.8446 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03005     0.04786     0.05163
 Head (cm)         = 6.46939E+05 2.64598E+05 1.98486E+03 5.25739E+02
 LiqWater Flow (cm)=-1.04353E-11-1.40322E-07-1.06432E-03 4.13257E-06
 IsoVapor Flow (cm)=-9.19674E-03-9.20291E-03-4.71421E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8446+ 0.0000+ 0.0000 - 0.0092- 0.0000-  0.0000 =    2.8354 vs.    2.8355

 Mass Balance = -2.7207E-05 cm;  Time step attempts =  103 and successes =   81
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0092 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    78

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04628     0.05093
 Head (cm)         = 1.37244E+06 9.76165E+05 2.14499E+03 6.58202E+02
 LiqWater Flow (cm)=-2.06547E-13-9.99673E-13-1.46826E-03 6.46714E-07
 IsoVapor Flow (cm)=-4.94573E-03-4.94516E-03-8.85352E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6965+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =    2.6915 vs.    2.6915

 Mass Balance =  2.1425E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3540E+02	[cm]
Actual Evaporation	=	2.1457E+01	[cm]
Evaporation during Growth	=	2.1452E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1311E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.0918E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1311E+01	[cm]
Actual Rainfall	=	2.1311E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.6915E+00	[cm]
Mass Balance Error	=	6.3878E-03	[cm]
Total Successful Time Steps	=	50967	
Total Attempted Time Steps	=	61488	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26469	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4610E-01	0.050	1.5303E+01	0.150	8.2999E+00
0.250	6.4493E+00	0.350	5.2358E+00	0.450	4.4320E+00
0.550	3.9595E+00	0.650	3.6295E+00	0.750	3.4465E+00
0.850	3.1397E+00	0.950	2.9979E+00	1.125	2.7912E+00
1.375	2.4272E+00	1.625	2.2129E+00	1.875	2.0704E+00
2.250	1.9183E+00	2.750	1.6150E+00	3.250	1.4752E+00
3.750	1.3252E+00	4.250	1.1923E+00	4.790	1.0949E+00
6.350	9.3450E-01	8.890	4.5841E-01	11.430	2.3411E-01
13.970	1.1022E-01	16.510	-2.1620E-02	19.050	-4.9194E-02
21.590	-4.3707E-02	24.130	-3.8701E-02	26.670	-3.4193E-02
29.210	-3.0100E-02	31.750	-2.6353E-02	34.290	-2.2883E-02
36.830	-1.9624E-02	39.370	-1.6531E-02	41.910	-1.3559E-02
44.450	-1.0664E-02	46.990	-5.9001E-03	49.530	-1.0519E-03
52.070	-5.0177E-03	54.610	-3.5985E-03	57.150	-1.9528E-03
59.690	-2.5020E-04	60.960	6.0918E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1997.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.305E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.262E+06	0.0300	292.65
7	6.000E-01	1.241E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.200E+06	0.0300	292.65	10	9.000E-01	1.180E+06	0.0300	292.65
11	1.000E+00	1.160E+06	0.0300	292.65	12	1.250E+00	1.112E+06	0.0300	292.65
13	1.500E+00	1.065E+06	0.0300	292.65	14	1.750E+00	1.020E+06	0.0300	292.65
15	2.000E+00	9.762E+05	0.0300	292.65	16	2.500E+00	8.926E+05	0.0300	292.65
17	3.000E+00	8.137E+05	0.0300	292.65	18	3.500E+00	7.392E+05	0.0300	292.65
19	4.000E+00	6.685E+05	0.0300	292.65	20	4.500E+00	6.013E+05	0.0300	292.65
21	5.080E+00	5.272E+05	0.0300	292.65	22	7.620E+00	2.423E+05	0.0301	292.65
23	1.016E+01	4.947E+03	0.0360	292.65	24	1.270E+01	3.058E+03	0.0406	292.65
25	1.524E+01	2.685E+03	0.0424	292.65	26	1.778E+01	2.486E+03	0.0436	292.65
27	2.032E+01	2.357E+03	0.0445	292.65	28	2.286E+01	2.265E+03	0.0453	292.65
29	2.540E+01	2.197E+03	0.0458	292.65	30	2.794E+01	2.145E+03	0.0463	292.65
31	3.048E+01	2.104E+03	0.0467	292.65	32	3.302E+01	2.072E+03	0.0470	292.65
33	3.556E+01	2.046E+03	0.0472	292.65	34	3.810E+01	2.026E+03	0.0474	292.65
35	4.064E+01	2.011E+03	0.0476	292.65	36	4.318E+01	2.000E+03	0.0477	292.65
37	4.572E+01	1.993E+03	0.0478	292.65	38	4.826E+01	1.736E+03	0.0501	292.65
39	5.080E+01	9.141E+02	0.0504	292.65	40	5.334E+01	7.279E+02	0.0507	292.65
41	5.588E+01	6.817E+02	0.0509	292.65	42	5.842E+01	6.634E+02	0.0509	292.65
43	6.096E+01	6.582E+02	0.0509	292.65					

Initial Water Storage = 2.6915 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04619     0.05093
 Head (cm)         = 1.39883E+06 9.92133E+05 2.15531E+03 6.58520E+02
 LiqWater Flow (cm)=-1.93373E-13-9.42340E-13-1.46981E-03 6.44141E-07
 IsoVapor Flow (cm)=-4.99903E-03-4.99863E-03-9.05855E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6915+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =    2.6865 vs.    2.6865

 Mass Balance =  1.2593E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.05124     0.07399     0.05058
 Head (cm)         = 5.55168E+05 1.71695E+03 9.28870E+02 7.97508E+02
 LiqWater Flow (cm)=-1.25591E-09-6.47971E-02-2.72442E-02 1.32651E-07
 IsoVapor Flow (cm)=-7.01576E-02-9.62803E-06-2.63151E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.0401+ 0.0000+ 0.0000 - 0.0702- 0.0000-  0.0000 =    3.9700 vs.    3.9700

 Mass Balance = -1.3438E-05 cm;  Time step attempts =  106 and successes =   84
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0702 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    65
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8279E+02	[cm]
Actual Evaporation	=	2.3170E+01	[cm]
Evaporation during Growth	=	2.3170E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4460E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.1399E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4460E+01	[cm]
Actual Rainfall	=	2.4460E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.9700E+00	[cm]
Mass Balance Error	=	1.1831E-02	[cm]
Total Successful Time Steps	=	81675	
Total Attempted Time Steps	=	102016	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	38109	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2904E+00	0.050	1.7795E+01	0.150	1.3673E+01
0.250	1.1751E+01	0.350	1.0355E+01	0.450	9.3016E+00
0.550	8.4322E+00	0.650	7.6790E+00	0.750	7.0336E+00
0.850	6.5895E+00	0.950	6.1165E+00	1.125	5.7004E+00
1.375	4.6234E+00	1.625	3.9974E+00	1.875	3.4912E+00
2.250	3.1282E+00	2.750	2.4964E+00	3.250	2.1583E+00
3.750	1.9172E+00	4.250	1.6718E+00	4.790	1.5194E+00
6.350	1.3664E+00	8.890	1.1405E+00	11.430	9.8696E-01
13.970	9.2072E-01	16.510	8.5501E-01	19.050	7.8865E-01
21.590	7.2133E-01	24.130	6.5296E-01	26.670	5.8352E-01
29.210	5.1306E-01	31.750	4.4167E-01	34.290	3.6941E-01
36.830	2.9636E-01	39.370	2.2263E-01	41.910	1.4829E-01
44.450	7.3438E-02	46.990	-1.2404E-03	49.530	1.5304E-06
52.070	-9.7184E-04	54.610	-1.3882E-03	57.150	-9.3634E-04
59.690	-2.5235E-04	60.960	1.1399E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1998.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.552E+05	0.0300	292.65	2	1.000E-01	3.917E+05	0.0300	292.65
3	2.000E-01	2.464E+05	0.0301	292.65	4	3.000E-01	1.160E+05	0.0301	292.65
5	4.000E-01	2.582E+03	0.0430	292.65	6	5.000E-01	2.438E+03	0.0440	292.65
7	6.000E-01	2.328E+03	0.0448	292.65	8	7.000E-01	2.240E+03	0.0455	292.65
9	8.000E-01	2.166E+03	0.0461	292.65	10	9.000E-01	2.102E+03	0.0467	292.65
11	1.000E+00	2.047E+03	0.0472	292.65	12	1.250E+00	1.934E+03	0.0484	292.65
13	1.500E+00	1.847E+03	0.0495	292.65	14	1.750E+00	1.776E+03	0.0504	292.65
15	2.000E+00	1.717E+03	0.0512	292.65	16	2.500E+00	1.623E+03	0.0527	292.65
17	3.000E+00	1.550E+03	0.0540	292.65	18	3.500E+00	1.491E+03	0.0551	292.65
19	4.000E+00	1.442E+03	0.0562	292.65	20	4.500E+00	1.400E+03	0.0571	292.65
21	5.080E+00	1.359E+03	0.0581	292.65	22	7.620E+00	1.230E+03	0.0616	292.65
23	1.016E+01	1.149E+03	0.0642	292.65	24	1.270E+01	1.092E+03	0.0664	292.65
25	1.524E+01	1.048E+03	0.0682	292.65	26	1.778E+01	1.014E+03	0.0697	292.65
27	2.032E+01	9.865E+02	0.0710	292.65	28	2.286E+01	9.638E+02	0.0721	292.65
29	2.540E+01	9.448E+02	0.0731	292.65	30	2.794E+01	9.289E+02	0.0740	292.65
31	3.048E+01	9.154E+02	0.0748	292.65	32	3.302E+01	9.041E+02	0.0754	292.65
33	3.556E+01	8.946E+02	0.0760	292.65	34	3.810E+01	8.867E+02	0.0765	292.65
35	4.064E+01	8.803E+02	0.0768	292.65	36	4.318E+01	8.753E+02	0.0772	292.65
37	4.572E+01	8.715E+02	0.0774	292.65	38	4.826E+01	8.608E+02	0.0505	292.65
39	5.080E+01	9.434E+02	0.0504	292.65	40	5.334E+01	8.844E+02	0.0504	292.65
41	5.588E+01	8.329E+02	0.0505	292.65	42	5.842E+01	8.059E+02	0.0506	292.65
43	6.096E+01	7.975E+02	0.0506	292.65					

Initial Water Storage = 3.9700 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.05000     0.07264     0.05058
 Head (cm)         = 3.72655E+05 1.80564E+03 9.53849E+02 7.97785E+02
 LiqWater Flow (cm)=-5.38177E-10-5.82323E-02-2.50070E-02 1.32272E-07
 IsoVapor Flow (cm)=-6.14426E-02-1.09375E-05-2.74933E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9700+ 0.0000+ 0.0000 - 0.0614- 0.0000-  0.0000 =    3.9085 vs.    3.9085

 Mass Balance = -2.8098E-06 cm;  Time step attempts =   37 and successes =   31
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0614 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05686     0.05035
 Head (cm)         = 9.19880E+05 2.45277E+05 1.41005E+03 9.73624E+02
 LiqWater Flow (cm)=-3.18818E-12-6.80523E-07-5.73186E-03 2.55715E-08
 IsoVapor Flow (cm)=-1.33579E-02-1.33419E-02-4.41930E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2124+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    3.1990 vs.    3.1990

 Mass Balance = -6.0264E-06 cm;  Time step attempts =   94 and successes =   90
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0134 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    85
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9981E+02	[cm]
Actual Evaporation	=	1.7959E+01	[cm]
Evaporation during Growth	=	1.7959E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.6652E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1990E+00	[cm]
Mass Balance Error	=	7.6198E-03	[cm]
Total Successful Time Steps	=	63438	
Total Attempted Time Steps	=	77938	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31495	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.6328E-01	0.050	1.1429E+01	0.150	8.2647E+00
0.250	7.1350E+00	0.350	6.1800E+00	0.450	5.4287E+00
0.550	4.9157E+00	0.650	4.4186E+00	0.750	3.9611E+00
0.850	3.6072E+00	0.950	3.2607E+00	1.125	2.9651E+00
1.375	2.2105E+00	1.625	1.7303E+00	1.875	1.3007E+00
2.250	1.0574E+00	2.750	5.7972E-01	3.250	2.9236E-01
3.750	5.5740E-02	4.250	-4.2571E-02	4.790	-1.0034E-01
6.350	-1.7476E-01	8.890	-3.5247E-01	11.430	-4.2850E-01
13.970	-4.6691E-01	16.510	-4.8928E-01	19.050	-4.9079E-01
21.590	-4.5036E-01	24.130	-4.0864E-01	26.670	-3.6600E-01
29.210	-3.2255E-01	31.750	-2.7840E-01	34.290	-2.3360E-01
36.830	-1.8825E-01	39.370	-1.4240E-01	41.910	-9.6115E-02
44.450	-4.9466E-02	46.990	-1.7710E-03	49.530	4.4838E-04
52.070	-1.3983E-04	54.610	-3.2787E-04	57.150	-3.1580E-04
59.690	-1.0951E-04	60.960	2.6652E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm1999.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	2	1.000E-01	8.770E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	4	3.000E-01	7.952E+05	0.0300	292.65
5	4.000E-01	7.560E+05	0.0300	292.65	6	5.000E-01	7.179E+05	0.0300	292.65
7	6.000E-01	6.808E+05	0.0300	292.65	8	7.000E-01	6.447E+05	0.0300	292.65
9	8.000E-01	6.095E+05	0.0300	292.65	10	9.000E-01	5.752E+05	0.0300	292.65
11	1.000E+00	5.417E+05	0.0300	292.65	12	1.250E+00	4.614E+05	0.0300	292.65
13	1.500E+00	3.856E+05	0.0300	292.65	14	1.750E+00	3.136E+05	0.0300	292.65
15	2.000E+00	2.453E+05	0.0301	292.65	16	2.500E+00	1.179E+05	0.0301	292.65
17	3.000E+00	3.052E+03	0.0407	292.65	18	3.500E+00	2.743E+03	0.0421	292.65
19	4.000E+00	2.548E+03	0.0432	292.65	20	4.500E+00	2.408E+03	0.0442	292.65
21	5.080E+00	2.286E+03	0.0451	292.65	22	7.620E+00	1.968E+03	0.0480	292.65
23	1.016E+01	1.800E+03	0.0501	292.65	24	1.270E+01	1.690E+03	0.0517	292.65
25	1.524E+01	1.611E+03	0.0529	292.65	26	1.778E+01	1.551E+03	0.0540	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.466E+03	0.0556	292.65
29	2.540E+01	1.436E+03	0.0563	292.65	30	2.794E+01	1.410E+03	0.0569	292.65
31	3.048E+01	1.389E+03	0.0573	292.65	32	3.302E+01	1.372E+03	0.0578	292.65
33	3.556E+01	1.357E+03	0.0581	292.65	34	3.810E+01	1.346E+03	0.0584	292.65
35	4.064E+01	1.337E+03	0.0586	292.65	36	4.318E+01	1.330E+03	0.0588	292.65
37	4.572E+01	1.325E+03	0.0589	292.65	38	4.826E+01	1.296E+03	0.0502	292.65
39	5.080E+01	1.019E+03	0.0503	292.65	40	5.334E+01	9.986E+02	0.0503	292.65
41	5.588E+01	9.984E+02	0.0503	292.65	42	5.842E+01	9.829E+02	0.0503	292.65
43	6.096E+01	9.736E+02	0.0503	292.65					

Initial Water Storage = 3.1990 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03004     0.05655     0.05035
 Head (cm)         = 1.35965E+06 3.27437E+05 1.42364E+03 9.73909E+02
 LiqWater Flow (cm)=-8.32675E-13-2.60138E-09-5.56906E-03 2.55092E-08
 IsoVapor Flow (cm)=-1.66486E-02-1.66281E-02-4.49810E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1990+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =    3.1824 vs.    3.1824

 Mass Balance = -4.9288E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04558     0.06596     0.05024
 Head (cm)         = 8.66730E+05 2.22598E+03 1.10238E+03 1.13576E+03
 LiqWater Flow (cm)=-1.67325E-11-3.86446E-02-1.10895E-02 7.16000E-09
 IsoVapor Flow (cm)=-4.20348E-02-1.95531E-05-2.65098E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6559+ 0.0000+ 0.0000 - 0.0420- 0.0000-  0.0000 =    3.6139 vs.    3.6139

 Mass Balance = -1.8123E-05 cm;  Time step attempts =  102 and successes =   79
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0420 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    79
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0082E+02	[cm]
Actual Evaporation	=	2.0305E+01	[cm]
Evaporation during Growth	=	2.0305E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.9662E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.6139E+00	[cm]
Mass Balance Error	=	6.5105E-03	[cm]
Total Successful Time Steps	=	49260	
Total Attempted Time Steps	=	59592	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25281	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.2139E-01	0.050	1.4096E+01	0.150	9.2845E+00
0.250	7.7256E+00	0.350	6.6492E+00	0.450	5.8424E+00
0.550	5.2020E+00	0.650	4.7766E+00	0.750	4.2826E+00
0.850	3.8464E+00	0.950	3.5936E+00	1.125	3.2904E+00
1.375	2.7010E+00	1.625	2.3325E+00	1.875	2.0691E+00
2.250	1.9375E+00	2.750	1.6728E+00	3.250	1.5410E+00
3.750	1.4371E+00	4.250	1.2958E+00	4.790	1.1884E+00
6.350	1.0046E+00	8.890	7.4586E-01	11.430	6.1642E-01
13.970	5.0334E-01	16.510	4.1794E-01	19.050	3.3936E-01
21.590	2.5820E-01	24.130	2.1142E-01	26.670	1.8800E-01
29.210	1.6466E-01	31.750	1.4126E-01	34.290	1.1779E-01
36.830	9.4233E-02	39.370	7.0603E-02	41.910	4.6898E-02
44.450	2.3103E-02	46.990	-5.0028E-06	49.530	5.3829E-04
52.070	3.0724E-05	54.610	-2.9751E-05	57.150	-4.4802E-05
59.690	-1.9052E-05	60.960	4.9662E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2000.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.511E+05	0.0300	292.65
3	2.000E-01	6.441E+05	0.0300	292.65	4	3.000E-01	5.450E+05	0.0300	292.65
5	4.000E-01	4.526E+05	0.0300	292.65	6	5.000E-01	3.659E+05	0.0300	292.65
7	6.000E-01	2.844E+05	0.0300	292.65	8	7.000E-01	2.074E+05	0.0301	292.65
9	8.000E-01	1.345E+05	0.0301	292.65	10	9.000E-01	6.528E+04	0.0303	292.65
11	1.000E+00	3.663E+03	0.0386	292.65	12	1.250E+00	2.876E+03	0.0415	292.65
13	1.500E+00	2.557E+03	0.0432	292.65	14	1.750E+00	2.363E+03	0.0445	292.65
15	2.000E+00	2.226E+03	0.0456	292.65	16	2.500E+00	2.038E+03	0.0473	292.65
17	3.000E+00	1.911E+03	0.0487	292.65	18	3.500E+00	1.816E+03	0.0499	292.65
19	4.000E+00	1.742E+03	0.0509	292.65	20	4.500E+00	1.681E+03	0.0518	292.65
21	5.080E+00	1.623E+03	0.0527	292.65	22	7.620E+00	1.453E+03	0.0559	292.65
23	1.016E+01	1.352E+03	0.0582	292.65	24	1.270E+01	1.283E+03	0.0600	292.65
25	1.524E+01	1.233E+03	0.0615	292.65	26	1.778E+01	1.194E+03	0.0627	292.65
27	2.032E+01	1.164E+03	0.0637	292.65	28	2.286E+01	1.139E+03	0.0646	292.65
29	2.540E+01	1.119E+03	0.0653	292.65	30	2.794E+01	1.102E+03	0.0660	292.65
31	3.048E+01	1.089E+03	0.0665	292.65	32	3.302E+01	1.077E+03	0.0670	292.65
33	3.556E+01	1.068E+03	0.0673	292.65	34	3.810E+01	1.060E+03	0.0677	292.65
35	4.064E+01	1.054E+03	0.0679	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.045E+03	0.0683	292.65	38	4.826E+01	1.037E+03	0.0503	292.65
39	5.080E+01	1.235E+03	0.0502	292.65	40	5.334E+01	1.141E+03	0.0502	292.65
41	5.588E+01	1.118E+03	0.0502	292.65	42	5.842E+01	1.129E+03	0.0502	292.65
43	6.096E+01	1.136E+03	0.0502	292.65					

Initial Water Storage = 3.6139 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04491     0.06522     0.05024
 Head (cm)         = 1.04627E+06 2.30896E+03 1.12200E+03 1.13548E+03
 LiqWater Flow (cm)=-6.00077E-12-3.37137E-02-1.16958E-02 7.17472E-09
 IsoVapor Flow (cm)=-3.60676E-02-2.12870E-05-2.97586E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6139+ 0.0000+ 0.0000 - 0.0361- 0.0000-  0.0000 =    3.5778 vs.    3.5779

 Mass Balance = -1.1454E-05 cm;  Time step attempts =   74 and successes =   59
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0361 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05566     0.05020
 Head (cm)         = 8.48906E+05 1.36533E+05 1.46520E+03 1.22725E+03
 LiqWater Flow (cm)=-5.05373E-12-2.08012E-04-4.32763E-03 3.78323E-09
 IsoVapor Flow (cm)=-1.46930E-02-1.44844E-02-4.12622E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1727+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =    3.1581 vs.    3.1581

 Mass Balance = -2.7162E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0228E+02	[cm]
Actual Evaporation	=	1.9269E+01	[cm]
Evaporation during Growth	=	1.9255E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7750E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1581E+00	[cm]
Mass Balance Error	=	7.9892E-03	[cm]
Total Successful Time Steps	=	60369	
Total Attempted Time Steps	=	73990	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30877	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4787E-01	0.050	1.3790E+01	0.150	9.2170E+00
0.250	7.9422E+00	0.350	7.0846E+00	0.450	6.2951E+00
0.550	5.7758E+00	0.650	5.3168E+00	0.750	4.7933E+00
0.850	4.3870E+00	0.950	4.1347E+00	1.125	3.8738E+00
1.375	3.0384E+00	1.625	2.5022E+00	1.875	1.9957E+00
2.250	1.7168E+00	2.750	1.1506E+00	3.250	7.2996E-01
3.750	5.8479E-01	4.250	4.2780E-01	4.790	2.9940E-01
6.350	1.8255E-01	8.890	-1.0399E-01	11.430	-2.4825E-01
13.970	-2.9196E-01	16.510	-3.1574E-01	19.050	-2.9196E-01
21.590	-2.6731E-01	24.130	-2.4208E-01	26.670	-2.1639E-01
29.210	-1.9030E-01	31.750	-1.6389E-01	34.290	-1.3720E-01
36.830	-1.1027E-01	39.370	-8.3143E-02	41.910	-5.5835E-02
44.450	-2.8371E-02	46.990	-4.1043E-04	49.530	6.4138E-04
52.070	3.9823E-05	54.610	-5.4667E-06	57.150	-7.2319E-06
59.690	-1.8881E-06	60.960	1.7750E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2001.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	2	1.000E-01	8.031E+05	0.0300	292.65
3	2.000E-01	7.587E+05	0.0300	292.65	4	3.000E-01	7.157E+05	0.0300	292.65
5	4.000E-01	6.740E+05	0.0300	292.65	6	5.000E-01	6.335E+05	0.0300	292.65
7	6.000E-01	5.942E+05	0.0300	292.65	8	7.000E-01	5.559E+05	0.0300	292.65
9	8.000E-01	5.187E+05	0.0300	292.65	10	9.000E-01	4.825E+05	0.0300	292.65
11	1.000E+00	4.472E+05	0.0300	292.65	12	1.250E+00	3.628E+05	0.0300	292.65
13	1.500E+00	2.832E+05	0.0300	292.65	14	1.750E+00	2.079E+05	0.0301	292.65
15	2.000E+00	1.365E+05	0.0301	292.65	16	2.500E+00	3.984E+03	0.0378	292.65
17	3.000E+00	3.113E+03	0.0404	292.65	18	3.500E+00	2.772E+03	0.0420	292.65
19	4.000E+00	2.568E+03	0.0431	292.65	20	4.500E+00	2.424E+03	0.0441	292.65
21	5.080E+00	2.301E+03	0.0450	292.65	22	7.620E+00	1.992E+03	0.0478	292.65
23	1.016E+01	1.831E+03	0.0497	292.65	24	1.270E+01	1.727E+03	0.0511	292.65
25	1.524E+01	1.653E+03	0.0522	292.65	26	1.778E+01	1.597E+03	0.0532	292.65
27	2.032E+01	1.553E+03	0.0539	292.65	28	2.286E+01	1.518E+03	0.0546	292.65
29	2.540E+01	1.489E+03	0.0552	292.65	30	2.794E+01	1.465E+03	0.0557	292.65
31	3.048E+01	1.445E+03	0.0561	292.65	32	3.302E+01	1.429E+03	0.0564	292.65
33	3.556E+01	1.416E+03	0.0567	292.65	34	3.810E+01	1.405E+03	0.0570	292.65
35	4.064E+01	1.396E+03	0.0572	292.65	36	4.318E+01	1.390E+03	0.0573	292.65
37	4.572E+01	1.385E+03	0.0574	292.65	38	4.826E+01	1.362E+03	0.0502	292.65
39	5.080E+01	1.249E+03	0.0502	292.65	40	5.334E+01	1.231E+03	0.0502	292.65
41	5.588E+01	1.230E+03	0.0502	292.65	42	5.842E+01	1.228E+03	0.0502	292.65
43	6.096E+01	1.227E+03	0.0502	292.65					

Initial Water Storage = 3.1581 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05541     0.05020
 Head (cm)         = 8.74418E+05 1.41905E+05 1.47744E+03 1.22731E+03
 LiqWater Flow (cm)=-4.53698E-12-1.03361E-04-4.30247E-03 3.78171E-09
 IsoVapor Flow (cm)=-1.49669E-02-1.48596E-02-4.25620E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1581+ 0.0000+ 0.0000 - 0.0150- 0.0000-  0.0000 =    3.1431 vs.    3.1431

 Mass Balance = -6.6952E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0150 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04464     0.04900     0.05011
 Head (cm)         = 8.82736E+05 2.34469E+03 1.88501E+03 1.54402E+03
 LiqWater Flow (cm)= 1.69846E-01 9.42150E-02-1.98821E-03 5.69678E-10
 IsoVapor Flow (cm)=-5.79369E-02 1.82264E-04-6.44867E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8341+ 0.2032+ 0.0000 - 0.0913- 0.0000-  0.0000 =    2.9460 vs.    2.9456

 Mass Balance =  4.5777E-04 cm;  Time step attempts = 1811 and successes = 1382
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0913 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   325
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0416E+02	[cm]
Actual Evaporation	=	1.1101E+01	[cm]
Evaporation during Growth	=	1.1101E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7343E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9456E+00	[cm]
Mass Balance Error	=	7.5948E-03	[cm]
Total Successful Time Steps	=	61541	
Total Attempted Time Steps	=	76196	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31424	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.0488E-01	0.050	8.2830E+00	0.150	6.5620E+00
0.250	5.9107E+00	0.350	5.4484E+00	0.450	5.0285E+00
0.550	4.6886E+00	0.650	4.3356E+00	0.750	4.1038E+00
0.850	3.8920E+00	0.950	3.7253E+00	1.125	3.5500E+00
1.375	3.0756E+00	1.625	2.8258E+00	1.875	2.5772E+00
2.250	2.3776E+00	2.750	1.9976E+00	3.250	1.6936E+00
3.750	1.4480E+00	4.250	1.1336E+00	4.790	8.9895E-01
6.350	6.1827E-01	8.890	3.5760E-02	11.430	-1.3507E-01
13.970	-2.2022E-01	16.510	-2.0491E-01	19.050	-1.8883E-01
21.590	-1.7250E-01	24.130	-1.5597E-01	26.670	-1.3926E-01
29.210	-1.2241E-01	31.750	-1.0543E-01	34.290	-8.8307E-02
36.830	-7.1069E-02	39.370	-5.3727E-02	41.910	-3.6289E-02
44.450	-1.8763E-02	46.990	-6.6172E-04	49.530	1.3729E-05
52.070	-7.0077E-06	54.610	-8.2532E-06	57.150	-6.5131E-06
59.690	-2.1460E-06	60.960	6.7343E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2002.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.667E+04	0.0302	292.65	10	9.000E-01	4.341E+03	0.0370	292.65
11	1.000E+00	3.540E+03	0.0389	292.65	12	1.250E+00	2.899E+03	0.0414	292.65
13	1.500E+00	2.626E+03	0.0428	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.345E+03	0.0446	292.65	16	2.500E+00	2.192E+03	0.0459	292.65
17	3.000E+00	2.097E+03	0.0467	292.65	18	3.500E+00	2.034E+03	0.0473	292.65
19	4.000E+00	1.993E+03	0.0478	292.65	20	4.500E+00	1.966E+03	0.0481	292.65
21	5.080E+00	1.951E+03	0.0482	292.65	22	7.620E+00	2.040E+03	0.0473	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.280E+03	0.0451	292.65
25	1.524E+01	2.193E+03	0.0459	292.65	26	1.778E+01	2.100E+03	0.0467	292.65
27	2.032E+01	2.026E+03	0.0474	292.65	28	2.286E+01	1.968E+03	0.0480	292.65
29	2.540E+01	1.922E+03	0.0486	292.65	30	2.794E+01	1.885E+03	0.0490	292.65
31	3.048E+01	1.855E+03	0.0494	292.65	32	3.302E+01	1.831E+03	0.0497	292.65
33	3.556E+01	1.811E+03	0.0499	292.65	34	3.810E+01	1.795E+03	0.0501	292.65
35	4.064E+01	1.783E+03	0.0503	292.65	36	4.318E+01	1.775E+03	0.0504	292.65
37	4.572E+01	1.769E+03	0.0505	292.65	38	4.826E+01	1.727E+03	0.0501	292.65
39	5.080E+01	1.629E+03	0.0501	292.65	40	5.334E+01	1.583E+03	0.0501	292.65
41	5.588E+01	1.560E+03	0.0501	292.65	42	5.842E+01	1.548E+03	0.0501	292.65
43	6.096E+01	1.544E+03	0.0501	292.65					

Initial Water Storage = 2.9456 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04044     0.04889     0.05011
 Head (cm)         = 4.99787E+05 3.10879E+03 1.89439E+03 1.54447E+03
 LiqWater Flow (cm)=-1.02167E-10-1.49731E-02-1.97279E-03 5.68307E-10
 IsoVapor Flow (cm)=-2.30510E-02-2.46817E-05-6.55152E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9456+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =    2.9225 vs.    2.9225

 Mass Balance = -2.0511E-05 cm;  Time step attempts =  130 and successes =  108
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   106

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.07316     0.05012
 Head (cm)         = 8.15596E+05 1.79425E+03 9.44111E+02 1.48670E+03
 LiqWater Flow (cm)=-3.72389E-11-5.97659E-02-2.62037E-02 7.75130E-10
 IsoVapor Flow (cm)=-5.99088E-02-1.16725E-05-2.72928E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9826+ 0.0000+ 0.0000 - 0.0599- 0.0000-  0.0000 =    3.9227 vs.    3.9227

 Mass Balance = -1.0969E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0599 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0470E+02	[cm]
Actual Evaporation	=	1.6515E+01	[cm]
Evaporation during Growth	=	1.6515E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.8946E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.9227E+00	[cm]
Mass Balance Error	=	8.0348E-03	[cm]
Total Successful Time Steps	=	60109	
Total Attempted Time Steps	=	73676	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30270	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.8518E-01	0.050	1.2313E+01	0.150	9.4304E+00
0.250	8.5348E+00	0.350	7.8240E+00	0.450	7.3196E+00
0.550	6.8618E+00	0.650	6.3546E+00	0.750	5.8116E+00
0.850	5.3160E+00	0.950	5.0528E+00	1.125	4.7842E+00
1.375	4.2036E+00	1.625	3.8071E+00	1.875	3.4933E+00
2.250	3.2140E+00	2.750	2.6954E+00	3.250	2.3251E+00
3.750	2.0780E+00	4.250	1.8400E+00	4.790	1.7359E+00
6.350	1.5867E+00	8.890	1.2521E+00	11.430	1.0246E+00
13.970	8.7760E-01	16.510	7.5010E-01	19.050	6.9241E-01
21.590	6.3439E-01	24.130	5.7517E-01	26.670	5.1479E-01
29.210	4.5333E-01	31.750	3.9090E-01	34.290	3.2760E-01
36.830	2.6353E-01	39.370	1.9880E-01	41.910	1.3349E-01
44.450	6.7693E-02	46.990	1.7328E-03	49.530	1.0438E-04
52.070	9.3589E-06	54.610	2.8122E-06	57.150	9.9961E-07
59.690	3.5831E-07	60.960	1.8946E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2003.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.414E+05	0.0300	292.65
3	2.000E-01	4.868E+05	0.0300	292.65	4	3.000E-01	3.478E+05	0.0300	292.65
5	4.000E-01	2.215E+05	0.0301	292.65	6	5.000E-01	1.058E+05	0.0302	292.65
7	6.000E-01	2.719E+03	0.0423	292.65	8	7.000E-01	2.542E+03	0.0433	292.65
9	8.000E-01	2.411E+03	0.0442	292.65	10	9.000E-01	2.308E+03	0.0449	292.65
11	1.000E+00	2.224E+03	0.0456	292.65	12	1.250E+00	2.066E+03	0.0470	292.65
13	1.500E+00	1.952E+03	0.0482	292.65	14	1.750E+00	1.865E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.685E+03	0.0517	292.65
17	3.000E+00	1.603E+03	0.0530	292.65	18	3.500E+00	1.539E+03	0.0542	292.65
19	4.000E+00	1.485E+03	0.0552	292.65	20	4.500E+00	1.440E+03	0.0562	292.65
21	5.080E+00	1.396E+03	0.0572	292.65	22	7.620E+00	1.260E+03	0.0607	292.65
23	1.016E+01	1.174E+03	0.0634	292.65	24	1.270E+01	1.114E+03	0.0655	292.65
25	1.524E+01	1.069E+03	0.0673	292.65	26	1.778E+01	1.033E+03	0.0688	292.65
27	2.032E+01	1.004E+03	0.0701	292.65	28	2.286E+01	9.804E+02	0.0713	292.65
29	2.540E+01	9.606E+02	0.0723	292.65	30	2.794E+01	9.441E+02	0.0732	292.65
31	3.048E+01	9.302E+02	0.0739	292.65	32	3.302E+01	9.185E+02	0.0746	292.65
33	3.556E+01	9.087E+02	0.0751	292.65	34	3.810E+01	9.007E+02	0.0756	292.65
35	4.064E+01	8.941E+02	0.0760	292.65	36	4.318E+01	8.889E+02	0.0763	292.65
37	4.572E+01	8.851E+02	0.0766	292.65	38	4.826E+01	8.748E+02	0.0505	292.65
39	5.080E+01	1.185E+03	0.0502	292.65	40	5.334E+01	1.360E+03	0.0502	292.65
41	5.588E+01	1.440E+03	0.0501	292.65	42	5.842E+01	1.476E+03	0.0501	292.65
43	6.096E+01	1.487E+03	0.0501	292.65					

Initial Water Storage = 3.9227 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04804     0.07187     0.05012
 Head (cm)         = 1.31147E+06 1.96913E+03 9.68844E+02 1.48562E+03
 LiqWater Flow (cm)=-5.45174E-12-5.75570E-02-2.40460E-02 7.79741E-10
 IsoVapor Flow (cm)=-6.56139E-02-1.54583E-05-2.84470E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9227+ 0.0000+ 0.0000 - 0.0656- 0.0000-  0.0000 =    3.8571 vs.    3.8571

 Mass Balance = -3.5469E-05 cm;  Time step attempts =  189 and successes =  145
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0656 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   145

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04876     0.05010
 Head (cm)         = 2.20848E+06 1.23333E+06 1.90527E+03 1.57860E+03
 LiqWater Flow (cm)=-6.03901E-14-7.02484E-13-2.21993E-03 4.74343E-10
 IsoVapor Flow (cm)=-8.33690E-03-8.33663E-03-7.45309E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8070+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.7987 vs.    2.7987

 Mass Balance = -4.3809E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.2069E+02     [cm]
Actual Evaporation                 =  1.1811E+01     [cm]
Evaporation during Growth          =  1.1811E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.0693E+01     [cm]
Total Basal Liquid Flux (drainage) =  4.0777E-07     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.0693E+01     [cm]
Actual Rainfall                    =  1.0693E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.7987E+00     [cm]
Mass Balance Error                 =  6.9012E-03     [cm]
Total Successful Time Steps        =     58851
Total Attempted Time Steps         =     72478
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31350
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1171E+00	0.050	8.1387E+00	0.150	6.8730E+00
0.250	5.8920E+00	0.350	5.4591E+00	0.450	5.0176E+00
0.550	4.6325E+00	0.650	4.4048E+00	0.750	4.1812E+00
0.850	3.8716E+00	0.950	3.4818E+00	1.125	3.2178E+00
1.375	2.7133E+00	1.625	2.2174E+00	1.875	1.8604E+00
2.250	1.5131E+00	2.750	9.4054E-01	3.250	5.7947E-01
3.750	3.3322E-01	4.250	1.6185E-01	4.790	-3.5484E-02
6.350	-2.3036E-01	8.890	-6.5524E-01	11.430	-7.7073E-01
13.970	-8.0941E-01	16.510	-7.5379E-01	19.050	-6.9637E-01
21.590	-6.3767E-01	24.130	-5.7781E-01	26.670	-5.1687E-01
29.210	-4.5495E-01	31.750	-3.9215E-01	34.290	-3.2855E-01
36.830	-2.6423E-01	39.370	-1.9929E-01	41.910	-1.3380E-01
44.450	-6.7844E-02	46.990	-1.2262E-03	49.530	8.6885E-05
52.070	8.8971E-06	54.610	2.5161E-06	57.150	5.7301E-07
59.690	2.8313E-07	60.960	4.0777E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2004.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.012E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.638E+06	0.0300	292.65	12	1.250E+00	1.525E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.324E+06	0.0300	292.65
15	2.000E+00	1.233E+06	0.0300	292.65	16	2.500E+00	1.068E+06	0.0300	292.65
17	3.000E+00	9.208E+05	0.0300	292.65	18	3.500E+00	7.879E+05	0.0300	292.65
19	4.000E+00	6.668E+05	0.0300	292.65	20	4.500E+00	5.555E+05	0.0300	292.65
21	5.080E+00	4.368E+05	0.0300	292.65	22	7.620E+00	8.161E+03	0.0333	292.65
23	1.016E+01	2.805E+03	0.0418	292.65	24	1.270E+01	2.482E+03	0.0437	292.65
25	1.524E+01	2.291E+03	0.0450	292.65	26	1.778E+01	2.164E+03	0.0461	292.65
27	2.032E+01	2.072E+03	0.0470	292.65	28	2.286E+01	2.003E+03	0.0477	292.65
29	2.540E+01	1.948E+03	0.0483	292.65	30	2.794E+01	1.905E+03	0.0488	292.65
31	3.048E+01	1.871E+03	0.0492	292.65	32	3.302E+01	1.843E+03	0.0495	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.803E+03	0.0500	292.65
35	4.064E+01	1.790E+03	0.0502	292.65	36	4.318E+01	1.780E+03	0.0503	292.65
37	4.572E+01	1.774E+03	0.0504	292.65	38	4.826E+01	1.730E+03	0.0501	292.65
39	5.080E+01	1.634E+03	0.0501	292.65	40	5.334E+01	1.599E+03	0.0501	292.65
41	5.588E+01	1.587E+03	0.0501	292.65	42	5.842E+01	1.581E+03	0.0501	292.65
43	6.096E+01	1.579E+03	0.0501	292.65					

Initial Water Storage = 2.7987 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04864     0.05010
 Head (cm)         = 8.54706E+05 5.78860E+05 1.91576E+03 1.57890E+03
 LiqWater Flow (cm)=-1.47709E-12-1.03590E-11-2.18952E-03 4.73594E-10
 IsoVapor Flow (cm)=-4.74133E-03-4.76431E-03-7.54881E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7987+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =    2.7939 vs.    2.7939

 Mass Balance = -6.6750E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04154     0.05920     0.05026
 Head (cm)         = 5.47835E+05 2.85906E+03 1.31418E+03 1.09478E+03
 LiqWater Flow (cm)=-3.92395E-11-1.54343E-02-7.49488E-03 9.64090E-09
 IsoVapor Flow (cm)=-1.51909E-02-3.17686E-05-4.07197E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3330+ 0.0000+ 0.0000 - 0.0152- 0.0000-  0.0000 =    3.3178 vs.    3.3178

 Mass Balance = -3.4530E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0152 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9889E+02	[cm]
Actual Evaporation	=	3.0460E+01	[cm]
Evaporation during Growth	=	3.0445E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0988E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.6258E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0988E+01	[cm]
Actual Rainfall	=	3.0988E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3178E+00	[cm]
Mass Balance Error	=	8.5157E-03	[cm]
Total Successful Time Steps	=	55326	
Total Attempted Time Steps	=	67735	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26759	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.2762E-01	0.050	1.8751E+01	0.150	1.2580E+01
0.250	1.0738E+01	0.350	8.9341E+00	0.450	7.9781E+00
0.550	7.1826E+00	0.650	6.2100E+00	0.750	5.7581E+00
0.850	5.4258E+00	0.950	5.0525E+00	1.125	4.6271E+00
1.375	4.0184E+00	1.625	3.3488E+00	1.875	2.7157E+00
2.250	2.3008E+00	2.750	1.7181E+00	3.250	1.4196E+00
3.750	1.1969E+00	4.250	1.0548E+00	4.790	8.7744E-01
6.350	7.4422E-01	8.890	5.4986E-01	11.430	3.8105E-01
13.970	3.5384E-01	16.510	3.2805E-01	19.050	3.0229E-01
21.590	2.7640E-01	24.130	2.5028E-01	26.670	2.2390E-01
29.210	1.9725E-01	31.750	1.7036E-01	34.290	1.4323E-01
36.830	1.1587E-01	39.370	8.8301E-02	41.910	6.0553E-02
44.450	3.2642E-02	46.990	4.6758E-03	49.530	4.5062E-03
52.070	1.8701E-03	54.610	4.4094E-04	57.150	7.4566E-05
59.690	1.2860E-05	60.960	6.6258E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2005.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.095E+05	0.0300	292.65
3	2.000E-01	4.723E+05	0.0300	292.65	4	3.000E-01	4.360E+05	0.0300	292.65
5	4.000E-01	4.007E+05	0.0300	292.65	6	5.000E-01	3.662E+05	0.0300	292.65
7	6.000E-01	3.326E+05	0.0300	292.65	8	7.000E-01	2.998E+05	0.0300	292.65
9	8.000E-01	2.677E+05	0.0300	292.65	10	9.000E-01	2.364E+05	0.0301	292.65
11	1.000E+00	2.058E+05	0.0301	292.65	12	1.250E+00	1.320E+05	0.0301	292.65
13	1.500E+00	6.199E+04	0.0303	292.65	14	1.750E+00	3.064E+03	0.0406	292.65
15	2.000E+00	2.859E+03	0.0415	292.65	16	2.500E+00	2.589E+03	0.0430	292.65
17	3.000E+00	2.412E+03	0.0441	292.65	18	3.500E+00	2.283E+03	0.0451	292.65
19	4.000E+00	2.182E+03	0.0460	292.65	20	4.500E+00	2.100E+03	0.0467	292.65
21	5.080E+00	2.022E+03	0.0475	292.65	22	7.620E+00	1.793E+03	0.0502	292.65
23	1.016E+01	1.657E+03	0.0522	292.65	24	1.270E+01	1.564E+03	0.0537	292.65
25	1.524E+01	1.496E+03	0.0550	292.65	26	1.778E+01	1.443E+03	0.0561	292.65
27	2.032E+01	1.400E+03	0.0571	292.65	28	2.286E+01	1.366E+03	0.0579	292.65
29	2.540E+01	1.338E+03	0.0586	292.65	30	2.794E+01	1.314E+03	0.0592	292.65
31	3.048E+01	1.295E+03	0.0597	292.65	32	3.302E+01	1.278E+03	0.0602	292.65
33	3.556E+01	1.265E+03	0.0606	292.65	34	3.810E+01	1.254E+03	0.0609	292.65
35	4.064E+01	1.246E+03	0.0611	292.65	36	4.318E+01	1.239E+03	0.0613	292.65
37	4.572E+01	1.235E+03	0.0614	292.65	38	4.826E+01	1.202E+03	0.0502	292.65
39	5.080E+01	7.460E+02	0.0507	292.65	40	5.334E+01	7.758E+02	0.0506	292.65
41	5.588E+01	9.195E+02	0.0504	292.65	42	5.842E+01	1.050E+03	0.0503	292.65
43	6.096E+01	1.095E+03	0.0503	292.65					

Initial Water Storage = 3.3178 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04035     0.05882     0.05026
 Head (cm)         = 6.47479E+05 3.13075E+03 1.32889E+03 1.09300E+03
 LiqWater Flow (cm)=-2.12061E-11-1.62724E-02-7.19156E-03 9.77095E-09
 IsoVapor Flow (cm)=-1.72057E-02-3.90605E-05-4.12967E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3178+ 0.0000+ 0.0000 - 0.0172- 0.0000-  0.0000 =    3.3006 vs.    3.3006

 Mass Balance = -2.7958E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0172 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04879     0.05167
 Head (cm)         = 1.93021E+06 1.28460E+06 1.90298E+03 5.21252E+02
 LiqWater Flow (cm)=-7.69435E-14-5.89533E-13-2.30467E-03 4.43588E-06
 IsoVapor Flow (cm)=-6.63769E-03-6.63467E-03-7.66530E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8171+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8105 vs.    2.8105

 Mass Balance = -7.2760E-06 cm;  Time step attempts =   50 and successes =   39
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    39
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9999E+02	[cm]
Actual Evaporation	=	3.3189E+01	[cm]
Evaporation during Growth	=	3.3189E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2690E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7260E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2690E+01	[cm]
Actual Rainfall	=	3.2690E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8105E+00	[cm]
Mass Balance Error	=	7.3410E-03	[cm]
Total Successful Time Steps	=	59159	
Total Attempted Time Steps	=	72323	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28803	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.9929E-01	0.050	1.6211E+01	0.150	1.0283E+01
0.250	8.3461E+00	0.350	7.1739E+00	0.450	6.1775E+00
0.550	5.3781E+00	0.650	4.7355E+00	0.750	4.3997E+00
0.850	4.0475E+00	0.950	3.6663E+00	1.125	3.3779E+00
1.375	2.7271E+00	1.625	2.4224E+00	1.875	2.1279E+00
2.250	1.7830E+00	2.750	1.2704E+00	3.250	8.9599E-01
3.750	6.8205E-01	4.250	4.4568E-01	4.790	2.6262E-01
6.350	2.5745E-02	8.890	-3.7580E-01	11.430	-3.5593E-01
13.970	-3.3167E-01	16.510	-3.0695E-01	19.050	-2.8183E-01
21.590	-2.5635E-01	24.130	-2.3057E-01	26.670	-2.0450E-01
29.210	-1.7814E-01	31.750	-1.5152E-01	34.290	-1.2466E-01
36.830	-9.7583E-02	39.370	-7.0311E-02	41.910	-4.2869E-02
44.450	-1.5287E-02	46.990	1.2761E-02	49.530	1.6059E-02
52.070	1.1583E-02	54.610	8.7807E-03	57.150	5.5357E-03
59.690	2.2357E-03	60.960	6.7260E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2006.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.889E+06	0.0300	292.65
3	2.000E-01	1.849E+06	0.0300	292.65	4	3.000E-01	1.812E+06	0.0300	292.65
5	4.000E-01	1.774E+06	0.0300	292.65	6	5.000E-01	1.738E+06	0.0300	292.65
7	6.000E-01	1.703E+06	0.0300	292.65	8	7.000E-01	1.668E+06	0.0300	292.65
9	8.000E-01	1.634E+06	0.0300	292.65	10	9.000E-01	1.602E+06	0.0300	292.65
11	1.000E+00	1.570E+06	0.0300	292.65	12	1.250E+00	1.493E+06	0.0300	292.65
13	1.500E+00	1.420E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.161E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.438E+05	0.0300	292.65
19	4.000E+00	8.466E+05	0.0300	292.65	20	4.500E+00	7.559E+05	0.0300	292.65
21	5.080E+00	6.576E+05	0.0300	292.65	22	7.620E+00	2.936E+05	0.0300	292.65
23	1.016E+01	2.712E+03	0.0423	292.65	24	1.270E+01	2.435E+03	0.0440	292.65
25	1.524E+01	2.275E+03	0.0452	292.65	26	1.778E+01	2.159E+03	0.0462	292.65
27	2.032E+01	2.071E+03	0.0470	292.65	28	2.286E+01	2.002E+03	0.0477	292.65
29	2.540E+01	1.947E+03	0.0483	292.65	30	2.794E+01	1.903E+03	0.0488	292.65
31	3.048E+01	1.867E+03	0.0492	292.65	32	3.302E+01	1.839E+03	0.0496	292.65
33	3.556E+01	1.816E+03	0.0499	292.65	34	3.810E+01	1.798E+03	0.0501	292.65
35	4.064E+01	1.784E+03	0.0503	292.65	36	4.318E+01	1.774E+03	0.0504	292.65
37	4.572E+01	1.768E+03	0.0505	292.65	38	4.826E+01	1.539E+03	0.0501	292.65
39	5.080E+01	5.803E+02	0.0513	292.65	40	5.334E+01	5.486E+02	0.0515	292.65
41	5.588E+01	5.322E+02	0.0516	292.65	42	5.842E+01	5.239E+02	0.0516	292.65
43	6.096E+01	5.213E+02	0.0517	292.65					

Initial Water Storage = 2.8105 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04867     0.05166
 Head (cm)         = 2.25090E+06 1.43704E+06 1.91291E+03 5.21705E+02
 LiqWater Flow (cm)= 1.93955E-02 6.18236E-08-2.25475E-03 4.40417E-06
 IsoVapor Flow (cm)=-2.42458E-02-4.85178E-03-7.70157E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8105+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =    2.8056 vs.    2.8056

 Mass Balance = -1.5219E-05 cm;  Time step attempts =  901 and successes =  704
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   379

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03980     0.04722     0.05085
 Head (cm)         = 6.05038E+05 3.27684E+03 2.04689E+03 6.82283E+02
 LiqWater Flow (cm)= 3.69131E-02 3.43640E-03-8.99606E-04 4.81035E-07
 IsoVapor Flow (cm)=-2.80920E-02-1.09397E-05-4.70002E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8503+ 0.0508+ 0.0000 - 0.0420- 0.0000-  0.0000 =    2.8591 vs.    2.8590

 Mass Balance =  1.0953E-04 cm;  Time step attempts =  942 and successes =  725
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0420 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   275
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3548E+02	[cm]
Actual Evaporation	=	2.1120E+01	[cm]
Evaporation during Growth	=	2.1120E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1184E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.1766E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1184E+01	[cm]
Actual Rainfall	=	2.1184E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8590E+00	[cm]
Mass Balance Error	=	1.4171E-02	[cm]
Total Successful Time Steps	=	213861	
Total Attempted Time Steps	=	270799	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	95875	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	6.3285E-02	0.050	1.4300E+01	0.150	1.2390E+01
0.250	1.0336E+01	0.350	8.6629E+00	0.450	7.3714E+00
0.550	6.3320E+00	0.650	5.4749E+00	0.750	4.7834E+00
0.850	4.1890E+00	0.950	3.6614E+00	1.125	3.1270E+00
1.375	2.2598E+00	1.625	1.7576E+00	1.875	1.4602E+00
2.250	1.2039E+00	2.750	9.4591E-01	3.250	7.8806E-01
3.750	6.8879E-01	4.250	6.1434E-01	4.790	5.5346E-01
6.350	4.7368E-01	8.890	3.8271E-01	11.430	2.1977E-01
13.970	1.6295E-01	16.510	1.1483E-01	19.050	7.0051E-02
21.590	2.6902E-02	24.130	-2.6562E-02	26.670	-4.9678E-02
29.210	-4.6270E-02	31.750	-4.1948E-02	34.290	-3.7127E-02
36.830	-3.1962E-02	39.370	-2.6548E-02	41.910	-2.0954E-02
44.450	-1.5234E-02	46.990	-5.7524E-03	49.530	-1.0552E-03
52.070	-5.3722E-03	54.610	-4.2211E-03	57.150	-2.3370E-03
59.690	-3.7211E-04	60.960	6.1766E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2007.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.546E+05	0.0300	292.65
3	2.000E-01	5.060E+05	0.0300	292.65	4	3.000E-01	4.590E+05	0.0300	292.65
5	4.000E-01	4.136E+05	0.0300	292.65	6	5.000E-01	3.696E+05	0.0300	292.65
7	6.000E-01	3.271E+05	0.0300	292.65	8	7.000E-01	2.858E+05	0.0300	292.65
9	8.000E-01	2.458E+05	0.0301	292.65	10	9.000E-01	2.070E+05	0.0301	292.65
11	1.000E+00	1.694E+05	0.0301	292.65	12	1.250E+00	8.031E+04	0.0302	292.65
13	1.500E+00	4.003E+03	0.0377	292.65	14	1.750E+00	3.529E+03	0.0390	292.65
15	2.000E+00	3.277E+03	0.0398	292.65	16	2.500E+00	2.981E+03	0.0410	292.65
17	3.000E+00	2.814E+03	0.0418	292.65	18	3.500E+00	2.708E+03	0.0423	292.65
19	4.000E+00	2.635E+03	0.0427	292.65	20	4.500E+00	2.582E+03	0.0430	292.65
21	5.080E+00	2.536E+03	0.0433	292.65	22	7.620E+00	2.426E+03	0.0441	292.65
23	1.016E+01	2.328E+03	0.0448	292.65	24	1.270E+01	2.251E+03	0.0454	292.65
25	1.524E+01	2.195E+03	0.0458	292.65	26	1.778E+01	2.154E+03	0.0462	292.65
27	2.032E+01	2.122E+03	0.0465	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.070E+03	0.0470	292.65	30	2.794E+01	2.047E+03	0.0472	292.65
31	3.048E+01	2.026E+03	0.0474	292.65	32	3.302E+01	2.007E+03	0.0476	292.65
33	3.556E+01	1.990E+03	0.0478	292.65	34	3.810E+01	1.976E+03	0.0480	292.65
35	4.064E+01	1.965E+03	0.0481	292.65	36	4.318E+01	1.957E+03	0.0482	292.65
37	4.572E+01	1.951E+03	0.0482	292.65	38	4.826E+01	1.749E+03	0.0501	292.65
39	5.080E+01	1.083E+03	0.0503	292.65	40	5.334E+01	7.887E+02	0.0506	292.65
41	5.588E+01	7.170E+02	0.0508	292.65	42	5.842E+01	6.899E+02	0.0508	292.65
43	6.096E+01	6.823E+02	0.0509	292.65					

Initial Water Storage = 2.8590 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.04720     0.05085
 Head (cm)         = 8.36981E+05 1.36252E+05 2.04888E+03 6.82685E+02
 LiqWater Flow (cm)=-7.16283E-12-6.19291E-03-8.54894E-04 4.78706E-07
 IsoVapor Flow (cm)=-1.85916E-02-4.51350E-03-4.51250E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8590+ 0.0000+ 0.0000 - 0.0186- 0.0000-  0.0000 =    2.8404 vs.    2.8404

 Mass Balance = -3.6319E-05 cm;  Time step attempts =  144 and successes =  111
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0186 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   111

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.06059     0.05056
 Head (cm)         = 1.64351E+06 2.11002E+05 1.26377E+03 8.07957E+02
 LiqWater Flow (cm)=-5.34070E-13-2.22420E-04-8.97308E-03 1.19115E-07
 IsoVapor Flow (cm)=-2.22025E-02-2.19628E-02-3.99009E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3848+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =    3.3626 vs.    3.3626

 Mass Balance =  3.2649E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0482E+02	[cm]
Actual Evaporation	=	2.5192E+01	[cm]
Evaporation during Growth	=	2.5192E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5705E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.7779E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5705E+01	[cm]
Actual Rainfall	=	2.5705E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3626E+00	[cm]
Mass Balance Error	=	9.4584E-03	[cm]
Total Successful Time Steps	=	70064	
Total Attempted Time Steps	=	86834	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33200	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.1315E-01	0.050	1.8188E+01	0.150	1.3512E+01
0.250	1.1284E+01	0.350	9.7944E+00	0.450	8.7670E+00
0.550	7.8405E+00	0.650	7.0364E+00	0.750	6.4523E+00
0.850	5.9187E+00	0.950	5.4691E+00	1.125	5.0811E+00
1.375	4.1835E+00	1.625	3.4597E+00	1.875	3.0074E+00
2.250	2.5544E+00	2.750	1.9239E+00	3.250	1.5652E+00
3.750	1.3407E+00	4.250	1.1565E+00	4.790	1.0161E+00
6.350	8.7322E-01	8.890	5.4227E-01	11.430	4.6263E-01
13.970	4.3811E-01	16.510	4.1152E-01	19.050	3.8299E-01
21.590	3.5274E-01	24.130	3.2099E-01	26.670	2.8798E-01
29.210	2.5392E-01	31.750	2.1900E-01	34.290	1.8339E-01
36.830	1.4719E-01	39.370	1.1054E-01	41.910	7.3510E-02
44.450	3.6196E-02	46.990	-1.0662E-03	49.530	3.0182E-04
52.070	-7.2875E-04	54.610	-1.0247E-03	57.150	-7.2724E-04
59.690	-2.0337E-04	60.960	8.7779E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2008.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.042E+06	0.0300	292.65	8	7.000E-01	9.634E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.177E+05	0.0300	292.65
11	1.000E+00	7.502E+05	0.0300	292.65	12	1.250E+00	5.945E+05	0.0300	292.65
13	1.500E+00	4.545E+05	0.0300	292.65	14	1.750E+00	3.273E+05	0.0300	292.65
15	2.000E+00	2.110E+05	0.0301	292.65	16	2.500E+00	2.932E+03	0.0412	292.65
17	3.000E+00	2.546E+03	0.0433	292.65	18	3.500E+00	2.334E+03	0.0447	292.65
19	4.000E+00	2.191E+03	0.0459	292.65	20	4.500E+00	2.085E+03	0.0468	292.65
21	5.080E+00	1.991E+03	0.0478	292.65	22	7.620E+00	1.739E+03	0.0509	292.65
23	1.016E+01	1.601E+03	0.0531	292.65	24	1.270E+01	1.509E+03	0.0548	292.65
25	1.524E+01	1.442E+03	0.0562	292.65	26	1.778E+01	1.390E+03	0.0573	292.65
27	2.032E+01	1.348E+03	0.0583	292.65	28	2.286E+01	1.315E+03	0.0592	292.65
29	2.540E+01	1.287E+03	0.0599	292.65	30	2.794E+01	1.264E+03	0.0606	292.65
31	3.048E+01	1.245E+03	0.0611	292.65	32	3.302E+01	1.229E+03	0.0616	292.65
33	3.556E+01	1.215E+03	0.0620	292.65	34	3.810E+01	1.205E+03	0.0624	292.65
35	4.064E+01	1.196E+03	0.0626	292.65	36	4.318E+01	1.190E+03	0.0628	292.65
37	4.572E+01	1.186E+03	0.0630	292.65	38	4.826E+01	1.164E+03	0.0502	292.65
39	5.080E+01	9.495E+02	0.0504	292.65	40	5.334E+01	8.838E+02	0.0504	292.65
41	5.588E+01	8.386E+02	0.0505	292.65	42	5.842E+01	8.151E+02	0.0505	292.65
43	6.096E+01	8.080E+02	0.0506	292.65					

Initial Water Storage = 3.3626 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03006     0.06014     0.05056
 Head (cm)         = 1.92914E+06 2.30598E+05 1.27963E+03 8.08190E+02
 LiqWater Flow (cm)=-3.13727E-13-1.14092E-04-8.52089E-03 1.18833E-07
 IsoVapor Flow (cm)=-2.40347E-02-2.39143E-02-4.03528E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3626+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =    3.3385 vs.    3.3385

 Mass Balance = -2.9499E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05017     0.05045
 Head (cm)         = 1.38020E+06 8.69982E+05 1.79324E+03 8.82110E+02
 LiqWater Flow (cm)=-2.72083E-13-2.37867E-12-2.23536E-03 5.75497E-08
 IsoVapor Flow (cm)=-6.60513E-03-6.60704E-03-5.70817E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8920+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8854 vs.    2.8854

 Mass Balance = -8.6051E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2814E+02	[cm]
Actual Evaporation	=	2.5490E+01	[cm]
Evaporation during Growth	=	2.5483E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5019E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.5488E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5019E+01	[cm]
Actual Rainfall	=	2.5019E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8854E+00	[cm]
Mass Balance Error	=	6.6330E-03	[cm]
Total Successful Time Steps	=	55076	
Total Attempted Time Steps	=	67117	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27369	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7054E-01	0.050	1.6178E+01	0.150	7.4897E+00
0.250	5.7656E+00	0.350	4.6058E+00	0.450	3.8431E+00
0.550	3.3108E+00	0.650	2.9942E+00	0.750	2.8271E+00
0.850	2.6661E+00	0.950	2.5075E+00	1.125	2.4116E+00
1.375	2.1264E+00	1.625	1.9193E+00	1.875	1.7370E+00
2.250	1.5482E+00	2.750	1.2958E+00	3.250	1.0281E+00
3.750	8.7567E-01	4.250	7.1550E-01	4.790	4.9960E-01
6.350	3.3813E-01	8.890	2.8987E-02	11.430	-2.3982E-02
13.970	-7.4610E-02	16.510	-1.1730E-01	19.050	-1.5619E-01
21.590	-1.9422E-01	24.130	-2.1211E-01	26.670	-2.2184E-01
29.210	-1.9620E-01	31.750	-1.6942E-01	34.290	-1.4214E-01
36.830	-1.1444E-01	39.370	-8.6382E-02	41.910	-5.8052E-02
44.450	-2.9497E-02	46.990	4.3460E-04	49.530	3.1020E-03
52.070	1.0744E-03	54.610	1.7985E-04	57.150	-9.6364E-05
59.690	-4.7676E-05	60.960	2.5488E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2009.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.291E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.809E+05	0.0300	292.65	14	1.750E+00	9.243E+05	0.0300	292.65
15	2.000E+00	8.700E+05	0.0300	292.65	16	2.500E+00	7.673E+05	0.0300	292.65
17	3.000E+00	6.717E+05	0.0300	292.65	18	3.500E+00	5.823E+05	0.0300	292.65
19	4.000E+00	4.984E+05	0.0300	292.65	20	4.500E+00	4.193E+05	0.0300	292.65
21	5.080E+00	3.328E+05	0.0300	292.65	22	7.620E+00	2.721E+03	0.0422	292.65
23	1.016E+01	2.367E+03	0.0445	292.65	24	1.270E+01	2.185E+03	0.0459	292.65
25	1.524E+01	2.067E+03	0.0470	292.65	26	1.778E+01	1.982E+03	0.0479	292.65
27	2.032E+01	1.918E+03	0.0486	292.65	28	2.286E+01	1.867E+03	0.0492	292.65
29	2.540E+01	1.826E+03	0.0497	292.65	30	2.794E+01	1.793E+03	0.0502	292.65
31	3.048E+01	1.766E+03	0.0505	292.65	32	3.302E+01	1.745E+03	0.0508	292.65
33	3.556E+01	1.727E+03	0.0511	292.65	34	3.810E+01	1.713E+03	0.0513	292.65
35	4.064E+01	1.703E+03	0.0515	292.65	36	4.318E+01	1.695E+03	0.0516	292.65
37	4.572E+01	1.689E+03	0.0517	292.65	38	4.826E+01	1.590E+03	0.0501	292.65
39	5.080E+01	1.053E+03	0.0503	292.65	40	5.334E+01	8.655E+02	0.0505	292.65
41	5.588E+01	8.476E+02	0.0505	292.65	42	5.842E+01	8.690E+02	0.0505	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 2.8854 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05003     0.05045
 Head (cm)         = 1.61006E+06 9.83207E+05 1.80325E+03 8.81709E+02
 LiqWater Flow (cm)=-1.65072E-13-1.56529E-12-2.22452E-03 5.77680E-08
 IsoVapor Flow (cm)=-7.19504E-03-7.19188E-03-5.82876E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8854+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =    2.8782 vs.    2.8782

 Mass Balance =  1.0888E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05140     0.06992     0.05029
 Head (cm)         = 1.02625E+06 1.70623E+03 1.00895E+03 1.04442E+03
 LiqWater Flow (cm)=-1.18078E-09-8.72441E-02 1.11995E-02 1.43161E-08
 IsoVapor Flow (cm)=-1.10828E-01-8.84836E-06 8.55545E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9301+ 0.0000+ 0.0000 - 0.1108- 0.0000-  0.0000 =    3.8193 vs.    3.8193

 Mass Balance = -4.2886E-05 cm;  Time step attempts =  262 and successes =  209
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1108 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   181
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0884E+02	[cm]
Actual Evaporation	=	2.1105E+01	[cm]
Evaporation during Growth	=	2.1105E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2047E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3736E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2047E+01	[cm]
Actual Rainfall	=	2.2047E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8193E+00	[cm]
Mass Balance Error	=	7.7945E-03	[cm]
Total Successful Time Steps	=	60065	
Total Attempted Time Steps	=	73986	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29914	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4177E-01	0.050	1.4571E+01	0.150	1.0366E+01
0.250	8.6301E+00	0.350	7.8599E+00	0.450	7.1707E+00
0.550	6.5331E+00	0.650	5.8628E+00	0.750	5.3560E+00
0.850	5.0144E+00	0.950	4.6261E+00	1.125	4.2428E+00
1.375	3.5465E+00	1.625	3.1706E+00	1.875	2.7008E+00
2.250	2.4901E+00	2.750	2.2167E+00	3.250	2.0035E+00
3.750	1.8544E+00	4.250	1.7575E+00	4.790	1.6510E+00
6.350	1.5309E+00	8.890	1.2039E+00	11.430	1.0484E+00
13.970	9.1629E-01	16.510	7.9111E-01	19.050	6.7398E-01
21.590	5.6876E-01	24.130	4.7515E-01	26.670	3.8369E-01
29.210	3.3177E-01	31.750	2.8218E-01	34.290	2.3347E-01
36.830	1.8558E-01	39.370	1.3838E-01	41.910	9.1719E-02
44.450	4.5386E-02	46.990	2.6152E-04	49.530	8.6803E-04
52.070	-6.6697E-05	54.610	-1.7645E-04	57.150	-1.4104E-04
59.690	-4.4626E-05	60.960	1.3736E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2010.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.520E+05	0.0300	292.65
3	2.000E-01	5.235E+05	0.0300	292.65	4	3.000E-01	3.276E+05	0.0300	292.65
5	4.000E-01	1.562E+05	0.0301	292.65	6	5.000E-01	3.437E+03	0.0393	292.65
7	6.000E-01	2.859E+03	0.0415	292.65	8	7.000E-01	2.576E+03	0.0431	292.65
9	8.000E-01	2.396E+03	0.0443	292.65	10	9.000E-01	2.266E+03	0.0452	292.65
11	1.000E+00	2.166E+03	0.0461	292.65	12	1.250E+00	1.988E+03	0.0478	292.65
13	1.500E+00	1.867E+03	0.0492	292.65	14	1.750E+00	1.777E+03	0.0504	292.65
15	2.000E+00	1.706E+03	0.0514	292.65	16	2.500E+00	1.599E+03	0.0531	292.65
17	3.000E+00	1.521E+03	0.0545	292.65	18	3.500E+00	1.460E+03	0.0558	292.65
19	4.000E+00	1.410E+03	0.0569	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.329E+03	0.0588	292.65	22	7.620E+00	1.211E+03	0.0622	292.65
23	1.016E+01	1.141E+03	0.0645	292.65	24	1.270E+01	1.096E+03	0.0662	292.65
25	1.524E+01	1.065E+03	0.0675	292.65	26	1.778E+01	1.043E+03	0.0684	292.65
27	2.032E+01	1.028E+03	0.0690	292.65	28	2.286E+01	1.018E+03	0.0695	292.65
29	2.540E+01	1.012E+03	0.0698	292.65	30	2.794E+01	1.009E+03	0.0699	292.65
31	3.048E+01	1.008E+03	0.0700	292.65	32	3.302E+01	1.008E+03	0.0700	292.65
33	3.556E+01	1.009E+03	0.0699	292.65	34	3.810E+01	1.011E+03	0.0698	292.65
35	4.064E+01	1.012E+03	0.0698	292.65	36	4.318E+01	1.012E+03	0.0698	292.65
37	4.572E+01	1.011E+03	0.0698	292.65	38	4.826E+01	1.028E+03	0.0503	292.65
39	5.080E+01	9.853E+02	0.0503	292.65	40	5.334E+01	1.032E+03	0.0503	292.65
41	5.588E+01	1.046E+03	0.0503	292.65	42	5.842E+01	1.046E+03	0.0503	292.65
43	6.096E+01	1.044E+03	0.0503	292.65					

Initial Water Storage = 3.8193 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03004     0.05005     0.06874     0.05029
 Head (cm)         = 3.26692E+05 1.80221E+03 1.03484E+03 1.04447E+03
 LiqWater Flow (cm)=-7.55792E-09-5.94702E-02-3.12013E-03 1.43107E-08
 IsoVapor Flow (cm)=-5.89595E-02-1.13378E-05-9.64523E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8193+ 0.0000+ 0.0000 - 0.0590- 0.0000-  0.0000 =    3.7604 vs.    3.7604

 Mass Balance = -1.3270E-05 cm;  Time step attempts =  402 and successes =  321
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0590 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   123

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04106     0.04680     0.05024
 Head (cm)         = 9.30306E+05 2.96420E+03 2.08955E+03 1.12827E+03
 LiqWater Flow (cm)=-1.13124E-11-2.26587E-02-1.75084E-03 7.57639E-09
 IsoVapor Flow (cm)=-3.91078E-02-2.23882E-05-9.19655E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8979+ 0.0000+ 0.0000 - 0.0391- 0.0000-  0.0000 =    2.8587 vs.    2.8588

 Mass Balance = -5.5538E-05 cm;  Time step attempts =  311 and successes =  256
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0391 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   255
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0272E+02	[cm]
Actual Evaporation	=	1.7895E+01	[cm]
Evaporation during Growth	=	1.7895E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.6942E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.4306E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.6942E+01	[cm]
Actual Rainfall	=	1.6942E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8588E+00	[cm]
Mass Balance Error	=	6.8764E-03	[cm]
Total Successful Time Steps	=	64119	
Total Attempted Time Steps	=	78822	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33409	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.5366E-01	0.050	1.2404E+01	0.150	9.5410E+00
0.250	8.0181E+00	0.350	7.0281E+00	0.450	6.1468E+00
0.550	5.2994E+00	0.650	4.8119E+00	0.750	4.3700E+00
0.850	3.8769E+00	0.950	3.3845E+00	1.125	3.0843E+00
1.375	2.4696E+00	1.625	1.9236E+00	1.875	1.6096E+00
2.250	1.2946E+00	2.750	7.0608E-01	3.250	3.8045E-01
3.750	1.8416E-01	4.250	5.5345E-02	4.790	-4.4717E-02
6.350	-1.6918E-01	8.890	-5.1454E-01	11.430	-6.4497E-01
13.970	-6.7576E-01	16.510	-6.8852E-01	19.050	-6.2981E-01
21.590	-5.6914E-01	24.130	-5.0894E-01	26.670	-4.4947E-01
29.210	-3.9086E-01	31.750	-3.3315E-01	34.290	-2.7634E-01
36.830	-2.2037E-01	39.370	-1.6513E-01	41.910	-1.1044E-01
44.450	-5.6064E-02	46.990	-1.3371E-03	49.530	2.4991E-04
52.070	-1.3946E-05	54.610	-2.5069E-05	57.150	-1.9098E-05
59.690	-4.4275E-06	60.960	4.4306E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2011.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.258E+03	0.0372	292.65	14	1.750E+00	3.311E+03	0.0397	292.65
15	2.000E+00	2.964E+03	0.0411	292.65	16	2.500E+00	2.625E+03	0.0428	292.65
17	3.000E+00	2.445E+03	0.0439	292.65	18	3.500E+00	2.329E+03	0.0448	292.65
19	4.000E+00	2.248E+03	0.0454	292.65	20	4.500E+00	2.190E+03	0.0459	292.65
21	5.080E+00	2.141E+03	0.0463	292.65	22	7.620E+00	2.073E+03	0.0470	292.65
23	1.016E+01	2.144E+03	0.0463	292.65	24	1.270E+01	2.299E+03	0.0450	292.65
25	1.524E+01	2.404E+03	0.0442	292.65	26	1.778E+01	2.375E+03	0.0444	292.65
27	2.032E+01	2.291E+03	0.0450	292.65	28	2.286E+01	2.210E+03	0.0457	292.65
29	2.540E+01	2.143E+03	0.0463	292.65	30	2.794E+01	2.090E+03	0.0468	292.65
31	3.048E+01	2.047E+03	0.0472	292.65	32	3.302E+01	2.013E+03	0.0476	292.65
33	3.556E+01	1.987E+03	0.0478	292.65	34	3.810E+01	1.966E+03	0.0481	292.65
35	4.064E+01	1.950E+03	0.0482	292.65	36	4.318E+01	1.939E+03	0.0484	292.65
37	4.572E+01	1.932E+03	0.0484	292.65	38	4.826E+01	1.805E+03	0.0501	292.65
39	5.080E+01	1.457E+03	0.0501	292.65	40	5.334E+01	1.244E+03	0.0502	292.65
41	5.588E+01	1.161E+03	0.0502	292.65	42	5.842E+01	1.134E+03	0.0502	292.65
43	6.096E+01	1.128E+03	0.0502	292.65					

Initial Water Storage = 2.8588 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04672     0.05024
 Head (cm)         = 1.63309E+06 2.13165E+05 2.09791E+03 1.12853E+03
 LiqWater Flow (cm)=-6.93514E-13-8.92615E-03-1.71002E-03 7.56218E-09
 IsoVapor Flow (cm)=-2.69927E-02-9.66092E-03-9.19205E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8588+ 0.0000+ 0.0000 - 0.0270- 0.0000-  0.0000 =    2.8318 vs.    2.8319

 Mass Balance = -4.3839E-05 cm;  Time step attempts =  180 and successes =  138
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0270 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   138

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.05757     0.07834     0.05009
 Head (cm)         = 1.93406E+05 1.37937E+03 8.57116E+02 1.68511E+03
 LiqWater Flow (cm)=-1.48295E-08-7.41189E-02-3.64072E-02 2.77874E-10
 IsoVapor Flow (cm)=-6.01614E-02-5.17880E-06-2.35506E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.2409+ 0.0000+ 0.0000 - 0.0602- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  1.9180E-05 cm;  Time step attempts =  171 and successes =  151
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0602 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    90
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4173E+02	[cm]
Actual Evaporation	=	1.2589E+01	[cm]
Evaporation during Growth	=	1.2589E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.2968E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1807E+00	[cm]
Mass Balance Error	=	8.3141E-03	[cm]
Total Successful Time Steps	=	64938	
Total Attempted Time Steps	=	80077	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33261	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3302E+00	0.050	1.0626E+01	0.150	8.5538E+00
0.250	7.5587E+00	0.350	6.9268E+00	0.450	6.5789E+00
0.550	6.3023E+00	0.650	6.0189E+00	0.750	5.7703E+00
0.850	5.5641E+00	0.950	5.4138E+00	1.125	5.2522E+00
1.375	4.8883E+00	1.625	4.5547E+00	1.875	4.2961E+00
2.250	4.0180E+00	2.750	3.4990E+00	3.250	3.1340E+00
3.750	2.8882E+00	4.250	2.6059E+00	4.790	2.3704E+00
6.350	2.0845E+00	8.890	1.5819E+00	11.430	1.2372E+00
13.970	1.0454E+00	16.510	9.7340E-01	19.050	8.9864E-01
21.590	8.2211E-01	24.130	7.4424E-01	26.670	6.6517E-01
29.210	5.8500E-01	31.750	5.0381E-01	34.290	4.2168E-01
36.830	3.3870E-01	39.370	2.5496E-01	41.910	1.7056E-01
44.450	8.5566E-02	46.990	7.3096E-04	49.530	2.2898E-05
52.070	-7.1335E-06	54.610	-1.4925E-05	57.150	-1.5449E-05
59.690	-6.1756E-06	60.960	9.2968E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2012.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.934E+05	0.0301	292.65	2	1.000E-01	7.846E+04	0.0302	292.65
3	2.000E-01	1.584E+03	0.0534	292.65	4	3.000E-01	1.570E+03	0.0536	292.65
5	4.000E-01	1.556E+03	0.0539	292.65	6	5.000E-01	1.542E+03	0.0541	292.65
7	6.000E-01	1.529E+03	0.0544	292.65	8	7.000E-01	1.516E+03	0.0546	292.65
9	8.000E-01	1.504E+03	0.0549	292.65	10	9.000E-01	1.491E+03	0.0551	292.65
11	1.000E+00	1.480E+03	0.0554	292.65	12	1.250E+00	1.452E+03	0.0559	292.65
13	1.500E+00	1.426E+03	0.0565	292.65	14	1.750E+00	1.402E+03	0.0570	292.65
15	2.000E+00	1.379E+03	0.0576	292.65	16	2.500E+00	1.339E+03	0.0586	292.65
17	3.000E+00	1.304E+03	0.0595	292.65	18	3.500E+00	1.273E+03	0.0603	292.65
19	4.000E+00	1.245E+03	0.0611	292.65	20	4.500E+00	1.221E+03	0.0619	292.65
21	5.080E+00	1.195E+03	0.0627	292.65	22	7.620E+00	1.109E+03	0.0657	292.65
23	1.016E+01	1.048E+03	0.0682	292.65	24	1.270E+01	1.001E+03	0.0703	292.65
25	1.524E+01	9.639E+02	0.0721	292.65	26	1.778E+01	9.341E+02	0.0737	292.65
27	2.032E+01	9.095E+02	0.0751	292.65	28	2.286E+01	8.890E+02	0.0763	292.65
29	2.540E+01	8.717E+02	0.0774	292.65	30	2.794E+01	8.571E+02	0.0783	292.65
31	3.048E+01	8.448E+02	0.0792	292.65	32	3.302E+01	8.343E+02	0.0799	292.65
33	3.556E+01	8.255E+02	0.0805	292.65	34	3.810E+01	8.182E+02	0.0810	292.65
35	4.064E+01	8.121E+02	0.0815	292.65	36	4.318E+01	8.073E+02	0.0818	292.65
37	4.572E+01	8.037E+02	0.0821	292.65	38	4.826E+01	7.949E+02	0.0506	292.65
39	5.080E+01	1.509E+03	0.0501	292.65	40	5.334E+01	1.708E+03	0.0501	292.65
41	5.588E+01	1.721E+03	0.0501	292.65	42	5.842E+01	1.697E+03	0.0501	292.65
43	6.096E+01	1.685E+03	0.0501	292.65					

Initial Water Storage = 4.1807 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06537     0.06560     0.07668     0.05009
 Head (cm)         = 1.11780E+03 1.11184E+03 8.83015E+02 1.68690E+03
 LiqWater Flow (cm)=-1.71788E-03-2.57592E-02-3.23945E-02 2.75352E-10
 IsoVapor Flow (cm)=-5.54926E-05-1.16636E-06-2.45205E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1807+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  2.2094E-05 cm;  Time step attempts =  107 and successes =   95
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05609     0.05011
 Head (cm)         = 1.03684E+06 1.57500E+05 1.44500E+03 1.53378E+03
 LiqWater Flow (cm)=-2.46492E-12-2.23950E-04-2.66652E-03 6.01803E-10
 IsoVapor Flow (cm)=-1.69046E-02-1.66803E-02-2.61679E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1966+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =    3.1797 vs.    3.1797

 Mass Balance = -3.0048E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1811E+02	[cm]
Actual Evaporation	=	1.4382E+01	[cm]
Evaporation during Growth	=	1.4365E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3386E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3865E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3386E+01	[cm]
Actual Rainfall	=	1.3386E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1797E+00	[cm]
Mass Balance Error	=	4.9321E-03	[cm]
Total Successful Time Steps	=	52650	
Total Attempted Time Steps	=	63414	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28860	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.9601E-01	0.050	9.6302E+00	0.150	6.8230E+00
0.250	5.7318E+00	0.350	4.8757E+00	0.450	4.3365E+00
0.550	3.8037E+00	0.650	3.3583E+00	0.750	3.0732E+00
0.850	2.7259E+00	0.950	2.3739E+00	1.125	2.1501E+00
1.375	1.7397E+00	1.625	1.4334E+00	1.875	1.0189E+00
2.250	7.7207E-01	2.750	4.0090E-01	3.250	2.1718E-01
3.750	8.5544E-02	4.250	4.4295E-02	4.790	-1.9564E-02
6.350	-1.1548E-01	8.890	-3.9065E-01	11.430	-4.6616E-01
13.970	-5.1804E-01	16.510	-5.5938E-01	19.050	-5.6868E-01
21.590	-5.6579E-01	24.130	-5.3752E-01	26.670	-4.8282E-01
29.210	-4.2647E-01	31.750	-3.6872E-01	34.290	-3.0970E-01
36.830	-2.4957E-01	39.370	-1.8848E-01	41.910	-1.2655E-01
44.450	-6.3968E-02	46.990	-4.7922E-04	49.530	1.7982E-04
52.070	1.1294E-05	54.610	3.1300E-06	57.150	1.1260E-06
59.690	3.6838E-07	60.960	1.3865E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2013.res
 Date of Run:      15 Sep 2025
 Time of Run:      16:35:05.87
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.637E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.161E+05	0.0300	292.65	10	9.000E-01	5.715E+05	0.0300	292.65
11	1.000E+00	5.283E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.413E+05	0.0301	292.65
15	2.000E+00	1.575E+05	0.0301	292.65	16	2.500E+00	3.484E+03	0.0391	292.65
17	3.000E+00	2.882E+03	0.0414	292.65	18	3.500E+00	2.602E+03	0.0429	292.65
19	4.000E+00	2.425E+03	0.0441	292.65	20	4.500E+00	2.298E+03	0.0450	292.65
21	5.080E+00	2.187E+03	0.0459	292.65	22	7.620E+00	1.904E+03	0.0488	292.65
23	1.016E+01	1.757E+03	0.0507	292.65	24	1.270E+01	1.663E+03	0.0521	292.65
25	1.524E+01	1.597E+03	0.0532	292.65	26	1.778E+01	1.549E+03	0.0540	292.65
27	2.032E+01	1.512E+03	0.0547	292.65	28	2.286E+01	1.484E+03	0.0553	292.65
29	2.540E+01	1.462E+03	0.0557	292.65	30	2.794E+01	1.445E+03	0.0561	292.65
31	3.048E+01	1.431E+03	0.0564	292.65	32	3.302E+01	1.421E+03	0.0566	292.65
33	3.556E+01	1.412E+03	0.0568	292.65	34	3.810E+01	1.406E+03	0.0570	292.65
35	4.064E+01	1.400E+03	0.0571	292.65	36	4.318E+01	1.396E+03	0.0572	292.65
37	4.572E+01	1.393E+03	0.0573	292.65	38	4.826E+01	1.399E+03	0.0501	292.65
39	5.080E+01	1.514E+03	0.0501	292.65	40	5.334E+01	1.548E+03	0.0501	292.65
41	5.588E+01	1.546E+03	0.0501	292.65	42	5.842E+01	1.538E+03	0.0501	292.65
43	6.096E+01	1.534E+03	0.0501	292.65					

```
 Initial Water Storage =   3.1797 cm

 NOTE:  There are no temperature data when plants are modelled.


--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05579     0.05011
 Head (cm)         = 6.62341E+05 1.10405E+05 1.45890E+03 1.53421E+03
 LiqWater Flow (cm)=-1.27037E-11-3.84751E-04-3.13025E-03 6.00400E-10
 IsoVapor Flow (cm)=-1.22067E-02-1.18689E-02-3.09256E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1797+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =    3.1675 vs.    3.1675

 Mass Balance = -5.3866E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05004     0.05185
 Head (cm)         = 1.00583E+06 5.20808E+05 1.80296E+03 4.99792E+02
 LiqWater Flow (cm)=-1.38143E-12-5.88668E-11-2.18112E-03 6.27447E-06
 IsoVapor Flow (cm)=-8.77296E-03-8.76710E-03-5.72794E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9175+ 0.0000+ 0.0000 - 0.0088- 0.0000-  0.0000 =    2.9088 vs.    2.9088

 Mass Balance = -1.0826E-05 cm;  Time step attempts =   43 and successes =   35
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0088 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    35
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1167E+02	[cm]
Actual Evaporation	=	2.4419E+01	[cm]
Evaporation during Growth	=	2.4419E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4155E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.8706E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4155E+01	[cm]
Actual Rainfall	=	2.4155E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9088E+00	[cm]
Mass Balance Error	=	6.5881E-03	[cm]
Total Successful Time Steps	=	52807	
Total Attempted Time Steps	=	64683	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26908	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.6369E-01	0.050	1.2368E+01	0.150	8.1024E+00
0.250	6.9024E+00	0.350	6.0521E+00	0.450	5.4175E+00
0.550	4.8381E+00	0.650	4.3850E+00	0.750	3.9380E+00
0.850	3.5882E+00	0.950	3.3276E+00	1.125	3.0813E+00
1.375	2.3765E+00	1.625	2.1797E+00	1.875	2.0014E+00
2.250	1.8430E+00	2.750	1.4390E+00	3.250	1.2312E+00
3.750	8.8164E-01	4.250	6.3063E-01	4.790	5.1191E-01
6.350	3.9154E-01	8.890	1.2712E-01	11.430	-1.7845E-02
13.970	-1.4013E-01	16.510	-1.6082E-01	19.050	-1.4555E-01
21.590	-1.3010E-01	24.130	-1.1465E-01	26.670	-9.9275E-02
29.210	-8.4029E-02	31.750	-6.8931E-02	34.290	-5.3988E-02
36.830	-3.9195E-02	39.370	-2.4533E-02	41.910	-9.9723E-03
44.450	4.5259E-03	46.990	1.9588E-02	49.530	2.0807E-02
52.070	1.5434E-02	54.610	1.1477E-02	57.150	7.1425E-03
59.690	2.7150E-03	60.960	6.8706E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2014.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.771E+05	0.0300	292.65
3	2.000E-01	9.485E+05	0.0300	292.65	4	3.000E-01	9.207E+05	0.0300	292.65
5	4.000E-01	8.936E+05	0.0300	292.65	6	5.000E-01	8.672E+05	0.0300	292.65
7	6.000E-01	8.412E+05	0.0300	292.65	8	7.000E-01	8.158E+05	0.0300	292.65
9	8.000E-01	7.907E+05	0.0300	292.65	10	9.000E-01	7.661E+05	0.0300	292.65
11	1.000E+00	7.420E+05	0.0300	292.65	12	1.250E+00	6.834E+05	0.0300	292.65
13	1.500E+00	6.271E+05	0.0300	292.65	14	1.750E+00	5.729E+05	0.0300	292.65
15	2.000E+00	5.208E+05	0.0300	292.65	16	2.500E+00	4.221E+05	0.0300	292.65
17	3.000E+00	3.301E+05	0.0300	292.65	18	3.500E+00	2.438E+05	0.0301	292.65
19	4.000E+00	1.626E+05	0.0301	292.65	20	4.500E+00	8.594E+04	0.0302	292.65
21	5.080E+00	3.952E+03	0.0378	292.65	22	7.620E+00	2.688E+03	0.0424	292.65
23	1.016E+01	2.368E+03	0.0445	292.65	24	1.270E+01	2.191E+03	0.0459	292.65
25	1.524E+01	2.075E+03	0.0469	292.65	26	1.778E+01	1.990E+03	0.0478	292.65
27	2.032E+01	1.926E+03	0.0485	292.65	28	2.286E+01	1.876E+03	0.0491	292.65
29	2.540E+01	1.836E+03	0.0496	292.65	30	2.794E+01	1.803E+03	0.0500	292.65
31	3.048E+01	1.776E+03	0.0504	292.65	32	3.302E+01	1.754E+03	0.0507	292.65
33	3.556E+01	1.736E+03	0.0510	292.65	34	3.810E+01	1.722E+03	0.0512	292.65
35	4.064E+01	1.711E+03	0.0513	292.65	36	4.318E+01	1.703E+03	0.0514	292.65
37	4.572E+01	1.697E+03	0.0515	292.65	38	4.826E+01	1.487E+03	0.0501	292.65
39	5.080E+01	5.446E+02	0.0515	292.65	40	5.334E+01	5.213E+02	0.0517	292.65
41	5.588E+01	5.085E+02	0.0518	292.65	42	5.842E+01	5.019E+02	0.0518	292.65
43	6.096E+01	4.998E+02	0.0519	292.65					

Initial Water Storage = 2.9088 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04991     0.05185
 Head (cm)         = 1.15661E+06 5.84796E+05 1.81255E+03 5.00235E+02
 LiqWater Flow (cm)=-7.83563E-13-2.42562E-11-2.17015E-03 6.22876E-06
 IsoVapor Flow (cm)=-8.93144E-03-8.92652E-03-5.83959E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9088+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =    2.8998 vs.    2.8998

 Mass Balance =  3.3405E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03714     0.05082     0.05240
 Head (cm)         = 2.73526E+05 4.27114E+03 1.74601E+03 4.50940E+02
 LiqWater Flow (cm)=-5.09371E-10-9.48934E-03-1.15948E-03 1.46696E-05
 IsoVapor Flow (cm)=-7.63440E-03-1.03328E-04-2.95223E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0179+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =    3.0102 vs.    3.0102

 Mass Balance =  3.8508E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0076 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2121E+02	[cm]
Actual Evaporation	=	2.1655E+01	[cm]
Evaporation during Growth	=	2.1655E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1768E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.0816E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1768E+01	[cm]
Actual Rainfall	=	2.1768E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0102E+00	[cm]
Mass Balance Error	=	7.1795E-03	[cm]
Total Successful Time Steps	=	58450	
Total Attempted Time Steps	=	71740	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29263	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1271E-01	0.050	1.2009E+01	0.150	7.7434E+00
0.250	6.3572E+00	0.350	5.5262E+00	0.450	4.9294E+00
0.550	4.2400E+00	0.650	3.7168E+00	0.750	3.3362E+00
0.850	3.0930E+00	0.950	2.9043E+00	1.125	2.7246E+00
1.375	2.2775E+00	1.625	1.9882E+00	1.875	1.8554E+00
2.250	1.6989E+00	2.750	1.5064E+00	3.250	1.3804E+00
3.750	1.1927E+00	4.250	1.0010E+00	4.790	9.3725E-01
6.350	8.2966E-01	8.890	6.1956E-01	11.430	3.9918E-01
13.970	2.2939E-01	16.510	1.0103E-01	19.050	3.0562E-02
21.590	2.5930E-02	24.130	2.2522E-02	26.670	1.9843E-02
29.210	1.7727E-02	31.750	1.6056E-02	34.290	1.4722E-02
36.830	1.3626E-02	39.370	1.2698E-02	41.910	1.1882E-02
44.450	1.1129E-02	46.990	1.3107E-02	49.530	1.8264E-02
52.070	9.3692E-03	54.610	7.6958E-03	57.150	6.2179E-03
59.690	4.7844E-03	60.960	4.0816E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2015.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.564E+05	0.0301	292.65
3	2.000E-01	2.398E+05	0.0301	292.65	4	3.000E-01	2.233E+05	0.0301	292.65
5	4.000E-01	2.069E+05	0.0301	292.65	6	5.000E-01	1.907E+05	0.0301	292.65
7	6.000E-01	1.748E+05	0.0301	292.65	8	7.000E-01	1.590E+05	0.0301	292.65
9	8.000E-01	1.434E+05	0.0301	292.65	10	9.000E-01	1.279E+05	0.0301	292.65
11	1.000E+00	1.126E+05	0.0301	292.65	12	1.250E+00	7.518E+04	0.0302	292.65
13	1.500E+00	3.866E+04	0.0305	292.65	14	1.750E+00	5.848E+03	0.0349	292.65
15	2.000E+00	4.271E+03	0.0371	292.65	16	2.500E+00	3.409E+03	0.0393	292.65
17	3.000E+00	3.043E+03	0.0407	292.65	18	3.500E+00	2.820E+03	0.0417	292.65
19	4.000E+00	2.665E+03	0.0426	292.65	20	4.500E+00	2.547E+03	0.0433	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	22	7.620E+00	2.162E+03	0.0461	292.65
23	1.016E+01	2.019E+03	0.0475	292.65	24	1.270E+01	1.931E+03	0.0485	292.65
25	1.524E+01	1.873E+03	0.0491	292.65	26	1.778E+01	1.833E+03	0.0496	292.65
27	2.032E+01	1.803E+03	0.0500	292.65	28	2.286E+01	1.780E+03	0.0503	292.65
29	2.540E+01	1.762E+03	0.0506	292.65	30	2.794E+01	1.746E+03	0.0508	292.65
31	3.048E+01	1.732E+03	0.0510	292.65	32	3.302E+01	1.720E+03	0.0512	292.65
33	3.556E+01	1.709E+03	0.0514	292.65	34	3.810E+01	1.699E+03	0.0515	292.65
35	4.064E+01	1.691E+03	0.0516	292.65	36	4.318E+01	1.684E+03	0.0517	292.65
37	4.572E+01	1.680E+03	0.0518	292.65	38	4.826E+01	1.429E+03	0.0501	292.65
39	5.080E+01	4.800E+02	0.0520	292.65	40	5.334E+01	4.659E+02	0.0522	292.65
41	5.588E+01	4.573E+02	0.0523	292.65	42	5.842E+01	4.525E+02	0.0524	292.65
43	6.096E+01	4.509E+02	0.0524	292.65					

Initial Water Storage = 3.0102 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.03417     0.05075     0.05239
 Head (cm)         = 4.46116E+05 6.68903E+03 1.75097E+03 4.51470E+02
 LiqWater Flow (cm)=-7.72381E-11-8.94834E-03-1.21834E-03 1.45276E-05
 IsoVapor Flow (cm)=-1.15374E-02-1.60151E-04-3.09998E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0102+ 0.0000+ 0.0000 - 0.0115- 0.0000-  0.0000 =    2.9987 vs.    2.9987

 Mass Balance = -9.1430E-06 cm;  Time step attempts =   55 and successes =   44
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0115 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    44

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03013     0.06276     0.08544     0.05117
 Head (cm)         = 1.20186E+05 1.19275E+03 7.61901E+02 6.00783E+02
 LiqWater Flow (cm)=-6.34932E-02-1.43312E-01-4.41809E-02 1.37268E-06
 IsoVapor Flow (cm)=-9.87435E-02-3.68917E-06-1.71695E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.6754+ 0.0000+ 0.0000 - 0.1642- 0.0000-  0.0000 =    4.5112 vs.    4.5112

 Mass Balance = -2.3310E-05 cm;  Time step attempts =  194 and successes =  147
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1642 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    30
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8444E+02	[cm]
Actual Evaporation	=	2.9170E+01	[cm]
Evaporation during Growth	=	2.9170E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0683E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7248E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0683E+01	[cm]
Actual Rainfall	=	3.0683E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.5112E+00	[cm]
Mass Balance Error	=	1.0704E-02	[cm]
Total Successful Time Steps	=	73933	
Total Attempted Time Steps	=	91409	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32787	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5134E+00	0.050	2.0348E+01	0.150	1.4075E+01
0.250	1.1809E+01	0.350	1.0265E+01	0.450	9.0517E+00
0.550	8.1675E+00	0.650	7.6598E+00	0.750	7.1403E+00
0.850	6.4682E+00	0.950	5.8626E+00	1.125	5.4985E+00
1.375	4.5449E+00	1.625	3.8734E+00	1.875	3.4718E+00
2.250	3.0838E+00	2.750	2.3917E+00	3.250	2.0620E+00
3.750	1.7576E+00	4.250	1.5568E+00	4.790	1.4789E+00
6.350	1.3450E+00	8.890	1.2779E+00	11.430	1.2082E+00
13.970	1.1352E+00	16.510	1.0589E+00	19.050	9.7973E-01
21.590	8.9793E-01	24.130	8.1380E-01	26.670	7.2761E-01
29.210	6.3960E-01	31.750	5.5001E-01	34.290	4.5905E-01
36.830	3.6691E-01	39.370	2.7376E-01	41.910	1.7975E-01
44.450	8.4990E-02	46.990	-9.8953E-03	49.530	-7.1173E-03
52.070	-8.7067E-03	54.610	-5.8320E-03	57.150	-2.8514E-03
59.690	1.9202E-04	60.960	1.7248E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2016.res
 Date of Run:      15 Sep 2025
 Time of Run:      16:35:05.87
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.202E+05	0.0301	292.65	2	1.000E-01	1.324E+03	0.0590	292.65
3	2.000E-01	1.316E+03	0.0592	292.65	4	3.000E-01	1.308E+03	0.0594	292.65
5	4.000E-01	1.300E+03	0.0596	292.65	6	5.000E-01	1.293E+03	0.0598	292.65
7	6.000E-01	1.285E+03	0.0600	292.65	8	7.000E-01	1.278E+03	0.0602	292.65
9	8.000E-01	1.271E+03	0.0604	292.65	10	9.000E-01	1.264E+03	0.0606	292.65
11	1.000E+00	1.257E+03	0.0608	292.65	12	1.250E+00	1.240E+03	0.0613	292.65
13	1.500E+00	1.224E+03	0.0618	292.65	14	1.750E+00	1.208E+03	0.0623	292.65
15	2.000E+00	1.193E+03	0.0628	292.65	16	2.500E+00	1.164E+03	0.0637	292.65
17	3.000E+00	1.138E+03	0.0646	292.65	18	3.500E+00	1.114E+03	0.0655	292.65
19	4.000E+00	1.092E+03	0.0664	292.65	20	4.500E+00	1.071E+03	0.0672	292.65
21	5.080E+00	1.049E+03	0.0681	292.65	22	7.620E+00	9.721E+02	0.0717	292.65
23	1.016E+01	9.177E+02	0.0746	292.65	24	1.270E+01	8.776E+02	0.0770	292.65
25	1.524E+01	8.469E+02	0.0790	292.65	26	1.778E+01	8.226E+02	0.0807	292.65
27	2.032E+01	8.030E+02	0.0822	292.65	28	2.286E+01	7.868E+02	0.0834	292.65
29	2.540E+01	7.733E+02	0.0845	292.65	30	2.794E+01	7.619E+02	0.0854	292.65
31	3.048E+01	7.522E+02	0.0863	292.65	32	3.302E+01	7.439E+02	0.0870	292.65
33	3.556E+01	7.368E+02	0.0876	292.65	34	3.810E+01	7.308E+02	0.0882	292.65
35	4.064E+01	7.258E+02	0.0886	292.65	36	4.318E+01	7.216E+02	0.0890	292.65
37	4.572E+01	7.183E+02	0.0893	292.65	38	4.826E+01	7.105E+02	0.0508	292.65
39	5.080E+01	6.799E+02	0.0509	292.65	40	5.334E+01	6.343E+02	0.0510	292.65
41	5.588E+01	6.131E+02	0.0511	292.65	42	5.842E+01	6.036E+02	0.0512	292.65
43	6.096E+01	6.008E+02	0.0512	292.65					

```
 Initial Water Storage =   4.5112 cm

 NOTE:  There are no temperature data when plants are modelled.

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05546     0.05967     0.08286     0.05117
 Head (cm)         = 1.47496E+03 1.29651E+03 7.93712E+02 6.01038E+02
 LiqWater Flow (cm)=-5.24966E-02-1.17013E-01-4.46999E-02 1.36790E-06
 IsoVapor Flow (cm)=-7.15645E-02-4.73932E-06-2.01760E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.5112+ 0.0000+ 0.0000 - 0.1228- 0.0000-  0.0000 =    4.3884 vs.    4.3884

 Mass Balance = -1.9060E-06 cm;  Time step attempts =  352 and successes =  274
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1228 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    62

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05004     0.05450     0.06356     0.05079
 Head (cm)         = 1.80298E+03 1.52344E+03 1.16876E+03 7.02518E+02
 LiqWater Flow (cm)= 4.66811E-02 9.74416E-03-3.79147E-03 3.77331E-07
 IsoVapor Flow (cm)=-3.25437E-02-2.30104E-06-1.55793E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6161+ 0.1016+ 0.0000 - 0.0865- 0.0000-  0.0000 =    3.6313 vs.    3.6312

 Mass Balance =  4.2927E-05 cm;  Time step attempts =  318 and successes =  273
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0865 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    59
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1664E+02	[cm]
Actual Evaporation	=	2.4698E+01	[cm]
Evaporation during Growth	=	2.4612E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.3825E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.5834E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.3825E+01	[cm]
Actual Rainfall	=	2.3825E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.6312E+00	[cm]
Mass Balance Error	=	6.9570E-03	[cm]
Total Successful Time Steps	=	59852	
Total Attempted Time Steps	=	73546	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29255	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7278E-01	0.050	1.3549E+01	0.150	7.8886E+00
0.250	6.3369E+00	0.350	5.1669E+00	0.450	4.3629E+00
0.550	3.9008E+00	0.650	3.4830E+00	0.750	3.2630E+00
0.850	2.9031E+00	0.950	2.6077E+00	1.125	2.3241E+00
1.375	1.6848E+00	1.625	1.4288E+00	1.875	1.1923E+00
2.250	9.1418E-01	2.750	5.4712E-01	3.250	2.1084E-01
3.750	8.0325E-02	4.250	3.5609E-03	4.790	-8.5649E-02
6.350	-2.0461E-01	8.890	-4.0931E-01	11.430	-5.4619E-01
13.970	-6.0036E-01	16.510	-6.7511E-01	19.050	-6.3408E-01
21.590	-5.8562E-01	24.130	-5.3433E-01	26.670	-4.8076E-01
29.210	-4.2532E-01	31.750	-3.6834E-01	34.290	-3.1004E-01
36.830	-2.5063E-01	39.370	-1.9029E-01	41.910	-1.2916E-01
44.450	-6.7396E-02	46.990	-3.5432E-03	49.530	1.2433E-03
52.070	-1.6633E-03	54.610	-1.7559E-03	57.150	-1.0308E-03
59.690	-1.8134E-04	60.960	2.5834E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2017.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.803E+03	0.0500	292.65	2	1.000E-01	1.781E+03	0.0503	292.65
3	2.000E-01	1.760E+03	0.0506	292.65	4	3.000E-01	1.741E+03	0.0509	292.65
5	4.000E-01	1.723E+03	0.0512	292.65	6	5.000E-01	1.705E+03	0.0514	292.65
7	6.000E-01	1.689E+03	0.0517	292.65	8	7.000E-01	1.674E+03	0.0519	292.65
9	8.000E-01	1.659E+03	0.0521	292.65	10	9.000E-01	1.645E+03	0.0524	292.65
11	1.000E+00	1.631E+03	0.0526	292.65	12	1.250E+00	1.600E+03	0.0531	292.65
13	1.500E+00	1.572E+03	0.0536	292.65	14	1.750E+00	1.547E+03	0.0541	292.65
15	2.000E+00	1.523E+03	0.0545	292.65	16	2.500E+00	1.483E+03	0.0553	292.65
17	3.000E+00	1.448E+03	0.0560	292.65	18	3.500E+00	1.418E+03	0.0567	292.65
19	4.000E+00	1.392E+03	0.0573	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.346E+03	0.0584	292.65	22	7.620E+00	1.277E+03	0.0602	292.65
23	1.016E+01	1.238E+03	0.0613	292.65	24	1.270E+01	1.216E+03	0.0620	292.65
25	1.524E+01	1.204E+03	0.0624	292.65	26	1.778E+01	1.196E+03	0.0627	292.65
27	2.032E+01	1.189E+03	0.0629	292.65	28	2.286E+01	1.182E+03	0.0631	292.65
29	2.540E+01	1.176E+03	0.0633	292.65	30	2.794E+01	1.169E+03	0.0636	292.65
31	3.048E+01	1.162E+03	0.0638	292.65	32	3.302E+01	1.156E+03	0.0640	292.65
33	3.556E+01	1.150E+03	0.0642	292.65	34	3.810E+01	1.145E+03	0.0644	292.65
35	4.064E+01	1.140E+03	0.0646	292.65	36	4.318E+01	1.136E+03	0.0647	292.65
37	4.572E+01	1.133E+03	0.0648	292.65	38	4.826E+01	1.120E+03	0.0502	292.65
39	5.080E+01	8.442E+02	0.0505	292.65	40	5.334E+01	7.456E+02	0.0507	292.65
41	5.588E+01	7.152E+02	0.0508	292.65	42	5.842E+01	7.049E+02	0.0508	292.65
43	6.096E+01	7.025E+02	0.0508	292.65					

Initial Water Storage = 3.6312 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06430     0.06661     0.06693     0.05079
 Head (cm)         = 1.14743E+03 1.08568E+03 1.07774E+03 7.02637E+02
 LiqWater Flow (cm)= 3.14902E-01 2.35926E-01 1.03990E-02 3.76809E-07
 IsoVapor Flow (cm)=-5.05616E-02-1.06421E-06 1.71256E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6312+ 0.4572+ 0.0000 - 0.1922- 0.0000-  0.0000 =    3.8963 vs.    3.8961

 Mass Balance =  1.3058E-04 cm;  Time step attempts =  529 and successes =  442
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1922 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03040     0.06153     0.05061
 Head (cm)         = 1.50332E+06 4.69196E+04 1.23187E+03 7.77678E+02
 LiqWater Flow (cm)=-9.03240E-13-2.26255E-02-9.71717E-03 1.63082E-07
 IsoVapor Flow (cm)=-2.64699E-02-2.88345E-04-3.81421E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4285+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =    3.4020 vs.    3.4020

 Mass Balance = -1.1567E-05 cm;  Time step attempts =   55 and successes =   42
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    42
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2162E+02	[cm]
Actual Evaporation	=	2.5851E+01	[cm]
Evaporation during Growth	=	2.5851E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5629E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.7196E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5629E+01	[cm]
Actual Rainfall	=	2.5629E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.4020E+00	[cm]
Mass Balance Error	=	6.9867E-03	[cm]
Total Successful Time Steps	=	53456	
Total Attempted Time Steps	=	65118	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26714	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2213E-01	0.050	1.6857E+01	0.150	9.2527E+00
0.250	7.8425E+00	0.350	6.5009E+00	0.450	6.0172E+00
0.550	5.5713E+00	0.650	5.3263E+00	0.750	4.9606E+00
0.850	4.5875E+00	0.950	4.1565E+00	1.125	3.9106E+00
1.375	2.9709E+00	1.625	2.4363E+00	1.875	1.9723E+00
2.250	1.6844E+00	2.750	9.6905E-01	3.250	8.4539E-01
3.750	7.0963E-01	4.250	5.8468E-01	4.790	4.7032E-01
6.350	4.0616E-01	8.890	1.6757E-01	11.430	1.2537E-02
13.970	-6.4498E-02	16.510	-5.9786E-02	19.050	-4.8834E-02
21.590	-3.9805E-02	24.130	-3.2405E-02	26.670	-2.6336E-02
29.210	-2.1333E-02	31.750	-1.7160E-02	34.290	-1.3654E-02
36.830	-1.0664E-02	39.370	-8.0665E-03	41.910	-5.7571E-03
44.450	-3.6415E-03	46.990	-1.0137E-03	49.530	1.4848E-03
52.070	-2.8803E-04	54.610	-6.2782E-04	57.150	-4.2068E-04
59.690	-9.0434E-05	60.960	8.7196E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2018.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.379E+06	0.0300	292.65
3	2.000E-01	1.265E+06	0.0300	292.65	4	3.000E-01	1.160E+06	0.0300	292.65
5	4.000E-01	1.062E+06	0.0300	292.65	6	5.000E-01	9.704E+05	0.0300	292.65
7	6.000E-01	8.847E+05	0.0300	292.65	8	7.000E-01	8.040E+05	0.0300	292.65
9	8.000E-01	7.278E+05	0.0300	292.65	10	9.000E-01	6.557E+05	0.0300	292.65
11	1.000E+00	5.871E+05	0.0300	292.65	12	1.250E+00	4.293E+05	0.0300	292.65
13	1.500E+00	2.881E+05	0.0300	292.65	14	1.750E+00	1.608E+05	0.0301	292.65
15	2.000E+00	4.692E+04	0.0304	292.65	16	2.500E+00	2.639E+03	0.0427	292.65
17	3.000E+00	2.444E+03	0.0439	292.65	18	3.500E+00	2.277E+03	0.0452	292.65
19	4.000E+00	2.148E+03	0.0463	292.65	20	4.500E+00	2.046E+03	0.0472	292.65
21	5.080E+00	1.953E+03	0.0482	292.65	22	7.620E+00	1.700E+03	0.0515	292.65
23	1.016E+01	1.562E+03	0.0538	292.65	24	1.270E+01	1.470E+03	0.0555	292.65
25	1.524E+01	1.404E+03	0.0570	292.65	26	1.778E+01	1.354E+03	0.0582	292.65
27	2.032E+01	1.313E+03	0.0592	292.65	28	2.286E+01	1.281E+03	0.0601	292.65
29	2.540E+01	1.254E+03	0.0609	292.65	30	2.794E+01	1.232E+03	0.0615	292.65
31	3.048E+01	1.213E+03	0.0621	292.65	32	3.302E+01	1.198E+03	0.0626	292.65
33	3.556E+01	1.185E+03	0.0630	292.65	34	3.810E+01	1.175E+03	0.0633	292.65
35	4.064E+01	1.167E+03	0.0636	292.65	36	4.318E+01	1.161E+03	0.0638	292.65
37	4.572E+01	1.156E+03	0.0640	292.65	38	4.826E+01	1.136E+03	0.0502	292.65
39	5.080E+01	9.257E+02	0.0504	292.65	40	5.334E+01	8.211E+02	0.0505	292.65
41	5.588E+01	7.877E+02	0.0506	292.65	42	5.842E+01	7.791E+02	0.0506	292.65
43	6.096E+01	7.777E+02	0.0506	292.65					

Initial Water Storage = 3.4020 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.06103     0.05061
 Head (cm)         = 7.20447E+05 1.14410E+05 1.24858E+03 7.77730E+02
 LiqWater Flow (cm)=-9.41296E-12-7.83704E-04-9.27695E-03 1.62996E-07
 IsoVapor Flow (cm)=-1.31360E-02-1.22687E-02-3.89091E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4020+ 0.0000+ 0.0000 - 0.0131- 0.0000-  0.0000 =    3.3889 vs.    3.3889

 Mass Balance = -1.0060E-06 cm;  Time step attempts =   58 and successes =   56
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0131 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    53

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04447     0.05551     0.05045
 Head (cm)         = 8.58098E+05 2.36711E+03 1.47251E+03 8.82114E+02
 LiqWater Flow (cm)=-2.23125E-11-3.41122E-02 4.41607E-03 5.76756E-08
 IsoVapor Flow (cm)=-4.83108E-02-1.76663E-05 3.63275E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2799+ 0.0000+ 0.0000 - 0.0483- 0.0000-  0.0000 =    3.2316 vs.    3.2316

 Mass Balance = -5.7639E-05 cm;  Time step attempts =  293 and successes =  228
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0483 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   227
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2377E+02	[cm]
Actual Evaporation	=	2.1422E+01	[cm]
Evaporation during Growth	=	2.1422E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1260E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.9114E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1260E+01	[cm]
Actual Rainfall	=	2.1260E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2316E+00	[cm]
Mass Balance Error	=	8.0353E-03	[cm]
Total Successful Time Steps	=	58101	
Total Attempted Time Steps	=	71538	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28966	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6230E-01	0.050	1.4549E+01	0.150	1.0475E+01
0.250	9.0283E+00	0.350	8.0494E+00	0.450	7.3823E+00
0.550	6.6063E+00	0.650	5.8517E+00	0.750	5.3948E+00
0.850	4.8779E+00	0.950	4.5168E+00	1.125	4.2655E+00
1.375	3.3820E+00	1.625	2.9954E+00	1.875	2.2928E+00
2.250	1.9388E+00	2.750	1.2631E+00	3.250	9.3559E-01
3.750	7.1133E-01	4.250	5.8516E-01	4.790	4.5431E-01
6.350	2.5657E-01	8.890	-8.7253E-02	11.430	-1.9146E-01
13.970	-2.0297E-01	16.510	-2.0105E-01	19.050	-1.9642E-01
21.590	-1.8906E-01	24.130	-1.7897E-01	26.670	-1.6625E-01
29.210	-1.5106E-01	31.750	-1.3367E-01	34.290	-1.1441E-01
36.830	-9.3621E-02	39.370	-7.1629E-02	41.910	-4.8772E-02
44.450	-2.5337E-02	46.990	-1.3010E-03	49.530	7.1558E-04
52.070	-2.0713E-04	54.610	-4.1797E-04	57.150	-3.1207E-04
59.690	-8.6013E-05	60.960	3.9114E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2019.res
 Date of Run:      15 Sep 2025
 Time of Run:      16:35:05.87
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.581E+05	0.0300	292.65	2	1.000E-01	7.469E+05	0.0300	292.65
3	2.000E-01	6.392E+05	0.0300	292.65	4	3.000E-01	5.432E+05	0.0300	292.65
5	4.000E-01	4.522E+05	0.0300	292.65	6	5.000E-01	3.670E+05	0.0300	292.65
7	6.000E-01	2.868E+05	0.0300	292.65	8	7.000E-01	2.110E+05	0.0301	292.65
9	8.000E-01	1.392E+05	0.0301	292.65	10	9.000E-01	7.089E+04	0.0302	292.65
11	1.000E+00	6.475E+03	0.0343	292.65	12	1.250E+00	3.156E+03	0.0403	292.65
13	1.500E+00	2.751E+03	0.0421	292.65	14	1.750E+00	2.522E+03	0.0434	292.65
15	2.000E+00	2.367E+03	0.0445	292.65	16	2.500E+00	2.162E+03	0.0461	292.65
17	3.000E+00	2.029E+03	0.0474	292.65	18	3.500E+00	1.932E+03	0.0484	292.65
19	4.000E+00	1.858E+03	0.0493	292.65	20	4.500E+00	1.799E+03	0.0501	292.65
21	5.080E+00	1.743E+03	0.0509	292.65	22	7.620E+00	1.590E+03	0.0533	292.65
23	1.016E+01	1.511E+03	0.0547	292.65	24	1.270E+01	1.468E+03	0.0556	292.65
25	1.524E+01	1.445E+03	0.0561	292.65	26	1.778E+01	1.437E+03	0.0563	292.65
27	2.032E+01	1.438E+03	0.0562	292.65	28	2.286E+01	1.446E+03	0.0561	292.65
29	2.540E+01	1.458E+03	0.0558	292.65	30	2.794E+01	1.473E+03	0.0555	292.65
31	3.048E+01	1.487E+03	0.0552	292.65	32	3.302E+01	1.499E+03	0.0550	292.65
33	3.556E+01	1.508E+03	0.0548	292.65	34	3.810E+01	1.514E+03	0.0547	292.65
35	4.064E+01	1.518E+03	0.0546	292.65	36	4.318E+01	1.518E+03	0.0546	292.65
37	4.572E+01	1.517E+03	0.0546	292.65	38	4.826E+01	1.465E+03	0.0501	292.65
39	5.080E+01	9.716E+02	0.0504	292.65	40	5.334E+01	8.870E+02	0.0504	292.65
41	5.588E+01	8.854E+02	0.0504	292.65	42	5.842E+01	8.844E+02	0.0504	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

```
 Initial Water Storage =   3.2316 cm

 NOTE:  There are no temperature data when plants are modelled.

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04334     0.05545     0.05045
 Head (cm)         = 6.36590E+05 2.53410E+03 1.47512E+03 8.82181E+02
 LiqWater Flow (cm)=-3.71215E-11-2.40150E-02 3.06965E-03 5.76387E-08
 IsoVapor Flow (cm)=-2.58388E-02-2.26761E-05 2.27088E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2316+ 0.0000+ 0.0000 - 0.0258- 0.0000-  0.0000 =    3.2058 vs.    3.2058

 Mass Balance = -8.9513E-06 cm;  Time step attempts =   95 and successes =   83
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0258 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    82

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04393     0.06482     0.05028
 Head (cm)         = 1.19840E+06 2.44439E+03 1.13268E+03 1.06308E+03
 LiqWater Flow (cm)=-3.46012E-12-3.24701E-02-1.24756E-02 1.23723E-08
 IsoVapor Flow (cm)=-3.67543E-02-2.62342E-05-3.26469E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5921+ 0.0000+ 0.0000 - 0.0368- 0.0000-  0.0000 =    3.5553 vs.    3.5554

 Mass Balance = -1.4396E-05 cm;  Time step attempts =   70 and successes =   53
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0368 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    53
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1575E+02	[cm]
Actual Evaporation	=	2.0190E+01	[cm]
Evaporation during Growth	=	2.0190E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0523E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.2828E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0523E+01	[cm]
Actual Rainfall	=	2.0523E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5554E+00	[cm]
Mass Balance Error	=	8.9914E-03	[cm]
Total Successful Time Steps	=	67254	
Total Attempted Time Steps	=	83746	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32257	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.3273E-01	0.050	1.3774E+01	0.150	1.0483E+01
0.250	8.7808E+00	0.350	7.3702E+00	0.450	6.5017E+00
0.550	5.8800E+00	0.650	5.2931E+00	0.750	4.8904E+00
0.850	4.5162E+00	0.950	4.1625E+00	1.125	3.9198E+00
1.375	3.3622E+00	1.625	2.8637E+00	1.875	2.5182E+00
2.250	2.2861E+00	2.750	1.8524E+00	3.250	1.5531E+00
3.750	1.3095E+00	4.250	1.1034E+00	4.790	9.3901E-01
6.350	7.9309E-01	8.890	5.6177E-01	11.430	4.1563E-01
13.970	3.2088E-01	16.510	3.0247E-01	19.050	2.8921E-01
21.590	2.7329E-01	24.130	2.5466E-01	26.670	2.3337E-01
29.210	2.0960E-01	31.750	1.8361E-01	34.290	1.5570E-01
36.830	1.2624E-01	39.370	9.5556E-02	41.910	6.3976E-02
44.450	3.1779E-02	46.990	-1.6477E-04	49.530	4.5167E-04
52.070	-6.8048E-05	54.610	-1.5511E-04	57.150	-1.4147E-04
59.690	-4.9737E-05	60.960	1.2828E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2020.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.652E+05	0.0300	292.65	4	3.000E-01	8.620E+05	0.0300	292.65
5	4.000E-01	7.660E+05	0.0300	292.65	6	5.000E-01	6.762E+05	0.0300	292.65
7	6.000E-01	5.919E+05	0.0300	292.65	8	7.000E-01	5.125E+05	0.0300	292.65
9	8.000E-01	4.374E+05	0.0300	292.65	10	9.000E-01	3.662E+05	0.0300	292.65
11	1.000E+00	2.984E+05	0.0300	292.65	12	1.250E+00	1.424E+05	0.0301	292.65
13	1.500E+00	2.906E+03	0.0413	292.65	14	1.750E+00	2.624E+03	0.0428	292.65
15	2.000E+00	2.444E+03	0.0439	292.65	16	2.500E+00	2.211E+03	0.0457	292.65
17	3.000E+00	2.056E+03	0.0471	292.65	18	3.500E+00	1.942E+03	0.0483	292.65
19	4.000E+00	1.854E+03	0.0494	292.65	20	4.500E+00	1.783E+03	0.0503	292.65
21	5.080E+00	1.716E+03	0.0513	292.65	22	7.620E+00	1.524E+03	0.0545	292.65
23	1.016E+01	1.413E+03	0.0568	292.65	24	1.270E+01	1.337E+03	0.0586	292.65
25	1.524E+01	1.281E+03	0.0601	292.65	26	1.778E+01	1.238E+03	0.0613	292.65
27	2.032E+01	1.203E+03	0.0624	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.152E+03	0.0641	292.65	30	2.794E+01	1.133E+03	0.0648	292.65
31	3.048E+01	1.117E+03	0.0654	292.65	32	3.302E+01	1.103E+03	0.0659	292.65
33	3.556E+01	1.092E+03	0.0664	292.65	34	3.810E+01	1.083E+03	0.0667	292.65
35	4.064E+01	1.075E+03	0.0670	292.65	36	4.318E+01	1.070E+03	0.0673	292.65
37	4.572E+01	1.066E+03	0.0674	292.65	38	4.826E+01	1.051E+03	0.0503	292.65
39	5.080E+01	9.238E+02	0.0504	292.65	40	5.334E+01	1.015E+03	0.0503	292.65
41	5.588E+01	1.060E+03	0.0503	292.65	42	5.842E+01	1.065E+03	0.0503	292.65
43	6.096E+01	1.063E+03	0.0503	292.65					

Initial Water Storage = 3.5554 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04584     0.06416     0.05028
 Head (cm)         = 7.50500E+05 2.19449E+03 1.15133E+03 1.06316E+03
 LiqWater Flow (cm)=-1.45651E-11-2.47285E-02-1.19994E-02 1.23642E-08
 IsoVapor Flow (cm)=-2.25943E-02-1.72107E-05-3.39095E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5554+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =    3.5328 vs.    3.5328

 Mass Balance = -7.2661E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04512     0.05025
 Head (cm)         = 8.61063E+05 6.85429E+05 2.28256E+03 1.11631E+03
 LiqWater Flow (cm)=-8.55997E-13-2.64299E-12-1.31436E-03 8.28772E-09
 IsoVapor Flow (cm)=-2.92266E-03-2.92266E-03-1.06713E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6300+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =    2.6271 vs.    2.6271

 Mass Balance = -4.5638E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.2628E+02     [cm]
Actual Evaporation                 =  1.5756E+01     [cm]
Evaporation during Growth          =  1.5753E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.4834E+01     [cm]
Total Basal Liquid Flux (drainage) =  4.5471E-06     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.4834E+01     [cm]
Actual Rainfall                    =  1.4834E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6271E+00     [cm]
Mass Balance Error                 =  5.9940E-03     [cm]
Total Successful Time Steps        =     50879
Total Attempted Time Steps         =     61797
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27333
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2231E-01	0.050	1.0309E+01	0.150	7.2574E+00
0.250	6.4006E+00	0.350	5.8049E+00	0.450	5.3515E+00
0.550	4.9830E+00	0.650	4.5178E+00	0.750	4.1966E+00
0.850	3.8978E+00	0.950	3.5870E+00	1.125	3.2950E+00
1.375	2.6672E+00	1.625	2.3083E+00	1.875	2.0397E+00
2.250	1.6984E+00	2.750	1.1390E+00	3.250	7.7352E-01
3.750	5.1126E-01	4.250	2.2814E-01	4.790	8.3418E-02
6.350	-1.0243E-01	8.890	-5.9324E-01	11.430	-6.8378E-01
13.970	-6.5666E-01	16.510	-6.0870E-01	19.050	-5.6069E-01
21.590	-5.1231E-01	24.130	-4.6343E-01	26.670	-4.1400E-01
29.210	-3.6402E-01	31.750	-3.1352E-01	34.290	-2.6255E-01
36.830	-2.1114E-01	39.370	-1.5934E-01	41.910	-1.0720E-01
44.450	-5.4744E-02	46.990	-1.6860E-03	49.530	2.2692E-04
52.070	-7.1239E-06	54.610	-1.4950E-05	57.150	-1.0146E-05
59.690	-7.2527E-07	60.960	4.5471E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2021.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.150E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.970E+05	0.0300	292.65
9	8.000E-01	7.881E+05	0.0300	292.65	10	9.000E-01	7.792E+05	0.0300	292.65
11	1.000E+00	7.705E+05	0.0300	292.65	12	1.250E+00	7.487E+05	0.0300	292.65
13	1.500E+00	7.273E+05	0.0300	292.65	14	1.750E+00	7.062E+05	0.0300	292.65
15	2.000E+00	6.854E+05	0.0300	292.65	16	2.500E+00	6.448E+05	0.0300	292.65
17	3.000E+00	6.053E+05	0.0300	292.65	18	3.500E+00	5.670E+05	0.0300	292.65
19	4.000E+00	5.297E+05	0.0300	292.65	20	4.500E+00	4.933E+05	0.0300	292.65
21	5.080E+00	4.523E+05	0.0300	292.65	22	7.620E+00	2.858E+05	0.0300	292.65
23	1.016E+01	1.373E+05	0.0301	292.65	24	1.270E+01	3.518E+03	0.0390	292.65
25	1.524E+01	2.963E+03	0.0411	292.65	26	1.778E+01	2.701E+03	0.0424	292.65
27	2.032E+01	2.539E+03	0.0433	292.65	28	2.286E+01	2.428E+03	0.0440	292.65
29	2.540E+01	2.345E+03	0.0446	292.65	30	2.794E+01	2.283E+03	0.0451	292.65
31	3.048E+01	2.234E+03	0.0455	292.65	32	3.302E+01	2.195E+03	0.0458	292.65
33	3.556E+01	2.164E+03	0.0461	292.65	34	3.810E+01	2.141E+03	0.0463	292.65
35	4.064E+01	2.123E+03	0.0465	292.65	36	4.318E+01	2.111E+03	0.0466	292.65
37	4.572E+01	2.103E+03	0.0467	292.65	38	4.826E+01	1.941E+03	0.0501	292.65
39	5.080E+01	1.605E+03	0.0501	292.65	40	5.334E+01	1.350E+03	0.0502	292.65
41	5.588E+01	1.201E+03	0.0502	292.65	42	5.842E+01	1.135E+03	0.0502	292.65
43	6.096E+01	1.116E+03	0.0502	292.65					

Initial Water Storage = 2.6271 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04504     0.05025
 Head (cm)         = 1.42694E+06 1.08397E+06 2.29221E+03 1.11705E+03
 LiqWater Flow (cm)=-1.47721E-13-5.34144E-13-1.30647E-03 8.24271E-09
 IsoVapor Flow (cm)=-4.12682E-03-4.11260E-03-1.08211E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6271+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =    2.6229 vs.    2.6229

 Mass Balance =  6.0153E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08653     0.08752     0.07301     0.05058
 Head (cm)         = 7.49185E+02 7.38039E+02 9.46956E+02 7.96306E+02
 LiqWater Flow (cm)= 1.28766E+00 1.16127E+00 9.67814E-02 1.33728E-07
 IsoVapor Flow (cm)= 1.45604E-05 3.41266E-05 2.76437E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8664+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =    4.1569 vs.    4.1559

 Mass Balance =  1.0595E-03 cm;  Time step attempts = 2307 and successes = 1729
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1796E+02	[cm]
Actual Evaporation	=	2.9019E+01	[cm]
Evaporation during Growth	=	2.9019E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0556E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.2857E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0556E+01	[cm]
Actual Rainfall	=	3.0556E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1559E+00	[cm]
Mass Balance Error	=	7.8821E-03	[cm]
Total Successful Time Steps	=	57974	
Total Attempted Time Steps	=	70806	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27145	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5367E+00	0.050	1.5375E+01	0.150	8.7842E+00
0.250	7.2983E+00	0.350	6.0681E+00	0.450	5.5426E+00
0.550	5.1104E+00	0.650	4.7733E+00	0.750	4.6095E+00
0.850	4.4096E+00	0.950	4.2644E+00	1.125	4.1658E+00
1.375	3.9068E+00	1.625	3.7132E+00	1.875	3.5227E+00
2.250	3.3130E+00	2.750	2.9895E+00	3.250	2.7765E+00
3.750	2.6101E+00	4.250	2.4357E+00	4.790	2.2728E+00
6.350	2.0253E+00	8.890	1.4800E+00	11.430	1.1812E+00
13.970	8.7885E-01	16.510	6.4813E-01	19.050	5.2711E-01
21.590	4.2666E-01	24.130	3.3465E-01	26.670	2.5230E-01
29.210	1.8129E-01	31.750	1.2366E-01	34.290	8.1509E-02
36.830	5.5178E-02	39.370	3.9243E-02	41.910	2.7028E-02
44.450	1.5685E-02	46.990	5.3446E-03	49.530	7.4396E-03
52.070	4.4976E-03	54.610	2.7253E-03	57.150	1.0627E-03
59.690	2.2001E-04	60.960	8.2857E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2022.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.492E+02	0.0865	292.65	2	1.000E-01	7.416E+02	0.0872	292.65
3	2.000E-01	7.434E+02	0.0870	292.65	4	3.000E-01	7.430E+02	0.0871	292.65
5	4.000E-01	7.424E+02	0.0871	292.65	6	5.000E-01	7.421E+02	0.0871	292.65
7	6.000E-01	7.419E+02	0.0872	292.65	8	7.000E-01	7.417E+02	0.0872	292.65
9	8.000E-01	7.414E+02	0.0872	292.65	10	9.000E-01	7.411E+02	0.0872	292.65
11	1.000E+00	7.408E+02	0.0873	292.65	12	1.250E+00	7.401E+02	0.0873	292.65
13	1.500E+00	7.393E+02	0.0874	292.65	14	1.750E+00	7.387E+02	0.0875	292.65
15	2.000E+00	7.380E+02	0.0875	292.65	16	2.500E+00	7.369E+02	0.0876	292.65
17	3.000E+00	7.359E+02	0.0877	292.65	18	3.500E+00	7.350E+02	0.0878	292.65
19	4.000E+00	7.342E+02	0.0879	292.65	20	4.500E+00	7.336E+02	0.0879	292.65
21	5.080E+00	7.330E+02	0.0880	292.65	22	7.620E+00	7.326E+02	0.0880	292.65
23	1.016E+01	7.356E+02	0.0877	292.65	24	1.270E+01	7.426E+02	0.0871	292.65
25	1.524E+01	7.543E+02	0.0861	292.65	26	1.778E+01	7.716E+02	0.0846	292.65
27	2.032E+01	7.961E+02	0.0827	292.65	28	2.286E+01	8.304E+02	0.0802	292.65
29	2.540E+01	8.784E+02	0.0770	292.65	30	2.794E+01	9.470E+02	0.0730	292.65
31	3.048E+01	1.048E+03	0.0682	292.65	32	3.302E+01	1.204E+03	0.0624	292.65
33	3.556E+01	1.429E+03	0.0564	292.65	34	3.810E+01	1.632E+03	0.0526	292.65
35	4.064E+01	1.716E+03	0.0513	292.65	36	4.318E+01	1.731E+03	0.0510	292.65
37	4.572E+01	1.730E+03	0.0511	292.65	38	4.826E+01	1.600E+03	0.0501	292.65
39	5.080E+01	9.382E+02	0.0504	292.65	40	5.334E+01	7.835E+02	0.0506	292.65
41	5.588E+01	7.635E+02	0.0506	292.65	42	5.842E+01	7.809E+02	0.0506	292.65
43	6.096E+01	7.963E+02	0.0506	292.65					

Initial Water Storage = 4.1559 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.07064     0.07314     0.05058
 Head (cm)         = 1.98374E+05 9.93641E+02 9.44585E+02 7.95756E+02
 LiqWater Flow (cm)=-6.07483E-02-9.88876E-02 1.20797E-01 1.34505E-07
 IsoVapor Flow (cm)=-7.72573E-02-1.03629E-06 1.24158E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1559+ 0.0508+ 0.0000 - 0.1916- 0.0000-  0.0000 =    4.0150 vs.    4.0151

 Mass Balance = -2.6415E-05 cm;  Time step attempts =  248 and successes =  210
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1916 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04633     0.05131     0.05046
 Head (cm)         = 7.13118E+05 2.13938E+03 1.71252E+03 8.74989E+02
 LiqWater Flow (cm)=-1.83405E-04-4.47956E-02-1.42134E-03 6.16353E-08
 IsoVapor Flow (cm)=-7.69419E-02-1.12819E-05-3.39111E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2154+ 0.0000+ 0.0000 - 0.0771- 0.0000-  0.0000 =    3.1383 vs.    3.1383

 Mass Balance = -7.0153E-05 cm;  Time step attempts =  383 and successes =  304
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0771 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   201
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1971E+02	[cm]
Actual Evaporation	=	2.3667E+01	[cm]
Evaporation during Growth	=	2.3667E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2657E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.9583E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2657E+01	[cm]
Actual Rainfall	=	2.2657E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1383E+00	[cm]
Mass Balance Error	=	7.6074E-03	[cm]
Total Successful Time Steps	=	62633	
Total Attempted Time Steps	=	76742	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30594	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0099E+00	0.050	1.3406E+01	0.150	8.0691E+00
0.250	6.4709E+00	0.350	5.6810E+00	0.450	5.1205E+00
0.550	4.5368E+00	0.650	4.0134E+00	0.750	3.6789E+00
0.850	3.4251E+00	0.950	3.1542E+00	1.125	2.7857E+00
1.375	2.2144E+00	1.625	1.7686E+00	1.875	1.4624E+00
2.250	1.2264E+00	2.750	7.0410E-01	3.250	2.8531E-01
3.750	6.1545E-02	4.250	-1.1171E-01	4.790	-2.4058E-01
6.350	-2.9611E-01	8.890	-3.6925E-01	11.430	-3.8787E-01
13.970	-3.9072E-01	16.510	-4.0599E-01	19.050	-3.4356E-01
21.590	-2.6768E-01	24.130	-1.9619E-01	26.670	-1.3155E-01
29.210	-7.6539E-02	31.750	-3.3993E-02	34.290	-6.4978E-03
36.830	5.3791E-03	39.370	6.9308E-03	41.910	4.7725E-03
44.450	1.7352E-03	46.990	-9.0028E-04	49.530	1.3492E-03
52.070	-8.7299E-05	54.610	-3.7467E-04	57.150	-2.4570E-04
59.690	-4.8142E-05	60.960	3.9583E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2023.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

	Initial Conditions					Initial Conditions			
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.871E+05	0.0300	292.65
3	2.000E-01	4.716E+05	0.0300	292.65	4	3.000E-01	3.650E+05	0.0300	292.65
5	4.000E-01	2.661E+05	0.0301	292.65	6	5.000E-01	1.738E+05	0.0301	292.65
7	6.000E-01	8.734E+04	0.0302	292.65	8	7.000E-01	6.317E+03	0.0345	292.65
9	8.000E-01	3.755E+03	0.0383	292.65	10	9.000E-01	3.257E+03	0.0399	292.65
11	1.000E+00	2.981E+03	0.0410	292.65	12	1.250E+00	2.599E+03	0.0429	292.65
13	1.500E+00	2.387E+03	0.0443	292.65	14	1.750E+00	2.244E+03	0.0454	292.65
15	2.000E+00	2.139E+03	0.0463	292.65	16	2.500E+00	1.991E+03	0.0478	292.65
17	3.000E+00	1.889E+03	0.0489	292.65	18	3.500E+00	1.814E+03	0.0499	292.65
19	4.000E+00	1.755E+03	0.0507	292.65	20	4.500E+00	1.709E+03	0.0514	292.65
21	5.080E+00	1.665E+03	0.0520	292.65	22	7.620E+00	1.555E+03	0.0539	292.65
23	1.016E+01	1.513E+03	0.0547	292.65	24	1.270E+01	1.510E+03	0.0548	292.65
25	1.524E+01	1.533E+03	0.0543	292.65	26	1.778E+01	1.574E+03	0.0536	292.65
27	2.032E+01	1.624E+03	0.0527	292.65	28	2.286E+01	1.671E+03	0.0519	292.65
29	2.540E+01	1.702E+03	0.0515	292.65	30	2.794E+01	1.713E+03	0.0513	292.65
31	3.048E+01	1.708E+03	0.0514	292.65	32	3.302E+01	1.697E+03	0.0515	292.65
33	3.556E+01	1.684E+03	0.0517	292.65	34	3.810E+01	1.672E+03	0.0519	292.65
35	4.064E+01	1.661E+03	0.0521	292.65	36	4.318E+01	1.653E+03	0.0522	292.65
37	4.572E+01	1.648E+03	0.0523	292.65	38	4.826E+01	1.556E+03	0.0501	292.65
39	5.080E+01	1.018E+03	0.0503	292.65	40	5.334E+01	8.834E+02	0.0504	292.65
41	5.588E+01	8.701E+02	0.0505	292.65	42	5.842E+01	8.737E+02	0.0505	292.65
43	6.096E+01	8.750E+02	0.0505	292.65					

Initial Water Storage = 3.1383 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04342     0.05187     0.05046
 Head (cm)         = 7.09845E+05 2.52160E+03 1.67568E+03 8.74950E+02
 LiqWater Flow (cm)=-3.25950E-11-2.68190E-02 7.28023E-04 6.16577E-08
 IsoVapor Flow (cm)=-3.45174E-02-2.06315E-05 7.62073E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1383+ 0.0000+ 0.0000 - 0.0345- 0.0000-  0.0000 =    3.1038 vs.    3.1039

 Mass Balance = -3.2708E-05 cm;  Time step attempts =  197 and successes =  157
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0345 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   156

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05125     0.05023
 Head (cm)         = 1.53614E+06 5.72974E+05 1.71650E+03 1.14847E+03
 LiqWater Flow (cm)=-3.94946E-13-5.63822E-11-1.45656E-03 6.55251E-09
 IsoVapor Flow (cm)=-1.33724E-02-1.33619E-02-3.27938E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9673+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    2.9539 vs.    2.9539

 Mass Balance = -4.1195E-06 cm;  Time step attempts =   28 and successes =   26
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0134 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    26
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3745E+02	[cm]
Actual Evaporation	=	1.1201E+01	[cm]
Evaporation during Growth	=	1.1201E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1024E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.3305E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1024E+01	[cm]
Actual Rainfall	=	1.1024E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9539E+00	[cm]
Mass Balance Error	=	7.1438E-03	[cm]
Total Successful Time Steps	=	58525	
Total Attempted Time Steps	=	72070	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31150	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.7731E-01	0.050	8.5643E+00	0.150	6.6354E+00
0.250	5.9816E+00	0.350	5.5777E+00	0.450	5.2074E+00
0.550	4.8888E+00	0.650	4.6139E+00	0.750	4.3545E+00
0.850	4.0922E+00	0.950	3.8994E+00	1.125	3.7057E+00
1.375	3.1063E+00	1.625	2.7385E+00	1.875	2.4496E+00
2.250	2.2020E+00	2.750	1.6182E+00	3.250	1.2590E+00
3.750	1.0109E+00	4.250	8.9616E-01	4.790	7.4015E-01
6.350	5.9081E-01	8.890	3.8483E-01	11.430	2.7566E-01
13.970	1.6716E-01	16.510	8.2211E-02	19.050	2.8136E-02
21.590	-5.7786E-03	24.130	-3.0442E-03	26.670	-1.9587E-03
29.210	-1.9442E-03	31.750	-2.3480E-03	34.290	-2.7813E-03
36.830	-3.0714E-03	39.370	-3.1728E-03	41.910	-3.0998E-03
44.450	-2.8948E-03	46.990	-1.5080E-03	49.530	-1.7529E-05
52.070	-1.3331E-04	54.610	-1.8787E-04	57.150	-1.6291E-04
59.690	-5.9882E-05	60.960	1.3305E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpasonorm2024.res
Date of Run: 15 Sep 2025
Time of Run: 16:35:05.87
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.469E+06	0.0300	292.65
3	2.000E-01	1.404E+06	0.0300	292.65	4	3.000E-01	1.342E+06	0.0300	292.65
5	4.000E-01	1.283E+06	0.0300	292.65	6	5.000E-01	1.227E+06	0.0300	292.65
7	6.000E-01	1.172E+06	0.0300	292.65	8	7.000E-01	1.120E+06	0.0300	292.65
9	8.000E-01	1.069E+06	0.0300	292.65	10	9.000E-01	1.020E+06	0.0300	292.65
11	1.000E+00	9.732E+05	0.0300	292.65	12	1.250E+00	8.618E+05	0.0300	292.65
13	1.500E+00	7.587E+05	0.0300	292.65	14	1.750E+00	6.627E+05	0.0300	292.65
15	2.000E+00	5.730E+05	0.0300	292.65	16	2.500E+00	4.093E+05	0.0300	292.65
17	3.000E+00	2.633E+05	0.0301	292.65	18	3.500E+00	1.314E+05	0.0301	292.65
19	4.000E+00	1.098E+04	0.0323	292.65	20	4.500E+00	3.539E+03	0.0389	292.65
21	5.080E+00	3.083E+03	0.0405	292.65	22	7.620E+00	2.376E+03	0.0444	292.65
23	1.016E+01	2.133E+03	0.0464	292.65	24	1.270E+01	1.997E+03	0.0477	292.65
25	1.524E+01	1.908E+03	0.0487	292.65	26	1.778E+01	1.845E+03	0.0495	292.65
27	2.032E+01	1.799E+03	0.0501	292.65	28	2.286E+01	1.764E+03	0.0506	292.65
29	2.540E+01	1.737E+03	0.0509	292.65	30	2.794E+01	1.716E+03	0.0512	292.65
31	3.048E+01	1.700E+03	0.0515	292.65	32	3.302E+01	1.688E+03	0.0517	292.65
33	3.556E+01	1.678E+03	0.0518	292.65	34	3.810E+01	1.670E+03	0.0520	292.65
35	4.064E+01	1.664E+03	0.0521	292.65	36	4.318E+01	1.659E+03	0.0521	292.65
37	4.572E+01	1.655E+03	0.0522	292.65	38	4.826E+01	1.614E+03	0.0501	292.65
39	5.080E+01	1.392E+03	0.0501	292.65	40	5.334E+01	1.261E+03	0.0502	292.65
41	5.588E+01	1.198E+03	0.0502	292.65	42	5.842E+01	1.162E+03	0.0502	292.65
43	6.096E+01	1.148E+03	0.0502	292.65					

Initial Water Storage = 2.9539 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05109     0.05023
 Head (cm)         = 1.41657E+06 6.10843E+05 1.72739E+03 1.14906E+03
 LiqWater Flow (cm)=-4.53606E-13-3.34251E-11-1.61955E-03 6.52490E-09
 IsoVapor Flow (cm)=-1.16201E-02-1.16201E-02-3.67610E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9539+ 0.0000+ 0.0000 - 0.0116- 0.0000-  0.0000 =    2.9423 vs.    2.9423

 Mass Balance = -6.2022E-06 cm;  Time step attempts =   64 and successes =   58
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0116 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    57

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.05000     0.05013
 Head (cm)         = 2.16723E+06 1.21638E+06 1.80603E+03 1.46495E+03
 LiqWater Flow (cm)=-6.38283E-14-7.33809E-13-2.53177E-03 8.78066E-10
 IsoVapor Flow (cm)=-8.27982E-03-8.28004E-03-6.56984E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8696+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.8613 vs.    2.8613

 Mass Balance = -2.8309E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.4447E+02     [cm]
Actual Evaporation                 =  1.1719E+01     [cm]
Evaporation during Growth          =  1.1719E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.1633E+01     [cm]
Total Basal Liquid Flux (drainage) =  8.1990E-07     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.1633E+01     [cm]
Actual Rainfall                    =  1.1633E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8613E+00     [cm]
Mass Balance Error                 =  6.6786E-03     [cm]
Total Successful Time Steps        =     55052
Total Attempted Time Steps         =     67567
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29649
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5925E-02	0.050	9.0392E+00	0.150	6.9847E+00
0.250	6.2650E+00	0.350	5.6683E+00	0.450	5.2342E+00
0.550	4.8918E+00	0.650	4.5887E+00	0.750	4.2915E+00
0.850	4.0521E+00	0.950	3.7820E+00	1.125	3.5889E+00
1.375	3.1565E+00	1.625	2.8897E+00	1.875	2.5731E+00
2.250	2.3133E+00	2.750	1.8990E+00	3.250	1.4995E+00
3.750	1.2919E+00	4.250	1.1012E+00	4.790	8.7650E-01
6.350	6.6167E-01	8.890	2.7643E-01	11.430	2.1497E-01
13.970	1.5462E-01	16.510	1.0014E-01	19.050	5.0029E-02
21.590	-3.4339E-03	24.130	-1.9952E-02	26.670	-1.6570E-02
29.210	-1.3535E-02	31.750	-1.0882E-02	34.290	-8.5937E-03
36.830	-6.6310E-03	39.370	-4.9339E-03	41.910	-3.4387E-03
44.450	-2.0893E-03	46.990	-1.9108E-04	49.530	3.9153E-05
52.070	-3.3472E-06	54.610	-1.0431E-05	57.150	-1.1550E-05
59.690	-4.7625E-06	60.960	8.1990E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX III.I.1.C – UNSAT-H MODEL INPUT AND OUTPUT: +20% HC

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
Increase
1,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                            IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,0.0,                      UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,5.5,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,28.4,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
```

```
125.0,125.0,125.0,
0,1,1,1,1,365,                                  LEAF,NFROOT,NUPTAK,NFPET,NSOW,NHRVST
0.2,                                            BARE
0.0,0.0,0.0,                                    AA,B1,B2
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,365,365,365,365,365,365,365,
365,365,365,
0.1,0.05,0.0,                                   HW,HD,HN
0.1,0.05,0.0,                                   HW,HD,HN
0.0,0.52,0.5,0.1,2.7,                           PETPC1,PETPC2,PETPC3,PETPC4,PETPC5
0.20,1234,0.5,875.0,                            ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1995.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

Initial Water Storage = 6.4909 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.09338     0.09426     0.11108     0.07426
 Head (cm)         = 6.78406E+02 6.70269E+02 5.45963E+02 1.77612E+02
 LiqWater Flow (cm)=-3.31071E-01-3.03324E-01-2.12618E-01 1.46859E-01
 IsoVapor Flow (cm)=-1.19400E-06-6.56663E-07-1.36545E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1469 =    6.0123 vs.    6.0123

 Mass Balance = -5.0021E-05 cm;  Time step attempts =  221 and successes =  192
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04661     0.05149
 Head (cm)         = 1.32310E+06 1.99550E+05 2.10926E+03 5.45638E+02
 LiqWater Flow (cm)= 5.26906E-02 1.27109E-02-9.00046E-04 3.64589E-06
 IsoVapor Flow (cm)=-4.30946E-02-3.25996E-03-4.56605E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7795+ 0.0762+ 0.0000 - 0.0666- 0.0000-  0.0000 =    2.7891 vs.    2.7889

 Mass Balance =  1.2832E-04 cm;  Time step attempts = 1353 and successes = 1057
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0666 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   440
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.1660E+02     [cm]
Actual Evaporation                 =  1.8870E+01     [cm]
Evaporation during Growth          =  1.8870E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.5392E+01     [cm]
Total Basal Liquid Flux (drainage) =  2.1827E-01     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.5392E+01     [cm]
Actual Rainfall                    =  1.5392E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.7889E+00     [cm]
Mass Balance Error                 =  5.9873E-03     [cm]
Total Successful Time Steps        =     57294
Total Attempted Time Steps         =     69867
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30162
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4777E+00	0.050	8.2195E+00	0.150	5.2568E+00
0.250	3.7214E+00	0.350	3.0356E+00	0.450	2.3615E+00
0.550	1.9261E+00	0.650	1.6201E+00	0.750	1.2479E+00
0.850	9.4067E-01	0.950	5.8103E-01	1.125	3.1675E-01
1.375	-2.2797E-01	1.625	-7.2723E-01	1.875	-9.9550E-01
2.250	-1.1840E+00	2.750	-1.5224E+00	3.250	-1.7658E+00
3.750	-1.9760E+00	4.250	-2.1698E+00	4.790	-2.2439E+00
6.350	-2.3030E+00	8.890	-2.4868E+00	11.430	-2.4560E+00
13.970	-2.4059E+00	16.510	-2.3484E+00	19.050	-2.2200E+00
21.590	-2.0660E+00	24.130	-1.9127E+00	26.670	-1.7601E+00
29.210	-1.6081E+00	31.750	-1.4566E+00	34.290	-1.3055E+00
36.830	-1.1547E+00	39.370	-1.0043E+00	41.910	-8.5404E-01
44.450	-7.0398E-01	46.990	-5.5126E-01	49.530	-4.0297E-01
52.070	-2.7045E-01	54.610	-1.3057E-01	57.150	9.0643E-03
59.690	1.4855E-01	60.960	2.1827E-01		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1996.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.239E+06	0.0300	292.65
3	2.000E-01	1.160E+06	0.0300	292.65	4	3.000E-01	1.085E+06	0.0300	292.65
5	4.000E-01	1.013E+06	0.0300	292.65	6	5.000E-01	9.457E+05	0.0300	292.65
7	6.000E-01	8.812E+05	0.0300	292.65	8	7.000E-01	8.196E+05	0.0300	292.65
9	8.000E-01	7.606E+05	0.0300	292.65	10	9.000E-01	7.041E+05	0.0300	292.65
11	1.000E+00	6.498E+05	0.0300	292.65	12	1.250E+00	5.226E+05	0.0300	292.65
13	1.500E+00	4.062E+05	0.0300	292.65	14	1.750E+00	2.990E+05	0.0300	292.65
15	2.000E+00	1.995E+05	0.0301	292.65	16	2.500E+00	2.015E+04	0.0311	292.65
17	3.000E+00	5.029E+03	0.0359	292.65	18	3.500E+00	4.771E+03	0.0362	292.65
19	4.000E+00	4.819E+03	0.0362	292.65	20	4.500E+00	4.747E+03	0.0363	292.65
21	5.080E+00	4.334E+03	0.0370	292.65	22	7.620E+00	2.996E+03	0.0409	292.65
23	1.016E+01	2.648E+03	0.0427	292.65	24	1.270E+01	2.465E+03	0.0438	292.65
25	1.524E+01	2.350E+03	0.0446	292.65	26	1.778E+01	2.271E+03	0.0452	292.65
27	2.032E+01	2.213E+03	0.0457	292.65	28	2.286E+01	2.170E+03	0.0461	292.65
29	2.540E+01	2.136E+03	0.0464	292.65	30	2.794E+01	2.109E+03	0.0466	292.65
31	3.048E+01	2.088E+03	0.0468	292.65	32	3.302E+01	2.070E+03	0.0470	292.65
33	3.556E+01	2.056E+03	0.0471	292.65	34	3.810E+01	2.044E+03	0.0472	292.65
35	4.064E+01	2.035E+03	0.0473	292.65	36	4.318E+01	2.028E+03	0.0474	292.65
37	4.572E+01	2.023E+03	0.0475	292.65	38	4.826E+01	1.687E+03	0.0501	292.65
39	5.080E+01	6.144E+02	0.0511	292.65	40	5.334E+01	5.762E+02	0.0513	292.65
41	5.588E+01	5.577E+02	0.0514	292.65	42	5.842E+01	5.485E+02	0.0515	292.65
43	6.096E+01	5.456E+02	0.0515	292.65					

Initial Water Storage = 2.7889 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03005     0.04654     0.05148
 Head (cm)         = 6.46939E+05 2.86100E+05 2.11739E+03 5.46114E+02
 LiqWater Flow (cm)=-1.23602E-11-6.16019E-08-9.45132E-04 3.61974E-06
 IsoVapor Flow (cm)=-9.05363E-03-9.05769E-03-4.84152E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7889+ 0.0000+ 0.0000 - 0.0091- 0.0000-  0.0000 =    2.7799 vs.    2.7799

 Mass Balance = -2.5151E-05 cm;  Time step attempts =  101 and successes =   79
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0091 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    76

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04499     0.05082
 Head (cm)         = 1.37244E+06 9.77636E+05 2.29837E+03 6.91463E+02
 LiqWater Flow (cm)=-2.46112E-13-1.18443E-12-1.38935E-03 5.16082E-07
 IsoVapor Flow (cm)=-4.92934E-03-4.92876E-03-9.84279E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6427+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =    2.6378 vs.    2.6378

 Mass Balance =  1.3646E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.3540E+02     [cm]
Actual Evaporation                 =  2.1455E+01     [cm]
Evaporation during Growth          =  2.1450E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  2.1311E+01     [cm]
Total Basal Liquid Flux (drainage) =  5.1100E-04     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1311E+01     [cm]
Actual Rainfall                    =  2.1311E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6378E+00     [cm]
Mass Balance Error                 =  6.3947E-03     [cm]
Total Successful Time Steps        =     50957
Total Attempted Time Steps         =     61519
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26445
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4421E-01	0.050	1.5264E+01	0.150	8.1942E+00
0.250	6.2850E+00	0.350	5.0765E+00	0.450	4.2862E+00
0.550	3.8427E+00	0.650	3.5426E+00	0.750	3.3648E+00
0.850	3.1387E+00	0.950	2.9205E+00	1.125	2.7594E+00
1.375	2.3796E+00	1.625	2.1886E+00	1.875	2.0293E+00
2.250	1.9003E+00	2.750	1.5852E+00	3.250	1.4578E+00
3.750	1.3191E+00	4.250	1.2006E+00	4.790	1.0906E+00
6.350	9.4296E-01	8.890	4.9152E-01	11.430	2.4136E-01
13.970	1.1937E-01	16.510	-7.0139E-03	19.050	-4.6879E-02
21.590	-4.1808E-02	24.130	-3.6894E-02	26.670	-3.2485E-02
29.210	-2.8516E-02	31.750	-2.4900E-02	34.290	-2.1585E-02
36.830	-1.8502E-02	39.370	-1.5595E-02	41.910	-1.2815E-02
44.450	-1.0120E-02	46.990	-5.3882E-03	49.530	-5.6922E-04
52.070	-4.5935E-03	54.610	-3.4040E-03	57.150	-1.8824E-03
59.690	-2.9286E-04	60.960	5.1100E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1997.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.306E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.263E+06	0.0300	292.65
7	6.000E-01	1.242E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.201E+06	0.0300	292.65	10	9.000E-01	1.181E+06	0.0300	292.65
11	1.000E+00	1.161E+06	0.0300	292.65	12	1.250E+00	1.113E+06	0.0300	292.65
13	1.500E+00	1.066E+06	0.0300	292.65	14	1.750E+00	1.021E+06	0.0300	292.65
15	2.000E+00	9.776E+05	0.0300	292.65	16	2.500E+00	8.943E+05	0.0300	292.65
17	3.000E+00	8.157E+05	0.0300	292.65	18	3.500E+00	7.414E+05	0.0300	292.65
19	4.000E+00	6.709E+05	0.0300	292.65	20	4.500E+00	6.038E+05	0.0300	292.65
21	5.080E+00	5.299E+05	0.0300	292.65	22	7.620E+00	2.456E+05	0.0301	292.65
23	1.016E+01	9.489E+03	0.0327	292.65	24	1.270E+01	3.260E+03	0.0399	292.65
25	1.524E+01	2.891E+03	0.0414	292.65	26	1.778E+01	2.676E+03	0.0425	292.65
27	2.032E+01	2.534E+03	0.0433	292.65	28	2.286E+01	2.432E+03	0.0440	292.65
29	2.540E+01	2.356E+03	0.0446	292.65	30	2.794E+01	2.298E+03	0.0450	292.65
31	3.048E+01	2.253E+03	0.0454	292.65	32	3.302E+01	2.217E+03	0.0457	292.65
33	3.556E+01	2.189E+03	0.0459	292.65	34	3.810E+01	2.167E+03	0.0461	292.65
35	4.064E+01	2.151E+03	0.0462	292.65	36	4.318E+01	2.139E+03	0.0463	292.65
37	4.572E+01	2.132E+03	0.0464	292.65	38	4.826E+01	1.839E+03	0.0501	292.65
39	5.080E+01	1.025E+03	0.0503	292.65	40	5.334E+01	7.745E+02	0.0506	292.65
41	5.588E+01	7.185E+02	0.0507	292.65	42	5.842E+01	6.973E+02	0.0508	292.65
43	6.096E+01	6.915E+02	0.0508	292.65					

Initial Water Storage = 2.6378 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04491     0.05082
 Head (cm)         = 1.39883E+06 9.95354E+05 2.30945E+03 6.91812E+02
 LiqWater Flow (cm)=-2.29740E-13-1.10782E-12-1.38624E-03 5.13941E-07
 IsoVapor Flow (cm)=-4.96832E-03-4.96789E-03-1.00443E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6378+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =    2.6328 vs.    2.6328

 Mass Balance = -3.3678E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.05061     0.07209     0.05048
 Head (cm)         = 5.32865E+05 1.76103E+03 9.64625E+02 8.54698E+02
 LiqWater Flow (cm)=-1.61353E-09-6.69134E-02-2.81553E-02 8.97827E-08
 IsoVapor Flow (cm)=-7.34902E-02-9.19038E-06-2.72478E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9643+ 0.0000+ 0.0000 - 0.0735- 0.0000-  0.0000 =    3.8908 vs.    3.8909

 Mass Balance = -1.5821E-05 cm;  Time step attempts =  107 and successes =   83
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0735 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    63
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8279E+02	[cm]
Actual Evaporation	=	2.3195E+01	[cm]
Evaporation during Growth	=	2.3195E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4460E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.5440E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4460E+01	[cm]
Actual Rainfall	=	2.4460E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8909E+00	[cm]
Mass Balance Error	=	1.1840E-02	[cm]
Total Successful Time Steps	=	81008	
Total Attempted Time Steps	=	101132	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	37722	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2650E+00	0.050	1.7749E+01	0.150	1.3603E+01
0.250	1.1659E+01	0.350	1.0230E+01	0.450	9.1983E+00
0.550	8.3404E+00	0.650	7.5854E+00	0.750	6.9603E+00
0.850	6.5079E+00	0.950	6.0579E+00	1.125	5.6113E+00
1.375	4.5642E+00	1.625	3.9675E+00	1.875	3.4605E+00
2.250	3.0963E+00	2.750	2.4890E+00	3.250	2.1376E+00
3.750	1.8999E+00	4.250	1.6745E+00	4.790	1.5068E+00
6.350	1.3483E+00	8.890	1.1377E+00	11.430	9.6846E-01
13.970	9.0023E-01	16.510	8.3588E-01	19.050	7.7084E-01
21.590	7.0488E-01	24.130	6.3795E-01	26.670	5.7001E-01
29.210	5.0111E-01	31.750	4.3133E-01	34.290	3.6074E-01
36.830	2.8941E-01	39.370	2.1742E-01	41.910	1.4487E-01
44.450	7.1825E-02	46.990	-9.5790E-04	49.530	6.9669E-05
52.070	-6.2522E-04	54.610	-1.1422E-03	57.150	-8.3611E-04
59.690	-2.4225E-04	60.960	8.5440E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1998.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.329E+05	0.0300	292.65	2	1.000E-01	3.694E+05	0.0300	292.65
3	2.000E-01	2.316E+05	0.0301	292.65	4	3.000E-01	1.056E+05	0.0302	292.65
5	4.000E-01	2.501E+03	0.0435	292.65	6	5.000E-01	2.397E+03	0.0443	292.65
7	6.000E-01	2.311E+03	0.0449	292.65	8	7.000E-01	2.237E+03	0.0455	292.65
9	8.000E-01	2.174E+03	0.0460	292.65	10	9.000E-01	2.118E+03	0.0465	292.65
11	1.000E+00	2.069E+03	0.0470	292.65	12	1.250E+00	1.967E+03	0.0481	292.65
13	1.500E+00	1.885E+03	0.0490	292.65	14	1.750E+00	1.818E+03	0.0498	292.65
15	2.000E+00	1.761E+03	0.0506	292.65	16	2.500E+00	1.669E+03	0.0520	292.65
17	3.000E+00	1.597E+03	0.0532	292.65	18	3.500E+00	1.538E+03	0.0542	292.65
19	4.000E+00	1.488E+03	0.0552	292.65	20	4.500E+00	1.446E+03	0.0561	292.65
21	5.080E+00	1.404E+03	0.0570	292.65	22	7.620E+00	1.273E+03	0.0603	292.65
23	1.016E+01	1.190E+03	0.0628	292.65	24	1.270E+01	1.131E+03	0.0649	292.65
25	1.524E+01	1.087E+03	0.0666	292.65	26	1.778E+01	1.052E+03	0.0680	292.65
27	2.032E+01	1.024E+03	0.0692	292.65	28	2.286E+01	1.000E+03	0.0703	292.65
29	2.540E+01	9.810E+02	0.0713	292.65	30	2.794E+01	9.646E+02	0.0721	292.65
31	3.048E+01	9.508E+02	0.0728	292.65	32	3.302E+01	9.392E+02	0.0734	292.65
33	3.556E+01	9.294E+02	0.0740	292.65	34	3.810E+01	9.214E+02	0.0744	292.65
35	4.064E+01	9.148E+02	0.0748	292.65	36	4.318E+01	9.097E+02	0.0751	292.65
37	4.572E+01	9.058E+02	0.0753	292.65	38	4.826E+01	8.947E+02	0.0504	292.65
39	5.080E+01	9.961E+02	0.0503	292.65	40	5.334E+01	9.484E+02	0.0504	292.65
41	5.588E+01	8.942E+02	0.0504	292.65	42	5.842E+01	8.641E+02	0.0505	292.65
43	6.096E+01	8.547E+02	0.0505	292.65					

```
 Initial Water Storage =   3.8909 cm

 NOTE:  There are no temperature data when plants are modelled.


--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.04955     0.07071     0.05048
 Head (cm)         = 3.69077E+05 1.84050E+03 9.92319E+02 8.55011E+02
 LiqWater Flow (cm)=-6.82947E-10-5.92143E-02-2.55635E-02 8.95120E-08
 IsoVapor Flow (cm)=-6.16045E-02-1.04872E-05-2.84400E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8909+ 0.0000+ 0.0000 - 0.0616- 0.0000-  0.0000 =    3.8293 vs.    3.8293

 Mass Balance = -1.1443E-06 cm;  Time step attempts =   29 and successes =   27
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0616 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05514     0.05027
 Head (cm)         = 9.19880E+05 2.45672E+05 1.49065E+03 1.08584E+03
 LiqWater Flow (cm)=-3.69658E-12-8.92585E-09-5.54018E-03 1.24485E-08
 IsoVapor Flow (cm)=-1.29965E-02-1.30052E-02-4.69480E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1403+ 0.0000+ 0.0000 - 0.0130- 0.0000-  0.0000 =    3.1273 vs.    3.1273

 Mass Balance = -6.8647E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0130 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    72
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9981E+02	[cm]
Actual Evaporation	=	1.7952E+01	[cm]
Evaporation during Growth	=	1.7952E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7196E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.6456E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7196E+01	[cm]
Actual Rainfall	=	1.7196E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1273E+00	[cm]
Mass Balance Error	=	7.6029E-03	[cm]
Total Successful Time Steps	=	62903	
Total Attempted Time Steps	=	77286	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31140	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.5598E-01	0.050	1.1269E+01	0.150	8.1684E+00
0.250	7.0415E+00	0.350	6.0920E+00	0.450	5.3553E+00
0.550	4.8330E+00	0.650	4.3854E+00	0.750	3.8799E+00
0.850	3.5593E+00	0.950	3.2229E+00	1.125	2.9310E+00
1.375	2.1884E+00	1.625	1.7152E+00	1.875	1.3386E+00
2.250	1.0496E+00	2.750	5.9347E-01	3.250	2.9968E-01
3.750	1.0624E-01	4.250	-3.8516E-02	4.790	-9.7074E-02
6.350	-1.6771E-01	8.890	-3.4639E-01	11.430	-4.1239E-01
13.970	-4.5189E-01	16.510	-4.7025E-01	19.050	-4.8253E-01
21.590	-4.4481E-01	24.130	-4.0354E-01	26.670	-3.6138E-01
29.210	-3.1842E-01	31.750	-2.7477E-01	34.290	-2.3051E-01
36.830	-1.8570E-01	39.370	-1.4042E-01	41.910	-9.4712E-02
44.450	-4.8656E-02	46.990	-1.5016E-03	49.530	4.7236E-04
52.070	-6.6888E-05	54.610	-2.0143E-04	57.150	-2.1485E-04
59.690	-8.1422E-05	60.960	1.6456E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso1999.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	2	1.000E-01	8.771E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	4	3.000E-01	7.953E+05	0.0300	292.65
5	4.000E-01	7.561E+05	0.0300	292.65	6	5.000E-01	7.180E+05	0.0300	292.65
7	6.000E-01	6.810E+05	0.0300	292.65	8	7.000E-01	6.449E+05	0.0300	292.65
9	8.000E-01	6.097E+05	0.0300	292.65	10	9.000E-01	5.754E+05	0.0300	292.65
11	1.000E+00	5.420E+05	0.0300	292.65	12	1.250E+00	4.617E+05	0.0300	292.65
13	1.500E+00	3.859E+05	0.0300	292.65	14	1.750E+00	3.140E+05	0.0300	292.65
15	2.000E+00	2.457E+05	0.0301	292.65	16	2.500E+00	1.184E+05	0.0301	292.65
17	3.000E+00	3.414E+03	0.0393	292.65	18	3.500E+00	2.992E+03	0.0409	292.65
19	4.000E+00	2.750E+03	0.0421	292.65	20	4.500E+00	2.583E+03	0.0430	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	22	7.620E+00	2.087E+03	0.0468	292.65
23	1.016E+01	1.905E+03	0.0488	292.65	24	1.270E+01	1.787E+03	0.0502	292.65
25	1.524E+01	1.704E+03	0.0514	292.65	26	1.778E+01	1.640E+03	0.0524	292.65
27	2.032E+01	1.590E+03	0.0533	292.65	28	2.286E+01	1.550E+03	0.0540	292.65
29	2.540E+01	1.518E+03	0.0546	292.65	30	2.794E+01	1.491E+03	0.0551	292.65
31	3.048E+01	1.468E+03	0.0556	292.65	32	3.302E+01	1.450E+03	0.0560	292.65
33	3.556E+01	1.435E+03	0.0563	292.65	34	3.810E+01	1.423E+03	0.0566	292.65
35	4.064E+01	1.413E+03	0.0568	292.65	36	4.318E+01	1.406E+03	0.0569	292.65
37	4.572E+01	1.401E+03	0.0571	292.65	38	4.826E+01	1.369E+03	0.0501	292.65
39	5.080E+01	1.085E+03	0.0503	292.65	40	5.334E+01	1.068E+03	0.0503	292.65
41	5.588E+01	1.086E+03	0.0503	292.65	42	5.842E+01	1.088E+03	0.0503	292.65
43	6.096E+01	1.086E+03	0.0503	292.65					

Initial Water Storage = 3.1273 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03004     0.05484     0.05027
 Head (cm)         = 1.35965E+06 3.28555E+05 1.50542E+03 1.08594E+03
 LiqWater Flow (cm)=-9.94575E-13-3.06389E-09-5.37399E-03 1.24393E-08
 IsoVapor Flow (cm)=-1.66353E-02-1.66147E-02-4.77817E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1273+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =    3.1106 vs.    3.1106

 Mass Balance = -8.4971E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04487     0.06473     0.05019
 Head (cm)         = 8.66730E+05 2.31392E+03 1.13522E+03 1.24299E+03
 LiqWater Flow (cm)=-2.05159E-11-3.96021E-02-1.31023E-02 4.07471E-09
 IsoVapor Flow (cm)=-4.28185E-02-2.01395E-05-2.94870E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6032+ 0.0000+ 0.0000 - 0.0428- 0.0000-  0.0000 =    3.5603 vs.    3.5603

 Mass Balance = -1.2817E-05 cm;  Time step attempts =   72 and successes =   58
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0428 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    58
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0082E+02	[cm]
Actual Evaporation	=	2.0287E+01	[cm]
Evaporation during Growth	=	2.0287E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0726E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.3154E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0726E+01	[cm]
Actual Rainfall	=	2.0726E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5603E+00	[cm]
Mass Balance Error	=	6.6179E-03	[cm]
Total Successful Time Steps	=	49290	
Total Attempted Time Steps	=	59355	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	25184	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.3970E-01	0.050	1.3957E+01	0.150	9.1828E+00
0.250	7.5786E+00	0.350	6.5600E+00	0.450	5.7561E+00
0.550	5.1383E+00	0.650	4.7246E+00	0.750	4.3356E+00
0.850	3.7939E+00	0.950	3.5424E+00	1.125	3.2789E+00
1.375	2.6571E+00	1.625	2.3214E+00	1.875	2.0706E+00
2.250	1.9256E+00	2.750	1.6825E+00	3.250	1.5303E+00
3.750	1.4291E+00	4.250	1.3195E+00	4.790	1.1998E+00
6.350	1.0355E+00	8.890	7.5929E-01	11.430	6.4238E-01
13.970	5.2362E-01	16.510	4.4392E-01	19.050	3.6812E-01
21.590	2.9411E-01	24.130	2.2695E-01	26.670	2.0072E-01
29.210	1.7608E-01	31.750	1.5129E-01	34.290	1.2634E-01
36.830	1.0122E-01	39.370	7.5960E-02	41.910	5.0561E-02
44.450	2.5039E-02	46.990	2.3625E-04	49.530	5.2723E-04
52.070	4.1606E-05	54.610	-3.8971E-06	57.150	-1.4258E-05
59.690	-6.5474E-06	60.960	2.3154E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2000.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.399E+05	0.0300	292.65
3	2.000E-01	6.242E+05	0.0300	292.65	4	3.000E-01	5.173E+05	0.0300	292.65
5	4.000E-01	4.180E+05	0.0300	292.65	6	5.000E-01	3.254E+05	0.0300	292.65
7	6.000E-01	2.387E+05	0.0301	292.65	8	7.000E-01	1.571E+05	0.0301	292.65
9	8.000E-01	8.000E+04	0.0302	292.65	10	9.000E-01	7.447E+03	0.0337	292.65
11	1.000E+00	3.995E+03	0.0377	292.65	12	1.250E+00	3.021E+03	0.0408	292.65
13	1.500E+00	2.669E+03	0.0425	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.314E+03	0.0449	292.65	16	2.500E+00	2.116E+03	0.0466	292.65
17	3.000E+00	1.982E+03	0.0479	292.65	18	3.500E+00	1.884E+03	0.0490	292.65
19	4.000E+00	1.807E+03	0.0500	292.65	20	4.500E+00	1.744E+03	0.0509	292.65
21	5.080E+00	1.683E+03	0.0518	292.65	22	7.620E+00	1.506E+03	0.0548	292.65
23	1.016E+01	1.401E+03	0.0571	292.65	24	1.270E+01	1.328E+03	0.0588	292.65
25	1.524E+01	1.275E+03	0.0603	292.65	26	1.778E+01	1.234E+03	0.0615	292.65
27	2.032E+01	1.201E+03	0.0625	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.153E+03	0.0641	292.65	30	2.794E+01	1.135E+03	0.0647	292.65
31	3.048E+01	1.120E+03	0.0653	292.65	32	3.302E+01	1.108E+03	0.0658	292.65
33	3.556E+01	1.097E+03	0.0662	292.65	34	3.810E+01	1.089E+03	0.0665	292.65
35	4.064E+01	1.082E+03	0.0668	292.65	36	4.318E+01	1.077E+03	0.0670	292.65
37	4.572E+01	1.073E+03	0.0671	292.65	38	4.826E+01	1.064E+03	0.0503	292.65
39	5.080E+01	1.326E+03	0.0502	292.65	40	5.334E+01	1.257E+03	0.0502	292.65
41	5.588E+01	1.227E+03	0.0502	292.65	42	5.842E+01	1.236E+03	0.0502	292.65
43	6.096E+01	1.243E+03	0.0502	292.65					

Initial Water Storage = 3.5603 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04447     0.06395     0.05019
 Head (cm)         = 1.04627E+06 2.36728E+03 1.15731E+03 1.24260E+03
 LiqWater Flow (cm)=-7.23520E-12-3.45618E-02-1.31900E-02 4.08552E-09
 IsoVapor Flow (cm)=-3.66306E-02-2.16804E-05-3.21674E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5603+ 0.0000+ 0.0000 - 0.0366- 0.0000-  0.0000 =    3.5237 vs.    3.5237

 Mass Balance = -1.9649E-05 cm;  Time step attempts =  111 and successes =   86
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0366 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    86

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05419     0.05015
 Head (cm)         = 8.48906E+05 1.36951E+05 1.53953E+03 1.34855E+03
 LiqWater Flow (cm)=-6.03941E-12-1.96308E-04-4.26231E-03 2.08200E-09
 IsoVapor Flow (cm)=-1.46862E-02-1.44892E-02-4.33362E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1114+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =    3.0967 vs.    3.0967

 Mass Balance = -2.9159E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0228E+02	[cm]
Actual Evaporation	=	1.9277E+01	[cm]
Evaporation during Growth	=	1.9262E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.8821E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.2805E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.8821E+01	[cm]
Actual Rainfall	=	1.8821E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0967E+00	[cm]
Mass Balance Error	=	8.0597E-03	[cm]
Total Successful Time Steps	=	60316	
Total Attempted Time Steps	=	74063	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30716	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.5562E-01	0.050	1.3225E+01	0.150	9.0959E+00
0.250	7.7580E+00	0.350	6.9368E+00	0.450	6.2889E+00
0.550	5.6101E+00	0.650	5.1706E+00	0.750	4.6814E+00
0.850	4.3323E+00	0.950	4.0873E+00	1.125	3.7999E+00
1.375	3.0145E+00	1.625	2.5078E+00	1.875	2.0199E+00
2.250	1.7129E+00	2.750	1.1580E+00	3.250	7.3905E-01
3.750	5.6545E-01	4.250	4.1869E-01	4.790	2.9698E-01
6.350	1.7771E-01	8.890	-9.4694E-02	11.430	-2.4386E-01
13.970	-2.8414E-01	16.510	-3.2215E-01	19.050	-2.9998E-01
21.590	-2.7504E-01	24.130	-2.4942E-01	26.670	-2.2323E-01
29.210	-1.9654E-01	31.750	-1.6943E-01	34.290	-1.4195E-01
36.830	-1.1415E-01	39.370	-8.6084E-02	41.910	-5.7787E-02
44.450	-2.9299E-02	46.990	-2.7168E-04	49.530	4.9686E-04
52.070	2.8838E-05	54.610	-2.7728E-07	57.150	-2.9268E-06
59.690	-8.0721E-07	60.960	9.2805E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2001.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	2	1.000E-01	8.034E+05	0.0300	292.65
3	2.000E-01	7.590E+05	0.0300	292.65	4	3.000E-01	7.159E+05	0.0300	292.65
5	4.000E-01	6.741E+05	0.0300	292.65	6	5.000E-01	6.336E+05	0.0300	292.65
7	6.000E-01	5.943E+05	0.0300	292.65	8	7.000E-01	5.561E+05	0.0300	292.65
9	8.000E-01	5.190E+05	0.0300	292.65	10	9.000E-01	4.828E+05	0.0300	292.65
11	1.000E+00	4.475E+05	0.0300	292.65	12	1.250E+00	3.631E+05	0.0300	292.65
13	1.500E+00	2.835E+05	0.0300	292.65	14	1.750E+00	2.083E+05	0.0301	292.65
15	2.000E+00	1.370E+05	0.0301	292.65	16	2.500E+00	4.485E+03	0.0367	292.65
17	3.000E+00	3.337E+03	0.0396	292.65	18	3.500E+00	2.947E+03	0.0411	292.65
19	4.000E+00	2.719E+03	0.0423	292.65	20	4.500E+00	2.563E+03	0.0432	292.65
21	5.080E+00	2.429E+03	0.0440	292.65	22	7.620E+00	2.096E+03	0.0467	292.65
23	1.016E+01	1.926E+03	0.0485	292.65	24	1.270E+01	1.816E+03	0.0499	292.65
25	1.524E+01	1.737E+03	0.0509	292.65	26	1.778E+01	1.678E+03	0.0518	292.65
27	2.032E+01	1.632E+03	0.0526	292.65	28	2.286E+01	1.595E+03	0.0532	292.65
29	2.540E+01	1.565E+03	0.0537	292.65	30	2.794E+01	1.540E+03	0.0542	292.65
31	3.048E+01	1.519E+03	0.0546	292.65	32	3.302E+01	1.502E+03	0.0549	292.65
33	3.556E+01	1.488E+03	0.0552	292.65	34	3.810E+01	1.476E+03	0.0554	292.65
35	4.064E+01	1.468E+03	0.0556	292.65	36	4.318E+01	1.461E+03	0.0557	292.65
37	4.572E+01	1.456E+03	0.0558	292.65	38	4.826E+01	1.433E+03	0.0501	292.65
39	5.080E+01	1.335E+03	0.0502	292.65	40	5.334E+01	1.329E+03	0.0502	292.65
41	5.588E+01	1.340E+03	0.0502	292.65	42	5.842E+01	1.347E+03	0.0502	292.65
43	6.096E+01	1.349E+03	0.0502	292.65					

Initial Water Storage = 3.0967 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03010     0.05394     0.05016
 Head (cm)         = 8.74418E+05 1.47202E+05 1.55301E+03 1.34841E+03
 LiqWater Flow (cm)=-5.41134E-12-7.53043E-05-4.23865E-03 2.08368E-09
 IsoVapor Flow (cm)=-1.49343E-02-1.48527E-02-4.47988E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0967+ 0.0000+ 0.0000 - 0.0149- 0.0000-  0.0000 =    3.0817 vs.    3.0817

 Mass Balance = -4.4192E-06 cm;  Time step attempts =   30 and successes =   27
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0149 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    27

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04396     0.04794     0.05009
 Head (cm)         = 8.82736E+05 2.44015E+03 1.97796E+03 1.66560E+03
 LiqWater Flow (cm)= 1.70569E-01 9.54765E-02-1.99053E-03 3.65116E-10
 IsoVapor Flow (cm)=-5.82399E-02 1.75161E-04-6.84222E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7925+ 0.2032+ 0.0000 - 0.0909- 0.0000-  0.0000 =    2.9048 vs.    2.9044

 Mass Balance =  4.5404E-04 cm;  Time step attempts = 1800 and successes = 1386
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0909 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   331
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0416E+02	[cm]
Actual Evaporation	=	1.1081E+01	[cm]
Evaporation during Growth	=	1.1081E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0897E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5516E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0897E+01	[cm]
Actual Rainfall	=	1.0897E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9044E+00	[cm]
Mass Balance Error	=	7.5984E-03	[cm]
Total Successful Time Steps	=	61298	
Total Attempted Time Steps	=	75920	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31299	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.8469E-01	0.050	8.2669E+00	0.150	6.5637E+00
0.250	5.9158E+00	0.350	5.4556E+00	0.450	5.0183E+00
0.550	4.6710E+00	0.650	4.3117E+00	0.750	4.0571E+00
0.850	3.8601E+00	0.950	3.6771E+00	1.125	3.5010E+00
1.375	3.0603E+00	1.625	2.8136E+00	1.875	2.5690E+00
2.250	2.3788E+00	2.750	2.0219E+00	3.250	1.7043E+00
3.750	1.4661E+00	4.250	1.1877E+00	4.790	9.2403E-01
6.350	6.5888E-01	8.890	5.6202E-02	11.430	-1.1299E-01
13.970	-2.0600E-01	16.510	-1.9198E-01	19.050	-1.7689E-01
21.590	-1.6153E-01	24.130	-1.4600E-01	26.670	-1.3031E-01
29.210	-1.1449E-01	31.750	-9.8564E-02	34.290	-8.2518E-02
36.830	-6.6367E-02	39.370	-5.0123E-02	41.910	-3.3796E-02
44.450	-1.7392E-02	46.990	-4.3076E-04	49.530	1.7453E-05
52.070	-2.8110E-06	54.610	-3.6740E-06	57.150	-2.8172E-06
59.690	-8.6654E-07	60.960	3.5516E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2002.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.664E+04	0.0302	292.65	10	9.000E-01	4.539E+03	0.0366	292.65
11	1.000E+00	3.698E+03	0.0385	292.65	12	1.250E+00	3.024E+03	0.0408	292.65
13	1.500E+00	2.737E+03	0.0422	292.65	14	1.750E+00	2.562E+03	0.0432	292.65
15	2.000E+00	2.440E+03	0.0440	292.65	16	2.500E+00	2.279E+03	0.0451	292.65
17	3.000E+00	2.177E+03	0.0460	292.65	18	3.500E+00	2.108E+03	0.0466	292.65
19	4.000E+00	2.062E+03	0.0471	292.65	20	4.500E+00	2.031E+03	0.0474	292.65
21	5.080E+00	2.009E+03	0.0476	292.65	22	7.620E+00	2.066E+03	0.0470	292.65
23	1.016E+01	2.262E+03	0.0453	292.65	24	1.270E+01	2.357E+03	0.0445	292.65
25	1.524E+01	2.296E+03	0.0450	292.65	26	1.778E+01	2.205E+03	0.0458	292.65
27	2.032E+01	2.127E+03	0.0464	292.65	28	2.286E+01	2.066E+03	0.0470	292.65
29	2.540E+01	2.017E+03	0.0475	292.65	30	2.794E+01	1.978E+03	0.0479	292.65
31	3.048E+01	1.946E+03	0.0483	292.65	32	3.302E+01	1.920E+03	0.0486	292.65
33	3.556E+01	1.900E+03	0.0488	292.65	34	3.810E+01	1.883E+03	0.0490	292.65
35	4.064E+01	1.871E+03	0.0492	292.65	36	4.318E+01	1.862E+03	0.0493	292.65
37	4.572E+01	1.856E+03	0.0494	292.65	38	4.826E+01	1.813E+03	0.0501	292.65
39	5.080E+01	1.726E+03	0.0501	292.65	40	5.334E+01	1.689E+03	0.0501	292.65
41	5.588E+01	1.674E+03	0.0501	292.65	42	5.842E+01	1.668E+03	0.0501	292.65
43	6.096E+01	1.666E+03	0.0501	292.65					

Initial Water Storage = 2.9044 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03996     0.04783     0.05009
 Head (cm)         = 4.99787E+05 3.23349E+03 1.98816E+03 1.66589E+03
 LiqWater Flow (cm)=-1.22574E-10-1.54783E-02-1.97089E-03 3.64583E-10
 IsoVapor Flow (cm)=-2.31113E-02-2.58880E-05-6.94710E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9044+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =    2.8813 vs.    2.8813

 Mass Balance = -1.9803E-05 cm;  Time step attempts =  131 and successes =  107
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   105

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04917     0.07118     0.05011
 Head (cm)         = 8.15596E+05 1.87132E+03 9.82577E+02 1.53839E+03
 LiqWater Flow (cm)=-4.76829E-11-6.22475E-02-2.69491E-02 7.00207E-10
 IsoVapor Flow (cm)=-6.23548E-02-1.28616E-05-2.83985E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9011+ 0.0000+ 0.0000 - 0.0624- 0.0000-  0.0000 =    3.8387 vs.    3.8388

 Mass Balance = -9.9587E-06 cm;  Time step attempts =  128 and successes =  116
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0624 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =   115
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0470E+02	[cm]
Actual Evaporation	=	1.6558E+01	[cm]
Evaporation during Growth	=	1.6558E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.7501E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.4365E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.7501E+01	[cm]
Actual Rainfall	=	1.7501E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8388E+00	[cm]
Mass Balance Error	=	8.0244E-03	[cm]
Total Successful Time Steps	=	59959	
Total Attempted Time Steps	=	73384	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30248	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4240E-01	0.050	1.2253E+01	0.150	9.3836E+00
0.250	8.4954E+00	0.350	7.7844E+00	0.450	7.2653E+00
0.550	6.7546E+00	0.650	6.2025E+00	0.750	5.6756E+00
0.850	5.2110E+00	0.950	4.9462E+00	1.125	4.6307E+00
1.375	4.0985E+00	1.625	3.7076E+00	1.875	3.4054E+00
2.250	3.1282E+00	2.750	2.6158E+00	3.250	2.2860E+00
3.750	2.0261E+00	4.250	1.8064E+00	4.790	1.6884E+00
6.350	1.5608E+00	8.890	1.2205E+00	11.430	9.9925E-01
13.970	8.6230E-01	16.510	7.3818E-01	19.050	6.6608E-01
21.590	6.1017E-01	24.130	5.5314E-01	26.670	4.9502E-01
29.210	4.3588E-01	31.750	3.7583E-01	34.290	3.1495E-01
36.830	2.5334E-01	39.370	1.9110E-01	41.910	1.2832E-01
44.450	6.5082E-02	46.990	1.7351E-03	49.530	1.0457E-04
52.070	9.2635E-06	54.610	2.8941E-06	57.150	1.0957E-06
59.690	3.7153E-07	60.960	1.4365E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2003.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.413E+05	0.0300	292.65
3	2.000E-01	4.866E+05	0.0300	292.65	4	3.000E-01	3.475E+05	0.0300	292.65
5	4.000E-01	2.212E+05	0.0301	292.65	6	5.000E-01	1.054E+05	0.0302	292.65
7	6.000E-01	2.827E+03	0.0417	292.65	8	7.000E-01	2.646E+03	0.0427	292.65
9	8.000E-01	2.511E+03	0.0435	292.65	10	9.000E-01	2.405E+03	0.0442	292.65
11	1.000E+00	2.319E+03	0.0448	292.65	12	1.250E+00	2.155E+03	0.0462	292.65
13	1.500E+00	2.036E+03	0.0473	292.65	14	1.750E+00	1.945E+03	0.0483	292.65
15	2.000E+00	1.871E+03	0.0492	292.65	16	2.500E+00	1.757E+03	0.0507	292.65
17	3.000E+00	1.672E+03	0.0519	292.65	18	3.500E+00	1.604E+03	0.0530	292.65
19	4.000E+00	1.548E+03	0.0540	292.65	20	4.500E+00	1.501E+03	0.0549	292.65
21	5.080E+00	1.455E+03	0.0559	292.65	22	7.620E+00	1.312E+03	0.0593	292.65
23	1.016E+01	1.223E+03	0.0618	292.65	24	1.270E+01	1.160E+03	0.0639	292.65
25	1.524E+01	1.112E+03	0.0656	292.65	26	1.778E+01	1.075E+03	0.0671	292.65
27	2.032E+01	1.045E+03	0.0683	292.65	28	2.286E+01	1.020E+03	0.0694	292.65
29	2.540E+01	9.997E+02	0.0704	292.65	30	2.794E+01	9.826E+02	0.0712	292.65
31	3.048E+01	9.682E+02	0.0719	292.65	32	3.302E+01	9.561E+02	0.0725	292.65
33	3.556E+01	9.460E+02	0.0731	292.65	34	3.810E+01	9.377E+02	0.0735	292.65
35	4.064E+01	9.309E+02	0.0739	292.65	36	4.318E+01	9.257E+02	0.0742	292.65
37	4.572E+01	9.218E+02	0.0744	292.65	38	4.826E+01	9.110E+02	0.0504	292.65
39	5.080E+01	1.214E+03	0.0502	292.65	40	5.334E+01	1.400E+03	0.0501	292.65
41	5.588E+01	1.486E+03	0.0501	292.65	42	5.842E+01	1.527E+03	0.0501	292.65
43	6.096E+01	1.538E+03	0.0501	292.65					

Initial Water Storage = 3.8388 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04712     0.06986     0.05011
 Head (cm)         = 1.31147E+06 2.05714E+03 1.01018E+03 1.53705E+03
 LiqWater Flow (cm)=-6.56785E-12-5.83076E-02-2.45755E-02 7.05203E-10
 IsoVapor Flow (cm)=-6.59976E-02-1.61403E-05-2.96961E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8388+ 0.0000+ 0.0000 - 0.0660- 0.0000-  0.0000 =    3.7728 vs.    3.7728

 Mass Balance = -3.4478E-05 cm;  Time step attempts =  182 and successes =  139
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0660 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   139

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04778     0.05009
 Head (cm)         = 2.20848E+06 1.23395E+06 1.99270E+03 1.67002E+03
 LiqWater Flow (cm)=-7.21700E-14-8.38472E-13-2.23506E-03 3.56894E-10
 IsoVapor Flow (cm)=-8.33300E-03-8.33272E-03-7.83506E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7701+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.7618 vs.    2.7618

 Mass Balance = -6.7070E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2069E+02	[cm]
Actual Evaporation	=	1.1763E+01	[cm]
Evaporation during Growth	=	1.1763E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.0693E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5082E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.0693E+01	[cm]
Actual Rainfall	=	1.0693E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7618E+00	[cm]
Mass Balance Error	=	6.9004E-03	[cm]
Total Successful Time Steps	=	58979	
Total Attempted Time Steps	=	72723	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	31376	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0700E+00	0.050	8.1240E+00	0.150	6.6769E+00
0.250	5.8371E+00	0.350	5.4184E+00	0.450	4.9780E+00
0.550	4.5939E+00	0.650	4.3707E+00	0.750	4.1525E+00
0.850	3.8501E+00	0.950	3.4621E+00	1.125	3.2066E+00
1.375	2.7180E+00	1.625	2.2409E+00	1.875	1.8811E+00
2.250	1.5472E+00	2.750	9.9162E-01	3.250	6.1030E-01
3.750	3.7728E-01	4.250	1.9985E-01	4.790	3.2327E-02
6.350	-1.7409E-01	8.890	-6.1206E-01	11.430	-7.1490E-01
13.970	-7.6854E-01	16.510	-7.2256E-01	19.050	-6.6753E-01
21.590	-6.1125E-01	24.130	-5.5385E-01	26.670	-4.9542E-01
29.210	-4.3604E-01	31.750	-3.7583E-01	34.290	-3.1485E-01
36.830	-2.5319E-01	39.370	-1.9095E-01	41.910	-1.2818E-01
44.450	-6.4984E-02	46.990	-1.1180E-03	49.530	8.2000E-05
52.070	7.7733E-06	54.610	2.2080E-06	57.150	4.7055E-07
59.690	2.1840E-07	60.960	3.5082E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2004.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.013E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.639E+06	0.0300	292.65	12	1.250E+00	1.526E+06	0.0300	292.65
13	1.500E+00	1.422E+06	0.0300	292.65	14	1.750E+00	1.325E+06	0.0300	292.65
15	2.000E+00	1.234E+06	0.0300	292.65	16	2.500E+00	1.069E+06	0.0300	292.65
17	3.000E+00	9.216E+05	0.0300	292.65	18	3.500E+00	7.887E+05	0.0300	292.65
19	4.000E+00	6.676E+05	0.0300	292.65	20	4.500E+00	5.564E+05	0.0300	292.65
21	5.080E+00	4.377E+05	0.0300	292.65	22	7.620E+00	9.426E+03	0.0328	292.65
23	1.016E+01	2.922E+03	0.0412	292.65	24	1.270E+01	2.595E+03	0.0430	292.65
25	1.524E+01	2.397E+03	0.0443	292.65	26	1.778E+01	2.264E+03	0.0453	292.65
27	2.032E+01	2.168E+03	0.0461	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.038E+03	0.0473	292.65	30	2.794E+01	1.993E+03	0.0478	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.927E+03	0.0485	292.65
33	3.556E+01	1.904E+03	0.0488	292.65	34	3.810E+01	1.886E+03	0.0490	292.65
35	4.064E+01	1.872E+03	0.0492	292.65	36	4.318E+01	1.862E+03	0.0493	292.65
37	4.572E+01	1.856E+03	0.0494	292.65	38	4.826E+01	1.808E+03	0.0501	292.65
39	5.080E+01	1.710E+03	0.0501	292.65	40	5.334E+01	1.676E+03	0.0501	292.65
41	5.588E+01	1.669E+03	0.0501	292.65	42	5.842E+01	1.670E+03	0.0501	292.65
43	6.096E+01	1.670E+03	0.0501	292.65					

Initial Water Storage = 2.7618 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04766     0.05009
 Head (cm)         = 8.54706E+05 5.79730E+05 2.00426E+03 1.66998E+03
 LiqWater Flow (cm)=-1.76156E-12-1.22847E-11-2.20103E-03 3.56986E-10
 IsoVapor Flow (cm)=-4.72967E-03-4.75261E-03-7.93604E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7618+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =    2.7571 vs.    2.7571

 Mass Balance = -6.7109E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03959     0.05724     0.05026
 Head (cm)         = 5.47835E+05 3.33729E+03 1.39350E+03 1.09031E+03
 LiqWater Flow (cm)=-4.65254E-11-1.52649E-02-7.15396E-03 1.19433E-08
 IsoVapor Flow (cm)=-1.50826E-02-5.09570E-05-4.33516E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2484+ 0.0000+ 0.0000 - 0.0151- 0.0000-  0.0000 =    3.2333 vs.    3.2333

 Mass Balance = -3.4143E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0151 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9889E+02	[cm]
Actual Evaporation	=	3.0508E+01	[cm]
Evaporation during Growth	=	3.0493E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0988E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.5232E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0988E+01	[cm]
Actual Rainfall	=	3.0988E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2333E+00	[cm]
Mass Balance Error	=	8.4663E-03	[cm]
Total Successful Time Steps	=	55159	
Total Attempted Time Steps	=	67598	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26687	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.8000E-01	0.050	1.8657E+01	0.150	1.2468E+01
0.250	1.0588E+01	0.350	8.8184E+00	0.450	7.8821E+00
0.550	7.1101E+00	0.650	6.1992E+00	0.750	5.6878E+00
0.850	5.3399E+00	0.950	4.9155E+00	1.125	4.5717E+00
1.375	3.9403E+00	1.625	3.2543E+00	1.875	2.6469E+00
2.250	2.2787E+00	2.750	1.6986E+00	3.250	1.3586E+00
3.750	1.1558E+00	4.250	1.0376E+00	4.790	8.4474E-01
6.350	7.1214E-01	8.890	5.1565E-01	11.430	3.4770E-01
13.970	3.2112E-01	16.510	2.9764E-01	19.050	2.7423E-01
21.590	2.5071E-01	24.130	2.2700E-01	26.670	2.0308E-01
29.210	1.7893E-01	31.750	1.5457E-01	34.290	1.3000E-01
36.830	1.0525E-01	39.370	8.0309E-02	41.910	5.5215E-02
44.450	2.9978E-02	46.990	4.7103E-03	49.530	4.6636E-03
52.070	2.0224E-03	54.610	5.3053E-04	57.150	9.3650E-05
59.690	1.5967E-05	60.960	7.5232E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2005.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.098E+05	0.0300	292.65
3	2.000E-01	4.728E+05	0.0300	292.65	4	3.000E-01	4.368E+05	0.0300	292.65
5	4.000E-01	4.017E+05	0.0300	292.65	6	5.000E-01	3.675E+05	0.0300	292.65
7	6.000E-01	3.341E+05	0.0300	292.65	8	7.000E-01	3.015E+05	0.0300	292.65
9	8.000E-01	2.696E+05	0.0300	292.65	10	9.000E-01	2.384E+05	0.0301	292.65
11	1.000E+00	2.080E+05	0.0301	292.65	12	1.250E+00	1.347E+05	0.0301	292.65
13	1.500E+00	6.502E+04	0.0303	292.65	14	1.750E+00	3.749E+03	0.0383	292.65
15	2.000E+00	3.337E+03	0.0396	292.65	16	2.500E+00	2.902E+03	0.0413	292.65
17	3.000E+00	2.656E+03	0.0426	292.65	18	3.500E+00	2.488E+03	0.0436	292.65
19	4.000E+00	2.363E+03	0.0445	292.65	20	4.500E+00	2.265E+03	0.0453	292.65
21	5.080E+00	2.173E+03	0.0460	292.65	22	7.620E+00	1.912E+03	0.0487	292.65
23	1.016E+01	1.762E+03	0.0506	292.65	24	1.270E+01	1.661E+03	0.0521	292.65
25	1.524E+01	1.587E+03	0.0533	292.65	26	1.778E+01	1.530E+03	0.0544	292.65
27	2.032E+01	1.485E+03	0.0553	292.65	28	2.286E+01	1.448E+03	0.0560	292.65
29	2.540E+01	1.418E+03	0.0567	292.65	30	2.794E+01	1.393E+03	0.0572	292.65
31	3.048E+01	1.373E+03	0.0577	292.65	32	3.302E+01	1.356E+03	0.0581	292.65
33	3.556E+01	1.342E+03	0.0585	292.65	34	3.810E+01	1.330E+03	0.0588	292.65
35	4.064E+01	1.321E+03	0.0590	292.65	36	4.318E+01	1.314E+03	0.0592	292.65
37	4.572E+01	1.310E+03	0.0593	292.65	38	4.826E+01	1.271E+03	0.0502	292.65
39	5.080E+01	7.627E+02	0.0506	292.65	40	5.334E+01	7.797E+02	0.0506	292.65
41	5.588E+01	9.116E+02	0.0504	292.65	42	5.842E+01	1.044E+03	0.0503	292.65
43	6.096E+01	1.090E+03	0.0503	292.65					

Initial Water Storage = 3.2333 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03820     0.05687     0.05026
 Head (cm)         = 6.47479E+05 3.80477E+03 1.40952E+03 1.08842E+03
 LiqWater Flow (cm)=-2.51728E-11-1.58187E-02-6.86561E-03 1.21158E-08
 IsoVapor Flow (cm)=-1.71006E-02-6.64782E-05-4.40308E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2333+ 0.0000+ 0.0000 - 0.0171- 0.0000-  0.0000 =    3.2162 vs.    3.2162

 Mass Balance = -3.2349E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0171 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04737     0.05166
 Head (cm)         = 1.93021E+06 1.28523E+06 2.03183E+03 5.21714E+02
 LiqWater Flow (cm)=-8.14226E-14-4.62430E-13-2.12919E-03 5.27905E-06
 IsoVapor Flow (cm)=-5.91546E-03-5.91385E-03-8.20707E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7594+ 0.0000+ 0.0000 - 0.0059- 0.0000-  0.0000 =    2.7535 vs.    2.7535

 Mass Balance =  1.0265E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0059 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.9999E+02	[cm]
Actual Evaporation	=	3.3161E+01	[cm]
Evaporation during Growth	=	3.3161E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.2690E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.9620E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.2690E+01	[cm]
Actual Rainfall	=	3.2690E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.7535E+00	[cm]
Mass Balance Error	=	7.3075E-03	[cm]
Total Successful Time Steps	=	59728	
Total Attempted Time Steps	=	73185	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29122	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7154E-01	0.050	1.5633E+01	0.150	1.0071E+01
0.250	8.2944E+00	0.350	7.0406E+00	0.450	6.1513E+00
0.550	5.3281E+00	0.650	4.7069E+00	0.750	4.3771E+00
0.850	4.0346E+00	0.950	3.6980E+00	1.125	3.4047E+00
1.375	2.7457E+00	1.625	2.3927E+00	1.875	2.1046E+00
2.250	1.7778E+00	2.750	1.2863E+00	3.250	9.1916E-01
3.750	7.1020E-01	4.250	4.8083E-01	4.790	3.0315E-01
6.350	8.9938E-02	8.890	-3.4045E-01	11.430	-3.3737E-01
13.970	-3.1328E-01	16.510	-2.8949E-01	19.050	-2.6561E-01
21.590	-2.4150E-01	24.130	-2.1711E-01	26.670	-1.9243E-01
29.210	-1.6747E-01	31.750	-1.4226E-01	34.290	-1.1681E-01
36.830	-9.1168E-02	39.370	-6.5341E-02	41.910	-3.9358E-02
44.450	-1.3250E-02	46.990	1.3394E-02	49.530	1.6881E-02
52.070	1.2028E-02	54.610	9.1666E-03	57.150	5.9178E-03
59.690	2.5888E-03	60.960	9.9620E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2006.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.890E+06	0.0300	292.65
3	2.000E-01	1.851E+06	0.0300	292.65	4	3.000E-01	1.813E+06	0.0300	292.65
5	4.000E-01	1.775E+06	0.0300	292.65	6	5.000E-01	1.739E+06	0.0300	292.65
7	6.000E-01	1.704E+06	0.0300	292.65	8	7.000E-01	1.670E+06	0.0300	292.65
9	8.000E-01	1.636E+06	0.0300	292.65	10	9.000E-01	1.603E+06	0.0300	292.65
11	1.000E+00	1.571E+06	0.0300	292.65	12	1.250E+00	1.494E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.162E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.437E+05	0.0300	292.65
19	4.000E+00	8.465E+05	0.0300	292.65	20	4.500E+00	7.557E+05	0.0300	292.65
21	5.080E+00	6.574E+05	0.0300	292.65	22	7.620E+00	2.935E+05	0.0300	292.65
23	1.016E+01	3.221E+03	0.0400	292.65	24	1.270E+01	2.692E+03	0.0424	292.65
25	1.524E+01	2.458E+03	0.0438	292.65	26	1.778E+01	2.314E+03	0.0449	292.65
27	2.032E+01	2.213E+03	0.0457	292.65	28	2.286E+01	2.138E+03	0.0463	292.65
29	2.540E+01	2.079E+03	0.0469	292.65	30	2.794E+01	2.032E+03	0.0474	292.65
31	3.048E+01	1.994E+03	0.0478	292.65	32	3.302E+01	1.963E+03	0.0481	292.65
33	3.556E+01	1.939E+03	0.0484	292.65	34	3.810E+01	1.919E+03	0.0486	292.65
35	4.064E+01	1.905E+03	0.0488	292.65	36	4.318E+01	1.894E+03	0.0489	292.65
37	4.572E+01	1.887E+03	0.0490	292.65	38	4.826E+01	1.605E+03	0.0501	292.65
39	5.080E+01	5.749E+02	0.0513	292.65	40	5.334E+01	5.469E+02	0.0515	292.65
41	5.588E+01	5.319E+02	0.0516	292.65	42	5.842E+01	5.242E+02	0.0516	292.65
43	6.096E+01	5.217E+02	0.0517	292.65					

Initial Water Storage = 2.7535 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04726     0.05166
 Head (cm)         = 2.25090E+06 1.43689E+06 2.04280E+03 5.22218E+02
 LiqWater Flow (cm)= 1.93735E-02 1.08714E-07-2.09294E-03 5.23710E-06
 IsoVapor Flow (cm)=-2.41874E-02-4.81159E-03-8.28131E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7535+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =    2.7487 vs.    2.7487

 Mass Balance = -2.2199E-05 cm;  Time step attempts =  895 and successes =  699
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   376

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03938     0.04627     0.05080
 Head (cm)         = 6.05038E+05 3.40050E+03 2.14621E+03 7.01004E+02
 LiqWater Flow (cm)= 3.67527E-02 3.79832E-03-7.75998E-04 4.61167E-07
 IsoVapor Flow (cm)=-2.78983E-02-1.16404E-05-4.36837E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8109+ 0.0508+ 0.0000 - 0.0419- 0.0000-  0.0000 =    2.8197 vs.    2.8196

 Mass Balance =  1.1324E-04 cm;  Time step attempts =  919 and successes =  710
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0419 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   267
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3548E+02	[cm]
Actual Evaporation	=	2.1103E+01	[cm]
Evaporation during Growth	=	2.1103E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1184E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.7956E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1184E+01	[cm]
Actual Rainfall	=	2.1184E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8196E+00	[cm]
Mass Balance Error	=	1.4157E-02	[cm]
Total Successful Time Steps	=	212567	
Total Attempted Time Steps	=	268965	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	95332	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	8.0985E-02	0.050	1.4275E+01	0.150	1.2383E+01
0.250	1.0326E+01	0.350	8.6690E+00	0.450	7.3891E+00
0.550	6.3528E+00	0.650	5.4987E+00	0.750	4.8084E+00
0.850	4.2136E+00	0.950	3.6896E+00	1.125	3.1636E+00
1.375	2.3038E+00	1.625	1.7946E+00	1.875	1.4896E+00
2.250	1.2321E+00	2.750	9.6208E-01	3.250	7.9698E-01
3.750	6.9265E-01	4.250	6.1595E-01	4.790	5.5271E-01
6.350	4.7428E-01	8.890	3.9031E-01	11.430	2.2985E-01
13.970	1.7578E-01	16.510	1.3342E-01	19.050	9.0216E-02
21.590	4.9136E-02	24.130	5.2096E-03	26.670	-3.7715E-02
29.210	-3.8496E-02	31.750	-3.5476E-02	34.290	-3.1870E-02
36.830	-2.7890E-02	39.370	-2.3646E-02	41.910	-1.9215E-02
44.450	-1.4652E-02	46.990	-5.7518E-03	49.530	-1.1371E-03
52.070	-5.7348E-03	54.610	-4.4880E-03	57.150	-2.4719E-03
59.690	-3.7568E-04	60.960	6.7956E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2007.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.550E+05	0.0300	292.65
3	2.000E-01	5.068E+05	0.0300	292.65	4	3.000E-01	4.602E+05	0.0300	292.65
5	4.000E-01	4.151E+05	0.0300	292.65	6	5.000E-01	3.715E+05	0.0300	292.65
7	6.000E-01	3.292E+05	0.0300	292.65	8	7.000E-01	2.882E+05	0.0300	292.65
9	8.000E-01	2.484E+05	0.0301	292.65	10	9.000E-01	2.097E+05	0.0301	292.65
11	1.000E+00	1.722E+05	0.0301	292.65	12	1.250E+00	8.301E+04	0.0302	292.65
13	1.500E+00	4.183E+03	0.0373	292.65	14	1.750E+00	3.667E+03	0.0386	292.65
15	2.000E+00	3.401E+03	0.0394	292.65	16	2.500E+00	3.089E+03	0.0405	292.65
17	3.000E+00	2.912E+03	0.0413	292.65	18	3.500E+00	2.798E+03	0.0418	292.65
19	4.000E+00	2.719E+03	0.0423	292.65	20	4.500E+00	2.662E+03	0.0426	292.65
21	5.080E+00	2.613E+03	0.0429	292.65	22	7.620E+00	2.509E+03	0.0435	292.65
23	1.016E+01	2.418E+03	0.0441	292.65	24	1.270E+01	2.343E+03	0.0447	292.65
25	1.524E+01	2.287E+03	0.0451	292.65	26	1.778E+01	2.246E+03	0.0454	292.65
27	2.032E+01	2.215E+03	0.0457	292.65	28	2.286E+01	2.190E+03	0.0459	292.65
29	2.540E+01	2.167E+03	0.0461	292.65	30	2.794E+01	2.146E+03	0.0463	292.65
31	3.048E+01	2.127E+03	0.0465	292.65	32	3.302E+01	2.109E+03	0.0466	292.65
33	3.556E+01	2.093E+03	0.0468	292.65	34	3.810E+01	2.079E+03	0.0469	292.65
35	4.064E+01	2.068E+03	0.0470	292.65	36	4.318E+01	2.060E+03	0.0471	292.65
37	4.572E+01	2.054E+03	0.0471	292.65	38	4.826E+01	1.828E+03	0.0501	292.65
39	5.080E+01	1.143E+03	0.0502	292.65	40	5.334E+01	8.151E+02	0.0505	292.65
41	5.588E+01	7.376E+02	0.0507	292.65	42	5.842E+01	7.090E+02	0.0508	292.65
43	6.096E+01	7.010E+02	0.0508	292.65					

Initial Water Storage = 2.8196 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.04625     0.05079
 Head (cm)         = 8.36981E+05 1.36432E+05 2.14812E+03 7.01449E+02
 LiqWater Flow (cm)=-8.52495E-12-6.31840E-03-7.42674E-04 4.58759E-07
 IsoVapor Flow (cm)=-1.85182E-02-4.67860E-03-4.21758E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8196+ 0.0000+ 0.0000 - 0.0185- 0.0000-  0.0000 =    2.8011 vs.    2.8012

 Mass Balance = -3.4644E-05 cm;  Time step attempts =  146 and successes =  112
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0185 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   112

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.05870     0.05050
 Head (cm)         = 1.64351E+06 2.11127E+05 1.33352E+03 8.42765E+02
 LiqWater Flow (cm)=-6.38544E-13-2.08314E-04-8.69518E-03 1.00805E-07
 IsoVapor Flow (cm)=-2.22019E-02-2.19763E-02-4.21115E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3052+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =    3.2830 vs.    3.2830

 Mass Balance =  9.4992E-09 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0482E+02	[cm]
Actual Evaporation	=	2.5232E+01	[cm]
Evaporation during Growth	=	2.5232E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5705E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.9792E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5705E+01	[cm]
Actual Rainfall	=	2.5705E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.2830E+00	[cm]
Mass Balance Error	=	9.4609E-03	[cm]
Total Successful Time Steps	=	69733	
Total Attempted Time Steps	=	86309	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32880	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.7294E-01	0.050	1.8104E+01	0.150	1.3388E+01
0.250	1.1117E+01	0.350	9.6540E+00	0.450	8.6193E+00
0.550	7.6959E+00	0.650	6.8990E+00	0.750	6.3194E+00
0.850	5.7974E+00	0.950	5.3637E+00	1.125	4.9872E+00
1.375	3.9594E+00	1.625	3.4052E+00	1.875	2.9670E+00
2.250	2.5967E+00	2.750	1.8514E+00	3.250	1.5265E+00
3.750	1.3104E+00	4.250	1.1337E+00	4.790	9.8108E-01
6.350	8.6009E-01	8.890	5.2380E-01	11.430	4.2982E-01
13.970	4.0721E-01	16.510	3.8278E-01	19.050	3.5651E-01
21.590	3.2859E-01	24.130	2.9920E-01	26.670	2.6857E-01
29.210	2.3689E-01	31.750	2.0436E-01	34.290	1.7113E-01
36.830	1.3734E-01	39.370	1.0310E-01	41.910	6.8507E-02
44.450	3.3641E-02	46.990	-1.1090E-03	49.530	3.3784E-04
52.070	-6.5065E-04	54.610	-9.8367E-04	57.150	-7.1306E-04
59.690	-2.0474E-04	60.960	7.9792E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2008.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.043E+06	0.0300	292.65	8	7.000E-01	9.635E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.178E+05	0.0300	292.65
11	1.000E+00	7.503E+05	0.0300	292.65	12	1.250E+00	5.946E+05	0.0300	292.65
13	1.500E+00	4.546E+05	0.0300	292.65	14	1.750E+00	3.275E+05	0.0300	292.65
15	2.000E+00	2.111E+05	0.0301	292.65	16	2.500E+00	3.306E+03	0.0397	292.65
17	3.000E+00	2.773E+03	0.0420	292.65	18	3.500E+00	2.512E+03	0.0435	292.65
19	4.000E+00	2.345E+03	0.0446	292.65	20	4.500E+00	2.224E+03	0.0456	292.65
21	5.080E+00	2.117E+03	0.0465	292.65	22	7.620E+00	1.840E+03	0.0496	292.65
23	1.016E+01	1.692E+03	0.0516	292.65	24	1.270E+01	1.593E+03	0.0532	292.65
25	1.524E+01	1.521E+03	0.0545	292.65	26	1.778E+01	1.466E+03	0.0556	292.65
27	2.032E+01	1.422E+03	0.0566	292.65	28	2.286E+01	1.387E+03	0.0574	292.65
29	2.540E+01	1.358E+03	0.0581	292.65	30	2.794E+01	1.334E+03	0.0587	292.65
31	3.048E+01	1.313E+03	0.0592	292.65	32	3.302E+01	1.297E+03	0.0597	292.65
33	3.556E+01	1.283E+03	0.0600	292.65	34	3.810E+01	1.272E+03	0.0604	292.65
35	4.064E+01	1.263E+03	0.0606	292.65	36	4.318E+01	1.256E+03	0.0608	292.65
37	4.572E+01	1.252E+03	0.0609	292.65	38	4.826E+01	1.228E+03	0.0502	292.65
39	5.080E+01	9.949E+02	0.0503	292.65	40	5.334E+01	9.264E+02	0.0504	292.65
41	5.588E+01	8.768E+02	0.0505	292.65	42	5.842E+01	8.507E+02	0.0505	292.65
43	6.096E+01	8.428E+02	0.0505	292.65					

Initial Water Storage = 3.2830 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03006     0.05826     0.05050
 Head (cm)         = 1.92914E+06 2.32087E+05 1.35086E+03 8.43033E+02
 LiqWater Flow (cm)=-3.74910E-13-8.54555E-05-8.25339E-03 1.00541E-07
 IsoVapor Flow (cm)=-2.40236E-02-2.39316E-02-4.26568E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2830+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =    3.2590 vs.    3.2590

 Mass Balance = -2.0923E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04892     0.05039
 Head (cm)         = 1.38020E+06 8.69865E+05 1.89147E+03 9.31475E+02
 LiqWater Flow (cm)=-3.25414E-13-2.84693E-12-2.19369E-03 4.39969E-08
 IsoVapor Flow (cm)=-6.60703E-03-6.60893E-03-6.09045E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8422+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8356 vs.    2.8356

 Mass Balance = -8.5965E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2814E+02	[cm]
Actual Evaporation	=	2.5460E+01	[cm]
Evaporation during Growth	=	2.5453E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5019E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.9656E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5019E+01	[cm]
Actual Rainfall	=	2.5019E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8356E+00	[cm]
Mass Balance Error	=	6.6188E-03	[cm]
Total Successful Time Steps	=	55284	
Total Attempted Time Steps	=	67285	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27483	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4083E-01	0.050	1.5839E+01	0.150	7.4894E+00
0.250	5.5674E+00	0.350	4.5760E+00	0.450	3.7463E+00
0.550	3.2460E+00	0.650	2.9357E+00	0.750	2.7672E+00
0.850	2.6394E+00	0.950	2.4729E+00	1.125	2.3701E+00
1.375	2.1146E+00	1.625	1.9103E+00	1.875	1.7440E+00
2.250	1.5569E+00	2.750	1.2960E+00	3.250	1.0379E+00
3.750	8.9391E-01	4.250	7.5265E-01	4.790	5.5691E-01
6.350	3.7874E-01	8.890	4.3173E-02	11.430	-1.7008E-03
13.970	-5.0008E-02	16.510	-9.0550E-02	19.050	-1.2392E-01
21.590	-1.6312E-01	24.130	-1.8036E-01	26.670	-1.9461E-01
29.210	-1.8370E-01	31.750	-1.5869E-01	34.290	-1.3315E-01
36.830	-1.0722E-01	39.370	-8.0963E-02	41.910	-5.4448E-02
44.450	-2.7739E-02	46.990	4.8555E-04	49.530	3.0656E-03
52.070	1.1099E-03	54.610	2.1970E-04	57.150	-6.9975E-05
59.690	-4.4964E-05	60.960	1.9656E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2009.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.290E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.808E+05	0.0300	292.65	14	1.750E+00	9.242E+05	0.0300	292.65
15	2.000E+00	8.699E+05	0.0300	292.65	16	2.500E+00	7.671E+05	0.0300	292.65
17	3.000E+00	6.715E+05	0.0300	292.65	18	3.500E+00	5.822E+05	0.0300	292.65
19	4.000E+00	4.982E+05	0.0300	292.65	20	4.500E+00	4.191E+05	0.0300	292.65
21	5.080E+00	3.326E+05	0.0300	292.65	22	7.620E+00	2.939E+03	0.0412	292.65
23	1.016E+01	2.519E+03	0.0434	292.65	24	1.270E+01	2.314E+03	0.0449	292.65
25	1.524E+01	2.185E+03	0.0459	292.65	26	1.778E+01	2.093E+03	0.0468	292.65
27	2.032E+01	2.024E+03	0.0475	292.65	28	2.286E+01	1.970E+03	0.0480	292.65
29	2.540E+01	1.926E+03	0.0485	292.65	30	2.794E+01	1.891E+03	0.0489	292.65
31	3.048E+01	1.863E+03	0.0493	292.65	32	3.302E+01	1.840E+03	0.0496	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.807E+03	0.0500	292.65
35	4.064E+01	1.795E+03	0.0501	292.65	36	4.318E+01	1.787E+03	0.0503	292.65
37	4.572E+01	1.781E+03	0.0503	292.65	38	4.826E+01	1.673E+03	0.0501	292.65
39	5.080E+01	1.155E+03	0.0502	292.65	40	5.334E+01	9.238E+02	0.0504	292.65
41	5.588E+01	8.950E+02	0.0504	292.65	42	5.842E+01	9.170E+02	0.0504	292.65
43	6.096E+01	9.315E+02	0.0504	292.65					

Initial Water Storage = 2.8356 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04879     0.05039
 Head (cm)         = 1.61006E+06 9.83072E+05 1.90242E+03 9.31000E+02
 LiqWater Flow (cm)=-1.97427E-13-1.87342E-12-2.18015E-03 4.41843E-08
 IsoVapor Flow (cm)=-7.19707E-03-7.19391E-03-6.21740E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8356+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =    2.8284 vs.    2.8284

 Mass Balance =  1.0885E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.06805     0.05023
 Head (cm)         = 1.02625E+06 1.79438E+03 1.05087E+03 1.14663E+03
 LiqWater Flow (cm)=-1.41952E-09-8.67525E-02 9.87992E-03 7.93636E-09
 IsoVapor Flow (cm)=-1.09471E-01-9.40207E-06 7.07613E-08 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8458+ 0.0000+ 0.0000 - 0.1095- 0.0000-  0.0000 =    3.7363 vs.    3.7364

 Mass Balance = -4.4255E-05 cm;  Time step attempts =  237 and successes =  185
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1095 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   169
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.0884E+02	[cm]
Actual Evaporation	=	2.1139E+01	[cm]
Evaporation during Growth	=	2.1139E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2047E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.9568E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2047E+01	[cm]
Actual Rainfall	=	2.2047E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.7364E+00	[cm]
Mass Balance Error	=	7.8360E-03	[cm]
Total Successful Time Steps	=	59806	
Total Attempted Time Steps	=	73528	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29805	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.0866E-01	0.050	1.4431E+01	0.150	1.0186E+01
0.250	8.4585E+00	0.350	7.6842E+00	0.450	7.0186E+00
0.550	6.3728E+00	0.650	5.7447E+00	0.750	5.2471E+00
0.850	4.9204E+00	0.950	4.5623E+00	1.125	4.2227E+00
1.375	3.5033E+00	1.625	3.1323E+00	1.875	2.6603E+00
2.250	2.4783E+00	2.750	2.1781E+00	3.250	1.9571E+00
3.750	1.8077E+00	4.250	1.7231E+00	4.790	1.6153E+00
6.350	1.4978E+00	8.890	1.1754E+00	11.430	1.0245E+00
13.970	9.0062E-01	16.510	7.8382E-01	19.050	6.6642E-01
21.590	5.6929E-01	24.130	4.7843E-01	26.670	3.9189E-01
29.210	3.2454E-01	31.750	2.7622E-01	34.290	2.2876E-01
36.830	1.8201E-01	39.370	1.3583E-01	41.910	9.0094E-02
44.450	4.4625E-02	46.990	4.0872E-04	49.530	8.7144E-04
52.070	-2.2819E-05	54.610	-1.1855E-04	57.150	-1.0041E-04
59.690	-3.5336E-05	60.960	8.9568E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2010.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.521E+05	0.0300	292.65
3	2.000E-01	5.237E+05	0.0300	292.65	4	3.000E-01	3.279E+05	0.0300	292.65
5	4.000E-01	1.565E+05	0.0301	292.65	6	5.000E-01	3.886E+03	0.0380	292.65
7	6.000E-01	3.087E+03	0.0405	292.65	8	7.000E-01	2.751E+03	0.0421	292.65
9	8.000E-01	2.546E+03	0.0433	292.65	10	9.000E-01	2.402E+03	0.0442	292.65
11	1.000E+00	2.291E+03	0.0450	292.65	12	1.250E+00	2.097E+03	0.0467	292.65
13	1.500E+00	1.967E+03	0.0481	292.65	14	1.750E+00	1.870E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.680E+03	0.0518	292.65
17	3.000E+00	1.597E+03	0.0532	292.65	18	3.500E+00	1.533E+03	0.0543	292.65
19	4.000E+00	1.480E+03	0.0553	292.65	20	4.500E+00	1.437E+03	0.0563	292.65
21	5.080E+00	1.395E+03	0.0572	292.65	22	7.620E+00	1.269E+03	0.0604	292.65
23	1.016E+01	1.196E+03	0.0627	292.65	24	1.270E+01	1.147E+03	0.0643	292.65
25	1.524E+01	1.114E+03	0.0655	292.65	26	1.778E+01	1.090E+03	0.0664	292.65
27	2.032E+01	1.074E+03	0.0671	292.65	28	2.286E+01	1.063E+03	0.0676	292.65
29	2.540E+01	1.055E+03	0.0679	292.65	30	2.794E+01	1.051E+03	0.0680	292.65
31	3.048E+01	1.049E+03	0.0681	292.65	32	3.302E+01	1.048E+03	0.0682	292.65
33	3.556E+01	1.048E+03	0.0682	292.65	34	3.810E+01	1.049E+03	0.0681	292.65
35	4.064E+01	1.049E+03	0.0681	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.048E+03	0.0682	292.65	38	4.826E+01	1.065E+03	0.0503	292.65
39	5.080E+01	1.043E+03	0.0503	292.65	40	5.334E+01	1.103E+03	0.0503	292.65
41	5.588E+01	1.134E+03	0.0502	292.65	42	5.842E+01	1.144E+03	0.0502	292.65
43	6.096E+01	1.147E+03	0.0502	292.65					

Initial Water Storage = 3.7364 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.04886     0.06687     0.05023
 Head (cm)         = 3.59124E+05 1.89670E+03 1.07926E+03 1.14650E+03
 LiqWater Flow (cm)=-1.43390E-08-5.87083E-02-4.62940E-03 7.94335E-09
 IsoVapor Flow (cm)=-5.83115E-02-1.19578E-05-1.19832E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.7364+ 0.0000+ 0.0000 - 0.0583- 0.0000-  0.0000 =    3.6781 vs.    3.6781

 Mass Balance = -1.6949E-05 cm;  Time step attempts =  465 and successes =  375
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0583 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   148

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04053     0.04545     0.05019
 Head (cm)         = 9.30306E+05 3.08742E+03 2.24167E+03 1.23684E+03
 LiqWater Flow (cm)=-1.34775E-11-2.34778E-02-1.67742E-03 4.25575E-09
 IsoVapor Flow (cm)=-3.90227E-02-2.36185E-05-1.03994E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8480+ 0.0000+ 0.0000 - 0.0390- 0.0000-  0.0000 =    2.8090 vs.    2.8090

 Mass Balance = -5.3336E-05 cm;  Time step attempts =  307 and successes =  252
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0390 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   251
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

```
Actual Transpiration               =  0.0000E+00     [cm]
Potential Evaporation              =  3.0272E+02     [cm]
Actual Evaporation                 =  1.7862E+01     [cm]
Evaporation during Growth          =  1.7862E+01     [cm]
Total Runoff                       =  0.0000E+00     [cm]
Total Infiltration                 =  1.6942E+01     [cm]
Total Basal Liquid Flux (drainage) =  2.5495E-06     [cm]
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.6942E+01     [cm]
Actual Rainfall                    =  1.6942E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8090E+00     [cm]
Mass Balance Error                 =  6.8817E-03     [cm]
Total Successful Time Steps        =     64503
Total Attempted Time Steps         =     79197
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33624
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2045E-01	0.050	1.2376E+01	0.150	9.3568E+00
0.250	7.9180E+00	0.350	6.8581E+00	0.450	6.0130E+00
0.550	5.2010E+00	0.650	4.7167E+00	0.750	4.2658E+00
0.850	3.8104E+00	0.950	3.2950E+00	1.125	3.0274E+00
1.375	2.4582E+00	1.625	1.8959E+00	1.875	1.5915E+00
2.250	1.3133E+00	2.750	7.5115E-01	3.250	4.0467E-01
3.750	2.2738E-01	4.250	7.2902E-02	4.790	-1.9209E-02
6.350	-1.2923E-01	8.890	-4.6869E-01	11.430	-6.1275E-01
13.970	-6.4447E-01	16.510	-6.5430E-01	19.050	-6.1756E-01
21.590	-5.5872E-01	24.130	-5.0012E-01	26.670	-4.4211E-01
29.210	-3.8483E-01	31.750	-3.2830E-01	34.290	-2.7253E-01
36.830	-2.1747E-01	39.370	-1.6302E-01	41.910	-1.0903E-01
44.450	-5.5291E-02	46.990	-1.1295E-03	49.530	2.5605E-04
52.070	2.5079E-06	54.610	-8.1683E-06	57.150	-7.3848E-06
59.690	-1.4050E-06	60.960	2.5495E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2011.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.424E+03	0.0368	292.65	14	1.750E+00	3.449E+03	0.0392	292.65
15	2.000E+00	3.087E+03	0.0405	292.65	16	2.500E+00	2.732E+03	0.0422	292.65
17	3.000E+00	2.542E+03	0.0433	292.65	18	3.500E+00	2.420E+03	0.0441	292.65
19	4.000E+00	2.333E+03	0.0447	292.65	20	4.500E+00	2.270E+03	0.0452	292.65
21	5.080E+00	2.217E+03	0.0457	292.65	22	7.620E+00	2.132E+03	0.0464	292.65
23	1.016E+01	2.189E+03	0.0459	292.65	24	1.270E+01	2.347E+03	0.0446	292.65
25	1.524E+01	2.511E+03	0.0435	292.65	26	1.778E+01	2.536E+03	0.0433	292.65
27	2.032E+01	2.463E+03	0.0438	292.65	28	2.286E+01	2.376E+03	0.0444	292.65
29	2.540E+01	2.302E+03	0.0450	292.65	30	2.794E+01	2.242E+03	0.0454	292.65
31	3.048E+01	2.194E+03	0.0458	292.65	32	3.302E+01	2.156E+03	0.0462	292.65
33	3.556E+01	2.126E+03	0.0465	292.65	34	3.810E+01	2.103E+03	0.0467	292.65
35	4.064E+01	2.086E+03	0.0468	292.65	36	4.318E+01	2.074E+03	0.0470	292.65
37	4.572E+01	2.067E+03	0.0470	292.65	38	4.826E+01	1.925E+03	0.0501	292.65
39	5.080E+01	1.593E+03	0.0501	292.65	40	5.334E+01	1.373E+03	0.0501	292.65
41	5.588E+01	1.275E+03	0.0502	292.65	42	5.842E+01	1.243E+03	0.0502	292.65
43	6.096E+01	1.237E+03	0.0502	292.65					

Initial Water Storage = 2.8090 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04538     0.05019
 Head (cm)         = 1.63309E+06 2.13733E+05 2.24981E+03 1.23720E+03
 LiqWater Flow (cm)=-8.25380E-13-8.93958E-03-1.62437E-03 4.24577E-09
 IsoVapor Flow (cm)=-2.68820E-02-9.93137E-03-1.03098E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8090+ 0.0000+ 0.0000 - 0.0269- 0.0000-  0.0000 =    2.7822 vs.    2.7822

 Mass Balance = -4.3163E-05 cm;  Time step attempts =  183 and successes =  140
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0269 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   140

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05348     0.05733     0.07692     0.05007
 Head (cm)         = 1.57853E+03 1.38956E+03 8.79260E+02 1.90876E+03
 LiqWater Flow (cm)=-1.18466E-02-7.98171E-02-4.01747E-02 1.18475E-10
 IsoVapor Flow (cm)=-5.21162E-02-4.74719E-06-2.43407E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1904+ 0.0000+ 0.0000 - 0.0628- 0.0000-  0.0000 =    4.1276 vs.    4.1276

 Mass Balance =  3.2495E-05 cm;  Time step attempts =  239 and successes =  204
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0628 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    60
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4173E+02	[cm]
Actual Evaporation	=	1.2592E+01	[cm]
Evaporation during Growth	=	1.2592E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3919E+01	[cm]
Total Basal Liquid Flux (drainage)	=	4.2791E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3919E+01	[cm]
Actual Rainfall	=	1.3919E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1276E+00	[cm]
Mass Balance Error	=	8.3741E-03	[cm]
Total Successful Time Steps	=	64974	
Total Attempted Time Steps	=	80029	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33269	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3269E+00	0.050	1.0574E+01	0.150	8.4879E+00
0.250	7.6133E+00	0.350	6.8859E+00	0.450	6.5596E+00
0.550	6.2836E+00	0.650	5.9957E+00	0.750	5.7439E+00
0.850	5.5419E+00	0.950	5.3863E+00	1.125	5.2225E+00
1.375	4.8584E+00	1.625	4.5211E+00	1.875	4.2500E+00
2.250	3.9879E+00	2.750	3.4655E+00	3.250	3.1147E+00
3.750	2.8662E+00	4.250	2.5965E+00	4.790	2.3595E+00
6.350	2.0609E+00	8.890	1.5865E+00	11.430	1.2668E+00
13.970	1.0451E+00	16.510	9.7100E-01	19.050	8.9654E-01
21.590	8.2008E-01	24.130	7.4228E-01	26.670	6.6334E-01
29.210	5.8333E-01	31.750	5.0233E-01	34.290	4.2043E-01
36.830	3.3770E-01	39.370	2.5425E-01	41.910	1.7014E-01
44.450	8.5464E-02	46.990	9.4273E-04	49.530	2.7682E-05
52.070	-2.1451E-06	54.610	-6.5187E-06	57.150	-7.0486E-06
59.690	-2.8355E-06	60.960	4.2791E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2012.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.579E+03	0.0535	292.65	2	1.000E-01	1.567E+03	0.0537	292.65
3	2.000E-01	1.555E+03	0.0539	292.65	4	3.000E-01	1.544E+03	0.0541	292.65
5	4.000E-01	1.533E+03	0.0543	292.65	6	5.000E-01	1.522E+03	0.0545	292.65
7	6.000E-01	1.512E+03	0.0547	292.65	8	7.000E-01	1.502E+03	0.0549	292.65
9	8.000E-01	1.492E+03	0.0551	292.65	10	9.000E-01	1.482E+03	0.0553	292.65
11	1.000E+00	1.473E+03	0.0555	292.65	12	1.250E+00	1.450E+03	0.0560	292.65
13	1.500E+00	1.429E+03	0.0564	292.65	14	1.750E+00	1.409E+03	0.0569	292.65
15	2.000E+00	1.390E+03	0.0573	292.65	16	2.500E+00	1.354E+03	0.0582	292.65
17	3.000E+00	1.323E+03	0.0590	292.65	18	3.500E+00	1.294E+03	0.0597	292.65
19	4.000E+00	1.268E+03	0.0605	292.65	20	4.500E+00	1.244E+03	0.0612	292.65
21	5.080E+00	1.219E+03	0.0619	292.65	22	7.620E+00	1.132E+03	0.0649	292.65
23	1.016E+01	1.070E+03	0.0672	292.65	24	1.270E+01	1.024E+03	0.0692	292.65
25	1.524E+01	9.868E+02	0.0710	292.65	26	1.778E+01	9.569E+02	0.0725	292.65
27	2.032E+01	9.322E+02	0.0738	292.65	28	2.286E+01	9.115E+02	0.0750	292.65
29	2.540E+01	8.941E+02	0.0760	292.65	30	2.794E+01	8.793E+02	0.0769	292.65
31	3.048E+01	8.667E+02	0.0777	292.65	32	3.302E+01	8.560E+02	0.0784	292.65
33	3.556E+01	8.470E+02	0.0790	292.65	34	3.810E+01	8.395E+02	0.0795	292.65
35	4.064E+01	8.334E+02	0.0799	292.65	36	4.318E+01	8.285E+02	0.0803	292.65
37	4.572E+01	8.248E+02	0.0805	292.65	38	4.826E+01	8.157E+02	0.0505	292.65
39	5.080E+01	1.549E+03	0.0501	292.65	40	5.334E+01	1.820E+03	0.0501	292.65
41	5.588E+01	1.893E+03	0.0501	292.65	42	5.842E+01	1.907E+03	0.0501	292.65
43	6.096E+01	1.909E+03	0.0501	292.65					

Initial Water Storage = 4.1276 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06538     0.06560     0.07521     0.05007
 Head (cm)         = 1.11766E+03 1.11165E+03 9.07483E+02 1.90827E+03
 LiqWater Flow (cm)=-5.95058E-04-2.21155E-02-3.43254E-02 1.18651E-10
 IsoVapor Flow (cm)=-9.60982E-08-8.08598E-07-2.48344E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1276+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =    4.1276 vs.    4.1276

 Mass Balance =  3.2337E-06 cm;  Time step attempts =   30 and successes =   28
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05502     0.05010
 Head (cm)         = 1.03684E+06 1.57449E+05 1.49665E+03 1.60471E+03
 LiqWater Flow (cm)=-2.94767E-12-2.40180E-04-3.24175E-03 4.96850E-10
 IsoVapor Flow (cm)=-1.69070E-02-1.66666E-02-3.05333E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1516+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =    3.1346 vs.    3.1346

 Mass Balance = -2.9870E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1811E+02	[cm]
Actual Evaporation	=	1.4374E+01	[cm]
Evaporation during Growth	=	1.4357E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.3386E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0489E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.3386E+01	[cm]
Actual Rainfall	=	1.3386E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1346E+00	[cm]
Mass Balance Error	=	4.9309E-03	[cm]
Total Successful Time Steps	=	52751	
Total Attempted Time Steps	=	63527	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28824	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.8804E-01	0.050	9.5712E+00	0.150	6.7431E+00
0.250	5.6309E+00	0.350	4.7515E+00	0.450	4.2635E+00
0.550	3.6591E+00	0.650	3.3068E+00	0.750	3.0138E+00
0.850	2.6808E+00	0.950	2.3340E+00	1.125	2.1142E+00
1.375	1.7008E+00	1.625	1.4169E+00	1.875	1.0462E+00
2.250	7.6613E-01	2.750	3.8758E-01	3.250	2.0711E-01
3.750	1.2412E-01	4.250	3.6186E-02	4.790	-2.1925E-02
6.350	-1.0794E-01	8.890	-3.8471E-01	11.430	-4.4997E-01
13.970	-4.9814E-01	16.510	-5.2776E-01	19.050	-5.4031E-01
21.590	-5.3483E-01	24.130	-5.2572E-01	26.670	-4.7272E-01
29.210	-4.1733E-01	31.750	-3.6061E-01	34.290	-3.0273E-01
36.830	-2.4383E-01	39.370	-1.8406E-01	41.910	-1.2353E-01
44.450	-6.2379E-02	46.990	-3.2530E-04	49.530	1.7933E-04
52.070	1.0381E-05	54.610	2.7930E-06	57.150	1.0075E-06
59.690	3.2502E-07	60.960	1.0489E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2013.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.636E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.160E+05	0.0300	292.65	10	9.000E-01	5.714E+05	0.0300	292.65
11	1.000E+00	5.282E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.412E+05	0.0301	292.65
15	2.000E+00	1.574E+05	0.0301	292.65	16	2.500E+00	3.640E+03	0.0386	292.65
17	3.000E+00	3.012E+03	0.0408	292.65	18	3.500E+00	2.719E+03	0.0423	292.65
19	4.000E+00	2.533E+03	0.0433	292.65	20	4.500E+00	2.400E+03	0.0442	292.65
21	5.080E+00	2.284E+03	0.0451	292.65	22	7.620E+00	1.988E+03	0.0478	292.65
23	1.016E+01	1.832E+03	0.0497	292.65	24	1.270E+01	1.733E+03	0.0510	292.65
25	1.524E+01	1.663E+03	0.0521	292.65	26	1.778E+01	1.611E+03	0.0529	292.65
27	2.032E+01	1.571E+03	0.0536	292.65	28	2.286E+01	1.540E+03	0.0542	292.65
29	2.540E+01	1.516E+03	0.0546	292.65	30	2.794E+01	1.497E+03	0.0550	292.65
31	3.048E+01	1.481E+03	0.0553	292.65	32	3.302E+01	1.469E+03	0.0556	292.65
33	3.556E+01	1.459E+03	0.0558	292.65	34	3.810E+01	1.451E+03	0.0560	292.65
35	4.064E+01	1.445E+03	0.0561	292.65	36	4.318E+01	1.440E+03	0.0562	292.65
37	4.572E+01	1.436E+03	0.0563	292.65	38	4.826E+01	1.439E+03	0.0501	292.65
39	5.080E+01	1.568E+03	0.0501	292.65	40	5.334E+01	1.613E+03	0.0501	292.65
41	5.588E+01	1.618E+03	0.0501	292.65	42	5.842E+01	1.609E+03	0.0501	292.65
43	6.096E+01	1.605E+03	0.0501	292.65					

Initial Water Storage = 3.1346 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05472     0.05010
 Head (cm)         = 6.62341E+05 1.10166E+05 1.51194E+03 1.60528E+03
 LiqWater Flow (cm)=-1.51965E-11-4.17488E-04-3.63559E-03 4.95335E-10
 IsoVapor Flow (cm)=-1.22119E-02-1.18416E-02-3.50101E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1346+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =    3.1224 vs.    3.1224

 Mass Balance = -5.3837E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04872     0.05187
 Head (cm)         = 1.00583E+06 5.21626E+05 1.90861E+03 4.98193E+02
 LiqWater Flow (cm)=-1.52522E-12-4.47614E-11-2.10306E-03 7.72381E-06
 IsoVapor Flow (cm)=-8.18404E-03-8.17958E-03-6.11604E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8638+ 0.0000+ 0.0000 - 0.0082- 0.0000-  0.0000 =    2.8556 vs.    2.8556

 Mass Balance = -3.9240E-07 cm;  Time step attempts =   28 and successes =   27
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0082 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    27
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1167E+02	[cm]
Actual Evaporation	=	2.4427E+01	[cm]
Evaporation during Growth	=	2.4427E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.4155E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.0346E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.4155E+01	[cm]
Actual Rainfall	=	2.4155E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8556E+00	[cm]
Mass Balance Error	=	6.5954E-03	[cm]
Total Successful Time Steps	=	52541	
Total Attempted Time Steps	=	64596	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26613	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.7144E-01	0.050	1.1839E+01	0.150	7.8537E+00
0.250	6.7493E+00	0.350	5.9326E+00	0.450	5.2757E+00
0.550	4.7316E+00	0.650	4.3230E+00	0.750	3.9551E+00
0.850	3.5163E+00	0.950	3.2574E+00	1.125	3.0267E+00
1.375	2.4977E+00	1.625	2.1262E+00	1.875	1.9560E+00
2.250	1.8245E+00	2.750	1.4610E+00	3.250	1.2297E+00
3.750	9.4423E-01	4.250	6.3535E-01	4.790	5.0990E-01
6.350	3.9218E-01	8.890	1.1976E-01	11.430	-1.7740E-02
13.970	-1.4019E-01	16.510	-1.6868E-01	19.050	-1.5331E-01
21.590	-1.3756E-01	24.130	-1.2170E-01	26.670	-1.0581E-01
29.210	-8.9940E-02	31.750	-7.4116E-02	34.290	-5.8347E-02
36.830	-4.2643E-02	39.370	-2.6996E-02	41.910	-1.1391E-02
44.450	4.1920E-03	46.990	2.0460E-02	49.530	2.1755E-02
52.070	1.6058E-02	54.610	1.2010E-02	57.150	7.6231E-03
59.690	3.1283E-03	60.960	1.0346E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2014.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.769E+05	0.0300	292.65
3	2.000E-01	9.482E+05	0.0300	292.65	4	3.000E-01	9.203E+05	0.0300	292.65
5	4.000E-01	8.932E+05	0.0300	292.65	6	5.000E-01	8.668E+05	0.0300	292.65
7	6.000E-01	8.408E+05	0.0300	292.65	8	7.000E-01	8.154E+05	0.0300	292.65
9	8.000E-01	7.904E+05	0.0300	292.65	10	9.000E-01	7.659E+05	0.0300	292.65
11	1.000E+00	7.419E+05	0.0300	292.65	12	1.250E+00	6.835E+05	0.0300	292.65
13	1.500E+00	6.275E+05	0.0300	292.65	14	1.750E+00	5.736E+05	0.0300	292.65
15	2.000E+00	5.216E+05	0.0300	292.65	16	2.500E+00	4.232E+05	0.0300	292.65
17	3.000E+00	3.312E+05	0.0300	292.65	18	3.500E+00	2.450E+05	0.0301	292.65
19	4.000E+00	1.639E+05	0.0301	292.65	20	4.500E+00	8.727E+04	0.0302	292.65
21	5.080E+00	4.778E+03	0.0362	292.65	22	7.620E+00	2.864E+03	0.0415	292.65
23	1.016E+01	2.514E+03	0.0435	292.65	24	1.270E+01	2.323E+03	0.0448	292.65
25	1.524E+01	2.198E+03	0.0458	292.65	26	1.778E+01	2.108E+03	0.0466	292.65
27	2.032E+01	2.040E+03	0.0473	292.65	28	2.286E+01	1.986E+03	0.0478	292.65
29	2.540E+01	1.943E+03	0.0483	292.65	30	2.794E+01	1.909E+03	0.0487	292.65
31	3.048E+01	1.880E+03	0.0491	292.65	32	3.302E+01	1.857E+03	0.0493	292.65
33	3.556E+01	1.838E+03	0.0496	292.65	34	3.810E+01	1.823E+03	0.0498	292.65
35	4.064E+01	1.811E+03	0.0499	292.65	36	4.318E+01	1.803E+03	0.0500	292.65
37	4.572E+01	1.797E+03	0.0501	292.65	38	4.826E+01	1.542E+03	0.0501	292.65
39	5.080E+01	5.382E+02	0.0515	292.65	40	5.334E+01	5.178E+02	0.0517	292.65
41	5.588E+01	5.062E+02	0.0518	292.65	42	5.842E+01	5.001E+02	0.0518	292.65
43	6.096E+01	4.982E+02	0.0519	292.65					

Initial Water Storage = 2.8556 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04860     0.05186
 Head (cm)         = 1.15661E+06 5.86317E+05 1.91900E+03 4.98692E+02
 LiqWater Flow (cm)=-9.34819E-13-2.86557E-11-2.09079E-03 7.66019E-06
 IsoVapor Flow (cm)=-8.91193E-03-8.90699E-03-6.23505E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8556+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =    2.8467 vs.    2.8467

 Mass Balance = -1.2592E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03693     0.04933     0.05232
 Head (cm)         = 2.73526E+05 4.37804E+03 1.85790E+03 4.56828E+02
 LiqWater Flow (cm)=-5.81209E-10-8.92382E-03-9.50676E-04 1.58004E-05
 IsoVapor Flow (cm)=-7.33027E-03-1.63153E-04-2.81225E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9541+ 0.0000+ 0.0000 - 0.0073- 0.0000-  0.0000 =    2.9467 vs.    2.9467

 Mass Balance = -2.3029E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0073 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2121E+02	[cm]
Actual Evaporation	=	2.1664E+01	[cm]
Evaporation during Growth	=	2.1664E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1768E+01	[cm]
Total Basal Liquid Flux (drainage)	=	5.0824E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1768E+01	[cm]
Actual Rainfall	=	2.1768E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9467E+00	[cm]
Mass Balance Error	=	7.2329E-03	[cm]
Total Successful Time Steps	=	58244	
Total Attempted Time Steps	=	71322	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29144	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.0345E-01	0.050	1.1619E+01	0.150	7.6872E+00
0.250	6.3240E+00	0.350	5.3969E+00	0.450	4.9086E+00
0.550	4.3092E+00	0.650	3.6911E+00	0.750	3.3927E+00
0.850	3.0275E+00	0.950	2.8472E+00	1.125	2.7050E+00
1.375	2.2861E+00	1.625	1.9403E+00	1.875	1.8131E+00
2.250	1.6540E+00	2.750	1.4733E+00	3.250	1.3637E+00
3.750	1.2030E+00	4.250	1.0106E+00	4.790	9.1976E-01
6.350	8.1462E-01	8.890	6.1335E-01	11.430	4.0594E-01
13.970	2.4355E-01	16.510	1.1138E-01	19.050	2.6380E-02
21.590	2.1130E-02	24.130	1.8061E-02	26.670	1.5774E-02
29.210	1.4079E-02	31.750	1.2857E-02	34.290	1.2001E-02
36.830	1.1413E-02	39.370	1.1012E-02	41.910	1.0739E-02
44.450	1.0541E-02	46.990	1.3456E-02	49.530	1.8727E-02
52.070	9.5455E-03	54.610	8.1187E-03	57.150	6.8727E-03
59.690	5.6703E-03	60.960	5.0824E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2015.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.573E+05	0.0301	292.65
3	2.000E-01	2.415E+05	0.0301	292.65	4	3.000E-01	2.258E+05	0.0301	292.65
5	4.000E-01	2.102E+05	0.0301	292.65	6	5.000E-01	1.948E+05	0.0301	292.65
7	6.000E-01	1.796E+05	0.0301	292.65	8	7.000E-01	1.645E+05	0.0301	292.65
9	8.000E-01	1.496E+05	0.0301	292.65	10	9.000E-01	1.349E+05	0.0301	292.65
11	1.000E+00	1.203E+05	0.0301	292.65	12	1.250E+00	8.449E+04	0.0302	292.65
13	1.500E+00	4.951E+04	0.0304	292.65	14	1.750E+00	1.533E+04	0.0315	292.65
15	2.000E+00	4.378E+03	0.0369	292.65	16	2.500E+00	3.589E+03	0.0388	292.65
17	3.000E+00	3.224E+03	0.0400	292.65	18	3.500E+00	2.995E+03	0.0409	292.65
19	4.000E+00	2.831E+03	0.0417	292.65	20	4.500E+00	2.706E+03	0.0423	292.65
21	5.080E+00	2.593E+03	0.0430	292.65	22	7.620E+00	2.292E+03	0.0450	292.65
23	1.016E+01	2.139E+03	0.0463	292.65	24	1.270E+01	2.046E+03	0.0472	292.65
25	1.524E+01	1.986E+03	0.0479	292.65	26	1.778E+01	1.944E+03	0.0483	292.65
27	2.032E+01	1.914E+03	0.0487	292.65	28	2.286E+01	1.891E+03	0.0489	292.65
29	2.540E+01	1.873E+03	0.0491	292.65	30	2.794E+01	1.858E+03	0.0493	292.65
31	3.048E+01	1.845E+03	0.0495	292.65	32	3.302E+01	1.833E+03	0.0497	292.65
33	3.556E+01	1.822E+03	0.0498	292.65	34	3.810E+01	1.812E+03	0.0499	292.65
35	4.064E+01	1.804E+03	0.0500	292.65	36	4.318E+01	1.798E+03	0.0501	292.65
37	4.572E+01	1.793E+03	0.0502	292.65	38	4.826E+01	1.494E+03	0.0501	292.65
39	5.080E+01	4.844E+02	0.0520	292.65	40	5.334E+01	4.711E+02	0.0521	292.65
41	5.588E+01	4.628E+02	0.0522	292.65	42	5.842E+01	4.583E+02	0.0523	292.65
43	6.096E+01	4.568E+02	0.0523	292.65					

Initial Water Storage = 2.9467 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03003     0.03116     0.04927     0.05231
 Head (cm)         = 4.46116E+05 1.93620E+04 1.86314E+03 4.57399E+02
 LiqWater Flow (cm)=-8.82723E-11-8.11800E-03-1.02897E-03 1.56381E-05
 IsoVapor Flow (cm)=-1.10951E-02-3.57394E-04-3.02163E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9467+ 0.0000+ 0.0000 - 0.0111- 0.0000-  0.0000 =    2.9356 vs.    2.9356

 Mass Balance = -1.0289E-05 cm;  Time step attempts =   50 and successes =   40
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0111 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    40

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03015     0.06263     0.08349     0.05108
 Head (cm)         = 1.05228E+05 1.19662E+03 7.85751E+02 6.19851E+02
 LiqWater Flow (cm)=-6.72726E-02-1.46589E-01-4.79671E-02 1.27134E-06
 IsoVapor Flow (cm)=-9.64575E-02-3.40185E-06-1.78344E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.5979+ 0.0000+ 0.0000 - 0.1656- 0.0000-  0.0000 =    4.4323 vs.    4.4323

 Mass Balance = -2.2000E-05 cm;  Time step attempts =  227 and successes =  185
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1656 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    68
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	2.8444E+02	[cm]
Actual Evaporation	=	2.9185E+01	[cm]
Evaporation during Growth	=	2.9185E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0683E+01	[cm]
Total Basal Liquid Flux (drainage)	=	1.7430E-03	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0683E+01	[cm]
Actual Rainfall	=	3.0683E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.4323E+00	[cm]
Mass Balance Error	=	1.0816E-02	[cm]
Total Successful Time Steps	=	74378	
Total Attempted Time Steps	=	91923	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	33173	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.4982E+00	0.050	2.0253E+01	0.150	1.3993E+01
0.250	1.1713E+01	0.350	1.0174E+01	0.450	8.9778E+00
0.550	8.1743E+00	0.650	7.5728E+00	0.750	7.0640E+00
0.850	6.4015E+00	0.950	5.8512E+00	1.125	5.4653E+00
1.375	4.5207E+00	1.625	3.8770E+00	1.875	3.4751E+00
2.250	3.0819E+00	2.750	2.3848E+00	3.250	2.0460E+00
3.750	1.7783E+00	4.250	1.5436E+00	4.790	1.4696E+00
6.350	1.3314E+00	8.890	1.2610E+00	11.430	1.1921E+00
13.970	1.1200E+00	16.510	1.0448E+00	19.050	9.6674E-01
21.590	8.8611E-01	24.130	8.0314E-01	26.670	7.1811E-01
29.210	6.3126E-01	31.750	5.4282E-01	34.290	4.5301E-01
36.830	3.6200E-01	39.370	2.6999E-01	41.910	1.7711E-01
44.450	8.3519E-02	46.990	-1.0115E-02	49.530	-7.0075E-03
52.070	-8.8170E-03	54.610	-5.8959E-03	57.150	-2.8778E-03
59.690	1.9616E-04	60.960	1.7430E-03		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2016.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.052E+05	0.0302	292.65	2	1.000E-01	1.302E+03	0.0595	292.65
3	2.000E-01	1.296E+03	0.0597	292.65	4	3.000E-01	1.290E+03	0.0599	292.65
5	4.000E-01	1.284E+03	0.0600	292.65	6	5.000E-01	1.278E+03	0.0602	292.65
7	6.000E-01	1.272E+03	0.0603	292.65	8	7.000E-01	1.266E+03	0.0605	292.65
9	8.000E-01	1.261E+03	0.0607	292.65	10	9.000E-01	1.255E+03	0.0608	292.65
11	1.000E+00	1.249E+03	0.0610	292.65	12	1.250E+00	1.236E+03	0.0614	292.65
13	1.500E+00	1.222E+03	0.0618	292.65	14	1.750E+00	1.209E+03	0.0622	292.65
15	2.000E+00	1.197E+03	0.0626	292.65	16	2.500E+00	1.173E+03	0.0634	292.65
17	3.000E+00	1.150E+03	0.0642	292.65	18	3.500E+00	1.129E+03	0.0650	292.65
19	4.000E+00	1.109E+03	0.0657	292.65	20	4.500E+00	1.090E+03	0.0664	292.65
21	5.080E+00	1.070E+03	0.0672	292.65	22	7.620E+00	9.975E+02	0.0705	292.65
23	1.016E+01	9.443E+02	0.0732	292.65	24	1.270E+01	9.042E+02	0.0754	292.65
25	1.524E+01	8.731E+02	0.0773	292.65	26	1.778E+01	8.483E+02	0.0789	292.65
27	2.032E+01	8.281E+02	0.0803	292.65	28	2.286E+01	8.115E+02	0.0815	292.65
29	2.540E+01	7.975E+02	0.0826	292.65	30	2.794E+01	7.858E+02	0.0835	292.65
31	3.048E+01	7.757E+02	0.0843	292.65	32	3.302E+01	7.672E+02	0.0850	292.65
33	3.556E+01	7.600E+02	0.0856	292.65	34	3.810E+01	7.538E+02	0.0861	292.65
35	4.064E+01	7.487E+02	0.0866	292.65	36	4.318E+01	7.444E+02	0.0869	292.65
37	4.572E+01	7.410E+02	0.0872	292.65	38	4.826E+01	7.330E+02	0.0507	292.65
39	5.080E+01	7.035E+02	0.0508	292.65	40	5.334E+01	6.555E+02	0.0509	292.65
41	5.588E+01	6.329E+02	0.0510	292.65	42	5.842E+01	6.228E+02	0.0511	292.65
43	6.096E+01	6.199E+02	0.0511	292.65					

Initial Water Storage = 4.4323 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05637     0.05966     0.08083     0.05108
 Head (cm)         = 1.43213E+03 1.29699E+03 8.20950E+02 6.20130E+02
 LiqWater Flow (cm)=-6.16171E-02-1.19964E-01-4.70017E-02 1.26665E-06
 IsoVapor Flow (cm)=-6.49603E-02-4.35047E-06-2.07659E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.4323+ 0.0000+ 0.0000 - 0.1253- 0.0000-  0.0000 =    4.3070 vs.    4.3070

 Mass Balance =  2.6513E-06 cm;  Time step attempts =  344 and successes =  277
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1253 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.04938     0.05347     0.06228     0.05070
 Head (cm)         = 1.85425E+03 1.57884E+03 1.20767E+03 7.37892E+02
 LiqWater Flow (cm)= 4.62667E-02 9.59103E-03-4.04452E-03 3.01529E-07
 IsoVapor Flow (cm)=-3.24227E-02-2.40985E-06-1.61645E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5563+ 0.1016+ 0.0000 - 0.0868- 0.0000-  0.0000 =    3.5711 vs.    3.5711

 Mass Balance =  4.2492E-05 cm;  Time step attempts =  313 and successes =  269
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0868 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    57
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1664E+02	[cm]
Actual Evaporation	=	2.4679E+01	[cm]
Evaporation during Growth	=	2.4592E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.3825E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.2832E-04	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.3825E+01	[cm]
Actual Rainfall	=	2.3825E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.5711E+00	[cm]
Mass Balance Error	=	7.0804E-03	[cm]
Total Successful Time Steps	=	59510	
Total Attempted Time Steps	=	73078	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29010	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5392E-01	0.050	1.3332E+01	0.150	7.7536E+00
0.250	6.1900E+00	0.350	5.0546E+00	0.450	4.2747E+00
0.550	3.8328E+00	0.650	3.4192E+00	0.750	3.2065E+00
0.850	2.9389E+00	0.950	2.5799E+00	1.125	2.3164E+00
1.375	1.6623E+00	1.625	1.4262E+00	1.875	1.1959E+00
2.250	9.3337E-01	2.750	5.7890E-01	3.250	2.3541E-01
3.750	9.0617E-02	4.250	2.0945E-02	4.790	-6.2023E-02
6.350	-1.9149E-01	8.890	-3.7856E-01	11.430	-5.1368E-01
13.970	-5.6125E-01	16.510	-6.2801E-01	19.050	-6.1439E-01
21.590	-5.6766E-01	24.130	-5.1804E-01	26.670	-4.6618E-01
29.210	-4.1246E-01	31.750	-3.5722E-01	34.290	-3.0070E-01
36.830	-2.4310E-01	39.370	-1.8460E-01	41.910	-1.2534E-01
44.450	-6.5474E-02	46.990	-3.3417E-03	49.530	1.2575E-03
52.070	-1.4566E-03	54.610	-1.7431E-03	57.150	-1.0520E-03
59.690	-2.0918E-04	60.960	2.2832E-04		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2017.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.854E+03	0.0494	292.65	2	1.000E-01	1.833E+03	0.0496	292.65
3	2.000E-01	1.813E+03	0.0499	292.65	4	3.000E-01	1.794E+03	0.0502	292.65
5	4.000E-01	1.777E+03	0.0504	292.65	6	5.000E-01	1.760E+03	0.0506	292.65
7	6.000E-01	1.744E+03	0.0509	292.65	8	7.000E-01	1.728E+03	0.0511	292.65
9	8.000E-01	1.714E+03	0.0513	292.65	10	9.000E-01	1.700E+03	0.0515	292.65
11	1.000E+00	1.687E+03	0.0517	292.65	12	1.250E+00	1.656E+03	0.0522	292.65
13	1.500E+00	1.628E+03	0.0526	292.65	14	1.750E+00	1.602E+03	0.0531	292.65
15	2.000E+00	1.579E+03	0.0535	292.65	16	2.500E+00	1.538E+03	0.0542	292.65
17	3.000E+00	1.502E+03	0.0549	292.65	18	3.500E+00	1.472E+03	0.0555	292.65
19	4.000E+00	1.445E+03	0.0561	292.65	20	4.500E+00	1.422E+03	0.0566	292.65
21	5.080E+00	1.398E+03	0.0571	292.65	22	7.620E+00	1.324E+03	0.0589	292.65
23	1.016E+01	1.283E+03	0.0601	292.65	24	1.270E+01	1.258E+03	0.0607	292.65
25	1.524E+01	1.244E+03	0.0612	292.65	26	1.778E+01	1.235E+03	0.0614	292.65
27	2.032E+01	1.228E+03	0.0617	292.65	28	2.286E+01	1.221E+03	0.0619	292.65
29	2.540E+01	1.214E+03	0.0621	292.65	30	2.794E+01	1.208E+03	0.0623	292.65
31	3.048E+01	1.201E+03	0.0625	292.65	32	3.302E+01	1.195E+03	0.0627	292.65
33	3.556E+01	1.189E+03	0.0629	292.65	34	3.810E+01	1.183E+03	0.0631	292.65
35	4.064E+01	1.179E+03	0.0632	292.65	36	4.318E+01	1.175E+03	0.0634	292.65
37	4.572E+01	1.172E+03	0.0635	292.65	38	4.826E+01	1.159E+03	0.0502	292.65
39	5.080E+01	9.048E+02	0.0504	292.65	40	5.334E+01	7.884E+02	0.0506	292.65
41	5.588E+01	7.527E+02	0.0507	292.65	42	5.842E+01	7.407E+02	0.0507	292.65
43	6.096E+01	7.379E+02	0.0507	292.65					

Initial Water Storage = 3.5711 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.06299     0.06513     0.06610     0.05070
 Head (cm)         = 1.18572E+03 1.12444E+03 1.09870E+03 7.38030E+02
 LiqWater Flow (cm)= 3.14463E-01 2.36693E-01 1.42544E-02 3.01070E-07
 IsoVapor Flow (cm)=-5.05120E-02-1.10710E-06 2.37364E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5711+ 0.4572+ 0.0000 - 0.1926- 0.0000-  0.0000 =    3.8357 vs.    3.8356

 Mass Balance =  1.3085E-04 cm;  Time step attempts =  525 and successes =  444
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1926 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    63

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03134     0.06003     0.05053
 Head (cm)         = 1.50332E+06 1.72434E+04 1.28337E+03 8.26050E+02
 LiqWater Flow (cm)=-1.08059E-12-2.32193E-02-9.97334E-03 1.18790E-07
 IsoVapor Flow (cm)=-2.64827E-02-2.40812E-04-3.99316E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3662+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =    3.3397 vs.    3.3397

 Mass Balance = -7.8625E-06 cm;  Time step attempts =   43 and successes =   34
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    34
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2162E+02	[cm]
Actual Evaporation	=	2.5853E+01	[cm]
Evaporation during Growth	=	2.5853E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.5629E+01	[cm]
Total Basal Liquid Flux (drainage)	=	6.6750E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.5629E+01	[cm]
Actual Rainfall	=	2.5629E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.3397E+00	[cm]
Mass Balance Error	=	7.0487E-03	[cm]
Total Successful Time Steps	=	53695	
Total Attempted Time Steps	=	65432	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	26782	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2422E-01	0.050	1.6696E+01	0.150	9.1637E+00
0.250	7.7607E+00	0.350	6.4348E+00	0.450	5.9322E+00
0.550	5.5022E+00	0.650	5.2675E+00	0.750	4.9137E+00
0.850	4.5211E+00	0.950	4.1054E+00	1.125	3.8648E+00
1.375	2.9304E+00	1.625	2.3096E+00	1.875	1.9393E+00
2.250	1.6577E+00	2.750	1.0327E+00	3.250	8.2208E-01
3.750	7.1104E-01	4.250	5.8501E-01	4.790	4.6819E-01
6.350	3.9835E-01	8.890	1.6979E-01	11.430	2.4713E-02
13.970	-5.2915E-02	16.510	-6.6318E-02	19.050	-5.5122E-02
21.590	-4.5698E-02	24.130	-3.7830E-02	26.670	-3.1241E-02
29.210	-2.5689E-02	31.750	-2.0965E-02	34.290	-1.6861E-02
36.830	-1.3250E-02	39.370	-1.0009E-02	41.910	-7.0313E-03
44.450	-4.2330E-03	46.990	-8.6002E-04	49.530	1.5217E-03
52.070	-1.2201E-04	54.610	-5.2269E-04	57.150	-3.8561E-04
59.690	-9.4503E-05	60.960	6.6750E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2018.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.376E+06	0.0300	292.65
3	2.000E-01	1.259E+06	0.0300	292.65	4	3.000E-01	1.151E+06	0.0300	292.65
5	4.000E-01	1.051E+06	0.0300	292.65	6	5.000E-01	9.583E+05	0.0300	292.65
7	6.000E-01	8.711E+05	0.0300	292.65	8	7.000E-01	7.891E+05	0.0300	292.65
9	8.000E-01	7.116E+05	0.0300	292.65	10	9.000E-01	6.383E+05	0.0300	292.65
11	1.000E+00	5.687E+05	0.0300	292.65	12	1.250E+00	4.086E+05	0.0300	292.65
13	1.500E+00	2.653E+05	0.0301	292.65	14	1.750E+00	1.356E+05	0.0301	292.65
15	2.000E+00	1.724E+04	0.0313	292.65	16	2.500E+00	2.821E+03	0.0417	292.65
17	3.000E+00	2.570E+03	0.0431	292.65	18	3.500E+00	2.382E+03	0.0444	292.65
19	4.000E+00	2.243E+03	0.0454	292.65	20	4.500E+00	2.135E+03	0.0464	292.65
21	5.080E+00	2.037E+03	0.0473	292.65	22	7.620E+00	1.772E+03	0.0505	292.65
23	1.016E+01	1.628E+03	0.0526	292.65	24	1.270E+01	1.533E+03	0.0543	292.65
25	1.524E+01	1.463E+03	0.0557	292.65	26	1.778E+01	1.410E+03	0.0568	292.65
27	2.032E+01	1.368E+03	0.0578	292.65	28	2.286E+01	1.334E+03	0.0587	292.65
29	2.540E+01	1.307E+03	0.0594	292.65	30	2.794E+01	1.283E+03	0.0600	292.65
31	3.048E+01	1.264E+03	0.0606	292.65	32	3.302E+01	1.248E+03	0.0610	292.65
33	3.556E+01	1.235E+03	0.0614	292.65	34	3.810E+01	1.224E+03	0.0618	292.65
35	4.064E+01	1.216E+03	0.0620	292.65	36	4.318E+01	1.209E+03	0.0622	292.65
37	4.572E+01	1.205E+03	0.0624	292.65	38	4.826E+01	1.184E+03	0.0502	292.65
39	5.080E+01	9.904E+02	0.0503	292.65	40	5.334E+01	8.759E+02	0.0505	292.65
41	5.588E+01	8.370E+02	0.0505	292.65	42	5.842E+01	8.274E+02	0.0505	292.65
43	6.096E+01	8.261E+02	0.0505	292.65					

Initial Water Storage = 3.3397 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03014     0.05953     0.05053
 Head (cm)         = 7.20447E+05 1.13655E+05 1.30198E+03 8.26099E+02
 LiqWater Flow (cm)=-1.14423E-11-1.09915E-03-9.47492E-03 1.18734E-07
 IsoVapor Flow (cm)=-1.32743E-02-1.17298E-02-4.07395E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3397+ 0.0000+ 0.0000 - 0.0133- 0.0000-  0.0000 =    3.3265 vs.    3.3265

 Mass Balance = -5.2655E-06 cm;  Time step attempts =   57 and successes =   55
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0133 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    52

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04366     0.05413     0.05037
 Head (cm)         = 8.58098E+05 2.48410E+03 1.54251E+03 9.50907E+02
 LiqWater Flow (cm)=-2.60220E-11-3.36768E-02 5.10224E-03 3.71852E-08
 IsoVapor Flow (cm)=-4.74317E-02-1.88985E-05 4.56943E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2141+ 0.0000+ 0.0000 - 0.0474- 0.0000-  0.0000 =    3.1667 vs.    3.1668

 Mass Balance = -6.6357E-05 cm;  Time step attempts =  309 and successes =  240
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0474 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   240
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2377E+02	[cm]
Actual Evaporation	=	2.1425E+01	[cm]
Evaporation during Growth	=	2.1425E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.1260E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.7100E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.1260E+01	[cm]
Actual Rainfall	=	2.1260E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.1668E+00	[cm]
Mass Balance Error	=	8.0100E-03	[cm]
Total Successful Time Steps	=	58105	
Total Attempted Time Steps	=	71747	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	28855	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6492E-01	0.050	1.4460E+01	0.150	1.0405E+01
0.250	8.9428E+00	0.350	7.9462E+00	0.450	7.2957E+00
0.550	6.4660E+00	0.650	5.7963E+00	0.750	5.3499E+00
0.850	4.8582E+00	0.950	4.4620E+00	1.125	4.1182E+00
1.375	3.4096E+00	1.625	2.9781E+00	1.875	2.3414E+00
2.250	1.9378E+00	2.750	1.2915E+00	3.250	9.4429E-01
3.750	6.9836E-01	4.250	5.7933E-01	4.790	4.5184E-01
6.350	2.6577E-01	8.890	-7.7695E-02	11.430	-1.7625E-01
13.970	-2.0121E-01	16.510	-1.9909E-01	19.050	-1.9440E-01
21.590	-1.8712E-01	24.130	-1.7724E-01	26.670	-1.6479E-01
29.210	-1.4992E-01	31.750	-1.3285E-01	34.290	-1.1385E-01
36.830	-9.3269E-02	39.370	-7.1421E-02	41.910	-4.8627E-02
44.450	-2.5212E-02	46.990	-1.1508E-03	49.530	7.3374E-04
52.070	-1.0299E-04	54.610	-2.9943E-04	57.150	-2.4445E-04
59.690	-7.2813E-05	60.960	2.7100E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2019.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.581E+05	0.0300	292.65	2	1.000E-01	7.662E+05	0.0300	292.65
3	2.000E-01	6.766E+05	0.0300	292.65	4	3.000E-01	5.953E+05	0.0300	292.65
5	4.000E-01	5.177E+05	0.0300	292.65	6	5.000E-01	4.444E+05	0.0300	292.65
7	6.000E-01	3.748E+05	0.0300	292.65	8	7.000E-01	3.088E+05	0.0300	292.65
9	8.000E-01	2.459E+05	0.0301	292.65	10	9.000E-01	1.861E+05	0.0301	292.65
11	1.000E+00	1.294E+05	0.0301	292.65	12	1.250E+00	3.070E+03	0.0406	292.65
13	1.500E+00	2.817E+03	0.0418	292.65	14	1.750E+00	2.629E+03	0.0428	292.65
15	2.000E+00	2.484E+03	0.0437	292.65	16	2.500E+00	2.275E+03	0.0452	292.65
17	3.000E+00	2.135E+03	0.0464	292.65	18	3.500E+00	2.033E+03	0.0474	292.65
19	4.000E+00	1.954E+03	0.0482	292.65	20	4.500E+00	1.891E+03	0.0489	292.65
21	5.080E+00	1.832E+03	0.0497	292.65	22	7.620E+00	1.669E+03	0.0520	292.65
23	1.016E+01	1.585E+03	0.0534	292.65	24	1.270E+01	1.538E+03	0.0542	292.65
25	1.524E+01	1.513E+03	0.0547	292.65	26	1.778E+01	1.503E+03	0.0549	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.512E+03	0.0547	292.65
29	2.540E+01	1.526E+03	0.0544	292.65	30	2.794E+01	1.543E+03	0.0541	292.65
31	3.048E+01	1.560E+03	0.0538	292.65	32	3.302E+01	1.576E+03	0.0535	292.65
33	3.556E+01	1.589E+03	0.0533	292.65	34	3.810E+01	1.598E+03	0.0531	292.65
35	4.064E+01	1.604E+03	0.0530	292.65	36	4.318E+01	1.607E+03	0.0530	292.65
37	4.572E+01	1.607E+03	0.0530	292.65	38	4.826E+01	1.549E+03	0.0501	292.65
39	5.080E+01	1.050E+03	0.0503	292.65	40	5.334E+01	9.448E+02	0.0504	292.65
41	5.588E+01	9.455E+02	0.0504	292.65	42	5.842E+01	9.507E+02	0.0504	292.65
43	6.096E+01	9.509E+02	0.0504	292.65					

Initial Water Storage = 3.1668 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04278     0.05404     0.05037
 Head (cm)         = 6.36590E+05 2.62573E+03 1.54780E+03 9.50901E+02
 LiqWater Flow (cm)=-3.98934E-11-2.27173E-02 3.39434E-03 3.71869E-08
 IsoVapor Flow (cm)=-2.37598E-02-2.10146E-05 2.76832E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1668+ 0.0000+ 0.0000 - 0.0238- 0.0000-  0.0000 =    3.1430 vs.    3.1430

 Mass Balance =  1.7731E-08 cm;  Time step attempts =   56 and successes =   55
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0238 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    54

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04289     0.06265     0.05022
 Head (cm)         = 1.19840E+06 2.60670E+03 1.19600E+03 1.17959E+03
 LiqWater Flow (cm)=-3.96833E-12-3.13221E-02-1.21172E-02 6.27788E-09
 IsoVapor Flow (cm)=-3.54914E-02-2.81653E-05-3.45771E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4997+ 0.0000+ 0.0000 - 0.0355- 0.0000-  0.0000 =    3.4642 vs.    3.4642

 Mass Balance = -1.4163E-05 cm;  Time step attempts =   75 and successes =   61
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0355 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    61
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1575E+02	[cm]
Actual Evaporation	=	2.0217E+01	[cm]
Evaporation during Growth	=	2.0217E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.0523E+01	[cm]
Total Basal Liquid Flux (drainage)	=	7.4887E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.0523E+01	[cm]
Actual Rainfall	=	2.0523E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.4642E+00	[cm]
Mass Balance Error	=	9.0421E-03	[cm]
Total Successful Time Steps	=	67053	
Total Attempted Time Steps	=	83352	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	32232	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.0649E-01	0.050	1.3719E+01	0.150	1.0414E+01
0.250	8.6543E+00	0.350	7.2737E+00	0.450	6.3615E+00
0.550	5.8475E+00	0.650	5.2074E+00	0.750	4.8324E+00
0.850	4.4678E+00	0.950	4.1568E+00	1.125	3.8959E+00
1.375	3.3349E+00	1.625	2.8694E+00	1.875	2.5304E+00
2.250	2.2534E+00	2.750	1.8093E+00	3.250	1.5050E+00
3.750	1.2511E+00	4.250	1.0522E+00	4.790	9.0495E-01
6.350	7.6929E-01	8.890	5.4395E-01	11.430	4.0349E-01
13.970	3.0624E-01	16.510	2.8012E-01	19.050	2.6829E-01
21.590	2.5402E-01	24.130	2.3720E-01	26.670	2.1787E-01
29.210	1.9611E-01	31.750	1.7217E-01	34.290	1.4630E-01
36.830	1.1882E-01	39.370	9.0078E-02	41.910	6.0391E-02
44.450	3.0054E-02	46.990	5.7226E-06	49.530	4.4786E-04
52.070	-2.4923E-05	54.610	-9.0519E-05	57.150	-8.5365E-05
59.690	-3.1632E-05	60.960	7.4887E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

```
--------------------------------------------------------------------------------
                          UNSAT-H Version 3.01
                          INITIAL CONDITIONS

 Input File:   C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
 Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2020.res
 Date of Run:      15 Sep 2025
 Time of Run:      17:02:21.02
 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
--------------------------------------------------------------------------------
```

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.654E+05	0.0300	292.65	4	3.000E-01	8.621E+05	0.0300	292.65
5	4.000E-01	7.661E+05	0.0300	292.65	6	5.000E-01	6.764E+05	0.0300	292.65
7	6.000E-01	5.921E+05	0.0300	292.65	8	7.000E-01	5.127E+05	0.0300	292.65
9	8.000E-01	4.376E+05	0.0300	292.65	10	9.000E-01	3.664E+05	0.0300	292.65
11	1.000E+00	2.987E+05	0.0300	292.65	12	1.250E+00	1.426E+05	0.0301	292.65
13	1.500E+00	3.199E+03	0.0401	292.65	14	1.750E+00	2.827E+03	0.0417	292.65
15	2.000E+00	2.607E+03	0.0429	292.65	16	2.500E+00	2.336E+03	0.0447	292.65
17	3.000E+00	2.168E+03	0.0461	292.65	18	3.500E+00	2.048E+03	0.0472	292.65
19	4.000E+00	1.956E+03	0.0482	292.65	20	4.500E+00	1.882E+03	0.0490	292.65
21	5.080E+00	1.812E+03	0.0499	292.65	22	7.620E+00	1.610E+03	0.0529	292.65
23	1.016E+01	1.492E+03	0.0551	292.65	24	1.270E+01	1.412E+03	0.0568	292.65
25	1.524E+01	1.353E+03	0.0582	292.65	26	1.778E+01	1.307E+03	0.0594	292.65
27	2.032E+01	1.270E+03	0.0604	292.65	28	2.286E+01	1.241E+03	0.0613	292.65
29	2.540E+01	1.216E+03	0.0620	292.65	30	2.794E+01	1.196E+03	0.0627	292.65
31	3.048E+01	1.179E+03	0.0632	292.65	32	3.302E+01	1.165E+03	0.0637	292.65
33	3.556E+01	1.153E+03	0.0641	292.65	34	3.810E+01	1.144E+03	0.0644	292.65
35	4.064E+01	1.136E+03	0.0647	292.65	36	4.318E+01	1.130E+03	0.0649	292.65
37	4.572E+01	1.126E+03	0.0651	292.65	38	4.826E+01	1.109E+03	0.0503	292.65
39	5.080E+01	9.703E+02	0.0504	292.65	40	5.334E+01	1.076E+03	0.0503	292.65
41	5.588E+01	1.147E+03	0.0502	292.65	42	5.842E+01	1.173E+03	0.0502	292.65
43	6.096E+01	1.180E+03	0.0502	292.65					

```
 Initial Water Storage =   3.4642 cm

 NOTE:  There are no temperature data when plants are modelled.

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day =   1, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
```

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04453     0.06201     0.05022
 Head (cm)         = 7.50500E+05 2.35860E+03 1.21627E+03 1.17929E+03
 LiqWater Flow (cm)=-1.74067E-11-2.45257E-02-1.16212E-02 6.29080E-09
 IsoVapor Flow (cm)=-2.25859E-02-1.98176E-05-3.59152E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4642+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =    3.4416 vs.    3.4416

 Mass Balance = -7.3041E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04403     0.05019
 Head (cm)         = 8.61063E+05 6.85621E+05 2.42988E+03 1.23412E+03
 LiqWater Flow (cm)=-1.02226E-12-3.15191E-12-1.28886E-03 4.34594E-09
 IsoVapor Flow (cm)=-2.91928E-03-2.91928E-03-1.18872E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                            LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.5884+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =    2.5855 vs.    2.5855

 Mass Balance = -4.4985E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.2628E+02	[cm]
Actual Evaporation	=	1.5706E+01	[cm]
Evaporation during Growth	=	1.5703E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.4834E+01	[cm]
Total Basal Liquid Flux (drainage)	=	2.6809E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.4834E+01	[cm]
Actual Rainfall	=	1.4834E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.5855E+00	[cm]
Mass Balance Error	=	6.0347E-03	[cm]
Total Successful Time Steps	=	50980	
Total Attempted Time Steps	=	61958	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27305	
Total Time Actually Simulated	=	3.6600E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7273E-01	0.050	1.0187E+01	0.150	7.1637E+00
0.250	6.2545E+00	0.350	5.7350E+00	0.450	5.2421E+00
0.550	4.9028E+00	0.650	4.4347E+00	0.750	4.1170E+00
0.850	3.8324E+00	0.950	3.5395E+00	1.125	3.2451E+00
1.375	2.6430E+00	1.625	2.2985E+00	1.875	2.0497E+00
2.250	1.7717E+00	2.750	1.1657E+00	3.250	8.2153E-01
3.750	5.6216E-01	4.250	3.2245E-01	4.790	1.3933E-01
6.350	-2.5065E-02	8.890	-5.3045E-01	11.430	-6.4026E-01
13.970	-6.2150E-01	16.510	-5.7534E-01	19.050	-5.2951E-01
21.590	-4.8352E-01	24.130	-4.3719E-01	26.670	-3.9043E-01
29.210	-3.4320E-01	31.750	-2.9553E-01	34.290	-2.4743E-01
36.830	-1.9894E-01	39.370	-1.5009E-01	41.910	-1.0094E-01
44.450	-5.1504E-02	46.990	-1.4521E-03	49.530	2.3424E-04
52.070	8.4719E-06	54.610	-1.2283E-06	57.150	-2.0665E-06
59.690	7.8899E-07	60.960	2.6809E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2021.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.151E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.971E+05	0.0300	292.65
9	8.000E-01	7.882E+05	0.0300	292.65	10	9.000E-01	7.793E+05	0.0300	292.65
11	1.000E+00	7.706E+05	0.0300	292.65	12	1.250E+00	7.488E+05	0.0300	292.65
13	1.500E+00	7.274E+05	0.0300	292.65	14	1.750E+00	7.064E+05	0.0300	292.65
15	2.000E+00	6.856E+05	0.0300	292.65	16	2.500E+00	6.450E+05	0.0300	292.65
17	3.000E+00	6.056E+05	0.0300	292.65	18	3.500E+00	5.673E+05	0.0300	292.65
19	4.000E+00	5.300E+05	0.0300	292.65	20	4.500E+00	4.937E+05	0.0300	292.65
21	5.080E+00	4.527E+05	0.0300	292.65	22	7.620E+00	2.864E+05	0.0300	292.65
23	1.016E+01	1.380E+05	0.0301	292.65	24	1.270E+01	4.149E+03	0.0374	292.65
25	1.524E+01	3.261E+03	0.0399	292.65	26	1.778E+01	2.922E+03	0.0412	292.65
27	2.032E+01	2.726E+03	0.0422	292.65	28	2.286E+01	2.595E+03	0.0430	292.65
29	2.540E+01	2.501E+03	0.0436	292.65	30	2.794E+01	2.430E+03	0.0440	292.65
31	3.048E+01	2.375E+03	0.0444	292.65	32	3.302E+01	2.333E+03	0.0447	292.65
33	3.556E+01	2.300E+03	0.0450	292.65	34	3.810E+01	2.274E+03	0.0452	292.65
35	4.064E+01	2.255E+03	0.0453	292.65	36	4.318E+01	2.242E+03	0.0454	292.65
37	4.572E+01	2.234E+03	0.0455	292.65	38	4.826E+01	2.060E+03	0.0501	292.65
39	5.080E+01	1.742E+03	0.0501	292.65	40	5.334E+01	1.493E+03	0.0501	292.65
41	5.588E+01	1.334E+03	0.0502	292.65	42	5.842E+01	1.256E+03	0.0502	292.65
43	6.096E+01	1.234E+03	0.0502	292.65					

Initial Water Storage = 2.5855 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04395     0.05019
 Head (cm)         = 1.42694E+06 1.08415E+06 2.44120E+03 1.23534E+03
 LiqWater Flow (cm)=-1.76504E-13-6.37633E-13-1.28355E-03 4.31102E-09
 IsoVapor Flow (cm)=-4.12415E-03-4.10993E-03-1.20998E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.5855+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =    2.5813 vs.    2.5813

 Mass Balance =  6.0114E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08484     0.08517     0.07297     0.05055
 Head (cm)         = 7.69023E+02 7.65006E+02 9.47748E+02 8.12147E+02
 LiqWater Flow (cm)= 1.28774E+00 1.16652E+00 1.22701E-01 1.36310E-07
 IsoVapor Flow (cm)= 1.40113E-05 3.24591E-05 2.88303E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8200+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =    4.1106 vs.    4.1095

 Mass Balance =  1.0462E-03 cm;  Time step attempts = 2329 and successes = 1727
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1796E+02	[cm]
Actual Evaporation	=	2.9024E+01	[cm]
Evaporation during Growth	=	2.9024E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	3.0556E+01	[cm]
Total Basal Liquid Flux (drainage)	=	8.4393E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	3.0556E+01	[cm]
Actual Rainfall	=	3.0556E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	4.1095E+00	[cm]
Mass Balance Error	=	7.9263E-03	[cm]
Total Successful Time Steps	=	57979	
Total Attempted Time Steps	=	70902	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	27104	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5320E+00	0.050	1.5004E+01	0.150	8.7432E+00
0.250	7.2619E+00	0.350	6.0749E+00	0.450	5.5084E+00
0.550	5.1021E+00	0.650	4.7567E+00	0.750	4.5643E+00
0.850	4.3973E+00	0.950	4.2281E+00	1.125	4.1245E+00
1.375	3.8772E+00	1.625	3.6906E+00	1.875	3.5098E+00
2.250	3.3464E+00	2.750	3.0007E+00	3.250	2.7808E+00
3.750	2.6146E+00	4.250	2.4423E+00	4.790	2.2893E+00
6.350	2.0444E+00	8.890	1.4950E+00	11.430	1.1996E+00
13.970	9.1975E-01	16.510	6.7348E-01	19.050	5.5414E-01
21.590	4.5470E-01	24.130	3.6280E-01	26.670	2.7934E-01
29.210	2.0566E-01	31.750	1.4345E-01	34.290	9.4664E-02
36.830	6.0886E-02	39.370	4.0452E-02	41.910	2.6905E-02
44.450	1.5415E-02	46.990	5.1836E-03	49.530	7.2457E-03
52.070	4.3555E-03	54.610	2.6269E-03	57.150	1.0164E-03
59.690	2.1531E-04	60.960	8.4393E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2022.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.690E+02	0.0848	292.65	2	1.000E-01	7.729E+02	0.0845	292.65
3	2.000E-01	7.702E+02	0.0847	292.65	4	3.000E-01	7.693E+02	0.0848	292.65
5	4.000E-01	7.693E+02	0.0848	292.65	6	5.000E-01	7.692E+02	0.0848	292.65
7	6.000E-01	7.690E+02	0.0848	292.65	8	7.000E-01	7.687E+02	0.0849	292.65
9	8.000E-01	7.684E+02	0.0849	292.65	10	9.000E-01	7.681E+02	0.0849	292.65
11	1.000E+00	7.678E+02	0.0849	292.65	12	1.250E+00	7.671E+02	0.0850	292.65
13	1.500E+00	7.663E+02	0.0851	292.65	14	1.750E+00	7.656E+02	0.0851	292.65
15	2.000E+00	7.650E+02	0.0852	292.65	16	2.500E+00	7.638E+02	0.0853	292.65
17	3.000E+00	7.628E+02	0.0854	292.65	18	3.500E+00	7.619E+02	0.0854	292.65
19	4.000E+00	7.611E+02	0.0855	292.65	20	4.500E+00	7.604E+02	0.0856	292.65
21	5.080E+00	7.598E+02	0.0856	292.65	22	7.620E+00	7.590E+02	0.0857	292.65
23	1.016E+01	7.615E+02	0.0855	292.65	24	1.270E+01	7.678E+02	0.0849	292.65
25	1.524E+01	7.783E+02	0.0841	292.65	26	1.778E+01	7.939E+02	0.0828	292.65
27	2.032E+01	8.161E+02	0.0812	292.65	28	2.286E+01	8.466E+02	0.0790	292.65
29	2.540E+01	8.888E+02	0.0763	292.65	30	2.794E+01	9.477E+02	0.0730	292.65
31	3.048E+01	1.032E+03	0.0689	292.65	32	3.302E+01	1.159E+03	0.0639	292.65
33	3.556E+01	1.352E+03	0.0582	292.65	34	3.810E+01	1.595E+03	0.0532	292.65
35	4.064E+01	1.759E+03	0.0506	292.65	36	4.318E+01	1.810E+03	0.0499	292.65
37	4.572E+01	1.818E+03	0.0498	292.65	38	4.826E+01	1.677E+03	0.0501	292.65
39	5.080E+01	1.013E+03	0.0503	292.65	40	5.334E+01	8.207E+02	0.0505	292.65
41	5.588E+01	7.908E+02	0.0506	292.65	42	5.842E+01	8.010E+02	0.0506	292.65
43	6.096E+01	8.121E+02	0.0506	292.65					

Initial Water Storage = 4.1095 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.06885     0.07205     0.05055
 Head (cm)         = 1.94159E+05 1.03254E+03 9.65377E+02 8.11724E+02
 LiqWater Flow (cm)=-6.13787E-02-1.00590E-01 1.22132E-01 1.36909E-07
 IsoVapor Flow (cm)=-7.69706E-02-1.07066E-06 1.08323E-06 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1095+ 0.0508+ 0.0000 - 0.1919- 0.0000-  0.0000 =    3.9684 vs.    3.9684

 Mass Balance = -2.5828E-05 cm;  Time step attempts =  249 and successes =  212
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1919 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04538     0.05002     0.05040
 Head (cm)         = 7.13118E+05 2.24955E+03 1.80431E+03 9.19052E+02
 LiqWater Flow (cm)=-1.90941E-04-4.49894E-02-9.43795E-04 4.92348E-08
 IsoVapor Flow (cm)=-7.59010E-02-1.20362E-05-2.68710E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1553+ 0.0000+ 0.0000 - 0.0761- 0.0000-  0.0000 =    3.0791 vs.    3.0792

 Mass Balance = -6.8439E-05 cm;  Time step attempts =  384 and successes =  298
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0761 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   196
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.1971E+02	[cm]
Actual Evaporation	=	2.3679E+01	[cm]
Evaporation during Growth	=	2.3679E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	2.2657E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.5058E-05	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2657E+01	[cm]
Actual Rainfall	=	2.2657E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.0792E+00	[cm]
Mass Balance Error	=	7.6719E-03	[cm]
Total Successful Time Steps	=	62600	
Total Attempted Time Steps	=	76696	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30520	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0226E+00	0.050	1.3262E+01	0.150	7.9358E+00
0.250	6.3469E+00	0.350	5.6242E+00	0.450	5.0484E+00
0.550	4.4957E+00	0.650	3.9954E+00	0.750	3.6262E+00
0.850	3.3856E+00	0.950	3.1337E+00	1.125	2.7920E+00
1.375	2.1757E+00	1.625	1.7327E+00	1.875	1.4342E+00
2.250	1.1971E+00	2.750	7.0736E-01	3.250	2.6499E-01
3.750	3.1814E-02	4.250	-1.3891E-01	4.790	-2.5948E-01
6.350	-3.2064E-01	8.890	-3.9560E-01	11.430	-4.1086E-01
13.970	-4.1255E-01	16.510	-4.1613E-01	19.050	-3.7729E-01
21.590	-3.0277E-01	24.130	-2.3149E-01	26.670	-1.6554E-01
29.210	-1.0737E-01	31.750	-5.9548E-02	34.290	-2.4580E-02
36.830	-4.3548E-03	39.370	2.6465E-03	41.910	2.7888E-03
44.450	8.7978E-04	46.990	-8.2617E-04	49.530	1.3764E-03
52.070	-2.0519E-05	54.610	-3.4592E-04	57.150	-2.6572E-04
59.690	-6.6489E-05	60.960	3.5058E-05		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2023.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.880E+05	0.0300	292.65
3	2.000E-01	4.734E+05	0.0300	292.65	4	3.000E-01	3.675E+05	0.0300	292.65
5	4.000E-01	2.692E+05	0.0300	292.65	6	5.000E-01	1.775E+05	0.0301	292.65
7	6.000E-01	9.146E+04	0.0302	292.65	8	7.000E-01	1.063E+04	0.0324	292.65
9	8.000E-01	3.899E+03	0.0380	292.65	10	9.000E-01	3.425E+03	0.0393	292.65
11	1.000E+00	3.144E+03	0.0403	292.65	12	1.250E+00	2.740E+03	0.0422	292.65
13	1.500E+00	2.513E+03	0.0435	292.65	14	1.750E+00	2.361E+03	0.0445	292.65
15	2.000E+00	2.250E+03	0.0454	292.65	16	2.500E+00	2.092E+03	0.0468	292.65
17	3.000E+00	1.983E+03	0.0479	292.65	18	3.500E+00	1.903E+03	0.0488	292.65
19	4.000E+00	1.841E+03	0.0495	292.65	20	4.500E+00	1.791E+03	0.0502	292.65
21	5.080E+00	1.745E+03	0.0508	292.65	22	7.620E+00	1.625E+03	0.0527	292.65
23	1.016E+01	1.578E+03	0.0535	292.65	24	1.270E+01	1.571E+03	0.0536	292.65
25	1.524E+01	1.592E+03	0.0532	292.65	26	1.778E+01	1.633E+03	0.0525	292.65
27	2.032E+01	1.687E+03	0.0517	292.65	28	2.286E+01	1.741E+03	0.0509	292.65
29	2.540E+01	1.783E+03	0.0503	292.65	30	2.794E+01	1.804E+03	0.0500	292.65
31	3.048E+01	1.807E+03	0.0500	292.65	32	3.302E+01	1.799E+03	0.0501	292.65
33	3.556E+01	1.787E+03	0.0503	292.65	34	3.810E+01	1.775E+03	0.0504	292.65
35	4.064E+01	1.764E+03	0.0506	292.65	36	4.318E+01	1.756E+03	0.0507	292.65
37	4.572E+01	1.751E+03	0.0508	292.65	38	4.826E+01	1.644E+03	0.0501	292.65
39	5.080E+01	1.095E+03	0.0503	292.65	40	5.334E+01	9.291E+02	0.0504	292.65
41	5.588E+01	9.105E+02	0.0504	292.65	42	5.842E+01	9.162E+02	0.0504	292.65
43	6.096E+01	9.191E+02	0.0504	292.65					

Initial Water Storage = 3.0792 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04259     0.05062     0.05040
 Head (cm)         = 7.09845E+05 2.65856E+03 1.75996E+03 9.18960E+02
 LiqWater Flow (cm)=-3.77650E-11-2.65466E-02 1.41622E-03 4.92759E-08
 IsoVapor Flow (cm)=-3.37138E-02-2.19733E-05 2.23954E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0792+ 0.0000+ 0.0000 - 0.0337- 0.0000-  0.0000 =    3.0455 vs.    3.0455

 Mass Balance = -3.0199E-05 cm;  Time step attempts =  188 and successes =  152
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0337 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   151

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05008     0.05017
 Head (cm)         = 1.53614E+06 6.45743E+05 1.79963E+03 1.28813E+03
 LiqWater Flow (cm)=-4.67446E-13-6.35194E-11-1.47252E-03 3.04359E-09
 IsoVapor Flow (cm)=-1.32429E-02-1.32300E-02-3.47915E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                             LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9187+ 0.0000+ 0.0000 - 0.0132- 0.0000-  0.0000 =    2.9055 vs.    2.9055

 Mass Balance = -1.2203E-05 cm;  Time step attempts =   53 and successes =   43
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0132 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    43
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.3745E+02	[cm]
Actual Evaporation	=	1.1190E+01	[cm]
Evaporation during Growth	=	1.1190E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1024E+01	[cm]
Total Basal Liquid Flux (drainage)	=	9.5042E-06	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1024E+01	[cm]
Actual Rainfall	=	1.1024E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.9055E+00	[cm]
Mass Balance Error	=	7.1604E-03	[cm]
Total Successful Time Steps	=	58166	
Total Attempted Time Steps	=	71682	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	30988	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6654E-01	0.050	8.5541E+00	0.150	6.6400E+00
0.250	5.9689E+00	0.350	5.5754E+00	0.450	5.2071E+00
0.550	4.8866E+00	0.650	4.6127E+00	0.750	4.3524E+00
0.850	4.0912E+00	0.950	3.8981E+00	1.125	3.7007E+00
1.375	3.0843E+00	1.625	2.7186E+00	1.875	2.4351E+00
2.250	2.1806E+00	2.750	1.6134E+00	3.250	1.2663E+00
3.750	1.0188E+00	4.250	9.0474E-01	4.790	7.5423E-01
6.350	5.9553E-01	8.890	3.8750E-01	11.430	2.8098E-01
13.970	1.8077E-01	16.510	9.3399E-02	19.050	4.4657E-02
21.590	2.5445E-03	24.130	2.7413E-03	26.670	3.7609E-03
29.210	3.4500E-03	31.750	2.5123E-03	34.290	1.4076E-03
36.830	3.6622E-04	39.370	-5.3137E-04	41.910	-1.2815E-03
44.450	-1.9150E-03	46.990	-1.3030E-03	49.530	-6.9550E-06
52.070	-9.5667E-05	54.610	-1.4331E-04	57.150	-1.2430E-04
59.690	-4.7044E-05	60.960	9.5042E-06		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\gkmathiason\OneDrive - Burns & McDonnell\El Paso TX UNSA
Results File: C:\Users\gkmathiason\Documents\EL PASO\elpaso2024.res
Date of Run: 15 Sep 2025
Time of Run: 17:02:21.02
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity

---

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.475E+06	0.0300	292.65
3	2.000E-01	1.416E+06	0.0300	292.65	4	3.000E-01	1.360E+06	0.0300	292.65
5	4.000E-01	1.306E+06	0.0300	292.65	6	5.000E-01	1.254E+06	0.0300	292.65
7	6.000E-01	1.204E+06	0.0300	292.65	8	7.000E-01	1.155E+06	0.0300	292.65
9	8.000E-01	1.109E+06	0.0300	292.65	10	9.000E-01	1.064E+06	0.0300	292.65
11	1.000E+00	1.020E+06	0.0300	292.65	12	1.250E+00	9.166E+05	0.0300	292.65
13	1.500E+00	8.203E+05	0.0300	292.65	14	1.750E+00	7.303E+05	0.0300	292.65
15	2.000E+00	6.457E+05	0.0300	292.65	16	2.500E+00	4.907E+05	0.0300	292.65
17	3.000E+00	3.514E+05	0.0300	292.65	18	3.500E+00	2.249E+05	0.0301	292.65
19	4.000E+00	1.090E+05	0.0301	292.65	20	4.500E+00	3.731E+03	0.0384	292.65
21	5.080E+00	3.224E+03	0.0400	292.65	22	7.620E+00	2.502E+03	0.0435	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.098E+03	0.0467	292.65
25	1.524E+01	2.003E+03	0.0477	292.65	26	1.778E+01	1.936E+03	0.0484	292.65
27	2.032E+01	1.887E+03	0.0490	292.65	28	2.286E+01	1.850E+03	0.0494	292.65
29	2.540E+01	1.822E+03	0.0498	292.65	30	2.794E+01	1.800E+03	0.0501	292.65
31	3.048E+01	1.782E+03	0.0503	292.65	32	3.302E+01	1.769E+03	0.0505	292.65
33	3.556E+01	1.759E+03	0.0506	292.65	34	3.810E+01	1.750E+03	0.0508	292.65
35	4.064E+01	1.744E+03	0.0508	292.65	36	4.318E+01	1.739E+03	0.0509	292.65
37	4.572E+01	1.735E+03	0.0510	292.65	38	4.826E+01	1.694E+03	0.0501	292.65
39	5.080E+01	1.492E+03	0.0501	292.65	40	5.334E+01	1.367E+03	0.0501	292.65
41	5.588E+01	1.314E+03	0.0502	292.65	42	5.842E+01	1.294E+03	0.0502	292.65
43	6.096E+01	1.288E+03	0.0502	292.65					

Initial Water Storage = 2.9055 cm

NOTE: There are no temperature data when plants are modelled.

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number = 1 15 30 43

```
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04992     0.05017
 Head (cm)         = 1.41657E+06 6.11101E+05 1.81176E+03 1.28849E+03
 LiqWater Flow (cm)=-5.31571E-13-3.38265E-11-1.63953E-03 3.03662E-09
 IsoVapor Flow (cm)=-1.14111E-02-1.14135E-02-3.91562E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9055+ 0.0000+ 0.0000 - 0.0114- 0.0000-  0.0000 =    2.8941 vs.    2.8941

 Mass Balance = -3.2587E-07 cm;  Time step attempts =   50 and successes =   48
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0114 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    47

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04883     0.05011
 Head (cm)         = 2.16723E+06 1.21629E+06 1.89917E+03 1.57469E+03
 LiqWater Flow (cm)=-7.63296E-14-8.77908E-13-2.50597E-03 5.79501E-10
 IsoVapor Flow (cm)=-8.28116E-03-8.28138E-03-6.96934E-07 0.00000E+00
 Plant Sink (cm)   = 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00

                                          LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8239+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.8156 vs.    2.8156

 Mass Balance = -2.8503E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 Transpiration:  Potential =  0.0000 cm, Actual =  0.0000 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, 20% Hydraulic Conductivity
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    1
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
```

Actual Transpiration	=	0.0000E+00	[cm]
Potential Evaporation	=	3.4447E+02	[cm]
Actual Evaporation	=	1.1716E+01	[cm]
Evaporation during Growth	=	1.1716E+01	[cm]
Total Runoff	=	0.0000E+00	[cm]
Total Infiltration	=	1.1633E+01	[cm]
Total Basal Liquid Flux (drainage)	=	3.6862E-07	[cm]
Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	1.1633E+01	[cm]
Actual Rainfall	=	1.1633E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	2.8156E+00	[cm]
Mass Balance Error	=	6.7202E-03	[cm]
Total Successful Time Steps	=	54981	
Total Attempted Time Steps	=	67333	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29564	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.3142E-02	0.050	9.0335E+00	0.150	6.9946E+00
0.250	6.2631E+00	0.350	5.6213E+00	0.450	5.1782E+00
0.550	4.8359E+00	0.650	4.5296E+00	0.750	4.2362E+00
0.850	4.0020E+00	0.950	3.7215E+00	1.125	3.5439E+00
1.375	3.1244E+00	1.625	2.8629E+00	1.875	2.5104E+00
2.250	2.3036E+00	2.750	1.8906E+00	3.250	1.4986E+00
3.750	1.2892E+00	4.250	1.1080E+00	4.790	8.9021E-01
6.350	6.7382E-01	8.890	2.7221E-01	11.430	2.1388E-01
13.970	1.5743E-01	16.510	1.0701E-01	19.050	5.7268E-02
21.590	1.0768E-02	24.130	-1.9890E-02	26.670	-1.6783E-02
29.210	-1.3794E-02	31.750	-1.1137E-02	34.290	-8.8085E-03
36.830	-6.7786E-03	39.370	-5.0041E-03	41.910	-3.4136E-03
44.450	-1.9539E-03	46.990	4.1988E-05	49.530	4.0472E-05
52.070	1.6781E-07	54.610	-3.9210E-06	57.150	-4.1602E-06
59.690	-1.5565E-06	60.960	3.6862E-07		

Total plant water uptake (cm) at different depths:

DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE	DEPTH	WATER UPTAKE
0.000	0.0000E+00	0.100	0.0000E+00	0.200	0.0000E+00
0.300	0.0000E+00	0.400	0.0000E+00	0.500	0.0000E+00
0.600	0.0000E+00	0.700	0.0000E+00	0.800	0.0000E+00

0.900	0.0000E+00	1.000	0.0000E+00	1.250	0.0000E+00
1.500	0.0000E+00	1.750	0.0000E+00	2.000	0.0000E+00
2.500	0.0000E+00	3.000	0.0000E+00	3.500	0.0000E+00
4.000	0.0000E+00	4.500	0.0000E+00	5.080	0.0000E+00
7.620	0.0000E+00	10.160	0.0000E+00	12.700	0.0000E+00
15.240	0.0000E+00	17.780	0.0000E+00	20.320	0.0000E+00
22.860	0.0000E+00	25.400	0.0000E+00	27.940	0.0000E+00
30.480	0.0000E+00	33.020	0.0000E+00	35.560	0.0000E+00
38.100	0.0000E+00	40.640	0.0000E+00	43.180	0.0000E+00
45.720	0.0000E+00	48.260	0.0000E+00	50.800	0.0000E+00
53.340	0.0000E+00	55.880	0.0000E+00	58.420	0.0000E+00
60.960	0.0000E+00				

APPENDIX III.I.1.D – UNSAT-H MODEL INPUT AND OUTPUT: NO PLANTS

```
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
0,1,                                    IPLANT,NGRAV
365,1,365,                              IFDEND,IDTBEG,IDTEND
1995,30,0,2,30,                         IYS,NYEARS,ISTEAD,IFLIST,NFLIST
0,24,                                   NPRINT,STOPHR
0,4,1,1.0E-6,                           ISMETH,INMAX,ISWDIF,DMAXBA
1.0,1.0E-8,1.0,                         DELMAX,DELMIN,OUTTIM
1.2,1.0E-4,0.0,0.0,0.0,                 RFACT,RAINIF,DHTOL,DHMAX,DHFACT
4,3,0.0,                                KOPT,KEST,WTF
0,1,2,1,                                ITOPBC,IEVOPT,NFHOUR,LOWER
1.0,1.0E6,0.0,0.0,                      HIRRI,HDRY,HTOP,RHA
1,0,1,                                  IETOPT,ICLOUD,ISHOPT
1,1.0,                                  IRAIN,HPR
0,0.0,0.0,0.0,0,                        IHYS,AIRTOL,HYSTOL,HYSMXH,HYFILE
0,0,0.0,                                IHEAT,ICONVH,DMAXHE
0,0.0,0.0,0.0,                          UPPERH,TSMEAN,TSAMP,QHCTOP
0,0.0,0.0,                              LOWERH,QHLEAK,TGRAD
1,0.66,292.65,0.24,                      IVAPOR,TORT,TSOIL,VAPDIF
2,43,                                   MATN,NPT
1, 0.00,1, 0.10,1, 0.20,1, 0.30,
1, 0.40,1, 0.50,1, 0.60,1, 0.70,
1, 0.80,1, 0.90,1, 1.00,1, 1.25,
1, 1.50,1, 1.75,1, 2.00,1, 2.50,
1, 3.00,1, 3.50,1, 4.00,1, 4.50,
1, 5.08,1, 7.62,1,10.16,1,12.70,
1,15.24,1,17.78,1,20.32,1,22.86,
1,25.40,1,27.94,1,30.48,1,33.02,
1,35.56,1,38.10,1,40.64,1,43.18,
1,45.72,2,48.26,2,50.80,2,53.34,
2,55.88,2,58.42,2,60.96,
90% Compaction Layer            DUMMY
0.38,0.03,0.006,2.2,            THET,THTR,VGA,VGN
conductivity                    DUMMY
2.0,4.6,0.006,2.2,0.5,          RKMOD,SK,VGA,VGN,EPIT
80% Compaction Layer            DUMMY
0.44,0.05,0.017,3.5,            THET,THTR,vGA,vGN
conductivity                    DUMMY
2.0,23.7,0.017,3.5,0.5,         RKMOD,SK,VGA,VGN,EPIT
0,                              NDAY
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,575.0,575.0,575.0,
575.0,125.0,125.0,125.0,
125.0,125.0,125.0,
```

```
0.20,1234,0.5,875.0,                    ALBEDO,ALT,ZU,PMB
1995.txt
1996.txt
1997.txt
1998.txt
1999.txt
2000.txt
2001.txt
2002.txt
2003.txt
2004.txt
2005.txt
2006.txt
2007.txt
2008.txt
2009.txt
2010.txt
2011.txt
2012.txt
2013.txt
2014.txt
2015.txt
2016.txt
2017.txt
2018.txt
2019.txt
2020.txt
2021.txt
2022.txt
2023.txt
2024.txt
```

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	Initial Conditions HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.750E+02	0.1065	292.65	2	1.000E-01	5.750E+02	0.1065	292.65
3	2.000E-01	5.750E+02	0.1065	292.65	4	3.000E-01	5.750E+02	0.1065	292.65
5	4.000E-01	5.750E+02	0.1065	292.65	6	5.000E-01	5.750E+02	0.1065	292.65
7	6.000E-01	5.750E+02	0.1065	292.65	8	7.000E-01	5.750E+02	0.1065	292.65
9	8.000E-01	5.750E+02	0.1065	292.65	10	9.000E-01	5.750E+02	0.1065	292.65
11	1.000E+00	5.750E+02	0.1065	292.65	12	1.250E+00	5.750E+02	0.1065	292.65
13	1.500E+00	5.750E+02	0.1065	292.65	14	1.750E+00	5.750E+02	0.1065	292.65
15	2.000E+00	5.750E+02	0.1065	292.65	16	2.500E+00	5.750E+02	0.1065	292.65
17	3.000E+00	5.750E+02	0.1065	292.65	18	3.500E+00	5.750E+02	0.1065	292.65
19	4.000E+00	5.750E+02	0.1065	292.65	20	4.500E+00	5.750E+02	0.1065	292.65
21	5.080E+00	5.750E+02	0.1065	292.65	22	7.620E+00	5.750E+02	0.1065	292.65
23	1.016E+01	5.750E+02	0.1065	292.65	24	1.270E+01	5.750E+02	0.1065	292.65
25	1.524E+01	5.750E+02	0.1065	292.65	26	1.778E+01	5.750E+02	0.1065	292.65
27	2.032E+01	5.750E+02	0.1065	292.65	28	2.286E+01	5.750E+02	0.1065	292.65
29	2.540E+01	5.750E+02	0.1065	292.65	30	2.794E+01	5.750E+02	0.1065	292.65
31	3.048E+01	5.750E+02	0.1065	292.65	32	3.302E+01	5.750E+02	0.1065	292.65
33	3.556E+01	5.750E+02	0.1065	292.65	34	3.810E+01	5.750E+02	0.1065	292.65
35	4.064E+01	5.750E+02	0.1065	292.65	36	4.318E+01	5.750E+02	0.1065	292.65
37	4.572E+01	5.750E+02	0.1065	292.65	38	4.826E+01	1.250E+02	0.1064	292.65
39	5.080E+01	1.250E+02	0.1064	292.65	40	5.334E+01	1.250E+02	0.1064	292.65
41	5.588E+01	1.250E+02	0.1064	292.65	42	5.842E+01	1.250E+02	0.1064	292.65
43	6.096E+01	1.250E+02	0.1064	292.65					

Initial Water Storage = 6.4909 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.09064	0.09148	0.11152	0.07609
Head (cm)	7.04973E+02	6.96597E+02	5.43311E+02	1.72394E+02

```
 LiqWater Flow (cm)=-3.30934E-01-2.96830E-01-1.85300E-01 1.40052E-01
 IsoVapor Flow (cm)=-2.35437E-06-9.10224E-07-1.40543E-07 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   6.4909+ 0.0000+ 0.0000 - 0.3317- 0.0000-  0.1401 =     6.0191 vs.     6.0191

 Mass Balance = -4.9484E-05 cm;  Time step attempts =  219 and successes =  197
   Evaporation:  Potential =  0.3317 cm, Actual =  0.3317 cm
 RHMEAN = 60.0 %;  TMEAN = 278.4 K;  HDRY =  7.0365E+05 cm;  DAYUBC =     0

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.04795     0.05164
 Head (cm)         = 1.32310E+06 1.95513E+05 1.97735E+03 5.25300E+02
 LiqWater Flow (cm)= 5.23751E-02 1.17400E-02-1.02339E-03 4.16114E-06
 IsoVapor Flow (cm)=-4.34634E-02-2.98159E-03-4.48495E-07 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8359+ 0.0762+ 0.0000 - 0.0673- 0.0000-  0.0000 =     2.8448 vs.     2.8446

 Mass Balance =  1.3370E-04 cm;  Time step attempts = 1382 and successes = 1068
   Evaporation:  Potential =  1.0289 cm, Actual =  0.0673 cm
 RHMEAN = 38.3 %;  TMEAN = 284.8 K;  HDRY =  1.3231E+06 cm;  DAYUBC =   449
1

--------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1660E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1660E+02     [cm]
 Actual Evaporation                 =  1.8814E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.5392E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.1868E-01     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.5392E+01     [cm]
Actual Rainfall                    =  1.5392E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8446E+00     [cm]
Mass Balance Error                 =  6.0031E-03     [cm]
Total Successful Time Steps        =     57521
Total Attempted Time Steps         =     70351
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30386
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-3.4216E+00	0.050	8.5530E+00	0.150	5.3339E+00
0.250	3.9850E+00	0.350	3.2012E+00	0.450	2.6445E+00
0.550	2.0839E+00	0.650	1.7436E+00	0.750	1.3917E+00
0.850	1.0897E+00	0.950	7.2371E-01	1.125	4.4810E-01
1.375	-1.6629E-01	1.625	-6.1738E-01	1.875	-9.0390E-01
2.250	-1.0926E+00	2.750	-1.4609E+00	3.250	-1.7134E+00
3.750	-1.9646E+00	4.250	-2.1095E+00	4.790	-2.2048E+00
6.350	-2.2550E+00	8.890	-2.4396E+00	11.430	-2.4155E+00
13.970	-2.3801E+00	16.510	-2.3243E+00	19.050	-2.1800E+00
21.590	-2.0289E+00	24.130	-1.8788E+00	26.670	-1.7295E+00
29.210	-1.5809E+00	31.750	-1.4328E+00	34.290	-1.2852E+00
36.830	-1.1381E+00	39.370	-9.9119E-01	41.910	-8.4460E-01
44.450	-6.9822E-01	46.990	-5.4946E-01	49.530	-4.0137E-01
52.070	-2.6876E-01	54.610	-1.2923E-01	57.150	1.0036E-02
59.690	1.4915E-01	60.960	2.1868E-01		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.323E+06	0.0300	292.65	2	1.000E-01	1.238E+06	0.0300	292.65
3	2.000E-01	1.159E+06	0.0300	292.65	4	3.000E-01	1.083E+06	0.0300	292.65
5	4.000E-01	1.012E+06	0.0300	292.65	6	5.000E-01	9.440E+05	0.0300	292.65
7	6.000E-01	8.793E+05	0.0300	292.65	8	7.000E-01	8.175E+05	0.0300	292.65
9	8.000E-01	7.583E+05	0.0300	292.65	10	9.000E-01	7.015E+05	0.0300	292.65
11	1.000E+00	6.470E+05	0.0300	292.65	12	1.250E+00	5.195E+05	0.0300	292.65
13	1.500E+00	4.028E+05	0.0300	292.65	14	1.750E+00	2.952E+05	0.0300	292.65
15	2.000E+00	1.955E+05	0.0301	292.65	16	2.500E+00	1.530E+04	0.0315	292.65
17	3.000E+00	4.914E+03	0.0360	292.65	18	3.500E+00	4.731E+03	0.0363	292.65
19	4.000E+00	4.769E+03	0.0363	292.65	20	4.500E+00	4.436E+03	0.0368	292.65
21	5.080E+00	3.894E+03	0.0380	292.65	22	7.620E+00	2.795E+03	0.0419	292.65
23	1.016E+01	2.481E+03	0.0437	292.65	24	1.270E+01	2.313E+03	0.0449	292.65
25	1.524E+01	2.207E+03	0.0457	292.65	26	1.778E+01	2.132E+03	0.0464	292.65
27	2.032E+01	2.078E+03	0.0469	292.65	28	2.286E+01	2.036E+03	0.0473	292.65
29	2.540E+01	2.003E+03	0.0477	292.65	30	2.794E+01	1.977E+03	0.0479	292.65
31	3.048E+01	1.956E+03	0.0482	292.65	32	3.302E+01	1.939E+03	0.0484	292.65
33	3.556E+01	1.925E+03	0.0485	292.65	34	3.810E+01	1.913E+03	0.0487	292.65
35	4.064E+01	1.904E+03	0.0488	292.65	36	4.318E+01	1.897E+03	0.0489	292.65
37	4.572E+01	1.892E+03	0.0489	292.65	38	4.826E+01	1.602E+03	0.0501	292.65
39	5.080E+01	5.861E+02	0.0512	292.65	40	5.334E+01	5.530E+02	0.0514	292.65
41	5.588E+01	5.364E+02	0.0516	292.65	42	5.842E+01	5.279E+02	0.0516	292.65
43	6.096E+01	5.253E+02	0.0516	292.65					

Initial Water Storage = 2.8446 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.03005	0.04786	0.05163
Head (cm)	=	6.46939E+05	2.64598E+05	1.98486E+03	5.25739E+02

```
 LiqWater Flow (cm)=-1.04353E-11-1.40322E-07-1.06432E-03 4.13257E-06
 IsoVapor Flow (cm)=-9.19674E-03-9.20291E-03-4.71421E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8446+ 0.0000+ 0.0000 - 0.0092- 0.0000-  0.0000 =     2.8354 vs.     2.8355

 Mass Balance = -2.7207E-05 cm;  Time step attempts =  103 and successes =   81
   Evaporation:  Potential =  0.3638 cm, Actual =  0.0092 cm
 RHMEAN = 62.5 %;  TMEAN = 279.0 K;  HDRY =  6.4694E+05 cm;  DAYUBC =    78

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.04628     0.05093
 Head (cm)         = 1.37244E+06 9.76165E+05 2.14499E+03 6.58202E+02
 LiqWater Flow (cm)=-2.06547E-13-9.99673E-13-1.46826E-03 6.46714E-07
 IsoVapor Flow (cm)=-4.94573E-03-4.94516E-03-8.85352E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.6965+ 0.0000+ 0.0000 - 0.0049- 0.0000-  0.0000 =     2.6915 vs.     2.6915

 Mass Balance =  2.1425E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3649 cm, Actual =  0.0049 cm
 RHMEAN = 36.9 %;  TMEAN = 282.9 K;  HDRY =  1.3724E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3540E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3540E+02     [cm]
 Actual Evaporation                 =  2.1457E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1311E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.0918E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1311E+01     [cm]
Actual Rainfall                    =  2.1311E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6915E+00     [cm]
Mass Balance Error                 =  6.3878E-03     [cm]
Total Successful Time Steps        =     50967
Total Attempted Time Steps         =     61488
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26469
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.4610E-01	0.050	1.5303E+01	0.150	8.2999E+00
0.250	6.4493E+00	0.350	5.2358E+00	0.450	4.4320E+00
0.550	3.9595E+00	0.650	3.6295E+00	0.750	3.4465E+00
0.850	3.1397E+00	0.950	2.9979E+00	1.125	2.7912E+00
1.375	2.4272E+00	1.625	2.2129E+00	1.875	2.0704E+00
2.250	1.9183E+00	2.750	1.6150E+00	3.250	1.4752E+00
3.750	1.3252E+00	4.250	1.1923E+00	4.790	1.0949E+00
6.350	9.3450E-01	8.890	4.5841E-01	11.430	2.3411E-01
13.970	1.1022E-01	16.510	-2.1620E-02	19.050	-4.9194E-02
21.590	-4.3707E-02	24.130	-3.8701E-02	26.670	-3.4193E-02
29.210	-3.0100E-02	31.750	-2.6353E-02	34.290	-2.2883E-02
36.830	-1.9624E-02	39.370	-1.6531E-02	41.910	-1.3559E-02
44.450	-1.0664E-02	46.990	-5.9001E-03	49.530	-1.0519E-03
52.070	-5.0177E-03	54.610	-3.5985E-03	57.150	-1.9528E-03
59.690	-2.5020E-04	60.960	6.0918E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.372E+06	0.0300	292.65	2	1.000E-01	1.349E+06	0.0300	292.65
3	2.000E-01	1.327E+06	0.0300	292.65	4	3.000E-01	1.305E+06	0.0300	292.65
5	4.000E-01	1.284E+06	0.0300	292.65	6	5.000E-01	1.262E+06	0.0300	292.65
7	6.000E-01	1.241E+06	0.0300	292.65	8	7.000E-01	1.221E+06	0.0300	292.65
9	8.000E-01	1.200E+06	0.0300	292.65	10	9.000E-01	1.180E+06	0.0300	292.65
11	1.000E+00	1.160E+06	0.0300	292.65	12	1.250E+00	1.112E+06	0.0300	292.65
13	1.500E+00	1.065E+06	0.0300	292.65	14	1.750E+00	1.020E+06	0.0300	292.65
15	2.000E+00	9.762E+05	0.0300	292.65	16	2.500E+00	8.926E+05	0.0300	292.65
17	3.000E+00	8.137E+05	0.0300	292.65	18	3.500E+00	7.392E+05	0.0300	292.65
19	4.000E+00	6.685E+05	0.0300	292.65	20	4.500E+00	6.013E+05	0.0300	292.65
21	5.080E+00	5.272E+05	0.0300	292.65	22	7.620E+00	2.423E+05	0.0301	292.65
23	1.016E+01	4.947E+03	0.0360	292.65	24	1.270E+01	3.058E+03	0.0406	292.65
25	1.524E+01	2.685E+03	0.0424	292.65	26	1.778E+01	2.486E+03	0.0436	292.65
27	2.032E+01	2.357E+03	0.0445	292.65	28	2.286E+01	2.265E+03	0.0453	292.65
29	2.540E+01	2.197E+03	0.0458	292.65	30	2.794E+01	2.145E+03	0.0463	292.65
31	3.048E+01	2.104E+03	0.0467	292.65	32	3.302E+01	2.072E+03	0.0470	292.65
33	3.556E+01	2.046E+03	0.0472	292.65	34	3.810E+01	2.026E+03	0.0474	292.65
35	4.064E+01	2.011E+03	0.0476	292.65	36	4.318E+01	2.000E+03	0.0477	292.65
37	4.572E+01	1.993E+03	0.0478	292.65	38	4.826E+01	1.736E+03	0.0501	292.65
39	5.080E+01	9.141E+02	0.0504	292.65	40	5.334E+01	7.279E+02	0.0507	292.65
41	5.588E+01	6.817E+02	0.0509	292.65	42	5.842E+01	6.634E+02	0.0509	292.65
43	6.096E+01	6.582E+02	0.0509	292.65					

Initial Water Storage = 2.6915 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.04619	0.05093
Head (cm)	=	1.39883E+06	9.92133E+05	2.15531E+03	6.58520E+02

```
 LiqWater Flow (cm)=-1.93373E-13-9.42340E-13-1.46981E-03 6.44141E-07
 IsoVapor Flow (cm)=-4.99903E-03-4.99863E-03-9.05855E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6915+ 0.0000+ 0.0000 - 0.0050- 0.0000-  0.0000 =    2.6865 vs.    2.6865

 Mass Balance =  1.2593E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6119 cm, Actual =  0.0050 cm
 RHMEAN = 36.2 %;  TMEAN = 287.6 K;  HDRY =  1.3988E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.05124     0.07399     0.05058
 Head (cm)         = 5.55168E+05 1.71695E+03 9.28870E+02 7.97508E+02
 LiqWater Flow (cm)=-1.25591E-09-6.47971E-02-2.72442E-02 1.32651E-07
 IsoVapor Flow (cm)=-7.01576E-02-9.62803E-06-2.63151E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.0401+ 0.0000+ 0.0000 - 0.0702- 0.0000-  0.0000 =    3.9700 vs.    3.9700

 Mass Balance = -1.3438E-05 cm;  Time step attempts =  106 and successes =   84
   Evaporation:  Potential =  0.2501 cm, Actual =  0.0702 cm
 RHMEAN = 66.2 %;  TMEAN = 278.7 K;  HDRY =  5.6862E+05 cm;  DAYUBC =    65
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.8279E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.8279E+02     [cm]
 Actual Evaporation                 =  2.3170E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.4460E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.1399E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.4460E+01     [cm]
Actual Rainfall                    =  2.4460E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.9700E+00     [cm]
Mass Balance Error                 =  1.1831E-02     [cm]
Total Successful Time Steps        =     81675
Total Attempted Time Steps         =    102016
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     38109
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.2904E+00	0.050	1.7795E+01	0.150	1.3673E+01
0.250	1.1751E+01	0.350	1.0355E+01	0.450	9.3016E+00
0.550	8.4322E+00	0.650	7.6790E+00	0.750	7.0336E+00
0.850	6.5895E+00	0.950	6.1165E+00	1.125	5.7004E+00
1.375	4.6234E+00	1.625	3.9974E+00	1.875	3.4912E+00
2.250	3.1282E+00	2.750	2.4964E+00	3.250	2.1583E+00
3.750	1.9172E+00	4.250	1.6718E+00	4.790	1.5194E+00
6.350	1.3664E+00	8.890	1.1405E+00	11.430	9.8696E-01
13.970	9.2072E-01	16.510	8.5501E-01	19.050	7.8865E-01
21.590	7.2133E-01	24.130	6.5296E-01	26.670	5.8352E-01
29.210	5.1306E-01	31.750	4.4167E-01	34.290	3.6941E-01
36.830	2.9636E-01	39.370	2.2263E-01	41.910	1.4829E-01
44.450	7.3438E-02	46.990	-1.2404E-03	49.530	1.5304E-06
52.070	-9.7184E-04	54.610	-1.3882E-03	57.150	-9.3634E-04
59.690	-2.5235E-04	60.960	1.1399E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.552E+05	0.0300	292.65	2	1.000E-01	3.917E+05	0.0300	292.65
3	2.000E-01	2.464E+05	0.0301	292.65	4	3.000E-01	1.160E+05	0.0301	292.65
5	4.000E-01	2.582E+03	0.0430	292.65	6	5.000E-01	2.438E+03	0.0440	292.65
7	6.000E-01	2.328E+03	0.0448	292.65	8	7.000E-01	2.240E+03	0.0455	292.65
9	8.000E-01	2.166E+03	0.0461	292.65	10	9.000E-01	2.102E+03	0.0467	292.65
11	1.000E+00	2.047E+03	0.0472	292.65	12	1.250E+00	1.934E+03	0.0484	292.65
13	1.500E+00	1.847E+03	0.0495	292.65	14	1.750E+00	1.776E+03	0.0504	292.65
15	2.000E+00	1.717E+03	0.0512	292.65	16	2.500E+00	1.623E+03	0.0527	292.65
17	3.000E+00	1.550E+03	0.0540	292.65	18	3.500E+00	1.491E+03	0.0551	292.65
19	4.000E+00	1.442E+03	0.0562	292.65	20	4.500E+00	1.400E+03	0.0571	292.65
21	5.080E+00	1.359E+03	0.0581	292.65	22	7.620E+00	1.230E+03	0.0616	292.65
23	1.016E+01	1.149E+03	0.0642	292.65	24	1.270E+01	1.092E+03	0.0664	292.65
25	1.524E+01	1.048E+03	0.0682	292.65	26	1.778E+01	1.014E+03	0.0697	292.65
27	2.032E+01	9.865E+02	0.0710	292.65	28	2.286E+01	9.638E+02	0.0721	292.65
29	2.540E+01	9.448E+02	0.0731	292.65	30	2.794E+01	9.289E+02	0.0740	292.65
31	3.048E+01	9.154E+02	0.0748	292.65	32	3.302E+01	9.041E+02	0.0754	292.65
33	3.556E+01	8.946E+02	0.0760	292.65	34	3.810E+01	8.867E+02	0.0765	292.65
35	4.064E+01	8.803E+02	0.0768	292.65	36	4.318E+01	8.753E+02	0.0772	292.65
37	4.572E+01	8.715E+02	0.0774	292.65	38	4.826E+01	8.608E+02	0.0505	292.65
39	5.080E+01	9.434E+02	0.0504	292.65	40	5.334E+01	8.844E+02	0.0504	292.65
41	5.588E+01	8.329E+02	0.0505	292.65	42	5.842E+01	8.059E+02	0.0506	292.65
43	6.096E+01	7.975E+02	0.0506	292.65					

Initial Water Storage = 3.9700 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03003	0.05000	0.07264	0.05058
Head (cm)	=	3.72655E+05	1.80564E+03	9.53849E+02	7.97785E+02

```
 LiqWater Flow (cm)=-5.38177E-10-5.82323E-02-2.50070E-02 1.32272E-07
 IsoVapor Flow (cm)=-6.14426E-02-1.09375E-05-2.74933E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9700+ 0.0000+ 0.0000 - 0.0614- 0.0000-  0.0000 =    3.9085 vs.    3.9085

 Mass Balance = -2.8098E-06 cm;  Time step attempts =   37 and successes =   31
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0614 cm
 RHMEAN = 66.3 %;  TMEAN = 279.3 K;  HDRY =  5.6596E+05 cm;  DAYUBC =    12

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03006     0.05686     0.05035
 Head (cm)         = 9.19880E+05 2.45277E+05 1.41005E+03 9.73624E+02
 LiqWater Flow (cm)=-3.18818E-12-6.80523E-07-5.73186E-03 2.55715E-08
 IsoVapor Flow (cm)=-1.33579E-02-1.33419E-02-4.41930E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2124+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    3.1990 vs.    3.1990

 Mass Balance = -6.0264E-06 cm;  Time step attempts =   94 and successes =   90
   Evaporation:  Potential =  0.3702 cm, Actual =  0.0134 cm
 RHMEAN = 51.3 %;  TMEAN = 282.0 K;  HDRY =  9.1988E+05 cm;  DAYUBC =    85
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9981E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9981E+02     [cm]
 Actual Evaporation                 =  1.7959E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.7196E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.6652E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.7196E+01     [cm]
Actual Rainfall                    =  1.7196E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1990E+00     [cm]
Mass Balance Error                 =  7.6198E-03     [cm]
Total Successful Time Steps        =     63438
Total Attempted Time Steps         =     77938
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31495
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-7.6328E-01	0.050	1.1429E+01	0.150	8.2647E+00
0.250	7.1350E+00	0.350	6.1800E+00	0.450	5.4287E+00
0.550	4.9157E+00	0.650	4.4186E+00	0.750	3.9611E+00
0.850	3.6072E+00	0.950	3.2607E+00	1.125	2.9651E+00
1.375	2.2105E+00	1.625	1.7303E+00	1.875	1.3007E+00
2.250	1.0574E+00	2.750	5.7972E-01	3.250	2.9236E-01
3.750	5.5740E-02	4.250	-4.2571E-02	4.790	-1.0034E-01
6.350	-1.7476E-01	8.890	-3.5247E-01	11.430	-4.2850E-01
13.970	-4.6691E-01	16.510	-4.8928E-01	19.050	-4.9079E-01
21.590	-4.5036E-01	24.130	-4.0864E-01	26.670	-3.6600E-01
29.210	-3.2255E-01	31.750	-2.7840E-01	34.290	-2.3360E-01
36.830	-1.8825E-01	39.370	-1.4240E-01	41.910	-9.6115E-02
44.450	-4.9466E-02	46.990	-1.7710E-03	49.530	4.4838E-04
52.070	-1.3983E-04	54.610	-3.2787E-04	57.150	-3.1580E-04
59.690	-1.0951E-04	60.960	2.6652E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.199E+05	0.0300	292.65	2	1.000E-01	8.770E+05	0.0300	292.65
3	2.000E-01	8.355E+05	0.0300	292.65	4	3.000E-01	7.952E+05	0.0300	292.65
5	4.000E-01	7.560E+05	0.0300	292.65	6	5.000E-01	7.179E+05	0.0300	292.65
7	6.000E-01	6.808E+05	0.0300	292.65	8	7.000E-01	6.447E+05	0.0300	292.65
9	8.000E-01	6.095E+05	0.0300	292.65	10	9.000E-01	5.752E+05	0.0300	292.65
11	1.000E+00	5.417E+05	0.0300	292.65	12	1.250E+00	4.614E+05	0.0300	292.65
13	1.500E+00	3.856E+05	0.0300	292.65	14	1.750E+00	3.136E+05	0.0300	292.65
15	2.000E+00	2.453E+05	0.0301	292.65	16	2.500E+00	1.179E+05	0.0301	292.65
17	3.000E+00	3.052E+03	0.0407	292.65	18	3.500E+00	2.743E+03	0.0421	292.65
19	4.000E+00	2.548E+03	0.0432	292.65	20	4.500E+00	2.408E+03	0.0442	292.65
21	5.080E+00	2.286E+03	0.0451	292.65	22	7.620E+00	1.968E+03	0.0480	292.65
23	1.016E+01	1.800E+03	0.0501	292.65	24	1.270E+01	1.690E+03	0.0517	292.65
25	1.524E+01	1.611E+03	0.0529	292.65	26	1.778E+01	1.551E+03	0.0540	292.65
27	2.032E+01	1.504E+03	0.0549	292.65	28	2.286E+01	1.466E+03	0.0556	292.65
29	2.540E+01	1.436E+03	0.0563	292.65	30	2.794E+01	1.410E+03	0.0569	292.65
31	3.048E+01	1.389E+03	0.0573	292.65	32	3.302E+01	1.372E+03	0.0578	292.65
33	3.556E+01	1.357E+03	0.0581	292.65	34	3.810E+01	1.346E+03	0.0584	292.65
35	4.064E+01	1.337E+03	0.0586	292.65	36	4.318E+01	1.330E+03	0.0588	292.65
37	4.572E+01	1.325E+03	0.0589	292.65	38	4.826E+01	1.296E+03	0.0502	292.65
39	5.080E+01	1.019E+03	0.0503	292.65	40	5.334E+01	9.986E+02	0.0503	292.65
41	5.588E+01	9.984E+02	0.0503	292.65	42	5.842E+01	9.829E+02	0.0503	292.65
43	6.096E+01	9.736E+02	0.0503	292.65					

Initial Water Storage = 3.1990 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03004	0.05655	0.05035
Head (cm)	=	1.35965E+06	3.27437E+05	1.42364E+03	9.73909E+02

```
 LiqWater Flow (cm)=-8.32675E-13-2.60138E-09-5.56906E-03 2.55092E-08
 IsoVapor Flow (cm)=-1.66486E-02-1.66281E-02-4.49810E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1990+ 0.0000+ 0.0000 - 0.0166- 0.0000-  0.0000 =     3.1824 vs.     3.1824

 Mass Balance = -4.9288E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8887 cm, Actual =  0.0166 cm
 RHMEAN = 37.3 %;  TMEAN = 284.0 K;  HDRY =  1.3596E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04558     0.06596     0.05024
 Head (cm)         = 8.66730E+05 2.22598E+03 1.10238E+03 1.13576E+03
 LiqWater Flow (cm)=-1.67325E-11-3.86446E-02-1.10895E-02 7.16000E-09
 IsoVapor Flow (cm)=-4.20348E-02-1.95531E-05-2.65098E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6559+ 0.0000+ 0.0000 - 0.0420- 0.0000-  0.0000 =     3.6139 vs.     3.6139

 Mass Balance = -1.8123E-05 cm;  Time step attempts =  102 and successes =   79
   Evaporation:  Potential =  0.3425 cm, Actual =  0.0420 cm
 RHMEAN = 53.3 %;  TMEAN = 285.7 K;  HDRY =  8.6673E+05 cm;  DAYUBC =    79
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0082E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0082E+02     [cm]
 Actual Evaporation                 =  2.0305E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.0726E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.9662E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.0726E+01     [cm]
Actual Rainfall                    =  2.0726E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.6139E+00     [cm]
Mass Balance Error                 =  6.5105E-03     [cm]
Total Successful Time Steps        =     49260
Total Attempted Time Steps         =     59592
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     25281
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	4.2139E-01	0.050	1.4096E+01	0.150	9.2845E+00
0.250	7.7256E+00	0.350	6.6492E+00	0.450	5.8424E+00
0.550	5.2020E+00	0.650	4.7766E+00	0.750	4.2826E+00
0.850	3.8464E+00	0.950	3.5936E+00	1.125	3.2904E+00
1.375	2.7010E+00	1.625	2.3325E+00	1.875	2.0691E+00
2.250	1.9375E+00	2.750	1.6728E+00	3.250	1.5410E+00
3.750	1.4371E+00	4.250	1.2958E+00	4.790	1.1884E+00
6.350	1.0046E+00	8.890	7.4586E-01	11.430	6.1642E-01
13.970	5.0334E-01	16.510	4.1794E-01	19.050	3.3936E-01
21.590	2.5820E-01	24.130	2.1142E-01	26.670	1.8800E-01
29.210	1.6466E-01	31.750	1.4126E-01	34.290	1.1779E-01
36.830	9.4233E-02	39.370	7.0603E-02	41.910	4.6898E-02
44.450	2.3103E-02	46.990	-5.0028E-06	49.530	5.3829E-04
52.070	3.0724E-05	54.610	-2.9751E-05	57.150	-4.4802E-05
59.690	-1.9052E-05	60.960	4.9662E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.667E+05	0.0300	292.65	2	1.000E-01	7.511E+05	0.0300	292.65
3	2.000E-01	6.441E+05	0.0300	292.65	4	3.000E-01	5.450E+05	0.0300	292.65
5	4.000E-01	4.526E+05	0.0300	292.65	6	5.000E-01	3.659E+05	0.0300	292.65
7	6.000E-01	2.844E+05	0.0300	292.65	8	7.000E-01	2.074E+05	0.0301	292.65
9	8.000E-01	1.345E+05	0.0301	292.65	10	9.000E-01	6.528E+04	0.0303	292.65
11	1.000E+00	3.663E+03	0.0386	292.65	12	1.250E+00	2.876E+03	0.0415	292.65
13	1.500E+00	2.557E+03	0.0432	292.65	14	1.750E+00	2.363E+03	0.0445	292.65
15	2.000E+00	2.226E+03	0.0456	292.65	16	2.500E+00	2.038E+03	0.0473	292.65
17	3.000E+00	1.911E+03	0.0487	292.65	18	3.500E+00	1.816E+03	0.0499	292.65
19	4.000E+00	1.742E+03	0.0509	292.65	20	4.500E+00	1.681E+03	0.0518	292.65
21	5.080E+00	1.623E+03	0.0527	292.65	22	7.620E+00	1.453E+03	0.0559	292.65
23	1.016E+01	1.352E+03	0.0582	292.65	24	1.270E+01	1.283E+03	0.0600	292.65
25	1.524E+01	1.233E+03	0.0615	292.65	26	1.778E+01	1.194E+03	0.0627	292.65
27	2.032E+01	1.164E+03	0.0637	292.65	28	2.286E+01	1.139E+03	0.0646	292.65
29	2.540E+01	1.119E+03	0.0653	292.65	30	2.794E+01	1.102E+03	0.0660	292.65
31	3.048E+01	1.089E+03	0.0665	292.65	32	3.302E+01	1.077E+03	0.0670	292.65
33	3.556E+01	1.068E+03	0.0673	292.65	34	3.810E+01	1.060E+03	0.0677	292.65
35	4.064E+01	1.054E+03	0.0679	292.65	36	4.318E+01	1.049E+03	0.0681	292.65
37	4.572E+01	1.045E+03	0.0683	292.65	38	4.826E+01	1.037E+03	0.0503	292.65
39	5.080E+01	1.235E+03	0.0502	292.65	40	5.334E+01	1.141E+03	0.0502	292.65
41	5.588E+01	1.118E+03	0.0502	292.65	42	5.842E+01	1.129E+03	0.0502	292.65
43	6.096E+01	1.136E+03	0.0502	292.65					

Initial Water Storage = 3.6139 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03001	0.04491	0.06522	0.05024
Head (cm)	1.04627E+06	2.30896E+03	1.12200E+03	1.13548E+03

```
 LiqWater Flow (cm)=-6.00077E-12-3.37137E-02-1.16958E-02 7.17472E-09
 IsoVapor Flow (cm)=-3.60676E-02-2.12870E-05-2.97586E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.6139+ 0.0000+ 0.0000 - 0.0361- 0.0000-  0.0000 =     3.5778 vs.     3.5779

 Mass Balance = -1.1454E-05 cm;  Time step attempts =   74 and successes =   59
   Evaporation:  Potential =  0.7655 cm, Actual =  0.0361 cm
 RHMEAN = 46.8 %;  TMEAN = 285.9 K;  HDRY =  1.0463E+06 cm;  DAYUBC =    59

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03011     0.05566     0.05020
 Head (cm)         = 8.48906E+05 1.36533E+05 1.46520E+03 1.22725E+03
 LiqWater Flow (cm)=-5.05373E-12-2.08012E-04-4.32763E-03 3.78323E-09
 IsoVapor Flow (cm)=-1.46930E-02-1.44844E-02-4.12622E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.1727+ 0.0000+ 0.0000 - 0.0147- 0.0000-  0.0000 =     3.1581 vs.     3.1581

 Mass Balance = -2.7162E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2151 cm, Actual =  0.0147 cm
 RHMEAN = 54.0 %;  TMEAN = 277.0 K;  HDRY =  8.4891E+05 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0228E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0228E+02     [cm]
 Actual Evaporation                 =  1.9269E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.8821E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.7750E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.8821E+01     [cm]
Actual Rainfall                    =  1.8821E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1581E+00     [cm]
Mass Balance Error                 =  7.9892E-03     [cm]
Total Successful Time Steps        =     60369
Total Attempted Time Steps         =     73990
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30877
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.4787E-01	0.050	1.3790E+01	0.150	9.2170E+00
0.250	7.9422E+00	0.350	7.0846E+00	0.450	6.2951E+00
0.550	5.7758E+00	0.650	5.3168E+00	0.750	4.7933E+00
0.850	4.3870E+00	0.950	4.1347E+00	1.125	3.8738E+00
1.375	3.0384E+00	1.625	2.5022E+00	1.875	1.9957E+00
2.250	1.7168E+00	2.750	1.1506E+00	3.250	7.2996E-01
3.750	5.8479E-01	4.250	4.2780E-01	4.790	2.9940E-01
6.350	1.8255E-01	8.890	-1.0399E-01	11.430	-2.4825E-01
13.970	-2.9196E-01	16.510	-3.1574E-01	19.050	-2.9196E-01
21.590	-2.6731E-01	24.130	-2.4208E-01	26.670	-2.1639E-01
29.210	-1.9030E-01	31.750	-1.6389E-01	34.290	-1.3720E-01
36.830	-1.1027E-01	39.370	-8.3143E-02	41.910	-5.5835E-02
44.450	-2.8371E-02	46.990	-4.1043E-04	49.530	6.4138E-04
52.070	3.9823E-05	54.610	-5.4667E-06	57.150	-7.2319E-06
59.690	-1.8881E-06	60.960	1.7750E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.489E+05	0.0300	292.65	2	1.000E-01	8.031E+05	0.0300	292.65
3	2.000E-01	7.587E+05	0.0300	292.65	4	3.000E-01	7.157E+05	0.0300	292.65
5	4.000E-01	6.740E+05	0.0300	292.65	6	5.000E-01	6.335E+05	0.0300	292.65
7	6.000E-01	5.942E+05	0.0300	292.65	8	7.000E-01	5.559E+05	0.0300	292.65
9	8.000E-01	5.187E+05	0.0300	292.65	10	9.000E-01	4.825E+05	0.0300	292.65
11	1.000E+00	4.472E+05	0.0300	292.65	12	1.250E+00	3.628E+05	0.0300	292.65
13	1.500E+00	2.832E+05	0.0300	292.65	14	1.750E+00	2.079E+05	0.0301	292.65
15	2.000E+00	1.365E+05	0.0301	292.65	16	2.500E+00	3.984E+03	0.0378	292.65
17	3.000E+00	3.113E+03	0.0404	292.65	18	3.500E+00	2.772E+03	0.0420	292.65
19	4.000E+00	2.568E+03	0.0431	292.65	20	4.500E+00	2.424E+03	0.0441	292.65
21	5.080E+00	2.301E+03	0.0450	292.65	22	7.620E+00	1.992E+03	0.0478	292.65
23	1.016E+01	1.831E+03	0.0497	292.65	24	1.270E+01	1.727E+03	0.0511	292.65
25	1.524E+01	1.653E+03	0.0522	292.65	26	1.778E+01	1.597E+03	0.0532	292.65
27	2.032E+01	1.553E+03	0.0539	292.65	28	2.286E+01	1.518E+03	0.0546	292.65
29	2.540E+01	1.489E+03	0.0552	292.65	30	2.794E+01	1.465E+03	0.0557	292.65
31	3.048E+01	1.445E+03	0.0561	292.65	32	3.302E+01	1.429E+03	0.0564	292.65
33	3.556E+01	1.416E+03	0.0567	292.65	34	3.810E+01	1.405E+03	0.0570	292.65
35	4.064E+01	1.396E+03	0.0572	292.65	36	4.318E+01	1.390E+03	0.0573	292.65
37	4.572E+01	1.385E+03	0.0574	292.65	38	4.826E+01	1.362E+03	0.0502	292.65
39	5.080E+01	1.249E+03	0.0502	292.65	40	5.334E+01	1.231E+03	0.0502	292.65
41	5.588E+01	1.230E+03	0.0502	292.65	42	5.842E+01	1.228E+03	0.0502	292.65
43	6.096E+01	1.227E+03	0.0502	292.65					

Initial Water Storage = 3.1581 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03011	0.05541	0.05020
Head (cm)	=	8.74418E+05	1.41905E+05	1.47744E+03	1.22731E+03

```
 LiqWater Flow (cm)=-4.53698E-12-1.03361E-04-4.30247E-03 3.78171E-09
 IsoVapor Flow (cm)=-1.49669E-02-1.48596E-02-4.25620E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1581+ 0.0000+ 0.0000 - 0.0150- 0.0000-  0.0000 =    3.1431 vs.    3.1431

 Mass Balance = -6.6952E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2193 cm, Actual =  0.0150 cm
 RHMEAN = 53.0 %;  TMEAN = 277.3 K;  HDRY =  8.7442E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04464     0.04900     0.05011
 Head (cm)         = 8.82736E+05 2.34469E+03 1.88501E+03 1.54402E+03
 LiqWater Flow (cm)= 1.69846E-01 9.42150E-02-1.98821E-03 5.69678E-10
 IsoVapor Flow (cm)=-5.79369E-02 1.82264E-04-6.44867E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8341+ 0.2032+ 0.0000 - 0.0913- 0.0000-  0.0000 =    2.9460 vs.    2.9456

 Mass Balance =  4.5777E-04 cm;  Time step attempts = 1811 and successes = 1382
   Evaporation:  Potential =  0.2283 cm, Actual =  0.0913 cm
 RHMEAN = 52.7 %;  TMEAN = 276.2 K;  HDRY =  8.8274E+05 cm;  DAYUBC =   325
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0416E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0416E+02     [cm]
 Actual Evaporation                 =  1.1101E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.0897E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.7343E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.0897E+01     [cm]
Actual Rainfall                    =  1.0897E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9456E+00     [cm]
Mass Balance Error                 =  7.5948E-03     [cm]
Total Successful Time Steps        =     61541
Total Attempted Time Steps         =     76196
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31424
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.0488E-01	0.050	8.2830E+00	0.150	6.5620E+00
0.250	5.9107E+00	0.350	5.4484E+00	0.450	5.0285E+00
0.550	4.6886E+00	0.650	4.3356E+00	0.750	4.1038E+00
0.850	3.8920E+00	0.950	3.7253E+00	1.125	3.5500E+00
1.375	3.0756E+00	1.625	2.8258E+00	1.875	2.5772E+00
2.250	2.3776E+00	2.750	1.9976E+00	3.250	1.6936E+00
3.750	1.4480E+00	4.250	1.1336E+00	4.790	8.9895E-01
6.350	6.1827E-01	8.890	3.5760E-02	11.430	-1.3507E-01
13.970	-2.2022E-01	16.510	-2.0491E-01	19.050	-1.8883E-01
21.590	-1.7250E-01	24.130	-1.5597E-01	26.670	-1.3926E-01
29.210	-1.2241E-01	31.750	-1.0543E-01	34.290	-8.8307E-02
36.830	-7.1069E-02	39.370	-5.3727E-02	41.910	-3.6289E-02
44.450	-1.8763E-02	46.990	-6.6172E-04	49.530	1.3729E-05
52.070	-7.0077E-06	54.610	-8.2532E-06	57.150	-6.5131E-06
59.690	-2.1460E-06	60.960	6.7343E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.827E+05	0.0300	292.65	2	1.000E-01	7.491E+05	0.0300	292.65
3	2.000E-01	6.318E+05	0.0300	292.65	4	3.000E-01	5.236E+05	0.0300	292.65
5	4.000E-01	4.220E+05	0.0300	292.65	6	5.000E-01	3.269E+05	0.0300	292.65
7	6.000E-01	2.383E+05	0.0301	292.65	8	7.000E-01	1.551E+05	0.0301	292.65
9	8.000E-01	7.667E+04	0.0302	292.65	10	9.000E-01	4.341E+03	0.0370	292.65
11	1.000E+00	3.540E+03	0.0389	292.65	12	1.250E+00	2.899E+03	0.0414	292.65
13	1.500E+00	2.626E+03	0.0428	292.65	14	1.750E+00	2.460E+03	0.0438	292.65
15	2.000E+00	2.345E+03	0.0446	292.65	16	2.500E+00	2.192E+03	0.0459	292.65
17	3.000E+00	2.097E+03	0.0467	292.65	18	3.500E+00	2.034E+03	0.0473	292.65
19	4.000E+00	1.993E+03	0.0478	292.65	20	4.500E+00	1.966E+03	0.0481	292.65
21	5.080E+00	1.951E+03	0.0482	292.65	22	7.620E+00	2.040E+03	0.0473	292.65
23	1.016E+01	2.243E+03	0.0454	292.65	24	1.270E+01	2.280E+03	0.0451	292.65
25	1.524E+01	2.193E+03	0.0459	292.65	26	1.778E+01	2.100E+03	0.0467	292.65
27	2.032E+01	2.026E+03	0.0474	292.65	28	2.286E+01	1.968E+03	0.0480	292.65
29	2.540E+01	1.922E+03	0.0486	292.65	30	2.794E+01	1.885E+03	0.0490	292.65
31	3.048E+01	1.855E+03	0.0494	292.65	32	3.302E+01	1.831E+03	0.0497	292.65
33	3.556E+01	1.811E+03	0.0499	292.65	34	3.810E+01	1.795E+03	0.0501	292.65
35	4.064E+01	1.783E+03	0.0503	292.65	36	4.318E+01	1.775E+03	0.0504	292.65
37	4.572E+01	1.769E+03	0.0505	292.65	38	4.826E+01	1.727E+03	0.0501	292.65
39	5.080E+01	1.629E+03	0.0501	292.65	40	5.334E+01	1.583E+03	0.0501	292.65
41	5.588E+01	1.560E+03	0.0501	292.65	42	5.842E+01	1.548E+03	0.0501	292.65
43	6.096E+01	1.544E+03	0.0501	292.65					

Initial Water Storage = 2.9456 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.04044	0.04889	0.05011
Head (cm)	= 4.99787E+05	3.10879E+03	1.89439E+03	1.54447E+03

```
 LiqWater Flow (cm)=-1.02167E-10-1.49731E-02-1.97279E-03 5.68307E-10
 IsoVapor Flow (cm)=-2.30510E-02-2.46817E-05-6.55152E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9456+ 0.0000+ 0.0000 - 0.0231- 0.0000-  0.0000 =     2.9225 vs.     2.9225

 Mass Balance = -2.0511E-05 cm;  Time step attempts =  130 and successes =  108
   Evaporation:  Potential =  0.2228 cm, Actual =  0.0231 cm
 RHMEAN = 69.6 %;  TMEAN = 276.2 K;  HDRY =  4.9979E+05 cm;  DAYUBC =   106

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05015     0.07316     0.05012
 Head (cm)         = 8.15596E+05 1.79425E+03 9.44111E+02 1.48670E+03
 LiqWater Flow (cm)=-3.72389E-11-5.97659E-02-2.62037E-02 7.75130E-10
 IsoVapor Flow (cm)=-5.99088E-02-1.16725E-05-2.72928E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9826+ 0.0000+ 0.0000 - 0.0599- 0.0000-  0.0000 =     3.9227 vs.     3.9227

 Mass Balance = -1.0969E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3809 cm, Actual =  0.0599 cm
 RHMEAN = 55.3 %;  TMEAN = 277.9 K;  HDRY =  8.1560E+05 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0470E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0470E+02     [cm]
 Actual Evaporation                 =  1.6515E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.7501E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.8946E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.7501E+01     [cm]
Actual Rainfall                    =  1.7501E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.9227E+00     [cm]
Mass Balance Error                 =  8.0348E-03     [cm]
Total Successful Time Steps        =     60109
Total Attempted Time Steps         =     73676
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30270
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.8518E-01	0.050	1.2313E+01	0.150	9.4304E+00
0.250	8.5348E+00	0.350	7.8240E+00	0.450	7.3196E+00
0.550	6.8618E+00	0.650	6.3546E+00	0.750	5.8116E+00
0.850	5.3160E+00	0.950	5.0528E+00	1.125	4.7842E+00
1.375	4.2036E+00	1.625	3.8071E+00	1.875	3.4933E+00
2.250	3.2140E+00	2.750	2.6954E+00	3.250	2.3251E+00
3.750	2.0780E+00	4.250	1.8400E+00	4.790	1.7359E+00
6.350	1.5867E+00	8.890	1.2521E+00	11.430	1.0246E+00
13.970	8.7760E-01	16.510	7.5010E-01	19.050	6.9241E-01
21.590	6.3439E-01	24.130	5.7517E-01	26.670	5.1479E-01
29.210	4.5333E-01	31.750	3.9090E-01	34.290	3.2760E-01
36.830	2.6353E-01	39.370	1.9880E-01	41.910	1.3349E-01
44.450	6.7693E-02	46.990	1.7328E-03	49.530	1.0438E-04
52.070	9.3589E-06	54.610	2.8122E-06	57.150	9.9961E-07
59.690	3.5831E-07	60.960	1.8946E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.156E+05	0.0300	292.65	2	1.000E-01	6.414E+05	0.0300	292.65
3	2.000E-01	4.868E+05	0.0300	292.65	4	3.000E-01	3.478E+05	0.0300	292.65
5	4.000E-01	2.215E+05	0.0301	292.65	6	5.000E-01	1.058E+05	0.0302	292.65
7	6.000E-01	2.719E+03	0.0423	292.65	8	7.000E-01	2.542E+03	0.0433	292.65
9	8.000E-01	2.411E+03	0.0442	292.65	10	9.000E-01	2.308E+03	0.0449	292.65
11	1.000E+00	2.224E+03	0.0456	292.65	12	1.250E+00	2.066E+03	0.0470	292.65
13	1.500E+00	1.952E+03	0.0482	292.65	14	1.750E+00	1.865E+03	0.0492	292.65
15	2.000E+00	1.794E+03	0.0502	292.65	16	2.500E+00	1.685E+03	0.0517	292.65
17	3.000E+00	1.603E+03	0.0530	292.65	18	3.500E+00	1.539E+03	0.0542	292.65
19	4.000E+00	1.485E+03	0.0552	292.65	20	4.500E+00	1.440E+03	0.0562	292.65
21	5.080E+00	1.396E+03	0.0572	292.65	22	7.620E+00	1.260E+03	0.0607	292.65
23	1.016E+01	1.174E+03	0.0634	292.65	24	1.270E+01	1.114E+03	0.0655	292.65
25	1.524E+01	1.069E+03	0.0673	292.65	26	1.778E+01	1.033E+03	0.0688	292.65
27	2.032E+01	1.004E+03	0.0701	292.65	28	2.286E+01	9.804E+02	0.0713	292.65
29	2.540E+01	9.606E+02	0.0723	292.65	30	2.794E+01	9.441E+02	0.0732	292.65
31	3.048E+01	9.302E+02	0.0739	292.65	32	3.302E+01	9.185E+02	0.0746	292.65
33	3.556E+01	9.087E+02	0.0751	292.65	34	3.810E+01	9.007E+02	0.0756	292.65
35	4.064E+01	8.941E+02	0.0760	292.65	36	4.318E+01	8.889E+02	0.0763	292.65
37	4.572E+01	8.851E+02	0.0766	292.65	38	4.826E+01	8.748E+02	0.0505	292.65
39	5.080E+01	1.185E+03	0.0502	292.65	40	5.334E+01	1.360E+03	0.0502	292.65
41	5.588E+01	1.440E+03	0.0501	292.65	42	5.842E+01	1.476E+03	0.0501	292.65
43	6.096E+01	1.487E+03	0.0501	292.65					

Initial Water Storage = 3.9227 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04804	0.07187	0.05012
Head (cm)	=	1.31147E+06	1.96913E+03	9.68844E+02	1.48562E+03

```
 LiqWater Flow (cm)=-5.45174E-12-5.75570E-02-2.40460E-02 7.79741E-10
 IsoVapor Flow (cm)=-6.56139E-02-1.54583E-05-2.84470E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.9227+ 0.0000+ 0.0000 - 0.0656- 0.0000-  0.0000 =    3.8571 vs.    3.8571

 Mass Balance = -3.5469E-05 cm;  Time step attempts =  189 and successes =  145
   Evaporation:  Potential =  0.6492 cm, Actual =  0.0656 cm
 RHMEAN = 38.6 %;  TMEAN = 280.9 K;  HDRY =  1.3115E+06 cm;  DAYUBC =   145

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04876     0.05010
 Head (cm)         = 2.20848E+06 1.23333E+06 1.90527E+03 1.57860E+03
 LiqWater Flow (cm)=-6.03901E-14-7.02484E-13-2.21993E-03 4.74343E-10
 IsoVapor Flow (cm)=-8.33690E-03-8.33663E-03-7.45309E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8070+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =    2.7987 vs.    2.7987

 Mass Balance = -4.3809E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5595 cm, Actual =  0.0083 cm
 RHMEAN = 20.1 %;  TMEAN = 279.3 K;  HDRY =  2.2085E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2069E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2069E+02     [cm]
 Actual Evaporation                 =  1.1811E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.0693E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.0777E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.0693E+01     [cm]
Actual Rainfall                    =  1.0693E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.7987E+00     [cm]
Mass Balance Error                 =  6.9012E-03     [cm]
Total Successful Time Steps        =     58851
Total Attempted Time Steps         =     72478
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31350
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.1171E+00	0.050	8.1387E+00	0.150	6.8730E+00
0.250	5.8920E+00	0.350	5.4591E+00	0.450	5.0176E+00
0.550	4.6325E+00	0.650	4.4048E+00	0.750	4.1812E+00
0.850	3.8716E+00	0.950	3.4818E+00	1.125	3.2178E+00
1.375	2.7133E+00	1.625	2.2174E+00	1.875	1.8604E+00
2.250	1.5131E+00	2.750	9.4054E-01	3.250	5.7947E-01
3.750	3.3322E-01	4.250	1.6185E-01	4.790	-3.5484E-02
6.350	-2.3036E-01	8.890	-6.5524E-01	11.430	-7.7073E-01
13.970	-8.0941E-01	16.510	-7.5379E-01	19.050	-6.9637E-01
21.590	-6.3767E-01	24.130	-5.7781E-01	26.670	-5.1687E-01
29.210	-4.5495E-01	31.750	-3.9215E-01	34.290	-3.2855E-01
36.830	-2.6423E-01	39.370	-1.9929E-01	41.910	-1.3380E-01
44.450	-6.7844E-02	46.990	-1.2262E-03	49.530	8.6885E-05
52.070	8.8971E-06	54.610	2.5161E-06	57.150	5.7301E-07
59.690	2.8313E-07	60.960	4.0777E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.208E+06	0.0300	292.65	2	1.000E-01	2.140E+06	0.0300	292.65
3	2.000E-01	2.075E+06	0.0300	292.65	4	3.000E-01	2.012E+06	0.0300	292.65
5	4.000E-01	1.953E+06	0.0300	292.65	6	5.000E-01	1.895E+06	0.0300	292.65
7	6.000E-01	1.840E+06	0.0300	292.65	8	7.000E-01	1.787E+06	0.0300	292.65
9	8.000E-01	1.736E+06	0.0300	292.65	10	9.000E-01	1.686E+06	0.0300	292.65
11	1.000E+00	1.638E+06	0.0300	292.65	12	1.250E+00	1.525E+06	0.0300	292.65
13	1.500E+00	1.421E+06	0.0300	292.65	14	1.750E+00	1.324E+06	0.0300	292.65
15	2.000E+00	1.233E+06	0.0300	292.65	16	2.500E+00	1.068E+06	0.0300	292.65
17	3.000E+00	9.208E+05	0.0300	292.65	18	3.500E+00	7.879E+05	0.0300	292.65
19	4.000E+00	6.668E+05	0.0300	292.65	20	4.500E+00	5.555E+05	0.0300	292.65
21	5.080E+00	4.368E+05	0.0300	292.65	22	7.620E+00	8.161E+03	0.0333	292.65
23	1.016E+01	2.805E+03	0.0418	292.65	24	1.270E+01	2.482E+03	0.0437	292.65
25	1.524E+01	2.291E+03	0.0450	292.65	26	1.778E+01	2.164E+03	0.0461	292.65
27	2.032E+01	2.072E+03	0.0470	292.65	28	2.286E+01	2.003E+03	0.0477	292.65
29	2.540E+01	1.948E+03	0.0483	292.65	30	2.794E+01	1.905E+03	0.0488	292.65
31	3.048E+01	1.871E+03	0.0492	292.65	32	3.302E+01	1.843E+03	0.0495	292.65
33	3.556E+01	1.821E+03	0.0498	292.65	34	3.810E+01	1.803E+03	0.0500	292.65
35	4.064E+01	1.790E+03	0.0502	292.65	36	4.318E+01	1.780E+03	0.0503	292.65
37	4.572E+01	1.774E+03	0.0504	292.65	38	4.826E+01	1.730E+03	0.0501	292.65
39	5.080E+01	1.634E+03	0.0501	292.65	40	5.334E+01	1.599E+03	0.0501	292.65
41	5.588E+01	1.587E+03	0.0501	292.65	42	5.842E+01	1.581E+03	0.0501	292.65
43	6.096E+01	1.579E+03	0.0501	292.65					

Initial Water Storage = 2.7987 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.04864	0.05010
Head (cm)	=	8.54706E+05	5.78860E+05	1.91576E+03	1.57890E+03

```
 LiqWater Flow (cm)=-1.47709E-12-1.03590E-11-2.18952E-03 4.73594E-10
 IsoVapor Flow (cm)=-4.74133E-03-4.76431E-03-7.54881E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.7987+ 0.0000+ 0.0000 - 0.0047- 0.0000-  0.0000 =    2.7939 vs.    2.7939

 Mass Balance = -6.6750E-06 cm;  Time step attempts =   49 and successes =   47
   Evaporation:  Potential =  0.4078 cm, Actual =  0.0047 cm
 RHMEAN = 53.8 %;  TMEAN = 283.7 K;  HDRY =  8.5471E+05 cm;  DAYUBC =    42

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04154     0.05920     0.05026
 Head (cm)         = 5.47835E+05 2.85906E+03 1.31418E+03 1.09478E+03
 LiqWater Flow (cm)=-3.92395E-11-1.54343E-02-7.49488E-03 9.64090E-09
 IsoVapor Flow (cm)=-1.51909E-02-3.17686E-05-4.07197E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3330+ 0.0000+ 0.0000 - 0.0152- 0.0000-  0.0000 =    3.3178 vs.    3.3178

 Mass Balance = -3.4530E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.2091 cm, Actual =  0.0152 cm
 RHMEAN = 67.2 %;  TMEAN = 283.2 K;  HDRY =  5.4784E+05 cm;  DAYUBC =    76
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9889E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9889E+02     [cm]
 Actual Evaporation                 =  3.0460E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0988E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.6258E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.0988E+01     [cm]
Actual Rainfall                    =  3.0988E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.3178E+00     [cm]
Mass Balance Error                 =  8.5157E-03     [cm]
Total Successful Time Steps        =     55326
Total Attempted Time Steps         =     67735
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26759
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.2762E-01	0.050	1.8751E+01	0.150	1.2580E+01
0.250	1.0738E+01	0.350	8.9341E+00	0.450	7.9781E+00
0.550	7.1826E+00	0.650	6.2100E+00	0.750	5.7581E+00
0.850	5.4258E+00	0.950	5.0525E+00	1.125	4.6271E+00
1.375	4.0184E+00	1.625	3.3488E+00	1.875	2.7157E+00
2.250	2.3008E+00	2.750	1.7181E+00	3.250	1.4196E+00
3.750	1.1969E+00	4.250	1.0548E+00	4.790	8.7744E-01
6.350	7.4422E-01	8.890	5.4986E-01	11.430	3.8105E-01
13.970	3.5384E-01	16.510	3.2805E-01	19.050	3.0229E-01
21.590	2.7640E-01	24.130	2.5028E-01	26.670	2.2390E-01
29.210	1.9725E-01	31.750	1.7036E-01	34.290	1.4323E-01
36.830	1.1587E-01	39.370	8.8301E-02	41.910	6.0553E-02
44.450	3.2642E-02	46.990	4.6758E-03	49.530	4.5062E-03
52.070	1.8701E-03	54.610	4.4094E-04	57.150	7.4566E-05
59.690	1.2860E-05	60.960	6.6258E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	5.478E+05	0.0300	292.65	2	1.000E-01	5.095E+05	0.0300	292.65
3	2.000E-01	4.723E+05	0.0300	292.65	4	3.000E-01	4.360E+05	0.0300	292.65
5	4.000E-01	4.007E+05	0.0300	292.65	6	5.000E-01	3.662E+05	0.0300	292.65
7	6.000E-01	3.326E+05	0.0300	292.65	8	7.000E-01	2.998E+05	0.0300	292.65
9	8.000E-01	2.677E+05	0.0300	292.65	10	9.000E-01	2.364E+05	0.0301	292.65
11	1.000E+00	2.058E+05	0.0301	292.65	12	1.250E+00	1.320E+05	0.0301	292.65
13	1.500E+00	6.199E+04	0.0303	292.65	14	1.750E+00	3.064E+03	0.0406	292.65
15	2.000E+00	2.859E+03	0.0415	292.65	16	2.500E+00	2.589E+03	0.0430	292.65
17	3.000E+00	2.412E+03	0.0441	292.65	18	3.500E+00	2.283E+03	0.0451	292.65
19	4.000E+00	2.182E+03	0.0460	292.65	20	4.500E+00	2.100E+03	0.0467	292.65
21	5.080E+00	2.022E+03	0.0475	292.65	22	7.620E+00	1.793E+03	0.0502	292.65
23	1.016E+01	1.657E+03	0.0522	292.65	24	1.270E+01	1.564E+03	0.0537	292.65
25	1.524E+01	1.496E+03	0.0550	292.65	26	1.778E+01	1.443E+03	0.0561	292.65
27	2.032E+01	1.400E+03	0.0571	292.65	28	2.286E+01	1.366E+03	0.0579	292.65
29	2.540E+01	1.338E+03	0.0586	292.65	30	2.794E+01	1.314E+03	0.0592	292.65
31	3.048E+01	1.295E+03	0.0597	292.65	32	3.302E+01	1.278E+03	0.0602	292.65
33	3.556E+01	1.265E+03	0.0606	292.65	34	3.810E+01	1.254E+03	0.0609	292.65
35	4.064E+01	1.246E+03	0.0611	292.65	36	4.318E+01	1.239E+03	0.0613	292.65
37	4.572E+01	1.235E+03	0.0614	292.65	38	4.826E+01	1.202E+03	0.0502	292.65
39	5.080E+01	7.460E+02	0.0507	292.65	40	5.334E+01	7.758E+02	0.0506	292.65
41	5.588E+01	9.195E+02	0.0504	292.65	42	5.842E+01	1.050E+03	0.0503	292.65
43	6.096E+01	1.095E+03	0.0503	292.65					

Initial Water Storage = 3.3178 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03002	0.04035	0.05882	0.05026
Head (cm)	=	6.47479E+05	3.13075E+03	1.32889E+03	1.09300E+03

```
 LiqWater Flow (cm)=-2.12061E-11-1.62724E-02-7.19156E-03 9.77095E-09
 IsoVapor Flow (cm)=-1.72057E-02-3.90605E-05-4.12967E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.3178+ 0.0000+ 0.0000 - 0.0172- 0.0000-  0.0000 =    3.3006 vs.    3.3006

 Mass Balance = -2.7958E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.3008 cm, Actual =  0.0172 cm
 RHMEAN = 62.5 %;  TMEAN = 283.7 K;  HDRY =  6.4748E+05 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.04879     0.05167
 Head (cm)         = 1.93021E+06 1.28460E+06 1.90298E+03 5.21252E+02
 LiqWater Flow (cm)=-7.69435E-14-5.89533E-13-2.30467E-03 4.43588E-06
 IsoVapor Flow (cm)=-6.63769E-03-6.63467E-03-7.66530E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8171+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =    2.8105 vs.    2.8105

 Mass Balance = -7.2760E-06 cm;  Time step attempts =   50 and successes =   39
   Evaporation:  Potential =  0.2782 cm, Actual =  0.0066 cm
 RHMEAN = 24.7 %;  TMEAN = 286.8 K;  HDRY =  1.9302E+06 cm;  DAYUBC =    39
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.9999E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.9999E+02     [cm]
 Actual Evaporation                 =  3.3189E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.2690E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.7260E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.2690E+01     [cm]
Actual Rainfall                    =  3.2690E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8105E+00     [cm]
Mass Balance Error                 =  7.3410E-03     [cm]
Total Successful Time Steps        =     59159
Total Attempted Time Steps         =     72323
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28803
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.9929E-01	0.050	1.6211E+01	0.150	1.0283E+01
0.250	8.3461E+00	0.350	7.1739E+00	0.450	6.1775E+00
0.550	5.3781E+00	0.650	4.7355E+00	0.750	4.3997E+00
0.850	4.0475E+00	0.950	3.6663E+00	1.125	3.3779E+00
1.375	2.7271E+00	1.625	2.4224E+00	1.875	2.1279E+00
2.250	1.7830E+00	2.750	1.2704E+00	3.250	8.9599E-01
3.750	6.8205E-01	4.250	4.4568E-01	4.790	2.6262E-01
6.350	2.5745E-02	8.890	-3.7580E-01	11.430	-3.5593E-01
13.970	-3.3167E-01	16.510	-3.0695E-01	19.050	-2.8183E-01
21.590	-2.5635E-01	24.130	-2.3057E-01	26.670	-2.0450E-01
29.210	-1.7814E-01	31.750	-1.5152E-01	34.290	-1.2466E-01
36.830	-9.7583E-02	39.370	-7.0311E-02	41.910	-4.2869E-02
44.450	-1.5287E-02	46.990	1.2761E-02	49.530	1.6059E-02
52.070	1.1583E-02	54.610	8.7807E-03	57.150	5.5357E-03
59.690	2.2357E-03	60.960	6.7260E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.930E+06	0.0300	292.65	2	1.000E-01	1.889E+06	0.0300	292.65
3	2.000E-01	1.849E+06	0.0300	292.65	4	3.000E-01	1.812E+06	0.0300	292.65
5	4.000E-01	1.774E+06	0.0300	292.65	6	5.000E-01	1.738E+06	0.0300	292.65
7	6.000E-01	1.703E+06	0.0300	292.65	8	7.000E-01	1.668E+06	0.0300	292.65
9	8.000E-01	1.634E+06	0.0300	292.65	10	9.000E-01	1.602E+06	0.0300	292.65
11	1.000E+00	1.570E+06	0.0300	292.65	12	1.250E+00	1.493E+06	0.0300	292.65
13	1.500E+00	1.420E+06	0.0300	292.65	14	1.750E+00	1.351E+06	0.0300	292.65
15	2.000E+00	1.285E+06	0.0300	292.65	16	2.500E+00	1.161E+06	0.0300	292.65
17	3.000E+00	1.048E+06	0.0300	292.65	18	3.500E+00	9.438E+05	0.0300	292.65
19	4.000E+00	8.466E+05	0.0300	292.65	20	4.500E+00	7.559E+05	0.0300	292.65
21	5.080E+00	6.576E+05	0.0300	292.65	22	7.620E+00	2.936E+05	0.0300	292.65
23	1.016E+01	2.712E+03	0.0423	292.65	24	1.270E+01	2.435E+03	0.0440	292.65
25	1.524E+01	2.275E+03	0.0452	292.65	26	1.778E+01	2.159E+03	0.0462	292.65
27	2.032E+01	2.071E+03	0.0470	292.65	28	2.286E+01	2.002E+03	0.0477	292.65
29	2.540E+01	1.947E+03	0.0483	292.65	30	2.794E+01	1.903E+03	0.0488	292.65
31	3.048E+01	1.867E+03	0.0492	292.65	32	3.302E+01	1.839E+03	0.0496	292.65
33	3.556E+01	1.816E+03	0.0499	292.65	34	3.810E+01	1.798E+03	0.0501	292.65
35	4.064E+01	1.784E+03	0.0503	292.65	36	4.318E+01	1.774E+03	0.0504	292.65
37	4.572E+01	1.768E+03	0.0505	292.65	38	4.826E+01	1.539E+03	0.0501	292.65
39	5.080E+01	5.803E+02	0.0513	292.65	40	5.334E+01	5.486E+02	0.0515	292.65
41	5.588E+01	5.322E+02	0.0516	292.65	42	5.842E+01	5.239E+02	0.0516	292.65
43	6.096E+01	5.213E+02	0.0517	292.65					

Initial Water Storage = 2.8105 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03001	0.04867	0.05166
Head (cm)	= 2.25090E+06	1.43704E+06	1.91291E+03	5.21705E+02

```
 LiqWater Flow (cm)= 1.93955E-02 6.18236E-08-2.25475E-03 4.40417E-06
 IsoVapor Flow (cm)=-2.42458E-02-4.85178E-03-7.70157E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8105+ 0.0254+ 0.0000 - 0.0302- 0.0000-  0.0000 =     2.8056 vs.     2.8056

 Mass Balance = -1.5219E-05 cm;  Time step attempts =  901 and successes =  704
   Evaporation:  Potential =  1.4538 cm, Actual =  0.0302 cm
 RHMEAN = 19.5 %;  TMEAN = 287.9 K;  HDRY =  2.2509E+06 cm;  DAYUBC =   379

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.03980     0.04722     0.05085
 Head (cm)         = 6.05038E+05 3.27684E+03 2.04689E+03 6.82283E+02
 LiqWater Flow (cm)= 3.69131E-02 3.43640E-03-8.99606E-04 4.81035E-07
 IsoVapor Flow (cm)=-2.80920E-02-1.09397E-05-4.70002E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8503+ 0.0508+ 0.0000 - 0.0420- 0.0000-  0.0000 =     2.8591 vs.     2.8590

 Mass Balance =  1.0953E-04 cm;  Time step attempts =  942 and successes =  725
   Evaporation:  Potential =  0.2209 cm, Actual =  0.0420 cm
 RHMEAN = 64.5 %;  TMEAN = 276.8 K;  HDRY =  6.0504E+05 cm;  DAYUBC =   275
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3548E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3548E+02     [cm]
 Actual Evaporation                 =  2.1120E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1184E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.1766E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1184E+01     [cm]
Actual Rainfall                    =  2.1184E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8590E+00     [cm]
Mass Balance Error                 =  1.4171E-02     [cm]
Total Successful Time Steps        =    213861
Total Attempted Time Steps         =    270799
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     95875
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	6.3285E-02	0.050	1.4300E+01	0.150	1.2390E+01
0.250	1.0336E+01	0.350	8.6629E+00	0.450	7.3714E+00
0.550	6.3320E+00	0.650	5.4749E+00	0.750	4.7834E+00
0.850	4.1890E+00	0.950	3.6614E+00	1.125	3.1270E+00
1.375	2.2598E+00	1.625	1.7576E+00	1.875	1.4602E+00
2.250	1.2039E+00	2.750	9.4591E-01	3.250	7.8806E-01
3.750	6.8879E-01	4.250	6.1434E-01	4.790	5.5346E-01
6.350	4.7368E-01	8.890	3.8271E-01	11.430	2.1977E-01
13.970	1.6295E-01	16.510	1.1483E-01	19.050	7.0051E-02
21.590	2.6902E-02	24.130	-2.6562E-02	26.670	-4.9678E-02
29.210	-4.6270E-02	31.750	-4.1948E-02	34.290	-3.7127E-02
36.830	-3.1962E-02	39.370	-2.6548E-02	41.910	-2.0954E-02
44.450	-1.5234E-02	46.990	-5.7524E-03	49.530	-1.0552E-03
52.070	-5.3722E-03	54.610	-4.2211E-03	57.150	-2.3370E-03
59.690	-3.7211E-04	60.960	6.1766E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	6.050E+05	0.0300	292.65	2	1.000E-01	5.546E+05	0.0300	292.65
3	2.000E-01	5.060E+05	0.0300	292.65	4	3.000E-01	4.590E+05	0.0300	292.65
5	4.000E-01	4.136E+05	0.0300	292.65	6	5.000E-01	3.696E+05	0.0300	292.65
7	6.000E-01	3.271E+05	0.0300	292.65	8	7.000E-01	2.858E+05	0.0300	292.65
9	8.000E-01	2.458E+05	0.0301	292.65	10	9.000E-01	2.070E+05	0.0301	292.65
11	1.000E+00	1.694E+05	0.0301	292.65	12	1.250E+00	8.031E+04	0.0302	292.65
13	1.500E+00	4.003E+03	0.0377	292.65	14	1.750E+00	3.529E+03	0.0390	292.65
15	2.000E+00	3.277E+03	0.0398	292.65	16	2.500E+00	2.981E+03	0.0410	292.65
17	3.000E+00	2.814E+03	0.0418	292.65	18	3.500E+00	2.708E+03	0.0423	292.65
19	4.000E+00	2.635E+03	0.0427	292.65	20	4.500E+00	2.582E+03	0.0430	292.65
21	5.080E+00	2.536E+03	0.0433	292.65	22	7.620E+00	2.426E+03	0.0441	292.65
23	1.016E+01	2.328E+03	0.0448	292.65	24	1.270E+01	2.251E+03	0.0454	292.65
25	1.524E+01	2.195E+03	0.0458	292.65	26	1.778E+01	2.154E+03	0.0462	292.65
27	2.032E+01	2.122E+03	0.0465	292.65	28	2.286E+01	2.095E+03	0.0468	292.65
29	2.540E+01	2.070E+03	0.0470	292.65	30	2.794E+01	2.047E+03	0.0472	292.65
31	3.048E+01	2.026E+03	0.0474	292.65	32	3.302E+01	2.007E+03	0.0476	292.65
33	3.556E+01	1.990E+03	0.0478	292.65	34	3.810E+01	1.976E+03	0.0480	292.65
35	4.064E+01	1.965E+03	0.0481	292.65	36	4.318E+01	1.957E+03	0.0482	292.65
37	4.572E+01	1.951E+03	0.0482	292.65	38	4.826E+01	1.749E+03	0.0501	292.65
39	5.080E+01	1.083E+03	0.0503	292.65	40	5.334E+01	7.887E+02	0.0506	292.65
41	5.588E+01	7.170E+02	0.0508	292.65	42	5.842E+01	6.899E+02	0.0508	292.65
43	6.096E+01	6.823E+02	0.0509	292.65					

Initial Water Storage = 2.8590 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03011	0.04720	0.05085
Head (cm)	= 8.36981E+05	1.36252E+05	2.04888E+03	6.82685E+02

```
 LiqWater Flow (cm)=-7.16283E-12-6.19291E-03-8.54894E-04 4.78706E-07
 IsoVapor Flow (cm)=-1.85916E-02-4.51350E-03-4.51250E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8590+ 0.0000+ 0.0000 - 0.0186- 0.0000-  0.0000 =     2.8404 vs.     2.8404

 Mass Balance = -3.6319E-05 cm;  Time step attempts =  144 and successes =  111
   Evaporation:  Potential =  0.4122 cm, Actual =  0.0186 cm
 RHMEAN = 54.5 %;  TMEAN = 278.7 K;  HDRY =  8.3698E+05 cm;  DAYUBC =   111

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03007     0.06059     0.05056
 Head (cm)         = 1.64351E+06 2.11002E+05 1.26377E+03 8.07957E+02
 LiqWater Flow (cm)=-5.34070E-13-2.22420E-04-8.97308E-03 1.19115E-07
 IsoVapor Flow (cm)=-2.22025E-02-2.19628E-02-3.99009E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3848+ 0.0000+ 0.0000 - 0.0222- 0.0000-  0.0000 =     3.3626 vs.     3.3626

 Mass Balance =  3.2649E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.6772 cm, Actual =  0.0222 cm
 RHMEAN = 30.4 %;  TMEAN = 283.4 K;  HDRY =  1.6435E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0482E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0482E+02     [cm]
 Actual Evaporation                 =  2.5192E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5705E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.7779E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5705E+01     [cm]
Actual Rainfall                    =  2.5705E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.3626E+00     [cm]
Mass Balance Error                 =  9.4584E-03     [cm]
Total Successful Time Steps        =     70064
Total Attempted Time Steps         =     86834
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33200
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	5.1315E-01	0.050	1.8188E+01	0.150	1.3512E+01
0.250	1.1284E+01	0.350	9.7944E+00	0.450	8.7670E+00
0.550	7.8405E+00	0.650	7.0364E+00	0.750	6.4523E+00
0.850	5.9187E+00	0.950	5.4691E+00	1.125	5.0811E+00
1.375	4.1835E+00	1.625	3.4597E+00	1.875	3.0074E+00
2.250	2.5544E+00	2.750	1.9239E+00	3.250	1.5652E+00
3.750	1.3407E+00	4.250	1.1565E+00	4.790	1.0161E+00
6.350	8.7322E-01	8.890	5.4227E-01	11.430	4.6263E-01
13.970	4.3811E-01	16.510	4.1152E-01	19.050	3.8299E-01
21.590	3.5274E-01	24.130	3.2099E-01	26.670	2.8798E-01
29.210	2.5392E-01	31.750	2.1900E-01	34.290	1.8339E-01
36.830	1.4719E-01	39.370	1.1054E-01	41.910	7.3510E-02
44.450	3.6196E-02	46.990	-1.0662E-03	49.530	3.0182E-04
52.070	-7.2875E-04	54.610	-1.0247E-03	57.150	-7.2724E-04
59.690	-2.0337E-04	60.960	8.7779E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.644E+06	0.0300	292.65	2	1.000E-01	1.523E+06	0.0300	292.65
3	2.000E-01	1.413E+06	0.0300	292.65	4	3.000E-01	1.311E+06	0.0300	292.65
5	4.000E-01	1.215E+06	0.0300	292.65	6	5.000E-01	1.126E+06	0.0300	292.65
7	6.000E-01	1.042E+06	0.0300	292.65	8	7.000E-01	9.634E+05	0.0300	292.65
9	8.000E-01	8.887E+05	0.0300	292.65	10	9.000E-01	8.177E+05	0.0300	292.65
11	1.000E+00	7.502E+05	0.0300	292.65	12	1.250E+00	5.945E+05	0.0300	292.65
13	1.500E+00	4.545E+05	0.0300	292.65	14	1.750E+00	3.273E+05	0.0300	292.65
15	2.000E+00	2.110E+05	0.0301	292.65	16	2.500E+00	2.932E+03	0.0412	292.65
17	3.000E+00	2.546E+03	0.0433	292.65	18	3.500E+00	2.334E+03	0.0447	292.65
19	4.000E+00	2.191E+03	0.0459	292.65	20	4.500E+00	2.085E+03	0.0468	292.65
21	5.080E+00	1.991E+03	0.0478	292.65	22	7.620E+00	1.739E+03	0.0509	292.65
23	1.016E+01	1.601E+03	0.0531	292.65	24	1.270E+01	1.509E+03	0.0548	292.65
25	1.524E+01	1.442E+03	0.0562	292.65	26	1.778E+01	1.390E+03	0.0573	292.65
27	2.032E+01	1.348E+03	0.0583	292.65	28	2.286E+01	1.315E+03	0.0592	292.65
29	2.540E+01	1.287E+03	0.0599	292.65	30	2.794E+01	1.264E+03	0.0606	292.65
31	3.048E+01	1.245E+03	0.0611	292.65	32	3.302E+01	1.229E+03	0.0616	292.65
33	3.556E+01	1.215E+03	0.0620	292.65	34	3.810E+01	1.205E+03	0.0624	292.65
35	4.064E+01	1.196E+03	0.0626	292.65	36	4.318E+01	1.190E+03	0.0628	292.65
37	4.572E+01	1.186E+03	0.0630	292.65	38	4.826E+01	1.164E+03	0.0502	292.65
39	5.080E+01	9.495E+02	0.0504	292.65	40	5.334E+01	8.838E+02	0.0504	292.65
41	5.588E+01	8.386E+02	0.0505	292.65	42	5.842E+01	8.151E+02	0.0505	292.65
43	6.096E+01	8.080E+02	0.0506	292.65					

Initial Water Storage = 3.3626 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03000	0.03006	0.06014	0.05056
Head (cm)	= 1.92914E+06	2.30598E+05	1.27963E+03	8.08190E+02

```
 LiqWater Flow (cm)=-3.13727E-13-1.14092E-04-8.52089E-03 1.18833E-07
 IsoVapor Flow (cm)=-2.40347E-02-2.39143E-02-4.03528E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.3626+ 0.0000+ 0.0000 - 0.0240- 0.0000-  0.0000 =     3.3385 vs.     3.3385

 Mass Balance = -2.9499E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.5619 cm, Actual =  0.0240 cm
 RHMEAN = 24.7 %;  TMEAN = 276.2 K;  HDRY =  1.9291E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03001     0.05017     0.05045
 Head (cm)         = 1.38020E+06 8.69982E+05 1.79324E+03 8.82110E+02
 LiqWater Flow (cm)=-2.72083E-13-2.37867E-12-2.23536E-03 5.75497E-08
 IsoVapor Flow (cm)=-6.60513E-03-6.60704E-03-5.70817E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8920+ 0.0000+ 0.0000 - 0.0066- 0.0000-  0.0000 =     2.8854 vs.     2.8854

 Mass Balance = -8.6051E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.3319 cm, Actual =  0.0066 cm
 RHMEAN = 36.7 %;  TMEAN = 279.8 K;  HDRY =  1.3802E+06 cm;  DAYUBC =    72
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2814E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2814E+02     [cm]
 Actual Evaporation                 =  2.5490E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5019E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.5488E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5019E+01     [cm]
Actual Rainfall                    =  2.5019E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8854E+00     [cm]
Mass Balance Error                 =  6.6330E-03     [cm]
Total Successful Time Steps        =     55076
Total Attempted Time Steps         =     67117
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27369
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-4.7054E-01	0.050	1.6178E+01	0.150	7.4897E+00
0.250	5.7656E+00	0.350	4.6058E+00	0.450	3.8431E+00
0.550	3.3108E+00	0.650	2.9942E+00	0.750	2.8271E+00
0.850	2.6661E+00	0.950	2.5075E+00	1.125	2.4116E+00
1.375	2.1264E+00	1.625	1.9193E+00	1.875	1.7370E+00
2.250	1.5482E+00	2.750	1.2958E+00	3.250	1.0281E+00
3.750	8.7567E-01	4.250	7.1550E-01	4.790	4.9960E-01
6.350	3.3813E-01	8.890	2.8987E-02	11.430	-2.3982E-02
13.970	-7.4610E-02	16.510	-1.1730E-01	19.050	-1.5619E-01
21.590	-1.9422E-01	24.130	-2.1211E-01	26.670	-2.2184E-01
29.210	-1.9620E-01	31.750	-1.6942E-01	34.290	-1.4214E-01
36.830	-1.1444E-01	39.370	-8.6382E-02	41.910	-5.8052E-02
44.450	-2.9497E-02	46.990	4.3460E-04	49.530	3.1020E-03
52.070	1.0744E-03	54.610	1.7985E-04	57.150	-9.6364E-05
59.690	-4.7676E-05	60.960	2.5488E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.380E+06	0.0300	292.65	2	1.000E-01	1.350E+06	0.0300	292.65
3	2.000E-01	1.320E+06	0.0300	292.65	4	3.000E-01	1.291E+06	0.0300	292.65
5	4.000E-01	1.262E+06	0.0300	292.65	6	5.000E-01	1.234E+06	0.0300	292.65
7	6.000E-01	1.206E+06	0.0300	292.65	8	7.000E-01	1.179E+06	0.0300	292.65
9	8.000E-01	1.153E+06	0.0300	292.65	10	9.000E-01	1.127E+06	0.0300	292.65
11	1.000E+00	1.102E+06	0.0300	292.65	12	1.250E+00	1.040E+06	0.0300	292.65
13	1.500E+00	9.809E+05	0.0300	292.65	14	1.750E+00	9.243E+05	0.0300	292.65
15	2.000E+00	8.700E+05	0.0300	292.65	16	2.500E+00	7.673E+05	0.0300	292.65
17	3.000E+00	6.717E+05	0.0300	292.65	18	3.500E+00	5.823E+05	0.0300	292.65
19	4.000E+00	4.984E+05	0.0300	292.65	20	4.500E+00	4.193E+05	0.0300	292.65
21	5.080E+00	3.328E+05	0.0300	292.65	22	7.620E+00	2.721E+03	0.0422	292.65
23	1.016E+01	2.367E+03	0.0445	292.65	24	1.270E+01	2.185E+03	0.0459	292.65
25	1.524E+01	2.067E+03	0.0470	292.65	26	1.778E+01	1.982E+03	0.0479	292.65
27	2.032E+01	1.918E+03	0.0486	292.65	28	2.286E+01	1.867E+03	0.0492	292.65
29	2.540E+01	1.826E+03	0.0497	292.65	30	2.794E+01	1.793E+03	0.0502	292.65
31	3.048E+01	1.766E+03	0.0505	292.65	32	3.302E+01	1.745E+03	0.0508	292.65
33	3.556E+01	1.727E+03	0.0511	292.65	34	3.810E+01	1.713E+03	0.0513	292.65
35	4.064E+01	1.703E+03	0.0515	292.65	36	4.318E+01	1.695E+03	0.0516	292.65
37	4.572E+01	1.689E+03	0.0517	292.65	38	4.826E+01	1.590E+03	0.0501	292.65
39	5.080E+01	1.053E+03	0.0503	292.65	40	5.334E+01	8.655E+02	0.0505	292.65
41	5.588E+01	8.476E+02	0.0505	292.65	42	5.842E+01	8.690E+02	0.0505	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 2.8854 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03001	0.05003	0.05045
Head (cm)	= 1.61006E+06	9.83207E+05	1.80325E+03	8.81709E+02

```
 LiqWater Flow (cm)=-1.65072E-13-1.56529E-12-2.22452E-03 5.77680E-08
 IsoVapor Flow (cm)=-7.19504E-03-7.19188E-03-5.82876E-07 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8854+ 0.0000+ 0.0000 - 0.0072- 0.0000-  0.0000 =     2.8782 vs.     2.8782

 Mass Balance =  1.0888E-06 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.4194 cm, Actual =  0.0072 cm
 RHMEAN = 31.1 %;  TMEAN = 281.8 K;  HDRY =  1.6101E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.05140     0.06992     0.05029
 Head (cm)         = 1.02625E+06 1.70623E+03 1.00895E+03 1.04442E+03
 LiqWater Flow (cm)=-1.18078E-09-8.72441E-02 1.11995E-02 1.43161E-08
 IsoVapor Flow (cm)=-1.10828E-01-8.84836E-06 8.55545E-08 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.9301+ 0.0000+ 0.0000 - 0.1108- 0.0000-  0.0000 =     3.8193 vs.     3.8193

 Mass Balance = -4.2886E-05 cm;  Time step attempts =  262 and successes =  209
   Evaporation:  Potential =  0.4897 cm, Actual =  0.1108 cm
 RHMEAN = 47.5 %;  TMEAN = 279.0 K;  HDRY =  1.0263E+06 cm;  DAYUBC =   181
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0884E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0884E+02     [cm]
 Actual Evaporation                 =  2.1105E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.2047E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3736E-05     [cm]
```

Total Basal Vapor Flux (temp-grad)	=	0.0000E+00	[cm]
Total Applied Water	=	2.2047E+01	[cm]
Actual Rainfall	=	2.2047E+01	[cm]
Actual Irrigation	=	0.0000E+00	[cm]
Total Final Moisture Storage	=	3.8193E+00	[cm]
Mass Balance Error	=	7.7945E-03	[cm]
Total Successful Time Steps	=	60065	
Total Attempted Time Steps	=	73986	
Total Time Step Reductions (DHMAX)	=	0	
Total Changes in Surface Boundary	=	29914	
Total Time Actually Simulated	=	3.6500E+02	[days]

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	9.4177E-01	0.050	1.4571E+01	0.150	1.0366E+01
0.250	8.6301E+00	0.350	7.8599E+00	0.450	7.1707E+00
0.550	6.5331E+00	0.650	5.8628E+00	0.750	5.3560E+00
0.850	5.0144E+00	0.950	4.6261E+00	1.125	4.2428E+00
1.375	3.5465E+00	1.625	3.1706E+00	1.875	2.7008E+00
2.250	2.4901E+00	2.750	2.2167E+00	3.250	2.0035E+00
3.750	1.8544E+00	4.250	1.7575E+00	4.790	1.6510E+00
6.350	1.5309E+00	8.890	1.2039E+00	11.430	1.0484E+00
13.970	9.1629E-01	16.510	7.9111E-01	19.050	6.7398E-01
21.590	5.6876E-01	24.130	4.7515E-01	26.670	3.8369E-01
29.210	3.3177E-01	31.750	2.8218E-01	34.290	2.3347E-01
36.830	1.8558E-01	39.370	1.3838E-01	41.910	9.1719E-02
44.450	4.5386E-02	46.990	2.6152E-04	49.530	8.6803E-04
52.070	-6.6697E-05	54.610	-1.7645E-04	57.150	-1.4104E-04
59.690	-4.4626E-05	60.960	1.3736E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.026E+06	0.0300	292.65	2	1.000E-01	7.520E+05	0.0300	292.65
3	2.000E-01	5.235E+05	0.0300	292.65	4	3.000E-01	3.276E+05	0.0300	292.65
5	4.000E-01	1.562E+05	0.0301	292.65	6	5.000E-01	3.437E+03	0.0393	292.65
7	6.000E-01	2.859E+03	0.0415	292.65	8	7.000E-01	2.576E+03	0.0431	292.65
9	8.000E-01	2.396E+03	0.0443	292.65	10	9.000E-01	2.266E+03	0.0452	292.65
11	1.000E+00	2.166E+03	0.0461	292.65	12	1.250E+00	1.988E+03	0.0478	292.65
13	1.500E+00	1.867E+03	0.0492	292.65	14	1.750E+00	1.777E+03	0.0504	292.65
15	2.000E+00	1.706E+03	0.0514	292.65	16	2.500E+00	1.599E+03	0.0531	292.65
17	3.000E+00	1.521E+03	0.0545	292.65	18	3.500E+00	1.460E+03	0.0558	292.65
19	4.000E+00	1.410E+03	0.0569	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.329E+03	0.0588	292.65	22	7.620E+00	1.211E+03	0.0622	292.65
23	1.016E+01	1.141E+03	0.0645	292.65	24	1.270E+01	1.096E+03	0.0662	292.65
25	1.524E+01	1.065E+03	0.0675	292.65	26	1.778E+01	1.043E+03	0.0684	292.65
27	2.032E+01	1.028E+03	0.0690	292.65	28	2.286E+01	1.018E+03	0.0695	292.65
29	2.540E+01	1.012E+03	0.0698	292.65	30	2.794E+01	1.009E+03	0.0699	292.65
31	3.048E+01	1.008E+03	0.0700	292.65	32	3.302E+01	1.008E+03	0.0700	292.65
33	3.556E+01	1.009E+03	0.0699	292.65	34	3.810E+01	1.011E+03	0.0698	292.65
35	4.064E+01	1.012E+03	0.0698	292.65	36	4.318E+01	1.012E+03	0.0698	292.65
37	4.572E+01	1.011E+03	0.0698	292.65	38	4.826E+01	1.028E+03	0.0503	292.65
39	5.080E+01	9.853E+02	0.0503	292.65	40	5.334E+01	1.032E+03	0.0503	292.65
41	5.588E+01	1.046E+03	0.0503	292.65	42	5.842E+01	1.046E+03	0.0503	292.65
43	6.096E+01	1.044E+03	0.0503	292.65					

Initial Water Storage = 3.8193 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03004	0.05005	0.06874	0.05029
Head (cm)	3.26692E+05	1.80221E+03	1.03484E+03	1.04447E+03

```
 LiqWater Flow (cm)=-7.55792E-09-5.94702E-02-3.12013E-03 1.43107E-08
 IsoVapor Flow (cm)=-5.89595E-02-1.13378E-05-9.64523E-08 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.8193+ 0.0000+ 0.0000 - 0.0590- 0.0000-  0.0000 =    3.7604 vs.    3.7604

 Mass Balance = -1.3270E-05 cm;  Time step attempts =  402 and successes =  321
   Evaporation:  Potential =  0.1600 cm, Actual =  0.0590 cm
 RHMEAN = 55.0 %;  TMEAN = 276.8 K;  HDRY =  8.2333E+05 cm;  DAYUBC =   123

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04106     0.04680     0.05024
 Head (cm)         = 9.30306E+05 2.96420E+03 2.08955E+03 1.12827E+03
 LiqWater Flow (cm)=-1.13124E-11-2.26587E-02-1.75084E-03 7.57639E-09
 IsoVapor Flow (cm)=-3.91078E-02-2.23882E-05-9.19655E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8979+ 0.0000+ 0.0000 - 0.0391- 0.0000-  0.0000 =    2.8587 vs.    2.8588

 Mass Balance = -5.5538E-05 cm;  Time step attempts =  311 and successes =  256
   Evaporation:  Potential =  0.4364 cm, Actual =  0.0391 cm
 RHMEAN = 50.9 %;  TMEAN = 273.7 K;  HDRY =  9.3031E+05 cm;  DAYUBC =   255
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.0272E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.0272E+02     [cm]
 Actual Evaporation                 =  1.7895E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.6942E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.4306E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.6942E+01     [cm]
Actual Rainfall                    =  1.6942E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8588E+00     [cm]
Mass Balance Error                 =  6.8764E-03     [cm]
Total Successful Time Steps        =     64119
Total Attempted Time Steps         =     78822
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33409
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.5366E-01	0.050	1.2404E+01	0.150	9.5410E+00
0.250	8.0181E+00	0.350	7.0281E+00	0.450	6.1468E+00
0.550	5.2994E+00	0.650	4.8119E+00	0.750	4.3700E+00
0.850	3.8769E+00	0.950	3.3845E+00	1.125	3.0843E+00
1.375	2.4696E+00	1.625	1.9236E+00	1.875	1.6096E+00
2.250	1.2946E+00	2.750	7.0608E-01	3.250	3.8045E-01
3.750	1.8416E-01	4.250	5.5345E-02	4.790	-4.4717E-02
6.350	-1.6918E-01	8.890	-5.1454E-01	11.430	-6.4497E-01
13.970	-6.7576E-01	16.510	-6.8852E-01	19.050	-6.2981E-01
21.590	-5.6914E-01	24.130	-5.0894E-01	26.670	-4.4947E-01
29.210	-3.9086E-01	31.750	-3.3315E-01	34.290	-2.7634E-01
36.830	-2.2037E-01	39.370	-1.6513E-01	41.910	-1.1044E-01
44.450	-5.6064E-02	46.990	-1.3371E-03	49.530	2.4991E-04
52.070	-1.3946E-05	54.610	-2.5069E-05	57.150	-1.9098E-05
59.690	-4.4275E-06	60.960	4.4306E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	9.303E+05	0.0300	292.65	2	1.000E-01	8.450E+05	0.0300	292.65
3	2.000E-01	7.646E+05	0.0300	292.65	4	3.000E-01	6.886E+05	0.0300	292.65
5	4.000E-01	6.167E+05	0.0300	292.65	6	5.000E-01	5.483E+05	0.0300	292.65
7	6.000E-01	4.831E+05	0.0300	292.65	8	7.000E-01	4.209E+05	0.0300	292.65
9	8.000E-01	3.613E+05	0.0300	292.65	10	9.000E-01	3.043E+05	0.0300	292.65
11	1.000E+00	2.495E+05	0.0301	292.65	12	1.250E+00	1.213E+05	0.0301	292.65
13	1.500E+00	4.258E+03	0.0372	292.65	14	1.750E+00	3.311E+03	0.0397	292.65
15	2.000E+00	2.964E+03	0.0411	292.65	16	2.500E+00	2.625E+03	0.0428	292.65
17	3.000E+00	2.445E+03	0.0439	292.65	18	3.500E+00	2.329E+03	0.0448	292.65
19	4.000E+00	2.248E+03	0.0454	292.65	20	4.500E+00	2.190E+03	0.0459	292.65
21	5.080E+00	2.141E+03	0.0463	292.65	22	7.620E+00	2.073E+03	0.0470	292.65
23	1.016E+01	2.144E+03	0.0463	292.65	24	1.270E+01	2.299E+03	0.0450	292.65
25	1.524E+01	2.404E+03	0.0442	292.65	26	1.778E+01	2.375E+03	0.0444	292.65
27	2.032E+01	2.291E+03	0.0450	292.65	28	2.286E+01	2.210E+03	0.0457	292.65
29	2.540E+01	2.143E+03	0.0463	292.65	30	2.794E+01	2.090E+03	0.0468	292.65
31	3.048E+01	2.047E+03	0.0472	292.65	32	3.302E+01	2.013E+03	0.0476	292.65
33	3.556E+01	1.987E+03	0.0478	292.65	34	3.810E+01	1.966E+03	0.0481	292.65
35	4.064E+01	1.950E+03	0.0482	292.65	36	4.318E+01	1.939E+03	0.0484	292.65
37	4.572E+01	1.932E+03	0.0484	292.65	38	4.826E+01	1.805E+03	0.0501	292.65
39	5.080E+01	1.457E+03	0.0501	292.65	40	5.334E+01	1.244E+03	0.0502	292.65
41	5.588E+01	1.161E+03	0.0502	292.65	42	5.842E+01	1.134E+03	0.0502	292.65
43	6.096E+01	1.128E+03	0.0502	292.65					

Initial Water Storage = 2.8588 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03007	0.04672	0.05024
Head (cm)	=	1.63309E+06	2.13165E+05	2.09791E+03	1.12853E+03

```
 LiqWater Flow (cm)=-6.93514E-13-8.92615E-03-1.71002E-03 7.56218E-09
 IsoVapor Flow (cm)=-2.69927E-02-9.66092E-03-9.19205E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8588+ 0.0000+ 0.0000 - 0.0270- 0.0000-  0.0000 =    2.8318 vs.    2.8319

 Mass Balance = -4.3839E-05 cm;  Time step attempts =  180 and successes =  138
   Evaporation:  Potential =  0.5153 cm, Actual =  0.0270 cm
 RHMEAN = 30.6 %;  TMEAN = 280.1 K;  HDRY =  1.6331E+06 cm;  DAYUBC =   138

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03007     0.05757     0.07834     0.05009
 Head (cm)         = 1.93406E+05 1.37937E+03 8.57116E+02 1.68511E+03
 LiqWater Flow (cm)=-1.48295E-08-7.41189E-02-3.64072E-02 2.77874E-10
 IsoVapor Flow (cm)=-6.01614E-02-5.17880E-06-2.35506E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.2409+ 0.0000+ 0.0000 - 0.0602- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  1.9180E-05 cm;  Time step attempts =  171 and successes =  151
   Evaporation:  Potential =  0.2528 cm, Actual =  0.0602 cm
 RHMEAN = 78.7 %;  TMEAN = 279.5 K;  HDRY =  3.3014E+05 cm;  DAYUBC =    90
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.4173E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.4173E+02     [cm]
 Actual Evaporation                 =  1.2589E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.3919E+01     [cm]
 Total Basal Liquid Flux (drainage) =  9.2968E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.3919E+01     [cm]
Actual Rainfall                    =  1.3919E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  4.1807E+00     [cm]
Mass Balance Error                 =  8.3141E-03     [cm]
Total Successful Time Steps        =     64938
Total Attempted Time Steps         =     80077
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     33261
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.3302E+00	0.050	1.0626E+01	0.150	8.5538E+00
0.250	7.5587E+00	0.350	6.9268E+00	0.450	6.5789E+00
0.550	6.3023E+00	0.650	6.0189E+00	0.750	5.7703E+00
0.850	5.5641E+00	0.950	5.4138E+00	1.125	5.2522E+00
1.375	4.8883E+00	1.625	4.5547E+00	1.875	4.2961E+00
2.250	4.0180E+00	2.750	3.4990E+00	3.250	3.1340E+00
3.750	2.8882E+00	4.250	2.6059E+00	4.790	2.3704E+00
6.350	2.0845E+00	8.890	1.5819E+00	11.430	1.2372E+00
13.970	1.0454E+00	16.510	9.7340E-01	19.050	8.9864E-01
21.590	8.2211E-01	24.130	7.4424E-01	26.670	6.6517E-01
29.210	5.8500E-01	31.750	5.0381E-01	34.290	4.2168E-01
36.830	3.3870E-01	39.370	2.5496E-01	41.910	1.7056E-01
44.450	8.5566E-02	46.990	7.3096E-04	49.530	2.2898E-05
52.070	-7.1335E-06	54.610	-1.4925E-05	57.150	-1.5449E-05
59.690	-6.1756E-06	60.960	9.2968E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.934E+05	0.0301	292.65	2	1.000E-01	7.846E+04	0.0302	292.65
3	2.000E-01	1.584E+03	0.0534	292.65	4	3.000E-01	1.570E+03	0.0536	292.65
5	4.000E-01	1.556E+03	0.0539	292.65	6	5.000E-01	1.542E+03	0.0541	292.65
7	6.000E-01	1.529E+03	0.0544	292.65	8	7.000E-01	1.516E+03	0.0546	292.65
9	8.000E-01	1.504E+03	0.0549	292.65	10	9.000E-01	1.491E+03	0.0551	292.65
11	1.000E+00	1.480E+03	0.0554	292.65	12	1.250E+00	1.452E+03	0.0559	292.65
13	1.500E+00	1.426E+03	0.0565	292.65	14	1.750E+00	1.402E+03	0.0570	292.65
15	2.000E+00	1.379E+03	0.0576	292.65	16	2.500E+00	1.339E+03	0.0586	292.65
17	3.000E+00	1.304E+03	0.0595	292.65	18	3.500E+00	1.273E+03	0.0603	292.65
19	4.000E+00	1.245E+03	0.0611	292.65	20	4.500E+00	1.221E+03	0.0619	292.65
21	5.080E+00	1.195E+03	0.0627	292.65	22	7.620E+00	1.109E+03	0.0657	292.65
23	1.016E+01	1.048E+03	0.0682	292.65	24	1.270E+01	1.001E+03	0.0703	292.65
25	1.524E+01	9.639E+02	0.0721	292.65	26	1.778E+01	9.341E+02	0.0737	292.65
27	2.032E+01	9.095E+02	0.0751	292.65	28	2.286E+01	8.890E+02	0.0763	292.65
29	2.540E+01	8.717E+02	0.0774	292.65	30	2.794E+01	8.571E+02	0.0783	292.65
31	3.048E+01	8.448E+02	0.0792	292.65	32	3.302E+01	8.343E+02	0.0799	292.65
33	3.556E+01	8.255E+02	0.0805	292.65	34	3.810E+01	8.182E+02	0.0810	292.65
35	4.064E+01	8.121E+02	0.0815	292.65	36	4.318E+01	8.073E+02	0.0818	292.65
37	4.572E+01	8.037E+02	0.0821	292.65	38	4.826E+01	7.949E+02	0.0506	292.65
39	5.080E+01	1.509E+03	0.0501	292.65	40	5.334E+01	1.708E+03	0.0501	292.65
41	5.588E+01	1.721E+03	0.0501	292.65	42	5.842E+01	1.697E+03	0.0501	292.65
43	6.096E+01	1.685E+03	0.0501	292.65					

Initial Water Storage = 4.1807 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.06537	0.06560	0.07668	0.05009
Head (cm)	= 1.11780E+03	1.11184E+03	8.83015E+02	1.68690E+03

```
 LiqWater Flow (cm)=-1.71788E-03-2.57592E-02-3.23945E-02 2.75352E-10
 IsoVapor Flow (cm)=-5.54926E-05-1.16636E-06-2.45205E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1807+ 0.0000+ 0.0000 - 0.0000- 0.0000-  0.0000 =    4.1807 vs.    4.1807

 Mass Balance =  2.2094E-05 cm;  Time step attempts =  107 and successes =   95
   Evaporation:  Potential =  0.0878 cm, Actual =  0.0000 cm
 RHMEAN = **** %;  TMEAN = 272.6 K;  HDRY =  1.5303E-10 cm;  DAYUBC =     0

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03009     0.05609     0.05011
 Head (cm)         = 1.03684E+06 1.57500E+05 1.44500E+03 1.53378E+03
 LiqWater Flow (cm)=-2.46492E-12-2.23950E-04-2.66652E-03 6.01803E-10
 IsoVapor Flow (cm)=-1.69046E-02-1.66803E-02-2.61679E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1966+ 0.0000+ 0.0000 - 0.0169- 0.0000-  0.0000 =    3.1797 vs.    3.1797

 Mass Balance = -3.0048E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.8232 cm, Actual =  0.0169 cm
 RHMEAN = 47.1 %;  TMEAN = 284.0 K;  HDRY =  1.0368E+06 cm;  DAYUBC =    24
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1811E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1811E+02     [cm]
 Actual Evaporation                 =  1.4382E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.3386E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3865E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.3386E+01     [cm]
Actual Rainfall                    =  1.3386E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1797E+00     [cm]
Mass Balance Error                 =  4.9321E-03     [cm]
Total Successful Time Steps        =     52650
Total Attempted Time Steps         =     63414
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28860
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.9601E-01	0.050	9.6302E+00	0.150	6.8230E+00
0.250	5.7318E+00	0.350	4.8757E+00	0.450	4.3365E+00
0.550	3.8037E+00	0.650	3.3583E+00	0.750	3.0732E+00
0.850	2.7259E+00	0.950	2.3739E+00	1.125	2.1501E+00
1.375	1.7397E+00	1.625	1.4334E+00	1.875	1.0189E+00
2.250	7.7207E-01	2.750	4.0090E-01	3.250	2.1718E-01
3.750	8.5544E-02	4.250	4.4295E-02	4.790	-1.9564E-02
6.350	-1.1548E-01	8.890	-3.9065E-01	11.430	-4.6616E-01
13.970	-5.1804E-01	16.510	-5.5938E-01	19.050	-5.6868E-01
21.590	-5.6579E-01	24.130	-5.3752E-01	26.670	-4.8282E-01
29.210	-4.2647E-01	31.750	-3.6872E-01	34.290	-3.0970E-01
36.830	-2.4957E-01	39.370	-1.8848E-01	41.910	-1.2655E-01
44.450	-6.3968E-02	46.990	-4.7922E-04	49.530	1.7982E-04
52.070	1.1294E-05	54.610	3.1300E-06	57.150	1.1260E-06
59.690	3.6838E-07	60.960	1.3865E-07		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.037E+06	0.0300	292.65	2	1.000E-01	9.767E+05	0.0300	292.65
3	2.000E-01	9.190E+05	0.0300	292.65	4	3.000E-01	8.637E+05	0.0300	292.65
5	4.000E-01	8.104E+05	0.0300	292.65	6	5.000E-01	7.592E+05	0.0300	292.65
7	6.000E-01	7.098E+05	0.0300	292.65	8	7.000E-01	6.621E+05	0.0300	292.65
9	8.000E-01	6.161E+05	0.0300	292.65	10	9.000E-01	5.715E+05	0.0300	292.65
11	1.000E+00	5.283E+05	0.0300	292.65	12	1.250E+00	4.258E+05	0.0300	292.65
13	1.500E+00	3.304E+05	0.0300	292.65	14	1.750E+00	2.413E+05	0.0301	292.65
15	2.000E+00	1.575E+05	0.0301	292.65	16	2.500E+00	3.484E+03	0.0391	292.65
17	3.000E+00	2.882E+03	0.0414	292.65	18	3.500E+00	2.602E+03	0.0429	292.65
19	4.000E+00	2.425E+03	0.0441	292.65	20	4.500E+00	2.298E+03	0.0450	292.65
21	5.080E+00	2.187E+03	0.0459	292.65	22	7.620E+00	1.904E+03	0.0488	292.65
23	1.016E+01	1.757E+03	0.0507	292.65	24	1.270E+01	1.663E+03	0.0521	292.65
25	1.524E+01	1.597E+03	0.0532	292.65	26	1.778E+01	1.549E+03	0.0540	292.65
27	2.032E+01	1.512E+03	0.0547	292.65	28	2.286E+01	1.484E+03	0.0553	292.65
29	2.540E+01	1.462E+03	0.0557	292.65	30	2.794E+01	1.445E+03	0.0561	292.65
31	3.048E+01	1.431E+03	0.0564	292.65	32	3.302E+01	1.421E+03	0.0566	292.65
33	3.556E+01	1.412E+03	0.0568	292.65	34	3.810E+01	1.406E+03	0.0570	292.65
35	4.064E+01	1.400E+03	0.0571	292.65	36	4.318E+01	1.396E+03	0.0572	292.65
37	4.572E+01	1.393E+03	0.0573	292.65	38	4.826E+01	1.399E+03	0.0501	292.65
39	5.080E+01	1.514E+03	0.0501	292.65	40	5.334E+01	1.548E+03	0.0501	292.65
41	5.588E+01	1.546E+03	0.0501	292.65	42	5.842E+01	1.538E+03	0.0501	292.65
43	6.096E+01	1.534E+03	0.0501	292.65					

Initial Water Storage = 3.1797 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03002	0.03014	0.05579	0.05011
Head (cm)	= 6.62341E+05	1.10405E+05	1.45890E+03	1.53421E+03

```
 LiqWater Flow (cm)=-1.27037E-11-3.84751E-04-3.13025E-03 6.00400E-10
 IsoVapor Flow (cm)=-1.22067E-02-1.18689E-02-3.09256E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1797+ 0.0000+ 0.0000 - 0.0122- 0.0000-  0.0000 =    3.1675 vs.    3.1675

 Mass Balance = -5.3866E-07 cm;  Time step attempts =   51 and successes =   49
   Evaporation:  Potential =  0.2331 cm, Actual =  0.0122 cm
 RHMEAN = 61.8 %;  TMEAN = 276.2 K;  HDRY =  6.6234E+05 cm;  DAYUBC =    48

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05004     0.05185
 Head (cm)         = 1.00583E+06 5.20808E+05 1.80296E+03 4.99792E+02
 LiqWater Flow (cm)=-1.38143E-12-5.88668E-11-2.18112E-03 6.27447E-06
 IsoVapor Flow (cm)=-8.77296E-03-8.76710E-03-5.72794E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9175+ 0.0000+ 0.0000 - 0.0088- 0.0000-  0.0000 =    2.9088 vs.    2.9088

 Mass Balance = -1.0826E-05 cm;  Time step attempts =   43 and successes =   35
   Evaporation:  Potential =  0.2322 cm, Actual =  0.0088 cm
 RHMEAN = 48.2 %;  TMEAN = 278.2 K;  HDRY =  1.0058E+06 cm;  DAYUBC =    35
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1167E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1167E+02     [cm]
 Actual Evaporation                 =  2.4419E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.4155E+01     [cm]
 Total Basal Liquid Flux (drainage) =  6.8706E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.4155E+01     [cm]
Actual Rainfall                    =  2.4155E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9088E+00     [cm]
Mass Balance Error                 =  6.5881E-03     [cm]
Total Successful Time Steps        =     52807
Total Attempted Time Steps         =     64683
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26908
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.6369E-01	0.050	1.2368E+01	0.150	8.1024E+00
0.250	6.9024E+00	0.350	6.0521E+00	0.450	5.4175E+00
0.550	4.8381E+00	0.650	4.3850E+00	0.750	3.9380E+00
0.850	3.5882E+00	0.950	3.3276E+00	1.125	3.0813E+00
1.375	2.3765E+00	1.625	2.1797E+00	1.875	2.0014E+00
2.250	1.8430E+00	2.750	1.4390E+00	3.250	1.2312E+00
3.750	8.8164E-01	4.250	6.3063E-01	4.790	5.1191E-01
6.350	3.9154E-01	8.890	1.2712E-01	11.430	-1.7845E-02
13.970	-1.4013E-01	16.510	-1.6082E-01	19.050	-1.4555E-01
21.590	-1.3010E-01	24.130	-1.1465E-01	26.670	-9.9275E-02
29.210	-8.4029E-02	31.750	-6.8931E-02	34.290	-5.3988E-02
36.830	-3.9195E-02	39.370	-2.4533E-02	41.910	-9.9723E-03
44.450	4.5259E-03	46.990	1.9588E-02	49.530	2.0807E-02
52.070	1.5434E-02	54.610	1.1477E-02	57.150	7.1425E-03
59.690	2.7150E-03	60.960	6.8706E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.006E+06	0.0300	292.65	2	1.000E-01	9.771E+05	0.0300	292.65
3	2.000E-01	9.485E+05	0.0300	292.65	4	3.000E-01	9.207E+05	0.0300	292.65
5	4.000E-01	8.936E+05	0.0300	292.65	6	5.000E-01	8.672E+05	0.0300	292.65
7	6.000E-01	8.412E+05	0.0300	292.65	8	7.000E-01	8.158E+05	0.0300	292.65
9	8.000E-01	7.907E+05	0.0300	292.65	10	9.000E-01	7.661E+05	0.0300	292.65
11	1.000E+00	7.420E+05	0.0300	292.65	12	1.250E+00	6.834E+05	0.0300	292.65
13	1.500E+00	6.271E+05	0.0300	292.65	14	1.750E+00	5.729E+05	0.0300	292.65
15	2.000E+00	5.208E+05	0.0300	292.65	16	2.500E+00	4.221E+05	0.0300	292.65
17	3.000E+00	3.301E+05	0.0300	292.65	18	3.500E+00	2.438E+05	0.0301	292.65
19	4.000E+00	1.626E+05	0.0301	292.65	20	4.500E+00	8.594E+04	0.0302	292.65
21	5.080E+00	3.952E+03	0.0378	292.65	22	7.620E+00	2.688E+03	0.0424	292.65
23	1.016E+01	2.368E+03	0.0445	292.65	24	1.270E+01	2.191E+03	0.0459	292.65
25	1.524E+01	2.075E+03	0.0469	292.65	26	1.778E+01	1.990E+03	0.0478	292.65
27	2.032E+01	1.926E+03	0.0485	292.65	28	2.286E+01	1.876E+03	0.0491	292.65
29	2.540E+01	1.836E+03	0.0496	292.65	30	2.794E+01	1.803E+03	0.0500	292.65
31	3.048E+01	1.776E+03	0.0504	292.65	32	3.302E+01	1.754E+03	0.0507	292.65
33	3.556E+01	1.736E+03	0.0510	292.65	34	3.810E+01	1.722E+03	0.0512	292.65
35	4.064E+01	1.711E+03	0.0513	292.65	36	4.318E+01	1.703E+03	0.0514	292.65
37	4.572E+01	1.697E+03	0.0515	292.65	38	4.826E+01	1.487E+03	0.0501	292.65
39	5.080E+01	5.446E+02	0.0515	292.65	40	5.334E+01	5.213E+02	0.0517	292.65
41	5.588E+01	5.085E+02	0.0518	292.65	42	5.842E+01	5.019E+02	0.0518	292.65
43	6.096E+01	4.998E+02	0.0519	292.65					

Initial Water Storage = 2.9088 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03002	0.04991	0.05185
Head (cm)	=	1.15661E+06	5.84796E+05	1.81255E+03	5.00235E+02

```
 LiqWater Flow (cm)=-7.83563E-13-2.42562E-11-2.17015E-03 6.22876E-06
 IsoVapor Flow (cm)=-8.93144E-03-8.92652E-03-5.83959E-07 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9088+ 0.0000+ 0.0000 - 0.0089- 0.0000-  0.0000 =     2.8998 vs.     2.8998

 Mass Balance =  3.3405E-07 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2497 cm, Actual =  0.0089 cm
 RHMEAN = 43.2 %;  TMEAN = 279.8 K;  HDRY =  1.1566E+06 cm;  DAYUBC =    24

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03005     0.03714     0.05082     0.05240
 Head (cm)         = 2.73526E+05 4.27114E+03 1.74601E+03 4.50940E+02
 LiqWater Flow (cm)=-5.09371E-10-9.48934E-03-1.15948E-03 1.46696E-05
 IsoVapor Flow (cm)=-7.63440E-03-1.03328E-04-2.95223E-07 0.00000E+00

                                                LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   3.0179+ 0.0000+ 0.0000 - 0.0076- 0.0000-  0.0000 =     3.0102 vs.     3.0102

 Mass Balance =  3.8508E-06 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.1854 cm, Actual =  0.0076 cm
 RHMEAN = 82.0 %;  TMEAN = 270.4 K;  HDRY =  2.7353E+05 cm;  DAYUBC =    51
1

-------------------------------------------------------------------------------
                             UNSAT-H Version 3.01
                              SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2121E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2121E+02     [cm]
 Actual Evaporation                 =  2.1655E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1768E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.0816E-03     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1768E+01     [cm]
Actual Rainfall                    =  2.1768E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.0102E+00     [cm]
Mass Balance Error                 =  7.1795E-03     [cm]
Total Successful Time Steps        =     58450
Total Attempted Time Steps         =     71740
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29263
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.1271E-01	0.050	1.2009E+01	0.150	7.7434E+00
0.250	6.3572E+00	0.350	5.5262E+00	0.450	4.9294E+00
0.550	4.2400E+00	0.650	3.7168E+00	0.750	3.3362E+00
0.850	3.0930E+00	0.950	2.9043E+00	1.125	2.7246E+00
1.375	2.2775E+00	1.625	1.9882E+00	1.875	1.8554E+00
2.250	1.6989E+00	2.750	1.5064E+00	3.250	1.3804E+00
3.750	1.1927E+00	4.250	1.0010E+00	4.790	9.3725E-01
6.350	8.2966E-01	8.890	6.1956E-01	11.430	3.9918E-01
13.970	2.2939E-01	16.510	1.0103E-01	19.050	3.0562E-02
21.590	2.5930E-02	24.130	2.2522E-02	26.670	1.9843E-02
29.210	1.7727E-02	31.750	1.6056E-02	34.290	1.4722E-02
36.830	1.3626E-02	39.370	1.2698E-02	41.910	1.1882E-02
44.450	1.1129E-02	46.990	1.3107E-02	49.530	1.8264E-02
52.070	9.3692E-03	54.610	7.6958E-03	57.150	6.2179E-03
59.690	4.7844E-03	60.960	4.0816E-03		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	2.735E+05	0.0300	292.65	2	1.000E-01	2.564E+05	0.0301	292.65
3	2.000E-01	2.398E+05	0.0301	292.65	4	3.000E-01	2.233E+05	0.0301	292.65
5	4.000E-01	2.069E+05	0.0301	292.65	6	5.000E-01	1.907E+05	0.0301	292.65
7	6.000E-01	1.748E+05	0.0301	292.65	8	7.000E-01	1.590E+05	0.0301	292.65
9	8.000E-01	1.434E+05	0.0301	292.65	10	9.000E-01	1.279E+05	0.0301	292.65
11	1.000E+00	1.126E+05	0.0301	292.65	12	1.250E+00	7.518E+04	0.0302	292.65
13	1.500E+00	3.866E+04	0.0305	292.65	14	1.750E+00	5.848E+03	0.0349	292.65
15	2.000E+00	4.271E+03	0.0371	292.65	16	2.500E+00	3.409E+03	0.0393	292.65
17	3.000E+00	3.043E+03	0.0407	292.65	18	3.500E+00	2.820E+03	0.0417	292.65
19	4.000E+00	2.665E+03	0.0426	292.65	20	4.500E+00	2.547E+03	0.0433	292.65
21	5.080E+00	2.441E+03	0.0439	292.65	22	7.620E+00	2.162E+03	0.0461	292.65
23	1.016E+01	2.019E+03	0.0475	292.65	24	1.270E+01	1.931E+03	0.0485	292.65
25	1.524E+01	1.873E+03	0.0491	292.65	26	1.778E+01	1.833E+03	0.0496	292.65
27	2.032E+01	1.803E+03	0.0500	292.65	28	2.286E+01	1.780E+03	0.0503	292.65
29	2.540E+01	1.762E+03	0.0506	292.65	30	2.794E+01	1.746E+03	0.0508	292.65
31	3.048E+01	1.732E+03	0.0510	292.65	32	3.302E+01	1.720E+03	0.0512	292.65
33	3.556E+01	1.709E+03	0.0514	292.65	34	3.810E+01	1.699E+03	0.0515	292.65
35	4.064E+01	1.691E+03	0.0516	292.65	36	4.318E+01	1.684E+03	0.0517	292.65
37	4.572E+01	1.680E+03	0.0518	292.65	38	4.826E+01	1.429E+03	0.0501	292.65
39	5.080E+01	4.800E+02	0.0520	292.65	40	5.334E+01	4.659E+02	0.0522	292.65
41	5.588E+01	4.573E+02	0.0523	292.65	42	5.842E+01	4.525E+02	0.0524	292.65
43	6.096E+01	4.509E+02	0.0524	292.65					

Initial Water Storage = 3.0102 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03003	0.03417	0.05075	0.05239
Head (cm)	=	4.46116E+05	6.68903E+03	1.75097E+03	4.51470E+02

```
 LiqWater Flow (cm)=-7.72381E-11-8.94834E-03-1.21834E-03 1.45276E-05
 IsoVapor Flow (cm)=-1.15374E-02-1.60151E-04-3.09998E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.0102+ 0.0000+ 0.0000 - 0.0115- 0.0000-  0.0000 =    2.9987 vs.    2.9987

 Mass Balance = -9.1430E-06 cm;  Time step attempts =   55 and successes =   44
   Evaporation:  Potential =  0.2333 cm, Actual =  0.0115 cm
 RHMEAN = 72.3 %;  TMEAN = 276.2 K;  HDRY =  4.4612E+05 cm;  DAYUBC =    44

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03013     0.06276     0.08544     0.05117
 Head (cm)         = 1.20186E+05 1.19275E+03 7.61901E+02 6.00783E+02
 LiqWater Flow (cm)=-6.34932E-02-1.43312E-01-4.41809E-02 1.37268E-06
 IsoVapor Flow (cm)=-9.87435E-02-3.68917E-06-1.71695E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.6754+ 0.0000+ 0.0000 - 0.1642- 0.0000-  0.0000 =    4.5112 vs.    4.5112

 Mass Balance = -2.3310E-05 cm;  Time step attempts =  194 and successes =  147
   Evaporation:  Potential =  0.3290 cm, Actual =  0.1642 cm
 RHMEAN = 70.1 %;  TMEAN = 278.4 K;  HDRY =  4.9048E+05 cm;  DAYUBC =    30
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  2.8444E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  2.8444E+02     [cm]
 Actual Evaporation                 =  2.9170E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0683E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.7248E-03     [cm]
```

```
 Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
 Total Applied Water                =  3.0683E+01     [cm]
 Actual Rainfall                    =  3.0683E+01     [cm]
 Actual Irrigation                  =  0.0000E+00     [cm]
 Total Final Moisture Storage       =  4.5112E+00     [cm]
 Mass Balance Error                 =  1.0704E-02     [cm]
 Total Successful Time Steps        =     73933
 Total Attempted Time Steps         =     91409
 Total Time Step Reductions (DHMAX) =         0
 Total Changes in Surface Boundary  =     32787
 Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5134E+00	0.050	2.0348E+01	0.150	1.4075E+01
0.250	1.1809E+01	0.350	1.0265E+01	0.450	9.0517E+00
0.550	8.1675E+00	0.650	7.6598E+00	0.750	7.1403E+00
0.850	6.4682E+00	0.950	5.8626E+00	1.125	5.4985E+00
1.375	4.5449E+00	1.625	3.8734E+00	1.875	3.4718E+00
2.250	3.0838E+00	2.750	2.3917E+00	3.250	2.0620E+00
3.750	1.7576E+00	4.250	1.5568E+00	4.790	1.4789E+00
6.350	1.3450E+00	8.890	1.2779E+00	11.430	1.2082E+00
13.970	1.1352E+00	16.510	1.0589E+00	19.050	9.7973E-01
21.590	8.9793E-01	24.130	8.1380E-01	26.670	7.2761E-01
29.210	6.3960E-01	31.750	5.5001E-01	34.290	4.5905E-01
36.830	3.6691E-01	39.370	2.7376E-01	41.910	1.7975E-01
44.450	8.4990E-02	46.990	-9.8953E-03	49.530	-7.1173E-03
52.070	-8.7067E-03	54.610	-5.8320E-03	57.150	-2.8514E-03
59.690	1.9202E-04	60.960	1.7248E-03		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.202E+05	0.0301	292.65	2	1.000E-01	1.324E+03	0.0590	292.65
3	2.000E-01	1.316E+03	0.0592	292.65	4	3.000E-01	1.308E+03	0.0594	292.65
5	4.000E-01	1.300E+03	0.0596	292.65	6	5.000E-01	1.293E+03	0.0598	292.65
7	6.000E-01	1.285E+03	0.0600	292.65	8	7.000E-01	1.278E+03	0.0602	292.65
9	8.000E-01	1.271E+03	0.0604	292.65	10	9.000E-01	1.264E+03	0.0606	292.65
11	1.000E+00	1.257E+03	0.0608	292.65	12	1.250E+00	1.240E+03	0.0613	292.65
13	1.500E+00	1.224E+03	0.0618	292.65	14	1.750E+00	1.208E+03	0.0623	292.65
15	2.000E+00	1.193E+03	0.0628	292.65	16	2.500E+00	1.164E+03	0.0637	292.65
17	3.000E+00	1.138E+03	0.0646	292.65	18	3.500E+00	1.114E+03	0.0655	292.65
19	4.000E+00	1.092E+03	0.0664	292.65	20	4.500E+00	1.071E+03	0.0672	292.65
21	5.080E+00	1.049E+03	0.0681	292.65	22	7.620E+00	9.721E+02	0.0717	292.65
23	1.016E+01	9.177E+02	0.0746	292.65	24	1.270E+01	8.776E+02	0.0770	292.65
25	1.524E+01	8.469E+02	0.0790	292.65	26	1.778E+01	8.226E+02	0.0807	292.65
27	2.032E+01	8.030E+02	0.0822	292.65	28	2.286E+01	7.868E+02	0.0834	292.65
29	2.540E+01	7.733E+02	0.0845	292.65	30	2.794E+01	7.619E+02	0.0854	292.65
31	3.048E+01	7.522E+02	0.0863	292.65	32	3.302E+01	7.439E+02	0.0870	292.65
33	3.556E+01	7.368E+02	0.0876	292.65	34	3.810E+01	7.308E+02	0.0882	292.65
35	4.064E+01	7.258E+02	0.0886	292.65	36	4.318E+01	7.216E+02	0.0890	292.65
37	4.572E+01	7.183E+02	0.0893	292.65	38	4.826E+01	7.105E+02	0.0508	292.65
39	5.080E+01	6.799E+02	0.0509	292.65	40	5.334E+01	6.343E+02	0.0510	292.65
41	5.588E+01	6.131E+02	0.0511	292.65	42	5.842E+01	6.036E+02	0.0512	292.65
43	6.096E+01	6.008E+02	0.0512	292.65					

Initial Water Storage = 4.5112 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.05546	0.05967	0.08286	0.05117
Head (cm)	= 1.47496E+03	1.29651E+03	7.93712E+02	6.01038E+02

```
 LiqWater Flow (cm)=-5.24966E-02-1.17013E-01-4.46999E-02 1.36790E-06
 IsoVapor Flow (cm)=-7.15645E-02-4.73932E-06-2.01760E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.5112+ 0.0000+ 0.0000 - 0.1228- 0.0000-  0.0000 =    4.3884 vs.    4.3884

 Mass Balance = -1.9060E-06 cm;  Time step attempts =  352 and successes =  274
   Evaporation:  Potential =  0.2426 cm, Actual =  0.1228 cm
 RHMEAN = 76.7 %;  TMEAN = 276.5 K;  HDRY =  3.6523E+05 cm;  DAYUBC =    62

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.05004     0.05450     0.06356     0.05079
 Head (cm)         = 1.80298E+03 1.52344E+03 1.16876E+03 7.02518E+02
 LiqWater Flow (cm)= 4.66811E-02 9.74416E-03-3.79147E-03 3.77331E-07
 IsoVapor Flow (cm)=-3.25437E-02-2.30104E-06-1.55793E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6161+ 0.1016+ 0.0000 - 0.0865- 0.0000-  0.0000 =    3.6313 vs.    3.6312

 Mass Balance =  4.2927E-05 cm;  Time step attempts =  318 and successes =  273
   Evaporation:  Potential =  0.2069 cm, Actual =  0.0865 cm
 RHMEAN = 88.3 %;  TMEAN = 282.9 K;  HDRY =  1.7170E+05 cm;  DAYUBC =    59
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1664E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1664E+02     [cm]
 Actual Evaporation                 =  2.4698E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.3825E+01     [cm]
 Total Basal Liquid Flux (drainage) =  2.5834E-04     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.3825E+01     [cm]
Actual Rainfall                    =  2.3825E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.6312E+00     [cm]
Mass Balance Error                 =  6.9570E-03     [cm]
Total Successful Time Steps        =     59852
Total Attempted Time Steps         =     73546
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29255
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.7278E-01	0.050	1.3549E+01	0.150	7.8886E+00
0.250	6.3369E+00	0.350	5.1669E+00	0.450	4.3629E+00
0.550	3.9008E+00	0.650	3.4830E+00	0.750	3.2630E+00
0.850	2.9031E+00	0.950	2.6077E+00	1.125	2.3241E+00
1.375	1.6848E+00	1.625	1.4288E+00	1.875	1.1923E+00
2.250	9.1418E-01	2.750	5.4712E-01	3.250	2.1084E-01
3.750	8.0325E-02	4.250	3.5609E-03	4.790	-8.5649E-02
6.350	-2.0461E-01	8.890	-4.0931E-01	11.430	-5.4619E-01
13.970	-6.0036E-01	16.510	-6.7511E-01	19.050	-6.3408E-01
21.590	-5.8562E-01	24.130	-5.3433E-01	26.670	-4.8076E-01
29.210	-4.2532E-01	31.750	-3.6834E-01	34.290	-3.1004E-01
36.830	-2.5063E-01	39.370	-1.9029E-01	41.910	-1.2916E-01
44.450	-6.7396E-02	46.990	-3.5432E-03	49.530	1.2433E-03
52.070	-1.6633E-03	54.610	-1.7559E-03	57.150	-1.0308E-03
59.690	-1.8134E-04	60.960	2.5834E-04		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.803E+03	0.0500	292.65	2	1.000E-01	1.781E+03	0.0503	292.65
3	2.000E-01	1.760E+03	0.0506	292.65	4	3.000E-01	1.741E+03	0.0509	292.65
5	4.000E-01	1.723E+03	0.0512	292.65	6	5.000E-01	1.705E+03	0.0514	292.65
7	6.000E-01	1.689E+03	0.0517	292.65	8	7.000E-01	1.674E+03	0.0519	292.65
9	8.000E-01	1.659E+03	0.0521	292.65	10	9.000E-01	1.645E+03	0.0524	292.65
11	1.000E+00	1.631E+03	0.0526	292.65	12	1.250E+00	1.600E+03	0.0531	292.65
13	1.500E+00	1.572E+03	0.0536	292.65	14	1.750E+00	1.547E+03	0.0541	292.65
15	2.000E+00	1.523E+03	0.0545	292.65	16	2.500E+00	1.483E+03	0.0553	292.65
17	3.000E+00	1.448E+03	0.0560	292.65	18	3.500E+00	1.418E+03	0.0567	292.65
19	4.000E+00	1.392E+03	0.0573	292.65	20	4.500E+00	1.369E+03	0.0578	292.65
21	5.080E+00	1.346E+03	0.0584	292.65	22	7.620E+00	1.277E+03	0.0602	292.65
23	1.016E+01	1.238E+03	0.0613	292.65	24	1.270E+01	1.216E+03	0.0620	292.65
25	1.524E+01	1.204E+03	0.0624	292.65	26	1.778E+01	1.196E+03	0.0627	292.65
27	2.032E+01	1.189E+03	0.0629	292.65	28	2.286E+01	1.182E+03	0.0631	292.65
29	2.540E+01	1.176E+03	0.0633	292.65	30	2.794E+01	1.169E+03	0.0636	292.65
31	3.048E+01	1.162E+03	0.0638	292.65	32	3.302E+01	1.156E+03	0.0640	292.65
33	3.556E+01	1.150E+03	0.0642	292.65	34	3.810E+01	1.145E+03	0.0644	292.65
35	4.064E+01	1.140E+03	0.0646	292.65	36	4.318E+01	1.136E+03	0.0647	292.65
37	4.572E+01	1.133E+03	0.0648	292.65	38	4.826E+01	1.120E+03	0.0502	292.65
39	5.080E+01	8.442E+02	0.0505	292.65	40	5.334E+01	7.456E+02	0.0507	292.65
41	5.588E+01	7.152E+02	0.0508	292.65	42	5.842E+01	7.049E+02	0.0508	292.65
43	6.096E+01	7.025E+02	0.0508	292.65					

Initial Water Storage = 3.6312 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.06430	0.06661	0.06693	0.05079
Head (cm)	=	1.14743E+03	1.08568E+03	1.07774E+03	7.02637E+02

```
 LiqWater Flow (cm)= 3.14902E-01 2.35926E-01 1.03990E-02 3.76809E-07
 IsoVapor Flow (cm)=-5.05616E-02-1.06421E-06 1.71256E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.6312+ 0.4572+ 0.0000 - 0.1922- 0.0000-  0.0000 =    3.8963 vs.    3.8961

 Mass Balance =  1.3058E-04 cm;  Time step attempts =  529 and successes =  442
   Evaporation:  Potential =  0.3119 cm, Actual =  0.1922 cm
 RHMEAN = 75.1 %;  TMEAN = 283.7 K;  HDRY =  3.9383E+05 cm;  DAYUBC =    64

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03040     0.06153     0.05061
 Head (cm)         = 1.50332E+06 4.69196E+04 1.23187E+03 7.77678E+02
 LiqWater Flow (cm)=-9.03240E-13-2.26255E-02-9.71717E-03 1.63082E-07
 IsoVapor Flow (cm)=-2.64699E-02-2.88345E-04-3.81421E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4285+ 0.0000+ 0.0000 - 0.0265- 0.0000-  0.0000 =    3.4020 vs.    3.4020

 Mass Balance = -1.1567E-05 cm;  Time step attempts =   55 and successes =   42
   Evaporation:  Potential =  0.6403 cm, Actual =  0.0265 cm
 RHMEAN = 33.6 %;  TMEAN = 285.7 K;  HDRY =  1.5033E+06 cm;  DAYUBC =    42
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2162E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2162E+02     [cm]
 Actual Evaporation                 =  2.5851E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.5629E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.7196E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.5629E+01     [cm]
Actual Rainfall                    =  2.5629E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.4020E+00     [cm]
Mass Balance Error                 =  6.9867E-03     [cm]
Total Successful Time Steps        =     53456
Total Attempted Time Steps         =     65118
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     26714
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-2.2213E-01	0.050	1.6857E+01	0.150	9.2527E+00
0.250	7.8425E+00	0.350	6.5009E+00	0.450	6.0172E+00
0.550	5.5713E+00	0.650	5.3263E+00	0.750	4.9606E+00
0.850	4.5875E+00	0.950	4.1565E+00	1.125	3.9106E+00
1.375	2.9709E+00	1.625	2.4363E+00	1.875	1.9723E+00
2.250	1.6844E+00	2.750	9.6905E-01	3.250	8.4539E-01
3.750	7.0963E-01	4.250	5.8468E-01	4.790	4.7032E-01
6.350	4.0616E-01	8.890	1.6757E-01	11.430	1.2537E-02
13.970	-6.4498E-02	16.510	-5.9786E-02	19.050	-4.8834E-02
21.590	-3.9805E-02	24.130	-3.2405E-02	26.670	-2.6336E-02
29.210	-2.1333E-02	31.750	-1.7160E-02	34.290	-1.3654E-02
36.830	-1.0664E-02	39.370	-8.0665E-03	41.910	-5.7571E-03
44.450	-3.6415E-03	46.990	-1.0137E-03	49.530	1.4848E-03
52.070	-2.8803E-04	54.610	-6.2782E-04	57.150	-4.2068E-04
59.690	-9.0434E-05	60.960	8.7196E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.503E+06	0.0300	292.65	2	1.000E-01	1.379E+06	0.0300	292.65
3	2.000E-01	1.265E+06	0.0300	292.65	4	3.000E-01	1.160E+06	0.0300	292.65
5	4.000E-01	1.062E+06	0.0300	292.65	6	5.000E-01	9.704E+05	0.0300	292.65
7	6.000E-01	8.847E+05	0.0300	292.65	8	7.000E-01	8.040E+05	0.0300	292.65
9	8.000E-01	7.278E+05	0.0300	292.65	10	9.000E-01	6.557E+05	0.0300	292.65
11	1.000E+00	5.871E+05	0.0300	292.65	12	1.250E+00	4.293E+05	0.0300	292.65
13	1.500E+00	2.881E+05	0.0300	292.65	14	1.750E+00	1.608E+05	0.0301	292.65
15	2.000E+00	4.692E+04	0.0304	292.65	16	2.500E+00	2.639E+03	0.0427	292.65
17	3.000E+00	2.444E+03	0.0439	292.65	18	3.500E+00	2.277E+03	0.0452	292.65
19	4.000E+00	2.148E+03	0.0463	292.65	20	4.500E+00	2.046E+03	0.0472	292.65
21	5.080E+00	1.953E+03	0.0482	292.65	22	7.620E+00	1.700E+03	0.0515	292.65
23	1.016E+01	1.562E+03	0.0538	292.65	24	1.270E+01	1.470E+03	0.0555	292.65
25	1.524E+01	1.404E+03	0.0570	292.65	26	1.778E+01	1.354E+03	0.0582	292.65
27	2.032E+01	1.313E+03	0.0592	292.65	28	2.286E+01	1.281E+03	0.0601	292.65
29	2.540E+01	1.254E+03	0.0609	292.65	30	2.794E+01	1.232E+03	0.0615	292.65
31	3.048E+01	1.213E+03	0.0621	292.65	32	3.302E+01	1.198E+03	0.0626	292.65
33	3.556E+01	1.185E+03	0.0630	292.65	34	3.810E+01	1.175E+03	0.0633	292.65
35	4.064E+01	1.167E+03	0.0636	292.65	36	4.318E+01	1.161E+03	0.0638	292.65
37	4.572E+01	1.156E+03	0.0640	292.65	38	4.826E+01	1.136E+03	0.0502	292.65
39	5.080E+01	9.257E+02	0.0504	292.65	40	5.334E+01	8.211E+02	0.0505	292.65
41	5.588E+01	7.877E+02	0.0506	292.65	42	5.842E+01	7.791E+02	0.0506	292.65
43	6.096E+01	7.777E+02	0.0506	292.65					

Initial Water Storage = 3.4020 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03002	0.03014	0.06103	0.05061
Head (cm)	7.20447E+05	1.14410E+05	1.24858E+03	7.77730E+02

```
 LiqWater Flow (cm)=-9.41296E-12-7.83704E-04-9.27695E-03 1.62996E-07
 IsoVapor Flow (cm)=-1.31360E-02-1.22687E-02-3.89091E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.4020+ 0.0000+ 0.0000 - 0.0131- 0.0000-  0.0000 =    3.3889 vs.    3.3889

 Mass Balance = -1.0060E-06 cm;  Time step attempts =   58 and successes =   56
   Evaporation:  Potential =  0.2468 cm, Actual =  0.0131 cm
 RHMEAN = 59.3 %;  TMEAN = 275.7 K;  HDRY =  7.2045E+05 cm;  DAYUBC =    53

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04447     0.05551     0.05045
 Head (cm)         = 8.58098E+05 2.36711E+03 1.47251E+03 8.82114E+02
 LiqWater Flow (cm)=-2.23125E-11-3.41122E-02 4.41607E-03 5.76756E-08
 IsoVapor Flow (cm)=-4.83108E-02-1.76663E-05 3.63275E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2799+ 0.0000+ 0.0000 - 0.0483- 0.0000-  0.0000 =    3.2316 vs.    3.2316

 Mass Balance = -5.7639E-05 cm;  Time step attempts =  293 and successes =  228
   Evaporation:  Potential =  0.4952 cm, Actual =  0.0483 cm
 RHMEAN = 53.7 %;  TMEAN = 279.5 K;  HDRY =  8.5810E+05 cm;  DAYUBC =   227
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2377E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2377E+02     [cm]
 Actual Evaporation                 =  2.1422E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.1260E+01     [cm]
 Total Basal Liquid Flux (drainage) =  3.9114E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.1260E+01     [cm]
Actual Rainfall                    =  2.1260E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.2316E+00     [cm]
Mass Balance Error                 =  8.0353E-03     [cm]
Total Successful Time Steps        =     58101
Total Attempted Time Steps         =     71538
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     28966
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.6230E-01	0.050	1.4549E+01	0.150	1.0475E+01
0.250	9.0283E+00	0.350	8.0494E+00	0.450	7.3823E+00
0.550	6.6063E+00	0.650	5.8517E+00	0.750	5.3948E+00
0.850	4.8779E+00	0.950	4.5168E+00	1.125	4.2655E+00
1.375	3.3820E+00	1.625	2.9954E+00	1.875	2.2928E+00
2.250	1.9388E+00	2.750	1.2631E+00	3.250	9.3559E-01
3.750	7.1133E-01	4.250	5.8516E-01	4.790	4.5431E-01
6.350	2.5657E-01	8.890	-8.7253E-02	11.430	-1.9146E-01
13.970	-2.0297E-01	16.510	-2.0105E-01	19.050	-1.9642E-01
21.590	-1.8906E-01	24.130	-1.7897E-01	26.670	-1.6625E-01
29.210	-1.5106E-01	31.750	-1.3367E-01	34.290	-1.1441E-01
36.830	-9.3621E-02	39.370	-7.1629E-02	41.910	-4.8772E-02
44.450	-2.5337E-02	46.990	-1.3010E-03	49.530	7.1558E-04
52.070	-2.0713E-04	54.610	-4.1797E-04	57.150	-3.1207E-04
59.690	-8.6013E-05	60.960	3.9114E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.581E+05	0.0300	292.65	2	1.000E-01	7.469E+05	0.0300	292.65
3	2.000E-01	6.392E+05	0.0300	292.65	4	3.000E-01	5.432E+05	0.0300	292.65
5	4.000E-01	4.522E+05	0.0300	292.65	6	5.000E-01	3.670E+05	0.0300	292.65
7	6.000E-01	2.868E+05	0.0300	292.65	8	7.000E-01	2.110E+05	0.0301	292.65
9	8.000E-01	1.392E+05	0.0301	292.65	10	9.000E-01	7.089E+04	0.0302	292.65
11	1.000E+00	6.475E+03	0.0343	292.65	12	1.250E+00	3.156E+03	0.0403	292.65
13	1.500E+00	2.751E+03	0.0421	292.65	14	1.750E+00	2.522E+03	0.0434	292.65
15	2.000E+00	2.367E+03	0.0445	292.65	16	2.500E+00	2.162E+03	0.0461	292.65
17	3.000E+00	2.029E+03	0.0474	292.65	18	3.500E+00	1.932E+03	0.0484	292.65
19	4.000E+00	1.858E+03	0.0493	292.65	20	4.500E+00	1.799E+03	0.0501	292.65
21	5.080E+00	1.743E+03	0.0509	292.65	22	7.620E+00	1.590E+03	0.0533	292.65
23	1.016E+01	1.511E+03	0.0547	292.65	24	1.270E+01	1.468E+03	0.0556	292.65
25	1.524E+01	1.445E+03	0.0561	292.65	26	1.778E+01	1.437E+03	0.0563	292.65
27	2.032E+01	1.438E+03	0.0562	292.65	28	2.286E+01	1.446E+03	0.0561	292.65
29	2.540E+01	1.458E+03	0.0558	292.65	30	2.794E+01	1.473E+03	0.0555	292.65
31	3.048E+01	1.487E+03	0.0552	292.65	32	3.302E+01	1.499E+03	0.0550	292.65
33	3.556E+01	1.508E+03	0.0548	292.65	34	3.810E+01	1.514E+03	0.0547	292.65
35	4.064E+01	1.518E+03	0.0546	292.65	36	4.318E+01	1.518E+03	0.0546	292.65
37	4.572E+01	1.517E+03	0.0546	292.65	38	4.826E+01	1.465E+03	0.0501	292.65
39	5.080E+01	9.716E+02	0.0504	292.65	40	5.334E+01	8.870E+02	0.0504	292.65
41	5.588E+01	8.854E+02	0.0504	292.65	42	5.842E+01	8.844E+02	0.0504	292.65
43	6.096E+01	8.821E+02	0.0504	292.65					

Initial Water Storage = 3.2316 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03002	0.04334	0.05545	0.05045
Head (cm)	6.36590E+05	2.53410E+03	1.47512E+03	8.82181E+02

```
 LiqWater Flow (cm)=-3.71215E-11-2.40150E-02 3.06965E-03 5.76387E-08
 IsoVapor Flow (cm)=-2.58388E-02-2.26761E-05 2.27088E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2316+ 0.0000+ 0.0000 - 0.0258- 0.0000-  0.0000 =    3.2058 vs.    3.2058

 Mass Balance = -8.9513E-06 cm;  Time step attempts =   95 and successes =   83
   Evaporation:  Potential =  0.2932 cm, Actual =  0.0258 cm
 RHMEAN = 63.0 %;  TMEAN = 275.9 K;  HDRY =  6.3659E+05 cm;  DAYUBC =    82

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.04393     0.06482     0.05028
 Head (cm)         = 1.19840E+06 2.44439E+03 1.13268E+03 1.06308E+03
 LiqWater Flow (cm)=-3.46012E-12-3.24701E-02-1.24756E-02 1.23723E-08
 IsoVapor Flow (cm)=-3.67543E-02-2.62342E-05-3.26469E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5921+ 0.0000+ 0.0000 - 0.0368- 0.0000-  0.0000 =    3.5553 vs.    3.5554

 Mass Balance = -1.4396E-05 cm;  Time step attempts =   70 and successes =   53
   Evaporation:  Potential =  0.4041 cm, Actual =  0.0368 cm
 RHMEAN = 41.9 %;  TMEAN = 278.4 K;  HDRY =  1.1984E+06 cm;  DAYUBC =    53
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1575E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1575E+02     [cm]
 Actual Evaporation                 =  2.0190E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.0523E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.2828E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.0523E+01     [cm]
Actual Rainfall                    =  2.0523E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.5554E+00     [cm]
Mass Balance Error                 =  8.9914E-03     [cm]
Total Successful Time Steps        =     67254
Total Attempted Time Steps         =     83746
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     32257
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	3.3273E-01	0.050	1.3774E+01	0.150	1.0483E+01
0.250	8.7808E+00	0.350	7.3702E+00	0.450	6.5017E+00
0.550	5.8800E+00	0.650	5.2931E+00	0.750	4.8904E+00
0.850	4.5162E+00	0.950	4.1625E+00	1.125	3.9198E+00
1.375	3.3622E+00	1.625	2.8637E+00	1.875	2.5182E+00
2.250	2.2861E+00	2.750	1.8524E+00	3.250	1.5531E+00
3.750	1.3095E+00	4.250	1.1034E+00	4.790	9.3901E-01
6.350	7.9309E-01	8.890	5.6177E-01	11.430	4.1563E-01
13.970	3.2088E-01	16.510	3.0247E-01	19.050	2.8921E-01
21.590	2.7329E-01	24.130	2.5466E-01	26.670	2.3337E-01
29.210	2.0960E-01	31.750	1.8361E-01	34.290	1.5570E-01
36.830	1.2624E-01	39.370	9.5556E-02	41.910	6.3976E-02
44.450	3.1779E-02	46.990	-1.6477E-04	49.530	4.5167E-04
52.070	-6.8048E-05	54.610	-1.5511E-04	57.150	-1.4147E-04
59.690	-4.9737E-05	60.960	1.2828E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.198E+06	0.0300	292.65	2	1.000E-01	1.077E+06	0.0300	292.65
3	2.000E-01	9.652E+05	0.0300	292.65	4	3.000E-01	8.620E+05	0.0300	292.65
5	4.000E-01	7.660E+05	0.0300	292.65	6	5.000E-01	6.762E+05	0.0300	292.65
7	6.000E-01	5.919E+05	0.0300	292.65	8	7.000E-01	5.125E+05	0.0300	292.65
9	8.000E-01	4.374E+05	0.0300	292.65	10	9.000E-01	3.662E+05	0.0300	292.65
11	1.000E+00	2.984E+05	0.0300	292.65	12	1.250E+00	1.424E+05	0.0301	292.65
13	1.500E+00	2.906E+03	0.0413	292.65	14	1.750E+00	2.624E+03	0.0428	292.65
15	2.000E+00	2.444E+03	0.0439	292.65	16	2.500E+00	2.211E+03	0.0457	292.65
17	3.000E+00	2.056E+03	0.0471	292.65	18	3.500E+00	1.942E+03	0.0483	292.65
19	4.000E+00	1.854E+03	0.0494	292.65	20	4.500E+00	1.783E+03	0.0503	292.65
21	5.080E+00	1.716E+03	0.0513	292.65	22	7.620E+00	1.524E+03	0.0545	292.65
23	1.016E+01	1.413E+03	0.0568	292.65	24	1.270E+01	1.337E+03	0.0586	292.65
25	1.524E+01	1.281E+03	0.0601	292.65	26	1.778E+01	1.238E+03	0.0613	292.65
27	2.032E+01	1.203E+03	0.0624	292.65	28	2.286E+01	1.175E+03	0.0633	292.65
29	2.540E+01	1.152E+03	0.0641	292.65	30	2.794E+01	1.133E+03	0.0648	292.65
31	3.048E+01	1.117E+03	0.0654	292.65	32	3.302E+01	1.103E+03	0.0659	292.65
33	3.556E+01	1.092E+03	0.0664	292.65	34	3.810E+01	1.083E+03	0.0667	292.65
35	4.064E+01	1.075E+03	0.0670	292.65	36	4.318E+01	1.070E+03	0.0673	292.65
37	4.572E+01	1.066E+03	0.0674	292.65	38	4.826E+01	1.051E+03	0.0503	292.65
39	5.080E+01	9.238E+02	0.0504	292.65	40	5.334E+01	1.015E+03	0.0503	292.65
41	5.588E+01	1.060E+03	0.0503	292.65	42	5.842E+01	1.065E+03	0.0503	292.65
43	6.096E+01	1.063E+03	0.0503	292.65					

Initial Water Storage = 3.5554 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.04584	0.06416	0.05028
Head (cm)	=	7.50500E+05	2.19449E+03	1.15133E+03	1.06316E+03

```
 LiqWater Flow (cm)=-1.45651E-11-2.47285E-02-1.19994E-02 1.23642E-08
 IsoVapor Flow (cm)=-2.25943E-02-1.72107E-05-3.39095E-07 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.5554+ 0.0000+ 0.0000 - 0.0226- 0.0000-  0.0000 =    3.5328 vs.    3.5328

 Mass Balance = -7.2661E-07 cm;  Time step attempts =   62 and successes =   60
   Evaporation:  Potential =  0.4127 cm, Actual =  0.0226 cm
 RHMEAN = 58.0 %;  TMEAN = 279.5 K;  HDRY =  7.5050E+05 cm;  DAYUBC =    59

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 366, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.04512     0.05025
 Head (cm)         = 8.61063E+05 6.85429E+05 2.28256E+03 1.11631E+03
 LiqWater Flow (cm)=-8.55997E-13-2.64299E-12-1.31436E-03 8.28772E-09
 IsoVapor Flow (cm)=-2.92266E-03-2.92266E-03-1.06713E-06 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6300+ 0.0000+ 0.0000 - 0.0029- 0.0000-  0.0000 =    2.6271 vs.    2.6271

 Mass Balance = -4.5638E-08 cm;  Time step attempts =   24 and successes =   24
   Evaporation:  Potential =  0.2451 cm, Actual =  0.0029 cm
 RHMEAN = 53.5 %;  TMEAN = 275.4 K;  HDRY =  8.6106E+05 cm;  DAYUBC =    24
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.2628E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.2628E+02     [cm]
 Actual Evaporation                 =  1.5756E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.4834E+01     [cm]
 Total Basal Liquid Flux (drainage) =  4.5471E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.4834E+01     [cm]
Actual Rainfall                    =  1.4834E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.6271E+00     [cm]
Mass Balance Error                 =  5.9940E-03     [cm]
Total Successful Time Steps        =     50879
Total Attempted Time Steps         =     61797
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27333
Total Time Actually Simulated      =  3.6600E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6600E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-9.2231E-01	0.050	1.0309E+01	0.150	7.2574E+00
0.250	6.4006E+00	0.350	5.8049E+00	0.450	5.3515E+00
0.550	4.9830E+00	0.650	4.5178E+00	0.750	4.1966E+00
0.850	3.8978E+00	0.950	3.5870E+00	1.125	3.2950E+00
1.375	2.6672E+00	1.625	2.3083E+00	1.875	2.0397E+00
2.250	1.6984E+00	2.750	1.1390E+00	3.250	7.7352E-01
3.750	5.1126E-01	4.250	2.2814E-01	4.790	8.3418E-02
6.350	-1.0243E-01	8.890	-5.9324E-01	11.430	-6.8378E-01
13.970	-6.5666E-01	16.510	-6.0870E-01	19.050	-5.6069E-01
21.590	-5.1231E-01	24.130	-4.6343E-01	26.670	-4.1400E-01
29.210	-3.6402E-01	31.750	-3.1352E-01	34.290	-2.6255E-01
36.830	-2.1114E-01	39.370	-1.5934E-01	41.910	-1.0720E-01
44.450	-5.4744E-02	46.990	-1.6860E-03	49.530	2.2692E-04
52.070	-7.1239E-06	54.610	-1.4950E-05	57.150	-1.0146E-05
59.690	-7.2527E-07	60.960	4.5471E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	8.611E+05	0.0300	292.65	2	1.000E-01	8.517E+05	0.0300	292.65
3	2.000E-01	8.425E+05	0.0300	292.65	4	3.000E-01	8.333E+05	0.0300	292.65
5	4.000E-01	8.241E+05	0.0300	292.65	6	5.000E-01	8.150E+05	0.0300	292.65
7	6.000E-01	8.060E+05	0.0300	292.65	8	7.000E-01	7.970E+05	0.0300	292.65
9	8.000E-01	7.881E+05	0.0300	292.65	10	9.000E-01	7.792E+05	0.0300	292.65
11	1.000E+00	7.705E+05	0.0300	292.65	12	1.250E+00	7.487E+05	0.0300	292.65
13	1.500E+00	7.273E+05	0.0300	292.65	14	1.750E+00	7.062E+05	0.0300	292.65
15	2.000E+00	6.854E+05	0.0300	292.65	16	2.500E+00	6.448E+05	0.0300	292.65
17	3.000E+00	6.053E+05	0.0300	292.65	18	3.500E+00	5.670E+05	0.0300	292.65
19	4.000E+00	5.297E+05	0.0300	292.65	20	4.500E+00	4.933E+05	0.0300	292.65
21	5.080E+00	4.523E+05	0.0300	292.65	22	7.620E+00	2.858E+05	0.0300	292.65
23	1.016E+01	1.373E+05	0.0301	292.65	24	1.270E+01	3.518E+03	0.0390	292.65
25	1.524E+01	2.963E+03	0.0411	292.65	26	1.778E+01	2.701E+03	0.0424	292.65
27	2.032E+01	2.539E+03	0.0433	292.65	28	2.286E+01	2.428E+03	0.0440	292.65
29	2.540E+01	2.345E+03	0.0446	292.65	30	2.794E+01	2.283E+03	0.0451	292.65
31	3.048E+01	2.234E+03	0.0455	292.65	32	3.302E+01	2.195E+03	0.0458	292.65
33	3.556E+01	2.164E+03	0.0461	292.65	34	3.810E+01	2.141E+03	0.0463	292.65
35	4.064E+01	2.123E+03	0.0465	292.65	36	4.318E+01	2.111E+03	0.0466	292.65
37	4.572E+01	2.103E+03	0.0467	292.65	38	4.826E+01	1.941E+03	0.0501	292.65
39	5.080E+01	1.605E+03	0.0501	292.65	40	5.334E+01	1.350E+03	0.0502	292.65
41	5.588E+01	1.201E+03	0.0502	292.65	42	5.842E+01	1.135E+03	0.0502	292.65
43	6.096E+01	1.116E+03	0.0502	292.65					

Initial Water Storage = 2.6271 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03001	0.03001	0.04504	0.05025
Head (cm)	=	1.42694E+06	1.08397E+06	2.29221E+03	1.11705E+03

```
 LiqWater Flow (cm)=-1.47721E-13-5.34144E-13-1.30647E-03 8.24271E-09
 IsoVapor Flow (cm)=-4.12682E-03-4.11260E-03-1.08211E-06 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.6271+ 0.0000+ 0.0000 - 0.0041- 0.0000-  0.0000 =    2.6229 vs.    2.6229

 Mass Balance =  6.0153E-06 cm;  Time step attempts =   48 and successes =   41
   Evaporation:  Potential =  0.2990 cm, Actual =  0.0041 cm
 RHMEAN = 35.5 %;  TMEAN = 275.9 K;  HDRY =  1.4269E+06 cm;  DAYUBC =    41

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.08653     0.08752     0.07301     0.05058
 Head (cm)         = 7.49185E+02 7.38039E+02 9.46956E+02 7.96306E+02
 LiqWater Flow (cm)= 1.28766E+00 1.16127E+00 9.67814E-02 1.33728E-07
 IsoVapor Flow (cm)= 1.45604E-05 3.41266E-05 2.76437E-06 0.00000E+00

                                              LIQUID
  PRESTOR   INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.8664+ 1.4732+ 0.0000 - 0.1827- 0.0000-  0.0000 =    4.1569 vs.    4.1559

 Mass Balance =  1.0595E-03 cm;  Time step attempts = 2307 and successes = 1729
   Evaporation:  Potential =  0.1864 cm, Actual =  0.1827 cm
 RHMEAN = 91.4 %;  TMEAN = 281.8 K;  HDRY =  1.2349E+05 cm;  DAYUBC =     0
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1796E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1796E+02     [cm]
 Actual Evaporation                 =  2.9019E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  3.0556E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.2857E-06     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  3.0556E+01     [cm]
Actual Rainfall                    =  3.0556E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  4.1559E+00     [cm]
Mass Balance Error                 =  7.8821E-03     [cm]
Total Successful Time Steps        =     57974
Total Attempted Time Steps         =     70806
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     27145
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	1.5367E+00	0.050	1.5375E+01	0.150	8.7842E+00
0.250	7.2983E+00	0.350	6.0681E+00	0.450	5.5426E+00
0.550	5.1104E+00	0.650	4.7733E+00	0.750	4.6095E+00
0.850	4.4096E+00	0.950	4.2644E+00	1.125	4.1658E+00
1.375	3.9068E+00	1.625	3.7132E+00	1.875	3.5227E+00
2.250	3.3130E+00	2.750	2.9895E+00	3.250	2.7765E+00
3.750	2.6101E+00	4.250	2.4357E+00	4.790	2.2728E+00
6.350	2.0253E+00	8.890	1.4800E+00	11.430	1.1812E+00
13.970	8.7885E-01	16.510	6.4813E-01	19.050	5.2711E-01
21.590	4.2666E-01	24.130	3.3465E-01	26.670	2.5230E-01
29.210	1.8129E-01	31.750	1.2366E-01	34.290	8.1509E-02
36.830	5.5178E-02	39.370	3.9243E-02	41.910	2.7028E-02
44.450	1.5685E-02	46.990	5.3446E-03	49.530	7.4396E-03
52.070	4.4976E-03	54.610	2.7253E-03	57.150	1.0627E-03
59.690	2.2001E-04	60.960	8.2857E-06		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.492E+02	0.0865	292.65	2	1.000E-01	7.416E+02	0.0872	292.65
3	2.000E-01	7.434E+02	0.0870	292.65	4	3.000E-01	7.430E+02	0.0871	292.65
5	4.000E-01	7.424E+02	0.0871	292.65	6	5.000E-01	7.421E+02	0.0871	292.65
7	6.000E-01	7.419E+02	0.0872	292.65	8	7.000E-01	7.417E+02	0.0872	292.65
9	8.000E-01	7.414E+02	0.0872	292.65	10	9.000E-01	7.411E+02	0.0872	292.65
11	1.000E+00	7.408E+02	0.0873	292.65	12	1.250E+00	7.401E+02	0.0873	292.65
13	1.500E+00	7.393E+02	0.0874	292.65	14	1.750E+00	7.387E+02	0.0875	292.65
15	2.000E+00	7.380E+02	0.0875	292.65	16	2.500E+00	7.369E+02	0.0876	292.65
17	3.000E+00	7.359E+02	0.0877	292.65	18	3.500E+00	7.350E+02	0.0878	292.65
19	4.000E+00	7.342E+02	0.0879	292.65	20	4.500E+00	7.336E+02	0.0879	292.65
21	5.080E+00	7.330E+02	0.0880	292.65	22	7.620E+00	7.326E+02	0.0880	292.65
23	1.016E+01	7.356E+02	0.0877	292.65	24	1.270E+01	7.426E+02	0.0871	292.65
25	1.524E+01	7.543E+02	0.0861	292.65	26	1.778E+01	7.716E+02	0.0846	292.65
27	2.032E+01	7.961E+02	0.0827	292.65	28	2.286E+01	8.304E+02	0.0802	292.65
29	2.540E+01	8.784E+02	0.0770	292.65	30	2.794E+01	9.470E+02	0.0730	292.65
31	3.048E+01	1.048E+03	0.0682	292.65	32	3.302E+01	1.204E+03	0.0624	292.65
33	3.556E+01	1.429E+03	0.0564	292.65	34	3.810E+01	1.632E+03	0.0526	292.65
35	4.064E+01	1.716E+03	0.0513	292.65	36	4.318E+01	1.731E+03	0.0510	292.65
37	4.572E+01	1.730E+03	0.0511	292.65	38	4.826E+01	1.600E+03	0.0501	292.65
39	5.080E+01	9.382E+02	0.0504	292.65	40	5.334E+01	7.835E+02	0.0506	292.65
41	5.588E+01	7.635E+02	0.0506	292.65	42	5.842E+01	7.809E+02	0.0506	292.65
43	6.096E+01	7.963E+02	0.0506	292.65					

Initial Water Storage = 4.1559 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	=	1	15	30	43
Depth (cm)	=	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	=	0.03007	0.07064	0.07314	0.05058
Head (cm)	=	1.98374E+05	9.93641E+02	9.44585E+02	7.95756E+02

```
 LiqWater Flow (cm)=-6.07483E-02-9.88876E-02 1.20797E-01 1.34505E-07
 IsoVapor Flow (cm)=-7.72573E-02-1.03629E-06 1.24158E-06 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   4.1559+ 0.0508+ 0.0000 - 0.1916- 0.0000-  0.0000 =    4.0150 vs.    4.0151

 Mass Balance = -2.6415E-05 cm;  Time step attempts =  248 and successes =  210
   Evaporation:  Potential =  0.4749 cm, Actual =  0.1916 cm
 RHMEAN = 80.3 %;  TMEAN = 280.4 K;  HDRY =  3.0227E+05 cm;  DAYUBC =    64

--------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03002     0.04633     0.05131     0.05046
 Head (cm)         = 7.13118E+05 2.13938E+03 1.71252E+03 8.74989E+02
 LiqWater Flow (cm)=-1.83405E-04-4.47956E-02-1.42134E-03 6.16353E-08
 IsoVapor Flow (cm)=-7.69419E-02-1.12819E-05-3.39111E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.2154+ 0.0000+ 0.0000 - 0.0771- 0.0000-  0.0000 =    3.1383 vs.    3.1383

 Mass Balance = -7.0153E-05 cm;  Time step attempts =  383 and successes =  304
   Evaporation:  Potential =  0.5522 cm, Actual =  0.0771 cm
 RHMEAN = 59.6 %;  TMEAN = 285.7 K;  HDRY =  7.1312E+05 cm;  DAYUBC =   201
1

--------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
--------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.1971E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.1971E+02     [cm]
 Actual Evaporation                 =  2.3667E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  2.2657E+01     [cm]
 Total Basal Liquid Flux (drainage) =  3.9583E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  2.2657E+01     [cm]
Actual Rainfall                    =  2.2657E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  3.1383E+00     [cm]
Mass Balance Error                 =  7.6074E-03     [cm]
Total Successful Time Steps        =     62633
Total Attempted Time Steps         =     76742
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     30594
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.0099E+00	0.050	1.3406E+01	0.150	8.0691E+00
0.250	6.4709E+00	0.350	5.6810E+00	0.450	5.1205E+00
0.550	4.5368E+00	0.650	4.0134E+00	0.750	3.6789E+00
0.850	3.4251E+00	0.950	3.1542E+00	1.125	2.7857E+00
1.375	2.2144E+00	1.625	1.7686E+00	1.875	1.4624E+00
2.250	1.2264E+00	2.750	7.0410E-01	3.250	2.8531E-01
3.750	6.1545E-02	4.250	-1.1171E-01	4.790	-2.4058E-01
6.350	-2.9611E-01	8.890	-3.6925E-01	11.430	-3.8787E-01
13.970	-3.9072E-01	16.510	-4.0599E-01	19.050	-3.4356E-01
21.590	-2.6768E-01	24.130	-1.9619E-01	26.670	-1.3155E-01
29.210	-7.6539E-02	31.750	-3.3993E-02	34.290	-6.4978E-03
36.830	5.3791E-03	39.370	6.9308E-03	41.910	4.7725E-03
44.450	1.7352E-03	46.990	-9.0028E-04	49.530	1.3492E-03
52.070	-8.7299E-05	54.610	-3.7467E-04	57.150	-2.4570E-04
59.690	-4.8142E-05	60.960	3.9583E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	7.131E+05	0.0300	292.65	2	1.000E-01	5.871E+05	0.0300	292.65
3	2.000E-01	4.716E+05	0.0300	292.65	4	3.000E-01	3.650E+05	0.0300	292.65
5	4.000E-01	2.661E+05	0.0301	292.65	6	5.000E-01	1.738E+05	0.0301	292.65
7	6.000E-01	8.734E+04	0.0302	292.65	8	7.000E-01	6.317E+03	0.0345	292.65
9	8.000E-01	3.755E+03	0.0383	292.65	10	9.000E-01	3.257E+03	0.0399	292.65
11	1.000E+00	2.981E+03	0.0410	292.65	12	1.250E+00	2.599E+03	0.0429	292.65
13	1.500E+00	2.387E+03	0.0443	292.65	14	1.750E+00	2.244E+03	0.0454	292.65
15	2.000E+00	2.139E+03	0.0463	292.65	16	2.500E+00	1.991E+03	0.0478	292.65
17	3.000E+00	1.889E+03	0.0489	292.65	18	3.500E+00	1.814E+03	0.0499	292.65
19	4.000E+00	1.755E+03	0.0507	292.65	20	4.500E+00	1.709E+03	0.0514	292.65
21	5.080E+00	1.665E+03	0.0520	292.65	22	7.620E+00	1.555E+03	0.0539	292.65
23	1.016E+01	1.513E+03	0.0547	292.65	24	1.270E+01	1.510E+03	0.0548	292.65
25	1.524E+01	1.533E+03	0.0543	292.65	26	1.778E+01	1.574E+03	0.0536	292.65
27	2.032E+01	1.624E+03	0.0527	292.65	28	2.286E+01	1.671E+03	0.0519	292.65
29	2.540E+01	1.702E+03	0.0515	292.65	30	2.794E+01	1.713E+03	0.0513	292.65
31	3.048E+01	1.708E+03	0.0514	292.65	32	3.302E+01	1.697E+03	0.0515	292.65
33	3.556E+01	1.684E+03	0.0517	292.65	34	3.810E+01	1.672E+03	0.0519	292.65
35	4.064E+01	1.661E+03	0.0521	292.65	36	4.318E+01	1.653E+03	0.0522	292.65
37	4.572E+01	1.648E+03	0.0523	292.65	38	4.826E+01	1.556E+03	0.0501	292.65
39	5.080E+01	1.018E+03	0.0503	292.65	40	5.334E+01	8.834E+02	0.0504	292.65
41	5.588E+01	8.701E+02	0.0505	292.65	42	5.842E+01	8.737E+02	0.0505	292.65
43	6.096E+01	8.750E+02	0.0505	292.65					

Initial Water Storage = 3.1383 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	1	15	30	43
Depth (cm)	0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	0.03002	0.04342	0.05187	0.05046
Head (cm)	7.09845E+05	2.52160E+03	1.67568E+03	8.74950E+02

```
 LiqWater Flow (cm)=-3.25950E-11-2.68190E-02 7.28023E-04 6.16577E-08
 IsoVapor Flow (cm)=-3.45174E-02-2.06315E-05 7.62073E-08 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   3.1383+ 0.0000+ 0.0000 - 0.0345- 0.0000-  0.0000 =    3.1038 vs.    3.1039

 Mass Balance = -3.2708E-05 cm;  Time step attempts =  197 and successes =  157
   Evaporation:  Potential =  0.4151 cm, Actual =  0.0345 cm
 RHMEAN = 59.8 %;  TMEAN = 286.2 K;  HDRY =  7.0984E+05 cm;  DAYUBC =   156

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03001     0.03002     0.05125     0.05023
 Head (cm)         = 1.53614E+06 5.72974E+05 1.71650E+03 1.14847E+03
 LiqWater Flow (cm)=-3.94946E-13-5.63822E-11-1.45656E-03 6.55251E-09
 IsoVapor Flow (cm)=-1.33724E-02-1.33619E-02-3.27938E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF    EVAPO   TRANS    DRAIN     NEWSTOR       STORAGE
   2.9673+ 0.0000+ 0.0000 - 0.0134- 0.0000-  0.0000 =    2.9539 vs.    2.9539

 Mass Balance = -4.1195E-06 cm;  Time step attempts =   28 and successes =   26
   Evaporation:  Potential =  0.4463 cm, Actual =  0.0134 cm
 RHMEAN = 32.8 %;  TMEAN = 280.9 K;  HDRY =  1.5361E+06 cm;  DAYUBC =    26
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.3745E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.3745E+02     [cm]
 Actual Evaporation                 =  1.1201E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.1024E+01     [cm]
 Total Basal Liquid Flux (drainage) =  1.3305E-05     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.1024E+01     [cm]
Actual Rainfall                    =  1.1024E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.9539E+00     [cm]
Mass Balance Error                 =  7.1438E-03     [cm]
Total Successful Time Steps        =     58525
Total Attempted Time Steps         =     72070
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     31150
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-1.7731E-01	0.050	8.5643E+00	0.150	6.6354E+00
0.250	5.9816E+00	0.350	5.5777E+00	0.450	5.2074E+00
0.550	4.8888E+00	0.650	4.6139E+00	0.750	4.3545E+00
0.850	4.0922E+00	0.950	3.8994E+00	1.125	3.7057E+00
1.375	3.1063E+00	1.625	2.7385E+00	1.875	2.4496E+00
2.250	2.2020E+00	2.750	1.6182E+00	3.250	1.2590E+00
3.750	1.0109E+00	4.250	8.9616E-01	4.790	7.4015E-01
6.350	5.9081E-01	8.890	3.8483E-01	11.430	2.7566E-01
13.970	1.6716E-01	16.510	8.2211E-02	19.050	2.8136E-02
21.590	-5.7786E-03	24.130	-3.0442E-03	26.670	-1.9587E-03
29.210	-1.9442E-03	31.750	-2.3480E-03	34.290	-2.7813E-03
36.830	-3.0714E-03	39.370	-3.1728E-03	41.910	-3.0998E-03
44.450	-2.8948E-03	46.990	-1.5080E-03	49.530	-1.7529E-05
52.070	-1.3331E-04	54.610	-1.8787E-04	57.150	-1.6291E-04
59.690	-5.9882E-05	60.960	1.3305E-05		

UNSAT-H Version 3.01
INITIAL CONDITIONS

Input File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Results File: C:\Users\kebenson\OneDrive - Burns & McDonnell\NOD El Paso\elpaso
Date of Run: 15 Sep 2025
Time of Run: 17:35:47.28
Title:
Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants

Initial Conditions					Initial Conditions				
NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)	NODE	DEPTH (cm)	HEAD (cm)	THETA (vol.)	TEMP (K)
1	0.000E+00	1.536E+06	0.0300	292.65	2	1.000E-01	1.469E+06	0.0300	292.65
3	2.000E-01	1.404E+06	0.0300	292.65	4	3.000E-01	1.342E+06	0.0300	292.65
5	4.000E-01	1.283E+06	0.0300	292.65	6	5.000E-01	1.227E+06	0.0300	292.65
7	6.000E-01	1.172E+06	0.0300	292.65	8	7.000E-01	1.120E+06	0.0300	292.65
9	8.000E-01	1.069E+06	0.0300	292.65	10	9.000E-01	1.020E+06	0.0300	292.65
11	1.000E+00	9.732E+05	0.0300	292.65	12	1.250E+00	8.618E+05	0.0300	292.65
13	1.500E+00	7.587E+05	0.0300	292.65	14	1.750E+00	6.627E+05	0.0300	292.65
15	2.000E+00	5.730E+05	0.0300	292.65	16	2.500E+00	4.093E+05	0.0300	292.65
17	3.000E+00	2.633E+05	0.0301	292.65	18	3.500E+00	1.314E+05	0.0301	292.65
19	4.000E+00	1.098E+04	0.0323	292.65	20	4.500E+00	3.539E+03	0.0389	292.65
21	5.080E+00	3.083E+03	0.0405	292.65	22	7.620E+00	2.376E+03	0.0444	292.65
23	1.016E+01	2.133E+03	0.0464	292.65	24	1.270E+01	1.997E+03	0.0477	292.65
25	1.524E+01	1.908E+03	0.0487	292.65	26	1.778E+01	1.845E+03	0.0495	292.65
27	2.032E+01	1.799E+03	0.0501	292.65	28	2.286E+01	1.764E+03	0.0506	292.65
29	2.540E+01	1.737E+03	0.0509	292.65	30	2.794E+01	1.716E+03	0.0512	292.65
31	3.048E+01	1.700E+03	0.0515	292.65	32	3.302E+01	1.688E+03	0.0517	292.65
33	3.556E+01	1.678E+03	0.0518	292.65	34	3.810E+01	1.670E+03	0.0520	292.65
35	4.064E+01	1.664E+03	0.0521	292.65	36	4.318E+01	1.659E+03	0.0521	292.65
37	4.572E+01	1.655E+03	0.0522	292.65	38	4.826E+01	1.614E+03	0.0501	292.65
39	5.080E+01	1.392E+03	0.0501	292.65	40	5.334E+01	1.261E+03	0.0502	292.65
41	5.588E+01	1.198E+03	0.0502	292.65	42	5.842E+01	1.162E+03	0.0502	292.65
43	6.096E+01	1.148E+03	0.0502	292.65					

Initial Water Storage = 2.9539 cm

DAILY SUMMARY: Day = 1, Simulated Time = 24.0000 hr

Node Number	= 1	15	30	43
Depth (cm)	= 0.00000	2.00000	27.94000	60.96000
Water (cm3/cm3)	= 0.03001	0.03002	0.05109	0.05023
Head (cm)	= 1.41657E+06	6.10843E+05	1.72739E+03	1.14906E+03

```
 LiqWater Flow (cm)=-4.53606E-13-3.34251E-11-1.61955E-03 6.52490E-09
 IsoVapor Flow (cm)=-1.16201E-02-1.16201E-02-3.67610E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.9539+ 0.0000+ 0.0000 - 0.0116- 0.0000-  0.0000 =     2.9423 vs.     2.9423

 Mass Balance = -6.2022E-06 cm;  Time step attempts =   64 and successes =   58
   Evaporation:  Potential =  0.3896 cm, Actual =  0.0116 cm
 RHMEAN = 35.8 %;  TMEAN = 281.5 K;  HDRY =  1.4166E+06 cm;  DAYUBC =    57

-------------------------------------------------------------------------------


 DAILY SUMMARY:  Day = 365, Simulated Time = 24.0000 hr
 -------------
 Node Number       =       1          15          30          43
 Depth (cm)        =     0.00000     2.00000    27.94000    60.96000
 Water (cm3/cm3)   =     0.03000     0.03001     0.05000     0.05013
 Head (cm)         = 2.16723E+06 1.21638E+06 1.80603E+03 1.46495E+03
 LiqWater Flow (cm)=-6.38283E-14-7.33809E-13-2.53177E-03 8.78066E-10
 IsoVapor Flow (cm)=-8.27982E-03-8.28004E-03-6.56984E-07 0.00000E+00

                                              LIQUID
  PRESTOR    INFIL  RUNOFF     EVAPO    TRANS     DRAIN      NEWSTOR        STORAGE
   2.8696+ 0.0000+ 0.0000 - 0.0083- 0.0000-  0.0000 =     2.8613 vs.     2.8613

 Mass Balance = -2.8309E-07 cm;  Time step attempts =   78 and successes =   78
   Evaporation:  Potential =  0.8891 cm, Actual =  0.0083 cm
 RHMEAN = 20.8 %;  TMEAN = 286.2 K;  HDRY =  2.1672E+06 cm;  DAYUBC =    77
1

-------------------------------------------------------------------------------
                            UNSAT-H Version 3.01
                             SIMULATION SUMMARY

 Title:
 Greater El Paso Landfill 2284A - 2025 ET Cap Design, No Plants
-------------------------------------------------------------------------------

 Transpiration Scheme is:           =    0
 Potential Evapotranspiration       =  3.4447E+02     [cm]
 Potential Transpiration            =  0.0000E+00     [cm]
 Actual Transpiration               =  0.0000E+00     [cm]
 Potential Evaporation              =  3.4447E+02     [cm]
 Actual Evaporation                 =  1.1719E+01     [cm]
 Evaporation during Growth          =  0.0000E+00     [cm]
 Total Runoff                       =  0.0000E+00     [cm]
 Total Infiltration                 =  1.1633E+01     [cm]
 Total Basal Liquid Flux (drainage) =  8.1990E-07     [cm]
```

```
Total Basal Vapor Flux (temp-grad) =  0.0000E+00     [cm]
Total Applied Water                =  1.1633E+01     [cm]
Actual Rainfall                    =  1.1633E+01     [cm]
Actual Irrigation                  =  0.0000E+00     [cm]
Total Final Moisture Storage       =  2.8613E+00     [cm]
Mass Balance Error                 =  6.6786E-03     [cm]
Total Successful Time Steps        =     55052
Total Attempted Time Steps         =     67567
Total Time Step Reductions (DHMAX) =         0
Total Changes in Surface Boundary  =     29649
Total Time Actually Simulated      =  3.6500E+02     [days]
```

Total liquid water flow (cm) across different depths at the end of 3.6500E+02 days:

DEPTH	FLOW	DEPTH	FLOW	DEPTH	FLOW
0.000	-8.5925E-02	0.050	9.0392E+00	0.150	6.9847E+00
0.250	6.2650E+00	0.350	5.6683E+00	0.450	5.2342E+00
0.550	4.8918E+00	0.650	4.5887E+00	0.750	4.2915E+00
0.850	4.0521E+00	0.950	3.7820E+00	1.125	3.5889E+00
1.375	3.1565E+00	1.625	2.8897E+00	1.875	2.5731E+00
2.250	2.3133E+00	2.750	1.8990E+00	3.250	1.4995E+00
3.750	1.2919E+00	4.250	1.1012E+00	4.790	8.7650E-01
6.350	6.6167E-01	8.890	2.7643E-01	11.430	2.1497E-01
13.970	1.5462E-01	16.510	1.0014E-01	19.050	5.0029E-02
21.590	-3.4339E-03	24.130	-1.9952E-02	26.670	-1.6570E-02
29.210	-1.3535E-02	31.750	-1.0882E-02	34.290	-8.5937E-03
36.830	-6.6310E-03	39.370	-4.9339E-03	41.910	-3.4387E-03
44.450	-2.0893E-03	46.990	-1.9108E-04	49.530	3.9153E-05
52.070	-3.3472E-06	54.610	-1.0431E-05	57.150	-1.1550E-05
59.690	-4.7625E-06	60.960	8.1990E-07		

APPENDIX III.I.1.E – LABORATORY SOIL DATA

Summary of Sample Preparation

	Proctor Data		Target Remold Densities	Actual Remold Values		
Sample Number	Optimum Moisture Content (% g/g)	Maximum Dry Bulk Density (g/cm^3)	Dry Bulk Density (g/cm^3)	Moisture Content (% g/g)	Dry Bulk Density (g/cm^3)	% of Max. Dry Bulk Density (%)
El Paso 75%			1.37	6.1	1.41	77.2%
El Paso 80%			1.46	6.1	1.50	82.2%
El Paso 85%	10.9	1.83	1.56	6.2	1.60	87.3%
El Paso 90%			1.65	6.2	1.69	92.4%
El Paso 95%			1.74	6.1	1.79	97.6%

Summary of Saturated Hydraulic Conductivity Tests

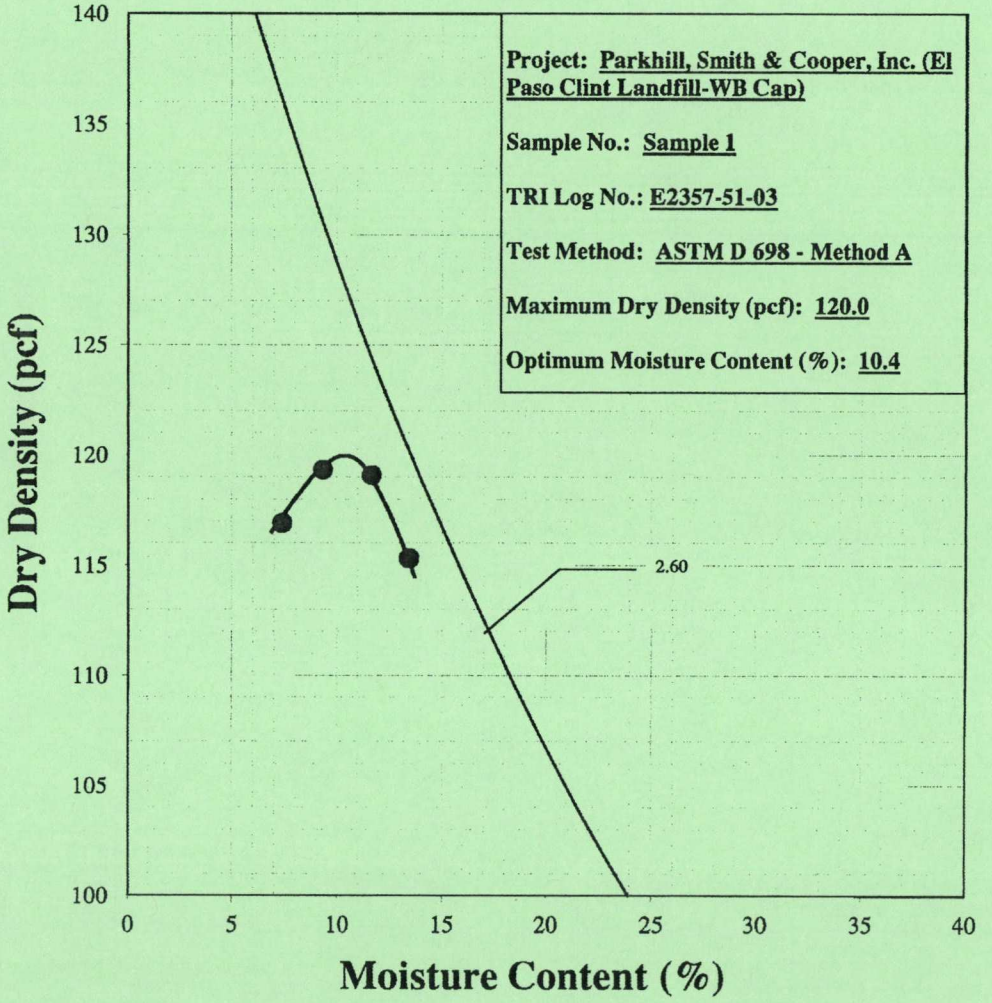
Sample Number	K_{sat} (cm/sec)	Method of Analysis	
		Constant Head	Falling Head
El Paso 75%	1.2E-02	X	
El Paso 80%	6.6E-03	X	
El Paso 85%	3.1E-03	X	
El Paso 90%	1.3E-03	X	
El Paso 95%	7.9E-04	X	

Summary of Moisture Characteristics of the Initial Drainage Curve

Sample Number	Pressure Head (-cm water)	Moisture Content (%, cm^3/cm^3)
El Paso 75%	0	46.0
	12	41.3
	38	40.1
	79	18.7
	510	13.8
	11728	5.2
	851293	1.2
El Paso 80%	0	45.2
	12	41.5
	38	39.7
	79	18.8
	510	10.4
	11728	5.6
	851293	1.2
El Paso 85%	0	43.4
	12	40.1
	38	39.3
	79	21.5
	510	10.8
	11728	5.9
	851293	1.3
El Paso 90%	0	37.7
	11	36.1
	40	34.8
	83	33.6
	510	11.5
	11728	6.3
	851293	1.4

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Proctor Compaction Test



John M. Allen, P.E., 09/16/11

Quality Review/Date

Tested by: Joe Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

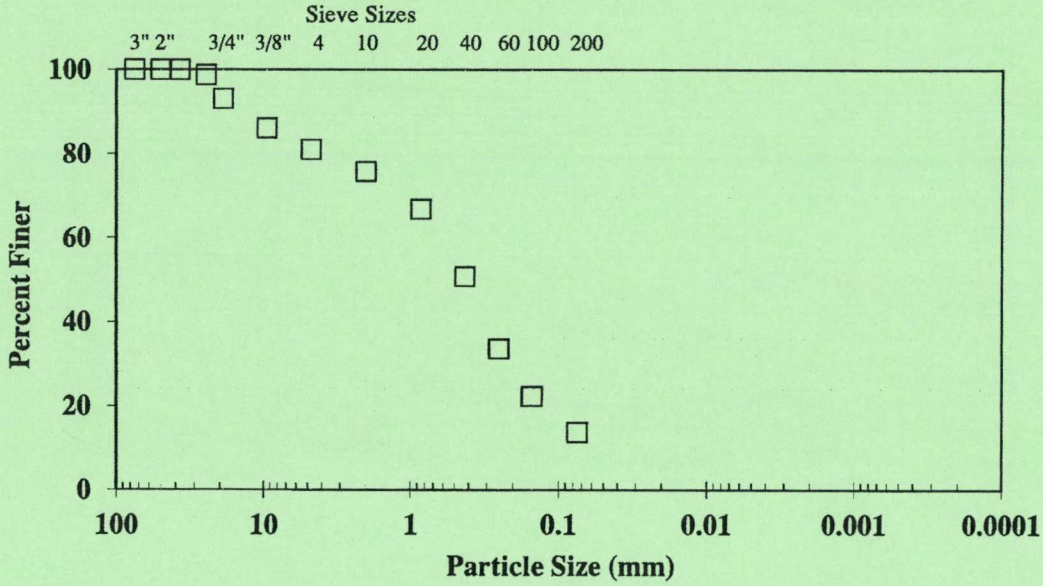
9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Particle Size Analysis for Soils

Client: Parkhill, Smith, & Cooper, Inc.
Project: El Paso Clint Landfill-WB Cap
Sample: Sample 1

TRI Log#: E2357-51-03
Test Method: ASTM D 422
Test Date: 09/13/11



Sieve Analysis	
Sieve Size	Percentage Passing (%)
3 in.	100.0
2 in.	100.0
1.5 in.	100.0
1 in.	98.8
3/4 in.	93.1
3/8 in.	86.1
No. 4 (4.75 mm)	81.1
No. 10 (2.00 mm)	75.7
No. 20 (850 µm)	66.8
No. 40 (425 µm)	50.8
No. 60 (250 µm)	33.5
No. 100 (150 µm)	22.3
No. 200 (75 µm)	13.7

Notes: Soil classifies as a silty sand with gravel (SM) in accordance with ASTM D 2487.

Plastic Index (ASTM D 4318) Results	
Liquid Limit	NL
Plastic Limit	NP
Plastic Index	NP
Notes: Specimen was air dried, 3 point Liquid Limit procedure was used.	

John M. Allen, P.E., 09/15/11
Quality Review/Date
Tested by: Joe Vasquez & Tierra Jackson

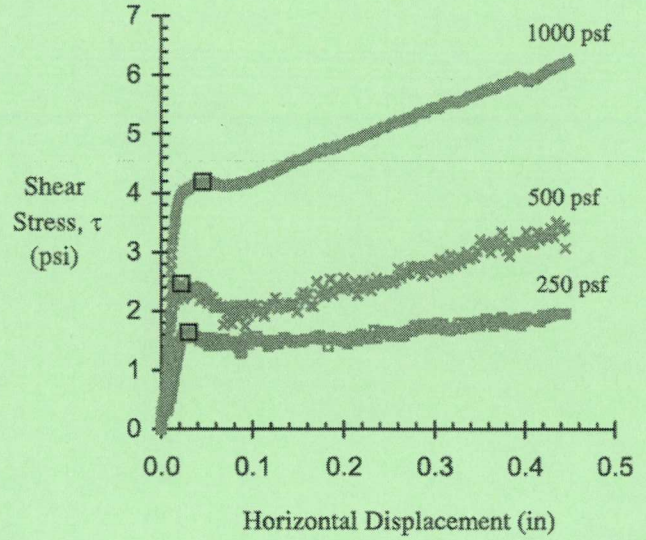
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

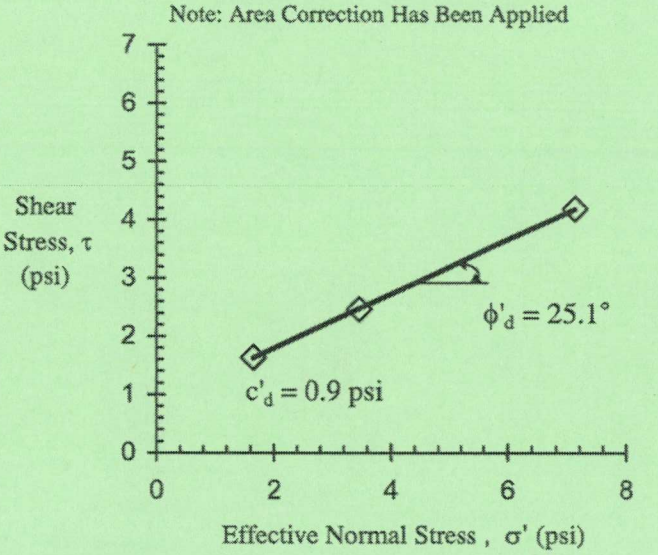
Direct Shear of Soil Under Consolidated-Drained Conditions

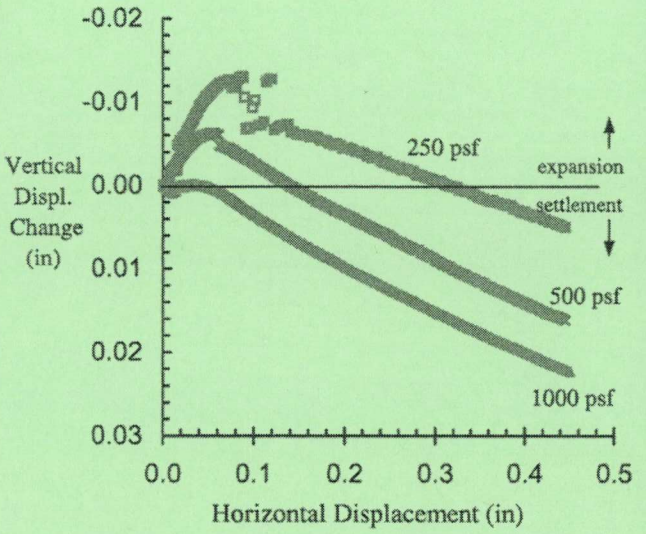
Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1

TRI Log#: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11



Note: Area Correction Has Been Applied





Sample Number		1	2	3
Initial Condition	Diameter, in	2.50	2.50	2.50
	Height, in (before consol)	0.99	0.99	1.00
	Water Content, %	10.0	10.1	10.0
	Saturation, %	51.0	51.7	51.2
	Dry Density, pcf	108.2	108.4	108.3
	Void Ratio	0.52	0.51	0.51
Post Consol	Height, in (prior to shear)	0.99	0.98	0.99
	Final Water Content, %	16.8	17.9	16.5
	Dry Density, pcf	108.8	108.9	109.1
	Void Ratio	0.51	0.51	0.50
Peak Normal Stress, σ' (psi)		1.6	3.5	7.1
Peak Shear Stress, τ (psi)		1.6	2.5	4.2
Displacement at Failure (in)		0.03	0.02	0.05
Displacement rate (in/min)		0.001	0.001	0.001
Sample Type	Remolded	ϕ'_d, degrees		**25.1**
G_s (measured)	2.626	c'_d, psi		**0.9**

Note: The soil was air dried and passed through a No. 4 sieve to eliminate any over sized particles. Specimens were remolded a target dry density of 90% standard compaction at optimum moisture content or 108.0 pcf dry density at a moisture content of 10.4 %.

Cheng-Wei Chen, 09/28/11
Analysis & Quality Review/Date
Specimens prepared by: Chirag Rakholia

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 250

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 1

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.10
3	0.000	0.003	4.89	0.39
4	0.001	0.006	4.88	0.37
5	0.001	0.008	4.87	0.38
6	0.001	0.011	4.87	0.52
7	0.001	0.013	4.86	0.76
8	-0.002	0.016	4.85	1.06
9	-0.005	0.018	4.85	1.23
10	-0.005	0.020	4.84	1.42
11	-0.006	0.026	4.83	1.58
12	-0.008	0.033	4.81	1.61
13	-0.009	0.041	4.79	1.53
14	-0.011	0.048	4.77	1.47
15	-0.011	0.056	4.75	1.52
16	-0.012	0.063	4.74	1.46
17	-0.013	0.071	4.72	1.48
18	-0.012	0.078	4.70	1.47
19	-0.013	0.086	4.68	1.37
20	-0.007	0.093	4.66	1.52
21	-0.007	0.105	4.63	1.57
22	-0.013	0.120	4.59	1.44
23	-0.007	0.135	4.56	1.55
24	-0.006	0.150	4.52	1.51
25	-0.006	0.165	4.48	1.53
26	-0.005	0.180	4.44	1.53
27	-0.005	0.195	4.41	1.52
28	-0.004	0.210	4.37	1.55
29	-0.003	0.240	4.29	1.64
30	-0.002	0.270	4.22	1.65
31	-0.001	0.300	4.15	1.77
32	0.001	0.330	4.07	1.71
33	0.002	0.360	4.00	1.84
34	0.003	0.390	3.92	1.77
35	0.004	0.420	3.85	1.92

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 500

TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 2

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.001	4.89	0.08
3	0.000	0.003	4.88	0.36
4	0.000	0.006	4.88	0.74
5	-0.002	0.008	4.87	1.27
6	-0.002	0.011	4.87	1.87
7	-0.002	0.013	4.86	2.22
8	-0.003	0.016	4.85	2.25
9	-0.003	0.018	4.85	2.41
10	-0.004	0.021	4.84	2.44
11	-0.005	0.028	4.82	2.33
12	-0.005	0.036	4.80	2.42
13	-0.006	0.043	4.78	2.18
14	-0.006	0.051	4.77	2.27
15	-0.006	0.057	4.75	2.22
16	-0.005	0.064	4.73	2.07
17	-0.005	0.072	4.71	2.06
18	-0.004	0.079	4.69	1.99
19	-0.004	0.087	4.68	2.09
20	-0.003	0.094	4.66	2.01
21	-0.002	0.108	4.62	1.98
22	-0.001	0.120	4.59	2.06
23	0.000	0.135	4.56	2.07
24	0.001	0.150	4.52	1.98
25	0.002	0.165	4.48	2.09
26	0.002	0.180	4.44	2.24
27	0.003	0.195	4.41	2.38
28	0.004	0.210	4.37	2.35
29	0.006	0.240	4.29	2.49
30	0.007	0.270	4.22	2.63
31	0.009	0.300	4.15	2.80
32	0.011	0.330	4.07	2.82
33	0.012	0.360	4.00	3.15
34	0.014	0.390	3.92	3.10
35	0.015	0.420	3.85	3.32

Client: Parkhill, Smith, Cooper Inc.
Project: El Paso Clint Landfill
Specimen: Sample #1
Normal Stress (psf) : 1000

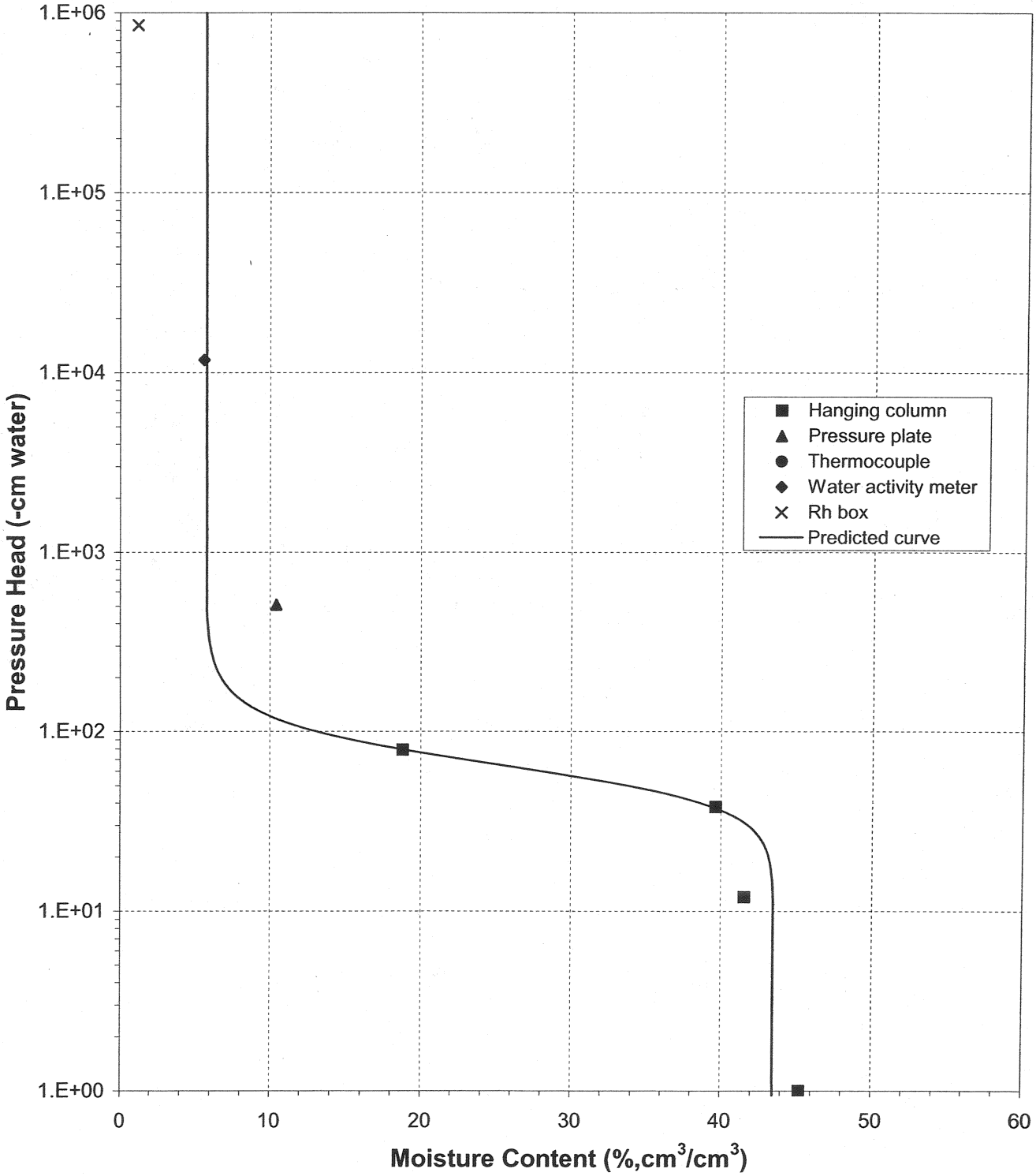
TRI Log No.: E2357-51-03
Test Method: ASTM D 3080
Test Date: 09/20/11
Displacement rate (in/min): 0.001

Testing Reading for Specimen No. 3

No.	Vert. Displ. Changes (in)	Horiz. Displ.(in)	Corrected Area (in^2)	Shear Stress (psi)
1	0.000	0.000	4.89	0.00
2	0.000	0.000	4.90	-0.01
3	0.000	0.003	4.90	0.54
4	0.000	0.006	4.89	0.96
5	0.000	0.008	4.88	1.48
6	0.000	0.011	4.88	2.47
7	0.000	0.013	4.87	3.21
8	0.000	0.016	4.87	3.60
9	0.000	0.018	4.86	3.87
10	0.000	0.021	4.85	4.00
11	0.000	0.023	4.85	4.02
12	0.000	0.026	4.84	4.04
13	0.000	0.032	4.83	4.11
14	0.000	0.038	4.81	4.16
15	0.000	0.045	4.79	4.18
16	0.000	0.053	4.77	4.17
17	0.001	0.060	4.75	4.16
18	0.001	0.068	4.74	4.14
19	0.002	0.075	4.72	4.14
20	0.002	0.083	4.70	4.15
21	0.003	0.090	4.68	4.19
22	0.003	0.098	4.66	4.21
23	0.004	0.110	4.63	4.29
24	0.005	0.125	4.59	4.38
25	0.006	0.140	4.56	4.52
26	0.007	0.155	4.52	4.59
27	0.008	0.170	4.48	4.69
28	0.009	0.185	4.44	4.75
29	0.011	0.215	4.37	4.93
30	0.012	0.245	4.29	5.11
31	0.014	0.275	4.22	5.30
32	0.015	0.305	4.14	5.46
33	0.017	0.335	4.07	5.64
34	0.018	0.365	4.00	5.78
35	0.020	0.395	3.92	5.96
36	0.020	0.410	3.88	5.94

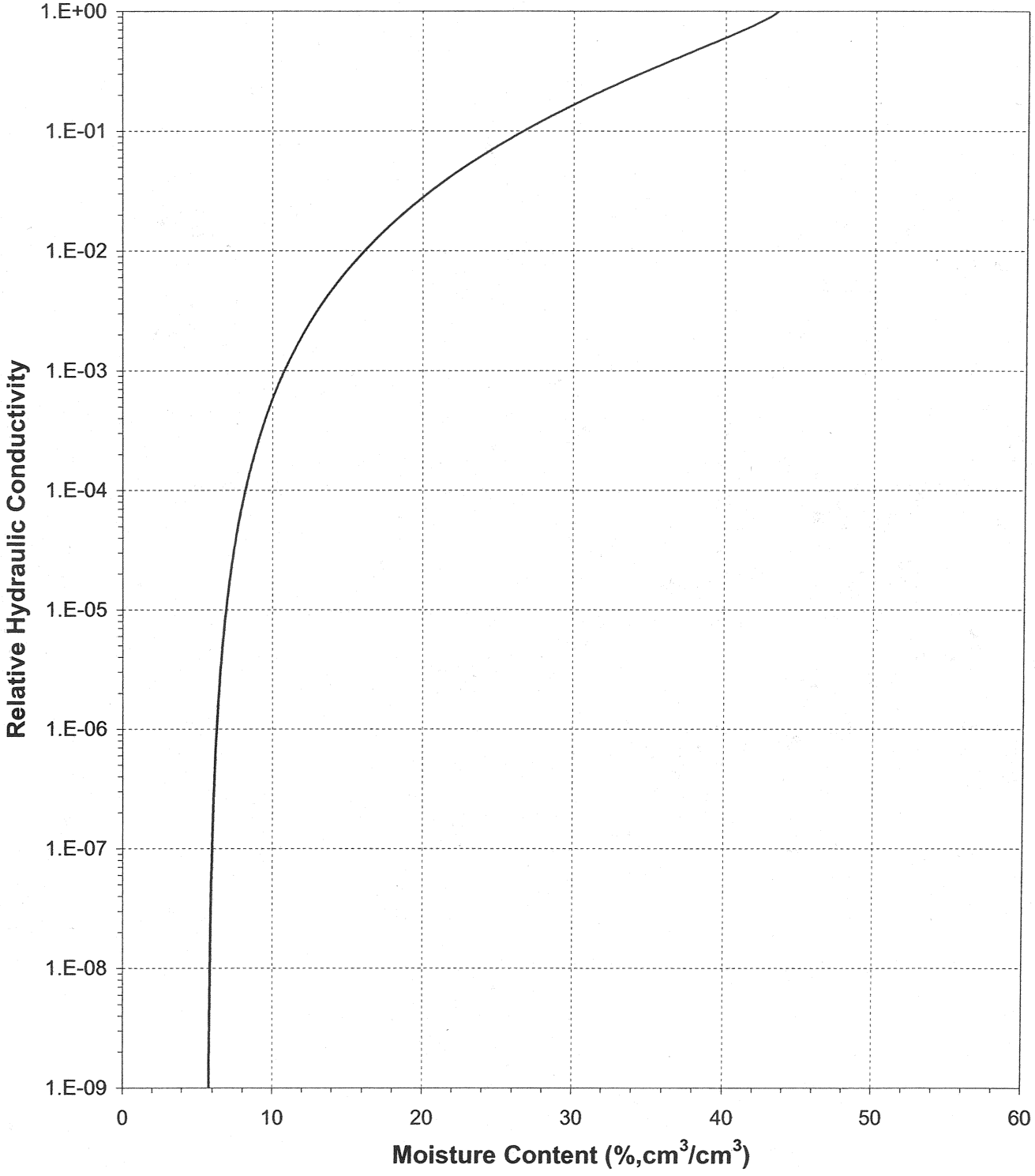
Predicted Water Retention Curve and Data Points

Sample Number: El Paso 80%



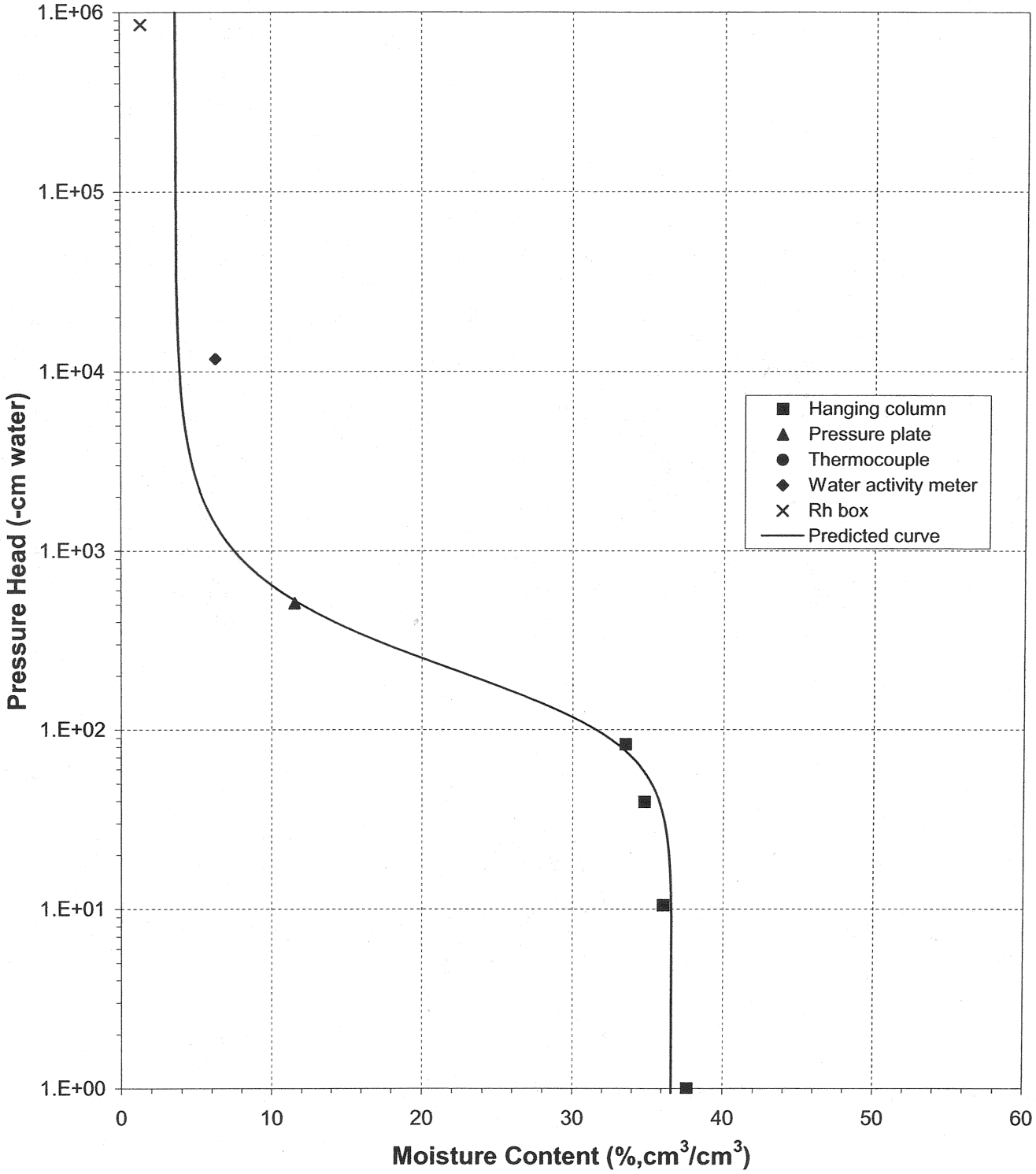
Plot of Relative Hydraulic Conductivity vs Moisture Content

Sample Number: El Paso 80%



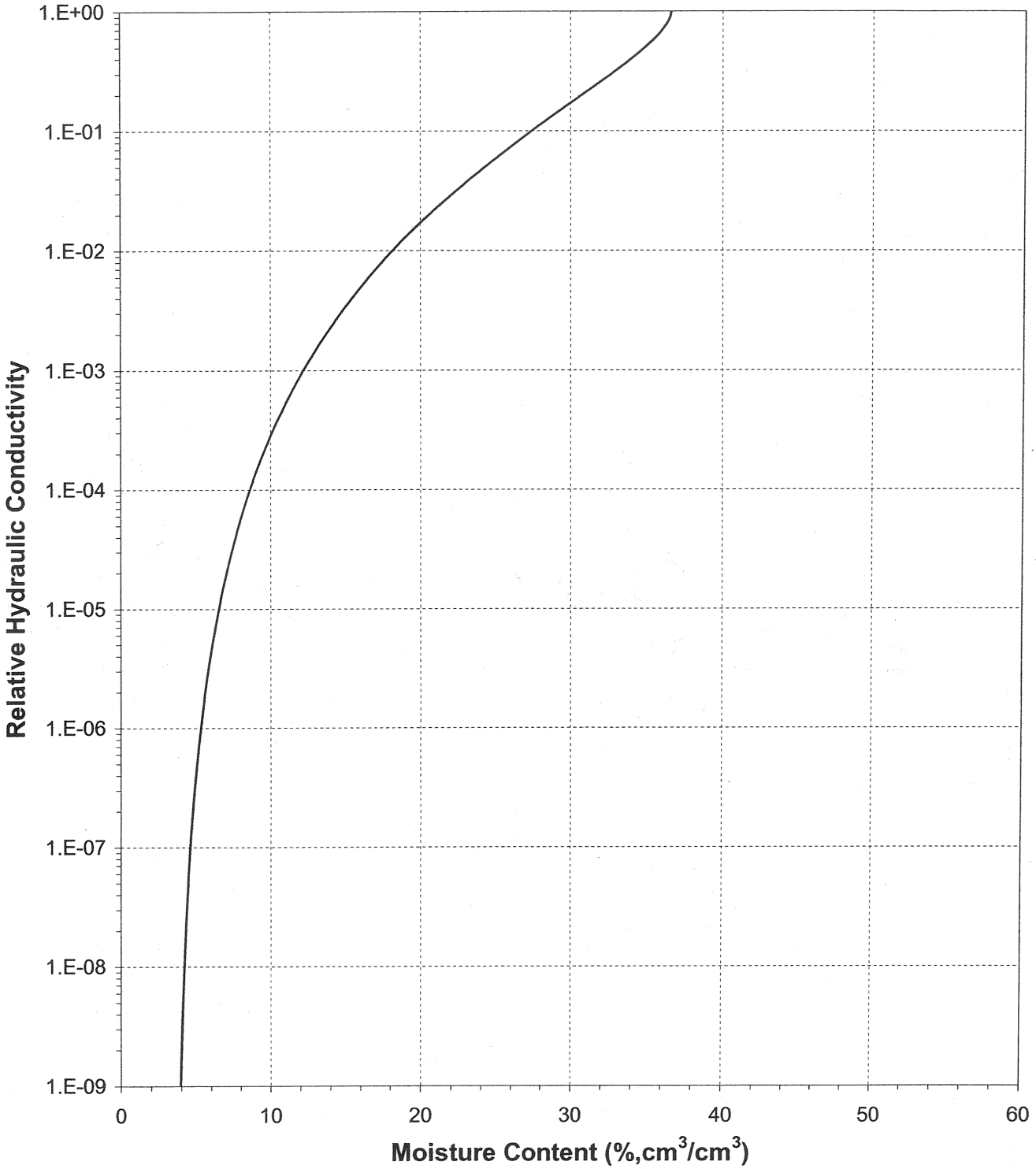
Predicted Water Retention Curve and Data Points

Sample Number: El Paso 90%



Plot of Relative Hydraulic Conductivity vs Moisture Content

Sample Number: El Paso 90%



Please replace Appendix III.J with the following pages

III. Post-Closure Care Status of Landfill Units at the Facility

Check the applicable box for the post-closure care status of the units at the facility and complete the applicable tables as indicated:

A. ☒ No landfill unit is in post-closure care in this facility at the time this application is submitted (skip Table 1 and complete Table 2 below if you check this item)

B. ☐ This facility includes landfill units currently in post-closure care and landfill units that are not yet in post-closure care (complete Tables 1 and 2 below if you check this item).

C. ☐ This facility contains only landfill units currently in post-closure care (complete Table 1 below if you check this item; do not complete Table 2).

Table 1: Landfill Units Currently in Post-Closure Care

Landfill Unit Name	Drawing Number Showing the Landfill Unit	Date TCEQ Acknowledged Closure of Unit	Date Post-Closure Care Commenced	Projected Date of End of Post-Closure Care

Table 2: Landfill Units Not yet in Post-Closure Care

Category of Landfill Unit (Regarding Status of Waste Receipt)	Landfill Unit Names or Descriptors	Site Development Plan Drawing Titles and Numbers Showing the Units
Stopped Receiving Waste Prior to October 9, 1993		
Received Waste on or after October 9, 1993	**Phase 1 and Phase 2**	**Drawing III.A.3 in Appendix III.A**
Proposed to be Constructed		

XI. Engineer's Seal and Signature

Name: Tonya Koller

Title: Project Engineer

Date: 9/12/2025

Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

Signature

Please replace Appendix III.K with the following pages

Texas Commission on Environmental Quality

Closure Cost Estimate Form for Municipal Solid Waste Type I Landfills

This form is for use by applicants or site operators to provide cost estimates for closure of MSW Type I landfills to meet the requirements in 30 Texas Administrative Code (TAC) Chapter 330, Section 330.63(j) and 30 TAC Chapter 330 Subchapter L. The costs to be provided herein are cost estimates for hiring a third party to close the largest waste fill area that could potentially be open in the year to follow and those areas that have not received final cover. If you need assistance in completing this form, please contact the MSW Permits Section in the Waste Permits Division at (512) 239-2335.

Facility Name: Greater El Paso Landfill

MSW Permit No.: 2284A

Site Operator/Permittee Name and Mailing Address: City of El Paso, 7968 San Paulo Drive, El Paso, TX 79915

Total Closure Cost Estimate (2024 Dollar Amount): $13,963,373

I. Professional Engineer's Statement, Seal, and Signature

I am a licensed professional engineer in the State of Texas. To the best of my knowledge, this Closure Cost Estimate has been completed in substantial conformance with the facility Closure Plan and, in my professional opinion, is in compliance with Title 30 of the Texas Administrative Code, Chapter 330.

Name: Tonya Koller

Title: Project Engineer

Date: 9/12/2025

Company Name: Burns & McDonnell

Firm Registration Number: F-845

Professional Engineer's Seal

Professional Engineer's Signature

the worksheet. Provide the total cost of all additional engineering cost items in the "Cost" column.

1.9. Engineering Costs Subtotal

1.9.1. Enter the sum of engineering costs in Items 1.1 through 1.8.

2. Construction Costs

Closure construction costs include those for construction of the final cover system, site grading, and drainage improvements. Other costs may be added as site-specific issues warrant.

2.1. Mobilization

2.1.1. Mobilization of Personnel and Equipment

The cost of mobilizing personnel and construction heavy equipment must be included as part of the construction costs.

Enter additional work or cost element details for mobilization of personnel and equipment as site-specific conditions warrant:

2.2. Final Cover System

The owner or operator must install a final cover system that is designed to minimize infiltration and erosion. The final cover system is subdivided into the sideslope cover and cap cover with their associated components to facilitate cost calculations. If an alternative final cover is proposed, the closure cost estimate will still be based on a design that utilizes the conventional composite cover system.

Enter additional final cover system work or cost element details as site-specific conditions warrant: Due to the costs associated with installing the alternative final cover being greater than the costs associated with installing the prescriptive cover option, the closure cost estimate was completed for the alternative final cover. No prescriptive cover is planned for this facility.

2.2.1. Side Slope Cover

Enter information for Items 2.2.1a through 2.2.1h.

2.2.2. Top Slope Cover

Enter information for Items 2.2.2a through 2.2.2h.

2.2.3. Cells for Class 1 Nonhazardous Industrial Waste

2.3. Site Grading

Site grading includes the final grading of the site, including the landfill cap and sideslopes.

Enter additional site grading work or cost element details as site-specific conditions warrant:

2.4. Site Fencing and Security

Site fencing and security must be included for the area which has received waste and have no existing approved fencing.

Enter additional site fencing and security work or cost element details as site-specific conditions warrant:

2.5. Landfill Gas Monitoring and Control Systems

Enter information for Items 2.5.1 through 2.5.6.

Final installation of the landfill gas monitoring and control systems must include the installation costs of pipes and appurtenances. In the event of a forced closure, the systems may not have been completed, thus, the estimated costs to complete the landfill gas monitoring and control system must be provided.

Enter additional landfill gas monitoring and control systems work or cost element details as site-specific conditions warrant:

2.6. Groundwater Monitoring System

2.6.1. Monitor Well Installation

Upon closure of the site, it may be necessary to relocate the compliance boundary. This requires the installation of new monitor wells.

Enter additional groundwater monitoring system work or cost element details as site-specific conditions warrant:

2.6.2. Piezometer and Monitor Well Plugging and Abandonment

Piezometer or monitor well abandonment is the cost of abandoning (plugging) piezometers or monitor wells that are no longer needed. Determine the number of piezometers or monitor wells to be abandoned and include the total cost.

Enter additional plugging and abandonment work or cost element details as site-specific conditions warrant:

2.7. Leachate Management

2.7.1. Completion of Existing Leachate Collection System

In the event of a forced closure, there may be circumstances where the leachate collection system has not been completed. In this event, the leachate collection system must be closed with a permanent outfalls and permanent cleanouts installed.

Enter additional leachate management work or cost element details as site-specific conditions warrant:

2.8. Stormwater Management

2.8.1. Stormwater Drainage Management System

To reduce the potential long-term impacts of the landfill on surface water quality, drainage features must be incorporated into the final cover design to direct runoff, minimize erosion, control sediments, and avoid ponding of stormwater. The drainage system construction costs must be included.

Enter additional stormwater drainage management work or cost element details as site-specific conditions warrant:

2.9. Additional Construction Cost Items Not Listed on Worksheet

List the Attachments detailing any additional construction cost items necessary to close the site that is not already included as a line item on the worksheet: Also, reference these Attachments in the "Units" column on this line of the worksheet. Provide the total cost of all additional construction cost items in the "Cost" column.

2.10. Construction Costs Subtotal

2.10.1. Enter the sum of construction costs in Items 2.1 through 2.9.

3. Storage and Processing Unit Closure Costs

For landfills that incorporate storage and/or processing operations that are not separately authorized, all waste and processed and unprocessed materials associated with storage and/or processing units must be removed during the closure process.

3.1. Waste Disposal

The cost of disposal of waste at an authorized facility. *Enter additional waste disposal work or cost element information as necessary.*

3.2. Material Removal and Disinfection

The cost of removal, including transportation, of any remaining processed and unprocessed materials to an authorized off-site location. *Enter additional material removal and disinfection work or cost element information as necessary.*

3.3. Demolition and Disposal

The cost of dismantling and/or disinfection of storage and/or processing units and disposal, as applicable. *Enter additional demolition and disposal work or cost element information as necessary.*

3.4. Additional Storage and Processing Unit Closure Cost Items Not Listed in Worksheet

List the Attachments detailing any additional storage and processing unit closure cost items necessary to close the site that is not already included as a line item on the worksheet. Also, reference these Attachments in the "Units"

column on this line of the worksheet. Provide the total cost of all additional storage and processing unit closure cost items in the "Cost" column.

3.5. Storage and Processing Unit Closure Costs Subtotal

4. Sum of Cost Subtotals

4.1. Enter the sum of engineering, construction, and storage and processing unit closure cost subtotals from lines 1.9.1, 2.10.1, and 3.5.1.

5. Contingency

5.1. Add an amount equal to at least 10 percent of the sum of cost subtotals to cover unanticipated events during implementation of closure activities.

6. Contract Performance Bond

6.1. Add an amount equal to at least 2 percent of the sum of cost subtotals for purchase of a surety bond to guarantee satisfactory completion of the closure activities.

7. Third Party Administration and Project Management Costs

7.1. Add an amount equal to at least 2.5 percent of the sum of cost subtotals to cover the cost for a third party hired by TCEQ to administer the closure activities.

8. Total Closure Cost

8.1. Enter the sum of the amounts on lines 4.1, 5.1, 6.1, and 7.1.