Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: Cedar Park High School						**2. Regulated Entity No.:** RN102133386			
3. Customer Name: Leander ISD						**4. Customer No.:** CN600781074			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception ✓	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP ✓	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential ✓			**8. Site (acres):**		4.3	
9. Application Fee:	$500		**10. Permanent BMP(s):**			Underground Detention, Detention Basin			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A - No Storage Tanks in Use			
13. County:	Travis/ Williamson		**14. Watershed:**			South Brushy Creek-Brushy Creek			

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin _✓_Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Print Name of Customer/Authorized Agent

Derek Chinners 8/16/2024

Signature of Customer/Authorized Agent Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

Contributing Zone Exception Request Form

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Contributing Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Derek Chinners

Date: 8/26/2024

Signature of Customer/Agent:

Regulated Entity Name: Cedar Park High School

Project Information

1. County: Williamson
2. Stream Basin: South Brushy Creek-Brushy Creek
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

   Contact Person: Bruce Gearing
   Entity: Leander ISD
   Mailing Address: 204 W S St
   City, State: Leander, TX Zip: 78641
   Telephone: (512) 570-1800 Fax: _____
   Email Address: Bruce.Gearing@LeanderIsd.org

5. Agent/Representative (If any):

Contact Person: Derek Chinners
Entity: Pro SWPPP, LLC
Mailing Address: PO Box 6984
City, State: Kingwood, TX Zip: 77325
Telephone: 833-438-7977 Fax: N/A
Email Address: dc@proswppp.com

6. Project Location

☑ This project is inside the city limits of Cedar Park.
☐ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☐ This project is not located within any city limits or ETJ.

7. ☑ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

Baseball & Softball Fields located within Cedar Park High School (30.470088, -97.844396)

8. ☑ **Attachment A - Road Map**. A road map showing directions to and location of the project site is attached. The map clearly shows the boundary of the project site.

9. ☑ **Attachment B - USGS Quadrangle Map**. A copy of the USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) should clearly show:

☑ Project site boundaries.
☑ USGS Quadrangle Name(s).

10. ☑ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is provided at the end of this form. The project description is consistent throughout the application and contains, at a minimum, the following details:

☑ Area of the site
☑ Offsite areas
☑ Impervious cover
☑ Permanent BMP(s)
☑ Proposed site use
☑ Site history
☑ Previous development
☑ Area(s) to be demolished

11. Existing project site conditions are noted below:

☑ Existing commercial site
☐ Existing industrial site
☐ Existing residential site
☑ Existing paved and/or unpaved roads

☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. ☑ **Attachment D - Nature Of Exception**. A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter B for which an exception is being requested have been identified in the description.

13. ☑ **Attachment E - Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for surface streams which enter the Edwards Aquifer is attached.

Administrative Information

14. ☑ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.

15. ☑ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

Attachment A

Property Owner:	Leander Independent School District - Jimmy Disler - jimmy.disler@leanderisd.org
Engineer:	Eric Horn, P.E., Tait-Pitkin Sports Engineers , LLC. Phone: (512)293-1862
Surveyor:	Homero Luis Gutierrez, R.P.L.S. No. 2791 - (956)369-0988
Developer/Agent:	Brian W. Reed, P.E., Talon Engineering , LLC, Phone: (832)287-9874
Filling Date:	7/31/24
Land Use:	Multi-Use Corridor & Neighborhood Residential
Zoning:	
Total Site Acreage per County:	
Total Impervious Cover:	
Proposed Use:	
Property Information:	
Future Land Use Category:	Multi-Use Corridor & Neighborhood Residential
Proposed Incentives:	
Associated Project Numbers:	
List of Required offsite Easements:	

Owner: Leander ISD Address: 204 W. SOUTH STREET P.O. BOX 218 LEANDER, TX 78646
Phone: (512)570-0000 Cell: Acreage: Total Impervious Cover:
Legal Description:
Address:
Land Use Summary: [square footage of building(s) for each land use and number of units if multi-family]

Zoning: Date:
Person Preparing Plan: Company:
Address:
Phone: Cell:
Engineer: Company:
Address:
Phone: Cell:

NOTE:
All responsibility for accuracy of these plans remain with the engineer who prepared them.
In reviewing these plans, the City of Cedar Park must rely on the adequacy of the work of the design engineer.

Floodplain Status
The Cedar Park High School's baseball and softball fields lie completely outside of the 1% and 0.2% annual chance floodplains of Buttercup Creek and Cypress Creek, and their tributaries according to FIRM Panels No. 48453C0230K dated January22, 2020 and No. 48491C0605F dated December 20,2019.

Hellas

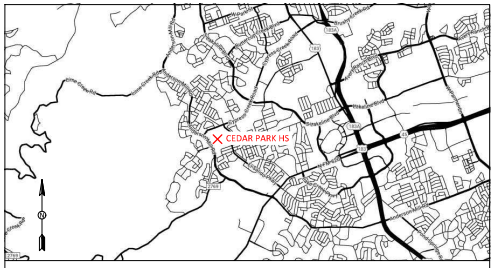
TAIT-PITKIN
SPORTS ENGINEERS

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862
ehorn@tait-pitkin.com
Texas Firm Registration No. F007361

Revision #	Description	Approval

SUBMITTAL DRAWINGS FOR:

CEDAR PARK HIGH SCHOOL BASEBALL & SOFTBALL SYNTHETIC TURF FIELDS MINOR SITE DEVELOPMENT PLANS PROJECT



VICINITY MAP

CEDAR PARK HIGH SCHOOL: 2150 CYPRESS CREEK RD., CEDAR PARK, TX 78613

SITE LOCATION PLAN

Reviewed for code compliance
Signature required from all departments

Planning Date
Engineering Services Date
Industrial pretreatment Date
Fire Prevention Date
Landscape planner Date
Addressing Date
Site development permit number

811 Know what's below. Call before you dig.

INDEX OF DRAWINGS

ISSUE: FOR REVIEW
DATE: July 31, 2024

Hellas

Hellas Construction, Inc. (P) (512) 250-2910
12000 West Parmer Lane (F) (512) 250-1960
Austin, TX 78613 hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218
(512)570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN
SPORTS ENGINEERS

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC W. HORN
130497
LICENSED PROFESSIONAL ENGINEER
7/31/2024

COMMENTS:
Drawing scale accurate ONLY when printed on 22x34 paper.

DRAWN BY: AA REV BY:

DATE:
July 31, 2024

REVISION LIST		
NO.	DATE	DESCRIPTION

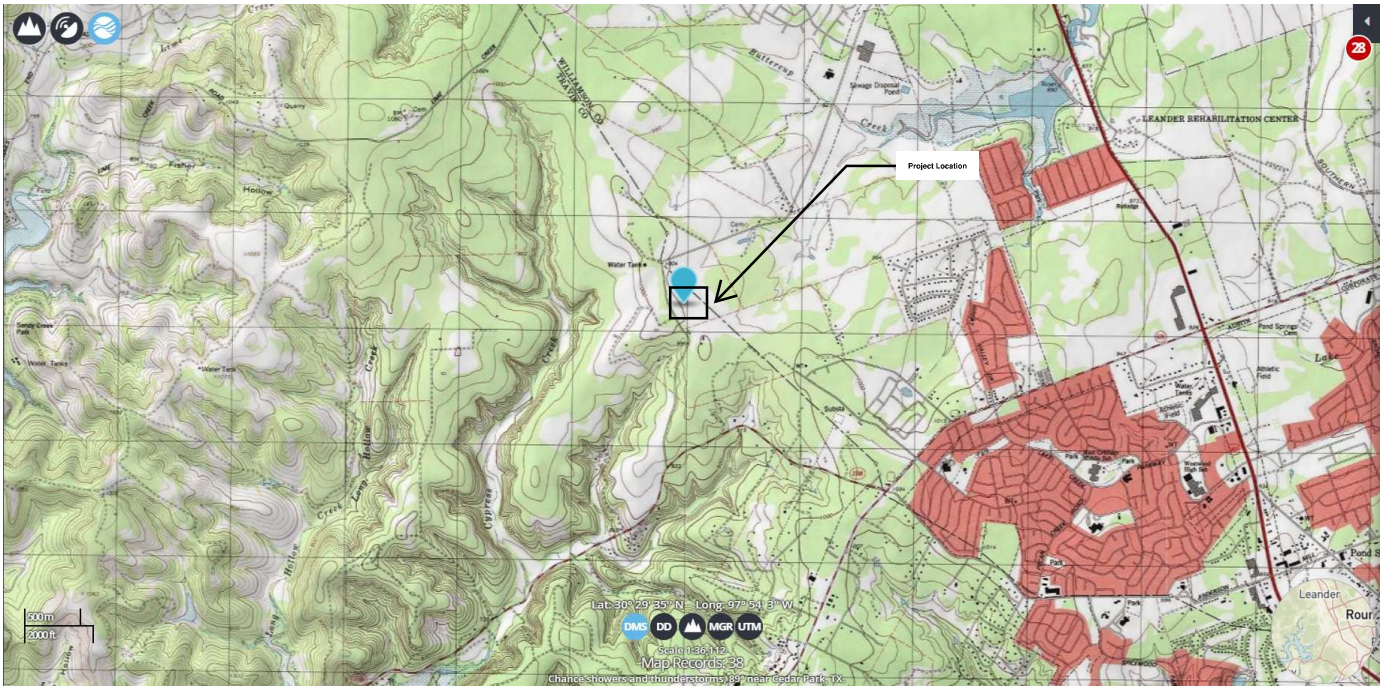
SHEET TITLE:
COVER PAGE

SHEET NUMBER:
1 OF 13

Attachment B

USGS Quadrangle Map

Cedar Park HS Athletic Fields



Attachment C

Cedar Park High School

Baseball & Softball Field Turf Replacement

Project Narrative

Site Location

1. The site is located along Twin Creeks Club Drive on the southwest corner of the Cedar Park High School campus.

Offsite Areas

1. Excavated material from the demolition phase will be properly transported to a storage facility at the discretion of the earthwork subcontractor. All trucks carrying erodible materials such as soil, sand, gravel, crushed or broken up concrete, shall use a tarp in functional condition that covers the bed of the truck while on public roads.

Impervious Area

1. This site will convert two natural grass fields (approximately 4.03 acres in size) to a synthetic turf covering. This will be an addition of approximately 175,895 square-feet of impervious area.

Permanent BMP's

1. This site will integrate with the existing storm sewer utilities infrastructure that has been previously designed to meet the maximum required runoff for this area. Stormwater runoff will be captured by the underground detention basin within the fields themselves before discharging to the overall site's detention basin located on the northeast corner of the Cedar Park High School property.

Proposed Site Use

1. The site is to be used for an interscholastic competition athletic field for Men's Baseball and Women's Softball.

Site History

1. The site has previously been used for the same endeavor as the proposed use. The synthetic turf is meant to be an enhancement for this purpose.

Previous Development

1. This site has been developed as part of an overall municipal school system designed to serve residents of the Leander ISD in Cedar Park.

Areas to be Demolished

1. The demolition area will be limited to the athletic fields themselves and their associated appurtenances (i.e. Bullpen, Concession, Dugout)

Existing Conditions

1. No change will be made to the existing roads into these fields or the associated surrounding developments.

Attachment D

Cedar Park High School

Baseball & Softball Field Turf Replacement

Nature of Exception

An exception is being requested on this project because the site has been previously developed and negligible increase in impervious area is being added. Additionally, this site does not involve vertical construction, rather minor soil disturbance and stabilization with a synthetic turf cover.

Attachment E

Cedar Park High School

Baseball & Softball Field Turf Replacement

Equivalent Water Protection Narrative

1. Attached below is a copy of the hydrology calculations for this site, the results of which demonstrate the proposed outflow is less than allowable discharge rate for all storm events up to and including the 100-year storm event.
2. Negligible difference in total suspended sediment removal needed. See calculation sheet attached.

JSQ Hydrologic & Engineering

June 28, 2024

Talon Engineering
1118 Wolfs Knoll
Houston, TX 77094

Attn: Brian Reed, P.E.

RE: Detention Routing Analysis for Cedar Park High School Baseball and Softball Synthetic Turf Fields
City of Cedar Park, Williamson and Travis Counties, TX

This report describes the result of a detention analysis completed for the proposed Cedar Park High School's baseball and softball athletic fields improvement project located in southwestern Williamson County and northern Travis County, Texas. Cedar Park High School's address is 2150 Cypress Creek Road, Cedar Park, TX 78613. Cedar Park High School is located east of the Anderson Mill Road and Cypress Creek Road intersection. Both baseball and softball athletic fields are located approximately 0.22 miles south from the intersection of Anderson Mill Road and Cypress Creek Road immediately east of the Anderson Mill Road and Twin Creeks Club Drive intersection. Exhibit 1 – Vicinity Map illustrates the location of the project site.

The proposed project plans to convert all existing natural grass fields on the baseball and softball areas to synthetic turf. The purpose of this detention routing analysis is to ensure the proposed drainage plan for the synthetic turf fields will not increase stormwater flow rates compared to the existing natural grass fields. The following sections of the report present methods, data, and assumptions used in the analysis, as well as the results obtained.

Background Information

This drainage analysis is prepared in support of the construction plan prepared by Hellas Construction, Inc. that is titled, "Leander Independent School District Cedar Park High School Baseball & Softball Synthetic Turf Fields Minor Site Development Plans." This detention analysis will present routing of the hydrographs through the proposed detention system using the Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) software based on the information presented in the prepared construction plan.

Floodplain Status

The Cedar Park High School's baseball and softball fields lie completely outside of the 1% and 0.2% annual chance floodplains of Buttercup Creek and Cypress Creek, and their tributaries according to FIRM Panels No. 48453C0230K dated January 22, 2020 and No. 48491C0605F dated December 20, 2019.

Detention Methodology and Approach

Cedar Park's High School Baseball and Softball fields are located within the City of Cedar Park and Travis and Williamson Counties. All three municipalities utilize the City of Austin Drainage Criteria Manual's

(Nov 27, 2023 ver.) general requirements for the drainage projects. Some of the key requirements in the criteria manual are listed below:

- The peak discharges will be calculated using either Rational Method or The Natural Resources Conservation Service (NRCS) Method. The NRCS method was used for this project.
- Depth-Duration Frequency values in criteria manual's Section 2.3.1 is utilized for the rainfall data.
- HEC-HMS is utilized to route the flows through the proposed detention volume.

Detention Calculations

The data on the existing and proposed conditions were collected from the construction plan prepared by Hellas Construction, Inc. Currently, the project site consists of the existing grass fields; therefore, for the purpose of this analysis, the existing conditions, allowable outflows, is considered existing grass field with CN value of 80 and the impervious cover of 15% for the developed green area. The proposed conditions modify the existing conditions to reflect the proposed synthetic turf with CN value of 89 and the impervious cover of 20%. A web soil survey conducted by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) indicates that the project area falls within Hydrologic Soil Group D. This group signifies soils with very slow infiltration rates and a high potential for runoff. The specific soil types identified in the survey are CrB (Crawford clay). Appendix A contains the Soil Map and the map unit description. The time of concentration was determined using the Equations 2-4 and 2-5 from the City of Austin's Drainage Criteria Manual, and the lag time was calculated using the Equation 2-9 as shown in the City of Austin's Drainage Criteria Manual. Detailed time of concentration calculations is attached in Appendix B.

Peak flow rates were computed using HEC-HMS for the 50%, 10%, 4%, and 1% annual exceedance probabilities. Rainfall data was obtained from Table 2-1b Depth-Duration-Frequency Values (Zone 2) in the City of Austin's Drainage Criteria Manual. Tables 1 and 2 summarize the computed flow rates for this project.

Table 1: Existing Conditions Peak Discharges

Drainage Area	Total Area (acres)	Total Area (sq. mi.)	Grass Area (acres, CN = 80)	Impervious Cover (%)	TC (min)	T_{lag} (min)	2-Year Flow Rate (cfs)	10-Year Flow Rate (cfs)	25-Year Flow Rate (cfs)	100-Year Flow Rate (cfs)
Baseball Field	2.97	0.0046	80	15	16.47	9.88	7.9	14.3	18.7	26.1
Softball Field	1.11	0.0017	80	15	14.25	8.55	3.1	5.6	7.3	10.2

Table 2: Proposed Conditions Peak Discharges

Drainage Area	Total Area (acres)	Total Area (sq. mi.)	Synthetic Turf Area (acres, CN = 89)	Impervious Cover (%)	TC (min)	T_{lag} (min)	2-Year Flow Rate (cfs)	10-Year Flow Rate (cfs)	25-Year Flow Rate (cfs)	100-Year Flow Rate (cfs)
Baseball Field	2.97	0.0046	89	20	16.47	9.88	10.2	16.6	20.8	27.8
Softball Field	1.11	0.0017	89	20	14.25	8.55	4.0	6.5	8.1	10.9

The proposed field improvements incorporate detention storage within the void space of the rock layer underlying the synthetic turf field. A design assumption of 40% void content was used to calculate the available detention volume. However, to confirm the anticipated detention volume for the proposed drainage calculation, it is recommended to conduct a void content test on the actual rock material used in the field construction to verify that the 40% void content is achievable. A significant portion of the required detention storage volume will be provided within the proposed trench system within the field. The baseball field is proposing approximately 1,500 feet long, 2 feet and 6 inches wide, and 2 feet and 6 inches deep trench system filled with trench stone with the collector pipes at the edge of the field. The size of pipes varies from 6-inch pipes to 15-inch pipes. The softball field is proposing approximately 980 feet long, 2 feet and 6 inches wide, and 2 feet and 6 inches deep trench system filled with trench stone with the collector pipes at the edge of the field. Appendix C includes the stage-storage calculations used for this project.

The overall grading of the athletic field has not changed from the existing conditions; therefore, there was no proposed alteration of the drainage flow direction. The outfall pipe locations remain the same as the existing conditions for the baseball field. For the softball field, 12-inch restrictor pipe is recommended at the existing 15-inch HDPE outfall pipe. Table 3 summarizes the proposed outfall sizes for each field.

Table 3: Outfall Summary

Fields	Inlet Elevation (feet)	Outfall Structure
Baseball Field	995.67	15-inch HDPE Outfall Pipe
Softball Field	999.09	15-inch HDPE Outfall Pipe with 12-inch Restrictor Pipe

To route the inflow hydrograph through the proposed detention storage volume and proposed outflow structure, HEC-HMS Version 4.9 computer software is utilized for this project. Each outfall was sized using the outflow structure method and orifice outlet function within HEC-HMS model for each field. The orifice coefficient value of 0.6 was used for the outflow calculations per the City of Austin's Drainage Criteria Manual Section 8.3.4 Outlet Structure Design. The HEC-HMS output is attached in Appendix D. Table 4 summarizes the routing results for the 100-year, 25-year, and 10-year, and 2-year rainfall events.

Table 4: Detention Summary

Summary of the Results				
Rainfall Events	Allowable Discharge (cfs)	Peak Discharge (cfs)	Peak Storage (ac-ft)	Peak Elevation (ft)
Baseball Field				
100-Year	26.1	11.9	0.43	1000.4
25-Year	18.7	11.4	0.25	1000.0
10-Year	14.3	10.3	0.17	999.3
2-Year	7.9	7.8	0.07	998.0
Softball Field				
100-Year	10.2	5.9	0.14	1002.1
25-Year	7.3	5.1	0.08	1001.4
10-Year	5.6	4.5	0.06	1001.0
2-Year	3.1	3.1	0.03	1000.3

The results of the analysis indicate that approximately 0.43 acre-feet of detention storage is required for the baseball field and 0.14 acre-feet for the softball field. The baseball field can provide approximately 0.48 acre-feet of the detention storage volume within the rock aggregate, pipes, and ponding of the water within the site at the elevation of 1000.5 feet. The softball field can provide approximately 0.18 acre-feet of the detention storage volume within the rock aggregate, pipes, and ponding of the water within the site at the elevation of 1002.3 feet. As shown in Table 4, results of the analysis indicate that the proposed outflow is less than allowable discharge rate for all storm events up to and including the 100-year storm event.

Closing

Please do not hesitate to contact us if you have any questions concerning this letter or the attached materials, or if you require any additional information.

Sincerely,

6/28/2024

JSQ Hydrologic and Engineering, LLC

Jung P. Jang, P.E.
Chief Hydrologist

STATE OF TEXAS
JUNG P. JANG
101118
LICENSED
PROFESSIONAL ENGINEER

Attachments:

1. Exhibit 1 – Vicinity Map
2. Exhibit 2 – Floodplain Map
3. Exhibit 3 – Site Layout Map
4. Appendix A – Soil Map
5. Appendix B – Time of Concentration Calculations
6. Appendix C – Stage vs. Storage Calculations
7. Appendix D – HEC-HMS Outputs
8. Appendix E – Excerpts from Hellas Construction Plan

Exhibit 1

Vicinity Map

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

Vicinity Map

1 in = 0.5 Miles

Legend

- Baseball Field
- Softball Field
- County Line
- Roads
- Rivers/Streams

Vicinity Map

Cedar Park High School

Travis County, Texas

N W E S

Date: 6/20/2024

1 inch = 400 Feet

200 100 0 200 400 Feet

JSQ Hydrologic and Engineering, LLC

EXHIBIT 1

I:\CKEHRER\Cedar_Park_High_School\4 GIS\Layouts_Cedar_Park\Exhibit_1_Vicinity_Map_Cedar_Park.mxd

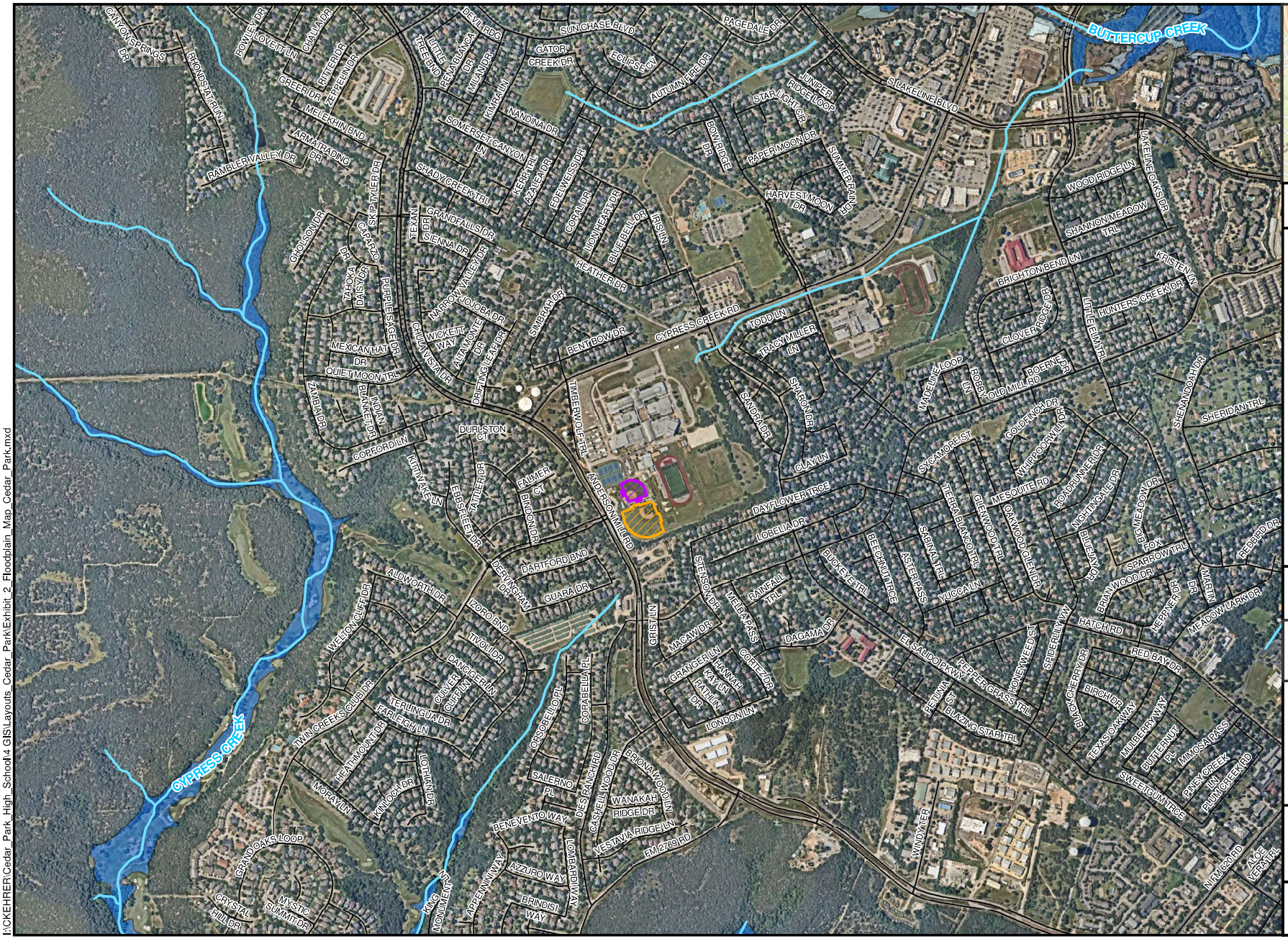
Exhibit 2

Effective Floodplain Map

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering



I:\CKEHRER\Cedar_Park_High_School\4 GIS\Layouts_Cedar_Park\Exhibit_2_Floodplain_Map_Cedar_Park.mxd

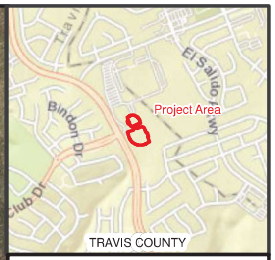
Exhibit 3

Site Layout Map

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering



Vicinity Map

1 in = 0.5 Miles

Legend

- Outfalls
- Baseball Field
- Softball Field
- Pipes
- Roads
- Rivers/Streams

Site Map

Cedar Park High School

Travis County, Texas

N W E S

Date: 6/20/2024

1 inch = 100 Feet

50 25 0 50 100 Feet

JSQ

Hydrologic and Engineering, LLC

EXHIBIT 3

I:\CKEHRER\Cedar_Park_High_School\4 GIS\Layouts_Cedar_Park\Exhibit_3_Site_Layout_Map_Cedar_Park.mxd

Appendix A

Soil Map from United States Department of Agriculture's NRCS

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Travis County, Texas

Cedar Park BB & SB

June 21, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Travis County, Texas
Survey Area Data: Version 25, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CrB	Crawford clay, 1 to 3 percent slopes	4.6	100.0%
Totals for Area of Interest		**4.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Travis County, Texas

CrB—Crawford clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2rspf
Elevation: 400 to 1,100 feet
Mean annual precipitation: 26 to 34 inches
Mean annual air temperature: 64 to 68 degrees F
Frost-free period: 230 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Crawford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crawford

Setting

Landform: Plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 6 inches: clay
Bss - 6 to 27 inches: clay
R - 27 to 30 inches: bedrock

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: R081CY358TX - Deep Redland 29-35 PZ
Hydric soil rating: No

Minor Components

Georgetown

Percent of map unit: 4 percent
Landform: Plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY361TX - Redland 29-35 PZ
Hydric soil rating: No

Fairlie

Percent of map unit: 4 percent
Landform: Ridges
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Denton

Percent of map unit: 4 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Purves

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R081CY574TX - Shallow 29-35 PZ
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix B

Time of Concentration Calculation

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

Cedar Park HS BB SB Fields Synthetic Turf

TIME OF CONCENTRATION CALCULATIONS USING THE SCS UPLAND METHOD					
		Existing Conditions		Proposed Conditions	
Sub-Area		Baseball	Softball	Baseball	Softball
Basin Drainage Area					
	acres	3.0	1.1	3.0	1.1
Drainage Area	sq. mi.	0.0046	0.0017	0.0046	0.0017
Impervious Cover					
Description		***Area of Land (acres) Belonging to Each Development Category***	***Area of Land (acres) Belonging to Each Development Category***	***Area of Land (acres) Belonging to Each Development Category***	***Area of Land (acres) Belonging to Each Development Category***
Undeveloped	*0%*	0.0	0.0	0.0	0.0
Residential (small lot)	50%	0.0	0.0	0.0	0.0
Residential (large Lot)	20%	0.0	0.0	0.0	0.0
Developed Green Areas	*15%*	3.0	1.1	0.0	0.0
Synthtic Green Area	20%	0.0	0.0	3.0	1.1
High Density Industrial/Commercial/Apartment	85%	0.0	0.0	0.0	0.0
Road	90%	0.0	0.0	0.0	0.0
Water	100%	0.0	0.0	0.0	0.0
Impervious Area	acres	0.4	0.2	0.6	0.2
Impervious Cover	%	15.0%	15.0%	20.0%	20.0%
Time of Concentration					
SCS Uplands Method Curve A - Overland Flow in Forest With Heavy Ground Litter					
Distance	feet				
Slope	percent				
Velocity	ft/sec	0.00	0.00	0.00	0.00
Travel Time	minutes	0.00	0.00	0.00	0.00
SCS Uplands Method Curve B - Overland Flow in Woodland Areas					
Distance	feet				
Slope	percent	0.10	0.10	0.10	0.10
Velocity	ft/sec	0.16	0.16	0.16	0.16
Travel Time	minutes	0.00	0.00	0.00	0.00
SCS Uplands Method Curve C - Overland Flow in Grassy Areas (Manning's 'n' Value of 0.13)					
Distance	feet	100.0	100.0	100.0	100.0
Slope	percent	0.60	0.60	0.60	0.60
Velocity	ft/sec	0.13	0.13	0.13	0.13
Travel Time	minutes	12.43	12.43	12.43	12.43
SCS Uplands Method Curve F - Shallow Concentrated Flow in Grassed Waterway (Unpaved)					
Distance	feet	302.6	135.8	302.6	135.8
Slope	percent	0.60	0.60	0.60	0.60
Velocity	ft/sec	1.25	1.70	1.25	1.25
Travel Time	minutes	4.04	1.81	4.04	1.81
SCS Uplands Method Curve G - Paved Areas (Sheet Flow) and Upland Gullies					
Distance	feet				
Slope	percent				
Velocity	ft/sec	0.00	0.00	0.00	0.00
Travel Time	minutes	0.00	0.00	0.00	0.00
Flow in Storm Sewer/Roadside Ditch					
Distance	feet				
Velocity	ft/sec	3.00	3.00	3.00	3.00
Travel Time	minutes	0.00	0.00	0.00	0.00
Flow in Channel/Ditch					
Distance	feet		0.0		
Velocity	ft/sec	1.50	1.50	1.50	1.50
Travel Time	minutes	0.00	0.00	0.00	0.00
TC	minutes	16.47	14.25	16.47	14.25
TC	hours	0.27	0.24	0.27	0.24

Appendix C

Stage vs. Storage Calculations

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

Cedar Park HS BB SB Fields Synthetic Turf

Baseball Field

Elevation (feet)	Turf Area (sq. ft.)	Turf Area (acre)	Volume Under Trench (acre-feet)	Volume Under Turf (acre-feet)	Volume Aggregate (acre-feet)	Volume In Pipe (acre-feet)	Volume Above Turf (acre-feet)	Volume Incremental (acre-feet)	Volume Cumulative (acre-feet)
995.67	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
996	0	0.0000	0.0119	0.0000	0.0048	0.0012	0.0000	0.0060	0.006
997	0	0.0000	0.0479	0.0000	0.0191	0.0050	0.0000	0.0242	0.030
998	0	0.0000	0.0839	0.0000	0.0335	0.0088	0.0000	0.0424	0.073
999	0	0.0000	0.1198	0.0000	0.0479	0.0126	0.0000	0.0605	0.133
1000	7200	0.1653	0.1558	0.0826	0.0954	0.0164	0.0000	0.1118	0.245
1000.5	27500	0.6313	0.1738	0.3157	0.1958	0.0183	0.0207	0.2347	0.480
1001	7200	0.1653	0.1918	0.0826	0.1098	0.0202	0.3946	0.5245	1.004
1001.15	16800	0.3857	0.1972	0.1928	0.1560	0.0207	0.8028	0.9796	1.984
1001.5	6750	0.1550	0.2098	0.0775	0.1149	0.0000	1.3934	1.5083	3.492
1001.65	15750	0.3616	0.2152	0.1808	0.1584	0.0000	2.0117	2.1701	5.662
1002	25725	0.5906	0.0000	0.2953	0.1181	0.0000	2.8347	2.9528	8.615
1002.5	13125	0.3013	0.0000	0.1507	0.0603	0.0000	4.6526	4.7128	13.328

Softball Field

Elevation (feet)	Turf Area (sq. ft.)	Turf Area (acre)	Volume Under Trench (acre-feet)	Volume Under Turf (acre-feet)	Volume Aggregate (acre-feet)	Volume In Pipe (acre-feet)	Volume Above Turf (acre-feet)	Volume Incremental (acre-feet)	Volume Cumulative (acre-feet)
999.09	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1000	0	0.0000	0.0375	0.0000	0.0150	0.0035	0.0000	0.0185	0.018
1001	0	0.0000	0.0788	0.0000	0.0315	0.0073	0.0000	0.0388	0.057
1002	0	0.0000	0.1200	0.0000	0.0480	0.0112	0.0000	0.0592	0.116
1002.28	3700	0.0849	0.1315	0.0425	0.0526	0.0122	0.0000	0.0648	0.181
1002.5	15500	0.3558	0.1406	0.1779	0.0562	0.0000	0.0047	0.0609	0.242
1003	17500	0.4017	0.0000	0.2009	0.0000	0.0000	0.5899	0.5899	0.832
1003.5	10500	0.2410	0.0000	0.1205	0.0000	0.0000	1.2685	1.2685	2.101

Appendix D

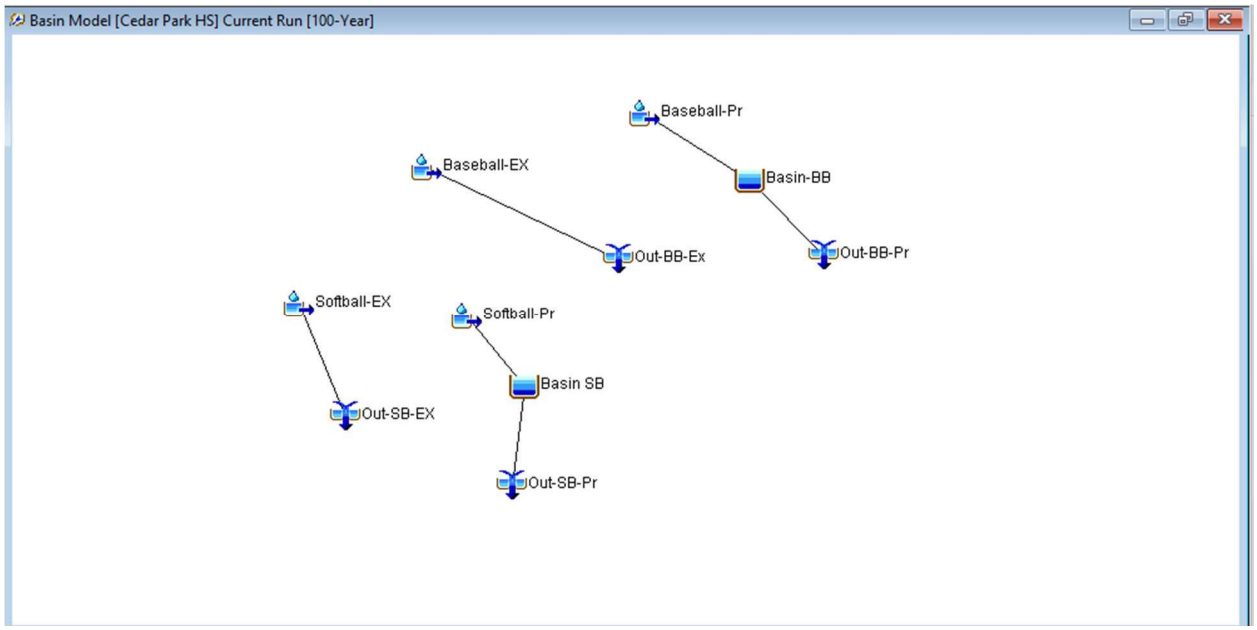
HEC-HMS Output

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

Cedar Park High School Baseball and Softball Fields
HEC-HMS OUPUT



Cedar Park High School Baseball and Softball Fields
HEC-HMS OUPUT

Global Summary Results for Run "2-Year"

Project: Cedar Park HS Simulation Run: 2-Year

Start of Run: 01Jun2007, 00:00
End of Run: 03Jun2007, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Cedar Park HS
Meteorologic Model: AustinZ2_50%
Control Specifications: Control_15

Show Eleme... All Eleme... Volume Units: IN ACRE-FT Sorti... Hydrolo...

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Baseball-Pr	0.0046	10.2	01Jun2007, 12:11	3.12
Basin-BB	0.0046	7.8	01Jun2007, 12:18	3.12
Out-BB-Pr	0.0046	7.8	01Jun2007, 12:18	3.12
Baseball-EX	0.0046	7.9	01Jun2007, 12:12	2.39
Out-BB-Ex	0.0046	7.9	01Jun2007, 12:12	2.39
Softball-EX	0.0017	3.1	01Jun2007, 12:10	2.39
Out-SB-EX	0.0017	3.1	01Jun2007, 12:10	2.39
Softball-Pr	0.0017	4.0	01Jun2007, 12:10	3.12
Basin SB	0.0017	3.1	01Jun2007, 12:16	3.12
Out-SB-Pr	0.0017	3.1	01Jun2007, 12:16	3.12

Global Summary Results for Run "10-Year"

Project: Cedar Park HS Simulation Run: 10-Year

Start of Run: 01Jun2007, 00:00
End of Run: 03Jun2007, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Cedar Park HS
Meteorologic Model: AustinZ2_10%
Control Specifications: Control_15

Show Eleme... All Eleme... Volume Units: IN ACRE-FT Sorti... Hydrolo...

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Baseball-Pr	0.0046	16.6	01Jun2007, 12:11	5.62
Basin-BB	0.0046	10.3	01Jun2007, 12:21	5.62
Out-BB-Pr	0.0046	10.3	01Jun2007, 12:21	5.62
Baseball-EX	0.0046	14.3	01Jun2007, 12:11	4.71
Out-BB-Ex	0.0046	14.3	01Jun2007, 12:11	4.71
Softball-EX	0.0017	5.6	01Jun2007, 12:10	4.71
Out-SB-EX	0.0017	5.6	01Jun2007, 12:10	4.71
Softball-Pr	0.0017	6.5	01Jun2007, 12:10	5.62
Basin SB	0.0017	4.5	01Jun2007, 12:17	5.62
Out-SB-Pr	0.0017	4.5	01Jun2007, 12:17	5.62

Cedar Park High School Baseball and Softball Fields
HEC-HMS OUPUT

Global Summary Results for Run "25-Year"

Project: Cedar Park HS Simulation Run: 25-Year

Start of Run: 01Jun2007, 00:00
End of Run: 03Jun2007, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Cedar Park HS
Meteorologic Model: AustinZ2_4%
Control Specifications: Control_15

Show Eleme... All Eleme... Volume Units: IN ACRE-FT Sorti... Hydrolo...

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Baseball-Pr	0.0046	20.8	01Jun2007, 12:11	7.53
Basin-BB	0.0046	11.4	01Jun2007, 12:23	7.53
Out-BB-Pr	0.0046	11.4	01Jun2007, 12:23	7.53
Baseball-EX	0.0046	18.7	01Jun2007, 12:11	6.54
Out-BB-Ex	0.0046	18.7	01Jun2007, 12:11	6.54
Softball-EX	0.0017	7.3	01Jun2007, 12:10	6.54
Out-SB-EX	0.0017	7.3	01Jun2007, 12:10	6.54
Softball-Pr	0.0017	8.1	01Jun2007, 12:10	7.53
Basin SB	0.0017	5.1	01Jun2007, 12:19	7.53
Out-SB-Pr	0.0017	5.1	01Jun2007, 12:19	7.53

Global Summary Results for Run "100-Year"

Project: Cedar Park HS Simulation Run: 100-Year

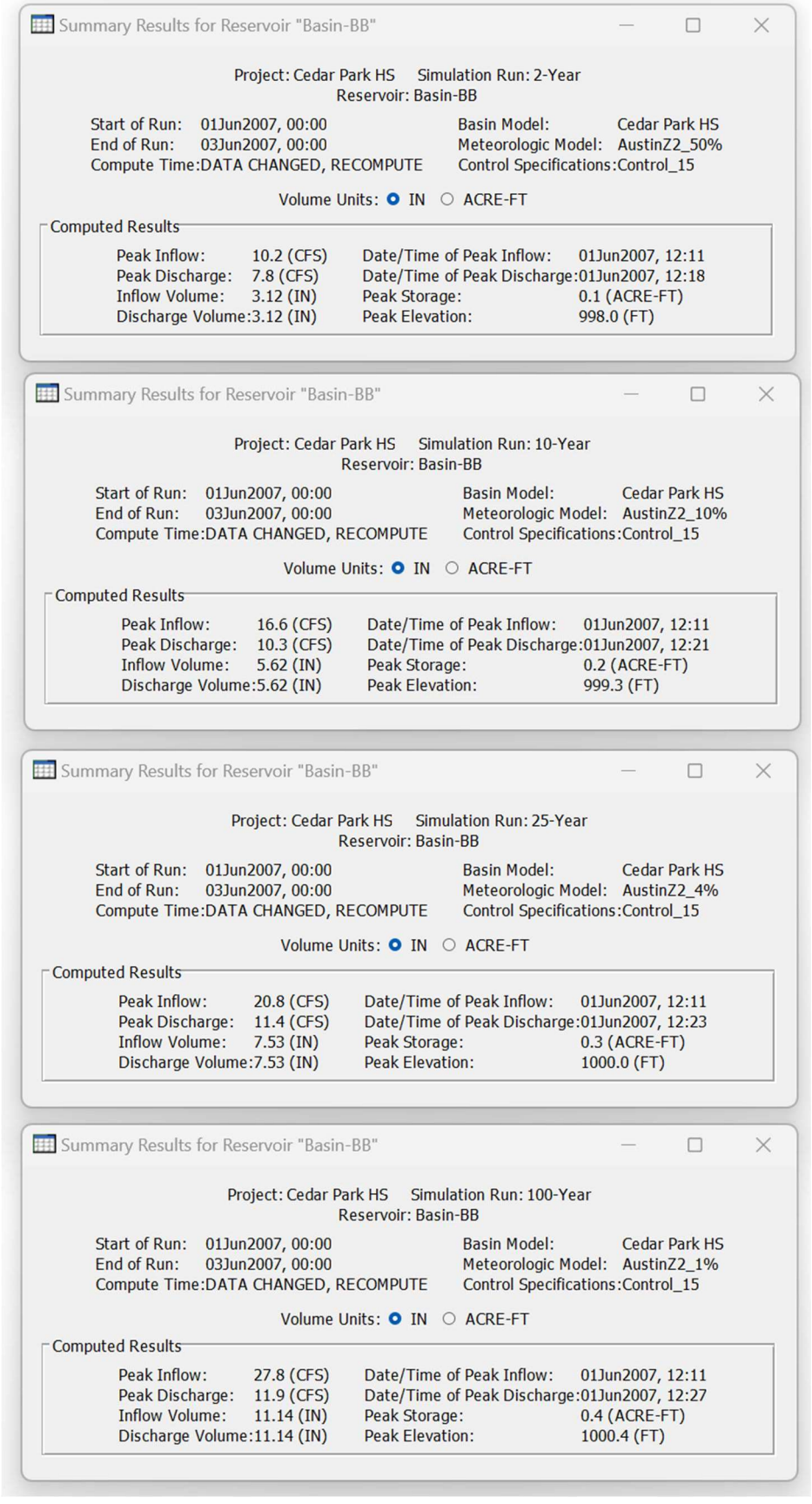
Start of Run: 01Jun2007, 00:00
End of Run: 03Jun2007, 00:00
Compute Time: DATA CHANGED, RECOMPUTE

Basin Model: Cedar Park HS
Meteorologic Model: AustinZ2_1%
Control Specifications: Control_15

Show Eleme... All Eleme... Volume Units: IN ACRE-FT Sorti... Hydrolo...

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Baseball-Pr	0.0046	27.8	01Jun2007, 12:11	11.14
Basin-BB	0.0046	11.9	01Jun2007, 12:27	11.14
Out-BB-Pr	0.0046	11.9	01Jun2007, 12:27	11.14
Baseball-EX	0.0046	26.1	01Jun2007, 12:11	10.05
Out-BB-Ex	0.0046	26.1	01Jun2007, 12:11	10.05
Softball-EX	0.0017	10.2	01Jun2007, 12:10	10.05
Out-SB-EX	0.0017	10.2	01Jun2007, 12:10	10.05
Softball-Pr	0.0017	10.9	01Jun2007, 12:10	11.14
Basin SB	0.0017	5.9	01Jun2007, 12:21	11.14
Out-SB-Pr	0.0017	5.9	01Jun2007, 12:21	11.14

Cedar Park High School Baseball and Softball Fields
HEC-HMS OUPUT



Summary Results for Reservoir "Basin-BB"

Project: Cedar Park HS Simulation Run: 2-Year
Reservoir: Basin-BB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_50%
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	10.2 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:11
Peak Discharge:	7.8 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:18
Inflow Volume:	3.12 (IN)	Peak Storage:	0.1 (ACRE-FT)
Discharge Volume:	3.12 (IN)	Peak Elevation:	998.0 (FT)

Summary Results for Reservoir "Basin-BB"

Project: Cedar Park HS Simulation Run: 10-Year
Reservoir: Basin-BB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_10%
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	16.6 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:11
Peak Discharge:	10.3 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:21
Inflow Volume:	5.62 (IN)	Peak Storage:	0.2 (ACRE-FT)
Discharge Volume:	5.62 (IN)	Peak Elevation:	999.3 (FT)

Summary Results for Reservoir "Basin-BB"

Project: Cedar Park HS Simulation Run: 25-Year
Reservoir: Basin-BB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_4%
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	20.8 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:11
Peak Discharge:	11.4 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:23
Inflow Volume:	7.53 (IN)	Peak Storage:	0.3 (ACRE-FT)
Discharge Volume:	7.53 (IN)	Peak Elevation:	1000.0 (FT)

Summary Results for Reservoir "Basin-BB"

Project: Cedar Park HS Simulation Run: 100-Year
Reservoir: Basin-BB

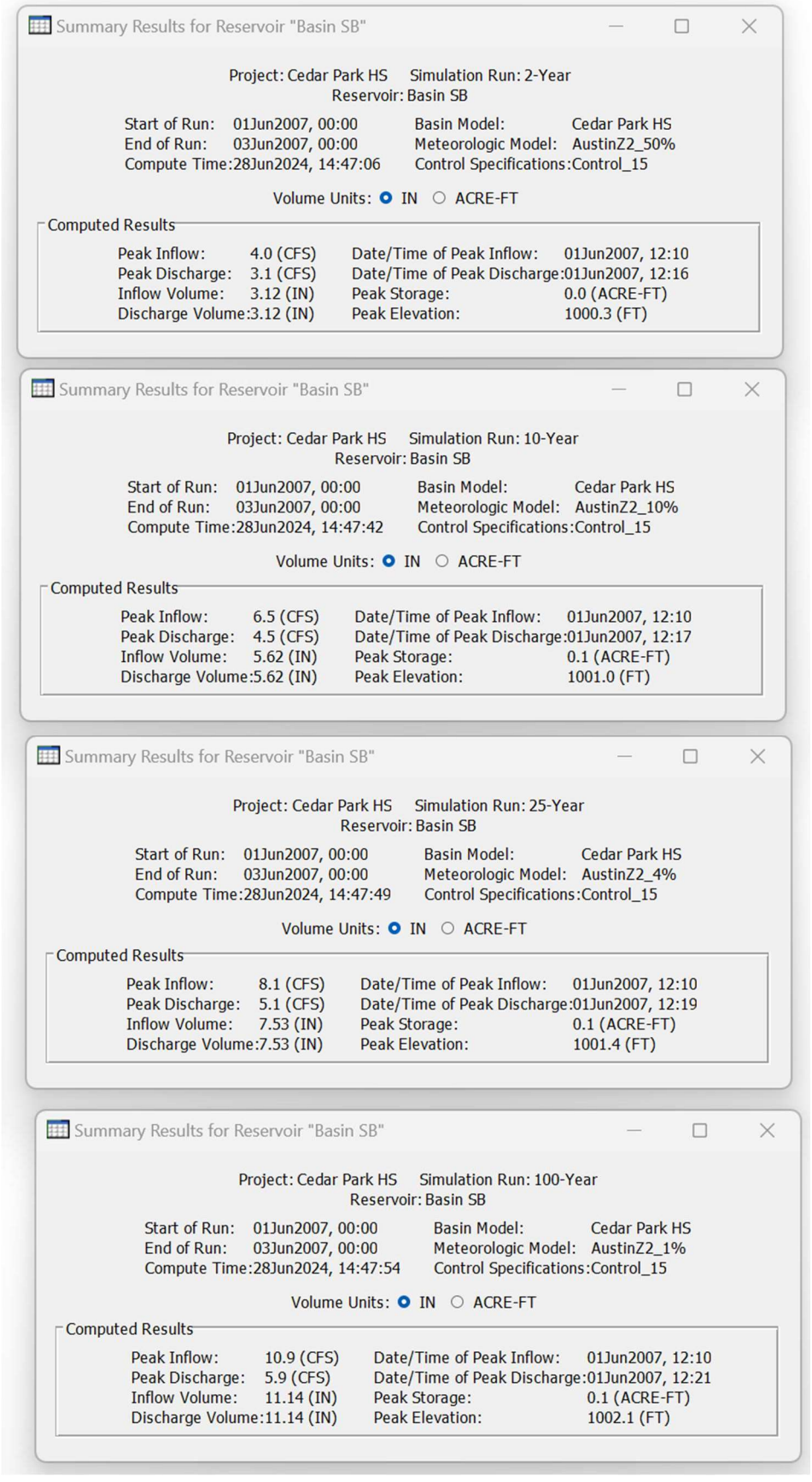
Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_1%
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	27.8 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:11
Peak Discharge:	11.9 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:27
Inflow Volume:	11.14 (IN)	Peak Storage:	0.4 (ACRE-FT)
Discharge Volume:	11.14 (IN)	Peak Elevation:	1000.4 (FT)

Cedar Park High School Baseball and Softball Fields
HEC-HMS OUPUT



Summary Results for Reservoir "Basin SB"

Project: Cedar Park HS Simulation Run: 2-Year
Reservoir: Basin SB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_50%
Compute Time:	28Jun2024, 14:47:06	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	4.0 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:10
Peak Discharge:	3.1 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:16
Inflow Volume:	3.12 (IN)	Peak Storage:	0.0 (ACRE-FT)
Discharge Volume:	3.12 (IN)	Peak Elevation:	1000.3 (FT)

Summary Results for Reservoir "Basin SB"

Project: Cedar Park HS Simulation Run: 10-Year
Reservoir: Basin SB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_10%
Compute Time:	28Jun2024, 14:47:42	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	6.5 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:10
Peak Discharge:	4.5 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:17
Inflow Volume:	5.62 (IN)	Peak Storage:	0.1 (ACRE-FT)
Discharge Volume:	5.62 (IN)	Peak Elevation:	1001.0 (FT)

Summary Results for Reservoir "Basin SB"

Project: Cedar Park HS Simulation Run: 25-Year
Reservoir: Basin SB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_4%
Compute Time:	28Jun2024, 14:47:49	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	8.1 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:10
Peak Discharge:	5.1 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:19
Inflow Volume:	7.53 (IN)	Peak Storage:	0.1 (ACRE-FT)
Discharge Volume:	7.53 (IN)	Peak Elevation:	1001.4 (FT)

Summary Results for Reservoir "Basin SB"

Project: Cedar Park HS Simulation Run: 100-Year
Reservoir: Basin SB

Start of Run:	01Jun2007, 00:00	Basin Model:	Cedar Park HS
End of Run:	03Jun2007, 00:00	Meteorologic Model:	AustinZ2_1%
Compute Time:	28Jun2024, 14:47:54	Control Specifications:	Control_15

Volume Units: IN ACRE-FT

Computed Results

Peak Inflow:	10.9 (CFS)	Date/Time of Peak Inflow:	01Jun2007, 12:10
Peak Discharge:	5.9 (CFS)	Date/Time of Peak Discharge:	01Jun2007, 12:21
Inflow Volume:	11.14 (IN)	Peak Storage:	0.1 (ACRE-FT)
Discharge Volume:	11.14 (IN)	Peak Elevation:	1002.1 (FT)

Appendix E

Excerpts from Hellas Construction Plan

Cedar Park High School Baseball and Softball Fields Detention Analysis

Williamson and Travis Counties, Texas

JSQ Hydrologic & Engineering

APPROVED BY:

Robin M. Griffin, AICP, Executive Director of Development Services ____ Date

Emily Truman, P.E., CFM, City Engineer ____ Date

Mark Tummons, CPRP, Director of Parks and Recreation ____ Date

Chief Joshua Davis, Fire Marshal ____ Date

"The Engineer of Record is solely responsible for the completeness, accuracy, regulatory compliance, and adequacy of these plans and/or specifications whether or not the plans and/or specifications were reviewed by the City Engineer(s)."

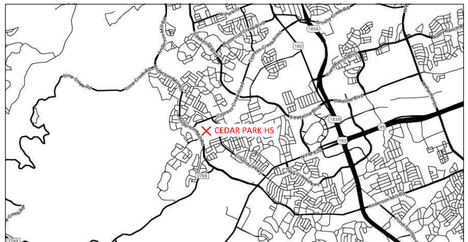
SUBMITTAL DRAWINGS FOR:

LEANDER INDEPENDENT SCHOOL DISTRICT
CEDAR PARK HIGH SCHOOL
BASEBALL & SOFTBALL SYNTHETIC TURF FIELDS
MINOR SITE DEVELOPMENT PLANS
PROJECT

Know what's below. Call before you dig.

CEDAR PARK, Texas

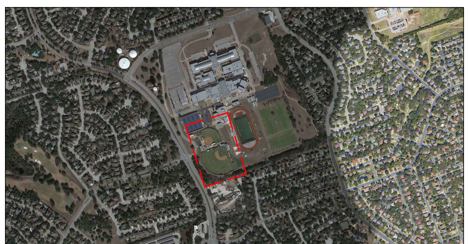
Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com



VICINITY MAP

CEDAR PARK HIGH SCHOOL: 1222 RAIDER WAY, LEANDER, TX, 78641

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862
ehorn@tait-pitkin.com
Texas Firm Registration No. F007361



SITE LOCATION PLAN

Property Owner:	Leander Independent School District - Jimmy Disler - jimmy.disler@leanderisd.org
Engineer:	Brian W. Reed, P.E., Talon Engineering , LLC, Phone: (832)287-9874
Surveyor:	Homero Luis Gutierrez, R.P.L.S. No. 2791 - (956)369-0988
Developer/Agent:	Brian W. Reed, P.E., Talon Engineering , LLC, Phone: (832)287-9874
Submittal Date:	1/16/24
Land Use:	Baseball & Softball Synthetic Turf Fields
Property Information:	
Future Land Use Category:	Baseball & Softball Synthetic Turf Fields
Proposed Incentives:	
Associated Project Numbers:	
List of Required offsite Easements:	

Revision #	Description	Approval

ISSUE: FOR REVIEW

DATE: January 19, 2024

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218

PHONE: 512-570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC M. HORN
135497
LICENSED
PROFESSIONAL ENGINEER
1/28/23

COMMENTS:
Drawing scale accurate ONLY when printed on 24x36 paper.

DRAWN BY: AA | REV BY:

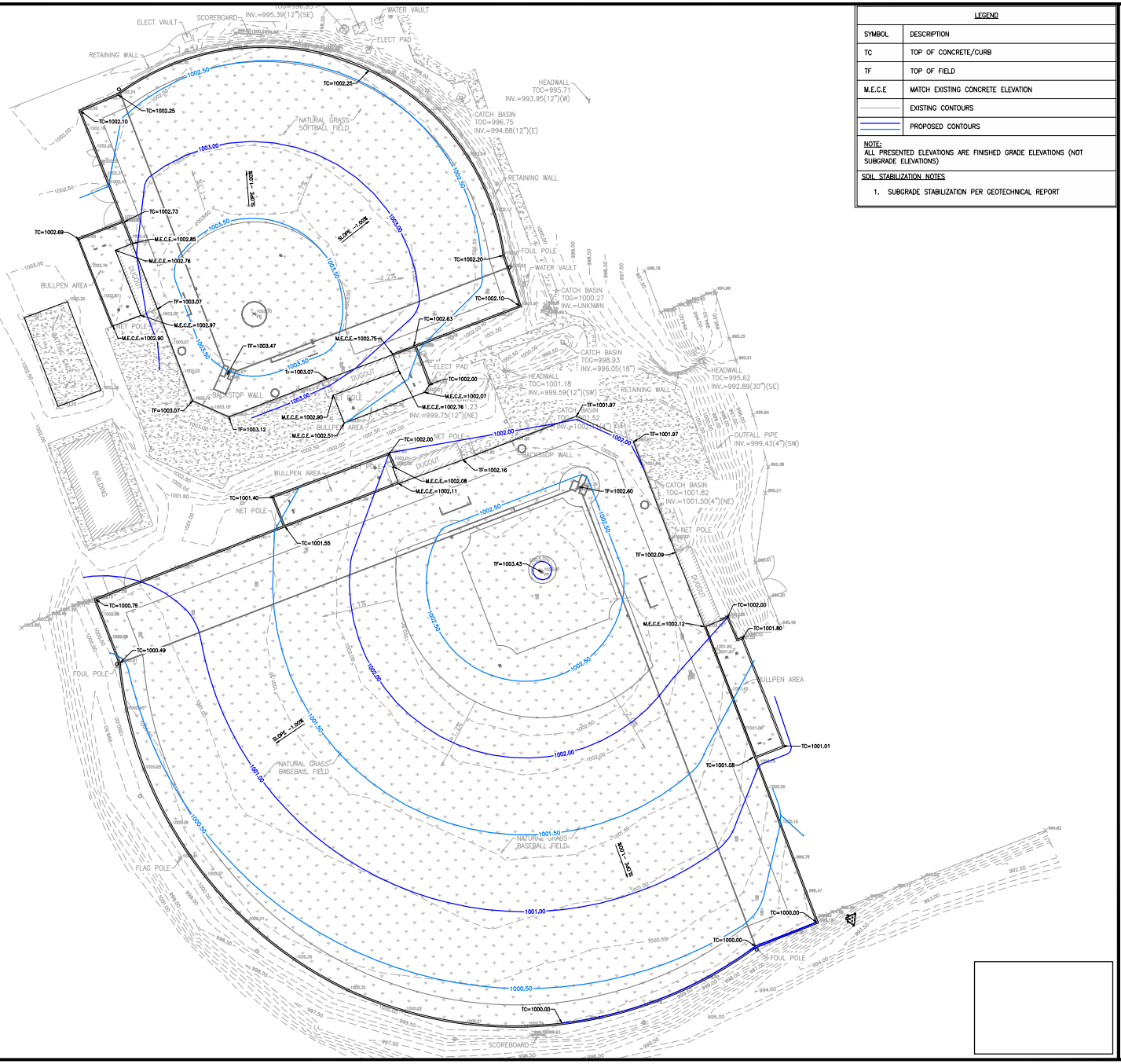
DATE:
January 19, 2024

REVISION LIST

NO.	DATE	DESCRIPTION

SHEET TITLE:
COVER PAGE

SHEET NUMBER:
1 OF 13



LEGEND	
SYMBOL	DESCRIPTION
TC	TOP OF CONCRETE/CURB
TF	TOP OF FIELD
M.E.C.E	MATCH EXISTING CONCRETE ELEVATION
	EXISTING CONTOURS
	PROPOSED CONTOURS

NOTE:
ALL PRESENTED ELEVATIONS ARE FINISHED GRADE ELEVATIONS (NOT SUBGRADE ELEVATIONS)

SOIL STABILIZATION NOTES

1. SUBGRADE STABILIZATION PER GEOTECHNICAL REPORT

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218

PHONE: 512-570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS
12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration
No. F007361

STATE OF TEXAS
ERIC M. HORN
135497
LICENSED
PROFESSIONAL ENGINEER
7/19/23

COMMENTS:
Drawing scale accurate ONLY when printed on 24x36 paper.

DRAWN BY: AA

REV BY:

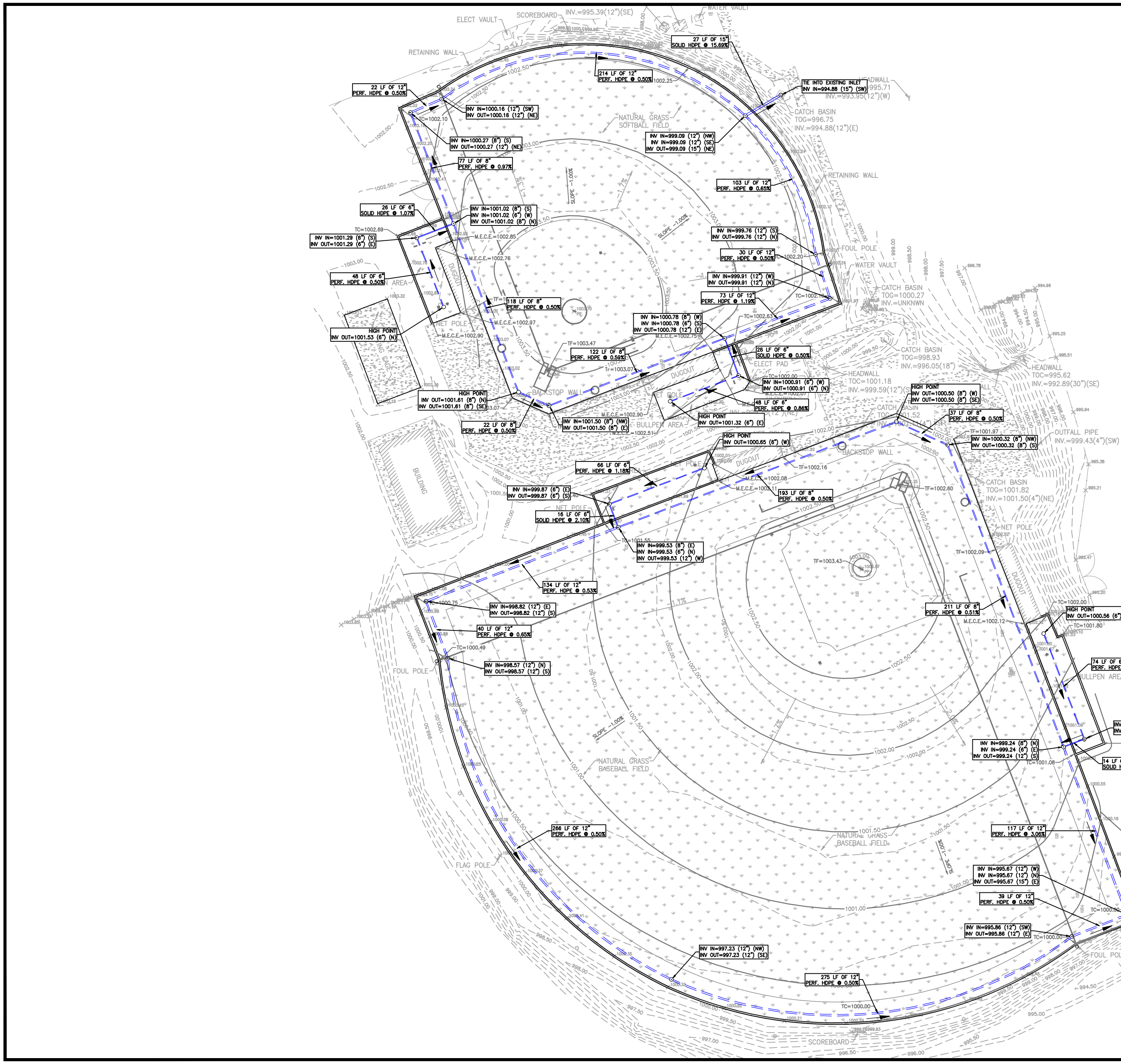
DATE:
January 19, 2024

REVISION LIST		
NO.	DATE	DESCRIPTION

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
7 OF 13

SCALE: 1:30
0 15 30 60


ELECT VAULT
SCOREBOARD
RETAINING WALL
NATURAL GRASS SOFTBALL FIELD
CATCH BASIN
FOUL POLE
WATER VAULT
BACKSTOP WALL
DUGOUT
BULLPEN AREA
NET POLE
ELECT PAD
HEADWALL
OUTFALL PIPE
BUILDING
NATURAL GRASS BASEBALL FIELD
FLAG POLE
27 LF OF 15" SOLID HDPE @ 15.69%
214 LF OF 12" PERF. HDPE @ 0.50%
22 LF OF 12" PERF. HDPE @ 0.50%
TIE INTO EXISTING INLET INV IN=994.88 (15") (SW)
103 LF OF 12" PERF. HDPE @ 0.65%
77 LF OF 8" PERF. HDPE @ 0.97%
26 LF OF 6" SOLID HDPE @ 1.07%
30 LF OF 12" PERF. HDPE @ 0.50%
48 LF OF 6" PERF. HDPE @ 0.50%
73 LF OF 12" PERF. HDPE @ 1.19%
118 LF OF 8" PERF. HDPE @ 0.50%
122 LF OF 8" PERF. HDPE @ 0.59%
26 LF OF 6" SOLID HDPE @ 0.50%
48 LF OF 6" PERF. HDPE @ 0.86%
22 LF OF 8" PERF. HDPE @ 0.50%
37 LF OF 8" PERF. HDPE @ 0.50%
66 LF OF 6" PERF. HDPE @ 1.18%
193 LF OF 8" PERF. HDPE @ 0.50%
16 LF OF 6" SOLID HDPE @ 2.10%
134 LF OF 12" PERF. HDPE @ 0.53%
211 LF OF 8" PERF. HDPE @ 0.51%
40 LF OF 12" PERF. HDPE @ 0.65%
74 LF OF 8" PERF. HDPE @ 1.70%
14 LF OF 6" SOLID HDPE @ 0.50%
266 LF OF 12" PERF. HDPE @ 0.50%
117 LF OF 12" PERF. HDPE @ 3.05%
27 LF OF 15" SOLID HDPE @ 0.50%
39 LF OF 12" PERF. HDPE @ 0.50%
HEADWALL INV=995.53 (15")
275 LF OF 12" PERF. HDPE @ 0.50%

MATERIAL QUANTITIES BB	
6" PERF. HDPE PIPE	100 LF
6" SOLID HDPE PIPE	62 LF
8" PERF. HDPE PIPE	441 LF
12" PERF. HDPE PIPE	871 LF
15" SOLID HDPE PIPE	27 LF
PIPE FITTING – ○	

MATERIAL QUANTITIES SB	
6" PERF. HDPE PIPE	140 LF
6" SOLID HDPE PIPE	30 LF
8" PERF. HDPE PIPE	339 LF
12" PERF. HDPE PIPE	443 LF
15" SOLID HDPE PIPE	27 LF
PIPE FITTING – ○	

Hellas

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218

PHONE: 512-570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS ERIC M. HORN 135497 LICENSED PROFESSIONAL ENGINEER 1/28/23

COMMENTS:
Drawing scale accurate ONLY when printed on 24x36 paper.

DRAWN BY: AA | REV BY:

DATE:
January 19, 2024

REVISION LIST

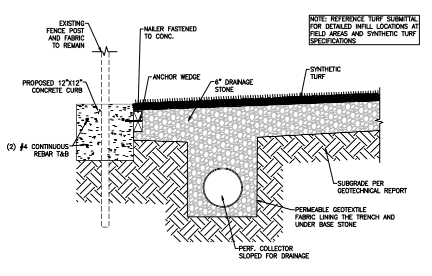
NO.	DATE	DESCRIPTION

SHEET TITLE:
DRAINAGE PLAN

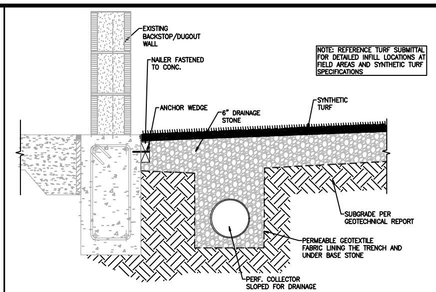
SHEET NUMBER:
8 OF 13

N

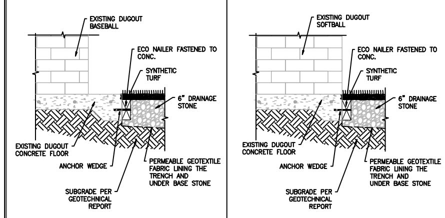
SCALE: 1:30
0 15 30 60


EXISTING FENCE POST AND FABRIC TO REMAIN
NAILER FASTENED TO CONC.
NOTE: REFERENCE TURF SUBMITTAL FOR DETAILED INFILL LOCATIONS AT FIELD AREAS AND SYNTHETIC TURF SPECIFICATIONS
PROPOSED 12"X12" CONCRETE CURB
ANCHOR WEDGE
6" DRAINAGE STONE
SYNTHETIC TURF
(2) #4 CONTINUOUS REBAR T&B
SUBGRADE PER GEOTECHNICAL REPORT
PERMEABLE GEOTEXTILE FABRIC LINING THE TRENCH AND UNDER BASE STONE
PERF. COLLECTOR SLOPED FOR DRAINAGE

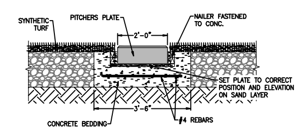
1 12"X12" CONC. CURB FIELD EDGE DETAIL
Scale: NTS


EXISTING BACKSTOP/DUGOUT WALL
NAILER FASTENED TO CONC.
NOTE: REFERENCE TURF SUBMITTAL FOR DETAILED INFILL LOCATIONS AT FIELD AREAS AND SYNTHETIC TURF SPECIFICATIONS
ANCHOR WEDGE
6" DRAINAGE STONE
SYNTHETIC TURF
SUBGRADE PER GEOTECHNICAL REPORT
PERMEABLE GEOTEXTILE FABRIC LINING THE TRENCH AND UNDER BASE STONE
PERF. COLLECTOR SLOPED FOR DRAINAGE

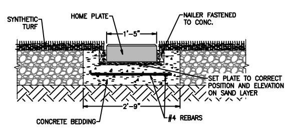
2 FIELD EDGE AT BACKSTOP WALL DETAIL
Scale: NTS


EXISTING DUGOUT BASEBALL
ECO NAILER FASTENED TO CONC.
SYNTHETIC TURF
6" DRAINAGE STONE
EXISTING DUGOUT CONCRETE FLOOR
ANCHOR WEDGE
PERMEABLE GEOTEXTILE FABRIC LINING THE TRENCH AND UNDER BASE STONE
SUBGRADE PER GEOTECHNICAL REPORT
EXISTING DUGOUT SOFTBALL

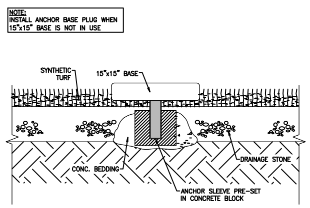
3 FIELD EDGE AT DUGOUTS (TYP.)
Scale: NTS



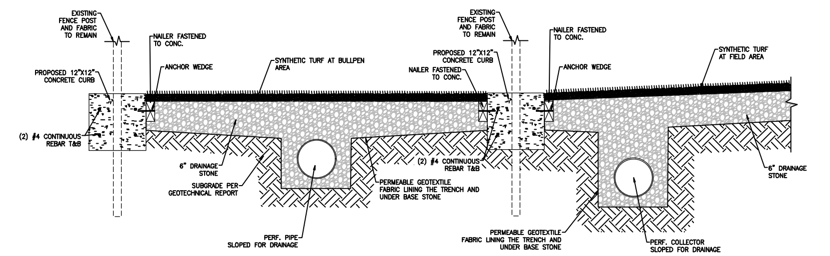
4 PITCHERS PLATE DETAIL
Scale: NTS



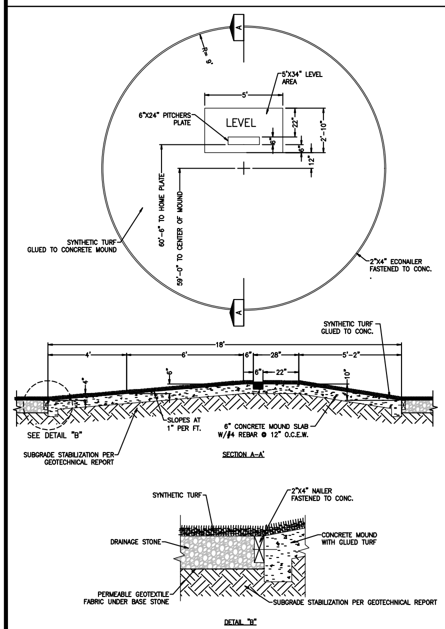
5 HOME PLATE DETAIL
Scale: NTS



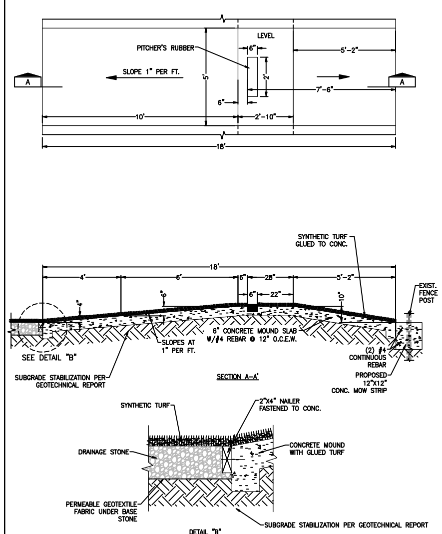
6 BASE PLATE DETAIL
Scale: NTS


EXISTING FENCE POST AND FABRIC TO REMAIN
NAILER FASTENED TO CONC.
PROPOSED 12"X12" CONCRETE CURB
ANCHOR WEDGE
SYNTHETIC TURF AT BULLPEN AREA
(2) #4 CONTINUOUS REBAR T&B
6" DRAINAGE STONE
SUBGRADE PER GEOTECHNICAL REPORT
PERF. PIPE SLOPED FOR DRAINAGE
PERMEABLE GEOTEXTILE FABRIC LINING THE TRENCH AND UNDER BASE STONE
SYNTHETIC TURF AT FIELD AREA
PERF. COLLECTOR SLOPED FOR DRAINAGE

7 BULLPEN CROSS SECTION DETAIL
Scale: NTS


5'X34" LEVEL AREA
6"X24" PITCHERS PLATE
LEVEL
60'-6" TO HOME PLATE
59'-0" TO CENTER OF MOUND
SYNTHETIC TURF GLUED TO CONCRETE MOUND
2"X4" ECONAILER FASTENED TO CONC.
SYNTHETIC TURF GLUED TO CONC.
18'
SEE DETAIL "B"
SLOPES AT 1" PER FT.
6" CONCRETE MOUND SLAB W/#4 REBAR @ 12" O.C.E.W.
SUBGRADE STABILIZATION PER GEOTECHNICAL REPORT
SECTION A-A'
SYNTHETIC TURF
2"X4" NAILER FASTENED TO CONC.
DRAINAGE STONE
CONCRETE MOUND WITH GLUED TURF
PERMEABLE GEOTEXTILE FABRIC UNDER BASE STONE
SUBGRADE STABILIZATION PER GEOTECHNICAL REPORT
DETAIL "B"

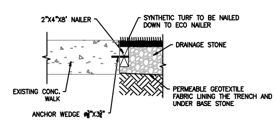
8 BASEBALL CONCRETE MOUND DETAIL
Scale: NTS


PITCHER'S RUBBER
LEVEL
SLOPE 1" PER FT.
18'
SYNTHETIC TURF GLUED TO CONC.
EXIST. FENCE POST
SEE DETAIL "B"
SLOPES AT 1" PER FT.
6" CONCRETE MOUND SLAB W/#4 REBAR @ 12" O.C.E.W.
(2) #4 CONTINUOUS REBAR
PROPOSED 12"X12" CONC. MOW STRIP
SUBGRADE STABILIZATION PER GEOTECHNICAL REPORT
SECTION A-A'
SYNTHETIC TURF
2"X4" NAILER FASTENED TO CONC.
DRAINAGE STONE
CONCRETE MOUND WITH GLUED TURF
PERMEABLE GEOTEXTILE FABRIC UNDER BASE STONE
DETAIL "B"

9 BASEBALL BULLPEN MOUND DETAIL
Scale: NTS

REINFORCED CONCRETE NOTES:

1. ALL CONCRETE SHALL BE CLASS C (3000 PSI) NORMAL WEIGHT CONCRETE.
2. THE CONCRETE MIX DESIGN FOR THE PROJECT SHALL HAVE A WATER / CEMENT RATIO OF NOT MORE THAN 0.46. WATER CONTENT SHALL BE CLOSELY MONITORED DURING THE BATCHING PROCESS. UNDER NO CIRCUMSTANCES SHALL THE WATER / CEMENT RATIO BE PERMITTED TO EXCEED THE SPECIFIED MAXIMUM. CONCRETE SHALL BE PROPORTIONED TO PROVIDE THE SPECIFIED COMPRESSIVE STRENGTH OR GREATER AT A SLUMP IN THE RANGE OF 4 TO 6 INCHES USING A WATER REDUCER. THE USE FLY ASH IS RECOMMENDED, BUT SHALL NOT EXCEED 20% OF THE TOTAL OF THE CEMENT PLUS FLY ASH BY WEIGHT.
3. REINFORCING STEEL SHALL BE ASTM / ANSI A615, GRADE 60. DETAILING, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" ACI 315.
4. CONCRETE CONSTRUCTION INCLUDING MINIMUM REINFORCING STEEL COVERAGE BY CONCRETE SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, UNLESS OTHERWISE NOTED.
5. PROVIDE SUPPORTS OR CHAIRS TO SUPPORT REBAR AT THE APPLICABLE POSITIONS AS REQUIRED TO PROVIDE PROPER REBAR SUPPORT.
6. LAP CONTINUOUS UNSCHEDULED REINFORCING BARS SHALL BE EQUIVALENT TO 20 BAR DIAMETERS UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL INSURE THAT EMBEDDED ITEMS ARE DELIVERED IN A TIMELY FASHION AND INSTALLED IN THE FORM WORK PRIOR TO PLACEMENT OF CONCRETE.
8. FIELD CUTTING OF REINFORCEMENT SHALL BE BY SHEARING OR SAWING. FIELD CUTTING BY TORCH WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER.
9. UNLESS OTHERWISE NOTED ALL 90, 135 AND 180-DEGREE REINFORCING STEEL HOOKS SHALL BE STANDARD ACI HOOKS.
10. THE CONTRACTOR SHALL USE A "TREMIE" TO PLACE CONCRETE IN ALL AREAS WHERE THE FALL OF THE CONCRETE IS GREATER THAN 5 FEET.
11. THE CONTRACTOR SHALL USE CARE TO PROPERLY VIBRATE CONCRETE DURING PLACING OPERATIONS TO ENSURE GOOD DENSITY OF CONCRETE AND TO MINIMIZE DEFECTS.
12. FORM WORK FOR SURFACES EXPOSED TO VIEW IN THE FINISHED CONSTRUCTION SHALL BE SMOOTH, EITHER WOOD OR METAL FORMS SHALL BE FREE OF RAISED GRAIN, TORN SURFACES, WORN EDGES, PATCHES, DENTS, OR OTHER DEFECTS. STRENGTH OF FORMS SHALL BE SUCH THAT NO WARPING, BULGING, OR BOWING OCCURS UNDER THE WEIGHT OF WET CONCRETE, JOINTS SHALL BE SMOOTH AND MORTAR TIGHT, FORMS WHICH DO NOT PRESENT A SMOOTH SURFACE OR DO NOT LINEUP PROPERLY SHALL NOT BE USED. FORMS SHALL BE FREE OF RUST GREASE, OR OTHER FOREIGN SURFACES THAT MAY DISCOLOR THE FINISHED CONCRETE.



10 EDGE DETAIL @ EXISTING CONC.
Scale: NTS

Hellas

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218

PHONE: 512-570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN
SPORTS ENGINEERS

12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC M. HORN
135497
LICENSED
PROFESSIONAL ENGINEER
1/18/23

COMMENTS:
Drawing scale accurate ONLY when printed on 24x36 paper.

DRAWN BY: AA
REV BY:

DATE:
January 19, 2024

REVISION LIST

NO.	DATE	DESCRIPTION

SHEET TITLE:
SECTIONS AND DETAILS

SHEET NUMBER:
12 OF 13

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Cedar Park High School Athletic Fields Synthetic Turf Replacement
Date Prepared: 8/25/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	4.02	acres
Predevelopment impervious area within the limits of the plan * =	0.60	acres
Total post-development impervious area within the limits of the plan * =	0.80	acres
Total post-development impervious cover fraction * =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	175	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	64.64	acres
Predevelopment impervious area within drainage basin/outfall area =	42.02	acres
Post-development impervious area within drainage basin/outfall area =	46.05	acres
Post-development impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	3508	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	3.08	acres
A_I =	46.05	acres
A_P =	-42.97	acres
L_R =	37683	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 3508 lbs.

F = 0.09

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	0.05	inches
Post Development Runoff Coefficient =	12.18	
On-site Water Quality Volume =	6262	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1252	
Total Capture Volume (required water quality volume(s) x 1.20) =	7514	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 7514 cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet **Permanent Pool Capacity is 1.20 times the WQV**
Required capacity at WQV Elevation = **NA** cubic feet **Total Capacity should be the Permanent Pool Capacity plus a second WQV.**

12. Constructed Wetlands Designed as Required in RG-348 Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = **NA** cubic feet

13. AquaLogic™ Cartridge System Designed as Required in RG-348 Pages 3-74 to 3-78

** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.

Required Sedimentation chamber capacity = **NA** cubic feet
Filter canisters (FCs) to treat WQV = **NA** cartridges
Filter basin area (RIA_T) = **NA** square feet

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System = **NA** cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales Designed as Required in RG-348 Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A = 8.00 acres
Impervious Cover in Drainage Area = 4.00 acres
Rainfall Intensity = I = 1.1 in/hr
Swale Slope = 0.01 ft/ft
Side Slope (z) = 3
Design Water Depth = y = 0.33 ft
Weighted Runoff Coefficient = C = 0.54

A_{CS} = cross-sectional area of flow in Swale = 13.17 sf
P_W = Wetted Perimeter = 40.62 feet
R_H = hydraulic radius of flow cross-section = A_{CS}/P_W = 0.32 feet
n = Manning's roughness coefficient = 0.2

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49}{n} A_{CS} R_H^{2/3} S^{0.2}$

$b = \frac{0.134 \times Q}{y^{1.67} S^{0.5}} - zy$ = 38.51 feet

Q = CiA = 4.71 cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{CS} = 0.36 ft/sec

To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = 107.24 feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

Design Q = CiA = 4.71 cfs

Manning's Equation Q = 0.76 cfs Error 1 = 3.95
Swale Width= 6.00 ft

Instructions are provided to the right (green comments).

Flow Velocity 0.36 ft/s
Minimum Length = 107.24 ft

Instructions are provided to the right (blue comments).

Design Width = 6 ft
Design Discharge = 0.76 cfs Error 2 = 3.95
Design Depth = 0.33 ft
Flow Velocity = 0.32 cfs
Minimum Length = 97.48 ft

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults Designed as Required in RG-348 Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = **NA** lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: Q = CIA

C = runoff coefficient for the drainage area = 0.54 **C = Runoff Coefficient = 0.546 (IC)^2 + 0.328 (IC) + 0.03**
I = design rainfall intensity = 1.1 in/hour
A = drainage area in acres = 1 acres

Q = flow rate in cubic feet per second = 0.59 cubic feet/sec

RG-348 Page 3-31 Equation 3.5: V_{OR} = Q/A

Q = Runoff rate calculated above = 0.59 cubic feet/sec
A = Water surface area in the wet vault = 150 square feet

V_{OR} = Overflow Rate = 0.00 feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = 53 percent

Load removed by Wet Vault = #VALUE! lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs = 0.5 in/hour

Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = 0.75 percent
Efficiency Reduction for Actual Rainfall Intensity = 0.83 percent

Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete Designed as Required in RG-348 Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series Designed as Required in RG-348 Pages 3-32

To solve for bottom width of the trapezoidal swale (b) using the Excel solver:
Excel can simultaneously solve the "Design Q" (C217) vs "Manning's Q" (C219) by varying the "Swale Width" (C220).
The required "Swale Width" occurs when the "Design Q" = "Manning's Q"

First, highlight Cell F219 (Error 1 value). The equation showing in the fx screen for Cell F219 should be "= C217-C219"
Then click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F219 "Error 1 ="
The value in the "By Changing Cells" should be C220 "Swale Width"
Click on solve.

The resulting "Swale Width" must be less than 10 feet to meet the requirements of the TGM.
If the resulting "Swale Width" exceeds 10 feet then the design parameters must be revised and the solver run again.

If there is not the option for "Solver" under "Tools"
Click on "Tools" and "Add Ins" and then check "Solver Add-in"
Then proceed as instructed above.

If you would like to increase the bottom width of the trapezoidal swale (b):
Excel can simultaneously solve the "Design Q" (C217) vs "Design Discharge" (C232) by varying the "Design Depth" (C233).
The required "Design Depth" for a 10-foot bottom width occurs when the "Design Q" (C217) = the "Design Discharge" (C232).

First set the desired bottom width in Cell C231.
Highlight Cell F232. The equation showing in the fx screen for Cell F232 should be "= C217-C232"

Click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F232 "Error 2"
The value in the "By Changing Cells" should be C233 "Design Depth"
Click on solve.

The resulting "Design Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.
If the resulting "Design Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.
First set the desired bottom width in Cell C231.
Highlight Cell F232. The equation showing in the fx screen for Cell F232 should be "= C217-C232"
Click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F232 "Error 2"
The value in the "By Changing Cells" should be C233 "Design Depth"
Click on solve.

The resulting "Design Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.
If the resulting "Design Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_3 be changed from 0.5 to 0.65 on May 3, 2006

$E_{TOT} = [1 - ((1 - E_1) X (1 - 0.65E_2) x (1 - 0.25E_3))] X 100 =$ 86.38 percent NET EFFICIENCY OF THE BMPs IN THE SERIES

EFFICIENCY OF FIRST BMP IN THE SERIES = E_1 = 75.00 percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES = E_2 = 70.00 percent

EFFICIENCY OF THE THIRD BMP IN THE SERIES = E_3 = 0.00 percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_I AND A_P VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT} X P X (A_I X 34.6 X A_P X 0.54) =$ 43398.29 lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area= **NA** lbs
Impervious Cover Overtreatment= 0.0000 ac
TSS Removal for Uncaptured Area = 0.00 lbs

BMP Sizing

Effective Area = NA EA
Calculated Model Size(s) = #N/A
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) = 0 Model Size

Surface Area = #N/A ft^2
Overflow Rate = #VALUE! V_{or}
Rounded Overflow Rate = #VALUE! V_{or}
BMP Efficiency % = #VALUE! %
L_R Value = #VALUE! lbs

TSS Load Credit = #VALUE! lbs

Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.) #VALUE!

TSS Treatment by BMP (LM + TSS Uncapt.) = #VALUE!

21. Vortech

Required TSS Removal in BMP Drainage Area= **NA** lbs
Impervious Cover Overtreatment= 0.0000 ac
TSS Removal for Uncaptured Area = 0.00 lbs

BMP Sizing

Effective Area = NA EA
Calculated Model Size(s) = #N/A

Actual Model Size (if choosing larger model size) = Vx1000 Pick Model Size

Surface Area = 7.10 ft^2
Overflow Rate = #VALUE! V_{or}
Rounded Overflow Rate = #VALUE! V_{or}
BMP Efficiency % = #VALUE! %
L_R Value = #VALUE! lbs

TSS Load Credit = #VALUE! lbs

Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.) #VALUE!

TSS Treatment by BMP (LM + TSS Uncapt.) = #VALUE!

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Derek Chinners

Date: 8-26-2024

Signature of Customer/Agent:

Regulated Entity Name: Cedar Park High School

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☑ The following fuels and/or hazardous substances will be stored on the site: Gasoline/Diesel

   These fuels and/or hazardous substances will be stored in:

   ☑ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☐ Fuels and hazardous substances will not be stored on the site.

2. ☑ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☑ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☑ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☑ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☑ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☑ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☑ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: South Brushy Creek

Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. ☑ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

☑ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☑ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☑ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☑ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☑ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

☑ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☑ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☑ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☑ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☑ N/A

12. ☑ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☑ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☑ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☑ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☑ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. ☑ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☑ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☑ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☑ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☑ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☑ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Attachment A

Cedar Park High School

Baseball & Softball Field Turf Replacement

Regular Good Housekeeping Procedures will be followed to prevent spills and leaks before they can occur. Manufacturing and maintenance of machinery utilizing fluids will be conducted indoors to the extent possible. Secondary containment will be necessary surrounding the used oil disposal storage area to ensure transfer does not result in accidental discharge. All storage containers must be clearly and properly labeled.

Spill and clean-up kits will be kept near fuel transfer points within the material storage staging area. Kits will be clearly marked, as will locations for disposal of used materials. Hazardous materials that result of cleanup will need to be disposed of according to local and state ordinances. In the case of discharges under conditions other than those allowed in an NPDES permit, the report shall be made by the permittee or his duly authorized representative. A record of all spills will be kept utilizing the Spill Log in the Appendix of this document.

In the event of a reportable quantity spill or other release of oil or hazardous substance, the following agencies will be contacted as appropriate:

- EPA Region 6 Emergency Response 24-Hour Hotline: 1 (866) 372-7745
- National Response Center 24-Hour Hotline: (800) 424-8802
- Texas Environmental Release 24-Hour Hotline: (800) 832-8224

Attachment B

Cedar Park High School

Baseball & Softball Field Turf Replacement

Material/Activity	Potential Polluntants	Suggested BMP's
Concrete Curing Substances	Sediment, metals, hydrocarbons	• Provide secondary containment in preparation and cleanup areas. • Leftover curing substances should be removed from the site or disposed of in a designated washout bin or pit designed to contain curing substances. • Do not use materials during or directly prior to an anticipated rain event, and ensure excess materials are stored in a covered area to minimize contact with storm water.
Concrete Washwater and Masonry Washwater	pH, heavy metals, silica	• Concrete washwater will be controlled/ contained at a designated location on-site such as a leak-proof container or settling basin of adequate size. • The concrete washout area should be cleaned out when it has reached 75% capacity, and dried concrete material should be disposed of in accordance with state and local regulations.
Detergents and soaps		• Use of detergents on-site should be discouraged. Any washing of vehicles or equipment that requires the use of detergents should occur off-site.
Equipment Maintenance	Petroleum hydrocarbons, solvents	• Equipment should be taken offsite for significant or routine maintenance needs. • Maintenance of equipment onsite should be limited to urgent or emergency maintenance. Drip pans and secondary containment should be utilized in these cases and spill kits should be easily accessible by the maintenance personnel.
Fertilizers	Total Organic Carbon (TOC), Nitrogen, Phosphorus, Potassium	• Fertilizers can be kept on-site in amounts necessary for immediate use. • In the event fertilizers must remain on-site longer, they should be stored in a covered area to minimize contact with precipitation and stormwater. • Refer to the manufacturer's recommendations for application and disposal. • Do not over apply or apply before an anticipated runoff-producing rain event.
Form Release Oil	Petroleum hydrocarbons	• Store containers in a covered area or in contractor vehicles to minimize contact with storm water. • Do not remove the original product label from container. • Follow the manufacturer's recommended usage instructions. • Do not use before or during any precipitation event. • Use all a product before disposing of the container and only place in a waste receptacle designated to receive this type of waste.
Fuels and Oils	Petroleum hydrocarbons and distillates	• Smaller fuel containers and gas-powered equipment should be kept in secondary containment vessels to prevent spills or leaks during fueling and operation. Small gas cans can be kept in the back of trucks when not in use. • Drip pans should be used for parked vehicles where leaks have been identified. • Soil stained with fuel or other petroleum products should be removed and disposed of in compliance with federal, state, and local requirements. • Used oils and oily waste should be disposed of in accordance with federal, state, tribal or local requirements.
Grease / Lubricants	Petroleum hydrocarbons, polytetrafluoroethylene	• If grease is to be stored on-site, it should be stored in a covered location to minimize contact with stormwater. • The application of lubricants should be conducted off-site or in an area with sufficient secondary containment measures to contain any leaks or spills. • Lubricants should not be applied in rain or on exposed areas of machinery when precipitation is expected.
Glue / Adhesives	Nutrients, sediment, sulfate, pH, chemical	• Landscape materials include—but are not limited to—items such as topsoil, compost, mulch, polymers, gypsum, and lime.

	oxygen demand (COD), TOC	• If the materials are to be stored on-site, they should be stored in a covered area or covered with plastic sheeting, tarps, or similar products to minimize contact with stormwater. • Soil amendments should not be used before anticipated runoff producing rain events.
Material Storage	Solid waste, hydrocarbons, nutrients, sediment, hazardous materials	• As necessary and as space on the project allows, material storage areas should be dedicated on-site. • The number of access points to the material storage area should be limited, and materials should be stored away from drainage courses and low areas. • To minimize contact with precipitation and stormwater, materials can be covered or delivery and use of the materials can be coordinated so as to minimize their time onsite. • Hazardous materials should be stored in containers or structures or otherwise covered to minimize contact with storm water. Secondary containment should be provided for the area not only to contain spills but also to limit multiple access points.
Paint	pH, ethylene glycol, titanium oxide, volatile organic compounds (VOC)	• Paint washwater should be properly contained on-site in a designated area and handled similarly to concrete washwater. • Used materials (i.e., soiled brushes, rollers, sprayers) and dried latex paint should be disposed of in appropriate waste receptacles, preferably off-site. • Unused quantities of paint should be removed from site by trades and not disposed of on-site.
Pesticides, Herbicides	Organophosphates, carbamates, triazines, chloroacetanilides, salts, heavy metals	• Pesticides and herbicides should be used and disposed of per manufacturer's recommendations. Avoid overapplying product and applying product before anticipated runoff producing storm events. • Storage of pesticides and herbicides onsite should be discouraged. Should storage onsite be required, items should be stored in covered areas to minimize contact with precipitation and stormwater. • Spilled material should be promptly cleaned up per manufacturer's recommendations.
Sanitary Waste	Bacteria, viruses, parasites	• Sanitary stations should be located where accidental discharge cannot flow to storm drains, gutters, surface waters, or conveyance channels. • Locate stations on a level, permeable surface, away from drainage courses and low areas. These stations should not be located on streets, sidewalks, or on top of inlets. • Stations will be inspected and maintained by a qualified person at frequent and regular intervals to assure cleanliness and proper operation.
Sediment / Total Suspended Solids	Turbidity, nutrients	• Surface water impairments caused by sediment and total suspended solids will have a higher risk of occurring in areas where soils have been disturbed for construction activities. • Temporary controls are described in this SWPPP to control and contain this potential pollutant during land-disturbing activities of the project. • Vegetation (temporary or permanent stabilization) is a very efficient BMP for controlling sediment and should be used whenever possible.
Solid Waste (including construction waste and trash)	Floatable and blowable trash and debris	• Solid waste created from construction activities (including but not limited to scrap building material, product/material shipping waste, food containers, and cups) should be properly contained on-site and removed frequently from the site for disposal. • Dumpsters should to be emptied at regular intervals and as needed during times of high activity on the site. • Efforts should be taken to minimize exposure of solids wastes generated on the site to stormwater.
Solvents	VOC, SVOC	• If solvents are stored on-site, they should be stored in a covered and secured area to prevent spills or contact with storm water. • The materials will be used and disposed of per manufacturer's recommendations and federal, state, and local regulations.

Vehicle Washing, Wheel Washwater	Sediment, petroleum hydrocarbons	• If vehicle washing and wheel washing is to occur on-site, it should be done in designated areas where washwater can collect in a basin or alternative control. • Washing on paved surfaces should be discouraged unless water can be sufficiently treated before leaving the site.

Potential hazardous material & chemical pollutants to stormwater:				
Potentially on Site?	**Material/ Chemical**	**Physical Description**	**Stormwater Pollutants**	**Location**
Yes	Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
Yes	Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, and petroleum distillates	Staging areas
Yes	Asphalt	Black solid	Oil, petroleum distillates	Streets
Yes	Concrete and Grout	White solid/grey liquid	Limestone, sand, pH, and chromium	Curb and gutter, sidewalk, building construction
Yes	Curing compounds	Creamy white liquid	Naphtha	Curb and gutter, sidewalk, driveways, concrete slabs
Yes	Hydraulic oil/ fluids	Brown, oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Yes	Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, toluene, ethylbenzene, xylenes, and MTBE	Secondary containment/staging area
Yes	Antifreeze/ coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, and heavy metals (copper, lead, and zinc)	Leaks or broken hoses from equipment or vehicles
Yes	Sanitary toilets	Various colored liquid	Bacteria, parasites, and viruses	Staging areas

Attachment C

Cedar Park High School

Baseball & Softball Field Turf Replacement

Sequence of Major Activities

1. Install Erosion Control & Site Prep – Month 1
2. Demolition & Removal – Month 1
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 45,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
3. Drainage & Subgrade Install – Months 2
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 45,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
4. Turf Install – Month 2
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 75,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
5. Associated Appurtenances Install – Month 2 - 3
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area, Concrete Washout Area
    b. Disturbed Area: 3,256 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 5,859 Sq-Ft Phase 2 Baseball Field
6. Landscaping – Month 3
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area, Concrete Washout Area
    b. Disturbed Area: 4,623 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 7,561 Sq-Ft Phase 2 Baseball Field
7. Final Stabilization Month 4
    a. Removal of all temporary BMP’s, area will drain to permanent stormwater detention basin

Attachment D

Cedar Park High School

Baseball & Softball Field Turf Replacement

A. Erosion and Sediment Controls

1. Sediment will be retained on site to the maximum extent practicable.
2. Control measures will be properly selected, installed, and maintained in accordance with manufacturer's specifications and good engineering practice. If periodic inspections indicate a control is compromised the controls shall be repaired or replaced immediately.
3. Sediment will be removed from the filter fences and inlet protection devices when it reaches 1/3 the height of the control measure. Sediment shall be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.
4. Should sediment escape the site, accumulations shall be removed at a frequency to minimize further negative effects and prior to the next rain event.
5. Controls shall be developed to limit, to the extent practicable, offsite transport of litter, construction debris, and construction materials.
6. BMPs shall be per technical specifications in the following sheets.

B. Stabilization Practices

1. Once the construction of the impervious areas is complete, all exposed soils will be adequately stabilized through hydro mulch seeding or equivalent.
2. Records to be Maintained:
   Records shall be maintained and either attached to this SWP3 or made readily available upon request for the following concerns:

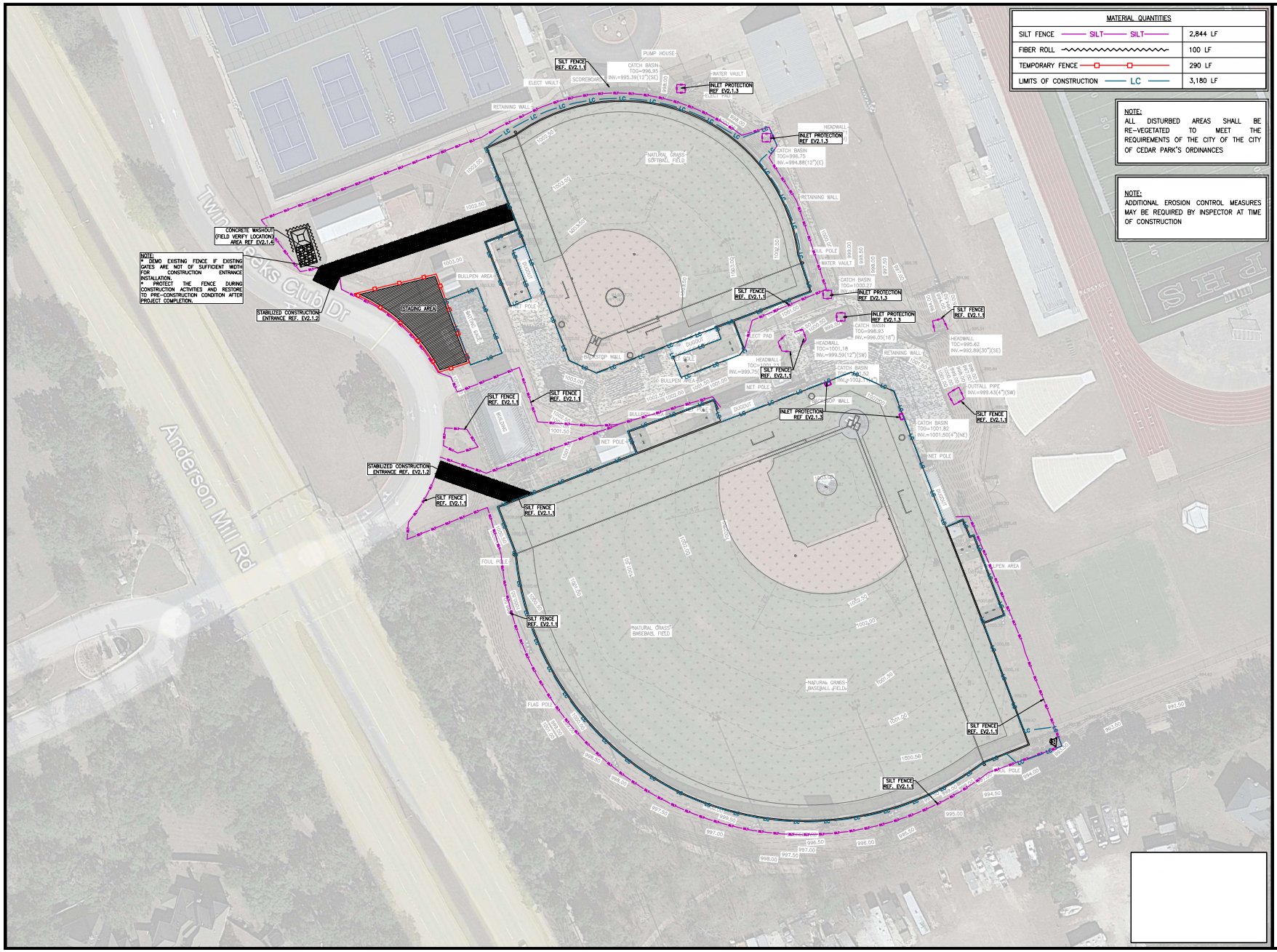
   a. Dates when major grading activities occur.
   b. Dates when construction activities temporarily or permanently cease on a portion of the site.
   c. Dates when Stabilization Measures are initiated.
3. Stabilization Measures
7. Stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased and must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased

C. Maintenance Practices

1. Erosion and sediment control measures that have been improperly installed, disabled, run over, removed, or rendered ineffective must be replaced or corrected immediately.
2. Maintenance and repairs will be conducted within 24 hours of an inspection report.
3. Sediment shall be removed from behind the filter fabric fence when it reaches about 1/3 the height of the fence.
4. Sediment shall be removed from sediment traps and sedimentation ponds when said devices' design capacity has been reduced by 50%.
5. The following is a list of erosion or sediment controls to be implemented on this project that require maintenance:

   a. Stabilization Practices
      Hydro mulch seeding, sodding, or equivalent per plans and specifications.

   b. Structural Practices
      a. Stabilized Construction Exit
      b. Silt Fence
      c. Inlet Protection Barriers
      d. Concrete Washout Area



MATERIAL QUANTITIES		
SILT FENCE	SILT—SILT—	2,844 LF
FIBER ROLL		100 LF
TEMPORARY FENCE		290 LF
LIMITS OF CONSTRUCTION	LC	3,180 LF

NOTE:
ALL DISTURBED AREAS SHALL BE RE-VEGETATED TO MEET THE REQUIREMENTS OF THE CITY OF THE CITY OF CEDAR PARK'S ORDINANCES

NOTE:
ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY INSPECTOR AT TIME OF CONSTRUCTION

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218
(512)570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS
12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC W. HORN
130497
LICENSED PROFESSIONAL ENGINEER
7/31/2024

COMMENTS:
Drawing scale accurate ONLY when printed on 22x34 paper.

DRAWN BY: AA

REV BY:

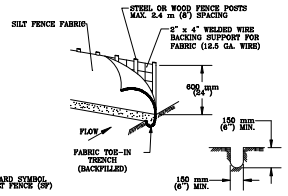
DATE:
July 31, 2024

REVISION LIST		
NO.	DATE	DESCRIPTION

SHEET TITLE:
EROSION AND SEDIMENTATION CONTROL PLAN

SHEET NUMBER:
5 OF 13

SCALE: 1:40
0 20 40 80



TRENCH CROSS SECTION

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 Inches) DEPTH, USE STEEL POSTS.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 Inches) DEEP AND 150 mm (6 Inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

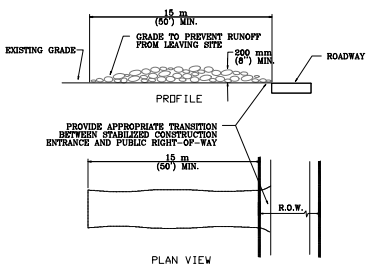
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

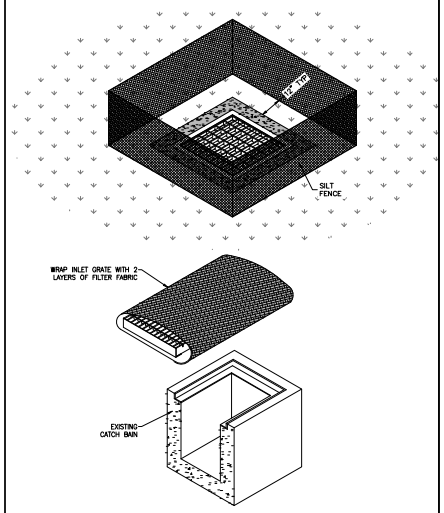
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

1 SILT FENCE DETAIL
Scale: NTS

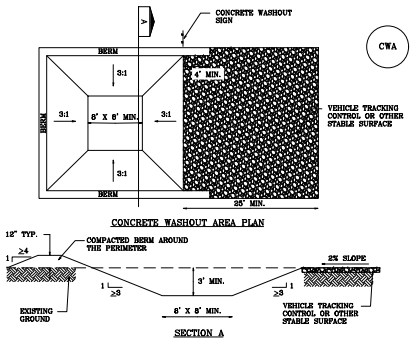


NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

2 STABILIZED CONSTRUCTION ENTRANCE
Scale: NTS



3 AREA INLET PROTECTION (F.V.)
Scale: NTS



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

4 CONCRETE WASHOUT AREA (F.V. LOCATION)
Scale: NTS

SWPPP PREPARATION NOTES

CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION OF THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP), THE FOLLOWING ELEMENTS HAVE BEEN PROVIDED TO ASSIST IN PREPARATION OF THE SWPPP:

1. MARK CLEARING LIMITS: PRESERVE NATURAL VEGETATION WHERE PRACTICABLE WITHIN THE LIMITS OF CONSTRUCTION, THESE SHALL BE CLEARLY MARKED, BOTH IN THE FIELD AND ON THE PLANS, TO PREVENT DAMAGE AND OFFSITE IMPACTS.
2. ESTABLISH CONSTRUCTION ACCESS: CONSTRUCTION ACCESS IS SHOWN ON THESE PLANS, RELOCATE AS PHASING/STAGING DICTATES.
3. CONTROL FLOW RATES: PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE, AS REQUIRED BY LOCAL JURISDICTION.
4. INSTALL SEDIMENT CONTROLS: MINIMUM SEDIMENT CONTROL BMPS ARE SHOWN ON THESE PLANS. ADDITIONAL BMPS MAY BE NECESSARY DEPENDING ON CONSTRUCTION TECHNIQUES, PHASING, AND INCLEMENT WEATHER.
5. STABILIZE SOILS: EXPOSED & UNWORKED SOILS SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BY APPLICATION OF EFFECTIVE BMPS THAT PROTECT THE SOIL FROM THE EROSIVE FORCES OF RAINDROPS, FLOWING WATER, AND WIND.
6. PROTECT SLOPES: SLOPES SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BY APPLICATION OF EFFECTIVE BMPS THAT PROTECT THE SOIL FROM THE EROSIVE FORCES OF RAINDROPS, FLOWING WATER, AND WIND.
7. PROTECT DRAIN INLETS: SEE SEDIMENT CONTROL BMPs. INSTALL ADDITIONAL BMPS DOWNSTREAM, IF NECESSARY.
8. STABILIZE CHANNELS & OUTLETS: ALL CHANNELS & OUTLETS IN AND AROUND THE SITE SHALL BE PROTECTED WITH SOIL STABILIZATION BMPs.
9. CONTROL POLLUTANTS: ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.
10. CONTROL DE-WATERING: DE-WATERING DISCHARGES MAY INCLUDE INFILTRATION, OFFSITE TRANSPORT BY VEHICLE, ONSITE TREATMENT, AND SANITARY SEWER DISCHARGE WITH LOCAL JURISDICTION APPROVAL.
11. MAINTAIN BMPs: CONTRACTOR SHALL MAINTAIN BMPS AS NOTED IN THE STORMWATER MANAGEMENT MANUAL.
12. MANAGE THE PROJECT: CONTRACTOR SHALL BE RESPONSIBLE FOR PHASING & SEASONAL WORK AS NECESSARY TO MINIMIZE EXPOSED, UNSTABILIZED SOILS.
13. PROTECT LOW IMPACT DEVELOPMENT (LID) BMPS: PROTECT ALL INFILTRATION BMPS FROM SEDIMENTATION THROUGH INSTALLATION AND MAINTENANCE OF ESC BMPS ON PORTIONS OF THE SITE THAT DRAIN INTO THE INFILTRATION BMPS.

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218
(512)570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS
12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862
Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC W. HORN
130497
LICENSED PROFESSIONAL ENGINEER
7/31/2024

COMMENTS:
Drawing scale accurate ONLY when printed on 22x34 paper.

DRAWN BY: AA
REV BY:

DATE:
July 31, 2024

REVISION LIST

NO.	DATE	DESCRIPTION

SHEET TITLE:
ENVIRONMENTAL DETAILS

SHEET NUMBER:
6 OF 13

Attachment E

Attachment F

Cedar Park High School

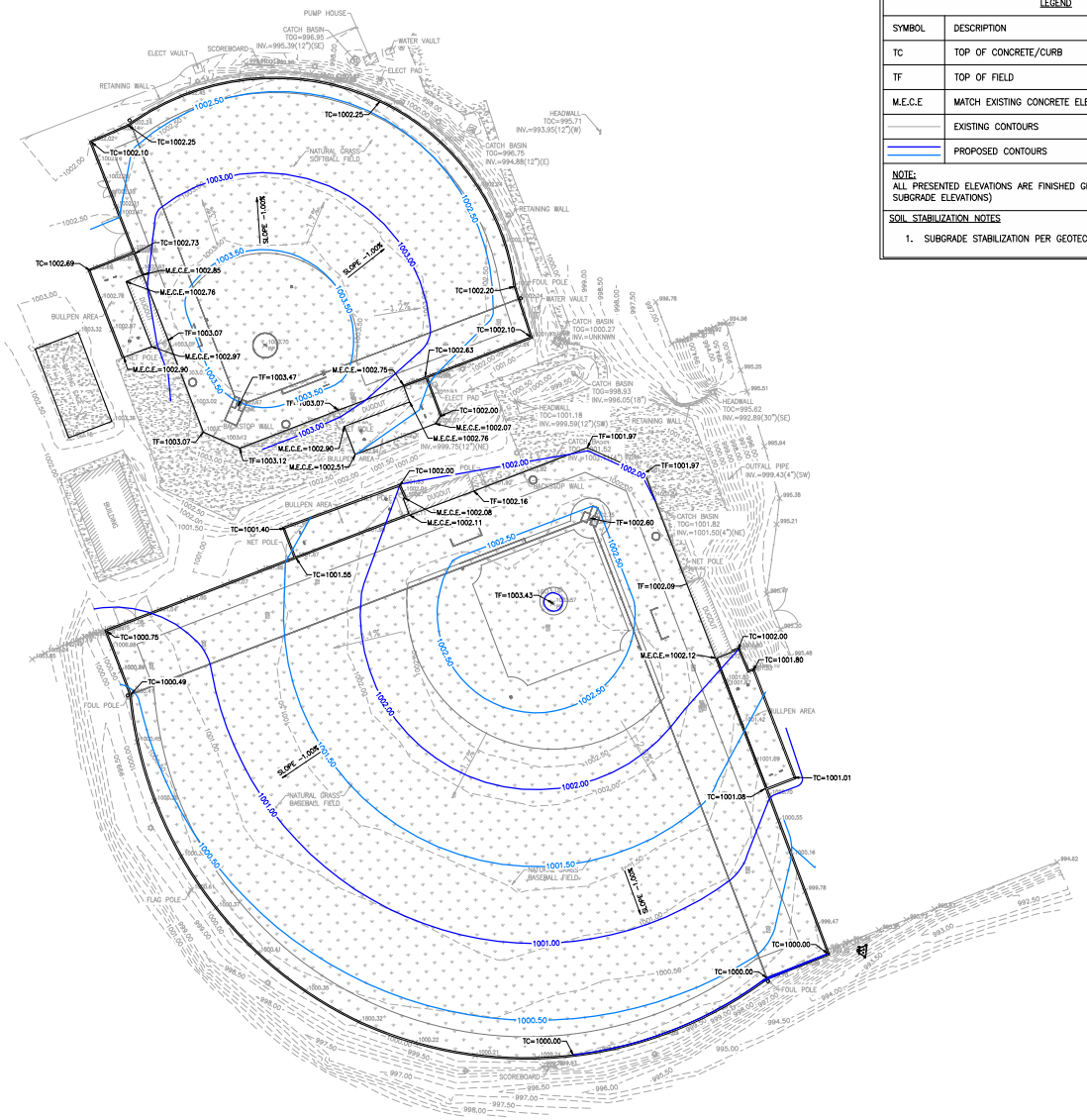
Baseball & Softball Field Turf Replacement

Structural practices at the site include the following:

1. Stabilized Construction Exit
2. Silt Fence
3. Inlet Protection Barriers
4. Concrete Washout Area

All structural controls will be placed outside of a Floodplain Zone. These controls will be used to divert flows where possible and store flows where diversion is infeasible over exposed soils. Regular maintenance described in previous sections will be needed to ensure these practices remain in working condition throughout the life of the project.

Attachment G



LEGEND	
SYMBOL	DESCRIPTION
TC	TOP OF CONCRETE/CURB
TF	TOP OF FIELD
M.E.C.E	MATCH EXISTING CONCRETE ELEVATION
	EXISTING CONTOURS
	PROPOSED CONTOURS

NOTE:
ALL PRESENTED ELEVATIONS ARE FINISHED GRADE ELEVATIONS (NOT SUBGRADE ELEVATIONS)

SOIL STABILIZATION NOTES

1. SUBGRADE STABILIZATION PER GEOTECHNICAL REPORT

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218
(512)570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS
12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS
ERIC W. HORN
130497
LICENSED PROFESSIONAL ENGINEER
7/31/2024

COMMENTS:
Drawing scale accurate ONLY when printed on 22x34 paper.

DRAWN BY: AA

REV BY:

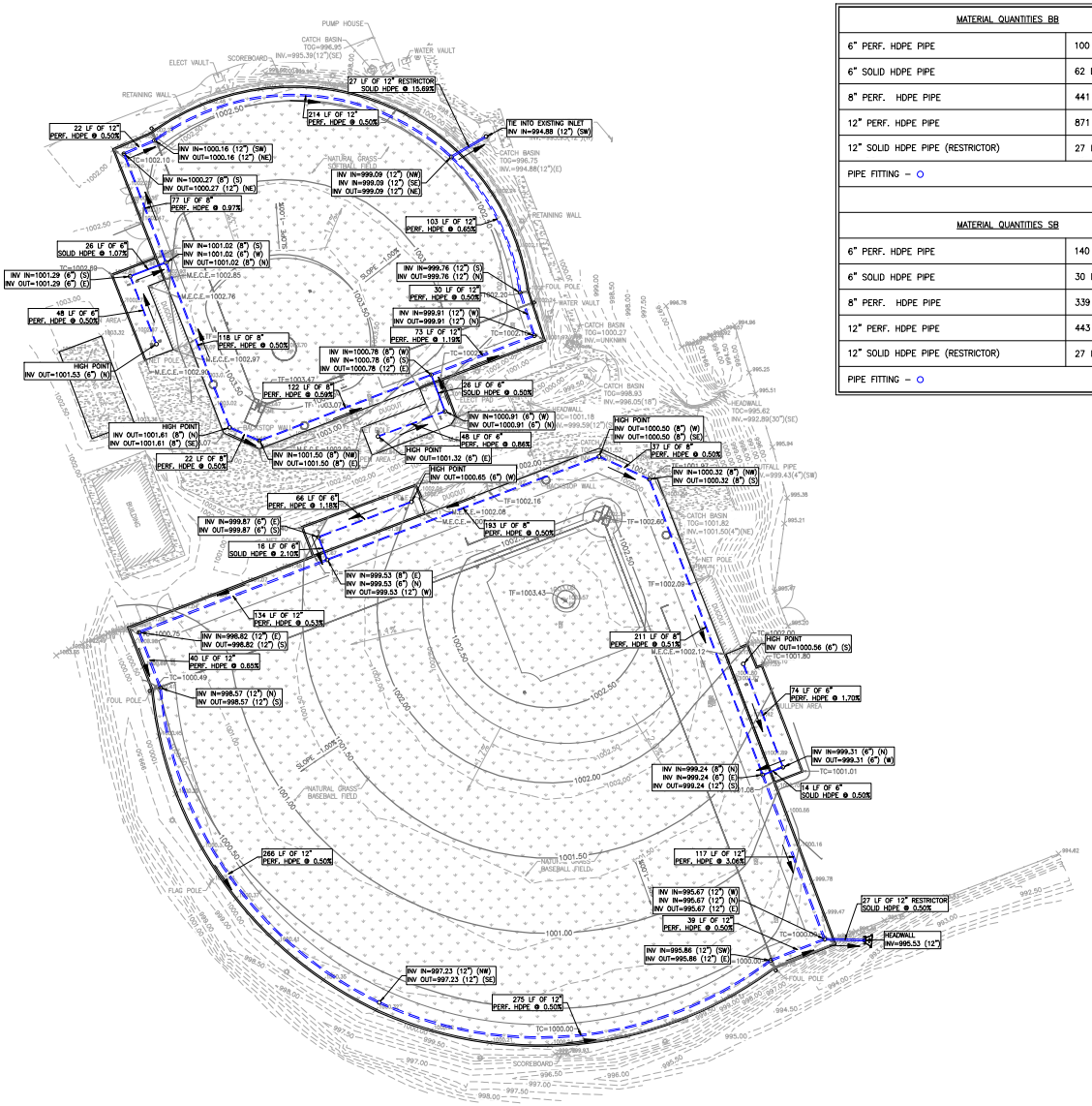
DATE:
July 31, 2024

REVISION LIST		
NO.	DATE	DESCRIPTION

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
7 OF 13

SCALE: 1:40
0 20 40 80



MATERIAL QUANTITIES BB	
6" PERF. HDPE PIPE	100 LF
6" SOLID HDPE PIPE	62 LF
8" PERF. HDPE PIPE	441 LF
12" PERF. HDPE PIPE	871 LF
12" SOLID HDPE PIPE (RESTRICTOR)	27 LF
PIPE FITTING – O	

MATERIAL QUANTITIES SB	
6" PERF. HDPE PIPE	140 LF
6" SOLID HDPE PIPE	30 LF
8" PERF. HDPE PIPE	339 LF
12" PERF. HDPE PIPE	443 LF
12" SOLID HDPE PIPE (RESTRICTOR)	27 LF
PIPE FITTING – O	

Hellas Construction, Inc.
12000 West Parmer Lane
Austin, TX 78613
(P) (512) 250-2910
(F) (512) 250-1960
hellasconstruction.com

OWNER:
LEANDER ISD
204 W. SOUTH STREET P.O. BOX 218
LEANDER, TX 78646-0218
(512)570-0000

PROJECT:
CEDAR PARK HS - BASEBALL / SOFTBALL SYNTHETIC TURF CONSTRUCTION

PROJECT LOCATION:
CEDAR PARK, TX

TAIT-PITKIN SPORTS ENGINEERS
12000 W Parmer Lane
Suite 200
Austin, Texas 78613
(512) 293-1862

Texas Firm Registration No. F007361

STATE OF TEXAS ERIC W. HORN 130497 LICENSED PROFESSIONAL ENGINEER
7/31/2024

COMMENTS:
Drawing scale accurate ONLY when printed on 22x34 paper.

DRAWN BY: AA | REV BY:

DATE:
July 31, 2024

REVISION LIST		
NO.	DATE	DESCRIPTION

SHEET TITLE:
DRAINAGE PLAN

SHEET NUMBER:
8 OF 13

SCALE: 1:40
0 20 40 80

Attachment H

Attachment I

Cedar Park High School

Baseball & Softball Field Turf Replacement

A. Erosion and Sediment Controls

1. Sediment will be retained on site to the maximum extent practicable.
2. Control measures will be properly selected, installed, and maintained in accordance with manufacturer's specifications and good engineering practice. If periodic inspections indicate a control is compromised the controls shall be repaired or replaced immediately.
3. Sediment will be removed from the filter fences and inlet protection devices when it reaches 1/3 the height of the control measure. Sediment shall be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.
4. Should sediment escape the site, accumulations shall be removed at a frequency to minimize further negative effects and prior to the next rain event.
5. Controls shall be developed to limit, to the extent practicable, offsite transport of litter, construction debris, and construction materials.
6. BMPs shall be per technical specifications in the following sheets.

B. Stabilization Practices

1. Once the construction of the impervious areas is complete, all exposed soils will be adequately stabilized through hydro mulch seeding or equivalent.
2. Records to be Maintained:
   Records shall be maintained and either attached to this SWP3 or made readily available upon request for the following concerns:

   a. Dates when major grading activities occur.
   b. Dates when construction activities temporarily or permanently cease on a portion of the site.
   c. Dates when Stabilization Measures are initiated.
3. Stabilization Measures
7. Stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased and must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased

C. Maintenance Practices

1. Erosion and sediment control measures that have been improperly installed, disabled, run over, removed, or rendered ineffective must be replaced or corrected immediately.
2. Maintenance and repairs will be conducted within 24 hours of an inspection report.
3. Sediment shall be removed from behind the filter fabric fence when it reaches about 1/3 the height of the fence.
4. Sediment shall be removed from sediment traps and sedimentation ponds when said devices' design capacity has been reduced by 50%.
5. The following is a list of erosion or sediment controls to be implemented on this project that require maintenance:
   a. Stabilization Practices
      Hydro mulch seeding, sodding, or equivalent per plans and specifications.
   b. Structural Practices
      a. Stabilized Construction Exit
      b. Silt Fence
      c. Inlet Protection Barriers
      d. Concrete Washout Area

Attachment J

Cedar Park High School

Baseball & Softball Field Turf Replacement

Sequence of Major Activities

1. Install Erosion Control & Site Prep – Month 1
2. Demolition & Removal – Month 1
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 45,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
3. Drainage & Subgrade Install – Months 2
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 45,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
4. Turf Install – Month 2
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area
    b. Disturbed Area: 75,759 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 123,369 Sq-Ft Phase 2 Baseball Field
5. Associated Appurtenances Install – Month 2 - 3
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area, Concrete Washout Area
    b. Disturbed Area: 3,256 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 5,859 Sq-Ft Phase 2 Baseball Field
6. Landscaping – Month 3
    a. BMPs – Stabilized Construction Site Entrance, Silt Fence, Inlet Protection, Material Storage Area, Concrete Washout Area
    b. Disturbed Area: 4,623 Sq-Ft Phase 1 Softball Field
    c. Disturbed Area: 7,561 Sq-Ft Phase 2 Baseball Field
    d. Hydromulching to occur at this stage.
7. Final Stabilization Month 4
    a. Removal of all temporary BMP's, area will drain to permanent stormwater detention basin

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Bruce Gearing,
Print Name

Superintendent,
Title - Owner/President/Other

of Leander ISD,
Corporation/Partnership/Entity Name

have authorized Derek Chinners
Print Name of Agent/Engineer

of Pro SWPPP, LLC
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

8/20/24
Date

8/19/24

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Bruce Gearing known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 20 day of August, 2024.

Michi Ishimura
NOTARY PUBLIC

MICHI ISHIMURA
Notary Public, State of Texas
Comm. Expires 10-28-2024
Notary ID 132751244

Michi Ishimura
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10-28-2024

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Cedar Park High School
Regulated Entity Location: Cedar Park
Name of Customer: Leander ISD
Contact Person: Bruce Gearing Phone: (512) 570-1800
Customer Reference Number (if issued):CN 600781074
Regulated Entity Reference Number (if issued):RN RN102133386

Austin Regional Office (3373)

☐ Hays ☐ Travis ☑ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☑ Austin Regional Office
☑ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☐ Recharge Zone ☑ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$500
Extension of Time	Each	$

Signature: Date: 8/26/2024

TCEQ-0574 (Rev. 02-24-15)

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal (*Core Data Form should be submitted with the renewal form*) ☐ Other

2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600781074		RN 1021333

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	08/16/2024

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (*If an individual, print last name first: eg: Doe, John*) *If new Customer, enter previous Customer below:*

Leander ISD

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☒ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

204 W S St							
City	Leander	**State**	TX	**ZIP**	78641	**ZIP + 4**	

16. Country Mailing Information (if outside USA)	17. E-Mail Address (if applicable)
	bruce.gearing@leanderisd.org

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)

(512) 570 - 1800	0	(0) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Cedar Park High School

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	2150 Cypress Creek Rd							
	City	Cedar Park	**State**	TX	**ZIP**	78613	**ZIP + 4**	3504
24. County	Williamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	SE of Anderson Mill Rd & Cypress Creek Rd				
26. Nearest City			**State**	**Nearest ZIP Code**	
Cedar Park			TX	78613	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.472250		**28. Longitude (W) In Decimal:**	-97.843690	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	28	20.1	97	50	37.3

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
8211	1611	611110	237310

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Educational Facility

34. Mailing Address:	**2150 Cypress Creek Rd**							
	City	**Cedar Park**	**State**	**TX**	**ZIP**	**78613**	**ZIP + 4**	**3901**
35. E-Mail Address:	**jeremy.trimble@leanderisd.org**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 570-0000		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☒ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Derek Chinners, CPESC	**41. Title:**	Stormwater Consultant

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(833 **)** 438-7977	N/A	**(** N/A **)** -	dc@proswppp.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Pro SWPPP, LLC	**Job Title:**	Stormwater Consultant, CPESC
Name *(In Print):*	Derek Chinners	**Phone:**	**(** 833 **)** 438- **7977**
Signature:		**Date:**	8/26/2024