Kirkman Engineering, LLC
5200 State Highway 121
Colleyville, TX 76034
817.488.4960

January 23, 2026

Franklin Anciano
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
PH 512.239.7017
Email: Franklin.Anciano@tceq.texas.org

RE: Liberty Hill 35 CZPMOD – Administrative NOD

Below are the responses to the comments issued on _January 21,2026_regarding the review of Liberty Hill 35 Modified CZP application.

Plan Sheets

1. All plan sheets included with this application must be final and P.E. sealed, signed, and dated. Please remove any indication that the plans are preliminary, for review only, not for construction, or for bidding purposes only.

KE: The sheets have been updated to show the final seal.

Should you have any questions or concerns, please feel free to contact me.

Sincerely,

Prashantika Gautam, EIT

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: Liberty Hill 35						**2. Regulated Entity No.:**			
3. Customer Name: AR Reddy Spring Creek LLC.						**4. Customer No.:**			
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):**		20.45	
9. Application Fee:	$ 6,500		**10. Permanent BMP(s):**			Jellyfish Storm Units			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			South Fork San Gabriel			

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 _XLiberty 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.

PRASHANTIKA GAUTAM

Print Name of Customer/Authorized Agent

Prashantika Gautam 7/02/24

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):	

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Raju Padigala

Date: 7/02/24

Signature of Customer/Agent:

GRP
Raju Padigala (Jul 5, 2024 10:04 CDT)

Project Information

1. Current Regulated Entity Name: Liberty Hill 35
   Original Regulated Entity Name: Liberty Hill 35
   Assigned Regulated Entity Number(s) (RN): N/A
   Edwards Aquifer Protection Program ID Number(s): N/A
   ☐ The applicant has not changed and the Customer Number (CN) is: N/A
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	36.125	2.89 + 17.56 = 20.45
Type of Development	Non-residential	Non-residential
Number of Residential Lots	0	0
Impervious Cover (acres)	1.703	1.32 + 8.57 = 9.89
Impervious Cover (%)	4.7	48.36
Permanent BMPs	10	10+ 7=17
Other	N/A	N/A

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	0	0
Other	N/A	N/A

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	0	0
Other	N/A	N/A

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. [X] **Attachment C: Current Site Plan of the Approved Projec**t. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - [X] The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - [ ] The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - [ ] The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - [ ] The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - [ ] The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. [X] Acreage has not been added to or removed from the approved plan.
   [ ] Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. [X] 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. The copies must be submitted to the appropriate regional office.

ATTACHMENT A
ORIGINAL APPROVAL LETTER AND APPROVED MODIFICATION LETTERS

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Kelly Keel, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 9, 2024

Mr. Raju Padigala
AR Reddy Spring Creek LLC
6253 Corvara Court
Frisco, TX 75035

Re: Approval of a Contributing Zone Plan (CZP)
Liberty Hill 15; Located SE of Hwy 183 and Larkspur Park Blvd.; Liberty Hill (ETJ), Williamson County, Texas
Edwards Aquifer Protection Program ID No. 11003809; Regulated Entity No. RN111858049

Dear Mr. Padigala:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Kirkman Engineering on behalf of the applicant, AR Reddy Spring Creek LLC, on December 5, 2023. Final review of the application was completed after additional material was received on January 22, 2024 and February 6, 2024.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved,** subject to applicable state rules and the conditions in this letter.

This approval expires two years from the date of this letter, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this contributing zone plan or modification to a plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

A single-family home with a gravel road and storm-drain system are currently onsite.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 36.13 acres. The project will include the demolition of an existing single-family home, gravel road and storm drains, and the construction of 38,221 sq. ft. of concrete roadway to serve future development. The impervious cover will be 1.70 acres (4.71 percent). Project wastewater will be disposed of by conveyance to the existing Liberty Hill Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, ten engineered vegetative filter strips (VFS1-VFS10), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 706 pounds of TSS generated from the 1.70 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMPS shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. The plan holder of any approved contributing zone plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

4. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. The application must indicate the placement of permanent aboveground storage tanks facilities for static hydrocarbons and hazardous substances with cumulative storage capacity of 500 gallons or more. Subsequent permanent storage tanks on this project site require a modification to be submitted and approved prior to installation.

7. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

8. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

9. The following records shall be maintained and made available to the executive director upon request: 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.

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

11. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE **must certify** in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

12. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

The holder of the approved contributing zone plan is responsible for compliance with Chapter §213 subchapter B and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 subchapter B and is subject to administrative rule or orders and penalties as provided under §213.25 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved contributing zone plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Colin Gearing of the Edwards Aquifer Protection Program at 512-239-7015 or the regional office at 512-339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/cmg

cc: Ms. Sandy Brantley, Kirkman Engineering

Mr. Langford Stuber
CHV San Gabriel Property Owner, LP;
4849 Greenville Ave., Ste. 1545, Dallas, TX 75206

ATTACHMENT B
PROJECT NARRATIVE

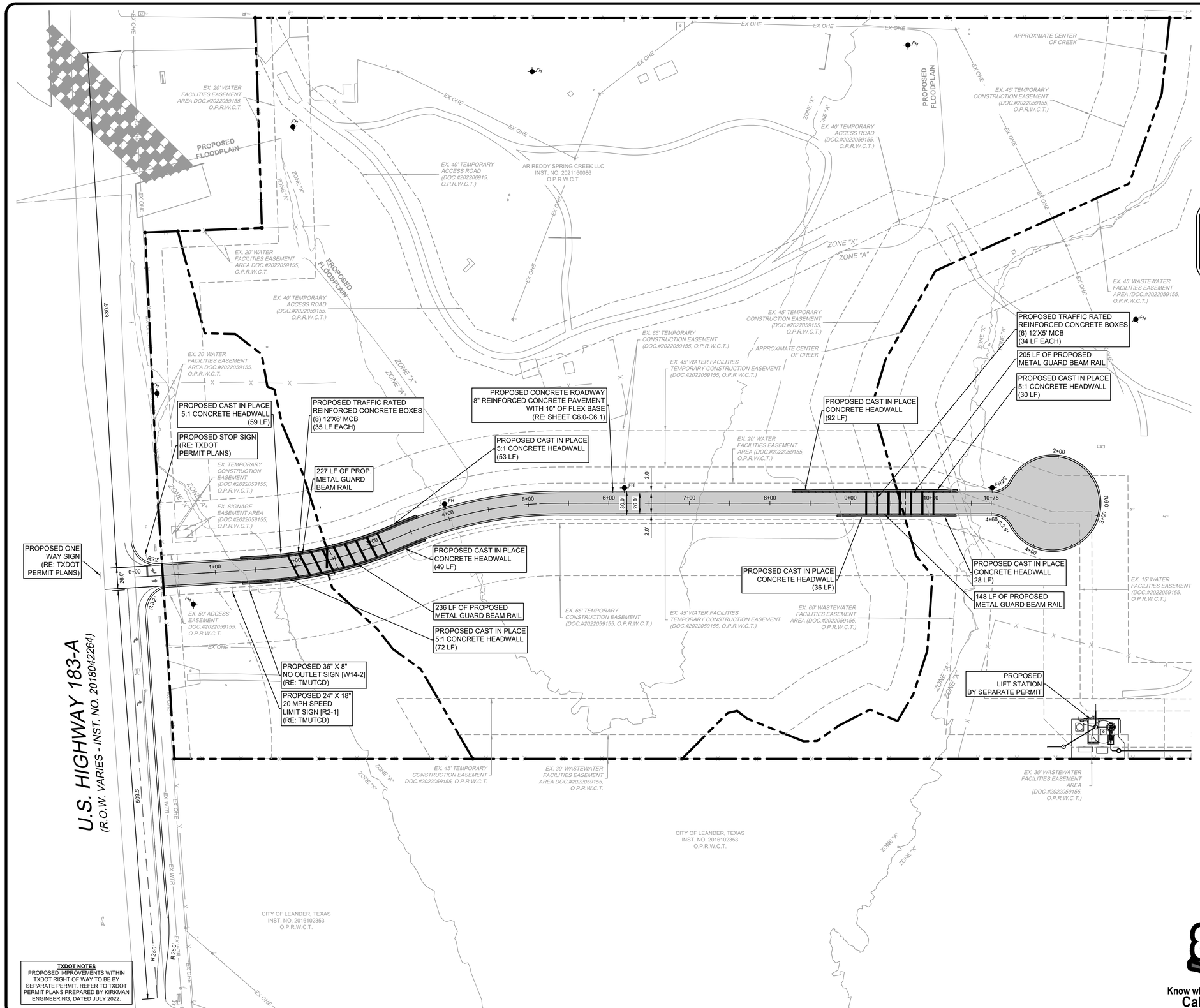
The proposed modification of the previously approved CZP application is as follow:

The previously approved site is located at the southeast corner of US Highway 183 and Larkspur Boulevard. This 36.125-acre tract is planned for mixed use commercial development. The approved phase proposes 38,221 SF of concrete roadway starting at the US 183 HWY to serve the future development. This site will have proposed storm boxes to divert the flow to support future development without impact to the flood waters. The modification to the previously approved site includes modification to two of the three tracts from the original CZP. The modification will be a commercial and mixed-used development. Tract 1 is being proposed for retail use and Tract 2 is proposed for mixed use.

In the approved phase of development approximately 12.20 acres of the project site will be disturbed. With the modification phase approximately 10.31 acres of the approved site will be disturbed. Future onsite development of Tract 3 will follow in the next phases of development. It is understood that the future development will be required to go through the TCEQ Contributing Zone Plan application during design and development.

The approved phase of development produces less than 20 percent of impervious area, hence Vegetative Filter Strips will be used as Permanent BMP's. The modified phase of development will produce more than 20 percent of impervious area ; hence Jellyfish Units will be used as Permanent BMP's.

ATTACHMENT C
CURRENT SITE PLAN OF THE APPROVED PROJECT



TXDOT NOTES

PROPOSED IMPROVEMENTS WITHIN TXDOT RIGHT OF WAY TO BE BY SEPARATE PERMIT. REFER TO TXDOT PERMIT PLANS PREPARED BY KIRKMAN ENGINEERING, DATED JULY 2022.

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

LEGEND

PROPOSED SIGN
PROPERTY BOUNDARY
PROPOSED CORRIDOR

LAYOUT & DIMENSIONAL CONTROL NOTES:

1. BOUNDARY LINES AND EASEMENT: REFER TO THE FINAL PLAT TO VERIFY PROPERTY LINES AND EXISTING EASEMENT LOCATIONS.
2. DIMENSION CONTROL: UNLESS NOTED OTHERWISE, ALL PAVING DIMENSIONS SHOWN ARE TO FACE OF CURB.
3. CURB RADII: UNLESS NOTED OTHERWISE, ALL CURB RADII SHALL BE 3' AT FACE OF CURB.
4. BUILDING DIMENSIONS: REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES PRIOR TO CONSTRUCTION.
6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

DETENTION EXEMPTION NOTE

THIS PROPERTY IS DETENTION EXEMPT PER WILLIAMSON COUNTY SUBDIVISION ORDINANCE B11.1.1.b. ALL REFERENCES TO DETENTION EXEMPTION, THE DOWNSTREAM ASSESSMENT AS APPROVED BY THE CITY OF LEANDER TO ALLOW THE UNDETAINED FLOWS IS TITLED "DOWNSTREAM ASSESSMENT FOR THE SPUR CREEK DEVELOPMENT" DATED DECEMBER 19, 2023. THIS STUDY WAS APPROVED BY THE CITY OF LEANDER ON DECEMBER 19, 2023 TO ALLOW UNDETAINED PEAK DISCHARGES FROM THE PROJECT SITE THROUGH THE CITY OF LEANDER'S PROPERTY TO THE FLOODPLAIN OF THE SOUTH FORK SAN GABRIEL RIVER.

Know what's below. Call before you dig.

GRAPHIC SCALE
0 60 120 FEET
SCALE: 1" = 60'

2/6/2024

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

AR REDDY SPRING CREEK LLC
6253 CORVARA COURT
FRISCO, TX 75035
512-761-8025

CHV SAN GABRIEL PROPERTY OWNER LP
4849 GREENVILLE AVE, SUITE 1545
DALLAS, TEXAS 75206
214-435-7510

LIBERTY HILL 35 PRIVATE ACCESS DRIVEWAY

TRACT 1-3
CITY OF LIBERTY HILL
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: CHV20001

ISSUE DATE: 2/6/2024

DIMENSIONAL CONTROL PLAN

SHEET:
C3.0

FILENAME: CHV20001_C4.0 DIMENSIONAL CONTROL PLAN.dwg
PLOTTED BY: Prashrutika Gautam
PLOTTED DATE: 2/6/2024
FULL PATH: K:\Jobs\CHV20001_LibertyHill\15\Drawings\07_CONSTRUCTION PLANS\03 - Production\K:\Jobs\CHV20001_LibertyHill\15\Drawings\07_CONSTRUCTION PLANS\03 - Production\CHV20001_C4.0 DIMENSIONAL CONTROL PLAN.dwg

Contributing Zone Plan Application

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 Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Raju Padigala

Date: 7/02/24

Signature of Customer/Agent:

Raju Padigala (Jul 5, 2024 09:50 CDT)

Regulated Entity Name: Liberty Hill 35

Project Information

1. County: Williamson
2. Stream Basin: South Fork San Gabriel
3. Groundwater Conservation District (if applicable): n/a
4. Customer (Applicant):

   Contact Person: Raju Padigala
   Entity: AR Reddy Spring Creek LLC
   Mailing Address: 6253 Corvara Court
   City, State: Frisco, Texas Zip: 75035
   Telephone: 512-761-8025 Fax: _____
   Email Address: raj@theprimedeveloper.com

5. Agent/Representative (If any):

Contact Person: Prashantika Gautam
Entity: Kirkman Engineering
Mailing Address: 1130 Cottonwood Creek Trail, Suite C3
City, State: Cedar Park,Texas Zip: 78613
Telephone: 512-428-8586 Fax: _____
Email Address: prashantika.gautam@trustke.com

6. Project Location:

☐ The project site is located inside the city limits of _____.
☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Liberty Hill
☐ The project site is not located within any city's 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.

Southeast corner of Highway 183 & Larkspur Park Blvd

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the 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 official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:

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

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. 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. The type of project is:

☐ Residential: # of Lots: _____
☐ Residential: # of Living Unit Equivalents: _____
☒ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 20.45 acres

Total disturbed area: 10.6 Acres

14. Estimated projected population: _____

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops		÷ 43,560 =	
Parking		÷ 43,560 =	
Other paved surfaces		÷ 43,560 =	
Total Impervious Cover		÷ 43,560 =	

Total Impervious Cover 9.89 **÷ Total Acreage** 20.45 **X 100 =** 48.36 **% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. Type of project:

- ☐ TXDOT road project.
- ☐ County road or roads built to county specifications.
- ☐ City thoroughfare or roads to be dedicated to a municipality.
- ☐ Street or road providing access to private driveways.

19. Type of pavement or road surface to be used:

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.
Width of R.O.W.: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

21. Pavement Area:

Length of pavement area: _____ feet.
Width of pavement area: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

22. ☐ A rest stop will be included in this project.

☐ A rest stop will not be included in this project.

23. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

24. ☒ **Attachment E - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

25. ☐ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☒ N/A

26. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

☐ **Attachment F - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):
The sewage collection system will convey the wastewater to the Liberty Hill (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.

    Site Plan Scale: 1" = 20' & 40'

35. 100-year floodplain boundaries:

    ☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

    ☐ No part of the project site is located within the 100-year floodplain.

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____.

36. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

    ☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

39. ☒ Areas of soil disturbance and areas which will not be disturbed.

40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

41. ☒ Locations where soil stabilization practices are expected to occur.

42. ☒ Surface waters (including wetlands).

    ☐ N/A

43. ☒ Locations where stormwater discharges to surface water.

    ☐ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

☐ N/A

48. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____.

☐ N/A

49. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

☐ N/A

50. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.

☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.

☒ The site will not be used for low density single-family residential development.

51. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

    ☐ **Attachment I - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
    ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
    ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

52. ☒ **Attachment J - BMPs for Upgradient Stormwater**.

    ☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
    ☒ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
    ☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

53. ☒ **Attachment K - BMPs for On-site Stormwater**.

    ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
    ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

54. ☒ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

    ☐ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
    ☒ Contains a discussion of record keeping procedures

    ☐ N/A

57. ☐ **Attachment O - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

58. ☒ **Attachment P - Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

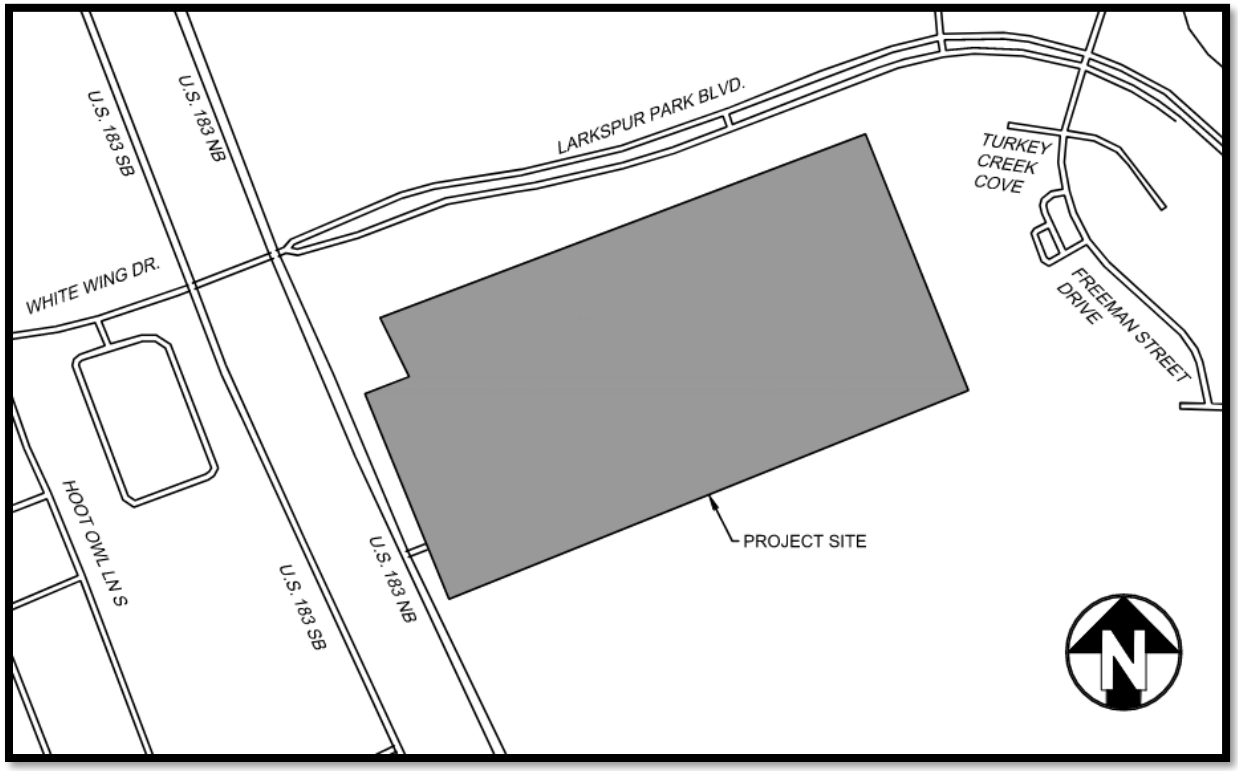
61. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

ATTACHMENT A
ROAD MAP



SITE MAP

N.T.S

ATTACHMENT B
USGS QUADRANGLE MAP

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map OnDemand Topo

7.5-MINUTE TOPO QUADRANGLE
Custom Extent
7.5-MINUTE TOPO

-97.9331° 30.6926° 603000mE 33 96 000mN

-97.8081° 30.6926° 614000mE 33 83 000mN

-97.9331° 30.5674° -97.8081° 30.5674°

PROJECT SITE

Liberty Hill
LEANDER
Santa Rita Ranch
Smith Cemetery
Flying H Ranch Airport
Whitehead Cemetery
Cedar Brake Cemetery
Miller Cemetery
Huddleston Cemetery
Hamilton Hill
Wells Cemetery
Upchurch Cemetery
Baggdad Cemetery
Davis Cemetery
Austin Community College - San Gabriel Campus

Hunt Hollow
Jim Hogg Hollow
Middle Fork San Gabriel River
North Fork San Gabriel River
Jonikins Br
Jinks Br
Big Sandy Cr
North Fork Brushy Cr
South Fork Brushy Cr
Brushy Cr
Wilson Cr

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R

Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

Learn About The National Map: https://nationalmap.gov

MN
GN
0°35´ 10 MILS
3°33´ 63 MILS
UTM GRID AND 2021 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PU
Grid Zone Designation 14R

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

TEXAS

QUADRANGLE LOCATION
Liberty Hill | Leander NE
Nameless | Leander
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

7.5-MINUTE TOPO, TX
2023

ATTACHMENT C
PROJECT NARRATIVE

The subject property is located at the southeast corner of US Highway 183 and Larkspur Boulevard. This 36.125-acre tract is planned for mixed use commercial development. The approved phase proposes 38,221 SF of concrete roadway starting at the US 183 HWY to serve the future development. This site will have proposed storm boxes to divert the flow to support future development without impact to the flood waters. The modification to the previously approved site includes modification to two of the three tracts from the original CZP. The modification will be a commercial and mixed-used development. Tract 1 is being proposed for retail use and Tract 2 is proposed for mixed use.

The existing land use was single family residential and agricultural. The existing residential structure will be demolished along with 1,061 SF of concrete pavement, 3,305 SF of gravel road and six 36" existing storm pipes. There are two- existing creeks centralized on the property which conveys off-site and on-site flows.

With this phase of development approximately 10.54 acres will be disturbed. Tract 1 will have 1.32 acres of impervious cover, consisting of one building, parking lots and sidewalks. Tract 1 will have 8.57 acres of impervious cover, consisting of six buildings, parking lots and sidewalks. Both tracts will drain into the existing creeks on site through an underground stormwater system.

The proposed site will feature temporary BMPs such as silt fence, stabilized construction entrance, concrete washout area, inlet protection and rock check filter dam during construction.

Jellyfish stormwater treatment units from Contech will be used as a permanent BMP measure for both tracts.

ATTACHMENT D
FACTORS AFFECTING SURFACE WATER QUALITY

The factors that could affect surface water quality are as follows:

1. Lack of natural infiltration- this causes dirt and silt to flow into the surface water.
2. Pollutants from vehicles and surface- this can affect the quality of the surface water.

ATTACHMENT E
VOLUME AND CHARACTER OF STORMWATER

Preconstruction condition of the site shows the land sheet flowing to the existing creek on the site. Using the rational method, 10.61 acres of the site with preconstruction 100-year runoff coefficient (C_{100}) of 0.506 drains to the southwest existing creek line. 25.52 acres of the site with 100-year preconstruction runoff coefficient (C_{100}) of 0.501 drains to the northeastern creek line.

For the post construction condition, Tract 1 (2.89 acres) discharges into the existing northeastern creek line on the site with C_{100} of 0.66. Tract 2 (17.56 acres) discharges into the northeaster creek line and northwestern creek line. 12.51 acres of the Tract 2 site discharges into the northwestern creek line with C_{100} of 0.80 and 8.28 acres of the site drains towards the northeastern creek line with C_{100} of 0.73 .

Refer to attachment M: Construction Plans for the drainage area maps and the calculations.

ATTACHMENT J
BMPs UPGRADIENT STORMWATER

This site does not feature upgradient stormwater. During construction, no pollutant will be present on site, hence BMPs for upgradient stormwater are not required.

ATTACHMENT K
BMPs FOR ON-SITE STORMWATER

The following temporary BMPs have been identified on the Erosion Control Plan.

1. Silt Fence
2. Rock Check Dam
3. Stabilized Construction Exit
4. Inlet Protection
5. Concrete Washout Pit
6. Vegetation
7. Jellyfish-Stormwater treatment

Onsite water will be directed to the existing creek line through an underground stormwater system. Sevent (7) Jellyfish Storm units will be used as permanent BMPs on the site to allow the stormwater to pass through before entering the creek. There will be two Jellyfish Storm units on Tract 1 and five on Tract 2.

The removal efficiency of the BMP'S are shown below:

Tract 1: Spur Plaza

BMP #1: 86% removal efficiency. (ST-A)
BMP #2: 86% removal efficiency. (ST-B)

Tract 2: Prime Flex Spaces

BMP #1: 86% removal efficiency.
BMP #2: 86% removal efficiency.
BMP #3: 86% removal efficiency.
BMP #4: 86% removal efficiency.
BMP #5: 86% removal efficiency.

Refer to the following attachments for the BMP calculations.

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Spur Plaza
Date Prepared: 2/22/2024

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	2.90	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.32	acres
Total post-development impervious cover fraction * =	0.46	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1148	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	2	

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

Drainage Basin/Outfall Area No. =	ST-A	
Total drainage basin/outfall area =	0.94	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.82	acres
Post-development impervious fraction within drainage basin/outfall area =	0.87	
$L_{M\ THIS\ BASIN}$ =	714	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	0.94	acres
A_I =	0.82	acres
A_P =	0.12	acres
L_R =	783	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	773	lbs.
F =	0.99	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.09	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	3.00	inches per hour
Effective Area =	0.74	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	2.25	cubic feet per second

7. Jellyfish

Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault	
Jellyfish Size for Flow-Based Configuration =	JFPD0808-12-3	
Jellyfish Treatment Flow Rate =	2.41	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Spur Plaza**
Date Prepared: **2/22/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**2.90**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**1.32**	acres
Total post-development impervious cover fraction * =	**0.46**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1148**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**2**	

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

Drainage Basin/Outfall Area No. =	**ST-B**	
Total drainage basin/outfall area =	**0.47**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.40**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.86**	
$L_{M\ THIS\ BASIN}$ =	**351**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**0.47**	acres
A_I =	**0.40**	acres
A_P =	**0.07**	acres
L_R =	**385**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**375**	lbs.
F =	**0.97**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	**2.00**	inches per hour
Effective Area =	**0.36**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**0.74**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	**Surface Inlet**	
Jellyfish Size for Flow-Based Configuration =	**JFSI0406-4-1**	
Jellyfish Treatment Flow Rate =	**0.80**	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Prime Flex Spaces - Liberty Hill TX**
Date Prepared: **5/9/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**20.45**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.57**	acres
Total post-development impervious cover fraction * =	**0.42**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**7459**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**17**	

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

Drainage Basin/Outfall Area No. =	**BMP #1**	
Total drainage basin/outfall area =	**4.44**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**4.20**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.95**	
$L_{M\ THIS\ BASIN}$ =	**3656**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	**4.44**	acres
A_I =	**4.20**	acres
A_P =	**0.24**	acres
L_R =	**4003**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**3656**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348 Pages Section 3.2.22

Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**3.79**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**4.39**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	**Vault**	
Jellyfish Size for Flow-Based Configuration =	**JFPD0811-23-5**	
Jellyfish Treatment Flow Rate =	**4.54**	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Prime Flex Spaces - Liberty Hill TX**
Date Prepared: **5/9/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**20.45**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.57**	acres
Total post-development impervious cover fraction * =	**0.42**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**7459**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**17**	

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

Drainage Basin/Outfall Area No. =	**BMP #2**	
Total drainage basin/outfall area =	**0.47**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.44**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.94**	
$L_{M\ THIS\ BASIN}$ =	**383**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**0.47**	acres
A_I =	**0.44**	acres
A_P =	**0.03**	acres
L_R =	**419**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**383**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348 Pages Section 3.2.22

Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**0.40**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**0.46**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	**Surface Inlet**	
Jellyfish Size for Flow-Based Configuration =	**JFSI0406-3-1**	
Jellyfish Treatment Flow Rate =	**0.62**	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Prime Flex Spaces - Liberty Hill TX**
Date Prepared: **5/9/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**20.45**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.57**	acres
Total post-development impervious cover fraction * =	**0.42**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**7459**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**17**	

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

Drainage Basin/Outfall Area No. =	**BMP #3**	
Total drainage basin/outfall area =	**2.08**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**1.99**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.96**	
$L_{M\ THIS\ BASIN}$ =	**1732**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	**2.08**	acres
A_I =	**1.99**	acres
A_P =	**0.09**	acres
L_R =	**1896**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**1732**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348 Pages Section 3.2.22

Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**1.79**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**2.08**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	**Vault**	
Jellyfish Size for Flow-Based Configuration =	**JFPD0808-11-3**	
Jellyfish Treatment Flow Rate =	**2.23**	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Prime Flex Spaces - Liberty Hill TX**
Date Prepared: **5/9/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**20.45**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.57**	acres
Total post-development impervious cover fraction * =	**0.42**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**7459**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**17**	

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

Drainage Basin/Outfall Area No. =	**BMP #4**	
Total drainage basin/outfall area =	**0.58**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.54**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.93**	
$L_{M\ THIS\ BASIN}$ =	**470**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**0.58**	acres
A_I =	**0.54**	acres
A_P =	**0.04**	acres
L_R =	**515**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**470**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348 Pages Section 3.2.22

Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**0.49**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**0.56**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	**Surface Inlet**	
Jellyfish Size for Flow-Based Configuration =	**JFSI0406-3-1**	
Jellyfish Treatment Flow Rate =	**0.62**	cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Prime Flex Spaces - Liberty Hill TX**
Date Prepared: **5/9/2024**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	**20.45**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.57**	acres
Total post-development impervious cover fraction * =	**0.42**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**7459**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**17**	

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

Drainage Basin/Outfall Area No. =	**BMP #5**	
Total drainage basin/outfall area =	**0.57**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.53**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.93**	
$L_{M\ THIS\ BASIN}$ =	**461**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**0.57**	acres
A_I =	**0.53**	acres
A_P =	**0.04**	acres
L_R =	**505**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**461**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres

Calculations from RG-348 Pages Section 3.2.22

Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**0.48**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**0.55**	cubic feet per second

7. Jellyfish

Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	**Surface Inlet**	
Jellyfish Size for Flow-Based Configuration =	**JFSI0406-3-1**	
Jellyfish Treatment Flow Rate =	**0.62**	cfs

ATTACHMENT L
BMPS FOR SURFACE STREAM

The soil stabilization activities are expected to occur according to the following timeline:

- Silt fencing will be installed prior to land disturbance – 1 day
- Site grading – 2 weeks
- Throughout site grading, temporary stabilization will occur as needed using BMPs such as watering, erosion control blankets, and/or temporary vegetation – as needed
- Establish permanent vegetation or provide alternative permanent BMP to ensure stabilization – 2-6 weeks

During construction, no pollutants will be present on site. For sediment control, silt fences, temporary sediment control BMPs, construction exits, and rock check dams will be provided. The silt fences are placed along the limits of construction downstream of the project to prevent sediment from leaving the site. Silt fences have also been provided on the north and northeast portion of the disturbed soil for Tract 1 and easter and western side for Tract 2 to contain potential runoff within the limits of disturbance.

With the BMP measures provided there will not be any significant change in the water quality of the site. Hence, the water entering the Edwards Aquifer will not cause adverse impacts to the aquifer.

ATTACHMENT M
CONSTRUCTION PLANS

Reference the attached Construction plans and TCEQ Construction Notes.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

8. All excavated material that will be stored on-site must have proper E&S controls.

9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil

stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

10. The following records should be maintained and made available to the TCEQ upon request:
    - 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.

11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

    B. any change in the nature or character of the regulated activity from that which was originally approved;

    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or

    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

FLOODPLAIN DEVELOPMENT PERMIT PLANS FOR THE CONSTRUCTION OF

WATER, SEWER, PAVING, GRADING & DRAINAGE IMPROVEMENTS

TO SERVE

SPUR PLAZA

2131 US 183, LEANDER

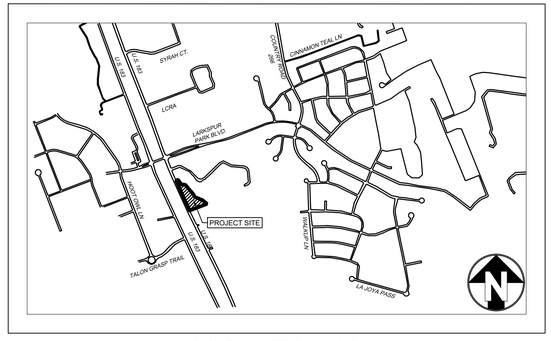
WILLIAMSON COUNTY, TEXAS 78641

(LIBERTY HILL ETJ)

OWNER/DEVELOPER:
TPD TEXAS LLC
3220 PRENTISS LN, LEANDER
TEXAS 78641
PHONE: (512) 761 - 8025
CONTACT: MALLIK GILAKATTULA
mallik@theprimedeveloper.com

ENGINEER:
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PHONE: (512) 428-8586
CONTACT: SHEA KIRKMAN, P.E.
shea.kirkman@trustke.COM

SURVEYOR:
BARTON CHAPA SURVEYING
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PHONE: (817) 864 - 1957
CONTACT: JACK BARTON, RPLS
jack@bcsdfw.com



VICINITY MAP
SCALE: 1"= 1500'

SHEET LIST TABLE

NUMBER	SHEET TITLE
C1.0	COVER SHEET
C1.1	TOPOGRAPHIC SURVEY
C1.2	GENERAL NOTES I
C1.3	GENERAL NOTES II
C2.0	DEMOLITION PLAN
C3.0	SITE PLAN
C4.0	DIMENSIONAL CONTROL PLAN
C5.0	GRADING PLAN
C6.0	PROPOSED DRAINAGE AREA MAP
C6.1	STORM PLAN
C6.2	STORM PROFILE
C6.3	HYDRAULIC CALCULATIONS
C6.4	WATER QUALITY CALCULATIONS
C7.0	UTILITY PLAN
C7.1	OFFSITE UTILITY PLAN
C8.0	PAVING PLAN
C9.0	EROSION CONTROL PLAN
C10.0	SITE DETAILS
C11.0	DRAINAGE DETAILS
C11.1	WATER QUALITY DETAILS I
C11.2	WATER QUALITY DETAILS II
C12.0	WATER DETAILS
C13.0	WASTEWATER DETAILS
C14.0	PAVING DETAILS
C15.0	EROSION CONTROL DETAILS
C16.0	WCSED NO.4 DETAILS

kirkman ENGINEERING
TEXAS FIRM NO. 15874

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO. MAL21001

UTILITY PROVIDER INDEX				
UTILITY	PROVIDER	CONTACT	PHONE NUMBER	EMAIL ADDRESS
ELECTRIC	PEDERNALES ELECTRIC COOPERATIVE, INC	CARRIE GARRET	877-372-0391	carrie.gattet@peci.com
TELEPHONE/FIBER	AT&T	GREGORY SIFUENTEZ	512-413-2122	gs7821@att.com
WATER	CITY OF GEORGETOWN	DAVID MUNK	512-930-3640	david.munk@georgetown.org

TXDOT NOTES
PROPOSED IMPROVEMENTS WITHIN TXDOT RIGHT OF WAY TO BE BY SEPARATE PERMIT. REFER TO APPROVED TXDOT PERMIT PLANS PREPARED BY KIRKMAN ENGINEERING, DATED JULY 2022.
PERMIT NUMBER: 22 - 43111

WCESD #4 SITE PERMIT #2024-0003
WILLIAMSON COUNTY FLOODPLAIN PERMIT:2024-21909

JANUARY 2026

FILE PATH: K:\Jobs\mal21001_Larkspur Tract\Drawings\02_engr-commercial\03 - Production\C1.0 COVER_MAL21001
FILENAME: C1.0 COVER_MAL21001.dwg
PLOTTED BY: Prabhanika Gautam
PLOTTED ON: Wednesday, January 21, 2026
PLOTTED AT: 3:15:16 PM
PLOTTED WITH: _AutoCAD PDF (General Documentation).pc3

PLANS FOR THE CONSTRUCTION OF WATER, SANITARY SEWER, PAVING, GRADING & DRAINAGE IMPROVEMENTS TO SERVE: SPUR PLAZA

SURVEYOR'S NOTES:

1. Bearings are based on the State Plane Coordinate System, Texas Central Zone (4203) North American Datum of 1983 (NAD '83), distances are surface with a combined scale factor of 1.00011.
2. This property lies within Zone "X" & Zone "A" of the Flood Insurance Rate Map for Williamson County, Texas and Incorporated Areas, map no. 48491C0275E, with an effective date of September 26, 2008, via scaled map location and graphic plotting.
3. Monuments are found unless specifically designated as set.
4. Elevations (if shown) are North American Vertical Datum of 1988 (NAVD '88).

NOTE REGARDING UTILITIES

Source information from plans and markings will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.

Utility locations are per observed evidence and the below sources

DigTess - Ticket #2060145311

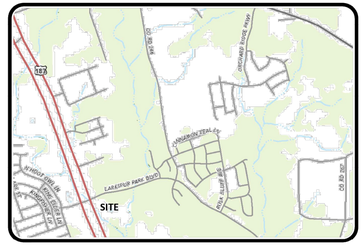
LEGEND OF ABBREVIATIONS

D.R.W.C.T.	DEED RECORDS, WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS, WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
INST. NO.	INSTRUMENT NUMBER
C.M.	CONTROLLING MONUMENT
SQ. FT.	SQUARE FEET
ROW	RIGHT OF WAY
CRS	CAPPED REBAR SET

SITE BENCHMARKS:

1. The site benchmark is an "X" cut with box set at the northeast corner of a curb inlet in the north line of Larkspur Park Boulevard, and being approximately 175 feet in a southwesterly direction from the southwest corner of the limits of a concrete sidewalk adjacent to the north line of Larkspur Park Boulevard. **ELEVATION=911.62' (NAVD '88)**
2. The site benchmark is an "X" cut with box set on the back of curb the eastern nose of a median dividing Larkspur Park Boulevard, and being approximately 680 feet in an easterly direction from the eastern paving seam line at the intersection of Larkspur Park Boulevard and US Highway 183. **ELEVATION=918.87' (NAVD '88)**

VICINITY MAP - NOT TO SCALE



PROPERTY DESCRIPTION

BEING a tract of land out of the John B. Robinson Survey, Abstract Number 521, in Williamson County, Texas, and being those two tracts of land described by deeds to Vestmont LH 35 Partners, Ltd. as recorded under Instrument Number 2019086110 and Instrument Number 2019086149, Official Public Records of Williamson County, Texas, (O.P.R.W.C.T.), the subject tract being more particularly described by metes and bounds as follows (bearings are based on State Plane Coordinate System, Texas Central Zone (4203) North American Datum of 1983 (NAD '83)):

TITLE COMMITMENT NOTES

This survey was prepared without the benefit of a commitment for title insurance. Therefore, easements, agreements, or other documents, either recorded, or unrecorded may exist that affect the subject property that are not shown on this survey.

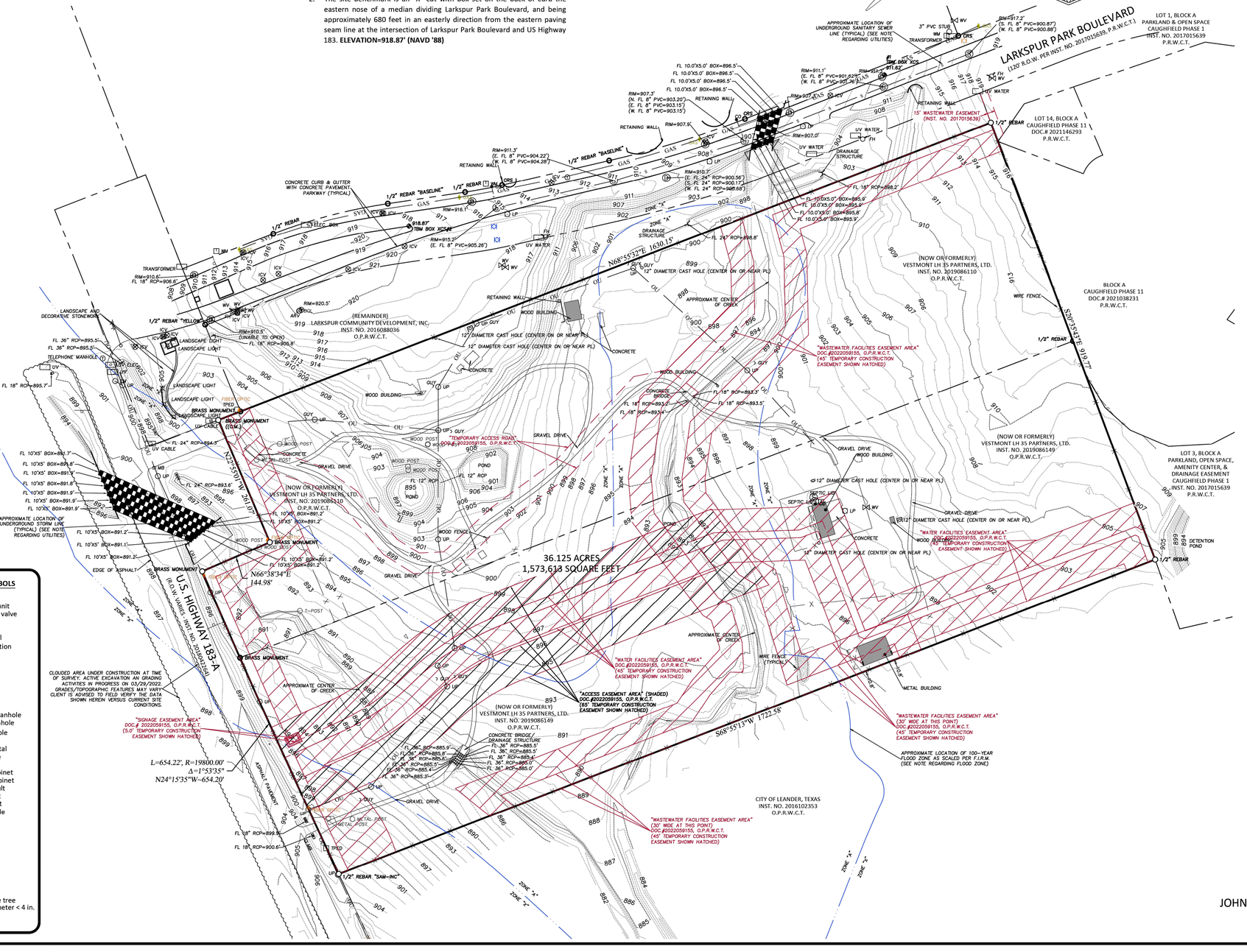
SURVEYOR'S CERTIFICATE

This is to certify that I, John H. Barton III, a Registered Professional Land Surveyor of the State of Texas, have prepared this map from an actual survey on the ground, and that this map correctly represents that survey made by me or under my direction and supervision. Fieldwork was completed on July 13, 2022.

Date of Plat/Map: **July 19, 2022**

John H. Barton III, RPLS# 6737

STATE OF TEXAS · REGISTERED · JOHN HOMER BARTON III · 6737 · PROFESSIONAL LAND SURVEYOR



LEGEND OF SYMBOLS

- air conditioning unit
- ICV irrigation control valve
- CATV cable tv
- electric meter
- fence or guardrail
- FDC fire dept. connection
- FH fire hydrant
- BOL bollard
- AD area drain
- grate inlet
- GV gas valve
- GM gas meter
- GWELL gas well
- sign
- sanitary sewer manhole
- storm water manhole
- telephone manhole
- TFL tank fill lid
- TPED telephone pedestal
- traffic signal pole
- UG utility clean out
- UCC comm. utility cabinet
- UCE electric utility cabinet
- UVC comm. utility vault
- UVE elect. utility vault
- UVW water utility vault
- UP/SP utility/service pole
- utility sign
- water shutoff
- WV water valve
- well
- WM water meter
- CATV cable tv riser
- ARV air release valve
- utility markings
- tree
- shrub/decorative tree or tree with diameter < 4 in.
- contour lines

100' 0 50' 100' 200'

SCALE: 1" = 100'

TOPOGRAPHIC SURVEY

TRACT OF LAND OUT OF THE JOHN B. ROBINSON SURVEY, ABSTRACT NO. 521 WILLIAMSON COUNTY, TEXAS

BCS
BARTON CHAPA SURVEYING
5200 State Highway 121
Colleyville, TX 76034
Phone: 817-864-1957
info@bcsdfw.com
TBPLS Firm #10194474

JOB NO.	2020.001.131
DRAWN:	BCS
CHECKED:	JHB

TABLE OF REVISIONS

DATE	SUMMARY

MASON TRACT

LEANDER, TEXAS

SHEET:

C1.1

TOPOGRAPHIC SURVEY

SURVEY PREPARED BY BARTON CHAPA SURVEYING, LLC. 5200 STATE HIGHWAY 121, COLLEYVILLE, TX. 76034 PHONE (817)864-1957

Z:\Project Data\Survey\001 - Kirkman Engineering\2020\131 - Mason Tract\Drawings

GENERAL NOTES

1. STANDARDS AND SPECIFICATIONS: ALL MATERIALS, CONSTRUCTION METHODS, WORKMANSHIP, EQUIPMENT, SERVICES AND TESTING FOR ALL PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' ORDINANCES, REGULATIONS, REQUIREMENTS, STATUTES, SPECIFICATIONS AND DETAILS, LATEST PRINTING AND AMENDMENTS THERETO. THE GOVERNING AUTHORITIES' PUBLIC WORKS AND WATER DEPARTMENT REQUIREMENTS, PLUMBING CODES, AND FIRE DEPARTMENT REGULATIONS SHALL TAKE PRECEDENT FOR ALL PRIVATE IMPROVEMENTS WHERE APPLICABLE. ALL OTHER PRIVATE CONSTRUCTION, NOT REGULATED BY THE GOVERNING AUTHORITY, SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, LATEST PRINTING AND AMENDMENTS THERETO, EXCEPT AS MODIFIED BY THE PROJECT CONTRACT DOCUMENTS.
2. EXAMINATION OF PLANS: PRIOR TO COMMENCING ANY CONSTRUCTION, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE CONTRACTOR DOCUMENTS, CONSTRUCTION DOCUMENTS, AND SPECIFICATIONS. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE THEIR SELF WITH ALL STANDARDS AND SPECIFICATIONS PERTAINING TO THE WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
3. EXAMINATION OF SITE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND SATISFYING THEIR SELF AS TO THE CONDITIONS AFFECTING THE WORK, INCLUDING BUT NOT RESTRICTED TO THE BEARING UPON TRANSPORTATION, DISPOSAL, HANDLING AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRIC POWER, ROADS AND UNCERTAINTIES OF WEATHER, OR SIMILAR PHYSICAL CONDITIONS AT THE SITE, CONDITIONS OF THE GROUND, THE CHARACTER OF EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING THE PERFORMANCE OF THE WORK. FAILURE BY THE CONTRACTOR TO ACQUAINT HIMSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM FROM RESPONSIBILITY FOR ESTIMATING THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK.
4. ADEQUATE CONTRACTOR TO VERIFY ADEQUATE AREA EXISTS ON-SITE TO PERFORM THE WORK SHOWN IN THESE CONSTRUCTION DOCUMENTS. IF ADDITIONAL AREA IS REQUIRED TO PERFORM THE WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
5. SUBSURFACE INVESTIGATION: SUBSURFACE EXPLORATION TO ASCERTAIN THE NATURE OF SOILS HAS BEEN PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD ON THE PROJECT. THE SUBSURFACE INFORMATION WILL BE MADE AVAILABLE FOR THE CONTRACTOR'S USE. THE ENGINEER DISCLAIMS ANY RESPONSIBILITY FOR THE ACCURACY, TRUE LOCATION AND EXTENT OF THE SOILS INFORMATION PREPARED BY OTHERS.
6. TOPOGRAPHY SURVEY: TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THE PLANS IS PROVIDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE INFORMATION SHOWN IS CORRECT, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, DISCREPANCIES OR OMISSIONS TO THE SURVEY INFORMATION PROVIDED.
7. COMPLIANCE WITH LAWS: THE CONTRACTOR SHALL FULLY COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS, INCLUDING ALL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS CONTRACT AND THE WORK TO BE DONE THEREUNDER, WHICH EXIST OR MAY BE ENACTED LATER BY GOVERNMENTAL BODIES HAVING JURISDICTION OR AUTHORITY FOR SUCH ENACTMENT. ALL WORK REQUIRED UNDER THIS CONTRACT SHALL COMPLY WITH ALL REQUIREMENTS OF LAW, REGULATION PERMIT OR LICENSE. IF THE CONTRACTOR FINDS THAT THERE IS A VARIANCE, HE SHALL IMMEDIATELY REPORT THIS TO THE OWNER FOR RESOLUTION.
8. PUBLIC CONVENIENCE AND SAFETY: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONNEL AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. MATERIALS STORED ON THE WORK SITE SHALL BE PLACED, AND THE WORK SHALL AT ALL TIMES BE SO CONDUCTED, AS TO CAUSE NO GREATER OBSTRUCTION TO THE TRAVELING PUBLIC THAN IS UNAVOIDABLE AND ACCEPTABLE BY THE GOVERNING AUTHORITIES AND THE DEVELOPER AND NOT TO PREVENT FREE UNINTERRUPTED ACCESS TO ALL FIRE HYDRANTS, WATER VALVES, GAS VALVES, MANHOLES AND FIRE ALARM OR POLICE CALL BOXES IN THE VICINITY.
9. STORM WATER POLLUTION PREVENTION PLAN (SWPPP): THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF THE SWPPP WHILE CONDUCTING THEIR ACTIVITIES ON THE PROJECT.
10. PERMITS AND LICENSES: THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND LICENSES NECESSARY FOR THE EXECUTION OF THE WORK AND SHALL FULLY COMPLY WITH ALL THEIR TERMS AND CONDITIONS. WHENEVER THE WORK UNDER THIS CONTRACT REQUIRES THE OBTAINING OF PERMITS FROM THE GOVERNING AUTHORITIES, THE CONTRACTOR SHALL FURNISH DUPLICATE COPIES OF SUCH PERMITS TO THE DEVELOPER BEFORE THE WORK COVERED THEREBY IS STARTED. NO WORK WILL BE ALLOWED TO PROCEED BEFORE SUCH PERMITS HAVE BEEN OBTAINED. COSTS ASSOCIATED WITH PERMITS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
11. APPROVED PLANS: THE CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED PLANS ON-SITE AT ALL TIMES. WORK PERFORMED WITHOUT THE USE OF APPROVED PLANS SETS IS NOT AUTHORIZED, AND SHALL BE AT THE RISK OF THE CONTRACTOR.
12. BONDS: PERFORMANCE, PAYMENT AND MAINTENANCE BONDS MAY BE REQUIRED FROM THE CONTRACTOR FOR "PUBLIC" IMPROVEMENTS. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE THE BONDS IN THE FORM AND IN THE AMOUNTS AS REQUIRED BY THE GOVERNING AUTHORITIES. COSTS ASSOCIATED WITH PROVIDING THE BONDS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
13. TESTING: THE TESTING AND CONTROL OF ALL MATERIALS USED IN THE WORK SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE CONTRACTOR. IN THE EVENT THE RESULTS OF THE INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF MATERIALS OR CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
14. INSPECTION: THE GOVERNING AUTHORITIES AND/OR THE DEVELOPER WILL PROVIDE INSPECTION OF THE PROPOSED CONSTRUCTION. THE OWNER WILL PAY THE COSTS FOR INSPECTION SERVICES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE WELL IN ADVANCE OF PENDING CONSTRUCTION ACTIVITIES TO THE GOVERNING AUTHORITIES AND/OR OWNER FOR SCHEDULING OF INSPECTION SERVICES.
15. SHOP DRAWINGS: THE CONTRACTOR SHALL PREPARE, REVIEW, AND SUBMIT ALL SHOP DRAWING, PRODUCT DATA AND SAMPLES REQUIRED BY THE GOVERNING AUTHORITIES AND THE CONTRACT DOCUMENTS IN ACCORDANCE WITH ITEM 1.28 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS - NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.
16. SURVEYING: ALL SURVEYING REQUIRED FOR CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER SHALL PROVIDE TWO BENCHMARKS FOR USE AS HORIZONTAL AND VERTICAL DATUM. THE CONTRACTOR SHALL EMPLOY A REGISTERED PROFESSIONAL LAND SURVEY TO PERFORM ALL ADDITIONAL SURVEY, LAYOUT AND MEASUREMENT WORK NECESSARY FOR THE COMPLETION OF THE PROJECT. THE COSTS ASSOCIATED WITH THE CONSTRUCTION STAKING SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
17. PROTECTION OF PROPERTY CORNERS AND BENCHMARKS: THE CONTRACTOR SHALL PROTECT ALL PROPERTY CORNER MARKERS AND BENCHMARKS. WHEN ANY SUCH MARKERS OR MONUMENTS ARE IN DANGER OF BEING DISTURBED, THEY SHALL BE PROPERLY REFERENCED AND IF DISTURBED SHALL BE RESET BY A REGISTERED PUBLIC SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
18. EXISTING STRUCTURES: THE PLANS SHOW THE LOCATION OF ALL KNOWN SURFACE AND SUB SURFACE STRUCTURES, HOWEVER, THE DEVELOPER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE FAILURE TO SHOW ANY OR ALL OF THESE STRUCTURES ON THE PLANS, OR TO SHOW THEM IN THEIR EXACT LOCATION. SUCH FAILURE SHALL NOT BE CONSIDERED SUFFICIENT BASIS FOR CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA WORK OR FOR INCREASING THE PAY QUANTITIES IN ANY MANNER WHATSOEVER, UNLESS THE OBSTRUCTION ENCOUNTERED IN SUCH AS TO REQUIRE CHANGES IN THE LINES OR GRADES, OR REQUIRE THE CONSTRUCTION OF SPECIAL WORK, FOR WHICH PROVISIONS ARE NOT MADE IN THE PLANS.
19. PROTECTION OF EXISTING UTILITIES: AS REQUIRED BY "THE TEXAS UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT", TEXAS ONE CALL SYSTEM MUST BE CONTACTED (800-245-4545) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATIONS BEING PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT TEXAS ONE CALL SYSTEM. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST RECORDS AND/OR FIELD INFORMATION AVAILABLE AND ARE NOT GUARANTEED BY THE DEVELOPER OR ENGINEER TO BE ACCURATE AS TO THE LOCATION AND DEPTH. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY LOCATIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF HIS ACTIVITIES IN ORDER THAT HE MAY NEGOTIATE SUCH LOCAL ADJUSTMENTS AS NECESSARY IN THE CONSTRUCTION PROCESS TO PROVIDE ADEQUATE CLEARANCES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL EXISTING UTILITIES, SERVICES, AND STRUCTURES ENCOUNTERED WHETHER OR NOT THEY ARE ON THE PLANS. ANY DAMAGE TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. TO AVOID UNNECESSARY INTERFERENCE'S OR DELAYS, THE CONTRACTOR SHALL COORDINATE ALL UTILITY REMOVALS, REPLACEMENTS AND CONSTRUCTION WITH THE APPROPRIATE GOVERNING AUTHORITIES. THE DEVELOPER WILL NOT BE LIABLE FOR DAMAGES DUE TO DELAY BECAUSE OF THE ABOVE.
20. DAMAGE TO EXISTING FACILITIES: ALL DAMAGE DURING CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE TO A CONDITION AS GOOD AS OR BETTER THAN THE CONDITIONS PRIOR TO STARTING THE WORK.
21. FIRE AND LIFE SAFETY SYSTEMS: THE CONTRACTOR SHALL NOT REMOVE, DISABLE OR DISRUPT EXISTING FIRE OR LIFE SAFETY SYSTEMS WITHOUT RECEIVING PRIOR WRITTEN PERMISSION FROM THE GOVERNING AUTHORITY.
22. TRENCH SAFETY: THE CONTRACTOR IS RESPONSIBLE FOR HAVING A TRENCH SAFETY PLAN PREPARED IN ACCORDANCE WITH OSHA REQUIREMENTS BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR THE IMPLEMENTATION OF TRENCH SAFETY CONTROL MEASURES THAT WILL BE IN EFFECT DURING THE CONSTRUCTION OF THE PROJECT. THE COSTS FOR PREPARATION OF THE TRENCH SAFETY PLAN SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
23. TRAFFIC CONTROL: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT TRAFFIC CONTROL. THE COSTS ASSOCIATED WITH THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
24. ACCESS TO ADJACENT PROPERTIES: ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE GOVERNING AUTHORITIES AND/OR OWNER.
25. ACCESS ROUTES, STAGING AREAS AND STORAGE AREAS: ALL PRIVATE HAUL ROADS AND ACCESS ROUTES AND THE LOCATION OF ALL STAGING AREAS AND STORAGE AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND REPAIRING ALL ROADS AND OTHER FACILITIES USED DURING CONSTRUCTION. UPON COMPLETION OF THE PROJECT, ALL HAUL ROADS, ACCESS ROADS, STAGING AREAS AND STORAGE AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT AT THE TIME THE CONTRACTOR COMMENCES WORK ON THE PROJECT.
26. PARKING OF CONSTRUCTION EQUIPMENT: AT NIGHT AND DURING ALL PERIODS OF TIME WHEN EQUIPMENT IS NOT BEING ACTIVELY USED FOR THE CONSTRUCTION WORK, THE CONTRACTOR SHALL PARK THE EQUIPMENT AT LOCATIONS WHICH ARE APPROVED BY THE OWNER, DURING THE CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL COMPLY WITH THE PRESENT ZONING REQUIREMENTS OF THE GOVERNING AUTHORITIES IN THE USE OF VACANT PROPERTY FOR STORAGE PURPOSES. THE CONTRACTOR SHALL ALSO PROVIDE ADEQUATE BARRICADES, MARKERS AND LIGHTS TO PROTECT THE OWNER, THE GOVERNING AUTHORITIES, THE PUBLIC AND THE OTHER WORK. ALL BARRICADES, LIGHTS, AND MARKERS MUST MEET THE REQUIREMENTS OF THE GOVERNING AUTHORITIES' REGULATIONS.
27. WATER FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR PURCHASING WATER FROM THE GOVERNING AUTHORITY FOR HIS USE ON THE PROJECT SITE. COST ASSOCIATED WITH THIS SERVICE SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
28. TEMPORARY ELECTRIC AND COMMUNICATIONS FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR THE INSTALLATION AND PURCHASING OF TEMPORARY ELECTRIC AND COMMUNICATIONS SERVICES FROM THE GOVERNING AUTHORITIES FOR HIS USE ON THE PROJECT SITE. COSTS ASSOCIATED WITH THIS SERVICE SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
29. FENCES: ALL FENCES ENCOUNTERED AND REMOVED DURING CONSTRUCTION, EXCEPT THOSE DESIGNATED TO BE REMOVED OR RELOCATED, SHALL BE RESTORED TO THE ORIGINAL OR BETTER THAN CONDITION UPON COMPLETION OF THE PROJECT.WHERE WIRE FENCING, EITHER WIRE MESH OR BARBED WIRE, IS NOT TO BE CROSSED, THE CONTRACTOR SHALL SET CROSS-BRACED POSTS ON EITHER SIDE OF THE CROSSING. TEMPORARY FENCING SHALL BE ERECTED IN PLACE OF THE FENCING REMOVED WHENEVER THE WORK IS NOT IN PROGRESS AND WHEN THE SITE IS VACATED OVERNIGHT AND/OR AT ALL TIMES TO PREVENT PERSONS AND/OR LIVESTOCK FROM ENTERING THE CONSTRUCTION AREA. THE COST OF FENCE REMOVAL, TEMPORARY CLOSURES AND REPLACEMENT SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
30. COORDINATION WITH OTHERS: IN THE EVENT THAT OTHER CONTRACTORS ARE DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH THE PROJECT, THE CONTRACTOR SHALL COORDINATE HIS PROPOSED CONSTRUCTION WITH THAT OF THE OTHER CONTRACTORS.
31. CONDITION OF THE SITE DURING CONSTRUCTION: THE CONTRACTOR SHALL KEEP THE SITE OF THE WORK AND ADJACENT PREMISES AS FREE FROM MATERIAL, DEBRIS AND RUBBISH AS IS PRACTICABLE. THE CONTRACTOR SHALL REMOVE MATERIAL, DEBRIS AND RUBBISH FROM ANY PORTION OF THE SITE IF, IN THE OPINION OF THE DEVELOPER, SUCH MATERIAL, DEBRIS AND RUBBISH CONSTITUTES A NUISANCE OR IS OBJECTIONABLE.
32. EXISTING ROADWAYS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF EXISTING PAVED ROADS. COSTS ASSOCIATED WITH MAINTAINING THE CLEANLINESS OF EXISTING ROADS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
33. SITE RECONNAISSANCE: THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
34. CONSULTANT COORDINATION: CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
35. DUST CONTROL: THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL DUST ON THE PROJECT SITE BY SPRINKLING OF WATER, OR ANY OTHER METHODS APPROVED BY THE GOVERNING AUTHORITIES. COSTS ASSOCIATED WITH DUST CONTROL SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
36. CLEAN UP FOR FINAL ACCEPTANCE: THE CONTRACTOR SHALL MAKE A FINAL CLEAN UP OF ALL PARTS OF THE WORK BEFORE ACCEPTANCE BY THE OWNER. THIS CLEAN UP SHALL INCLUDE REMOVAL OF ALL OBJECTIONABLE E MATERIALS AND, IN GENERAL, PREPARING THE SITE OF THE WORK IN AN ORDERLY MANNER OF APPEARANCE.
37. REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK: ALL WORK, WHICH HAS BEEN REJECTED OR CONDEMNED, SHALL BE REPAIRED, OR IF IT CANNOT BE REPAIRED SATISFACTORILY, IT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DEFECTIVE MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE WORK SITE. WORK DONE BEYOND THE LINE OR NOT IN THE CONFORMITY WITH THE GRADES SHOWN ON THE DRAWINGS OR AS WRITTEN AUTHORITY AND PRIOR AGREEMENT IN WRITING AS TO PRICES, SHALL BE AT THE CONTRACTOR'S RISK, AND WILL BE CONSIDERED UNAUTHORIZED, AND AT THE OPTION OF THE OWNER MAY NOT BE MEASURED AND PAID FOR AND MAY BE ORDERED REMOVED AT THE CONTRACTOR'S EXPENSE. UPON FAILURE OF THE CONTRACTOR TO REPAIR SATISFACTORY OR TO REMOVE AND REPLACE, IF SO DIRECTED, REJECTED, UNAUTHORIZED OR CONDEMNED WORK OR MATERIALS IMMEDIATELY AFTER RECEIVING NOTICE FROM THE OWNER, THE OWNER WILL, AFTER GIVING WRITTEN NOTICE TO THE CONTRACTOR, HAVE THE AUTHORITY TO CAUSE DEFECTIVE WORK TO BE REMEDIED OR REMOVED AND REPLACED, OR TO CAUSE UNAUTHORIZED WORK TO BE REMOVED AND TO DEDUCT THE COST THEREOF ANY MONIES DUE OR TO BECOME DUE THE CONTRACTOR.
38. DISPOSITION AND DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS: ALL MATERIALS TO BE REMOVED FROM THE SITE INCLUDED BUT NOT LIMITED TO EXCESS MATERIAL AND UNSUITABLE MATERIALS SUCH AS CONCRETE, ASPHALT, LARGE ROCKS, REFUSE, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OWSIDE THE LIMITS OF THE PROJECT. CONTRACTOR SHALL ALSO COMPLY WITH ALL APPLICABLE LAWS GOVERNING SPILLAGE OF DEBRIS WHILE TRANSPORTING TO A DISPOSAL SITE. COSTS ASSOCIATED WITH THE DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
39. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEM COVERED BY THE PROJECT CONTRACT DOCUMENTS. THE COMPLETE SET OF "RECORD DRAWINGS" MUST BE DELIVERED TO THE OWNER AND/OR ENGINEER BEFORE REQUESTING FINAL PAYMENT.
40. FRANCHISE UTILITIES: THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
41. SCOPE OF WORK: THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL/STRUCTURAL/MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
42. SITE DRAINAGE: CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
43. THE CONTRACTOR SHALL FULLY EXECUTE THE WORK DESCRIBED AS SHOWN IN THE CONSTRUCTION PLANS OR REASONABLY INFERABLE THEREFROM OR ASCERTAINABLE IN THE EXERCISE OF PROFESSIONAL EFFORTS (AS HEREINAFTER DEFINED) AS NECESSARY TO PRODUCE THE RESULTS INTENDED BY THE CONSTRUCTION PLANS, EXCEPT AS SPECIFICALLY INDICATED IN THE CONSTRUCTION PLANS TO BE THE RESPONSIBILITY OF OTHERS. AS USED HEREIN, THE TERM "PROFESSIONAL EFFORTS" MEANS THAT LEVEL OF SKILL AND CARE ORDINARILY EXERCISED BY EXPERIENCED CONTRACTORS AND CONSTRUCTION MANAGERS COMPARABLE TO CONTRACTOR ENGAGING IN INSTITUTIONAL AND COMMERCIAL PROJECTS SIMILAR IN SIZE AND COMPLEXITY TO THE PROJECT IN MAJOR UNITED STATES URBAN AREAS, WHEN PERFORMING DUTIES, RESPONSIBILITIES AND OBLIGATIONS COMPARABLE TO THOSE UNDER THE CONTRACT DOCUMENTS.

EROSION CONTROL NOTES:

1. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY THE GOVERNING AUTHORITIES, PERMITS ARE OBTAINED, AND ALL EROSION CONTROL MEASURES ARE IN PLACE.
2. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
3. THE GENERAL CONTRACTOR (AND ALL SUBCONTRACTORS INVOLVED WITH ANY CONSTRUCTION ACTIVITIES RELATED TO EARTHWORK, EROSION CONTROL, ETC. OR WHICH UTILIZE POSSIBLE POLLUTANTS AS DEFINED IN THE TPDES GENERAL PERMIT) SHALL REVIEW AND ADHERE TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT, AS WELL AS ALL THE TCEQ REQUIREMENTS SET FORTH IN THE TPDES GENERAL PERMIT.
4. THIS EROSION CONTROL PLAN IS A SUPPLEMENT TO THE SWPPP PREPARED BY OTHERS. REFER TO THE SWPPP FOR ADDITIONAL REQUIREMENTS.
5. ALL WASH WATER SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT BETWEEN WASH WATER POLLUTANTS AND STORM RUNOFF DISCHARGED FROM THIS SITE.
6. OIL AND GREASE ABSORBING MATERIALS SHALL BE READILY AVAILABLE ON-SITE AND SHALL BE PROMPTLY USED TO CONTAIN AND/OR CLEAN UP ALL FUEL OR CHEMICAL SPILLS OR LEAKS.
7. DUST CONTROL SHALL BE ACCOMPLISHED BY WATERING DRY, EXPOSED AREAS ON A REGULAR BASIS. SPRAYING OF PETROLEUM BASED OR TOXIC LIQUIDS FOR THIS IS PROHIBITED.
8. DISTURBED AREAS ON THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 14 DAYS SHALL BE TEMPORARILY PLANTED AND/OR SEEDED AND WATERED.
9. DISTURBED AREAS ON THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED SHALL BE PERMANENTLY PLANTED AND/OR SEEDED WITHIN 14 DAYS.
10. PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE LANDSCAPING PLAN. AREAS BEYOND THE LIMITS OF THE LANDSCAPING PLAN (OR WHEN A LANDSCAPING PLAN DOES NOT EXIST) SHALL BE HYDROMULCHED WITH HIGHWAY MIX AND WATERED WITH TEMPORARY ABOVE GROUND IRRIGATION UNTIL THE VEGETATION IS ESTABLISHED.
11. ALL VEHICLES SHALL BE CLEANED AT THE CONSTRUCTION EXIT POINT(S) BEFORE LEAVING THE SITE.
12. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT ROADWAYS BY ANY VEHICLES EXITING THE SITE SHALL BE CLEANED OR REMOVED IMMEDIATELY.
13. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SILT IN ANY STORM SEWER INLETS AND PIPES, AND ALONG SILT FENCES, WITHIN 48 HOURS AFTER INSPECTION OF DEVICES REVEALS THE PRESENCE OF EXCESS SILTATION.
14. SILT FENCES SHALL BE PLACED AROUND ANY STOCKPILES USED ON THE SITE. STONE OVERFLOW POINTS SHALL BE ADDED AT ALL LOW POINTS ALONG SILT FENCING.
15. ADDITIONAL EROSION CONTROL MEASURES MAY BE IMPLEMENTED BY THE CONTRACTOR AT HIS DISCRETION AT NO ADDITIONAL EXPENSE TO THE OWNER, THE ADDITION OR DELETION OF ANY EROSION CONTROL MEASURE MAY REQUIRE THAT THE SWPPP BE MODIFIED IN ACCORDANCE WITH THE TCEQ'S TPDES GENERAL PERMIT GUIDELINES.
16. ALL TEMPORARY EROSION CONTROL DEVICES (SILT FENCE, ETC.) SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF SITE WITHIN THIRTY DAYS AFTER STABILIZATION OF ALL DISTURBED SURFACES IS COMPLETE.
17. THE CONTRACTOR SHALL ASSUME LIABILITY FOR DAMAGE TO ADJACENT PROPERTIES AND/OR PUBLIC RIGHT OF WAY RESULTING FROM FAILURE TO FULLY IMPLEMENT AND EXECUTE ALL EROSION CONTROL PROCEDURES SHOWN AND NOTED IN THESE PLANS AND IN THE SWPPP.
18. THE CONTRACTOR SHALL MODIFY THIS PLAN TO SHOW LOCATIONS OF TEMPORARY WASH DOWN AREA, PORTABLE TOILETS, EQUIPMENT MAINTENANCE/REPAIR AREAS, STOCKPILE AREAS, FUEL STORAGE AREAS, ETC. AND POLLUTANT CONTROLS FOR EACH.
19. THE GENERAL CONTRACTOR, AS THE TCEQ DEFINED "OPERATOR," SHALL PERFORM ALL REQUIRED INSPECTIONS OF STORM WATER CONTROLS AND PRACTICES AT FREQUENCIES OUTLINED IN THE TPDES GENERAL PERMIT, AND SHALL FILL OUT APPROPRIATE INSPECTION FORMS (AS PROVIDED IN THE SWPPP).
20. IF DIRT OR ROCK IS EXPORTED FROM THIS SITE, OR IF DIRT OR ROCK IS IMPORTED FROM AN OFF SITE BORROW LOCATION, THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR COMPLIANCE WITH ALL TCEQ STORM WATER REQUIREMENTS FOR THE REMOTE SITE. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF THE WRITTEN AGREEMENT WITH THE LANDOWNER OF THE REMOTE SITE INDICATING PERMITTING AND EROSION CONTROL MEASURES WILL BE IMPLEMENTED.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REESTABLISHING VEGETATION IN ALL DISTURBED AREAS WHETHER SHOWN IN THIS PLAN SET OR NOT. VEGETATION SHALL BE REESTABLISHED IN ACCORDANCE WITH THE STANDARDS OF THE GOVERNING MUNICIPALITY.
22. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS DURING CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED DRAINAGE INFRASTRUCTURE SHOWN IN THESE CONSTRUCTION PLANS IS INSTALLED AND OPERATIONAL.

PAVING NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF OF PASSING FIELD DENSITY TESTS ON THE STABILIZED SUBGRADE FOR SITE PAVING EQUAL TO THE RATIO OF 1 PER 5,000 SQUARE FEET OF PAVEMENT (AND ALL FAILING DENSITY TESTS AND REQUIRED MOISTURE DENSITY CURVES). ADDITIONAL FIELD DENSITY TESTS MAY BE REQUIRED FOR FOUNDATIONS. REFER TO STRUCTURAL PLANS AND SPECIFICATIONS FOR SUCH. IN ADDITION, THE CONTRACTOR SHALL PROVIDE THE OWNER TEN (10) CORINGS OF THE PAVEMENT CORES FOR THE OWNERS USE IN THE OWNERS TESTING FOR THICKNESS AND COMPRESSIVE STRENGTH. LOCATIONS SHALL BE DESIGNATED BY THE OWNER. CONTRACTOR SHALL PATCH CORE HOLES AND FINISH WITH LIKE AND MATCHING MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TESTING COSTS SHOULD THE ABOVE TESTS FAIL MINIMUM CRITERIA AS ESTABLISHED BY NCTCOG. ANY NON-CONFORMING PAVING SHALL BE REPLACED OR RESOLVED IN ACCORDANCE WITH NCTCOG SPECIFICATIONS AND THESE CONSTRUCTION PLANS.
2. ALL EARTHWORK AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION AND REPORT FOR THIS PROJECT AND THOSE RECOMMENDATIONS LISTED WITHIN THE REPORT. REFER TO THIS REPORT FOR ALL EARTHWORK AND RELATED ITEMS. REFER TO STRUCTURAL FOR BUILDING PREP. THE REPORT REFERENCES AGENCY/INDUSTRY STANDARDS. IN THE EVENT THAT THERE IS A QUESTION OR DISPUTE BETWEEN GOVERNING SPECIFICATIONS, THE MOST STRINGENT SHALL APPLY SUCH THAT THE OWNER RECEIVES THE MOST ADVANTAGEOUS FINISHED PRODUCT.
3. THE

CITY OF GEORGETOWN CONSTRUCTION NOTES

1. THE CONSTRUCTION PLANS WERE PREPARED, SEALED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT OF THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 200 PSI FOR 15 MINUTES AND 150 PSI FOR 2 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWING OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE A PDF EMAILED TO THE CITY DEVELOPMENT ENGINEER.

WILLIAMSON COUNTY CONSTRUCTION NOTES - WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS

B4 - CONSTRUCTION – GENERAL

B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES" UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.

B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.

B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR

B4.4 ALL PROPOSED PAVEMENTS (FLEXIBLE AND RIGID) ARE TO BE SPECIFIED IN THE GEOTECH REPORT. THE GEOTECH REPORT IS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. PAVEMENT DESIGNS SHALL FOLLOW THE BELOW COUNTY REQUIREMENTS BASED UPON SOIL CONDITIONS FROM SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT BELOW NON-FRACTURED ROCK OR 3 FT BELOW FRACTURED ROCK. THE PAVEMENT DESIGN MUST MEET AT LEAST THE MINIMUM OF ONE OF THE APPROVED COUNTY DESIGNS AND PROVIDED IN THE GEOTECHNICAL REPORT FOR REVIEW AND APPROVAL PRIOR TO THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX.

B4.5 FLEXIBLE PAVEMENT DESIGNS BASED ON ROADWAY CLASSIFICATION
(REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGES 38-41)

B5 - SUBGRADE

B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.

B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.

B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 - BASE MATERIAL

B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1 (REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 43, TABLE B6.1)

B7 - BITUMINOUS PAVEMENT

B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL..

B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMACP.

B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP.

B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR (SGC) TO DESIGN MIXTURES, SUBMIT THE SGC MIX DESIGN TO THE ENGINEER FOR APPROVAL

B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE (REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGES 44)

B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.

B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.

B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.

WILLIAMSON COUNTY CONSTRUCTION NOTES - WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS

B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.

1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F
2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.

1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 - CONCRETE PAVEMENT

B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX I. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 - CONCRETE - GENERAL

B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.

B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS
LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

GENERAL NOTES II

SHEET:
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FILENAME: C1.1 GENERAL NOTES_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/2026

Know what's below. Call before you dig.

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

LEGEND

- REMOVE AND DISPOSE OF EXISTING ASPHALT
- REMOVE AND DISPOSE OF EXISTING GRAVEL
- PROPOSED FULL DEPTH SAWCUT (PROVIDE CLEAN CONSTRUCTION EDGE)
- EXISTING CONTOUR 500
- PROPERTY BOUNDARY
- EX. TREE TO BE REMOVED BY THIS PERMIT
- EX. TREE TO REMAIN

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

TXDOT NOTES

PROPOSED IMPROVEMENTS WITHIN TXDOT RIGHT OF WAY TO BE BY SEPARATE PERMIT. REFER TO APPROVED TXDOT PERMIT PLANS PREPARED BY KIRKMAN ENGINEERING, DATED JULY 2022.

U.S. HIGHWAY 183-A

(R.O.W. VARIES - INST. NO. 2018042264)

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

DEMOLITION PLAN

SHEET:

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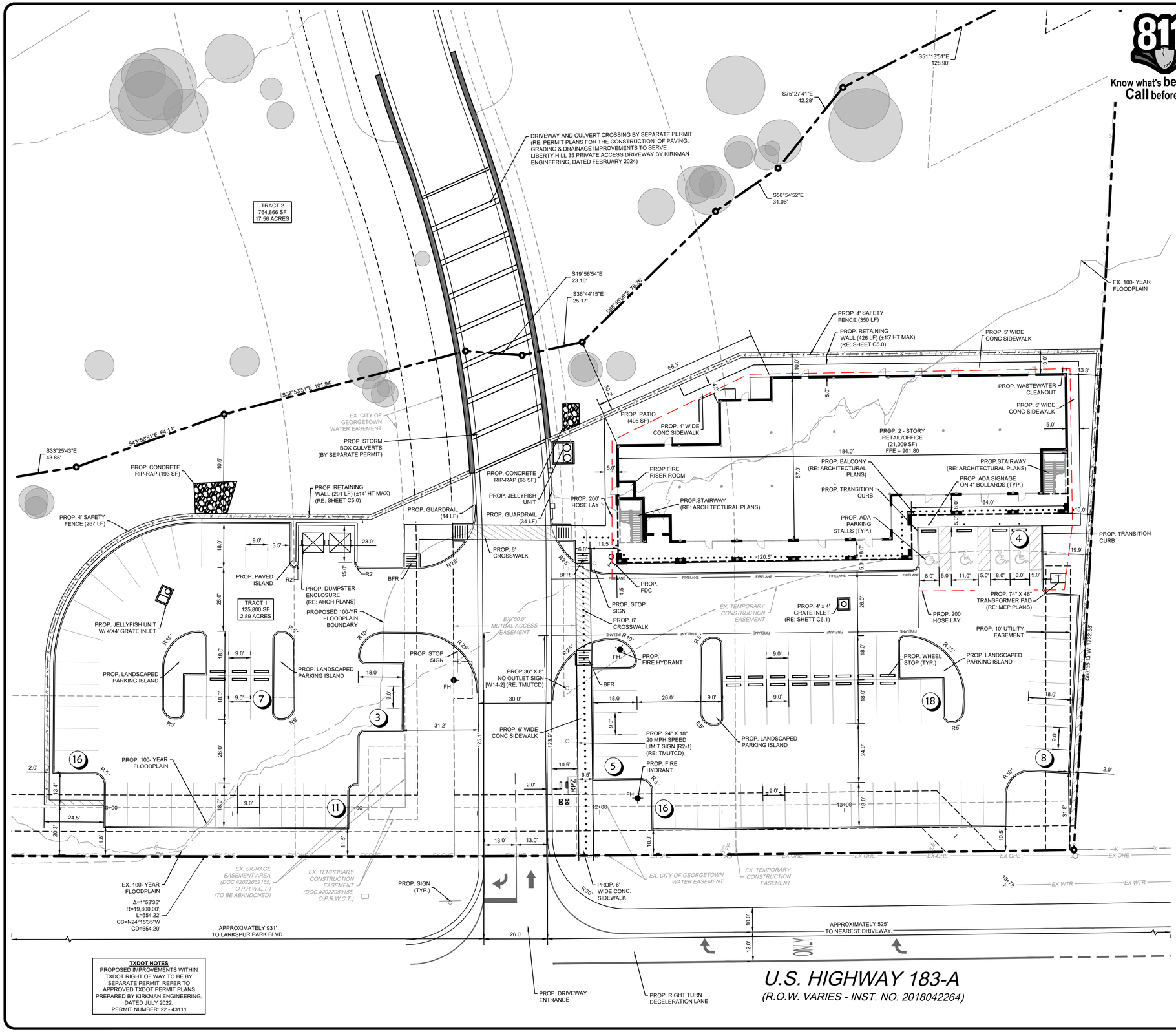
PLOTTED DATE: 1/21/2026



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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

LEGEND

- PROPOSED SIGN
- FIRE LANE STRIPING — FIRELANE
- PROPOSED FIRE HYDRANT — FH
- PROPOSED GRATE INLET
- ACCESSIBLE ROUTE
- PARKING COUNT — 10
- PROPOSED RETAINING WALL
- PROPOSED FDC
- PROPERTY BOUNDARY
- EXISTING TREE TO REMAIN

LAYOUT & DIMENSIONAL CONTROL NOTES:

1. BOUNDARY LINES AND EASEMENT: REFER TO THE FINAL PLAT TO VERIFY PROPERTY LINES AND EXISTING EASEMENT LOCATIONS.
2. DIMENSION CONTROL: UNLESS NOTED OTHERWISE, ALL PAVING DIMENSIONS SHOWN ARE TO FACE OF CURB.
3. CURB RADII: UNLESS NOTED OTHERWISE, ALL CURB RADII SHALL BE 3' AT FACE OF CURB.
4. BUILDING DIMENSIONS: REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES PRIOR TO CONSTRUCTION.
6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.
7. REFER TO SHEET C10.0 FOR SITE DETAILS.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

RIBBON CURB NOTE TO CONTRACTOR

CONTRACTOR TO ENSURE A MINIMUM 1.5" DROP ON FINISHED GRADE, WITH GRASS OR OTHER COVER, FROM THE BACK OF CURB TO THE SHOULDER ON THE DOWNSLOPE SIDE OF ALL SHEET FLOW SECTIONS, TO PROVIDE POSITIVE DRAINAGE FROM THE ROADWAY. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO ENSURE TOP OF GRASS AND OTHER LANDSCAPING ALONG RIBBON CURB, ON THE DOWNSLOPE SIDE OF THE ROADWAY, DOES NOT OBSTRUCT OR REDIRECT FLOW WITHIN THE RIGHT-OF-WAY.

WILLIAMSON COUNTY ESD NO. 4 CONSTRUCTION NOTES

- FIRE LANE SHALL BE CONSTRUCTED OF CONCRETE OR ASPHALT ONLY ABLE TO WITHSTAND AN IMPOSED LOAD OF 75,000 POUNDS.
- THERE SHALL BE A MINIMUM CLEARANCE OF 13'6" MAINTAINED OVER THE FIRE LANE AT ALL TIMES.
- ALL FIRE LINES SHALL BE HYDROSTATIC TESTED AT A MINIMUM OF 200PSI FOR A DURATION OF 2HRS., TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- ANY BEND IN THE FIRE LINE SHALL BE SUPPORTED BY THRUST BLOCKING TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- THERE SHALL BE NO COMBUSTIBLE MATERIALS ON-SITE PRIOR TO FIRE HYDRANTS BEING VERIFIED OPERATIONAL BY THE FIRE CODE OFFICIAL.

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

TXDOT NOTES

PROPOSED IMPROVEMENTS WITHIN TXDOT RIGHT OF WAY TO BE BY SEPARATE PERMIT. REFER TO APPROVED TXDOT PERMIT PLANS PREPARED BY KIRKMAN ENGINEERING, DATED JULY 2022.
PERMIT NUMBER: 22 - 43111

SITE PLAN

PRIME 183 COMMERICAL
2.89 ACRES
TRACT 1
JOHN B. ROBINSON SURVEY
(INST. NO. 2019086110, 2019086149)
LIBERTY HILL ETJ,
WILLIAMSON COUNTY , TEXAS
PREPARATION DATE: XX/XX/XXXX

OWNER/APPLICANT
TPD TEXAS LLC
3220 PRENTISS LN
LEANDER TX 78641
PH: 512-761-8025
CONTACT: MALLIK GILAKATTULA

LANDSCAPE ARCHITECT
LANDSCAPE ARCHITECT COMAPNY
LANDSCAPE ADDRESS
LANDSCAPE ADDRESS
PH: LANDSCAPE PHONE NUMBER
CONTACT: LA ARCHITECT, RLA

ENGINEER
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PH: 817-488-4960
CONTACT: SHEA KIRKMAN, PE

SURVEYOR
BARTON CHAPA SURVEYING
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PH: 817-864-1957
CONTACT: JACK BARTON, RPLS

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

SITE PLAN

SHEET:
C3.0

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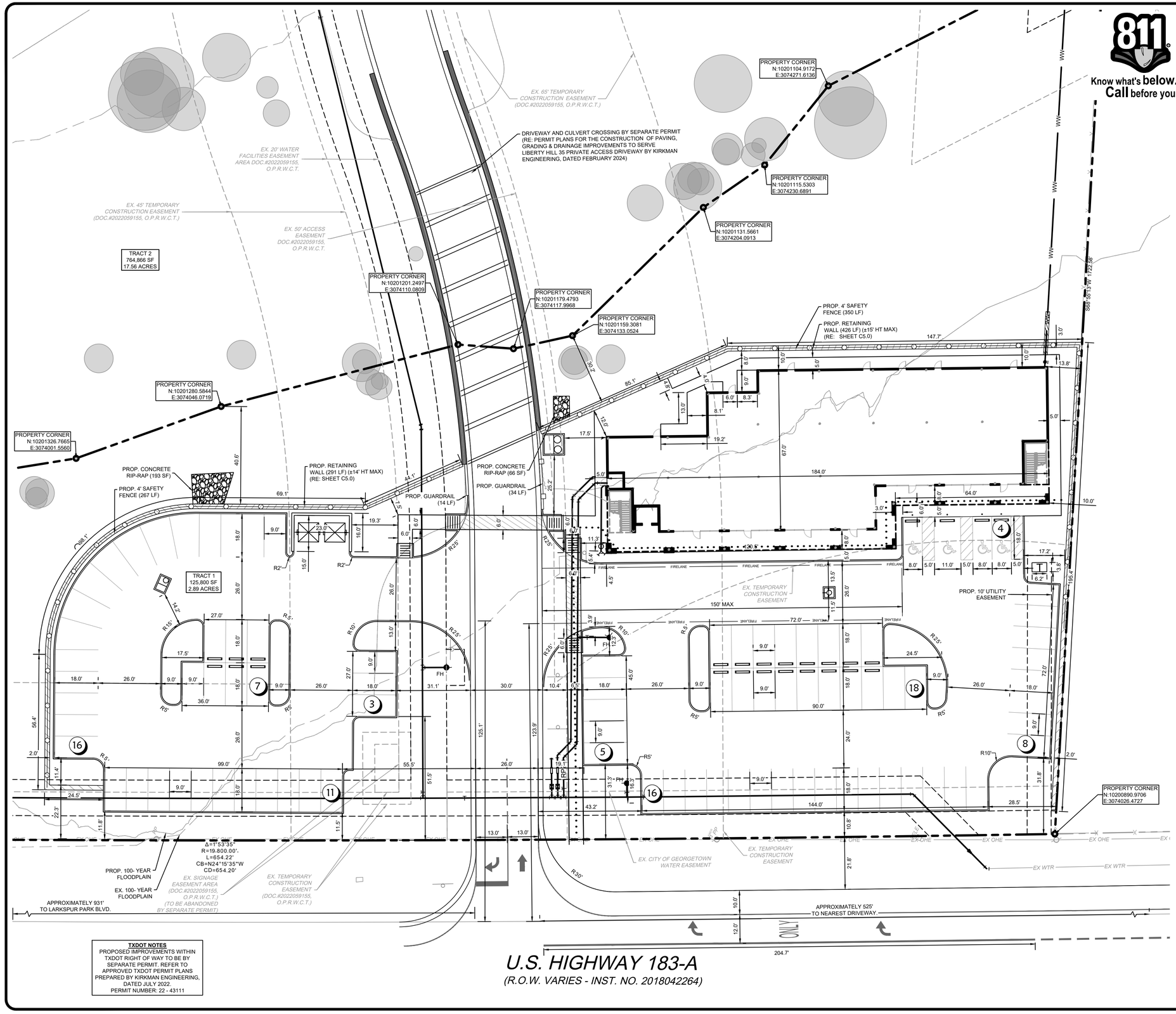
PLOTTED DATE: 1/21/2026



TXDOT NOTES

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ELEVATION = 918.87' (NAD '83)

LEGEND

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- PROPOSED FIRE HYDRANT — FH
- PROPOSED GRATE INLET
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- PARKING COUNT — 10
- PROPOSED RETAINING WALL
- PROPOSED FDC
- PROPERTY BOUNDARY
- EXISTING TREE TO REMAIN

LAYOUT & DIMENSIONAL CONTROL NOTES:

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6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.
7. REFER TO SHEET C10.0 FOR SITE DETAILS.

NOTE TO CONTRACTOR

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GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

DIMENSIONAL CONTROL PLAN

SHEET:
C4.0

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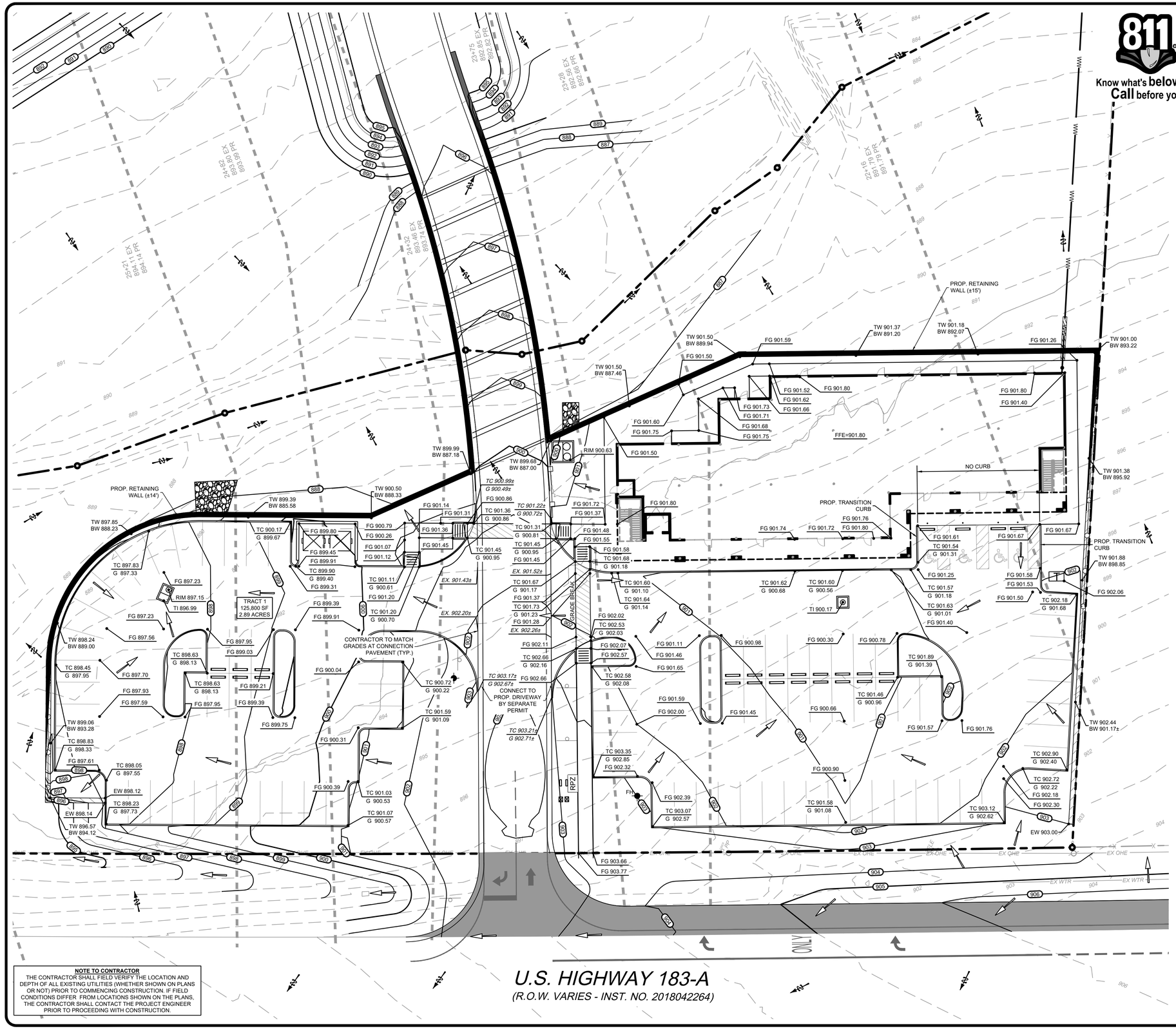
PLOTTED DATE: 1/21/2026



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LEGEND

- PROPOSED CONTOUR — 500
- EXISTING CONTOUR — 500
- GRADE BREAK
- PROPOSED FINISHED GRADE — FG 700.00
- PROPOSED TOP OF CURB/GUTTER — TC 700.50 / G 700.00
- PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 / BW 699.00
- PROPOSED TOP OF INLET — TI 700.00
- EXISTING SPOT GRADE — EX. 700.5±
- EXISTING TOP OF CURB/GUTTER — TC 700.5± / G 700.0±
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY
- FLOODPLAIN WATER SURFACE ELEVATION (WSEL) CROSS SECTION

GRADING NOTES:

1. GEOTECHNICAL REPORT: SITE PREPARATION, GRADING, FILL COMPACTION, AND BUILDING PAD PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY GEOSCIENCE ENGINEERS, LLC , DATED SEPTEMBER 2023 IN THE EVENT OF A CONFLICT BETWEEN THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND THE NOTES ON THE GRADING PLAN, THE GEOTECHNICAL REPORT SHALL GOVERN.
2. TOPOGRAPHIC SURVEY: TOPOGRAPHIC SURVEY INFORMATION IS BASED ON THE TOPOGRAPHIC SURVEY PREPARED BY BARTON CHAPA SURVEYING , DATED JULY 19,2022
3. EXISTING CONDITIONS: PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS, INCLUDING GRADES AND DIMENSIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES.
4. EROSION CONTROL: EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING CLEARING, STRIPPING AND GRADING OPERATIONS. REFER TO THE EROSION CONTROL PLAN FOR THE SEQUENCE OF EROSION CONTROL DEVICES TO BE INSTALLED.
5. PROPOSED GRADES: THE PROPOSED ELEVATIONS AND CONTOURS SHOWN ARE TO FINISHED GRADE. THE PROPOSED CONTOURS ARE APPROXIMATE. THE PROPOSED SPOT ELEVATIONS AND GRADIENTS ARE TO BE USED IN THE EVENT OF ANY DISCREPANCY WITH THE PROPOSED CONTOURS. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE.
6. ACCESSIBLE ROUTES/PARKING: SIDEWALKS AND CROSSWALKS ALONG ACCESSIBLE ROUTES SHALL BE IN ACCORDANCE WITH TAS AND ADA STANDARDS WITH A MAXIMUM RUNNING SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2%. ACCESSIBLE PARKING SPACES SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.
7. TESTING: TESTING SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE OWNER. TESTING SHALL BE PERFORMED AT A MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THE RESULTS OF THE INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
8. MAXIMUM SITE SLOPES SHALL BE 4:1 UNLESS OTHERWISE NOTED.
9. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS.
10. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS DURING CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED DRAINAGE INFRASTRUCTURE SHOWN IN THESE CONSTRUCTION PLANS IS INSTALLED AND OPERATIONAL.

RETAINING WALL NOTES:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

NOTE TO CONTRACTOR

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GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

GRADING PLAN

SHEET:
C5.0

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PLOTTED BY: Preciosha Gladden
PLOTTED DATE: 1/21/2026

DRAINAGE AREA CALCULATIONS

NOAA ATLAS 14 Rainfall Zone: Williamson County - San Gabriel River

Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
DA 1	0.84	5.00	0.31	6.06	**1.57**	0.34	7.58	**2.16**	0.37	8.85	**2.74**	0.41	10.61	**3.65**	0.44	11.97	**4.42**	0.48	13.34	**5.38**	Sheet flows North West to exisiting creek line
DA 2	0.65	5.00	0.33	6.06	**1.32**	0.37	7.58	**1.81**	0.40	8.85	**2.28**	0.44	10.61	**3.02**	0.47	11.97	**3.65**	0.51	13.34	**4.42**	Sheet flows North East to exisiting creek line
DA 3	0.47	5.00	0.68	6.06	**1.95**	0.73	7.58	**2.61**	0.76	8.85	**3.17**	0.81	10.61	**4.04**	0.85	11.97	**4.78**	0.90	13.34	**5.63**	Drains to Grate Inlet#1
DA 4	0.26	5.00	0.75	6.06	**1.18**	0.80	7.58	**1.58**	0.83	8.85	**1.91**	0.88	10.61	**2.43**	0.92	11.97	**2.86**	0.97	13.34	**3.36**	Roof Drains to underground storm system
DA 5	0.68	5.00	0.67	6.06	**2.75**	0.72	7.58	**3.68**	0.75	8.85	**4.48**	0.79	10.61	**5.72**	0.83	11.97	**6.76**	0.88	13.34	**7.97**	Drains to Grate Inlet#2
OFFSITE 1	0.35	5.00	0.30	6.06	**0.63**	0.33	7.58	**0.87**	0.35	8.85	**1.09**	0.40	10.61	**1.46**	0.43	11.97	**1.77**	0.47	13.34	**2.16**	Drains west then to creek line
OFFSITE 2	0.09	5.00	0.33	6.06	**0.18**	0.36	7.58	**0.25**	0.38	8.85	**0.30**	0.42	10.61	**0.40**	0.45	11.97	**0.48**	0.49	13.34	**0.59**	Drains north to DA 5
OFFSITE 3	0.05	5.00	0.73	6.06	**0.22**	0.77	7.58	**0.29**	0.81	8.85	**0.36**	0.86	10.61	**0.46**	0.90	11.97	**0.54**	0.95	13.34	**0.63**	Drains south to the TxDot road

NOTE: DRAINAGE CRITERIA TAKEN FROM CITY OF_AUSTIN_ DRAINAGE CRITERIA MANUAL DATED NOVEMBER 27, 2023.Tc MIN OF 5 MIN USED.

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

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LEGEND

- PROPOSED DRAINAGE AREA LABEL — BASIN NAME: DA1; ACRES: 1.82 Ac.; Q100 (cfs): 14.52
- PROPOSED DRAINAGE AREA DIVIDE
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- PROPERTY BOUNDARY

NOTE TO CONTRACTOR

EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

DETENTION EXEMPTION NOTE

THIS PROPERTY IS DETENTION EXEMPT PER WILLIAMSON COUNTY SUBDIVISION ORDINANCE B11.1.1.b. ALL REFERENCES TO DETENTION EXEMPTION, THE DOWNSTREAM ASSESSMENT AS APPROVED BY THE CITY OF LEANDER TO ALLOW THE UNDETAINED FLOWS IS TITLED "DOWNSTREAM ASSESSMENT FOR THE SPUR CREEK DEVELOPMENT" DATED DECEMBER 19, 2023. THIS STUDY WAS APPROVED BY THE CITY OF LEANDER ON DECEMBER 19, 2023 TO ALLOW UNDETAINED PEAK DISCHARGES FROM THE PROJECT SITE THROUGH THE CITY OF LEANDER'S PROPERTY TO THE FLOODPLAIN OF THE SOUTH FORK SAN GABRIEL RIVER.

FLOOD PLAIN NOTE

FEMA FIRM NO. 48491C0275E, SEPTEMBER 26,2008.
A PORTION OF THE PROPERTY IS LOCATED WITHIN THE FEMA ZONE A 100-YEAR FLOODPLAIN OF AN UNNAMED TRIBUTARY TO THE SOUTH FORK SAN GABRIEL RIVER. APPROVED LOMR (08-06-1357P, 2/17/2009, IS LOCATED NORTHWEST OF THE PROJECT)

Proposed Impervious Area Table

Area No.	Total Area (ac)	Impervious Area (sf)	Impervious area (ac)	Pervious Area (sf)	Pervious Area (ac)
DA 1	0.84	1437.48	0.033	35152.92	0.807
DA 2	0.65	2744.28	0.063	25569.72	0.587
DA 3	0.47	17554.68	0.403	2918.52	0.067
DA 4	0.26	11325.60	0.26	0.00	0
DA 5	0.678	24393.60	0.56	5140.08	0.118
Offsite 1	0.347	1611.72	0.037	13503.60	0.31
Offsite 2	0.09	0.00	0	3920.40	0.09
Offsite 3	0.05	2178.00	0.05	0.00	0

EX. 100-YEAR FLOODPLAIN
PROP. 100-YEAR FLOODPLAIN
EXISTING CREEK
PROP. BMP #2
GRATE INLET #2
PROP. BMP#1 W/ GRATE INLET #1
DA 1 0.84 Ac. 5.38
DA 2 0.65 Ac. 4.42
DA3 0.47 ac. 5.63
DA4 0.26 ac. 3.36
DA5 0.68 ac. 7.97
OFFSITE 1 0.35 Ac. 2.16
OFFSITE 2 0.09 Ac. 0.59
OFFSITE 3 0.05 Ac. 0.63
EX OHE
EX WTR
ZONE "X"
ZONE "A"

GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

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KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

PROPOSED DRAINAGE AREA MAP

SHEET: C6.0

FILENAME: C6.1 PROPOSED DRAINAGE AREA MAP_MAL21001.dwg
PLOTTED BY: Prashanka Gautam
PLOTTED DATE: 01/21/2026

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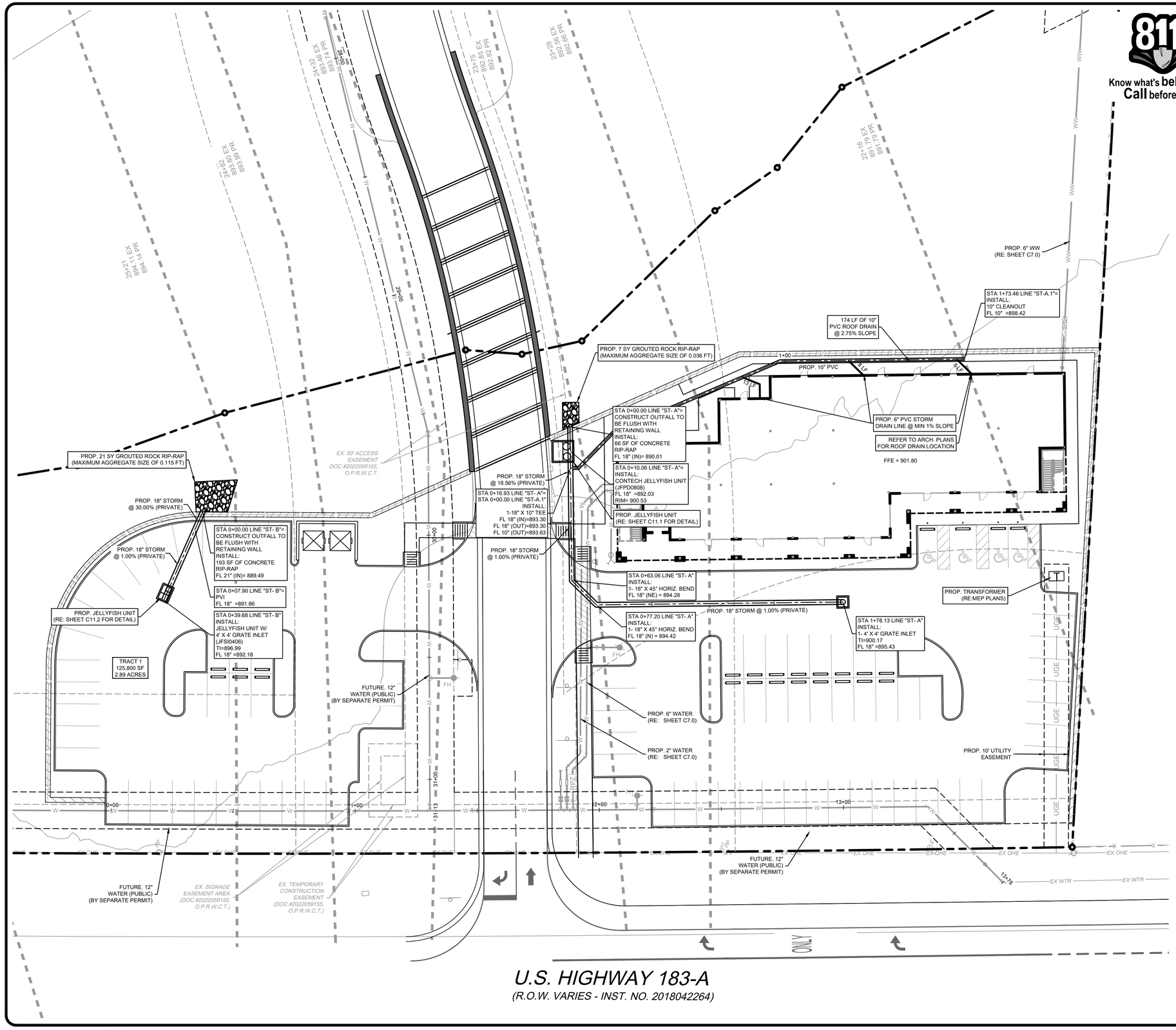

Know what's **below.** **Call** before you dig.

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GRATE INLET
- PROPERTY BOUNDRAY
- FLOODPLAIN WATER SURFACE ELEVATION (WSEL) CROSS SECTION

STORM DRAIN NOTES:

1. REFER TO SHEET C11.0 FOR STORM DRAIN DETAILS.
2. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING FRANCHISE UTILITY LINES IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BIDS FOR ALL KNOWN OR UNKNOWN LINES.

NOTE TO CONTRACTOR

EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

DETENTION EXEMPTION NOTE

THIS PROPERTY IS DETENTION EXEMPT PER WILLIAMSON COUNTY SUBDIVISION ORDINANCE B11.1.1.b. ALL REFERENCES TO DETENTION EXEMPTION, THE DOWNSTREAM ASSESSMENT AS APPROVED BY THE CITY OF LEANDER TO ALLOW THE UNDETAINED FLOWS IS TITLED "DOWNSTREAM ASSESSMENT FOR THE SPUR CREEK DEVELOPMENT" DATED DECEMBER 19, 2023. THIS STUDY WAS APPROVED BY THE CITY OF LEANDER ON DECEMBER 19, 2023 TO ALLOW UNDETAINED PEAK DISCHARGES FROM THE PROJECT SITE THROUGH THE CITY OF LEANDER'S PROPERTY TO THE FLOODPLAIN OF THE SOUTH FORK SAN GABRIEL RIVER.

FLOOD PLAIN NOTE

FEMA FIRM NO: 48491C0275E, SEPTEMBER 26,2008.
A PORTION OF THE PROPERTY IS LOCATED WITHIN THE FEMA ZONE A 100-YEAR FLOODPLAIN OF AN UNNAMED TRIBUTARY TO THE SOUTH FORK SAN GABRIEL RIVER. APPROVED LOMR (08-06-1357P, 2/17/2009, IS LOCATED NORTHWEST OF THE PROJECT)

GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

STORM PLAN

SHEET:
C6.1

FILEPATH: K:\Utilities\21001_Jarkaya TractDrawings\02_engr-commercial\03 - Production\Civil\21001 Jarkaya TractDrawings\02_engr-commercial\03 - Production\Civil\C6.1 STORM PLAN_MAL21001.dwg
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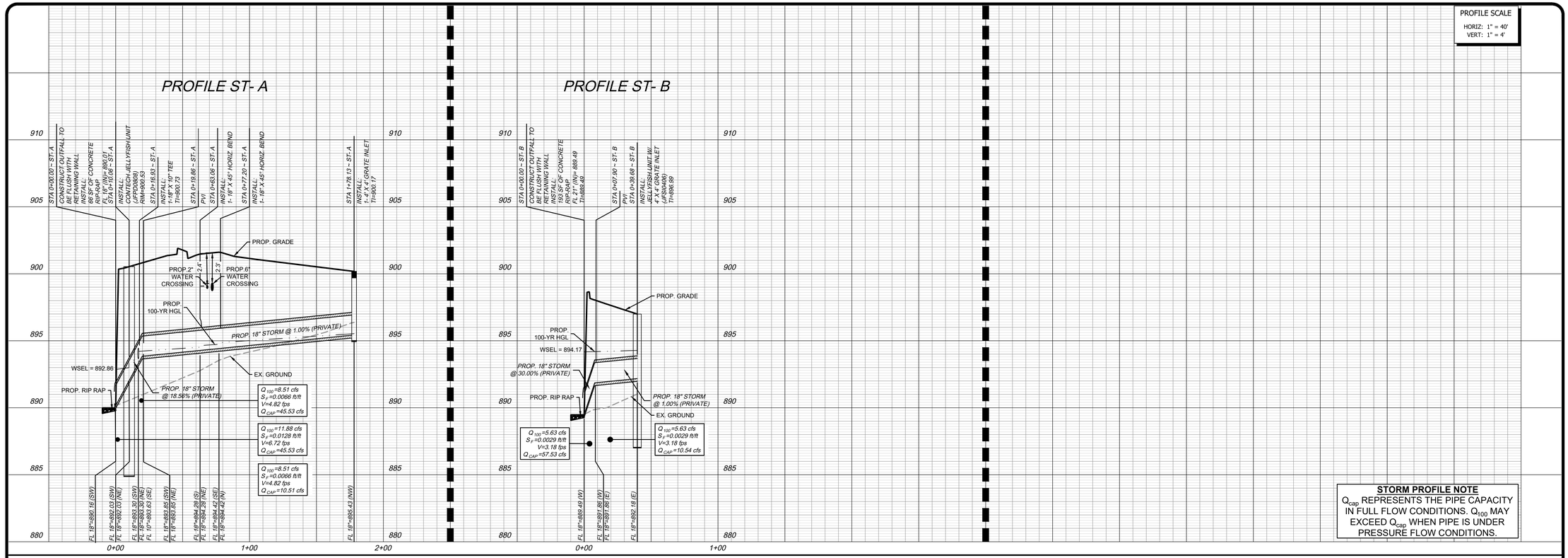
PLOTTED BY: Prashrutsa Gautam
PLOTTED DATE: 1/21/2026



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

STORM PROFILE NOTE
Q_{cap} REPRESENTS THE PIPE CAPACITY IN FULL FLOW CONDITIONS. Q_{100} MAY EXCEED Q_{cap} WHEN PIPE IS UNDER PRESSURE FLOW CONDITIONS.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC
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SPUR PLAZA

TRACT 1
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5200 STATE HIGHWAY 121
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JOB NUMBER: MAL21001

ISSUE DATE: ----

STORM PROFILE

SHEET:
C6.2

FILENAME: C6.2 STORM PLAN_MAL21001.dwg
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PLOTTED AT: 1:17:53 PM
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HYDRAULIC CALCULATIONS (FUTURE / ULTIMATE)

Runoff		Pipe	Drainage														Head Loss Calculations										Invert Elevation			
Design Point		Length	Area	Q 100	Incremental	Uncaptured	Q	Shape					Manning	Hydr	Hydraulic Grade		V1	V2			Loss		Head Loss	Design	Upstrm	Dwnstrm	TC / FG	Comments
Upstrm	Dwnstrm	Between	No.	Runoff	Q	Bypass	in Pipe	of	No. of	Pipe	Box Culvert		n	Grade	Line Elevation		Flow (In)	Flow (Out)	V1^2/2g	V2^2/2g	Coeff	KjV1^2/2g	at Structure	HGL			Elev	
Station	Station	Points		"Q"	"Q"	"Q"	"Q"	Pipe	Barrels	Diameter	Width	Heigth	Value	"Sf"	Upstrm	Dwnstrm	(f.p.s.)	(f.p.s.)	(feet)	(feet)	(Kj)	(feet)	"Hk"	Elevation				
				(c.f.s.)	(c.f.s.)	(c.f.s.)	(c.f.s.)			(in.)	(ft)	(ft)		(ft./ft.)									(feet)	(feet)	(feet)	(feet)		
1	2	3		4a	4b	4c	4d	5a	5b	5c	5d	5e	5f	6	7	8	9	10	11	12	13	14	15	16	17	18		
ST-A																												
			OFFSITE																									
178.13	77.20	100.93	2 + DA 5	8.51	8.51	0.00	8.51	circular	1	18			0.013	0.0066	895.53	894.86		4.82		0.36	1.25		0.45	895.98	895.43	894.42	900.17	
77.20	63.06	14.14		0.00	8.51	0.00	8.51	circular	1	18			0.013	0.0066	894.74	894.64	4.82	4.82	0.36	0.36	0.35	0.13	0.13	894.86	894.42	894.28	901.61	
63.06	19.86	43.20		0.00	8.51	0.00	8.51	circular	1	18			0.013	0.0066	894.52	894.23	4.82	4.82	0.36	0.36	0.35	0.13	0.13	894.64	894.28	893.85	901.47	
19.86	16.93	2.93		0.00	8.51	0.00	8.51	circular	1	18			0.013	0.0066	894.23	894.21	4.82	4.82	0.36	0.36				894.23	893.85	893.30	900.82	
16.93	10.06	6.87	DA 4	3.36	11.88	0.00	11.88	circular	1	18			0.013	0.0128	893.60	893.51	4.82	6.72	0.36	0.70	0.25	0.09	0.61	894.21	893.30	892.03	900.73	
10.06	0.00	10.06		0.00	11.88	0.00	11.88	circular	1	18			0.013	0.0128	892.99	892.86	6.72	6.72	0.70	0.70	0.25	0.18	0.53	893.51	892.03	890.16	900.53	100 YR- WSEL 892.86
ST- B																												
39.68	7.90	31.78	DA 3	5.63	5.63	0.00	5.63	circular	1	18			0.013	0.0029	894.28	894.19		3.18		0.16	1.25		0.20	894.48	892.18	891.86	896.99	
7.90	0.00	7.90		0.00	5.63	0.00	5.63	circular	1	18			0.013	0.0029	894.19	894.17	3.18	3.18	0.16	0.16				894.19	891.86	889.49	898.04	100 YR- WSEL 894.17

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS
LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

HYDRAULIC CALCULATIONS

SHEET:
C6.3

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FILENAME: C4.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Prashantha Gautam
PLOTTED DATE: 1/7/2026

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Spur Plaza
Date Prepared: 2/22/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	2.90	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.32	acres
Total post-development impervious cover fraction * =	0.46	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1148	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	2	

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

Drainage Basin/Outfall Area No. = ST-A

Total drainage basin/outfall area =	0.94	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.82	acres
Post-development impervious fraction within drainage basin/outfall area =	0.87	
$L_{M\ THIS\ BASIN}$ =	714	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	0.94	acres
A_I =	0.82	acres
A_P =	0.12	acres
L_R =	783	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	773	lbs.
F =	0.99	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.09	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	3.00	inches per hour
Effective Area =	0.74	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	2.25	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault
Jellyfish Size for Flow-Based Configuration =	JFPD0808-12-3
Jellyfish Treatment Flow Rate =	2.41 cfs

1

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Spur Plaza
Date Prepared: 2/22/2024

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Calculations from RG-348 Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	2.90	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.32	acres
Total post-development impervious cover fraction * =	0.46	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1148	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	2	

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

Drainage Basin/Outfall Area No. = ST-B

Total drainage basin/outfall area =	0.47	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.40	acres
Post-development impervious fraction within drainage basin/outfall area =	0.86	
$L_{M\ THIS\ BASIN}$ =	351	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	0.47	acres
A_I =	0.40	acres
A_P =	0.07	acres
L_R =	385	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	375	lbs.
F =	0.97	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	2.00	inches per hour
Effective Area =	0.36	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	0.74	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Surface Inlet
Jellyfish Size for Flow-Based Configuration =	JFSI0406-4-1
Jellyfish Treatment Flow Rate =	0.80 cfs

1

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DESCRIPTION:	DATE:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

WATER QUALITY CALCULATIONS

SHEET:
C6.4

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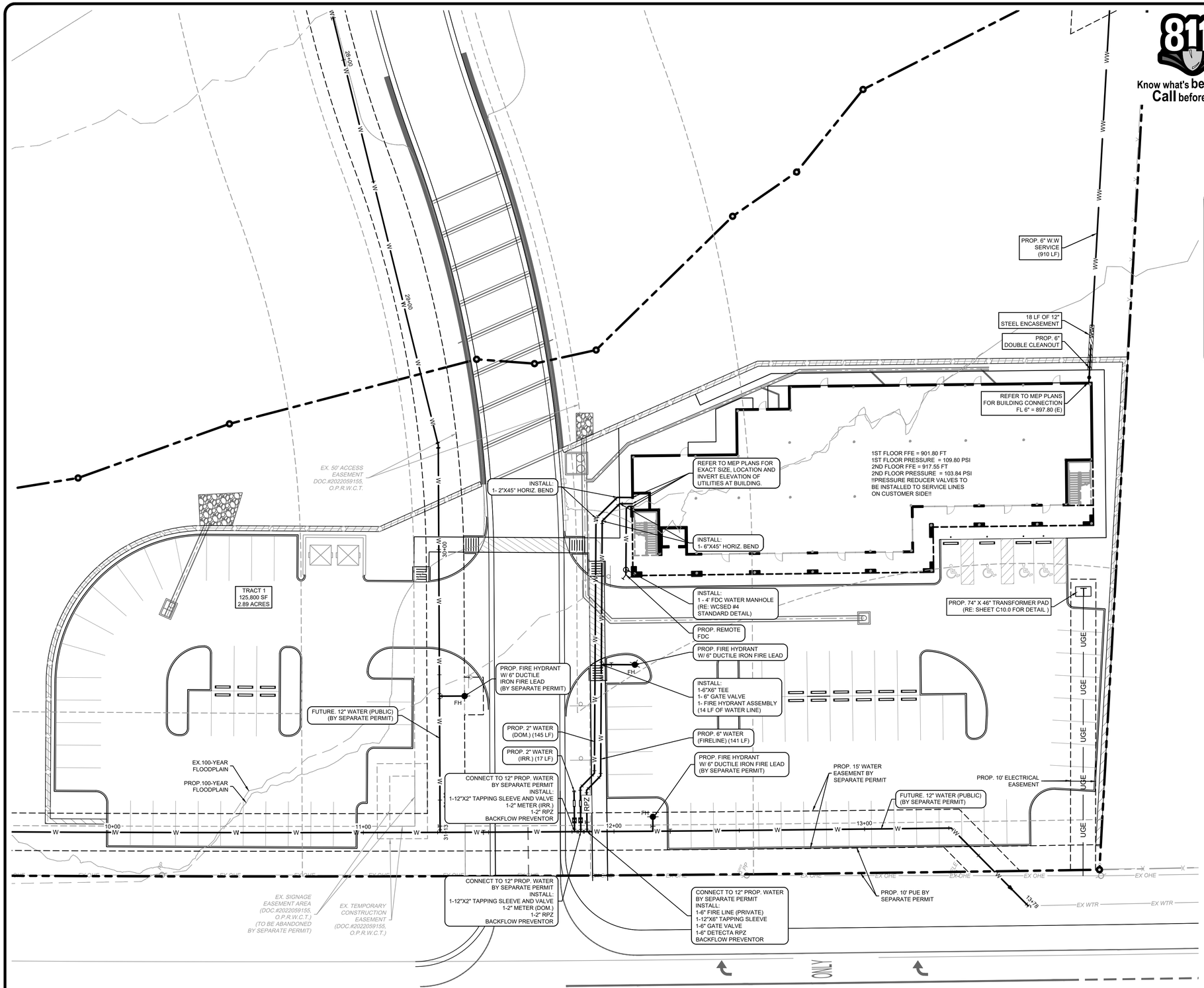
PLOTTED BY: Prashanthi Gaudam
PLOTTED DATE: 1/21/2026



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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

LEGEND

- PROPOSED SANITARY SEWER — WW
- EXISTING WATER — EX WTR
- PROPOSED WATER — W — W
- PROPOSED SANITARY SEWER MANHOLE — WW
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED FIRE HYDRANT — FH
- EXISTING OVERHEAD ELECTRIC — EX OHE
- PROPOSED UNDERGROUND ELECTRIC — UGE — UGE — UGE
- PROPERTY BOUNDARY

WATER & SANITARY SEWER GENERAL NOTES

1. ALL WATER MAINS, UNLESS OTHERWISE NOTED, SHALL HAVE A MINIMUM COVER OF 36" BELOW FINISHED GRADE. PROVIDE VALVE EXTENSIONS TO ALL VALVES ON LINES DEEPER THAN 36".
2. WHEN WATER AND SANITARY SEWERS LINES ARE INSTALLED, THEY SHALL BE INSTALLED PER TCEQ SEPARATION REQUIREMENTS.
3. CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
4. ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
5. THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT AS SHOWN ON THE PLANS. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER FINE GRADING HAS BEEN COMPLETED.
6. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
7. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING FRANCHISE UTILITY LINES IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BIDS FOR ALL KNOWN OR UNKNOWN LINES.
8. REFER TO MEP PLANS FOR EXACT SIZE, LOCATION, AND INVERT OF UTILITIES AT BUILDING.
9. FIRE SPRINKLER LINES AND FIRE DEPARTMENT CONNECTIONS SHALL BE SIZED, DESIGNED, AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR.
10. BACKFLOW DEVICE FOR DOMESTIC AND FIRE SERVICE TO BE LOCATED INSIDE THE BUILDING PER CITY OF LIBERTY HILL, ETJ STANDARDS UNLESS OTHERWISE NOTED.
11. REFER TO SHEET C12.0 FOR WATER DETAILS.
12. REFER TO SHEET C13.0 FOR SEWER DETAILS.

NOTE TO CONTRACTOR

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NOTE TO CONTRACTOR - FRANCHISE UTILITIES

FRANCHISE UTILITIES ARE SHOWN FOR SCHEMATIC REFERENCE ONLY. CONTRACTOR SHALL COORDINATE ALL FRANCHISE UTILITY DESIGN AND INSTALLATION WITH THE SPECIFIC UTILITY PROVIDER AND DESIGNER. CONTRACTOR SHALL COORDINATE ALL UTILITY INSTALLATIONS TO AVOID CONFLICTS AT EXISTING AND PROPOSED UTILITY CROSSINGS.

WILLIAMSON COUNTY ESD NO. 4 CONSTRUCTION NOTES

- FIRE LANE SHALL BE CONSTRUCTED OF CONCRETE OR ASPHALT ONLY ABLE TO WITHSTAND AN IMPOSED LOAD OF 75,000 POUNDS.
- THERE SHALL BE A MINIMUM CLEARANCE OF 13'6" MAINTAINED OVER THE FIRE LANE AT ALL TIMES.
- ALL FIRE LINES SHALL BE HYDROSTATIC TESTED AT A MINIMUM OF 200PSI FOR A DURATION OF 2HRS., TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- ANY BEND IN THE FIRE LINE SHALL BE SUPPORTED BY THRUST BLOCKING TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- THERE SHALL BE NO COMBUSTIBLE MATERIALS ON-SITE PRIOR TO FIRE HYDRANTS BEING VERIFIED OPERATIONAL BY THE FIRE CODE OFFICIAL.

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

UTILITY PLAN

SHEET:
C7.0

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FILENAME: C7.0 UTILITY PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026

WATER & SANITARY SEWER GENERAL NOTES

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11. REFER TO SHEET C12.0 FOR WATER DETAILS.
12. REFER TO SHEET C13.0 FOR SEWER DETAILS.
13. MANHOLES LOCATED OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS WITH RIM ELEVATIONS 6" MIN. ABOVE FINISHED GRADE.
14. GRAVITY WASTEWATER PIPE SHALL BE ASTM D3034 SDR 26, GREEN IN COLOR, WITH GREEN STRIPES, OR WITH OTHER MARKINGS TO COMMUNICATE IT'S WASTEWATER USE.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

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FRANCHISE UTILITIES ARE SHOWN FOR SCHEMATIC REFERENCE ONLY. CONTRACTOR SHALL COORDINATE ALL FRANCHISE UTILITY DESIGN AND INSTALLATION WITH THE SPECIFIC UTILITY PROVIDER AND DESIGNER. CONTRACTOR SHALL COORDINATE ALL UTILITY INSTALLATIONS TO AVOID CONFLICTS AT EXISTING AND PROPOSED UTILITY CROSSINGS.

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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

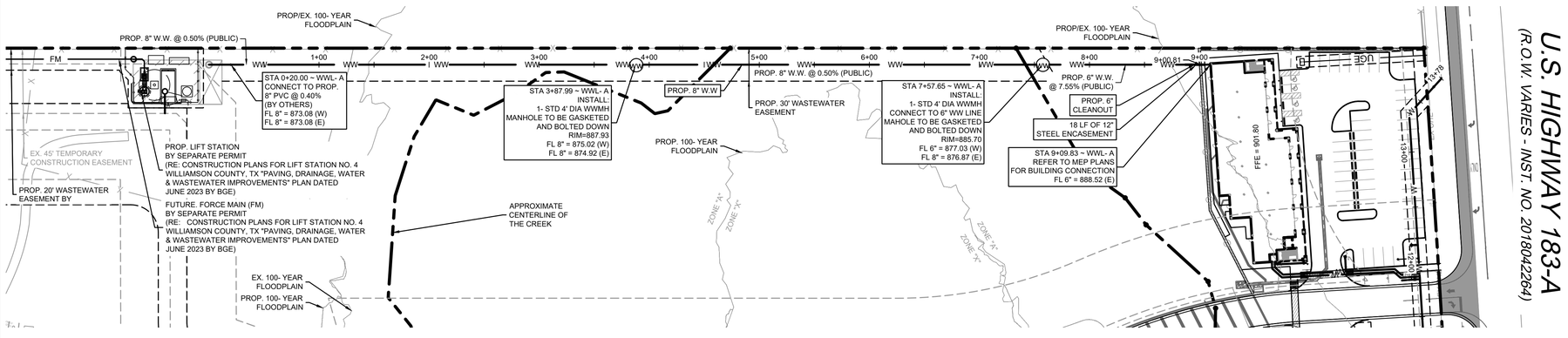
ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

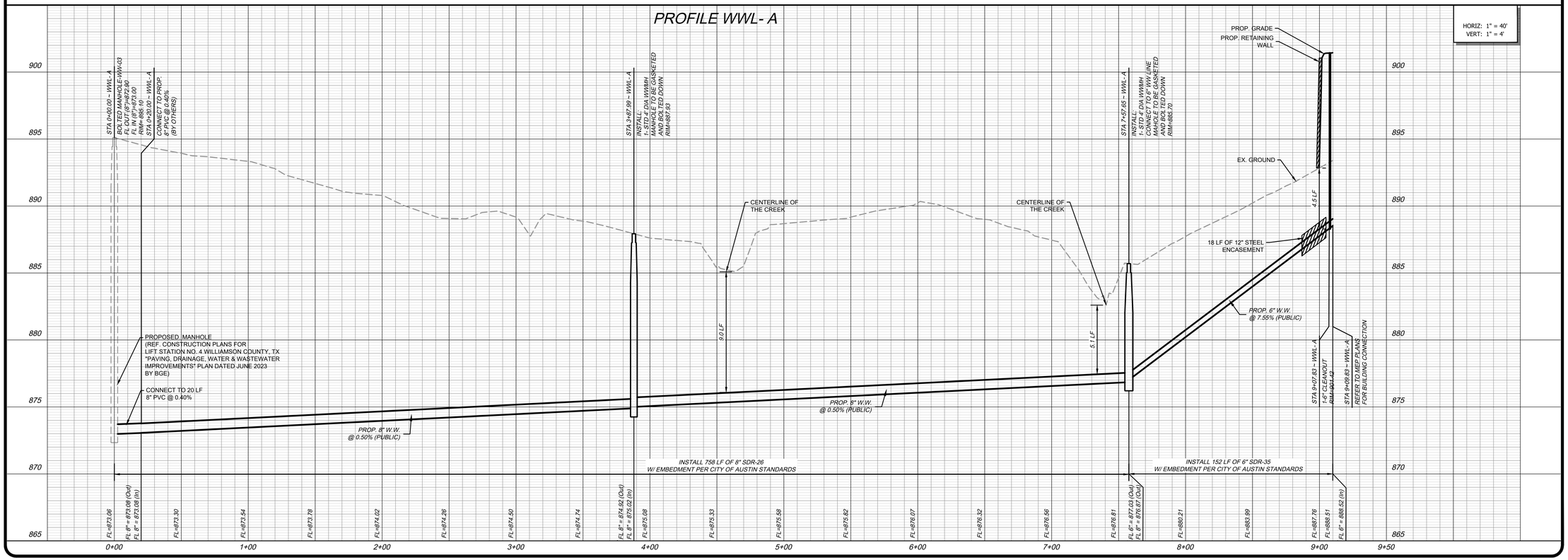
LEGEND

- PROPOSED SANITARY SEWER — WW
- EXISTING WATER — EX WTR
- PROPOSED WATER — W — W
- PROPOSED SANITARY SEWER MANHOLE — WW
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED FIRE HYDRANT — FH
- EXISTING OVERHEAD ELECTRIC — EX OHE
- PROPERTY BOUNDARY



U.S. HIGHWAY 183-A
(R.O.W. VARIES - INST. NO. 2018042264)

GRAPHIC SCALE
0 60 120 FEET
SCALE: 1" = 60'



1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

OFFSITE UTILITY PLAN

SHEET:
C7.1

FILENAME: C7.0 UTILITY PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/26

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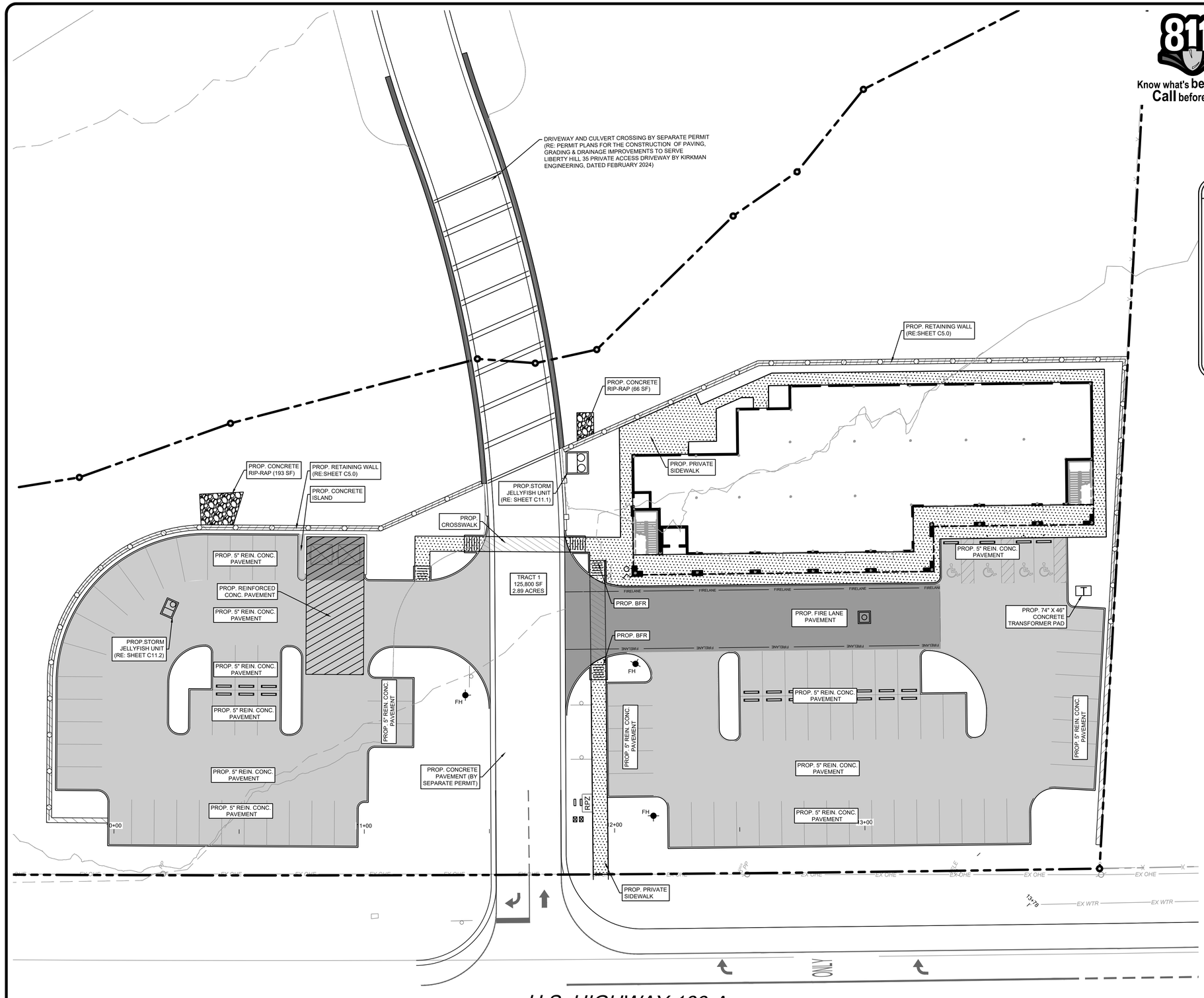

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ELEVATION = 918.87' (NAD '83)

LEGEND

- PARKING AREAS — 5" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 3 BARS @ 18" O.C.E.W.
- FIRE LANE — 6" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 3 BARS @ 18" O.C.E.W.
- DUMPSTER AREAS — 7" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 4 BARS @ 18" O.C.E.W.
- PRIVATE SIDEWALK — 4" 3,000 PSI CLASS "A" (28 DAYS) REIN. CONC. W/ No. 3 BARS @ 18" O.C.E.W.
- PROPERTY BOUNDARY

PAVING NOTES

1. PAVING RECOMMENDATIONS ARE MADE BY GEOSCIENCE ENGINEERS, LLC REPORT No. 23-DG3977 DATED 09/2023.
2. CONTRACTOR SHALL OBTAIN A COPY OF SAID GEOTECHNICAL ENGINEERING REPORT AND FAMILIARIZE THEMSELVES PRIOR TO BIDDING AND CONSTRUCTING THE IMPROVEMENTS OF THE PROJECT.
3. ALL PROPOSED PUBLIC PAVEMENT TO BE PER THE CITY OF LIBERTY HILL ETJ STANDARDS & SPECIFICATIONS.
4. PAINT PARKING STALL STRIPE 4" SOLID WHITE @ 9' O.C..
5. PAINT ACCESSIBLE PARKING LOGO SOLID WHITE.
6. PAINT ACCESSIBLE PEDESTRIAN CROSSWALK 6" SOLID WHITE REFLECTIVE @ 2' O.C. @ 45°.
7. PAINT FIRE LANE STRIPE IN ACCORDANCE WITH LOCAL AUTHORITIES' STANDARDS. STRIPE SHALL BE 6" "TRAFFIC RED" WITH 4" HIGH "TRAFFIC WHITE" LETTERS.
8. INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE WITH LANDSCAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED BEFORE PAVING BEING PLACED.
9. THE CONTRACTOR TO SUBMIT A JOINT SPACING PLAN TO THE ENGINEER FOR APPROVAL. EXPANSION SHALL BE 90' MAXIMUM EACH WAY WITH NO KEYWAYS AND SAWED DUMMY JOINT SPACING SHALL BE 15' EACH WAY UNLESS OTHERWISE NOTED.
10. REFER TO SHEET C14.0 FOR PAVING DETAILS.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

PAVING PLAN

SHEET:
C8.0

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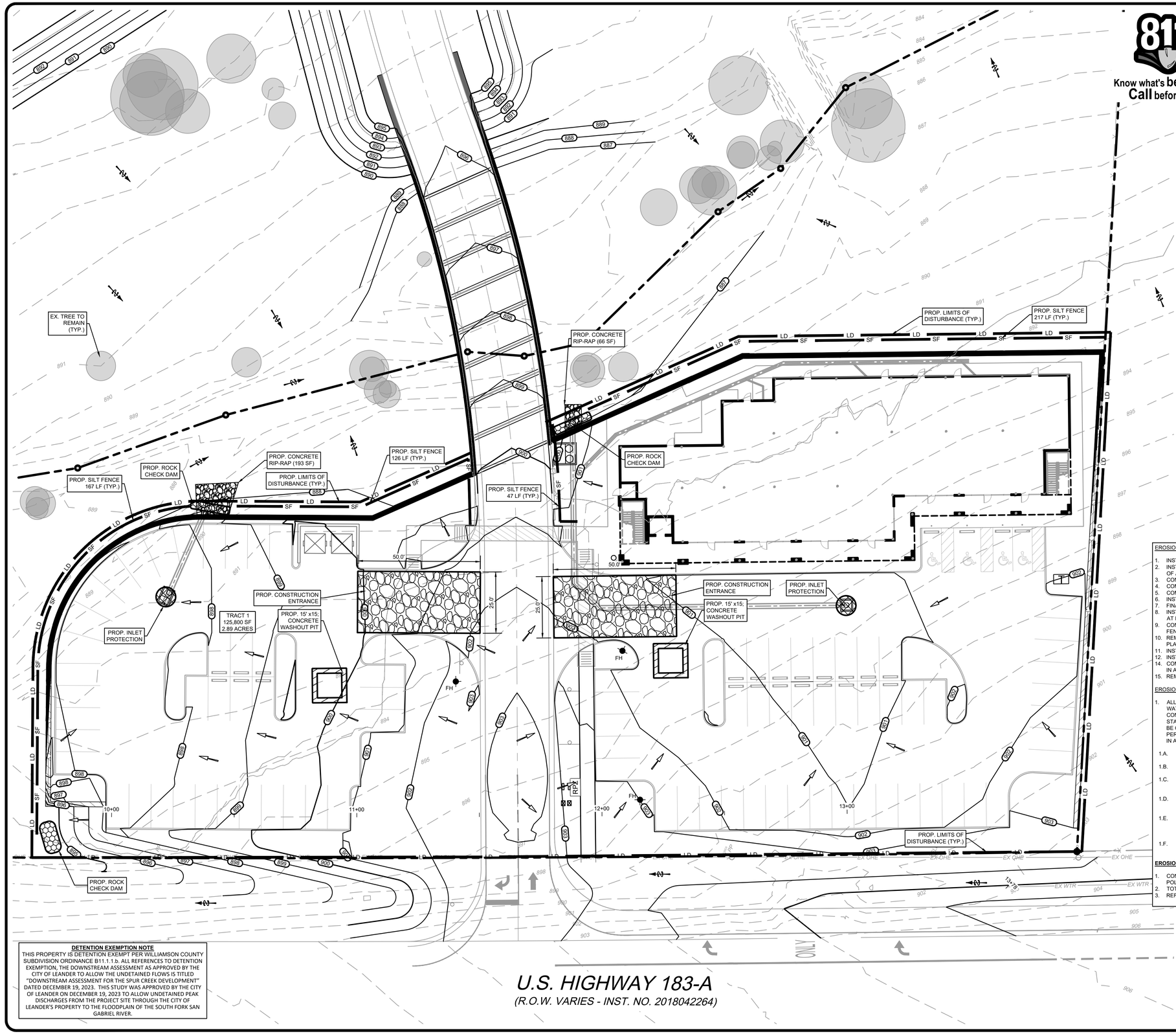
PLOTTED BY: Thadvordick Gadam
PLOTTED DATE: 01/21/26



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ELEVATION = 918.87' (NAD '83)

LEGEND

- PROPOSED LIMITS OF DISTURBANCE — LD
- PROPOSED SILT FENCE — SF
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED ROCK CHECK FILTER DAM
- PROPOSED CONCRETE WASHOUT PIT
- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY

NOTES FOR CHANGES TO SWPPP:

CONTRACTOR SHALL BE REQUIRED TO UPDATE THIS SWPPP WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, OR WHENEVER THE RESULT OF AN INSPECTION INDICATES THAT THIS SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES. HOWEVER, THE REGULATIONS OF THE TEXAS BOARD OF PROFESSIONAL ENGINEERS REQUIRE THAT CHANGES MADE BY THE CONTRACTOR DURING CONSTRUCTION MUST BE AUTHORIZED BY A LICENSED TEXAS ENGINEER. THESE CHANGES MAY BE AUTHORIZED BY THE ENGINEER OF RECORD THROUGH UPDATED DRAWINGS, WORK ORDER CHANGES, OR OTHER METHODS ACCEPTABLE TO THE ENGINEER; OR BY ANOTHER ENGINEER PROVIDED THAT THEY NOTIFY THE ENGINEER OF RECORD.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

EROSION CONTROL SEQUENCE:

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL INLET PROTECTION FOR ALL EXISTING GRATE INLETS, CURB INLETS AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
3. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
4. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
5. COMMENCE GRADING OPERATION FOR BUILDING PAD PREPARATION.
6. INSTALL ALL UNDERGROUND UTILITIES.
7. FINALIZE PAVEMENT SUBGRADE PREPARATION.
8. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
9. CONSTRUCT ALL GRATE INLETS AND DRAINAGE STRUCTURES. INLET PROTECTION SILT FENCES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION.
10. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
11. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT, CURB & GUTTER.
12. INSTALL ALL PAVING, CURB & GUTTER.
14. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH NCTCOG STANDARDS.
15. REMOVE TEMPORARY CONSTRUCTION EXIT & SILT FENCES.

EROSION CONTROL MAINTENANCE NOTES:

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:

1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PREPARING AND IMPLEMENTING A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE TPDES.
2. TOTAL DISTURBED AREA = 1.76 ACRES
3. REFER TO SHEET C15.0 FOR EROSION CONTROL DETAILS.

DETENTION EXEMPTION NOTE

THIS PROPERTY IS DETENTION EXEMPT PER WILLIAMSON COUNTY SUBDIVISION ORDINANCE B11.1.1.b. ALL REFERENCES TO DETENTION EXEMPTION, THE DOWNSTREAM ASSESSMENT AS APPROVED BY THE CITY OF LEANDER TO ALLOW THE UNDETAINED FLOWS IS TITLED "DOWNSTREAM ASSESSMENT FOR THE SPUR CREEK DEVELOPMENT" DATED DECEMBER 19, 2023. THIS STUDY WAS APPROVED BY THE CITY OF LEANDER ON DECEMBER 19, 2023 TO ALLOW UNDETAINED PEAK DISCHARGES FROM THE PROJECT SITE THROUGH THE CITY OF LEANDER'S PROPERTY TO THE FLOODPLAIN OF THE SOUTH FORK SAN GABRIEL RIVER.

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

EROSION CONTROL PLAN

SHEET:

C9.0

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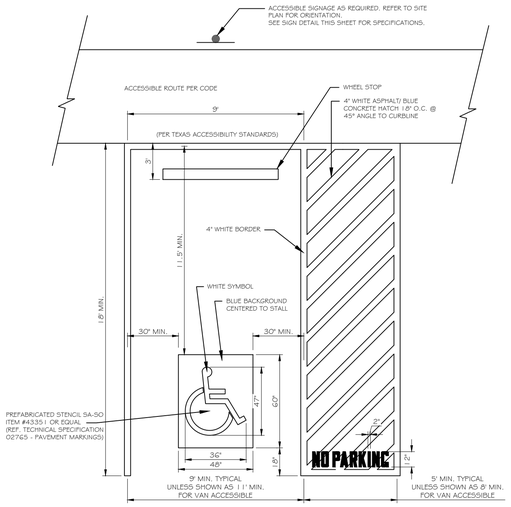
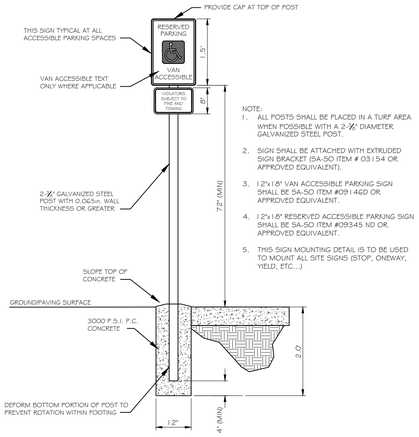
PLOTTED BY: Francesca Gaudiani
PLOTTED DATE: 1/21/2026



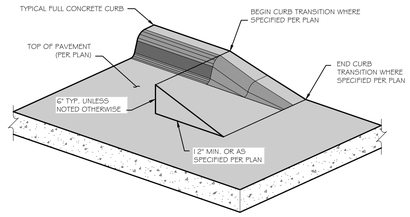
NOTES:
1. RE: SITE PLAN FOR LOCATION OF ADA PARKING SPACES AND ACCESS AISLE IN RELATIONSHIP TO THE DOOR LOCATION. (THIS DETAIL IS FOR STRIPING LAYOUT ONLY)
2. PARKING STRIPES AND THE ADA INTERNATIONAL HANDICAP SYMBOL ARE TO BE PAINTED PER THE MANUFACTURER'S RECOMMENDATIONS.
3. THE WORDS 'NO PARKING' SHALL BE PAINTED ON ANY ACCESS AISLE ADJACENT TO THE PARKING SPACE. THE WORDS MUST BE PAINTED IN ALL CAPITAL LETTERS, WITH A LETTER HEIGHT OF AT LEAST TWELVE INCHES, AND A STROKE WIDTH OF AT LEAST TWO INCHES.

ACCESSIBLE PARKING SPACE
N.T.S.



NOTE:
1. ALL POSTS SHALL BE PLACED IN A TURF AREA WHEN POSSIBLE WITH A 2-½" DIAMETER GALVANIZED STEEL POST.
2. SIGN SHALL BE ATTACHED WITH EXTRUDED SIGN BRACKET (SA-50 ITEM # 03154 OR APPROVED EQUIVALENT).
3. I2"x I8" VAN ACCESSIBLE PARKING SIGN SHALL BE SA-50 ITEM #09146D OR APPROVED EQUIVALENT.
4. I2"x I8" RESERVED ACCESSIBLE PARKING SIGN SHALL BE SA-50 ITEM #09345 ND OR APPROVED EQUIVALENT.
5. THIS SIGN MOUNTING DETAIL IS TO BE USED TO MOUNT ALL SITE SIGNS (STOP, ONEWAY, YIELD, ETC...)

SIGN MOUNTING DETAIL
N.T.S.



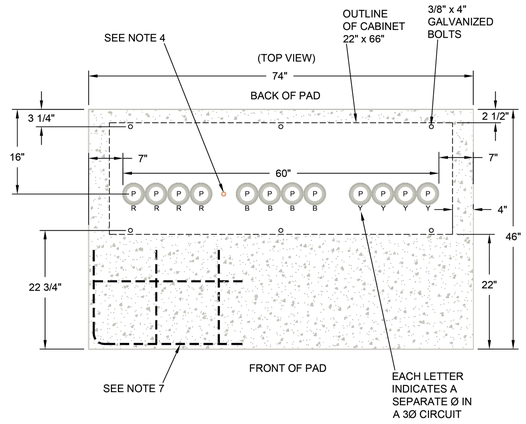
CURB TRANSITION/TERMINATION
N.T.S.

REFERENCE DRAWING
510-009 FOR ALL NOTES

APPROVED SECTIONALIZING ENCLOSURES:
- MAYSTEEL-HUBBELL CC366-22TH
- DURHAM AM30662263
- BARFIELD-HUBBELL BGSSE226630TP-H

APPROVED ALUMINUM SECTIONALIZING ENCLOSURES:
- ALUMA-FORM ENC-SC3-306622-A2-G-JJA
- AMERICAN PADMOUNT SYSTEMS APS306723-ACACACA

APPROVED SECTIONALIZING ENCLOSURES WITH 18" SPACER:
- DURHAM 1010868
- BARFIELD-HUBBELL BGSSE226630TP-H-W/18" RISER



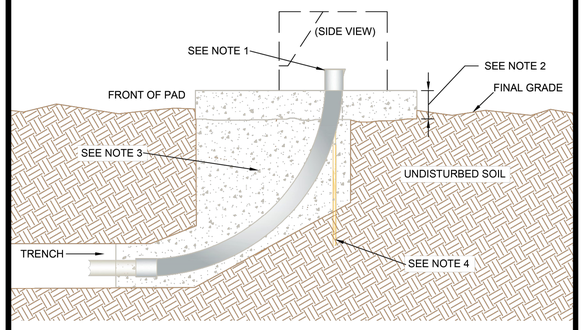
REV	DATE	REVISION	BY	CHK	SSS	APR	MMG
A	02/24/2023	ISSUE FOR CONSTRUCTION	RWC				

UNDERGROUND INSTALLATION SPECIFICATIONS

LARGE PAD FOR 3Ø SECTIONALIZING ENCLOSURE PAGE 1 OF 2

drawn:	approved:	date:	
RWC	MMG	02/24/2023	530-022

REFERENCE DRAWING
510-009 FOR ALL NOTES



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A	02/24/2023	ISSUE FOR CONSTRUCTION	RWC				

UNDERGROUND INSTALLATION SPECIFICATIONS

LARGE PAD FOR 3Ø SECTIONALIZING ENCLOSURE PAGE 2 OF 2

drawn:	approved:	date:	
RWC	MMG	02/24/2023	530-022

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
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TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

SITE DETAILS

SHEET:
C10.0

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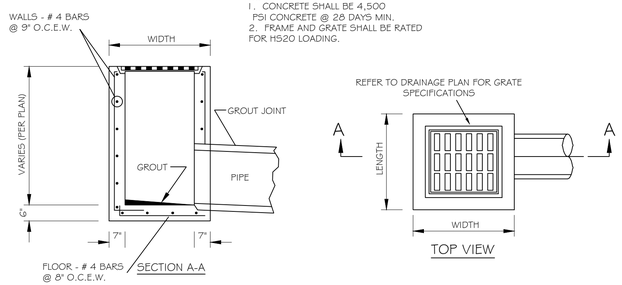
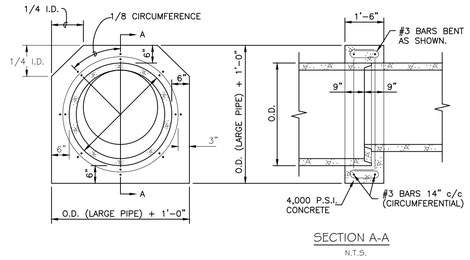
PLOTTED DATE: 1/21/2026



TYPICAL GRATE INLET DETAIL

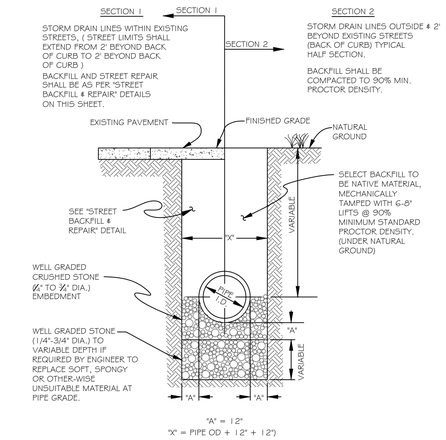
N.T.S.



N.T.S.

CONCRETE COLLAR DETAIL (PIPE)

N.T.S.



RCP EMBEDMENT DETAIL

N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
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LICENSED PROFESSIONAL ENGINEER

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DRAINAGE DETAILS

SHEET:

C11.0

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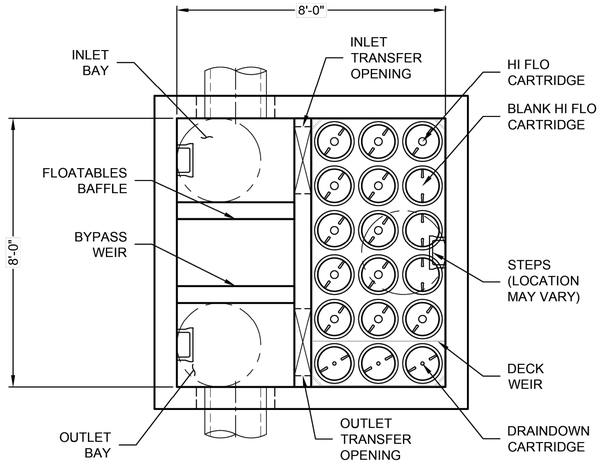
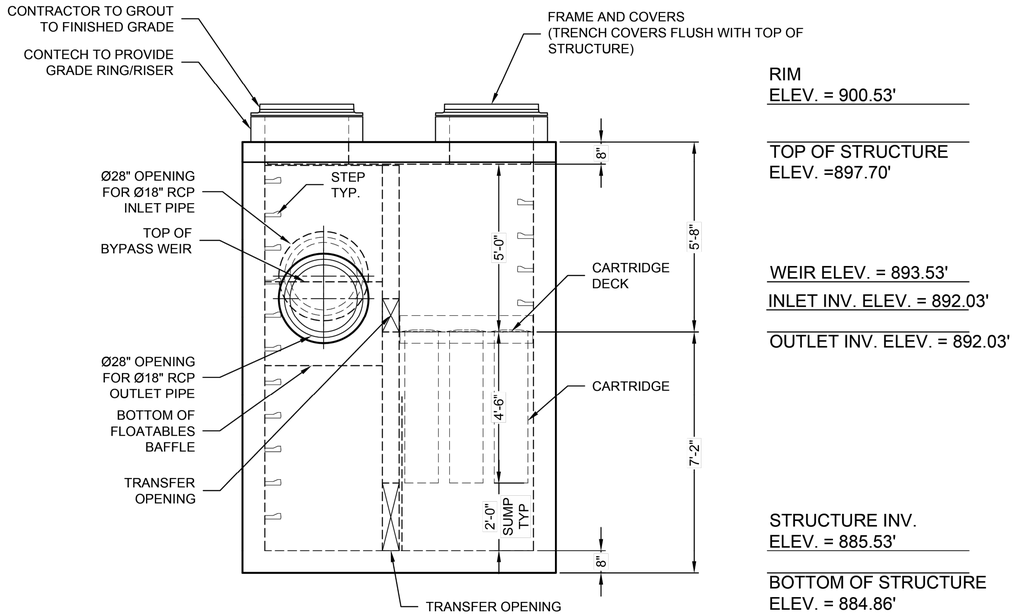
PLOTTED DATE: 1/21/2026



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



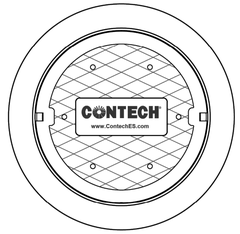
ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	2.94
DECK TO INSIDE TOP (MIN) (B)	5.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	ST-A
WATER QUALITY FLOW RATE (cfs)	2.25
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	12 / 3
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	892.03'	RCP	18"	*	*
INLET #2	*	*	*	*	*
OUTLET	892.03'	RCP	18"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	900.53'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808 - 791820 - 010
SPUR PLAZA
LIBERTY HILL, TX
SITE DESIGNATION: ST-A

1/21/2026



TPD TEXAS LLC
3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001
ISSUE DATE: ----

WATER QUALITY DETAILS I

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C11.1

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PLOTTED DATE: 01/21/2026
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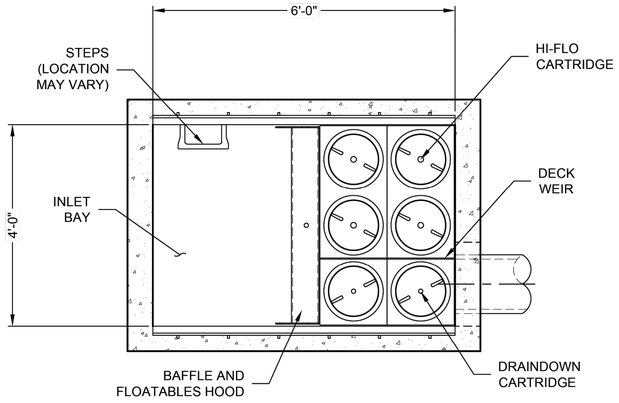
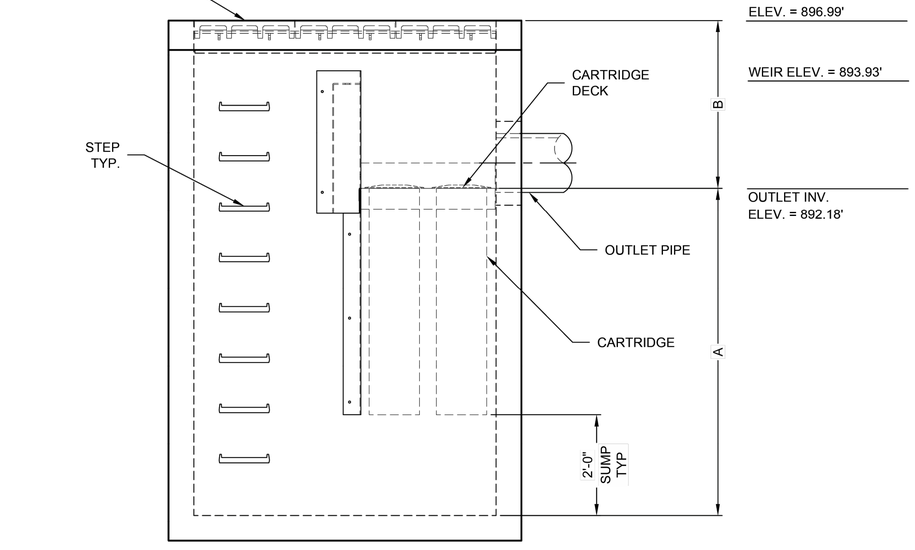


PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



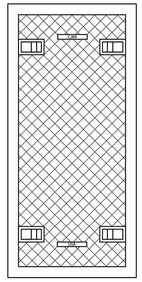
ELEVATION VIEW

JELLYFISH DESIGN NOTES

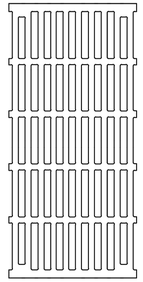
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD SURFACE INLET STYLE WITH TRENCH GRATE AND COVER IS SHOWN. ALTERNATE CURB INLET OR PIPE INLET OPTIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	0.89
OUTLET INVERT TO RIM (MIN) (B)	3'-4"



24" TRENCH COVER
N.T.S.



24" TRENCH GRATE
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	ST-B
WATER QUALITY FLOW RATE (cfs)	0.74
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	4 / 1
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	892.18'	HDPE	18"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	896.99'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
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2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION AND SITE SPECIFIC EARTH COVER REQUIREMENT. TYPICAL CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDEDTO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
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B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
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D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

4' x 6' JELLYFISH - 791820 - 15
SPUR PLAZA
LIBERTY HILL, TX
SITE DESIGNATION: ST-B

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS
LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

WATER QUALITY DETAILS II

SHEET:
C11.2

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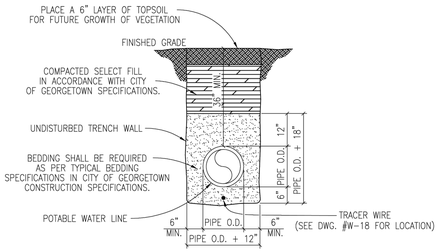
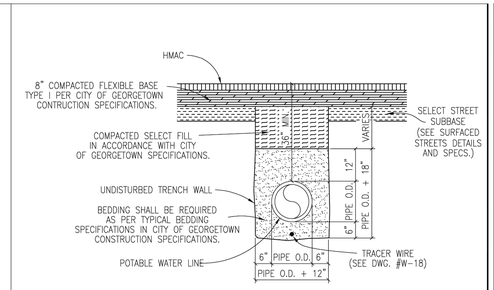
PLOTTED BY: Przemyslaw Gadzin
PLOTTED DATE: 1/21/2026



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	DRAWING NAME: W02
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB

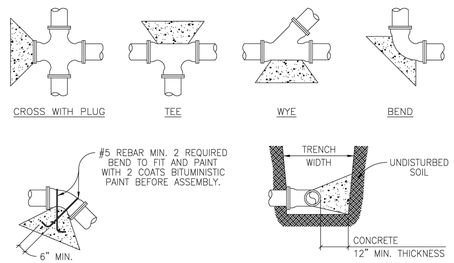


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY	DRAWING NAME: W22
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB



*DEADMAN

TYPICAL SECTION

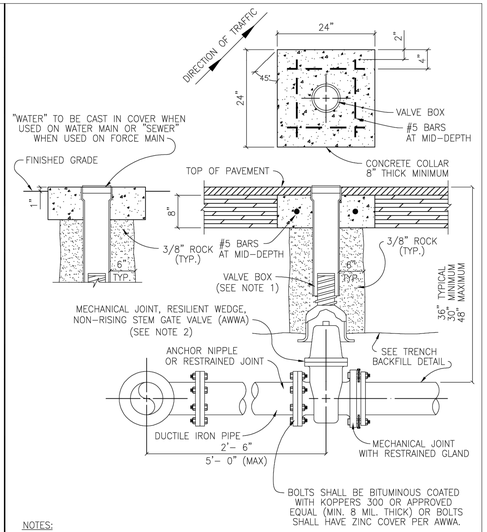
ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER, CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS, AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

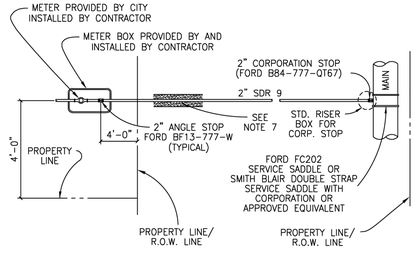
	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN	DRAWING NAME: W11
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR - 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

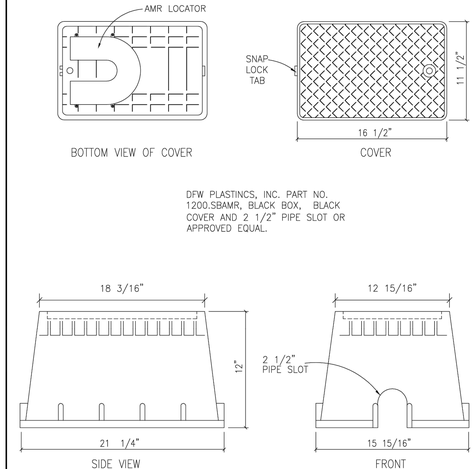
	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	TYPICAL VALVE SETTING	DRAWING NAME: W07
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

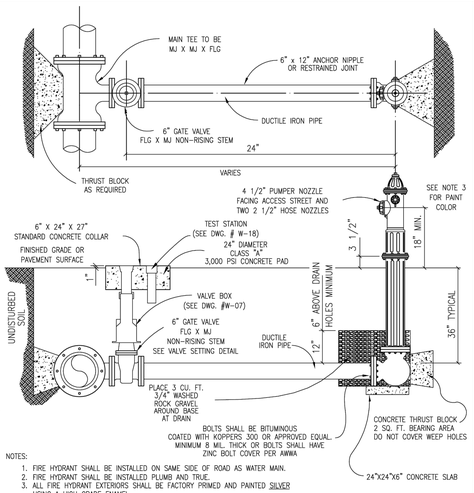
The Architect/Engineer assumes responsibility for appropriate use of this standard.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 01/23/2013
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	SINGLE WATER SERVICE PLAN	DRAWING NAME: W04
		SCALE: NTS DATE: 1/2013
		DRAWN BY: – APPROVED BY: MH



The Architect/Engineer assumes responsibility for appropriate use of this standard.

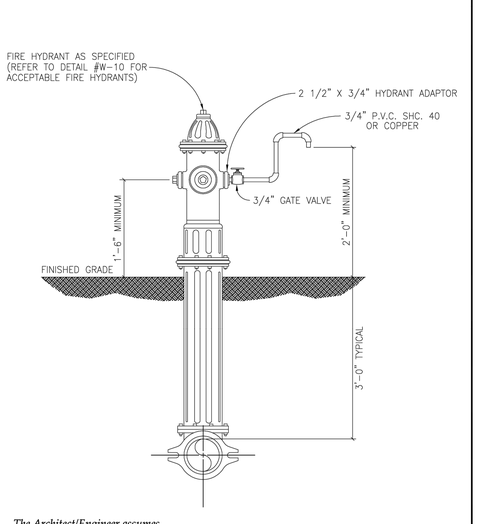
	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	METER BOX (NON-TRAFFIC AREAS)	DRAWING NAME: W23
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELENE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	TYPICAL FIRE HYDRANT INSTALLATION	DRAWING NAME: W10
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
GEORGETOWN TEXAS Georgetown Utility Systems "Our Community Owned Utility"	FIRE HYDRANT SAMPLING POINT	DRAWING NAME: W19
		SCALE: NTS DATE: 1/2003
		DRAWN BY: MRS APPROVED BY: TRB

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.	DATE	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

WATER DETAILS

SHEET:
C12.0

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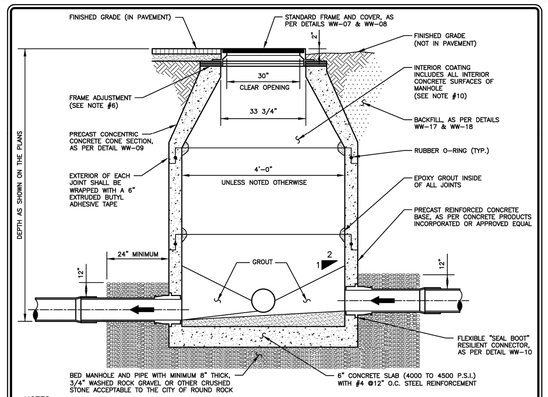
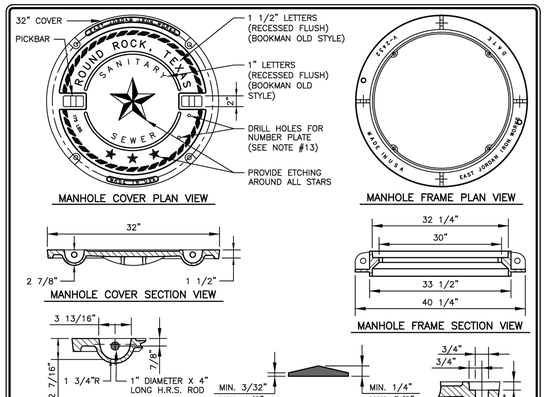
PLOTTED BY: P. Pradyumna Gadam
PLOTTED DATE: 01/21/2026



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

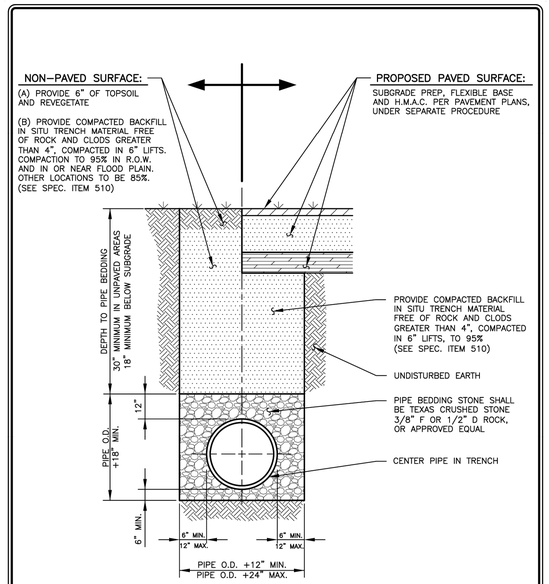
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-01
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-2432-3 (PRODUCT NUMBER: 42432033), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432073), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. BOLTS SHALL BE 5/8"-11NC X 2" LONG HEX STAINLESS STEEL WITH WASHER.
13. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

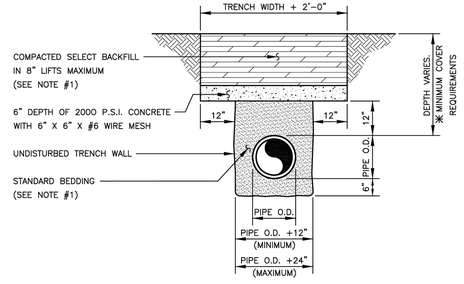
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-07
APPROVED 03-01-18 DATE	BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

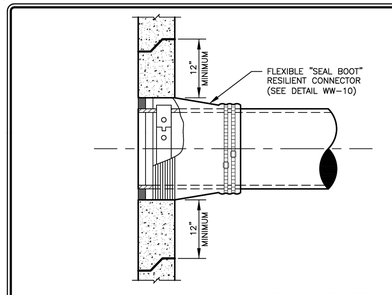
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-18
APPROVED 03-01-18 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

1. REFERENCE WATERLINE BEDDING AND SURFACE REPAIR DETAIL WT-08 & WASTEWATER LINE AND SURFACE REPAIR DETAIL WW-18 FOR PIPE BEDDING/BACKFILL REQUIREMENTS AND MINIMUM COVER REQUIREMENTS.
2. REQUIREMENTS FOR CONCRETE TRENCH CAPS IN WATERWAYS AND DRAINAGE AREAS NEED TO BE REVIEWED ON A CASE BY CASE BASIS AND APPROVED BY THE CITY ENGINEER AND INSPECTOR.

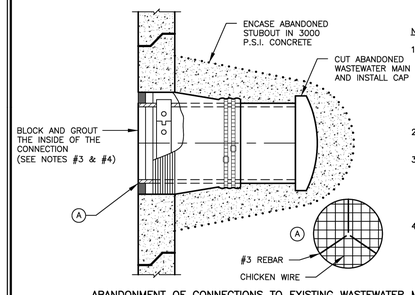
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-20
APPROVED 03-01-18 DATE	CONCRETE TRENCH CAP DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. EXISTING MANHOLES TO BE VACUUM TESTED PRIOR TO ANY CONNECTIONS.
2. NEW CONNECTIONS TO HAVE MINIMUM VERTICAL AND HORIZONTAL SEPARATION OF 12" ON THE OUTSIDE FACE OF THE MANHOLE FROM ANY EXISTING PENETRATIONS AND/OR MANHOLE JOINTS.
3. CONNECTIONS MADE INTO EXISTING MANHOLES ARE TO BE CORED AND NOT DRILLED/CHISELED.
4. CUT, SHAPE AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW FROM THE NEW WASTEWATER CONNECTION.
5. EXISTING MANHOLES TO BE RECOATED AFTER ANY NEW WASTEWATER CONNECTION IS ADDED.

NEW CONNECTIONS TO EXISTING WASTEWATER MANHOLES



NOTES:

1. THIS DETAIL IS INTENDED FOR WASTEWATER MANHOLES THAT WILL REMAIN IN SERVICE. FOR WASTEWATER MANHOLES THAT ARE TO BE ABANDONED, REFERENCE DETAIL WW-15.
2. WASTEWATER MANHOLE TO BE RECOATED AFTER GROUT IS INSTALLED.
3. BLOCK THE INLET OF THE MANHOLE WITH CHICKEN WIRE AND 3-#3 REBAR. GROUT THE INSIDE OF THE MANHOLE FLUSH WITH THE MANHOLE WALL.
4. CONNECTIONS 24" AND LARGER REQUIRE BRICK BLOCKING TO BE INSTALLED PRIOR TO GROUTING.

ABANDONMENT OF CONNECTIONS TO EXISTING WASTEWATER MANHOLES

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-21
APPROVED 03-01-18 DATE	EXISTING WASTEWATER MANHOLE CONNECTION DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

WASTEWATER DETAILS

SHEET:
C13.0

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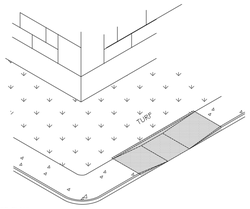
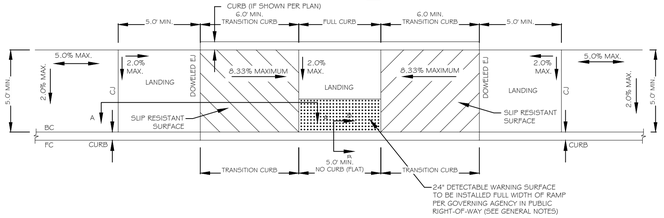
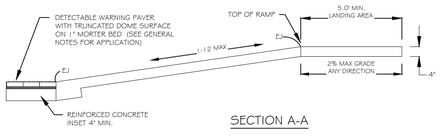
PLOTTED BY: Shaquonda Gaulden
PLOTTED DATE: 1/21/2026



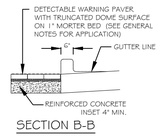
LEGEND

EJ EXPANSION JOINT
CJ CONSTRUCTION JOINT
BC BACK OF CURB
FC FACE OF CURB





SECTION A-A



SECTION B-B

PARALLEL CURB RAMP DETAIL

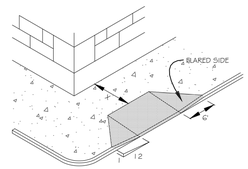
N.T.S. -SIDEWALK PARELEL TO CURB

GENERAL NOTES

NOTES:
1. CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION SURFACE.
2. RAMPS SHALL BE CONSTRUCTED PER ADA 4 APPLICABLE STATE ACCESSIBILITY STANDARDS..
3. CURB RAMPS SHALL BE MONOLITHIC POUR 4 SEPARATED FROM SITE PAVING WITH A DOWELED EXPANSION JOINT.

DETECTABLE WARNING SURFACE (PUBLIC RIGHT-OF-WAY):
1. TRUNCATED DOMES SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
2. TRUNCATED DOMES TO RUN PARALLEL TO PEDESTRIAN TRAVEL.
3. DETECTABLE WARNING PAVERS, OR PLATES MEETING ADA 4 STATE REQUIREMENTS ARE ACCEPTABLE.

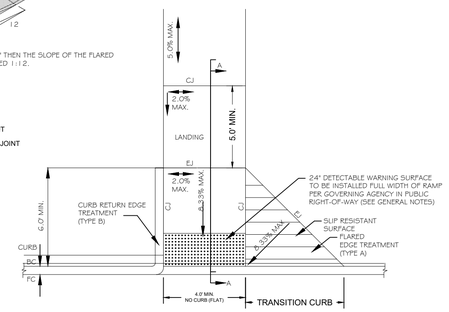
GROOVED SURFACE (RAMP FLARE):
1. FLARED CURB RAMP SURFACES SHALL BE TEXTURED WITH GROOVES 1/4" DEEP, 3/4" WIDE, 2" APART AND ARRANGED SO THAT WATER WILL NOT ACCUMULATE IN THE GROOVES.
2. FLARED CURB RAMP SURFACE SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF THE ADJOINING PEDESTRIAN ROUTE WHEN SPECIFIED.

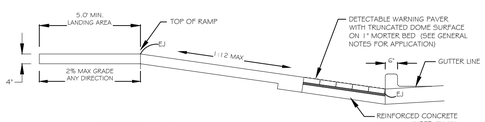


NOTE:
IF 'X' IS LESS THAN 4.8' THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 1:12.

LEGEND

EJ EXPANSION JOINT
CJ CONSTRUCTION JOINT
BC BACK OF CURB
FC FACE OF CURB

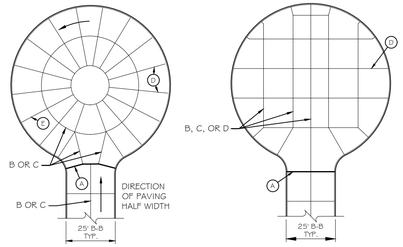


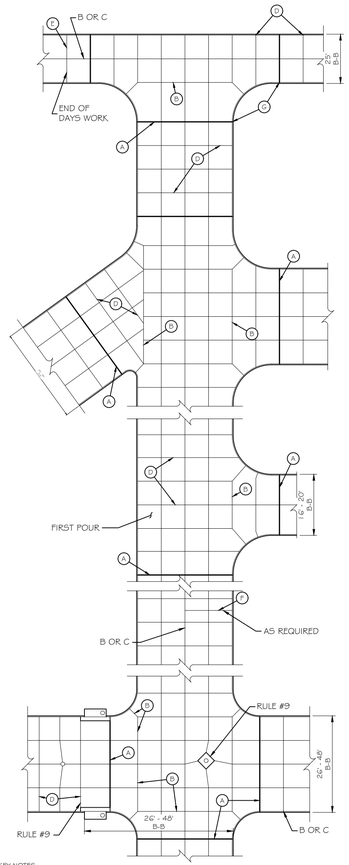


SECTION A-A

CURB RAMP DETAIL

N.T.S. - FLARED OR RETURN CURB



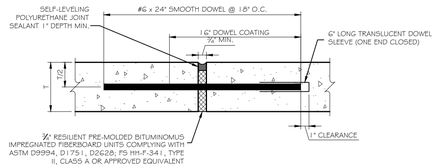


KEY NOTES:
A. EXPANSION JOINT (ISOLATION)
B. LONGITUDINAL CONSTRUCTION JOINT
C. LONGITUDINAL CONTROL JOINT (CONTRACTION)
D. TRANSVERSE CONTROL JOINT (CONTRACTION)
E. PLANNED TRANSVERSE CONSTRUCTION JOINT
F. EMERGENCY TRANSVERSE CONSTRUCTION JOINT
G. PLACE ½" EXPANSION JOINT FILLER IN TOP OF CURB ONLY AT ALL RADIUS POINTS

RULES:
1. AVOID ODD-SHAPED SLABS.
2. MAXIMUM TRANSVERSE JOINT SPACING FOR PAVEMENT SHOULD EITHER BE 24 TO 30 TIMES THE SLAB THICKNESS OR 15ft.
3. LONGITUDINAL JOINT SPACING SHOULD NOT EXCEED 12.5ft
4. KEEP SLABS AS SQUARE AS POSSIBLE. LONG NARROW SLABS TEND TO CRACK MORE THAN SQUARE ONES.
5. ALL TRANSVERSE CONTRACTION JOINTS MUST BE CONTINUOUS THROUGH THE CURB AND HAVE A DEPTH EQUAL TO ¼ THE PAVEMENT THICKNESS.
6. IN ISOLATION JOINTS, THE FILLER MUST BE FULL DEPTH AND EXTEND THROUGH THE CURB
7. IF THERE IS NO CURB, LONGITUDINAL JOINTS SHOULD BE TIED WITH DEFORMED BARS.
8. OFFSETS AT RADIUS POINTS SHOULD BE AT LEAST 1.5ft WIDE. JOINT INTERSECTION ANGLES LESS THAN 60° SHOULD BE AVOIDED.
9. MINOR ADJUSTMENTS IN JOINT LOCATION MADE BY SHIFTING OR SKEWING TO MEET INLETS AND MANHOLES WILL IMPROVE PAVEMENT PERFORMANCE.
10. WHEN THE PAVEMENT AREA HAS DRAINAGE STRUCTURES, PLACE JOINTS TO MEET THE STRUCTURES IF POSSIBLE.

TYPICAL JOINT LAYOUT

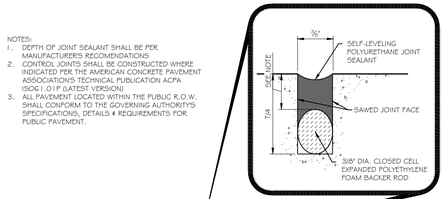
N.T.S.



NOTES:
1. SLEEVES FOR DOWELS SHALL HAVE AN INSIDE DIAMETER OF ¼" GREATER THAN THE DIAMETER OF THE DOWELS AND SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO USE.
2. EXPANSION JOINTS SHALL BE CONSTRUCTED A MAXIMUM OF 500' APART ON STRAIGHT PAVING, AND WHERE INDICATED PER THE AMERICAN CONCRETE PAVEMENT ASSOCIATIONS TECHNICAL PUBLICATION ACPA ISO61.01P (LATEST VERSION)
3. DOWEL COATING SHALL BE ASPHALTIC COATING.
4. DOWELS SHALL NOT BE TIED TO OTHER REINFORCEMENT.
5. REFER TO SIDEWALK DETAILS THIS SHEET FOR EXPANSION JOINTS IN SIDEWALK AREAS.
6. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITYS SPECIFICATIONS, DETAILS 4 REQUIREMENTS FOR PUBLIC PAVEMENT.
7. FINISHED SURFACES SHALL BE INSTALLED FLUSH WITH A DIFFERENTIAL ELEVATION NOT TO EXCEED ½".

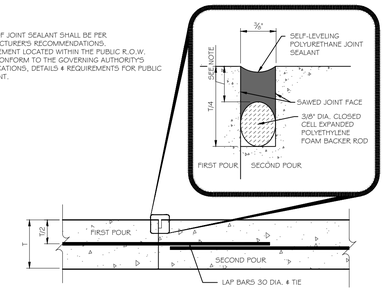
EXPANSION JOINT (ISOLATION)

N.T.S.



CONTROL JOINT (CONTRACTION)

N.T.S.



CONSTRUCTION BUTT JOINT

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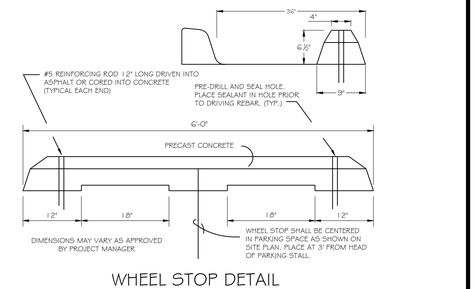
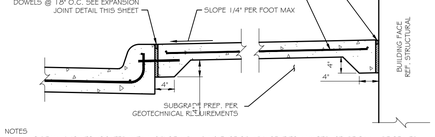


WHEEL STOP DETAIL

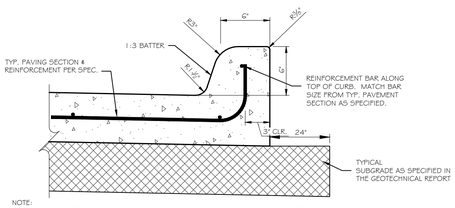
N.T.S.



NOTES
1. ALL SIDEWALK JOINTS LOCATED WITHIN 25' OF A BUILDING FACE OR ADJACENT TO ANY STRUCTURE SHALL BE SEALED.
2. REFER TO STRUCTURAL PLANS/DETAILS FOR DOWEL/HINGE JOINT AT ALL CONNECTIONS BETWEEN FOUNDATIONS/STOOPS AND FLATWORK.
3. THE SUBGRADE PREPARATION FOR ANY FLATWORK OR SIDEWALK PAVEMENT WITHIN 25' FROM ANY BUILDING FACE OR ADJACENT TO ANY STRUCTURE SHALL AS SPECIFIED BY THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE GEOTECHNICAL REPORT DOES NOT CONTAIN A RECOMMENDATION THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITYS SPECIFICATIONS, DETAILS 4 REQUIREMENTS FOR PUBLIC PAVEMENT.
5. FINISHED SURFACES SHALL BE INSTALLED FLUSH WITH A DIFFERENTIAL ELEVATION NOT TO EXCEED ½".

SIDEWALK/CURB/BUILDING DETAIL

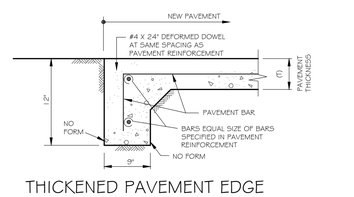
N.T.S.



NOTE:
1. ALL CURBS ARE CONSTRUCTED OF PORTLAND CEMENT CONCRETE UNLESS OTHERWISE SHOWN.
2. GRADES SHALL BE MEASURED AT BACK OF CURB UNLESS OTHERWISE SPECIFIED.
3. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITYS SPECIFICATIONS, DETAILS 4 REQUIREMENTS FOR PUBLIC PAVEMENT.
4. CONTROL JOINTS THROUGH CURB SHALL BE SEALED IN THE PAVEMENT AND TERMINATE AT THE GUTTER.

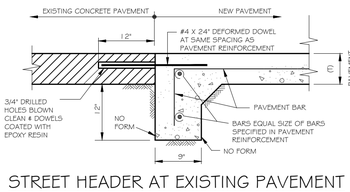
MONOLITHIC CURB DETAIL

N.T.S.



THICKENED PAVEMENT EDGE

N.T.S.



STREET HEADER AT EXISTING PAVEMENT

N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

PAVING DETAILS

SHEET:

C14.0

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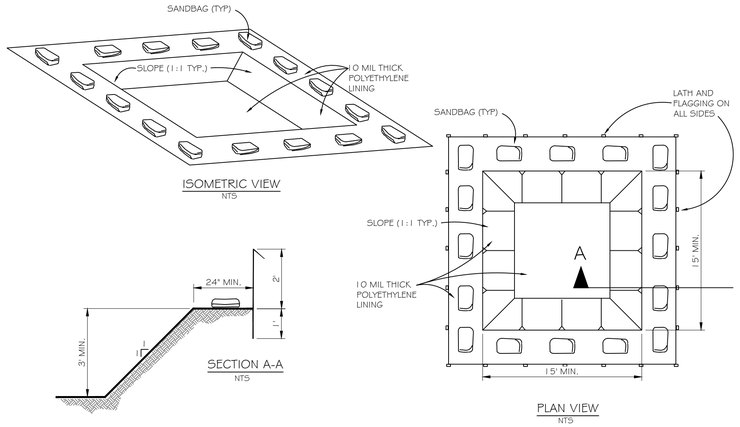
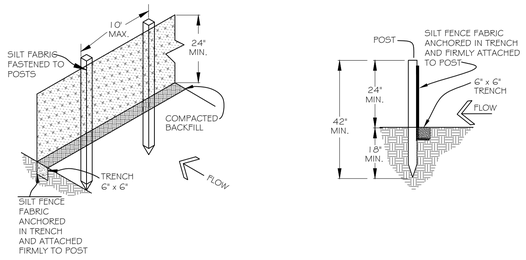
FILENAME: C14.0 PAVING DETAILS_MAL21001.dwg
PLOTTED BY: Preciosha Gadam
PLOTTED DATE: 1/21/2026



NOTES
1. Actual layout, size and location to be determined by Contractor.
2. The concrete washout sign shall be installed within 30 ft. of the temporary concrete washout facility.
3. Once concrete wastes are allowed to harden, the concrete should be broken up, removed and disposed of properly. dispose of hardened concrete on a regular basis.

TEMPORARY CONCRETE WASHOUT AREA

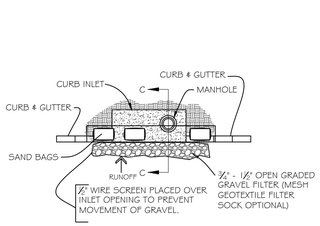
N.T.S.



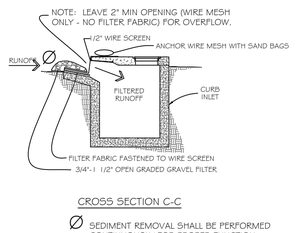
SILT FENCE GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE IN ACCORDANCE WITH PERMIT REQUIREMENTS. 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 WATER FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

N.T.S.



PLAN VIEW



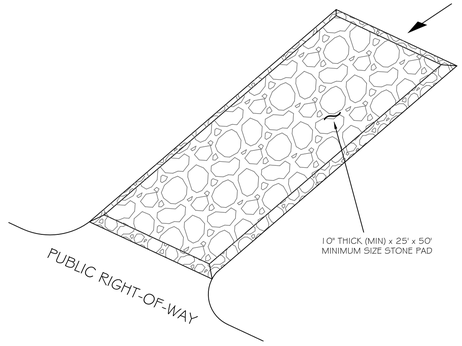
CROSS SECTION C-C

Ø SEDIMENT REMOVAL SHALL BE PERFORMED CONTINUOUSLY FOR PROPER FUNCTION.

(HIGHER VOLUME TRAFFIC AREAS)

INLET PROTECTION

N.T.S.

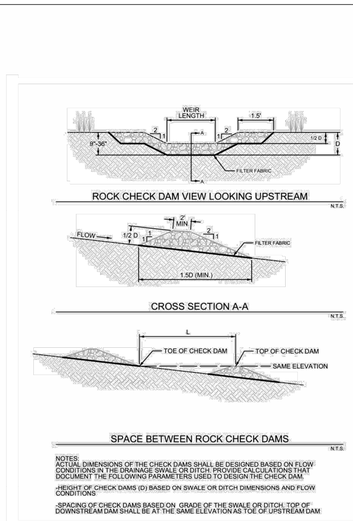


SIZE OF ROCK LBS.	% SMALLER BY WEIGHT
200	100
50	35-65
3	0

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE DRESSING WITH ADDITIONAL STONE AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE INTO PUBLIC RIGHT-OF-WAY. WASHING SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT CONTROLLING STRUCTURE. USE SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS TO PREVENT SEDIMENT FROM ENTERING ANY STORM DRAIN, DITCH, OR WATER COURSE.
3. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

TEMPORARY CONSTRUCTION EXIT POINT

N.T.S.



Revised 2019

Figure 2.1 Schematics of Rock Check Dams
(Source: Modified from Stormwater Management Manual for Western Washington)

ROCK CHECK DAM GENERAL NOTES:

1. SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.9 CHECK DAM (ROCK).

2. STONE SHALL BE WELL GRADED WITH SIZE RANGE FROM 1 1/2 TO 3 1/2 INCHES IN DIAMETER DEPENDING ON EXPECTED FLOWS.

3. THE CHECK DAM SHALL BE INSPECTED AS SPECIFIED IN THE SWPPP AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE CHECK DAM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.

5. WHEN THE SITE HAS ACHIEVED FINAL STABILIZATION OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED, THE CHECK DAM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

Revised 2019

Figure 2.2 Rock Check Dams Schematic General Notes
(Source: Modified from Stormwater Management Manual for Western Washington)

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

EROSION CONTROL DETAILS

SHEET:
C15.0

FILE PATH: K:\Work\mal21001_Jerkspur Tract\Drawings\02_engr-comments\03 - Production\C15.0 EROSION CONTROL DETAILS_MAL21001
FILENAME: C15.0 EROSION CONTROL DETAILS_MAL21001.dwg
PLOTTED BY: Preciosa Gadam
PLOTTED DATE: 1/21/2026

FIRE HYDRANTS LACKING INTEGRAL STORZ CONNECTOR SHALL BE REJECTED (NO STORZ ADAPTERS ALLOWED)

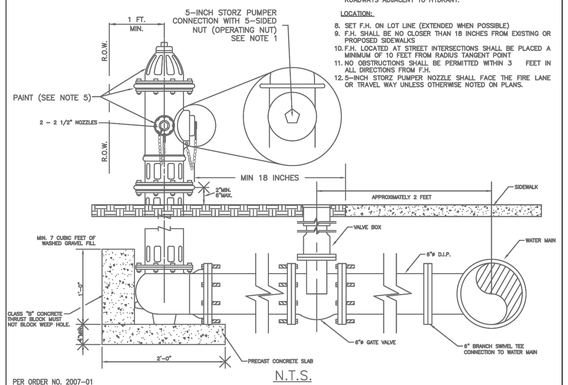
RATED FLOW	FIRE HYDRANT BONNET COLOR
1,500 G.P.M. +	LIGHT BLUE
1000 – 1499 G.P.M.	GREEN
500 – 999 G.P.M.	ORANGE
BELOW 500 G.P.M.	RED

NOTES:

1. FIRE HYDRANT BRAND AND MODEL SHALL BE APPROVED BY THE LOCAL WATER AUTHORITY DISTRICT. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5–INCH STORZ PUMPER NOZZLE; 1.5–INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
2. HYDRANTS SHALL BE ORDERED SILVER IN COLOR. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY.
3. ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
4. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUG" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
5. AFTER COMPLETION OF FIRE HYDRANT INSTALLATION, A FIRE FLOW TEST SHALL BE CONDUCTED BY A THIRD PARTY COMPANY, BASED ON FIRE FLOW TEST, THE FIRE HYDRANT BONNET SHALL BE PAINTED ACCORDING TO THE CHART ON THIS SHEET. THE HYDRANT BONNET TO FLANGE AND NOZZLE CAPS SHALL BE PAINTED THE APPROVED COLOR CORRESPONDING WITH THE APPROPRIATE FLOW RATE AS NOTED ON THE TABLE ON THIS SHEET.
6. BLUE, BI–DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6 INCHES FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT
7. INTERSECTIONS, MARKERS SHOULD BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

LOCATION:

8. SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE)
9. F.H. SHALL BE NO CLOSER THAN 18 INCHES FROM EXISTING OR PROPOSED SIDEWALKS
10. F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF 10 FEET FROM RADIUS TANGENT POINT
11. NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN 3 FEET IN ALL DIRECTIONS FROM F.H.
12. 5–INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED ON PLANS.



N.T.S.

PER ORDER NO. 2007–01
(2) SECTION C105.2 INSTALLATION.
FIRE HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE FIVE (5) INCH STEAMER OPENING AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE FIVE (5) INCH OPENING MUST FACE THE DRIVEWAY OR STREET AND MUST BE TOTALLY UNOBSTRUCTED TO THE STREET. FIRE HYDRANT DESIGN SHALL BE 2– 2.5" NST OUTLETS, 1 – 5.0" STORZ CONNECTION WITH A CAP TO INCLUDE A HEX NUT TO FIT A HYDRANT WRENCH ALONG WITH A REFLECTIVE BAND. THE FIRE HYDRANT SHALL BE PAINTED SILVER IN COLOR AND DESIGNATED BY A BLUE REFLECTOR IN THE CENTER OF THE STREET.

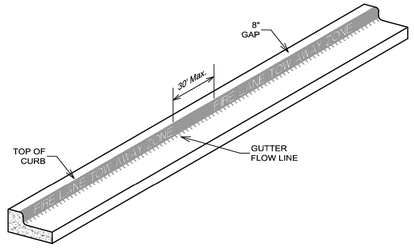
NOTE: STANDARD FIRE HYDRANT ASSEMBLY INCLUDES ALL COMPONENTS SHOWN HEREIN, EXCEPT WATER MAIN, INSTALLED COMPLETE AND IN–PLACE.

WILLIAMSON COUNTY EMERGENCY SERVICE DISTRICT NO. 4	STANDARD FIRE HYDRANT ASSEMBLY

Williamson County Emergency Services District No. 4

Fire Lane Detail

NOTES:
FIRE LANE STRIPING TO BE 6" WIDE RED PAINT WITH "FIRE LANE TOW AWAY ZONE" IN 4" TALL WHITE LETTERS. WORDING MAY NOT BE SPACED GREATER THAN 30' APART. STRIPING TO BE PAINTED ON THE FACE OF CURB WHEN PRESENT AND PAINTED FLAT ON THE PARKING SURFACE WHEN IT IS NOT.



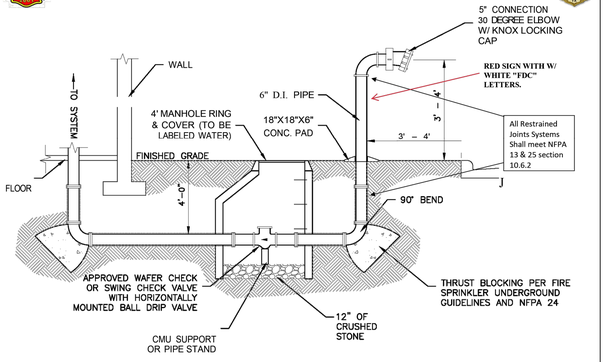
FIRE LANE STRIPING DETAIL
not to scale

D:\Standards\Const-Stnds\Fire-Lane-Striping_Curb.dwg

Jay Engineering Company, Inc. P.O. Box 1220 Leander, Texas 78646-1220 Tel: (512) 259-3882 Fax: (512) 259-8601 TEXAS REGISTERED ENGINEERING FIRM F-4780	FIRE LANE STRIPING DETAIL			
ENGINEER	DATE	DRAWN BY	PROJECT NO.	DRAWING NO.
FRANK T. PHELAN, P.E.	04 - 25 - 19	JJD	01	1 OF 1

Williamson County Emergency Services District No. 4

FDC Detail



FIRE DEPARTMENT CONNECTION
NOT TO SCALE

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA
TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

WCSED NO.4 DETAILS

SHEET:
C16.0

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FILENAME: C16.0 CITY DETAILS_MAL21001.dwg
PLOTTED BY: Prashanthi Godishi
PLOTTED DATE: 1/21/2026

SITE DEVELOPMENT PLANS FOR THE CONSTRUCTION OF

WATER, SEWER, PAVING, GRADING & DRAINAGE IMPROVEMENTS

TO SERVE

PRIME FLEX SPACES
LIBERTY HILL TEXAS

2081 US 183 LEANDER, TEXAS 78641

LIBERTY HILL ETJ,
WILLIAMSON COUNTY, TEXAS

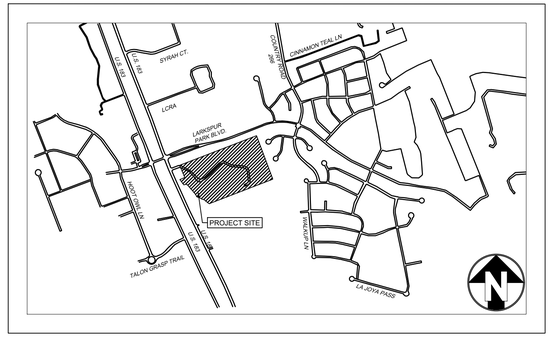
OWNER/DEVELOPER:
AR REDDY SPRING CREEK LLC
6253 CORVARA COURT, FRISCO
TEXAS 75035
PHONE: (512) 761 - 8025
CONTACT: MALLIK GILAKATTULA
MALIK@THEPRIMEDEVELOPER.COM

ENGINEER:
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PHONE: (817) 488-4960
CONTACT: SHEA KIRKMAN PM, P.E.
SHEA.KIRKMAN@TRUSTKE.COM

SURVEYOR:
BARTON CHAPA SURVEYING
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PHONE: (817) 864 -1957
CONTACT: JACK BARTON, RPLS
JACK@BCSDFW.COM

TXDOT NOTES
PROPOSED IMPROVEMENTS WITHIN TXDOT RIGHT OF WAY TO BE BY SEPARATE PERMIT. REFER TO APPROVED TXDOT PERMIT PLANS PREPARED BY KIRKMAN ENGINEERING, DATED _____.
PERMIT NUMBER: _____

WILLIAMSON COUNTY FLOODPLAIN PERMIT:



VICINITY MAP
SCALE: 1"= 1500'

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B)

_____ _____
WILLIAMSON COUNTY ENGINEER DATE

_____ _____
CITY OF GEORGETOWN WATER UTILITIES DATE

kirkman ENGINEERING
TEXAS FIRM NO. 15874

1/21/2026
STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO. MAL21001

JANUARY 2026

REV:	DATE:	DESCRIPTION:

SHEET LIST TABLE

NUMBER	SHEET TITLE
C1.0	COVER SHEET
S1.0	TOPOGRAPHIC SURVEY
C1.1	GENERAL NOTES I
C1.2	GENERAL NOTES II
C2.0	DEMOLITION PLAN
C3.0	SITE PLAN
C4.0	OVERALL DIMENSIONAL CONTROL PLAN
C4.1	DIMENSIONAL CONTROL PLAN I
C4.2	DIMENSIONAL CONTROL PLAN II
C4.3	DIMENSIONAL CONTROL PLAN III
C4.4	DIMENSIONAL CONTROL PLAN IV
C4.5	DIMENSIONAL CONTROL PLAN V
C4.6	DIMENSIONAL CONTROL PLAN VI
C5.0	GRADING PLAN
C5.1	DETAILED GRADING PLAN I
C5.2	DETAILED GRADING PLAN II
C5.3	DETAILED GRADING PLAN III
C5.4	DETAILED GRADING PLAN IV
C5.5	DETAILED GRADING PLAN V
C5.6	DETAILED GRADING PLAN VI
C6.0	EXISTING DRAINAGE AREA MAP
C6.1	PROPOSED DRAINAGE AREA MAP
C6.2	STORM PLAN
C6.3	STORM PROFILE I
C6.4	STORM PROFILE II
C6.5	HYDRAULIC CALCULATIONS
C6.6	INLET CALCULATIONS
C6.7	WATER QUALITY CALCUATIONS I
C6.8	WATER QUALITY CALCUATIONS II
C6.9	WATER QUALITY CALCUATIONS III
C7.0	WATER PLAN
C7.1	DETAILED WATER PLAN
C7.2	WASTEWATER PLAN
C7.3	OFFSITE UTILITY PLAN
C7.4	UTILITY PROFILE I
C7.5	UTILITY PROFILE II
C8.0	PAVING PLAN
C9.0	EROSION CONTROL PLAN
C10.0	SITE DETAILS
C11.0	DRAINAGE DETAILS
C11.1	WATER QUALITY DETAILS I
C11.2	WATER QUALITY DETAILS II
C11.3	WATER QUALITY DETAILS III
C11.4	WATER QUALITY DETAILS IV
C11.5	WATER QUALITY DETAILS V
C12.0	WATER DETAILS
C13.0	SANITARY SEWER DETAILS
C14.0	PAVING DETAILS
C15.0	EROSION CONTROL DETAILS
C16.0	WCSED NO.4 DETAILS

PLANS FOR THE CONSTRUCTION OF WATER, SANITARY SEWER, PAVING, GRADING & DRAINAGE IMPROVEMENTS TO SERVE: PRIME FLEX SPACES LIBERTY HILL TEXAS

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PLOTTED BY: Prashanth Gautam
PLOTTED ON: Wednesday, January 21, 2026
PLOTTED AT: 3:36:09 PM
PLOTTED WITH: _AutoCAD PDF (General Documentation).pc3

SURVEYOR'S NOTES:

1. Bearings are based on the State Plane Coordinate System, Texas Central Zone (4203) North American Datum of 1983 (NAD '83), distances are surface with a combined scale factor of 1.00011.
2. This property lies within Zone "X" & Zone "A" of the Flood Insurance Rate Map for Williamson County, Texas and Incorporated Areas, map no. 48491C0275E, with an effective date of September 26, 2008, via scaled map location and graphic plotting.
3. Monuments are found unless specifically designated as set.
4. Elevations (if shown) are North American Vertical Datum of 1988 (NAVD '88).

NOTE REGARDING UTILITIES

Source information from plans and markings will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.

Utility locations are per observed evidence and the below sources

DigTess - Ticket #2060145311

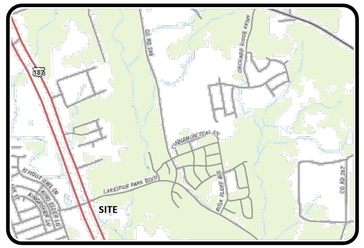
LEGEND OF ABBREVIATIONS

D.R.W.C.T.	DEED RECORDS, WILLIAMSON COUNTY, TEXAS
P.R.W.C.T.	PLAT RECORDS, WILLIAMSON COUNTY, TEXAS
O.P.R.W.C.T.	OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS
INST. NO.	INSTRUMENT NUMBER
C.M.	CONTROLLING MONUMENT
SQ. FT.	SQUARE FEET
ROW	RIGHT OF WAY
CRS	CAPPED REBAR SET

SITE BENCHMARKS:

1. The site benchmark is an "X" cut with box set at the northeast corner of a curb inlet in the north line of Larkspur Park Boulevard, and being approximately 175 feet in a southwesterly direction from the southwest corner of the limits of a concrete sidewalk adjacent to the north line of Larkspur Park Boulevard. **ELEVATION=911.62' (NAVD '88)**
2. The site benchmark is an "X" cut with box set on the back of curb the eastern nose of a median dividing Larkspur Park Boulevard, and being approximately 680 feet in an easterly direction from the eastern paving seam line at the intersection of Larkspur Park Boulevard and US Highway 183. **ELEVATION=918.87' (NAVD '88)**

VICINITY MAP - NOT TO SCALE



PROPERTY DESCRIPTION

BEING a tract of land out of the John B. Robinson Survey, Abstract Number 521, in Williamson County, Texas, and being those two tracts of land described by deeds to Vestmont LH 35 Partners, Ltd. as recorded under Instrument Number 2019086110 and Instrument Number 2019086149, Official Public Records of Williamson County, Texas, (O.P.R.W.C.T.), the subject tract being more particularly described by metes and bounds as follows (bearings are based on State Plane Coordinate System, Texas Central Zone (4203) North American Datum of 1983 (NAD '83)):

TITLE COMMITMENT NOTES

This survey was prepared without the benefit of a commitment for title insurance. Therefore, easements, agreements, or other documents, either recorded, or unrecorded may exist that affect the subject property that are not shown on this survey.

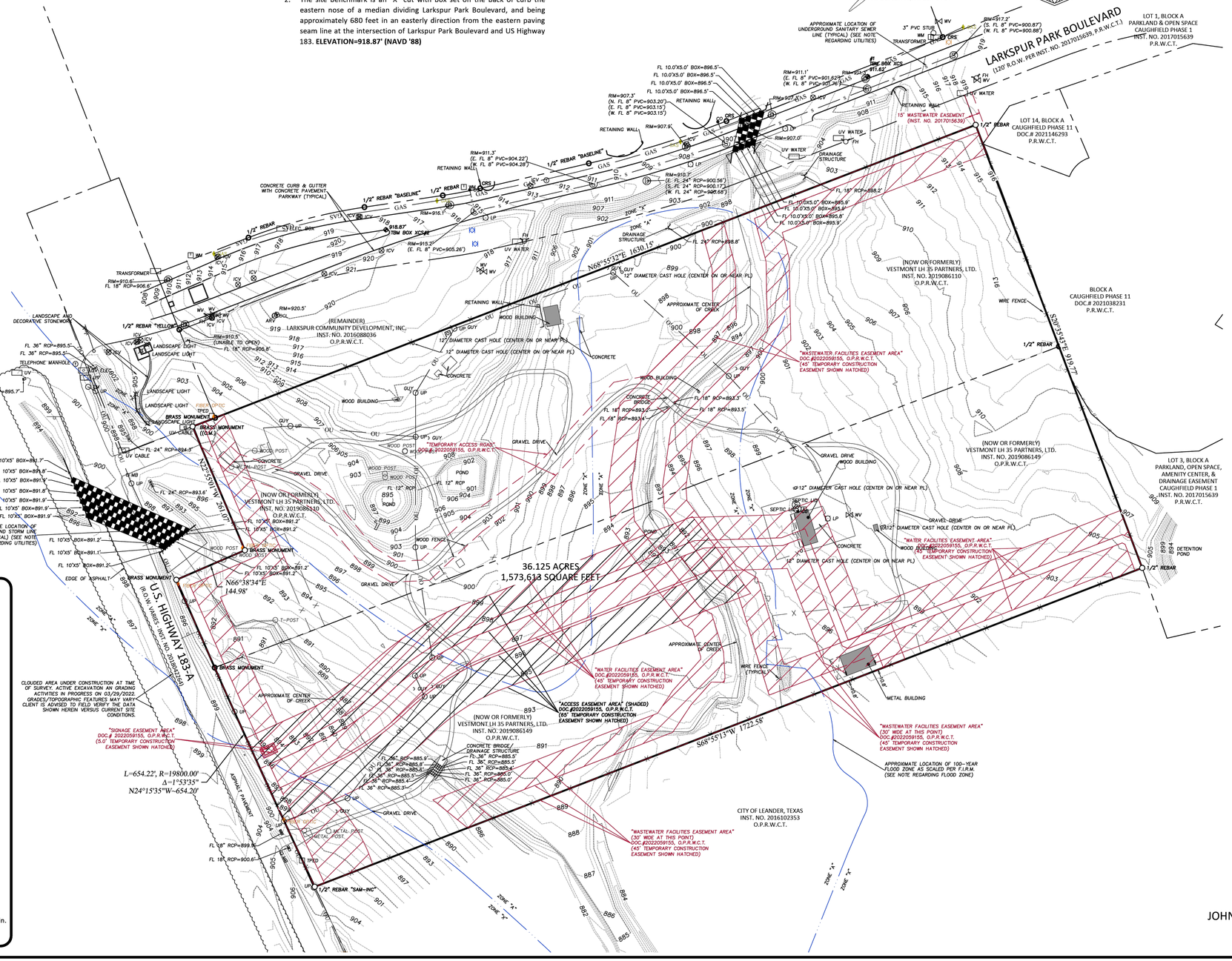
SURVEYOR'S CERTIFICATE

This is to certify that I, John H. Barton III, a Registered Professional Land Surveyor of the State of Texas, have prepared this map from an actual survey on the ground, and that this map correctly represents that survey made by me or under my direction and supervision. Fieldwork was completed on July 13, 2022.

Date of Plat/Map: **July 19, 2022**

John H. Barton III, RPLS# 6737

STATE OF TEXAS
REGISTERED
JOHN HOMER BARTON III
6737
PROFESSIONAL
LAND SURVEYOR


LARKSPUR PARK BOULEVARD
1/2" REBAR "BASELINE"
1/2" REBAR "YELLOW"
1/2" REBAR
1/2" REBAR "SAM-INC"
BRASS MONUMENT
U.S. HIGHWAY 183-A
(NO O.W. JAMES, INST. NO. 2018032354)
(REMAINDER) LARKSPUR COMMUNITY DEVELOPMENT, INC. INST. NO. 2016088036 O.P.R.W.C.T.
(NOW OR FORMERLY) VESTMONT LH 35 PARTNERS, LTD. INST. NO. 2019086110 O.P.R.W.C.T.
(NOW OR FORMERLY) VESTMONT LH 35 PARTNERS, LTD. INST. NO. 2019086149 O.P.R.W.C.T.
CITY OF LEANDER, TEXAS INST. NO. 2016102353 O.P.R.W.C.T.
LOT 1, BLOCK A PARKLAND & OPEN SPACE CAUGHFIELD PHASE 1 INST. NO. 2017015639 P.R.W.C.T.
LOT 14, BLOCK A CAUGHFIELD PHASE 11 DOC.# 2021146293 P.R.W.C.T.
BLOCK A CAUGHFIELD PHASE 11 DOC.# 2021038231 P.R.W.C.T.
LOT 3, BLOCK A PARKLAND, OPEN SPACE, AMENITY CENTER, & DRAINAGE EASEMENT CAUGHFIELD PHASE 1 INST. NO. 2017015639 P.R.W.C.T.
36.125 ACRES
1,573,613 SQUARE FEET
N66°38'34"E 144.98'
N68°55'32"E 1630.15'
S68°55'13"W 1722.58'
S20°35'45"E 910.77'
N22°35'01"W 2610.07'
L=654.22', R=19800.00'
Δ=1°53'35"
N24°15'35"W–654.20'
"SIGNAGE EASEMENT AREA" DOC.# 2022059155, O.P.R.W.C.T. (5.0' TEMPORARY CONSTRUCTION EASEMENT SHOWN HATCHED)
"WATER FACILITIES EASEMENT AREA" DOC.#2022059155, O.P.R.W.C.T. (45' TEMPORARY CONSTRUCTION EASEMENT SHOWN HATCHED)
"WASTEWATER FACILITIES EASEMENT AREA" DOC.#2022059155, O.P.R.W.C.T. (45' TEMPORARY CONSTRUCTION EASEMENT SHOWN HATCHED)
"ACCESS EASEMENT AREA" (SHADED) DOC.#2022059155, O.P.R.W.C.T. (65' TEMPORARY CONSTRUCTION EASEMENT SHOWN HATCHED)
"TEMPORARY ACCESS ROAD" DOC.#2022059155, O.P.R.W.C.T.
"WASTEWATER FACILITIES EASEMENT AREA" (30' WIDE AT THIS POINT) DOC.#2022059155, O.P.R.W.C.T. (45' TEMPORARY CONSTRUCTION EASEMENT SHOWN HATCHED)
15' WASTEWATER EASEMENT (INST. NO. 2017015639)
CLOUDED AREA UNDER CONSTRUCTION AT TIME OF SURVEY. ACTIVE EXCAVATION AN GRADING ACTIVITIES IN PROGRESS ON 03/29/2022. GRADES/TOPOGRAPHIC FEATURES MAY VARY. CLIENT IS ADVISED TO FIELD VERIFY THE DATA SHOWN HEREIN VERSUS CURRENT SITE CONDITIONS.
APPROXIMATE LOCATION OF 100-YEAR FLOOD ZONE AS SCALED PER F.I.R.M. (SEE NOTE REGARDING FLOOD ZONE)
APPROXIMATE LOCATION OF UNDERGROUND STORM LINE (TYPICAL) (SEE NOTE REGARDING UTILITIES)
APPROXIMATE LOCATION OF UNDERGROUND SANITARY SEWER LINE (TYPICAL) (SEE NOTE REGARDING UTILITIES)
ZONE "X"
ZONE "A"
RETAINING WALL
GRAVEL DRIVE
WOOD BUILDING
METAL BUILDING
POND
DETENTION POND
CONCRETE
WIRE FENCE
WOOD FENCE
APPROXIMATE CENTER OF CREEK
DRAINAGE STRUCTURE
CONCRETE CURB & GUTTER WITH CONCRETE PAVEMENT PARKWAY (TYPICAL)
LANDSCAPE AND DECORATIVE STONEWORK
TRANSFORMER
TELEPHONE MANHOLE
LANDSCAPE LIGHT
UV CABLE
EDGE OF ASPHALT
ASPHALT PAVEMENT
SEPTIC LID
SEPTIC MANHOLE
METAL BUILDING
CONCRETE BRIDGE/ DRAINAGE STRUCTURE
UV WATER
GAS
OU
OHP
FL 10.0'X5.0' BOX=896.5'
FL 10.0'X5.0' BOX=895.9'
FL 10.0'X5.0' BOX=895.5'
FL 10.0'X5.0' BOX=893.9'
FL 10'X5' BOX=891.7'
FL 10'X5' BOX=891.8'
FL 10'X5' BOX=891.9'
FL 10'X5' BOX=891.2'
FL 10'X5' BOX=891.1'
FL 18" RCP=898.2'
FL 24" RCP=898.8'
FL 18" RCP=893.3'
FL 18" RCP=893.5'
FL 18" RCP=893.4'
FL 36" RCP=885.9'
FL 36" RCP=885.8'
FL 36" RCP=885.5'
FL 36" RCP=885.4'
FL 36" RCP=885.0'
FL 36" RCP=885.0'
FL 36" RCP=885.3'
FL 36" RCP=895.5'
FL 18" RCP=898.7'
FL 18" RCP=898.8'
FL 18" RCP=899.3'
FL 18" RCP=900.6'
FL 24" RCP=894.3'
FL 24" RCP=893.6'
FL 12" RCP
RIM=911.3' (E. FL 8" PVC=904.22') (W. FL 8" PVC=904.28')
RIM=911.1' (E. FL 8" PVC=901.62') (W. FL 8" PVC=901.76')
RIM=907.3' (N. FL 8" PVC=903.20') (E. FL 8" PVC=903.15') (W. FL 8" PVC=903.15')
RIM=907.9'
RIM=907.0'
RIM=910.7' (E. FL 24" RCP=900.56') (S. FL 24" RCP=900.17') (W. FL 24" RCP=900.68')
RIM=916.1'
RIM=915.2' (E. FL 8" PVC=905.26')
RIM=917.2' (S. FL 8" PVC=900.87') (W. FL 8" PVC=900.88')
RIM=920.5'
RIM=910.5' (UNABLE TO OPEN)
RIM=907.2'
RIM=907.4'
RIM=907.5'
RIM=907.6'
RIM=907.7'
RIM=907.8'
RIM=907.9'
RIM=908.0'
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RIM=911.1'
RIM=911.2'
RIM=911.3'

GENERAL NOTES

1. STANDARDS AND SPECIFICATIONS: ALL MATERIALS, CONSTRUCTION METHODS, WORKMANSHIP, EQUIPMENT, SERVICES AND TESTING FOR ALL PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' ORDINANCES, REGULATIONS, REQUIREMENTS, STATUTES, SPECIFICATIONS AND DETAILS, LATEST PRINTING AND AMENDMENTS THERETO. THE GOVERNING AUTHORITIES' PUBLIC WORKS AND WATER DEPARTMENT REQUIREMENTS, PLUMBING CODES, AND FIRE DEPARTMENT REGULATIONS SHALL TAKE PRECEDENT FOR ALL PRIVATE IMPROVEMENTS WHERE APPLICABLE. ALL OTHER PRIVATE CONSTRUCTION, NOT REGULATED BY THE GOVERNING AUTHORITY, SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, LATEST PRINTING AND AMENDMENTS THERETO, EXCEPT AS MODIFIED BY THE PROJECT CONTRACT DOCUMENTS.
2. EXAMINATION OF PLANS: PRIOR TO COMMENCING ANY CONSTRUCTION, THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE CONTRACTOR DOCUMENTS, CONSTRUCTION DOCUMENTS, AND SPECIFICATIONS. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE THEIR SELF WITH ALL STANDARDS AND SPECIFICATIONS PERTAINING TO THE WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
3. EXAMINATION OF SITE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND SATISFYING THEIR SELF AS TO THE CONDITIONS AFFECTING THE WORK, INCLUDING BUT NOT RESTRICTED TO THE BEARING UPON TRANSPORTATION, DISPOSAL, HANDLING AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRIC POWER, ROADS AND UNCERTAINTIES OF WEATHER, OR SIMILAR PHYSICAL CONDITIONS AT THE SITE, CONDITIONS OF THE GROUND, THE CHARACTER OF EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING THE PERFORMANCE OF THE WORK. FAILURE BY THE CONTRACTOR TO ACQUAINT HIMSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM FROM RESPONSIBILITY FOR ESTIMATING THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK.
4. ADEQUATE CONTRACTOR TO VERIFY ADEQUATE AREA EXISTS ON-SITE TO PERFORM THE WORK SHOWN IN THESE CONSTRUCTION DOCUMENTS. IF ADDITIONAL AREA IS REQUIRED TO PERFORM THE WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
5. SUBSURFACE INVESTIGATION: SUBSURFACE EXPLORATION TO ASCERTAIN THE NATURE OF SOILS HAS BEEN PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD ON THE PROJECT. THE SUBSURFACE INFORMATION WILL BE MADE AVAILABLE FOR THE CONTRACTOR'S USE. THE ENGINEER DISCLAIMS ANY RESPONSIBILITY FOR THE ACCURACY, TRUE LOCATION AND EXTENT OF THE SOILS INFORMATION PREPARED BY OTHERS.
6. TOPOGRAPHY SURVEY: TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THE PLANS IS PROVIDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE INFORMATION SHOWN IS CORRECT, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, DISCREPANCIES OR OMISSIONS TO THE SURVEY INFORMATION PROVIDED.
7. COMPLIANCE WITH LAWS: THE CONTRACTOR SHALL FULLY COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS, INCLUDING ALL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS CONTRACT AND THE WORK TO BE DONE THEREUNDER, WHICH EXIST OR MAY BE ENACTED LATER BY GOVERNMENTAL BODIES HAVING JURISDICTION OR AUTHORITY FOR SUCH ENACTMENT. ALL WORK REQUIRED UNDER THIS CONTRACT SHALL COMPLY WITH ALL REQUIREMENTS OF LAW, REGULATION PERMIT OR LICENSE. IF THE CONTRACTOR FINDS THAT THERE IS A VARIANCE, HE SHALL IMMEDIATELY REPORT THIS TO THE ENGINEER FOR RESOLUTION.
8. PUBLIC CONVENIENCE AND SAFETY: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONNEL AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. MATERIALS STORED ON THE WORK SITE SHALL BE PLACED, AND THE WORK SHALL AT ALL TIMES BE SO CONDUCTED, AS TO CAUSE NO GREATER OBSTRUCTION TO THE TRAVELING PUBLIC THAN IS UNAVOIDABLE AND ACCEPTABLE BY THE GOVERNING AUTHORITIES AND THE DEVELOPER AND NOT TO PREVENT FREE UNINTERRUPTED ACCESS TO ALL FIRE HYDRANTS, WATER VALVES, GAS VALVES, MANHOLES AND FIRE ALARM OR POLICE CALL BOXES IN THE VICINITY.
9. STORM WATER POLLUTION PREVENTION PLAN (SWPPP): THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF THE SWPPP WHILE CONDUCTING THEIR ACTIVITIES ON THE PROJECT.
10. PERMITS AND LICENSES: THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND LICENSES NECESSARY FOR THE EXECUTION OF THE WORK AND SHALL FULLY COMPLY WITH ALL THEIR TERMS AND CONDITIONS. WHENEVER THE WORK UNDER THIS CONTRACT REQUIRES THE OBTAINING OF PERMITS FROM THE GOVERNING AUTHORITIES, THE CONTRACTOR SHALL FURNISH DUPLICATE COPIES OF SUCH PERMITS TO THE DEVELOPER BEFORE THE WORK COVERED THEREBY IS STARTED. NO WORK WILL BE ALLOWED TO PROCEED BEFORE SUCH PERMITS HAVE BEEN OBTAINED. COSTS ASSOCIATED WITH PERMITS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
11. APPROVED PLANS: THE CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED PLANS ON-SITE AT ALL TIMES. WORK PERFORMED WITHOUT THE USE OF APPROVED PLAN SETS IS NOT AUTHORIZED AND SHALL BE AT THE RISK OF THE CONTRACTOR.
12. BONDS: PERFORMANCE, PAYMENT AND MAINTENANCE BONDS MAY BE REQUIRED FROM THE CONTRACTOR FOR "PUBLIC" IMPROVEMENTS. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE THE BONDS IN THE FORM AND IN THE AMOUNTS AS REQUIRED BY THE GOVERNING AUTHORITIES. COSTS ASSOCIATED WITH PROVIDING THE BONDS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
13. TESTING: THE TESTING AND CONTROL OF ALL MATERIALS USED IN THE WORK SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE CONTRACTOR. IN THE EVENT THE RESULTS OF THE INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF MATERIALS OR CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
14. INSPECTION: THE GOVERNING AUTHORITIES AND/OR THE DEVELOPER WILL PROVIDE INSPECTION OF THE PROPOSED CONSTRUCTION. THE OWNER WILL PAY THE COSTS FOR INSPECTION SERVICES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE WELL IN ADVANCE OF PENDING CONSTRUCTION ACTIVITIES TO THE GOVERNING AUTHORITIES AND/OR OWNER FOR SCHEDULING OF INSPECTION SERVICES.
15. SHOP DRAWINGS: THE CONTRACTOR SHALL PREPARE, REVIEW, AND SUBMIT ALL SHOP DRAWING, PRODUCT DATA AND SAMPLES REQUIRED BY THE GOVERNING AUTHORITIES AND THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH ITEM 1.28 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS - NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.
16. SURVEYING: ALL SURVEYING REQUIRED FOR CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER SHALL PROVIDE TWO BENCHMARKS FOR USE AS HORIZONTAL AND VERTICAL DATUM. THE CONTRACTOR SHALL EMPLOY A REGISTERED PROFESSIONAL LAND SURVEY TO PERFORM ALL ADDITIONAL SURVEY, LAYOUT AND MEASUREMENT WORK NECESSARY FOR THE COMPLETION OF THE PROJECT. THE COSTS ASSOCIATED WITH THE CONSTRUCTION STAKING SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
17. PROTECTION OF PROPERTY CORNERS AND BENCHMARKS: THE CONTRACTOR SHALL PROTECT ALL PROPERTY CORNER MARKERS AND BENCHMARKS. WHEN ANY SUCH MARKERS OR MONUMENTS ARE IN DANGER OF BEING DISTURBED, THEY SHALL BE PROPERLY REFERENCED AND IF DISTURBED SHALL BE RESET BY A REGISTERED PUBLIC SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
18. EXISTING STRUCTURES: THE PLANS SHOW THE LOCATION OF ALL KNOWN SURFACE AND SUB SURFACE STRUCTURES, HOWEVER, THE DEVELOPER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE FAILURE TO SHOW ANY OR ALL OF THESE STRUCTURES ON THE PLANS, OR TO SHOW THEM IN THEIR EXACT LOCATION. SUCH FAILURE SHALL NOT BE CONSIDERED SUFFICIENT BASIS FOR CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA WORK OR FOR INCREASING THE PAY QUANTITIES IN ANY MANNER WHATSOEVER, UNLESS THE OBSTRUCTION ENCOUNTERED IN SUCH AS TO REQUIRE CHANGES IN THE LINES OR GRADES, OR REQUIRE THE CONSTRUCTION OF SPECIAL WORK, FOR WHICH PROVISIONS ARE NOT MADE IN THE PLANS.
19. PROTECTION OF EXISTING UTILITIES: AS REQUIRED BY "THE TEXAS UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT", TEXAS ONE CALL SYSTEM MUST BE CONTACTED (800-245-4545) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATIONS BEING PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT TEXAS ONE CALL SYSTEM. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST RECORDS AND/OR FIELD INFORMATION AVAILABLE AND ARE NOT GUARANTEED BY THE DEVELOPER OR ENGINEER TO BE ACCURATE AS TO THE LOCATION AND DEPTH. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY LOCATIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF HIS ACTIVITIES IN ORDER THAT HE MAY NEGOTIATE SUCH LOCAL ADJUSTMENTS AS NECESSARY IN THE CONSTRUCTION PROCESS TO PROVIDE ADEQUATE CLEARANCES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL EXISTING UTILITIES, SERVICES, AND STRUCTURES ENCOUNTERED WHETHER OR NOT THEY ARE ON THE PLANS. ANY DAMAGE TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. TO AVOID UNNECESSARY INTERFERENCE'S OR DELAYS, THE CONTRACTOR SHALL COORDINATE ALL UTILITY REMOVALS, REPLACEMENTS AND CONSTRUCTION WITH THE APPROPRIATE GOVERNING AUTHORITIES. THE DEVELOPER WILL NOT BE LIABLE FOR DAMAGES DUE TO DELAY BECAUSE OF THE ABOVE.
20. DAMAGE TO EXISTING FACILITIES: ALL DAMAGE DURING CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE TO A CONDITION AS GOOD AS OR BETTER THAN THE CONDITIONS PRIOR TO STARTING THE WORK.
21. FIRE AND LIFE SAFETY SYSTEMS: THE CONTRACTOR SHALL NOT REMOVE, DISABLE OR DISRUPT EXISTING FIRE OR LIFE SAFETY SYSTEMS WITHOUT RECEIVING PRIOR WRITTEN PERMISSION FROM THE GOVERNING AUTHORITY.
22. TRENCH SAFETY: THE CONTRACTOR IS RESPONSIBLE FOR HAVING A TRENCH SAFETY PLAN PREPARED IN ACCORDANCE WITH OSHA REQUIREMENTS BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR THE IMPLEMENTATION OF TRENCH SAFETY CONTROL MEASURES THAT WILL BE IN EFFECT DURING THE CONSTRUCTION OF THE PROJECT. THE COSTS FOR PREPARATION OF THE TRENCH SAFETY PLAN SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
23. TRAFFIC CONTROL: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT TRAFFIC CONTROL. THE COSTS ASSOCIATED WITH THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
24. ACCESS TO ADJACENT PROPERTIES: ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE GOVERNING AUTHORITIES AND/OR OWNER.
25. ACCESS ROUTES, STAGING AREAS AND STORAGE AREAS: ALL PRIVATE HAUL ROADS AND ACCESS ROUTES AND THE LOCATION OF ALL STAGING AREAS AND STORAGE AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND REPAIRING ALL ROADS AND OTHER FACILITIES USED DURING CONSTRUCTION. UPON COMPLETION OF THE PROJECT, ALL HAUL ROADS, ACCESS ROADS, STAGING AREAS AND STORAGE AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT AT THE TIME THE CONTRACTOR COMMENCES WORK ON THE PROJECT.
26. PARKING OF CONSTRUCTION EQUIPMENT: AT NIGHT AND DURING ALL PERIODS OF TIME WHEN EQUIPMENT IS NOT BEING ACTIVELY USED FOR THE CONSTRUCTION WORK, THE CONTRACTOR SHALL PARK THE EQUIPMENT AT LOCATIONS WHICH ARE APPROVED BY THE OWNER, DURING THE CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL COMPLY WITH THE PRESENT ZONING REQUIREMENTS OF THE GOVERNING AUTHORITIES IN THE USE OF VACANT PROPERTY FOR STORAGE PURPOSES. THE CONTRACTOR SHALL ALSO PROVIDE ADEQUATE BARRICADES, MARKERS AND LIGHTS TO PROTECT THE OWNER, THE GOVERNING AUTHORITIES, THE PUBLIC AND THE OTHER WORK. ALL BARRICADES, LIGHTS, AND MARKERS MUST MEET THE REQUIREMENTS OF THE GOVERNING AUTHORITIES' REGULATIONS.
27. WATER FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR PURCHASING WATER FROM THE GOVERNING AUTHORITY FOR HIS USE ON THE PROJECT SITE. COST ASSOCIATED WITH THIS SERVICE SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
28. TEMPORARY ELECTRIC AND COMMUNICATIONS FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR THE INSTALLATION AND PURCHASING OF TEMPORARY ELECTRIC AND COMMUNICATIONS SERVICES FROM THE GOVERNING AUTHORITIES FOR HIS USE ON THE PROJECT SITE. COSTS ASSOCIATED WITH THIS SERVICE SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
29. FENCES: ALL FENCES ENCOUNTERED AND REMOVED DURING CONSTRUCTION, EXCEPT THOSE DESIGNATED TO BE REMOVED OR RELOCATED, SHALL BE RESTORED TO THE ORIGINAL OR BETTER THAN CONDITION UPON COMPLETION OF THE PROJECT.WHERE WIRE FENCING, EITHER WIRE MESH OR BARBED WIRE, IS NOT TO BE CROSSED, THE CONTRACTOR SHALL SET CROSS-BRACED POSTS ON EITHER SIDE OF THE CROSSING. TEMPORARY FENCING SHALL BE ERECTED IN PLACE OF THE FENCING REMOVED WHENEVER THE WORK IS NOT IN PROGRESS AND WHEN THE SITE IS VACATED OVERNIGHT AND/OR AT ALL TIMES TO PREVENT PERSONS AND/OR LIVESTOCK FROM ENTERING THE CONSTRUCTION AREA. THE COST OF FENCE REMOVAL, TEMPORARY CLOSURES AND REPLACEMENT SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
30. COORDINATION WITH OTHERS: IN THE EVENT THAT OTHER CONTRACTORS ARE DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH THE PROJECT, THE CONTRACTOR SHALL COORDINATE HIS PROPOSED CONSTRUCTION WITH THAT OF THE OTHER CONTRACTORS.
31. CONDITION OF THE SITE DURING CONSTRUCTION: THE CONTRACTOR SHALL KEEP THE SITE OF THE WORK AND ADJACENT PREMISES AS FREE FROM MATERIAL, DEBRIS AND RUBBISH AS IS PRACTICABLE. THE CONTRACTOR SHALL REMOVE MATERIAL, DEBRIS AND RUBBISH FROM ANY PORTION OF THE SITE IF, IN THE OPINION OF THE DEVELOPER, SUCH MATERIAL, DEBRIS AND RUBBISH CONSTITUTES A NUISANCE OR IS OBJECTIONABLE.
32. EXISTING ROADWAYS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF EXISTING PAVED ROADS. COSTS ASSOCIATED WITH MAINTAINING THE CLEANLINESS OF EXISTING ROADS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
33. SITE RECONNAISSANCE: THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
34. CONSULTANT COORDINATION: CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
35. DUST CONTROL: THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL DUST ON THE PROJECT SITE BY SPRINKLING OF WATER, OR ANY OTHER METHODS APPROVED BY THE GOVERNING AUTHORITIES. COSTS ASSOCIATED WITH DUST CONTROL SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
36. CLEAN UP FOR FINAL ACCEPTANCE: THE CONTRACTOR SHALL MAKE A FINAL CLEAN UP OF ALL PARTS OF THE WORK BEFORE ACCEPTANCE BY THE OWNER. THIS CLEAN UP SHALL INCLUDE REMOVAL OF ALL OBJECTIONABLE E MATERIALS AND, IN GENERAL, PREPARING THE SITE OF THE WORK IN AN ORDERLY MANNER OF APPEARANCE.
37. REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK: ALL WORK, WHICH HAS BEEN REJECTED OR CONDEMNED, SHALL BE REPAIRED, OR IF IT CANNOT BE REPAIRED SATISFACTORILY, IT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DEFECTIVE MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE WORK SITE. WORK DONE BEYOND THE LINE OR NOT IN THE CONFORMITY WITH THE GRADES SHOWN ON THE DRAWINGS OR AS WRITTEN AUTHORITY AND PRIOR AGREEMENT IN WRITING AS TO PRICES, SHALL BE AT THE CONTRACTOR'S RISK, AND WILL BE CONSIDERED UNAUTHORIZED, AND AT THE OPTION OF THE OWNER MAY NOT BE MEASURED AND PAID FOR AND MAY BE ORDERED REMOVED AT THE CONTRACTOR'S EXPENSE. UPON FAILURE OF THE CONTRACTOR TO REPAIR SATISFACTORY OR TO REMOVE AND REPLACE, IF SO DIRECTED, REJECTED, UNAUTHORIZED OR CONDEMNED WORK OR MATERIALS IMMEDIATELY AFTER RECEIVING NOTICE FROM THE OWNER, THE OWNER WILL, AFTER GIVING WRITTEN NOTICE TO THE CONTRACTOR, HAVE THE AUTHORITY TO CAUSE DEFECTIVE WORK TO BE REMEDIED OR REMOVED AND REPLACED, OR TO CAUSE UNAUTHORIZED WORK TO BE REMOVED AND TO DEDUCT THE COST THEREOF ANY MONIES DUE OR TO BECOME DUE THE CONTRACTOR.
38. DISPOSITION AND DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS: ALL MATERIALS TO BE REMOVED FROM THE SITE INCLUDED BUT NOT LIMITED TO EXCESS MATERIAL AND UNSUITABLE MATERIALS SUCH AS CONCRETE, ASPHALT, LARGE ROCKS, REFUSE, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OWSIDE THE LIMITS OF THE PROJECT. CONTRACTOR SHALL ALSO COMPLY WITH ALL APPLICABLE LAWS GOVERNING SPILLAGE OF DEBRIS WHILE TRANSPORTING TO A DISPOSAL SITE. COSTS ASSOCIATED WITH THE DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
39. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEM COVERED BY THE PROJECT CONTRACT DOCUMENTS. THE COMPLETE SET OF "RECORD DRAWINGS" MUST BE DELIVERED TO THE OWNER AND/OR ENGINEER BEFORE REQUESTING FINAL PAYMENT.
40. FRANCHISE UTILITIES: THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
41. SCOPE OF WORK: THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL/STRUCTURAL/MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
42. SITE DRAINAGE: CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
43. THE CONTRACTOR SHALL FULLY EXECUTE THE WORK DESCRIBED AS SHOWN IN THE CONSTRUCTION PLANS OR REASONABLY INFERABLE THEREFROM OR ASCERTAINABLE IN THE EXERCISE OF PROFESSIONAL EFFORTS (AS HEREINAFTER DEFINED) AS NECESSARY TO PRODUCE THE RESULTS INTENDED BY THE CONSTRUCTION PLANS, EXCEPT AS SPECIFICALLY INDICATED IN THE CONSTRUCTION PLANS TO BE THE RESPONSIBILITY OF OTHERS. AS USED HEREIN, THE TERM "PROFESSIONAL EFFORTS" MEANS THAT LEVEL OF SKILL AND CARE ORDINARILY EXERCISED BY EXPERIENCED CONTRACTORS AND CONSTRUCTION MANAGERS COMPARABLE TO CONTRACTOR ENGAGING IN INSTITUTIONAL AND COMMERCIAL PROJECTS SIMILAR IN SIZE AND COMPLEXITY TO THE PROJECT IN MAJOR UNITED STATES URBAN AREAS, WHEN PERFORMING DUTIES, RESPONSIBILITIES AND OBLIGATIONS COMPARABLE TO THOSE UNDER THE CONTRACT DOCUMENTS.

EROSION CONTROL NOTES:

1. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY THE GOVERNING AUTHORITIES, PERMITS ARE OBTAINED, AND ALL EROSION CONTROL MEASURES ARE IN PLACE.
2. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
3. THE GENERAL CONTRACTOR (AND ALL SUBCONTRACTORS INVOLVED WITH ANY CONSTRUCTION ACTIVITIES RELATED TO EARTHWORK, EROSION CONTROL, ETC. OR WHICH UTILIZE POSSIBLE POLLUTANTS AS DEFINED IN THE TPDES GENERAL PERMIT) SHALL REVIEW AND ADHERE TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT, AS WELL AS ALL THE TCEQ REQUIREMENTS SET FORTH IN THE TPDES GENERAL PERMIT.
4. THIS EROSION CONTROL PLAN IS A SUPPLEMENT TO THE SWPPP PREPARED BY OTHERS. REFER TO THE SWPPP FOR ADDITIONAL REQUIREMENTS.
5. ALL WASH WATER SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT BETWEEN WASH WATER POLLUTANTS AND STORM RUNOFF DISCHARGED FROM THIS SITE.
6. OIL AND GREASE ABSORBING MATERIALS SHALL BE READILY AVAILABLE ON-SITE AND SHALL BE PROMPTLY USED TO CONTAIN AND/OR CLEAN UP ALL FUEL OR CHEMICAL SPILLS OR LEAKS.
7. DUST CONTROL SHALL BE ACCOMPLISHED BY WATERING DRY, EXPOSED AREAS ON A REGULAR BASIS. SPRAYING OF PETROLEUM BASED OR TOXIC LIQUIDS FOR THIS IS PROHIBITED.
8. DISTURBED AREAS ON THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 14 DAYS SHALL BE TEMPORARILY PLANTED AND/OR SEEDED AND WATERED.
9. DISTURBED AREAS ON THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED SHALL BE PERMANENTLY PLANTED AND/OR SEEDED WITHIN 14 DAYS.
10. PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE LANDSCAPING PLAN. AREAS BEYOND THE LIMITS OF THE LANDSCAPING PLAN (OR WHEN A LANDSCAPING PLAN DOES NOT EXIST) SHALL BE HYDROMULCHED WITH HIGHWAY MIX AND WATERED WITH TEMPORARY ABOVE GROUND IRRIGATION UNTIL THE VEGETATION IS ESTABLISHED.
11. ALL VEHICLES SHALL BE CLEANED AT THE CONSTRUCTION EXIT POINT(S) BEFORE LEAVING THE SITE.
12. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT ROADWAYS BY ANY VEHICLES EXITING THE SITE SHALL BE CLEANED OR REMOVED IMMEDIATELY.
13. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SILT IN ANY STORM SEWER INLETS AND PIPES, AND ALONG SILT FENCES, WITHIN 48 HOURS AFTER INSPECTION OF DEVICES REVEALS THE PRESENCE OF EXCESS SILTATION.
14. SILT FENCES SHALL BE PLACED AROUND ANY STOCKPILES USED ON THE SITE. STONE OVERFLOW POINTS SHALL BE ADDED AT ALL LOW POINTS ALONG SILT FENCING.
15. ADDITIONAL EROSION CONTROL MEASURES MAY BE IMPLEMENTED BY THE CONTRACTOR AT HIS DISCRETION AT NO ADDITIONAL EXPENSE TO THE OWNER. THE ADDITION OR DELETION OF ANY EROSION CONTROL MEASURE MAY REQUIRE THAT THE SWPPP BE MODIFIED IN ACCORDANCE WITH THE TCEQ'S TPDES GENERAL PERMIT GUIDELINES.
16. ALL TEMPORARY EROSION CONTROL DEVICES (SILT FENCE, ETC.) SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF SITE WITHIN THIRTY DAYS AFTER STABILIZATION OF ALL DISTURBED SURFACES IS COMPLETE.
17. THE CONTRACTOR SHALL ASSUME LIABILITY FOR DAMAGE TO ADJACENT PROPERTIES AND/OR PUBLIC RIGHT OF WAY RESULTING FROM FAILURE TO FULLY IMPLEMENT AND EXECUTE ALL EROSION CONTROL PROCEDURES SHOWN AND NOTED IN THESE PLANS AND IN THE SWPPP.
18. THE CONTRACTOR SHALL MODIFY THIS PLAN TO SHOW LOCATIONS OF TEMPORARY WASH DOWN AREA, PORTABLE TOILETS, EQUIPMENT MAINTENANCE/REPAIR AREA, STOCKPILE AREAS, FUEL STORAGE AREAS, ETC. AND POLLUTANT CONTROLS FOR EACH.
19. THE GENERAL CONTRACTOR, AS THE TCEQ DEFINED "OPERATOR," SHALL PERFORM ALL REQUIRED INSPECTIONS OF STORM WATER CONTROLS AND PRACTICES AT FREQUENCIES OUTLINED IN THE TPDES GENERAL PERMIT, AND SHALL FILL OUT APPROPRIATE INSPECTION FORMS (AS PROVIDED IN THE SWPPP).
20. IF DIRT OR ROCK IS EXPORTED FROM THIS SITE, OR IF DIRT OR ROCK IS IMPORTED FROM AN OFF SITE BORROW LOCATION, THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR COMPLIANCE WITH ALL TCEQ STORM WATER REQUIREMENTS FOR THE REMOTE SITE. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF THE WRITTEN AGREEMENT WITH THE LANDOWNER OF THE REMOTE SITE INDICATING PERMITTING AND EROSION CONTROL MEASURES WILL BE IMPLEMENTED.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REESTABLISHING VEGETATION IN ALL DISTURBED AREAS WHETHER SHOWN IN THIS PLAN SET OR NOT. VEGETATION SHALL BE REESTABLISHED IN ACCORDANCE WITH THE STANDARDS OF THE GOVERNING MUNICIPALITY.
22. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS DURING CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED DRAINAGE INFRASTRUCTURE SHOWN IN THESE CONSTRUCTION PLANS IS INSTALLED AND OPERATIONAL.

PAVING NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF OF PASSING FIELD DENSITY TESTS ON THE STABILIZED SUBGRADE FOR SITE PAVING EQUAL TO THE RATIO OF 1 PER 5,000 SQUARE FEET OF PAVEMENT (AND ALL FAILING DENSITY TESTS AND REQUIRED MOISTURE DENSITY CURVES). ADDITIONAL FIELD DENSITY TESTS MAY BE REQUIRED FOR FOUNDATIONS. REFER TO STRUCTURAL PLANS AND SPECIFICATIONS FOR SUCH. IN ADDITION, THE CONTRACTOR SHALL PROVIDE THE OWNER TEN (10) CORES OF PAVEMENT CORES FOR THE OWNERS USE IN THE OWNERS TESTING FOR THICKNESS AND COMPRESSIVE STRENGTH. LOCATIONS SHALL BE DESIGNATED BY THE OWNER. CONTRACTOR SHALL PATCH CORE HOLES AND FINISH WITH LIKE AND MATCHING MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TESTING COSTS SHOULD THE ABOVE TESTS FAIL MINIMUM CRITERIA AS ESTABLISHED BY NCTCOG. ANY NON-CONFORMING PAVING SHALL BE REPLACED OR RESOLVED IN ACCORDANCE WITH NCTCOG SPECIFICATIONS AND THESE CONSTRUCTION PLANS.
2. ALL EARTHWORK AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION AND REPORT FOR THIS PROJECT AND THOSE RECOMMENDATIONS LISTED WITHIN THE REPORT. REFER TO THIS REPORT FOR ALL EARTHWORK AND RELATED ITEMS. REFER TO STRUCTURAL FOR BUILDING PREP. THE REPORT REFERENCES AGENCY/INDUSTRY STANDARDS. IN THE EVENT THAT THERE IS A QUESTION OR DISPUTE BETWEEN GOVERNING SPECIFICATIONS, THE MOST STRINGENT SHALL APPLY. SUCH THAT THE OWNER RECEIVES THE MOST ADVANTAGEOUS FINISHED PRODUCT.
3. THE

CITY OF GEORGETOWN CONSTRUCTION NOTES:

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 200 PSI FOR 15 MINUTES AND 150 PSI FOR 2 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTABLE OF THE PUBLIC IMPROVEMENTS, THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE A PDF EMAILED TO THE CITY DEVELOPMENT ENGINEER.

WILLIAMSON COUNTY CONSTRUCTION NOTES - WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS

B4 - CONSTRUCTION – GENERAL

B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES' UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.

B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.

B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR

B4.4 ALL PROPOSED PAVEMENTS (FLEXIBLE AND RIGID) ARE TO BE SPECIFIED IN THE GEOTECH REPORT. THE GEOTECH REPORT IS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. PAVEMENT DESIGNS SHALL FOLLOW THE BELOW COUNTY REQUIREMENTS BASED UPON SOIL CONDITIONS FROM SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT BELOW NON-FRACTURED ROCK OR 3 FT BELOW FRACTURED ROCK. THE PAVEMENT DESIGN MUST MEET AT LEAST THE MINIMUM OF ONE OF THE APPROVED COUNTY DESIGNS AND PROVIDED IN THE GEOTECHNICAL REPORT FOR REVIEW AND APPROVAL PRIOR TO THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX.

B4.5 FLEXIBLE PAVEMENT DESIGNS BASED ON ROADWAY CLASSIFICATION (REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGES 38-41)

B5 - SUBGRADE

B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.

B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.

B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 - BASE MATERIAL

B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1 (REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 43, TABLE B6.1)

B7 - BITUMINOUS PAVEMENT

B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL..

B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMACP.

B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP.

B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR (SGC) TO DESIGN MIXTURES, SUBMIT THE SGC MIX DESIGN TO THE ENGINEER FOR APPROVAL.

B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE (REFERENCE WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGES 44)

B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.

B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.

B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.

WILLIAMSON COUNTY CONSTRUCTION NOTES - WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS

B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.

1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F
2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.

1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 - CONCRETE PAVEMENT

B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX I. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 - CONCRETE - GENERAL

B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.

B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL
ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES LIBERTY HILL TEXAS

2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

GENERAL NOTES II

SHEET:

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PLOTTED BY: Prashuvida Gadam
PLOTTED DATE: 01/21/26

NOTE TO CONTRACTOR
THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

LEGEND

- REMOVE AND DISPOSE OF EXISTING CONCRETE
- REMOVE AND DISPOSE OF EXISTING GRAVEL
- PROPOSED FULL DEPTH SAWCUT (PROVIDE CLEAN CONSTRUCTION EDGE)
- EXISTING CONTOUR — 500
- PROPERTY BOUNDARY
- EXISTING TREE TO BE REMOVED
- TREE TO REMAIN

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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

12" MANHOLES TO BE REMOVED
138 LF OF FENCE TO BE REMOVED
GUY WIRE TO BE REMOVED
ELECTRICAL POLE TO BE REMOVED
WOODEN POLE TO BE REMOVED
146 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
31 LF OF RETAINING WALL TO BE REMOVED
522 SF OF CONCRETE PAVEMENT TO BE REMOVED
30 SF OF BUILDING TO BE REMOVED
476 SF OF CONCRETE PAVEMENT TO BE REMOVED
METAL POLE TO BE REMOVED
86 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
252 LF OF FENCE TO BE REMOVED
245 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
ELECTRICAL POLE TO BE REMOVED
WOODEN POST TO BE REMOVED
GUY WIRE TO BE REMOVED
GRAVEL ROAD TO BE REMOVED (TYP.)
STOCK POND TO BE REMOVED
84 LF OF FENCE TO BE REMOVED
2055 SF OF GRAVEL ROAD TO BE REMOVED
40 LF OF 12" RCP TO BE REMOVED
87 SF OF MISCELLANEOUS STRUCTURE TO BE REMOVED
STOCK POND TO BE REMOVED
215 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
ELECTRICAL POLE TO BE REMOVED
FENCE TO BE REMOVED BY SEPARATE PERMIT
97 LF OF WOOD FENCE AND GATE TO BE REMOVED
163 SF OF CONCRETE TO BE REMOVED
PAVEMENT TO BE REMOVED BY SEPARATE PERMIT
179 LF OF FENCE TO BE REMOVED
421 SF OF CONCRETE TO BE REMOVED
218 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
TREES TO BE REMOVED BY SEPARATE PERMIT
327 LF OF OVERHEAD ELECTRICAL TO BE REMOVED
GUY WIRE TO BE REMOVED
57 LF OF RETAINING WALL TO BE REMOVED
ELECTRICAL POLE TO BE REMOVED
TREE TO BE REMOVED (TYP.)
1942 SF OF BUILDING TO BE REMOVED
TREES TO BE REMOVED BY SEPARATE PERMIT
OVERHEAD ELECTRICAL TO BE REMOVED BY SEPARATE PERMIT
PAVEMENT TO BE REMOVED BY SEPARATE PERMIT
TREES TO REMAIN (TYP.)
13191 SF OF GRAVEL ROAD TO BE REMOVED
TREES TO BE REMOVED BY SEPARATE PERMIT
N2°55'01"W 261.07'
S34°E 144.98'
ZONE "X"
EX OHE

DEMOLITION NOTES:

1. KE IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KE DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OR THEIR FACILITIES.
3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   - 4.1. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   - 4.2. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   - 4.3. GEOTECHNICAL REPORT PROVIDED BY THE OWNER,
   - 4.4. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. KE DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" =40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DEMOLITION PLAN

SHEET:
C2.0

FILE PATH: K:\Jobs\MAL21001_LA\Kirkpur-Tnet\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\CAD\MAL21001_LA-Kirkpur-Tnet\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C2.0 DEMOLITION_MAL21001
FILENAME: C2.0 DEMOLITION_MAL21001.dwg
PLOTTED BY: Francesca Gallam
PLOTTED DATE: 1/21/2026

Know what's below. Call before you dig.

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED SIGN
- FIRE LANE STRIPING (FIRELANE)
- PROPOSED FIRE HYDRANT (FH)
- PROPOSED WASTEWATER MANHOLE (WW)
- PROPOSED CURB INLET
- PROPOSED GRATE INLET
- PROPOSED STORM
- PROPOSED WASTEWATER (WW)
- PROPOSED WATER (W)
- ACCESSIBLE ROUTE
- PARKING COUNT (10)
- PROPOSED RETAINING WALL
- PROPOSED FDC
- PROPERTY BOUNDARY
- EXISTING TREE TO REMAIN
- PROPOSED FIRE LANE

LAYOUT & DIMENSIONAL CONTROL NOTES:

1. BOUNDARY LINES AND EASEMENT: REFER TO THE FINAL PLAT TO VERIFY PROPERTY LINES AND EXISTING EASEMENT LOCATIONS.
2. DIMENSION CONTROL: UNLESS NOTED OTHERWISE, ALL PAVING DIMENSIONS SHOWN ARE TO FACE OF CURB.
3. CURB RADII: UNLESS NOTED OTHERWISE, ALL CURB RADII SHALL BE 3' AT FACE OF CURB.
4. BUILDING DIMENSIONS: REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES PRIOR TO CONSTRUCTION.
6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.
7. REFER TO SHEET C10.0 FOR SITE DETAILS.

WILLIAMSON COUNTY ESD NO. 4 CONSTRUCTION NOTES

- FIRE LANE SHALL BE CONSTRUCTED OF CONCRETE OR ASPHALT ONLY ABLE TO WITHSTAND AN IMPOSED LOAD OF 75,000 POUNDS.
- THERE SHALL BE A MINIMUM CLEARANCE OF 13'-6" MAINTAINED OVER THE FIRE LANE AT ALL TIMES.
- ALL FIRE LINES SHALL BE HYDROSTATIC TESTED AT A MINIMUM OF 200PSI FOR A DURATION OF 2HRS., TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- ANY BEND IN THE FIRE LINE SHALL BE SUPPORTED BY THRUST BLOCKING TO BE VERIFIED BY THE FIRE CODE OFFICIAL.
- THERE SHALL BE NO COMBUSTIBLE MATERIALS ON-SITE PRIOR TO FIRE HYDRANTS BEING VERIFIED OPERATIONAL BY THE FIRE CODE OFFICIAL.
- ALL HYDRANTS AND FDC'S SHALL HAVE A 3' SETBACK FROM THE CURB

GRAPHIC SCALE

0 40 80 FEET

SCALE: 1" = 40'

PARKING DATA TABLE

BUILDING #1	
REQUIRED ADA PARKING	3 SPACES (1 VAN)
PROVIDED ADA PARKING	3 SPACES (3 VAN)
BUILDING #2	
REQUIRED ADA PARKING	2 SPACES (1 VAN)
PROVIDED ADA PARKING	2 SPACES (2 VAN)
BUILDING #3	
REQUIRED ADA PARKING	3 SPACES (1 VAN)
PROVIDED ADA PARKING	3 SPACES (3 VAN)
BUILDING #4	
REQUIRED ADA PARKING	3 SPACES (1 VAN)
PROVIDED ADA PARKING	3 SPACES (3 VAN)
BUILDING #5	
REQUIRED ADA PARKING	3 SPACES (1 VAN)
PROVIDED ADA PARKING	3 SPACES (3 VAN)
BUILDING #6	
REQUIRED ADA PARKING	3 SPACES (1 VAN)
PROVIDED ADA PARKING	4 SPACES (4 VAN)

NOTE
ALL BUILDING HEIGHTS AND BUILDING LOT AREA TO BE DETERMINED AT A LATER DATE.

NOTE TO CONTRACTOR
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SITE PLAN KEY

1	PROP. METER (DOMESTIC)
2	PROP. RZP BACKFLOW
3	PROP. METER (IRRIGATION)

SITE PLAN DATA TABLE

EXISTING ZONING	AG
PROPOSED ZONING	C3/MF
LOT AREA (SF) / (ACRES)	1,573,613 / 36.125
TOTAL BUILDING AREA (SF)	61,740

SITE PLAN
COUNTY PROJECT NO. SPXX-XXXX
MAL21001
36.125 ACRES
PHASE 1
SURVEY ADDITION NAME
(INST. NO. 2020.007.131)
CITY OF LIBERTY HILL ETJ,
WILLIAMSON COUNTY, TEXAS
PREPARATION DATE: 3/19/2024

OWNER/APPLICANT
THE PRIME DEVELOPERS
HWY 183, LEANDER
TX, 78641
PH: 512-761-8025
CONTACT: MALLIK GILAKATTULA

LANDSCAPE ARCHITECT
LANDSCAPE ARCHITECT COMAPNY
LANDSCAPE ADDRESS
LANDSCAPE ADDRESS
PH: LANDSCAPE PHONE NUMBER
CONTACT: LA ARCHITECT, RLA

ENGINEER
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PH: 817-488-4960
CONTACT: SHEA KIRKMAN, PE

SURVEYOR
BARTON CHAPA SURVEYING
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
PH: 817-864-1957
CONTACT: JACK BARTON, RPLS

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS
HWY 183,
LEANDER, TX 78641

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

SITE PLAN

SHEET:
C3.0

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

FILL PATH: K:\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C3.0 SITE PLAN_MAL21001
FILENAME: C3.0 SITE PLAN_MAL21001.dwg
PLOTTED BY: Prachistha Gadam
PLOTTED DATE: 1/21/2026

Know what's below. Call before you dig.

PROPERTY CORNER
N:10201785.3376
E:3073789.1188

50' BUILDING SETBACK

N68°55'32"E 1630.15'

PROPERTY CORNER
N:10201544.8755
E:3073890.7828

PROPERTY CORNER
N:10201503.5171
E:3073795.8860

S35°52'30"E
131.06'

PROPERTY CORNER
N:10201397.2683
E:3073871.6887

N70°11'02"E
37.85'

PROPERTY CORNER
N:10201410.1007
E:3073907.3006

S73°34'39"E
41.46'

PROPERTY CORNER
N:10201398.3804
E:3073947.0650

S30°58'07"E
40.68'

PROPERTY CORNER
N:10201363.4966
E:3073967.9993

PROPERTY CORNER
N:10201363.3605
E:3073977.4003

S33°25'43"E
43.85'

PROPERTY CORNER
N:10201326.7665
E:3074001.5560

PROPERTY CORNER
N:10201280.5844
E:3074046.0719

S43°56'51"E 84.14'

S38°53'51"E
101.94'

PROPERTY CORNER
N:10201201.2497
E:3074110.0809

RE:SHEETC4.1
RE:SHEETC4.2
RE:SHEETC4.3
RE:SHEETC4.4
RE:SHEETC4.5
RE:SHEET C4.6

OFFICE BUILDING #3
21,740 SF

OFFICE BUILDING #2
20,000 SF

OFFICE BUILDING #1
20,000 SF

OFFICE BUILDING #5
19,840 SF

OFFICE BUILDING #4
19,840 SF

RETAIL / RESTAURANT
BUILDING #6
15,000 SF

EX. 100-YR FLOODPLAIN

PROP. 100-YR FLOODPLAIN

PROPERTY CORNER
N:10201795.9311
E:3074690.1207

S8°15'55"W
126.55'

PROPERTY CORNER
N:10201670.6984
E:3074671.9287

S4°36'59"E
57.94'

PROPERTY CORNER
N:10201612.9420
E:3074676.5922

S37°09'27"E
194.97'

TRACT 1
125,800 SF
2.89 ACRES

TRACT 2
764,866 SF
17.56 ACRES

TRACT 3
682,947 SF
15.68 ACRES

3+00
4+00
5+00
6+00
7+00

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GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 76641

REV.: DATE: DESCRIPTION:

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

OVERALL DIMENSIONAL CONTROL PLAN

SHEET:
C4.0

FILE PATH: K:\Shin\MAL21001_LarkspurTrust\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C4.0 DIMENSIONAL CONTROL PLAN_MAL21001
FILENAME: C4.0_DIMENSIONAL CONTROL PLAN_MAL21001.dwg
PLOTTED BY: Prashanika Gautam
PLOTTED DATE: 01/21/2026

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

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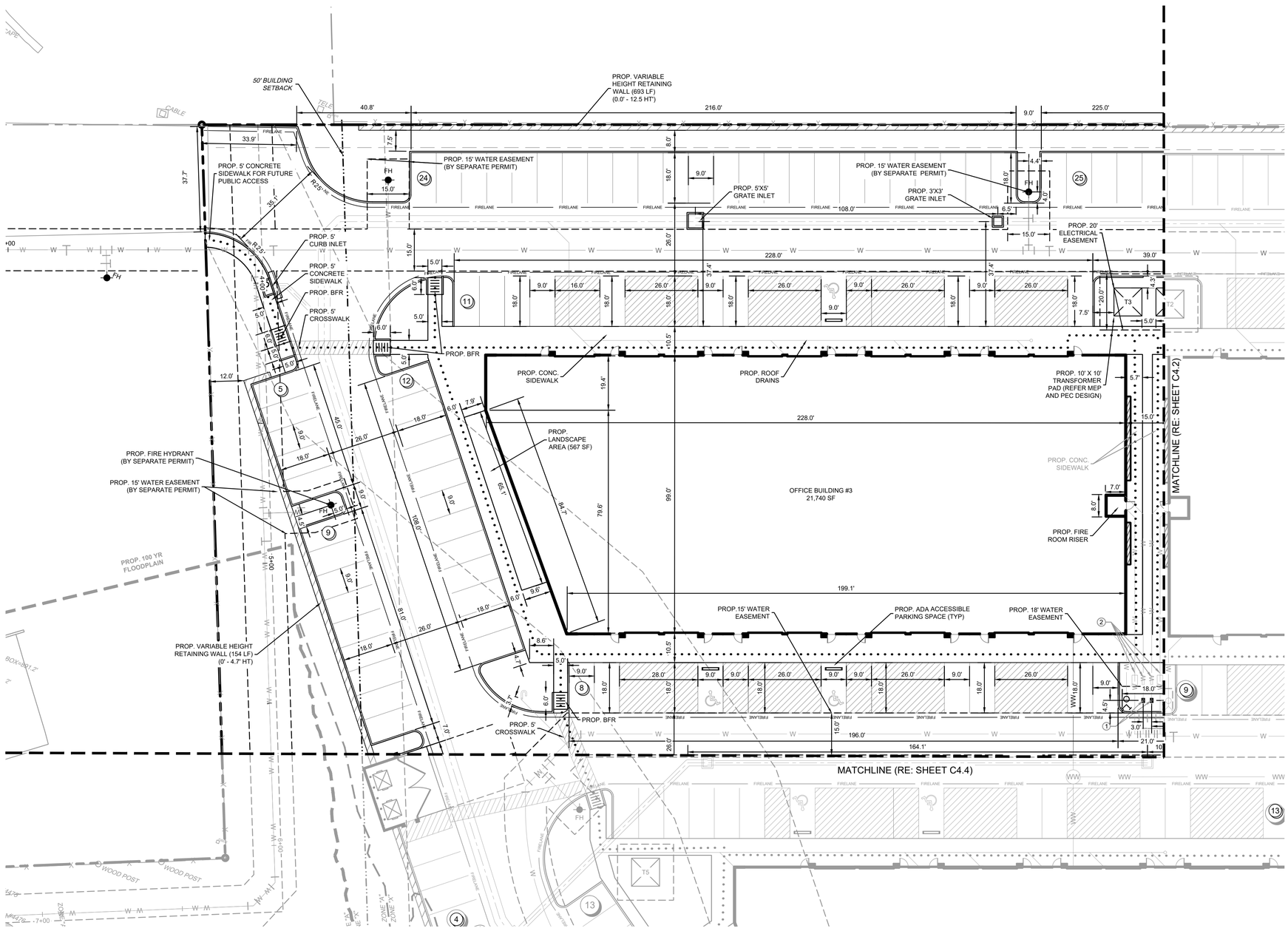

LEGEND

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- PROPOSED FIRE HYDRANT — FH
- PROPOSED WASTEWATER MANHOLE — WW
- PROPOSED CURB INLET
- PROPOSED GRATE INLET
- PROPOSED STORM
- PROPOSED WASTEWATER — WW
- PROPOSED WATER — W
- ACCESSIBLE ROUTE
- PARKING COUNT — (10)
- PROPOSED RETAINING WALL
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1	PROP. METER (DOMESTIC)
2	PROP. RPZ BACKFLOW
3	PROP. METER (IRRIGATION)

GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
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TRACT 2
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REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DIMENSIONAL CONTROL PLAN I

SHEET:
C4.1

FULL PATH: K:\Jobs\MAL21001_LarkspurTrace\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\K:\Jobs\MAL21001_LarkspurTrace\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
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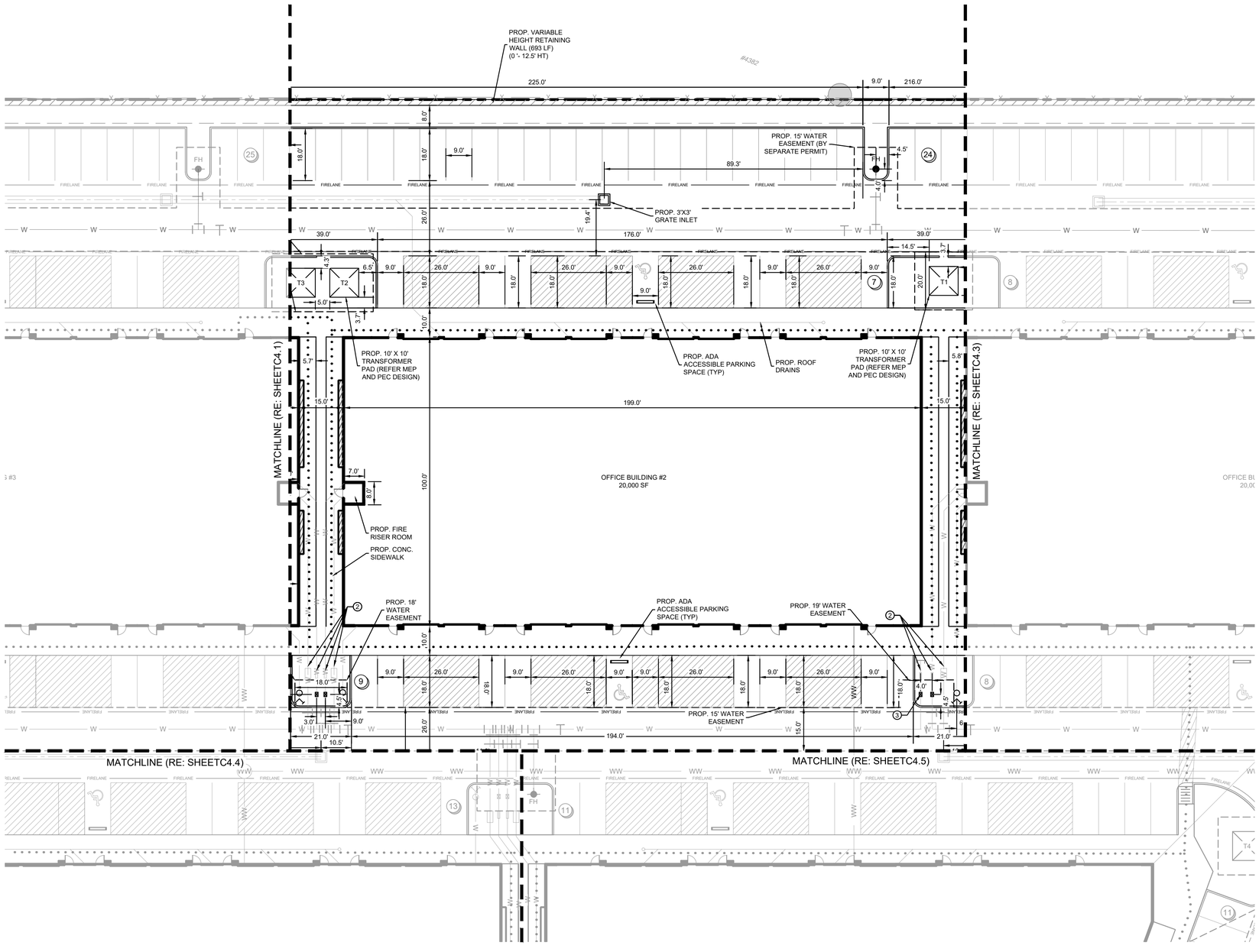
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026



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GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED — PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

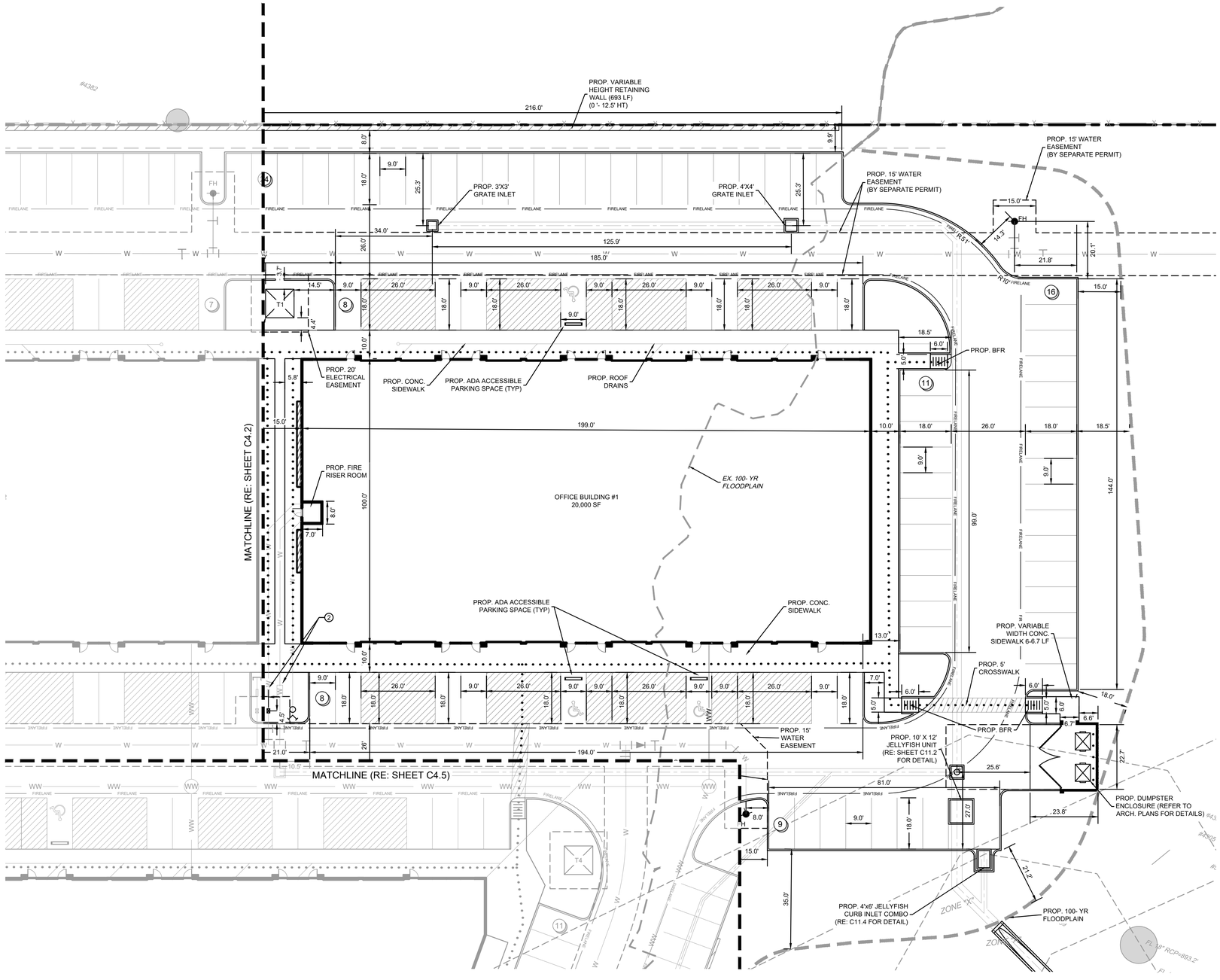
DIMENSIONAL CONTROL PLAN II

SHEET:

C4.2

FILENAME: C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
PLOTTED BY: Prashuvida Gautam
PLOTTED ON: 1/21/2026

FULL PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg



Know what's below. Call before you dig.

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED SIGN
- FIRE LANE STRIPING — FIRELANE
- PROPOSED FIRE HYDRANT — FH
- PROPOSED WASTEWATER MANHOLE — WW
- PROPOSED CURB INLET
- PROPOSED GRATE INLET
- PROPOSED STORM
- PROPOSED WASTEWATER — WW
- PROPOSED WATER — W
- ACCESSIBLE ROUTE
- PARKING COUNT — 10
- PROPOSED RETAINING WALL
- PROPOSED FDC AND MANHOLE
- PROPERTY BOUNDARY
- EXISTING TREE TO REMAIN

LAYOUT & DIMENSIONAL CONTROL NOTES:

1. BOUNDARY LINES AND EASEMENT: REFER TO THE FINAL PLAT TO VERIFY PROPERTY LINES AND EXISTING EASEMENT LOCATIONS.
2. DIMENSION CONTROL: UNLESS NOTED OTHERWISE, ALL PAVING DIMENSIONS SHOWN ARE TO FACE OF CURB.
3. CURB RADII: UNLESS NOTED OTHERWISE, ALL CURB RADII SHALL BE 3' AT FACE OF CURB.
4. BUILDING DIMENSIONS: REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES PRIOR TO CONSTRUCTION.
6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.
7. REFER TO SHEET C10.0 FOR SITE DETAILS.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

SITE PLAN KEY	
1	PROP. METER (DOMESTIC)
2	PROP. RPZ BACKFLOW
3	PROP. METER (IRRIGATION)

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183, LEANDER, TX 76641

PRIME FLEX SPACES LIBERTY HILL TEXAS

2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DIMENSIONAL CONTROL PLAN III

SHEET:

C4.3

FILE PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
FILENAME: C4.0 DIMENSIONAL CONTROL PLAN_PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026

LEGEND

PROPOSED SIGN		PARKING COUNT	(10)
FIRE LANE STRIPING	FIRELANE	PROPOSED RETAINING WALL	
PROPOSED FIRE HYDRANT	FH	PROPOSED FDC AND MANHOLE	
PROPOSED WASTEWATER MANHOLE	WW	PROPERTY BOUNDARY	
PROPOSED CURB INLET		EXISTING TREE TO REMAIN	
PROPOSED GRATE INLET			
PROPOSED STORM			
PROPOSED WASTEWATER	WW		
PROPOSED WATER	W		
ACCESSIBLE ROUTE			

NOTE TO CONTRACTOR

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SITE PLAN KEY	
1	PROP. METER (DOMESTIC)
2	PROP. RPZ BACKFLOW
3	PROP. METER (IRRIGATION)

LAYOUT & DIMENSIONAL CONTROL NOTES:

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5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES PRIOR TO CONSTRUCTION.
6. ALL COORDINATES ARE U.S. SURVEY FEET, NAD '83 SURFACE.
7. REFER TO SHEET C10.0 FOR SITE DETAILS.

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

SITE BENCHMARKS

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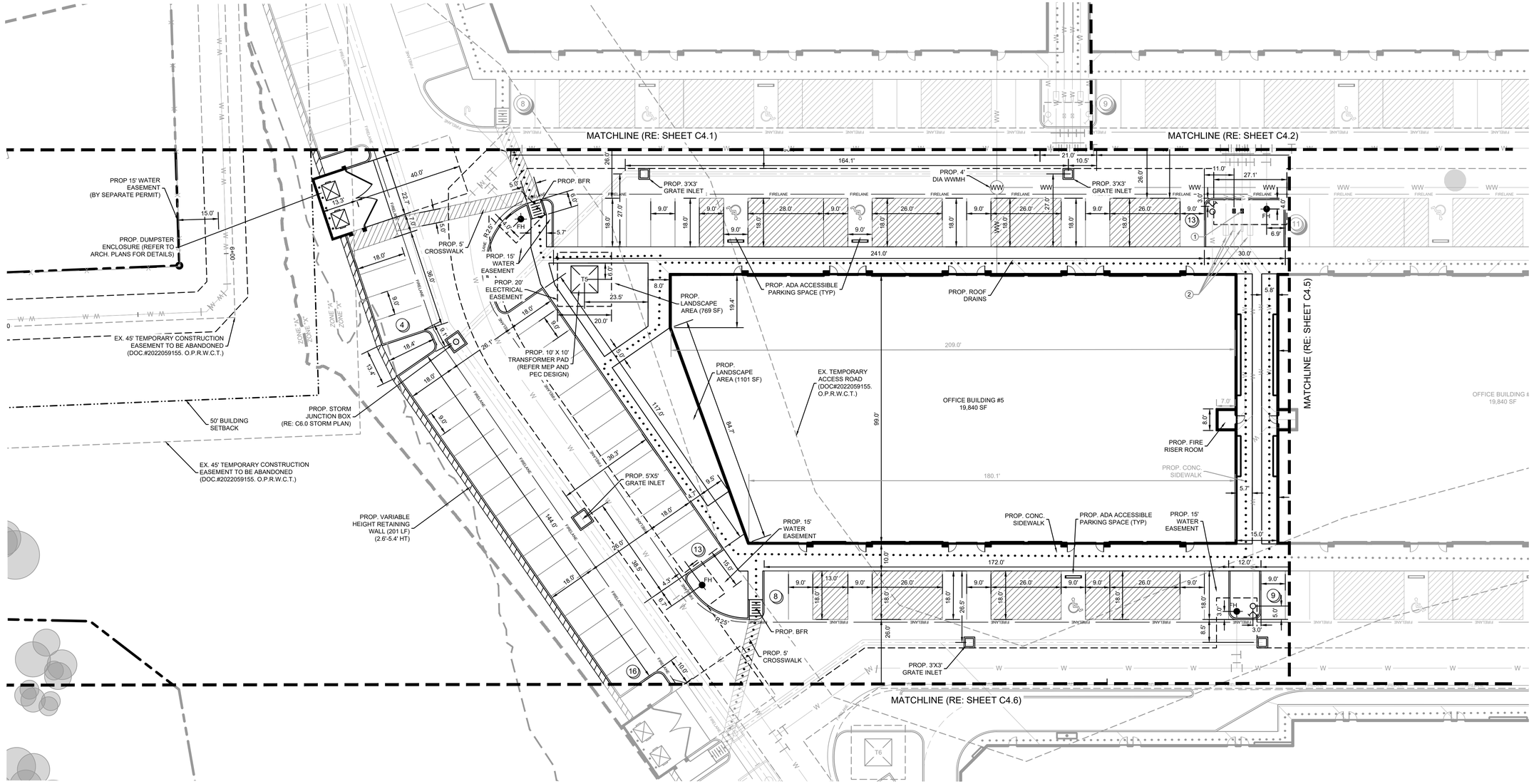
ELEVATION = 918.87' (NAVD '88)



GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DIMENSIONAL CONTROL PLAN IV

SHEET:

C4.4

FILE PATH: K:\Shr\MAL21001_LarkspurTrail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\CA-1 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
FILENAME: CA-1 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
PLOTTED BY: Prezmotka Gadam
PLOTTED DATE: 1/21/2026

LEGEND

PROPOSED SIGN		PARKING COUNT	10
FIRE LANE STRIPING	FIRELANE	PROPOSED RETAINING WALL	
PROPOSED FIRE HYDRANT	FH	PROPOSED FDC	
PROPOSED WASTEWATER MANHOLE	WW	PROPERTY BOUNDARY	
PROPOSED CURB INLET		EXISTING TREE TO REMAIN	
PROPOSED GRATE INLET			
PROPOSED STORM			
PROPOSED WASTEWATER	WW		
PROPOSED WATER	W		
ACCESSIBLE ROUTE			

NOTE TO CONTRACTOR

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SITE PLAN KEY	
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2	PROP. RPZ BACKFLOW
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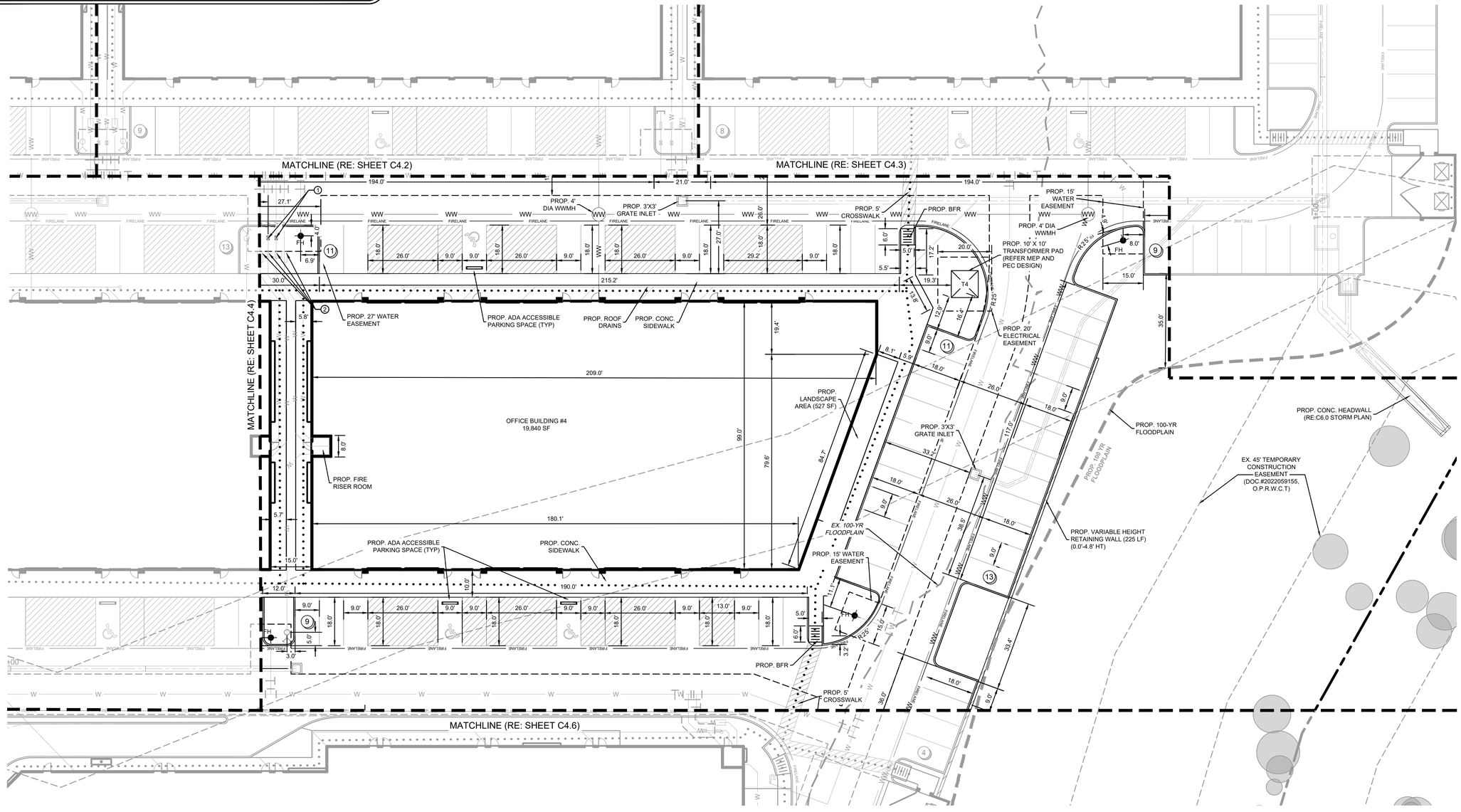
ELEVATION = 918.87' (NAVD '88)



1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DIMENSIONAL CONTROL PLAN V

SHEET:

C4.5

FILENAME: C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026
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LEGEND

PROPOSED SIGN		PARKING COUNT	10
FIRE LANE STRIPING	FIRELANE	PROPOSED RETAINING WALL	
PROPOSED FIRE HYDRANT	FH	PROPOSED FDC	
PROPOSED WASTEWATER MANHOLE	WW	PROPERTY BOUNDARY	
PROPOSED CURB INLET		EXISTING TREE TO REMAIN	
PROPOSED GRATE INLET			
PROPOSED STORM			
PROPOSED WASTEWATER	WW		
PROPOSED WATER	W		
ACCESSIBLE ROUTE			

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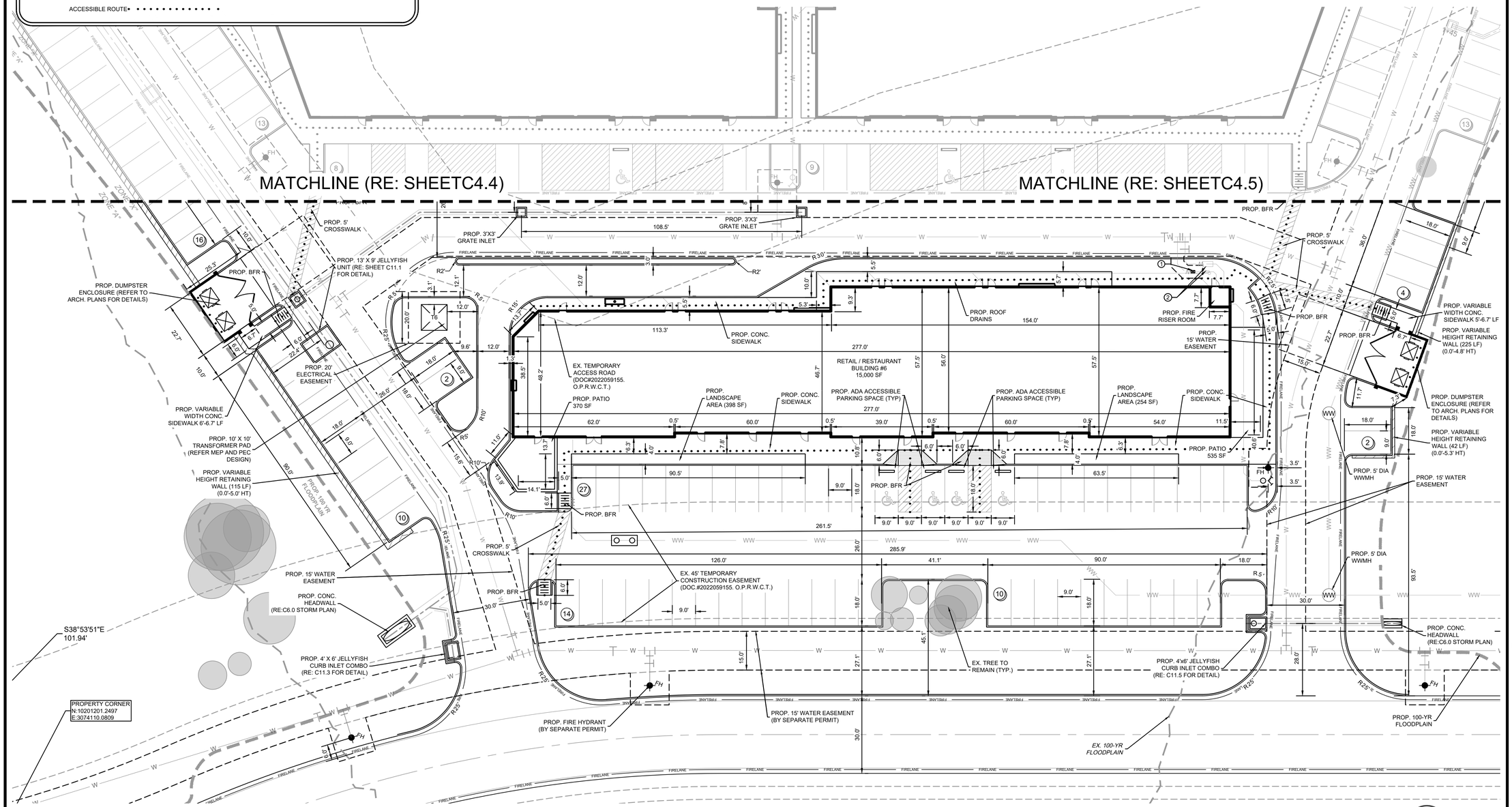
ELEVATION = 918.87' (NAVD '88)



GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL
ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DESCRIPTION:	DATE:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DIMENSIONAL CONTROL PLAN VI

SHEET:

C4.6

FILE PATH: K:\Jobs\MAL2100_LA\Kaplur-Tract\Dwgs\03_ENGR-Prime Office Warehouse\03 - Production\C4.0 DIMENSIONAL CONTROL PLAN_MAL21001.dwg

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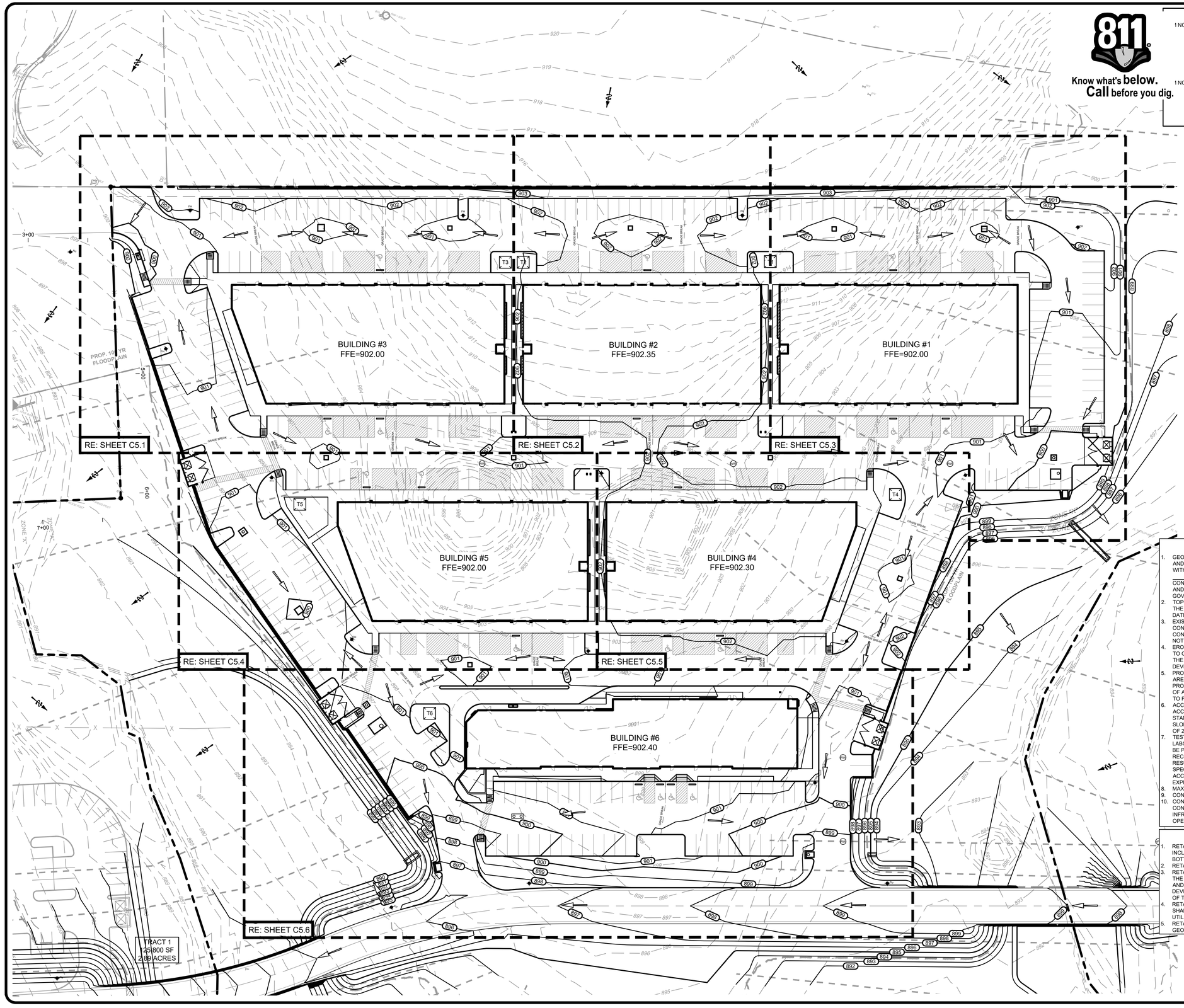
PLOTTED BY: Francesca Gadam
PLOTTED DATE: 1/21/2026



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ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED CONTOUR — 500
- EXISTING CONTOUR — 500
- GRADE BREAK
- PROPOSED SWALE
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY
- PROPOSED 100YR

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

GRADING NOTES:

1. GEOTECHNICAL REPORT: SITE PREPARATION, GRADING, FILL COMPACTION, AND BUILDING PAD PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY GEOTECH COMPANY_, DATED IN THE EVENT OF A CONFLICT BETWEEN THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND THE NOTES ON THE GRADING PLAN, THE GEOTECHNICAL REPORT SHALL GOVERN.
2. TOPOGRAPHIC SURVEY: TOPOGRAPHIC SURVEY INFORMATION IS BASED ON THE TOPOGRAPHIC SURVEY PREPARED BY SURVEY COMPANY, DATED
3. EXISTING CONDITIONS: PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS, INCLUDING GRADES AND DIMENSIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES.
4. EROSION CONTROL: ERION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING CLEARING, STRIPPING AND GRADING OPERATIONS. REFER TO THE EROSION CONTROL PLAN FOR THE SEQUENCE OF EROSION CONTROL DEVICES TO BE INSTALLED.
5. PROPOSED GRADES: THE PROPOSED ELEVATIONS AND CONTOURS SHOWN ARE TO FINISHED GRADE. THE PROPOSED CONTOURS ARE APPROXIMATE. THE PROPOSED SPOT ELEVATIONS AND GRADIENTS ARE TO BE USED IN THE EVENT OF ANY DISCREPANCY WITH THE PROPOSED CONTOURS. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE.
6. ACCESSIBLE ROUTES/PARKING: SIDEWALKS AND CROSSWALKS ALONG ACCESSIBLE ROUTES SHALL BE IN ACCORDANCE WITH TAS AND ADA STANDARDS WITH A MAXIMUM RUNNING SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2%. ACCESSIBLE PARKING SPACES SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.
7. TESTING: TESTING SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE OWNER. TESTING SHALL BE PERFORMED AT A MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THE RESULTS OF THE INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
8. MAXIMUM SITE SLOPES SHALL BE 4:1 UNLESS OTHERWISE NOTED.
9. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS.
10. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS DURING CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED DRAINAGE INFRASTRUCTURE SHOWN IN THESE CONSTRUCTION PLANS IS INSTALLED AND OPERATIONAL.

RETAINING WALL NOTES:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

GRADING PLAN

SHEET:
C5.0

FILE PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001
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PLOTTED BY: Prashuntus Gautam
PLOTTED DATE: 1/21/2026

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

SITE BENCHMARKS

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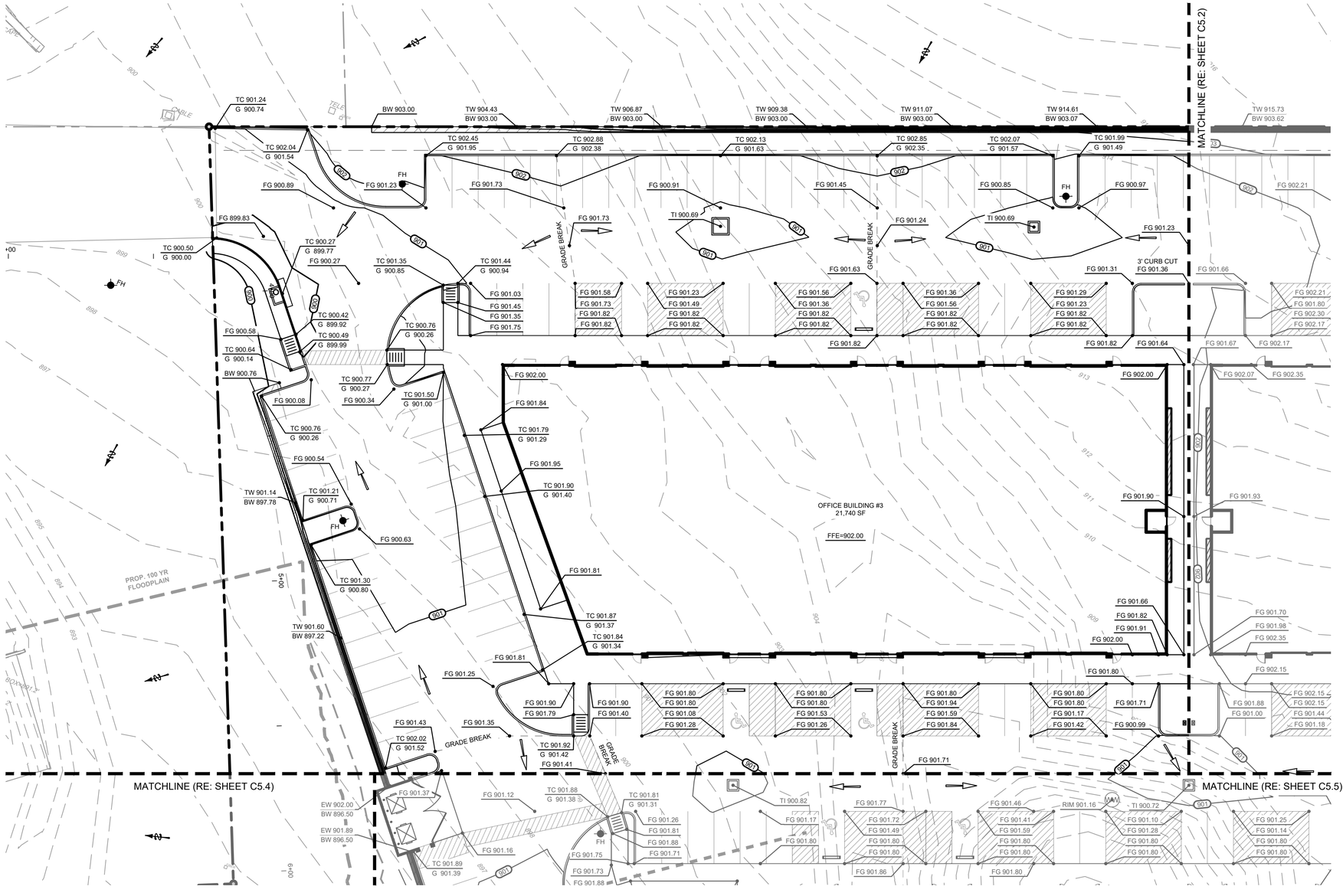

LEGEND

- PROPOSED CONTOUR — 500
- EXISTING CONTOUR — 500
- GRADE BREAK
- PROPOSED SWALE
- PROPOSED FINISHED GRADE — FG 700.00
- PROPOSED TOP OF CURB/GUTTER — TC 700.50 / G 700.00
- PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 / BW 699.00
- PROPOSED TOP OF INLET — TI 700.00
- EXISTING SPOT GRADE — EX. 700.5±
- EXISTING TOP OF CURB/GUTTER — EX. 700.5± / G 700.0±
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY

NOTE TO CONTRACTOR

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GRAPHIC SCALE
0 20 40 FEET
SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED GRADING PLAN I

SHEET:
C5.1

FILE PATH: K:\Mkt\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001
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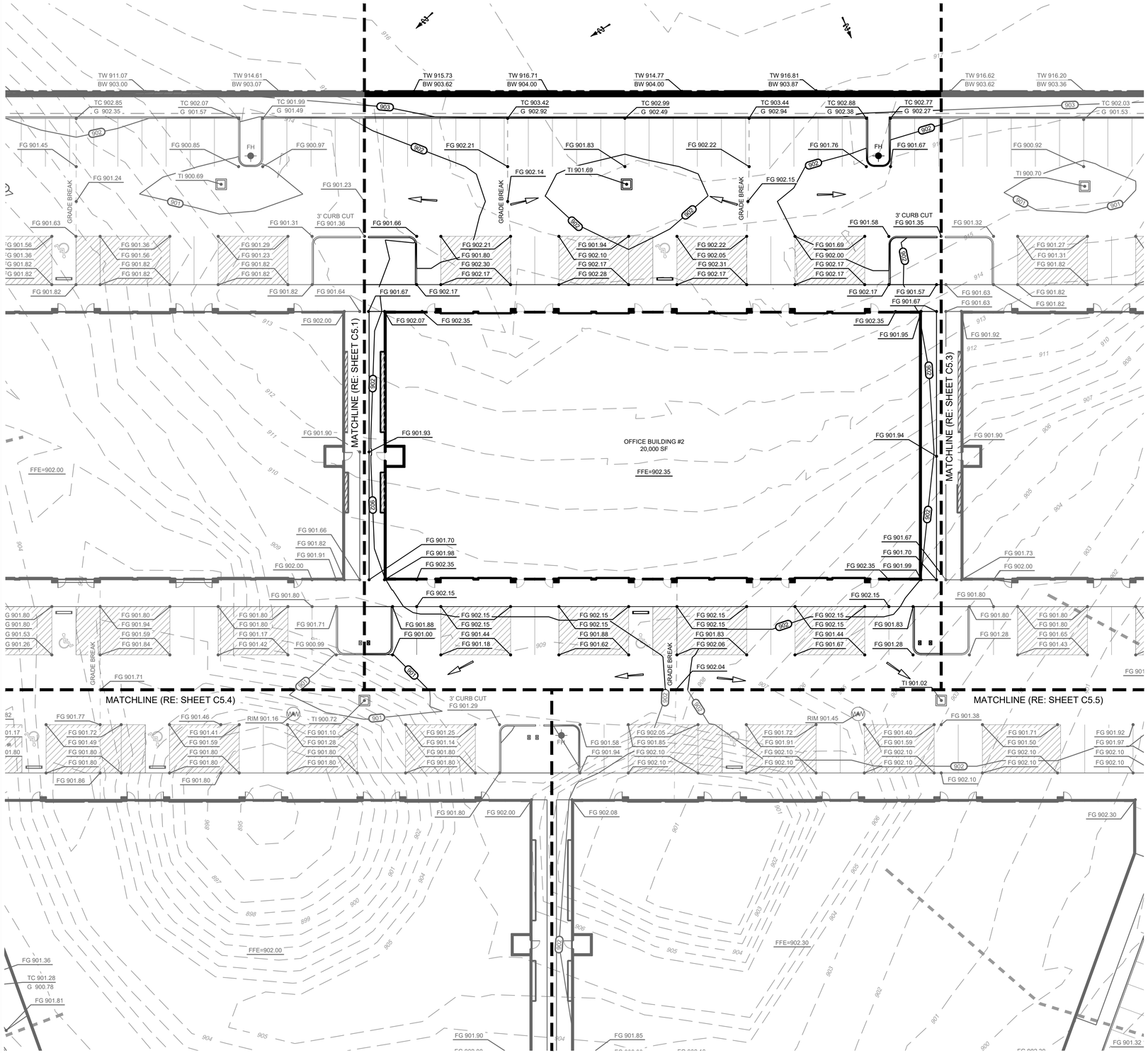
PLOTTED BY: Priscyndra Gadsen
PLOTTED DATE: 1/21/2026



Know what's below. Call before you dig.

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS

2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

LEGEND

- PROPOSED CONTOUR — 500
- EXISTING CONTOUR — 500
- GRADE BREAK
- PROPOSED SWALE
- PROPOSED FINISHED GRADE — FG 700.00
- PROPOSED TOP OF CURB/GUTTER — TC 700.50 / G 700.00
- PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 / BW 699.00
- PROPOSED TOP OF INLET — TI 700.00
- EXISTING SPOT GRADE — *EX. 700.5±*
- EXISTING TOP OF CURB/GUTTER — *TC 700.5± / G 700.0±*
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING DRAINAGE FLOW ARROW — C3
- PROPERTY BOUNDARY

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED GRADING PLAN II

SHEET:

C5.2

FILE PATH: K:\Jobs\MAL21001_Larkspur Tract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001.dwg
FILENAME: C5.0 GRADING PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/2026

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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

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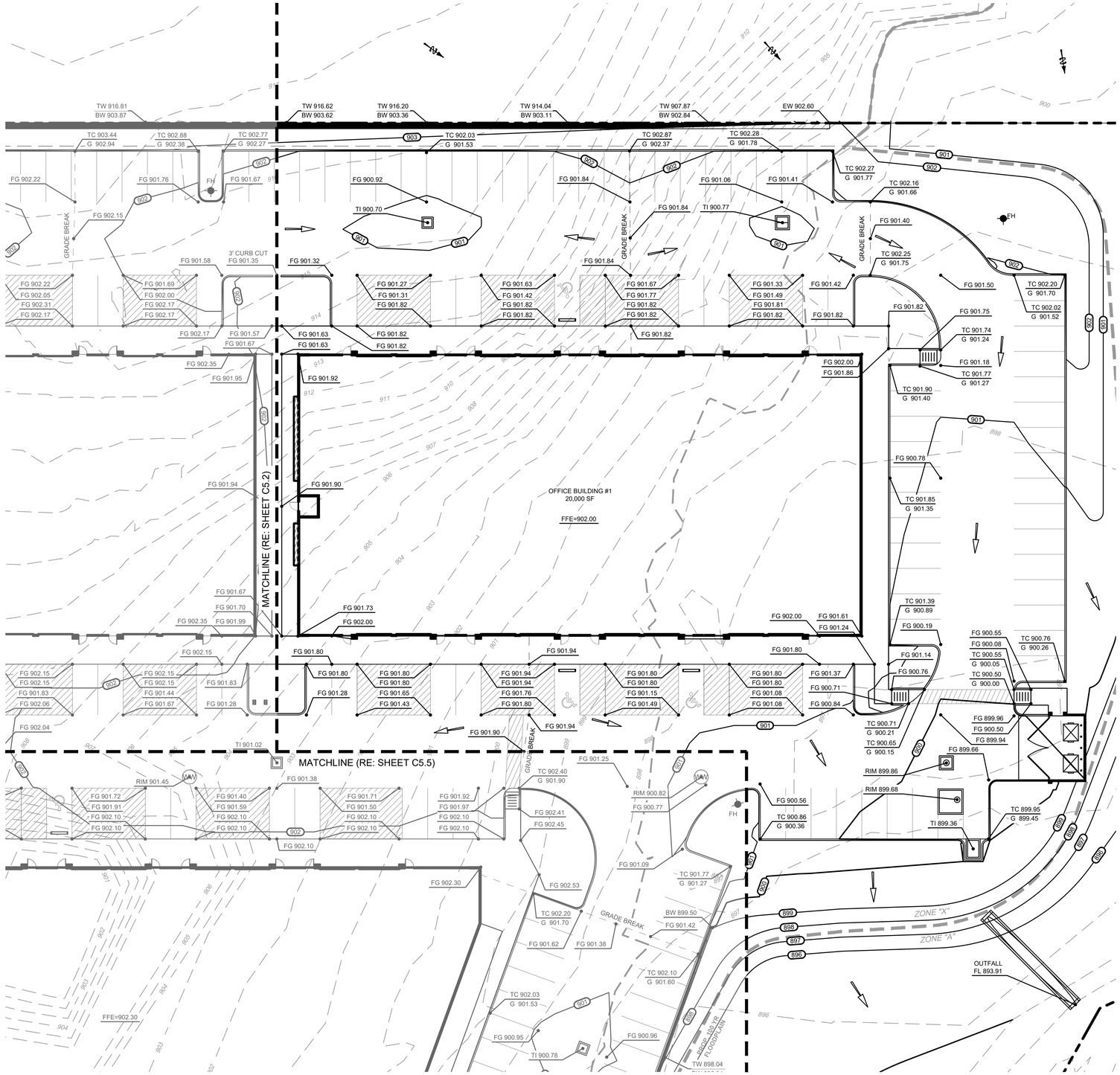
ELEVATION = 918.87' (NAVD '88)



LEGEND

- PROPOSED CONTOUR — 500
- EXISTING CONTOUR — 500
- GRADE BREAK
- PROPOSED SWALE
- PROPOSED FINISHED GRADE — FG 700.00
- PROPOSED TOP OF CURB/GUTTER — TC 700.50 / G 700.00
- PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 / BW 699.00
- PROPOSED TOP OF INLET — TI 700.00
- EXISTING SPOT GRADE — EX. 700.5±
- EXISTING TOP OF CURB/GUTTER — TC 700.5± / G 700.0±
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY

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GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES LIBERTY HILL TEXAS

2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV: DATE: DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED GRADING PLAN III

SHEET:

C5.3

FILE PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001.dwg
FILENAME: C5.0 GRADING PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/2026

LEGEND

PROPOSED CONTOUR	500	PROPOSED FINISHED GRADE	FG 700.00
EXISTING CONTOUR	500	PROPOSED TOP OF CURB/GUTTER	TC 700.50 G 700.00
GRADE BREAK		PROPOSED TOP OF WALL/ BOTTOM OF WALL	TW 700.00 BW 699.00
PROPOSED SWALE		PROPOSED TOP OF INLET	TI 700.00
PROPOSED DRAINAGE FLOW ARROW		EXISTING SPOT GRADE	EX. 700.5±
EXISTING DRAINAGE FLOW ARROW		EXISTING TOP OF CURB/GUTTER	TC 700.5± G 700.0±
PROPERTY BOUNDARY			

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SITE BENCHMARKS

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ELEVATION = 918.87' (NAVD '88)

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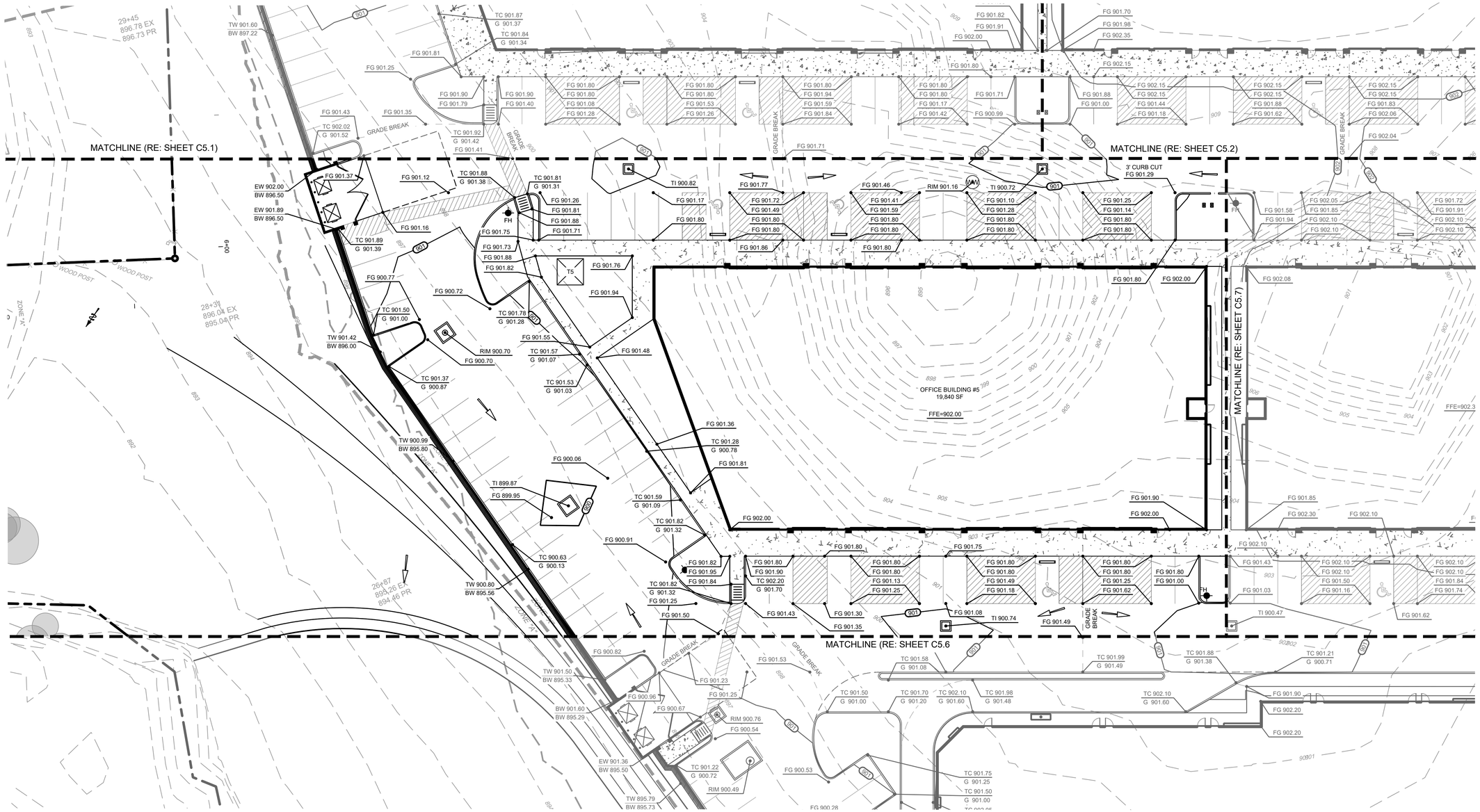

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED GRADING PLAN IV

SHEET:

C5.4

FILE PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001
FILENAME: C5.0_GRADING PLAN_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/26

LEGEND

PROPOSED CONTOUR (500)	PROPOSED FINISHED GRADE — FG 700.00
EXISTING CONTOUR (500)	PROPOSED TOP OF CURB/GUTTER — TC 700.50 / G 700.00
GRADE BREAK	PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 / BW 699.00
PROPOSED SWALE	PROPOSED TOP OF INLET — TI 700.00
PROPOSED DRAINAGE FLOW ARROW	EXISTING SPOT GRADE — EX. 700.5±
EXISTING DRAINAGE FLOW ARROW	EXISTING TOP OF CURB/GUTTER — TC 700.5± / G 700.0±
PROPERTY BOUNDARY	

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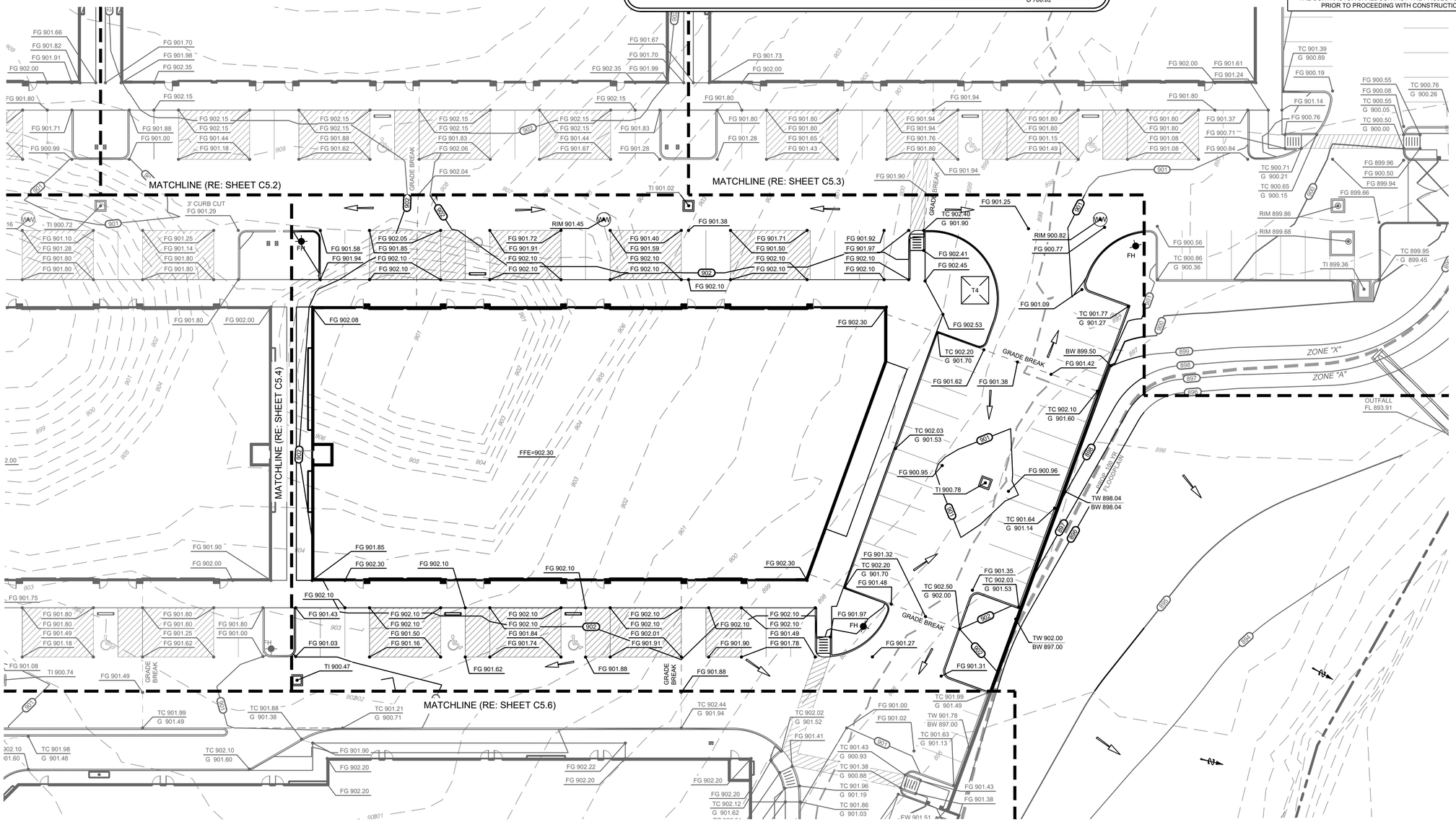
MATCHLINE (RE: SHEET C5.2)
MATCHLINE (RE: SHEET C5.3)
MATCHLINE (RE: SHEET C5.4)
MATCHLINE (RE: SHEET C5.6)
GRADE BREAK
3" CURB CUT
FG 901.29
RIM 901.45
TI 902.02
TI 900.72
TI 900.47
FFE=902.30
FG 902.08
FG 902.30
TC 902.40
G 901.90
FG 901.25
RIM 900.82
FG 900.77
FG 902.41
FG 902.45
FG 902.53
FG 901.09
TC 901.77
G 901.27
TC 902.20
G 901.70
BW 899.50
FG 901.42
FG 901.62
FG 901.38
TC 902.10
G 901.60
TC 902.03
G 901.53
FG 900.95
TI 900.78
FG 900.96
TW 898.04
BW 898.04
TC 901.64
G 901.14
FG 901.32
TC 902.20
G 901.70
FG 901.48
TC 902.50
G 902.00
FG 901.35
TC 902.03
G 901.53
TW 902.00
BW 897.00
FG 901.31
FG 901.27
FG 901.97
TC 902.02
G 901.52
FG 901.41
TC 901.43
G 900.93
TC 901.38
G 900.88
TC 901.96
G 901.19
TC 901.86
G 901.03
FG 901.00
FG 901.02
TW 901.78
BW 897.00
TC 901.63
G 901.13
TC 901.99
G 901.49
FG 901.43
FG 901.38
FW 901.51
TC 901.39
G 900.89
FG 900.19
FG 901.14
FG 900.76
FG 900.55
FG 900.08
TC 900.55
G 900.05
TC 900.50
G 900.00
TC 900.76
G 900.26
FG 901.37
FG 900.71
FG 900.84
TC 900.71
G 900.21
TC 900.65
G 900.15
FG 899.96
FG 900.50
FG 899.94
FG 899.66
RIM 899.86
RIM 899.68
TI 899.36
TC 899.95
G 899.45
FG 900.56
TC 900.86
G 900.36
ZONE "X"
ZONE "A"
OUTFALL
FL 893.91
FG 901.90
FG 902.00
FG 901.75
FG 901.08
TI 900.74
FG 901.49
TC 901.99
G 901.49
TC 901.98
G 901.48
TC 902.10
G 901.60
TC 901.88
G 901.38
TC 901.21
G 900.71
FG 902.44
G 901.94
FG 902.20
FG 902.22
FG 902.12
G 901.62
FG 901.85
FG 902.30
FG 902.10
FG 901.43
FG 901.03
FG 901.16
FG 901.84
FG 901.74
FG 902.01
FG 901.91
FG 901.90
FG 901.49
FG 901.78
FG 901.27
FG 901.62
FG 901.88
GRADE BREAK
FH
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LEGEND

PROPOSED CONTOUR	PROPOSED FINISHED GRADE — FG 700.00
EXISTING CONTOUR	PROPOSED TOP OF CURB/GUTTER — TC 700.50 G 700.00
GRADE BREAK	PROPOSED TOP OF WALL/ BOTTOM OF WALL — TW 700.00 BW 699.00
PROPOSED SWALE	PROPOSED TOP OF INLET — TI 700.00
PROPERTY BOUNDARY	EXISTING SPOT GRADE — EX. 700.5±
PROPOSED DRAINAGE FLOW ARROW	EXISTING TOP OF CURB/GUTTER — TC 700.5± G 700.0±
EXISTING DRAINAGE FLOW ARROW	

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MATCHLINE (RE: SHEET C5.4)

MATCHLINE (RE: SHEET C5.5)

GRAPHIC SCALE

0 20 40 FEET

SCALE: 1" = 20'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DESCRIPTION:	DATE:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED GRADING PLAN VI

SHEET:

C5.6

FILE PATH: K:\Jobs\MAL21001_LarkspurTrail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C5.0 GRADING PLAN_MAL21001
FILENAME: C5.0 GRADING PLAN_MAL21001.dwg
PLOTTED BY: Preciyonka Gautam
PLOTTED DATE: 1/21/2026

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ELEVATION = 911.62' (NAVD '88)

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ELEVATION = 918.87' (NAVD '88)

LARKSPUR PARK BOULEVARD
(120' R.O.W. PER INST. NO. 2017015639, P.R.W.C.T.)

U.S. HIGHWAY 183-A
(R.O.W. VARIES - INST. NO. 2018042264)

EX OS 1
1.58 ac.
9.69

EX OS 2
3.56 ac.
21.84

DA1
10.61 ac.
61.54

DA2
25.06 ac.
156.23

TC = 9.36 MINUTES
TOTAL LENGTH = 1389 FT
SHEET FLOW LENGTH = 100 FT (5.00 MINUTES)
SHALLOW CONCENTRATED FLOW (2.92 MINUTES)
LENGTH = 497 FT (1.44 MINUTES)

TC = 7.39 MINUTES
TOTAL LENGTH = 1862FT
SHEET FLOW LENGTH = 100 FT (1.52 MINUTES)
SHALLOW CONCENTRATED FLOW
LENGTH = 485 FT (2.59 MINUTES)
CHANNEL FLOW = 1278 FT (3.28 MINUTES)

EX. CULVERT
EX. CULVERT
EX. CULVERT
EX. 100 YR FLOODPLAIN
EX. 100 YR FLOODPLAIN
EX. 100 YR FLOODPLAIN
EX OHE
REACH #1
REACH #2

LEGEND

EXISTING DRAINAGE AREA LABEL	BASIN NAME: DA1; ACRES: 0.63 ac.; Q100 (cfs): 5.57
EXISTING DRAINAGE AREA DIVIDE	
EXISTING DRAINAGE FLOW ARROW	
EXISTING CONTOUR	500
EXISTING STORM PIPE	
PROPERTY BOUNDARY	

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LOT 14, I
CAUGHFIEL
DOC.# 20:
P.R.W

EXISTING DRAINAGE AREA CALCULATIONS

NOAA ATLAS 14 Rainfall Zone: Williamson County - San Gabriel River

Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
EX 1	10.61	9.36	0.33	5.03	**17.70**	0.36	6.32	**24.38**	0.39	7.42	**30.98**	0.43	8.97	**41.35**	0.47	10.20	**50.35**	0.51	11.46	**61.53**	FLOWS TO REACH 1
EX 2	25.52	7.39	0.33	5.44	**45.38**	0.36	6.83	**62.42**	0.39	8.00	**79.23**	0.43	9.64	**105.49**	0.46	10.92	**128.17**	0.50	12.23	**156.21**	FLOWS TO REACH 1
EX OS 1	1.58	5.00	0.29	6.06	**2.78**	0.32	7.58	**3.83**	0.35	8.85	**4.89**	0.39	10.61	**6.54**	0.42	11.97	**7.95**	0.46	13.34	**9.69**	FLOWS TO EX 1
EX OS 2	3.56	5.00	0.29	6.06	**6.26**	0.32	7.58	**8.64**	0.35	8.85	**11.03**	0.39	10.61	**14.73**	0.42	11.97	**17.90**	0.46	13.34	**21.84**	FLOWS TO EX 2

GRAPHIC SCALE
0 80 160 FEET
SCALE: 1" = 80'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

EXISTING DRAINAGE AREA MAP

SHEET:
C6.0

FILENAME: C6.0 EXISTING DRAINAGE AREA MAP_MAL21001.dwg
PLOTTED BY: Prashanta Gadam
PLOTTED DATE: 1/21/2026
FULL PATH: K:\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C6.0 EXISTING DRAINAGE AREA MAP_MAL21001.dwg

Know what's **below.**
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BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED DRAINAGE AREA LABEL — BASIN NAME / ACRES / Q100 (cfs) (e.g. DA1 / 1.82 Ac. / 14.52)
- PROPOSED DRAINAGE AREA DIVIDE
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING CONTOUR
- PROPOSED CONTOUR (500)
- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- PROPERTY BOUNDARY

NOTE TO CONTRACTOR

EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

LARKSPUR PARK BOULEVARD
(120' R.O.W. PER INST. NO. 2017015639, P.R.W.C.T.)

U.S. HIGHWAY 183-A
(R.O.W. VARIES - INST. NO. 2018042264)

EX. CULVERT

OS1 0.24 Ac. 1.47 | OS2 0.37 Ac. 2.27 | OS3 0.72 Ac. 4.42 | OS4 0.24 Ac. 1.47 | OS5 0.47 Ac. 2.95 | OS6 0.21 Ac. 1.29 | OS7 2.78 Ac. 17.06

DA1 0.33 Ac. 3.93 | DA2 0.21 Ac. 2.58 | DA3 0.32 Ac. 3.87 | DA4 0.17 Ac. 2.06 | DA5 0.37 Ac. 4.51 | DA6 0.16 Ac. 1.93 | DA7 0.50 Ac. 6.47 | DA8 0.46 Ac. 5.95 | DA9 0.46 Ac. 5.95 | DA10 0.58 Ac. 7.23

DA11 0.42 Ac. 5.09 | DA12 0.19 Ac. 2.46 | DA13 0.38 Ac. 4.85 | DA14 0.44 Ac. 5.62 | DA15 0.46 Ac. 5.95 | DA16 0.46 Ac. 5.95 | DA17 0.19 Ac. 2.332 | DA18 2.18 Ac. 14.87 | DA19 0.33 Ac. 4.20 | DA20 0.34 Ac. 4.13 | DA21 0.33 Ac. 4.27 | DA22 0.47 Ac. 5.88 | DA23 0.57 Ac. 7.10

OS8 1.31 Ac. 11.00 | OS9 1.68 Ac. 16.29 | DA24 2.19 Ac. 14.52 | DA25 21.26 Ac. 122.77

GRATE INLET #1 … #15 | CURB INLET #1 | OUTFALL #1 | OUTFALL #2 | OUTFALL #3

EX. 100 YR FLOODPLAIN | PROP. 100 YR FLOODPLAIN

TC = 7.39 MINUTES
TOTAL LENGTH = 1862FT
SHEET FLOW LENGTH = 100 FT (1.52 MINUTES)
SHALLOW CONCENTRATED FLOW
LENGTH = 485 FT (2.59 MINUTES)
CHANNEL FLOW = 1278 FT (3.28 MINUTES)

REACH #1 | REACH #2

GRAPHIC SCALE
0 80 160 FEET
SCALE: 1" = 80'

NOAA ATLAS 14 Rainfall Zone: Williamson County - San Gabriel River

Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
DA 1	0.33	5.00	0.68	6.06	**1.36**	0.73	7.58	**1.82**	0.76	8.85	**2.21**	0.81	10.61	**2.82**	0.84	11.97	**3.34**	0.89	13.34	**3.93**	FLOWS TO CURB INLET #1
DA 2	0.21	5.00	0.71	6.06	**0.90**	0.75	7.58	**1.20**	0.78	8.85	**1.46**	0.83	10.61	**1.86**	0.87	11.97	**2.19**	0.92	13.34	**2.58**	FLOWS TO GRATE INLET #1
DA 3	0.32	5.00	0.69	6.06	**1.34**	0.74	7.58	**1.80**	0.77	8.85	**2.18**	0.82	10.61	**2.78**	0.86	11.97	**3.29**	0.91	13.34	**3.87**	FLOWS TO GRATE INLET #2
DA 4	0.17	5.00	0.70	6.06	**0.72**	0.74	7.58	**0.96**	0.77	8.85	**1.16**	0.82	10.61	**1.48**	0.86	11.97	**1.75**	0.91	13.34	**2.06**	FLOWS TO GRATE INLET #3
DA 5	0.37	5.00	0.70	6.06	**1.57**	0.75	7.58	**2.10**	0.78	8.85	**2.55**	0.83	10.61	**3.25**	0.87	11.97	**3.84**	0.91	13.34	**4.51**	FLOWS TO GRATE INLET #4
DA 6	0.16	5.00	0.69	6.06	**0.67**	0.74	7.58	**0.90**	0.77	8.85	**1.09**	0.82	10.61	**1.39**	0.86	11.97	**1.64**	0.91	13.34	**1.93**	FLOWS TO GRATE INLET #5
DA 7	0.50	5.00	0.75	6.06	**2.27**	0.80	7.58	**3.03**	0.83	8.85	**3.67**	0.88	10.61	**4.67**	0.92	11.97	**5.51**	0.97	13.34	**6.47**	ROOF DRAINS
DA 8	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 9	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 10	0.58	5.00	0.72	6.06	**2.53**	0.77	7.58	**3.37**	0.80	8.85	**4.09**	0.85	10.61	**5.21**	0.89	11.97	**6.15**	0.93	13.34	**7.23**	FLOWS TO CURB INLET #2
DA 11	0.42	5.00	0.70	6.06	**1.77**	0.74	7.58	**2.37**	0.77	8.85	**2.87**	0.82	10.61	**3.66**	0.86	11.97	**4.33**	0.91	13.34	**5.09**	FLOWS TO GRATE INLET #9
DA 12	0.19	5.00	0.75	6.06	**0.86**	0.80	7.58	**1.15**	0.83	8.85	**1.40**	0.88	10.61	**1.77**	0.92	11.97	**2.09**	0.97	13.34	**2.46**	FLOWS TO GRATE INLET #6
DA 13	0.38	5.00	0.74	6.06	**1.70**	0.79	7.58	**2.27**	0.82	8.85	**2.75**	0.87	10.61	**3.50**	0.91	11.97	**4.13**	0.96	13.34	**4.85**	FLOWS TO GRATE INLET #7
DA 14	0.44	5.00	0.74	6.06	**1.97**	0.79	7.58	**2.63**	0.82	8.85	**3.19**	0.87	10.61	**4.06**	0.91	11.97	**4.79**	0.96	13.34	**5.62**	FLOWS TO CURB INLET #8
DA 15	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 16	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 17	0.19	5.00	0.70	6.06	**0.81**	0.75	7.58	**1.08**	0.78	8.85	**1.31**	0.83	10.61	**1.67**	0.87	11.97	**1.97**	0.92	13.34	**2.32**	FLOWS TO CURB INLET #10
DA 18	2.18	5.00	0.34	6.06	**4.45**	0.37	7.58	**6.09**	0.40	8.85	**7.69**	0.44	10.61	**10.16**	0.47	11.97	**12.28**	0.51	13.34	**14.87**	FLOWS TO REACH 1
DA 19	0.33	5.00	0.74	6.06	**1.47**	0.79	7.58	**1.97**	0.82	8.85	**2.38**	0.87	10.61	**3.03**	0.90	11.97	**3.58**	0.95	13.34	**4.20**	FLOWS TO CURB INLET #11
DA 20	0.34	5.00	0.70	6.06	**1.43**	0.74	7.58	**1.92**	0.77	8.85	**2.33**	0.82	10.61	**2.97**	0.86	11.97	**3.51**	0.91	13.34	**4.13**	FLOWS TO CURB INLET #12
DA 21	0.33	5.00	0.75	6.06	**1.50**	0.80	7.58	**2.00**	0.83	8.85	**2.42**	0.88	10.61	**3.08**	0.92	11.97	**3.64**	0.97	13.34	**4.27**	ROOF DRAINS
DA 22	0.47	5.00	0.72	6.06	**2.05**	0.77	7.58	**2.74**	0.80	8.85	**3.33**	0.85	10.61	**4.23**	0.89	11.97	**5.00**	0.94	13.34	**5.88**	FLOWS TO CURB INLET #3
DA 23	0.57	5.00	0.72	6.06	**2.48**	0.77	7.58	**3.31**	0.80	8.85	**4.02**	0.85	10.61	**5.11**	0.88	11.97	**6.04**	0.93	13.34	**7.10**	FLOWS TO CURB INLET #4
DA 24	2.19	5.00	0.32	6.06	**4.24**	0.35	7.58	**5.82**	0.38	8.85	**7.38**	0.42	10.61	**9.79**	0.45	11.97	**11.85**	0.49	13.34	**14.39**	FLOWS TO REACH 1
DA 25	21.26	7.39	0.30	5.44	**34.85**	0.33	6.83	**48.13**	0.36	8.00	**61.47**	0.40	9.64	**82.30**	0.43	10.92	**100.32**	0.47	12.23	**122.77**	FLOWS TO REACH 2
OFFSITE 1	0.24	5.00	0.29	6.06	**0.42**	0.32	7.58	**0.58**	0.35	8.85	**0.74**	0.39	10.61	**0.99**	0.42	11.97	**1.21**	0.46	13.34	**1.47**	FLOWS TO DA 1
OFFSITE 2	0.37	5.00	0.29	6.06	**0.65**	0.32	7.58	**0.90**	0.35	8.85	**1.15**	0.39	10.61	**1.53**	0.42	11.97	**1.86**	0.46	13.34	**2.27**	FLOWS TO DA 2
OFFSITE 3	0.72	5.00	0.29	6.06	**1.27**	0.32	7.58	**1.75**	0.35	8.85	**2.23**	0.39	10.61	**2.98**	0.42	11.97	**3.62**	0.46	13.34	**4.42**	FLOWS TO DA 3
OFFSITE 4	0.24	5.00	0.29	6.06	**0.42**	0.32	7.58	**0.58**	0.35	8.85	**0.74**	0.39	10.61	**0.99**	0.42	11.97	**1.21**	0.46	13.34	**1.47**	FLOWS TO DA 4
OFFSITE 5	0.48	5.00	0.29	6.06	**0.84**	0.32	7.58	**1.16**	0.35	8.85	**1.49**	0.39	10.61	**1.99**	0.42	11.97	**2.41**	0.46	13.34	**2.95**	FLOWS TO DA 5
OFFSITE 6	0.21	5.00	0.29	6.06	**0.37**	0.32	7.58	**0.51**	0.35	8.85	**0.65**	0.39	10.61	**0.87**	0.42	11.97	**1.06**	0.46	13.34	**1.29**	FLOWS TO DA 6
OFFSITE 7	2.78	5.00	0.29	6.06	**4.89**	0.32	7.58	**6.75**	0.35	8.85	**8.61**	0.39	10.61	**11.50**	0.42	11.97	**13.98**	0.46	13.34	**17.06**	FLOWS TO DA 25
OFFSITE 8	1.31	5.00	0.44	6.06	**3.52**	0.48	7.58	**4.77**	0.51	8.85	**5.91**	0.55	10.61	**7.69**	0.59	11.97	**9.20**	0.63	13.34	**11.00**	FLOWS TO REACH 1
OFFSITE 9	1.68	5.00	0.53	6.06	**5.41**	0.57	7.58	**7.28**	0.60	8.85	**8.94**	0.65	10.61	**11.52**	0.68	11.97	**13.72**	0.73	13.34	**16.29**	FLOWS TO REACH 1

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

PROPOSED DRAINAGE AREA MAP

SHEET:
C6.1

FILENAME: C6.1 PROPOSED DRAINAGE AREA MAP_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/26
FILE PATH: K:\Shr\MAL21001_Larkspur Trail\Drawings\01_ENGR-Prime Office Warehouse\03 - Production\Xrfs\MAL21001_Larkspur Trail\Drawings\01_ENGR-Prime Office Warehouse\03 - Production\C6.1 PROPOSED DRAINAGE AREA MAP_MAL21001

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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED CURB INLET
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GRATE INLET
- PROPOSED STORM JUNCTION BOX
- PROPERTY BOUNDRAY

STORM DRAIN NOTES:

1. REFER TO SHEETS C11.0 - C11.5 FOR STORM DRAIN DETAILS.
2. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING FRANCHISE UTILITY LINES IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BIDS FOR ALL KNOWN OR UNKNOWN LINES.

NOTE TO CONTRACTOR

EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

GRAPHIC SCALE

0 40 80 FEET

SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV: | DATE: | DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

STORM PLAN

SHEET:
C6.2

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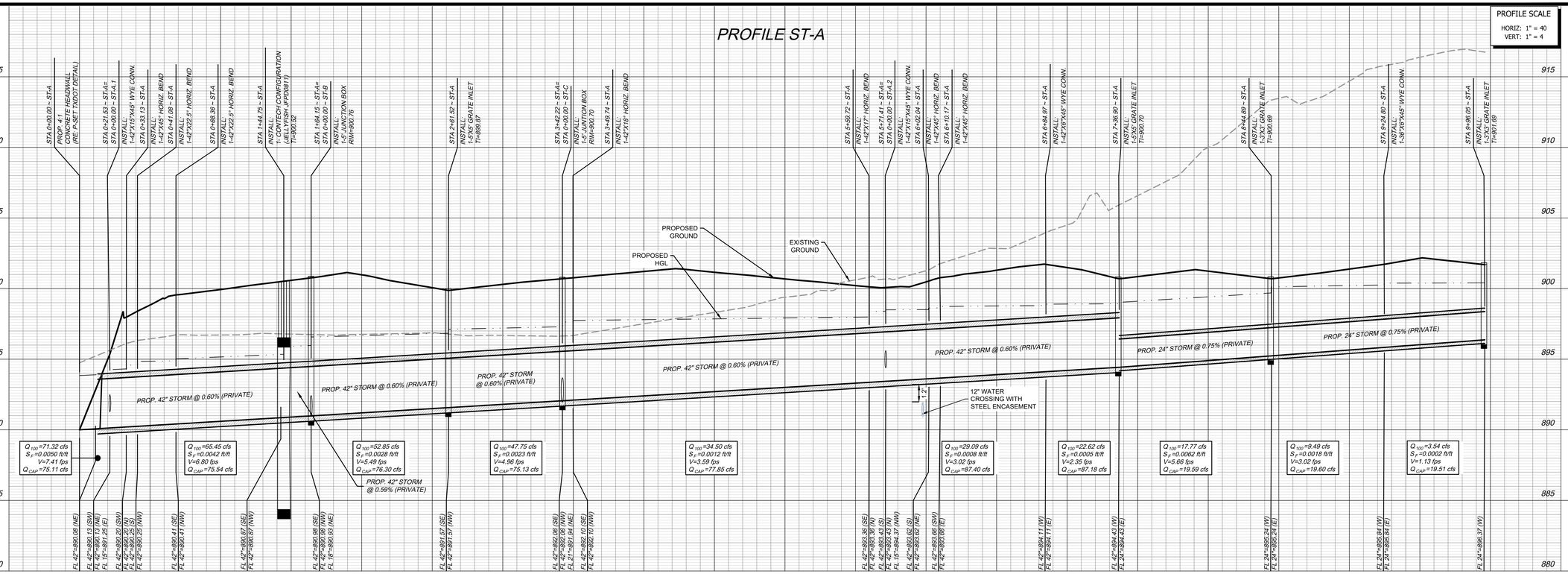
FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Prashrutika Gautam
PLOTTED DATE: 1/21/2026

PROFILE ST-A

PROFILE SCALE
HORIZ: 1" = 40
VERT: 1" = 4



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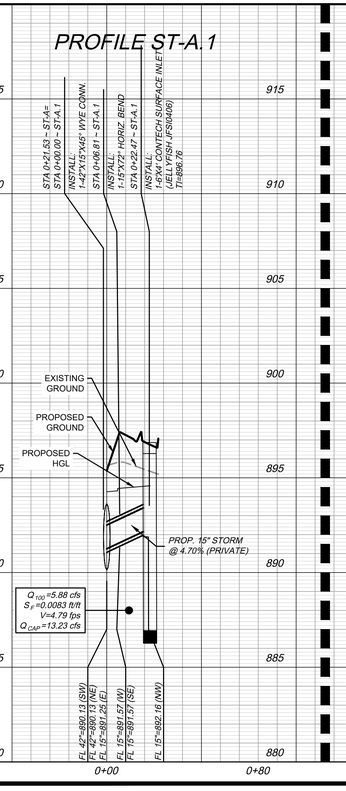

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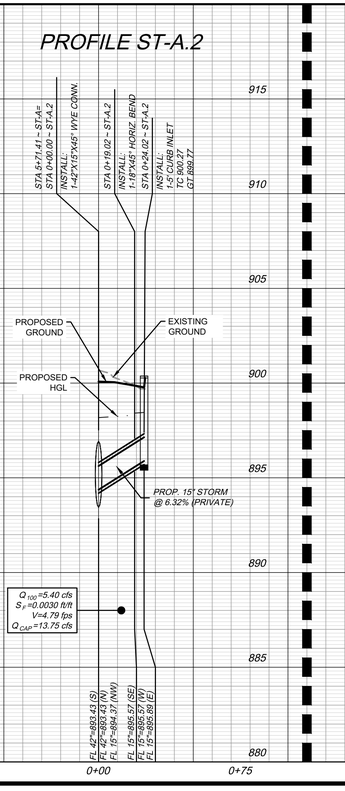

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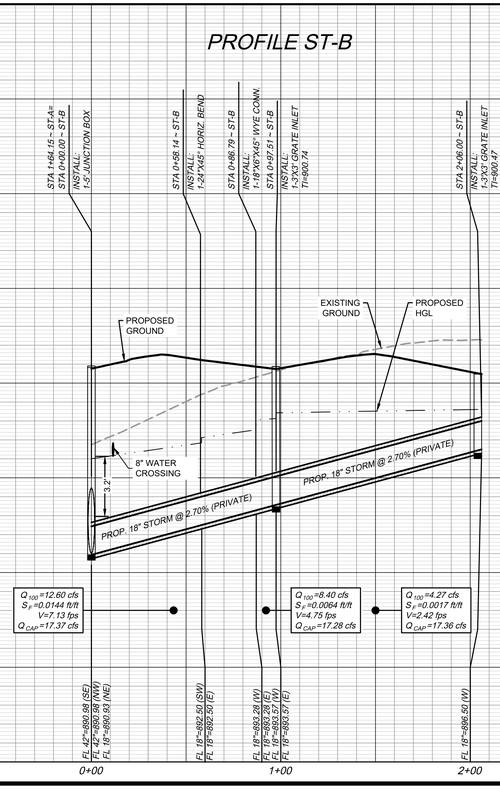

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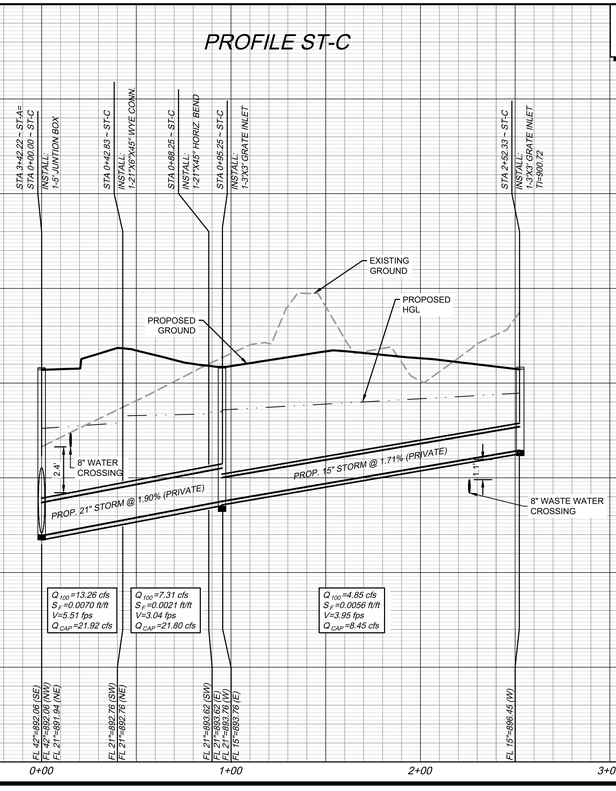

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

STORM PROFILE I

SHEET:
C6.3

FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED ON: Wednesday, January 21, 2026
PLOTTED AT: 3:45:35 PM

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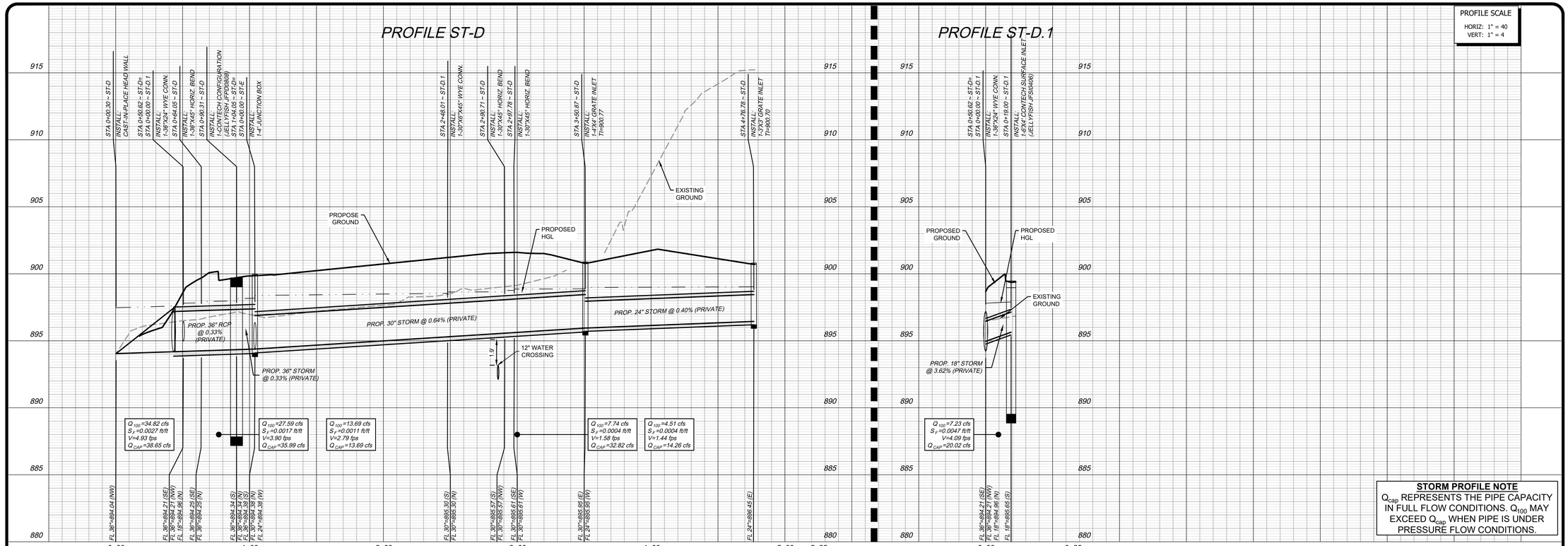

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
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WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

STORM PROFILE II

SHEET:
C6.4

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STARTING HGL NOTE:

1. STARTING HGL FOR ST-A IS 893.84' TAKEN FROM 100 YEAR FLOODPLAIN "FROM THE FLOOD STUDY FOR SPUR CREEK DEVELOPMENT IN LEANDER, TEXAS" DATED 08/17/2023, PREPARED BY KCE ENGINEERING, LLC.
2. STARTING HGL FOR ST-D IS 897.47' TAKEN FROM 100 YEAR FLOODPLAIN "FROM THE FLOOD STUDY FOR SPUR CREEK DEVELOPMENT IN LEANDER, TEXAS" DATED 08/17/2023, PREPARED BY KCE ENGINEERING, LLC.
3. STARTING HGL FOR ST-F IS 895.51' TAKEN FROM 100 YEAR FLOODPLAIN "FROM THE FLOOD STUDY FOR SPUR CREEK DEVELOPMENT IN LEANDER, TEXAS" DATED 08/17/2023, PREPARED BY KCE ENGINEERING, LLC.
4. STARTING HGL FOR THE REST TAKEN AS 1' ABOVE INSIDE TOP OF PIPE.

HYDRAULIC CALCULATIONS (FUTURE / ULTIMATE)

Runoff		Pipe	Drainage													Head Loss Calculations								Invert Elevation			Comments
Design Point		Length	Area	Q 100	Incremental	Uncaptured	Q	Shape					Manning	Hydr	Hydraulic Grade							Head Loss	Design				
Upstrm	Dwnstrm	Between	No.	Runoff	Q	Bypass	in Pipe	of	No. of	Pipe	Box Culvert		n	Grade	Line Elevation		V1	V2			Loss		at Structure	HGL	Upstrm	Dwnstrm	TC / FG	
Station	Station	Points		"Q"	"Q"	"Q"	"Q"	Pipe	Barrels	Diameter	Width	Heigth	Value	"Sf"	Upstrm	Dwnstrm	Flow (In)	Flow (Out)	V1^2/2g	V2^2/2g	Coeff	KjV1^2/2g	"Hk"	Elevation			Elev	
				(c.f.s.)	(c.f.s.)	(c.f.s.)	(c.f.s.)			(in.)	(ft)	(ft)		(ft./ft.)			(f.p.s.)	(f.p.s.)	(feet)	(feet)	(Kj)	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	
1	2	3		4a	4b	4c	4d	5a	5b	5c	5d	5e	5f	6	7	8	9	10	11	12	13	14	15	16	17	18		
ST-A																											
995.74	924.49	71.25	DA4+OS4	3.54	3.54	0.00	3.54	circular	1	24			0.013	0.0002	900.07	900.06		1.13		0.02	0.50		0.10	900.17	896.37	895.84	901.70	
924.49	844.58	79.91	DA 8	5.95	9.49	0.00	9.49	circular	1	24			0.013	0.0018	899.93	899.79	1.13	3.02	0.02	0.14	0.75	0.01	0.13	900.06	895.84	895.24	901.81	
844.58	736.59	107.99	DA3+OS3	8.29	17.77	0.00	17.77	circular	1	24			0.013	0.0062	899.36	898.70	3.02	5.66	0.14	0.50	0.50	0.07	0.43	899.79	895.24	894.43	900.69	
736.59	684.65	51.94	DA2+OS2	4.85	22.62	0.00	22.62	circular	1	42			0.013	0.0005	898.60	898.57	5.66	2.35	0.50	0.09	0.50	0.25	0.10	898.70	894.43	894.04	900.69	
684.65	609.11	75.54	DA 7	6.47	29.09	0.00	29.09	circular	1	42			0.013	0.0008	898.47	898.41	2.35	3.02	0.09	0.14	0.75	0.06	0.10	898.57	894.04	893.47	901.72	
609.11	601.70	7.41		0.00	29.09	0.00	29.09	circular	1	42			0.013	0.0008	898.31	898.30	3.02	3.02	0.14	0.14	0.35	0.05	0.10	898.41	893.47	893.42	900.75	
601.70	571.41	30.29		0.00	29.09	0.00	29.09	circular	1	42			0.013	0.0008	898.20	898.17	3.02	3.02	0.14	0.14	0.35	0.05	0.10	898.30	893.42	893.25	900.53	
571.41	559.72	11.69	DA1+OS1	5.40	34.50	0.00	34.50	circular	1	42			0.013	0.0012	898.07	898.06	3.02	3.59	0.14	0.20	0.75	0.11	0.10	898.17	893.25	893.18	900.08	
559.72	349.75	209.97		0.00	34.50	0.00	34.50	circular	1	42			0.013	0.0012	897.96	897.71	3.59	3.59	0.20	0.20	0.20	0.04	0.10	898.06	893.18	891.94	900.12	
349.75	342.22	7.53		0.00	34.50	0.00	34.50	circular	1	42			0.013	0.0012	897.61	897.61	3.59	3.59	0.20	0.20	0.20	0.04	0.10	897.71	891.94	891.94	900.76	
342.22	261.52	80.70	DA12+DA13+DA15	13.26	47.75	0.00	47.75	circular	1	42			0.013	0.0023	897.27	897.09	3.59	4.96	0.20	0.38	0.25	0.05	0.33	897.61	891.94	891.49	900.70	
261.52	164.15	97.37	DA 11	5.09	52.85	0.00	52.85	circular	1	42			0.013	0.0028	896.81	896.55	4.96	5.49	0.38	0.47	0.50	0.19	0.28	897.09	891.49	890.93	898.87	
164.15	144.75	19.40	DA19+DA20+DA21	12.60	65.45	0.00	65.45	circular	1	42			0.013	0.0042	895.94	895.86	5.49	6.80	0.47	0.72	0.25	0.12	0.60	896.55	890.93	890.85	900.76	
144.75	68.36	76.39		0.00	65.45	0.00	65.45	circular	1	42			0.013	0.0042	895.32	895.00	6.80	6.80	0.72	0.72	0.25	0.18	0.54	895.86	890.85	890.39	900.52	
68.36	41.08	27.28		0.00	65.45	0.00	65.45	circular	1	42			0.013	0.0042	894.86	894.74	6.80	6.80	0.72	0.72	0.20	0.14	0.14	895.00	890.39	890.23	899.55	
41.08	33.13	7.95		0.00	65.45	0.00	65.45	circular	1	42			0.013	0.0042	894.60	894.56	6.80	6.80	0.72	0.72	0.20	0.14	0.14	894.74	890.23	890.19	898.41	
33.13	21.53	11.60		0.00	65.45	0.00	65.45	circular	1	42			0.013	0.0042	894.31	894.26	6.80	6.80	0.72	0.72	0.35	0.25	0.25	894.56	890.19	890.12	897.98	
21.53	0.00	21.53	DA 22	5.88	71.32	0.00	71.32	circular	1	42			0.013	0.0050	893.95	893.84	6.80	7.41	0.72	0.85	0.75	0.54	0.31	894.26	890.12	890.00	895.35	
ST-A.1																												
22.91	5.74	17.17	DA 22	5.88	5.88	0.00	5.88	circular	1	15			0.013	0.0083	894.58	894.43		4.79		0.36	0.50		0.36	894.93	892.23	891.51	896.76	
5.74	0.00	5.74		0.00	5.88	0.00	5.88	circular	1	15			0.013	0.0083	894.31	894.26	4.79	4.79	0.36	0.36	0.35	0.12	0.12	894.43	891.51	891.25	897.72	
ST-A.2																												
24.02	19.02	5.00	DA1+OS1	5.40	5.40	0.00	5.40	circular	1	15			0.013	0.0070	898.45	898.41		4.40		0.30	1.25		0.38	898.82	895.89	895.57	900.27	
19.02	0.00	19.02		0.00	5.40	0.00	5.40	circular	1	15			0.013	0.0070	898.31	898.17	4.40	4.40	0.30	0.30	0.35	0.11	0.11	898.41	895.57	894.37	899.87	
ST-B																												
204.00	97.51	106.49	DA 21	4.27	4.27	0.00	4.27	circular	1	18			0.013	0.0017	899.15	898.97		2.42		0.09	0.50		0.10	899.25	896.50	893.59	900.45	
97.51	86.79	10.72	DA 20	4.13	8.40	0.00	8.40	circular	1	18			0.013	0.0064	898.66	898.60	2.42	4.75	0.09	0.35	0.50	0.05	0.31	898.97	893.59	893.30	900.74	
86.79	58.14	28.65	DA 19	4.20	12.60	0.00	12.60	circular	1	18			0.013	0.0144	898.07	897.66	4.75	7.13	0.35	0.79	0.75	0.26	0.53	898.60	893.30	892.52	900.87	
58.14	0.00	58.14		0.00	12.60	0.00	12.60	circular	1	18			0.013	0.0144	897.38	896.55	7.13	7.13	0.79	0.79	0.35	0.28	0.28	897.66	892.52	890.93	901.21	
ST-C																												
252.33	95.25	157.08	DA 13	4.85	4.85	0.00	4.85	circular	1	15			0.013	0.0056	899.47	898.58		3.95		0.24	0.50		0.24	899.71	896.45	893.76	900.72	
95.25	88.25	7.00	DA 12	2.46	7.31	0.00	7.31	circular	1	21			0.013	0.0021	898.48	898.47	3.95	3.04	0.24	0.14	0.50	0.12	0.10	898.58	893.76	893.62	900.82	
88.25	42.83	45.42		0.00	7.31	0.00	7.31	circular	1	21			0.013	0.0021	898.37	898.27	3.04	3.04	0.14	0.14	0.35	0.05	0.10	898.47	893.62	892.76	900.91	
42.83	0.00	42.83	DA 15	5.95	13.26	0.00	13.26	circular	1	21			0.013	0.0070	897.91	897.61	3.04	5.51	0.14	0.47	0.75	0.11	0.36	898.27	892.76	891.94	901.83	
ST-D																												
476.78	350.87	125.91	DA5+OS5	4.51	4.51	0.00	4.51	circular	1	24			0.013	0.0004	899.03	898.98		1.44		0.03	0.50		0.10	899.13	896.45	895.95	900.70	
350.87	297.78	53.09	DA6+OS6	3.22	7.74	0.00	7.74	circular	1	30			0.013	0.0004	898.88	898.86	1.44	1.58	0.03	0.04	0.50	0.02	0.10	898.98	895.95	895.61	900.77	
297.78	290.71	7.07		0.00	7.74	0.00	7.74	circular	1	30			0.013	0.0004	898.76	898.76	1.58	1.58	0.04	0.04	0.35	0.01	0.10	898.86	895.61	895.57	901.60	
290.71	248.01	42.70		0.00	7.74	0.00	7.74	circular	1	30			0.013	0.0004	898.66	898.64	1.58	1.58	0.04	0.04	0.35	0.01	0.10	898.76	895.57	895.30	901.57	
248.01	104.05	143.96	DA 9	5.95	13.69	0.00	13.69	circular	1	30			0.013	0.0011	898.54	898.38	1.58	2.79	0.04	0.12	0.75	0.03	0.10	898.64	895.30	894.38	901.21	
104.05	90.31	13.74	DA14+DA16+DA17	13.90	27.59	0.00	27.59	circular	1	36			0.013	0.0017	898.18	898.15	2.79	3.90	0.12	0.24	0.25	0.03	0.21	898.38	894.38	894.34	899.86	
90.31	64.05	26.26		0.00	27.59	0.00	27.59	circular	1	36			0.013	0.0017	897.98	897.93	3.90	3.90	0.24	0.24	0.25	0.06	0.18	898.15	894.34	894.25	899.71	
64.05	50.62	13.43		0.00	27.59	0.00	27.59	circular	1	36			0.013	0.0017	897.83	897.81	3.90	3.90	0.24	0.24	0.35	0.08	0.10	897.93	894.25	894.21	899.69	
50.62	0.00	50.62	DA 10	7.23	34.82	0.00	34.82	circular	1	36			0.013	0.0027	897.61	897.47	3.90	4.93	0.24	0.38	0.75	0.18	0.20	897.81	894.21	894.04	898.67	
ST-D.1																												
19.00	0.00	19.00	DA 10	7.23	7.23	0.00	7.23	circular	1	18			0.013	0.0047	897.90	897.81	0.00	4.09	0.00	0.26	0.50	0.00	0.26	898.16	895.65	894.96	899.36	
ST-E																												
237.52	128.14	109.38	DA 14	5.62	5.62	0.00	5.62	circular	1	24			0.013	0.0006	899.16	899.09		1.79		0.05	0.50		0.10	899.26	896.77	895.67	901.02	
128.14	43.93	84.21	DA 16	5.95	11.58	0.00	11.58	circular	1	24			0.013	0.0026	898.91	898.69	1.79	3.68	0.05	0.21	0.75	0.04	0.17	899.09	895.67	894.82	901.51	
43.93	0.00	43.93	DA 17	2.32	13.90	0.00	13.90	circular	1	24			0.013	0.0038	898.55	898.38	3.68	4.42	0.21	0.30	0.75	0.16	0.15	898.69	894.82	894.38	900.35	
ST-E.1																												
145.45	132.57	12.88	DA 17	2.32	2.32	0.00	2.32	circular	1	12			0.013	0.0042	899.30	899.25		2.96		0.14	1.25		0.17	899.47	897.61	897.41	900.78	
132.57	125.42	7.15		0.00	2.32	0.00	2.32	circular	1	12			0.013	0.0042	899.15	899.12	2.96	2.96	0.14	0.14	0.50	0.07	0.10	899.25	897.41	897.30	901.00	
125.42	63.61	61.81		0.00	2.32	0.00	2.32	circular	1	12			0.013	0.0042	899.02	898.75	2.96	2.96	0.14	0.14	0.20	0.03	0.10	899.12	897.30	896.32	901.10	
63.61	0.00	63.61		0.00	2.32	0.00	2.32	circular	1	12			0.013	0.0042	898.65	898.38	2.96	2.96	0.14	0.14	0.20	0.03	0.10	898.75	896.32	894.82	901.29	
ST-F																												
55.77	0.00	55.77	DA 23	7.10	7.10	0.00	7.10	circular	1	15			0.013	0.0121	896.18	895.51	0.00	5.79	0.00	0.52	1.25	0.00	0.65	896.83	894.34	894.00	898.00	

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

HYDRAULIC CALCULATIONS

SHEET:
C6.5

FULL PATH: K:\Active\MAL21001_Larkspur Tract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Xrefs\MAL21001_Larkspur Tract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Cp.2 STORM PLAN_MAL21001
FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Franchella Gaulam
PLOTTED DATE: 1/21/2026

5'x5' GRATE INLET-1: Q100 =4.85 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	5.00	5.00	20.00	25.00	12.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	5.00	5.00	20.00	25.00	12.50	0.10	1.90	21.25	1.90	0.50	1.42
1.00	5.00	5.00	20.00	25.00	12.50	0.20	5.37	30.06	5.37	0.50	4.02
1.00	5.00	5.00	20.00	25.00	12.50	0.30	9.86	36.81	9.86	0.50	7.39
1.00	5.00	5.00	20.00	25.00	12.50	0.40	15.18	42.51	15.18	0.50	11.38
1.00	5.00	5.00	20.00	25.00	12.50	0.50	21.21	47.52	21.21	0.50	15.91
1.00	5.00	5.00	20.00	25.00	12.50	0.60	27.89	52.06	27.89	0.50	20.91
1.00	5.00	5.00	20.00	25.00	12.50	0.70	35.14	56.23	35.14	0.50	26.35
1.00	5.00	5.00	20.00	25.00	12.50	0.80	42.93	60.11	42.93	0.50	32.20
1.00	5.00	5.00	20.00	25.00	12.50	0.90	51.23	63.76	51.23	0.50	38.42
1.00	5.00	5.00	20.00	25.00	12.50	1.00	60.00	67.21	60.00	0.50	45.00

3'x3' GRATE INLET-2: Q100 = 8.29 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-3: Q100 =3.54 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-4: Q100 =4.51 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

4'x4' GRATE INLET-5: Q100 =3.22 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	4.00	4.00	16.00	16.00	8.00	0.00	0.00	0.00	0.00	0.50	0.00
1.00	4.00	4.00	16.00	16.00	8.00	0.10	1.52	13.60	1.52	0.50	1.14
1.00	4.00	4.00	16.00	16.00	8.00	0.20	4.29	19.24	4.29	0.50	3.22
1.00	4.00	4.00	16.00	16.00	8.00	0.30	7.89	23.56	7.89	0.50	5.92
1.00	4.00	4.00	16.00	16.00	8.00	0.40	12.14	27.20	12.14	0.50	9.11
1.00	4.00	4.00	16.00	16.00	8.00	0.50	16.97	30.42	16.97	0.50	12.73
1.00	4.00	4.00	16.00	16.00	8.00	0.60	22.31	33.32	22.31	0.50	16.73
1.00	4.00	4.00	16.00	16.00	8.00	0.70	28.11	35.99	28.11	0.50	21.08
1.00	4.00	4.00	16.00	16.00	8.00	0.80	34.35	38.47	34.35	0.50	25.76
1.00	4.00	4.00	16.00	16.00	8.00	0.90	40.98	40.81	40.81	0.50	20.40
1.00	4.00	4.00	16.00	16.00	8.00	1.00	48.00	43.01	43.01	0.50	21.51

3'x3' GRATE INLET-6: Q100 =2.46 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-7: Q100 =4.85 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-8: Q100 =5.62 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

6'x4' GRATE INLET-9: Q100 =7.23 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	6.00	4.00	20.00	24.00	12.00	0.00	0.00	0.00	0.00	0.50	0.00
1.00	6.00	4.00	20.00	24.00	12.00	0.10	1.90	20.40	1.90	0.50	1.52
1.00	6.00	4.00	20.00	24.00	12.00	0.20	5.37	28.85	5.37	0.50	4.29
1.00	6.00	4.00	20.00	24.00	12.00	0.30	9.86	35.34	9.86	0.50	7.89
1.00	6.00	4.00	20.00	24.00	12.00	0.40	15.18	40.81	15.18	0.50	12.14
1.00	6.00	4.00	20.00	24.00	12.00	0.50	21.21	45.62	21.21	0.50	16.97
1.00	6.00	4.00	20.00	24.00	12.00	0.60	27.89	49.98	27.89	0.50	22.31
1.00	6.00	4.00	20.00	24.00	12.00	0.70	35.14	53.98	35.14	0.50	28.11
1.00	6.00	4.00	20.00	24.00	12.00	0.80	42.93	57.71	42.93	0.50	34.35
1.00	6.00	4.00	20.00	24.00	12.00	0.90	51.23	61.21	51.23	0.50	40.98
1.00	6.00	4.00	20.00	24.00	12.00	1.00	60.00	64.52	60.00	0.50	48.00

5'x5' GRATE INLET-10: Q100 =5.09 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	5.00	5.00	20.00	25.00	12.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	5.00	5.00	20.00	25.00	12.50	0.10	1.90	21.25	1.90	0.50	1.42
1.00	5.00	5.00	20.00	25.00	12.50	0.20	5.37	30.06	5.37	0.50	4.02
1.00	5.00	5.00	20.00	25.00	12.50	0.30	9.86	36.81	9.86	0.50	7.39
1.00	5.00	5.00	20.00	25.00	12.50	0.40	15.18	42.51	15.18	0.50	11.38
1.00	5.00	5.00	20.00	25.00	12.50	0.50	21.21	47.52	21.21	0.50	15.91
1.00	5.00	5.00	20.00	25.00	12.50	0.60	27.89	52.06	27.89	0.50	20.91
1.00	5.00	5.00	20.00	25.00	12.50	0.70	35.14	56.23	35.14	0.50	26.35
1.00	5.00	5.00	20.00	25.00	12.50	0.80	42.93	60.11	42.93	0.50	32.20
1.00	5.00	5.00	20.00	25.00	12.50	0.90	51.23	63.76	51.23	0.50	38.42
1.00	5.00	5.00	20.00	25.00	12.50	1.00	60.00	67.21	60.00	0.50	45.00

3'x3' GRATE INLET-11: Q100 =2.32 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-12: Q100 =4.20 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

3'x3' GRATE INLET-13: Q100 =4.13 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	3.00	3.00	12.00	9.00	4.50	0.00	0.00	0.00	0.00	0.50	0.00
1.00	3.00	3.00	12.00	9.00	4.50	0.10	1.14	7.65	1.14	0.50	0.85
1.00	3.00	3.00	12.00	9.00	4.50	0.20	3.22	10.82	3.22	0.50	2.41
1.00	3.00	3.00	12.00	9.00	4.50	0.30	5.92	13.25	5.92	0.50	4.44
1.00	3.00	3.00	12.00	9.00	4.50	0.40	9.11	15.30	9.11	0.50	6.83
1.00	3.00	3.00	12.00	9.00	4.50	0.50	12.73	17.11	12.73	0.50	9.55
1.00	3.00	3.00	12.00	9.00	4.50	0.60	16.73	18.74	16.73	0.50	12.55
1.00	3.00	3.00	12.00	9.00	4.50	0.70	21.08	20.24	20.24	0.50	10.12
1.00	3.00	3.00	12.00	9.00	4.50	0.80	25.76	21.64	21.64	0.50	10.82
1.00	3.00	3.00	12.00	9.00	4.50	0.90	30.74	22.95	22.95	0.50	11.48
1.00	3.00	3.00	12.00	9.00	4.50	1.00	36.00	24.20	24.20	0.50	12.10

4'x6' GRATE INLET-14: Q100 =5.88 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	4.00	6.00	20.00	24.00	12.00	0.00	0.00	0.00	0.00	0.50	0.00
1.00	4.00	6.00	20.00	24.00	12.00	0.10	1.90	20.40	1.90	0.50	1.33
1.00	4.00	6.00	20.00	24.00	12.00	0.20	5.37	28.85	5.37	0.50	3.76
1.00	4.00	6.00	20.00	24.00	12.00	0.30	9.86	35.34	9.86	0.50	6.90
1.00	4.00	6.00	20.00	24.00	12.00	0.40	15.18	40.81	15.18	0.50	10.63
1.00	4.00	6.00	20.00	24.00	12.00	0.50	21.21	45.62	21.21	0.50	14.85
1.00	4.00	6.00	20.00	24.00	12.00	0.60	27.89	49.98	27.89	0.50	19.52
1.00	4.00	6.00	20.00	24.00	12.00	0.70	35.14	53.98	35.14	0.50	24.60
1.00	4.00	6.00	20.00	24.00	12.00	0.80	42.93	57.71	42.93	0.50	30.05
1.00	4.00	6.00	20.00	24.00	12.00	0.90	51.23	61.21	51.23	0.50	35.86
1.00	4.00	6.00	20.00	24.00	12.00	1.00	60.00	64.52	60.00	0.50	42.00

4'x6' GRATE INLET-15: Q100 =7.10 cfs

Number	Length	Width	Perimeter	Area	Open Area	Depth	Weir Flow	Orifice flow	Controling Flow	% Clogged	Design Flow
1.00	4.00	6.00	20.00	24.00	12.00	0.00	0.00	0.00	0.00	0.50	0.00
1.00	4.00	6.00	20.00	24.00	12.00	0.10	1.90	20.40	1.90	0.50	1.33
1.00	4.00	6.00	20.00	24.00	12.00	0.20	5.37	28.85	5.37	0.50	3.76
1.00	4.00	6.00	20.00	24.00	12.00	0.30	9.86	35.34	9.86	0.50	6.90
1.00	4.00	6.00	20.00	24.00	12.00	0.40	15.18	40.81	15.18	0.50	10.63
1.00	4.00	6.00	20.00	24.00	12.00	0.50	21.21	45.62	21.21	0.50	14.85
1.00	4.00	6.00	20.00	24.00	12.00	0.60	27.89	49.98	27.89	0.50	19.52
1.00	4.00	6.00	20.00	24.00	12.00	0.70	35.14	53.98	35.14	0.50	24.60
1.00	4.00	6.00	20.00	24.00	12.00	0.80	42.93	57.71	42.93	0.50	30.05
1.00	4.00	6.00	20.00	24.00	12.00	0.90	51.23	61.21	51.23	0.50	35.86
1.00	4.00	6.00	20.00	24.00	12.00	1.00	60.00	64.52	60.00	0.50	42.00

CAPACITY OF INLETS IN SUMPS

Area No.	Area	Design Point	Inlet No.	Inlet Type	100-year Runoff	Bypass	Total Flow	Depth of Flow at Opening "y"	Curb Opening Height	Length of Inlet Opening "L"	Length "L"	Width "W"	% of Open Area	Capacity of Inlet "Q"	Clogging Factor	Clogged Capacity of Inlet	Carryover Into Overflow	Percent Q100 Captured	Notes
	(acres)				(cfs)	(cfs)	(c.f.s.)	(ft.)	(ft)	(ft.)	(ft.)	(ft.)	(%)	(c.f.s.)	(%)	(c.f.s.)	(c.f.s.)	(%)	
DA1+OS1	0.57	1	C-1	Curb	5.40	0.00	5.40	0.55	0.56	5	-	-	-	12.24	50%	6.12	0.00	100%	

1/21/2026

SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

INLET CALCULATIONS

SHEET:
C6.6

FULL PATH: K:\Jobs\MAL21001_LarkspurTract\Drawings\01_ENGR-Prime Office Warehouse\03 - Production\K:\Jobs\MAL21001_LarkspurTract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Ch2 2 STORM PLAN_MAL21001.dwg

FILENAME: Ch2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Prachiritika Gautam
PLOTTED DATE: 1/21/2026

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Prime Flex Spaces - Liberty Hill TX
Date Prepared: 5/9/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 — Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	20.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.57	acres
Total post-development impervious cover fraction * =	0.42	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7459	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	17	

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

Drainage Basin/Outfall Area No. = BMP #1

Total drainage basin/outfall area =	4.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	4.20	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	3656	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	4.44	acres
A_I =	4.20	acres
A_P =	0.24	acres
L_R =	4003	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	3656	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.15	inches per hour
Effective Area =	3.79	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	4.39	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault
Jellyfish Size for Flow-Based Configuration =	JFPD0811-23-5
Jellyfish Treatment Flow Rate =	4.54 cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Prime Flex Spaces - Liberty Hill TX
Date Prepared: 5/9/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 — Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	20.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.57	acres
Total post-development impervious cover fraction * =	0.42	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7459	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	17	

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

Drainage Basin/Outfall Area No. = BMP #2

Total drainage basin/outfall area =	0.47	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.44	acres
Post-development impervious fraction within drainage basin/outfall area =	0.94	
$L_{M\ THIS\ BASIN}$ =	383	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	0.47	acres
A_I =	0.44	acres
A_P =	0.03	acres
L_R =	419	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	383	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.15	inches per hour
Effective Area =	0.40	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	0.46	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Surface Inlet
Jellyfish Size for Flow-Based Configuration =	JFSI0406-3-1
Jellyfish Treatment Flow Rate =	0.62 cfs

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY CALCUATIONS I

SHEET:
C6.7

FULL PATH: K:\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C6.2 STORM PLAN_MAL21001
FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Fransuetta Gaulden
PLOTTED DATE: 1/21/2026

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Prime Flex Spaces - Liberty Hill TX
Date Prepared: 5/9/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 — Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	20.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.57	acres
Total post-development impervious cover fraction * =	0.42	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7459	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	17	

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

Drainage Basin/Outfall Area No. =	BMP #3	
Total drainage basin/outfall area =	2.08	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.99	acres
Post-development impervious fraction within drainage basin/outfall area =	0.96	
$L_{M\ THIS\ BASIN}$ =	1732	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	2.08	acres
A_I =	1.99	acres
A_P =	0.09	acres
L_R =	1896	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	1732	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.15	inches per hour
Effective Area =	1.79	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	2.08	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault
Jellyfish Size for Flow-Based Configuration =	JFPD0808-11-3
Jellyfish Treatment Flow Rate =	2.23 cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Prime Flex Spaces - Liberty Hill TX
Date Prepared: 5/9/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 — Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	20.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.57	acres
Total post-development impervious cover fraction * =	0.42	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7459	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	17	

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

Drainage Basin/Outfall Area No. =	BMP #4	
Total drainage basin/outfall area =	0.58	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.54	acres
Post-development impervious fraction within drainage basin/outfall area =	0.93	
$L_{M\ THIS\ BASIN}$ =	470	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	0.58	acres
A_I =	0.54	acres
A_P =	0.04	acres
L_R =	515	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	470	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.15	inches per hour
Effective Area =	0.49	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	0.56	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Surface Inlet
Jellyfish Size for Flow-Based Configuration =	JFSI0406-3-1
Jellyfish Treatment Flow Rate =	0.62 cfs

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY CALCUATIONS II

SHEET:
C6.8

FULL PATH: K:\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C6.2 STORM PLAN_MAL21001
FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Fransuetta Gaulden
PLOTTED DATE: 1/21/2026

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Prime Flex Spaces - Liberty Hill TX
Date Prepared: 5/9/2024

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 * =	20.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.57	acres
Total post-development impervious cover fraction * =	0.42	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7459	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	17	

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

Drainage Basin/Outfall Area No. =	**BMP #5**	
Total drainage basin/outfall area =	0.57	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.53	acres
Post-development impervious fraction within drainage basin/outfall area =	0.93	
$L_{M\ THIS\ BASIN}$ =	461	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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 =	0.57	acres
A_I =	0.53	acres
A_P =	0.04	acres
L_R =	505	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	461	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.15	inches per hour
Effective Area =	0.48	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	0.55	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Surface Inlet	
Jellyfish Size for Flow-Based Configuration =	JFSI0406-3-1	
Jellyfish Treatment Flow Rate =	0.62	cfs

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY CALCUATIONS III

SHEET:
C6.9

FULL PATH: K:\Jobs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\Xrefs\MAL21001_Larkspur Trail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C6.2 STORM PLAN_MAL21001
FILENAME: C6.2 STORM PLAN_MAL21001.dwg
PLOTTED BY: Fransuetta Gaulden
PLOTTED DATE: 1/21/2026

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

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. BY SEPARATE PERMIT 12" WATER AND PROP. 36" STORM PER TCEQ STANDARDS

STA 3+35.04 LINE "W-1" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (10 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

STA 3+35.28 LINE "W-1" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 0+47.54 LINE "W-2" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LEAD

15' WATER EASEMENT (BY SEPARATE PERMIT)

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. BY SEPARATE PERMIT 6" WATER AND PROP. 36" STORM PER TCEQ STANDARDS

STA 2+76.25 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (23 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

15' WATER EASEMENT (BY SEPARATE PERMIT)

STA ??? LINE "???" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 5+10.38 LINE "W-2" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 5+10.26 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (23 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

STA ??? LINE "???" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 7+91.36 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (13 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

15' WATER EASEMENT (BY SEPARATE PERMIT)

15' WATER EASEMENT (BY SEPARATE PERMIT)

35' ELECTRICAL EASEMENT

20' X 20' ELECTRICAL EASEMENT

15' WATER EASEMENT (BY SEPARATE PERMIT)

STA 0+47.62 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (25 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

BUILDING #3 FFE= 902.00 108.76 PSI

REFER TO MEP PLANS FOR BUILDING CONNECTIONS

REFER TO MEP PLANS FOR BUILDING CONNECTIONS

BUILDING #2 FFE= 902.35 108.94 PSI

BUILDING #1 FFE= 902.00 108.76 PSI

EX. 100 YR FLOODPLAIN

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. BY SEPARATE PERMIT 12" WATER AND PROP. 30" STORM PER TCEQ STANDARDS

PROP. 100 YR FLOODPLAIN

STA 4+82.15 LINE "W-1" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (37 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

PROP. 100 YR FLOODPLAIN

STA 4+80.01 LINE "W-1" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 4+10.27 LINE "W-3" INSTALL: 1-ARV

STA 4+15.27 LINE "W-3" INSTALL: 1-8" X 45° HORIZ. BEND

SEE SHEET C7.1 FOR INSET A

SEE SHEET C7.1 FOR INSET B

REFER TO MEP PLANS FOR BUILDING CONNECTIONS

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 6" WATER AND PROP. 24" STORM PER TCEQ STANDARDS

STA 9+55.81 LINE "W-3" INSTALL: 1-8"X8" 1-8" TO 6" REDUCER 2-8" GATE VALVE 1-6" GATE VALVE 1-FIRE HYDRANT ASSEMBLY (64 LF OF 6" WATER LINE)

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 8" WASTEWATER AND PROP. 6" WATER PER TCEQ STANDARDS

STA 9+55.81 LINE "W-3" INSTALL: 1-6" X 45° HORIZ. BEND

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 6" WATER AND PROP. 24" STORM PER TCEQ STANDARDS

STA 3+97.70 LINE "W-3" INSTALL: 1-8"X6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-FIRE HYDRANT ASSEMBLY (20 LF OF 6" WATER LINE)

STA 3+89.93 LINE "W-3" INSTALL: 1-8" X 45° HORIZ. BEND

STA 3+81.60 LINE "W-3" END 100' RADIUS HORIZ. BEND

STA 9+60.81 LINE "W-3" INSTALL: 1-6" X 45° HORIZ. BEND

PROP. 8" WATER @ 0.00% (PUBLIC)

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 6" WATER AND PROP. 24" STORM PER TCEQ STANDARDS

15' WATER EASEMENT

STA 9+80.01 LINE "W-3" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE

ZONE "X"

ZONE "A"

STA 3+81.63 LINE "W-3" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE

20' X 20' ELECTRICAL EASEMENT

BUILDING #5 FFE= 902.00 108.78 PSI

SEE SHEET C7.1 FOR INSET C

REFER TO MEP PLANS FOR BUILDING CONNECTIONS

BUILDING #4 FFE= 902.30 108.90 PSI

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 8" WATER AND PROP. 8" WASTEWATER PER TCEQ STANDARDS

20' X 20' ELECTRICAL EASEMENT

STA 9+85.88 LINE "W-3" BEGIN 100' RADIUS HORIZ. BEND

STA 10+20.82 LINE "W-3" END 100' RADIUS HORIZ. BEND

STA 3+36.87 LINE "W-4" INSTALL: 1-8"X6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-DETCTA RPZ BACKFLOW PREVENTOR (33 LF OF 6" FIRE LINE)

STA 11+31.45 LINE "W-3" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE

15' WATER EASEMENT

15' WATER EASEMENT

STA 11+31.57 LINE "W-3" INSTALL: 1-8"X6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-FIRE HYDRANT ASSEMBLY (15 LF OF 6" WATER LINE)

STA 3+97.70 LINE "W-4" END W-4 INSTALL: 1-8"X8" TEE 2-8" GATE VALVE

STA 12+00.67 LINE "W-3" INSTALL: 1-8" ARV

PROP. 100 YR FLOODPLAIN

ZONE "X"

ZONE "A"

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 8" WATER AND PROP. 18" STORM PER TCEQ STANDARDS

STA 3+19.82 LINE "W-3" BEGIN 100' RADIUS HORIZ. BEND

EX. 100 YR FLOODPLAIN

PROP. 100 YR FLOODPLAIN

ZONE "X"

ZONE "A"

STA 2+17.25 LINE "W-3" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE

15' WATER EASEMENT

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 8" WATER AND PROP. 24" STORM PER TCEQ STANDARDS

STA 1+78.97 LINE "W-4" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE

STA 3+33.87 LINE "W-4" INSTALL: 1-2" SERVICE TEE 1-2" METER (DOM.) 1-2" RPZ BACKFLOW PREVENTOR (33 LF OF 2" WATER LINE)

PROP. 8" WATER @ 0.21% (PUBLIC)

STA 2+17.01 LINE "W-3" INSTALL: 1-8"X6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-FIRE HYDRANT ASSEMBLY (11 LF OF 6" WATER LINE)

STA 0+43.64 LINE "W-4" INSTALL: 1-8" X 35° HORIZ. BEND

INSTALL: FDC FOR BLDG #5 4' MANHOLE RING AND COVER (RE: C16.0 WATER DETAILS)

REFER TO MEP PLANS FOR BUILDING CONNECTIONS

STA 1+78.97 LINE "W-4" INSTALL: 1-8"X6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-FIRE HYDRANT ASSEMBLY (23 LF OF 6" WATER LINE)

BUILDING #6 FFE= 902.40 108.98 PSI

SEE SHEET C7.1 FOR INSET D

20' X 20' ELECTRICAL EASEMENT

STA 0+00.00 LINE "W-4" BEGIN W-4 INSTALL: 1-8"X6" TEE 2-8" GATE VALVE

STA 0+68.90 LINE "W-3" INSTALL: 1-8" X 18° HORIZ. BEND

STA 0+20.00 LINE "W-3" CONNECT TO PROP. 8" WATER LINE STUB (RE: LIBERTY HILL 35 WATER SITE PLAN)

STA 0+00.00 LINE "W-3"= STA 27+01.93 LINE "W-2" CONNECT TO 12" PROP. WATER BY SEPARATE PERMIT INSTALL: 1-8" TAPPING SLEEVE 1-8" GATE VALVE

STA 26+50.62 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (14 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 8" WATER AND PROP. 8" WASTEWATER PER TCEQ STANDARDS

STA 23+50.62 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (11 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

15' WATER EASEMENT

STA 27+72.83 LINE "W-2" INSTALL: 1- 12"X6" TEE 1- FIRE HYDRANT ASSEMBLY 1- 6" GATE VALVE (12 LF OF 6" WATER LINE) (BY SEPARATE PERMIT)

TRACT 1 125,800 SF 2.89 ACRES

EX. 50' ACCESS EASEMENT (DOC.#2022059155, O.P.W.C.T.)

EX. 20' WATER FACILITIES EASEMENT AREA (DOC.#222059155, O.P.W.C.T.)

STA 26+50.61 LINE "W-2" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

!!CAUTION-UTILITY CROSSING!! CONTRACTOR TO MAINTAIN ADEQUATE CLEARANCE BETWEEN PROP. 6" WATER AND PROP. 18" STORM PER TCEQ STANDARDS

STA 13+21.28 LINE "W-3" CONNECT TO 12" PROP. WATER BY SEPARATE PERMIT INSTALL: 1-8" TAPPING SLEEVE 1-8" GATE VALVE

STA 23+50.62 LINE "W-2" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

STA 27+72.83 LINE "W-2" PROP. FIRE HYDRANT W/ 6" DUCTILE IRON FIRE LINE (BY SEPARATE PERMIT)

EX. 65' TEMPORARY CONSTRUCTION EASEMENT (DOC.#2022059155, O.P.W.C.T.)

MATCHLINE (RE:SHEET C7.3)

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

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ELEVATION = 918.87' (NAVD '88)

LEGEND

- EXISTING WASTEWATER — Ex WW
- PROPOSED WASTEWATER — WW
- EXISTING WATER — EX WTR
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GRAPHIC SCALE

0 40 80 FEET

SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS — SHEA O. KIRKMAN — 91865 — LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183, LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER PLAN

SHEET: C7.0

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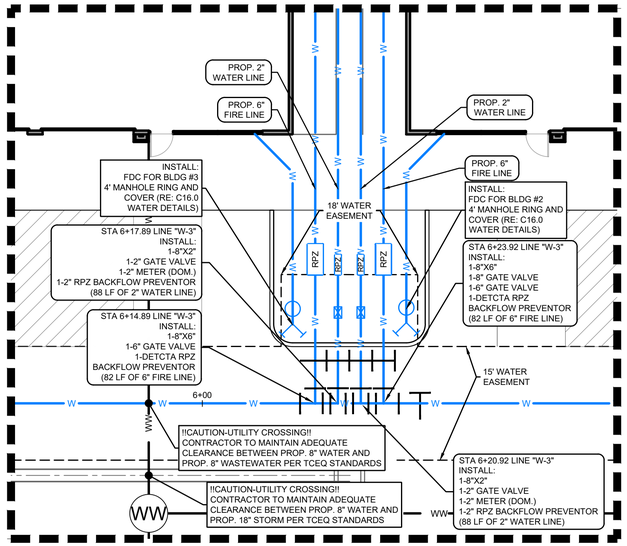
PLOTTED DATE: 1/21/2026



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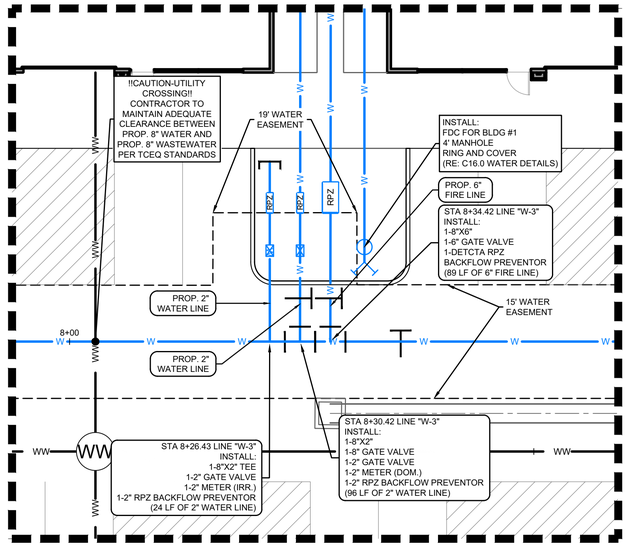

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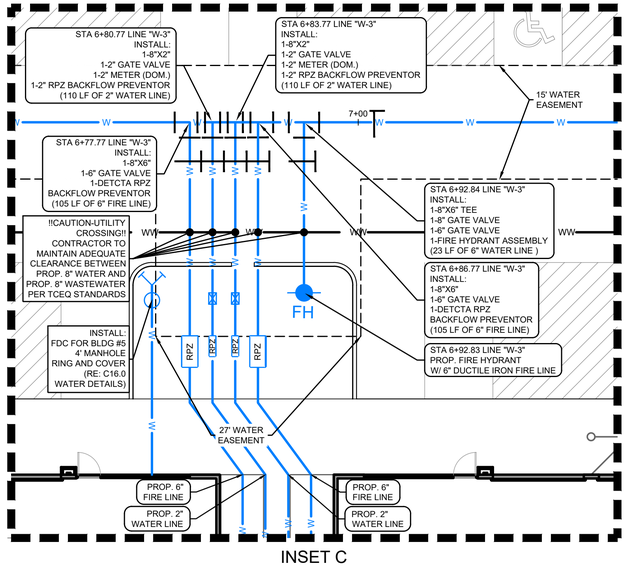

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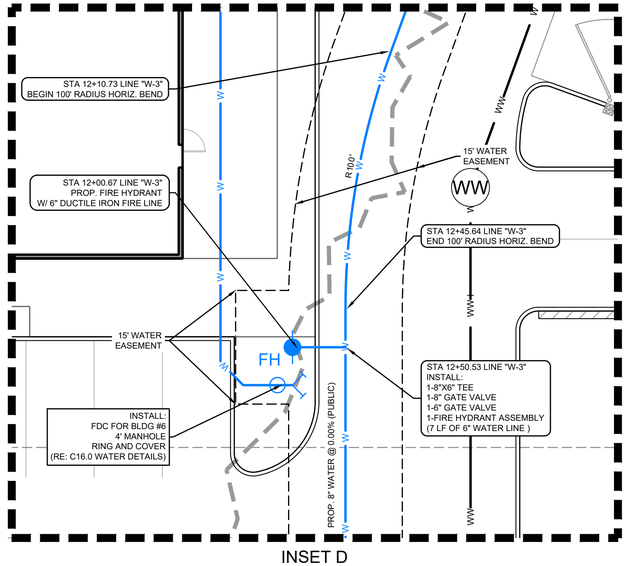

INSET D

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EXISTING WASTEWATER	Ex WW
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EXISTING WATER	EX WTR
PROPOSED WATER	W W
EXISTING WASTEWATER MANHOLE	
PROPOSED WASTEWATER MANHOLE	WW
PROPOSED WASTEWATER CLEANOUT	
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	FH
PROPOSED GAS	GAS
EXISTING GAS	EX GAS
PROPOSED UNDERGROUND ELECTRIC	UGE UGE UGE
EXISTING UNDERGROUND ELECTRIC	EX UGE
PROPOSED OVERHEAD ELECTRIC	OHE OHE OHE
EXISTING OVERHEAD ELECTRIC	EX OHE
PROPOSED TELEPHONE	TELE TELE TELE
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PROPERTY BOUNDARY	

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1/21/2026

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91865
REGISTERED
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THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES LIBERTY HILL TEXAS

2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DETAILED WATER PLAN

SHEET:

C7.1

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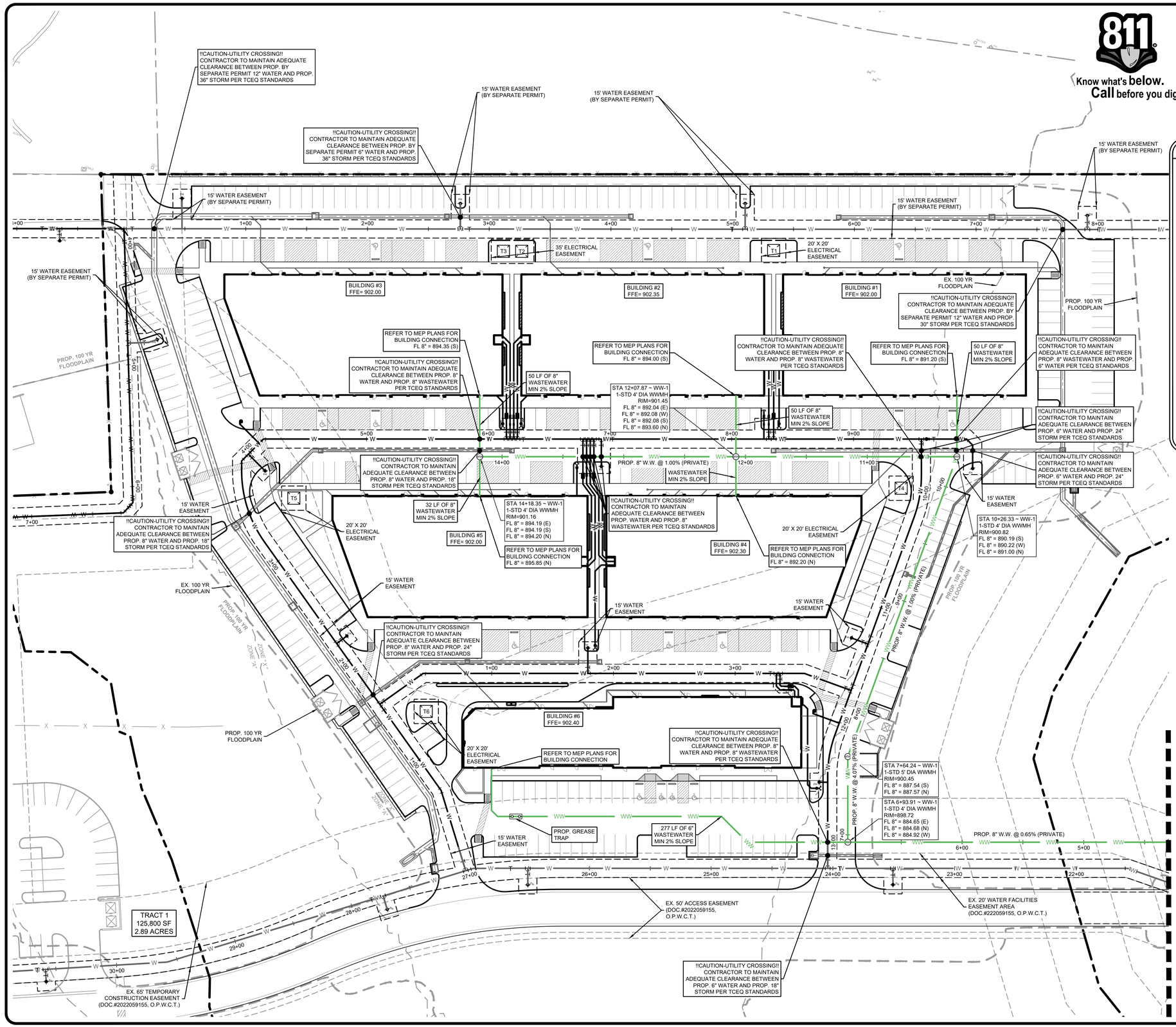

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0 40 80 FEET
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1/21/2026

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THE PRIME DEVELOPERS

HWY 183, LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WASTEWATER PLAN

SHEET: C7.2

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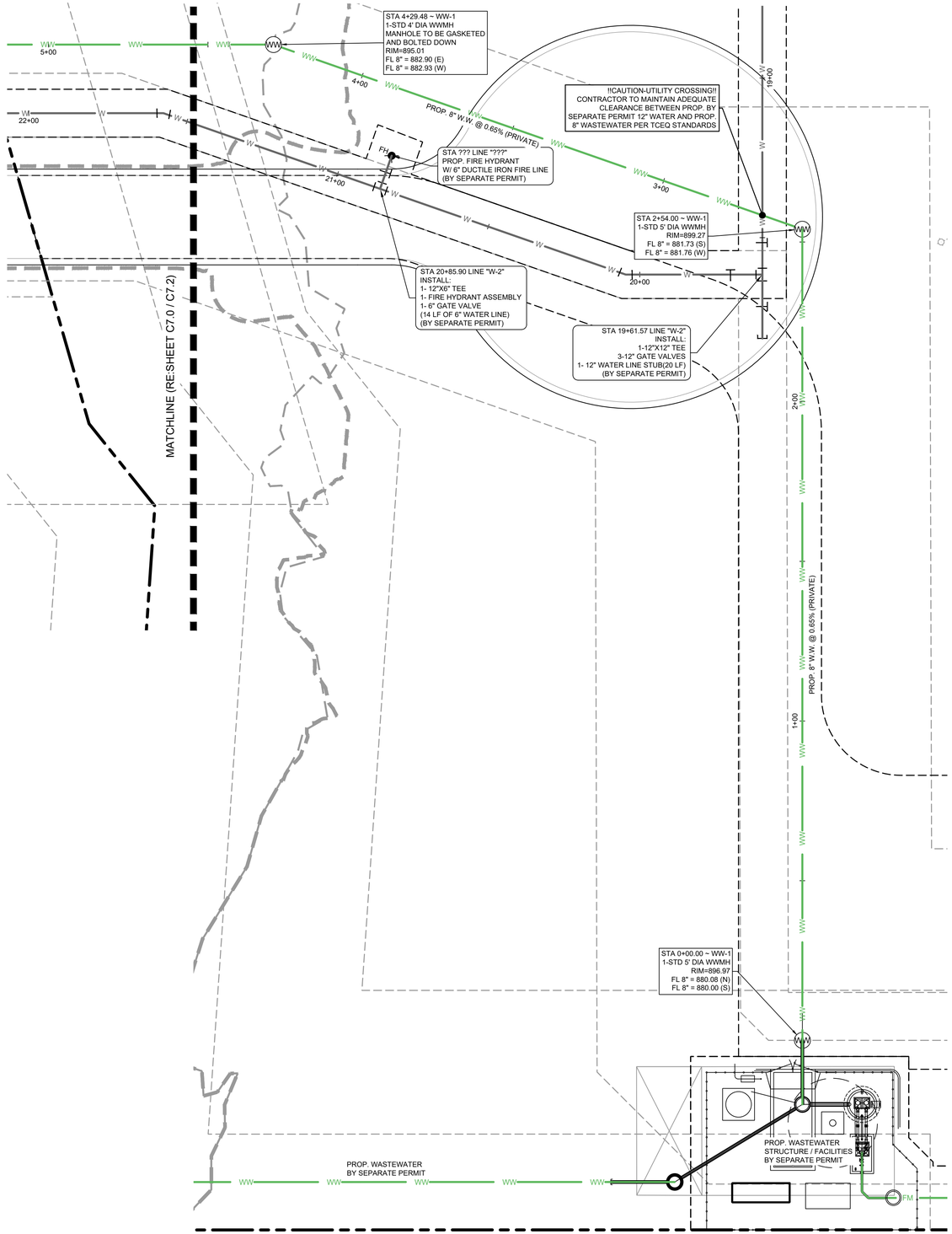

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OFFSITE UTILITY PLAN

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C7.3

FILE PATH: K:\Jobs\MAL21001_LarkspurTrail\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C7.0 UTILITY PLAN_MAL21001.dwg
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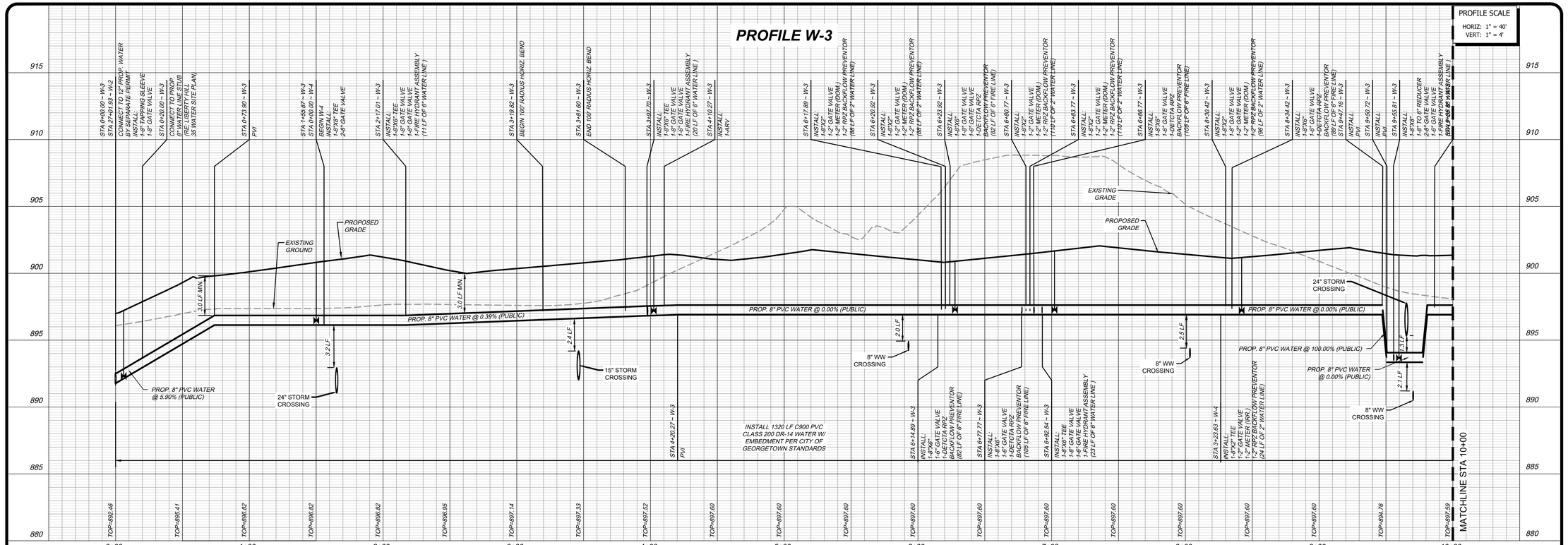

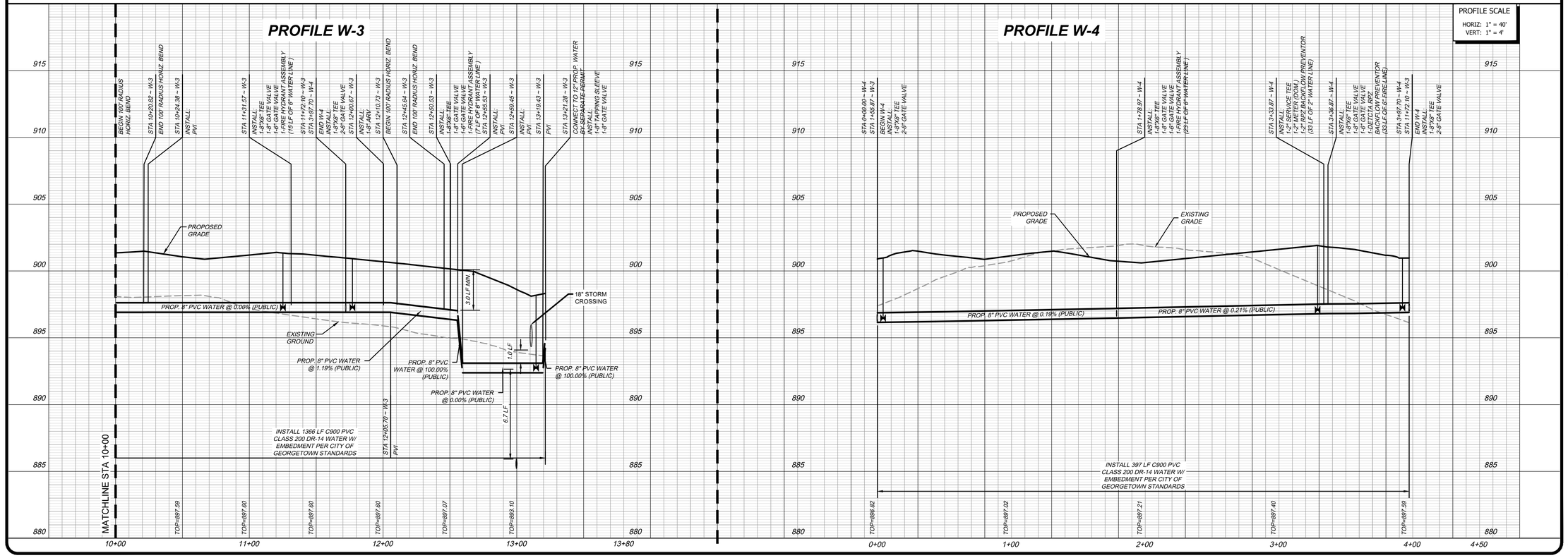

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

UTILITY PROFILE I

SHEET:
C7.4

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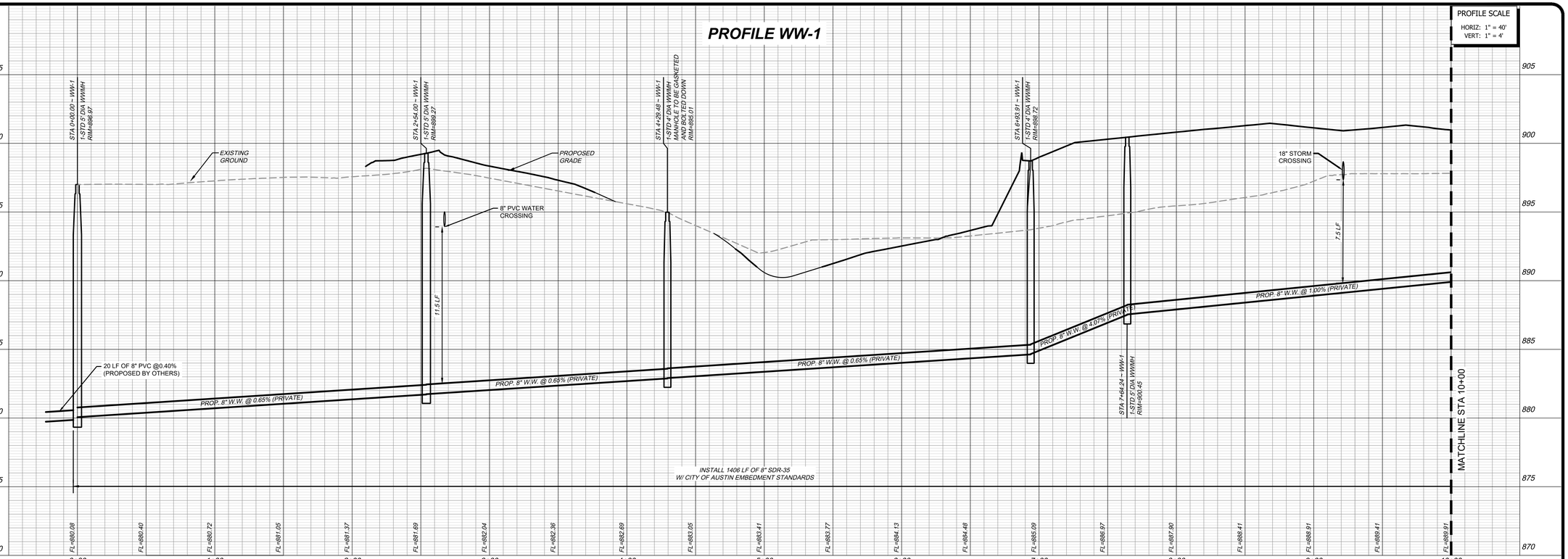
PLOTTED ON: Wednesday, January 21, 2026
PLOTTED AT: 3:53:56 PM

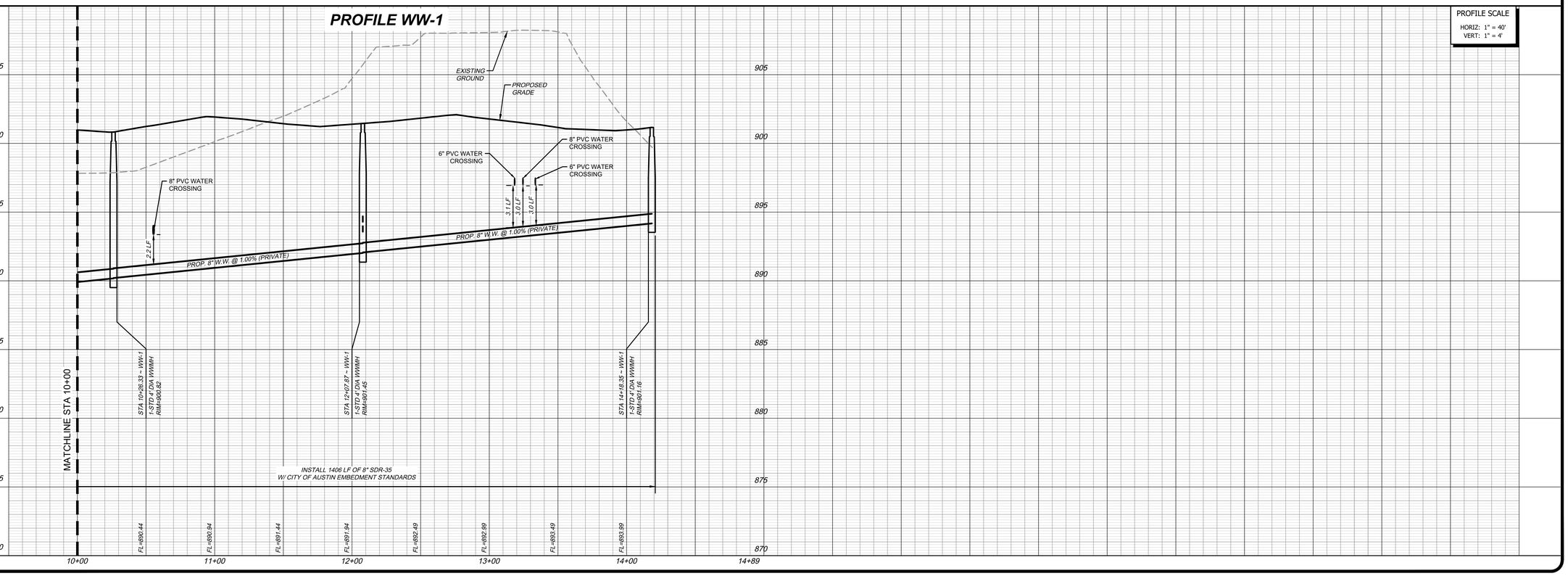
PROFILE WW-1

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



PROFILE WW-1

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

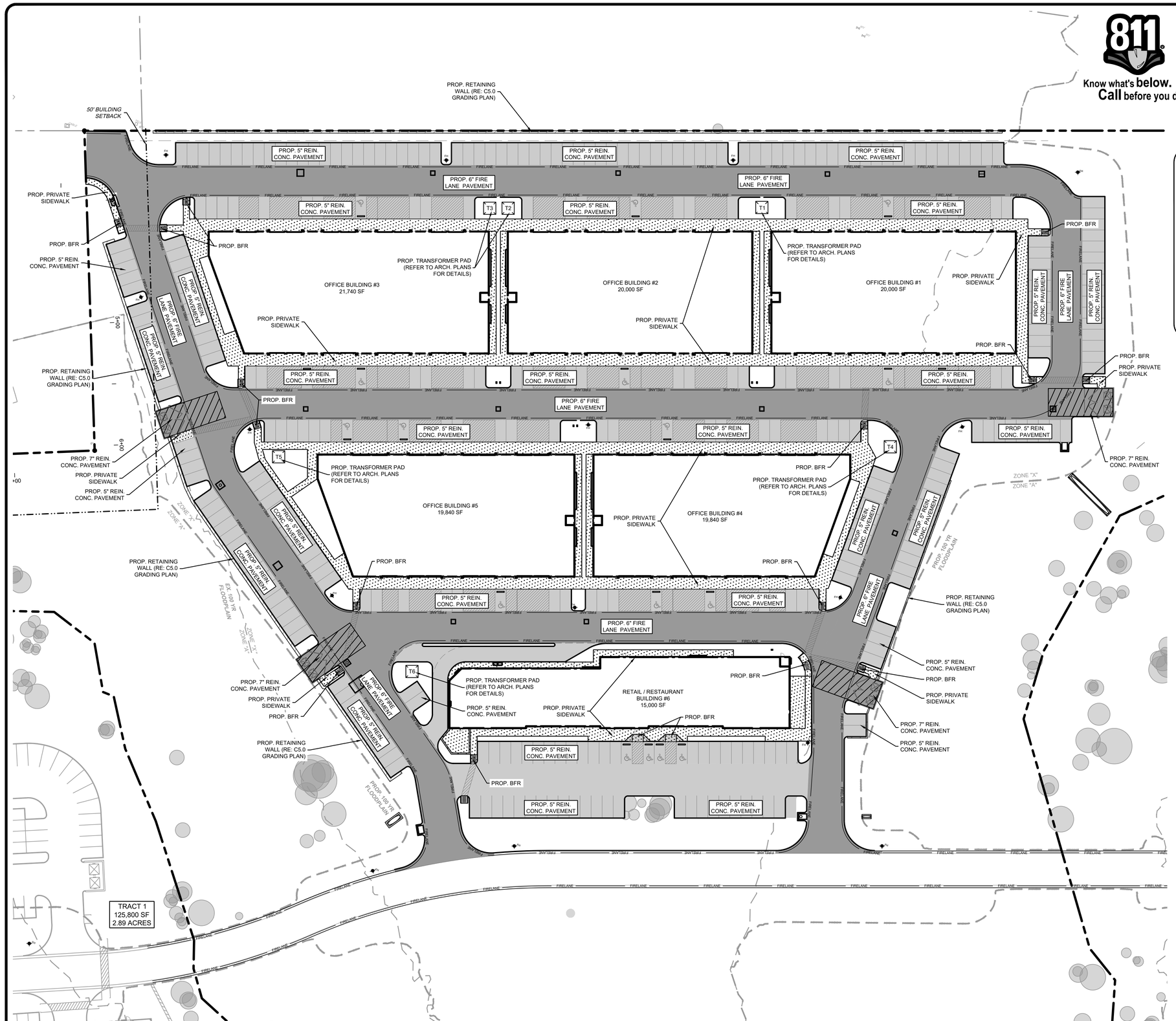
kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

UTILITY PROFILE II

SHEET:
C7.5



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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

PARKING AREAS
5" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 3 BARS @ 18" O.C.E.W.

FIRE LANE
6" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 3 BARS @ 18" O.C.E.W.

DUMPSTER AREAS
7" 3,600 PSI CLASS "C" (28 DAYS) REIN. CONC. PAVEMENT W/ No. 3 BARS @ 18" O.C.E.W.

PRIVATE SIDEWALK
4" 3,000 PSI CLASS "A" (28 DAYS) REIN. CONC. W/ No. 3 BARS @ 18" O.C.E.W.

PROPERTY BOUNDARY

PAVING NOTES

1. PAVING RECOMMENDATIONS ARE MADE BY GEOSCIENCE ENGINEERS, LLC REPORT No. 23-DG3977 DATED 09/2023.
2. CONTRACTOR SHALL OBTAIN A COPY OF SAID GEOTECHNICAL ENGINEERING REPORT AND FAMILIARIZE THEMSELVES PRIOR TO BIDDING AND CONSTRUCTING THE IMPROVEMENTS OF THE PROJECT.
3. ALL PROPOSED PUBLIC PAVEMENT TO BE PER THE CITY OF LIBERTY HILL ETJ STANDARDS & SPECIFICATIONS.
4. PAINT PARKING STALL STRIPE 4" SOLID WHITE @ 9' O.C..
5. PAINT ACCESSIBLE PARKING LOGO SOLID WHITE.
6. PAINT ACCESSIBLE PEDESTRIAN CROSSWALK 6" SOLID WHITE REFLECTIVE @ 2' O.C. @ 45°.
7. PAINT FIRE LANE STRIPE IN ACCORDANCE WITH LOCAL AUTHORITIES' STANDARDS. STRIPE SHALL BE 6" "TRAFFIC RED" WITH 4" HIGH "TRAFFIC WHITE" LETTERS.
8. INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE WITH LANDSCAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED BEFORE PAVING BEING PLACED.
9. THE CONTRACTOR TO SUBMIT A JOINT SPACING PLAN TO THE ENGINEER FOR APPROVAL. EXPANSION SHALL BE 90' MAXIMUM EACH WAY WITH NO KEYWAYS AND SAWED DUMMY JOINT SPACING SHALL BE 15' EACH WAY UNLESS OTHERWISE NOTED.
10. REFER TO SHEET C14.0 FOR PAVING DETAILS.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED
PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

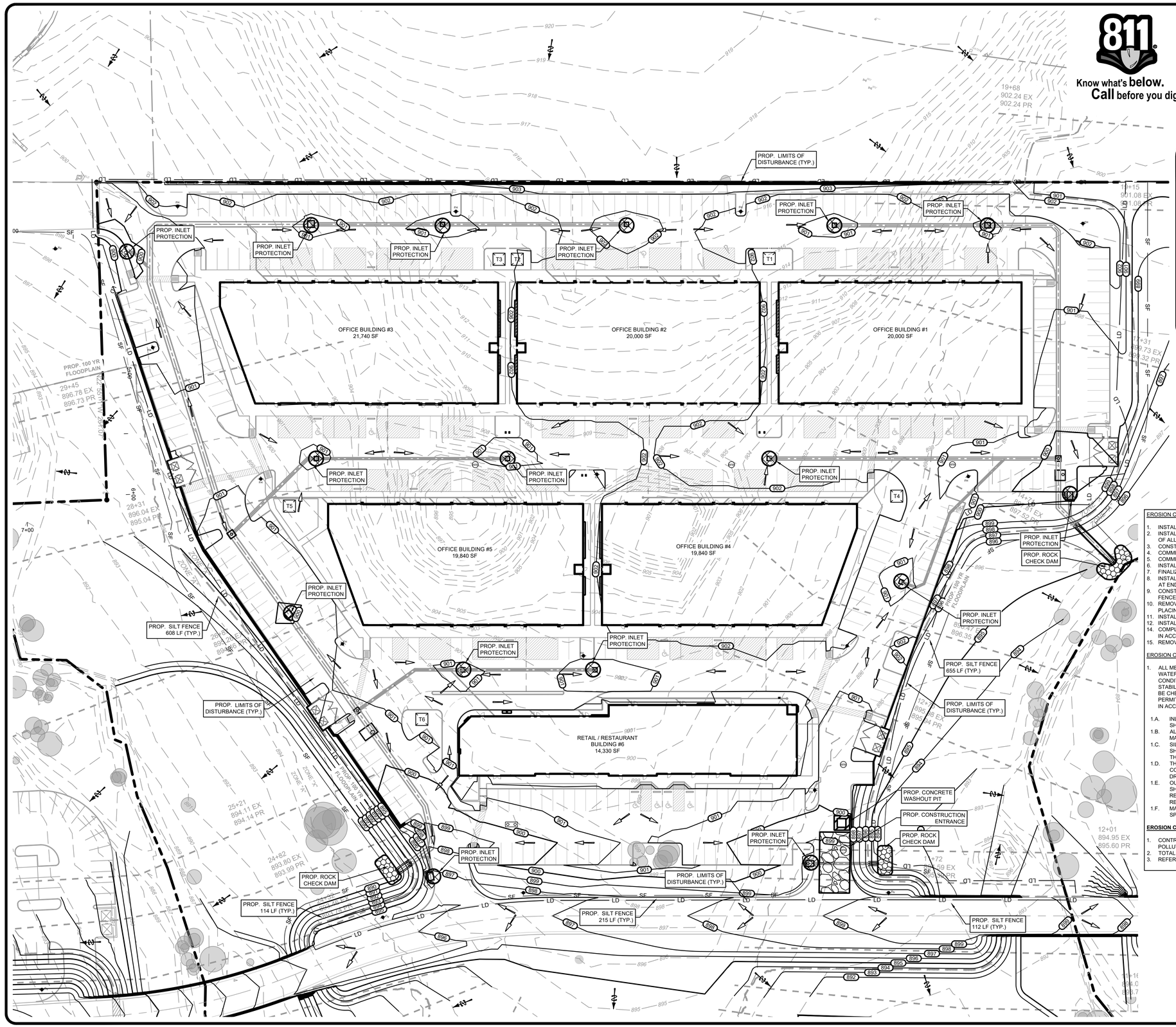
kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

PAVING PLAN

SHEET:
C8.0



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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)

LEGEND

- PROPOSED LIMITS OF DISTURBANCE — LD
- PROPOSED SILT FENCE — SF
- PROPOSED INLET PROTECTION
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED ROCK CHECK FILTER DAM
- PROPOSED CONCRETE WASHOUT PIT
- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- PROPERTY BOUNDARY

NOTES FOR CHANGES TO SWPPP:

CONTRACTOR SHALL BE REQUIRED TO UPDATE THIS SWPPP WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, OR WHENEVER THE RESULT OF AN INSPECTION INDICATES THAT THIS SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES. HOWEVER, THE REGULATIONS OF THE TEXAS BOARD OF PROFESSIONAL ENGINEERS REQUIRE THAT CHANGES MADE BY THE CONTRACTOR DURING CONSTRUCTION MUST BE AUTHORIZED BY A LICENSED TEXAS ENGINEER. THESE CHANGES MAY BE AUTHORIZED BY THE ENGINEER OF RECORD THROUGH UPDATED DRAWINGS, WORK ORDER CHANGES, OR OTHER METHODS ACCEPTABLE TO THE ENGINEER; OR BY ANOTHER ENGINEER PROVIDED THAT THEY NOTIFY THE ENGINEER OF RECORD.

NOTE TO CONTRACTOR

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

EROSION CONTROL SEQUENCE:

1. INSTALL SILT FENCES AROUND PERIMETER OF PROPERTY AND DISTURBED AREAS AS SHOWN.
2. INSTALL INLET PROTECTION FOR ALL EXISTING GRATE INLETS, CURB INLETS AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES, IF PRESENT.
3. CONSTRUCT TEMPORARY CONSTRUCTION EXIT.
4. COMMENCE GRUBBING AND REMOVAL OF VEGETATION IN AREA TO RECEIVE CUT OR FILL.
5. COMMENCE GRADING OPERATION FOR BUILDING PAD PREPARATION.
6. INSTALL ALL UNDERGROUND UTILITIES.
7. FINALIZE PAVEMENT SUBGRADE PREPARATION.
8. INSTALL ALL PROPOSED STORM SEWER PIPES AND INSTALL INLET PROTECTION SILT FENCES AT ENDS OF EXPOSED PIPES.
9. CONSTRUCT ALL GRATE INLETS AND DRAINAGE STRUCTURES. INLET PROTECTION SILT FENCES MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION.
10. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.
11. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT, CURB & GUTTER.
12. INSTALL ALL PAVING, CURB & GUTTER.
13. COMPLETE PLANTING AND/OR SEEDING OF VEGETATED AREAS TO ACCOMPLISH STABILIZATION, IN ACCORDANCE WITH NCTCOG STANDARDS.
14. REMOVE TEMPORARY CONSTRUCTION EXIT & SILT FENCES.

EROSION CONTROL MAINTENANCE NOTES:

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTI0N PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON ON A SCHEDULE WHICH COMPLIES WITH THE GENERAL PERMIT REQUIREMENTS AND CLEANED AND REPAIRED WITHIN 48 HOURS OF THE INSPECTION IN ACCORDANCE WITH THE FOLLOWING:

1.A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
1.B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
1.C. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
1.D. THE TEMPORARY PARKING AND STORAGE AREA (IF PRESENT) SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
1.E. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS OR SEDIMENT TRAPS (IF PRESENT) SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
1.F. MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED ARE GIVEN IN SECTION 5 OF THE STORM WATER POLLUTION PREVENTION PLAN.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PREPARING AND IMPLEMENTING A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE TPDES.
2. TOTAL DISTURBED AREA = 8.84 ACRES
3. REFER TO SHEET C15.0 FOR EROSION CONTROL DETAILS.

GRAPHIC SCALE

0 40 80 FEET

SCALE: 1" = 40'

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS

2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

EROSION CONTROL PLAN

SHEET:

C9.0

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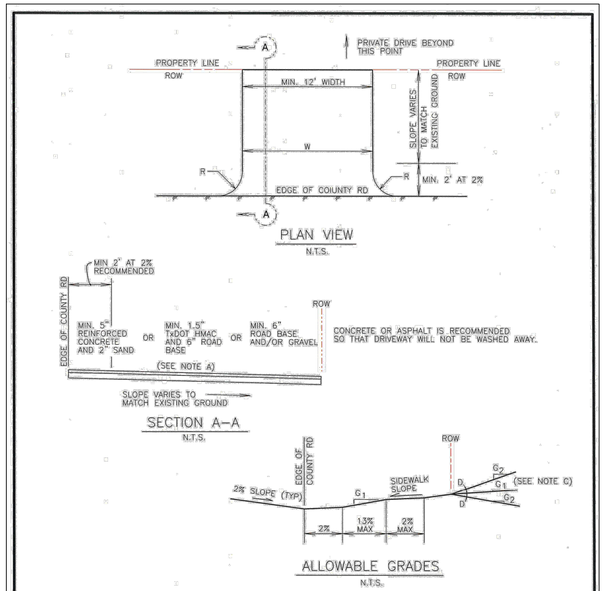
PLOTTED BY: Prashanska Gautam
PLOTTED DATE: 01/14/2026



NOTES:
A) MATERIAL DEPTHS SHOWN ABOVE ARE RECOMMENDED.

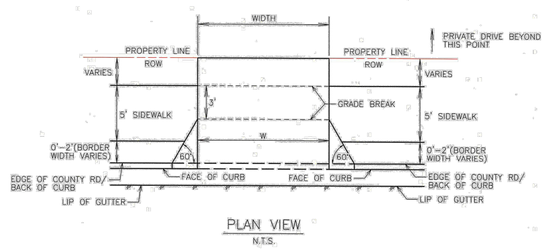
B) ENGINEERED DRAWINGS MUST BE SUBMITTED FOR MULTIFAMILY OR COMMERCIAL/INDUSTRIAL DRIVEWAYS.

C) WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, IF "G2" IS GREATER THAN 15%, THE FIRE DEPARTMENT SHOULD BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS. "D" IS THE ALGEBRAIC DIFFERENCE OF "G2" AND "G1" AND SHOULD NOT EXCEED THE MAXIMUM PERCENT STATED IN THE TABLES FOR DRIVEWAY CRITERIA.

WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE

EXHIBIT
DRIVEWAY
STRAIGHT TIE-IN

Revised: 11/22/21



NOTES:
A) MIN. 1.5" TxDOT HMAC AND 6" ROAD BASE OR MIN. 5" REINFORCED CONCRETE AND 2" SAND.

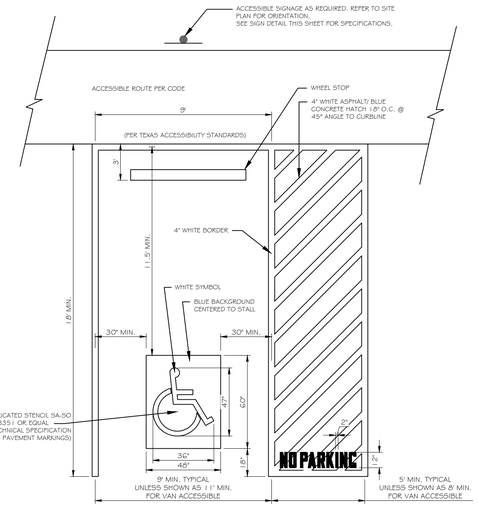
B) ENGINEERED DRAWINGS MUST BE SUBMITTED FOR MULTIFAMILY OR COMMERCIAL/INDUSTRIAL DRIVEWAYS.

D) WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHOULD BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS. "D" IS THE ALGEBRAIC DIFFERENCE OF "G2" AND "G1" AND SHOULD NOT EXCEED THE MAXIMUM PERCENT STATED IN THE TABLES FOR DRIVEWAY CRITERIA.

WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE

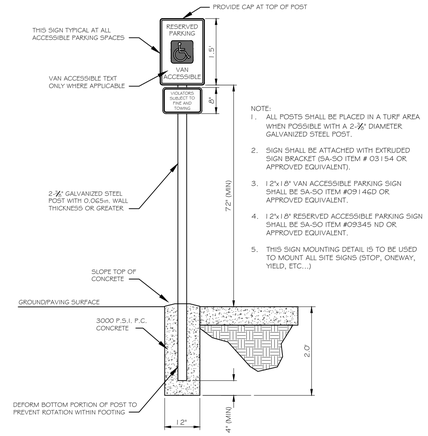
EXHIBIT
CURB & GUTTER
DRIVEWAY

Revised: 11/22/21



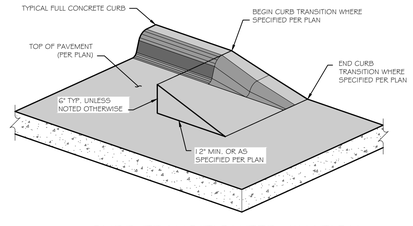
NOTES:
1. RE: SITE PLAN FOR LOCATION OF ADA PARKING SPACES AND ACCESS AISLE IN RELATIONSHIP TO THE DOOR LOCATION. (THIS DETAIL IS FOR STRIPING LAYOUT ONLY)
2. PARKING STRIPES AND THE ADA INTERNATIONAL HANDICAP SYMBOL ARE TO BE PAINTED PER THE MANUFACTURERS RECOMMENDATIONS.
3. THE WORDS "NO PARKING" SHALL BE PAINTED ON ANY ACCESS AISLE ADJACENT TO THE PARKING SPACE. THE WORDS MUST BE PAINTED IN ALL CAPITAL LETTERS, WITH A LETTER HEIGHT OF AT LEAST TWELVE INCHES, AND A STROKE WIDTH OF AT LEAST TWO INCHES.

ACCESSIBLE PARKING SPACE
N.T.S.



NOTE:
1. ALL POSTS SHALL BE PLACED IN A TURF AREA WHEN POSSIBLE WITH A 2-½" DIAMETER GALVANIZED STEEL POST.
2. SIGN SHALL BE ATTACHED WITH EXTRUDED SIGN BRACKET (SA-SO ITEM # 03154 OR APPROVED EQUIVALENT).
3. 12"x18" VAN ACCESSIBLE PARKING SIGN SHALL BE SA-SO ITEM #09146D OR APPROVED EQUIVALENT.
4. 12"x18" RESERVED ACCESSIBLE PARKING SIGN SHALL BE SA-SO ITEM #09345 ND OR APPROVED EQUIVALENT.
5. THIS SIGN MOUNTING DETAIL IS TO BE USED TO MOUNT ALL SITE SIGNS (STOP, ONEWAY, YIELD, ETC...)

SIGN MOUNTING DETAIL
N.T.S.



CURB TRANSITION/TERMINATION
N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

SITE DETAILS

SHEET:
C10.0

FULL PATH: K:\Jobs\MAL21001_LarAspur Trace\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C10.0 SITE DETAILS_MAL21001.dwg
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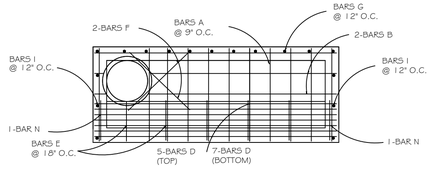
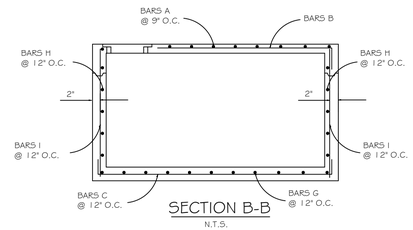
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 01/21/26



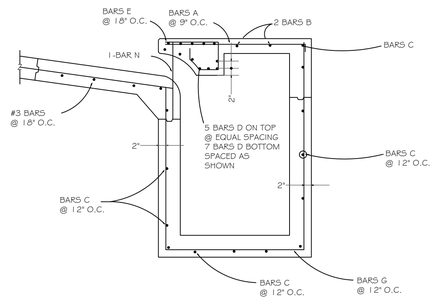
PLAN VIEW (5, 6, 8 AND 10 FOOT INLET)

N.T.S.



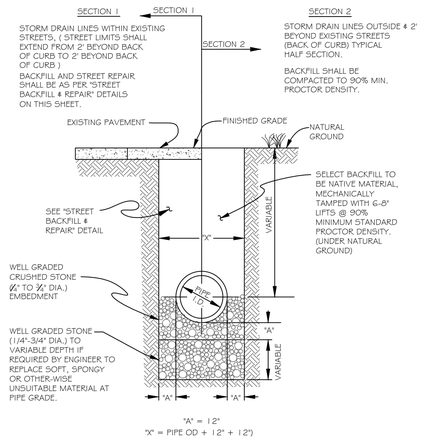
SECTION B-B

N.T.S.



SECTION E-E

N.T.S.



RCP EMBEDMENT DETAIL

N.T.S.

CURB LINE INLET REINFORCING AT 5, 6, 8 AND 10 FOOT INLET

N.T.S.

NOTES:

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR LIEU OF THIS, AT LEAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT EAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.
3. AFTER CASING HAS BEEN INSTALLED ON THE PROPER BEDDING, THE BACKFILL MATERIAL, WHICH IS FREE FLOWING AND CLEAR OF ROCKS, IN EXCESS OF 4" DIAMETER AND OTHER LUMPS WHICH WOULD PROHIBIT PROPER COMPACTION, SHALL BE COMMENCED IN LIFTS OF NO MORE THAN 18". THE MATERIAL USED FOR BACKFILL SHOULD BE A TYPE SUITABLE TO OBTAIN THE DENSITY REQUIREMENTS FOR THE SPECIFIC JOB.

REINFORCING BAR SCHEDULE

INLET LENGTH (ft)	BAR MARK NUMBER	BAR DIAGRAM TYPE	BAR SIZE	NUMBER REQUIRED	BAR BENDING DIMENSIONS A	B	C
5 and 6	A	I	#3	8	3'-2"	6"	-
	B	I	#3	2	4'-8"	6"	-
	C	II	#4	VARIES	6'-8"	6"	-
	D	II	#4	12	6'-8"	6"	-
	E	IV	#3	7	*	*	*
	F	III	#3	2	4'-0"	-	-
	G	V	#4	10	**	3'-2"	**
	H	III	#4	VARIES	3'-2"	-	-
	I	III	#4	4	**	-	-
	N	III	#4	2	1'-6"	-	-

* SEE BAR DIAGRAM FOR DIMENSIONS.
** LENGTH VARIES DUE TO DEPTH OF INLET.

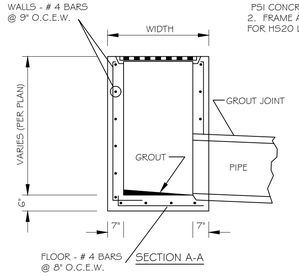


BAR DIAGRAM

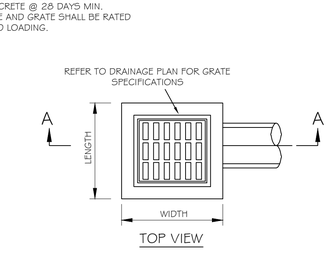
CURB LINE INLET REINFORCING BAR SCHEDULE

N.T.S.

NOTES:
1. CONCRETE SHALL BE CLASS "C" AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3600 PSI.
2. ALL REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
3. REINFORCING STEEL SHALL BE INSTALLED FROM THE CENTER OF THE OUTSIDE LAYER OF BARS TO 2" FROM THE SURFACE OF THE CONCRETE AND SHALL BE ADJUSTED TO PROVIDE A MINIMUM OF 1 1/4 " CLEAR COVER.
4. TXDOT PARALLEL WING CONSTRUCTION CRITERIA SHALL GOVERN THE FORMING OF PROPOSED WALLS, DIMENSIONING OF STEEL BARS SHALL BE DONE BY CONTRACTOR.
5. ALL USED STEEL COMPONENTS & DOWEL BARS, SHALL BE GALVANIZED AFTER FABRICATION.
6. CHAMFER ALL EXPOSED CORNERS 3/4 " OF AN INCH.
7. ALLOWABLE SOIL BEARING VALUES ASSUMED TO BE 2600 PSF (MINIMUM) PER RECORD DRAWING, IF OTHER THAN ASSUMED VALUES IS INDICATED, CONTACT DESIGN ENGINEER BEFORE PROCEEDING.
8. OUTLET PIPE MAY BE LOCATED IN ANY WALL BUT SHALL NOT BE LOCATED AT ANY CORNER OR BOTTOM.
9. MANHOLE RING WITH LOCKING COVER SHALL BE PLACED OVER THE OUTLET PIPE, REINFORCING BARS ARE TO BE ADJUSTED.
10. INLETS OVER 4'-0" DEEP SHALL CONTAIN STEPS SPACED AT 12" O.C. STARTING 18" ABOVE THE BOTTOM OF THE INLET. STEPS SHALL BE OF THE CAST-IN-PLACE TYPE AND ARE TO BE RUBBER OR PLASTIC COATED (NEENAH R-1981-1 OR EQUAL).



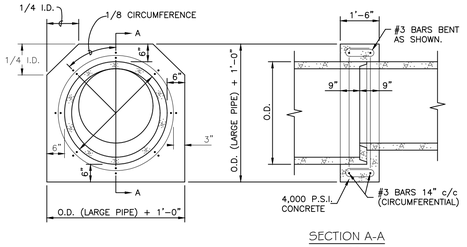
NOTE:
1. CONCRETE SHALL BE 4,500 PSI CONCRETE @ 28 DAYS MIN.
2. FRAME AND GRATE SHALL BE RATED FOR H520 LOADING.



TOP VIEW

TYPICAL GRATE INLET DETAIL

N.T.S.



SECTION A-A

N.T.S.

CONCRETE COLLAR DETAIL (PIPE)

N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
REGISTERED
PROFESSIONAL
ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

DRAINAGE DETAILS

SHEET:
C11.0

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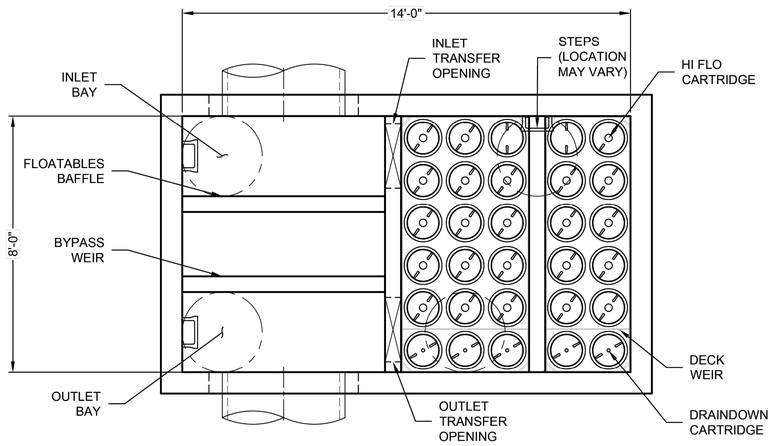
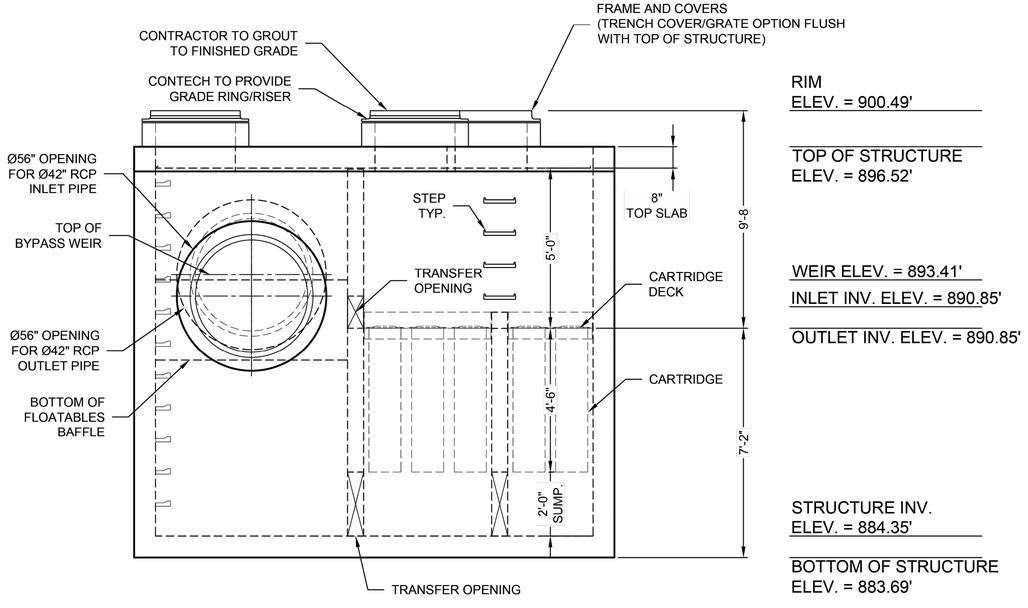
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



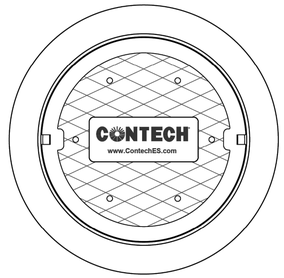
ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	4.90
DECK TO INSIDE TOP (MIN) (B)	5.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	BMP #1
WATER QUALITY FLOW RATE (cfs)	4.39
PEAK FLOW RATE (cfs)	65.45
RETURN PERIOD OF PEAK FLOW (yrs)	100
# OF CARTRIDGES REQUIRED (HF / DD)	23 / 5
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	890.85'	RCP	42"	*	*
INLET #2	*	*	*	*	*
OUTLET	890.85	RCP	42"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	900.49'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

3' ADDED TO BAY AREA TO ACCOMMODATE PIPE SIZE

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

8' x 11' JELLYFISH - 795883 - 010
PRIME FLEX SPACES
LIBERTY HILL, TX
SITE DESIGNATION: OUTFALL #1

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY DETAILS I

SHEET:
C11.1

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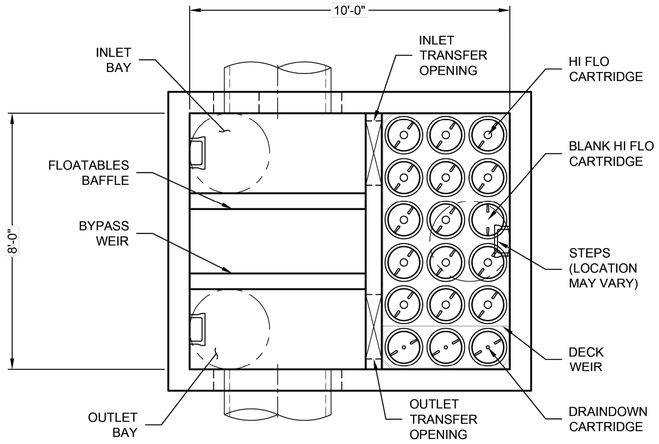
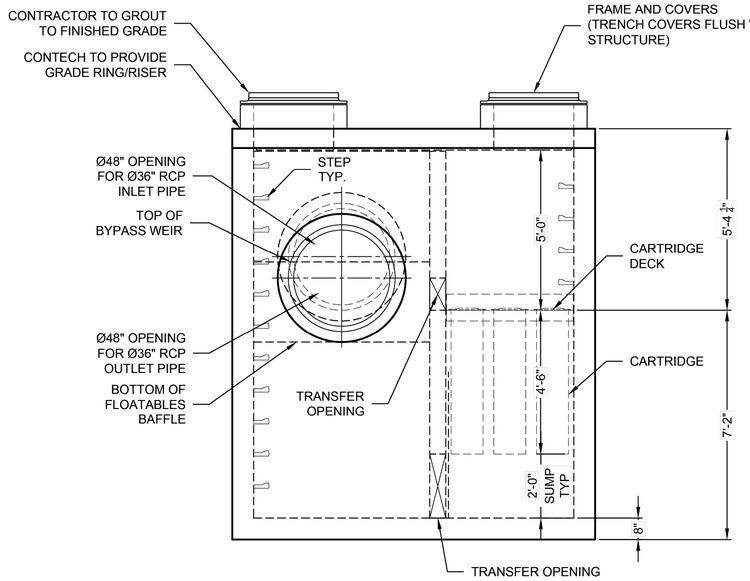


PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



RIM
ELEV. = 899.68'

TOP OF STRUCTURE
ELEV. =899.68'

WEIR ELEV. = 895.84'

INLET INV. ELEV. = 894.34'

OUTLET INV. ELEV. = 894.34'

STRUCTURE INV.
ELEV. = 887.84'

BOTTOM OF STRUCTURE
ELEV. = 887.17'

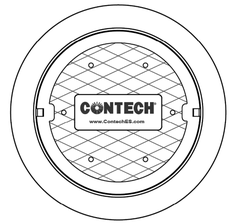
ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	2.94
DECK TO INSIDE TOP (MIN) (B)	5.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	BMP #3
WATER QUALITY FLOW RATE (cfs)	2.08
PEAK FLOW RATE (cfs)	27.59
RETURN PERIOD OF PEAK FLOW (yrs)	100
# OF CARTRIDGES REQUIRED (HF / DD)	11 / 3
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	894.34'	RCP	36"	*	*
INLET #2	*	*	*	*	*
OUTLET	894.34'	RCP	36"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	899.68'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

ADDED 2' TO BAY AREA TO ACCOMMODATE PIPE SIZE

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
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6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808 - 795883 - 020
PRIME FLEX SPACES
LIBERTY HILL, TX
SITE DESIGNATION: OUTFALL #2

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY DETAILS II

SHEET:
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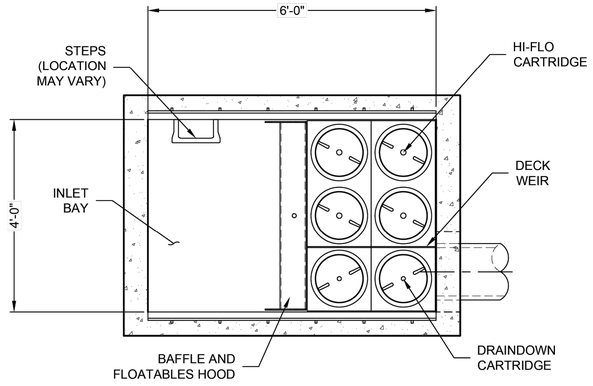
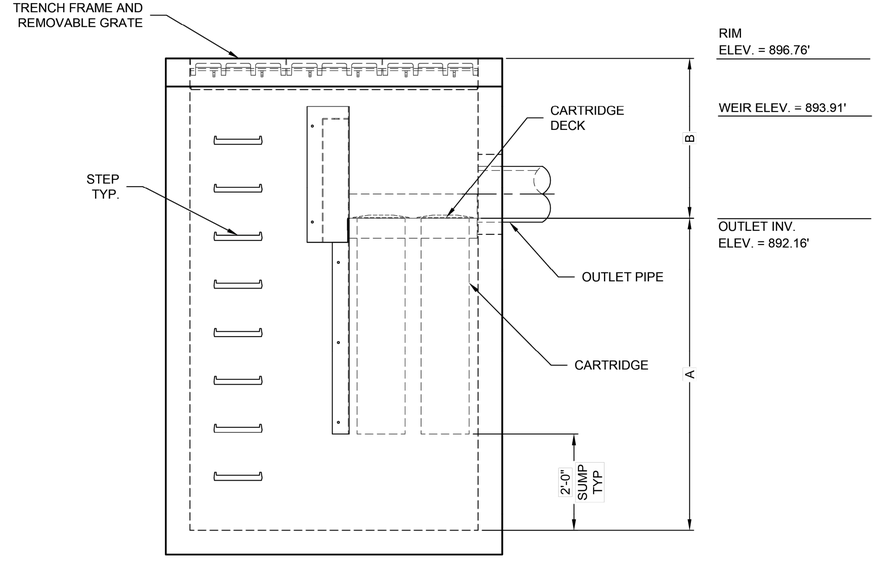


PLAN VIEW

(TOP SLAB NOT SHOWN FOR CLARITY)



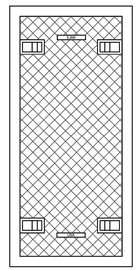
ELEVATION VIEW

JELLYFISH DESIGN NOTES

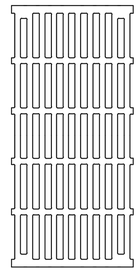
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD SURFACE INLET STYLE WITH TRENCH GRATE AND COVER IS SHOWN. ALTERNATE CURB INLET OR PIPE INLET OPTIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	0.89
OUTLET INVERT TO RIM (MIN) (B)	3'-4"



24" TRENCH COVER
N.T.S.



24" TRENCH GRATE
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	BMP #2
WATER QUALITY FLOW RATE (cfs)	0.46
PEAK FLOW RATE (cfs)	5.88
RETURN PERIOD OF PEAK FLOW (yrs)	100
# OF CARTRIDGES REQUIRED (HF / DD)	3 / 1
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	892.16'	RCP	15"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	896.76'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION AND SITE SPECIFIC EARTH COVER REQUIREMENT. TYPICAL CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDEDTO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
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Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

4' x 6' JELLYFISH - 795883 - 15
PRIME FLEX SPACES
LIBERTY HILL, TX
SITE DESIGNATION: OUTFALL #1

1/21/2026



THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY DETAILS III

SHEET:
C11.3

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\\QUIKRETE.NET\CONTECH\STORMWATER\COMMOPS\13 JELLYFISH FILTER\40 STANDARD DRAWINGS\JF ONLINE (SI)\DWG\JFSI0406-DTL.DWG 4/11/2023 3:52 PM
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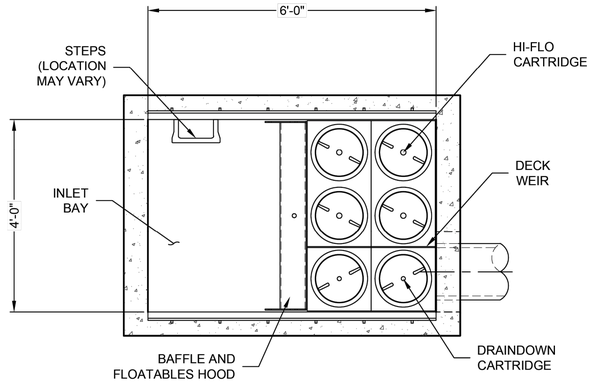
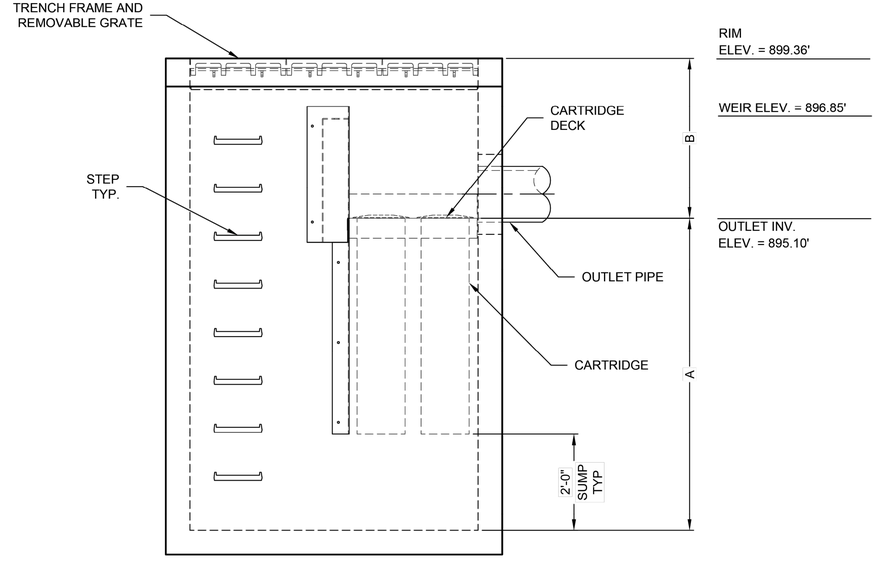
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026



PLAN VIEW

(TOP SLAB NOT SHOWN FOR CLARITY)



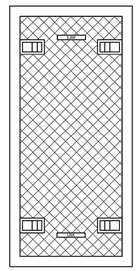
ELEVATION VIEW

JELLYFISH DESIGN NOTES

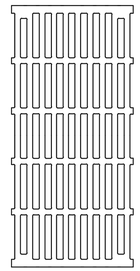
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD SURFACE INLET STYLE WITH TRENCH GRATE AND COVER IS SHOWN. ALTERNATE CURB INLET OR PIPE INLET OPTIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	0.89
OUTLET INVERT TO RIM (MIN) (B)	3'-4"



24" TRENCH COVER
N.T.S.



24" TRENCH GRATE
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	BMP #4
WATER QUALITY FLOW RATE (cfs)	0.56
PEAK FLOW RATE (cfs)	7.23
RETURN PERIOD OF PEAK FLOW (yrs)	100
# OF CARTRIDGES REQUIRED (HF / DD)	3 / 1
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	895.10'	RCP	18"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	899.36'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION AND SITE SPECIFIC EARTH COVER REQUIREMENT. TYPICAL CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDEDTO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

4' x 6' JELLYFISH - 795883 - 25
PRIME FLEX SPACES
LIBERTY HILL, TX
SITE DESIGNATION: OUTFALL #2

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY DETAILS IV

SHEET:
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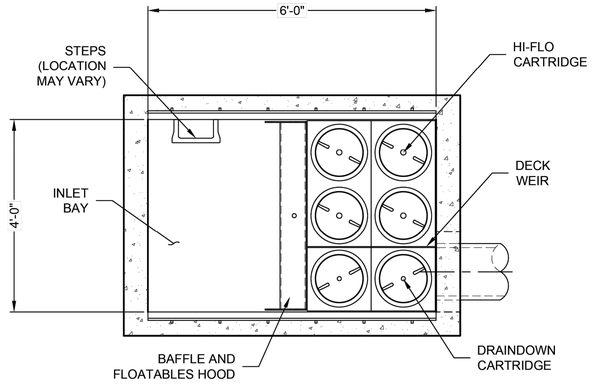
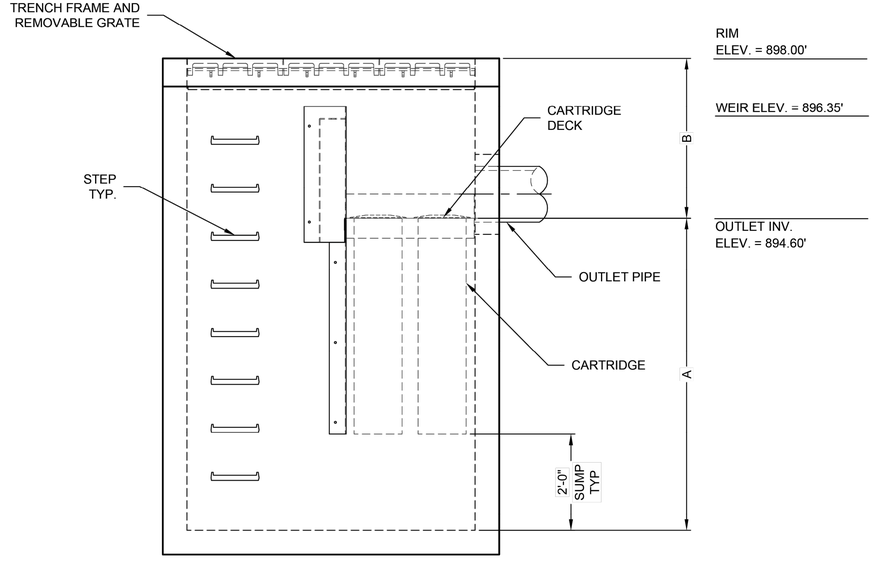
PLOTTED BY: Prashanta Gautam
PLOTTED ON: 1/21/2026



PLAN VIEW

(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

JELLYFISH DESIGN NOTES

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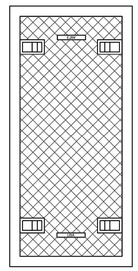
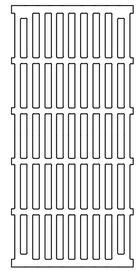
CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	0.89
OUTLET INVERT TO RIM (MIN) (B)	3'-4"



24" TRENCH COVER
N.T.S.



24" TRENCH GRATE
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	BMP #5
WATER QUALITY FLOW RATE (cfs)	0.55
PEAK FLOW RATE (cfs)	7.10
RETURN PERIOD OF PEAK FLOW (yrs)	100
# OF CARTRIDGES REQUIRED (HF / DD)	3 / 1
CARTRIDGE LENGTH	54"

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	894.60'	RCP	15"	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	896.76'

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:

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2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
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Jellyfish® Filter

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH®
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

4' x 6' JELLYFISH - 795883 - 30
PRIME FLEX SPACES
LIBERTY HILL, TX
SITE DESIGNATION: OUTFALL #3

1/21/2026



THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WATER QUALITY DETAILS V

SHEET:
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\\QUIKRETE.NET\CONTECH\STORMWATER\COMMOPS\13 JELLYFISH FILTER\40 STANDARD DRAWINGS\JF ONLINE (SI)\DWG\JFSI0406-DTL.DWG 4/11/2023 3:52 PM
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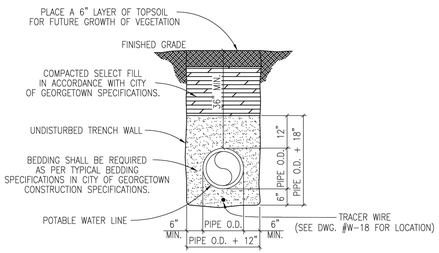
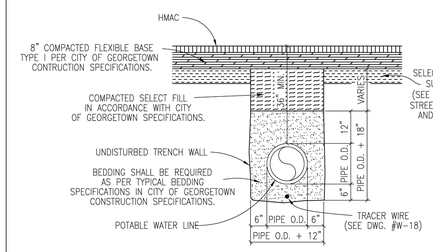
PLOTTED BY: Prashanta Gautam
PLOTTED ON: 1/21/2026



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W02
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

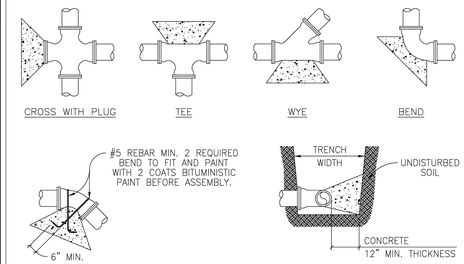


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W22
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB



*DEADMAN

TYPICAL SECTION

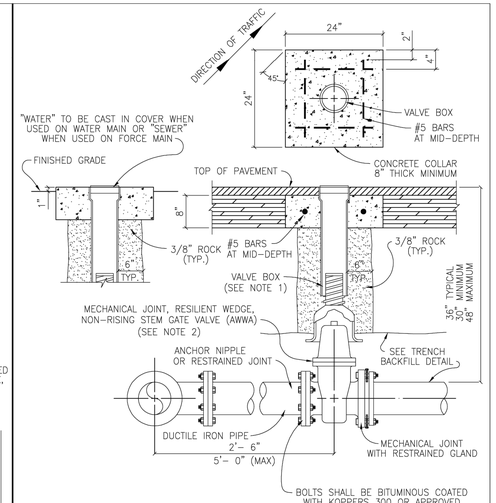
ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER. CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS, AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

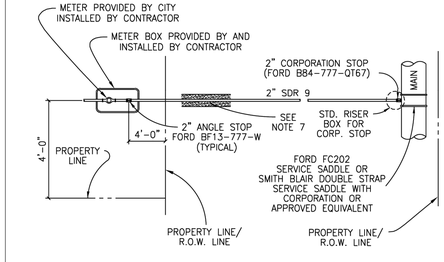
REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W11
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

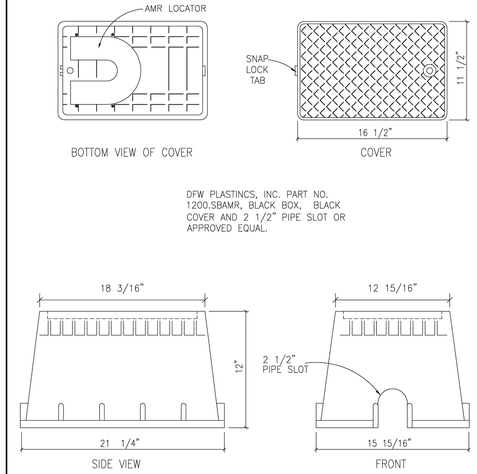
REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W07
TYPICAL VALVE SETTING	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

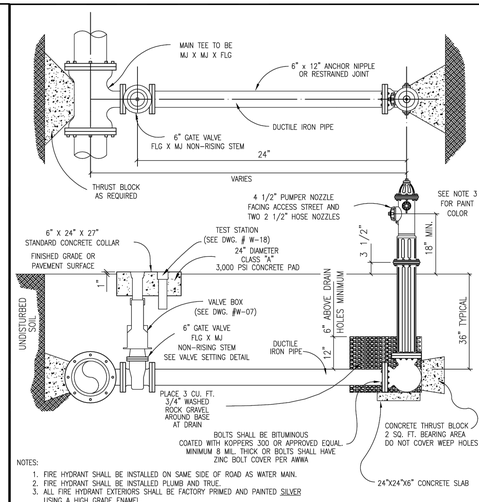
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 01/23/2013	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W04
SINGLE WATER SERVICE PLAN	SCALE: NTS; DATE: 1/2003; DRAWN BY: –; APPROVED BY: MH



The Architect/Engineer assumes responsibility for appropriate use of this standard.

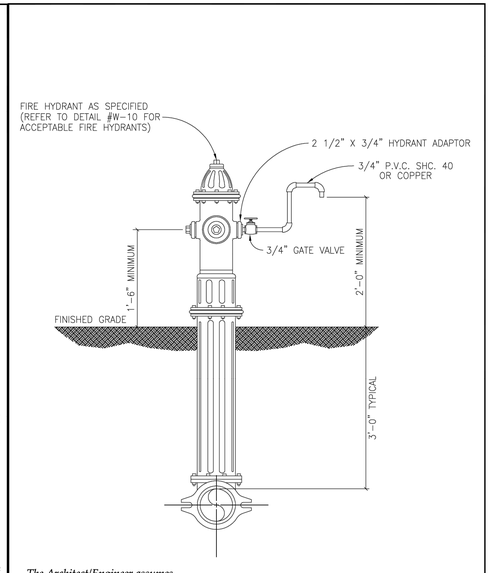
REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W23
METER BOX (NON-TRAFFIC AREAS)	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELENE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W10
TYPICAL FIRE HYDRANT INSTALLATION	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W19
FIRE HYDRANT SAMPLING POINT	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

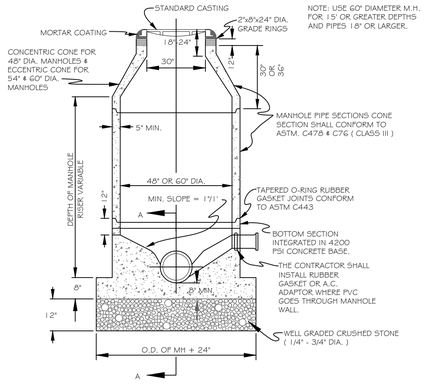
JOB NUMBER: MAL21001

ISSUE DATE:

WATER DETAILS

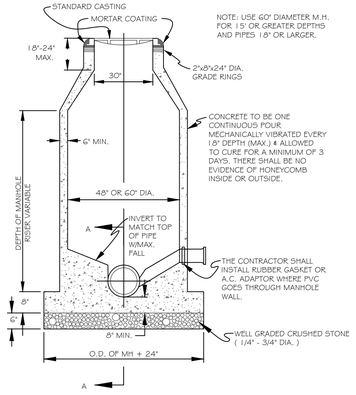
SHEET:
C12.0

FULL PATH: K:\Jobs\MAL21001_LarAspur Tract\Drawings\03_ENGR-Prime Office Warehouse\03 - Production\C12.0 WATER DETAILS_MAL21001.dwg
FILENAME: C12.0 WATER DETAILS_MAL21001.dwg
PLOTTED BY: Prashanta Gadam
PLOTTED DATE: 01/21/26



PRECAST CONCRETE MANHOLE (ASTM C478)

N.T.S. SEE CONCRETE MANHOLE NOTES.



POURED IN PLACE CONCRETE MANHOLE

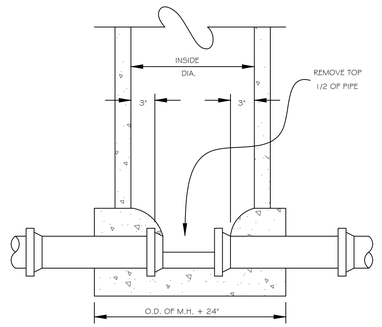
N.T.S. SEE CONCRETE MANHOLE NOTES.

CONCRETE MANHOLE NOTES:

1. CONCRETE FOR ALL PRECAST AND POURED IN PLACE MANHOLES SHALL BE MIN. 6 SACK, 4000 P.S.I. SULPHATE RESISTANT CONCRETE, SUCH AS : TYPE II OR TYPE V CEMENT
2. THE DIAMETER OF THE CONCRETE BASE SHALL NOT BE LESS THAN THE INSIDE DIAMETER OF THE MANHOLE PLUS 2 FT.
3. STEPS SHALL NOT BE INSTALLED IN MANHOLE.
4. ALL NEW MANHOLES SHALL BE MARKED WITH "MH" STAMPED OR CUT IN THE CURB.
5. USE DROP CONNECTIONS WHEN CONNECTING LINE EXCEEDS 24" ABOVE THE MANHOLE FLOWLINE.
6. USE OUTSIDE DROP CONNECTIONS ON ALL NEW MANHOLES.
7. USE INSIDE DROP CONNECTION ON EXISTING MANHOLES ONLY.
8. MANHOLE WALLS SHALL BE CORE DRILLED FOR SEWER CONNECTIONS.

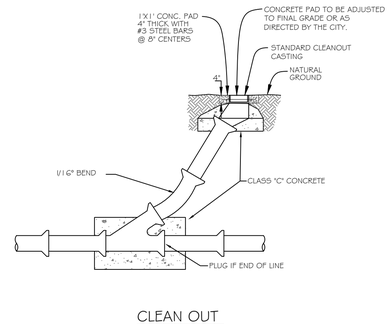
MANHOLE ABANDONMENT

1. REMOVE FRAME, LID AND CONE.
2. CUT AND PLUG ALL ABANDONED SEWER MAINS AT MANHOLE.
3. FILL BOTTOM 12" OF MANHOLE WITH 2000 PSI CONCRETE.
4. BACKFILL AND COMPACT MANHOLE CAVITY WITH SAND AND/OR GRAVEL.
5. REPAIR SURFACE TO MATCH EXISTING AS PER CITY STANDARDS.



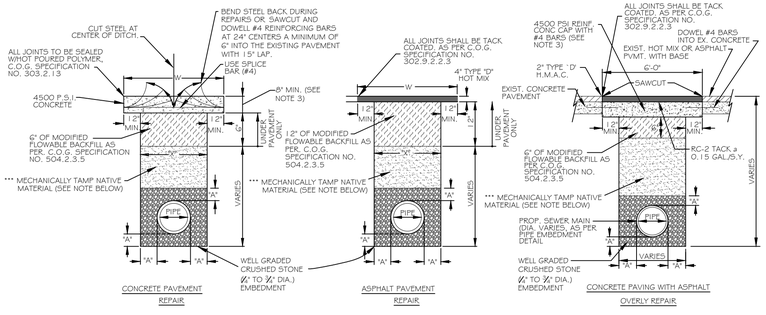
WASTEWATER MANHOLE SECTION "A-A"

N.T.S.



CLEAN OUT

NTS



NOTE:
CRUSHED STONE SHALL BE USED TO REPLACE SOFT, SPONGY OR OTHERWISE UNSUITABLE MATERIAL AT PIPE GRADE.

WASTEWATER PIPE PAVEMENT BACKFILL & REPAIR

N.T.S.

NOTE:
1.) FULL-DEPTH SAWCUT TO REPAIR ASPHALT OR CONCRETE PAVEMENT PRIOR TO OPENING THE DITCH IN ORDER TO ENSURE A NEAT STRAIGHT EDGE.
2.) MODIFIED FLOWABLE BACKFILL MAY BE UTILIZED IN-LIEU OF NATIVE MATERIAL.
3.) DEPTH OF CONCRETE REPAIR SHALL MATCH EXISTING PAVING DEPTH OR 8" MINIMUM.

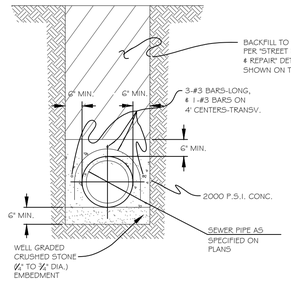
NORMAL SIZE OF PIPE IN INCHES	O.D. OF PIPE BELL IN INCHES (PVC-SDR35)	MINIMUM TRENCH WALL CLEARANCE "A" IN INCHES	WIDTH OF TRENCH (X)		WIDTH OF PVMT. REPLACEMENT *
			MAXIMUM ** IN INCHES	MINIMUM ** IN INCHES	(W) CONC. & ASPHALT **
4	4.67	6	24	18	42
6	6.74	6	24	19	48
8	8.99	6	24	21	48
10	11.27	6	28	24	48
12	13.27	6	30	26	50
15	16.45	8	37	33	57
18	20.73	8	41	37	61
21	24.42	8	45	41	65
24	27.21	8	48	44	68
27	30.61	8	51	47	71

NOTE:
* REFER TO THE PLANS FOR SPECIFIED WIDTH OF REPLACEMENT.
** RECOMMENDED WIDTHS - VARY BASED ON DEPTH AND SOIL MATERIAL.
*** MECHANICALLY TAMP NATIVE MATERIAL (6"Ø CLODS OR SMALLER IN 6"-8" LIFTS) TO 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY THE STD. PROCTOR TEST, ASTM D698 WITH MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION TO BE NEAR OPTIMUM TO 4% ABOVE PROCTOR OPTIMUM VALUE.

NOTE:
(A) CONCRETE FOR PAVING REPAIRS SHALL BE MADE WITH A MINIMUM OF 6 1/2 SACKS OF CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS.
(B) ALL REINFORCING STEEL SHALL BE NEW, NEAT, BILLET-STEEL PER ASTM DESIGNATION A615, GRADE 60, AND SHALL BE DETAILED AND PLACED PER ACI MANUALS SP-66 AND 318, LATEST ADDITIONS. ALL REINFORCING STEEL SHALL HAVE MINIMUM 15 INCH LAP SPLICES, UNLESS NOTED OTHERWISE ON THE PLANS.
(C) THE CONTRACTOR SHALL USE A LIQUID MEMBRANE-FORMING CURING COMPOUND PER COG ITEM ITEM 303.2.12.1.1.

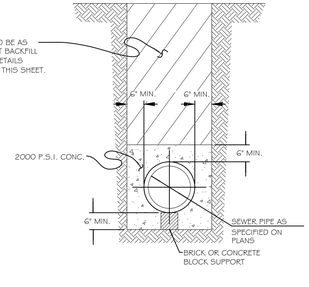
TABLE OF DIMENSIONS FOR WIDTH OF TRENCH AND PAVEMENT REPLACEMENT

N.T.S.



CAP DETAIL

N.T.S.



ENCASEMENT DETAIL

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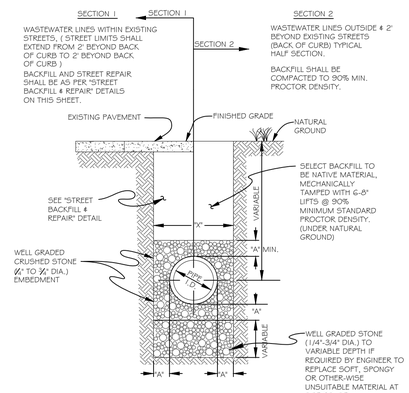

WASTEWATER PIPE EMBEDMENT DETAIL

N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
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SANITARY SEWER DETAILS

SHEET:

C13.0

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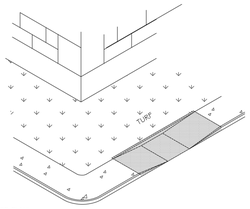
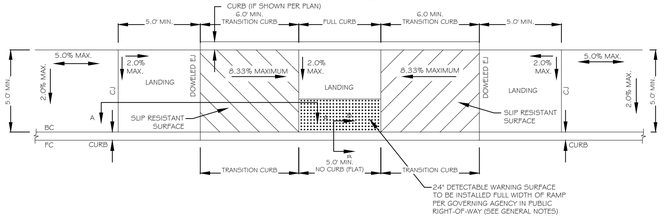
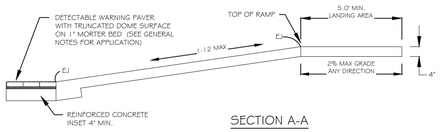


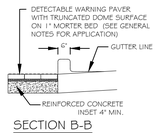
LEGEND

EJ EXPANSION JOINT
CJ CONSTRUCTION JOINT
BC BACK OF CURB
FC FACE OF CURB





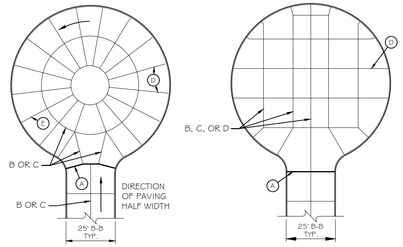
SECTION A-A

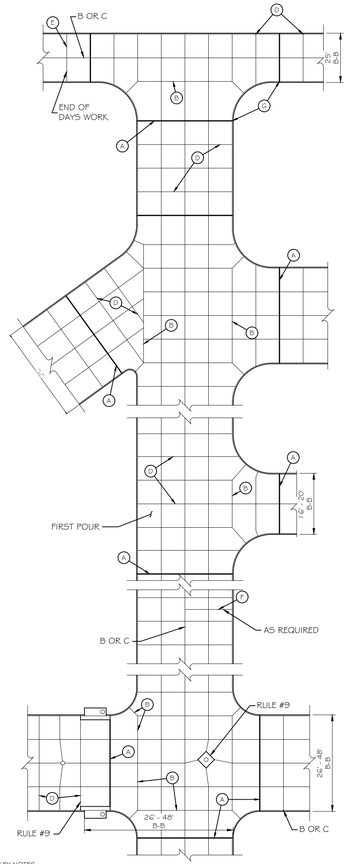


SECTION B-B

PARALLEL CURB RAMP DETAIL

N.T.S. -SIDEWALK PARELEL TO CURB



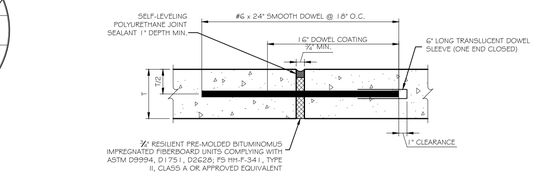


KEY NOTES:
A. EXPANSION JOINT (ISOLATION)
B. LONGITUDINAL CONSTRUCTION JOINT
C. LONGITUDINAL CONTROL JOINT (CONTRACTION)
D. TRANSVERSE CONTROL JOINT (CONTRACTION)
E. PLANNED TRANSVERSE CONSTRUCTION JOINT
F. EMERGENCY TRANSVERSE CONSTRUCTION JOINT
G. PLACE ½" EXPANSION JOINT FILLER IN TOP OF CURB ONLY AT ALL RADIUS POINTS

RULES:
1. AVOID ODD-SHAPED SLABS.
2. MAXIMUM TRANSVERSE JOINT SPACING FOR PAVEMENT SHOULD EITHER BE 24 TO 30 TIMES THE SLAB THICKNESS OR 15ft.
3. LONGITUDINAL JOINT SPACING SHOULD NOT EXCEED 12.5ft
4. KEEP SLABS AS SQUARE AS POSSIBLE. LONG NARROW SLABS TEND TO CRACK MORE THAN SQUARE ONES.
5. ALL TRANSVERSE CONTRACTION JOINTS MUST BE CONTINUOUS THROUGH THE CURB AND HAVE A DEPTH EQUAL TO ¼ THE PAVEMENT THICKNESS.
6. IN ISOLATION JOINTS, THE FILLER MUST BE FULL DEPTH AND EXTEND THROUGH THE CURB
7. IF THERE IS NO CURB, LONGITUDINAL JOINTS SHOULD BE TIED WITH DEFORMED BARS.
8. OFFSETS AT RADIUS POINTS SHOULD BE AT LEAST 1.5ft WIDE. JOINT INTERSECTION ANGLES LESS THAN 60° SHOULD BE AVOIDED.
9. MINOR ADJUSTMENTS IN JOINT LOCATION MADE BY SHIFTING OR SKEWING TO MEET INLETS AND MANHOLES WILL IMPROVE PAVEMENT PERFORMANCE.
10. WHEN THE PAVEMENT AREA HAS DRAINAGE STRUCTURES, PLACE JOINTS TO MEET THE STRUCTURES IF POSSIBLE.

TYPICAL JOINT LAYOUT

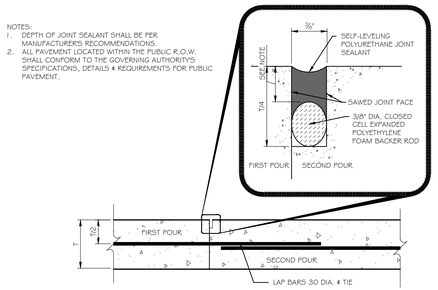
N.T.S.



NOTES:
1. SLEEVES FOR DOWELS SHALL HAVE AN INSIDE DIAMETER OF ¼" GREATER THAN THE DIAMETER OF THE DOWELS AND SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO USE.
2. EXPANSION JOINTS SHALL BE CONSTRUCTED A MAXIMUM OF 500' APART ON STRAIGHT PAVING, AND WHERE INDICATED PER THE AMERICAN CONCRETE PAVEMENT ASSOCIATIONS TECHNICAL PUBLICATION ACPA ISO61.01P (LATEST VERSION)
3. DOWEL COATING SHALL BE ASPHALTIC COATING.
4. DOWELS SHALL NOT BE TIED TO OTHER REINFORCEMENT.
5. REFER TO SIDEWALK DETAILS THIS SHEET FOR EXPANSION JOINTS IN SIDEWALK AREAS.
6. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITYS SPECIFICATIONS, DETAILS & REQUIREMENTS FOR PUBLIC PAVEMENT.
7. FINISHED SURFACES SHALL BE INSTALLED FLUSH WITH A DIFFERENTIAL ELEVATION NOT TO EXCEED ½".

EXPANSION JOINT (ISOLATION)

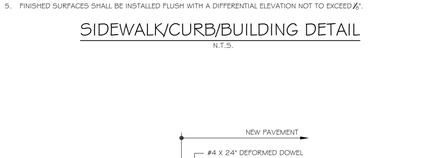
N.T.S.



NOTES:
1. DEPTH OF JOINT SEALANT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITY'S SPECIFICATIONS, DETAILS & REQUIREMENTS FOR PUBLIC PAVEMENT.

CONSTRUCTION BUTT JOINT

N.T.S.



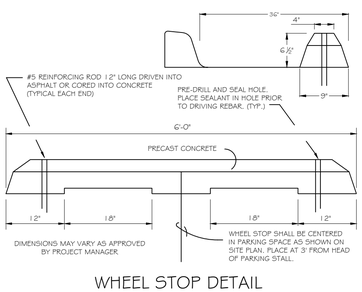
NOTES
1. ALL SIDEWALK JOINTS LOCATED WITHIN 25' OF A BUILDING FACE OR ADJACENT TO ANY STRUCTURE SHALL BE SEALED.
2. REFER TO STRUCTURAL PLANS/DETAILS FOR DOWEL/HINGE JOINT AT ALL CONNECTIONS BETWEEN FOUNDATIONS/STOOPS AND FLATWORK.
3. THE SUBGRADE PREPARATION FOR ANY FLATWORK OR SIDEWALK PAVEMENT WITHIN 25' FROM ANY BUILDING FACE OR ADJACENT TO ANY STRUCTURE SHALL AS SPECIFIED BY THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE GEOTECHNICAL REPORT DOES NOT CONTAIN A RECOMMENDATION THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITY'S SPECIFICATIONS, DETAILS & REQUIREMENTS FOR PUBLIC PAVEMENT.
5. FINISHED SURFACES SHALL BE INSTALLED FLUSH WITH A DIFFERENTIAL ELEVATION NOT TO EXCEED ½".

SIDEWALK/CURB/BUILDING DETAIL

N.T.S.

THICKENED PAVEMENT EDGE

N.T.S.



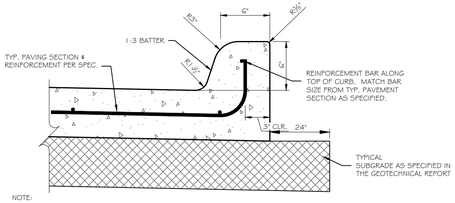
NOTES:
1. DEPTH OF JOINT SEALANT SHALL BE PER MANUFACTURER'S RECOMENDATIONS
2. CONTROL JOINTS SHALL BE CONSTRUCTED WHERE INDICATED PER THE AMERICAN CONCRETE PAVEMENT ASSOCIATION'S TECHNICAL PUBLICATION ACPA ISO61.01P (LATEST VERSION)
3. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITY'S SPECIFICATIONS, DETAILS & REQUIREMENTS FOR PUBLIC PAVEMENT.

CONTROL JOINT (CONTRACTION)

N.T.S.

WHEEL STOP DETAIL

N.T.S.



NOTE:
1. ALL CURBS ARE CONSTRUCTED OF PORTLAND CEMENT CONCRETE UNLESS OTHERWISE SHOWN.
2. GRADES SHALL BE MEASURED AT BACK OF CURB UNLESS OTHERWISE SPECIFIED.
3. ALL PAVEMENT LOCATED WITHIN THE PUBLIC R.O.W. SHALL CONFORM TO THE GOVERNING AUTHORITY'S SPECIFICATIONS, DETAILS & REQUIREMENTS FOR PUBLIC PAVEMENT.
4. CONTROL JOINTS THROUGH CURB SHALL BE SEALED IN THE PAVEMENT AND TERMINATE AT THE GUTTER.

MONOLITHIC CURB DETAIL

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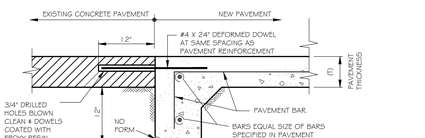
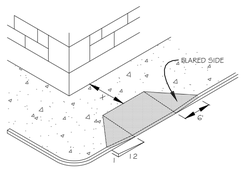


STREET HEADER AT EXISTING PAVEMENT

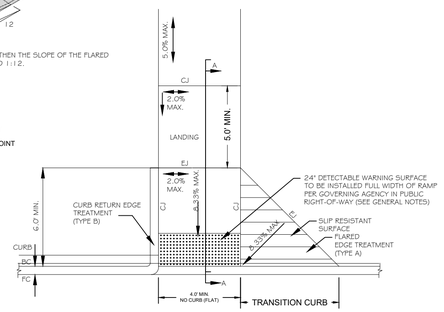
N.T.S.

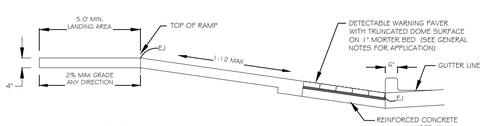
LEGEND

EJ EXPANSION JOINT
CJ CONSTRUCTION JOINT
BC BACK OF CURB
FC FACE OF CURB



NOTE:
IF 'X' IS LESS THAN 48" THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 1:12.





SECTION A-A

CURB RAMP DETAIL

N.T.S. - FLARED OR RETURN CURB

GENERAL NOTES

NOTES:
1. CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION SURFACE.
2. RAMPS SHALL BE CONSTRUCTED PER ADA & APPLICABLE STATE ACCESSIBILITY STANDARDS..
3. CURB RAMPS SHALL BE MONOLITHIC POUR & SEPARATED FROM SITE PAVING WITH A DOWELED EXPANSION JOINT.

DETECTABLE WARNING SURFACE (PUBLIC RIGHT-OF-WAY):
1. TRUNCATED DOMES SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
2. TRUNCATED DOMES TO RUN PARALLEL TO PEDESTRIAN TRAVEL.
3. DETECTABLE WARNING PAVERS, OR PLATES MEETING ADA & STATE REQUIREMENTS ARE ACCEPTABLE.

GROOVED SURFACE (RAMP FLARE):
1. FLARED CURB RAMP SURFACES SHALL BE TEXTURED WITH GROOVES 1/4" DEEP, 3/4" WIDE, 2" APART AND ARRANGED SO THAT WATER WILL NOT ACCUMULATE IN THE GROOVES.
2. FLARED CURB RAMP SURFACE SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF THE ADJOINING PEDESTRIAN ROUTE WHEN SPECIFIED.

1/21/2026

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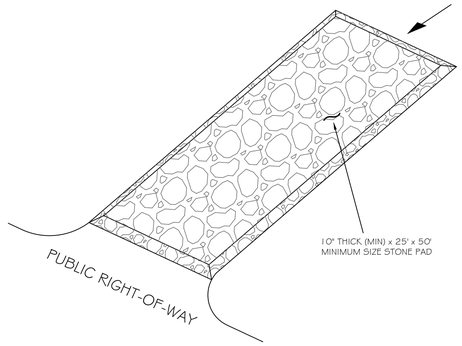
PLOTTED BY: Preciosa Gadam
PLOTTED DATE: 1/21/2026



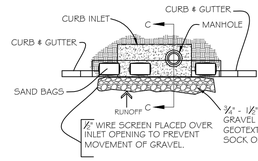
SIZE OF ROCK LBS.	% SMALLER BY WEIGHT
200	100
50	35-65
3	0

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE DRESSING WITH ADDITIONAL STONE AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE INTO PUBLIC RIGHT-OF-WAY. WASHING SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT CONTROLLING STRUCTURE. USE SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS TO PREVENT SEDIMENT FROM ENTERING ANY STORM DRAIN, DITCH, OR WATER COURSE.
3. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

TEMPORARY CONSTRUCTION EXIT POINT

N.T.S.



PLAN VIEW

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

ELEVATION = 911.62' (NAVD '88)

BM NO. 2 THE SITE BENCHMARK IS A "X: CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183

ELEVATION = 918.87' (NAVD '88)



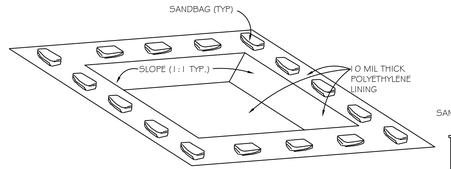
CROSS SECTION C-C

∅ SEDIMENT REMOVAL SHALL BE PERFORMED CONTINUOUSLY FOR PROPER FUNCTION.

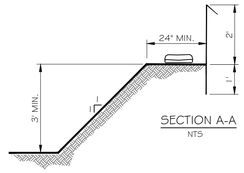
(HIGHER VOLUME TRAFFIC AREAS)

INLET PROTECTION

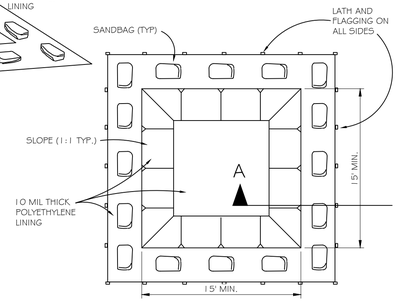
N.T.S.



ISOMETRIC VIEW
NTS



NTS

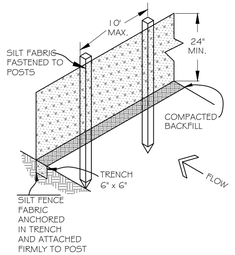


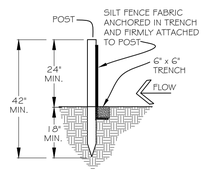
PLAN VIEW
NTS

NOTES
1. Actual layout, size and location to be determined by Contractor.
2. The concrete washout sign shall be installed within 30 ft. of the temporary concrete washout facility.
3. Once concrete wastes are allowed to harden, the concrete should be broken up, removed and disposed of properly. dispose of hardened concrete on a regular basis.

TEMPORARY CONCRETE WASHOUT AREA

N.T.S.



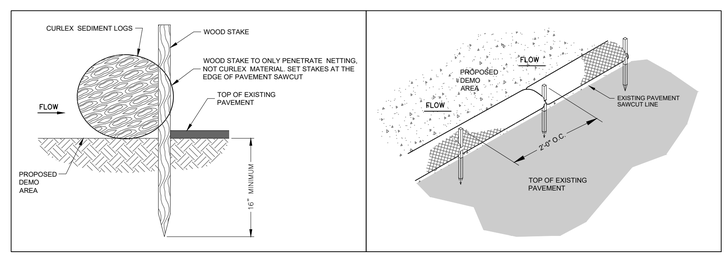


SILT FENCE GENERAL NOTES:

1. STEEL 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 ONE FOOT.
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. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE IN ACCORDANCE WITH PERMIT REQUIREMENTS. 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 WATER FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

N.T.S.



STRAW WATTLE

N.T.S.

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

EROSION CONTROL DETAILS

SHEET:

C15.0

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FILENAME: C15.0 EROSION CONTROL DETAILS_MAL21001.dwg
PLOTTED BY: Prashanta Gautam
PLOTTED DATE: 1/21/2026

FIRE HYDRANTS LACKING INTEGRAL STORZ CONNECTOR SHALL BE REJECTED (NO STORZ ADAPTERS ALLOWED)

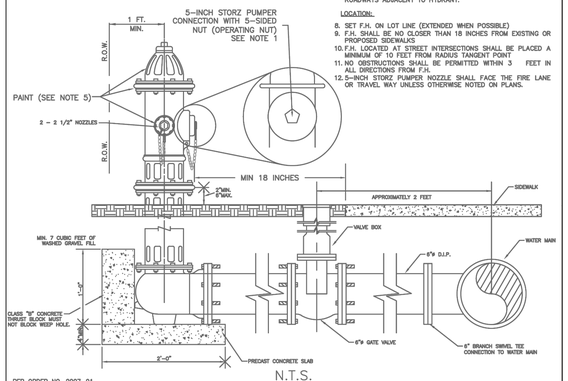
RATED FLOW	FIRE HYDRANT BONNET COLOR
1,500 G.P.M. +	LIGHT BLUE
1000 – 1499 G.P.M.	GREEN
500 – 999 G.P.M.	ORANGE
BELOW 500 G.P.M.	RED

NOTES:

1. FIRE HYDRANT BRAND AND MODEL SHALL BE APPROVED BY THE LOCAL WATER AUTHORITY DISTRICT. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5–INCH STORZ PUMPER NOZZLE; 1.5–INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
2. HYDRANTS SHALL BE ORDERED SILVER IN COLOR. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY.
3. ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
4. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUG" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
5. AFTER COMPLETION OF FIRE HYDRANT INSTALLATION, A FIRE FLOW TEST SHALL BE CONDUCTED BY A THIRD PARTY COMPANY, BASED ON FIRE FLOW TEST, THE FIRE HYDRANT BONNET SHALL BE PAINTED ACCORDING TO THE CHART ON THIS SHEET. THE HYDRANT BONNET TO FLANGE AND NOZZLE CAPS SHALL BE PAINTED THE APPROVED COLOR CORRESPONDING WITH THE APPROPRIATE FLOW RATE AS NOTED ON THE TABLE ON THIS SHEET.
6. BLUE, BI–DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6 INCHES FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT
7. INTERSECTIONS, MARKERS SHOULD BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

LOCATION:

8. SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE)
9. F.H. SHALL BE NO CLOSER THAN 18 INCHES FROM EXISTING OR PROPOSED SIDEWALKS
10. F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF 10 FEET FROM RADIUS TANGENT POINT
11. NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN 3 FEET IN ALL DIRECTIONS FROM F.H.
12. 5–INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED ON PLANS.



N.T.S.

PER ORDER NO. 2007–01
(2) SECTION C105.2 INSTALLATION.
FIRE HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE FIVE (5) INCH STEAMER OPENING AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE FIVE (5) INCH OPENING MUST FACE THE DRIVEWAY OR STREET AND MUST BE TOTALLY UNOBSTRUCTED TO THE STREET. FIRE HYDRANT DESIGN SHALL BE 2– 2.5" NST OUTLETS, 1 – 5.0" STORZ CONNECTION WITH A CAP TO INCLUDE A HEX NUT TO FIT A HYDRANT WRENCH ALONG WITH A REFLECTIVE BAND. THE FIRE HYDRANT SHALL BE PAINTED SILVER IN COLOR AND DESIGNATED BY A BLUE REFLECTOR IN THE CENTER OF THE STREET.

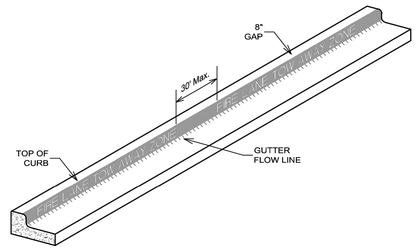
NOTE: STANDARD FIRE HYDRANT ASSEMBLY INCLUDES ALL COMPONENTS SHOWN HEREIN, EXCEPT WATER MAIN, INSTALLED COMPLETE AND IN–PLACE.

WILLIAMSON COUNTY EMERGENCY SERVICE DISTRICT NO. 4	STANDARD FIRE HYDRANT ASSEMBLY

Williamson County Emergency Services District No. 4

Fire Lane Detail

NOTES:
FIRE LANE STRIPING TO BE 6" WIDE RED PAINT WITH "FIRE LANE TOW AWAY ZONE" IN 4" TALL WHITE LETTERS. WORDING MAY NOT BE SPACED GREATER THAN 30' APART. STRIPING TO BE PAINTED ON THE FACE OF CURB WHEN PRESENT AND PAINTED FLAT ON THE PARKING SURFACE WHEN IT IS NOT.



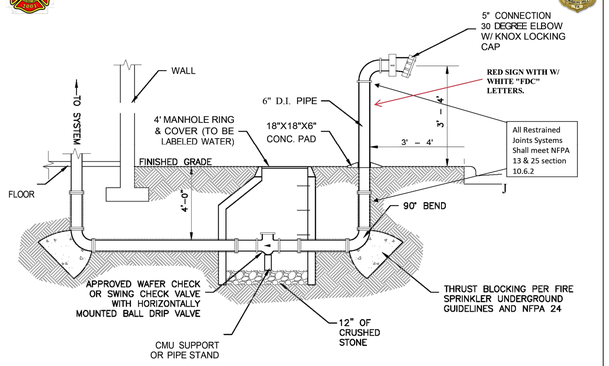
FIRE LANE STRIPING DETAIL
not to scale

D:\Standards\Constr-Stnds\Fire-Lane-Striping_Curb.dwg

Jay Engineering Company, Inc. P.O. Box 1220 Leander, Texas 78646-1220 Tel. (512) 259-3882 Fax (512) 259-8601 TEXAS REGISTERED ENGINEERING FIRM F-4780	FIRE LANE STRIPING DETAIL			
ENGINEER	DATE	DRAWN BY	PROJECT NO.	DRAWING NO.
FRANK T. PHELAN, P.E.	04 - 25 - 19	JJD	01	1 OF 1

Williamson County Emergency Services District No. 4

FDC Detail



FIRE DEPARTMENT CONNECTION
NOT TO SCALE

1/21/2026

STATE OF TEXAS
SHEA O. KIRKMAN
91865
LICENSED PROFESSIONAL ENGINEER

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER,
TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

WCSED NO.4 DETAILS

SHEET:

C16.0

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PLOTTED BY: Prabuddha Gautam
PLOTTED DATE: 01/21/2026

ATTACHMENT N
INSPECTION AND MAINTENANCE FOR BMPs

The following worksheets may be used during and after construction for inspection and maintenance of permanent BMPs.

PERMANENT BMP INSPECTION AND MAINTENANCE WORKSHEET

Complete this worksheet twice annually; OR, after periods of heavy runoff for erosion or damage to vegetation. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and 3-91 restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

Inspector (name/title): Inspection Date: Day: Time: am/pm
Scope of inspection (circle one): Semi-annual Inspection or Heavy runoff Inspection
Day of week normally conducted: 0.5 inch Rainfall Event: yes / no

Type	Inspected? (Y/N)	Areas of Concern
Grass Cover		
Debris and Litter		
Sediment accumulation		

BMP & Location	OK? (Y/N)	BMP Failure? (describe)	BMP Failure? (describe)

"I certify that the facility or site is in compliance with the stormwater pollution prevention plan and this permit."

I further certify that I am authorized to sign this report under TCEQ rules at 30 TAC 305.128 (relating to Signatories to Reports)

Name/Title: RAJU PADIGALA Date: 12/30/2025
AR REDDY SPRING CREEK LLC

Signature: 

Jellyfish® Filter Inspection and Maintenance

Jellyfish cartridges are passively backwashed automatically after each storm event, which removes accumulated sediment from the membranes and significantly extends the service life of the cartridges and the maintenance interval. If required, the cartridges can be easily manually backwashed without removing the cartridges. Additionally, the lightweight cartridges can be removed by hand and externally rinsed, and rinsed cartridges then re-installed. These simple maintenance options allow for cartridge regeneration, thereby minimizing cartridge replacement costs and life-cycle treatment costs while ensuring long-term treatment performance.

Regular inspection and maintenance are proven, cost-effective ways to maximize water resource protection for all stormwater pollution control practices, and are required to insure proper functioning of the Jellyfish® Filter. Inspection of the Jellyfish® Filter is performed from the surface, while proper maintenance requires a combination of procedures conducted from the surface and with worker entry into the structure.

Please refer to the following information and guidelines before conducting inspection and maintenance activities:

- **When is inspection needed?**

Post-construction inspection is required prior to putting the Jellyfish Filter into service.

Routine inspections are recommended quarterly during the first year of operation to accurately assess the sediment and floatable pollutant accumulation, and to ensure that the automatic backwash feature is functioning properly.

Inspection frequency in subsequent years is based on the maintenance plan developed in the first year, but must occur annually at a minimum.

Inspections should also be performed immediately after oil, fuel or other chemical spill.

- **When is maintenance service needed?**

The unit must be cleaned annually. This cleaning includes removal and appropriate disposal of all water, sediment, oil and grease, and debris that has accumulated within the unit. The Jellyfish Filter is inspected and maintained by professional vacuum
c l e a n i n g service providers with experience in the maintenance of underground tanks, sewers and catch basins. Since some of the maintenance procedures require manned entry into the Jellyfish structure, only professional maintenance service providers trained in confined space entry procedures should enter the vessel. Service provider companies typically have personnel who are trained and certified in confined space entry procedures according to local, state, and federal standards.

Filter cartridges should be tested for adequate flow rate, every 12 months and cleaned and re-commissioned, or replaced if necessary. A manual backflush must be performed on a single draindown cartridge using a Jellyfish Cartridge Backflush Pipe (described in the Jellyfish® Filter Owner's Manual). If the time required to drain 14 gallons of backflush water from the Backflush Pipe (from top of pipe to the top of the open flapper valve) exceeds 15 seconds, it is recommended to perform a manual backflush on each of the cartridges. After the manual backflush, the draindown test should be repeated on a single cartridge to determine if the cartridge can drain 14 gallons of water in 15 seconds. If the cartridge still does not achieve the design flow rate, it must be replaced.

The unit should be cleaned out immediately after an oil, fuel or chemical spill.

- **External Rinsing**

This cartridge cleaning procedure is performed by removing the cartridge from the cartridge deck and externally rinsing the filtration tentacles using a low-pressure water sprayer, as described in the Jellyfish® Filter Owner's Manual. If this procedure is performed within the structure, the cartridge or individual filtration tentacles should be rinsed while safely suspended over the maintenance access wall opening in the cartridge deck, such that rinsate flows into the lower chamber of the Jellyfish® Filter. If the rinsing procedure is performed outside the structure, the cartridge or individual filtration tentacles should be rinsed in a suitable basin such as a plastic barrel or tub, and rinsate subsequently poured into the maintenance access wall opening in the cartridge deck.

Sediment is subsequently removed from the lower chamber by standard vacuum service.

Inspection / Maintenance Completion - Summary

Company Name: AR Reddy Spring Creek LLC.

Company Address: 6253 Corvara Court

City/State/Zip: Frisco , Texas, 75035

Phone: 512-761-8025

Engineer: Kirkman Engineering

Engineers Address: 5200 State Hwy 121

City/State/Zip: Colleyville, Texas, 76034

Phone: 817-488-4960

Property Owner: Raju Padigala

*Jellyfish Model

Monitoring / Maintenance Table

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Oil Depth (inches)												
Sediment Depth (inches)												
Completed By												
Date												
Floatables (optional)												

I hereby certify that the monitoring and maintenance of the Jellyfish Filter unit was completed in accordance with the directions of the Jellyfish inspection and maintenance plan.

(Signed by property owner or designee)

ATTACHMENT P
MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

No pollution will be present on-site during construction. Temporary BMP measures such as silt fence and rock check dam will be provided to contain possible runoff.

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: Raju Padigala

Date: 7/02/24

Signature of Customer/Agent:

Raju Padigala (Jul 5, 2024 10:04 CDT)

Regulated Entity Name: Liberty Hill 35

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: _____

   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 Fork San Gabriel

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. [X] 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. [X] Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. [X] 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. [X] 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
SPILL RESPONSE ACTIONS

General

- An effective spill and leak response depends on proper recognition and response practices by construction workers and supervisors. Key elements are education and training.
- Records of releases that exceed the Reportable Quantity (RQ) for oil and hazardous substances should be maintained in accordance with the Federal and State regulations.
- Emergency contact information and spill response procedures shall be posted in a readily available area for access by all employees and subcontractors.
- Spill containment kits should be maintained for petroleum products and other chemicals that are regularly onsite. Materials in kits should be based on containment guidelines in the Material Safety and Data Sheets (MSDSs) for the substance most frequently onsite.
- Spill kits are intended for response to small spills, typically less than 5 gallons, of substances that are not extremely hazardous.
- Significant spills or other releases warrant immediate response by trained professionals.
- Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken.

Coordinator

- The contractor should be required to designate a site superintendent, foreman, safety officer, or other senior person who is onsite daily to be the Spill and Leak Response Coordinator.
- The coordinator must have knowledge of and be trained in correct spill and leak response procedures.
- The coordinator shall be responsible for implementing the spill and leak procedures and training all employees and sub-contractors on the site-specific spill and leak procedures. The training should include their responsibility to immediately notify the coordinator if a spill or leak occurs.

Spill Response

- Upon discovery of a spill, employees and subcontractors shall implement the following procedures:
    - Immediately stop work and clear the area by moving upwind of the spill.
    - Remove all ignition sources.
    - Notify the Spill and Leak Response Coordinator.
    - If there is an immediate danger to health or life, contact 911.

- The Spill and Leak Response Coordinator shall perform the following when the spill is not immediately dangerous to health and safety:
    - Consult the MSDS for safety and response procedures.
    - If it can be done safely, use onsite spill kits and soil to contain the spill.
    - Notify a hazardous response company to remove and properly dispose of the spilled material and the contaminated containment materials.

Spill Reporting

- The Spill and Leak Response Coordinator is responsible for notifying authorities of spills and leaks. Notification requirements are based on Reportable Quantities as established by the type or material, quantity and location (onto land or into water in the state) of the release. https://www.tceq.texas.gov/response/spills/spill_rq.html
- Reportable Quantities (RQ) in the State of Texas are established by the TCEQ in Texas Administrative Code Title 30, Chapter 327 (30 TAC 327) Spill Prevention and Control.
- The Texas RQ for petroleum products and used oil is 25 gallons released onto land or any amount that causes sheen on water.
- Reportable Quantities for all other substances are listed in 30 TAC 327.4, which references the EPA List of Lists (EPA 550-B-01-003) available at: http://www.epa.gov/ceppo/pubs/title3.pdf
- The Spill and Leak Response Coordinator shall notify the following:
    - The municipality that operates the local Municipal Separate Storm Sewer System (MS4) if a spill or leak enters public rights-of-way or any type of drainage way or drainage infrastructure within the jurisdiction of the municipality.
    - State of Texas Spill Report Hotline at 1-800-832-8224 if the spill or leak exceeds the RQ.
    - National Spill Response Center at 1-800-424-8802 if the spill or leak exceeds the RQ.
    - TCEQ regional office at normal office hours.

ATTACHMENT B
POTENTIAL SOURCES OF CONTAMINATION

Pollutant	Activity	Response
Fuels, grease, and oils	Trucks, generators, machinery used during construction activity	Secondary containment will be established around all above-ground storage tanks. Any emergency maintenance will utilize drip pans, and no scheduled maintenance will occur onsite.
Sediment	General construction activity	Sediment and erosion control measures will be established and operating prior to any soil disturbance
Sanitary/septic systems	General construction activity	Portable toilets will be located in designated sites within the construction site. Licensed sanitary sewer services will ensure facilities are in working order at all times.

ATTACHMENT C
SEQUENCE OF CONSTRUCTION

1. Install Construction Entrance/Exit per Erosion Control Plans in the Construction Drawings.
2. Install tree protection (as needed).
3. Begin silt fence installation.
4. Strip topsoil and organic materials and store onsite in stockpiles for later use. All stockpiles shall be temporarily seeded and mulched to prevent loss due to erosion and encircled with a silt fence or filter tube. (1.76 acres for Tract 1, 8.55 acres for Tract 2)
5. Begin site grading. (1.76 acres for Tract 1, 8.55 acres for Tract 2)
6. Install underground stormwater system.
7. As an area reaches final grade, install permanent stabilization as soon as possible but in no case longer than 14 days from reaching final grade.
8. Any area that will remain undisturbed for 14 days or more shall be temporarily stabilized.
9. Construct pavement/road.
10. Finish grading of all areas. (1.76 acres for Tract 1, 8.55 acres for Tract 2)
11. Complete permanent stabilization of all disturbed areas. Once a minimum of 70 percent of the vegetated areas have been stabilized, remove the erosion control BMPs.

ATTACHMENT D
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The following temporary BMPs have been identified on the Erosion Control Plan.

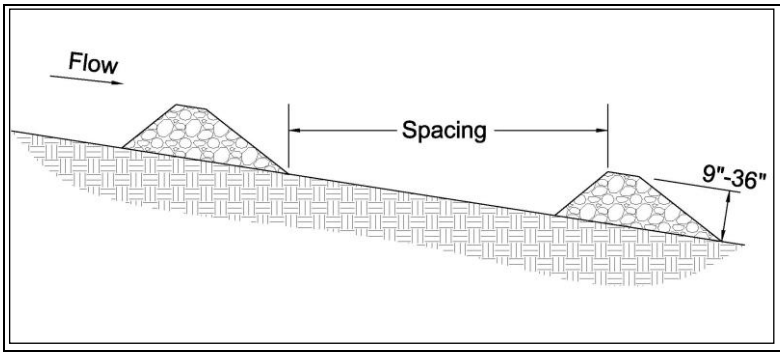
1. Stabilized Construction Exit – Minimizes sediment and aggregate from exiting the project site from equipment trucks and construction vehicles.
2. Silt Fence – Protects downstream property from sediment due to storm events.
3. Rock Check Dam – It reduces velocity of small, concentrated flows and reduces potential for erosion of the ditch.
4. Concrete Washout Pit – To capture the concrete and debris from concrete vehicles and equipment.
5. Inlet Protection – To capture the concrete and debris from entering the underground storm system.

See attached for detailed description of the BMP's.

2.0 Erosion Controls

2.1 Check Dam

Erosion Control



Description: Check dams are small barriers consisting of loose rock, rock bags, or organic filter tubes placed across a drainage swale or ditch. They reduce the velocity of small concentrated flows, provide a limited barrier for sediment and reduce the potential for erosion of the swale or ditch.

KEY CONSIDERATIONS

DESIGN CRITERIA:

- Heights between 9 inches and 36 inches
- Top of the downstream dam should be at the same elevation as the toe of the upstream dam

ADVANTAGES / BENEFITS:

- Reduced velocities in long drainage swales or ditches
- May be used with other channel protection measures
- Provides some sediment removal

DISADVANTAGES / LIMITATIONS:

- Cannot be used in live stream channels
- Minor ponding upstream of the check dams
- Extensive maintenance or replacement of the dams required after heavy flows or high velocity flows
- Mowing hazard from loose rocks if all rock is not removed at end of construction

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Remove silt when it reaches approximately ⅓ the height of the dam or 12 inches, whichever is less

TARGETED POLLUTANTS

- ◒ Sediment
- ○ Nutrients & Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

APPLICATIONS

Perimeter Control

Slope Protection

Sediment Barrier

Channel Protection

Temporary Stabilization

Final Stabilization

Waste Management

Housekeeping Practices

Fe=0.30-0.50
(*Depends on soil type*)

IMPLEMENTATION CONSIDERATIONS

- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ◒ Suitability for Slopes > 5%

Other Considerations:

- *None*

2.1.1 Primary Use

Check dams are used in long drainage swales or ditches to reduce erosive velocities. They are typically used in conjunction with other channel protection techniques such as vegetation lining and turf reinforcement mats. Check dams provide limited treatment to sediment-laden flows. They are more useful in reducing flow velocities to acceptable levels for stabilization methods. Check dams may be used in combination with stone outlet sediment traps, where the check dams prevent erosion of the swale while the sediment trap captures sediment at the downstream end of the swale.

2.1.2 Applications

Check dams are typically used in swales and drainage ditches along linear projects such as roadways. They can also be used in short swales down a steep slope, such as swales down a highway embankment, to reduce velocities. Check dams shall not be used in live stream channels.

Check dams should be installed before the contributing drainage area is disturbed, so as to mitigate the effects on the swale from the increase in runoff. If the swale itself is graded as part of the construction activities, check dams are installed immediately upon completion of grading to control velocities in the swale until stabilization is completed.

2.1.3 Design Criteria

General Criteria

- Typically, the dam height should be between 9 inches and 36 inches, depending on the material of which they are made. The height of the check dam shall always be less than one-third the depth of the channel.
- Dams should be spaced such that the top of the downstream dam is at the same elevation as the toe of the upstream dam. On channel grades flatter than 0.4 percent, check dams should be placed at a distance that allows small pools to form between each check dam.
- The top of the side of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the side of the dams shall be embedded a minimum of 18 inches into the side of the drainage ditch, swale or channel to minimize the potential for flows to erode around the side of the dam.
- Larger flows (greater than 2-year, 24-hour design storm) must pass the check dam without causing excessive upstream flooding.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.
- Use geotextile filter fabric under check dams of 12 inches in height or greater. The fabric shall meet the following minimum criteria:
    - Tensile Strength, ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 250-lbs.
    - Puncture Rating, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 135-lbs.
    - Mullen Burst Rating, ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, 420-psi.
    - Apparent Opening Size, ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 20 (max).
- Loose, unconfined soil, wood chips, compost, and other material that can float or be transported by runoff shall not be used to construct check dams.

Rock Check Dams

- Stone shall be well graded with stone size ranging from 3 to 6 inches in diameter for a check dam height of 24 inches or less. The stone size range for check dams greater than 24 inches is 4 to 8 inches in diameter.
- Rock check dams shall have a minimum top width of 2 feet with side slopes of 2:1 or flatter.

Rock Bag Check Dams

- Rock bag check dams should have a minimum top width of 16 inches.
- Bag length shall be 24 inches to 30 inches, width shall be 16 inches to 18 inches and thickness shall be 6 inches to 8 inches and having a minimum weight of 40 pounds.
- Minimum rock bag dam height of 12 inches would consist of one row of bags stacked on top of two rows of bag. The dam shall always be one more row wide than it is high, stacked pyramid fashion.
- Bags should be filled with pea gravel, filter stone, or aggregate that is clean and free of deleterious material.
- Sand bags shall not be used for check dams, due to their propensity to break and release sand that is transported by the concentrated flow in the drainage swale or ditch.
- Bag material shall be polypropylene, polyethylene, polyamide or cotton burlap woven fabric, minimum unit weight 4-ounces-per-square-yard, Mullen burst strength exceeding 300-psi as determined by ASTM D3786, Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, and ultraviolet stability exceeding 70 percent.
- PVC pipes may be installed through the dam to allow for controlled flow through the dam. Pipe should be schedule 40 or heavier polyvinyl chloride (PVC) having a nominal internal diameter of 2 inches.

Sack Gabion Check Dams

- Sack gabion check dams may be used in channels with a contributing drainage area of 5 acres or less.
- Sack gabions shall be wrapped in galvanized steel, woven wire mesh. The wire shall be 20 gauge with 1 inch diameter, hexagonal openings.
- Wire mesh shall be one piece, wrapped around the rock, and secured to itself on the downstream side using wire ties or hog rings.
- Sack gabions shall be staked with ¾ inch rebar at a maximum spacing of three feet. Each wire sack shall have a minimum of two stakes.
- Stone shall be well graded with a minimum size range from 3 to 6 inches in diameter.

Organic Filter Tube Check Dams

- Organic filter tubes may be used as check dams in channels with a contributing drainage area of 5 acres or less.
- Organic filter tubes shall be a minimum of 12 inches in diameter.
- Filter material used within tubes to construct check dams shall be limited to coir, straw, aspen fiber and other organic material with high cellulose content. The material should be slow to decay or leach nutrients in standing water.
- Staking of filter tubes shall be at a maximum of 4 foot spacing and shall alternate through the tube and on the downstream face of the tube.
- Unless superseded by requirements in this section, filter tubes and filter material shall comply with the

criteria in *Section 3.6 Organic Filter Tubes*.

2.1.4 Design Guidance and Specifications

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.9 Check Dam (Rock). Specifications are also available in the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (TxDOT 2004), Item 506.2.A and Item 506.4.C.1.

2.1.5 Inspection and Maintenance Requirements

Check dams should be inspected regularly (at least as often as required by the TPDES Construction General Permit). Silt must be removed when it reaches approximately 1/3 the height of the dam or 12 inches, whichever is less. Inspectors should monitor the edges of the dam where it meets the sides of the drainage ditch, swale or channel for evidence of erosion due to bypass or high flows. Eroded areas shall be repaired. If erosion continues to be a problem, modifications to the check dam or additional controls are needed.

Care must be used when taking out rock check dams in order to remove as much rock as possible. Loose rock can create an extreme hazard during mowing operations once the area has been stabilized.

2.1.6 Example Schematics

The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function.

The schematics are **not for construction**. They may serve as a starting point for creating a construction detail, but they must be adapted for the site by the designer. Dimensions and notes appropriate for the application must also be added by the designer.

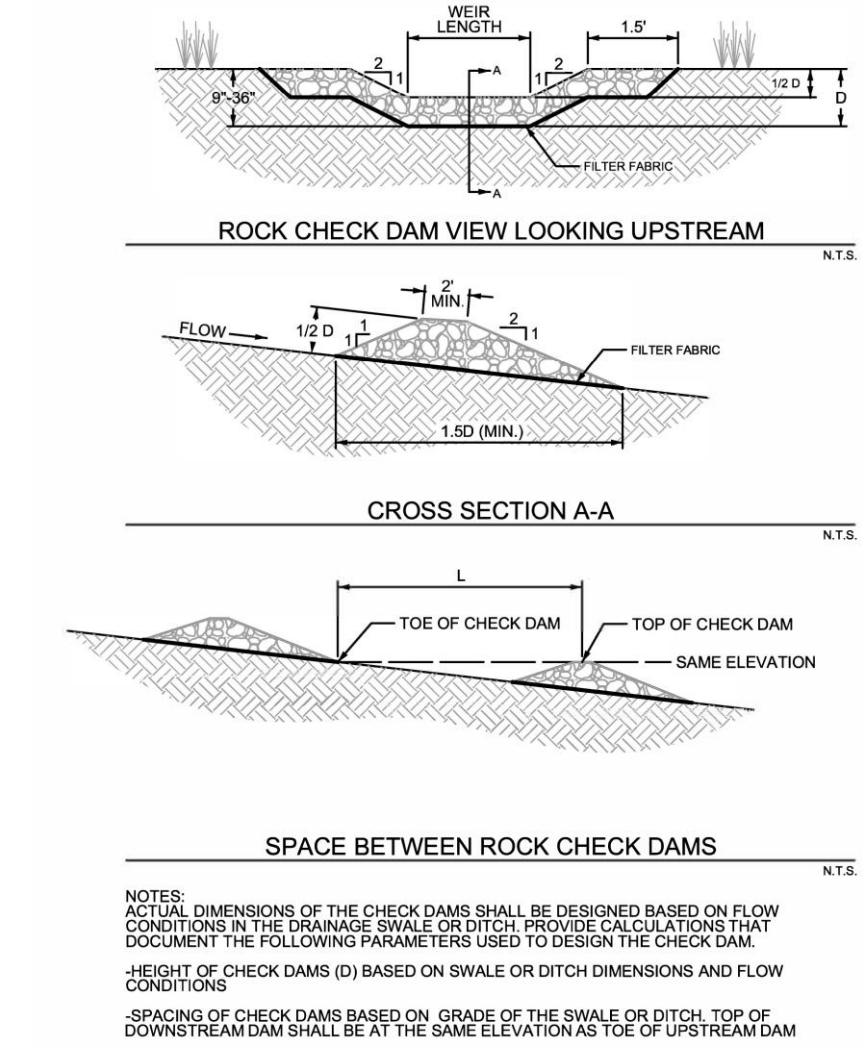


Figure 2.1 Schematics of Rock Check Dams
(Source: Modified from Stormwater Management Manual for Western Washington)

ROCK CHECK DAM GENERAL NOTES:

1. SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.9 CHECK DAM (ROCK).

2. STONE SHALL BE WELL GRADED WITH SIZE RANGE FROM 1 1/2 TO 3 1/2 INCHES IN DIAMETER DEPENDING ON EXPECTED FLOWS.

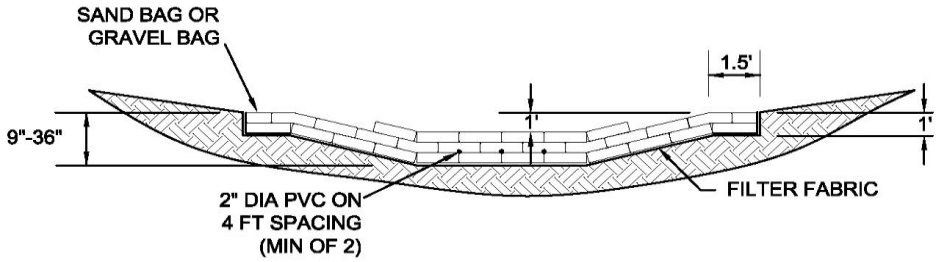
3. THE CHECK DAM SHALL BE INSPECTED AS SPECIFIED IN THE SWPPP AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE CHECK DAM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.

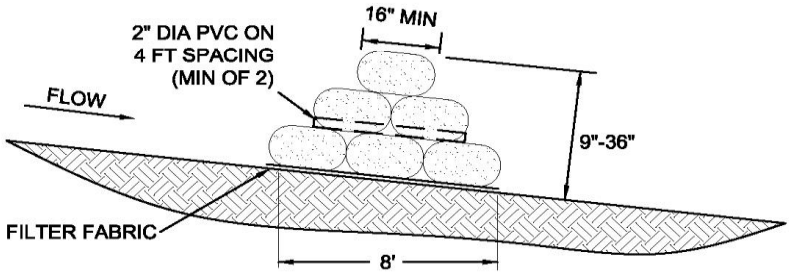
5. WHEN THE SITE HAS ACHIEVED FINAL STABILIZATION OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED, THE CHECK DAM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

Revised 2019

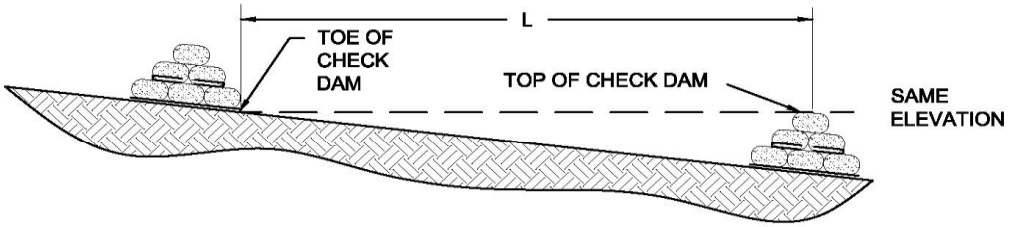
Figure 2.2 Rock Check Dams Schematic General Notes
(Source: Modified from Stormwater Management Manual for Western Washington)



ROCK BAG CHECK DAM VIEW LOOKING UPSTREAM
N.T.S.



CROSS SECTION OF ROCK BAG CHECK DAM
N.T.S.

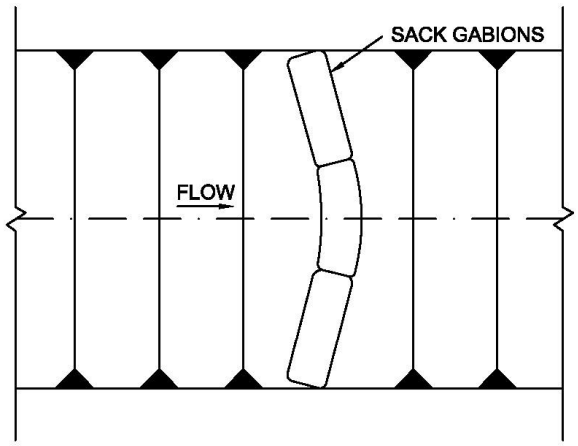


SPACING BETWEEN ROCK BAG CHECK DAMS
N.T.S.

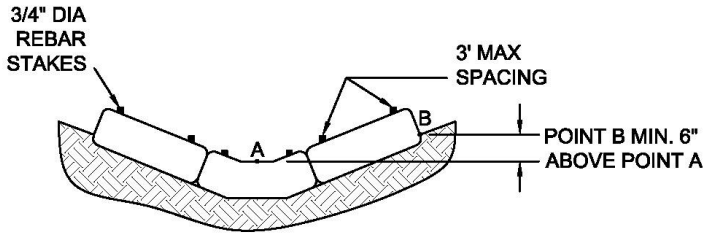
NOTES: ACTUAL DIMENSIONS OF THE CHECK DAMS SHALL BE DESIGNED BASED ON FLOW CONDITIONS IN THE DRAINAGE SWALE OR DITCH. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETERS USED TO DESIGN THE CHECK DAMS.

- HEIGHT OF CHECK DAMS BASED ON SWALE OR DITCH DIMENSIONS AND FLOW CONDITIONS.
- SPACING OF CHECK DAMS BASED ON GRADE OF THE SWALE OR DITCH. TOP OF DOWNSTREAM DAM SHALL BE AT SAME ELEVATION AS TOE OF UPSTREAM DAM.

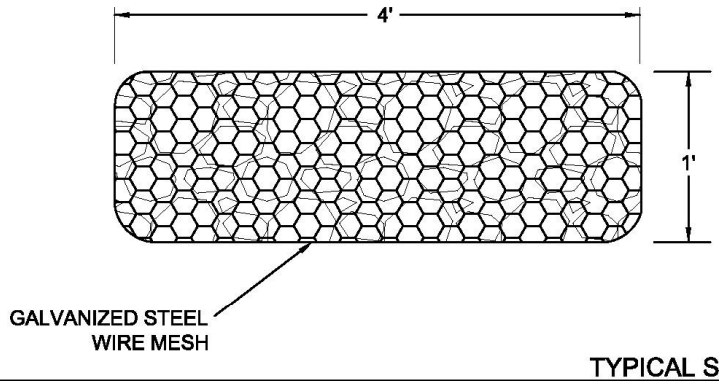
Figure 2.3 Schematics of Rock Bag Check Dams



SACK GABION CHECK DAM PLAN VIEW
N.T.S.



SACK GABION CHECK DAM VIEW LOOKING UPSTREAM
N.T.S.

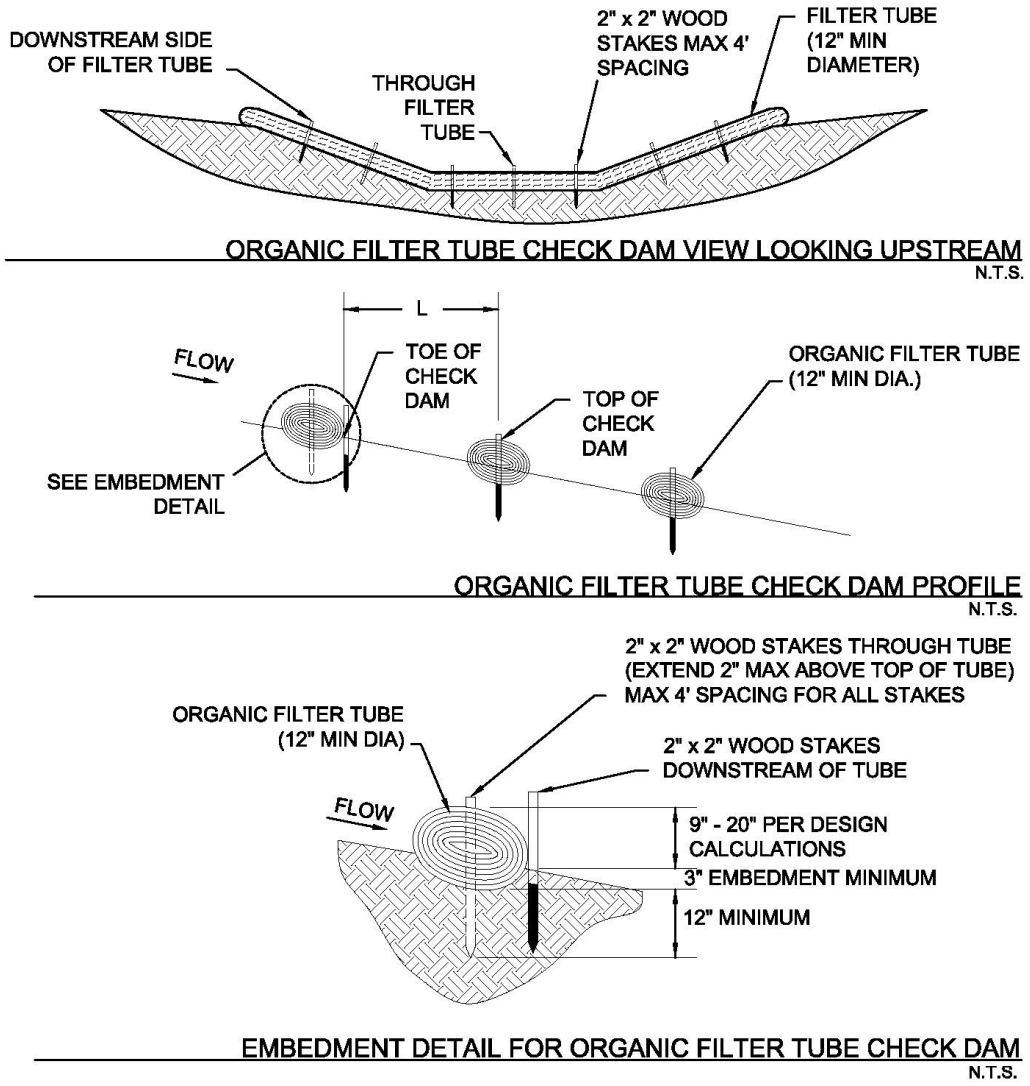


TYPICAL SACK GABION
N.T.S.

NOTES: ACTUAL DIMENSIONS OF THE CHECK DAMS SHALL BE DESIGNED BASED ON FLOW CONDITIONS IN THE DRAINAGE SWALE OR DITCH. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETERS USED TO DESIGN THE CHECK DAMS.

- HEIGHT OF CHECK DAMS BASED ON SWALE OR DITCH DIMENSIONS AND FLOW CONDITIONS.
- SPACING OF CHECK DAMS BASED ON GRADE OF THE SWALE OR DITCH. TOP OF DOWNSTREAM DAM SHALL BE AT SAME ELEVATION AS TOE OF UPSTREAM DAM.

Figure 2.4 Schematics of Sack Gabion Check Dams
(Source: Modified from Texas Department of Transportation Detail Sheet EC (2)-93)



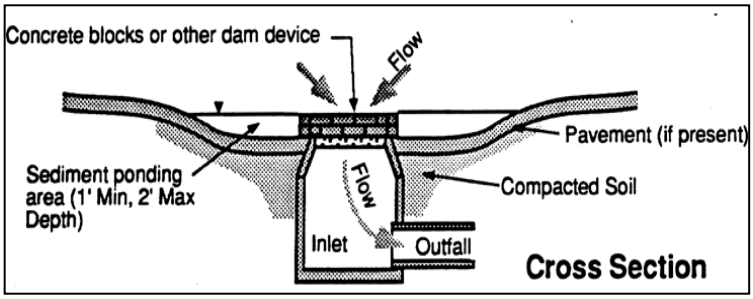
NOTES: ACTUAL DIMENSIONS OF THE CHECK DAMS SHALL BE DESIGNED BASED ON FLOW CONDITIONS IN THE DRAINAGE SWALE OR DITCH. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETERS USED TO DESIGN THE CHECK DAMS.

- HEIGHT OF CHECK DAMS BASED ON SWALE OR DITCH DIMENSIONS AND FLOW CONDITIONS.
- SPACING OF CHECK DAMS BASED ON GRADE OF THE SWALE OR DITCH. TOP OF DOWNSTREAM DAM SHALL BE AT SAME ELEVATION AS TOE OF UPSTREAM DAM.

Figure 2.5 Schematics of Organic Filter Tube Check Dams
(Source: Modified from City of Plano BMP S-7)

3.4 Inlet Protection

Sediment Control



Description: Inlet protection consists of a variety of methods to intercept sediment at low point inlets through the use of depressed grading, filter stone, filter fabric, inlet inserts, organic filter tubes and other materials. The protection devices are placed around or across the inlet openings to provide localized detention or filtration of sediment and floatable materials in stormwater. Protection devices may be assembled onsite or purchased as manufactured assemblies.

KEY CONSIDERATIONS

DESIGN CRITERIA:

- Evaluate drainage patterns to ensure inlet protection will not cause flooding of roadway, property or structures
- Never block entire inlet opening
- Size according to drainage area and flow rates
- Include flow bypass for clogged controls and large storm events

ADVANTAGES / BENEFITS:

- May be the only feasible sediment control when all construction is located within rights-of-way

DISADVANTAGES / LIMITATIONS:

- Limited effectiveness and reliability
- High maintenance requirements
- Has potential to flood roadways or adjacent properties

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Check for and remove blockage of inlet after every storm event
- Remove sediment before it reaches half the design height or volume of the inlet protection, more frequently for curb inlets
- Repair or replace damaged materials
- Clean or replace filter stone and organic filter tubes is when clogged with sediment

TARGETED POLLUTANTS

- ◒ Sediment
- ○ Nutrients & Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

APPLICATIONS

Perimeter Control

Slope Protection

Sediment Barrier

Channel Protection

Temporary Stabilization

Final Stabilization

Waste Management

Housekeeping Practices

Fe=0.35-0.65
(*Depends on soil type*)

IMPLEMENTATION CONSIDERATIONS

- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ○ Suitability for Slopes > 5%

Other Considerations:

- *Traffic hazards*
- *Passage of larger storm events without causing flooding*
- *Flow diversion to other inlets or drainage points*

3.4.1 Primary Use

Inlet protection is typically used as a secondary sediment barrier, due to its limited effectiveness and numerous disadvantages. It is used to reduce sediment in storm sewer systems by serving as a back-up system for areas that have newly applied erosion controls or for other sediment controls that cannot achieve adequate sediment removal by themselves.

Inlet protection may be used as a primary sediment control only when all other primary controls are infeasible because of site configuration or the type of construction activity.

3.4.2 Applications

Inlet protection is best applied at low point (sump) inlets where stormwater runoff will pond behind the protection measure, and then either filter through the protection measure or flow over a weir created by it. Most inlet protection measures depend on ponding to be effective. These types of inlet protection are not applicable to on-grade curb inlets, where the inlet protection will cause stormwater runoff to bypass the inlet and overload downstream inlets. Only inlet protection measures that allow for use of the inlet opening (e.g. inlet inserts) are applicable as inlet protection for on-grade inlets.

Inlet protection is normally used in new developments with new inlets and roads that are not in public use. It has limited applications in developed areas due to the potential for flooding, traffic safety, pedestrian safety, and maintenance problems. Potential applications in developed areas are on parking lot inlets where water can pond without causing damage and during major repairs to existing roadways where no other controls are viable.

The application of inlet protection is highly variable due to the wide variety of inlet configurations (existing and new) and site conditions. The schematics in Section 6 show example applications; however, applications in most cases must be site adapted. Different methods and materials may be used. It is the responsibility of the designer to ensure that the methods and materials applied for inlet protection are appropriate to the site and flow conditions following the design criteria in Section 3.

3.4.3 Design Criteria

General

- Drainage patterns shall be evaluated to ensure inlet protection will not divert flow or flood the roadway or adjacent properties and structures.
- Inlet protection measures or devices that completed block the inlet are prohibited. They must also include a bypass capability in case the protection measures are clogged.
- Inlet protection must be designed to pass the conveyance storm (25-year, 24-hour) without creating a road hazard or damaging adjacent property. This may be accomplished by any of the following measures:
    - An overflow weir on the protection measure.
    - An existing positive overflow swale on the inlet.
    - Sufficient storage volume around the inlet to hold the ponded water until it can all filter into the inlet.
    - Other engineered method.
- Positive overflow drainage is critical in the design of inlet protection. If overflow is not provided for at the inlet, temporary means shall be provided to route excess flows through established swales, streets, or other watercourses to minimize damage due to flooding.
- Filter fabric and wire mesh used for inlet protection shall meet the material requirements specified in *Section 3.10 Silt Fence*.

- Block and gravel (crushed stone or recycled concrete) protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding.
- The tube and filler for organic filter tubes shall be in accordance with the criteria in *Section 3.6 Organic Filter Tube*.
- Bags used to secure inlet protection devices on pavement shall be filled with aggregate, filter stone, or crushed rock that is less likely than sand to be washed into an inlet if the bag is broken. Filled bags shall be 24 to 30 inches long, 16 to 18 inches wide, and 6 to 8 inches thick. Bags shall be polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 ounces per square yard and meet the following criteria:
    - Greater than 300 psi Mullen Burst Strength using ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method.
    - Greater than 70 percent UV Stability using ASTM D4355 Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc Type Apparatus.

Curb Inlet Protection

- Municipality approval is required before installing inlet protection on public streets.
- Special caution must be exercised when installing curb inlet protection on publicly traveled streets or in developed areas. Ensure that inlet protection is properly designed, installed and maintained to avoid flooding of the roadway or adjacent properties and structures.
- A two inch overflow gap or weir is required on all curb inlet protection devices.
- Traffic cones, warning signs, or other measures shall be installed to warn motorists when the inlet protection measures extend beyond the gutter line.
- 2 inch X 4 inch Weir Protection:
    - Bend wire mesh around the 2 inch x 4 inch board and staple to the board. Bend wire mesh around the bottom of the board, the curb opening, and along the pavement to form a cage for the rock.
    - Rock bags shall be placed perpendicular to the curb, at both ends of the wooden frame, to disrupt the flow and direct water into the rock filter. Stack the bags two high if needed.
- Organic Filter Tube Protection:
    - The diameter of the tube shall be at least 2 inches less than the height of the inlet opening. The tube should not be allowed to block the entire opening, since it will clog.
    - The tube shall be placed on 4 inch x 4 inch or 2 inch x 4 inch wire mesh to prevent the tube from sagging into the inlet.
    - The tube should be long enough to extend a minimum of 12 inches past the curb opening on each side of the inlet.
- Hog Wire Weir Protection:
    - The filter fabric and wire mesh shall extend a minimum of 12 inches past the curb opening on each side of the inlet.
    - Filter fabric shall be placed on 2 inch x 4 inch wire mesh to prevent the tube from sagging into the inlet.
    - Rock bags are used to hold the wire mesh and filter fabric in contact with the pavement. At least one bag shall be placed on either side of the opening, parallel to and up against the concrete curb. The bags are in intended to disrupt and slow the flow and ensure it does not go under the fabric. Add bags if needed.

- If a board is used to anchor the wire mesh and fabric instead of rock bags, the board shall be secured with concrete nails at 3 inches on center. Upon removal clean any dirt or debris from the nailing locations, apply chemical sanding agent, and apply non-shrink grout flush with surface of concrete.

- Block and Gravel Protection:
  - Concrete blocks shall be standard 8 inch x 8 inch x 16 inch concrete masonry units and shall be in accordance with ASTM C139, Concrete Masonry Units for Construction. Filter gravel shall be ¾ inch washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
  - Concrete blocks are to be placed on their sides in a single row around the perimeter of the inlet, with ends abutting. Openings in the blocks should face outward, not upward. ½ inch x ½ inch wire mesh shall then be placed over the outside face of the blocks covering the holes. Filter gravel shall then be piled against the wire mesh to the top of the blocks with the base of the stone being a minimum of 18 inches from the blocks.
  - Alternatively, where loose stone is a concern (streets, etc.), the filter gravel may be placed in appropriately sized filter fabric bags.
  - Periodically, when the gravel filter becomes clogged, the gravel must be removed and cleaned in a proper manner or replaced with new gravel and piled back against the wire mesh.
- Organic Filter Tube On-Grade Protection:
  - Organic filter tubes may be used to provide sediment control at on-grade curb inlets where the tube will not be a traffic hazard, such as on residential streets where the pavement adjacent to the curb is allocated to parked cars. Tubes should not be used in this manner where they will extend into an active travel lane.
  - The filter tube shall be secured in a U-shape by rock bags. Runoff flowing in the gutter will pond within the U until it filters through the tube or overflows around the end.
- Inlet protection shall be phased on curb inlets being constructed. Controls shall be installed on the pipe inlet at the bottom of the catch basin as soon as it is installed and while the inlet box and top are being formed or placed.

Area Inlet Protection

- Installation methods for protection on area inlets vary depending on the type of inlet (drop, "Y," or other) and the type and use of the surface surrounding the inlet (parking lot, playground, etc.). It is the responsibility of the designer to appropriately adapt inlet protection measures and their installation methods for each site condition. Several types may be needed on one project.
- Filter Fabric Protection:
  - Filter fabric protection is appropriate where the drainage area is less than one acre and the basin slope is less than five (5) percent. Filter fabric, posts, and wire mesh shall meet the material requirements specified in *Section 3.10 Silt Fence*.
  - A 6 inch wide trench is to be cut 6 inches deep at the toe of the fence to allow the fabric to be laid below the surface and backfilled with compacted earth or gravel. This entrenchment prevents any bypass of runoff under the fence.
  - Stone overflow structures, according to the criteria in *Section 3.10 Silt Fence* shall be installed where flow to the inlet is concentrated and more than 1 cubic feet per second.
- Excavated Impoundment Protection:
  - Excavated inlet protection is usually the most effective type of area inlet protection; however, it is only applicable to drop inlets. It should not be applied to Y inlets because it will undermine the concrete pad surrounding the inlet opening. Nor can it be used for inlets on pavement.

- With this protection method, it is necessary to install weep holes to allow the impoundment to drain completely.
- The impoundment shall be sized such that the volume of excavation is equal to or exceeds the runoff volume from the temporary control design storm (2-year, 24-hour) for the inlet's drainage area.
- The trap shall have a minimum depth of one foot and a maximum depth of 2 feet as measured from the top of the inlet and shall have side slopes of 2:1 or flatter.

- Block and Gravel Protection:
  - Block and gravel inlet protection is the most stable area inlet protection and can handle more concentrated flows. It may be installed on paved or vegetated surfaces. Loose stone shall be carefully removed from vegetated surfaces at the end of construction to prevent the stone from becoming a mowing hazard.
  - The inlet protection may be one or two blocks high. Single block heights are applicable for drainage areas up to 3 acres in size. The double block height shall be used for larger drainage areas.
  - Concrete blocks shall be standard 8 inch x 8 inch x 16 inch concrete masonry units and shall be in accordance with ASTM C139, Concrete Masonry Units for Construction. Filter gravel shall be ¾ inch washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
- Organic Filter Tube Protection:
  - Organic filter tubes may be used on paved or unpaved surfaces.
  - On paved surfaces, tubes shall be secured in place by rock bags. On unpaved surfaces, the tubes shall be embedded in the ground a minimum of 3 inches and staked at 4 foot spacing.
  - Designer shall provide calculations and specify the diameter of tube to be used based on the inlet's drainage area and the flow rate of runoff to the inlet. The minimum allowable diameter is 12 inches.

Proprietary Inlet Protection

- Numerous proprietary protection devices are available from commercial vendors. The devices often have the advantage of being reusable on several projects if they are maintained in good condition.
- It is the policy of this manual not to recommend any specific commercial vendors for proprietary controls. However, this subsection is included in order to provide municipalities with a rationale for approving the use of a proprietary inlet protection device within their jurisdiction.
- The designer shall work with the supplier to provide the municipality with flow calculations or independent third-party tests that document the device's performance for conditions similar to the ones in which it is proposed to be installed. The conditions that should be considered include: type and size of inlet, inlet configuration, size of contributing drainage area, design flow rate, soil particle sizes to be removed, and other pollutants to be removed.
- The designer or vendor of the proprietary device shall provide a minimum of three references for projects where the device has been installed and maintained in operation at a construction site for at least six months. Local references are preferred; but references from other regions can be accepted if a similarity between the reference project and the proposed application can be demonstrated.
- Proprietary devices must not completely block the inlet. The device shall have a minimum of a 2 inch wide opening for the length of the inlet when it will be used in areas that water can safely pond to depths deeper than the design depths for the inlet. If ponding is not an option, then the device must have overflow capacity equal to the inlet design flow rate.
- Some proprietary devices are available with replaceable pads or filters. These pads or filters have the added benefit or removing pollutants such as metals and oils in addition to removing sediment.

These types of inserts are recommended in applications where prior or current land use in or adjacent to the construction areas may result in the discharge of pollutants.

- Proprietary protection devices shall be in accordance with the General criteria at the beginning of this section and any criteria listed under Curb Inlet Protection and Area Inlet Protection that are not specific to an inlet protection method.

3.4.4 Design Guidance and Specifications

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.15 Inlet Protection.

3.4.5 Inspection and Maintenance Requirements

Inlet protection should be inspected regularly (at least as often as required by the TPDES Construction General Permit). Inlet controls should also be inspected after every storm event to check for collapse into the inlet or other damages that may block flow in the inlet. In addition to routine inspection, inlet protection devices should be observed and monitored during larger storm events to verify that they are not ponding or diverting water in a manner that floods a roadway or damages property.

Floatable debris and other trash caught by the inlet protection should be removed after each storm event. Sediment should also be removed from curb inlet protection after each storm event because of the limited storage area associated with curb inlets.

Sediment collected at area inlet protection should be removed before it reaches half the height of the protection device. Sediment should be removed from inlets with excavated impoundment protection before the volume of the excavation is reduced by 50 percent. In addition, the weep holes should be checked and kept clear of blockage.

Concrete blocks, 2 inch x 4 inch boards, stakes, and other materials used to construct inlet protection should be checked for damaged and repaired or replaced if damaged.

When filter fabric or organic filter tubes are used, they should be cleaned or replaced when the material becomes clogged. For systems using filter stone, when the filter stone becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced.

Because of the potential for inlet protection to divert runoff or cause localized flooding, remove inlet protection as soon as the drainage area contributing runoff to the inlet is stabilized. Ensure that all inlet protection devices are removed at the end of the construction.

3.4.6 Example Schematics

The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function.

The schematics are **not for construction**. They may serve as a starting point for creating a construction detail, but they must be site adapted by the designer. In addition, dimensions and notes appropriate for the application must be added by the designer.

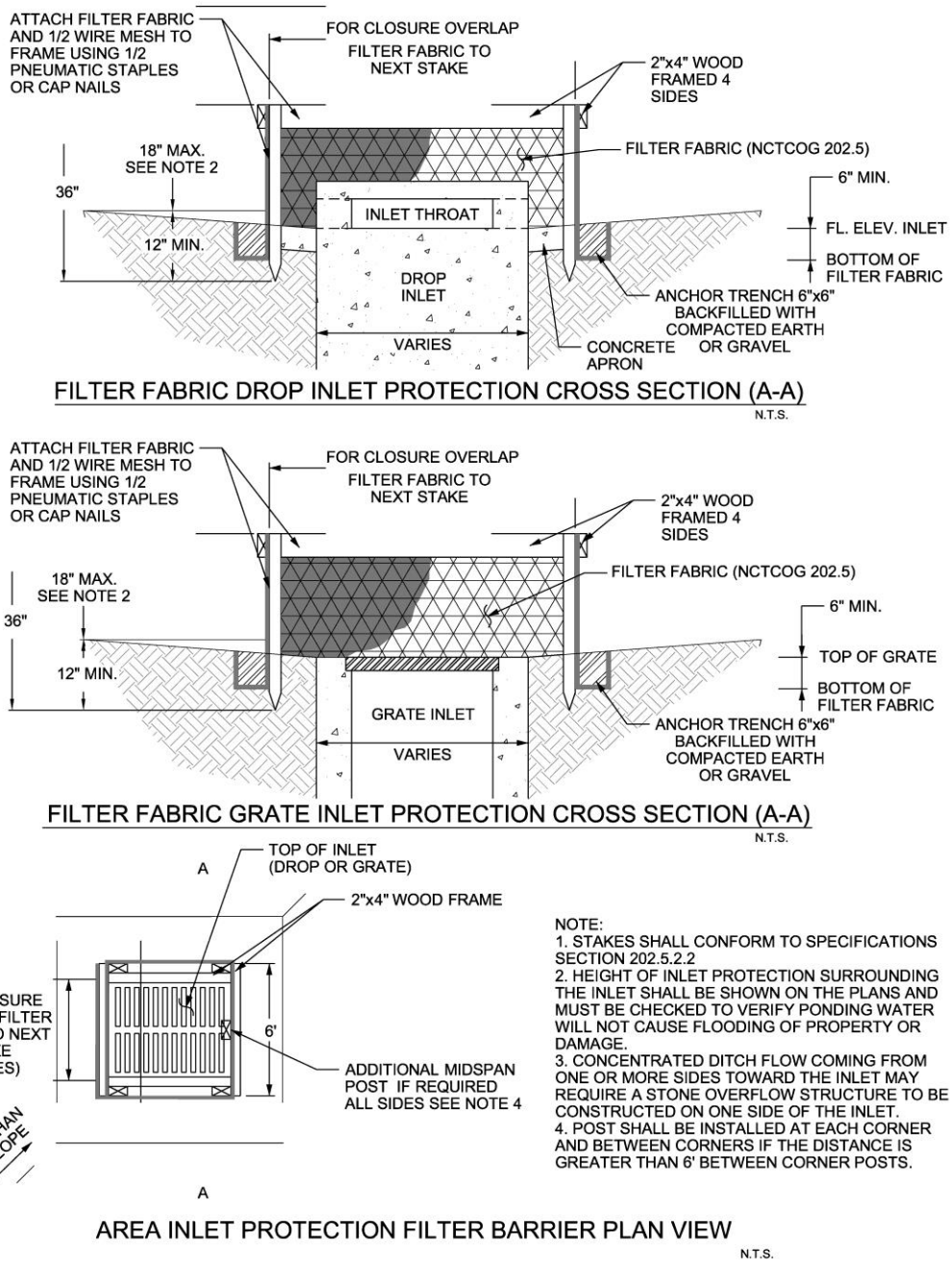
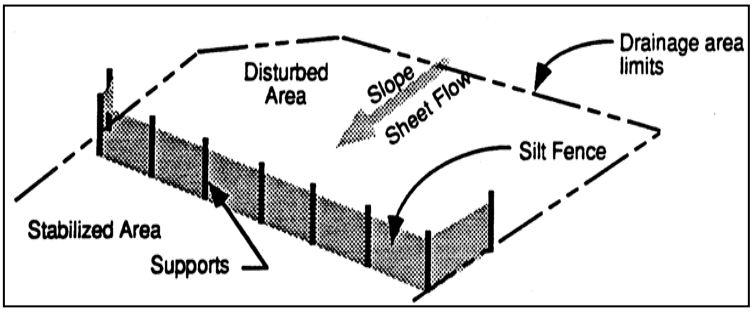


Figure 3.12 Schematics of Filter Fabric Area Inlet Protection
(Source: City of Plano BMP SP-4)

3.10 Silt Fence

Sediment Control



Description: A silt fence consists of geotextile fabric supported by wire mesh netting or other backing stretched between metal posts with the lower edge of the fabric securely embedded six-inches in the soil. The fence is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. A silt fence provides both filtration and time for sediment settling by reducing the velocity of the runoff.

KEY CONSIDERATIONS

DESIGN CRITERIA:

- Maximum drainage area of 0.25 acre per 100 linear feet of silt fence
- Maximum 200 feet distance of flow to silt fence; 50 feet if slope exceeds 10 percent
- Minimum fabric overlap of 3 feet at abutting ends; join fabric to prevent leakage
- Turn end of silt fence line upslope a minimum of 10 feet
- Install stone overflow structure at low points or spaced at approximately 300 feet if no apparent low point

ADVANTAGES / BENEFITS:

- Economical means to treat sheet flow
- Most effective with coarse to silty soil types

DISADVANTAGES / LIMITATIONS:

- Limited effectiveness with clay soils due to clogging
- Localized flooding due to minor ponding at the upslope side of the silt fence
- Not for use as check dams in swales or low areas subject to concentrated flow
- Not for use where soil conditions prevent a minimum toe-in depth of 6 inches or installation of support posts to a depth of 12 inches
- Can fail structurally under heavy storm flows, creating maintenance problems and reducing effectiveness

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Repair undercutting, sags and other fence failures
- Remove sediment before it reaches half the height of the fence
- Repair or replace damaged or clogged filter fabric

TARGETED POLLUTANTS

- ● Sediment
- ○ Nutrients & Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

APPLICATIONS

- **Perimeter Control**
- **Slope Protection**
- **Sediment Barrier**
- **Channel Protection**
- **Temporary Stabilization**
- **Final Stabilization**
- **Waste Management**
- **Housekeeping Practices**

Fe=0.50-0.75
(*Depends on soil type*)

IMPLEMENTATION CONSIDERATIONS

- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ◒ Suitability for Slopes > 5%

Other Considerations:

- *Effects of ponding or the redirection of flow onto adjacent areas and property*

3.10.1 Primary Use

Silt fence is normally used as a perimeter control on the down slope side of disturbed areas and on side slopes where stormwater may runoff the area. It is only feasible for non-concentrated, sheet flow conditions. If it becomes necessary to place a silt fence where concentrated flows may be occur (e.g. where two silt fences join at an angle, or across minor channels or gullies), it will be necessary to reinforce the silt fence at that area by a rock berm or sand bag berm, or other structural measures that will support the silt fence.

3.10.2 Applications

Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developers and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging and limited effectiveness, silt fences should be used with caution in areas that have predominantly clay soil types. In this latter instance, a soils engineer or soil scientist should confirm the suitability of silt fence for that application. Additional controls may be needed to remove fine silts and clay soils suspended in stormwater.

3.10.3 Design Criteria

- Fences are to be constructed along a line of constant elevation (along a contour line) where possible.
- Silt fence can interfere with construction operations; therefore, planning of access routes onto the site is critical.
- Maximum drainage area shall be 0.25 acre per 100 linear feet of silt fence.
- Maximum flow to any 20 foot section of silt fence shall be 1 CFS.
- Maximum distance of flow to silt fence shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- Maximum slope adjacent to the fence shall be 2:1.
- Silt fences shall not be used where there is a concentration of water in a channel, drainage ditch or swale, nor should it be used as a control on a pipe outfall.
- If 50 percent or less soil, by weight, passes the U.S. Standard Sieve No. 200; select the apparent opening size (A.O.S.) to retain 85percent of the soil.
- If 85 percent or more of soil by weight, passes the U.S. Standard Sieve No. 200, silt fences shall not be used unless the soil mass is evaluated and deemed suitable by a soil scientist or geotechnical engineer concerning the erodiblity of the soil mass, dispersive characteristics, and the potential grain-size characteristics of the material that is likely to be eroded.
- Stone overflow structures or other outlet control devices shall be installed at all low points along the fence or spaced at approximately 300 feet if there is no apparent low point.
- Filter stone for overflow structure shall be 1 ½ inches washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
- Silt fence fabric must meet the following minimum criteria:
    - Tensile Strength, ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 90-lbs.
    - Puncture Rating, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 60-lbs.
    - Mullen Burst Rating, ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, 280-psi.

  - Apparent Opening Size, ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 30(max) to No. 100 (min).
  - Ultraviolet Resistance, ASTM D4355 Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc Type Apparatus, Minimum 70 percent.
- Fence posts shall be steel and may be T-section or L-section, 1.3 pounds per linear foot minimum, and 4 feet in length minimum. Wood posts may be used depending on anticipated length of service and provided they are 4 feet in length minimum and have a nominal cross section of 2 inches by 4 inches for pine or 2 inches by 2 inches for hardwoods.
- Silt fence shall be supported by steel wire fence fabric as follows:
  - 4 inch x 4 inch mesh size, W1.4 /1.4, minimum 14 gauge wire fence fabric;
  - Hog wire, 12 gauge wire, small openings installed at bottom of silt fence;
  - Standard 2 inch x 2 inch chain link fence fabric; or
  - Other welded or woven steel fabrics consisting of equal or smaller spacing as that listed herein and appropriate gauge wire to provide support.
- Silt Fence shall consist of synthetic fabric supported by wire mesh and steel posts set a minimum of 1-foot depth and spaced not more than 6-feet on center.
- A 6 inch wide trench is to be cut 6 inches deep at the toe of the fence to allow the fabric to be laid below the surface and backfilled with compacted earth or gravel to prevent bypass of runoff under the fence. Fabric shall overlap at abutting ends a minimum of 3 feet and shall be joined such that no leakage or bypass occurs. If soil conditions prevent a minimum toe-in depth of 6 inches or installation of support post to depth of 12 inches, silt fences shall not be used.
- Sufficient room for the operation of sediment removal equipment shall be provided between the silt fence and other obstructions in order to properly maintain the fence.
- The last 10 feet (or more) at the ends of a line of silt fence shall be turned upslope to prevent bypass of stormwater. Additional upslope runs of silt fence may be needed every 200 to 400 linear feet, depending on the traverse slope along the line of silt fence.

3.10.4 Design Guidance and Specifications

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.5 Silt Fence and in the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (TxDot 2004) Item 506.2.J and Item 506.4.C.9.

The American Society for Testing and Materials has established standard specifications for silt fence materials (ASTM D6461) and silt fence installation (ASTM D6462).

3.10.5 Inspection and Maintenance Requirements

Silt fence should be inspected regularly (at least as often as required by the TPDES Construction General Permit) for buildup of excess sediment, undercutting, sags, and other failures. Sediment should be removed before it reaches half the height of the fence. In addition, determine the source of excess sediment and implement appropriate measures to control the erosion. Damaged or clogged fabric must be repaired or replaced as necessary.

3.10.6 Example Schematics

The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function.

The schematics are **not for construction**. They may serve as a starting point for creating a construction detail, but they must be site adapted by the designer. In addition, dimensions and notes appropriate for the application must be added by the designer.

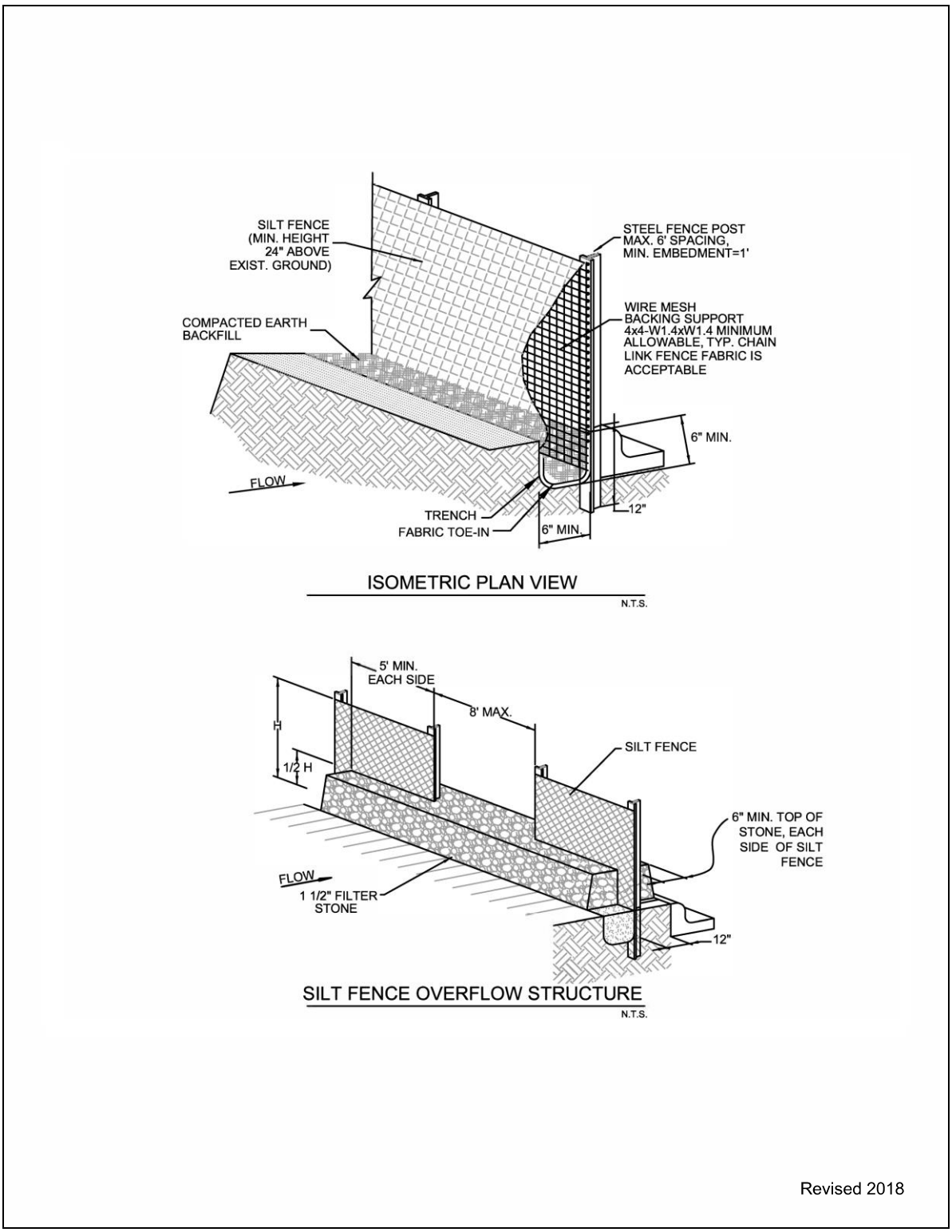
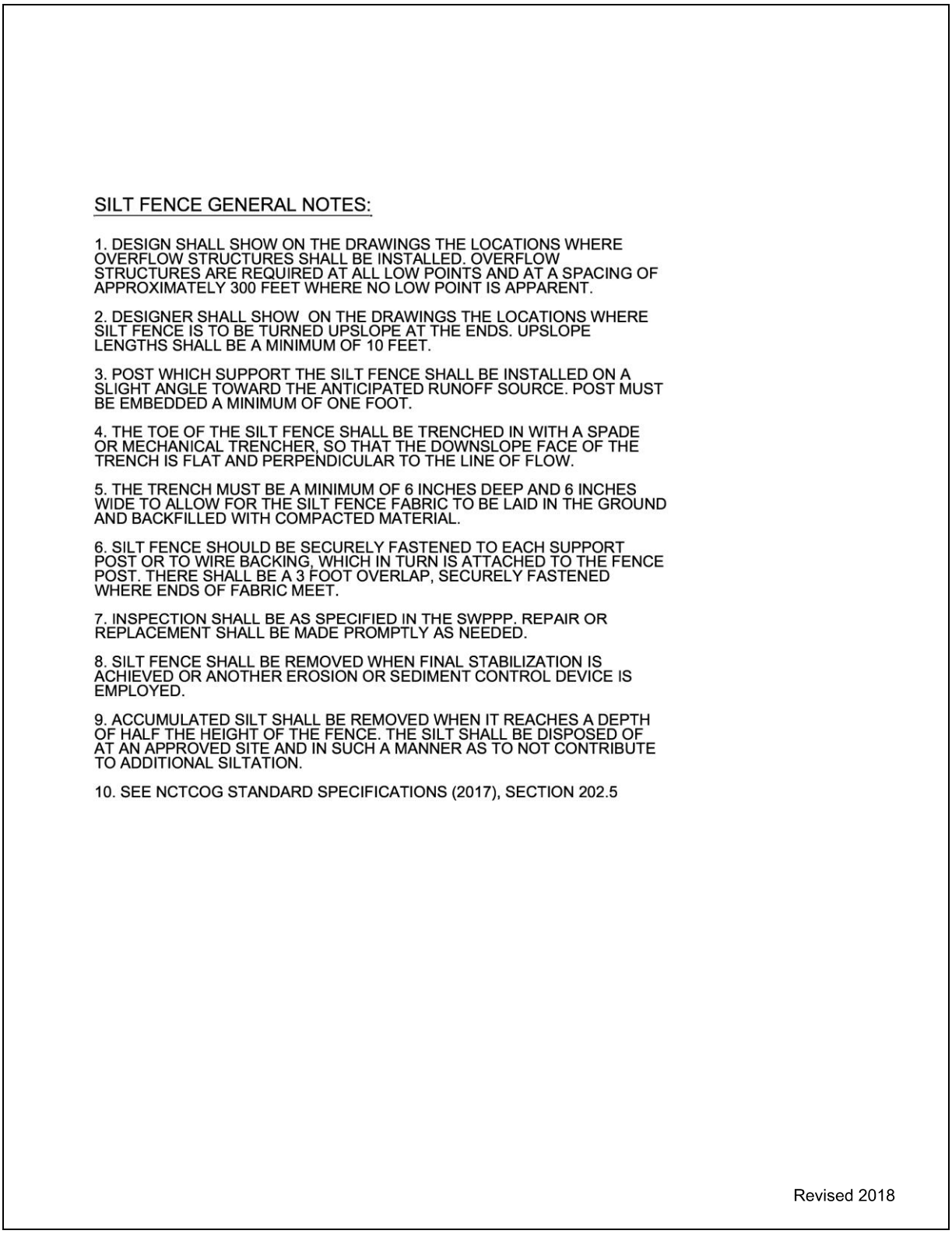


Figure 3.30 Schematics of Silt Fence



SILT FENCE GENERAL NOTES:

1. DESIGN SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE OVERFLOW STRUCTURES SHALL BE INSTALLED. OVERFLOW STRUCTURES ARE REQUIRED AT ALL LOW POINTS AND AT A SPACING OF APPROXIMATELY 300 FEET WHERE NO LOW POINT IS APPARENT.

2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE SILT FENCE IS TO BE TURNED UPSLOPE AT THE ENDS. UPSLOPE LENGTHS SHALL BE A MINIMUM OF 10 FEET.

3. POST WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

4. 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.

5. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

6. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WIRE BACKING, WHICH IN TURN IS ATTACHED TO THE FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

7. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

8. SILT FENCE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.

9. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

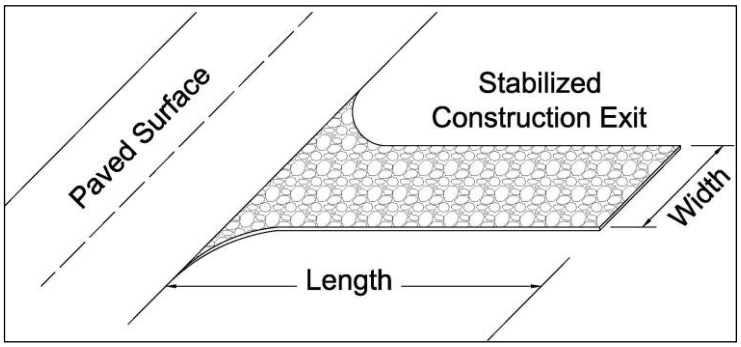
10. SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.5

Revised 2018

Figure 3.31 Silt Fence General Notes

3.11 Stabilized Construction Exit

Sediment Control



Description: A stabilized construction exit is a pad of crushed stone, recycled concrete or other rock material placed on geotextile filter cloth to dislodge soil and other debris from construction equipment and vehicle tires prior to exiting the construction site. The object is to minimize the tracking of soil onto public roadways where it will be suspended by stormwater runoff.

KEY CONSIDERATIONS

DESIGN CRITERIA:

- Slope exit away from offsite paved surface
- Minimum width and length dependent on size of disturbed area, which correlates to traffic volume
- 6 inches minimum thickness of stone layer
- Stone of 3 to 5 inches in size
- Add a wheel cleaning system when inspections reveal the stabilized exit does not prevent tracking

ADVANTAGES / BENEFITS:

- Reduces tracking of soil onto public streets
- Directs traffic to a controlled access point
- Protects other sediment controls by limiting the area disturbed

DISADVANTAGES / LIMITATIONS:

- Effectiveness dependent on limiting ingress and egress to the stabilized exit
- A wheel washing system may also be required to remove clay soil from tires, particularly in wet conditions

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Replace rock when sediment in the void area between the rocks is visible on the surface
- Periodically re-grade and top dress with additional stone to maintain efficiency

TARGETED POLLUTANTS

- ◒ Sediment
- ○ Nutrients & Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

APPLICATIONS

Perimeter Control
Slope Protection
Sediment Barrier
Channel Protection
Temporary Stabilization
Final Stabilization
Waste Management
Housekeeping Practices

Fe=N/A

IMPLEMENTATION CONSIDERATIONS

- ◒ Capital Costs
- ◒ Maintenance
- ○ Training
- ○ Suitability for Slopes > 5%

Other Considerations:

- *None*

3.11.1 Primary Use

Stabilized construction exits are used to remove soil, mud and other matter from vehicles that drive off of a construction site onto public streets. Stabilized exits reduce the need to remove sediment from streets. When used properly, they also control traffic by directing vehicles a single (or two for larger sites) location. Controlling traffic onto and off of the site reduces the number and quantity of disturbed areas and provides protection for other sediment controls by decreasing the potential for vehicles to drive over the control.

3.11.2 Applications

Stabilized construction exits are used on all construction sites with a disturbed area of one acre or larger and are a recommended practice for smaller construction sites. A stabilized exit is used on individual residential lots until the driveway is placed. Stabilized construction exits may be used in conjunction with wheel cleaning systems as described in *Section 3.16 Wheel Cleaning Systems*.

3.11.3 Design Criteria

- Limit site access to one route during construction, if possible; two routes for linear and larger projects.
- Prevent traffic from avoiding or shortcutting the full length of the construction exit by installing barriers. Barriers may consist of silt fence, construction safety fencing, or similar barriers.
- Design the access point(s) to be at the upslope side of the construction site. Do not place construction access at the lowest point on the construction site.
- Stabilized construction exits are to be constructed such that drainage across the exit is directed to a controlled, stabilized outlet onsite with provisions for storage, proper filtration, and removal of wash water.
- The exit must be sloped away from the paved surface so that stormwater from the site does not discharge through the exit onto roadways.
- Minimum width of exit shall be 15 feet.
- The construction exit material shall be a minimum thickness of 6 inches. The stone or recycled concrete used shall be 3 to 5 inches in size with little or no fines.
- The geotextile fabric must meet the following minimum criteria:
    - Tensile Strength, ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 300 lbs.
    - Puncture Strength, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 120 lbs.
    - Mullen Burst Rating, ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, 600 psi.
    - Apparent Opening Size, ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 40 (max).
- Rock by itself may not be sufficient to remove clay soils from wheels, particularly in wet conditions. When necessary, vehicles must be cleaned to remove sediment prior to entering paved roads, streets, or parking lots. Refer to *Section 3.16 Wheel Cleaning Systems* for additional controls.
- Using water to wash sediment from streets is prohibited
- Minimum dimensions for the stabilized exit shall be as follows:

Table 3.9 Minimum Exit Dimensions		
Disturbed Area	*Min. Width of Exit*	*Min. Length of Exit*
< 1 Acre	15 feet	20 feet
≥ 1 Acre but < 5 Acres	25 feet	50 feet
≥ 5 Acres	30 feet	50 feet

- If a wheel cleaning system is used, the width of the stabilized exit may be reduced to funnel traffic into the system. Refer to *Section 3.16 Wheel Cleaning*.

3.11.4 Design Guidance and Specifications

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.10 Stabilized Construction Entrance and in the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (TxDOT 2004) Item 506.2.E and Item 506.4.C.5.

3.11.5 Inspection and Maintenance Requirements

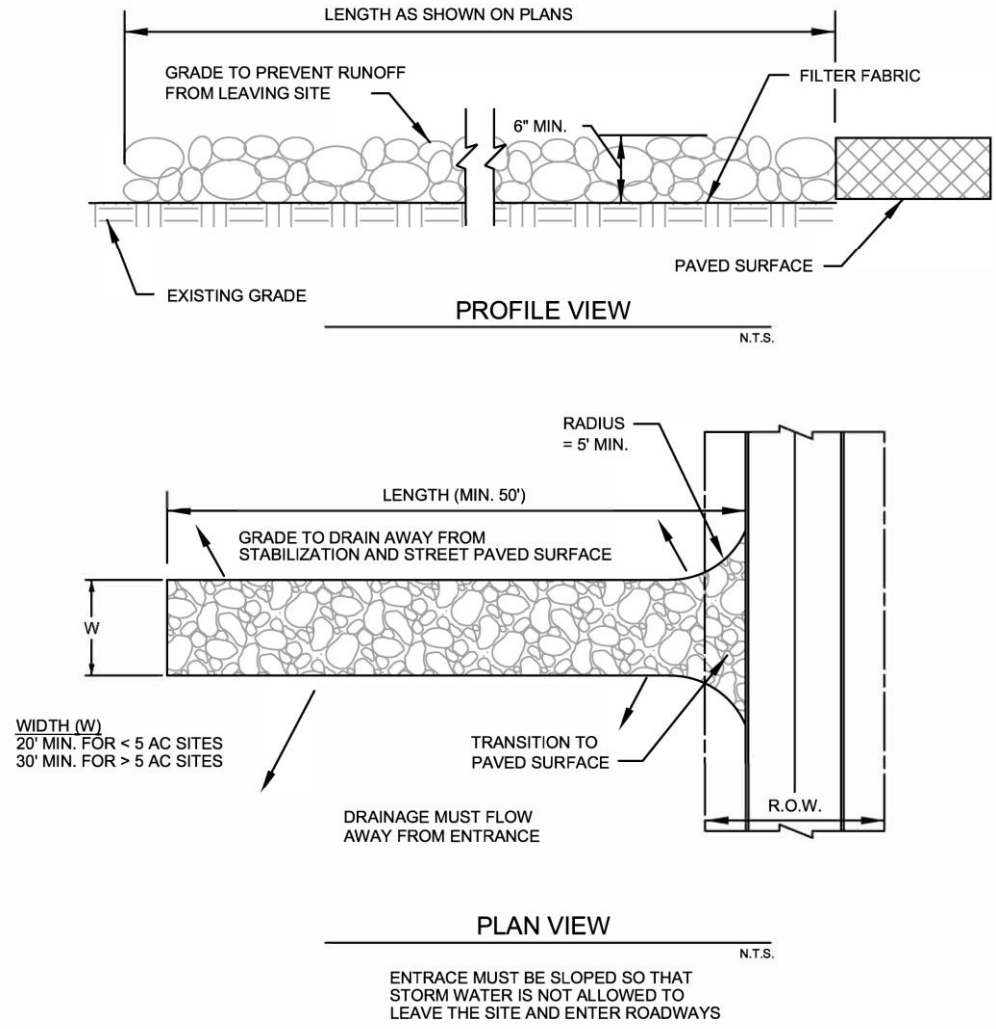
Construction exits should be inspected regularly (at least as often as required by the TPDES Construction General Permit). The stabilized construction exit shall be maintained in a condition that prevents tracking or flow of sediment onto paved surfaces. Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the exit from diminishing. The rock shall be re-graded when ruts appear. Additional rock shall be added when soil is showing through the rock surface.

Additional controls are needed if inspections reveal a properly installed and maintained exit, but tracking of soil outside the construction area is still evident. Additional controls may be daily sweeping of all soil spilled, dropped, or tracked onto public rights-of-way or the installation of a wheel cleaning system.

3.11.6 Example Schematics

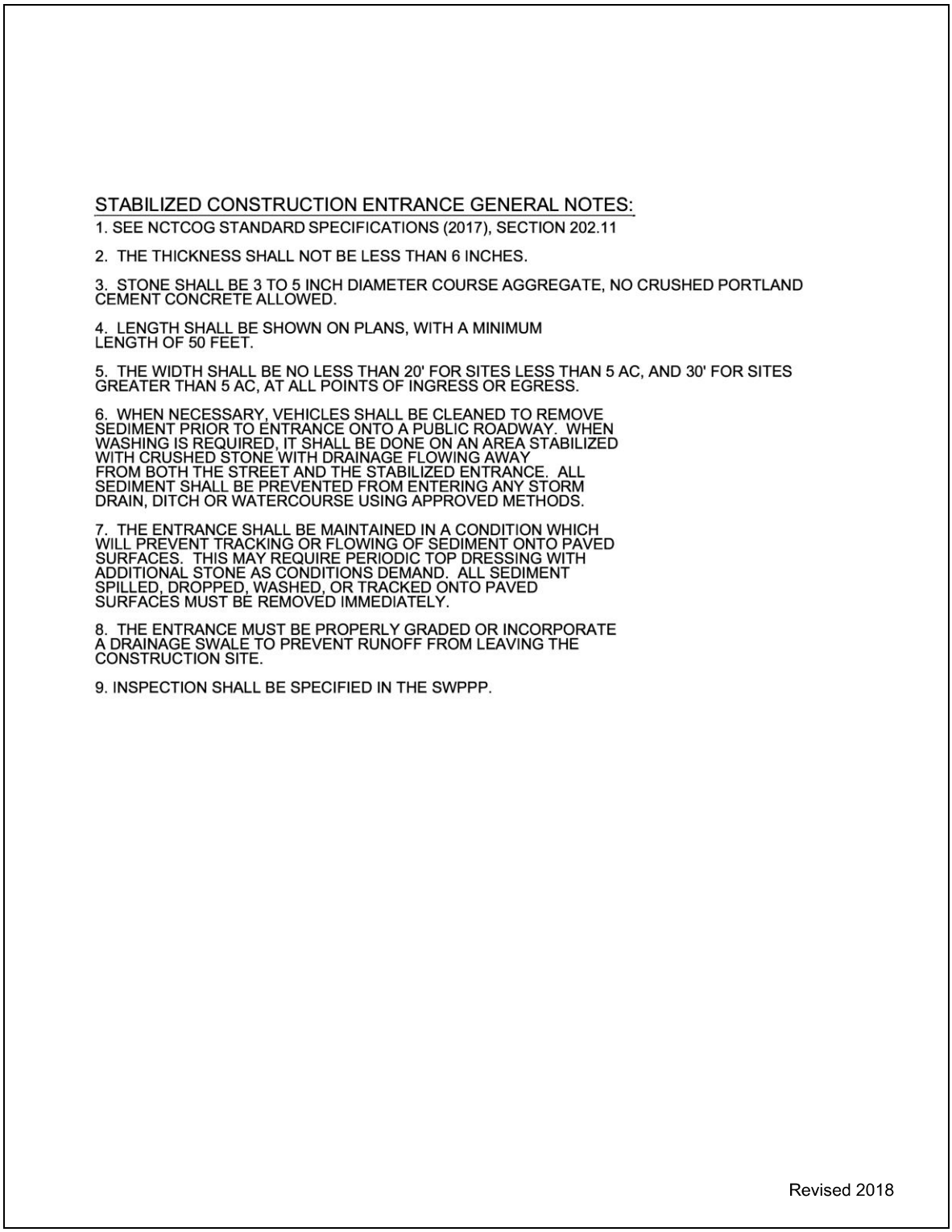
The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function.

The schematics are **not for construction**. They may serve as a starting point for creating a construction detail, but they must be site adapted by the designer. In addition, dimensions and notes appropriate for the application must be added by the designer.



Revised 2018

Figure 3.32 Schematics of Stabilized Construction Exit



STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.11

2. THE THICKNESS SHALL NOT BE LESS THAN 6 INCHES.

3. STONE SHALL BE 3 TO 5 INCH DIAMETER COURSE AGGREGATE, NO CRUSHED PORTLAND CEMENT CONCRETE ALLOWED.

4. LENGTH SHALL BE SHOWN ON PLANS, WITH A MINIMUM LENGTH OF 50 FEET.

5. THE WIDTH SHALL BE NO LESS THAN 20' FOR SITES LESS THAN 5 AC, AND 30' FOR SITES GREATER THAN 5 AC, AT ALL POINTS OF INGRESS OR EGRESS.

6. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.

8. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

9. INSPECTION SHALL BE SPECIFIED IN THE SWPPP.

Revised 2018

Figure 3.33 Stabilized Construction Entrance General Notes

ATTACHMENT F
STRUCTURAL PRACTICES

The structural practices that will be implemented are silt fence, construction exits, rock check dams, inlet protection , vegetation and other temporary BMPs as needed. These BMP's will limit runoff discharge of pollutants from exposed areas by collecting the sediments and debris and diverting the flows.

The placement of silt fence along the northeast side of the property for tract 1 and along the east side of the property for tract 2 will prevent sediments from leaving the site and into the downstream properties.

ATTACHMENT G
DRAINAGE AREA MAP

DRAINAGE AREA CALCULATIONS

NOAA ATLAS 14 Rainfall Zone: Williamson County - San Gabriel River

Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
DA 1	0.84	5.00	0.31	6.06	**1.57**	0.34	7.58	**2.16**	0.37	8.85	**2.74**	0.41	10.61	**3.65**	0.44	11.97	**4.42**	0.48	13.34	**5.38**	Sheet flows North West to exisiting creek line
DA 2	0.65	5.00	0.33	6.06	**1.32**	0.37	7.58	**1.81**	0.40	8.85	**2.28**	0.44	10.61	**3.02**	0.47	11.97	**3.65**	0.51	13.34	**4.42**	Sheet flows North East to exisiting creek line
DA 3	0.47	5.00	0.68	6.06	**1.95**	0.73	7.58	**2.61**	0.76	8.85	**3.17**	0.81	10.61	**4.04**	0.85	11.97	**4.78**	0.90	13.34	**5.63**	Drains to Grate Inlet#1
DA 4	0.26	5.00	0.75	6.06	**1.18**	0.80	7.58	**1.58**	0.83	8.85	**1.91**	0.88	10.61	**2.43**	0.92	11.97	**2.86**	0.97	13.34	**3.36**	Roof Drains to underground storm system
DA 5	0.68	5.00	0.67	6.06	**2.75**	0.72	7.58	**3.68**	0.75	8.85	**4.48**	0.79	10.61	**5.72**	0.83	11.97	**6.76**	0.88	13.34	**7.97**	Drains to Grate Inlet#2
OFFSITE 1	0.35	5.00	0.30	6.06	**0.63**	0.33	7.58	**0.87**	0.35	8.85	**1.09**	0.40	10.61	**1.46**	0.43	11.97	**1.77**	0.47	13.34	**2.16**	Drains west then to creek line
OFFSITE 2	0.09	5.00	0.33	6.06	**0.18**	0.36	7.58	**0.25**	0.38	8.85	**0.30**	0.42	10.61	**0.40**	0.45	11.97	**0.48**	0.49	13.34	**0.59**	Drains north to DA 5
OFFSITE 3	0.05	5.00	0.73	6.06	**0.22**	0.77	7.58	**0.29**	0.81	8.85	**0.36**	0.86	10.61	**0.46**	0.90	11.97	**0.54**	0.95	13.34	**0.63**	Drains south to the TxDot road

NOTE: DRAINAGE CRITERIA TAKEN FROM CITY OF_AUSTIN_ DRAINAGE CRITERIA MANUAL DATED NOVEMBER 27, 2023.Tc MIN OF 5 MIN USED.

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

SITE BENCHMARKS

BM NO. 1 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN A SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR BOULEVARD.

ELEVATION = 911.62' (NAD '83)

BM NO. 2 THE SITE BENCHMARK IS AN "X" CUT WITH BOX SET ON THE BACK OF CURB THE EASTERN NOSE OF A MEDIAN DIVIDING LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 680 FEET IN AN EASTERLY DIRECTION FROM THE EASTERN PAVING SEAM LINE AT THE INTERSECTION OF LARKSPUR PARK BOULEVARD AND US HIGHWAY 183.

ELEVATION = 918.87' (NAD '83)

LEGEND

- PROPOSED DRAINAGE AREA LABEL — BASIN NAME: DA1; ACRES: 1.82 Ac.; Q100 (cfs): 14.52
- PROPOSED DRAINAGE AREA DIVIDE
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- PROPERTY BOUNDARY

NOTE TO CONTRACTOR

EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

DETENTION EXEMPTION NOTE

THIS PROPERTY IS DETENTION EXEMPT PER WILLIAMSON COUNTY SUBDIVISION ORDINANCE B11.1.1.b. ALL REFERENCES TO DETENTION EXEMPTION, THE DOWNSTREAM ASSESSMENT AS APPROVED BY THE CITY OF LEANDER TO ALLOW THE UNDETAINED FLOWS IS TITLED "DOWNSTREAM ASSESSMENT FOR THE SPUR CREEK DEVELOPMENT" DATED DECEMBER 19, 2023. THIS STUDY WAS APPROVED BY THE CITY OF LEANDER ON DECEMBER 19, 2023 TO ALLOW UNDETAINED PEAK DISCHARGES FROM THE PROJECT SITE THROUGH THE CITY OF LEANDER'S PROPERTY TO THE FLOODPLAIN OF THE SOUTH FORK SAN GABRIEL RIVER.

FLOOD PLAIN NOTE

FEMA FIRM NO. 48491C0275E, SEPTEMBER 26,2008.
A PORTION OF THE PROPERTY IS LOCATED WITHIN THE FEMA ZONE A 100-YEAR FLOODPLAIN OF AN UNNAMED TRIBUTARY TO THE SOUTH FORK SAN GABRIEL RIVER. APPROVED LOMR (08-06-1357P, 2/17/2009, IS LOCATED NORTHWEST OF THE PROJECT)

Proposed Impervious Area Table

Area No.	Total Area (ac)	Impervious Area (sf)	Impervious area (ac)	Pervious Area (sf)	Pervious Area (ac)
DA 1	0.84	1437.48	0.033	35152.92	0.807
DA 2	0.65	2744.28	0.063	25569.72	0.587
DA 3	0.47	17554.68	0.403	2918.52	0.067
DA 4	0.26	11325.60	0.26	0.00	0
DA 5	0.678	24393.60	0.56	5140.08	0.118
Offsite 1	0.347	1611.72	0.037	13503.60	0.31
Offsite 2	0.09	0.00	0	3920.40	0.09
Offsite 3	0.05	2178.00	0.05	0.00	0

EX. 100-YEAR FLOODPLAIN
PROP. 100-YEAR FLOODPLAIN
EXISTING CREEK
PROP. BMP #2
GRATE INLET #2
PROP. BMP#1 W/ GRATE INLET #1
DA 1 0.84 Ac. 5.38
DA2 0.65 Ac. 4.42
DA3 0.47 ac. 5.63
DA4 0.26 ac. 3.36
DA5 0.68 ac. 7.97
OFFSITE 1 0.35 Ac. 2.16
OFFSITE 2 0.09 Ac. 0.59
OFFSITE 3 0.05 Ac. 0.63
EX OHE
EX WTR
ZONE "X"
ZONE "A"

GRAPHIC SCALE
0 40 80 FEET
SCALE: 1" = 40'

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW ONLY AND NOT INTENDED FOR THE PURPOSES OF CONSTRUCTION, BIDDING OR PERMIT. THEY WERE PREPARED BY, OR UNDER THE SUPERVISION OF:

SHEA O. KIRKMAN
P.E.# 91865
DATE: March 25, 2025

TPD TEXAS LLC

3220 PRENTISS LN
LEANDER, TX 7641
512-761-8025

SPUR PLAZA

TRACT 1
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE: ----

PROPOSED DRAINAGE AREA MAP

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PLOTTED DATE: 3/25/2025
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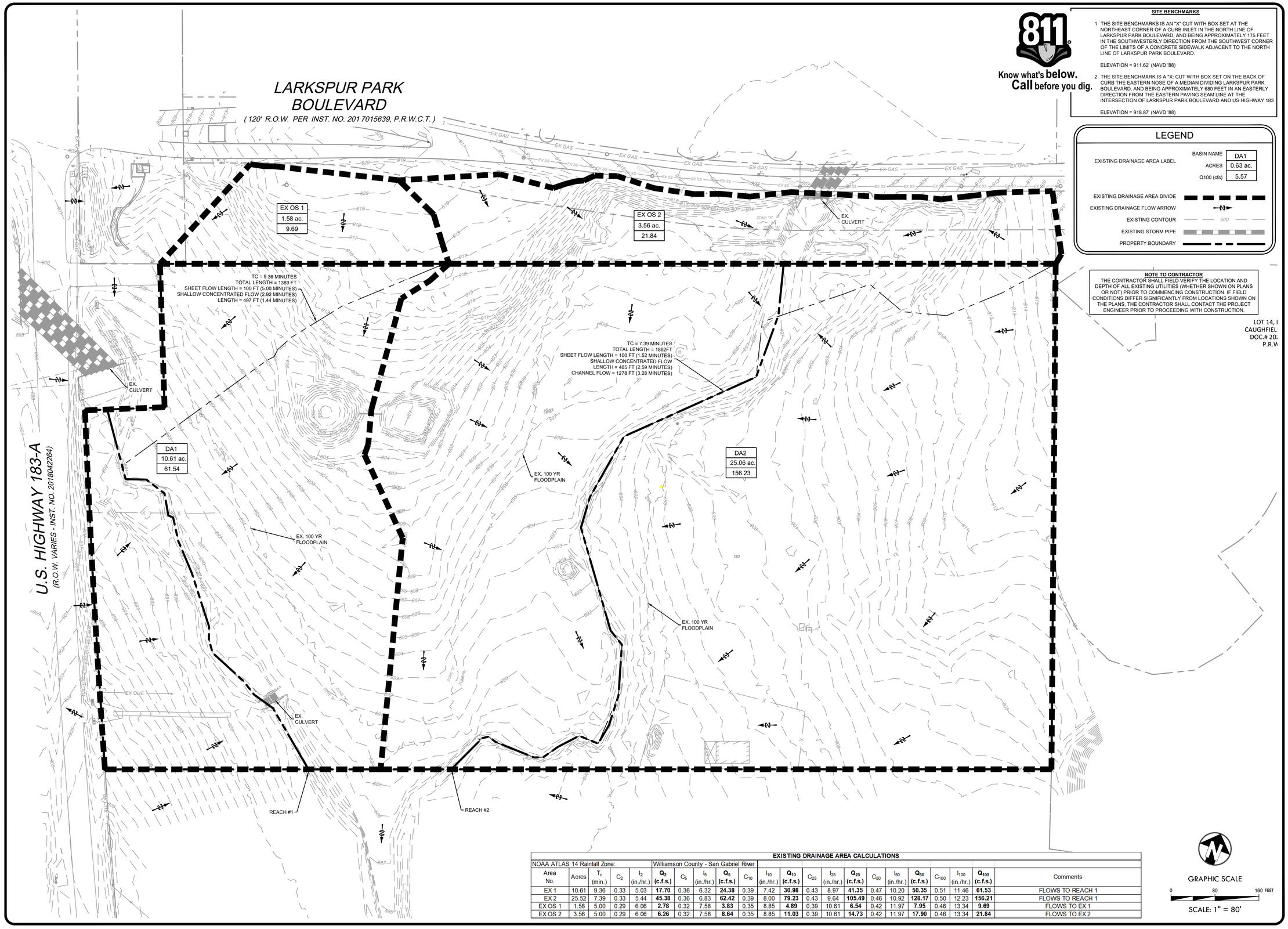

EXISTING DRAINAGE AREA CALCULATIONS

NOAA ATLAS 14 Rainfall Zone:					Williamson County - San Gabriel River																
Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
EX 1	10.61	9.36	0.33	5.03	**17.70**	0.36	6.32	**24.38**	0.39	7.42	**30.98**	0.43	8.97	**41.35**	0.47	10.20	**50.35**	0.51	11.46	**61.53**	FLOWS TO REACH 1
EX 2	25.52	7.39	0.33	5.44	**45.38**	0.36	6.83	**62.42**	0.39	8.00	**79.23**	0.43	9.64	**105.49**	0.46	10.92	**128.17**	0.50	12.23	**156.21**	FLOWS TO REACH 1
EX OS 1	1.58	5.00	0.29	6.06	**2.78**	0.32	7.58	**3.83**	0.35	8.85	**4.89**	0.39	10.61	**6.54**	0.42	11.97	**7.95**	0.46	13.34	**9.69**	FLOWS TO EX 1
EX OS 2	3.56	5.00	0.29	6.06	**6.26**	0.32	7.58	**8.64**	0.35	8.85	**11.03**	0.39	10.61	**14.73**	0.42	11.97	**17.90**	0.46	13.34	**21.84**	FLOWS TO EX 2

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

SITE BENCHMARKS

1 THE SITE BENCHMARKS IS AN "X" CUT WITH BOX SET AT THE NORTHEAST CORNER OF A CURB INLET IN THE NORTH LINE OF LARKSPUR PARK BOULEVARD, AND BEING APPROXIMATELY 175 FEET IN THE SOUTHWESTERLY DIRECTION FROM THE SOUTHWEST CORNER OF THE LIMITS OF A CONCRETE SIDEWALK ADJACENT TO THE NORTH LINE OF LARKSPUR PARK BOULEVARD.

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ELEVATION = 918.87' (NAVD '88)

LEGEND

EXISTING DRAINAGE AREA LABEL — BASIN NAME: DA1; ACRES: 0.63 ac.; Q100 (cfs): 5.57

EXISTING DRAINAGE AREA DIVIDE

EXISTING DRAINAGE FLOW ARROW

EXISTING CONTOUR

EXISTING STORM PIPE

PROPERTY BOUNDARY

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LOT 14, I
CAUGHFIEL
DOC.# 20:
P.R.W

GRAPHIC SCALE

0 80 160 FEET

SCALE: 1" = 80'

PRELIMINARY FOR REVIEW ONLY

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SHEA O. KIRKMAN
P.E.# 91865
DATE: October 9, 2024

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV:	DATE:	DESCRIPTION:

KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

EXISTING DRAINAGE AREA MAP

SHEET:
C6.0

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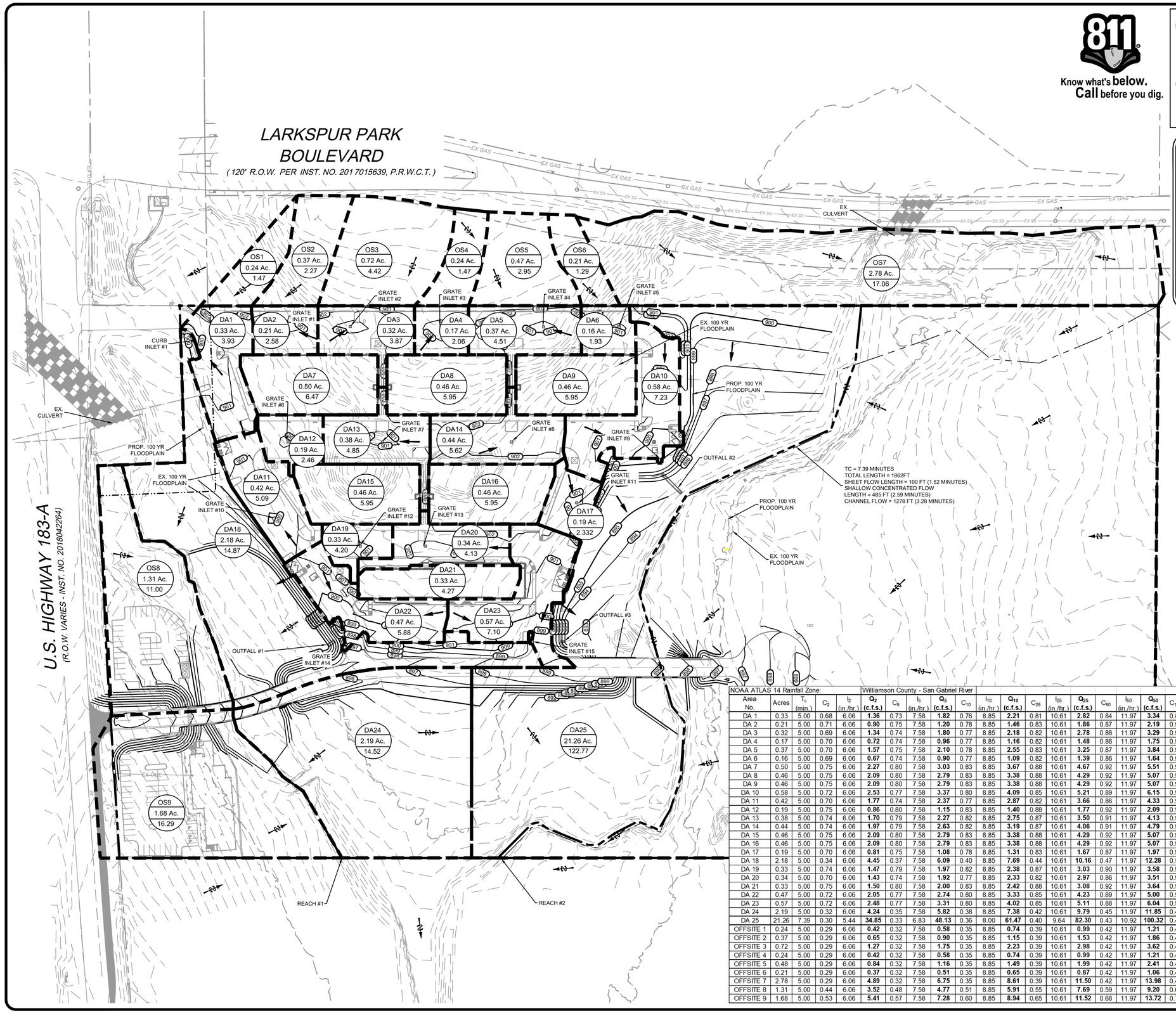
PLOTTED DATE: 10/9/2024



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- PROPOSED DRAINAGE AREA DIVIDE
- EXISTING DRAINAGE FLOW ARROW
- PROPOSED DRAINAGE FLOW ARROW
- EXISTING CONTOUR 500
- PROPOSED CONTOUR 500
- EXISTING STORM PIPE
- PROPOSED STORM PIPE
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Area No.	Acres	T_c (min.)	C_2	I_2 (in./hr.)	Q_2 (c.f.s.)	C_5	I_5 (in./hr.)	Q_5 (c.f.s.)	C_{10}	I_{10} (in./hr.)	Q_{10} (c.f.s.)	C_{25}	I_{25} (in./hr.)	Q_{25} (c.f.s.)	C_{50}	I_{50} (in./hr.)	Q_{50} (c.f.s.)	C_{100}	I_{100} (in./hr.)	Q_{100} (c.f.s.)	Comments
DA 1	0.33	5.00	0.68	6.06	**1.36**	0.73	7.58	**1.82**	0.76	8.85	**2.21**	0.81	10.61	**2.82**	0.84	11.97	**3.34**	0.89	13.34	**3.93**	FLOWS TO CURB INLET #1
DA 2	0.21	5.00	0.71	6.06	**0.90**	0.75	7.58	**1.20**	0.78	8.85	**1.46**	0.83	10.61	**1.86**	0.87	11.97	**2.19**	0.92	13.34	**2.58**	FLOWS TO GRATE INLET #1
DA 3	0.32	5.00	0.69	6.06	**1.34**	0.74	7.58	**1.80**	0.77	8.85	**2.18**	0.82	10.61	**2.78**	0.86	11.97	**3.29**	0.91	13.34	**3.87**	FLOWS TO GRATE INLET #2
DA 4	0.17	5.00	0.70	6.06	**0.72**	0.74	7.58	**0.96**	0.77	8.85	**1.16**	0.82	10.61	**1.48**	0.86	11.97	**1.75**	0.91	13.34	**2.06**	FLOWS TO GRATE INLET #3
DA 5	0.37	5.00	0.70	6.06	**1.57**	0.75	7.58	**2.10**	0.78	8.85	**2.55**	0.83	10.61	**3.25**	0.87	11.97	**3.84**	0.91	13.34	**4.51**	FLOWS TO GRATE INLET #4
DA 6	0.16	5.00	0.69	6.06	**0.67**	0.74	7.58	**0.90**	0.77	8.85	**1.09**	0.82	10.61	**1.39**	0.86	11.97	**1.64**	0.91	13.34	**1.93**	FLOWS TO GRATE INLET #5
DA 7	0.50	5.00	0.75	6.06	**2.27**	0.80	7.58	**3.03**	0.83	8.85	**3.67**	0.88	10.61	**4.67**	0.92	11.97	**5.51**	0.97	13.34	**6.47**	ROOF DRAINS
DA 8	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 9	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 10	0.58	5.00	0.72	6.06	**2.53**	0.77	7.58	**3.37**	0.80	8.85	**4.09**	0.85	10.61	**5.21**	0.89	11.97	**6.15**	0.93	13.34	**7.23**	FLOWS TO CURB INLET #2
DA 11	0.42	5.00	0.70	6.06	**1.77**	0.74	7.58	**2.37**	0.77	8.85	**2.87**	0.82	10.61	**3.66**	0.86	11.97	**4.33**	0.91	13.34	**5.09**	FLOWS TO GRATE INLET #9
DA 12	0.19	5.00	0.75	6.06	**0.86**	0.80	7.58	**1.15**	0.83	8.85	**1.40**	0.88	10.61	**1.77**	0.92	11.97	**2.09**	0.97	13.34	**2.46**	FLOWS TO GRATE INLET #6
DA 13	0.38	5.00	0.74	6.06	**1.70**	0.79	7.58	**2.27**	0.82	8.85	**2.75**	0.87	10.61	**3.50**	0.91	11.97	**4.13**	0.96	13.34	**4.85**	FLOWS TO GRATE INLET #7
DA 14	0.44	5.00	0.74	6.06	**1.97**	0.79	7.58	**2.63**	0.82	8.85	**3.19**	0.87	10.61	**4.06**	0.91	11.97	**4.79**	0.96	13.34	**5.62**	FLOWS TO CURB INLET #8
DA 15	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 16	0.46	5.00	0.75	6.06	**2.09**	0.80	7.58	**2.79**	0.83	8.85	**3.38**	0.88	10.61	**4.29**	0.92	11.97	**5.07**	0.97	13.34	**5.95**	ROOF DRAINS
DA 17	0.19	5.00	0.70	6.06	**0.81**	0.75	7.58	**1.08**	0.78	8.85	**1.31**	0.83	10.61	**1.67**	0.87	11.97	**1.97**	0.92	13.34	**2.32**	FLOWS TO CURB INLET #10
DA 18	2.18	5.00	0.34	6.06	**4.45**	0.37	7.58	**6.09**	0.40	8.85	**7.69**	0.44	10.61	**10.16**	0.47	11.97	**12.28**	0.51	13.34	**14.87**	FLOWS TO REACH 1
DA 19	0.33	5.00	0.74	6.06	**1.47**	0.79	7.58	**1.97**	0.82	8.85	**2.38**	0.87	10.61	**3.03**	0.90	11.97	**3.58**	0.95	13.34	**4.20**	FLOWS TO CURB INLET #11
DA 20	0.34	5.00	0.70	6.06	**1.43**	0.74	7.58	**1.92**	0.77	8.85	**2.33**	0.82	10.61	**2.97**	0.86	11.97	**3.51**	0.91	13.34	**4.13**	FLOWS TO CURB INLET #12
DA 21	0.33	5.00	0.75	6.06	**1.50**	0.80	7.58	**2.00**	0.83	8.85	**2.42**	0.88	10.61	**3.08**	0.92	11.97	**3.64**	0.97	13.34	**4.27**	ROOF DRAINS
DA 22	0.47	5.00	0.72	6.06	**2.05**	0.77	7.58	**2.74**	0.80	8.85	**3.33**	0.85	10.61	**4.23**	0.89	11.97	**5.00**	0.94	13.34	**5.88**	FLOWS TO CURB INLET #3
DA 23	0.57	5.00	0.72	6.06	**2.48**	0.77	7.58	**3.31**	0.80	8.85	**4.02**	0.85	10.61	**5.11**	0.88	11.97	**6.04**	0.93	13.34	**7.10**	FLOWS TO CURB INLET #4
DA 24	2.19	5.00	0.32	6.06	**4.24**	0.35	7.58	**5.82**	0.38	8.85	**7.38**	0.42	10.61	**9.79**	0.45	11.97	**11.85**	0.49	13.34	**14.39**	FLOWS TO REACH 1
DA 25	21.26	7.39	0.30	5.44	**34.85**	0.33	6.83	**48.13**	0.36	8.00	**61.47**	0.40	9.64	**82.30**	0.43	10.92	**100.32**	0.47	12.23	**122.77**	FLOWS TO REACH 2
OFFSITE 1	0.24	5.00	0.29	6.06	**0.42**	0.32	7.58	**0.58**	0.35	8.85	**0.74**	0.39	10.61	**0.99**	0.42	11.97	**1.21**	0.46	13.34	**1.47**	FLOWS TO DA 1
OFFSITE 2	0.37	5.00	0.29	6.06	**0.65**	0.32	7.58	**0.90**	0.35	8.85	**1.15**	0.39	10.61	**1.53**	0.42	11.97	**1.86**	0.46	13.34	**2.27**	FLOWS TO DA 2
OFFSITE 3	0.72	5.00	0.29	6.06	**1.27**	0.32	7.58	**1.75**	0.35	8.85	**2.23**	0.39	10.61	**2.98**	0.42	11.97	**3.62**	0.46	13.34	**4.42**	FLOWS TO DA 3
OFFSITE 4	0.24	5.00	0.29	6.06	**0.42**	0.32	7.58	**0.58**	0.35	8.85	**0.74**	0.39	10.61	**0.99**	0.42	11.97	**1.21**	0.46	13.34	**1.47**	FLOWS TO DA 4
OFFSITE 5	0.48	5.00	0.29	6.06	**0.84**	0.32	7.58	**1.16**	0.35	8.85	**1.49**	0.39	10.61	**1.99**	0.42	11.97	**2.41**	0.46	13.34	**2.95**	FLOWS TO DA 5
OFFSITE 6	0.21	5.00	0.29	6.06	**0.37**	0.32	7.58	**0.51**	0.35	8.85	**0.65**	0.39	10.61	**0.87**	0.42	11.97	**1.06**	0.46	13.34	**1.29**	FLOWS TO DA 6
OFFSITE 7	2.78	5.00	0.29	6.06	**4.89**	0.32	7.58	**6.75**	0.35	8.85	**8.61**	0.39	10.61	**11.50**	0.42	11.97	**13.98**	0.46	13.34	**17.06**	FLOWS TO DA 25
OFFSITE 8	1.31	5.00	0.44	6.06	**3.52**	0.48	7.58	**4.77**	0.51	8.85	**5.91**	0.55	10.61	**7.69**	0.59	11.97	**9.20**	0.63	13.34	**11.00**	FLOWS TO REACH 1
OFFSITE 9	1.68	5.00	0.53	6.06	**5.41**	0.57	7.58	**7.28**	0.60	8.85	**8.94**	0.65	10.61	**11.52**	0.68	11.97	**13.72**	0.73	13.34	**16.29**	FLOWS TO REACH 1

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW ONLY AND NOT INTENDED FOR THE PURPOSES OF CONSTRUCTION, BIDDING OR PERMIT. THEY WERE PREPARED BY, OR UNDER THE SUPERVISION OF:
SHEA O. KIRKMAN
P.E.# 91865
DATE: October 9, 2024

THE PRIME DEVELOPERS

HWY 183,
LEANDER, TX 78641

PRIME FLEX SPACES
LIBERTY HILL TEXAS
2081 US 183 LEANDER, TEXAS 78641
TRACT 2
CITY OF LIBERTY HILL ETJ
WILLIAMSON COUNTY, TEXAS

REV.:	DATE:	DESCRIPTION:

kirkman ENGINEERING
KIRKMAN ENGINEERING, LLC
5200 STATE HIGHWAY 121
COLLEYVILLE, TX 76034
TEXAS FIRM NO. 15874

JOB NUMBER: MAL21001

ISSUE DATE:

PROPOSED DRAINAGE AREA MAP

SHEET:
C6.1

FILENAME: C6.1 PROPOSED DRAINAGE AREA MAP_MAL21001.dwg
PLOTTED BY: Nathan Hamilton
PLOTTED DATE: 10/9/2024

FILE PATH: K:\Jobs\mal21001_Jackspur Trail\Drawings\03_engr-prime Office Warehouse\03 - Production\C6.1 PROPOSED DRAINAGE AREA MAP_MAL21001

ATTACHMENT I
INSPECTION AND MAINTENANCE FOR BMPS

Complete this worksheet every seven days; OR, every 14 days and within 24 hours of a 0.5 inch rainfall event, and retain in your SWP3.

Inspector (name/title): Inspection Date: Day: Time: am/pm
Scope of inspection (circle one): 14 Day Inspection or Weekly Inspection
Day of week normally conducted: 0.5 inch Rainfall Event: yes / no

Type	Inspected? (Y/N)	Areas of Concern
Disturbed Soil Areas		
Sediment & Erosion Controls		
Entrance(s) and Exit(s)		

BMP & Location	OK? (Y/N)	BMP Failure? (describe)	BMP Failure? (describe)

"I certify that the facility or site is in compliance with the stormwater pollution prevention plan and this permit."

I further certify that I am authorized to sign this report under TCEQ rules at 30 TAC 305.128 (relating to Signatories to Reports)

Raju Padigala (Jul 6, 2024 14:43 CDT)

Name/Title: Raju Padigala
AR Reddy Spring Creek LLC

Date: 07062024

ATTACHMENT J
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

The following soil stabilization practices shall be used:

1. All stockpiles shall be temporarily seeded and mulched to prevent loss due to erosion and encircled with a silt fence or filter tube.
2. As an area reaches final grade, install permanent stabilization as soon as possible but in no case longer than 14 days from reaching final grade.
3. Any area that will remain undisturbed for 14 days or more shall be temporarily stabilized.
4. Complete permanent stabilization of all disturbed areas. Once a minimum of 70 percent of the vegetated areas have been stabilized, remove the erosion control BMPs.

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

I RAJU PADIGALA,
Print Name

OWNER/DEVELOPER,
Title - Owner/President/Other

of AR REDDY SPRING CREEK LLC,
Corporation/Partnership/Entity Name

have authorized PRASHANTIKA GAUTAM
Print Name of Agent/Engineer

of KIRKMAN ENGINEERING
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

12/29/2025
Date

THE STATE OF TX §

County of COLLIN §

BEFORE ME, the undersigned authority, on this day personally appeared Raju Padigala 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 29 day of Dec, 2025

NOTARY PUBLIC

Sreekanth Reddy
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10-02-2028

SREEKANTH REDDY NOTARY PUBLIC STATE OF TEXAS ID 132708890 EXP. 10-02-2028

TCEQ-0599 (Rev.04/01/2010) Page 2 of 2

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Liberty Hill 35

Regulated Entity Location: Southeast corner of Highway 183 & Larkspur Park Blvd

Name of Customer: AR Reddy Spring Creek LLC

Contact Person: Raju Padigala Phone: 512-761-8025

Customer Refer

Regulated Entity Reference Number (if issued):RN

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	20.45 Acres	$ 6,500
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	$
Extension of Time	Each	$

Signature: Prashantika Gautam Date: 7/02/24

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		**RN**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ 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:*

AR Reddy Spring Creek LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
802632729	32062673978	81-5097353	

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 ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:							
	6253 Corvara Court						
	City	Frisco	**State**	Texas	**ZIP**	75035	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	raj@theprimedeveloper.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512)-761-8025		( ) -

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.)*

Liberty Hill 35

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	Williamson						

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

25. Description to Physical Location:	Southeast corner of Highway 183 & Larkspur Park Blvd				
26. Nearest City			**State**		**Nearest ZIP Code**
Liberty Hill			TX		78641

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:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	37	38	97	51	48

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)

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

Commercial Land Development

34. Mailing Address:	6253 Corvara Court						
	City	Frisco	**State**	Texas	**ZIP**	75035	**ZIP + 4**
35. E-Mail Address:	raj@theprimedeveloper.com						

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(512)-761-8025		( ) -

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:	Prashantika Gautam	**41. Title:**	EIT

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 428 - 8586		( ) -	prashantika.gautam@trustke.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:	AR Reddy Spring Creek	**Job Title:**	
Name *(In Print):*	Raju Padigala	**Phone:**	( ) -
Signature:	Raju Padigala (Jul 5, 2024 10:05 CDT)	**Date:**	07/05/2024