CONTRIBUTING ZONE
PLAN MODIFICATION
FOR
CISD – MOUNTAIN VALLEY MIDDLE SCHOOL

PREPARED FOR:

COMAL ISD
Comal Independent School District

DATE: JULY 2023

PREPARED BY:

MTR
• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

12770 Cimarron Path, Ste 100 San Antonio, TX 78249
TBPE Firm #5297, TBPLS Firm #10131500
Phone 210-698-5051 – Fax 210-698-5085
MTR JOB #23112

CISD - MOUNTAIN VALLEY MIDDLE SCHOOL
CONTRIBUTING ZONE PLAN MODIFICATION

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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 if not withdrawn the application will be denied and 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 to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- 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 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 effected 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: CISD Mountain Valley Middle School					**2. Regulated Entity No.: 102076064**			
3. Customer Name: Comal ISD					**4. Customer No.: 600249825**			
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):**			29.95 acres
9. Application Fee:	$6,500	**10. Permanent BMP(s):**			VFS, UPFLO Unit			
11. SCS (Linear Ft.):	N/A	**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal	**14. Watershed:**			Comal River – Guadalupe River			

Application Distribution

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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	_X_	___	___	___
Region (1 req.)	___	_X_	___	___	___
County(ies)	___	_X_	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	_X_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 _X_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.
COMAL ISD, JEFFREY SMITH, DIRECTOR Print Name of Customer/Authorized Agent
BY: [signature] 7.3.2023 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: Jeffrey Smith

Date: 7/3/2023

Signature of Customer/Agent:

By: _____, Director

Project Information

1. Current Regulated Entity Name: CISD Mountain Valley Middle School
   Original Regulated Entity Name: CISD Mountain Valley Middle School
   Assigned Regulated Entity Number(s) (RN): 102076064
   Edwards Aquifer Protection Program ID Number(s): _____
   ☒ The applicant has not changed and the Customer Number (CN) is: 600249825
   ☐ 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	See Attached Summary	29.95
Type of Development	_____	Middle School
Number of Residential Lots	_____	0
Impervious Cover (acres)	10.52	10.70
Impervious Cover (%)	35.13	35.73
Permanent BMPs	VFS	UpFlo, VFS
Other	_____	_____

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	_____	_____
Other	_____	_____

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	_____	_____
Other	_____	_____

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. ☒ **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.
   - ☐ 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. ☒ 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. ☒ 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.

SUMMARY OF PREVIOUS & PROPOSED MODIFICATIONS

CZP Modification Summary	***Pre-June 1, 1999***	***Original CZP***	***Approved Modification 1***	***Proposed Modification 2***
Acres	29.95	29.95	29.95	29.95
Type of Development	Elementary School	Middle School	Middle School	Middle School
Number of Residential Lots	N/A	N/A	N/A	N/A
Total Impervious Cover (acres)	8.39	10.09	10.52	10.70
Impervious Cover (%)	28.01%	33.69%	35.13%	35.73%
Permanent BMPs	None	VFS	VFS	VFS, Up-FLO
Other	N/A	N/A	N/A	N/A
Approval Letter Date	N/A	June 27, 2007	June 24, 2008	TBD

EXHIBIT A

Doc# 200706035584

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 27, 2007

Mr. David Swain
Comal Independent School District
1421 North Business 35
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: CISD Mountain Valley Middle School; Located on the south side of FM 2673 on Sattler Road; Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer;
Edwards Aquifer Protection Program ID No. 2649.00, Investigation No. 557893; Regulated Entity No. RN105209225

Dear Mr. Swain:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the San Antonio Regional Office by Moy Civil Engineers on behalf of Comal Independent School District on April 23, 2007. Final review of the CZP was completed after additional material was received on June 21, 2007 and June 26, 2007. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

PROJECT DESCRIPTION

The proposed school project will have an area of approximately 29.95 acres. The existing elementary school site has 8.39 acres of impervious cover that predates regulations and will be converted to a middle school. The proposed impervious cover will be 10.09 acres (8.39 acres existing and 1.70 acres new). The project will include the demolition and construction of buildings, parking lots, driveways and the installation of vegetative filter strips. According to Permit No. WQ0013812001, dated February 25, 2005, issued by the Texas Commission on Environmental Quality, the project site is acceptable for the use of on-site sewage facilities.

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, engineered filter strips designed using the TCEQ technical guidance document, "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" (2005) will be constructed. The engineered filter strips will be 15 feet wide with

at least 80% vegetation cover, run the entire length of the contributing impervious cover area and treat a total of 1535 pounds of total suspended solids generated by 1.71 acres of impervious cover (1.70 acres required treatment). The approved measures meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

SPECIAL CONDITIONS

I. The holder of the approved Edwards Aquifer CZP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.

II. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved CZP is enclosed.

III. Any permanent pollution abatement measure shall be operational prior to occupancy or use of the facility within the BMP's respective drainage area.

IV. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

V. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

VI. For any future modification, the impervious cover summary tables (provided in the June 21, 2007 deficiency notice response) shall be updated and included in the modification application. It is the responsibility of the applicant to maintain this information and keep it current.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, 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, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

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 significantly reduced. 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).

8. 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.

9. 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:

10. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

11. 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 (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. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

14. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4065.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/CEF/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Duane Moy, P.E., Moy Civil Engineers
Mr. Robert Potts, Edwards Aquifer Authority
Mr. Thomas Hornseth, P.E., Comal County Engineers Office
TCEQ Central Records, Building F, MC 212

Exhibit B

Legal Description of the Property

BEING 30.000 acres of land out of the Charles A. Smith Survey No. 321, Comal County, Texas, and being 30.000 acres of land out of that certain 121.44 acre tract of land conveyed by Emil Phillip Weilbacher, et al, to E. Harrison Preston, et al, by deed dated May 2, 1973, and recorded in Volume 205 on pages 879-881 of the Deed Records of Comal County, Texas, and described more particularly by metes and bounds as follows:

BEGINNING at an iron pin and corner post in the Northwest line of the Charles A. Smith Survey No. 321, the Southeast line of the Sattler Road, set for the North corner of the above described E. Harrison Preston, et al, 121.44 acre tract, for the North corner of the herein conveyed 30.000 acre tract;

THENCE with the fence, the Northeast line of the said E. Harrison Preston, et al, 121.44 acre tract, S. 28° 02' E. 920.32 feet to an iron post set for the East corner of this tract;
THENCE severing the land of the subject owner as follows: S. 61° 58' W. 1,408.21 feet to an iron post set for the South corner of this tract; and N. 28° 02' W. 253.34 feet, N. 19° 22' W. 341.0 feet, and N. 28° 02' W. 384.71 feet to an iron post in the fence, the Northwest line of the E. Harrison Preston, et al, 121.44 acre tract, the Northwest line of Survey No. 321, the Southeast line of Sattler Road, set for the West corner of this tract;

THENCE with the Northwest line of the said E. Harrison Preston, et al, 121.44 acre tract, the Northwest line of Survey No. 321, the Southeast line of Sattler Road, N. 64° 21' E. 955.85 feet, and N. 64° 07' E. 402.08 feet to the place of beginning.

Doc# 200706035584
Pages 6
08/27/2007 9:53AM
Official Records of
COMAL COUNTY
JOY STREATER
COUNTY CLERK
Fees $36.00

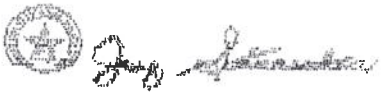

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EXHIBIT "A"

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 24, 2008

Mr. David Swain
Comal Independent School District
1421 North Business 35
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Mountain Valley Middle School; Located at 1165 Sattler Road, Sattler; Comal County, Texas
TYPE OF PLAN: Request for Modification of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2649.01; Investigation No. 654575; Regulated Entity No. RN105209225

Dear Mr. Swain:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved CZP for the above-referenced project submitted to the San Antonio Regional Office by Moy Civil Engineers on behalf of Comal Independent School District on April 25, 2008. Final review of the CZP was completed after additional material was received on June 18, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in 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 Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) 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 requested.*

BACKGROUND

According to the information provided, the site is the former Mountain Valley Elementary School, since converted (EAPP 2649.00 approved June 27, 2007) to Mountain Valley Middle School [29.95 acres with 10.09 acres of impervious cover (8.39 acres existing, and 1.70 acres added, or 33.689%)].

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 29.95 acres. It will include the construction of tennis courts, and the relocation of a previously approved fire lane. As presented, construction of the proposed fire lane will result in 275 S.F. (0.006 acres) less impervious cover than originally approved. However, the additional tennis courts will add 18,960 S.F (0.435 acres) impervious cover. The impervious cover will increase by 18,685 S.F (0.429 acres). Total new impervious cover will become 2.13 acres (1.70 + 0.429). Total impervious cover for the site will become 10.52 (8.39 existing +

2.13 acres new, or 35.125%). According to Permit No. WQ0013812001, dated February 25, 2005, and issued by the Texas Commission on Environmental Quality, the project site is acceptable for the use of on-site sewage facilities.

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, engineered vegetated filter strips designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) will be constructed to treat stormwater runoff. The engineered filter strips will be 15 feet wide with at least 80% vegetation cover, run the entire length of the contributing impervious cover area and treat a total of 1,912 pounds of total suspended solids generated by 2.14 acres of impervious cover (2.13 acres required treatment). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

I. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

II. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated June 27, 2007.

III. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

2. The holder of the approved Edwards Aquifer Protection Plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, PST) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of

appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. 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.

<u>During Construction:</u>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

9. 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 significantly reduced. 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).

10. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

11. 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.

12. 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.

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

14. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

15. 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 (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. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact John Mauser of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403/4024.

Sincerely,

Richard Garcia

Mark R. Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MRV/JKM/eg

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625A
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Duane Moy, P.E., Moy Civil Engineers
Mr. Tom Hornseth, P.E., Comal County
Mr. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

ATTACHMENT B

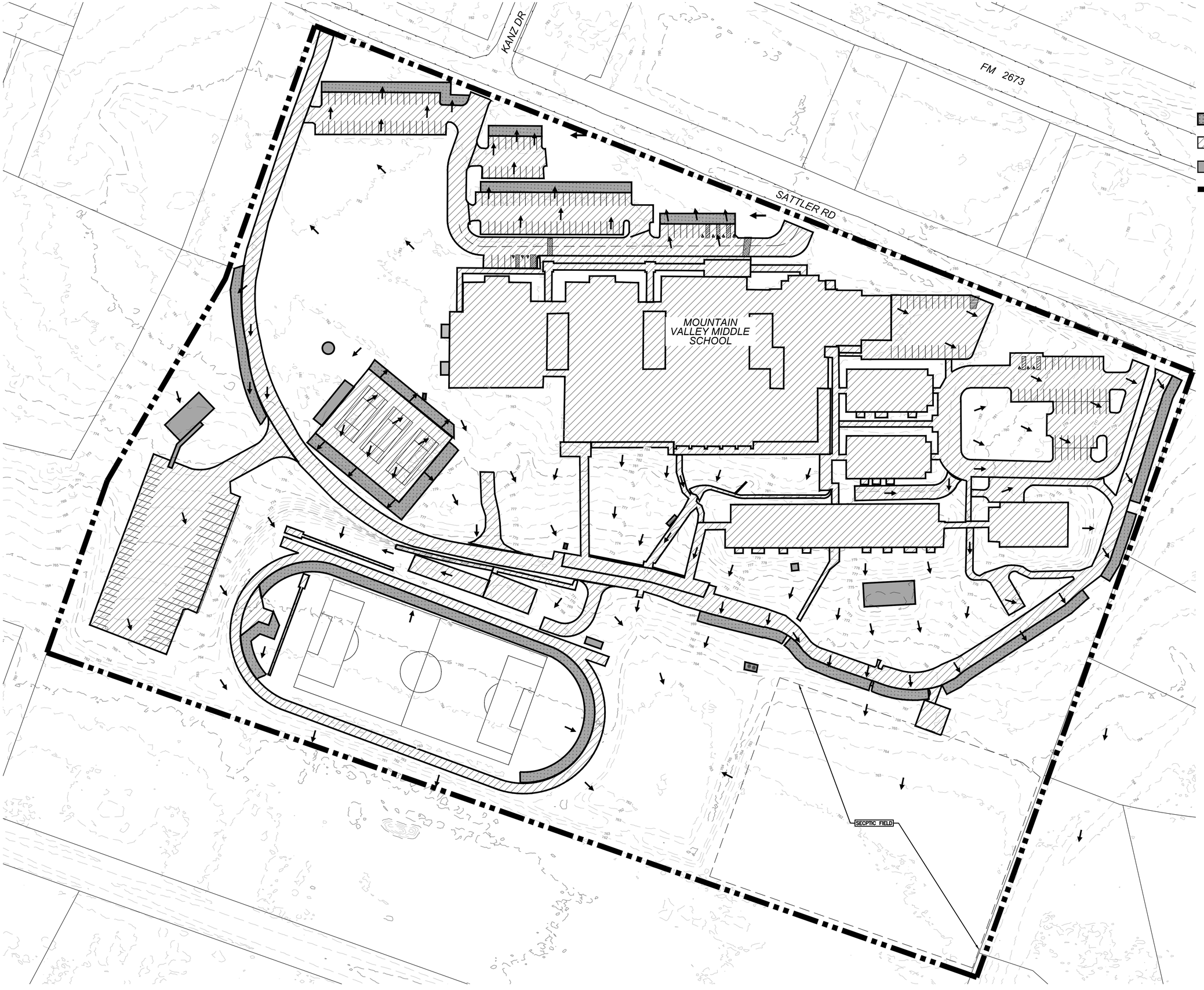
NARRATIVE OF PROPOSED MODIFICATION

Mountain Valley Middle School was originally built as an elementary school in 1974, with additions made in 1986 and 1994. In 2007, the elementary school was converted to a middle school and a Contributing Zone Plan was approved on June 27, 2007. A modification to this plan was approved on June 24, 2008 for the addition of tennis courts. The proposed project involves the construction of a new gymnasium building and concrete sidewalks, as well as the demolition and reconfiguration of existing asphalt pavement. The approved impervious cover amount in the last modification to this property was 10.52 acres, or 35.13%. The existing permanent BMP is vegetative filter strips. This proposed project will be providing approximately 0.38 acres of new impervious cover and demolishing 0.19 acres of impervious cover. A total of 0.09 acres of unapproved impervious cover has been located on-site. Comal ISD has removed 4,528 SF (0.10 acres) of grandfathered impervious cover (3,922 SF of asphalt parking + 606 SF of impervious AC pads). 501 SF (0.01 acres) of unapproved impervious cover wooden ramps will be converted to pervious cover. The net increase in impervious cover on-site is 0.18 acres, for a total of 10.70 acres, or 35.73%.

The increase in impervious cover associated with the new construction will be treated with an Up-Flo filter, while unapproved impervious cover will be treated with VFS and the removal of grandfathered impervious cover.

This application is a resubmittal of the original CZP modification submitted by CDS Muery for Mountain Valley Middle School. A portion of the exhibits developed for the original application have been reused/modified by MTR Engineers in the preparation of this application. The construction documents have not changed and are signed and sealed by CDS Muery.

The overall acreage of the Mountain Valley Middle School property is 29.95 acres and is located at 1165 Sattler Rd, Canyon Lake, TX 78132. The site is located in the Edwards Aquifer Contributing Zone.



LPA
ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING
210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com
1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-17331 | TBPLS NO. 10046500

CDS Muery F-17331
STATE OF TEXAS
JUAN A. LUDWIG
89289
LICENSED
PROFESSIONAL
ENGINEER
9/9/22

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD.
CANYON LAKE TX 78132

Developed for
COMAL ISD

Revision	Date

Submittal	Date

Job Number	3064301
Date Published	05/27/2022
Checked By	Checker
Scale	1" = 60'

EXISTING CZP
SITE PLAN
(TCEQ 10259-ATTACH. C)

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: Jeffrey Smith

Date: 7.3.2023

Signature of Customer/Agent:

By: _____, Director

Regulated Entity Name: CISD Mountain Valley Middle School

Project Information

1. County: Comal
2. Stream Basin: Guadalupe River
3. Groundwater Conservation District (if applicable): Comal Trinity
4. Customer (Applicant):

   Contact Person: Jeffrey Smith
   Entity: Comal Independent School District
   Mailing Address: 1404 IH 35 North
   City, State: New Braunfels, TX Zip: 78130-2817
   Telephone: (830) 221-2000 Fax: _____
   Email Address: jeffrey.smith@comalisd.org

5. Agent/Representative (If any):

Contact Person: Sean Smith, P.E.
Entity: Moy Tarin Ramirez Engineers, LLC
Mailing Address: 12770 Cimarron Path #100
City, State: San Antonio, TX Zip: 78249
Telephone: (210) 698-5051 Fax: (210) 698-5085
Email Address: ssmith@mtrengineers.com

6. Project Location:

☒ The project site is located inside the city limits of Sattler, TX.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☐ 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.

1165 Sattler Rd, Canyon Lake, TX 78132

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: Existing Middle School Site

12. The type of project is:

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

13. Total project area (size of site): 29.95 Acres

Total disturbed area: 0.51 Acres

14. Estimated projected population: 900 Students, 100 Staff

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	192,235	÷ 43,560 =	4.41
Parking	195,988	÷ 43,560 =	4.50
Other paved surfaces	77,895	÷ 43,560 =	1.79
Total Impervious Cover	466,118	÷ 43,560 =	10.70

Total Impervious Cover 10.70 **÷ Total Acreage** 29.95 **X 100 =** 35.73**% 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 _____ (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" = 60'.

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): FEMA PANEL 48091C260F dated 9/2/2009.

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.

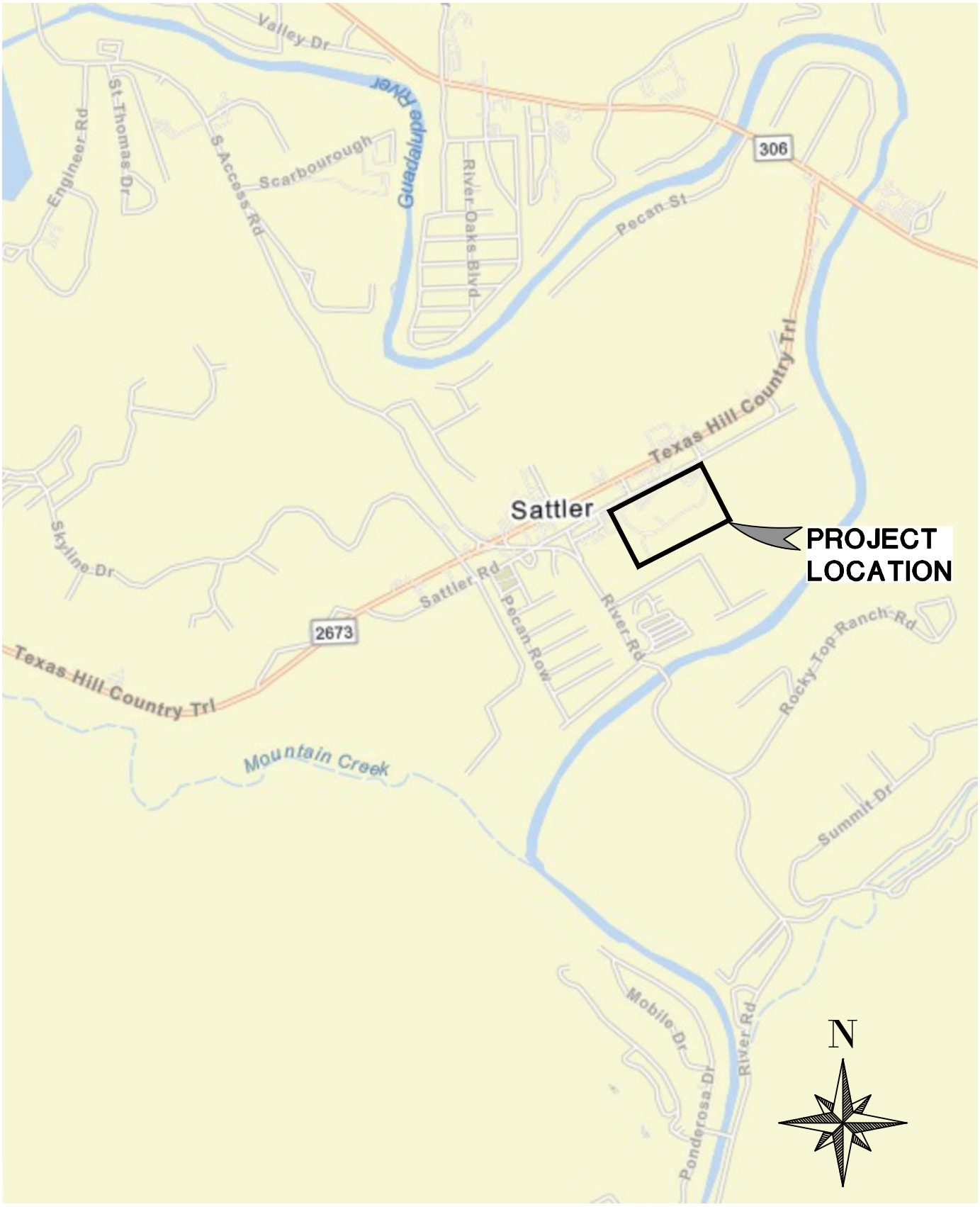
Administrative Information

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.



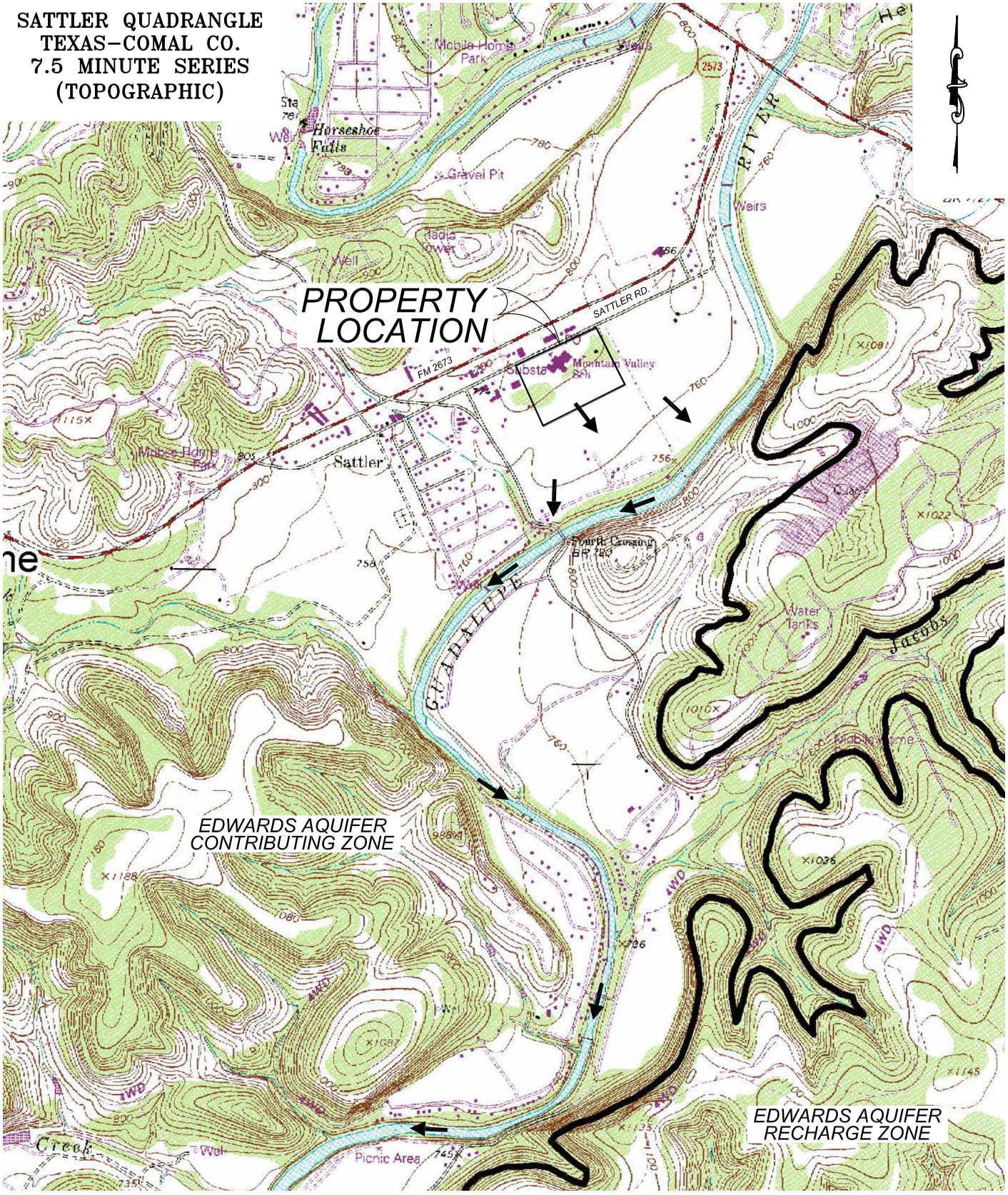
P:\JOBS\2022\122093 COMAL ISD MOUNTAIN VALLEY MS NEW GYM\CIVIL 3D\DWG\ENGINEER\LOCATION MAP EXHIBIT.DWG

CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-1733 | TBPLS NO. 100495-00

DRAWN BY:	DATE:
CDS	SEP 2022
SCALE:	
1" = 2000'	

EXHIBIT A – LOCATION MAP
MOUNTAIN VALLEY MIDDLE SCHOOL

SATTLER QUADRANGLE
TEXAS–COMAL CO.
7.5 MINUTE SERIES
(TOPOGRAPHIC)



0 2000' 4000'

SCALE IN FEET
1"=2000'

ATTACHMENT B – COMAL ISD
MOUNTAIN VALLEY MIDDLE SCHOOL

DRAWN BY:	DATE:
D. GARCIA	JUNE 28, 2022
DRAWING NAME: 122093_GR_DRN – USGS.DWG	

ATTACHMENT C

PROJECT NARRATIVE

This application is a resubmittal of the original CZP modification submitted by the engineer of CDS Muery for Mountain Valley Middle School. The engineer of record CDS Muery signed and sealed the construction plans and SWPPP for the new gymnasium. A portion of the exhibits developed for the original application have been reused/modified by MTR Engineers in the preparation of this application. The construction plans have not been modified for this resubmittal.

The proposed project will be constructing a new gymnasium building and concrete sidewalks, and demolishing/reconfiguring existing asphalt pavement. The original Contributing Zone Plan was approved on June 27, 2007. The previous Contributing Zone Plan Modification was approved on June 24, 2008. The previous modification was for the addition of impervious cover tennis courts.

The overall acreage of the Mountain Valley Middle School property is 29.95 acres and is located at 1165 Sattler Rd, Canyon Lake, TX 78132. The site is located in the Edwards Aquifer Contributing Zone.

Current development consists of middle school with buildings, concrete sidewalks, sports fields, and asphalt parking.

A total of 0.09 acres of unapproved impervious cover added since 2008 was identified by CDS Muery and MTR Engineers. To date, Comal ISD has removed 0.10 acres of grandfathered impervious cover. 0.01 acres of unapproved impervious cover wooden ramps will be converted to pervious cover. A portable building originally identified as impervious cover in the original CDS Muery application is actually a pervious area. The proposed impervious cover onsite will increase by approximately 0.18 acres, bringing the total site impervious cover to 10.70 acres, or 35.73 percent.

The proposed increase in impervious cover will be treated through a combination of new VFS, a new Up-Flo filter, and the removal of grandfathered impervious cover from the site. The calculations for the Up-Flo TSS removal have not been modified from the original CZP modification application submitted by CDS Muery.

The majority of the site which includes the middle school building will remain undisturbed with this project.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

Factors impacting surface water quality include fertilizers, pesticides from landscaping, sediment from soil disturbances, leaf litter from tree removal, small amounts of oil grease from vehicular traffic, and suspended solids from the proposed impervious cover areas. These factors may cause suspended solids to enter into the storm water runoff and subsequently affect the surface water. However, temporary BMPs have been designed on the basis of the Technical Guidance Manual to treat the required amount of storm water runoff as to not adversely affect water quality entering into any surface water or groundwater.

ATTACHMENT E

VOLUME AND CHARACTER OF STORM WATER

Volume of Storm Water

Mountain Valley Middle School is located to the southeast of a local high point. Upstream stormwater is intercepted along Sattler Road before flowing across the site. Stormwater generally sheet flows across the property from the northwest to the southeast. The rational method (Q=CIA) was used to calculate the 25-year storm event. The following areas and volumes were calculated:

On-Site Drainage Area A

Existing Conditions
Area = 6.25 acres
Impervious Cover = 1.79 acres
Runoff Coefficient = 0.57
Percent Impervious = 28.64%
Q_{25} = 37.09 cfs

Proposed Conditions
Area = 6.25 acres
Impervious Cover = 1.97 acres
Runoff Coefficient = 0.59
Percent Impervious = 31.52%
Q_{25} = 38.13 cfs

Character of Storm Water

Stormwater runoff generated from the site during construction will be typical of a Middle School educational facility with buildings, parking lots, and sports fields. The runoff should consist of small amounts of suspended solids created by sediments from disturbed soils, construction dust, sawdust and hydrocarbons from construction equipment. Temporary BMP's have been selected from the TCEQ Publication, "Complying with the Edwards Aquifer Rules: Technical Guidance for Best Management Practices," to treat the required volume and character of storm water runoff to remove the increased total suspended solids (TSS) due to the proposed maintenance activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by solid sodding in those areas.

Stormwater runoff generated after construction is complete will also be typical of an Middle School educational facility. The runoff will contain sediments from rooftops, driveways, parking lots, sidewalks, landscape areas, and other miscellaneous impervious areas from the site. The runoff may contain small amounts of oil, grease, suspended solids, fertilizers, and pesticides. The post construction runoff will be treated through the existing and proposed VFS and the proposed Up-Flo Filter.

ATTACHMENT J

BMP'S FOR UPGRADIENT STORM WATER

There is no upgradient stormwater entering this site. Stormwater along Sattler Rd is conveyed to the west.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMPs consisting of silt fences and bagged gravel inlet filters will be utilized at strategic locations to minimize the amount of sediment leaving the site. After construction, permanent BMPs in the form of vegetative filter strips and an Up-FLO unit will treat on-site runoff.

This project proposes 16,692 SF of new impervious cover, but will also demolish 8,401 SF of existing impervious cover. Impervious cover built since the 2008 modification approval has been identified on-site. CDS Muery identified 5,441 SF of unapproved impervious cover on-site, while MTR Engineers has identified an additional 705 SF of unproved impervious cover in the form of a 107 SF storage shed, a 224 SF asphalt walkway, and 374 SF of impervious AC pads. Comal ISD has removed 3,922 SF of asphalt, a 142 SF storage shed, and 606 SF of impervious AC pads. All impervious cover removed by Comal ISD was impervious cover installed before June 1, 1999. A 1,536 SF portable building identified by CDS Muery as unapproved impervious cover is actually a pervious area, since water can freely flow beneath the building. The associated 501 SF wooden ramp system will be converted to pervious cover by Comal ISD and will not require treatment. Subtracting the portable building, wooden ramp system, and unapproved chiller pad, the remaining unapproved impervious cover area identified by CDS Muery totals 506 SF which will remain untreated. The resulting total area requiring treatment is 7,730 SF or 0.18 acres. The following table summarizes the impervious cover for this modification.

Impervious Cover Item	**Area Requiring Treatment (SF)**	**BMP/Measure**
Proposed Impervious Cover	16,692	Up-FLO Filter
Demolished Impervious Cover (Construction)	-8,401	Removal
Demolished Asphalt (CISD)	-3,922	Removal
Demolished Shed (CISD)	-142	Removal
Demolished AC Pads (CISD)	-606	Removal
Unapproved Asphalt Walkway	224	None
Unapproved Shed	107	None
Unapproved AC Pads	374	VFS
Wooden Ramp System	-501	Convert to Pervious
Unapproved Chiller Pad	2,898	VFS
Remaining Unapproved Impervious Cover (Original CDS Muery Mod)	506	None
Total	**7,730**	

The TSS removal requirement for the 0.18 acres of impervious cover is 162 lbs. VFS will be provided for a 0.051 acres catchment area to remove 46 lbs. of TSS. VFS will also treat the unapproved chiller pad and unapproved AC pads (combined catchment area of 3,272 SF) and remove 67 lbs of TSS. The proposed Up-FLO unit will remove 239 lbs. of TSS (138 lbs. of regular treatment + 101 lbs. of overtreatment). This brings the total effective TSS removal associated with this modification to 352 lbs. of TSS, which is 190 lbs. more than required.

Calculations for Texas Commission on Environmental Quality TSS Removal Calculations
Hydro International Up-Flo® Filter - Sizing Spreadsheet Revision 1.0

Project Name:	**Mountain Valley Middle School**
Date Prepared:	**7/28/2022**

1. The Required Load Reduction for the Total Project.

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

Where:

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

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

County =	**Comal**	
Total project area included in plan =	**0.38**	acres
Predevelopment impervious area within the limits of the plan =	**0.09**	acres
Total post-development impervious area within the limits of the plan =	**0.38**	acres
Total post-development impervious cover fraction =	**1.00**	
P =	**33**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**267**	lb
Number of drainage basins / outfalls areas leaving the plan area =	**1**	

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

Drainage Basin/Outfall Area No. =		
Total drainage basin/outfall area =	**0.24**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.09**	acres
Post-development impervious area within drainage basin/outfall area =	**0.24**	acres
Post-development impervious fraction within drainage basin/outfall area =	**1.00**	
$L_{M\ THIS\ BASIN}$ =	**138**	lb

3. Indicate the Proposed BMP Code for this Basin.

Proposed BMP =	**Up-Flo® Filter CPZ**	
Removal efficiency =	**78**	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:
$L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

Where:

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

A_C =	**0.24**	acres
A_I =	**0.24**	acres
A_P =	**0.00**	acres
L_R =	**214**	lb

5. Calculate Fraction of Annual Runoff to Treat the Drainage Basin / Outfall Area. Note

Desired $L_{M\ THIS\ BASIN}$ =	239	lb
F =	1.118	

6. Calculate Capture Volume Required by the BMP Type for this Drainage Basin / Outfall Area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	4.00	inches
Post Development Runoff Coefficient =	0.82	
On-site Water Quality Volume =	2,845	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	569	cubic feet
Total Capture Volume (required water quality volume x 1.20) =	3,414	cubic feet

7. Up-Flo® Filter TSS Load Based Sizing.

Minimum Filter Modules based on L_R =	2	modules
Maximum Filter Release Rate =	0.09	cfs

7a. Additional Filter Modules to Increase Filter TSS Load Capacity:

Enter number of additional Modules =	0	modules
Total Number of Modules =	2	modules
Maximum Filter Release Rate =	0.09	cfs
Annual TSS Load Capacity for Filter =	214	lb

Recalculated Capture Volume Required:

F =	0.290	
Rainfall Depth =	0.18	inches
On-site Water Quality Volume =	130	cubic feet
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	26	cubic feet
Total Capture Volume (required water quality volume x 1.20) =	156	cubic feet

Check for WQv Requirement Based on Filter Inflow and Outflow Equalization

8. Up-Flo® Filter Sizing Based on Design Storm (No storage).

Rainfall Intensity i =	0.05	in/hr
On Site Inflow Rate =	0.01	cfs
Offsite Inflow Rate =	0.00	cfs
Total Inflow Rate =	0.01	cfs

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Mountain Valley MS
Date Prepared: 7/3/2023

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

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

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

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

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

County =	Comal	
Total project area included in plan * =	29.95	acres
Predevelopment impervious area within the limits of the plan * =		acres
Total post-development impervious area within the limits of the plan* =	0.18	acres
Total post-development impervious cover fraction * =	0.01	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	162	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	0.13	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.13	acres
Post-development impervious fraction within drainage basin/outfall area =	1.00	
$L_{M\ THIS\ BASIN}$ =	113	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

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

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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

A_C =	0.05	acres
A_I =	0.05	acres
A_P =	0.00	acres
L_R =	49	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **46** lbs.

F = **0.93**

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

Rainfall Depth = **2.20** inches
Post Development Runoff Coefficient = **0.82**
On-site Water Quality Volume = **332** cubic feet

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

Off-site area draining to BMP = **0.00** acres
Off-site Impervious cover draining to BMP = **0.00** acres
Impervious fraction of off-site area = **0**
Off-site Runoff Coefficient = **0.00**
Off-site Water Quality Volume = **0** cubic feet

Storage for Sediment = **66**
Total Capture Volume (required water quality volume(s) x 1.20) = **399** cubic feet

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

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

Required Water Quality Volume for retention basin = **NA** cubic feet

Irrigation Area Calculations:

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

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

Required Water Quality Volume for extended detention basin = **NA** cubic feet

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

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

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

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

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

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

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

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

ATTACHMENT L

BMP's FOR SURFACE STREAMS

There are no surface streams on the project site. Permanent and temporary BMPs, as shown on the Site Plan, will be used to minimize sediments leaving the site and flowing into off-site surface streams during and after construction.

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Both permanent and temporary BMP's, as shown on the CZP Site Plan, shall be used to minimize contamination to offsite surface streams, both during and after construction. During construction, temporary BMP's will consist of silt fence and bagged gravel inlet filters. After construction, the permanent BMPs will consist of existing and proposed vegetative filter strips and a proposed Up-Flo Filter.

FOR EXHIBIT PURPOSES ONLY

LPA
ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING
210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com
1811 South Alamo Street, Suite 100
San Antonio, Texas 78204

CDS muery
ENGINEERS | SURVEYORS

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD,
CANYON LAKE TX 78132

Developed for
COMAL ISD

Submittal	Date	Revision	Date

Job Number	3064301
Date Published	05/27/2022
Checked By	Checker
Scale	1" = 60'

PROPOSED CZP SITE PLAN

(TCEQ 10257)

2 OF 2

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
2. CONTRACTOR WILL BE PROVIDED WITH GROUND CONTROL POINTS ESTABLISHING LAYOUT "CONTROL LINES" AS SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL OTHER LAYOUT AND GRADE CONTROL SURVEYING FOR CONSTRUCTION OF THE PROJECT.
3. EXISTING UNDERGROUND UTILITIES ARE SHOWN FROM AVAILABLE UTILITY RECORDS AND OBSERVABLE SURFACE FEATURES. ACTUAL LOCATIONS MAY VARY AND UTILITIES NOT SHOWN ON THESE PLANS MAY EXIST. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES AND COMAL ISD MAINTENANCE PERSONNEL FOR ASSISTANCE IN LOCATING ALL UNDERGROUND FACILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF UNDERGROUND FACILITIES WELL AHEAD OF CONSTRUCTION OPERATIONS AND SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND REPLACEMENT OF ALL DAMAGED UTILITIES AND FOR DAMAGES CAUSED TO OWNER OR OTHER PARTIES ARISING FROM SERVICE INTERRUPTION OR LOSS OF USE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PERMANENT SERVICE TERMINATION ASSOCIATED WITH UTILITY LINES TO BE REMOVED OR ABANDONED.
5. CONTRACTOR SHALL MAINTAIN A COPY OF ALL NECESSARY PERMITS ON THE JOBSITE.
6. WHERE NECESSARY, CONTRACTOR SHALL PROVIDE FOR BARRICADES AND TRAFFIC CONTROL DEVICES AS PER THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
7. AS APPLICABLE, TREES ON SITE ARE TO REMAIN IN UNDAMAGED CONDITION UNLESS REMOVAL OR TRIMMING IS IDENTIFIED ON THE PLANS OR IS NECESSARY FOR CONSTRUCTION OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF ENGINEER/OWNER IF UNIDENTIFIED REMOVAL OR TRIMMING BECOMES NECESSARY. RESPONSE TO SUCH NOTIFICATION IS REQUIRED BEFORE TREE REMOVAL OR TRIMMING MAY PROCEED.
8. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER OR IN THE LANDSCAPE PLANS/SPECIFICATIONS THE FOLLOWING STATEMENT SHALL APPLY TO TOPSOIL SALVAGE, PLACEMENT AND SUPPLY: TOPSOIL SHALL BE STRIPPED AND STOCKPILED SEPARATELY FROM ALL OTHER MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS. STOCKPILED TOPSOIL MATERIAL SHALL BE SPREAD AND COMPACTED TO A DEPTH OF 6" TO ESTABLISH FINISHED GRADE IN ALL AREAS THAT ARE NOT TO BE PAVED. SHOULD STOCKPILED TOPSOIL FAIL TO COVER ALL AREAS TO A COMPACTED DEPTH OF 6", CONTRACTOR SHALL SUPPLY ADDITIONAL TOPSOIL FROM APPROVED OFF SITE SOURCES TO ESTABLISH FINISHED GRADE WITHOUT ADDITIONAL COMPENSATION.
9. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ROCK AND ALL OTHER MATERIALS ENCOUNTERED REGARDLESS OF THEIR NATURE OR THE MANNER IN WHICH THEY ARE REMOVED.
10. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO PREVENT PONDING OR BLOCKAGE OF SURFACE DRAINAGE.
11. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT DAMAGE TO ADJACENT PROPERTIES AND TO CONFORM WITH LOCAL JURISDICTIONAL AUTHORITY REQUIREMENTS.
12. WHERE FINISHED CONTOURS ARE SHOWN TO MATCH EXISTING CONTOURS ON THE GRADING PLANS, NO GRADE SEPARATION IS ALLOWABLE. CONTRACTOR SHALL ADJUST FINISHED CONTOURS AS NECESSARY TO ACCOMPLISH THIS REQUIREMENT.
13. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITY OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
14. ALL HANDICAPPED SIGNAGE AND SYMBOLS SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS ACCESSIBILITY STANDARDS PREPARED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.
15. CONTRACTOR SHALL FURNISH THE ENGINEER/OWNER WITH AN AS-BUILT PLAN INDICATING THE ACTUAL MEASUREMENT AND LOCATIONS OF UTILITY LINES AND SITE IMPROVEMENTS INSTALLED.
16. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON COMPLETION.

PAVEMENT NOTES

1. ALL WORK WITHIN STATE, COUNTY, AND/OR CITY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH EACH ENTITIES GOVERNING RULES AND STANDARDS. CONTRACTOR SHALL MAINTAIN A COPY OF ALL NECESSARY PERMITS ON THE JOBSITE WHEN WORKING IN PUBLIC RIGHT-OF-WAYS.
2. UTILITY TRENCHING AND BACKFILL WITHIN ROADWAYS AND PARKING AREAS SHALL BE PERFORMED PRIOR TO PLACEMENT OF GEOGRID AND/OR FLEXIBLE BASE MATERIAL. FAILURE TO COMPLY WILL REQUIRE ALL TRENCH BACKFILL TO BE FLOWABLE FILL OR OTHER APPROVED METHOD AS PER THE ARCHITECT/ENGINEER.
3. PAVEMENT SUBGRADES: AFTER SITE EXCAVATING TO THE RECOMMENDED DEPTHS, THE EXPOSED SOIL SUBGRADE IN THE PAVEMENT AREAS SHALL BE PROOFROLLED WITH APPROPRIATE CONSTRUCTION EQUIPMENT WEIGHING AT LEAST 15 TONS TO CHECK THE SUBGRADE FOR WEAK OR SOFT AREAS PRIOR TO FILL/BASE PLACEMENT AND COMPACTION. THIS OPERATION SHALL BE OBSERVED AND EVALUATED BY QUALIFIED GEOTECHNICAL PERSONNEL EXPERIENCED IN EARTHWORK OPERATIONS. WEAK / SOFT SPOTS SHALL BE EXCAVATED AND REPLACED WITH STABLE COMPACTABLE SELECT FILL MATERIAL IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.

   SOIL SUBGRADE AREAS SHALL BE SCARIFIED TO A DEPTH OF EIGHT (8) INCHES AND MOISTURE CONDITIONED BETWEEN OPTIMUM AND PLUS FOUR (+4) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT. THE MOISTURE CONDITIONED SUBGRADE SHALL THEN BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D 698. THE SUBGRADE SHOULD BE MOISTURE CONDITIONED JUST PRIOR TO FILL PLACEMENT SO THE SUBGRADE MAINTAINS ITS COMPACTION MOISTURE LEVELS AND DOES NOT DRY OUT.

   WET SUBGRADES SHALL BE SCARIFIED AND/OR OPENED UP BY WHATEVER MEANS NECESSARY TO A MINIMUM DEPTH OF EIGHT (8) INCHES, ALLOWED TO DRY, AND RE-COMPACTED TO MEET STANDARD COMPACTION SPECIFICATIONS.

   ALL SUBGRADES SHALL BE TESTED FOR DENSITY AND MOISTURE CONTENT PRIOR TO PLACEMENT OF FILL, SUBBASE, OR BASE MATERIAL.

   IN AREAS WHERE THE GRADE WILL BE RAISED, FILL SOIL SHOULD THEN BE PLACED IN COMPACTED AND MOISTURE CONDITIONED HORIZONTAL LIFTS IN ORDER TO OBTAIN THE FINAL DESIGN SUBGRADE ELEVATIONS. THE FILL MAY CONSIST OF CLEAN ON-SITE SOIL/BASE OR AN OFF-SITE CLAYEY GENERAL FILL MATERIAL. EACH LIFT SHOULD HAVE A MAXIMUM COMPACTED THICKNESS OF SIX (6) INCHES AND BE MOISTURED CONDITIONED TO BETWEEN OPTIMUM AND FOUR (4) PERCENTAGE POINTS ABOVE OPTIMUM AND COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM LABORATORY DRY DENSITY AS DETERMINED BY ASTM D698.

   ROCK SUBGRADES WILL NOT REQUIRE PROOFROLLING OR TESTING.
4. PAVEMENT FLEXIBLE BASE COURSE: FLEXIBLE BASE MATERIAL SHALL BE COMPOSED OF CRUSHED LIMESTONE BASE MEETING ALL THE REQUIREMENTS OF 2014 TxDOT STANDARD SPECIFICATIONS, ITEM 247, TYPE A, GRADE 1 OR 2 INCLUDING TRIAXIAL STRENGTH AND SHOULD HAVE NO MORE THAN 15 PERCENT OF THE MATERIAL PASSING THE No.200 SIEVE. THE BASE SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED MOISTURE-DENSITY RELATIONSHIP (ASTM D 1557) AT MOISTURE CONTENTS RANGING BETWEEN MINUS TWO (-2) AND PLUS THREE (+3) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT.
5. HOT MIX ASPHALTIC CONCRETE SURFACE COURSE: THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE D (FINE GRADED SURFACE COURSE) MEETING THE SPECIFICATION REQUIREMENTS OF 2014 TxDOT STANDARD SPECIFICATIONS ITEM 340. THE MIX SHALL BE DESIGNED FOR A STABILITY OF AT LEAST 40 AND SHALL BE COMPACTED BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS MEASURED BY TEX-227-F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHOULD FALL WITHIN A TOLERANCE OF ±0.3 PERCENT ASPHALT CEMENT FROM THE SPECIFIC MIX. THE GRADE OF THE ASPHALT CEMENT SHOULD BE PG 64-22. IN ADDITION, THE MIX SHOULD BE DESIGNED SO 75 TO 85 PERCENT OF THE VOIDS IN THE MINERAL AGGREGATE (VMA) ARE FILLED WITH ASPHALT CEMENT. THE MIX SHALL HAVE AT LEAST 70 PERCENT STRENGTH RETENTION WHEN TESTED IN ACCORDANCE WITH TEX-531-C.
6. THE PORTLAND CEMENT CONCRETE SHOULD HAVE A MAXIMUM SLUMP OF FIVE INCHES (5"), CONSOLIDATED WITH MECHANICAL VIBRATORS, AND SHALL HAVE A MINIMUM TWENTY-EIGHT (28) DAY COMPRESSIVE STRENGTH OF 4,000 PSI FOR DRIVE PAVEMENTS AND 3000 PSI FOR SIDEWALKS, CURBS, AND OTHER FLATWORK. A LIQUID MEMBRANE-FORMING CURING COMPOUND SHALL BE APPLIED AS SOON AS PRACTICAL AFTER BROOM FINISHING THE CONCRETE SURFACE.
7. REINFORCING STEEL SHALL BE GRADE 60.
8. CONTRACTOR SHALL SAWCUT A STRAIGHT, NEAT EDGE AT ALL TIE-INS TO EXISTING PAVEMENTS.
9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.

GRADING NOTES

1. ALL SPOT ELEVATIONS AND CONTOURS ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS. CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOP SOIL, MULCH, ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.
2. THE CONTRACTOR SHALL GRADE SMOOTHLY BETWEEN PROPOSED SPOT ELEVATIONS AND BETWEEN FINISHED CONTOURS.
3. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
4. THE DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. THE CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
5. AREAS WITH FLOW ARROWS AND SWALES MUST DRAIN IN THE DIRECTIONS SHOWN.
6. CAREFULLY GRADE NEAR TREES TO REMAIN.
7. FINISHED EARTH SLOPES SHALL NOT EXCEED 3:1.
8. THE PROPOSED GRADES SHOWN ARE CRITICAL, EXTREME CARE SHALL BE TAKEN TO ACCOMPLISH THE PROPOSED GRADES SHOWN.
9. IF CONFLICTS WITH SPOT ELEVATIONS OR CONTOURS EXIST ON PLANS, NOTIFY ENGINEER PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST ALL PROPOSED AND EXISTING VALVES, CLEANOUTS, MANHOLES, VAULT TOPS, ETC. TO THE FINISHED GRADES AS SHOWN ON THE PLANS. NO SEPARATE PAY ITEM.
11. THE CONTRACTOR SHALL COMPACT AREAS TO RECEIVE LANDSCAPING AND/OR GRASS TO 85% MAXIMUM DRY DENSITY.
12. THE SITE AREAS REQUIRING FILL PLACEMENT SHALL BE SCARIFIED TO A DEPTH OF SIX (6) INCHES AND MOISTURE CONDITIONED TO BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM MOISTURE CONTENT. COMPACT SUBGRADE TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR).
13. ALL SITE FILL MATERIAL SHALL BE PLACED IN MAXIMUM SIX (6) INCH LIFTS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR) WITH MOISTURE CONTENT WITHIN OPTIMUM TO 4% ABOVE OPTIMUM.
14. SITE AREAS REQUIRING CUTS SHALL HAVE THE SUBGRADE SCARIFIED TO A DEPTH OF SIX (6) INCHES AND COMPACTED TO 95% MAXIMUM DRY DENSITY, WITH MOISTURE CONTENT WITHIN +/-2% OF OPTIMUM.
15. CONSTRUCT SITE GRADING IMPROVEMENTS TO THE FOLLOWING ELEVATION TOLERANCES:

   PAVEMENT....................................+0.04 FOOT
   CURBS, GUTTERS AND ALL
   DRAINAGE FACILITIES...................+0.02 FOOT
   LANDSCAPING...............................+0.16 FOOT

   SHOULD ANY ABOVE MENTIONED ELEVATIONS BE FOUND TO BE OUT OF LEVEL BEYOND THE STATED TOLERANCE AFTER THE CONTRACTOR'S OPERATIONS, IT SHALL BE CORRECTED AND ALL EXCESS MATERIALS REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
16. IF GROUNDWATER OR SEEPAGE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
17. IN DESIGNATED PAVEMENT REPLACEMENT AREAS, CONTRACTOR SHALL REMOVE EXISTING MATERIAL (ASPHALT, BASE, SUBGRADE) TO PROPOSED GRADES AND REPLACE WITH REQUIRED PAVEMENT SECTION.

UTILITY DEMOLITION NOTES

1. CONTRACTOR SHALL VERIFY LOCATION AND GRADE OF ALL AFFECTED UTILITY LINES WITHIN AND ADJACENT TO THE DEMOLITION LIMITS PRIOR TO UTILITY TERMINATION AND REMOVAL.
2. TERMINATED UTILITY LINES WITHIN THE DEMOLITION LIMITS SHALL BE COMPLETELY DUG OUT AND REMOVED FROM THE SITE.
3. UNDERGROUND VALVE BOXES, VAULTS, AND STRUCTURES ASSOCIATED WITH THE TERMINATED UTILITY LINES SHALL BE DUG OUT AND REMOVED.
4. WHEN APPLICABLE, UTILITY REMOVAL SHALL NOT COMMENCE UNTIL NEW SERVICE OR RE-ROUTED CONNECTIONS HAVE BEEN INSTALLED AND CONNECTED TO THE REMAINING FACILITIES.
5. CONTRACTOR SHALL PROTECT AND MAINTAIN UTILITY LINES THAT ARE DESIGNATED TO REMAIN IN SERVICE.
6. CONTRACTOR SHALL PROVIDE RECORD DOCUMENTS OF ALL TERMINATION POINT LOCATIONS, PIPE MATERIALS, AND PIPE SIZES.
7. CONTRACTOR SHALL CLEAN-UP AND REMOVE ALL WASTE MATERIALS FROM SITE.

SITE DEMOLITION NOTES

1. REMOVE PAVING, CURBS, SIDEWALKS, AND STRUCTURES WITHIN THE DEMOLITION LIMITS UNLESS OTHERWISE DESIGNATED TO REMAIN. NEATLY SAW CUT PAVEMENT EDGES AT ALL TIE-IN LOCATIONS.
2. REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS, AS NECESSARY, TO FACILITATE NEW CONSTRUCTION. THE PROJECT DRAWINGS DO NOT PURPORT TO SHOW ALL OBJECTS EXISTING ON THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL OBJECTS TO BE REMOVED, ADJUSTED, OR PRESERVED BEFORE HIS START OF WORK.
3. REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION LOCATED WITHIN THE DEMOLITION LIMITS UNLESS OTHERWISE DESIGNATED TO REMAIN. REMOVAL INCLUDES DIGGING OUT AND OFF-SITE DISPOSAL OF STUMPS AND ROOTS.
4. USE NECESSARY MEANS TO PREVENT SPREAD OF DUST DURING THE DURATION OF THE PROJECT CONSTRUCTION. MOISTEN SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE SCHOOL POPULATION, PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON SITE.
5. DO NOT BURN OR BURY MATERIALS ON SITE. LEAVE SITE IN CLEAN CONDITION.

LANDSCAPE NOTE

1. REFER TO SITE GRADING, DRAINAGE, AND UTILITY PLANS FOR LOCATION OF PROPOSED IMPROVEMENTS.
2. FIELD VERIFY EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION AND ELEVATION PRIOR TO BEGINNING CONSTRUCTION.
3. ALL TREES/SHRUBS SHALL REMAIN.
4. ALL TREES/SHRUBS SHALL BE PROTECTED DURING CONSTRUCTION.
5. CONTRACTOR SHALL PLACE GRASS SOD ON ALL DISTURBED AREAS NOT PROTECTED BY ASPHALT OR CONCRETE. SEE PLANS FOR DETAILS.

GENERAL UTILITY NOTES

1. CONTRACTOR IS EXPECTED TO ADJUST EXISTING UTILITY BOXES TO FINISHED GRADE. WHERE INDICATED, THE CONTRACTOR SHALL FURNISH NEW BOXES, COVERS, ETC. AS SHOWN ON THE PLANS.
2. THE UTILITY GRADES AND ELEVATIONS ARE CRITICAL, AND PRIOR TO THE START OF PROJECT CONSTRUCTION, THE CONTRACTOR SHALL CONFIRM AND RELAY TO PROJECT ENGINEER EXISTING UTILITY ELEVATIONS (INVERTS, SOFFIT AND BOTTOM OF PIPE), EXACT LOCATION OF UTILITIES, PIPE MATERIAL AND CONDITION OF UTILITIES. CONTRACTOR SHALL NOTIFY PROJECT ENGINEER OF ANY CONFLICTS IMMEDIATELY.
3. THERE ARE NUMEROUS UTILITY CROSSINGS ON THIS PROJECT. THE CONTRACTOR SHALL VERIFY ALL GRAVITY LINE CROSSINGS (SANITARY SEWER, STORM SEWER, ETC.) TO ENSURE NO CONFLICTS OCCUR PRIOR TO UTILITY LINE CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IF GRAVITY LINE VERTICAL ADJUSTMENTS ARE NECESSARY. CONTRACTOR IS EXPECTED TO MAKE ADJUSTMENT OF NON-GRAVITY UTILITY LINES AS NECESSARY TO AVOID CONFLICTS AND MAINTAIN THE MINIMUM BURY DEPTHS OF EACH UTILITY AS SPECIFIED.
4. FITTINGS FOR WATER, IRRIGATION WATER, SANITARY SEWER AND STORM SEWER SHOWN ON THE DRAWINGS REPRESENT GENERAL ALIGNMENT AND INSTALLATION INTENTION AND DO NOT REPRESENT ALL FITTINGS REQUIRED FOR CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL INCIDENTAL FITTINGS AND APPURTENANCES FOR HORIZONTAL AND VERTICAL ALIGNMENT ADJUSTMENTS, MATERIAL ADAPTERS, PIPE SIZE REDUCTION, TIE-INS TO EXISTING MAINS, INSTALLATION SPECIALTIES, ETC.
5. CONTRACTOR SHALL PROTECT AND MAINTAIN UTILITY LINES THAT ARE DESIGNATED TO REMAIN IN SERVICE.
6. WHEN SANITARY SEWER IS INSTALLED IN THE VICINITY OF POTABLE WATER MAINS, SUCH INSTALLATION OF SANITARY SEWER AND WATER FACILITIES SHALL BE IN STRICT COMPLIANCE WITH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) CHAPTER 290 – "PUBLIC DRINKING WATER", SUBCHAPTER D, "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" AND CHAPTER 217 – "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS".

SHEET INDEX

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ARCHITECTURE ENGINEERING INTERIORS LANDSCAPE ARCHITECTURE PLANNING

210-829-1737 Office

210-829-1730 Fax

LPADesignStudios.com

1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

CDS muery
ENGINEERS | SURVEYORS
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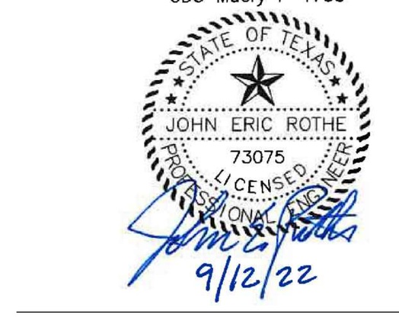

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD.
CANYON LAKE TX 78132

Developed for
COMAL ISD

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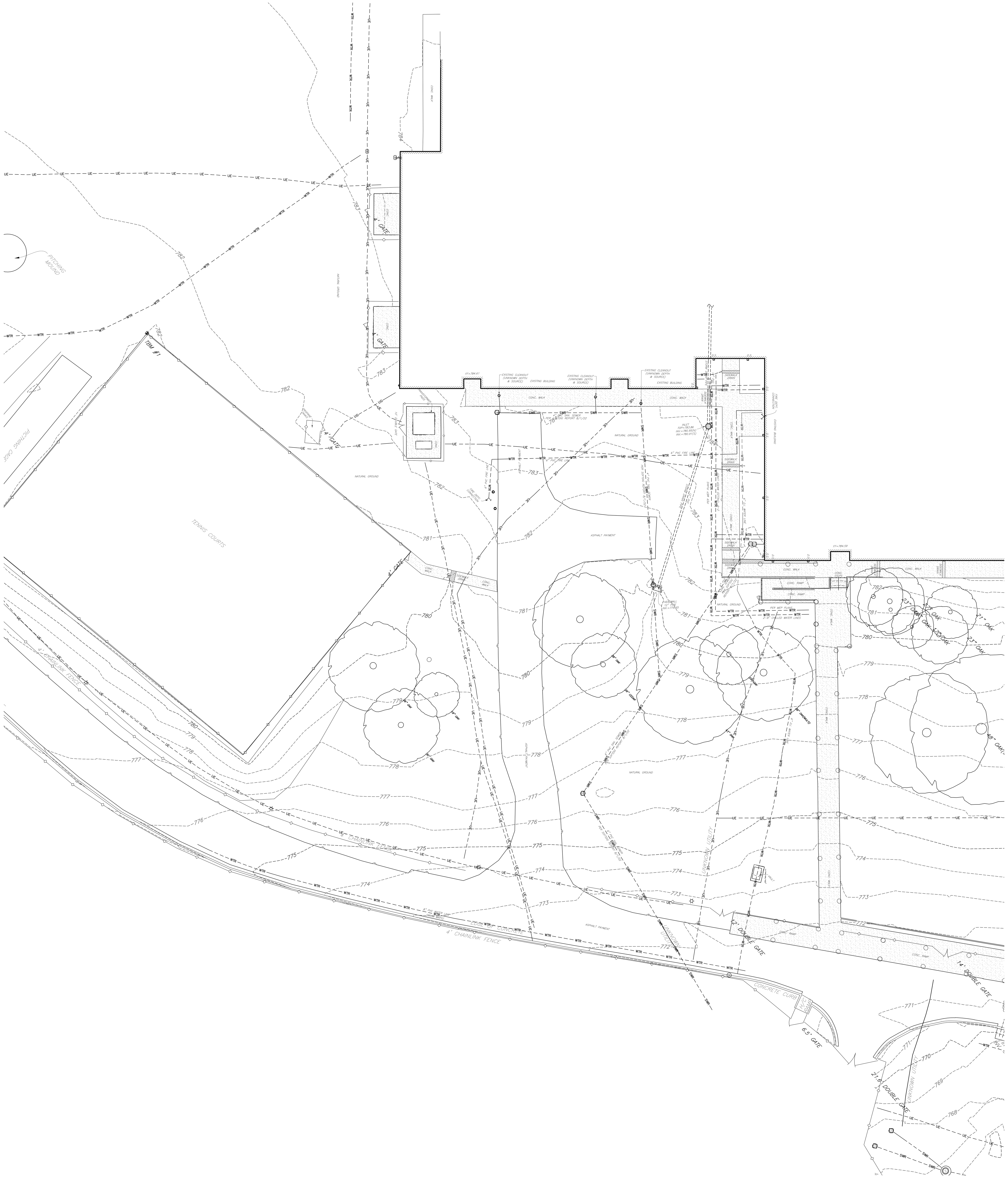
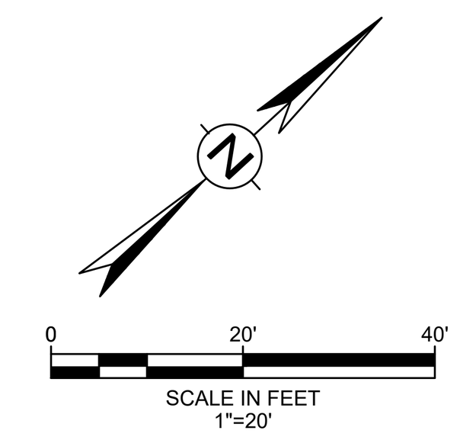
GENERAL NOTES

C0.1





LEGEND

- EX. EDGE OF PAVEMENT
- 926.5 — EX. CONTOUR
- EX. POWER POLE
- EX. TELEPHONE POLE
- EX. GUY WIRE
- EX. LIGHT POLE
- OHE — EX. OVERHEAD ELEC. LINE
- FO — EX. UNDERGROUND FIBER OPTIC LINE
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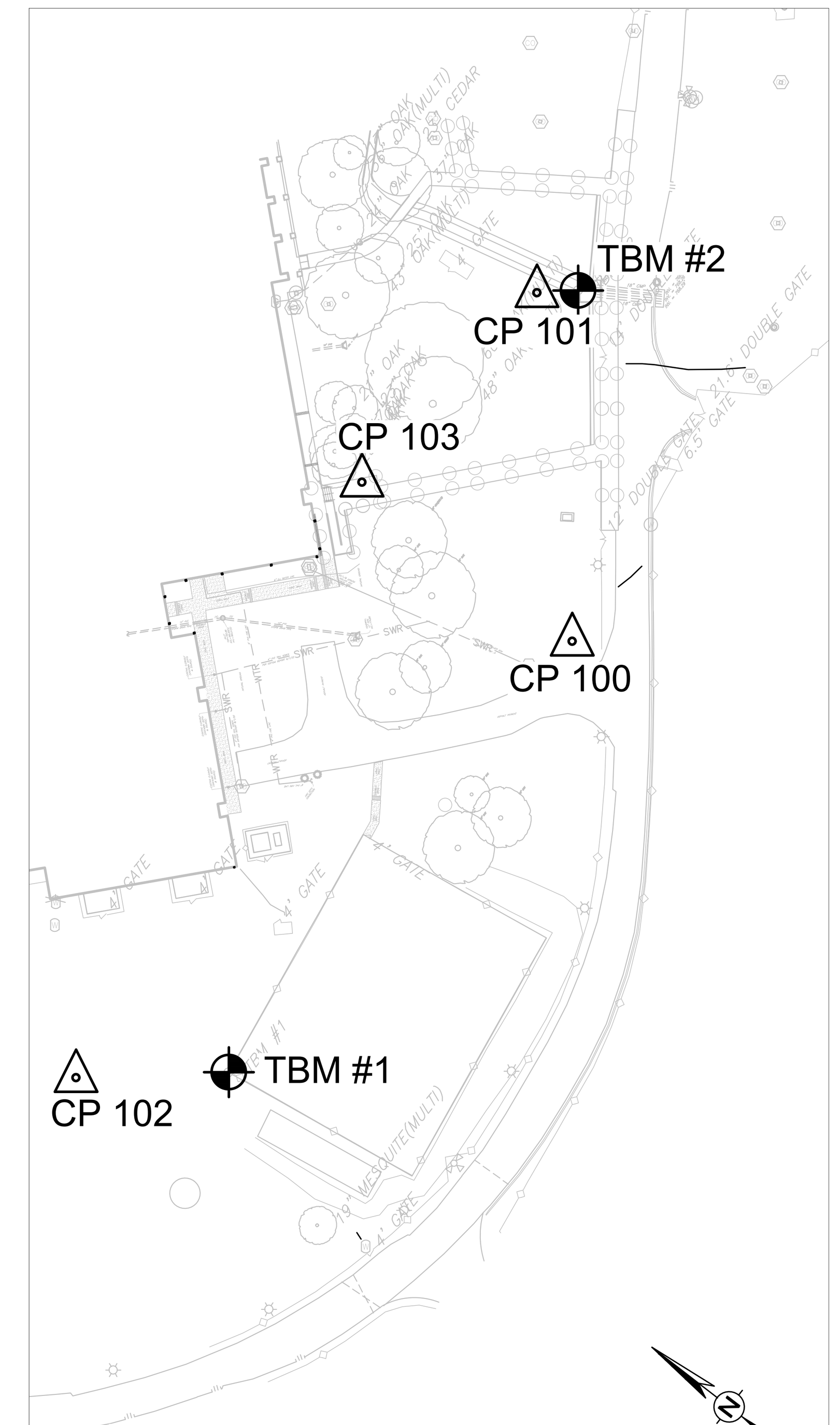
- EX. SIGN
- EX. MAILBOX
- EX. TREE
- EX. TREE TO BE REMOVED
- EX. STRUCTURE
- EX. CONCRETE FLATWORK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT REPLACEMENT



CONTROL POINT INDEX MAP
SCALE: N.T.S.

HORIZONTAL CONTROL			
POINT NO.	NORTHING	EASTING	DESCRIPTION
100	13,857,132.00	2,232,284.58	CP SET 1/2IRWRC
101	13,857,270.51	2,232,430.11	CP SET 1/2IRWRC
102	13,857,203.57	2,231,911.89	CP SET 1/2IRWRC
103	13,857,283.37	2,232,282.54	CP SET CHM

HORIZONTAL DATUM:
GRID NORTH, TEXAS STATE PLANE COORDINATE SYSTEM NAD83(2011),EPOCH:2010
TEXAS SOUTH CENTRAL ZONE (4204)

PROJECT IS IN SURFACE WITH A SURFACE ADJUSTMENT FACTOR OF 1.00013

SURFACE = GRID x 1.00013

VERTICAL DATUM:
NORTH AMERICAN VERTICAL DATUM OF 1988 – NAVD88(GEOID12A)

TBM #1 = 782.28'
SET CHISELED SQUARE ON NORTHWEST CORNER OF TENNIS COURT FOUNDATION. TBM #1 IS LOCATED 87.7 FEET SOUTHEAST OF CONTROL POINT 102.

TBM #2 = 771.47'
SET CHISELED SQUARE ON CONCRETE GRATE INLET CORNER. TBM #2 IS LOCATED 23.6 FEET SOUTHEAST OF CONTROL POINT 101.

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CDS Muery F-1733
STATE OF TEXAS
JOHN ERIC ROTHE
73075
LICENSED
PROFESSIONAL ENGINEER
9/12/22

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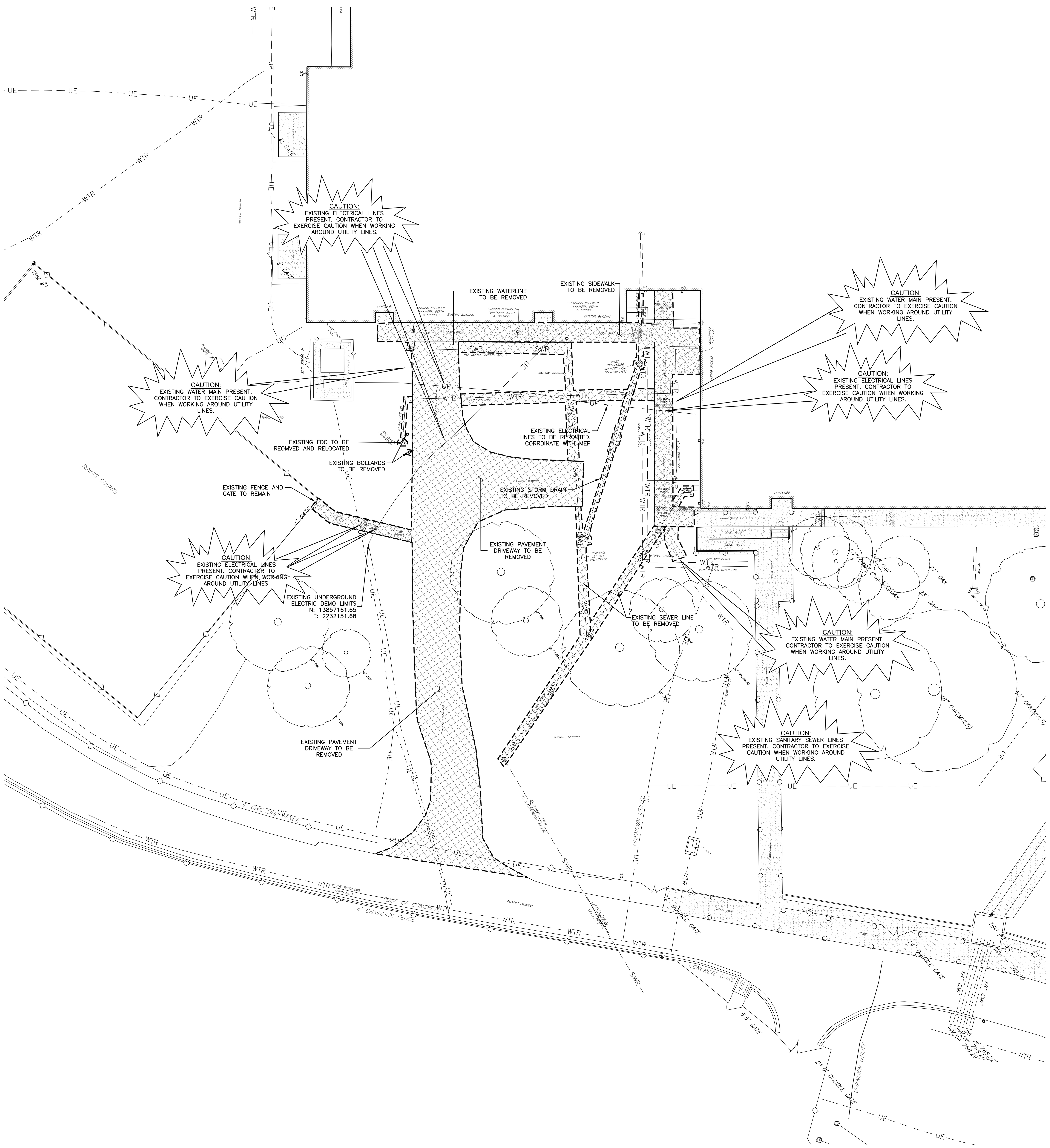
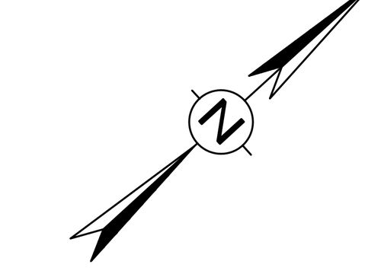
EXISTING CONDITIONS AND PROJECT CONTROL PLAN

C1.0





0 20' 40'
SCALE IN FEET
1"=20'

LEGEND

- EX. EDGE OF PAVEMENT
- 926.5 — EX. CONTOUR
- EX. POWER POLE
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- EX. SIGN WITH CONC. PAD
- EX. SIGN
- EX. MAILBOX
- EX. TREE
- EX. TREE TO BE REMOVED
- EX. STRUCTURE
- EX. CONCRETE FLATWORK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT REPLACEMENT
- DEMOLITION AREA

NOTE:
- CONTRACTOR TO MATCH TOP OF EXISTING VALVES, CLEANOUTS, ETC. TO PROPOSED FINISHED SURFACE.
- ALL EXISTING TREES/BUSHES TO REMAIN. CONTRACTOR TO PROTECT DURING CONSTRUCTION.

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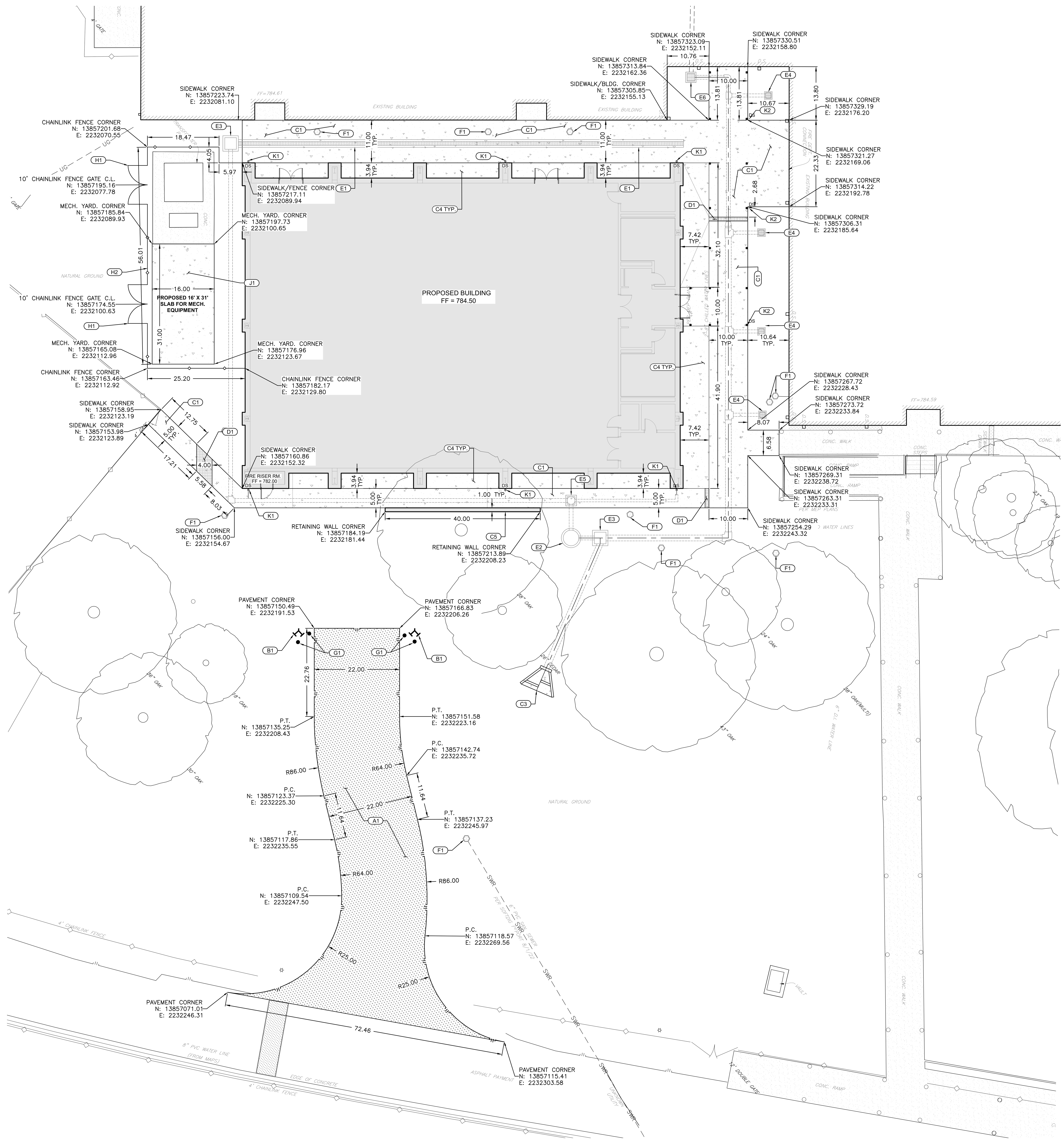
DEMOLITION PLAN

C1.1



SCALE IN FEET
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KEYNOTES

A1	ASPHALT PAVEMENT (SEE SHT. C7.0)
B1	FDC (FIRE DEPARTMENT CONNECTION) (SEE SHT. C7.1)
C1	CONCRETE SIDEWALK (SEE SHT. C7.0)
C3	CONCRETE DRAIN HEADWALL STRUCTURE (SEE SHT. C7.4)
C4	CONCRETE FLATWORK OVER FOUNDATION SLAB (SEE SHT. C7.0)
C5	RETAINING WALL (SEE SHT. C7.0)
D1	SIDEWALK DRAIN BOX (DOUBLE) (SEE SHT. C3.0)
E1	STORM TRENCH DRAIN (SEE SHT. C7.3)
E2	STORM DRAIN UP-FLO FILTER SYSTEM (SEE SHT. C7.2)
E3	3'x3' STROM DRAIN J-BOX (SEE SHT. C7.3)
E4	18"x18" NYLOPLAST AREA DRAINS (SEE SHT. C7.1)
E5	2'x2' STORM DRAIN J-BOX (SEE SHT. C7.3)
E6	2'x2' STORM DRAIN GRATE INLET (SEE SHT. C7.3)
F1	SEWER CLEAN OUT (SEE SHT. C7.2)
G1	BOLLARD (SEE SHT. C7.0)
H1	2 – 5' CHAINLINK GATES (SEE SHT. C7.1)
H2	6' CHAINLINK FENCE (SEE SHT. C7.1)
J1	PROPOSED CONC. SLAB (MECH. YARD) (SEE SHT. C7.0)
K1	BLDG. 6" DOWNSPOUTS (SEE ARCH. PLANS)
K2	CANOPY 4" DOWNSPOUTS (SEE ARCH. PLANS)

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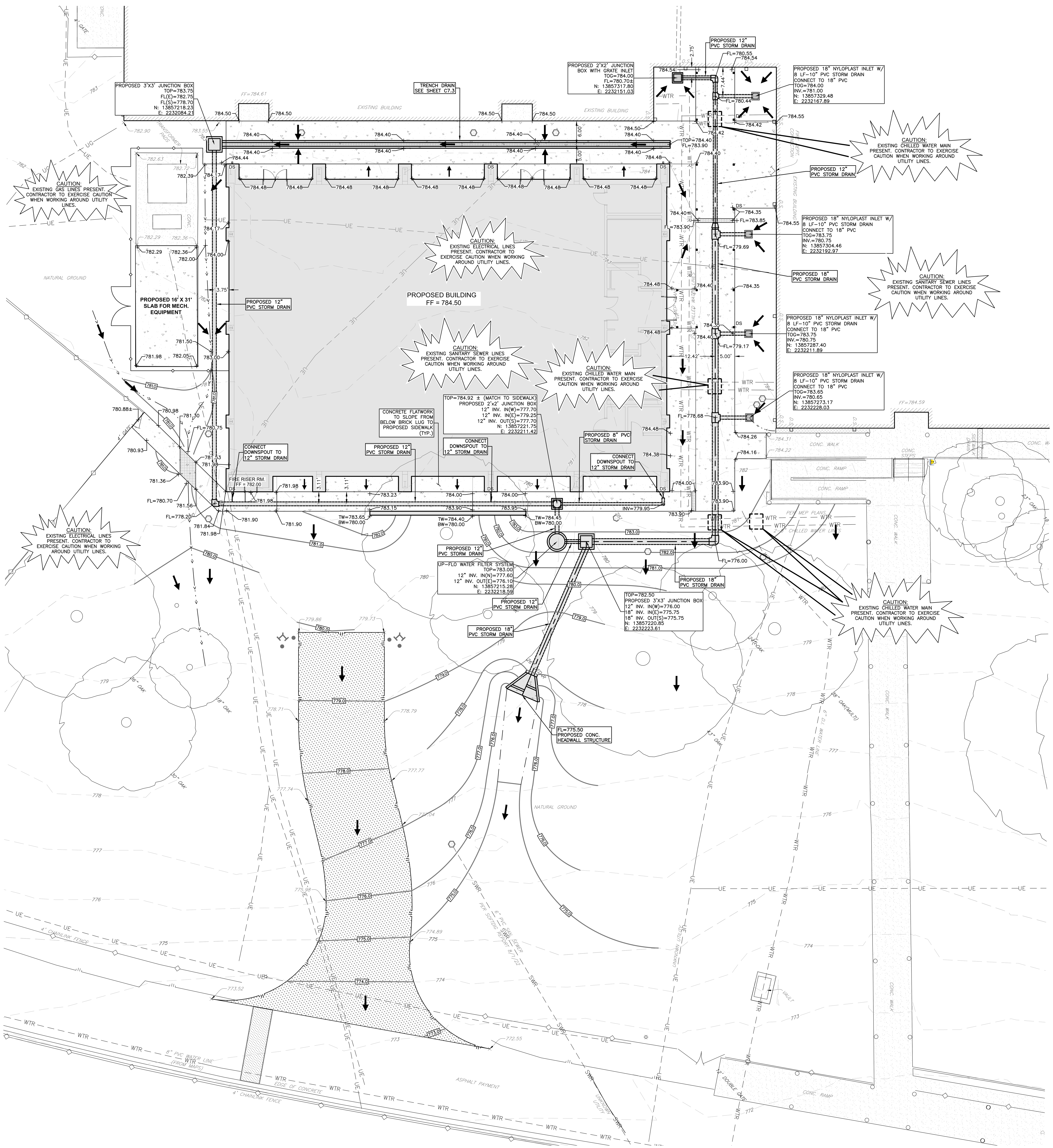
KEYNOTE AND DIMENSIONAL CONTROL PLAN

C2.0



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- PROPOSED ASPHALT PAVEMENT REPLACEMENT

GRADING LEGEND

+ 635.22	FINISHED GROUND ELEVATION
+ TC=635.00 GT=634.50	PROPOSED TOP OF CONCRETE WALK ELEV. PROPOSED TOP OF PAVEMENT GUTTER ELEV.
+ TOG=635.22	PROPOSED TOP OF GRATE
× 634.14	EX. SPOT ELEVATION
←	FLOW DIRECTION

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1–800–DIG–TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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ARCHITECTURE ENGINEERING INTERIORS LANDSCAPE ARCHITECTURE PLANNING

210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com

1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

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CDS Muery F-1733

JOHN ERIC ROTHE
73075
LICENSED PROFESSIONAL ENGINEER
9/12/22

MOUNTAIN VALLEY MIDDLE SCHOOL
1165 SATTLER RD.
CANYON LAKE TX 78132

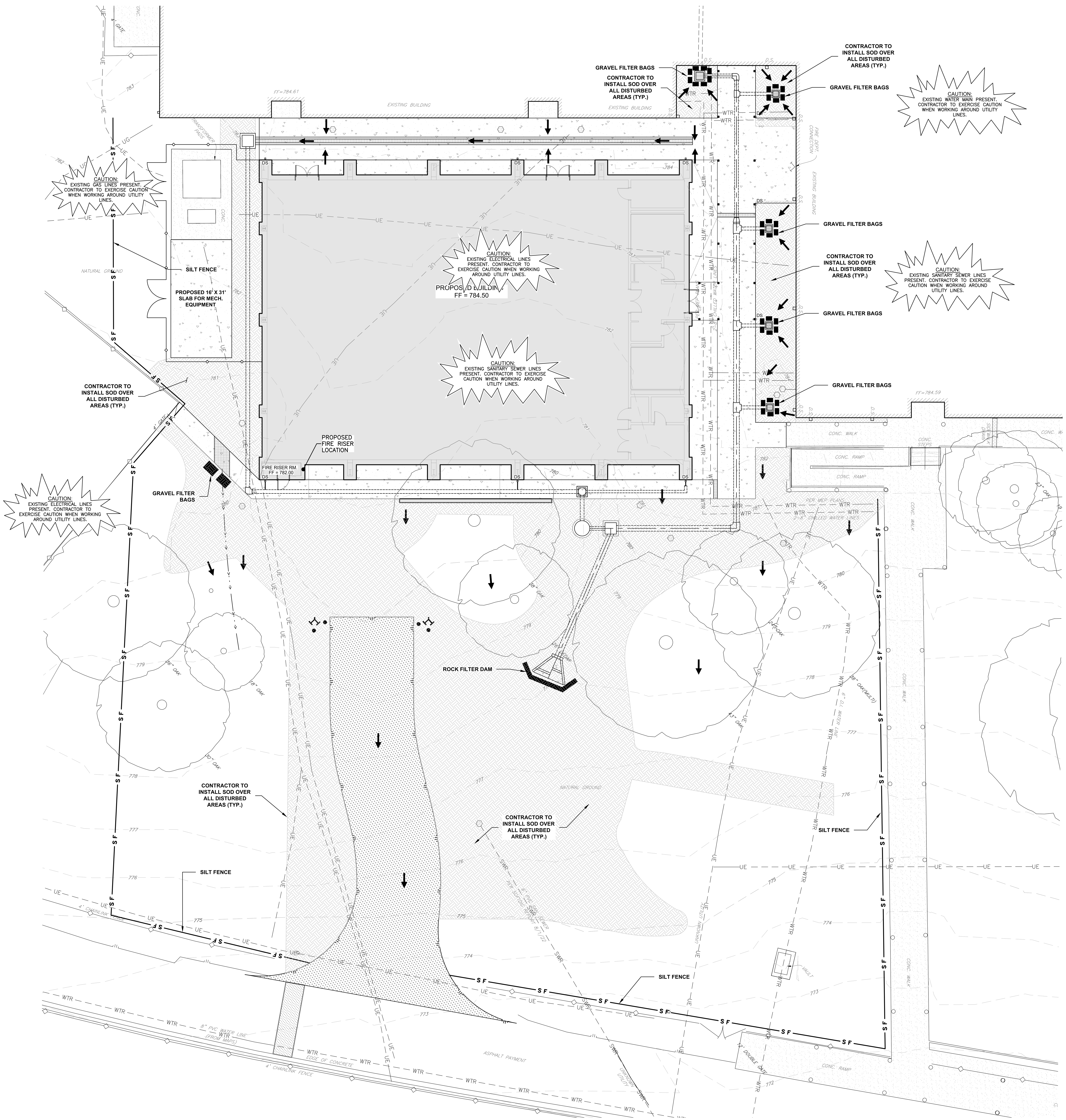
Developed for
COMAL ISD

Submittal	Date	Revision	Date

Job Number	3064301
Date Published	05/27/2022
Checked By	Checker
Scale	1" = 10'

GRADING AND DRAINAGE PLAN

C3.0



LEGEND

- EX. EDGE OF PAVEMENT
- EX. CONTOUR
- EX. POWER POLE
- EX. TELEPHONE POLE
- EX. GUY WIRE
- EX. LIGHT POLE
- EX. OVERHEAD ELEC. LINE
- EX. UNDERGROUND FIBER OPTIC LINE
- EX. WATER LINE
- EX. UNDERGROUND COMMUNICATION LINE
- EX. UNDERGROUND GAS LINE
- EX. UNDERGROUND ELEC. LINE
- EX. SANITARY SEWER LINE
- EX. TELEPHONE PEDESTAL
- EX. WATER VALVE
- EX. WATER METER
- EX. FIRE HYDRANT
- EX. SANITARY SEWER MANHOLE
- EX. STORM DRAIN MANHOLE
- EX. SURVEY BENCHMARK
- EX. SURVEY CONTROL POINT
- EX. CHAINLINK FENCE
- EX. WIRE FENCE
- EX. CABLE FENCE
- EX. IRON FENCE
- EX. GUARD RAIL
- EX. SIGN WITH CONC. PAD
- EX. SIGN
- EX. MAILBOX
- EX. TREE
- EX. TREE TO BE REMOVED
- EX. STRUCTURE
- EX. CONCRETE FLATWORK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT REPLACEMENT

SCALE IN FEET 1"=10'

SW3P LEGEND

- FLOW DIRECTION
- ROCK FILTER DAM (TYPE 2)
- SILT FENCE
- INLET PROTECTION / GRAVEL FILTER BAGS
- PROPOSED SOD

EROSION CONTROL NOTES

1. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
2. ALL DISTURBED AREAS NOT COVERED WITH CONCRETE OR ASPHALT SHALL BE SOLID SODDED WITH BERMUDA GRASS. SEE SPECIFICATIONS FOR DETAILS.

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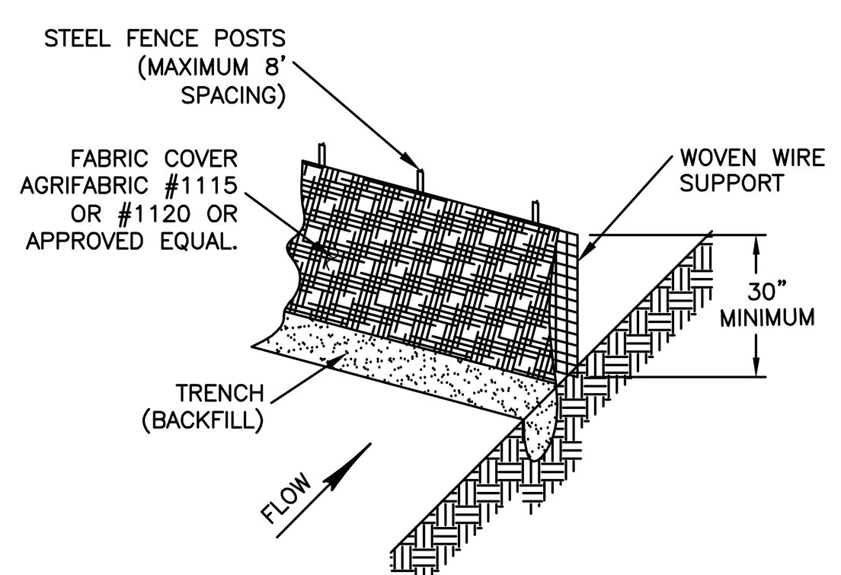
STORMWATER POLLUTION PREVENTION PLAN

C4.0

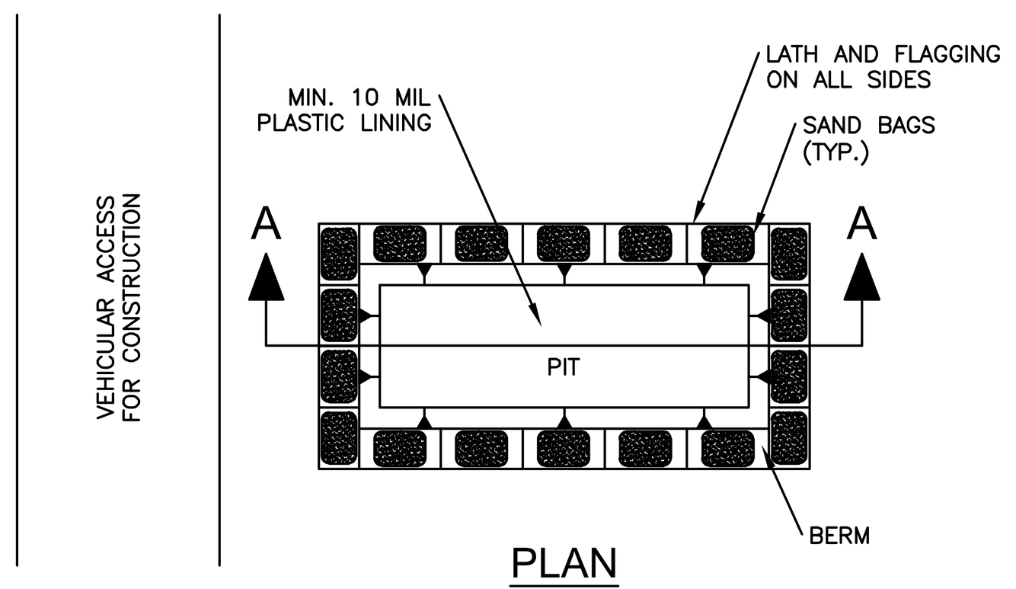


GENERAL NOTES

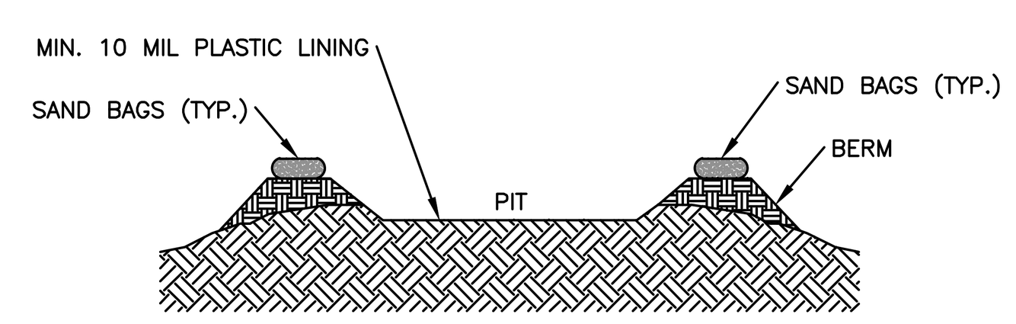
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 4-8 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 6 ABOVE.

SILT FENCE

NOT TO SCALE



PLAN



SECTION A-A

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

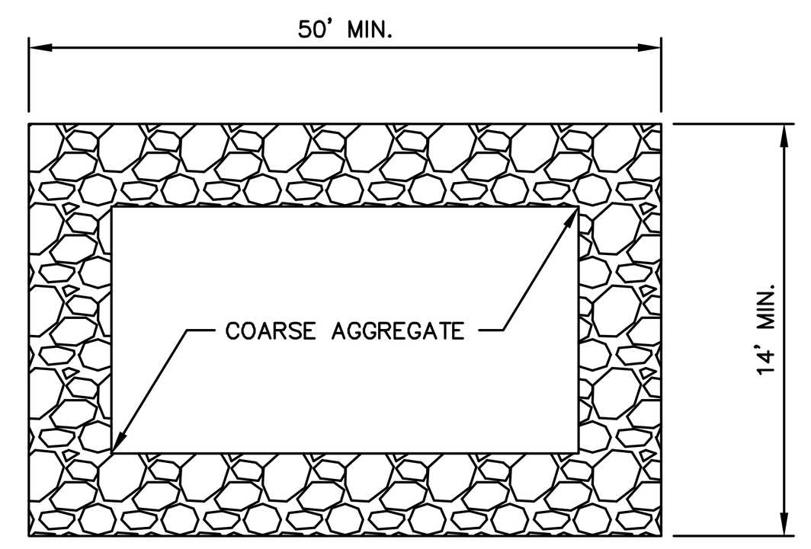
1. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

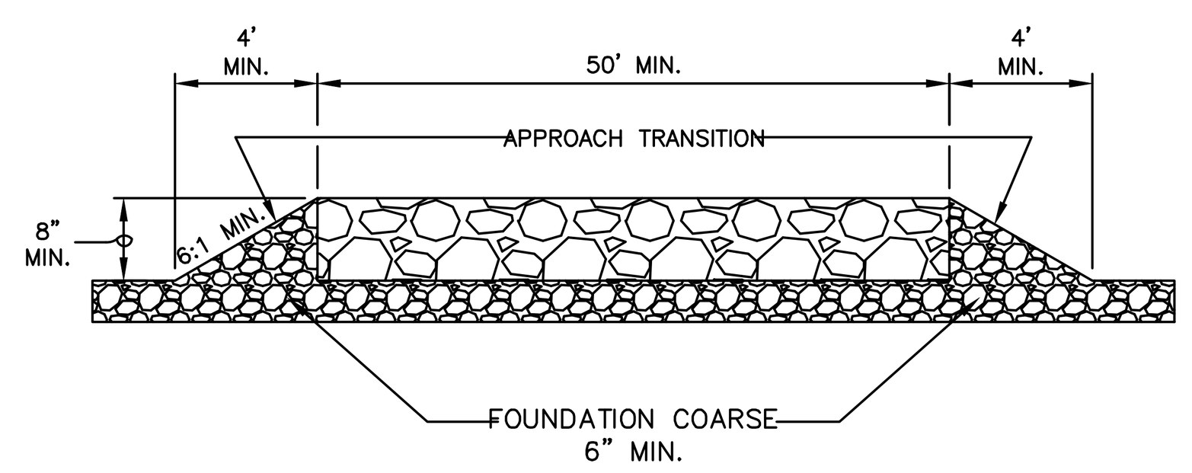
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT

NOT TO SCALE



PLAN



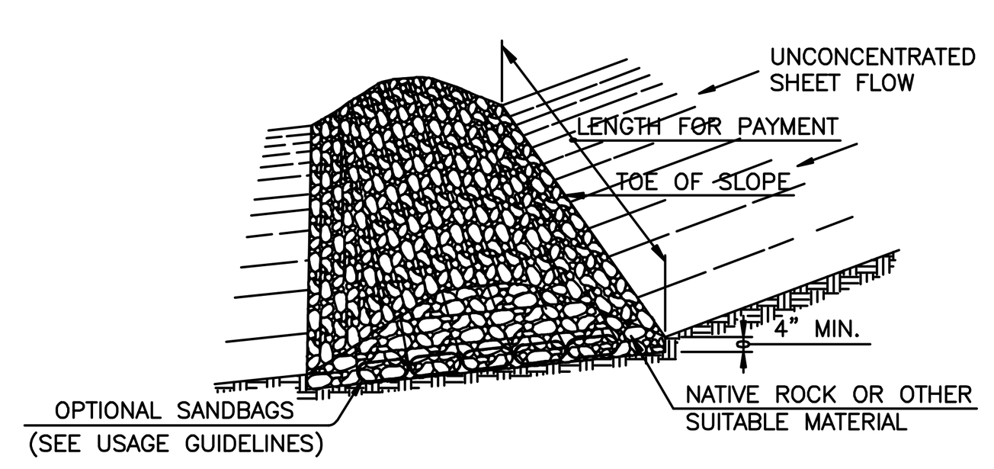
PROFILE

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS. BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

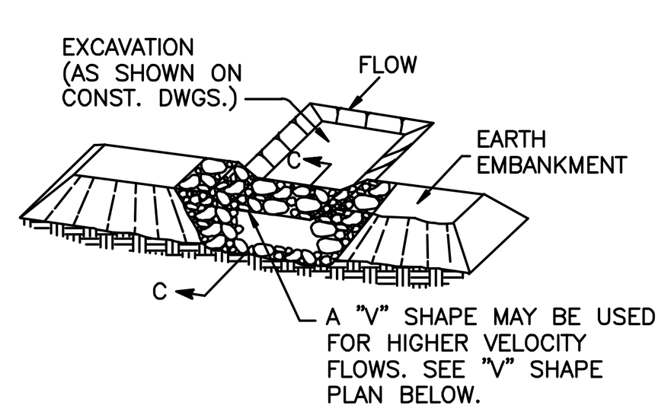
CONSTRUCTION EXIT (TYPE 1)

NOT TO SCALE



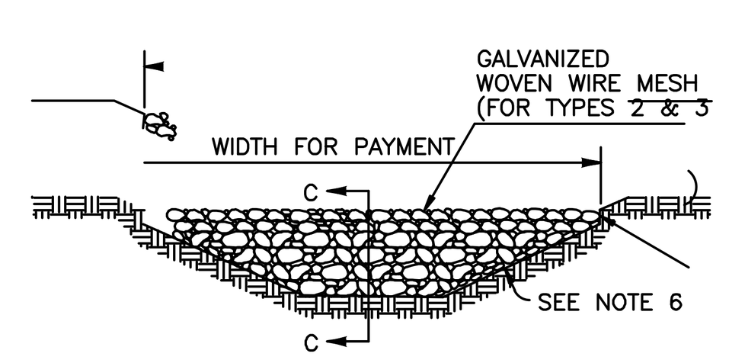
FILTER DAM AT TOE OF SLOPE

NOT TO SCALE



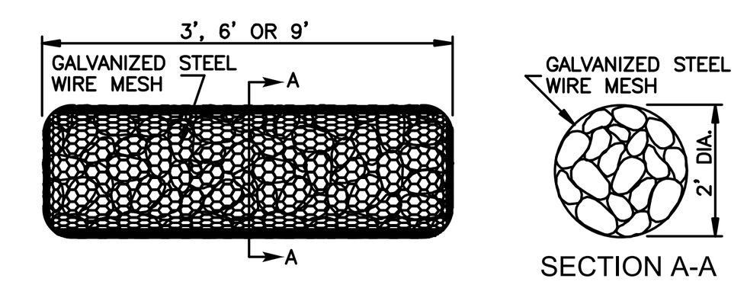
FILTER DAM AT SEDIMENT TRAP

NOT TO SCALE

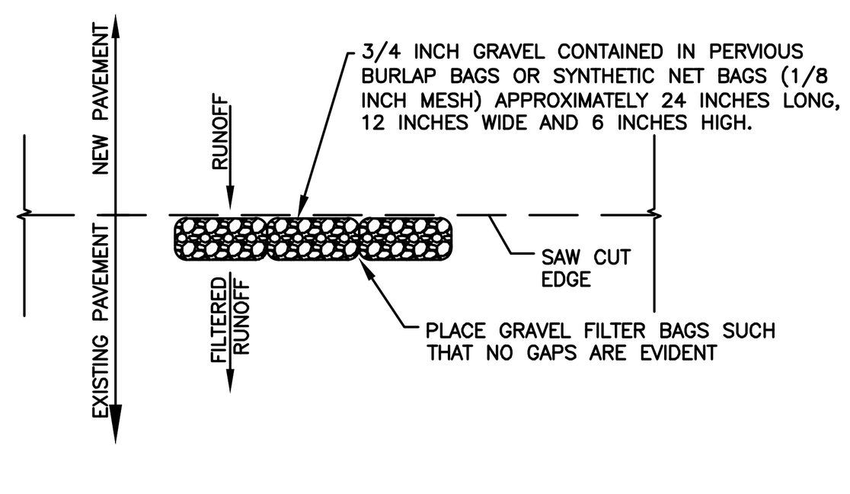


FILTER DAM AT CHANNEL SECTIONS

NOT TO SCALE

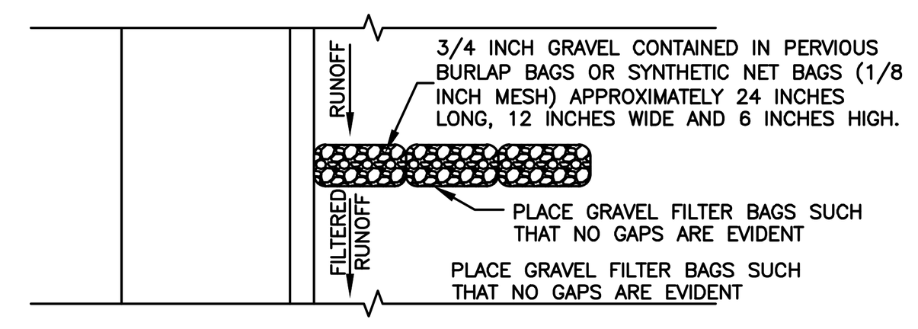


TYPE 4 (SACK GABIONS)

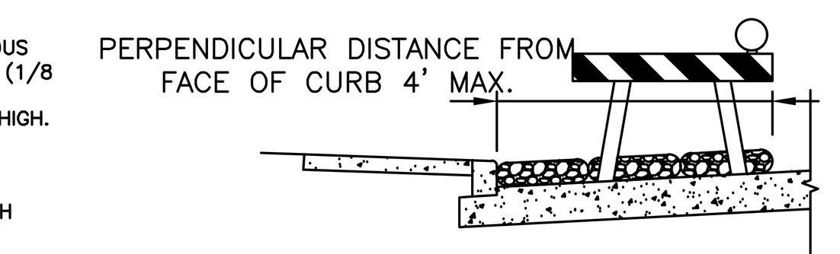


GRAVEL FILTER BAGS

NOT TO SCALE



PLAN



ELEVATION

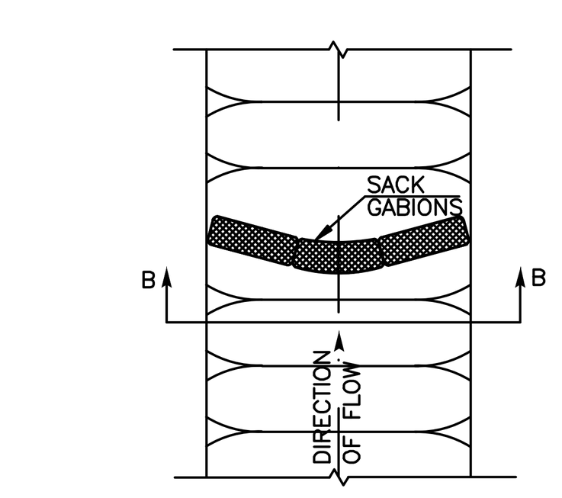
NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER. FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS

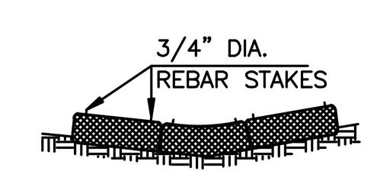
NOT TO SCALE

ROCK FILTER DAM USAGE GUIDELINES

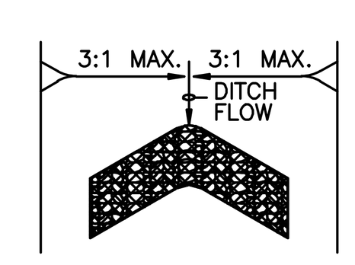
1. ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.
2. TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES. AROUND INLETS, IN SMALL DITCHES. AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.
4. TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.
5. TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.



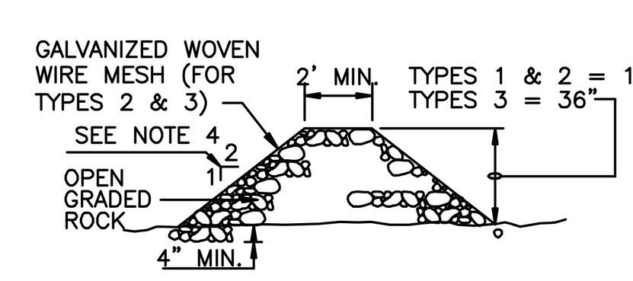
PLAN VIEW



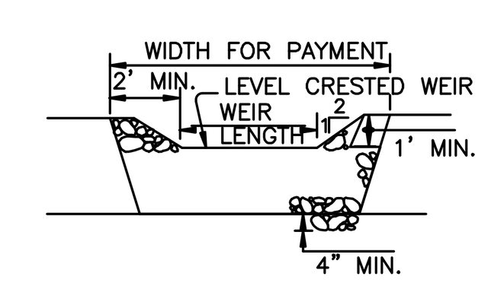
SECTION B-B



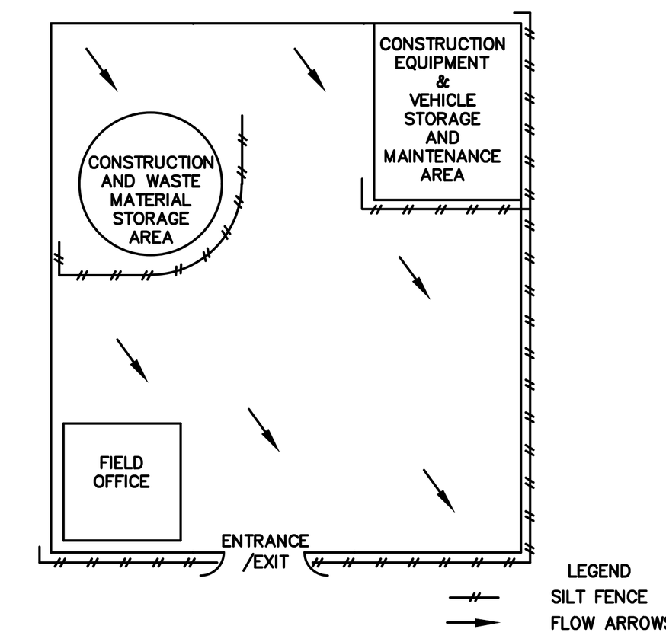
PLAN VIEW
"V" SHAPE



SECTION C-C



PROFILE



EQUIPMENT STAGING AREA

NOT TO SCALE

GENERAL NOTES

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SW3P PLANS.
4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4' INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE. THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK,ETC.).
11. DETAILS SHOWN ARE TYPICAL, SUBJECT TO CONTRACTOR'S SW3P PLAN REQUIREMENTS.
12. SEE SHEET C5.7 FOR EROSION CONTROL MATTING DETAILS.

MATERIAL NOTES

1. ALL AGGREGATE USED FOR THE CONSTRUCTION OF THE ROCK FILTER DAMS SHALL BE HARD, DURABLE, CLEAN, OPEN-GRADED, AND SHALL NATURALLY RESIST CRUMBLING, FLAKING AND ERODING. AGGREGATE GRADATION SHALL BE 3 TO 6 INCHES FOR ROCK FILTER DAMS TYPES 1, 2 AND 4 AND SHALL BE 4 TO 8 INCHES FOR TYPE 3.
2. THE GALVANIZED STEEL WIRE MESH AND TIE WIRES FOR TYPES 2 AND 3 SHALL BE A MINIMUM 20 GAUGE UNLESS SPECIFIED ON THE PLANS.
3. FOR TYPE 4: STEEL WIRE MESH SHALL UTILIZE A DOUBLE TWISTED HEXAGONAL WEAVE; MESH OPENING SHALL BE A NOMINAL 2.50 X 3.25 INCH, STEEL WIRE FOR NETTING SHALL BE 0.0866 INCH MINIMUM; STEEL WIRE FOR SELVEDGES AND CORNERS SHALL BE 0.1063 INCH (U.S. GAUGE NO. 11) MINIMUM; AND BINDING OR TIE WIRE SHALL BE 0.0866 INCH (U.S. GAUGE NO. 13) MINIMUM.
4. UNLESS OTHERWISE SPECIFIED, THE SANDBAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT. THE SANDBAG SIZE SHALL BE 24 TO 30 INCHES IN LENGTH, 16 TO 18 INCHES IN WIDTH, 6 TO 8 INCHES THICK AND WEIGH 90 TO 125 POUNDS. THE SAND SHALL BE COARSE GRADE.

PLANS SHEET LEGEND

TYPE 1 ROCK FILTER DAM — RFD1
TYPE 2 ROCK FILTER DAM — RFD2
TYPE 3 ROCK FILTER DAM — RFD3

ROCK FILTER DAM

NOT TO SCALE

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ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
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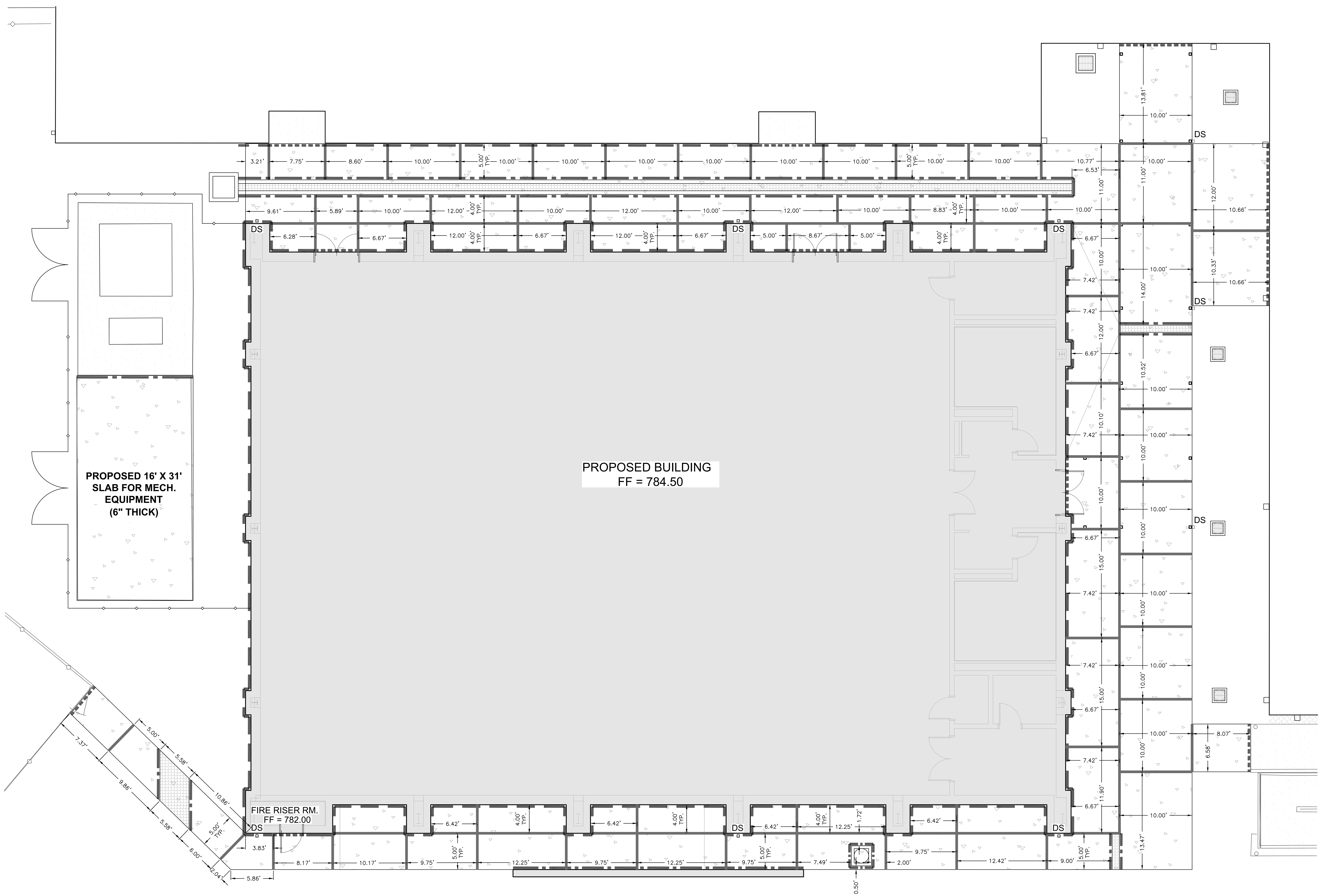
STORMWATER POLLUTION PREVENTION DETAILS

C4.1

JOINT PATTERN LEGEND

- ISOLATION/EXPANSION JOINT
- DOWELED EXPANSION JOINT
- DOWELED CONSTRUCTION JOINT (#4 @ 12" O.C.)
- CONTRACTION/DUMMY JOINT



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CONCRETE JOINT LAYOUT

C5.0

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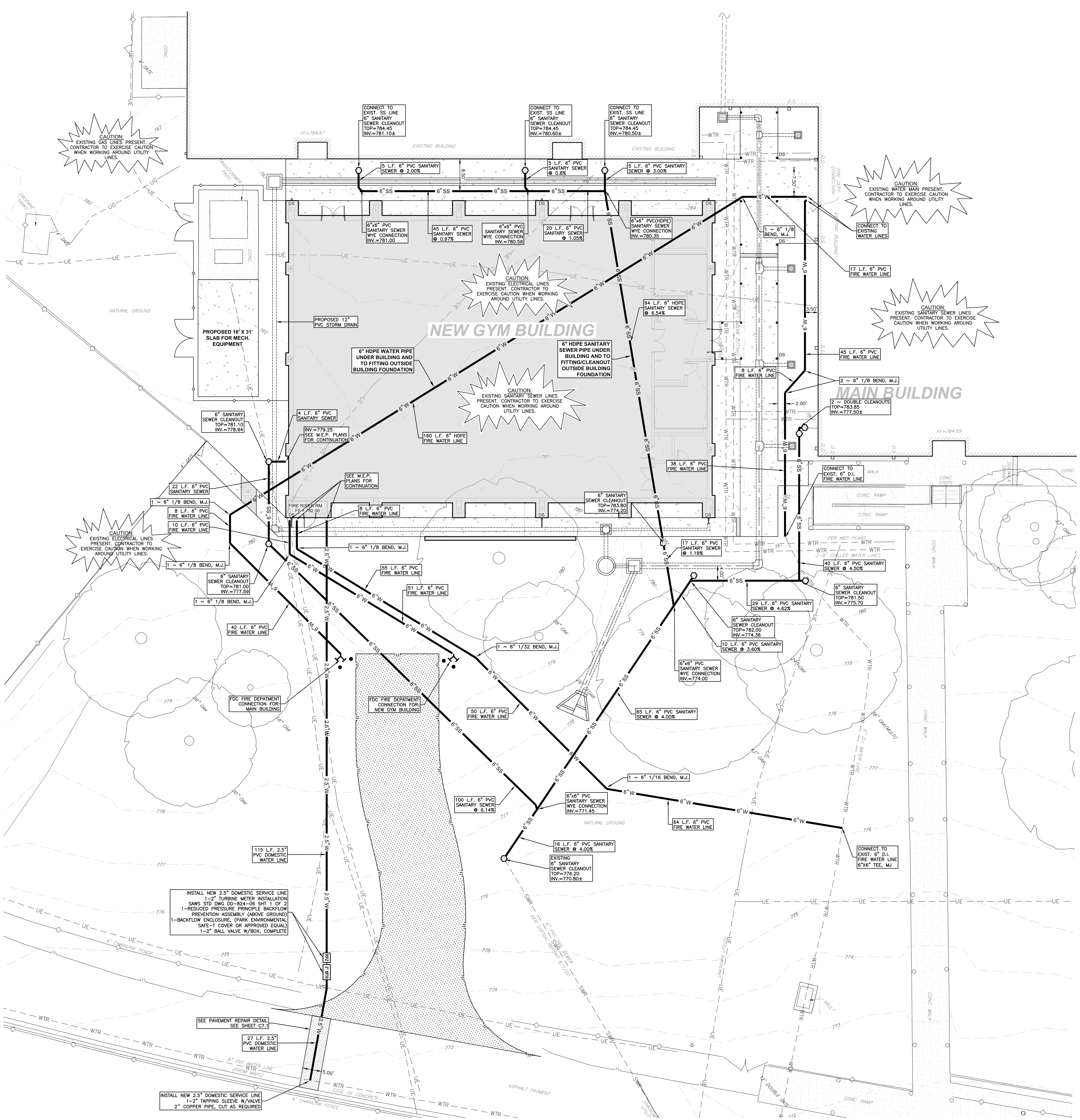

LEGEND

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- EX. TELEPHONE PEDESTAL
- EX. WATER VALVE
- EX. WATER METER
- EX. FIRE HYDRANT
- EX. SANITARY SEWER MANHOLE
- EX. STORM DRAIN MANHOLE
- EX. SURVEY BENCHMARK
- EX. SURVEY CONTROL POINT
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- EX. CABLE FENCE
- EX. IRON FENCE
- EX. GUARD RAIL
- EX. SIGN WITH CONC. PAD
- EX. SIGN
- EX. MAILBOX
- EX. TREE
- EX. TREE TO BE REMOVED
- EX. STRUCTURE
- EX. CONCRETE FLATWORK
- PROPOSED CONCRETE PAVEMENT
- PROPOSED ASPHALT PAVEMENT REPLACEMENT

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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LANDSCAPE ARCHITECTURE PLANNING

210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com
1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-1733 | TBPLS NO. 100495-00

CDS Muery F-1733
STATE OF TEXAS
JOHN ERIC ROTHE
73075
LICENSED
PROFESSIONAL ENGINEER
9/12/22

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD.
CANYON LAKE TX 78132

Developed for
COMAL ISD

Submittal	Date	Revision	Date

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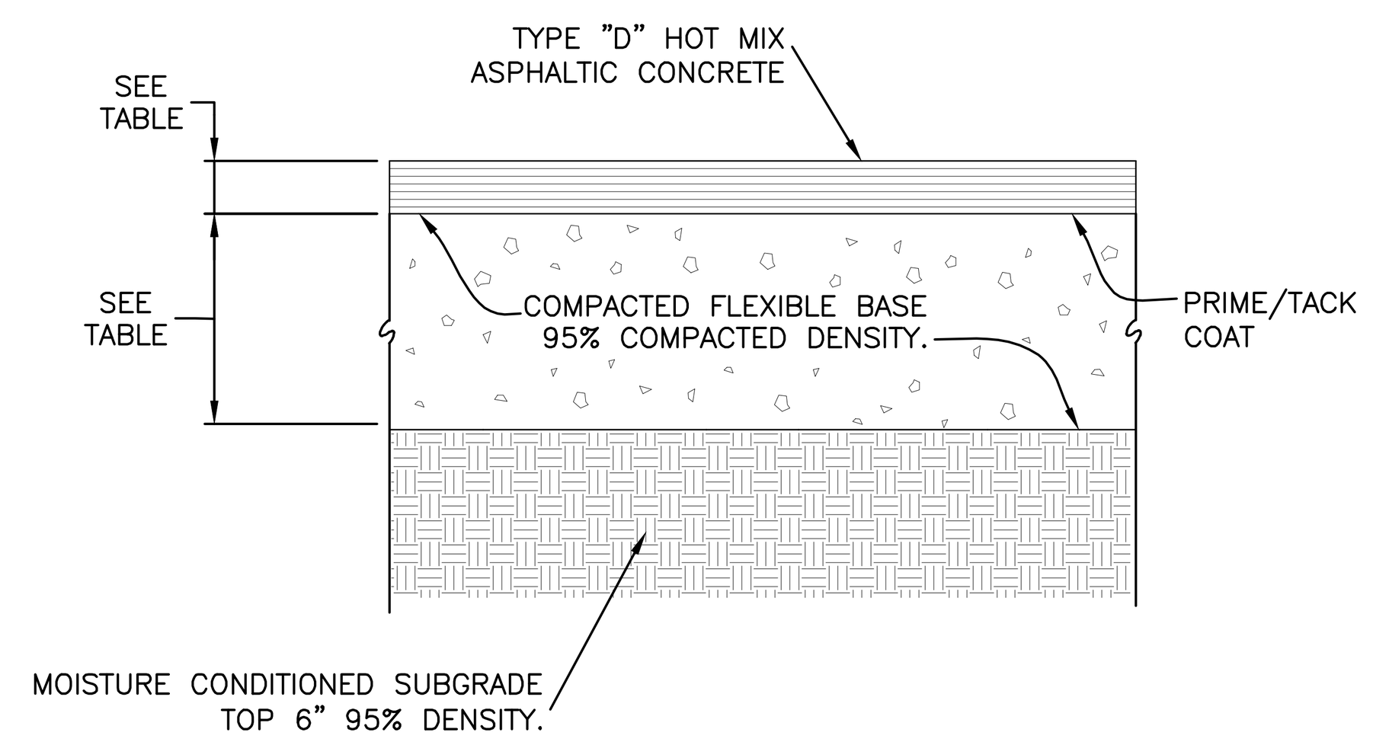
OVERALL UTILITY PLAN

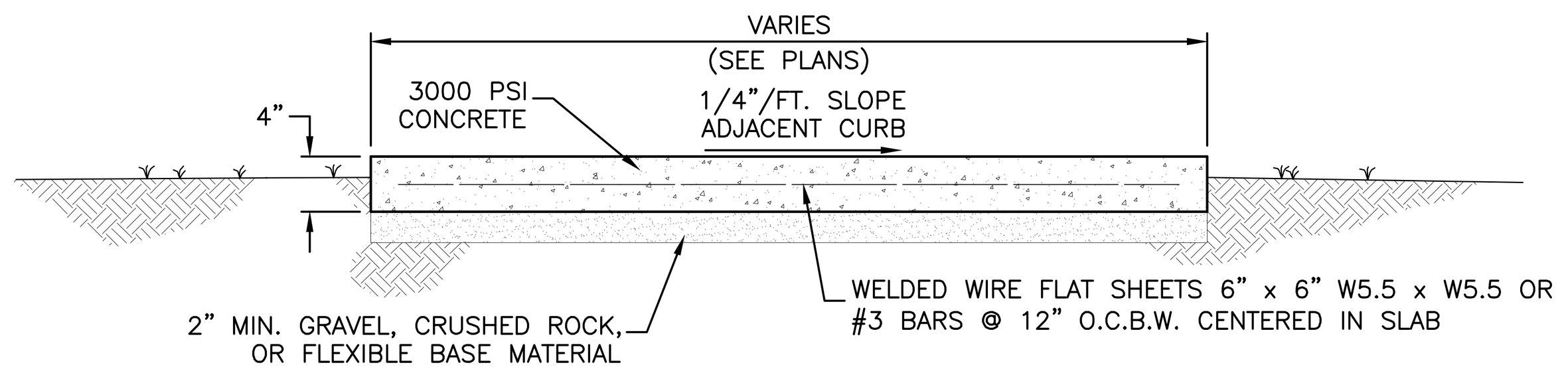
C6.0



FLEXIBLE ASPHALT PAVEMENT

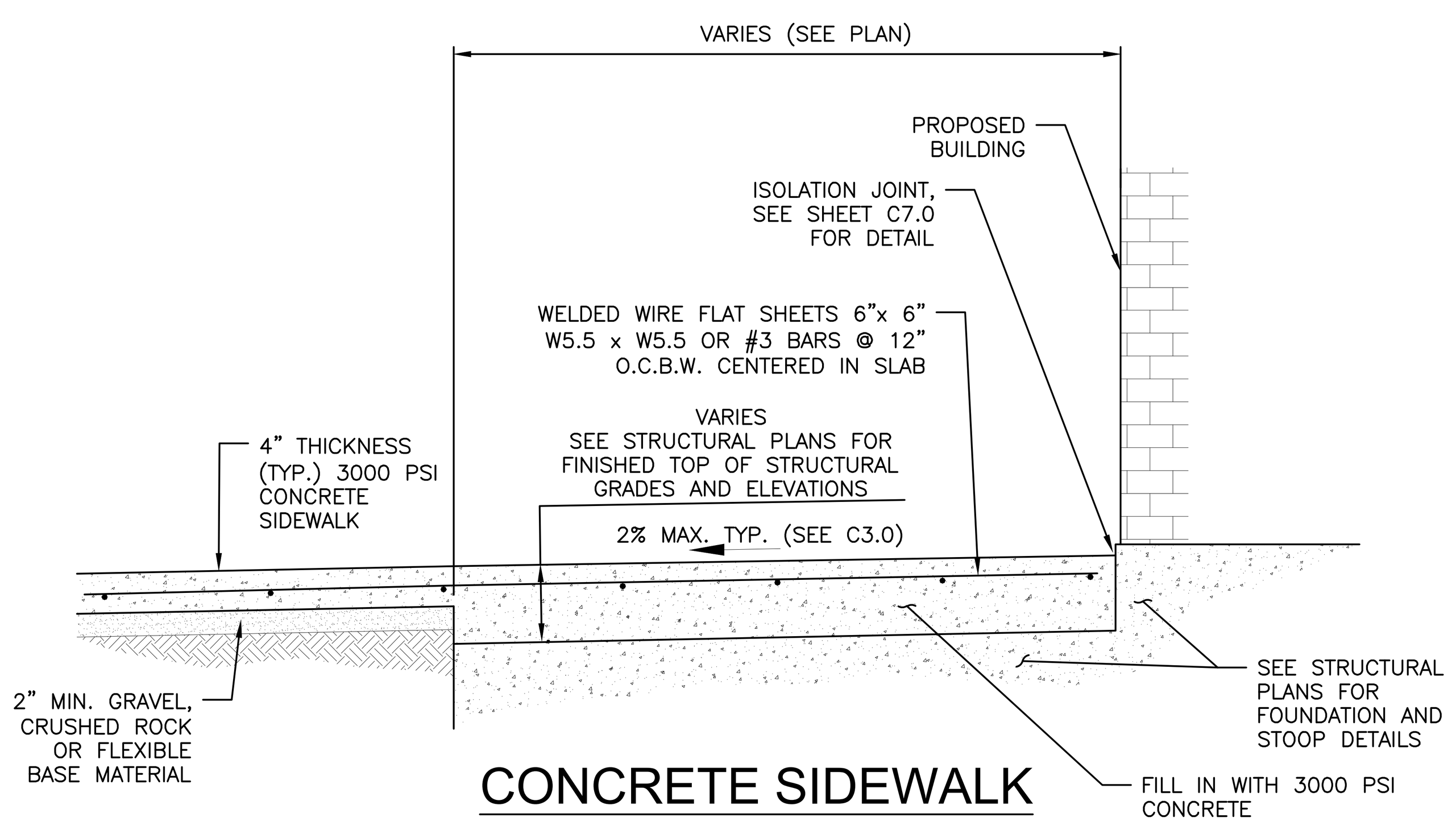
N.T.S.

	LIGHT DUTY
SURFACE	2" TYPE "D"
BASE	8" FLEX



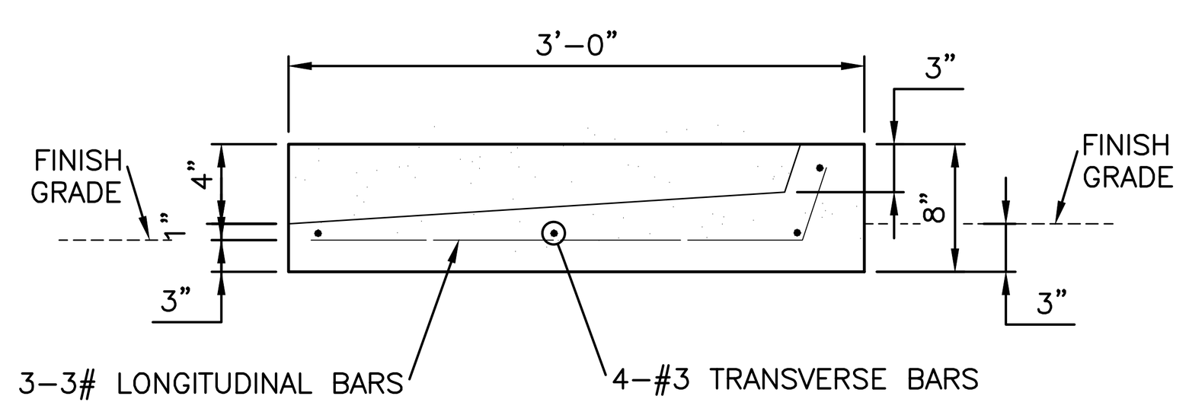
CONCRETE SIDEWALK

N.T.S.



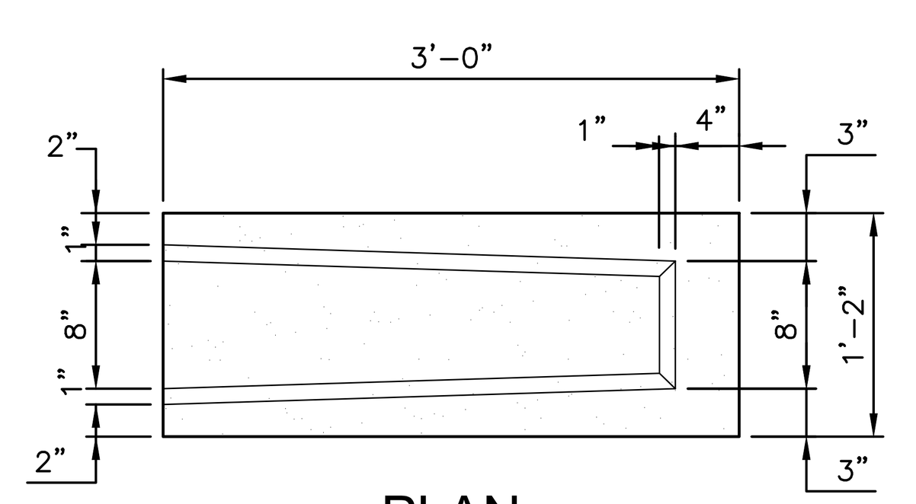
CONCRETE SIDEWALK OVER STRUCTURAL SLAB

N.T.S.



ELEVATION

N.T.S.

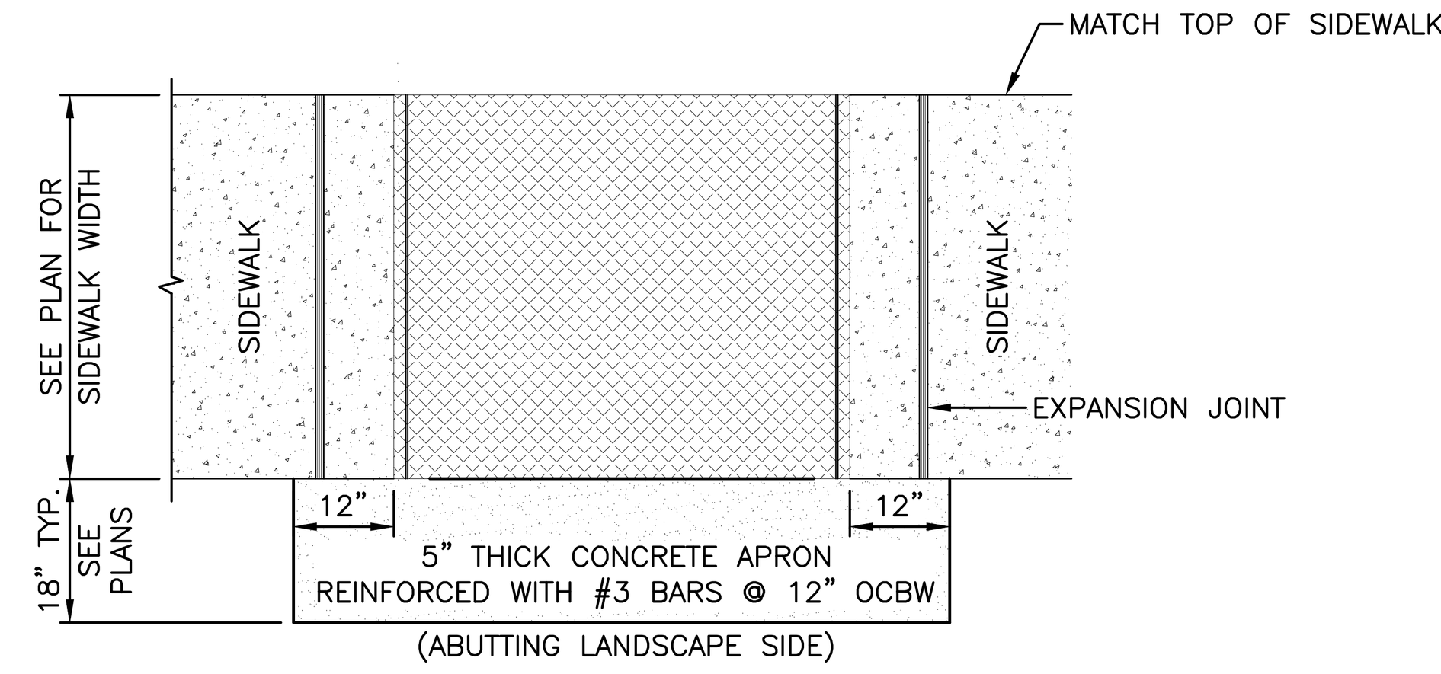


PLAN

N.T.S.

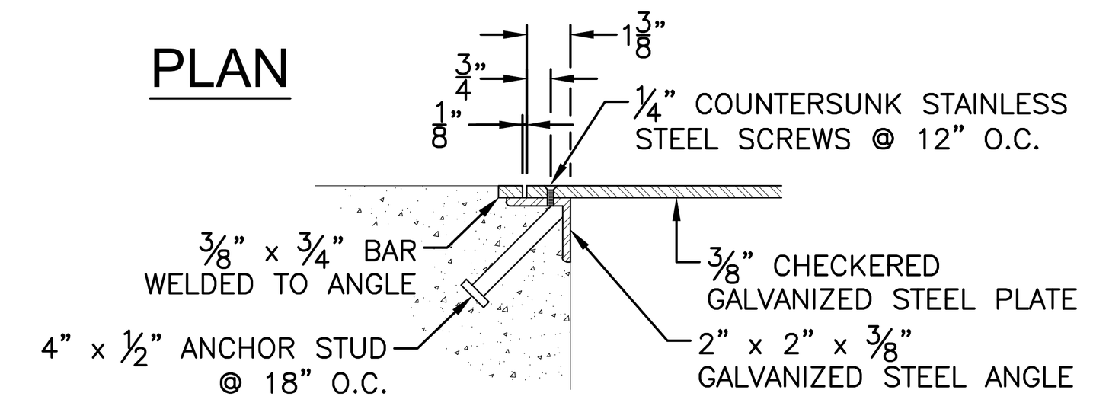
SPLASH BLOCK DETAIL

N.T.S.

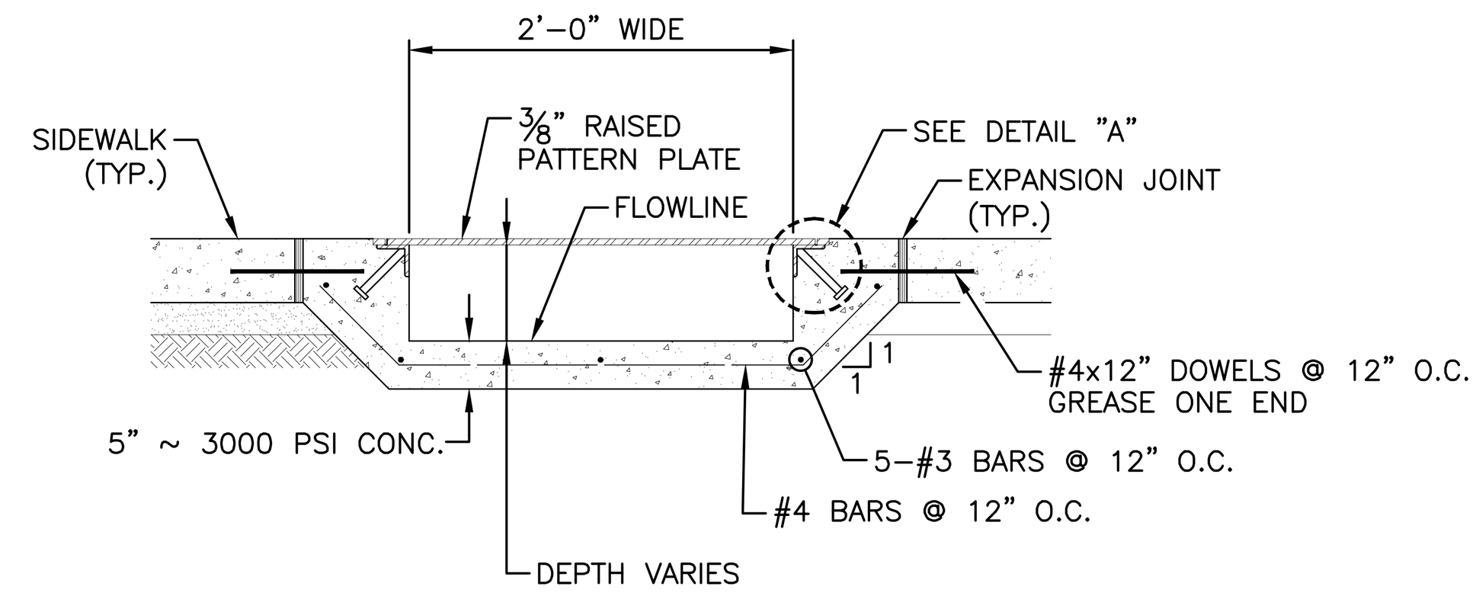


PLAN

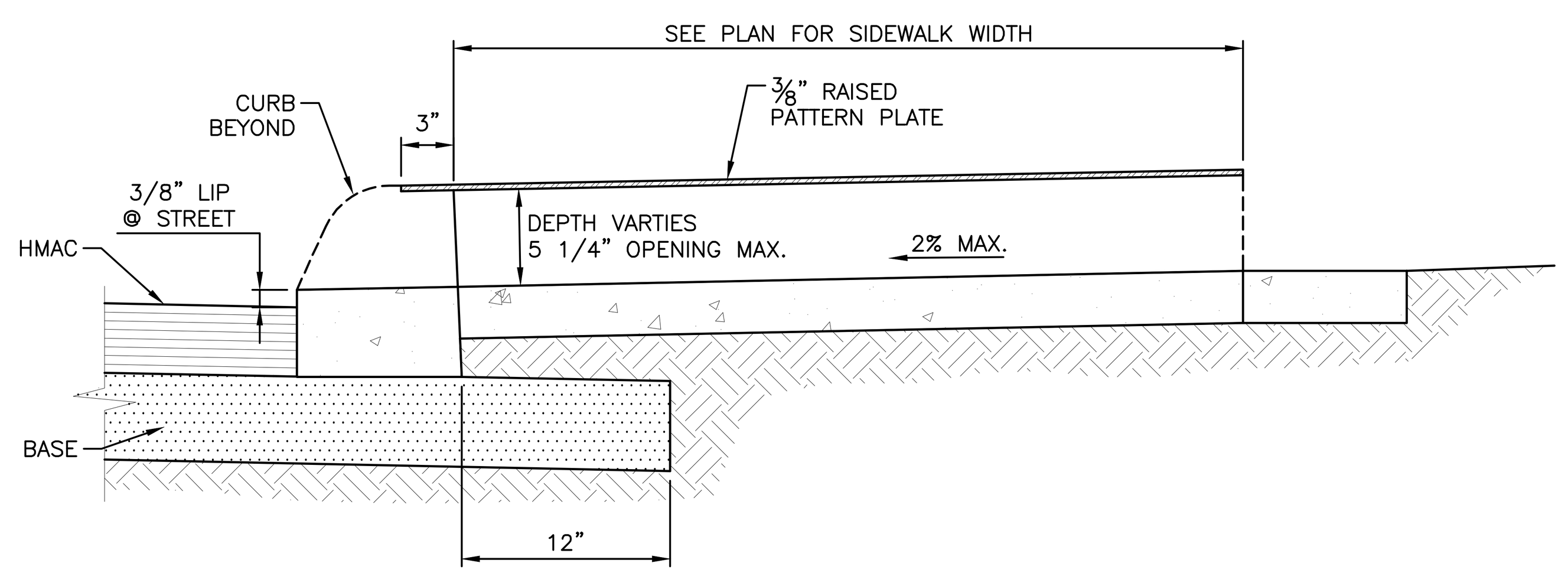
NOTE:
PATTERN PLATE & ALL EXPOSED METAL TO BE CLEANED, PRIMED & PAINTED SILVER IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS FOR PAINTING EXTERIOR METAL.



DETAIL "A"



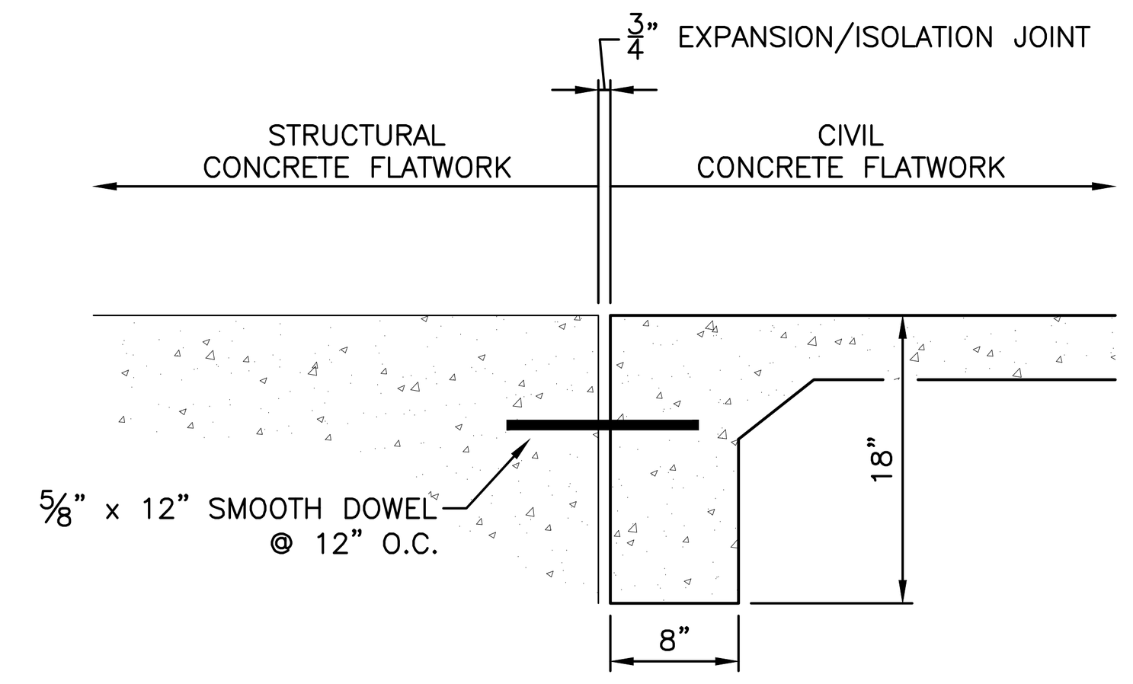
SECTION "B-B"



SECTION "A-A"

SINGLE SIDEWALK DRAIN DETAIL

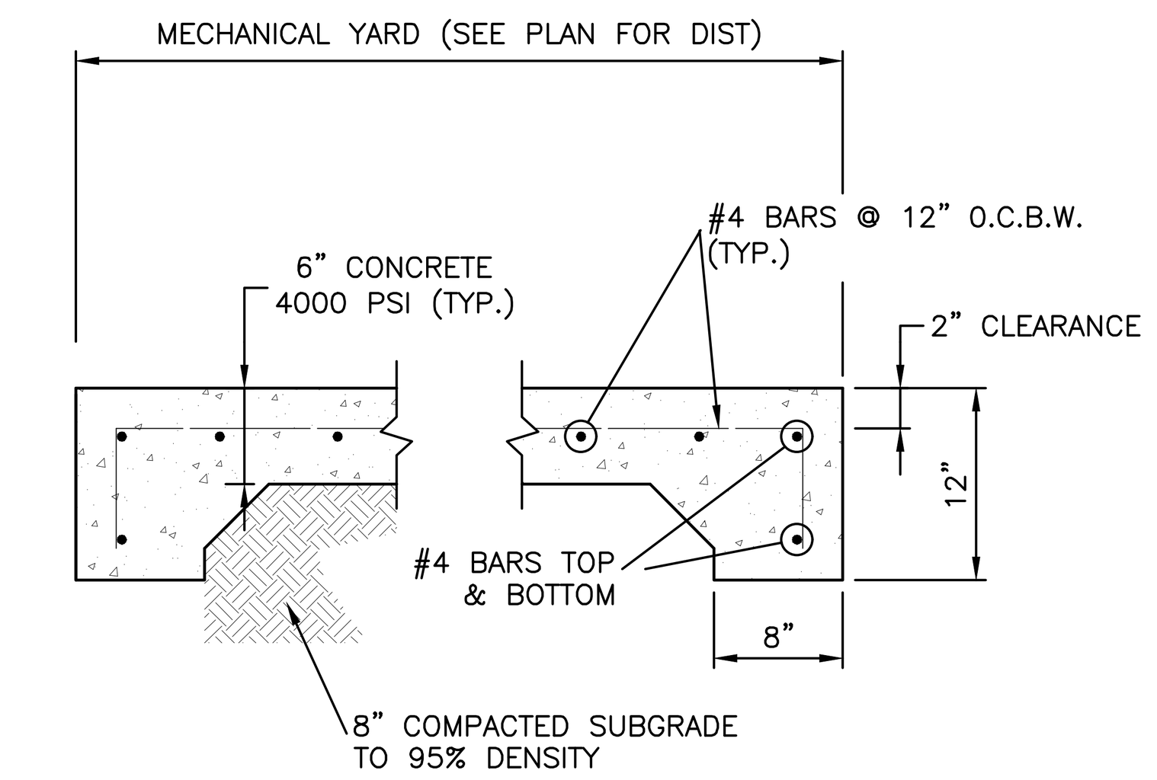
N.T.S.



SIDEWALK HINGE DETAIL

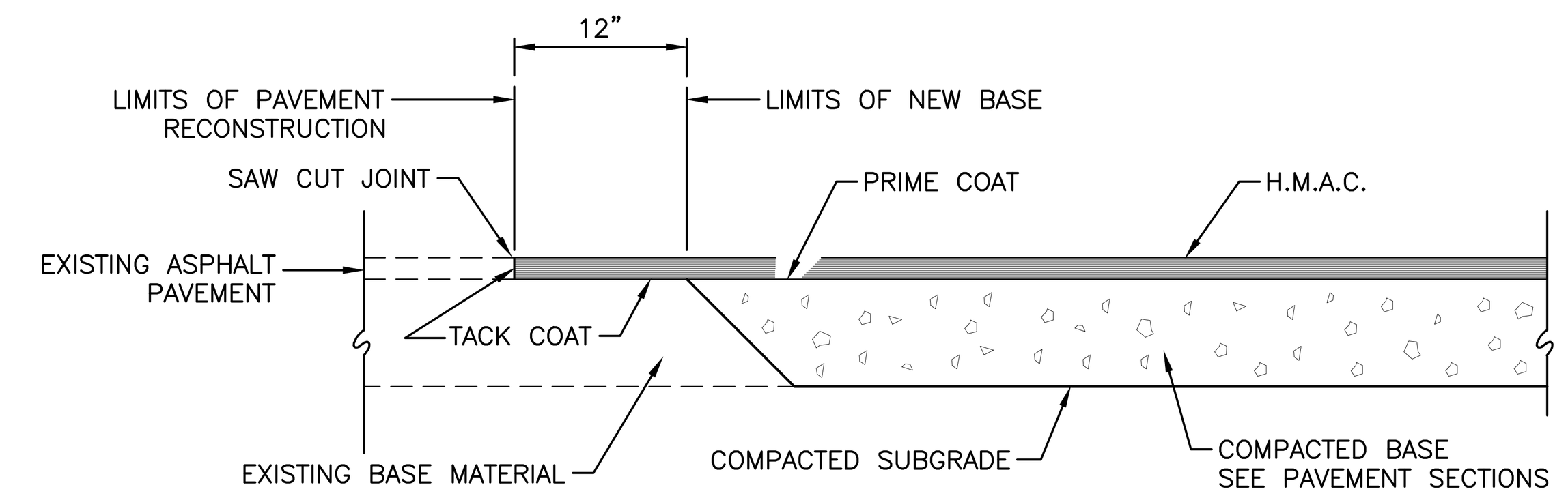
CIVIL TO STRUCTURAL TRANSITION

N.T.S.



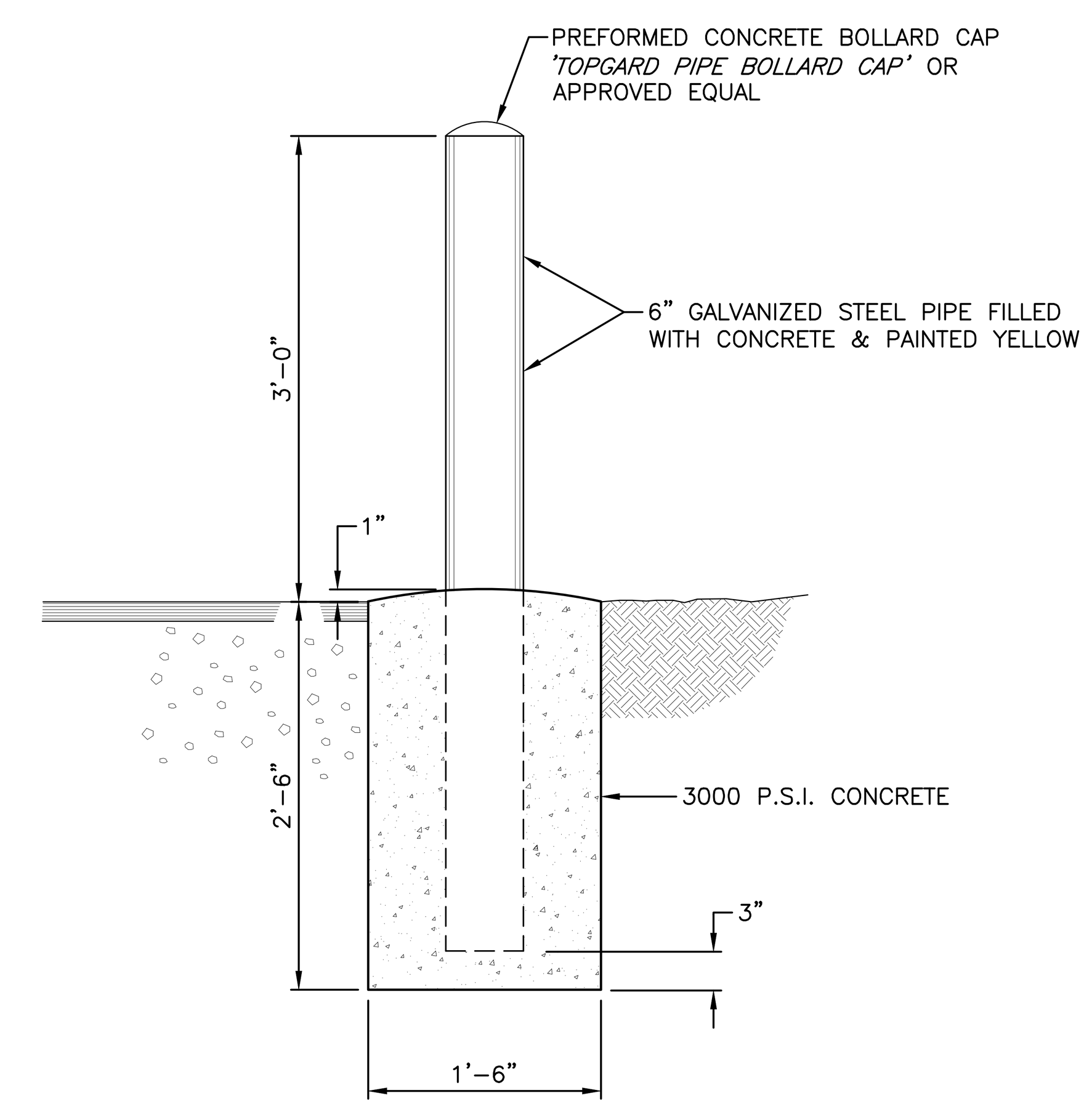
CONCRETE MECHANICAL YARD SECTION

N.T.S.



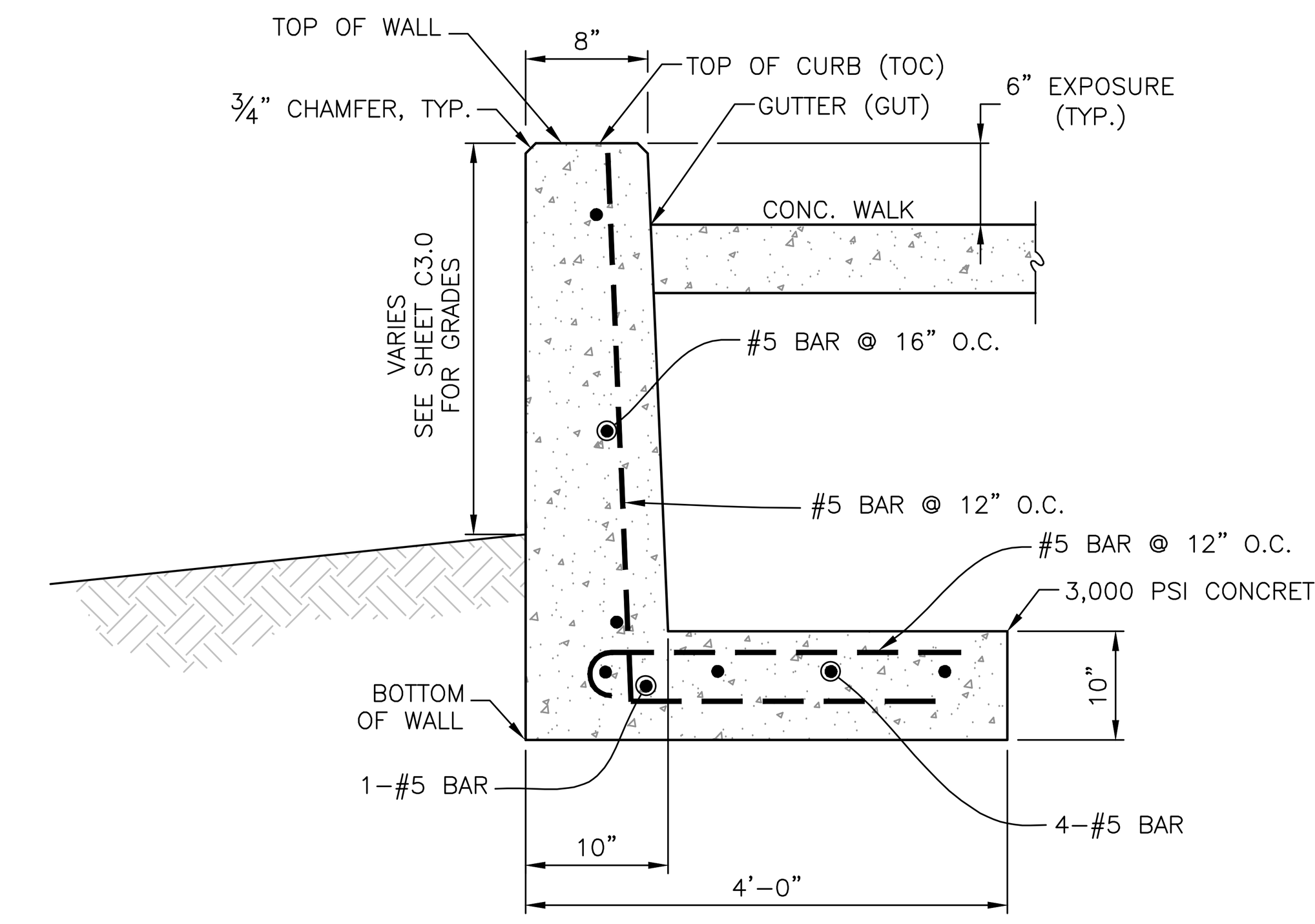
PAVEMENT JUNCTION DETAIL

N.T.S.



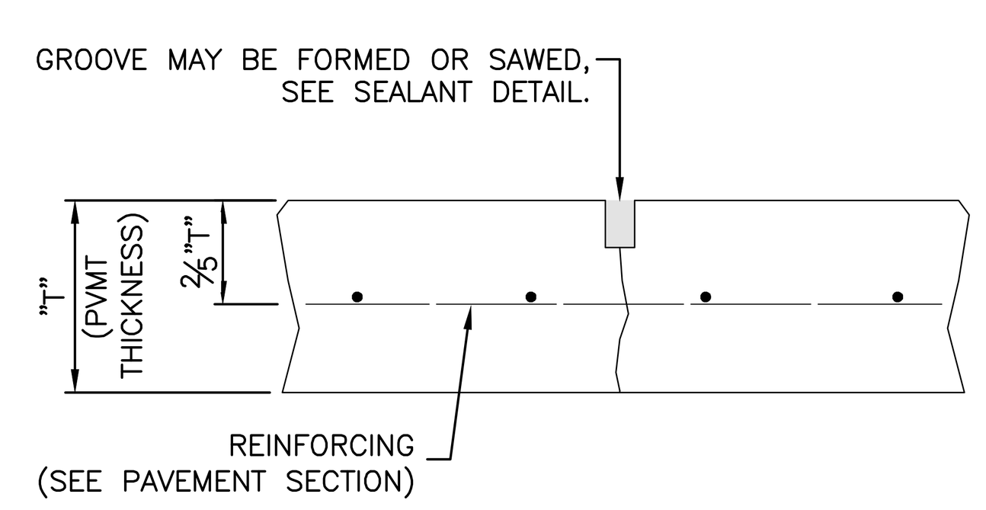
BOLLARD DETAIL

N.T.S.

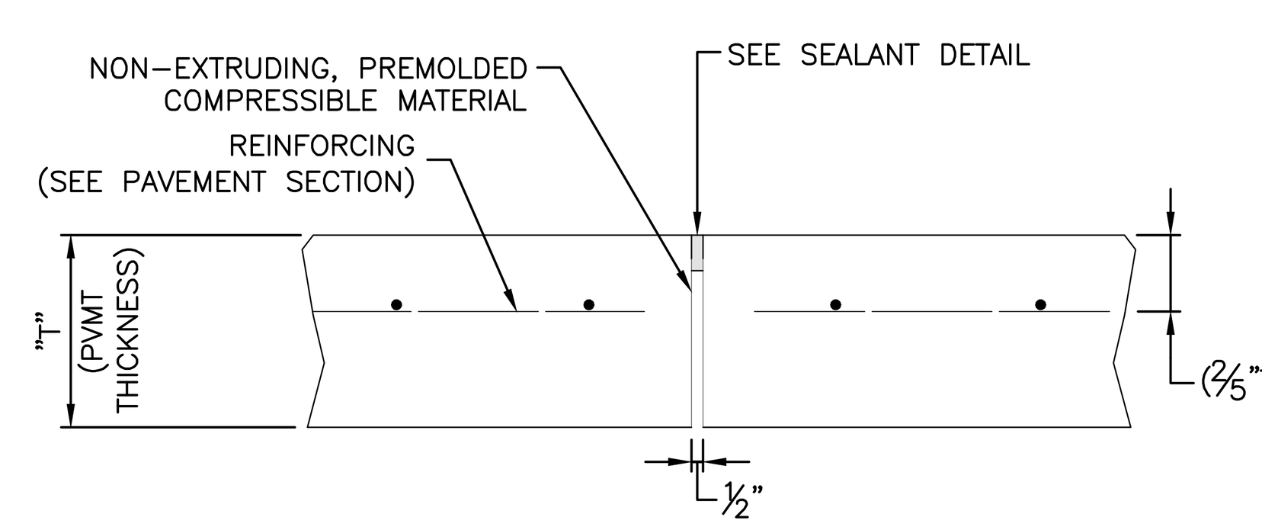


COMBINATION CURB / RETAINING WALL DETAIL

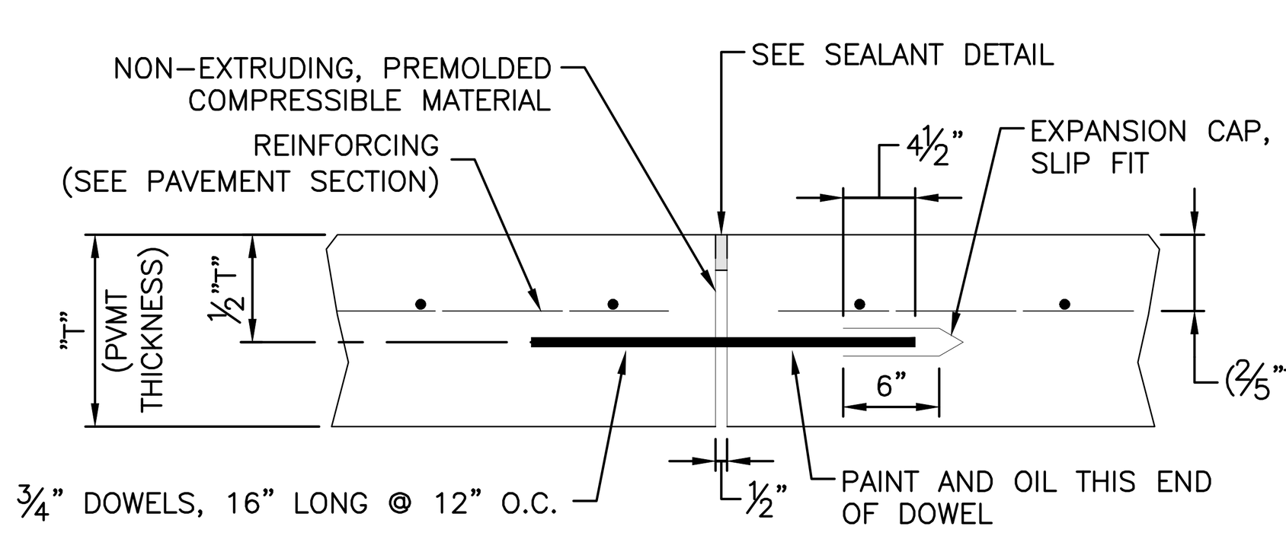
N.T.S.



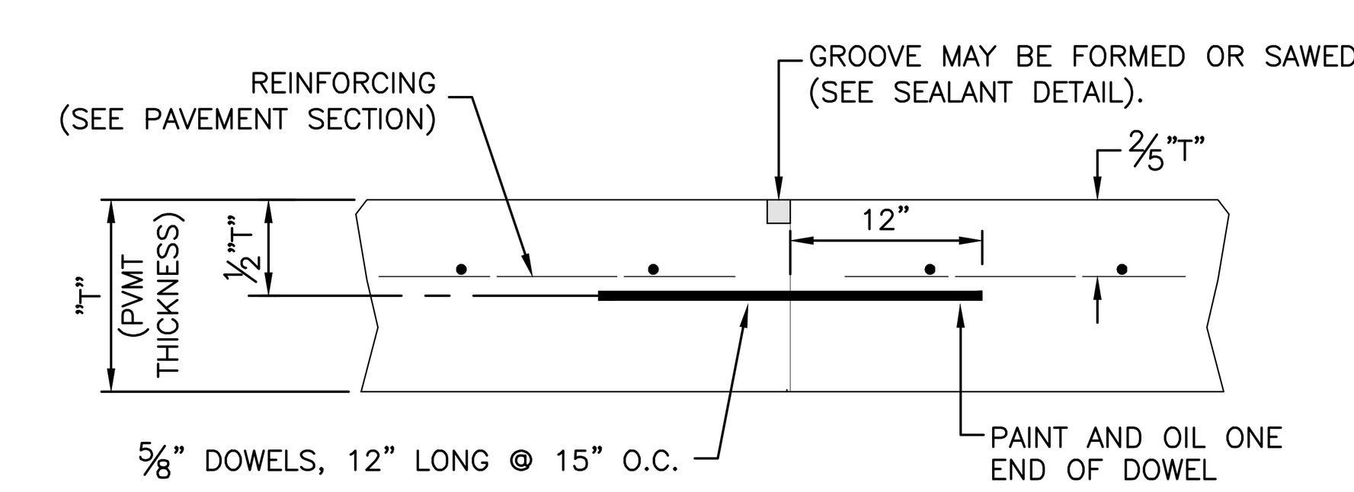
CONTRACTION/DUMMY JOINT (CJ)



EXPANSION JOINT (EJ)



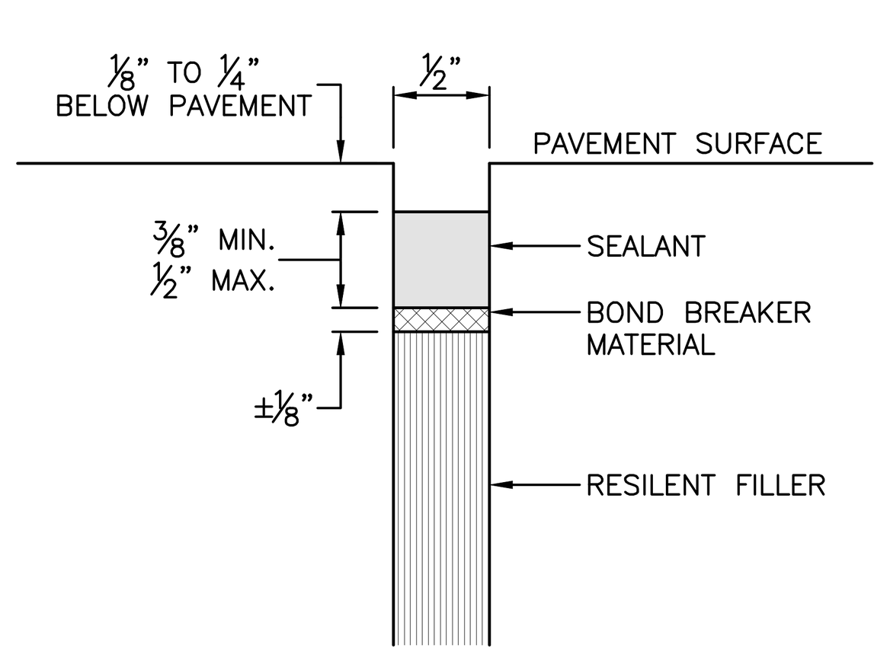
DOWELED EXPANSION JOINT (DEJ)



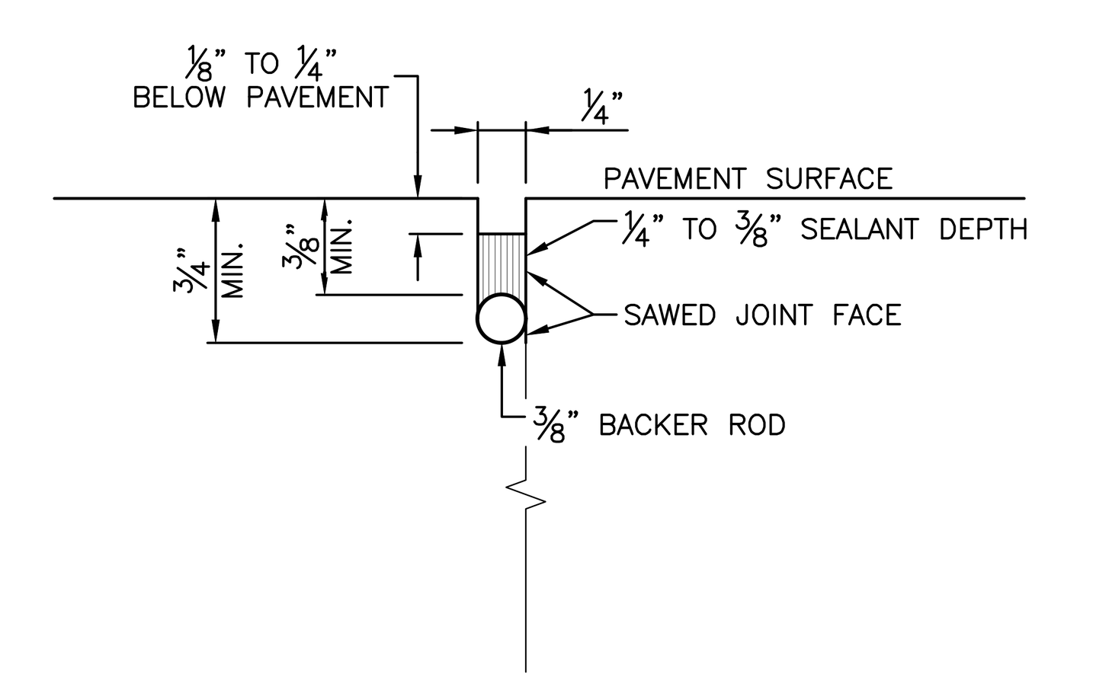
DOWELED CONSTRUCTION JOINT (DCJ)

JOINT SEALANT NOTES

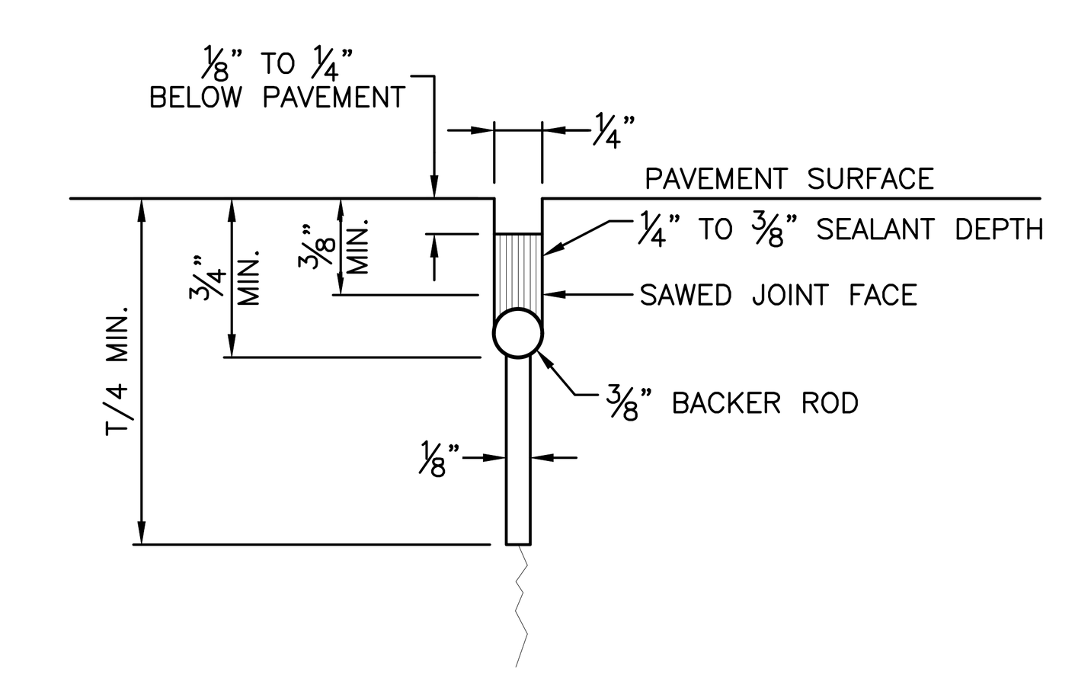
1. JOINT SHALL BE CRAFCO, INC. "ROADSAVER SILICONE" NON-SAG OR SELF LEVELING, (PART NO. 34902 OR PART NO. 94903) OR APPROVED EQUAL.
2. CONCRETE SHALL BE ALLOWED TO CURE 7 DAYS BEFORE SEALING JOINTS.
3. AFTER SAWING, EACH FACE OF THE JOINT MUST BE AIRBLASTED TO MOVE ALL TRACES OF SAWING RESIDUE.
4. BACKER ROD SHALL BE A CLOSED-CELL, EXPANDED POLYETHYLENE FOAM ROD OVERSIZED A MINIMUM OF 25% GREATER THAN THE JOINT WIDTH.
5. DURING APPLICATION, AMBIENT TEMPERATURE SHALL BE A MINIMUM OF 40'F AND THE JOINTS MUST BE COMPLETELY CLEAN AND DRY.
6. FOR NON-SELF-LEVELING MATERIAL, SEALANT SHALL BE TOOLED SO THAT THE SEALANT IS FORCED AGAINST THE JOINT WALLS AND FORMS A RECESSED CONCAVE SURFACE APPROXIMATELY 3/16" BELOW THE PAVEMENT SURFACE.
7. EXCESS SEALANT ON THE PAVEMENT SURFACE SHALL BE REMOVED.



EXPANSION/ISOLATION JOINT SEALANT DETAIL



CONSTRUCTION JOINT SEALANT DETAIL



CONTRACTION JOINT SEALANT DETAIL

"T"=PAVEMENT THICKNESS

CONCRETE JOINT DETAILS

N.T.S.

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210-829-1730 Fax
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1811 South Alamo Street, Suite 100
San Antonio, Texas 78204

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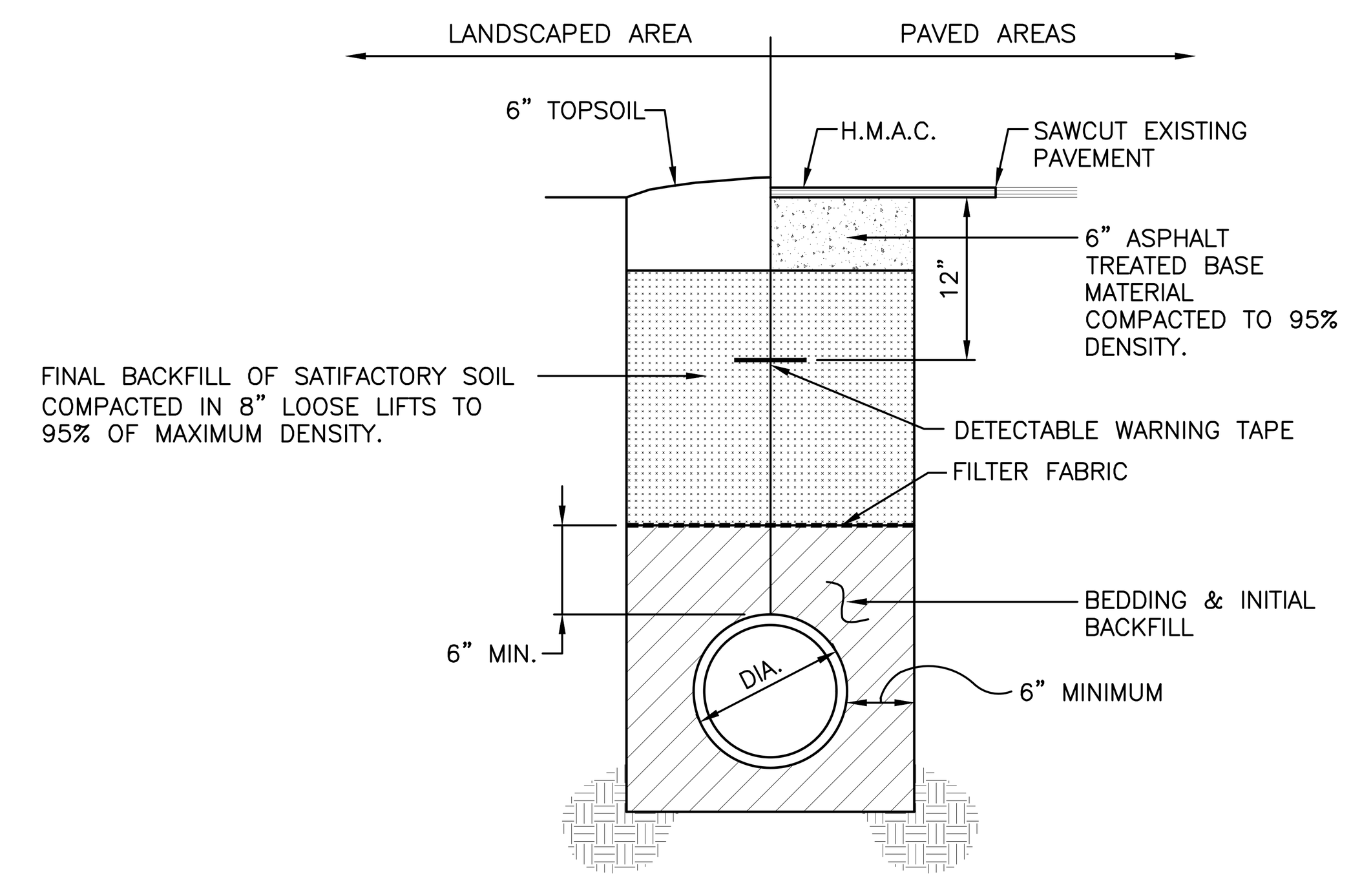
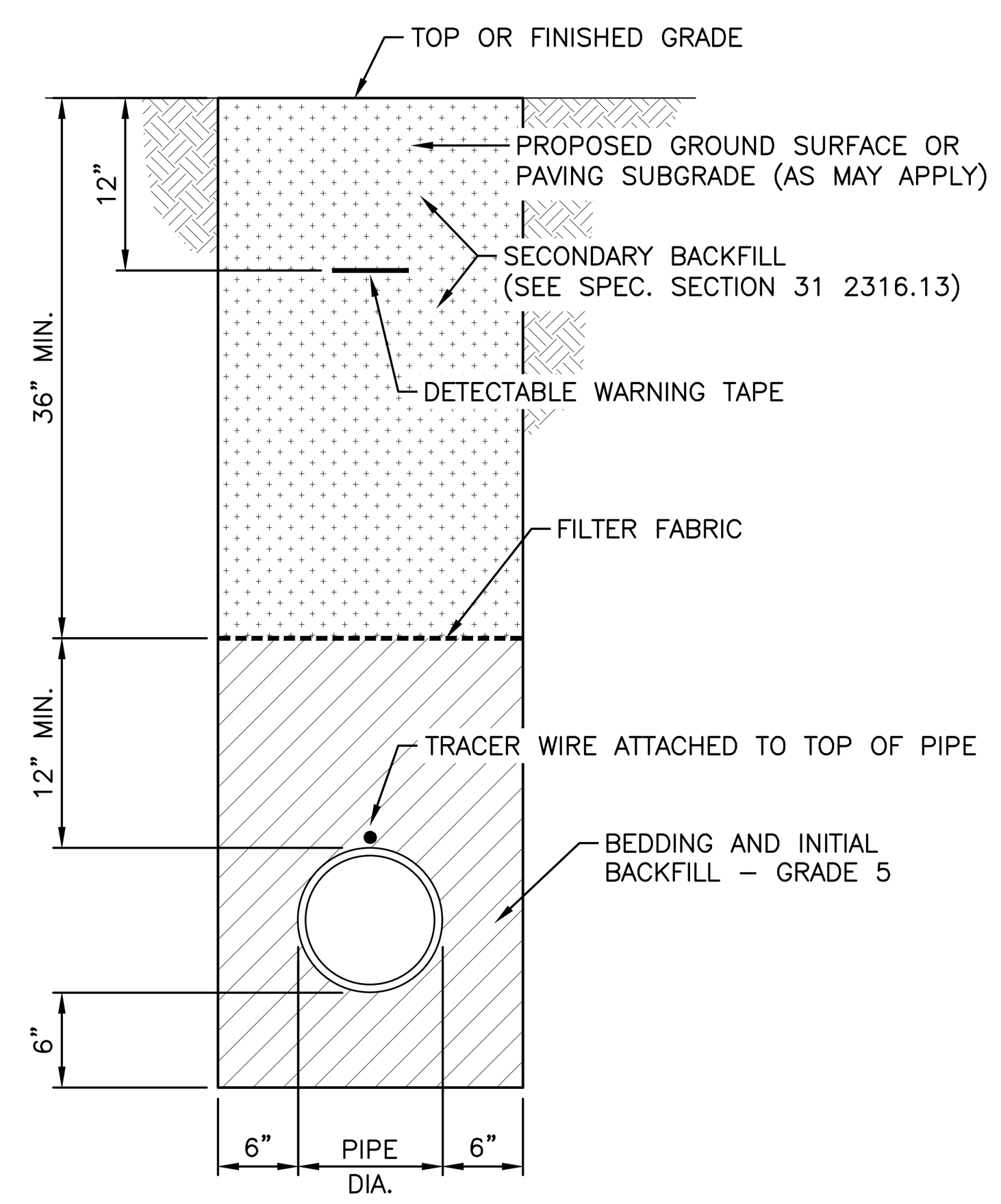
SITE DETAILS 1

C7.0



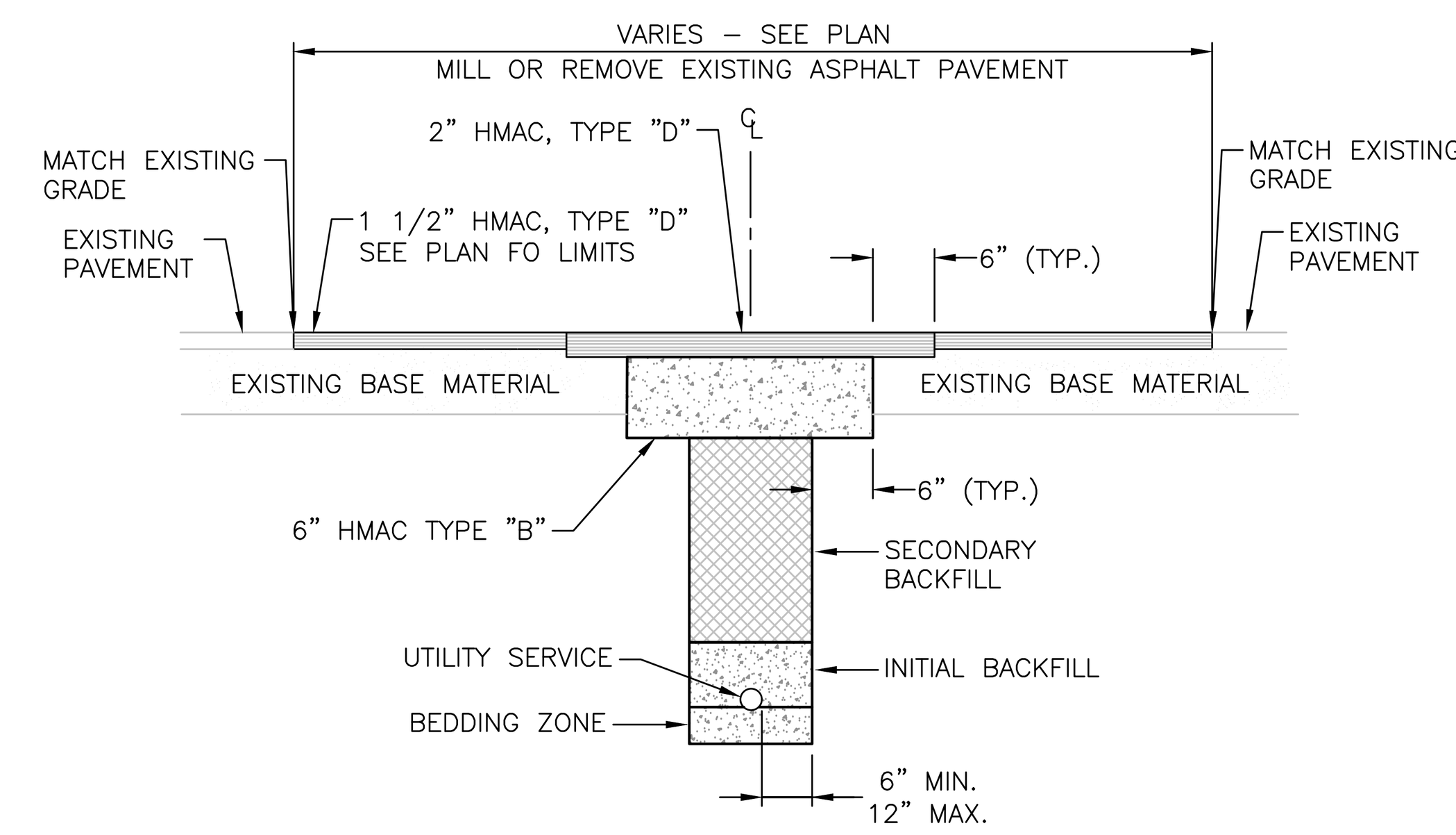
SANITARY SEWER TRENCH DETAIL

N.T.S.



FIRE LINE TRENCH DETAIL

N.T.S.

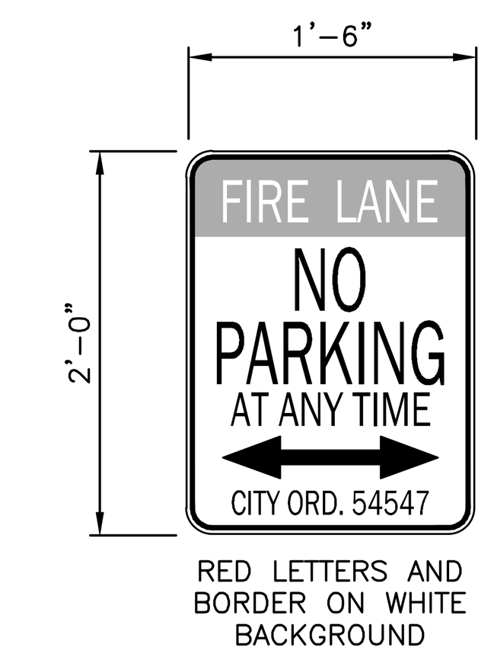


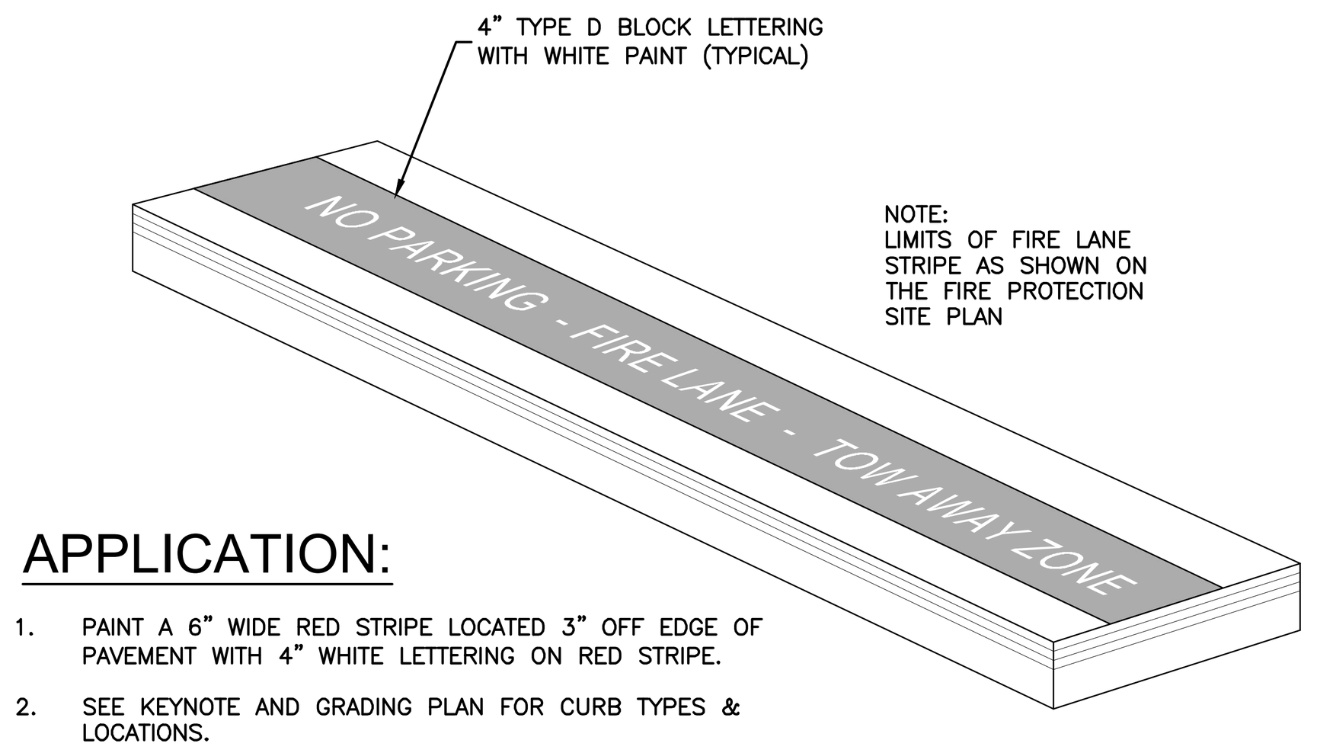
PAVEMENT REPLACEMENT NOTES

1. NO TRENCH MAY REMAIN OPEN OVERNIGHT.
2. CONTRACTOR SHALL SAWCUT A STRAIGHT NEAT EDGE AT ALL TIE-INS TO EXISTING PAVEMENTS.
3. THE TYPE-D SURFACE COURSE SHALL BE LAID IN A MANNER TO MINIMIZE CONSTRUCTION JOINTS AND ELIMINATE A PATCHWORK APPEARANCE. CONSTRUCTION SEQUENCING SHALL INCORPORATE THESE REQUIREMENTS.
4. CONTRACTOR SHALL ADJUST THE TOPS OF ALL MANHOLES, VALVES BOXES, AND ANY OTHER UTILITY VAULTS IN AREAS WHERE FINISHED PAVEMENT SURFACES WILL BE RAISED OR LOWERED FROM EXISTING CONDITIONS. THERE WILL BE NO SEPARATE PAY ITEM FOR THIS WORK.

ASPHALT PAVEMENT REPLACEMENT AND TRENCH BACKFILL SECTION

N.T.S.



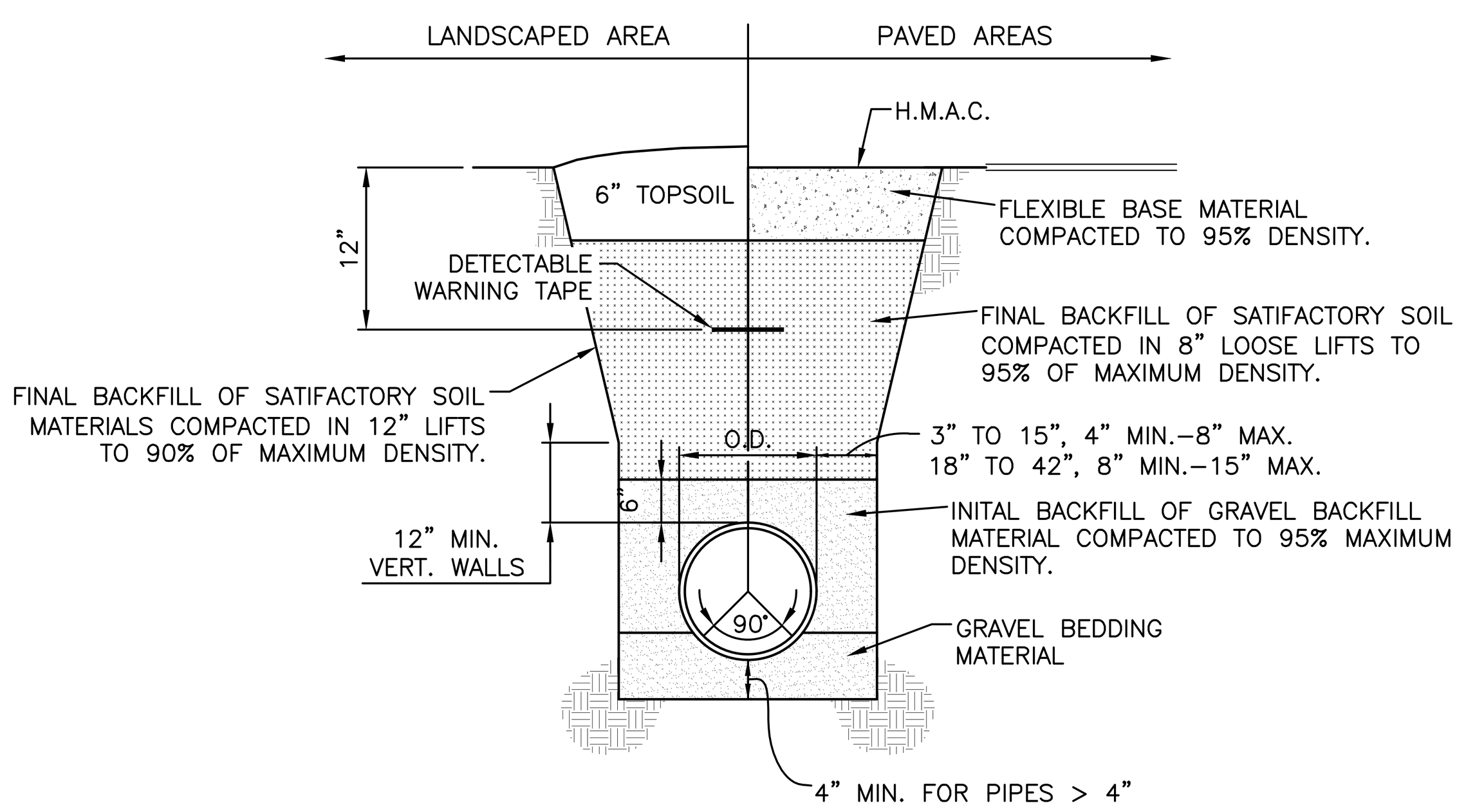


APPLICATION:

1. PAINT A 6" WIDE RED STRIPE LOCATED 3" OFF EDGE OF PAVEMENT WITH 4" WHITE LETTERING ON RED STRIPE.
2. SEE KEYNOTE AND GRADING PLAN FOR CURB TYPES & LOCATIONS.
3. 40 FOOT SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

FIRE LANE MARKING DETAIL

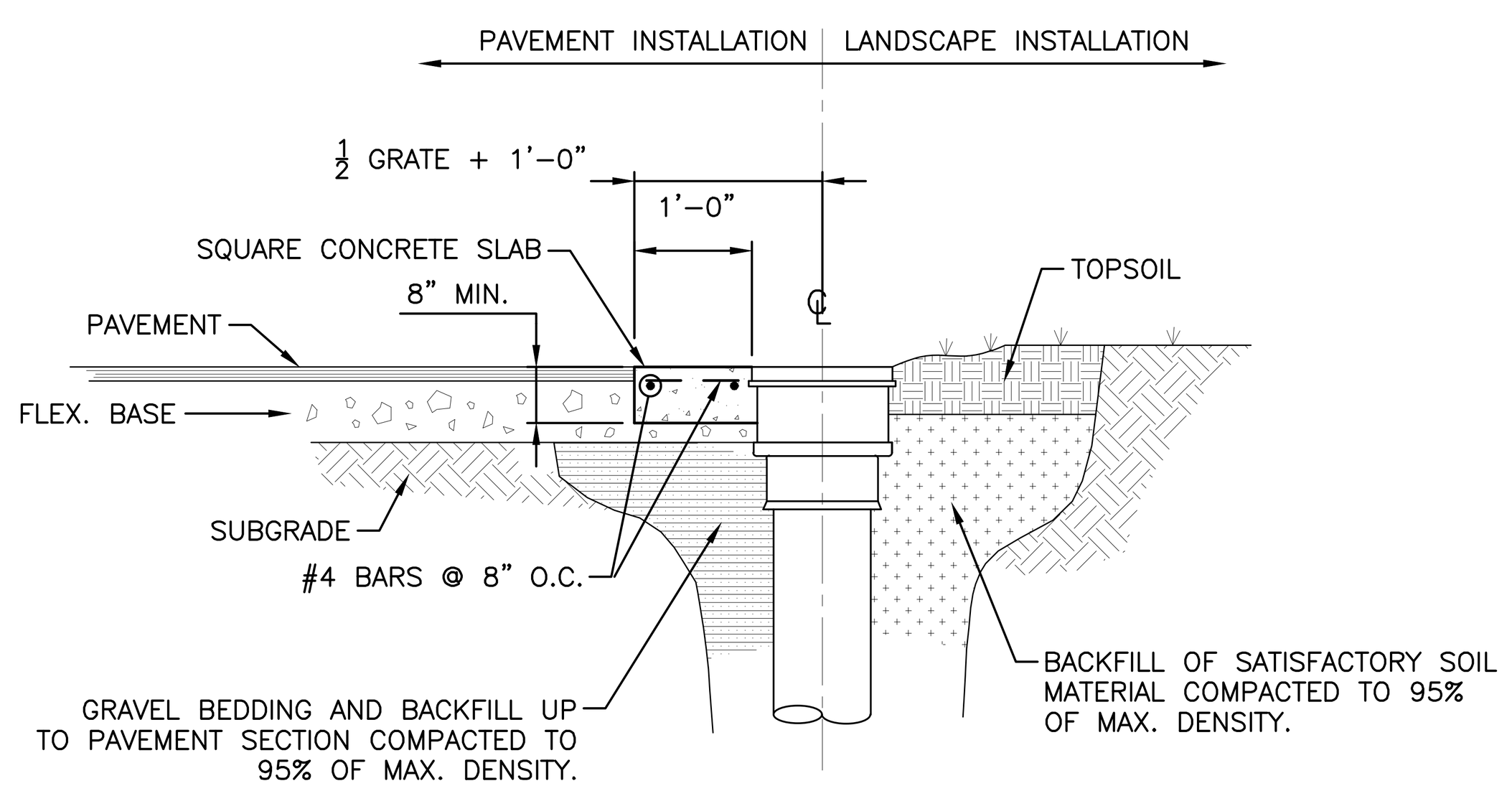
N.T.S.



STORM SEWER TRENCH DETAIL

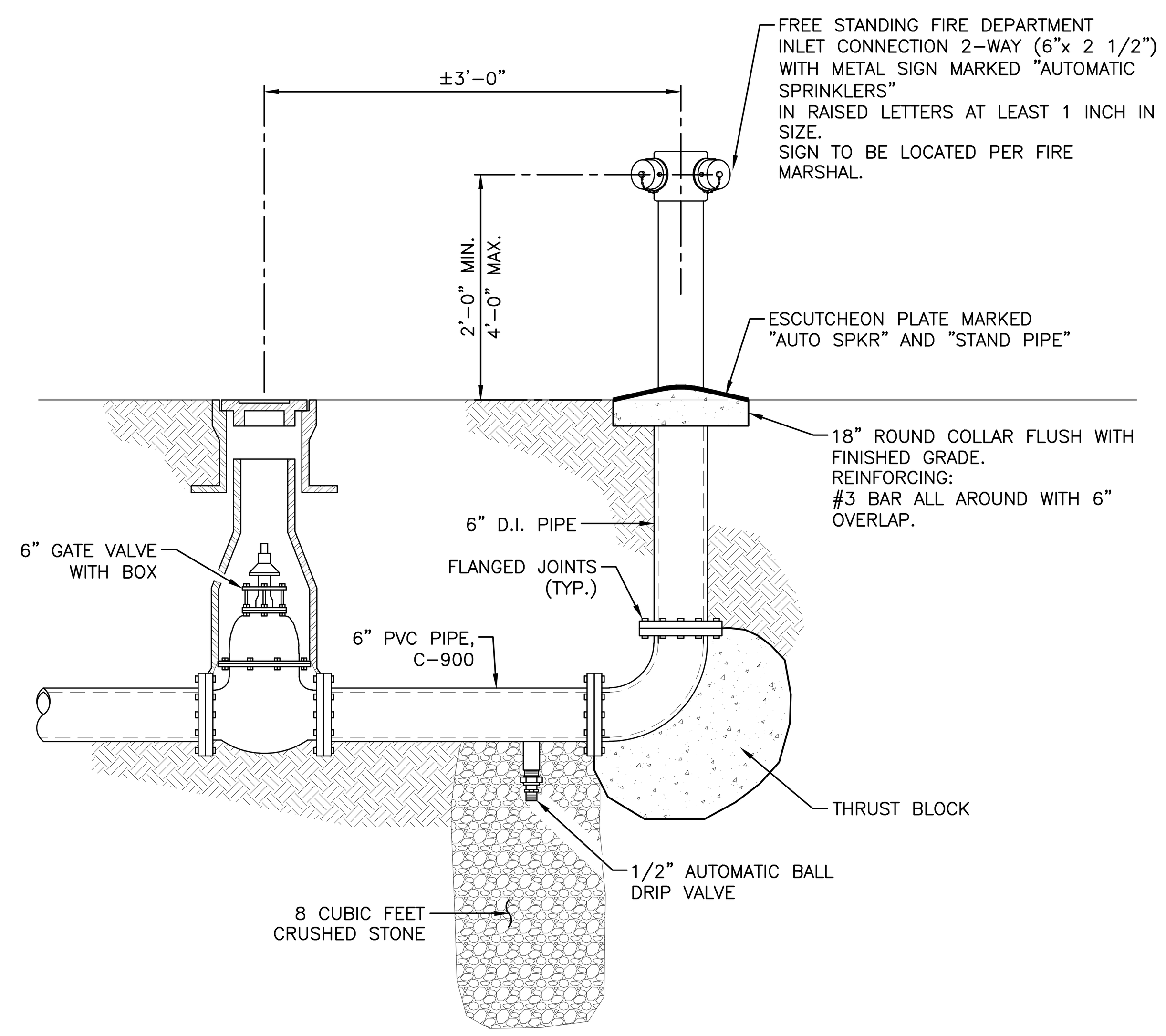
(FLEXIBLE [PVC] PIPE)

N.T.S.



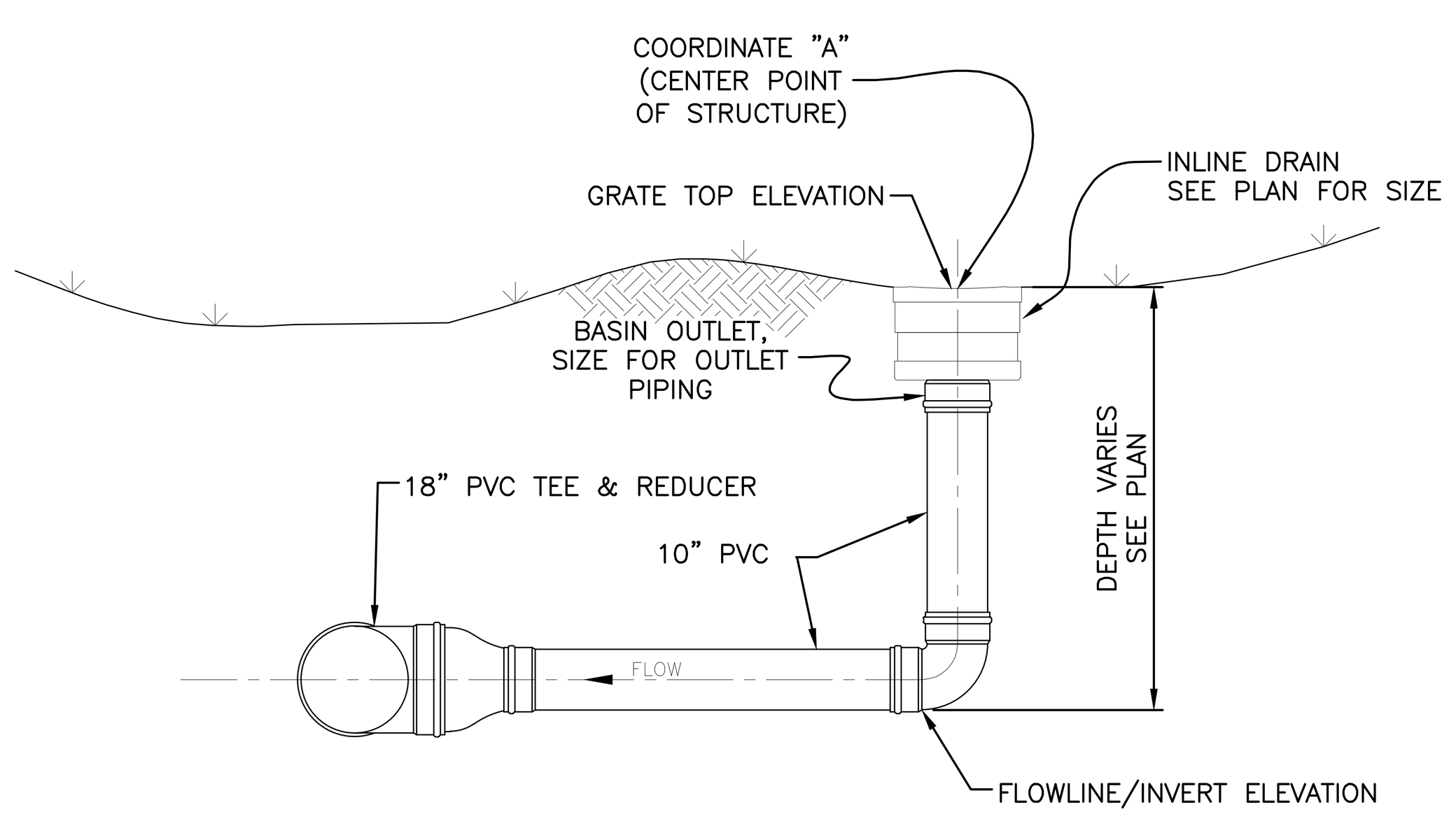
"NYLOPLAST" INLINE DRAIN INSTALLATION

N.T.S.



FREE STANDING FIRE DEPARTMENT CONNECTION

N.T.S.



"NYLOPLAST" INLINE DRAIN - TYPICAL PIPING

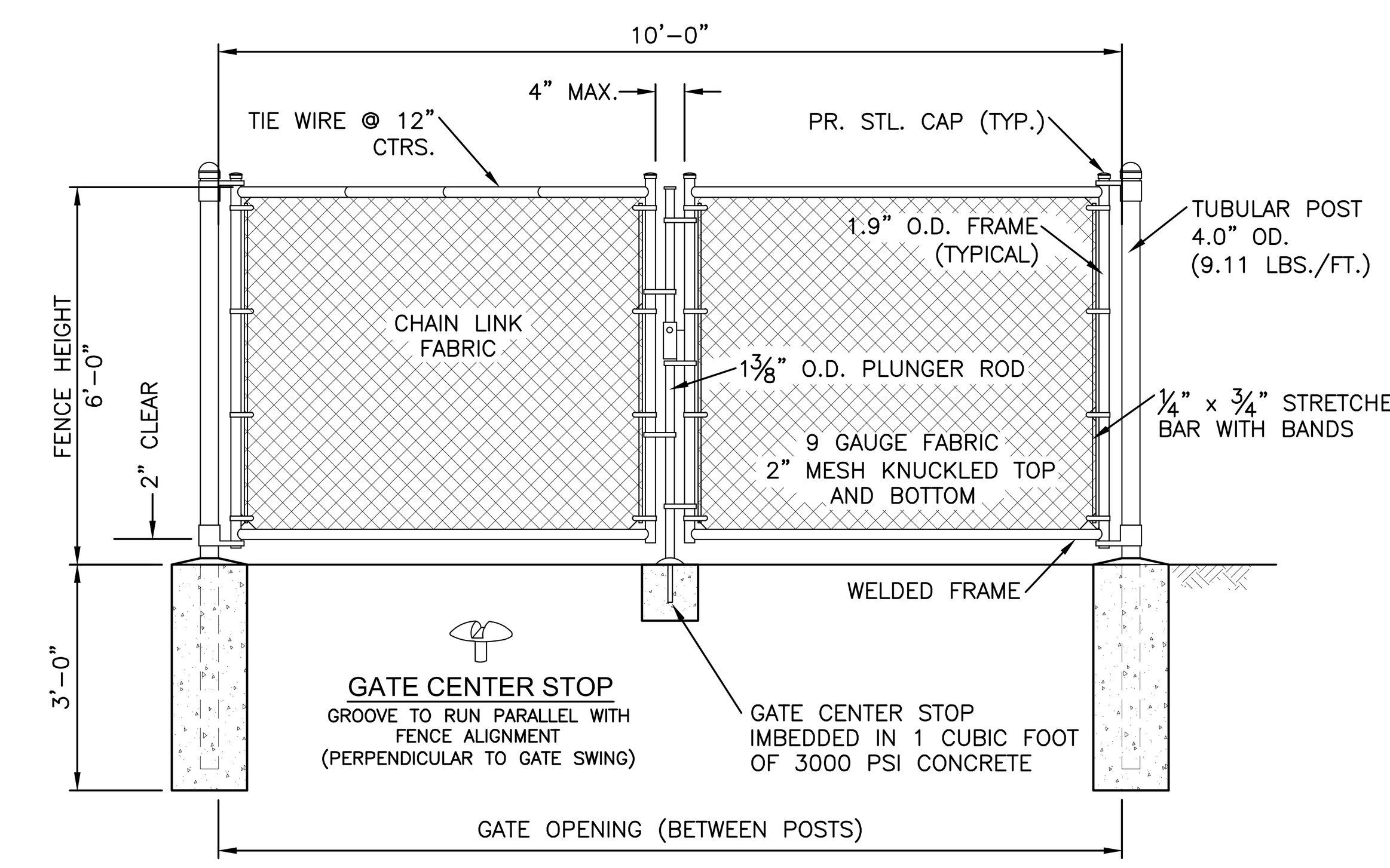
N.T.S.

"NYLOPLAST" DRAINAGE PRODUCTS

"NYLOPLAST" GRATE SIZE/TYPE – CATALOG TABLE

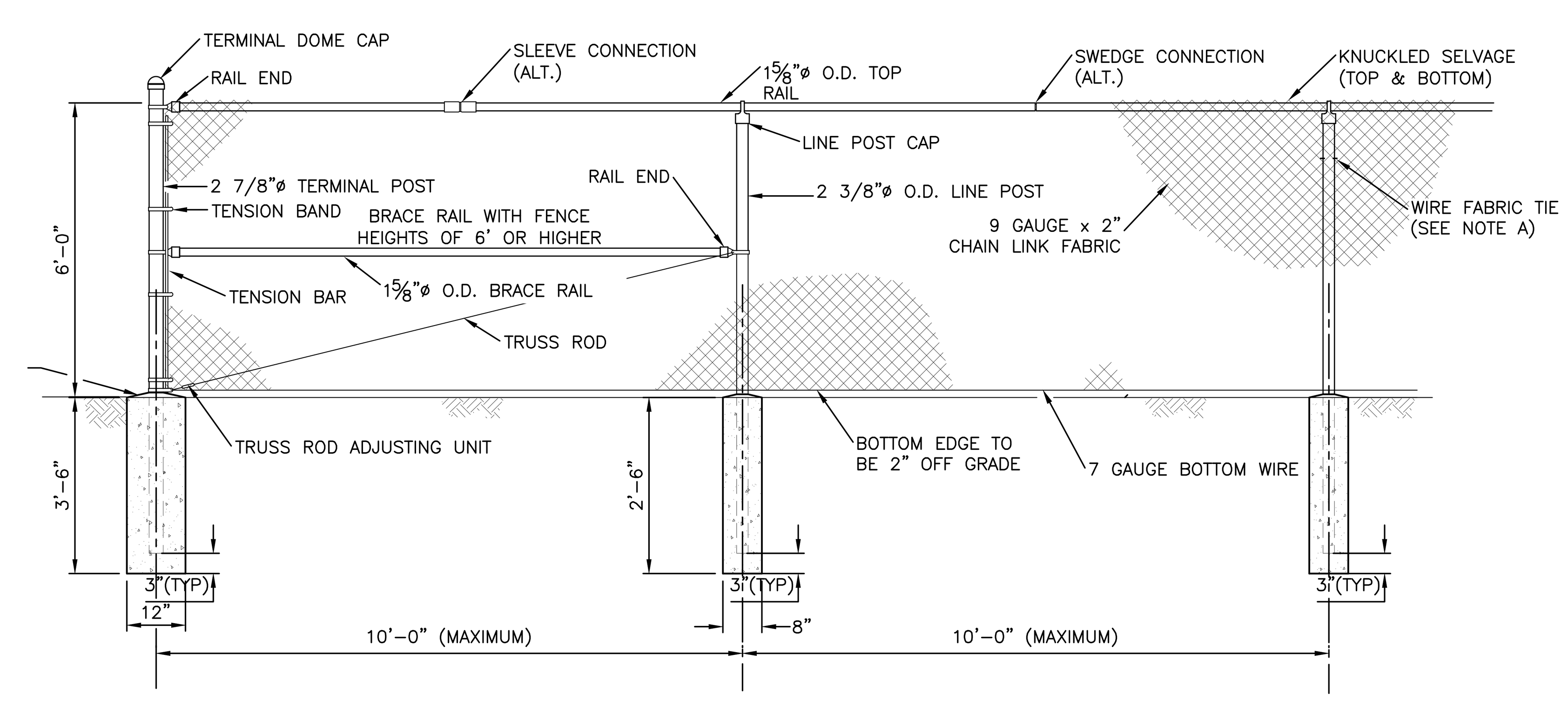
*NYLOPLAST GRATE SIZE/TYPE	SHAPE NOMINAL	NYLOPLAST GRATE CATALOG NO.
10" STD.	10" ROUND	1099 CGSL
12" STD.	12" x 12" SQUARE	1299 CGSL
15" STD.	15" x 15" SQUARE	1599 CGSL
18" STD.	18" ROUND	1899 CGS
24" STD.	24" ROUND	2499 CGS
30" STD.	30" ROUND	3099 CGS
2' x 2'	24" x 24" SQUARE	3299 CGSQ

*SEE PLAN SHEETS FOR GRATE SIZE/TYPE REFERENCE



2-5' CHAIN LINK GATE DETAIL

N.T.S.



TYPICAL CHAIN LINK FENCE SECTION

N.T.S.

NOTE A:
PROVIDE AND INSTALL GALVANIZED STEEL WIRE TIES, REFER TO SPECIFICATIONS.

CHAIN LINK FENCE DETAILS

N.T.S.

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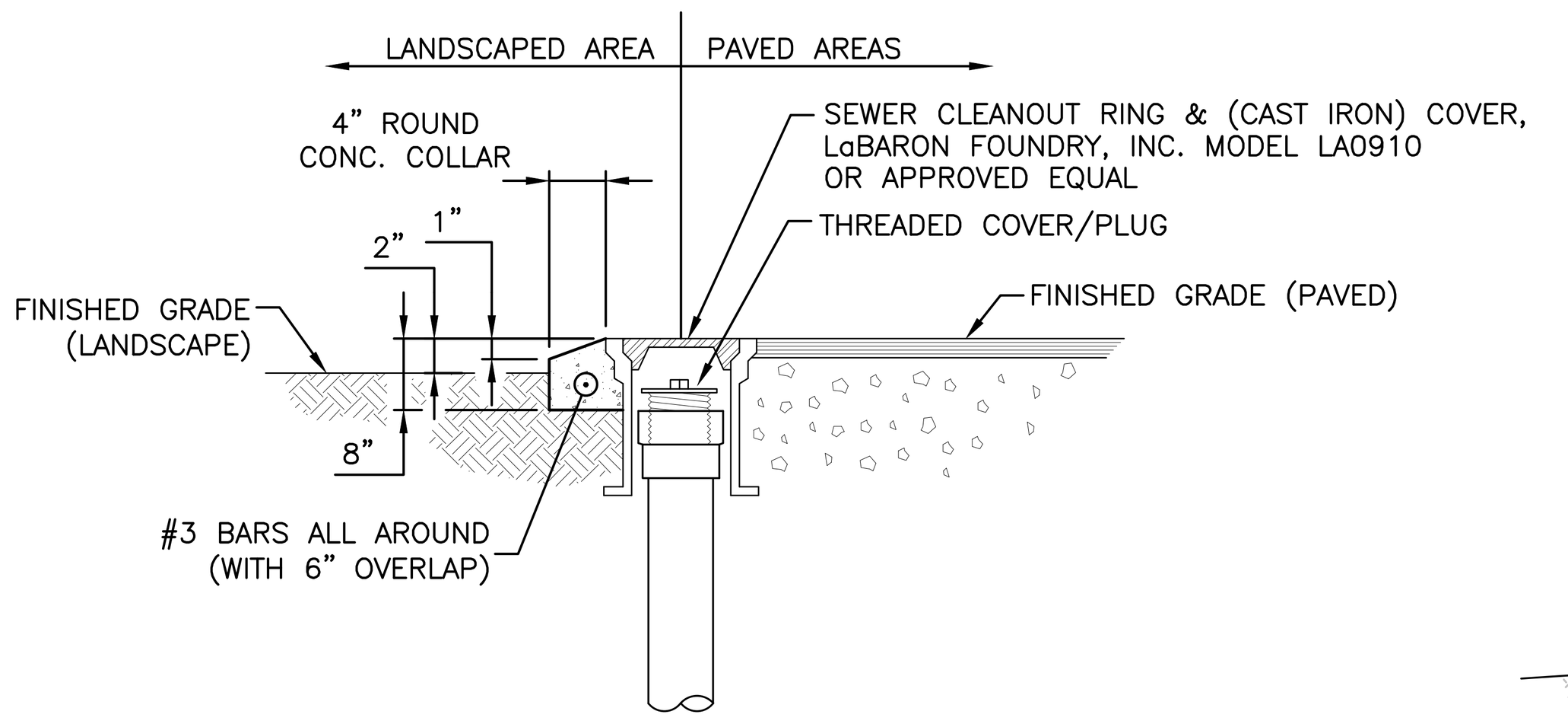
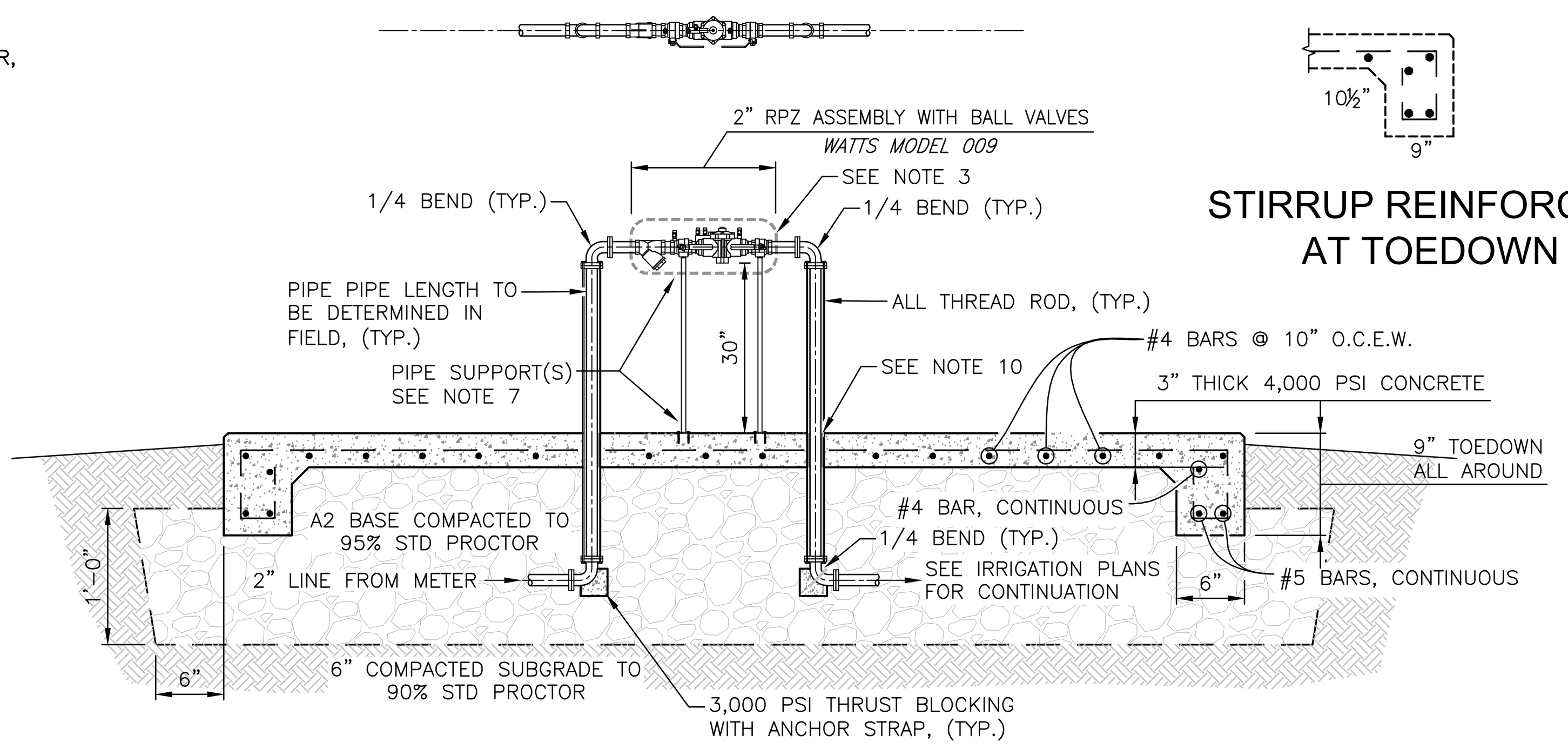
SITE DETAILS 2

C7.1



CLEANOUT ADJUSTMENT DETAIL

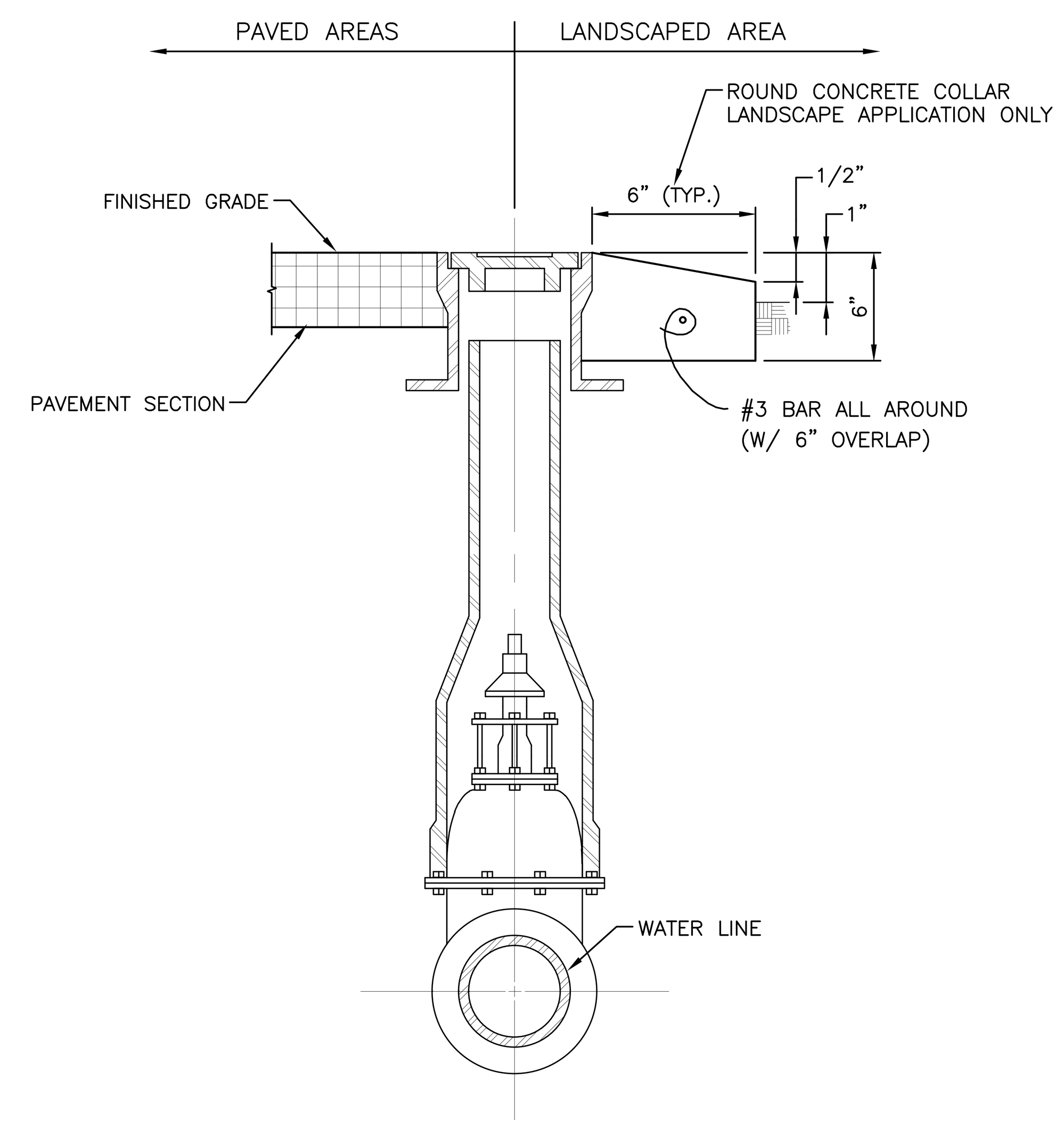
N.T.S.



"PROFILE A"
2" REDUCED PRESSURE ZONE (RPZ) ASSEMBLY DETAIL
WATTS MODEL 009

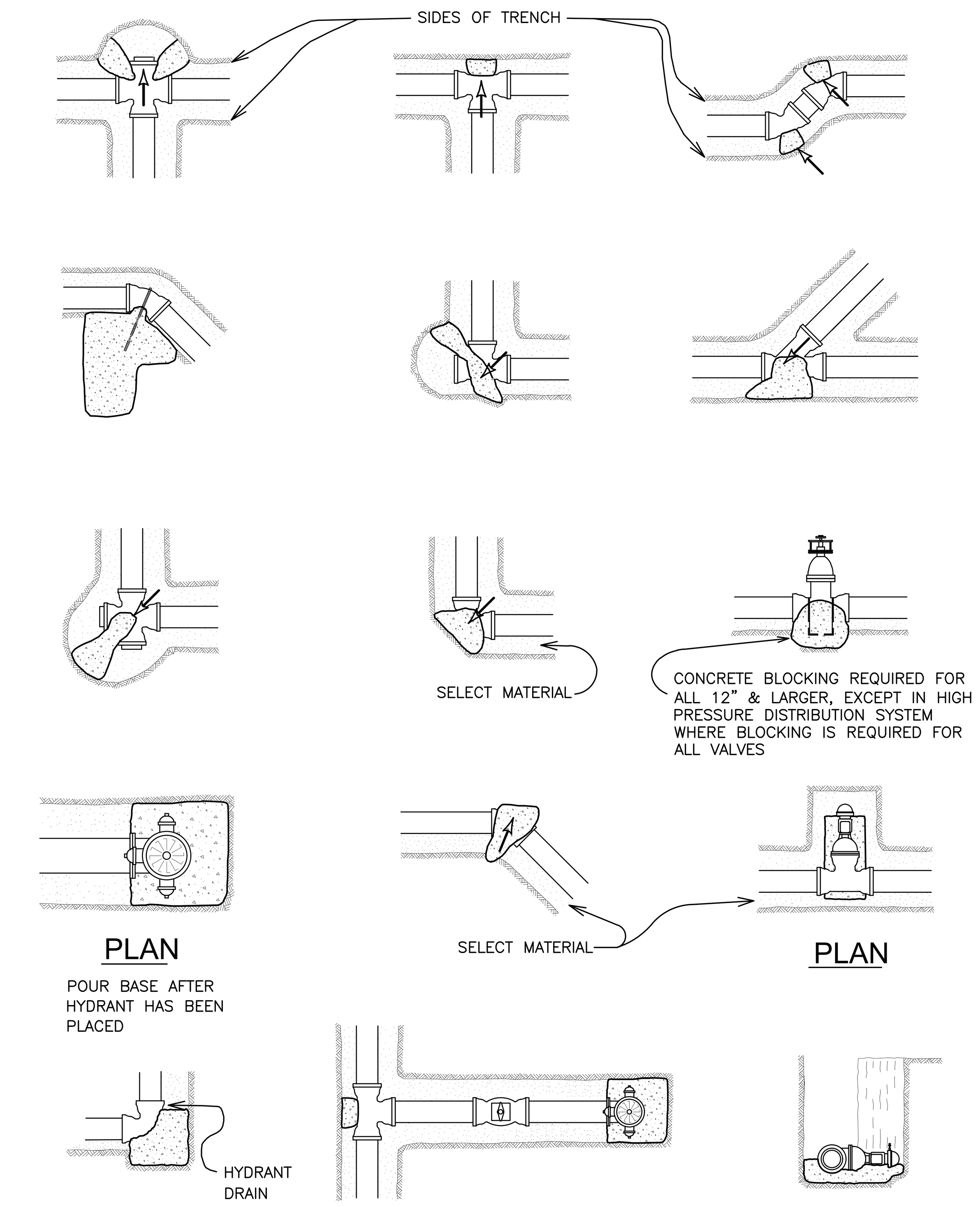
N.T.S.

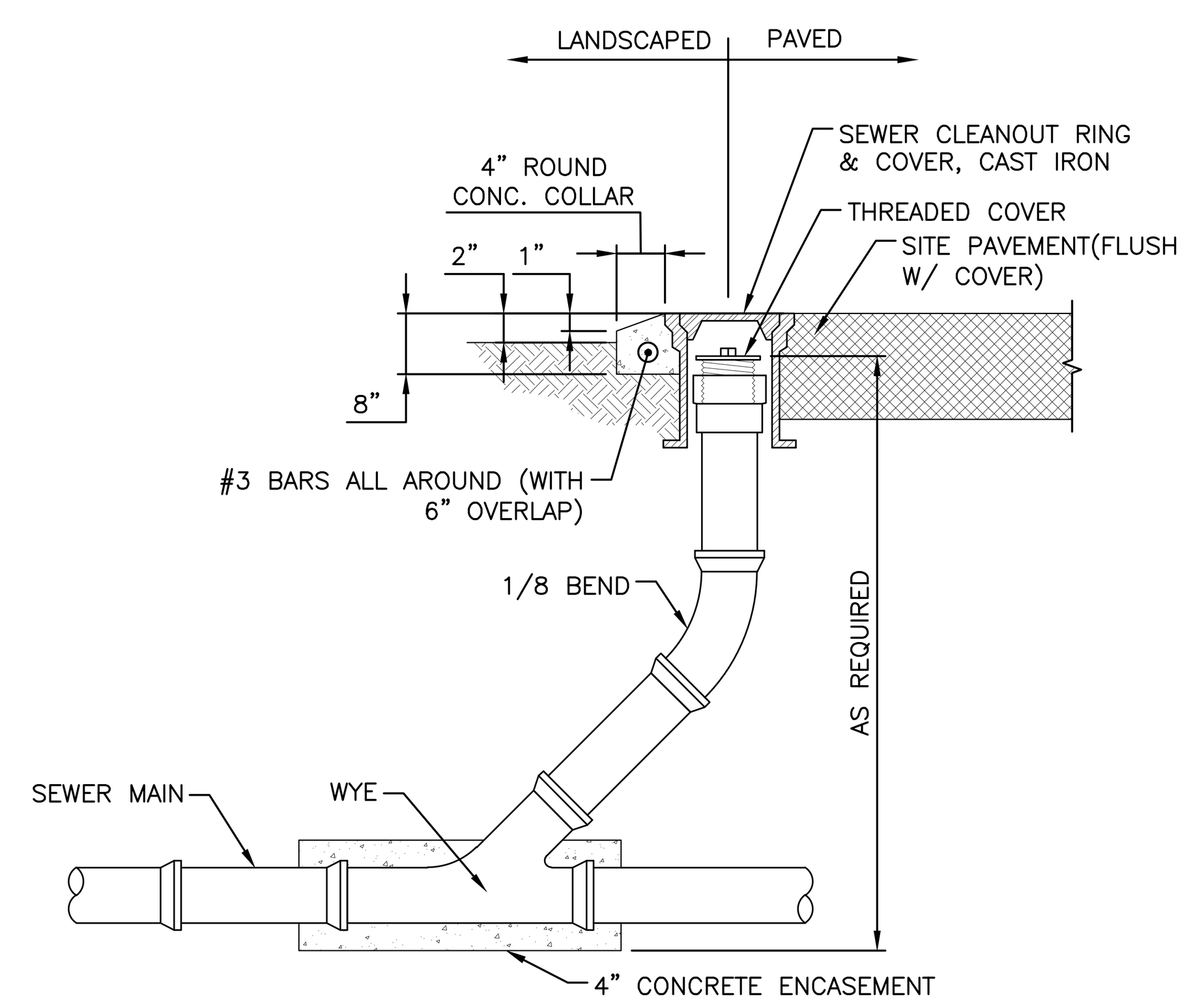
STIRRUP REINFORCING AT TOEDOWN



GATE VALVE & VALVE BOX
4" AND LARGER

N.T.S.





CLEANOUT DETAIL

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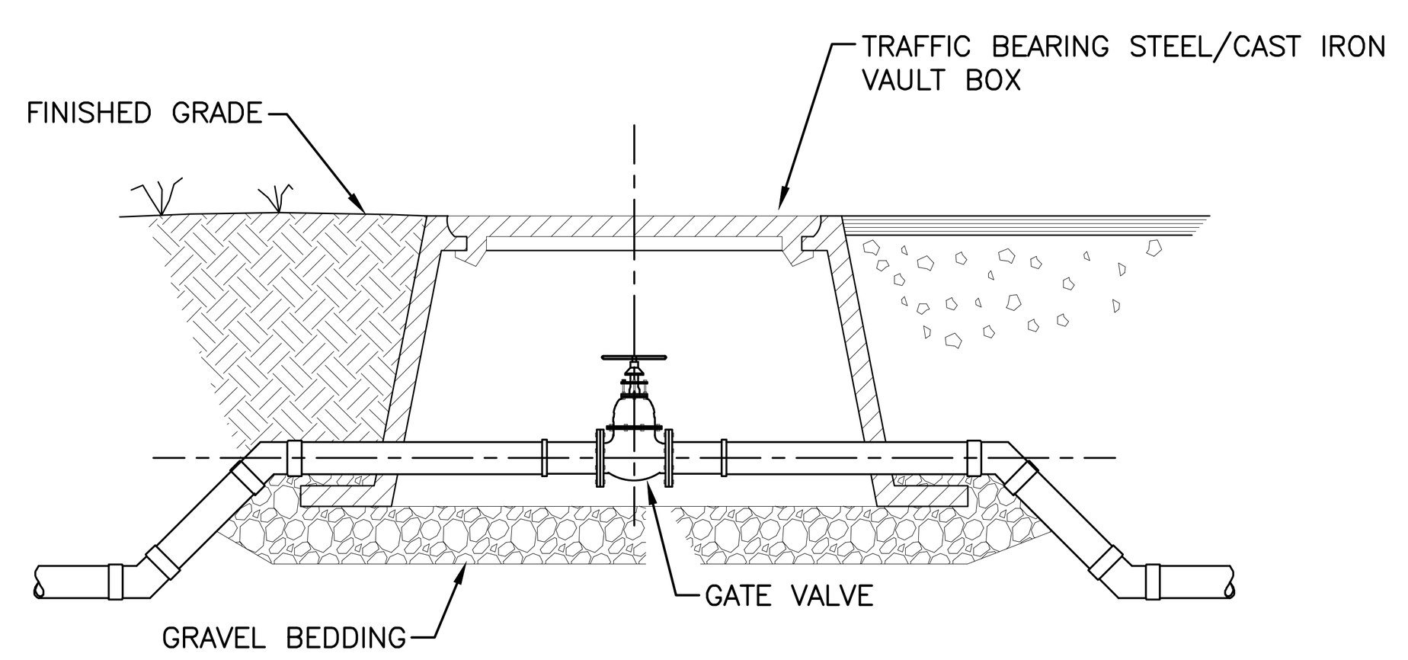
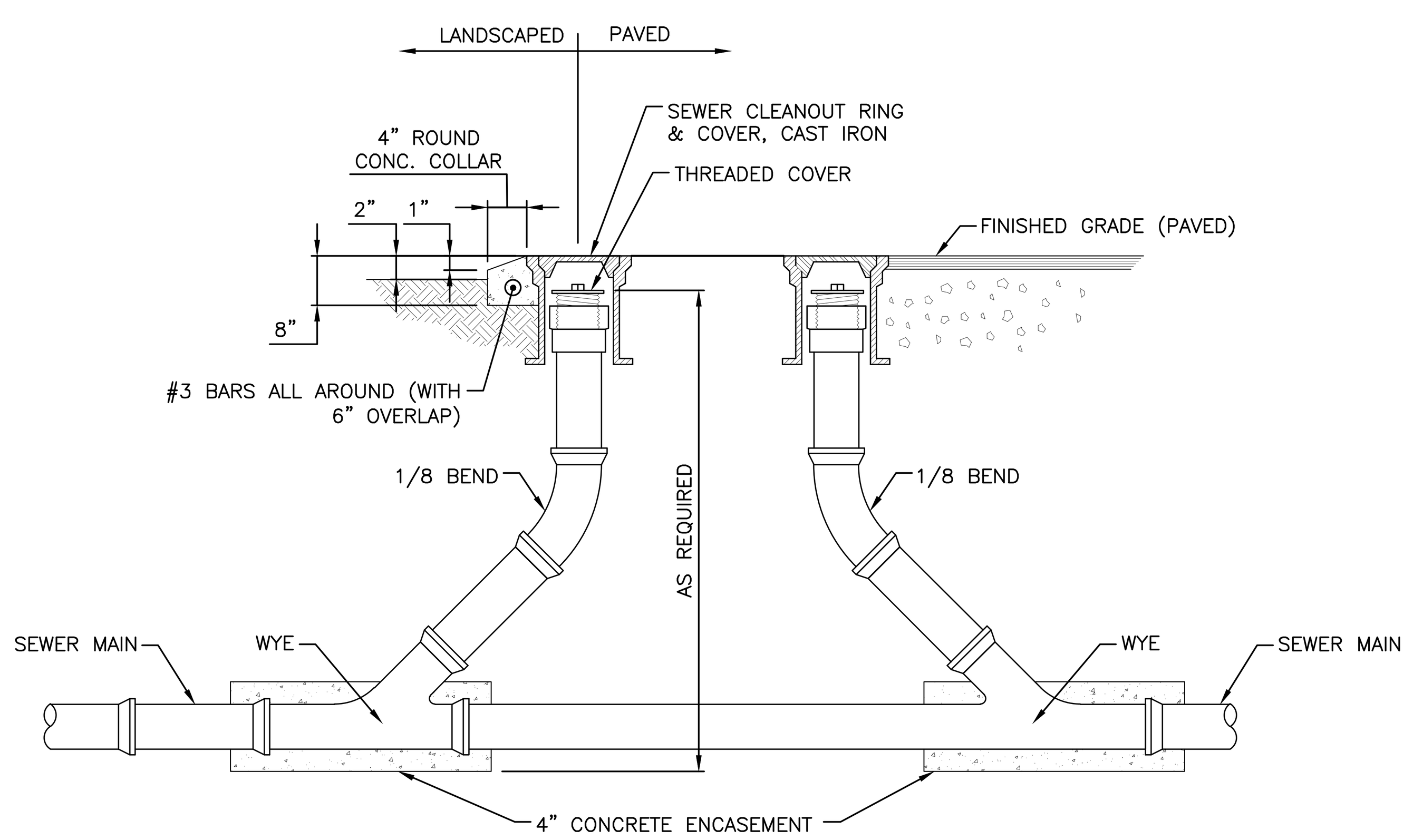


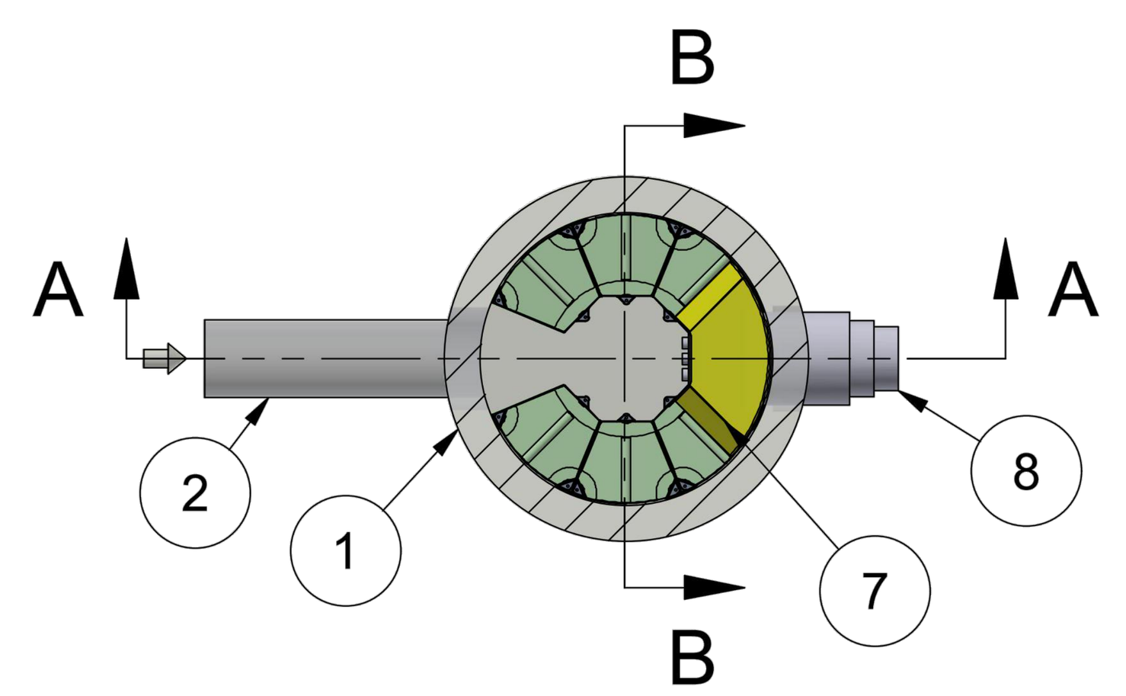
2.5" AND 3" GATE VALVE IN VAULT BOX

NOT TO SCALE



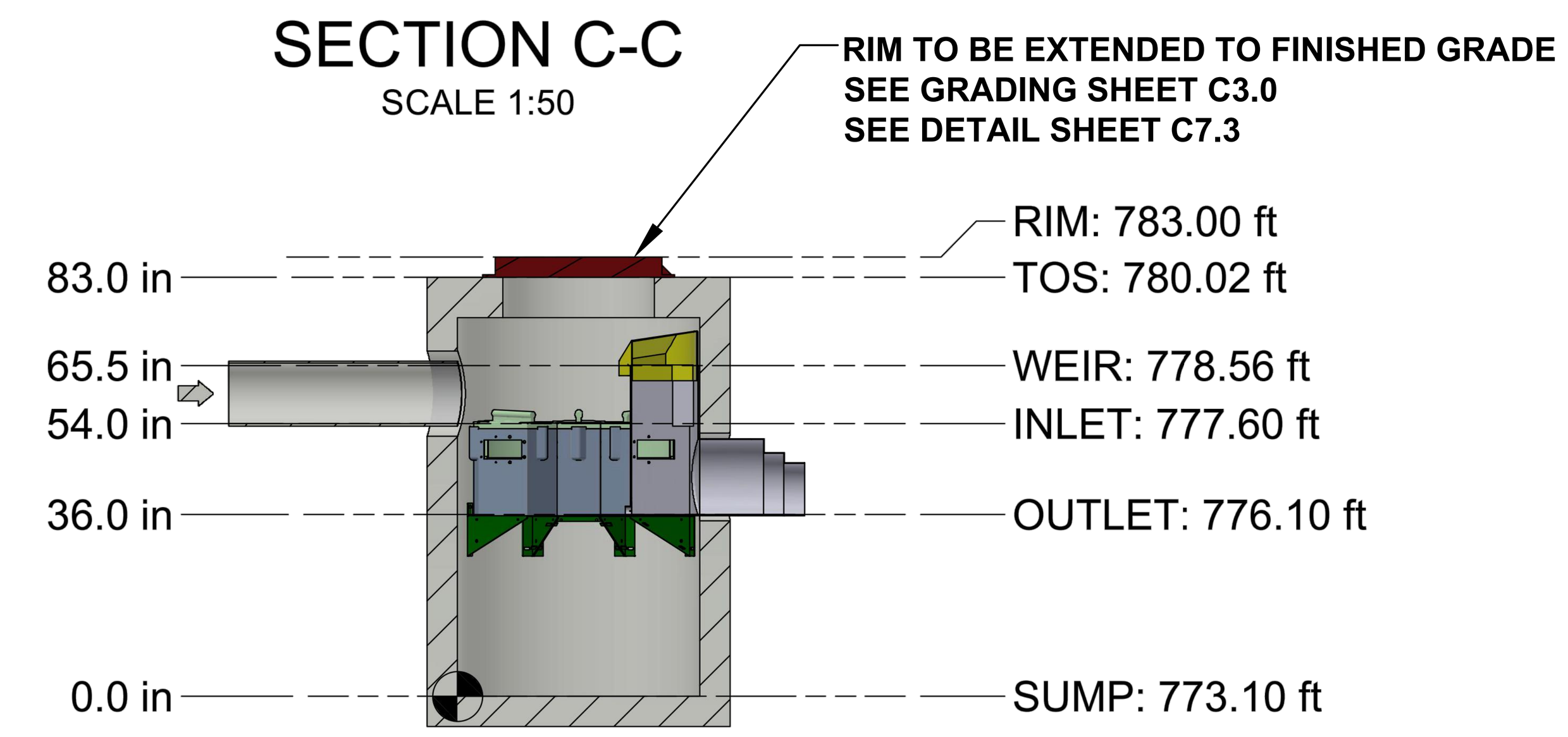
TWO-WAY CLEANOUT DETAIL

N.T.S.



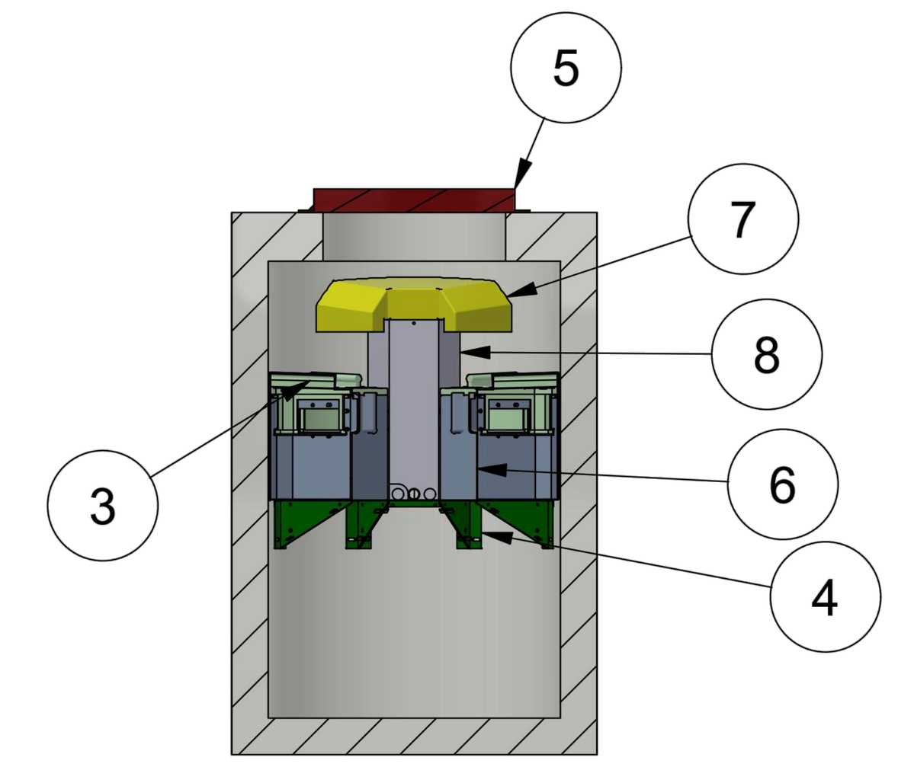
SECTION C-C

SCALE 1:50



SECTION A-A

SCALE 1:50



SECTION B-B

SCALE 1:50

NOTE:

1. STRUCTURE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.

2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING THE STRUCTURE

3. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR TO BRING CASTINGS TO FINISHED GRADE

THE ATTACHED ENGINEERING SEAL IS NOT INTENDED TO CERTIFY DESIGN AND CONSTRUCTION OF THE HYDRO INTERNATIONAL UP-FLO PROPRIETERY STRUCTURE, RATHER IS INCLUDED IN CONJUNCTION TO SEALED TSS REMOVAL CALCULATIONS CERTIFYING DESIGN PARAMETERS UTILIZED IN THE SIZING OF THIS UP-FLO UNIT.

CAPACITIES:

1. Minimum performance: 80% removal. NJDEP - NJDEP Blend; NJCAT, Sil-Co-Sil 106 (d50 = 22 microns) at the peak treatment flow.
2. Maximum number of modules per outlet module: 38 **
3. NJDEP peak treatment flow: .056 cfs (25 gpm) per module, CPZ

ADDITIONAL DESIGN INFORMATION:

1. * Normal operating W.S.E. is 2.46' above the outlet invert at the peak treatment flow of .056 cfs (25 gpm) per module. For a given flow the head requirement can be reduced by adding additional filters.
2. ** Treatment flows that require more modules will require a larger vault design or different arrangement.
3. Media Types Available: New Jersey - Ribbons; Elsewhere - CPZ

PARTS LIST

ITEM	QTY	DESCRIPTION	TYPE	SIZE (in)
1	1	PRECAST MANHOLE		48
2	1	UFF INLET PIPE	PVC	12
3	6	MODULE LID		
4	7	SUPPORT FRAME		
5	1	COVER 30 IN		30
6	6	MODULE BODY		
7	1	BYPASS HOOD-S		
8	1	OUTLET MODULE		

REVISION HISTORY

REV	BY	DESCRIPTION	DATE
A	JDP	FIRST RELEASE	7/8/2022

PROJECTION

IF IN DOUBT ASK

DATE: 7/8/2022 | SCALE: 1:50

DRAWN BY: JDP | CHECKED BY: | APPROVED BY

Title
UP-FLO FILTER
4ft Manhole

6 MODULES

WQU
MOUNTAIN VALLEY MS GYM
CANYON LAKE, TX

Patent: www.hydro-int.com/patents

Hydro International
hydro-int.com

WEIGHT: | MATERIAL:

STOCK NUMBER: 1

DRAWING NO.: 22_12_2359-UFF-1

SHEET SIZE: B | SHEET: 1 OF 1 | Rev: A

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LANDSCAPE ARCHITECTURE PLANNING
210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com
1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

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ENGINEERS | SURVEYORS
CDS Muery F-1733
JOHN ERIC ROTHE
73075
LICENSED
9/12/22

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD.
CANYON LAKE TX 78132

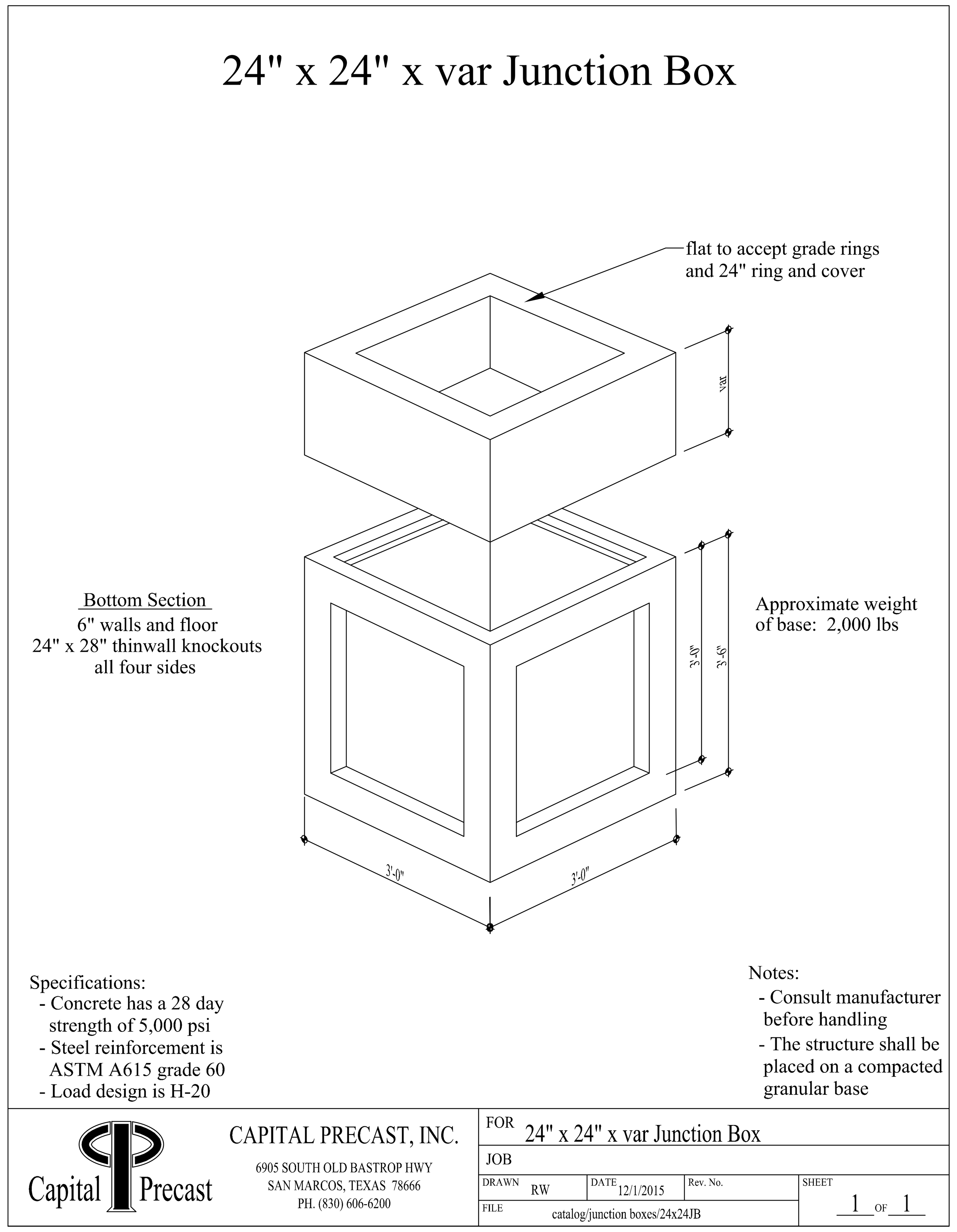
Developed for
COMAL ISD

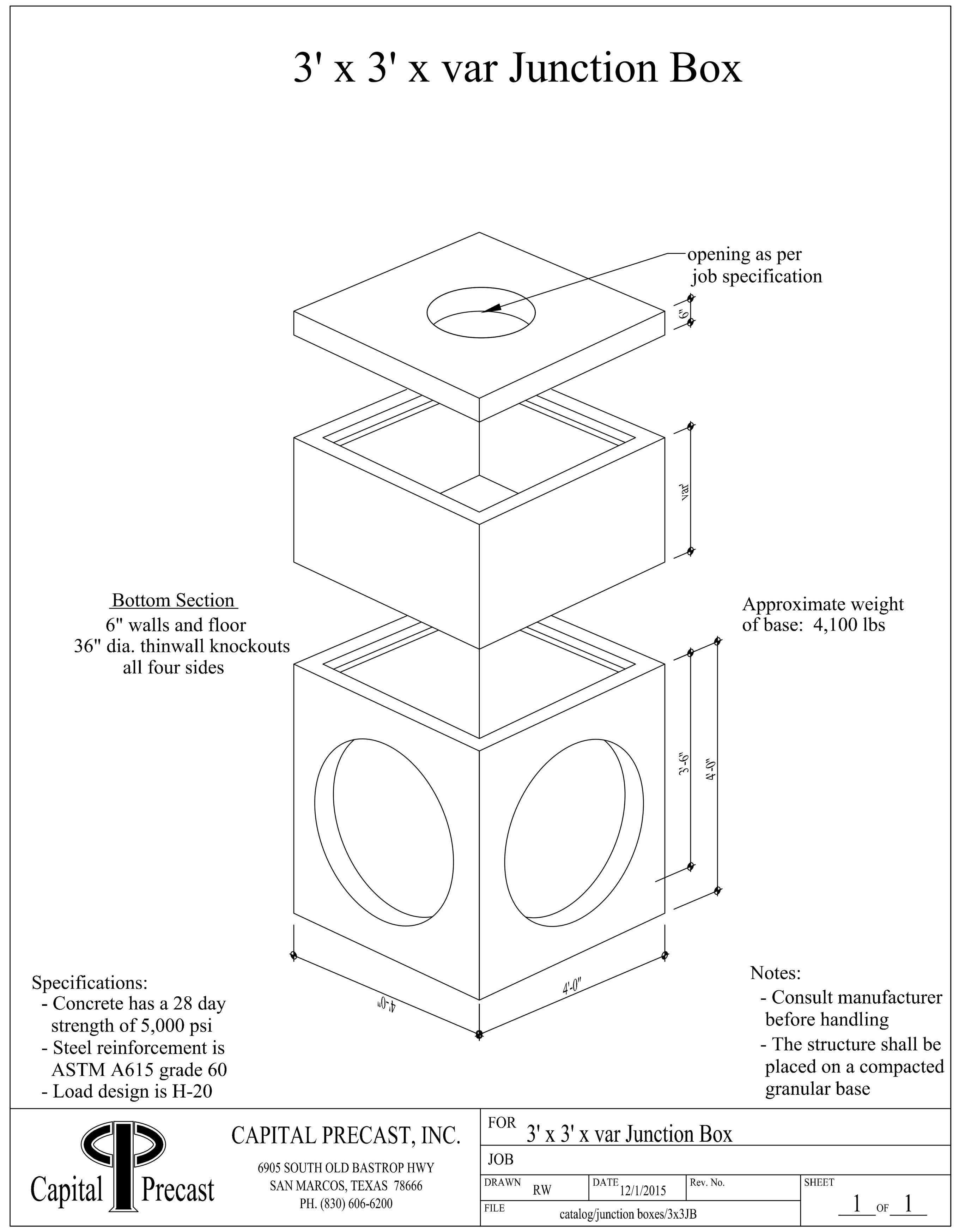
Submittal | Date | Revision | Date

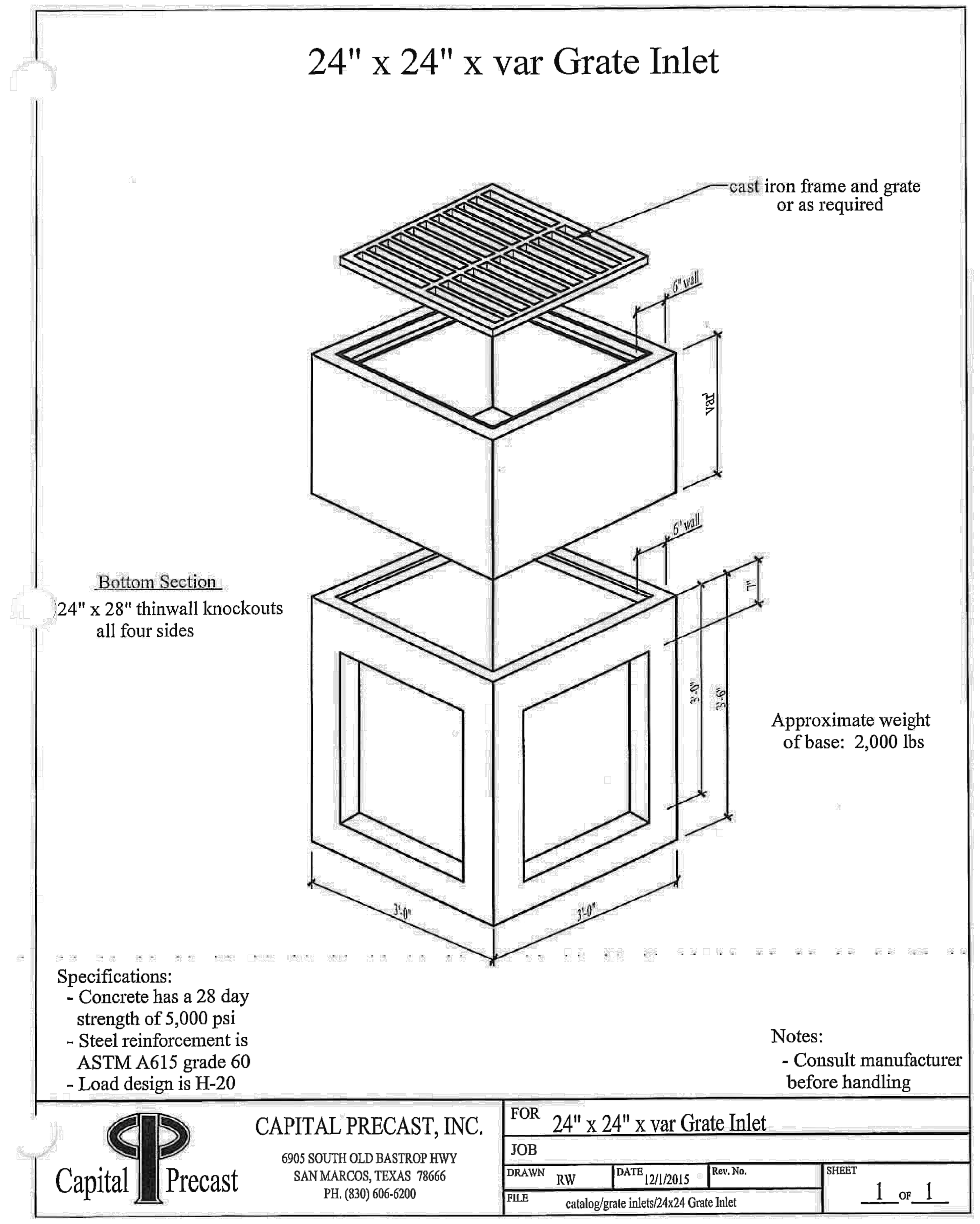
Job Number	3064301
Date Published	05/27/2022
Checked By	Checker
Scale	1" = XX'

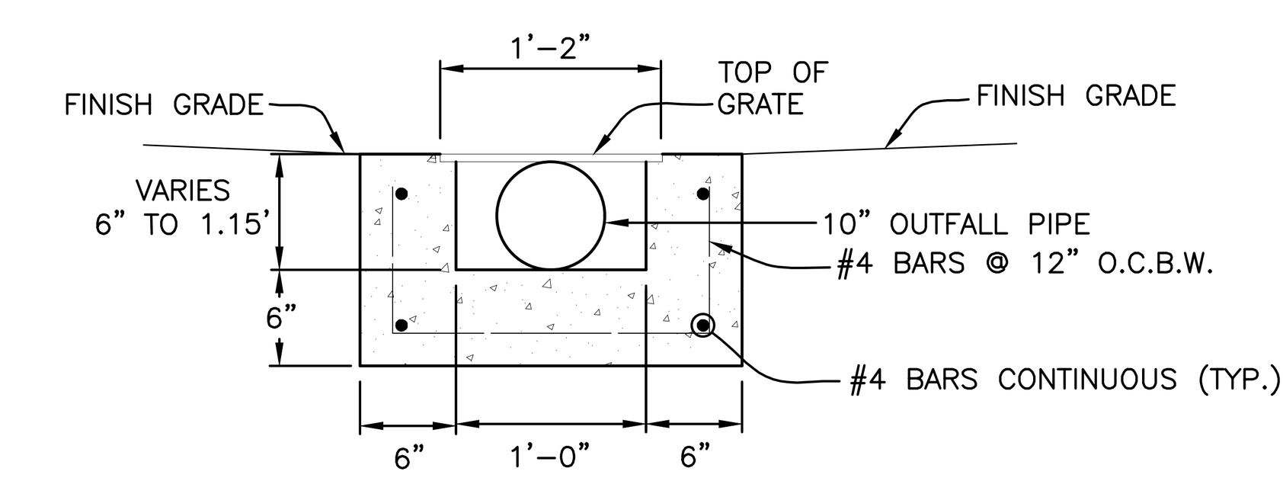
SITE DETAILS 3

C7.2


24" x 24" x var Junction Box
flat to accept grade rings and 24" ring and cover
Bottom Section
6" walls and floor
24" x 28" thinwall knockouts all four sides
Approximate weight of base: 2,000 lbs
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20
Notes:
- Consult manufacturer before handling
- The structure shall be placed on a compacted granular base
CAPITAL PRECAST, INC.
6905 SOUTH OLD BASTROP HWY
SAN MARCOS, TEXAS 78666
PH. (830) 606-6200
Capital Precast
FOR 24" x 24" x var Junction Box
JOB
DRAWN RW
DATE 12/1/2015
Rev. No.
SHEET 1 OF 1
FILE catalog/junction boxes/24x24JB

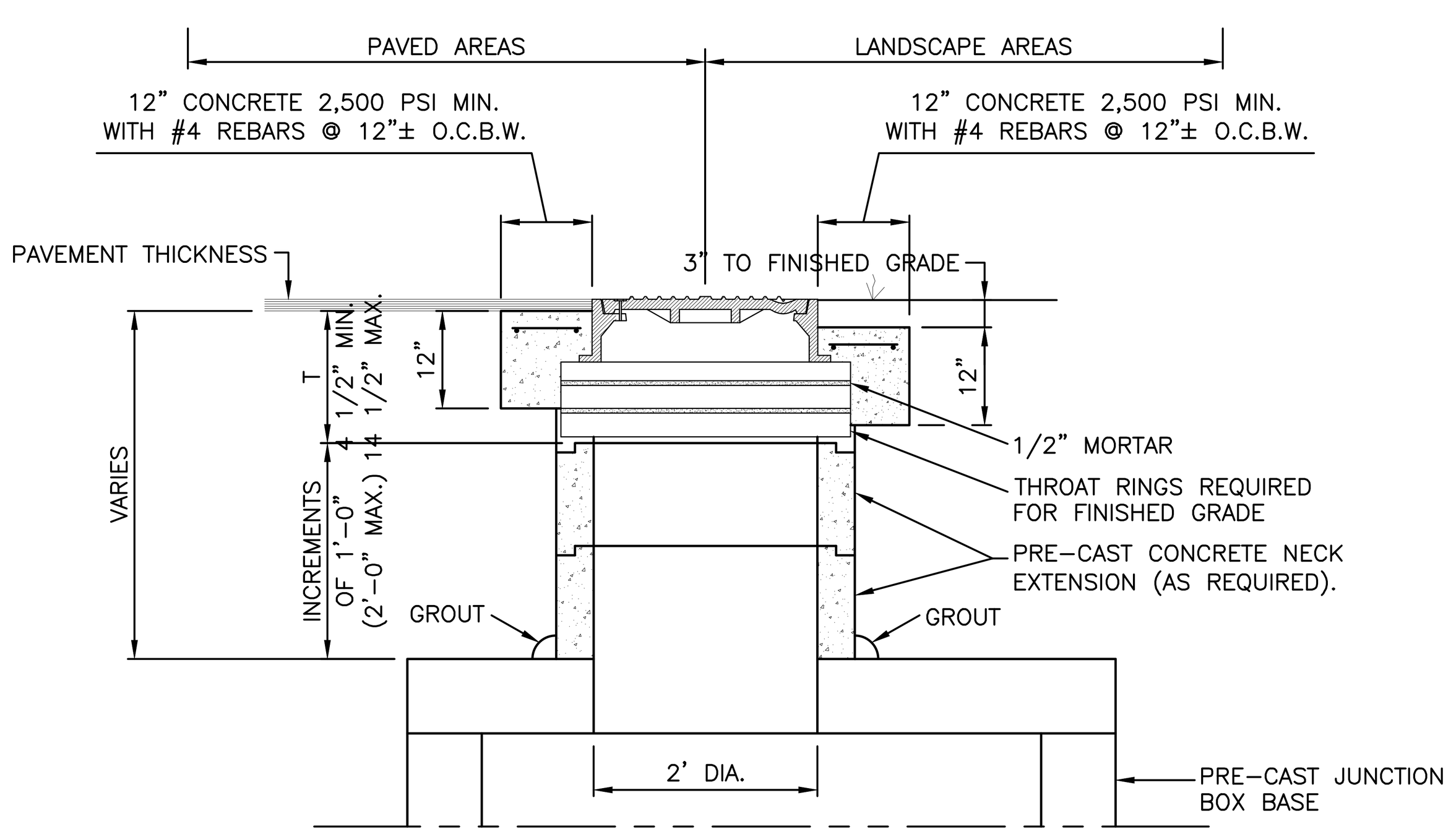

3' x 3' x var Junction Box
opening as per job specification
Bottom Section
6" walls and floor
36" dia. thinwall knockouts all four sides
Approximate weight of base: 4,100 lbs
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20
Notes:
- Consult manufacturer before handling
- The structure shall be placed on a compacted granular base
CAPITAL PRECAST, INC.
6905 SOUTH OLD BASTROP HWY
SAN MARCOS, TEXAS 78666
PH. (830) 606-6200
Capital Precast
FOR 3' x 3' x var Junction Box
JOB
DRAWN RW
DATE 12/1/2015
Rev. No.
SHEET 1 OF 1
FILE catalog/junction boxes/3x3JB


24" x 24" x var Grate Inlet
cast iron frame and grate or as required
Bottom Section
24" x 28" thinwall knockouts all four sides
Approximate weight of base: 2,000 lbs
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20
Notes:
- Consult manufacturer before handling
CAPITAL PRECAST, INC.
6905 SOUTH OLD BASTROP HWY
SAN MARCOS, TEXAS 78666
PH. (830) 606-6200
Capital Precast
FOR 24" x 24" x var Grate Inlet
JOB
DRAWN RW
DATE 12/1/2015
Rev. No.
SHEET 1 OF 1
FILE catalog/grate inlets/24x24 Grate Inlet



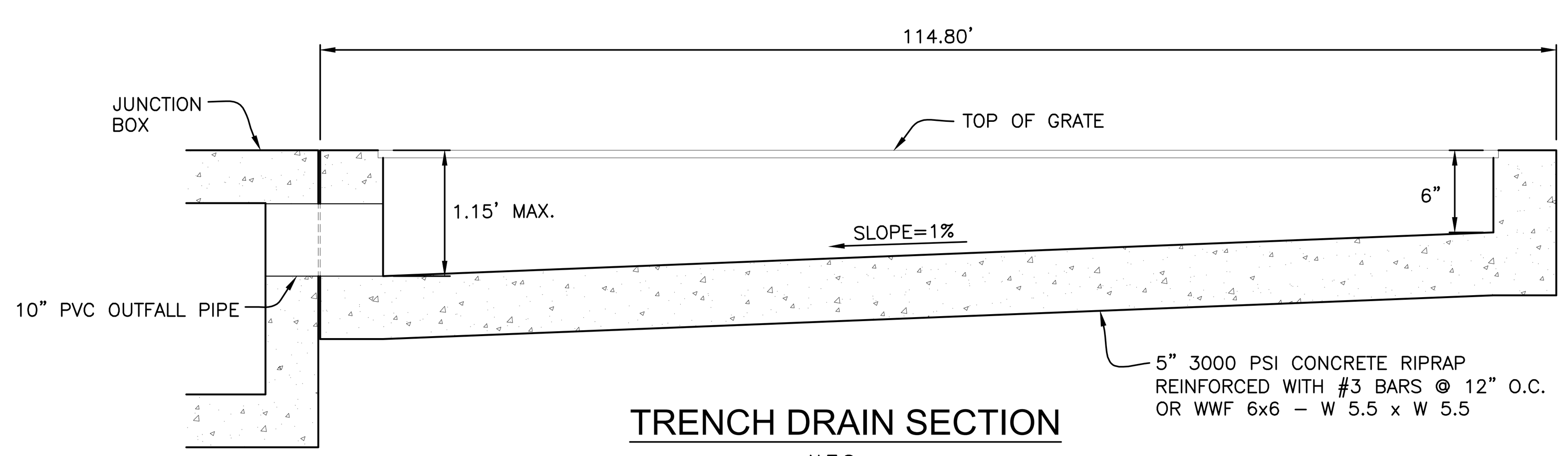
SECTION A-A

N.T.S.


PAVED AREAS
LANDSCAPE AREAS
12" CONCRETE 2,500 PSI MIN. WITH #4 REBARS @ 12"± O.C.B.W.
12" CONCRETE 2,500 PSI MIN. WITH #4 REBARS @ 12"± O.C.B.W.
PAVEMENT THICKNESS
3" TO FINISHED GRADE
12"
12"
1/2" MORTAR
THROAT RINGS REQUIRED FOR FINISHED GRADE
PRE-CAST CONCRETE NECK EXTENSION (AS REQUIRED).
VARIES
INCREMENTS OF 1'-0" (2'-0" MAX.)
GROUT
GROUT
2' DIA.
PRE-CAST JUNCTION BOX BASE

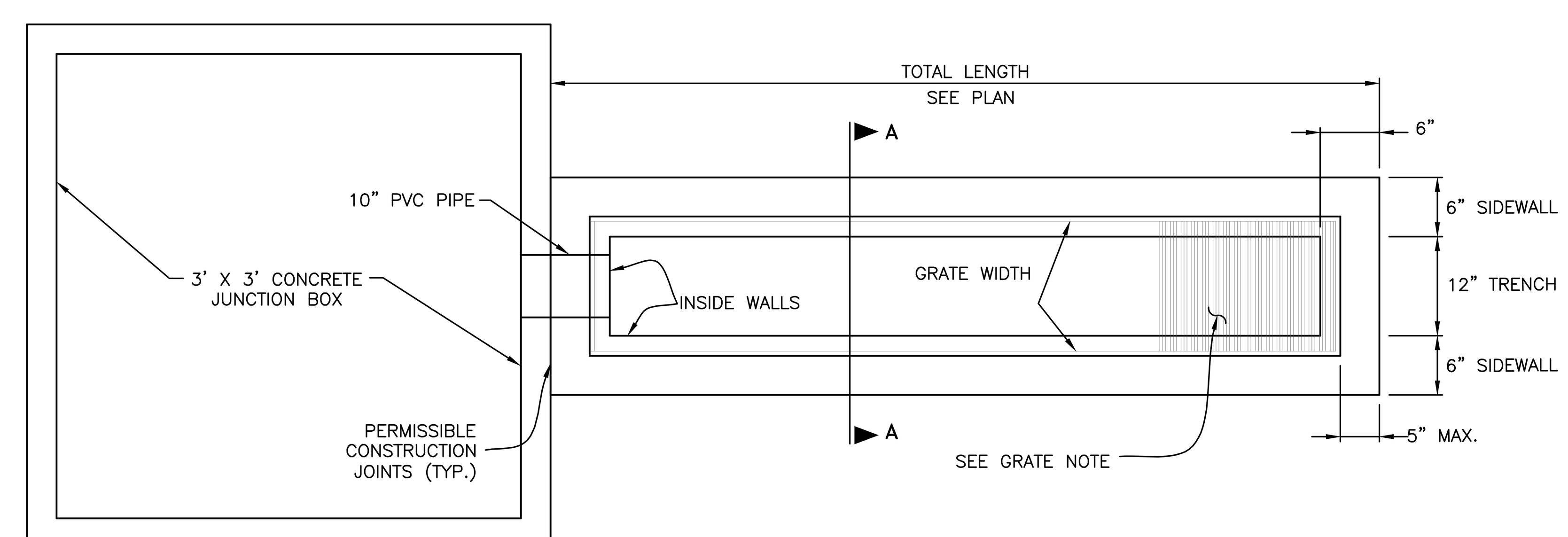
NECK EXTENSION VARIATION

N.T.S.



TRENCH DRAIN SECTION

N.T.S.



PLAN VIEW
TYPICAL TRENCH DRAIN

N.T.S.

GRATE NOTE:
GALVANIZED STEEL (PEDESTRIAN ADA)
ALL GRATES TO BE 1'-2" WIDE – BOLT DOWN

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SITE DETAILS 4

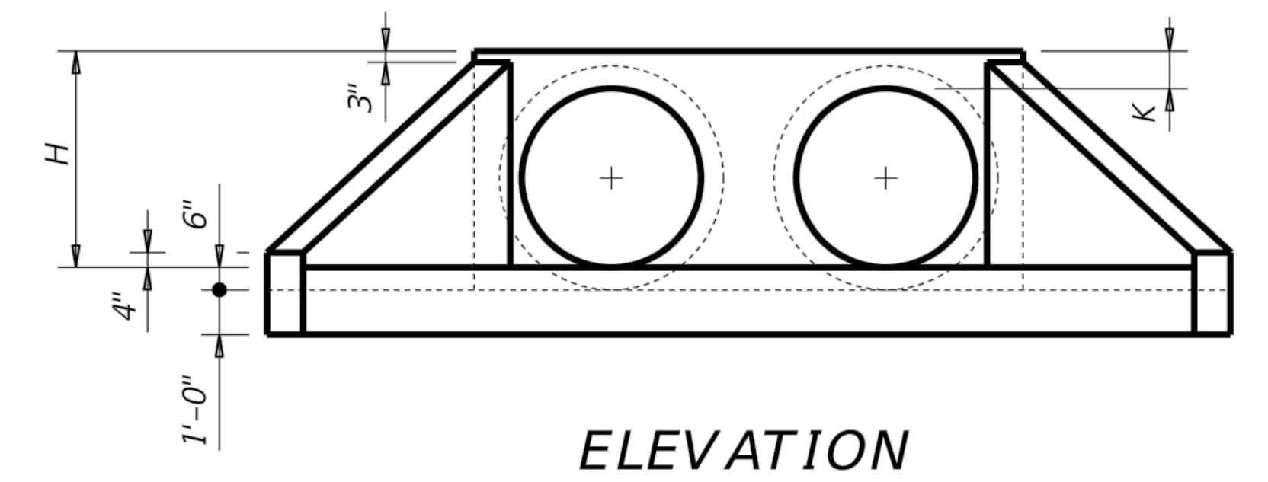
C7.3

TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (5)

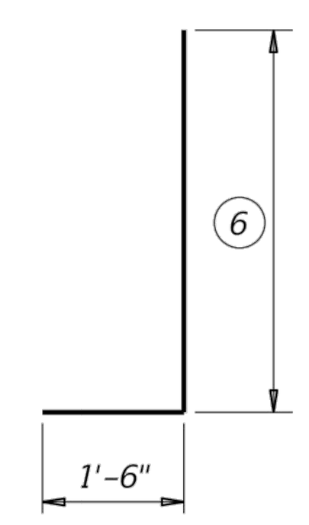
Slope	Dia of Pipe (D)	Values for One Pipe						Values to be Added for Each Addt'l Pipe		
		W	X	Y	L	Reinf (Lbs)	Conc (CY) (1)	X and W	Reinf (Lbs)	Conc (CY) (1)
2:1	12"	4' - 7 ½"	2' - 6"	2' - 10"	3' - 3 ¼"	88	0.6	1' - 9"	20	0.2
	15"	5' - 5 ¾"	2' - 9 ½"	3' - 4"	3' - 10 ¼"	103	0.7	2' - 2"	24	0.3
	18"	6' - 4 ¼"	3' - 1"	3' - 10"	4' - 5"	124	0.9	2' - 8"	32	0.3
	21"	7' - 2 ¾"	3' - 4 ½"	4' - 4"	5' - 0"	143	1.1	3' - 1"	43	0.4
	24"	8' - 2 ½"	3' - 9 ½"	4' - 10"	5' - 7"	164	1.3	3' - 7"	50	0.5
	27"	9' - 1"	4' - 1"	5' - 4"	6' - 2"	179	1.5	3' - 11"	56	0.6
	30"	9' - 11 ½"	4' - 4 ½"	5' - 10"	6' - 8 ¾"	203	1.7	4' - 4"	65	0.8
	33"	10' - 10"	4' - 8"	6' - 4"	7' - 3 ¾"	224	2.0	4' - 8"	71	0.9
	36"	11' - 8 ¼"	4' - 11 ½"	6' - 10"	7' - 10 ¾"	249	2.2	5' - 1"	81	1.0
	42"	13' - 5 ¼"	5' - 6 ½"	7' - 10"	9' - 0 ½"	298	2.8	5' - 10"	97	1.3
	48"	15' - 9"	6' - 1 ½"	9' - 4"	10' - 9 ¼"	360	3.8	6' - 7"	117	1.7
	54"	17' - 5 ¾"	6' - 8 ½"	10' - 4"	11' - 11 ¼"	427	4.5	7' - 6"	151	2.1
	60"	19' - 2 ¾"	7' - 3 ½"	11' - 4"	13' - 1"	481	5.3	8' - 3"	174	2.5
	66"	20' - 11 ½"	7' - 10 ½"	12' - 4"	14' - 3"	544	6.2	8' - 9"	194	2.9
	72"	22' - 8 ½"	8' - 5 ½"	13' - 4"	15' - 4 ¾"	601	7.1	9' - 4"	213	3.3
3:1	12"	6' - 3"	2' - 6"	4' - 3"	4' - 11"	118	0.8	1' - 9"	22	0.2
	15"	7' - 5"	2' - 9 ½"	5' - 0"	5' - 9 ¼"	137	1.1	2' - 2"	28	0.3
	18"	8' - 6 ¾"	3' - 1"	5' - 9"	6' - 7 ¾"	170	1.3	2' - 8"	37	0.5
	21"	9' - 8 ¾"	3' - 4 ½"	6' - 6"	7' - 6"	195	1.6	3' - 1"	48	0.6
	24"	11' - 0"	3' - 9 ½"	7' - 3"	8' - 4 ½"	227	2.0	3' - 7"	58	0.7
	27"	12' - 2"	4' - 1"	8' - 0"	9' - 2 ¾"	251	2.3	3' - 11"	67	0.8
	30"	13' - 4"	4' - 4 ½"	8' - 9"	10' - 1 ¼"	293	2.7	4' - 4"	77	1.0
	33"	14' - 5 ¾"	4' - 8"	9' - 6"	10' - 11 ¾"	318	3.1	4' - 8"	84	1.2
	36"	15' - 7 ¾"	4' - 11 ½"	10' - 3"	11' - 10"	351	3.5	5' - 1"	96	1.4
	42"	17' - 11 ½"	5' - 6 ½"	11' - 9"	13' - 6 ¾"	432	4.5	5' - 10"	119	1.7
	48"	21' - 1 ¾"	6' - 1 ½"	14' - 0"	16' - 2"	537	6.1	6' - 7"	146	2.3
	54"	23' - 5 ½"	6' - 8 ½"	15' - 6"	17' - 10 ¾"	630	7.3	7' - 6"	186	2.9
	60"	25' - 9 ¼"	7' - 3 ½"	17' - 0"	19' - 7 ½"	719	8.7	8' - 3"	219	3.4
	66"	28' - 1"	7' - 10 ½"	18' - 6"	21' - 4 ¼"	811	10.1	8' - 9"	242	3.9
	72"	30' - 4 ¾"	8' - 5 ½"	20' - 0"	23' - 1 ¼"	924	11.7	9' - 4"	272	4.4
4:1	12"	7' - 10 ¾"	2' - 6"	5' - 8"	6' - 6 ½"	148	1.1	1' - 9"	24	0.3
	15"	9' - 4"	2' - 9 ½"	6' - 8"	7' - 8 ½"	181	1.5	2' - 2"	32	0.4
	18"	10' - 9 ½"	3' - 1"	7' - 8"	8' - 10 ¼"	221	1.9	2' - 8"	42	0.5
	21"	12' - 2 ¾"	3' - 4 ½"	8' - 8"	10' - 0"	260	2.3	3' - 1"	57	0.7
	24"	13' - 9 ½"	3' - 9 ½"	9' - 8"	11' - 2"	301	2.8	3' - 7"	67	0.9
	27"	15' - 3"	4' - 1"	10' - 8"	12' - 3 ¾"	334	3.3	3' - 11"	77	1.0
	30"	16' - 8 ¼"	4' - 4 ½"	11' - 8"	13' - 5 ¾"	385	3.8	4' - 4"	89	1.3
	33"	18' - 1 ¾"	4' - 8"	12' - 8"	14' - 7 ½"	425	4.5	4' - 8"	101	1.4
	36"	19' - 7"	4' - 11 ½"	13' - 8"	15' - 9 ¼"	472	5.1	5' - 1"	115	1.7
	42"	22' - 5 ¾"	5' - 6 ½"	15' - 8"	18' - 1"	583	6.5	5' - 10"	141	2.1
	48"	26' - 6 ¼"	6' - 1 ½"	18' - 8"	21' - 6 ¾"	730	8.9	6' - 7"	175	2.8
	54"	29' - 5"	6' - 8 ½"	20' - 8"	23' - 10 ¼"	875	10.7	7' - 6"	226	3.6
	60"	32' - 3 ¾"	7' - 3 ½"	22' - 8"	26' - 2"	996	12.7	8' - 3"	264	4.3
	66"	35' - 2 ½"	7' - 10 ½"	24' - 8"	28' - 5 ¾"	1,140	14.9	8' - 9"	300	4.9
	72"	38' - 1 ¼"	8' - 5 ½"	26' - 8"	30' - 9 ½"	1,297	17.3	9' - 4"	334	5.6
6:1	12"	11' - 2"	2' - 6"	8' - 6"	9' - 9 ¾"	224	1.9	1' - 9"	28	0.4
	15"	13' - 2 ¼"	2' - 9 ½"	10' - 0"	11' - 6 ½"	268	2.5	2' - 2"	37	0.5
	18"	15' - 2 ½"	3' - 1"	11' - 6"	13' - 3 ¼"	330	3.2	2' - 8"	50	0.7
	21"	17' - 2 ¾"	3' - 4 ½"	13' - 0"	15' - 0 ¼"	387	3.9	3' - 1"	69	0.9
	24"	19' - 4 ½"	3' - 9 ½"	14' - 6"	16' - 9"	453	4.8	3' - 7"	80	1.2
	27"	21' - 4 ¾"	4' - 1"	16' - 0"	18' - 5 ¾"	512	5.7	3' - 11"	96	1.4
	30"	23' - 5 ¼"	4' - 4 ½"	17' - 6"	20' - 2 ½"	593	6.7	4' - 4"	110	1.7
	33"	25' - 5 ½"	4' - 8"	19' - 0"	21' - 11 ¼"	675	7.8	4' - 8"	127	2.0
	36"	27' - 5 ¾"	4' - 11 ½"	20' - 6"	23' - 8"	735	9.0	5' - 1"	144	2.3
	42"	31' - 6 ¼"	5' - 6 ½"	23' - 6"	27' - 1 ½"	922	11.5	5' - 10"	179	3.0
	48"	37' - 3 ½"	6' - 1 ½"	28' - 0"	32' - 4"	1,191	15.9	6' - 7"	231	4.0
	54"	41' - 4 ¼"	6' - 8 ½"	31' - 0"	35' - 9 ½"	1,424	19.2	7' - 6"	300	5.0
	60"	45' - 4 ¾"	7' - 3 ½"	34' - 0"	39' - 3"	1,631	22.9	8' - 3"	353	6.0

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

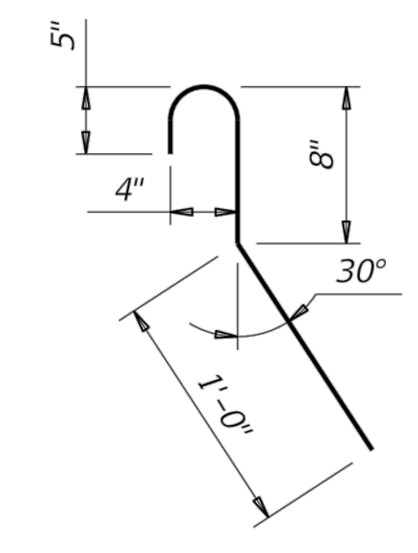
DATE:
FILE:



ELEVATION
(Showing dimensions.)



BARS V



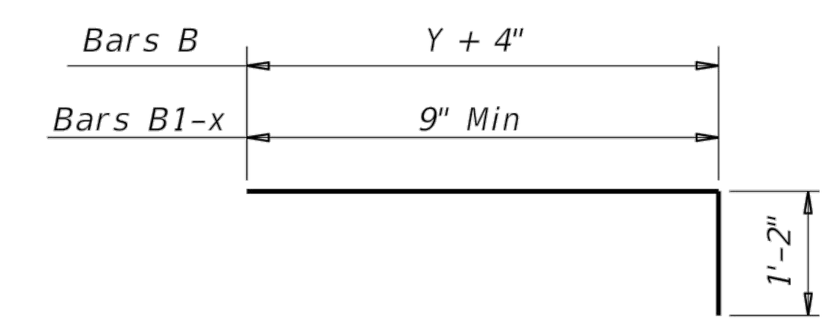
BARS CL
(Length = 2'-5")

TABLE OF REINFORCING STEEL (5)

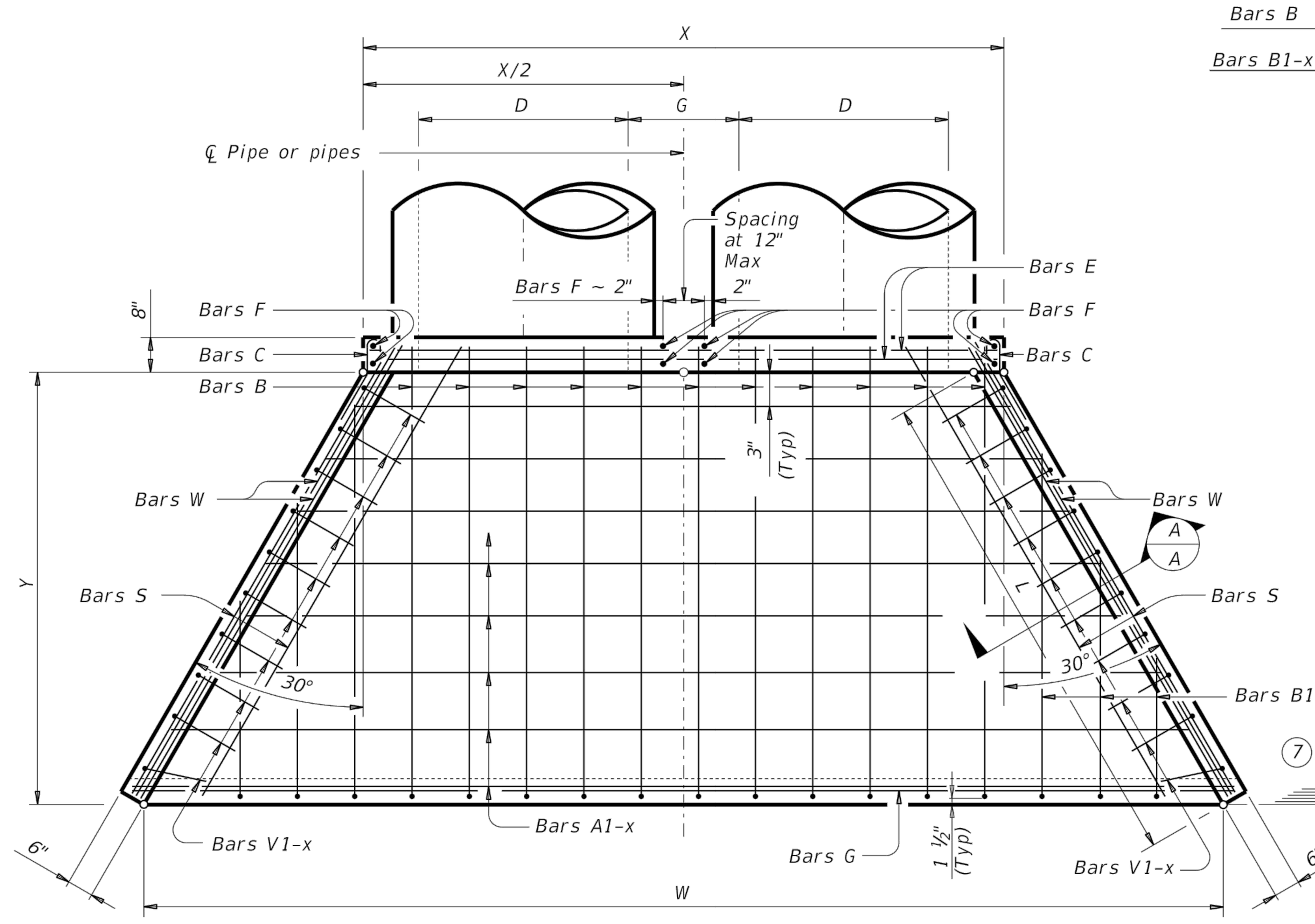
Bar	Size	Spa	No.
A	#4	1' - 0"	~
B	#3	1' - 6"	~
C	#4	1' - 0"	~
D	#3	1' - 0"	~
E	#5	~	4
F	#5	~	~
G	#3	~	2
S	#4	~	6
V	#4	1' - 0"	~
W	#5	~	4

TABLE OF CONSTANT DIMENSIONS

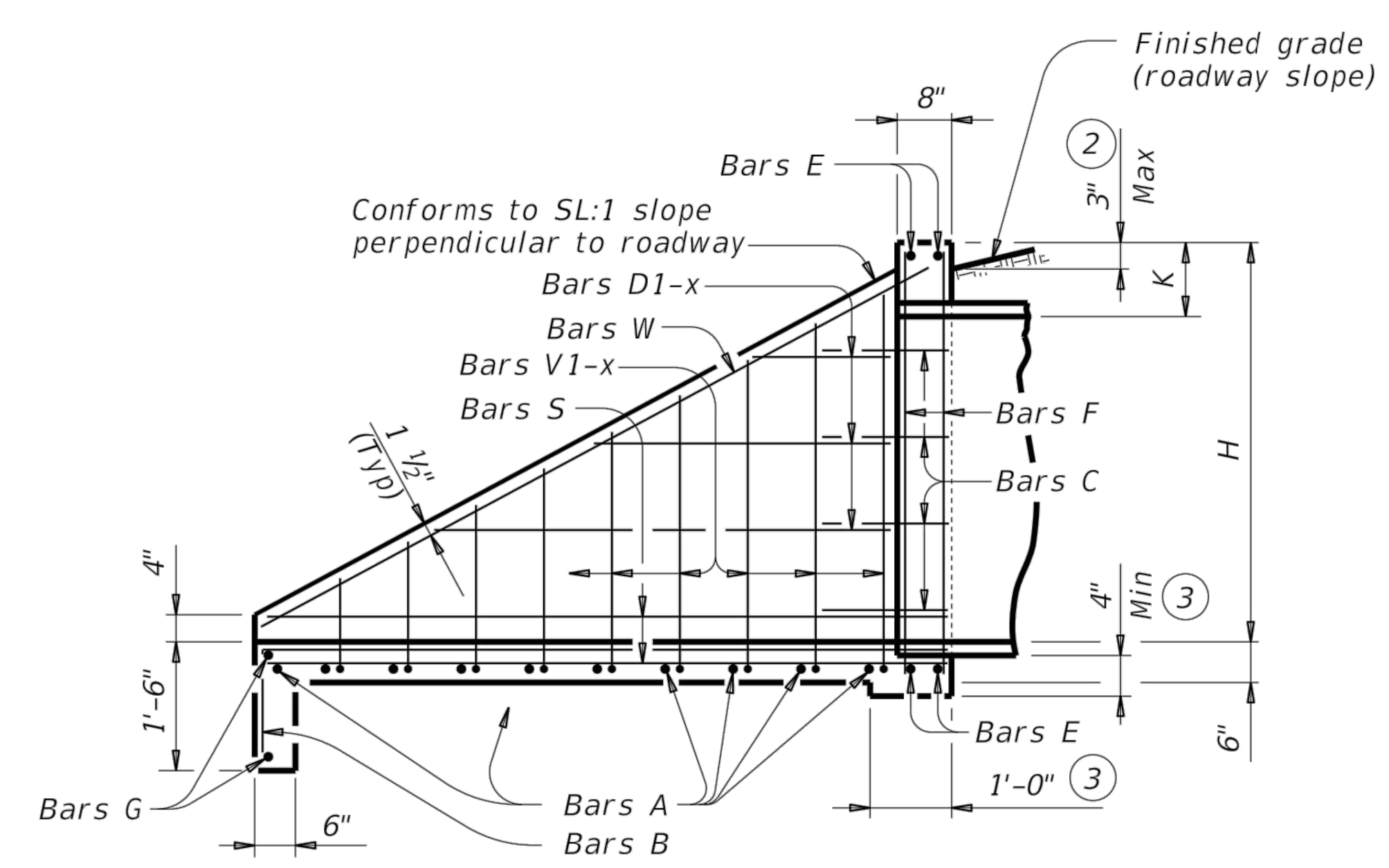
Dia of Pipe (D)	G	K (4)	H
12"	0' - 9"	1' - 0"	2' - 0"
15"	0' - 11"	1' - 0"	2' - 3"
18"	1' - 2"	1' - 0"	2' - 6"
21"	1' - 4"	1' - 0"	2' - 9"
24"	1' - 7"	1' - 0"	3' - 0"
27"	1' - 8"	1' - 0"	3' - 3"
30"	1' - 10"	1' - 0"	3' - 6"
33"	1' - 11"	1' - 0"	3' - 9"
36"	2' - 1"	1' - 0"	4' - 0"
42"	2' - 4"	1' - 0"	4' - 6"
48"	2' - 7"	1' - 3"	5' - 3"
54"	3' - 0"	1' - 3"	5' - 9"
60"	3' - 3"	1' - 3"	6' - 3"
66"	3' - 3"	1' - 3"	6' - 9"
72"	3' - 4"	1' - 3"	7' - 3"



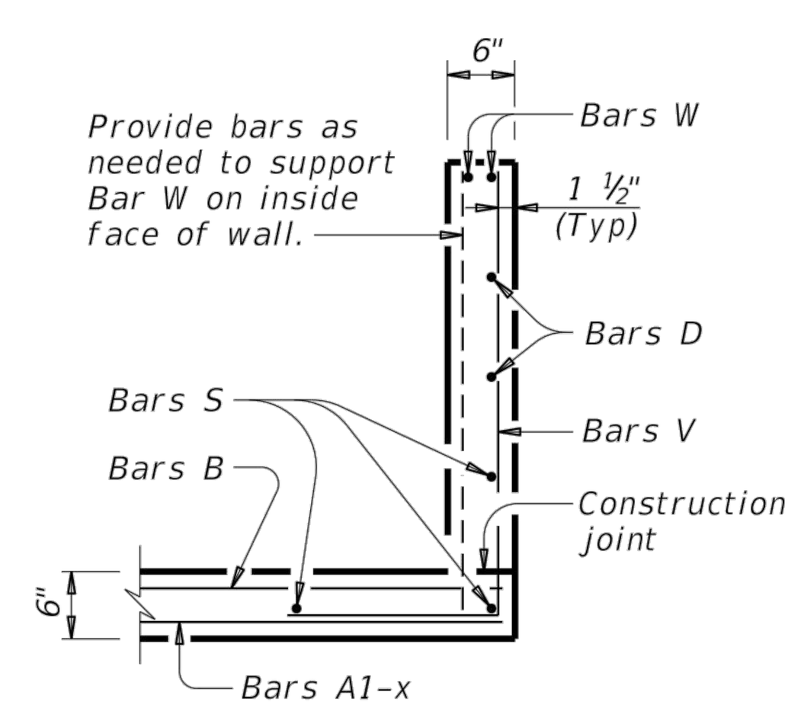
BARS B and B1-x



PLAN



TYPICAL WING ELEVATION



SECTION A-A

(1) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(2) For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(3) Provide a 1'-0" footing as shown where required to maintain 4" minimum cover for pipes.

(4) Dimenisions shown are usual and maximum.

(5) Quantities shown are for one structure end only (one headwall).

(6) Min Length = $6" + 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right)$

Max Length = $12 \times H - 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right) - 1"$

(7) Lengths of wings based on SL:1 slope along this line.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not mount bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

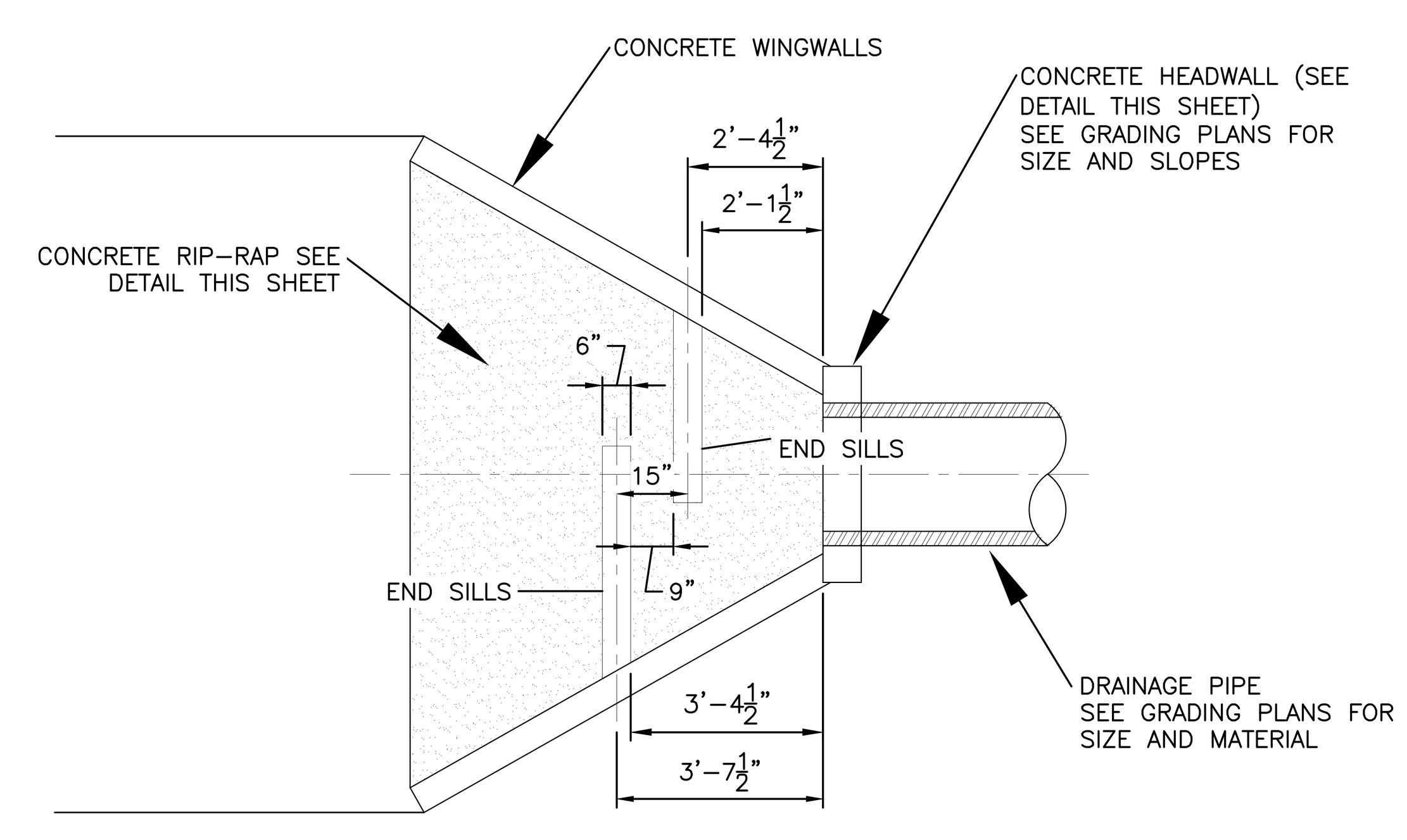
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation | Bridge Division Standard

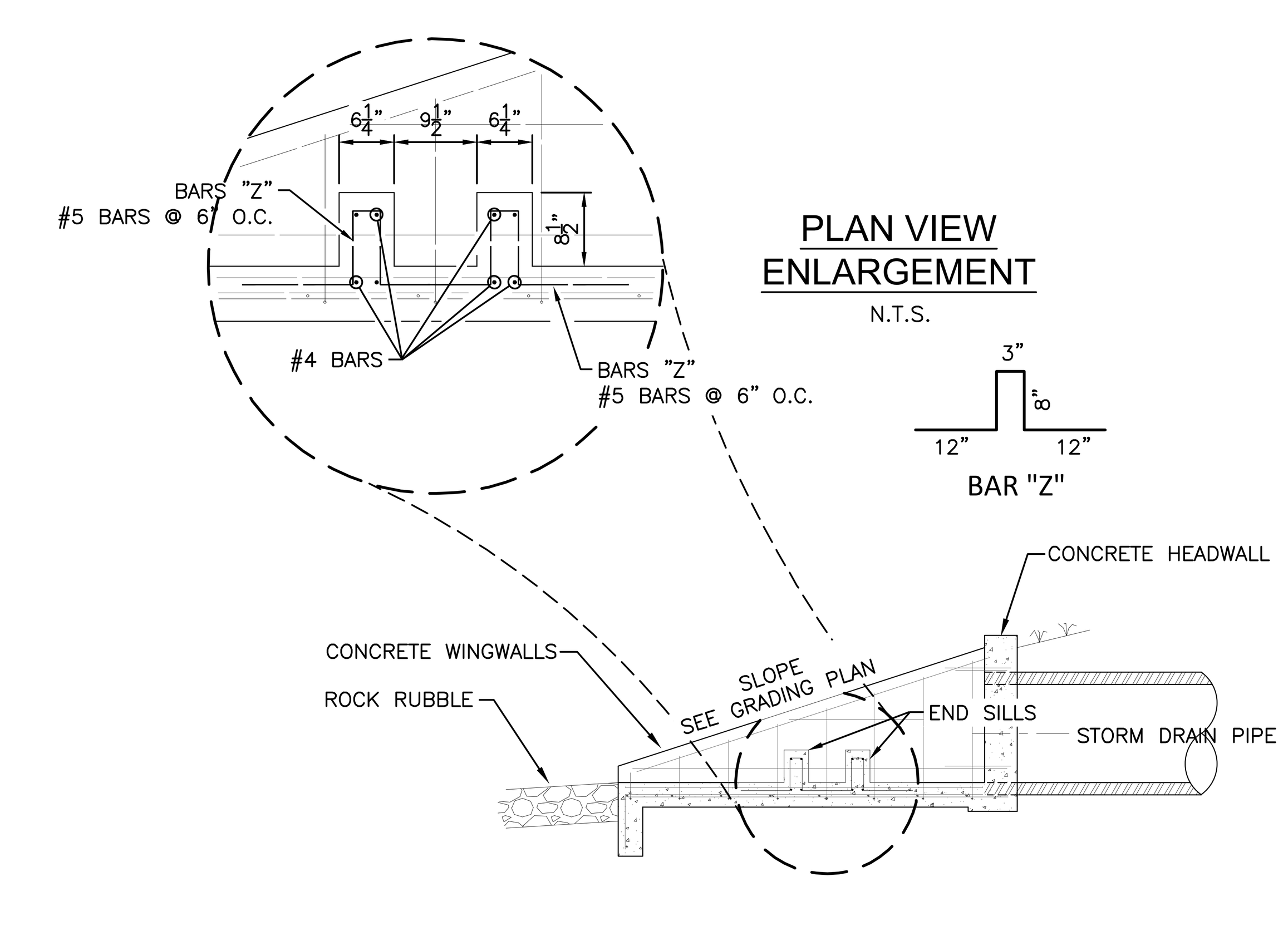
CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS

CH-FW-0

FILE: chfw00se-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.



PLAN VIEW
N.T.S.



PLAN VIEW ENLARGEMENT
N.T.S.

ELEVATION VIEW
N.T.S.

END SILL DETAIL AT HEADWALL
N.T.S.

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CDS muery
ENGINEERS | SURVEYORS
100 NE LOOP 410, STE. 300 | SAN ANTONIO, TEXAS 78216
(210) 581-1111 | TBPE NO. F-1733 | TBPLS NO. 100495-00

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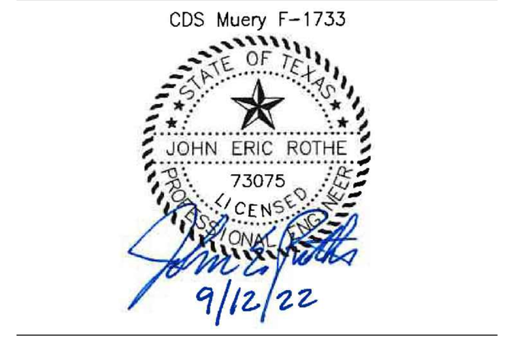

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1165 SATTLER RD.
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Submittal	Date	Revision	Date

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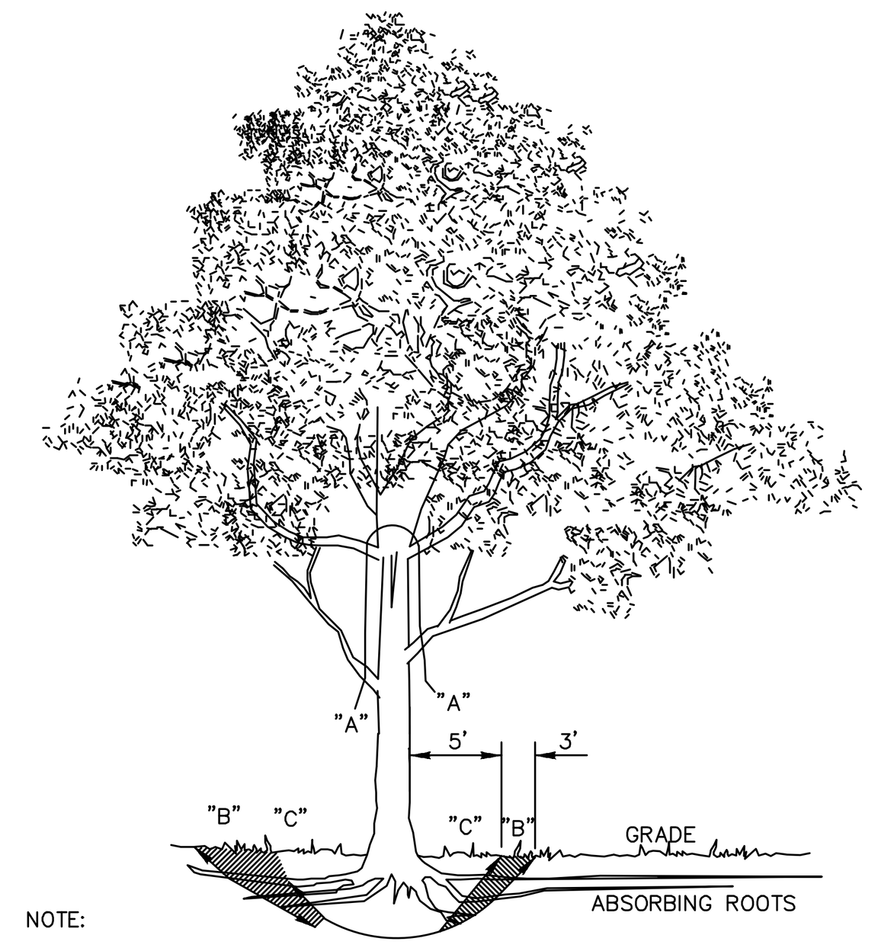
SITE DETAILS 5

C7.4

GENERAL NOTES:

1. ALL PROTECTED SIZE TREES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802 (TREE PRUNING, SOIL AMENDING AND FERTILIZATION), UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 801 (TREE AND LANDSCAPE PROTECTION) AND AS DETAILED IN 1.1.2.
2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE CITY APPROVED PLANS.
3. NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND PROTECTION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE CITY ARBORIST OFFICE.
4. TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
5. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES (3") IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR IF ROOTS LARGER THAN THREE (3") WITHIN THE FIVE FOOT (5') ROOT PROTECTION ZONE NEED TO BE PRUNED.
6. THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUCK IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.
7. NO DISTURBANCE SHALL OCCUR CLOSER TO THE TRUNK THAN HALF THE ROOT PROTECTION ZONE AREA.
8. TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND.
9. TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
10. EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
11. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST OFFICE PRIOR TO ITS REMOVAL.
12. TREE PLANTING AND MAINTENANCE: ALL PRESERVED AND PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATING, FERTILIZING, PRUNING, AND OTHER MAINTENANCE AS NEEDED. TREES THAT DIE WITHIN TWELVE MONTHS SHALL BE REPLACED WITH A TREE OF COMPARABLE SIZE AND SPECIES. REGARDING REPLACEMENT OF PRESERVED TREES, SIGNIFICANT TREES SHALL BE REPLACED AT A 1:1 RATIO (OR INCH-FOR-INCH) AND HERITAGE TREES SHALL BE REPLACED AT A 3:1 RATIO (OR THREE-TO-ONE INCHES).



NOTE:

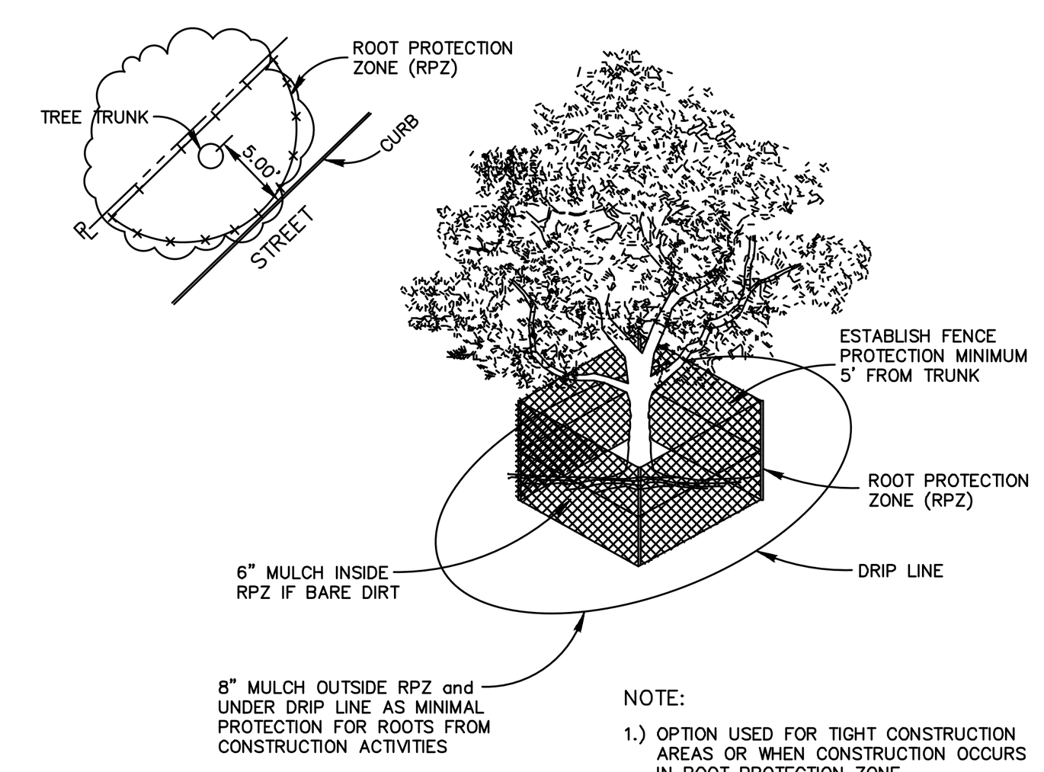
"A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.

"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK – CUT THRU ANCHOR ROOTS AT AN ANGLE – 3' TO 4' DEEP

"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)

"D" BACKFILL HOLE AND CLEAN UP.

5 TREE REMOVAL DIAGRAM
SCALE N.T.S.

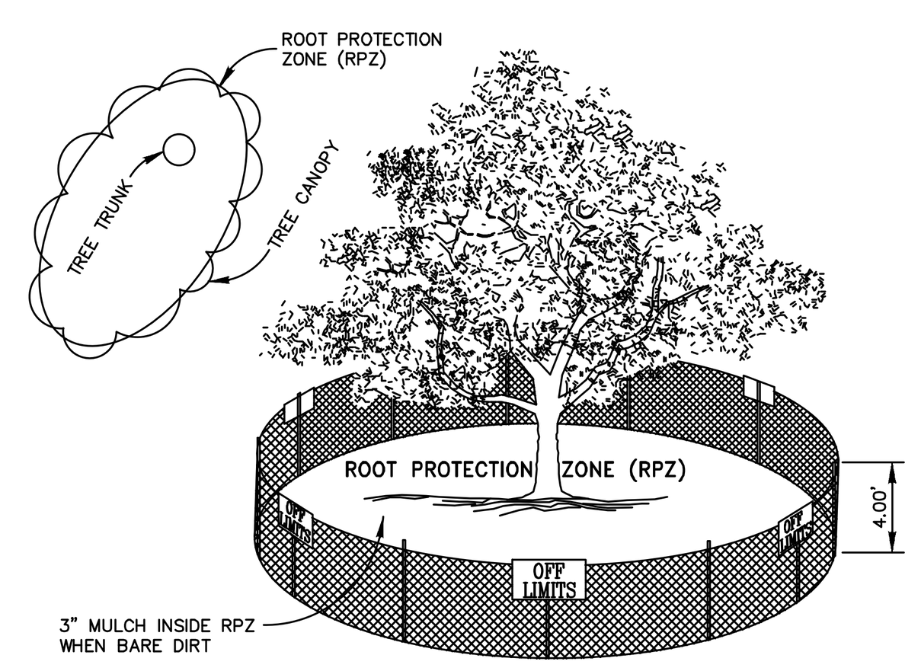


NOTE:

1.) OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.

2.) FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1 LEVEL II A FENCE PROTECTION
SCALE N.T.S.

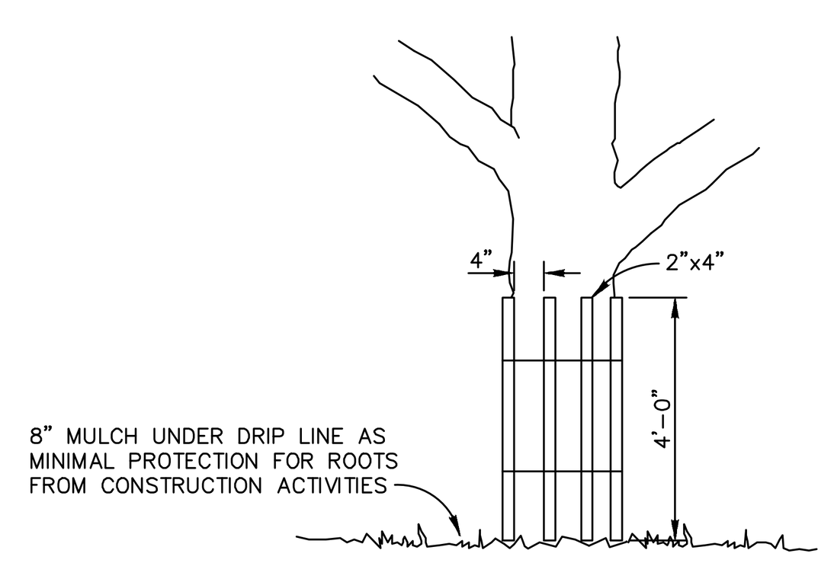


NOTE:

1.) THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED. TO PROJECT BOUNDARY.

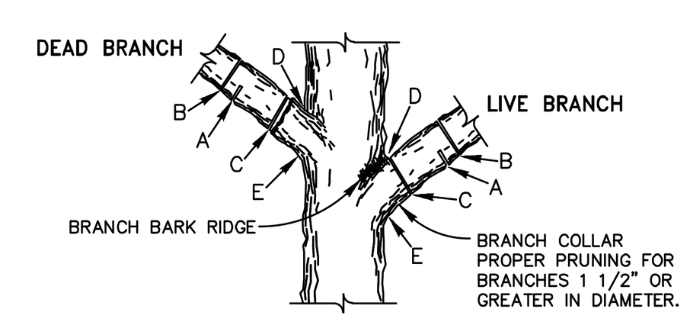
2.) FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

2 LEVEL I A FENCE PROTECTION
SCALE N.T.S.



NOTE:
WRAP TREE TRUNK WITH 2"x4" STUDS and ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

6 LEVEL II B FENCE PROTECTION
SCALE N.T.S.



NOTE:

DO NOT CUT FROM D to E.

A. FIRST CUT – TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.

B. SECOND CUT – TO REDUCE THE WEIGHT OF BRANCH.

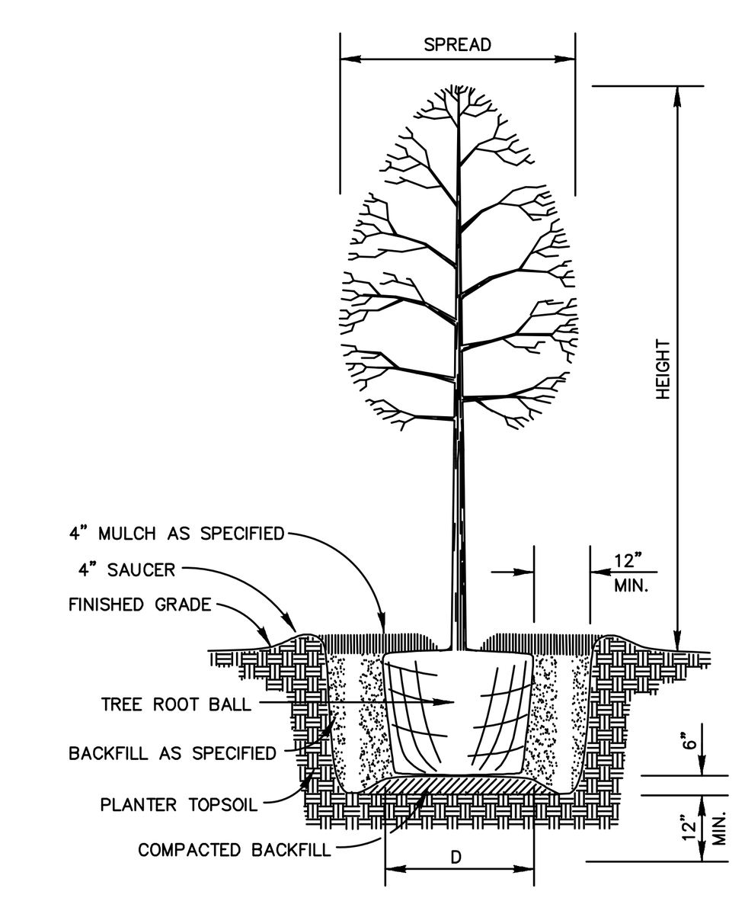
C. FINAL CUT – ALLOW FOR HEALING COLLAR BUT NO STUBS

D. BRANCH RIDGES – INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

FOR OAKS ONLY:

FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MINUTES TO PREVENT THE SPREAD OF OAK WILT.

3 BRANCH PRUNING
SCALE N.T.S.



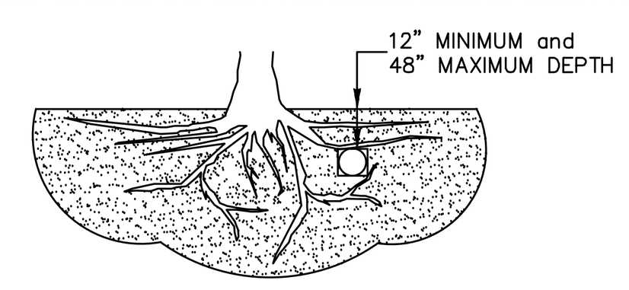
4 NEW TREE PLANTING
SCALE N.T.S.

TRENCH EXCAVATION SAFETY PROTECTION

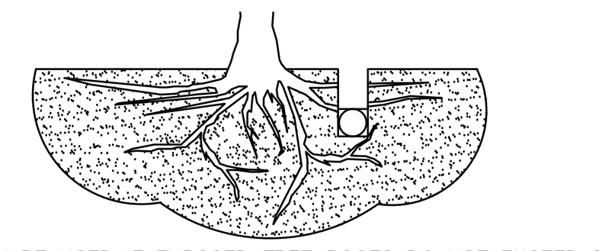
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS TROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DICISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.



TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNCK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

7 BORING THRU TREE ROOT ZONE
SCALE N.T.S.

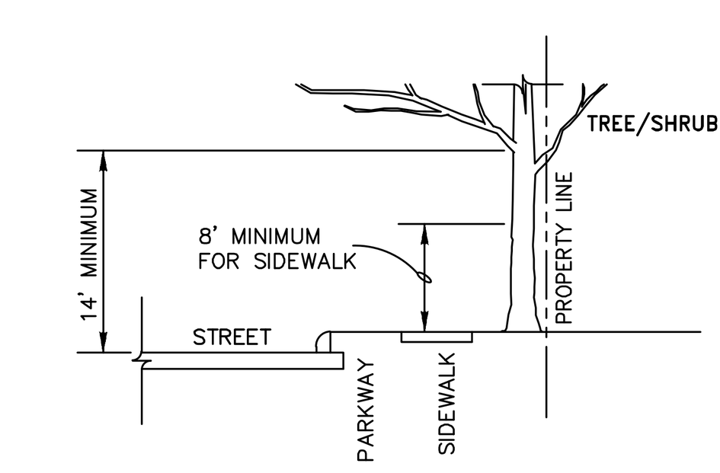


FIGURE No.2:
A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

8 BRANCH CLEARANCE
SCALE N.T.S.

LPA

ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING

210-829-1737 Office
210-829-1730 Fax
LPADesignStudios.com

1811 South Alamo Street,
Suite 100
San Antonio, Texas 78204

CDS muery
ENGINEERS | SURVEYORS

CDS Muery F-1733
JOHN ERIC ROTHE
73075
LICENSED
9/12/22

MOUNTAIN VALLEY MIDDLE SCHOOL

1165 SATTLER RD.
CANYON LAKE TX 78132

Developed for
COMAL ISD

Submittal	Date	Revision	Date

Job Number	3064301
Date Published	05/27/2022
Checked By	Checker
Scale	1" = XX'

SITE DETAILS 6

C7.5

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

ENGINEERED VEGETATIVE FILTER STRIPS

Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Once established, all vegetated BMPs require some basic maintenance to ensure the health of the plants including:

· Pest Management. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

· Seasonal Mowing and Lawn Care. If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

· Inspection. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. 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 restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

· Debris and Litter Removal. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e., level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.

· Sediment Removal. Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.

· Grass Reseeding and Mulching. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

UP-FLO FILTER UNIT

Routine Inspection

Inspection is a simple process that requires monitoring pollutant accumulations. Maintenance crews should be familiar with the Up-Flo Filter and its components prior to inspection.

The following instructions are intended for non-Hydro maintenance service providers and/or those intending to maintain their own Up-Flo Filter:

Scheduling
Inspection may be conducted during any season of the year but should occur shortly after a predicted rainfall to ensure components are operating properly.

Necessary Equipment
- Safety Equipment and Personal Protective Equipment (traffic cones, work gloves, etc.
- Scale to measure the weight of the Media Bags
- Crow bar to remove grate or lid
- Pole with skimmer or net
- Sediment probe (such as Sludge-Judge)
- Hydro International Up-Flo Filter Maintenance Log
- Trash bags for removed floatables

Routine Inspection Procedures

1. Set up any necessary safety equipment (such as traffic cones) to provide access to the Up-Flo Filter. Safety equipment should notify passing pedestrian and road traffic that work is being done.
2. Remove the grate or lid to the manhole or vault.
3. Without entering the vessel, look down into the chamber to inspect the inside and to determine whether the high-water level indicator has been activated. Make note of any irregularities. See Fig. 6 for typical Inspection View.
4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the chamber.
5. Using a sediment probe such as the Sludge-Judge, measure the depth of sediment that has collected in the sump of the vessel.
6. If the high-water level indicator has been activated after two consecutive storms, remove the Filter Module lid by turning the cam latch and remove the Filter Media Pack (refer to page 11 replacement Procedures). Weigh the media Bags from one or two modules. Media bags should be replaced if the wet weight exceeds 40 lbs (18 kg).
7. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or a high standing water level (see Fig. 6 for the standard standing water level).
8. Securely replace the grate or lid.
9. Remove safety equipment.
10. Contact Hydro International at (800) 848-2706 to discuss any irregularities noted during inspection.

Routine Maintenance

Maintenance activities are grouped into two categories

- Activities Not Requiring Man Entry into the Up-Flo Filter. These activities include floatables removal, oil removal, and removal of sediment from the sump.
- Activities Requiring Man Entry Into the Up-Flo Filter, Media Pack replacement, and Drain Down Filter replacement.

Maintenance intervals are determined from monitoring the Up-Flo Filter during its first year of operation. Depending on the site, some maintenance activities may have to be performed on a more frequent basis than others. In the case of floatables removal, a vactor truck is not required. Floatables and loose debris can be netted with a skimmer and pole.

A vactor truck is normally required for oil removal, removal of sediment from the sump, and to dewater the vessel for replacement of the Media Packs and Drain Down Filter (Fig. 7). All inspection and maintenance activities would be recorded in an Inspection and Maintenance Log.

Completion of all the maintenance activities for a typical 4-ft (1.2m) diameter manhole installation takes less than one hour. Approximately 360 gallons of water and up to 0.6 yd3 (0.5m3) of sediment may be removed in the process. In an installation equipped with six Filter Modules, 12 Media Bags (2 bags per module) would be removed and replaced. Assuming a spent Media Bag weight of 50 lbs (23 kg), up to 600 lbs (272 kg) of spent Media Bags would be removed. All consumables, including Media Bags, Flow Distribution media, and replacement Drain Down Filters are supplied by Hydro International.

The access port located at the top of the manhole provides unobstructed access for a vactor hose and/or skimmer pole to be lowered to the base of the sump.

Maintenance Activities Not Requiring Man Entry

These activities include floatables removal, oil removal, and removal of sediment from the sump.

Scheduling

- Floatables and sump cleanout may typically be done during any season of the year – before and after rainy season.
- Floatables and sump cleanout should occur as soon as possible flowing a contaminated spill in the contributing drainage area.

Recommended Equipment

- Safety Equipment (traffic cones, etc)
- Crow bar to remove grate or lid
- Pole with skimmer or net (if only floatables are being removed)
- Sediment probe such as Sludge-Judge)
- Vactor truck (flexible hose preferred)
- Pressure nozzle attachment or other screen-cleaning device

No Man Entry Required: Floatables, Oil, and Sediment

1. Set up any necessary safety equipment (such as traffic cones) around access fo the Up-Flo Filter. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole or vault.
3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.
4. If the standing water level in the sump is above the base of the Filter Modules (see Fig. 8), tug the Pull Chain(s) to release the Drain Down Filter plug(s). Allow the excess water to drain out of the chamber.
5. Use the skimmer pole to fit the Drain Down Filter plug back into the open port.
6. Once all floatables and oil have been removed, drop the vactor hose to the base of the sump. Vactor out the sediment and gross debris from the sump floor. Up to 0.3 yd3 (0.2m3) or sediment and 360 gallons (1,363L) of water will be removed from a typical manhole Up-Flo Filter during this process.
7. Retract the vactor hose from the vessel.
8. Inspect the Angled Screens for blockages and ragging. If present, remove the obstruction or ragging materials from the surface using a hose or other screen-cleaning device.
9. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables, oils, and gross debris removed, and the depth of sediment measured. Note any apparent irregularities such as damage components or blockages.
10. Securely replace the grate or lid. Remove safety equipment.
11. Dispose of sediment and gross debris following local regulations.
12. Dispose of oil and sump water at a licensed water treatment facility or following local regulations.
13. Contact Hydro International at (800) 848-2706 to discuss any irregularities noted during cleanout.

RECORD KEEPING

Maintenance and inspection records should be kept on file by the Owner of the permanent BMPs for a period of at least three (3) years. Repair and retrofit records should be kept on file by the Owner of the permanent BMPs for a period of at least five (5) years.

COMAL ISD, JEFFREY B. SMITH
Print Name

By: [signature], DIRECTOR
Signature of Applicant/Owner/Agent

7.3.2023
Date

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: Jeffrey Smith

Date: 7-3-2023

Signature of Customer/Agent:

By: _____ Director

Regulated Entity Name: CISD MOUNTAIN VALLEY MIDDLE SCHOOL

Project Information

Potential Sources of Contamination

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

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

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   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: Guadalupe River

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A
SPILL RESPONSE ACTIONS

1. Housekeeping

   A. Minimize materials: An effort will be made to store only enough materials required to do the job.

   B. Storage: All materials stored on site will be stored in a neat, orderly manner in their appropriate containers in a covered area. If storage in a covered area is not feasible, then the materials will be covered with polyethylene or polypropylene sheeting to protect them from the elements.

   C. Labeling: Products will be kept in their original containers with the original manufacturer's label affixed to each container.

   D. Mixing: Substances will not be mixed with one another unless this is recommended by the manufacturer.

   E. Disposal: Whenever possible, all of a product will be used prior to disposal of the container. Manufacturer's recommendations will be followed for proper use and disposal of materials on site.

   F. Inspections: The site superintendent will inspect the site daily to ensure proper use and disposal of materials on site.

   G. Spoil Materials: Any excavated earth that will not be used for fill material and all demolished pavement will be hauled off site immediately and will be disposed of properly, in accordance with all applicable state/local regulations.

2. Product Specific Practices

   A. Petroleum Products: All on site vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the chance of leakage. If petroleum products will be present at the site, then they will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used on site will be applied according to the manufacturer's recommendations.

   B. Concrete Trucks: Ready/Transit Mix Trucks will not be allowed to wash out or discharge surplus concrete or drum wash water except in the designated location on site as shown on the SWPPP site plan.

   C. Paints: All containers will be tightly sealed and stored when not required for use. Excess paint will not be poured into storm sewer system or drainage channels, but will be properly disposed of according to manufacturers' instructions or state/local regulations.

D. Fertilizers: Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The fertilizer will be stored in a covered area, and any partially used bags will be transferred to a sealable plastic bin to avoid spills.

3. Spill Control and Response Measures

A spill prevention and response team will be designated by the site superintendent. In addition, the following practices will be followed for spill cleanup:

A. Information: Manufacturers' recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and location of the information and cleanup supplies.

B. Equipment: Materials and equipment necessary for spill cleanup will be present on the site at all times. Equipment and materials will include, but not be limited to brooms, shovels, rags, gloves, goggles, absorbent materials (sand, sawdust, etc.) and plastic or metal trash containers specifically designed for this purpose. The materials and equipment necessary for spill cleanup will be dependent upon the nature and quantity of the material stored on site.

C. Response: All spills will be cleaned up immediately upon discovery.

Cleanup

(1) Clean up leaks and spills immediately

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in TCEQ Technical Guidance Manual RG-348 for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill

(3) Absorbent materials should be promptly removed and disposed of properly.

(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:
(1) Contain spread of the spill.
(2) Notify the project foreman immediately.
(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
(4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
(5) If the spill occurs during rain, cover the spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:
(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
(3) Notification should first be made by telephone and followed up with a written report.
(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

D. Vehicle and Equipment Maintenance
(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
(5) Place drip pans or absorbent materials under paving equipment when not in use.
(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
(8) Oil filters disposed of in trash cans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can be recycled. Ask the oil supplier or recycler about recycling oil filters.
(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

E. Vehicle and Equipment Fueling
(1) If fueling must occur onsite, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
(2) Discourage "topping off" of fuel tanks.
(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

F. Safety: The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.

G. Reporting: Spills of toxic or hazardous material (if present on site) will be reported to the appropriate state or local government agency, regardless of the spill's size.

H. Record Keeping: The spill prevention plan will be modified to include measures to prevent this type of spill from recurring as well as improved methods for cleaning up any future spills. A description of each spill, what caused it, and the cleanup measures used will be kept with this plan.

ATTACHMENT B
POTENTIAL SOURCES OF CONTAMINATION

Potential Source	Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventive Measure	Vehicle maintenance, when possible, will be performed within a construction staging area specified by the General Contractor.
Potential Source	Miscellaneous trash and litter from construction workers and material wrappings.
Preventive Measure	Trash containers will be placed throughout the site to encourage proper trash disposal.
Potential Source	Construction debris.
Preventive Measure	Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
Potential Source	Stormwater contamination from excess application of fertilizers, herbicides and pesticides.
Preventive Measure	Fertilizers, herbicides and pesticides will be applied only when necessary and in accordance with manufacturers directions.
Potential Source	Soil and mud from construction vehicle tires as they leave the site.
Preventive Measure	A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.
Potential Source	Sediment from soil, sand, gravel and excavated materials stockpiled on site.
Preventive Measure	Silt fence shall be installed on the downgradient side of all stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

ATTACHMENT C
SEQUENCE OF MAJOR ACTIVITIES

Construction Sequencing

A. Installation of temporary erosion control devices per SWPPP sheets.
B. Remove approximately 0.193 acres of existing asphalt driveway and existing concrete sidewalk.
C. Clear existing building and new drive footprint for construction.
D. Install and relocate existing sanitary sewer and water utilities for new gymnasium facility.
E. Haul in fill to the site and level building site for concrete foundation and footing installation.
F. Install stormwater and Up-Flo Unit structures.
G. Construct building shell facility and proceed with finish work inside the building facility.
H. Install asphalt driveway (0.06 acres).

Total disturbed area due to proposed construction will be approximately 0.51 acres.

ATTACHMENT D
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Description of Temporary Best Management Practices:

Vegetation will be used as a temporary stabilization technique for all areas disturbed by construction, not covered in pavement, buildings, or other structures.

Sequence of installation during construction process for each phase of construction:

Vegetation as a temporary control will only be utilized in the event a disturbed area has been left denuded for more than 14 days.

Up gradient storm water flowing across the site:

There is minimum upgradient flow entering the construction area. All upgradient flow will be treated along with the stormwater generated onsite.

Onsite storm water flowing across and off the site:

The storm water originating onsite and flowing off the site will be treated through temporary BMPs. Silt fences will be installed at all locations where non-concentrated storm water exits the site.

Prevention of pollutants from entering surface streams, sensitive features and the aquifer:

The storm water originating onsite and flowing off the site will be treated using temporary BMPs prior to it entering surface streams, sensitive features and the aquifer. Silt fences will be installed at all locations where non-concentrated storm water may leave the site. These silt fences should filter the storm water prior to it leaving the site.

Maintaining flow to naturally-occurring sensitive features:

The storm water originating onsite and flowing off the site will continue to flow into the down gradient receiving waters. Any sensitive features downstream will continue to receive flow originating on the site. Prior to the flow leaving the site, it will be treated through temporary BMPs. These temporary BMPs should remove sediment, pollutants and debris if installed and maintained properly.

ATTACHMENT F
STRUCTURAL PRACTICES

Vegetation will be used as a temporary stabilization technique for all areas disturbed by construction, not covered by pavement, buildings, or other structures. Temporary stabilization shall consist of temporary seeding of disturbed areas that are denuded beyond 14 days without construction restart within 21 days. As a temporary control, the vegetation will be used to stabilize barren areas that are inactive for long periods of time.

SCALE: 1"=100'

100 50 0 100

LEGEND

- SITE BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION
- 1390 EXISTING CONTOURS
- 1 CALCULATION POINT
- FLOW ARROWS

EXISTING DRAINAGE CALCULATIONS

EXISTING CONDITIONS Q CALCULATION										
PT. NO.	AREA OF ACCUMULATION	TOTAL ACRES	C-VALUE	Tc (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
1	A	6.25	0.57	6.50	7.35	10.40	13.22	26.20	37.09	47.13

PROPOSED DRAINAGE CALCULATIONS

PROPOSED/ULTIMATE CONDITIONS Q CALCULATION										
PT. NO.	AREA OF ACCUMULATION	TOTAL ACRES	C-VALUE	Tc (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
1	A	6.25	0.59	6.50	7.35	10.40	13.22	26.94	38.13	48.46

REVISIONS

NO.	DESCRIPTION	DATE	PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
		BY:	21113		W.H.	S.S.	3/25/22

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051
FAX: (210) 698-5085

FIRM TBPE NO. F-9297

STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
7/3/23

CISD - MOUNTAIN VALLEY MIDDLE SCHOOL

ATTACHMENT G: DRAINAGE AREA MAP

SHEET

ATTACHMENT I
INSPECTION AND MAINTENANCE FOR BMPS

Silt Fence

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. Replace or repair any sections crushed or collapsed in the course of construction activity.

Bagged Gravel Inlet Filter

1. Inspections should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

CISD MOUNTAIN VALLEY MIDDLE SCHOOL

Responsible Party Form

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
Silt Fence	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Bagged Gravel Inlet Filters	Inspections			
	Replaced/Reshaped			
	Silt Removed			

Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

ATTACHMENT J
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Temporary stabilization shall consist of temporary seeding of disturbed areas that are denuded beyond 14 days without construction restart within 21 days.

As pad sites (buildings, sidewalks and pavement) are completed, permanent landscaping and sod shall be planted and irrigated. Curb and gutter will direct runoff into the permanent water quality basin.

Temporary vegetation stabilization techniques shall be in accordance with the TCEQ Technical Guidance Manual RG-248 (*Complying with the Edwards Aquifer Rules – Technical Guidance on Best Management Practices*), Chapter 1 Temporary Best Management Practices, Section 1.3.8 Temporary Vegetation, as follows:

Temporary Vegetation
Vegetation is used as a temporary or permanent stabilization technique for areas disturbed by construction, but not covered by pavement, buildings, or other structures. As a temporary control, vegetation can be used to stabilize stockpiles and barren areas that are inactive for long periods of time.

Vegetative techniques can and should apply to every construction project with few exceptions. Vegetation effectively reduces erosion in swales, stockpiles, berms, mild to medium slopes, and along roadways.

Other techniques may be required to assist in the establishment of vegetation. These other techniques include erosion control matting, mulches, surface roughening, swales and dikes to direct runoff around newly seeded areas, and proper grading to limit runoff velocities during construction. (NCTCOG, 1993b)

Materials:
The type of temporary vegetation used on a site is a function of the season and the availability of water for irrigation. For areas that are not irrigated, the year can be divided into two temporary planting seasons and one season for planting of permanent warm weather groundcovers. These periods are shown in Figure 1-19 for Bexar, Comal, Kinney, Medina, and Uvalde Counties. Appropriate temporary vegetation for these areas is shown in Table 1-4.

Other vegetation may perform as well as the recommended varieties, especially where irrigation is available. County agricultural extension agents are a good source for suggestions for other types of temporary vegetation. All seed should be high quality, U.S. Dept. of Agriculture certified seed.

Installation:
(1) Interim or final grading must be completed prior to seeding, minimizing all steep slopes. In addition, all necessary erosion structures such as dikes, swales, and diversions, should also be installed.

(2) Seedbed should be well pulverized, loose, and uniform.

(3) Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet. Compost can be used instead of fertilizer and applied at the same time as the seed.

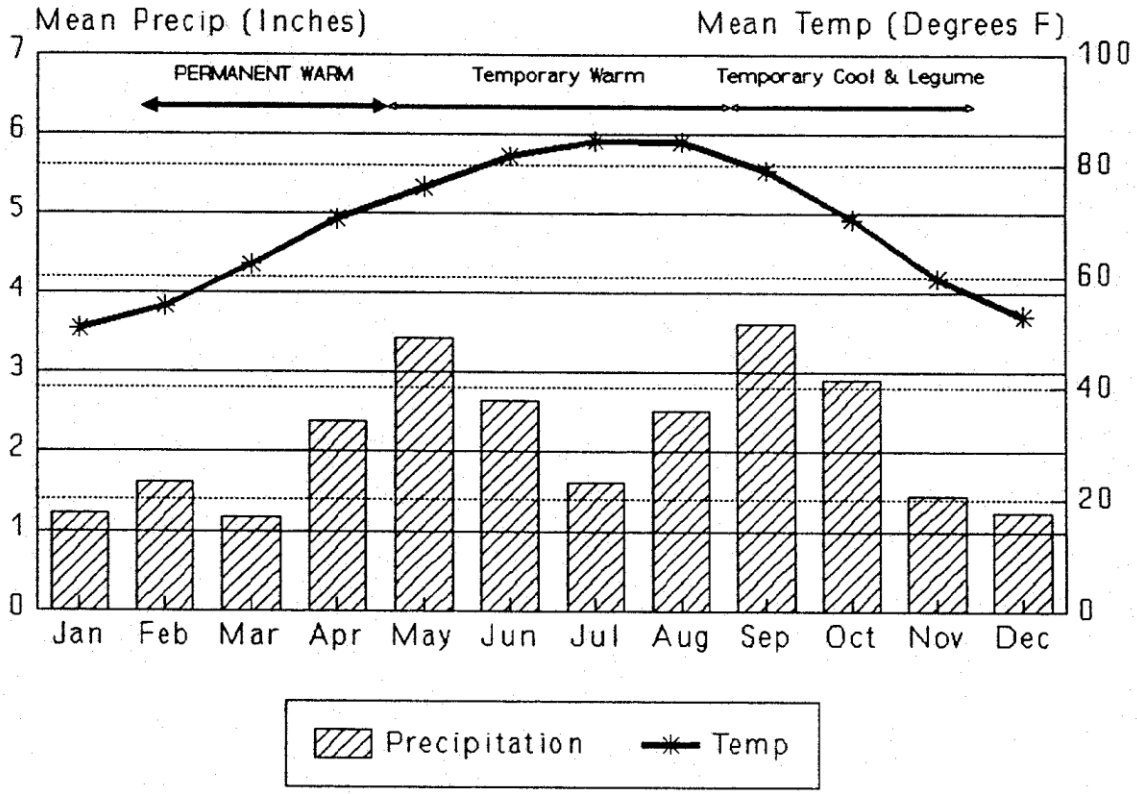


Figure 1-19 Planting Dates for Bexar, Comal, Kinney, Medina, and Uvalde Counties (Northcutt, 1993)

Table 1-4 Temporary Seeding for Bexar, Comal, Kinney, Medina, and Uvalde Counties (Northcutt, 1993)

Dates	**Climate**	**Species (lb/ac)**	
Sept 1 to Nov 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheat (Red, Winter)	30.0
		Total	**55.0**
Sept 1 to Nov 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug 31	Temporary Warm Season	Foxtail Millet	30.0

(4) Seeding rates should be as shown in Table 1-4 or as recommended by the county agricultural extension agent.

(5) The seed should be applied uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed, fertilizer and binder).

(6) Slopes that are steeper than 3:1 should be covered with appropriate soil stabilization matting as described in the following section to prevent loss of soil and seed.

Irrigation:
Temporary irrigation should be provided according to the schedule described below, or to
replace moisture loss to evapotranspiration (ET), whichever is greater. Significant rainfall (on-site rainfall of ½" or greater) may allow watering to be postponed until the next scheduled irrigation.

Time Period	**Irrigation Amount and Frequency**
Within 2 hours of installation	Irrigate entire root depth, or to germinate seed
During the next 10 business days	Irrigate entire root depth every Monday, Wednesday, and Friday
During the next 30 business days or until Substantial Completion	Irrigate entire root depth a minimum of once per week, or as necessary to ensure vigorous growth
During the next 4 months or until Final Acceptance of the Project	Irrigate entire root depth once every two weeks, or as necessary to ensure vigorous growth

If cool weather induces plant dormancy, water only as necessary to maintain plant health.
Irrigate in a manner that will not erode the topsoil but will sufficiently soak the entire depth of roots.

Inspection and Maintenance Guidelines:
(1) Temporary vegetation should be inspected weekly and after each rain event to locate and repair any erosion.

(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.

(3) If the vegetated cover is less than 80%, the area should be reseeded.

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

I John E. Chapman III,
Print Name

Superintendent,
Title - Owner/President/Other

of Comal Independent School District,
Corporation/Partnership/Entity Name

have authorized Moy Tarin Ramirez Engineers, LLC
Print Name of Agent/Engineer

of Moy Tarin Ramirez Engineers, LLC
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

May 23, 2023
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared John E Chapman III 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 23 day of May, 2023

SUSAN MONTGOMERY NOTARY PUBLIC STATE OF TEXAS ID# 7804995 EXPIRES 2-19-2024

Susan Montgomery
NOTARY PUBLIC

Susan Montgomery
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2-19-2024

Unsigned due to $6,500 already paid in previous application by CDS Muery.

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: CISD Mountain Valley Middle School
Regulated Entity Location: 1165 Sattler Rd, Canyon Lake, X 78132
Name of Customer: Comal ISD
Contact Person: Jeffrey Smith Phone: (830) 221-2000
Customer Reference Number (if issued):CN 600249825
Regulated Entity Reference Number (if issued):RN 102076064

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	29.95 Acres	$ 6,500.00
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: _____ Date: _____

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

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of 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 600249825		RN 102076064

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:*

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

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

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

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

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

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

City		State		ZIP		ZIP + 4	

16. Country Mailing Information (*if outside USA*)	17. E-Mail Address (*if applicable*)

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

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☐ 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 Agency 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.*)

CISD MOUNTAIN VALLEY MIDDLE SCHOOL

23. Street Address of the Regulated Entity: *(No PO Boxes)*	1165 Sattler Rd							
	City	CanyonLake	**State**	TX	**ZIP**	78132	**ZIP + 4**	
24. County	Comal							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
Canyon Lake			TX	78133	
27. Latitude (N) In Decimal:	29.849772		**28. Longitude (W) In Decimal:**	98.167094	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	50	59.18	98	10	03.01

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

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

Elementary School

34. Mailing Address:	**1165 Sattler Rd**						
	City	**Canyon Lake**	**State**	**TX**	**ZIP**	**78132**	**ZIP + 4**
35. E-Mail Address:							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(830) 885-1300		**( ) -**

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	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Sean Smith, P.E.	**41. Title:**	Senior Vice President

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 698-5051		(210) 698-5085	ssmith@mtrengineers.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:	Comal Independent School District	**Job Title:**	Director of Construction and Planning
Name *(In Print):*	Jeffrey Smith	**Phone:**	(830) 221- **2000**
Signature:		**Date:**	7·3·2023