10 FEDERAL

Contributing Zone Plan Modification and Optional Enhanced Measures

September 2024

PAPE-DAWSON ENGINEERS

Transportation | Water Resources | Land Development | Surveying | Environmental

PAPE-DAWSON ENGINEERS

September 25, 2024

Ms. Monica Reyes
Texas Commission on Environmental Quality (TCEQ)
12100 Park 35 Circle
Building A, Room 179
Austin, TX 78753

Re: 10 Federal
Contributing Zone Plan Modification and Optional Enhanced Measures

Dear Ms. Reyes:

Please find included herein the 10 Federal Contributing Zone Plan Modification and Optional Enhanced Measures. This Contributing Zone Plan Application has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone. The Optional Enhanced Measures are prepared in accordance with Appendix A to RG-348 (RG-348A).

This Contributing Zone Plan Modification applies to an approximate 2.62-acre site identified as the legal limits of the project. Please review the plan information for the items it is intended to address, and, if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($4,000) and fee application are included. If you have questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Consulting Engineers, LLC

Shelly Mitchell

Shelly Mitchell, P.E.
Vice President

Attachments

P:\84\94\08\CZP OEM\240923a1.docx

10 FEDERAL

Contributing Zone Plan Modification and Optional Enhanced Measures

09/26/2024

Shelly Mitchell

September 2024

PAPE-DAWSON ENGINEERS

EDWARDS AQUIFER APPLICATION COVER PAGE (TCEQ-20705)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: 10 Federal					**2. Regulated Entity No.:** 111934188				
3. Customer Name: 10FSS Dripping Springs 2, LLC					**4. Customer No.:**				
5. Project Type: **(Please circle/check one)**	New		Modification		Extension		Exception		
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		2.62	
9. Application Fee:	$4,000		**10. Permanent BMP(s):**			StormFilters			
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**						
13. County:	Hays		**14. Watershed:**			Onion Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	✔	☐	☐
Region (1 req.)	✔	☐	☐
County(ies)	✔	☐	☐
Groundwater Conservation District(s)	☐ Edwards Aquifer Authority ☐ Barton Springs/ Edwards Aquifer ✔ Hays Trinity ☐ Plum Creek	☐ Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	☐ Austin ☐ Buda ✔ Dripping Springs ☐ Kyle ☐ Mountain City ☐ San Marcos ☐ Wimberley ☐ Woodcreek	☐ Austin ☐ Bee Cave ☐ Pflugerville ☐ Rollingwood ☐ Round Rock ☐ Sunset Valley ☐ West Lake Hills	☐ Austin ☐ Cedar Park ☐ Florence ☐ Georgetown ☐ Jerrell ☐ Leander ☐ Liberty Hill ☐ Pflugerville ☐ Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	☐	☐	☐	☐	☐
Region (1 req.)	☐	☐	☐	☐	☐
County(ies)	☐	☐	☐	☐	☐
Groundwater Conservation District(s)	☐ Edwards Aquifer Authority ☐ Trinity-Glen Rose	☐ Edwards Aquifer Authority	☐ Kinney	☐ EAA ☐ Medina	☐ EAA ☐ Uvalde
City(ies) Jurisdiction	☐ Castle Hills ☐ Fair Oaks Ranch ☐ Helotes ☐ Hill Country Village ☐ Hollywood Park ☐ San Antonio (SAWS) ☐ Shavano Park	☐ Bulverde ☐ Fair Oaks Ranch ☐ Garden Ridge ☐ New Braunfels ☐ Schertz	NA	☐ San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Shelly Mitchell, P.E.
Print Name of Customer/Authorized Agent Shelly Mitchell 09/26/2024
Signature of Customer/Authorized Agent Date

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

GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), 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

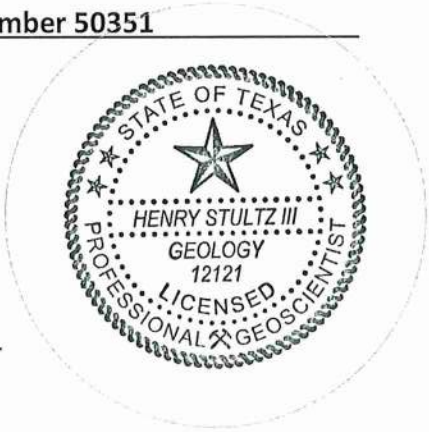
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: **Henry E. Stultz III, P.G.** Telephone: **210-375-9000**

Date: September 6, 2024 Fax: **210-375-9090**

Representing: **Pape-Dawson Engineers, Inc., TBPG registration number 50351**

Signature of Geologist:



Regulated Entity Name: **10 Federal**

Project Information

1. Date(s) Geologic Assessment was performed: **August 20, 2024**
2. Type of Project:
   - ☐ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☐ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone
   - ☒ Contributing Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Brackett-Rock outcrop-Comfort complex, 1-8% slopes (BtD)	D	0-5
Brackett-Rock outcrop-Real complex, 8-30% slopes (BtG)	D	0-5

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = **20'**
   Site Geologic Map Scale: 1" = **20'**
   Site Soils Map Scale (if more than 1 soil type): 1" = **100'**

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection:_____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

    ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

ATTACHMENT A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 10 Federal

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	30.19658	-98.02683	MB	30	Kgr								F,C	20	50		50	X		Hillside
S-2	30.19681	-98.02655	MB	30	Kgr								F,C	20	50		50	X		Hillside
S-3	30.19677	-98.02673	CD	5	Kgr								F	5	10	10		X		Hillside
S-4	30.19730	-98.02707	CD	5	Kgr								F	5	10	10		X		Hillside

** DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists.
The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date September 6, 2024

TCEQ-0585-Table (Rev. 10-01-04)

ATTACHMENT A

ATTACHMENT B
Stratigraphic Column

Attachment B – Stratigraphic Column

Period	Epoch	Group	Formation	Member	Thickness	Lithology	Hydrologic Unit	Hydrostratigraphic Unit		Hydrologic Function	Porosity	Cavern Development
Cretaceous	Early Cretaceous	Trinity	Glen Rose Limestone	Upper Glen Rose	120–230 (thicker in northern Comal Co.)	Alternating resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone; gray to yellowish gray; stair-step topography; contains two distinct evaporite zones; distinct *Corbula* sp. bed marks the contact with the underlying lower member of the Glen Rose Limestone; *Orbitulina texana*	Upper Trinity	Camp Bullis		Confining	BU, BP, FR, occasional CV	Some surface cave development
					0–10			Upper evaporite		Aquifer	IP, MO, BU, BR	
					0–40			Fossiliferous	Upper	Aquifer	MO, BU, FR, CV	
					80–150				Lower	Confining	MO, BU, FR	
					8–10			Lower evaporite		Aquifer	IP, MO, BU, BR	
				Lower Glen Rose	30–40 (typ. 30)	Massive, fossiliferous limestone grading upward into thin beds of limestone, dolomite, marl, and shale; numerous caves and reefs occur in the lower portion of the member; *Orbitulina texana* , *Caprina* sp., *Toucasia* sp., *Trigonia* sp., *Turritella* sp., miliolids, and various corals common; contains trace fossil burrows, oysters, pectens, and shell fragments	Middle Trinity	Bulverde		Semi-confining	MO, BR BP, FR	--
					30–40 (typ. 30)			Little Blanco		Aquifer	MO, BU, BP, FR	
					10–66 (typ. 30)			Twin Sisters		Semi-confining, confining shale beds	IP	
					40–80 (typ. 40)			Doeppenschmidt		Aquifer	IP, MO, BU, BP, FR, CV	
					40–70 (typ. 40)			Rust		Semi-confining	IP, FR, CV	
					45–60 (typ. 55)			Honey Creek		Aquifer	IP, MO, BU, BP, FR, CH, CV	
			Pearsall	Hensell Sand	0–61	Claystone, siltstone, terrigenous sand, red sandstone conglomerate/breccia at base of unit; oysters, quartz geodes; grades into the lower member of the Glen Rose Limestone to the south becoming dolomitic		Hensell		Aquifer	IP, MO, SH, CV	--
				Cow Creek Limestone	40–72	Brown to white, very fine to fine-grained carbonate sand (grainstone) with localized crossbedding; areas of patch reefs with talus slopes, corals and rudists; lower 14 ft is composed of dolomitic mudstone, wackstone, and packstone (coarsening upwards) with oysters throughout		Cow Creek		Aquifer	IP, MO, BU, FE, VUG, BP, FR, CH, CV	--
				Hammett Shale	50	Burrowed mixture of claystone, siltstone, dolomite, and carbonate particles; lower 15 ft contains siltstone and dolomite; upper 35 ft is primarily claystone with siltstone lenses overlain by fossiliferous dolomitic limestone	Confining Unit	Hammett		Confining	--	--

Source: Clark, Pedraza, and Morris (2018); Cavern development modified from Stein and Ozuna (1995). Porosity types - Fabric selective: IP, interparticle porosity; IG, intergranular porosity; IC, intercrystalline porosity; SH, shelter porosity; MO, moldic porosity; BU, burrowed porosity; FE, fenestral; BP, bedding plane porosity. Not fabric selective: FR, fracture porosity; CH, channel porosity; BR, breccia; VUG, vug porosity; CV, cave porosity.

ATTACHMENT C
Site Geology

Attachment C – Site Geology

SUMMARY

The 10 Federal site is addressed at 3975 US-290, Dripping Springs, Texas. At the time of the site visit, the site was an inactive storage facility.

Based on the results of the field survey conducted in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions),* no naturally occurring sensitive features were identified on site. No springs or streams were identified on site. The overall potential for fluid migration to the Edwards Aquifer for the site is low.

SITE GEOLOGY

As observed through field evidence, the geologic formation which outcrops at the surface within the subject site is the upper member of the Glen Rose (Kgru) formation. The Kgru is characterized as yellowish-tan thinly bedded limestone and marl. Karst development within the Kgru is characterized by cave formation, with predominantly lateral large rooms. The majority of the site is overlain by tens of feet of fill which includes large boulders. According to an interview with nearby landowners, the fill was acquired from nearby construction and for the purpose of leveling the area for development.

The predominant trend of faults in the vicinity of the site is approximately N50°E, based on faults identified during the previous mapping of the area.

FEATURE DESCRIPTIONS:

A description of the features observed onsite is provided below:

Feature S-1

Feature S-1 is a sewer line that is not located beneath pavement. The sewer line has been trenched through fill material but may also be in bedrock. The trench was backfilled with a mix of fine and course fill material that may be more permeable than surrounding undisturbed areas. Therefore, the probability of rapid infiltration is intermediate.

Feature S-2

Feature S-2 is a septic tank that is not located beneath pavement. The septic tank has been installed in fill material but may also be in bedrock. Therefore, the probability of rapid infiltration is intermediate.

Feature S-3

Feature S-3 is a non-karst closed depression within fill material. Due to the non-karst origin, the probability for rapid infiltration is low.

Feature S-4

Feature S-4 is a non-karst closed depression within a drainage channel. Due to the non-karst origin, the probability for rapid infiltration is low.

REFERENCES

Clark, A.K., Pedraza, D.E., and Morris, R.R., 2018, Geologic framework and hydrostratigraphy of the Edwards and Trinity aquifers within Hays County, Texas, U.S. Geological Survey, Scientific Investigations Map SIM-3418, 1:82,305.

Nationwide Environmental Title Research, LLC. Historical Aerials, HistoricAerials.com. https://www.historicaerials.com/viewer, May 10, 2021.

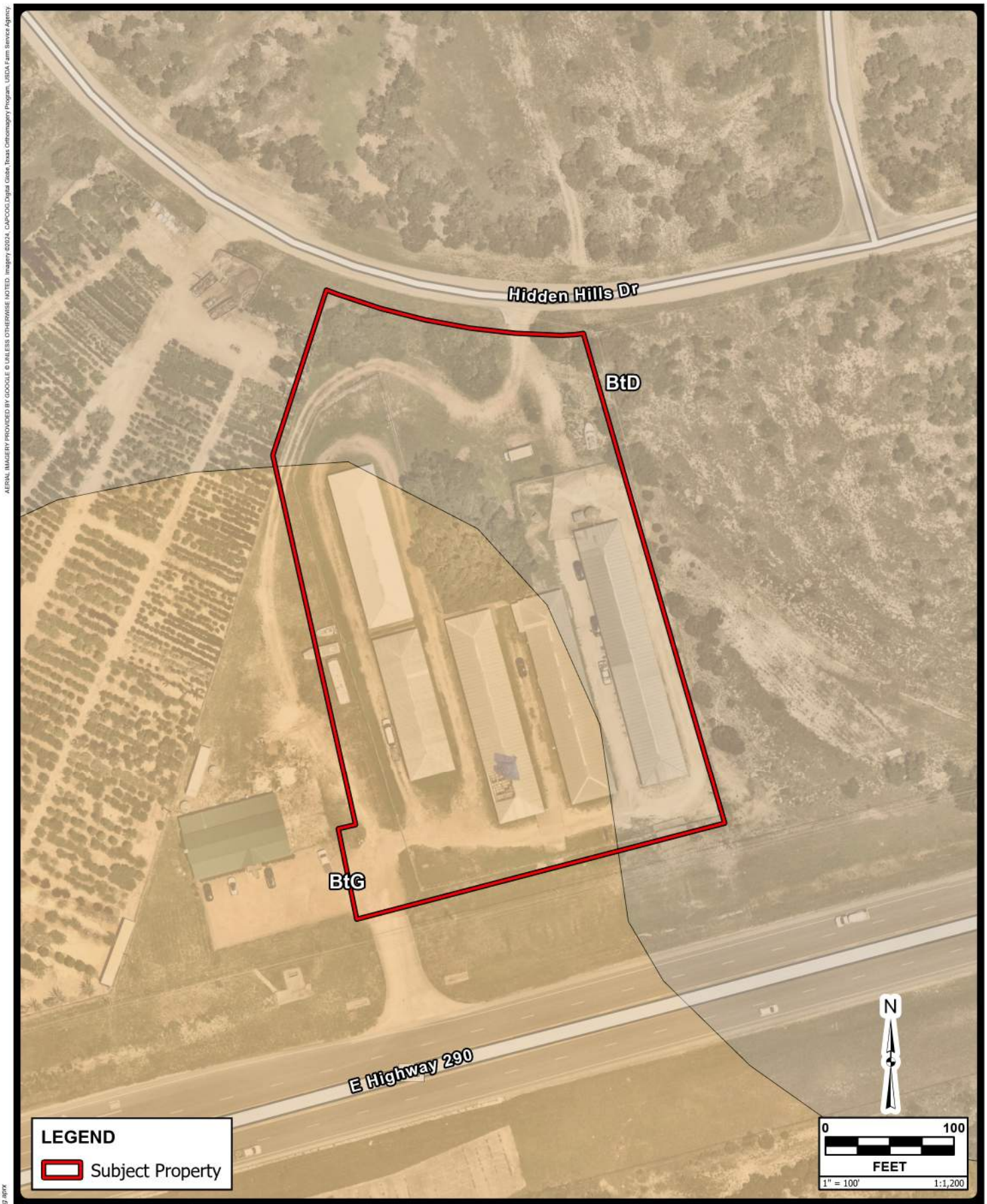
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/, May 10, 2021.

Stein, W.G., and Ozuna, G.B., 1995, Geologic framework and hydrogeologic characteristics of the Edwards Aquifer recharge zone, Bexar County, Texas: U.S. Geological Survey Water-Resources Investigations Report 95–4030, 8 p.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer, May 10, 2021.

U.S. Geological Survey, National Water Information System: Mapper, https://maps.waterdata.usgs.gov/mapper/index.html, May 10, 2021. September 6, 2024.

ATTACHMENT D
Site Geologic Map(s)



JOB NO.	8494-08
DATE	Sep 2024
DESIGNER	HS
CHECKED	HDJ
SHEET	ATTACHMENT D

10 FEDERAL

HAYS COUNTY, TEXAS

SITE SOILS MAP

PAPE-DAWSON ENGINEERS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

Date: Sep 03, 2024 2:07 PM User: hstultz
File: P:\8494\08\ENV\GIS\Working.aprx

LEGEND

PROJECT LIMITS

100 YEAR FLOODPLAIN

STREAM

SYMBOLS AND LINES

- S-1 — POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- CONTACT, INFERRED
- FAULT, LOCATED APPROXIMATELY (D, DOWNTHROWN SIDE; U, UPTHROWN SIDE)
- FAULT, EXTRAPOLATED
- FAULT, INFERRED
- STRIKE AND DIP OF BEDDING
- STRIKE AND DIP OF JOINTS
- STRIKE OF VERTICAL JOINTS
- CAVE
- SOLUTION CAVITY

GEOLOGIC FORMATIONS

Qal	ALLUVIUM	Kgt	GEORGETOWN
Kef	EAGLE FORD	Kep	PERSON
Kbu	BUDA	Kek	KAINER
Kdr	DEL RIO	Kgr	GLEN ROSE

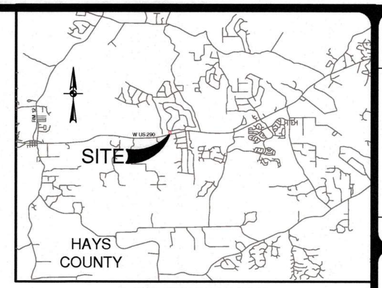
- SOLUTION ENLARGED FRACTURE
- SWALLOW HOLE
- SINKHOLE
- NON-KARST CLOSED DEPRESSION
- ZONE
- OTHER NATURAL BEDROCK FEATURES
- SPRING/SEEP
- MB — MAN-MADE FEATURE IN BEDROCK
- W — WATER WELL
- SANITARY SEWER LINE

NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

NOTE: THE RECHARGE ZONE BOUNDARY IS NOT WITHIN THE AREA SHOWN ON THIS SHEET. THE SITE IS LOCATED ENTIRELY WITHIN THE CONTRIBUTING ZONE.

SCALE: 1"= 20'

0' 20' 40' 60'



LOCATION MAP

NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
HENRY S. HUTZ
GEOLOGY
12121
LICENSED
PROFESSIONAL GEOSCIENTIST
9/6/24

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPG FIRM REGISTRATION #50351

10 FEDERAL
DRIPPING SPRINGS, TEXAS

SITE GEOLOGIC MAP
WATER POLLUTION ABATEMENT PLAN

JOB NO. 8494-08
DATE SEPTEMBER 2024
DESIGNER HS
CHECKED HDJ DRAWN HS

ATTACHMENT D

Date: Sep 03, 2024, 1:44pm User ID: hstultz
File: P:\84\94\08\ENV\GA\CAD\GA8494408_24x36.dwg

MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN (TCEQ-10259)

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.

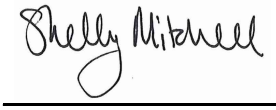
Signature

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: Shelly Mitchell, P.E.

Date: 09/26/2024

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: 10 Federal
   Original Regulated Entity Name: 10 Federal
   Assigned Regulated Entity Number(s) (RN): 111934188
   Edwards Aquifer Protection Program ID Number(s): 11193418
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☒ 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	2.62	2.62
Type of Development	commercial	commercial
Number of Residential Lots	_____	_____
Impervious Cover (acres)	1.67	1.71
Impervious Cover (%)	63.74	65.3
Permanent BMPs	Stormfilters	Stormfilters
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.

ATTACHMENT A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 21, 2024

Mr. Bruce Orr
KGE MT 3975 US 290 Dripping Springs TX LLC
3301 Atlantic Ave.
Raleigh, NC 27604

Re: Approval of a Contributing Zone Plan (CZP)
10 Federal; Located east of Canyonwood Drive and US 290; ETJ of Dripping Springs, Hays County, Texas
Edwards Aquifer Protection Program ID: 11003919, Regulated Entity No. RN111934188

Dear Mr. Orr:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Engineering Surveys & Services on behalf of the applicant, KGE MT 3975 US 290 Dripping Springs TX LLC on March 7, 2024. Final review of the application was completed after additional material was received on May 16, 2024, and June 19, 2024.

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

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

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

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 2.62 acres. The project will include clearing and grading, installation of utilities, building foundations, construction of one, four story storage facility and associated parking lot. The impervious cover will be 1.67 acres (63.74 percent). According to a letter dated, June 5, 2024, signed by Mr. Eric Van Gaasbeek, with Hays County, the site in the development 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, two (2) Stormfilter, designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 1,499 pounds of TSS generated from the 1.67 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

STANDARD CONDITIONS

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

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

Prior to Commencement of Construction:

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

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

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

During Construction:

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

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

9. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

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

After Completion of Construction:

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

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

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

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Neri B. Valdez of the Edwards Aquifer Protection Program at 210-403-4087 or the regional office at 512-339-2929.

Sincerely,

Lori Wilson

Lori Wilson, Director
Austin Region
Texas Commission on Environmental Quality

LW/nbv

cc: Mr. Matthew A. Kriete, P.E., Engineering Surveys & Services

ATTACHMENT B

10 FEDERAL
Contributing Zone Plan Modification

Attachment B – Narrative of Proposed Modification

This 10 Federal Contributing Zone Plan Modification (CZP MOD) proposes a modification of the approved plan by the same name to include requirements of the water purveyor for Optional Enhanced Measures (OEM). The Texas Commission on Environmental Quality (TCEQ) approved the 10 Federal Contributing Zone Plan (CZP) on June 21, 2024, for construction of 1.67 acres of impervious cover on a 2.62 ac site within the ETJ of City of Dripping Springs, in Hays County, Texas. This plan allowed the demolition of existing buildings onsite and the construction of one (1) 4-story building with associated parking and drives treated by two (2) Contech Stormfilters.

The site is currently developed as a commercial development and lies within the Onion Creek watershed which does not contain 100-year floodplain. There is approximately 1.63 acres of existing onsite impervious cover. While the project is located entirely over the Edwards Contributing Zone, a Geologic Assessment is not required by 30 TAC 213 regulations but was conducted for compliance with OEM requirements. No naturally-occurring sensitive features were found on the site.

This CZP proposes demolition, additional clearing, grading, excavation, installation of utilities and drainage improvements, construction of two (2) water quality and detention basins, one (1) commercial storage building and associated parking and drives. Approximately 1.71 acres of impervious cover, or 65.3% of the 2.62-acre project limits, are proposed for construction in this CZP. The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are two (2) StormFilters with equalization/detention storage designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Additional sizing of the basins has been accounted for the requirement of TCEQ Optional Enhanced Measures (OEM) in compliance with RG-348A requirements. A swale will be constructed on the east side of the site to intercept offsite flows and route them around the site.

As a requirement of the West Travis County Public Utility Agency, this project has chosen to design TCEQ OEMs within the proposed PBMPs in accordance with Appendix A and Appendix B of the RG-348. Calculations and Exhibits are included within the exhibits section of this application to illustrate compliance with OEM requirements. Based on the OEM stream morphology requirement the site will limit the peak rate of runoff for the 2-yr, 24 hr storm to be 50% of the undeveloped rate for that event and limit the 10-yr, 24-hr storm peak runoff rate to that calculated for the undeveloped condition of the same storm.

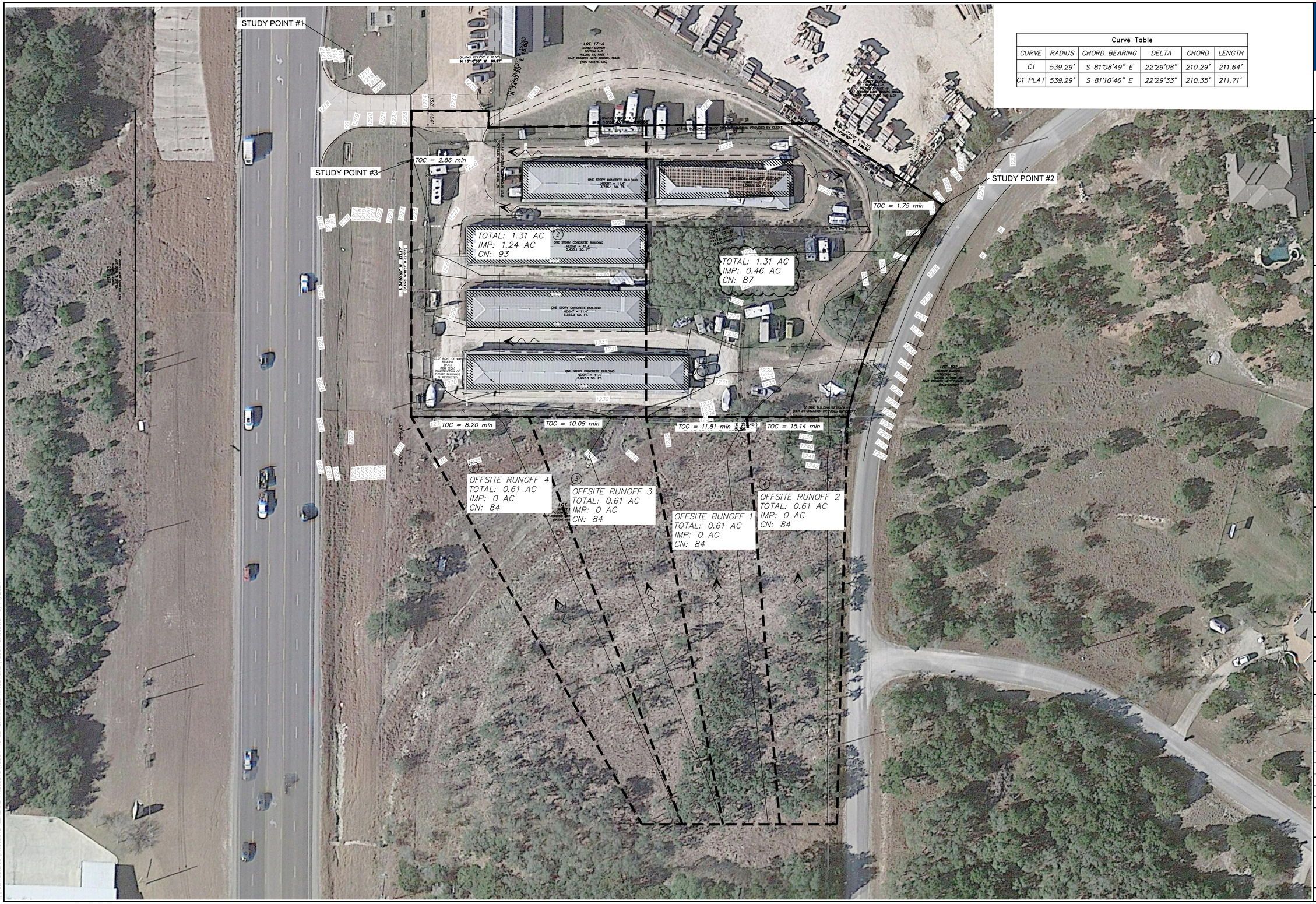
Table 1: 2-yr Developed Site Peak Discharge with Greater than 15% Impervious (Per OEM)

	South Basin	North Basin
	2-yr Storm	2-year
Undeveloped Condition	1.92	2.80
50% of Undeveloped	0.96	1.40
Maximum Peak Discharge	0.96	1.40
Post Peak Discharge	0.91	1.33

Table 2: 10-yr Developed Site Peak Discharge with Undeveloped Conditions (Per OEM)

	Study Point 1	Study Point 2
Undeveloped Condition	28.34	14.06
Post Peak Discharge	28.08	12.67

ATTACHMENT C



Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

Engineering Surveys & Services
DELIVERING YOUR VISION ™
1113 Fay Street, Columbia, MO 65201
573 - 449 - 2646
www.ess-inc.com
Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 20'

3 KGE MT 3975 US 290 DRIPPING SPRINGS TX LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

6/17/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

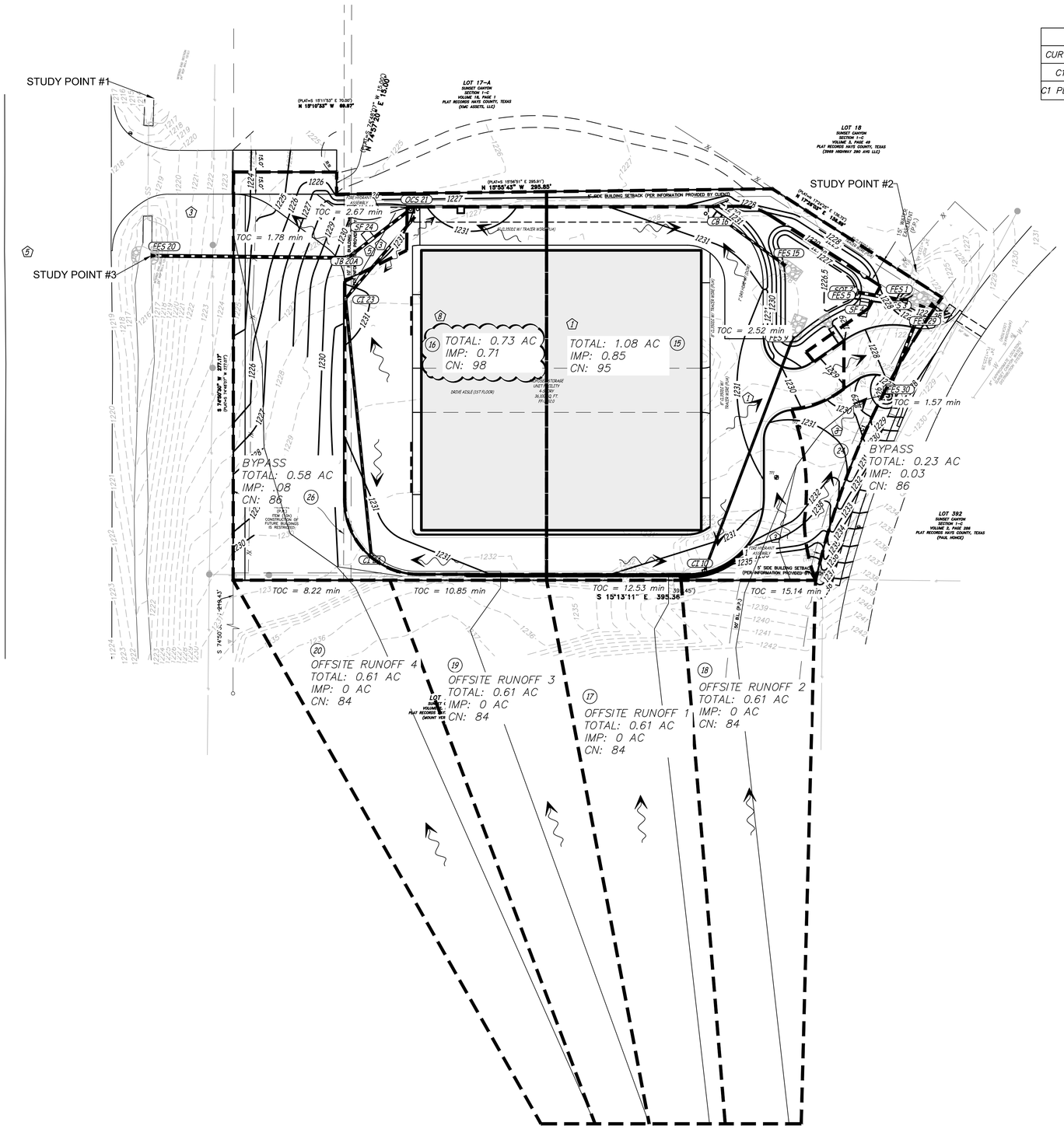
Date
SEPTEMBER 20, 2023

Revised
3 JANUARY 11, 2024
8 JUNE 17, 2024

PRE-DEVELOPMENT DRAINAGE AREA MAP

Sheet
C15.01

ES&S PROJECT NO. 15964



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C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

2 REVISION NOTES
1. ADDED FLOW INDICATORS

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KGE MT 3975 US 290 DRIPPING SPRINGS TX LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

3

6/17/2024

MATTHEW A. KRIETE
126148

Matthew A. Kriete

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
SEPTEMBER 20, 2023

Revised	
1	SEPTEMBER 20, 2023
2	DECEMBER 20, 2023
3	JANUARY 11, 2024
5	MARCH 11, 2024
8	JUNE 17, 2024

POST DEVELOPMENT DRAINAGE AREA MAP

Sheet
C15.03

ES&S PROJECT NO. 15964

\\192.168.0.99\PROJECTS\GENERAL_PROJECTS\15964-10FED-DRIPPINGSPRINGS\CAD\15964 DAM.DWG 6/14/2024

CONTRIBUTING ZONE PLAN APPLICATION (TCEQ-10257)

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.

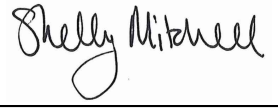
Signature

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: Shelly Mitchell, P.E.

Date: 09/26/2024

Signature of Customer/Agent:



Regulated Entity Name: 10 Federal

Project Information

1. County: Hays
2. Stream Basin: Onion Creek
3. Groundwater Conservation District (if applicable): Hays Trinity
4. Customer (Applicant):

   Contact Person: Bradford Minsley
   Entity: 10FSS Dripping Springs 2, LLC
   Mailing Address: 3301 Atlantic Ave
   City, State: Raleigh, NC Zip: 27604

   Telephone: 301-741-0600

Fax: N/A
Email Address: BKoch@10Federal.com

5. Agent/Representative (If any):

Contact Person: Shelly Mitchell, P.E.
Entity: Pape-Dawson Engineers
Mailing Address: 1080 North Mopace Expressway, Building 3, Suite 200
City, State: Austin, TX Zip: 78759

Telephone: 512-454-8711 Fax: N/A

Email Address: smitchell@pape-dawson.com

6. Project Location:

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

site is located 1.74 miles west of US 290 and Sawyer Ranch Rd intersection

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:

- [x] Existing commercial site
- [ ] Existing industrial site
- [ ] Existing residential site
- [ ] Existing paved and/or unpaved roads
- [ ] Undeveloped (Cleared)
- [ ] Undeveloped (Undisturbed/Not cleared)
- [ ] Other: _____

12. The type of project is:

- [ ] Residential: # of Lots: _____
- [ ] Residential: # of Living Unit Equivalents: _____
- [x] Commercial
- [ ] Industrial
- [ ] Other: _____

13. Total project area (size of site): 2.62 Acres

    Total disturbed area: 2.62 Acres

14. Estimated projected population: 0

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	36,100	÷ 43,560 =	0.83
Parking	2,060	÷ 43,560 =	0.05
Other paved surfaces	36,327	÷ 43,560 =	0.83
Total Impervious Cover	74,487	÷ 43,560 =	1.71

Total Impervious Cover 1.71 **÷ Total Acreage** 2.62 **X 100 =** 65.3**% Impervious Cover**

16. [x] **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. [x] 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			

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

Total x 1.5 = _____ Gallons

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

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

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

Table 3 - Secondary Containment

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

Total: _____ Gallons

30. Piping:

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

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

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

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

☐ Dispenser clearly labeled

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

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

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

Site Plan Requirements

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

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

    Site Plan Scale: 1" = 20'.

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): DFIRM Panel: 48209C0109F.

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

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

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

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

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

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

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

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☒ Temporary aboveground storage tank facilities.

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

45. ☐ Permanent aboveground storage tank facilities.

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

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

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

    ☐ N/A

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

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

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

    ☐ N/A

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

    ☐ N/A

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

☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
☒ The site will not be used for low density single-family residential development.

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

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

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

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

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

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

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

☐ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

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

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

☐ N/A

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

☒ N/A

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

☐ N/A

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

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

responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

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

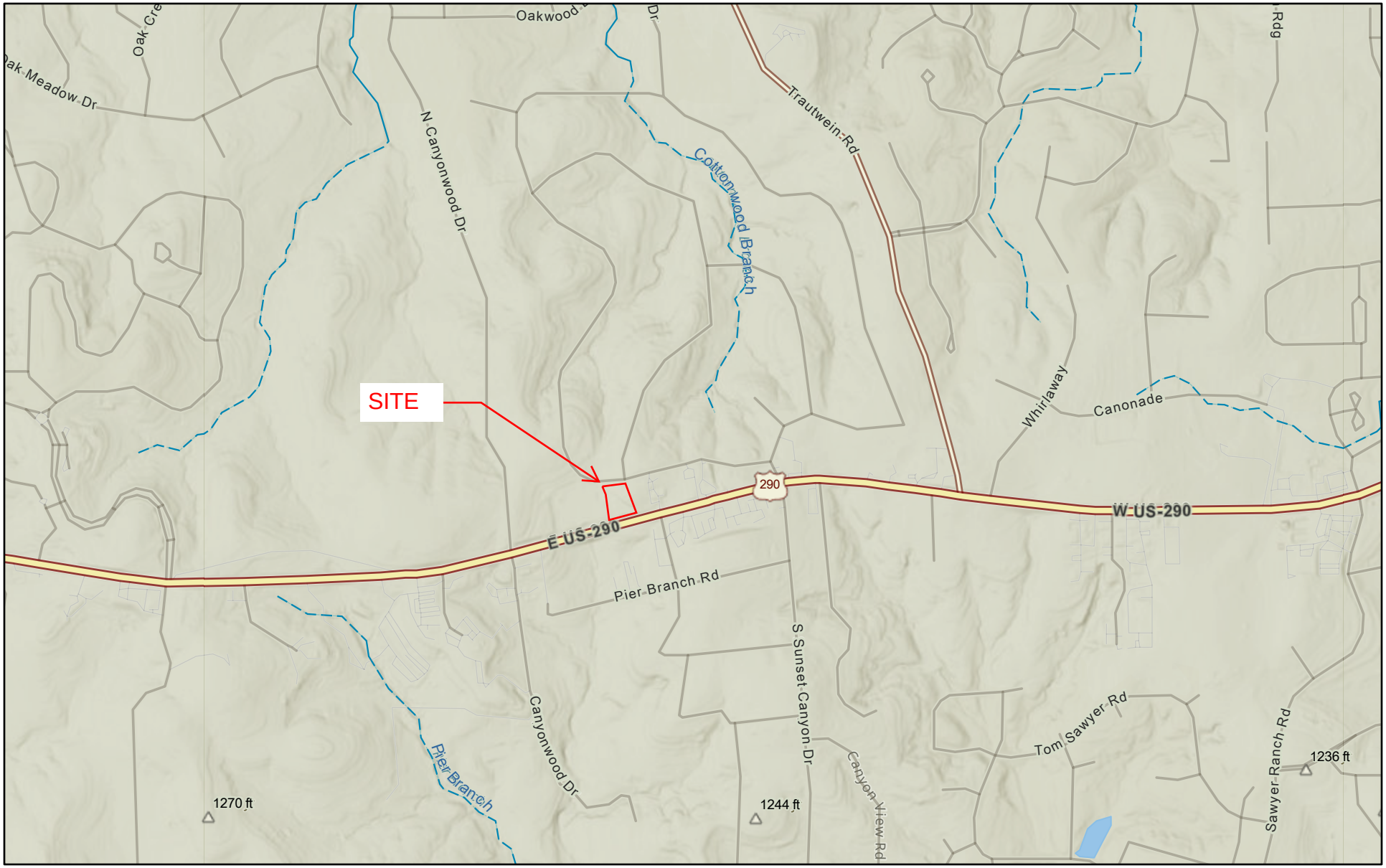
62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

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

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

ATTACHMENT A

10 Federal Road Map



11/15/2023

World Hillshade

1:23,280

0 0.15 0.3 0.6 mi

0 0.28 0.55 1.1 km

ATTACHMENT B

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

The National Map US Topo

DRIPPING SPRINGS QUADRANGLE
TEXAS
7.5-MINUTE SERIES

Site Location

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

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, September 2016 - November 2016
Roads.....U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2022
Hydrography.....National Hydrography Dataset, 2002 - 2018
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2019 - 2021

Wetlands.....FWS National Wetlands Inventory Not Available

MN
GN
3°54'
69 MILS
0°28'
8 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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

SCALE 1:24 000

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

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

TEXAS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Hammetts Crossing
2 Shingle Hills
3 Bee Cave
4 Henly
5 Signal Hill
6 Rough Hollow
7 Driftwood
8 Mountain City
ADJOINING QUADRANGLES

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

DRIPPING SPRINGS, TX
2022

NSN 7643-01-639-5933
NGA REF NO. USSX24K12801

ATTACHMENT C

10 FEDERAL
Contributing Zone Plan Modification

Attachment C – Project Narrative

This 10 Federal Contributing Zone Plan Modification (CZP MOD) proposes a modification of the approved plan by the same name to include requirements of the water purveyor for Optional Enhanced Measures (OEM). The Texas Commission on Environmental Quality (TCEQ) approved the 10 Federal Contributing Zone Plan (CZP) on June 21, 2024, for construction of 1.67 acres of impervious cover on a 2.62 ac site within the ETJ of City of Dripping Springs, in Hays County, Texas. This plan allowed the demolition of existing buildings onsite and the construction of one (1) 4-story building with associated parking and drives treated by two (2) Contech Stormfilters.

The site is currently developed as a commercial development and lies within the Onion Creek watershed which does not contain 100-year floodplain. There is approximately 1.63 acres of existing onsite impervious cover. While the project is located entirely over the Edwards Contributing Zone, a Geologic Assessment is not required by 30 TAC 213 regulations but was conducted for compliance with OEM requirements. No naturally-occurring sensitive features were found on the site.

This CZP proposes demolition, additional clearing, grading, excavation, installation of utilities and drainage improvements, construction of two (2) water quality and detention basins, one (1) commercial storage building and associated parking and drives. Approximately 1.71 acres of impervious cover, or 65.3% of the 2.62-acre project limits, are proposed for construction in this CZP. The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are two (2) StormFilters with equalization/detention storage designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Additional sizing of the basins has been accounted for the requirement of TCEQ Optional Enhanced Measures (OEM) in compliance with RG-348A requirements. A swale will be constructed on the east side of the site to intercept offsite flows and route them around the site.

As a requirement of the West Travis County Public Utility Agency, this project has chosen to design TCEQ OEMs within the proposed PBMPs in accordance with Appendix A and Appendix B of the RG-348. Calculations and Exhibits are included within the exhibits section of this application to illustrate compliance with OEM requirements. Based on the OEM stream morphology requirement the site will limit the peak rate of runoff for the 2-yr, 24 hr storm to be 50% of the undeveloped rate for that event and limit the 10-yr, 24-hr storm peak runoff rate to that calculated for the undeveloped condition of the same storm.

Table 1: 2-yr Developed Site Peak Discharge with Greater than 15% Impervious (Per OEM)

	South Basin	North Basin
	2-yr Storm	2-year
Undeveloped Condition	1.92	2.80
50% of Undeveloped	0.96	1.40
Maximum Peak Discharge	0.96	1.40
Post Peak Discharge	0.91	1.33

Table 2: 10-yr Developed Site Peak Discharge with Undeveloped Conditions (Per OEM)

	Study Point 1	Study Point 2
Undeveloped Condition	28.34	14.06
Post Peak Discharge	28.08	12.67

10 FEDERAL
Contributing Zone Plan Modification

Narrative section of pre and post development drainage design data can be found in the exhibits section of the application.

Potable water service is to be provided by the West Travis County Public Utility Agency. The proposed development has been deemed suitable for an OSSF system to treat onsite wastewater. See Attachment F located within this section of this application for details.

ATTACHMENT D

Attachment D – Factors Affecting Surface Water Quality

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site during construction include:

- Soil erosion due to the demolition and clearing of the site;
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings;
- Hydrocarbons from asphalt paving operations;
- Miscellaneous trash and litter from construction workers and material wrappings;
- Concrete truck washout.
- Potential overflow/spills from portable toilets

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site after development include:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings;
- Dirt and dust which may fall off vehicles; and
- Miscellaneous trash and litter.

ATTACHMENT E

10 FEDERAL
Contributing Zone Plan Modification

Attachment E – Volume and Character of Stormwater

Stormwater runoff will increase as a result of this development. For a 25-year storm event, the overall project will generate approximately 13 cfs. The runoff coefficient for the site changes from approximately 85 before development to 92 after development. Values are based on runoff coefficients per the City of Austin Environmental Criteria Manual.

ATTACHMENT F

Hays County Development Services

2171 Yarrington Road, Suite 100, Kyle TX 78640
512-393-2150 main / 512-493-1915 fax

June 5, 2024

To Whom It May Concern:

Re: On Site Sewage Facility Suitability (OSSF) for the Dripping Springs Storage located at 3975-B E US 290, Dripping Springs, Texas 78620, parcel ID: R144074.

I have completed my preliminary review of the preliminary on-site sewage facility design for this proposed development for a new storage facility. I concur with Matthew Kriete, P.E., findings that this lot can be adequately served by individual on-site sewage facilities. This tract of land will be served by a public water.

This review does not authorize the start of any construction and all Hays County development authorizations and subdivision requirements must be obtained before the start of any development.

Please contact me if you have any questions concerning this matter.

Sincerely,

Eric Van Gaasbeek, R.S., C.F.M.
Chief Environmental Health Specialist
Floodplain Administrator
OS# 0028967

ATTACHMENT J

Attachment J – BMPs for Upgradient Stormwater

Upgradient stormwater will be intercepted by a proposed swale on the east side of the project and routed around the site.

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are two (2) Stormfilters which are designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site as well as comply with OEM design requirements.

ATTACHMENT K

10 FEDERAL
Contributing Zone Plan Modification

Attachment K – BMPs for Onsite Stormwater

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are two (2) Stormfilters which are designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site as well as comply with OEM design requirements.

ATTACHMENT L

10 FEDERAL
Contributing Zone Plan Modification

Attachment L – BMPs for Surface Streams

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are two (2) Stormfilters which are designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site as well as comply with OEM design requirements.

ATTACHMENT M

10 FEDERAL
Contributing Zone Plan Modification

Attachment M – Construction Plans

Please refer to the Exhibits Section of this application for the Contributing Zone Plan Site plans and Stormfilter design plans.

ATTACHMENT N

STORMWATER MANAGEMENT STORMFILTER® SYSTEM MONITORING & MAINTENENANCE PLAN

This document has been prepared to provide a description and schedule for the performance of monitoring and maintenance of the Stormwater Management StormFilter® (StormFilter®) system. Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site and may be required in the event of a chemical spill or due to excessive sediment loading.

MONITORING

The StormFilter® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. At least two scheduled inspections should take place per year with maintenance following as warranted.

First, inspection should be done within the first six months of operation. After that, CONTECH Construction Products, Inc. recommends inspections semi-annually and after major storm events (larger than a 25-year event) for potential damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. Inspections are also recommended after foliage droppage, in areas with dense tree coverage.

PROCEDURE

It is desirable to inspect during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, then typically large amounts of sediments will be present and very little flow will be discharged from the drainage pipes. If this is the case, then maintenance is warranted and the cartridges need to be replaced.

Warning: In the case of a spill, the worker should abort inspection activities until the proper guidance is obtained. Notify the local hazard control agency and CONTECH immediately.
Inspections should be performed by a person who is familiar with the StormFilter® treatment unit.
To conduct an inspection:

1. If applicable, setup safety equipment to protect and notify surrounding vehicle and pedestrian traffic.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the access portals to the vault and allow the system to vent.
4. Without entering the vault, visually inspect the inside of the unit, and note accumulations of liquids and solids.
5. Be sure to record the level of sediment build-up on the floor of the vault, in the forebay, and on top of the cartridges. If flow is occurring, note the flow of water per drainage pipe. Record all observations in the inspection form attached. Digital pictures are valuable for historical documentation.
6. Close and fasten the access portals and remove safety equipment.
7. If appropriate, make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.
8. Discuss conditions that suggest maintenance and make decision as to whether or not maintenance is needed per the TCEQ regulations or manufacturer's recommendations.

A record must be kept of each inspection and can be logged on the inspection form attached. The need for maintenance is typically based on results of the inspection. Maintenance is required if the following is encountered:

- Sediment has accumulated more than 4 inches on the vault floor.
- Sediment has accumulated more than ¼ inches on top of the cartridge.
- Cartridge bay is submerged by more than 4 inches of static water for more than 24 hours after the end of a rain event.
- Pore space between media granules is absent.
- StormFilter® system remains in bypass condition (water over the internal outlet baffle wall or submerged cartridges) during an average rain fall event.
- Hazardous material is released (automotive fluids or other).
- Pronounced scum line of more than ¼ inches thick is present above top cap.

MAINTENANCE

Cartridge replacement and cleaning of the StormFilter® system should be done during dry weather conditions when no flow is entering the system. Clean-out of the StormFilter® system with a vacuum truck is generally the most effective and convenient method of removing sediment from the system.

Important: If vault entry is required, OSHA rules for confined space entry must be followed. In the case of a spill, the worker should abort maintenance activities until the proper guidance is obtained. Notify the local hazard control agency and CONTECH immediately.

The following procedure is to be performed to conduct cartridge replacement and sediment removal:

1. If applicable, set up safety equipment to protect workers and pedestrians from site hazards.
2. Open access portals to the vault and allow the system to vent.
3. Using appropriate equipment, offload the replacement cartridges and set aside.
4. Remove used cartridges from the vault using one of the following methods:

A. Method 1:
   i. Enter the vault using appropriate confined space protocols and unscrew (counterclockwise) each filter cartridge from the underdrain connector. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.
   ii. Using appropriate hoisting equipment, attach a cable from the boom, crane, or tripod to the loose cartridge and remove from the vault (contact CONTECH for suggested attachment devices).
   iii. Set the used cartridge aside or load onto the hauling truck.
   iv. Repeat steps i through iii until all cartridges have been removed.

B. Method 2:
   i. Enter the vault and unscrew the cartridge cap.
   ii. Remove the cartridge, hood screws (3), hood, and float.
   iii. At location under structure access, tip the cartridge on its side and empty onto the vault floor. Reassemble the empty cartridge and remove from the vault. **Important:** Take care not to damage the manifold connectors. This connector should remain installed in the manifold and capped if necessary.

iv. Set the empty, used cartridge aside or load onto the hauling truck.
v. Repeat steps i through iv until all cartridges have been removed.

5. Remove accumulated sediment from the floor of the vault, the forebay, and the outlet bay. Use a vacuum truck for highest effectiveness.
6. Once the sediment is removed, assess the condition of the vault and the condition of the connectors. The connectors are short sections of 2 inch schedule 40 PVC, or schedule 80 PVC that should protrude about 1 inch above the floor of the vault. Lightly wash down the vault interior and replace any damaged connectors.
7. Using the vacuum truck boom, crane, or tripod, lower and install the new cartridges. Take care not to damage connections.
8. Securely fasten the access portals following cleaning activities to ensure surface runoff does not enter the unit from above.
9. Dispose of the accumulated materials removed in accordance with applicable TCEQ regulations. Make arrangements to return the used empty cartridges to CONTECH.

MATERIAL DISPOSAL

The accumulated sediment must be handled and disposed of in accordance with TCEQ protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals. Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with applicable waste disposal regulations. Coordinate disposal of solids and liquids as part of your maintenance procedure. Contact the local public works department to inquire how they dispose of their street waste residuals.

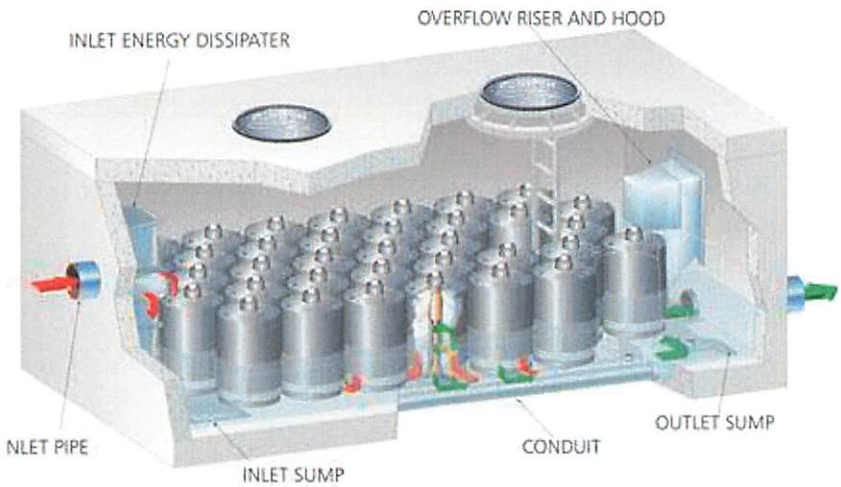
STORMWATER MANAGEMENT STORMFILTER® SYSTEM MAINTENANCE

Maintenance Task Item[1]	Description of Maintenance/Repairs to be Performed[2][3]	Typical Frequency
Sediment Monitoring	Check the level of sediment using a stadia rod or similar measuring device. If level exceeds that described on page 2, maintenance is required.	Semi-annually or after major storm event
Sediment Removal	Remove sludge/sediments from the vault using a vacuum truck. Properly dispose of removed materials in accordance with applicable regulations. [4]	Once every 2 years or when directed by the sediment levels described on page 1
Cartridge Replacement	Replace cartridges as needed.	Once every 2 years or as needed
Documentation [3]	Prepare site visit report noting all items of maintenance, repair, or replacement performed during each site visit on the "Stormwater Management StormFilter® Inspection & Maintenance Log". Include manifest from vacuum service. [5]	Each site visit during regular inspections

Notes:

(1) Maintenance of installed StormFilter® system is carried out by the vacuum service industry.
(2) All maintenance activities will be performed in accordance with applicable OSHA regulations.
(3) Owner will be notified of repair or maintenance items, and facility concerns.
(4) Properly dispose of sediment and pollutants in accordance with applicable regulations.
(5) Documentation to be maintained.

THE STORMWATER MANAGEMENT STORMFILTER® SYSTEM



10 FEDERAL
Contributing Zone Plan Modification

I, the owner, have read and understand the requirements of the attached Monitoring and Maintenance Plan and Schedule. I understand that I am responsible for monitoring and maintenance of the Stormwater Management StormFilter® system until such time as the maintenance obligation is either assumed in writing by another entity having control of the property or until ownership is transferred.

~~Clifton Minsley~~ BRADFORD MINSLEY
Print Name of Customer/Agent

Signature of Customer/Agent

9-11-2024
Date

Stormwater Management StormFilter® Inspection & Maintenance Log

Inspection Report

Date:_____ Personnel:_____

Location:_____ System Size:_____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

Sediment Thickness in Forebay:_____ Date:_____

Sediment Depth on Vault Floor:_____

Structural Damage:_____

Estimated Flow from Drainage Pipes (if available):_____

Cartridges Submerged: Yes ☐ No ☐ Depth of Standing Water:_____

StormFilter Maintenance Activities (check off if done and give description)

☐ Trash and Debris Removal:_____

☐ Minor Structural Repairs:_____

☐ Drainage Area Report:_____

Excessive Oil Loading: Yes ☐ No ☐ Source:_____

Sediment Accumulation on Pavement: Yes ☐ No ☐
Source:_____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source:_____

Items Needing Further Work:_____

Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals.

Other Comments:

_____

_____

10 FEDERAL
Contributing Zone Plan Modification

StormFilter Maintenance Report

Date:_____ Personnel:_____

Location:_____ System Size:_____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

List Safety Procedures and Equipment Used:_____

_____

_____

System Observations

Months in Service:

Oil in Forebay: Yes ☐ No ☐

Sediment Depth in Forebay:_____

Sediment Depth on Vault Floor:_____

Structural Damage:_____

Drainage Area Report

Excessive Oil Loading: Yes ☐ No ☐ Source:_____

Sediment Accumulation on Pavement: Yes ☐ No ☐
Source:_____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source:_____

StormFilter Cartridge Replacement Maintenance Activities

Remove Trash and Debris: Yes ☐ No ☐ Details:_____

Replace Cartridges: Yes ☐ No ☐ Details:_____

Sediment Removed: Yes ☐ No ☐ Details:_____

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Contributing Zone Plan Modification

Quantity of Sediment Removed (estimate?):

Monitor Structural Repairs: Yes ☐ No ☐ Details:_____

Residuals (debris, sediment) Disposal Methods:_____

Notes:

_____

_____

_____

_____

_____

_____

ATTACHMENT P

Attachment P – Measures for Minimizing Surface Stream Contamination

Any points where discharge from the site is concentrated and erosive velocities exist will include appropriately sized energy dissipators to reduce velocities to non-erosive levels.

TEMPORARY STORMWATER SECTION (TCEQ-0602)

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.

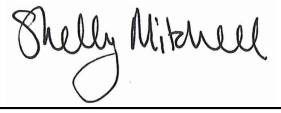
Signature

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: Shelly Mitchell, P.E.

Date: 09/26/2024

Signature of Customer/Agent:



Regulated Entity Name: 10 Federal

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: Construction Staging area

   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: Pier Branch

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

Attachment A – Spill Response Actions

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

The contractor will be required to report significant or hazardous spills in reportable quantities to:

- 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. https://www.tceq.texas.gov/response/spills/spill_rq.html
- 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.

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- Notification should first be made by telephone and followed up with a written report.

- 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.

- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

Potential Source	Preventative Measure
Asphalt products used on this project.	▪ After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.
,Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.	▪ Vehicle maintenance when possible, will be performed within the construction staging area. ▪ Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.
Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.	▪ Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures. ▪ Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures. ▪ Hazardous materials and wastes shall be stored in covered containers and protected from vandalism. ▪ A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.
Miscellaneous trash and litter from construction workers and material wrappings.	▪ Trash containers will be placed throughout the site to encourage proper trash disposal.
Construction debris.	▪ 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.
Spills/Overflow of waste from portable toilets	▪ Portable toilets will be placed away from high-traffic vehicular areas and storm drain inlets. ▪ Portable toilets will be placed on a level ground surface. ▪ Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include installation of TBMPs, demolition of existing building and hardscapes, clearing and grubbing of vegetation where applicable. This will disturb approximately 2.62 acres. The second is construction that will include:

Excavation for water quality and underground detention – approx. 1 ac
Installation of utilities and drainage – approx. 0.75 ac
Installation of underground water quality and detention – approx. 0.5 ac
Construction of building and paving – approx. 1.71 ac
Grading, landscape and removing TBMPs – approx. 0.91
This site will disturb approximately 2.62 acres for construction of this project

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

a. 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.

Offsite upgradient water will be intercepted by a proposed channel and routed around the site. All TBMPs are adequate for the drainage areas they serve.

b. 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.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences and sediment control rolls along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of rock berms with silt fencing downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) Installation of gravel bags and drain inlet protection at inlets and downgradient areas of construction activities for sediment control (4) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (5) installation of construction staging area(s).

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

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

As this site is entirely over the Edwards Aquifer Contributing Zone, a Geologic Assessment was not required, however one was completed for OEM compliance. No naturally occurring sensitive features were identified. There are no surface streams on or immediately adjacent to the site.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

d. 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.

As this site is entirely over the Edwards Aquifer Contributing Zone, a Geologic Assessment was not required, however one was completed for OEM compliance. No naturally occurring sensitive features were identified. There are no surface streams on or immediately adjacent to the site.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

ATTACHMENT F

Attachment F – Structural Practices

The following structural measures will be installed prior to the initiation of site preparation activities:

- Erection of silt fences and sediment control rolls along the downgradient boundary of construction activities and rock berms with silt fence for secondary protection, as located on Exhibit C8.01/C8.02 and illustrated in Exhibit C14.01.
- Installation of gravel bags and drain inlet protection at inlets and downgradient areas of construction activities, as located on Exhibit C8.01/C8.02 and illustrated in Exhibit C14.01.
- Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit C8.01/C8.02 and illustrated in Exhibit C14.01.

The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:

- Installation of concrete truck washout pit(s), as required and located on Exhibit C8.01/C8.02 and illustrated in Exhibit C14.01.

ATTACHMENT G

Attachment G – Drainage Area Map

No more than ten (10) acres will be disturbed for the proposed development of the site. Refer to included exhibits for additional details. All TBMPs utilized are adequate for the drainage areas served.

ATTACHMENT I

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INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the Notice of Termination (NOT) has been filed. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable.

Contractor shall review Sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual for additional BMP inspection and maintenance requirements.

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Pollution Prevention Measure	Inspected in Compliance	Corrective Action Required	
		Description (use additional sheet if necessary)	Date Completed
Best Management Practices			
Natural vegetation buffer strips			
Temporary vegetation			
Permanent vegetation			
Sediment control basin			
Silt fences			
Rock berms			
Gravel filter bags			
Drain inlet protection			
Other structural controls			
Vehicle exits (off-site tracking)			
Material storage areas (leakage)			
Equipment areas (leaks, spills)			
Concrete washout pit (leaks, failure)			
General site cleanliness			
Trash receptacles			
Evidence of Erosion			
Site preparation			
Roadway or parking lot construction			
Utility construction			
Drainage construction			
Building construction			
Major Observations			
Sediment discharges from site			
BMPs requiring maintenance			
BMPs requiring modification			
Additional BMPs required			

_____ A brief statement describing the qualifications of the inspector is included in this SWP3.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I further certify I am an authorized signatory in accordance with the provisions of 30 TAC §305.128."

Inspector's Name _____ Inspector's Signature _____ Date _____

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PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Installation of BMPs	

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date
Removal of BMPs	

ATTACHMENT J

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of 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 seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

NOTICE OF INTENT
(TCEQ-20022)

TCEQ Office Use Only
Permit No:
CN:
RN:

Notice of Intent (NOI) for an Authorization for Stormwater Discharges Associated with Construction Activity under TPDES General Permit TXR150000

IMPORTANT INFORMATION

Please read and use the General Information and Instructions prior to filling out each question in the NOI form.

Use the NOI Checklist to ensure all required information is completed correctly. **Incomplete applications delay approval or result in automatic denial.**

Once processed your permit authorization can be viewed by entering the following link into your internet browser: http://www2.tceq.texas.gov/wq_dpa/index.cfm or you can contact TCEQ Stormwater Processing Center at 512-239-3700.

ePERMITS

Effective September 1, 2018, this paper form must be submitted to TCEQ with a completed electronic reporting waiver form (TCEQ-20754).

To submit an NOI electronically, enter the following web address into your internet browser and follow the instructions: https://www3.tceq.texas.gov/steers/index.cfm

APPLICATION FEE AND PAYMENT

The application fee for submitting a paper NOI is $325. The application fee for electronic submittal of a NOI through the TCEQ ePermits system (STEERS) is $225.

Payment of the application fee can be submitted by mail or through the TCEQ ePay system. The payment and the NOI must be mailed to separate addresses. To access the TCEQ ePay system enter the following web address into your internet browser: http://www.tceq.texas.gov/epay.

Provide your payment information for verification of payment:

- If payment was mailed to TCEQ, provide the following:
  - Check/Money Order Number: Click here to enter text.
  - Name printed on Check: Click here to enter text.
- If payment was made via ePay, provide the following:
  - Voucher Number: Click here to enter text.
  - A copy of the payment voucher is attached to this paper NOI form.

RENEWAL (This portion of the NOI is not applicable after June 3, 2018)

Is this NOI for a renewal of an existing authorization? ☐ Yes ☐ No

If Yes, provide the authorization number here: TXR15 Click here to enter text.

NOTE: If an authorization number is not provided, a new number will be assigned.

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN Click here to enter text.

(Refer to Section 1.a) of the Instructions)

b) What is the Legal Name of the entity (applicant) applying for this permit? (The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

Click here to enter text.

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): .

First and Last Name: Click here to enter text. Suffix: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: N/A

E-mail: Click here to enter text.

Mailing Address: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Mailing Information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code: 27604

d) Indicate the type of customer:

☐ Individual
☐ Limited Partnership
☐ General Partnership
☐ Trust
☐ Sole Proprietorship (D.B.A.)
☐ Corporation
☐ Estate
☐ Federal Government
☐ County Government
☐ State Government
☐ City Government
☐ Other Government
☐ Other: Click here to enter text

e) Is the applicant an independent operator? ☐ Yes ☐ No

(If a governmental entity, a subsidiary, or part of a larger corporation, check No.)

f) Number of Employees. Select the range applicable to your company.

☐ 0-20
☐ 21-100
☐ 101-250
☐ 251-500
☐ 501 or higher

g) Customer Business Tax and Filing Numbers: (**Required** for Corporations and Limited Partnerships. **Not Required** for Individuals, Government, or Sole Proprietors.)

State Franchise Tax ID Number: Click here to enter text

Federal Tax ID: Click here to enter text

Texas Secretary of State Charter (filing) Number: Click here to enter text

DUNS Number (if known): Click here to enter text

SECTION 2. APPLICATION CONTACT

Is the application contact the same as the applicant identified above?

☐ Yes, go to Section 3

☐ No, complete this section

Prefix (Mr. Ms. Miss): Click here to enter text.

First and Last Name: Click here to enter text. Suffix: Click here to enter text.

Title: Click here to enter text. Credential: Click here to enter text.

Organization Name: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: N/A

E-mail: Click here to enter text.

Mailing Address: Click here to enter text.

Internal Routing (Mail Code, Etc.): Click here to enter text.

City, State, and Zip Code: Austin, TX

Mailing information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code:

SECTION 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) If this is an existing permitted site, what is the Regulated Entity Number (RN) issued to this site? RN 111934188

(Refer to Section 3.a) of the Instructions)

b) Name of project or site (the name known by the community where it's located): 10 Federal

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): commercial

d) County or Counties (if located in more than one): Hays

e) Latitude: 30.196385 N Longitude: -98.026521 W

f) Site Address/Location

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete *Section A*.

If the site does not have a physical address, provide a location description in *Section B*. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Section A:

Street Number and Name: 3975 US 290,

City, State, and Zip Code: Dripping Springs, TX 78620

Section B:

Location Description: Click here to enter text.

City (or city nearest to) where the site is located: Click here to enter text.

Zip Code where the site is located: Click here to enter text.

SECTION 4. GENERAL CHARACTERISTICS

a) Is the project or site located on Indian Country Lands?

☐ Yes, do not submit this form. You must obtain authorization through EPA Region 6.

☒ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes. Note: The construction stormwater runoff may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA Region 6.

☒ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? **1542**

d) What is the Secondary SIC Code(s), if applicable? 1623

e) What is the total number of acres to be disturbed? 2.62

f) Is the project part of a larger common plan of development or sale?

☐ Yes

☒ No. The total number of acres disturbed, provided in e) above, must be 5 or more. If the total number of acres disturbed is less than 5, do not submit this form. See the requirements in the general permit for small construction sites.

g) What is the estimated start date of the project? November 2024

h) What is the estimated end date of the project? November 2025

i) Will concrete truck washout be performed at the site? ☒ Yes ☐ No

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Pier Branch

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1427H_01

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

☐ Yes ☒ No

If Yes, provide the name of the MS4 operator: Click here to enter text.

Note: The general permit requires you to send a copy of this NOI form to the MS4 operator.

m) Is the discharge or potential discharge from the site within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?

☒ Yes, complete the certification below.

☐ No, go to Section 5

I certify that the copy of the TCEQ-approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) that is included or referenced in the Stormwater Pollution Prevention Plan will be implemented. ☒ Yes

SECTION 5. NOI CERTIFICATION

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☐ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☐ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☐ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the Construction General Permit (TXR150000). ☐ Yes

Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3, provided all obligations are confirmed by at least one operator.

SECTION 6. APPLICANT CERTIFICATION SIGNATURE

Operator Signatory Name:

Operator Signatory Title: Click here to enter text.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink): _____Date: _____

NOTICE OF INTENT CHECKLIST (TXR150000)

Did you complete everything? Use this checklist to be sure!

Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

Confirm each item (or applicable item) in this form is complete. This checklist is for use by the applicant to ensure a complete application is being submitted. **Missing information may result in denial of coverage under the general permit.** (See NOI process description in the General Information and Instructions.)

APPLICATION FEE

If paying by check:

☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)

☐ Check number and name on check is provided in this application.

If using ePay:

☐ The voucher number is provided in this application and a copy of the voucher is attached.

RENEWAL

☐ If this application is for renewal of an existing authorization, the authorization number is provided.

OPERATOR INFORMATION

☐ Customer Number (CN) issued by TCEQ Central Registry

☐ Legal name as filed to do business in Texas. (Call TX SOS 512-463-5555 to verify.)

☐ Name and title of responsible authority signing the application.

☐ Phone number and e-mail address

☐ Mailing address is complete & verifiable with USPS. www.usps.com

☐ Type of operator (entity type). Is applicant an independent operator?

☐ Number of employees.

☐ For corporations or limited partnerships – Tax ID and SOS filing numbers.

☐ Application contact and address is complete & verifiable with USPS. http://www.usps.com

REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

☐ Regulated Entity Number (RN) (if site is already regulated by TCEQ)

☐ Site/project name and construction activity description

☐ County

☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html

☐ Site Address/Location. Do not use a rural route or post office box.

GENERAL CHARACTERISTICS

☐ Indian Country Lands –the facility is not on Indian Country Lands.

☐ Construction activity related to facility associated to oil, gas, or geothermal resources

☐ Primary SIC Code that best describes the construction activity being conducted at the site. www.osha.gov/oshstats/sicser.html

☐ Estimated starting and ending dates of the project.

☐ Confirmation of concrete truck washout.

☐ Acres disturbed is provided and qualifies for coverage through a NOI.

☐ Common plan of development or sale.

☐ Receiving water body or water bodies.

☐ Segment number or numbers.

☐ MS4 operator.

☐ Edwards Aquifer rule.

CERTIFICATION

☐ Certification statements have been checked indicating Yes.

☐ Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original.

Instructions for Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

By Regular Mail:
TCEQ
Stormwater Processing Center (MC228)
P.O. Box 13087
Austin, Texas 78711-3087

By Overnight or Express Mail:
TCEQ
Stormwater Processing Center (MC228)
12100 Park 35 Circle
Austin, TX

Application Fee:

The application fee of $325 is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit. Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

Mailed Payments:

Use the attached General Permit Payment Submittal Form. The application fee is submitted to a different address than the NOI. Read the General Permit Payment Submittal Form for further instructions, including the address to send the payment.

ePAY Electronic Payment: http://www.tceq.texas.gov/epay

When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

TCEQ Contact List:

Application – status and form questions:	512-239-3700, swpermit@tceq.texas.gov
Technical questions:	512-239-4671, swgp@tceq.texas.gov
Environmental Law Division:	512-239-0600
Records Management - obtain copies of forms:	512-239-0900
Reports from databases (as available):	512-239-DATA (3282)
Cashier's office:	512-239-0357 or 512-239-0187

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

- **Administrative Review**: Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(es) on the form must be verified with the US Postal service as receiving regular mail delivery. Do not give an overnight/express

mailing address.

- **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.
- **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

  or

  Denial of Coverage: If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.texas.gov. Search using keyword TXR150000.

Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated project or site changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number, if one has not already been assigned to this customer or site.

For existing customers and sites, you can find the Customer Number and Regulated Entity Number by entering the following web address into your internet browser: http://www15.tceq.texas.gov/crpub/ or you can contact the TCEQ Stormwater Processing Center at 512-239-3700 for assistance. On the website, you can search by your permit number, the Regulated Entity (RN) number, or the Customer Number (CN). If you do not know these numbers, you can select “Advanced Search” to search by permittee name, site address, etc.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For this permit, a Notice of Change form must be submitted to the program area.

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

Renewal of General Permit. Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied, a new permit number will be issued.

Section 1. OPERATOR (APPLICANT)

a) Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number**.

If the applicant is an existing TCEQ customer, the Customer Number is available at the following website: http://www15.tceq.texas.gov/crpub/. If the applicant is not an existing TCEQ customer, leave the space for CN blank.

b) Legal Name of Applicant

Provide the current legal name of the applicant. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, as filed in the county. You may contact the SOS at 512-463-5555, for more information related to filing in Texas. If filed in the county, provide a copy of the legal documents showing the legal name.

c) Contact Information for the Applicant (Responsible Authority)

Provide information for the person signing the application in the Certification section. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The mailing address must be recognized by the US Postal Service. You may verify the address on the following website: https://tools.usps.com/go/ZipLookupAction!input.action.

The phone number should provide contact to the applicant.

The fax number and e-mail address are optional and should correspond to the applicant.

d) Type of Customer (Entity Type)

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for an authorization.

Individual

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

Partnership

A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). If the customer is a 'General Partnership' or 'Joint Venture' filed in the county (not filed with TX SOS), the legal name of each partner forming

the 'General Partnership' or 'Joint Venture' must be provided. Each 'legal entity' must apply as a co-applicant.

Trust or Estate

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

Sole Proprietorship (DBA)

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

1. be under the person's name
2. have its own name (doing business as or DBA)
3. have any number of employees.

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

Corporation

A customer that meets all of these conditions:

1. is a legally incorporated entity under the laws of any state or country
2. is recognized as a corporation by the Texas Secretary of State
3. has proper operating authority to operate in Texas

The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

Government

Federal, state, county, or city government (as appropriate)

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the applicant. A department name or other description of the organization is not recognized as the 'legal name'.

Other

This may include a utility district, water district, tribal government, college district, council of governments, or river authority. Provide the specific type of government.

e) Independent Entity

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

f) Number of Employees

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

g) Customer Business Tax and Filing Numbers

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

State Franchise Tax ID Number

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter the Tax ID number.

Federal Tax ID

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

TX SOS Charter (filing) Number

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512-463-5555.

DUNS Number

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

Section 2. APPLICATION CONTACT

Provide the name and contact information for the person that TCEQ can contact for additional information regarding this application.

Section 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) Regulated Entity Number (RN)

The RN is issued by TCEQ's Central Registry to sites where an activity is regulated by TCEQ. This is not a permit number, registration number, or license number. Search TCEQ's Central Registry to see if the site has an assigned RN at http://www15.tceq.texas.gov/crpub/. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, an RN may already be assigned for the larger site. Use the RN assigned for the larger site.

If the site is found, provide the assigned RN and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility.

Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

b) Name of the Project or Site

Provide the name of the site or project as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

c) Description of Activity Regulated

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

d) County

Provide the name of the county where the site or project is located. If the site or project is located in more than one county, provide the county names as secondary.

e) Latitude and Longitude

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: http://www.tceq.texas.gov/gis/sqmaview.html.

f) Site Address/Location

If a site has an address that includes a street number and street name, enter the complete address for the site in *Section A*. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street number and street name, provide a complete written location description in *Section B.* For example: "The site is located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1."

Provide the city (or nearest city) and zip code of the site location.

Section 4. GENERAL CHARACTERISTICS

a) Indian Country Lands

If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA Region 6, Dallas. Do not submit this form to TCEQ.

b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas (RRC) and may need to obtain authorization from EPA Region 6.

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the RRC's jurisdiction must be authorized by the EPA and the RRC, as applicable. Activities under RRC jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the RRC; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The RRC also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the RRC. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the RRC prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

For more information about the jurisdictions of the RRC and the TCEQ, read the Memorandum of Understanding (MOU) between the RRC and TCEQ at 16 Texas Administrative Code, Part 1, Chapter 3, Rule 3.30, by entering the following link into an internet browser: http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30 or contact the TCEQ Stormwater Team at 512-239-4671 for additional information.

c) Primary Standard Industrial Classification (SIC) Code

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Buildings Other than Single Family Homes
- 1541 - Construction of Industrial Buildings and Warehouses
- 1542 - Construction of Non-residential Buildings, other than Industrial Buildings and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Local Government Assistance Section at 800-447-2827 for assistance.

d) Secondary SIC Code

Secondary SIC Code(s) may be provided. Leave this blank if not applicable. For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Environmental Assistance Section at 800-447-2827 for assistance.

e) Total Number of Acres Disturbed

Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at 512-239-4671 or by email at swgp@tceq.texas.gov.

f) Common Plan of Development

Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on what a common plan of development is, refer to the definition of "Common Plan of Development" in the Definitions section of the general permit or enter the following link into your internet browser: www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

For further information, go to the TCEQ stormwater construction webpage enter the following link into your internet browser: www.tceq.texas.gov/goto/construction and search for "Additional Guidance and Quick Links". If you have any further questions about the Common Plan of Development you can contact the TCEQ Stormwater Team at 512-239-4671 or the TCEQ Small Business and Environmental Assistance at 800-447-2827.

g) Estimated Start Date of the Project

This is the date that any construction activity or construction support activity is initiated at the site. If renewing the permit provide the original start date of when construction activity for this project began.

h) Estimated End Date of the Project

This is the date that any construction activity or construction support activity will end and final stabilization will be achieved at the site.

i) Will concrete truck washout be performed at the site?

Indicate if you expect that operators of concrete trucks will washout concrete trucks at the construction site.

j) Identify the water body(s) receiving stormwater runoff

The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

k) Identify the segment number(s) of the classified water body(s)

Identify the classified segment number(s) receiving a discharge directly or indirectly. Enter the following link into your internet browser to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

You may also find the segment number in TCEQ publication GI-316 by entering the following link into your internet browser: www.tceq.texas.gov/publications/gi/gi-316 or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at 512-239-4671 for further assistance.

l) Discharge into MS4 – Identify the MS4 Operator

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at 512-239-4671.

m) Discharges to the Edwards Aquifer Recharge Zone and Certification

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer by entering the following link into an internet browser: www.tceq.texas.gov/field/eapp/viewer.html or by contacting the TCEQ Water Quality Division at 512-239-4671 for assistance.

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site-specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

Section 5. NOI CERTIFICATION

Note: Failure to indicate Yes to all of the certification items may result in denial of coverage under the general permit.

a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. Electronic applications submitted through ePermits have immediate provisional coverage. You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site by entering the following link into an internet browser: www.tceq.texas.gov/goto/construction or you may contact the TCEQ Stormwater processing Center at 512-239-3700 for assistance.

b) Certification of Legal Name

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or

on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512-463 5555, for more information related to filing in Texas.

c) Understanding of Notice of Termination

A permittee shall terminate coverage under the Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

d) Certification of Stormwater Pollution Prevention Plan

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

Section 6. APPLICANT CERTIFICATION SIGNATURE

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

If you are a corporation:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

If you are a municipality or other government entity:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the TCEQ's Environmental Law Division at 512-239-0600.

30 Texas Administrative Code

§305.44. Signatories to Applications

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the

corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

Use this form to submit your Application Fee only if you are mailing your payment.

Instructions:

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- *Do not mail this form with your NOI form.*
- *Do not mail this form to the same address as your NOI.*

Mail this form and your check to either of the following:

By Regular U.S. Mail
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

By Overnight or Express Mail
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA General Permit: TXR150000

1. Check or Money Order No: Click here to enter text.
2. Amount of Check/Money Order: Click here to enter text.
3. Date of Check or Money Order: Click here to enter text.
4. Name on Check or Money Order: Click here to enter text.
5. NOI Information:

   If the check is for more than one NOI, list each Project or Site (RE) Name and Physical Address exactly as provided on the NOI. **Do not submit a copy of the NOI with this form, as it could cause duplicate permit application entries!**

   If there is not enough space on the form to list all of the projects or sites the authorization will cover, then attach a list of the additional sites.

   Project/Site (RE) Name: Click here to enter text.

   Project/Site (RE) Physical Address: Click here to enter text.

Staple the check or money order to this form in this space.

AGENT AUTHORIZATION FORM (TCEQ-0599)

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

I BRADFORD MINSLEY ~~Clifton Minsley~~,
Print Name

Authorized Agent,
Title - Owner/President/Other

of 10FSS Dripping Springs 2, LLC,
Corporation/Partnership/Entity Name

have authorized **Pape-Dawson Consulting Engineers, LLC.**
Print Name of Agent/Engineer

of **Pape-Dawson Consulting 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

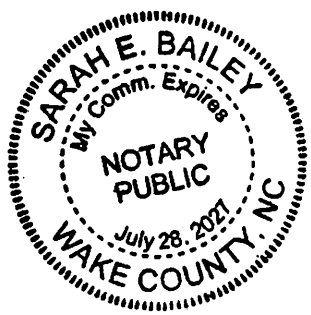
9-11-2024
Date

THE STATE OF NC §

County of WAKE §

BEFORE ME, the undersigned authority, on this day personally appeared BRADFORD MINSLEY 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 11th day of SEPTEMBER, 2024



NOTARY PUBLIC

Sarah E. Bailey
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7-28-2027

24027726 DEED Total Pages: 3
Filed and Recorded: 07/19/2024 04:15:40 PM

UTC-RJ1
S2455935EL

SPECIAL WARRANTY DEED WITH VENDOR'S LIEN

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

THE STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF HAYS §

THAT THE UNDERSIGNED, **KGE MT 3975 US 290 Dripping Springs TX, LLC,** hereinafter called "Grantor," whether one or more, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable consideration to the undersigned in hand paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of the execution and delivery by the Grantee of that one certain promissory note of even date herewith in the principal sum of **One Million One Hundred Ninety Two Thousand Five Hundred and 00/100 Dollars ($1,192,500.00)**, payable to the order of **Dogwood State Bank, a North Carolina banking corporation**, hereinafter called "Lender", as therein specified, providing for acceleration of maturity and for attorney's fees, the payment of which note is secured by the vendor's lien herein retained, and is additionally secured by a deed of trust of even date herewith to **Jennifer Howard, Trustee**, has GRANTED, SOLD AND CONVEYED, and by these presents does GRANT, SELL and CONVEY unto **10FSS Dripping Springs 2, LLC, a North Carolina Limited Liability Company,** whose mailing address is 3301 Atlantic Avenue, Raleigh, North Carolina 27604, herein referred to as "Grantee," whether one or more, the real property described as follows:

Tract I (Fee Simple):

Lot 17-B, SUNSET CANYON, SECTION 1-C, a subdivision in Hays County, Texas, according to the map or plat thereof, recorded in Volume 18, Page 1, Plat Records, Hays County, Texas.

Tract II (Easement Estate):

30' X 70' joint use access easement set forth on plat recorded in Volume 18, Page 1, Plat Records, Hays County, Texas.

This conveyance, however, is made and accepted subject to any and all validly existing easements, rights-of-way, and prescriptive rights, whether of record or not; any and all restrictions, covenants, conditions and easements, if any, relating to the hereinabove described property, but only to the extent they are still in effect, whether or not shown of record in the hereinabove mentioned County and State.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, Grantee's heirs, executors, administrators, successors and/or assigns forever; and Grantor does hereby bind Grantor, Grantor's heirs, executors, administrators, successors and/or assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, executors, administrators, successors

and/or assigns, against every person whomsoever claiming or to claim the same or any part thereof when the claim is by, through, or under Grantor but not otherwise.

But it is expressly agreed that the Vendor's Lien, as well as Superior Title in and to the above described premises, is retained against the above described property, premises and improvements until the above described note and all interest thereon are fully paid according to the face, tenor, effect and reading thereof, when this Deed shall become absolute. Lender, at the instance and request of the Grantee herein, having advanced and paid in cash to the Grantor herein that portion of the purchase price of the herein described property as is evidenced by the hereinabove described Note, the Vendor's Lien, together with the Superior Title to said property, is retained herein for the benefit of said Lender and the same are hereby TRANSFERRED AND ASSIGNED to said Lender, its successors and assigns.

Current ad valorem taxes on the property having been prorated, the payment thereof is assumed by Grantee.

EXECUTED to be effective July 17, 2024.

KGE MT 3975 US 290 Dripping Springs TX, LLC,
A Texas Limited Liability Company

By: _____
Bruce N. Orr, Manager

THE STATE OF FLORIDA §
§
COUNTY OF Duval §

The foregoing instrument was acknowledged before me on the 17th day of July, 2024, by Bruce N. Orr, Manager of KGE MT 3975 US 290 Dripping Springs TX, LLC, in the stated capacity.

_____
NOTARY PUBLIC, STATE OF FLORIDA

Kathryn S. Bourgon
PRINTED NAME OF NOTARY

MY COMMISSION EXPIRES:
8/16/2027

KATHRYN SILCOX BOURGON
Notary Public - State of Florida
Commission # HH 433853
My Comm. Expires Aug 16, 2027
Bonded through National Notary Assn.

PREPARED IN THE OFFICE OF:
McNEESE LAW GROUP, PLLC
201 South Broadway
Brownwood, TX 76801

THE STATE OF TEXAS
COUNTY OF HAYS

I hereby certify that this instrument was FILED on the date and the time stamped hereon by me and was duly RECORDED in the Records of Hays County, Texas.

24027726 DEED
07/19/2024 04:15:40 PM Total Fees: $29.00

Elaine H. Cárdenas, MBA, PhD,County Clerk
Hays County, Texas

Elaine H Cárdenas

APPLICATION FEE FORM (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: 10 Federal
Regulated Entity Location: 3975 US 290, Dripping Springs, TX 78620
Name of Customer: 10FSS Dripping Springs 2, LLC
Contact Person: Bradford Minsley Phone: 301-741-0600
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN 111934188
Austin Regional Office (3373)

☒ Hays ☐ Williamson
☐ Travis

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 ☐ San Antonio Regional Office

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

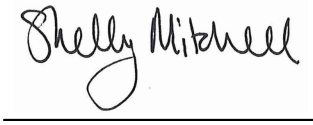
☒ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

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	2.62 Acres	$ 4,000
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	$

Type of Plan	*Size*	*Fee Due*
Extension of Time	Each	$

Signature:  Date: 09/26/2024

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

CORE DATA FORM
(TCEQ-10400)

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		RN 111934188

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:*

10FSS Drippings Springs 2, LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0805615737	32095840115	99-3853907	

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:

3301 Atlantic Ave

City	Raleigh	State	NC	ZIP	27604	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	BKoch@10Federal.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(301) 741-0600		( ) -

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.*)

10 Federal

23. Street Address of the Regulated Entity: *(No PO Boxes)*	3975 US 290							
	City	DrippingSprings	**State**	TX	**ZIP**	79620	**ZIP + 4**	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.196385		**28. Longitude (W) In Decimal:**	-98.026521		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	
30	11	47.0	98	01	35.5	

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)
4225		531130	

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

self storage

34. Mailing Address:	**3301 Atlantic Ave**							
	City	**Raleigh**	**State**	**NC**	**ZIP**	**27604**	**ZIP + 4**	

35. E-Mail Address:	**BKoch@10Federal.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(301) 741-600		**( ) -**

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:	Jean Autrey, P.E., CESSWI	**41. Title:**	Program Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 375-9000		(210) 375-9010	jautrey@pape-dawson.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:	Pape-Dawson Consulting Engineers, LLC	**Job Title:**	Vice President
Name *(In Print):*	Shelly Mitchell, P.E.	**Phone:**	(512) 454- **8711**
Signature:	Shelly Mitchell	**Date:**	09/26/2024

POLLUTANT LOAD AND REMOVAL CALCULATIONS

10 FEDERAL

Treatment Summary by Watershed

Watershed	Total Watershed Area (ac.)	Proposed Impervious Cover (ac.)	PBMP	Required TSS Removal Annually @ 80% (lbs)	Required TSS Removal Annually for OEM (lbs)	TSS Removed Annually (lbs)
North	1.07	0.87	Stormfilter North	781	795	822
South	0.77	0.75	Stormfilter South	673	686	741
North Uncaptured	0.23	0.03	Stormfilter North	27	27	
South Uncaptured	0.55	0.06	Stormfilter South	54	55	
TOTAL	**2.62**	**1.710**	---	**1,535**	**1,563**	**1,563**

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

Project Name: KGE MT - Dripping Springs
Date Prepared: 9/19/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348
Pages 3-27 to 3-30

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

TCEQ 80% removal

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	2.62	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.71	acres
Total post-development impervious cover fraction * =	0.65	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1535	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	4	

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

Drainage Basin/Outfall Area No. =	SOUTH	
Total drainage basin/outfall area =	0.77	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.75	acres
Post-development impervious fraction within drainage basin/outfall area =	0.97	
$L_{M\ THIS\ BASIN}$ =	673	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	CS	abbreviation
Removal efficiency =	89	percent

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

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

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

A_C =	0.77	acres
A_I =	0.75	acres
A_P =	0.02	acres
L_R =	762	lbs.

9/23/24

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

Desired $L_{M\ THIS\ BASIN}$ =	727	lbs.
F =	0.95	

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

Calculations from RG-348
Pages Section 3.4.14

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.00	
Rainfall Depth =	2.60	inches
Post Development Runoff Coefficent =	0.80	
Effective Area =	0.68	acres
On-site Water Quality Volume =	5778	cubic feet
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1156	cubic feet
Total Capture Volume (required water quality volume) x 1.20 =	6934	cubic feet

7. Storm Filter

Designed as Required in RG-348
Section 3.4.14

Cartridge Infiltration Rate =	1	GPM per ft^2
Cartridge Height =	27	inches
Cartridge Capacity =	11.25	GPM

StormFilter Equalization Design

Flow Rate for Flow-Through Configuration w/ Equalization =	0.20	cfs
Number of Cartridges for Flow-Through Configuration w/ Equalization =	8	
Volume for Flow-Through Configuration w/ Equalization =	1919	cubic feet
Minimum Required Equalization Storage (Calculated Volume +20%) =	2303	cubic feet

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

Project Name: KGE MT - Dripping Springs
Date Prepared: 9/19/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348
Pages 3-27 to 3-30

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

TCEQ 80% removal

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	2.62	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.71	acres
Total post-development impervious cover fraction * =	0.65	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1535	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	4	

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

Drainage Basin/Outfall Area No. =	NORTH	
Total drainage basin/outfall area =	1.07	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.87	acres
Post-development impervious fraction within drainage basin/outfall area =	0.81	
$L_{M\ THIS\ BASIN}$ =	781	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	CS	abbreviation
Removal efficiency =	89	percent

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

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

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

A_C =	1.07	acres
A_I =	0.87	acres
A_P =	0.20	acres
L_R =	887	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	808	lbs.
F =	0.91	

9/23/24

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

Calculations from RG-348
Pages Section 3.4.14

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.00	
Rainfall Depth =	1.80	inches
Post Development Runoff Coefficent =	0.64	
Effective Area =	0.79	acres
On-site Water Quality Volume =	4490	cubic feet
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	898	cubic feet
Total Capture Volume (required water quality volume) x 1.20 =	5388	cubic feet

7. Storm Filter

Designed as Required in RG-348
Section 3.4.14

Cartridge Infiltration Rate =	1	GPM per ft^2
Cartridge Height =	18	inches
Cartridge Capacity =	7.50	GPM

StormFilter Equalization Design

Flow Rate for Flow-Through Configuration w/ Equalization =	0.38	cfs
Number of Cartridges for Flow-Through Configuration w/ Equalization =	23	
Volume for Flow-Through Configuration w/ Equalization =	805	cubic feet
Minimum Required Equalization Storage (Calculated Volume +20%) =	966	cubic feet

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

Project Name: KGE MT - Dripping Springs
Date Prepared: 9/19/2024

1. The Required Load Reduction for the total project:

TCEQ OEM removal

Calculations from RG-348A
Appendix A, pages 20-24

Page 21 Equation 4.3: $LM = 27.7(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A = 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 =	Hays	
Total project area included in plan * =	2.62	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.71	acres
Total post-development impervious cover fraction * =	0.65	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1563	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	4	

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

Drainage Basin/Outfall Area No. =	SOUTH	
Total drainage basin/outfall area =	0.77	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.75	acres
Post-development impervious fraction within drainage basin/outfall area =	0.97	
$L_{M\ THIS\ BASIN}$ =	686	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	CS	abbreviation
Removal efficiency =	89	percent

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

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

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

A_C =	0.77	acres
A_I =	0.75	acres
A_P =	0.02	acres
L_R =	762	lbs.

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

9/20/24

Desired $L_{M\ THIS\ BASIN}$ =	741	lbs.
F =	0.97	

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

Calculations from RG-348A
Appendix A, page 23

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.00	
Rainfall Depth =	3.00	inches
Post Development Runoff Coefficent =	0.80	
Effective Area =	0.68	acres
On-site Water Quality Volume =	6667	cubic feet
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1333	cubic feet
Total Capture Volume (required water quality volume) x 1.20 =	8001	cubic feet

7. Storm Filter

Cartridge Infiltration Rate =	1	GPM per ft^2
Cartridge Height =	27	inches
Cartridge Capacity =	11.25	GPM

StormFilter Equalization Design

Flow Rate for Flow-Through Configuration w/ Equalization =	0.20	cfs
Number of Cartridges for Flow-Through Configuration w/ Equalization =	8	
Volume for Flow-Through Configuration w/ Equalization =	2687	cubic feet
Minimum Required Equalization Storage (Calculated Volume +20%) =	3225	cubic feet

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

Project Name: KGE MT - Dripping Springs
Date Prepared: 9/19/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348A
Appendix A, pages 20-24

Page 21 Equation 4.3: $LM = 27.7(A_N \times P)$

TCEQ OEM removal

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A = 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 =	Hays	
Total project area included in plan * =	2.62	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.71	acres
Total post-development impervious cover fraction * =	0.65	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1563	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	4	

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

Drainage Basin/Outfall Area No. =	NORTH	
Total drainage basin/outfall area =	1.07	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.87	acres
Post-development impervious fraction within drainage basin/outfall area =	0.81	
$L_{M\ THIS\ BASIN}$ =	795	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	CS	abbreviation
Removal efficiency =	89	percent

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

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

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

A_C =	1.07	acres
A_I =	0.87	acres
A_P =	0.20	acres
L_R =	887	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	822	lbs.
F =	0.93	

9/20/24

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

Calculations from RG-348A
Appendix A, page 23

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.00	
Rainfall Depth =	2.20	inches
Post Development Runoff Coefficent =	0.74	
Effective Area =	0.79	acres
On-site Water Quality Volume =	6333	cubic feet
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1267	cubic feet
Total Capture Volume (required water quality volume) x 1.20 =	7599	cubic feet

7. Storm Filter

Cartridge Infiltration Rate =	1	GPM per ft^2
Cartridge Height =	18	inches
Cartridge Capacity =	7.50	GPM

StormFilter Equalization Design

Flow Rate for Flow-Through Configuration w/ Equalization =	0.50	cfs
Number of Cartridges for Flow-Through Configuration w/ Equalization =	30	
Volume for Flow-Through Configuration w/ Equalization =	813	cubic feet
Minimum Required Equalization Storage (Calculated Volume +20%) =	976	cubic feet

Underground Detention			Equalization Storage	Detention Storage	25 - YEAR EVENT	100 - YEAR EVENT
ELEVATION (FT)	STAGE (FT)	STORAGE (CUFT)	STORAGE (CUFT)		DISCHARGE (CFS)	DISCHARGE (CFS)
1222.33	0.00	0	0	-	-	-
1222.50	0.17	340	340	-	-	-
1223.00	0.50	1000	1000	-	-	-
1223.50	1.00	2000	2000	-	-	-
1224.00	1.50	3000	3000	-	-	-
1224.03	1.70	3400	3400	-	-	-
1224.33	2.00	4000	-	600	0.436	0.436
1224.83	2.50	5000	-	1600	0.710	0.710
1225.33	3.00	6000	-	2600	0.905	0.905
1225.83	3.50	7000	-	3600	1.064	1.064
1226.33	4.00	8000	-	4600	1.204	1.204
1226.83	4.50	9000	-	5600	1.330	1.330
1227.33	5.00	10000	-	6600	1.443	1.443
1227.83	5.50	11000	-	7600	-	6.340
1228.33	6.00	12000	-	8600	-	-
		Requred Storage:	3225	8333		

9/20/24

Detention Basin			Equalization Storage	Detention Storage	25 - YEAR EVENT	100 - YEAR EVENT
ELEVATION (FT)	STAGE (FT)	STORAGE (CUFT)	STORAGE (CUFT)		DISCHARGE (CFS)	DISCHARGE (CFS)
1226.35	0.00	0	0	-	-	-
1226.40	0.10	3	3	-	-	-
1226.50	0.20	29	29	-	-	-
1226.60	0.30	174	174	-	-	-
1226.70	0.40	320	320	-	-	-
1226.80	0.50	465	465	-	-	-
1226.90	0.60	611	611	-	-	-
1227.00	0.70	756	756	-	-	-
1227.10	0.80	1017	1017	-	-	-
1227.20	0.90	1230	-	264	0.385	0.385
1227.30	1.00	1550	-	584	0.567	0.567
1227.40	1.10	2000	-	877	0.695	0.695
1227.50	1.20	2300	-	1169	0.803	0.803
1227.60	1.30	2450	-	1461	0.899	0.899
1227.70	1.40	3000	-	1753	0.99	0.99
1227.80	1.50	3110	-	2045	1.06	1.06
1227.90	1.60	3380	-	2337	1.14	1.14
1228.00	1.70	3646	-	2626	1.21	1.21
1228.10	1.80	3991	-	3974	1.27	1.27
1228.20	1.90	4335	-	3318	1.33	1.33
1228.30	2.00	4679	-	3663	2.71	2.71
1228.40	2.10	5024	-	4007	5.17	5.17
1228.50	2.20	5368	-	4351	8.34	8.34
1228.60	2.30	5713	-	4696	12.08	12.08
1228.70	2.40	6057	-	5040	-	16.32
1228.80	2.50	6401	-	5385	-	-
1228.90	2.60	6746	-	5729	-	-
1229.00	2.70	8054	-	6073	-	-
		Requred Storage:	976	5328		

9/20/24

EXHIBITS

HYDRAULIC REPORT

FOR

10 Federal

3975 US Highway 290
Dripping Springs, Hays County, Texas

Prepared for:
10FSS Dripping Springs 2, LLC
3301 Atlantic AVE
Raleigh, North Carolina 27604

Prepared By:
Engineering Surveys and Services
1113 Fay Street
Columbia, MO
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Texas Registered Engineering Firm #17700

ES&S Job Number: 15964

June 12, 2023

Revised: 9/20/24

9/20/24

MATTHEW A. KRIETE
PROFESSIONAL ENGINEER
No. 126148

HYDRAULIC REPORT
for
10 FEDERAL
DRIPPING SPRINGS, TEXAS

INTRODUCTION

Project Description

This report and associated plans propose to develop a 2.62-acre property in the Edwards Aquifer Contributing Zone. The site is located in Hays County between US 290 and Hidden Hills Dr; and roughly 1,140 Ft east of Canyonwood Dr. in the ETJ of City of Dripping Springs, Texas and the West Travis County Public Utility Agency (WTCPUA) service area. The existing site has five single story storage unit buildings, with a one bed – one bath apartment unit on site. The proposed development has been designed with a 4-story storage unit. Parking, drives, detention basin, underground detention, Contech StormFilters, and underground utilities are also proposed.

Pre-Development (Existing) Conditions

The 2.62 Acre site is currently developed with 1.63 Acres of impervious area (62% impervious). Water, telecommunications, and electric are available on site. Roof water from one storage unit is collected and used for sprinkling water. An aerial has been provided in **Appendix A**.

Current drainage patterns have 50% of the site drain to the north and the other 50% of the site drains to the south. The runoff to the north goes to a roadside swale along Hidden Hills Drive and is conveyed to a 24" pipe that bisects the neighbor's property and daylights into the roadside ditch along HWY 290 before discharging into a culvert that goes under HWY 290. The remaining runoff is conveyed via sheet flow to the ditch along HWY 290. 2.42 acres sheet flows onto the site from the east. No existing perennial streams, intermittent streams, conservation areas, or natural features requiring protection were found on site during our site reconnaissance visit.

Post-Development Conditions

The site is proposed to be developed with a 4-story storage unit building with associated drives, parking areas, underground utilities (storm, water, sanitary, electric, and telecommunication) and associated amenities. The developed site will match existing impervious with 1.62-acres (62%) of impervious area. Storm water detention will be provided to limit post development runoff of the 5-yr ,25-yr, 50-yr, 100-yr storms to less than or equal to a 35% impervious site. In addition, to meet WTCPUA requirements, R348A Optional Enhanced Measures (OEM) will be implemented on the site. Therefore, storm water detention will also be provided to limit the post development 2-yr storm to less than 50% of the undeveloped condition and less than the 10-year undeveloped condition. In addition, storm water treatment will be provided via Contech Stormfilters to treat runoff to OEM standards.

New storm sewers will be constructed that will convey onsite runoff to two detention basins, one dry surface detention basin and one underground detention basin. Both of these basins discharge to Contech StormFilters prior to discharging the site to existing roadside ditches on the north and side sides of the site. Offsite runoff will be diverted around the site via a swale on top of a retaining wall along the east side of the site.

Future Development Plans

No future onsite expansions are proposed, the site will be fully developed.

Waiver Requests

This project will request a waiver from the City of Dripping Springs to allow the proposed development to match existing imperviousness of 62% from the required 35% imperviousness. To mitigate the impact, we will provide the following:

1. Permanent BMPs will be installed to remove 80% of all TSS of the site.
2. Detention will be provided to discharge at no greater than the 35% impervious rate.

Federal Permits

No federal permits are required for this development.

DESIGN

Erosion & Sediment Control

Design Standard(s): ▪ Complying with the Edwards Aquifer Rules

Erosion and sediment control for this project will be completed in two phases. The first phase establishes BMPs prior to mass grading and the installation of new utilities to serve the proposed residential building. The second phase provides BMPs and final stabilization throughout construction including stabilization of all areas with impervious pavements and permanent vegetation establishment. The site's erosion control has been designed utilizing the "Complying with the Edwards Aquifer Rules," and includes BMPs such as silt fence, inlet protection, diversion dikes, and a Sediment basin. These BMPs will store sediment on site, reduce the velocity of the runoff, and reduce the erosion potential during construction. Each protected inlet receives 0.5 acres or less of runoff.

Detention and Site Hydrology

Design Standard(s):	▪ 2017 Hays County Development Regulations
	▪ 2022 City of Austin, Texas Drainage Criteria Manual
	▪ Dripping Springs TCSS Manual
	▪ TxDOT – Developer Drainage Requirements
	▪ Complying with the Edwards Aquifer Rules
	▪ TCEQ R348A – Optional Enhanced Measures
	▪ WTCPUA Water and Sewer Service and Development Policies
Soil Types:	▪ USDA National Resources Conservation Maps
Runoff Coefficients:	▪ Austin, TX Environmental Criteria Manual
Maps:	▪ USGS Topographic Map
	▪ Global Land Surveying, Inc. ALTA Survey 11/02/2022

To control the post developed runoff rate, the development includes a detention basin and underground detention that will intercept site runoff and limit the post development peak discharge rates of to less than an impervious cover of 35% for the 5-yr, 25-yr, 50-yr, and 100-yr storms. In addition, these basins will limit the post development peak discharge rate of 2-yr storm to less than 50% of the undeveloped condition and less than the 10-year undeveloped condition. The entire development will be assumed to be undeveloped and will be analysis at study point 1 and study point 2. The basin is designed utilizing the SCS method as outlined by the City of Austin, Texas Drainage Criteria Manual and TCEQ - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices, Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer (R-348A).

Time of concentration calculations have been provided in **Appendix D**. Curve Numbers, and runoff rates for each drainage area and study point are enclosed in **Appendix E**. Existing conditions, 35% impervious conditions, and undeveloped conditions have been calculated.

Drainage area maps are enclosed for Existing Condition, 35% Impervious Condition, Undeveloped Condition, and Post Developed Conditions including the offsite areas conveyed to and around the site (**Appendix C)**. As Runoff is conveyed offsite in two directions with a common confluence, two study points have been created to confirm no increase in runoff rates to the impact of runoff to all discharge points from the site to the adjacent right of way and properties.

Discharge to Study Point 2 is detained within the detention basin, while discharge to Study Point 1 is detained in an underground detention basin. These facilities are designed so the post developed discharge is less at each study point and Study Point 1 for the 2-, 5-, 10-, 25-,50-, and 100-yr storm.

Tables 1 - 8 provide a summary of the peak discharge rates for each critical point in cubic feet per second (cfs). These tables shows the existing discharge of the site, discharge of the site at pre-existing for the 2-year and 10-year, 35% impervious, and post developed discharge, the post developed conditions will be lower than if the site was 35% impervious, pre-existing, and 50% less for the 2-year storm.

Table 1: 2-yr Developed Site Peak Discharge with Greater than 15% Impervious (Per OEM)

	South Basin	North Basin
	2-yr Storm	2-year
Undeveloped Condition	1.92	2.80
50% of Undeveloped	0.96	1.40
Maximum Peak Discharge	0.96	1.40
Post Peak Discharge	0.91	1.33

Table 2: 10-yr Developed Site Peak Discharge with Undeveloped Conditions (Per OEM)

	Study Point 1	Study Point 2
Undeveloped Condition	28.34	14.06
Post Peak Discharge	28.08	12.67

Table 3: 2-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	17.24	7.76
35% impervious	16.97	8.08
Post	10.94	3.31

Table 4: 5-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	30.33	14.03
35% impervious	30.11	14.34
Post	24.53	10.87

Table 5: 10-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	34.12	15.85
35% impervious	33.91	16.15
Post	28.08	12.67

Table 6: 25-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	53.72	25.26
35% impervious	53.57	25.52
Post	44.87	20.63

Table 7: 50-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	66.35	31.32
35% impervious	66.22	31.56
Post	62.09	25.42

Table 8: 100-yr Peak Discharge Rates

	Study Point 1	Study Point 2
Pre	80.98	38.33
35% impervious	80.87	38.54
Post	78.89	30.98

A third study point (SP3) has also be created to confirm that the site discharge does not increase runoff to TXDOT upstream of the existing driveway culvert during the 25-year design storm. This runoff is summarized below.

Table 8: Peak Discharge Rate to TXDOT R/W - Existing Culvert

25-yr Storm	Study Point 3
Pre	28.46
Post	26.07

An emergency spillway is provided at the 1% storm water surface elevation in the detention basin. The freeboard for the spillway is 1' at the elevation of 1228.78'. The underground Basin can safely convey the 1% storm.

Detention for the 2-, 5-, 10-, 25-, 50-, and 100-year storms required per Complying with the Edwards Aquifer Rules OEM, City of Dripping Springs TCSSS, and WTCPUA standards has been provided.

Storm Sewer Pipes

Design Standard(s):
- Dripping Springs TCSS Manual
- Complying with the Edwards Aquifer Rules
- TxDOT – Developer Drainage Requirements

Onsite storm sewer has been designed to the Complying with the Edwards Aquifer Rules and utilizing the Rational method. The 4% storm frequency (25-year storm) was used for all storm sewer designs. All precipitation data came from Atlas 14. All storm sewers are private and will convey runoff to an onsite

detention basin and to existing swales Along HWY 290 and Hidden Hill Drive. Inlets are used as junction points along the private stormwater lines. Private box depths may be less than 4-feet and positive overflow is provided at all low points. Systems are designed using Manning's Equation. Manning's values are found in Table 8.1- Manning's n values for Closed Conduits.

Storm Sewers are designed to convey the 25-year event without overtopping and the 100-year event with the hydraulic grade line a minimum of 1-foot below the finish floor, without bypassing the basins. Calculations can be found in **Appendix F.**

TSS Removal & BMP Sizing

Design Standard(s):
- TCEQ: Complying with the Edwards Aquifer Rules – (RG-348A)
- Code of Ordinances, City of Dripping Springs, Texas
- WTCPUA Water and Sewer Service and Development Policies

Per TCEQ: Complying with the Edwards Aquifer Rules - OEM, calculations for total suspended solids (TSS) removal are provided in Appendix H. To comply with Edwards Aquifer RG-348A, 80% TSS removal will be provided for all impervious areas on the site including the porous pavement. Two Contech StormFilters with equalization storage will be utilized to provide 80% TSS removal. These BMPs will remove 1,499 lbs of the required TSS to be removed from the site.

The StormFilters have been designed to treat the water WQ storm which will remove 1,499 lbs of TSS from the site. The underground detention and detention basin provide equalization storage for both StormFilters. This equalization storage is provided in additional to the required detention storage, thereby controlling the flow rate through the StromFilters. These calculations are located in Appendix H.

CONCLUSION

10Federal is a four-story storage facility along with utilities (storm, water, sanitary, electric, telecommunication, etc.), impervious areas (drives, parking areas, sidewalks), and pervious areas (grassed areas). The detention basin will drain into the existing swale to the North. The proposed storm water detention has been designed to meet all local requirements. Storm sewers have been designed to convey the 25- year storm and contain the 100-year storm without surcharging.

APPENDIX A:
SITE MAPS

(4)

10FSS Dripping Springs 2, LLC

DRIPPING SPRINGS PROPERTY

HAYS COUNTY, TEXAS
DRIPPING SPRINGS ETJ

SITE PLAN

JUNE 9, 2023
REVISED: SEPTEMBER 20, 2024

(5) WTC PUA JOB # 290-23-037

SURVEY DISCLAIMER

ALTA SURVEY PREPARED BY "GLOBAL LAND SURVEYING, INC.", DATED NOVEMBER 2, 2022. ENGINEERING SURVEYS & SERVICES CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY.

LEGEND

	PROPERTY LINE
SS	POWER LINE
X	STORM SEWER LINE
750	FENCE LINE
FES	EXISTING CONTOUR
FH	FLARED END SECTION
HDPE	FIRE HYDRANT
PVC	HIGH DENSITY POLYETHYLENE PIPE
WM	POLYVINYL CHLORIDE PIPE
WV	WATER METER
	WATER VALVE
	CHAIN LINK FENCE
	COLUMN
	POWER POLE
	LIGHT POLE
	WATER METER
	POWER LINE
	IRRIGATION CONTROL VALVE
	GUY WIRE
	GAS MARKER
	SILT FENCE
	TEMPORARY DIVERSION DIKE
750	FINISH CONTOUR
S	PROPOSED SANITARY SEWER LINE
W	PROPOSED WATER LINE
UE	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED STORM SEWER
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT & VALVE
	THRUST BLOCK
	CONCRETE SIDEWALK
	STANDARD DUTY PAVEMENT
	PERVIOUS MATERIAL
	CONCRETE PAVEMENT

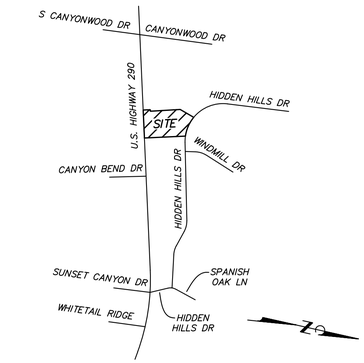
UTILITY NOTES

WATER
WEST TRAVIS COUNTY PUA
13215 BEE CAVE PARKWAY, BUILDING B, SUITE 110
BEE CAVE, TEXAS 78738
CONTACT: 512-263-0100

ELECTRIC
PEDERNALES ELECTRIC COOPERATIVE, INC.
661 HIGHWAY 290 WEST
DRIPPING SPRINGS, TEXAS 78620
CONTACT: 888-554-4732

TELECOMMUNICATIONS
FRONTIER

SEWER
ONSITE SEWAGE FACILITY



SITE LOCATION MAP

NOT TO SCALE

IMPERVIOUS AREA

PRE PROJECT

PERVIOUS	= 0.99 ACRES
IMPERVIOUS	= 1.63 ACRE
TOTAL	= 2.62 ACRES

POST PROJECT

PERVIOUS	= 0.94 ACRE
IMPERVIOUS	= 1.51 ACRES (EXCLUDING PERVIOUS PAVEMENT)
POROUS PAVEMENT	= 0.17 ACRES
TOTAL	= 2.62 ACRES

PARKING NOTE

PROVIDED PARKING	
ACCESSIBLE SPACES	= 1 SPACES
STANDARD SPACES	= 10 SPACES
TOTAL PROVIDED	= 11 SPACES

(5) MATERIALS & QUANTITIES OF WATER IMPROVEMENTS

NON RJ MATERIALS

8" CL350 DI: (6)	195 LF
1" BALL VALVE:	1 EA
1" BACKFLOW PREVENTOR:	1 EA
1" WATER METER:	1 EA
2" DR9 HDPE	120 LF

RJ MATERIALS (6)

FIRE HYDRANTS:	3 EA
8" CL350 DI:	490 LF
45° BEND:	7 EA
22.5° BEND	2 EA
11.25° BEND	4 EA
8"X8" TEE:	2 EA
8"x6" TEE:	2 EA
8"X6" REDUCER	2 EA
8" GATE VALVE:	6 EA
6" GATE VALVE:	4 EA
1" TAPPING SLEEVE:	1 EA
6" CL350	12 LF
(9) 16" BORE	70 LF
(9) 16" STEEL ENCASED PIPE	70 LF

(8)

(5) WTCPUA NOTES

1. THE WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY IS THE WATER PROVIDER.
2. (8) 2 LUES (DOMESTIC WATER).
3. 1 - 1" METER FOR DOMESTIC PURPOSES ONLY.
4. STORMWATER UTILITIES AND BIORETENTION BASIN WILL BE PRIVATELY OWNED AND OPERATED BY THE OWNER.
5. WTCPUA DOES NOT GUARANTEE FIRE FLOW.
6. A WTCPUA REPRESENTATIVE MUST BE PRESENT AT THE TIME OF CONNECTION TO THE EXISTING SYSTEM.
7. ALL WATER AND WASTEWATER INFRASTRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF AUSTIN.
8. WATER AND WASTEWATER CONSTRUCTION SPECIFICATIONS AND WITH MATERIALS FROM THE CURRENT APPROVED CITY OF AUSTIN STANDARD PRODUCTS LIST (SPL).
9. PUA WATER SHALL NOT BE USED FOR LANDSCAPE IRRIGATION.
10. WASTEWATER SHALL BE PROVIDED BY A PRIVATE OSSF.
11. WTCPVA 290 WATER SYSTEM GRID AN12, PRESSURE PLANE-1920 HGL.

MICHELLE FISCHER
CITY ADMINISTRATOR

CHAD GILPIN, PE. (2)
CITY ENGINEER

HAYS COUNTY FIRE MARSHALL

WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY (5)

HAYS COUNTY
TRANSPORTATION DEPARTMENT

CITY OF DRIPPING SPRINGS SITE DEVELOPMENT PERMIT #SD2023-0013

(2) TxDOT NO ADVERSE IMPACT NOTE

DRAINAGE FOR THIS DEVELOPMENT HAS BEEN DESIGNED AS SUCH THAT THERE WILL BE NO ADVERSE IMPACTS ON THE CAPACITY, FUNCTION OR INTEGRITY OF TEXAS DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY DRAINAGE FACILITIES.

PROPERTY OWNER

10FSS Dripping Springs 2, LLC
3301 ATLANTIC AVE
RALEIGH, NC 27604-1695

(1) STORMWATER NOTE

1. SITE IS LOCATED IN EDWARDS AQUIFER CONTRIBUTING ZONE.
2. THIS PROPERTY IS PART OF THE GATLIN CREEK ONION CREEK WATERSHED.
3. STORMWATER UTILITIES AND BIORETENTION BASIN WILL BE PRIVATELY OWNED AND OPERATED BY THE OWNER.
4. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY MUST RELY UPON THE ADEQUACY OF WORK OF THE DESIGN ENGINEER.
5. A WATER QUALITY BMP MAINTENANCE PLAN HAS BEEN PREPARED FOR THIS DEVELOPMENT AND IS ON FILE AT CITY HALL IN SITE DEVELOPMENT CASE #SD2023-0013.

ZONING NOTE

THIS PROPERTY IS LOCATED IN UNZONED HAYS COUNTY IN THE ETJ OF DRIPPING SPRINGS.

FLOODPLAIN NOTE

THIS PROPERTY IS LOCATED IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN BY COMMUNITY PANEL NO. 48209C0109F DATED SEPTEMBER 2, 2005.

PROPERTY DESCRIPTION

SUNSET CANYON SEC I-C, LOT 17-B
(5) HAYS COUNTY TAX I.D. TRACT #R144074

BENCH MARK

SEE ALTA

SURVEY CONTROL POINTS

SEE ALTA

(1) SHEET INDEX

10FSS DRIPPING SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY

Engineering Surveys & Services
DELIVERING YOUR VISION ™
1113 Fay Street, Columbia, MO 65201
573 - 449 - 2646
www.ess-inc.com
Texas Registered Engineering Firm #17700

Design: JH Drawn: SK

(3) 10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

Revised

(1)	SEPTEMBER 20, 2023
(2)	DECEMBER 20, 2023
(3)	JANUARY 11, 2024
(4)	JANUARY 19, 2024
(5)	MARCH 11, 2024
(6)	APRIL 18, 2024
(7)	MAY 28, 2024
(8)	JUNE 17, 2024
(9)	SEPTEMBER 20, 2024

COVER

Sheet
C0.01

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FSS-DRIPINGSPRINGS\CAD\15964_COVER & DETAILS.DWG 9/20/2024

SEQUENCE OF EVENTS

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1. 48 HOURS PRIOR TO BEGINNING ANY WORK, CALL THE ONE-CALL BOARD OF TEXAS AT 811 OR 1-800-545-6005 FOR UTILITY LOCATIONS AND OBTAIN STREET CUT PERMIT FOR ANY WORK WITHIN CITY, COUNTY, AND/OR STATE RIGHT-OF-WAY.
2. INSTALL TEMPORARY EROSION CONTROLS AND TREE/NATURAL AREA PROTECTION FENCING PRIOR TO PRE-CONSTRUCTION MEETING AND PRIOR TO ANY SITE CLEARING, GRUBBING, EXCAVATION, MATERIAL STOCKPILING, OR OTHER CONSTRUCTION OPERATIONS.
3. SCHEDULE AND CONVENE A PRECONSTRUCTION MEETING INCLUDING BUT NOT LIMITED TO THE OWNER'S REPRESENTATIVE, ENGINEER, WTCPUA REPRESENTATIVE, FIRE DEPARTMENT, CITY, COUNTY, TXDOT REPRESENTATIVE, AND TCEQ REPRESENTATIVE, AS APPLICABLE.
4. INSTALL TRAFFIC CONTROL MEASURES.
5. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO INITIATING CONSTRUCTION.
6. ROUGH CUT BASINS DETENTION BASINS AND DIRECT RUNOFF TO BAINS TO ACT AS A SEDIMENT TRAP. INSTALL BASIN OUTFALL PIPES. DISTURB ONLY THE AREA NECESSARY FOR INSTALLATION.
7. COMMENCE CLEARING AND GRUBBING PER PLAN. CONTRACTOR SHALL REMOVE ALL STUMPS BY EXCAVATING TO INCLUDE REMOVAL OF ASSOCIATED ROOT SYSTEM. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
8. REMOVE AND STOCKPILE TOPSOIL IN AREAS AS REQUIRED.
9. COMMENCE OVEREXCAVATION OF HIGH PLASTIC SOILS IN AREA AROUND BUILDINGS. FOLLOW DIRECTION OF PLANS AND GEOTECHNICAL REPORT. ROUGH CUT ROADS/SITE, AS NECESSARY.
10. INSTALL STORM SEWERS INCLUDING UNDERGROUND DETENTION AND WATER QUALITY VAULTS. INSTALL INLET PROTECTION IMMEDIATELY UPON COMPLETION OF EACH STORM STRUCTURE.
11. INSTALL ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE WTCPUA WHEN SWITCHING SERVICE TO THE WTCPUA SYSTEM. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS/FACILITIES TO ENSURE SERVICE IS MAINTAINED DURING SWITCHOVER.
12. COMPLETE ALL UNDERGROUND INSTALLATIONS, INCLUDING INSTALLATION OF SLEEVES.
13. FINALIZE BUILDING SUBGRADE PREPARATION IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
13. BEGIN BUILDING CONSTRUCTION.
14. COMPLETE 1ST COURSE BASE AND LAY PAVEMENT.
15. REMOVE CONSTRUCTION SEDIMENT FROM SEDIMENT TRAP AND UNDERGROUND VAULTS. COMPLETE BASINS AND WATER QUALITY VAULTS.
20. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL WHEN ALL DISTURBED AREAS ARE STABILIZED.
21. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED BY CONSTRUCTION OPERATIONS.

TEMPORARY TRAFFIC GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE SAFETY AND DESIGN CODES. ALL TEMPORARY TRAFFIC CONTROL PLANS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MUTCD.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE, WORKER, AND TRAFFIC SAFETY.
3. CONTRACTOR SHALL KEEP WORK SPACE LENGTHS AS SHORT AS PRACTICAL TO SAFELY COMPLETE WORK ACTIVELY BEING PERFORMED ON EACH DAY.
4. ALL TRAFFIC CONTROL CHANNELIZERS SHALL BE REMOVED FROM THE TRAVEL LANES AT NIGHT AND STEEL STREET PLATES INSTALLED AS REQUIRED TO PROVIDE A FULL ROADWAY WIDTH TO TRAFFIC.
5. CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL AS THE WORK ZONE SPECIALIST (WZS) WHO IS KNOWLEDGEABLE, COMPETENT BY TRAINING AND/OR CERTIFICATION AND EXPERIENCE IN THE PRINCIPLES OF PROPER TEMPORARY TRAFFIC CONTROL IN ACCORDANCE WITH CHAPTER 6 OF THE MUTCD, AT THE PROJECT LEVEL WHO HAS THE PRIMARY RESPONSIBILITY, WITH SUFFICIENT AUTHORITY, FOR IMPLEMENTING THE TEMPORARY TRAFFIC CONTROL PLAN AND OTHER SAFETY AND MOBILITY ASPECTS OF THE PROJECT. CONTRACTOR SHALL SUBMIT PROOF THAT THEIR WZS TRAINING OBTAINED FROM A QUALIFIED PERSON AS DEFINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
6. CONTRACTOR SHALL MONITOR TRAFFIC FLOW THROUGH THE WORK ZONE AND MAKE ADJUSTMENTS TO THE TRAFFIC CONTROL PLAN, WITH THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION, AS REQUIRED. PROVIDE FLAGGER(S) IF TRAFFIC DOES NOT EFFECTIVELY SELF REGULATE.

CONSTRUCTION NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL IDENTIFIED PROPERTY CORNERS, LAND SURVEY CORNERS, AND ACCESSORIES. THE CONTRACTOR SHALL CAUSE THE CORNERS AND ACCESSORIES TO BE REFERENCED BY A LICENSED LAND SURVEYOR, AND ANY SUCH CORNER OR ACCESSORIES DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE RESET BY THE SURVEYOR AT THE ORIGINAL LOCATION, AND FILE THE RESTORATIONS AND MONUMENT DOCUMENTS AS THE LAW REQUIRES.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEERING SURVEYS AND SERVICES FOR REVIEW AND APPROVAL FOR ALL MATERIALS BEFORE ORDERING.
5. ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF SIDEWALK, OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
6. ALL STRIPING SHALL BE 4" WIDE WHITE LINES, ACCESSIBLE SPACES SHALL BE 4" WIDE BLUE LINES AND ALL STRIPING SHALL BE A MINIMUM OF 2 COATS.
7. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
8. STANDARD DUTY AND HEAVY DUTY PAVEMENT MAY BE CONCRETE OR ASPHALT UNLESS OTHERWISE NOTED. INTEGRAL CURB MAY BE USED FOR CONCRETE PAVEMENT.
9. CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS IN WRITING 30 DAYS PRIOR TO CONSTRUCTION.
10. IF A CONFLICT EXISTS BETWEEN THE CIVIL PLANS AND CIVIL SPECIFICATIONS, THE CIVIL PLANS SHALL GOVERN.

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11. ALL CLOSEOUT DOCUMENTS MUST BE SUBMITTED PRIOR TO PROJECT ACCEPTANCE.
12. ALL NEW SERVICE FEES MUST BE PAID PRIOR TO PROJECT ACCEPTANCE.
13. PENALTY FINES MAY BE ASSESSED IF CONSTRUCTION BEGINS PRIOR TO CONSTRUCTION PLAN APPROVAL AND IF CONSTRUCTION BEGINS PRIOR TO HOLDING THE MANDATORY PRECONSTRUCTION CONFERENCE WITH THE WTCPUA INSPECTOR.

HAZARDOUS SUBSTANCE NOTE

1. SUBSTANCES REGULATED BY FEDERAL LAW UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) OR THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA) WHICH ARE TRANSPORTED, STORED OR USED FOR MAINTENANCE, CLEANING OR REPAIRS SHALL BE MANAGED ACCORDING TO THE PROVISIONS OF RCRA AND CERCLA.
2. ALL PAINTS, SOLVENTS, PETROLEUM PRODUCTS AND PETROLEUM WASTE PRODUCTS (EXCEPT FUELS) AND STORAGE CONTAINERS (SUCH AS DRUMS, CANS OR CARTONS) SHALL BE STORED SUCH THAT THESE MATERIALS ARE NOT EXPOSED TO STORM WATER. SUFFICIENT PRACTICES OF SPILL PREVENTION, CONTROL AND/OR MANAGEMENT SHALL BE PROVIDED TO PREVENT ANY SPILLS OF THESE POLLUTANTS FROM ENTERING A WATER OF THE STATE. ANY CONTAINMENT SYSTEM USED TO IMPLEMENT THIS REQUIREMENT SHALL BE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE SUBSTANCES CONTAINED AND SHALL ALSO PREVENT THE CONTAMINATION OF GROUNDWATER.
3. THE APPLICANT SHALL NOTIFY BY TELEPHONE AND IN WRITING THE WATER QUALITY DIVISION MC-148, TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), POST OFFICE BOX 13087, AUSTIN, TEXAS 78711, 512-239-4671, OF ANY OIL SPILLS OR IF HAZARDOUS SUBSTANCES ARE FOUND DURING THE PROSECUTION OF WORK UNDER THIS PERMIT.

GRADING AND STORM SEWER CONSTRUCTION NOTES

1. ALL STORM SEWER PIPES AND INLETS SHALL MEET HEAVY DUTY TRAFFIC (HS20) LOADING AND BE INSTALLED ACCORDINGLY.
2. CONCRETE STORM SEWER INLETS & JUNCTION BOXES SHALL BE INSTALLED PER CITY OF DRIPPING SPRINGS REQUIREMENTS AND AS DETAILED IN THESE PLANS.
3. ALL HDPE PIPE SHALL BE ADS N-12 ST SOIL TIGHT, SMOOTH INTERIOR PIPE OR APPROVED EQUAL. INSTALLATION SHALL FOLLOW THE "EMBEDMENT OF PLASTIC STORM SEWER PIPE" DETAIL.
4. PVC PIPE MAY BE USED IN LIEU OF HDPE FOR DIAMETERS LESS THAN 15". PVC PIPE SHALL BE SDR 35 OR GREATER, AS REQUIRED BY DEPTH.
5. CONTRACTOR SHALL ADJUST ALL GRATES, MANHOLES, VALVE BOXES, ETC. TO MATCH FINISH GRADES, AS REQUIRED.
6. ALL STRUCTURE CONNECTIONS SHALL BE WATERTIGHT.
7. ALL CONCRETE STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED CONCRETE INVERT FROM INVERT IN TO INVERT OUT.
8. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE FLUSH WITH FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER". TOP OF BOXES SHALL BE SLOPED TO MATCH PAVEMENT GRADE.
9. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE.
10. ALL SITES USED FOR IMPORTING OR EXPORTING OF FILL MATERIAL SHALL HAVE AN ACTIVE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) PERMIT TO DISCHARGE, AS REQUIRED.
11. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS, TREES AND BRUSH, AND OTHER MATERIAL CREATED AS A RESULT OF CONSTRUCTION. MATERIAL SHALL BE DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. BURNING ON SITE SHALL BE ALLOWED BY PERMIT ONLY.
12. CONTRACTOR SHALL REMOVE ALL STUMPS BY EXCAVATING TO INCLUDE REMOVAL OF ASSOCIATED ROOT SYSTEM.
13. CONTRACTOR SHALL NOT ADVANCE TRENCH EXCAVATION BEYOND AMOUNT THAT CAN ACCOMMODATE PIPE INSTALLATION AND BACKFILLING AT THE END OF EACH DAY.
14. ENGINEERED FILL SHOULD BE FREE OF FROZEN SOIL, ORGANICS, RUBBISH, LARGE ROCKS, WOOD, OR OTHER DELETERIOUS MATERIAL. COHESIVE FILLS SHOULD BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE "STANDARD" MAXIMUM DRY DENSITY AND BE WITHIN -3 TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT AS DESCRIBED BY ASTM D698. GRANULAR FILLS SHOULD BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE "STANDARD" MAXIMUM DRY DENSITY AND SHOULD BE WITHIN THE RANGE OF -3 TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIAL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES IN THICKNESS.
15. ROCKS AND STONES THAT EXCEED THE THICKNESS OF THE LOOSE LIFT FILL LAYER SHOULD BE REMOVED AND DISPOSED OF OFF THE IMMEDIATE CONSTRUCTION AREA.
16. FILLS PLACED IN AREAS WHERE THE NATURAL SLOPE IS GREATER THAN 5H:1V (HORIZONTAL TO VERTICAL) SHOULD BE BENCHED INTO THE EXISTING GRADE TO REDUCE THE POTENTIAL FOR SLIPPAGE BETWEEN EXISTING SLOPES AND ENGINEERED FILL. BENCHES SHOULD BE LEVEL AND WIDE ENOUGH TO ACCOMMODATE COMPACTION AND EARTH MOVING EQUIPMENT.
17. FILL AND SUBGRADE CONSTRUCTION SHOULD NOT BE STARTED ON FOUNDATION SOIL, PARTIALLY COMPLETED FILL, OR SUBGRADES THAT CONTAIN FROST OR ICE. FILL SHOULD NOT BE CONSTRUCTED USING FROZEN SOIL. FROZEN SOIL SHOULD BE REMOVED PRIOR TO PLACING FILL MATERIAL.
18. AFTER STRIPPING AND GRUBBING OPERATIONS ARE COMPLETED AND PRIOR TO FILL PLACEMENT, AREAS TO BE FILLED SHALL BE PROOF ROLLED USING A LOADED TANDEM AXLE DUMP TRUCK TO IDENTIFY SOFT AND UNSUITABLE AREAS. SOFT MATERIAL MAY BE MOISTURE CONDITIONED AND REUSED AS ENGINEERED FILL, UNSUITABLE AND DELETERIOUS MATERIAL SHALL BE REMOVED FROM SITE.
19. ALL FILL SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 6" AND RECOMPACTED TO AT LEAST 95 PERCENT MAXIMUM DRY DENSITY WITHIN THE RANGE OF -3 TO +3 PERCENT OPTIMUM MOISTURE CONTENT PER STANDARD PROCTOR (ASTM D698).
20. ALL NEW UTILITY TRENCHES SHOULD BE BACKFILLED IN ACCORDANCE WITH APPROPRIATE CONTROLLED ENGINEERED FILL SPECIFICATIONS.
21. FIELD DENSITY TESTS SHOULD BE CONDUCTED IN ACCORDANCE WITH ASTM D6938 (NUCLEAR METHODS) OR ASTM D 1556 (SAND CONE METHOD). FIELD DENSITY TESTS SHOULD BE PERFORMED AT THE RATE OF ONE TEST PER 2,500 SQUARE FEET PER LIFT WITHIN THE BUILDING AND 3,000 SQUARE FEET PER LIFT BENEATH PAVEMENTS, SIDEWALKS, AND OTHER POTENTIAL STRUCTURAL AREAS WITH A MINIMUM OF 3 TESTS PER LIFT AND ONE TEST PER 100 LINEAL FEET PER LIFT FOR FOUNDATION, TRENCH AND WALL BACKFILL.
22. PARKING AREAS SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK TO IDENTIFY ANY SOFT OR UNSUITABLE AREAS, PRIOR TO BASE ROCK PLACEMENT. THE PROOF-ROLL SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER. AREAS IDENTIFIED AS UNSUITABLE SHALL BE OVER EXCAVATED AND RECONSTRUCTED WITH ENGINEERED FILL.
23. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS FOR ALL LANDSCAPED AND PAVED AREAS.
24. CONTRACTOR SHALL PLACE STOCKPILED TOPSOIL FROM SITE IN ALL LANDSCAPE AREAS TO A MINIMUM DEPTH OF OF 4", UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS. ANY EXCESS TOPSOIL SHALL BE DISPOSED OF ONSITE PER OWNER.
25. ALL SOIL CLASSIFIED AS CH BY THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487) SHALL BE REMOVED FROM WITHIN 8' OF FINISH SUBGRADE OF THE BUILDING, OR WHEN CL SOILS OR LIMESTONE IS ENCOUNTERED.
26. PAVEMENT, SIDEWALK, AND THE PAVILION SUBGRADES SHALL BE PLACED DIRECTLY ON CLAY SUBGRADE.
27. THE BUILDING SUBGRADES SHALL CONSIST OF THE FOLLOWING:
    a. 2 FEET OF SELECT FILL EXTENDED TO THE EDGE OF THE BUILDING PAD AND CONSISTING OF
    i. NON-EXPANSIVE SOILS WITH A LIQUID LIMIT OF 35 OR LESS AND A PLASTIC INDEX BETWEEN 4 AND 15.
    ii. COMPACTED TO 95% MDD WITH A MOISTURE CONTENT BETWEEN -3 AND 3 OF OMC.
    iii. ATTERBURG LIMIT TESTS SHALL BE TAKEN EVERY 5,000 SF PER LIFT.
    b. 10 FEET OF MOISTURE CONDITIONED SOIL BELOW SELECT FILL. EXTENDING AT LEAST 5 FEET BEYOND THE BUILDING FOOTPRINT MOISTURE CONDITIONED TO 5% ABOVE OMC.
        i. THESE SOILS MUST BE PLACED IN 8-INCH LOOSE LIFTS AND COMPACTED TO 93 TO 97 PERCENT MDD.
29. SEE THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

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STORM WATER POLLUTION PREVENTION PLAN NOTES

1. CONTRACTOR SHALL FOLLOW STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL T.P.D.E.S. PERMIT FOR GENERAL CONSTRUCTION. A COPY OF THIS PLAN AND PERMIT SHALL REMAIN ON SITE THROUGHOUT CONSTRUCTION.
2. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVAL HAS BEEN RECEIVED FROM ALL GOVERNING AUTHORITIES. CONTRACTOR SHALL UTILIZE TOPSOIL FROM SITE IN LANDSCAPED AREAS WITH ANY EXCESS BEING REMOVED FROM SITE.
3. IMMEDIATELY UPON COMPLETION OF FINISH GRADING IN EACH AREA, ALL LANDSCAPING AREAS SHALL BE SEEDED AND MULCHED.
4. SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED IN THE SWPPP.
5. LAND DISTURBANCE SITES SHOULD BE INSPECTED ON A REGULAR SCHEDULE AND WITHIN A REASONABLE TIME PERIOD (NOT TO EXCEED 48 HOURS) FOLLOWING HEAVY RAINS (RESULTING IN STORM WATER RUNOFF). REGULARLY SCHEDULED INSPECTION SHALL BE AT A MINIMUM OF ONCE PER WEEK. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT.
6. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
7. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
9. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
10. ALL SLOPES GREATER THAN 3:1 SHALL BE REINFORCED BY NORTH AMERICAN GREEN P300 PERMANENT TURF REINFORCEMENT MAT OR APPROVED EQUAL.
11. CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS, TREES & BRUSH AND OTHER MATERIAL CREATED AS A RESULT OF THE CONSTRUCTION WORK AND THE SITE SHALL BE RETURNED TO ITS ORIGINAL CONDITION.
12. ALL PERIMETER LANDSCAPED AREAS SHALL BE GRASS COVERED.
13. IN ORDER TO TERMINATE A STATE OPERATING PERMIT, TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REQUIRES THAT THE PERMITTEE REMOVE THE SITE NOTICE AND WRITE A LETTER TO THE LOCAL AUTHORITY REQUESTING TERMINATION OF THE LOCAL PERMIT. A PERMIT IS ELIGIBLE FOR TERMINATION WHEN EITHER PERENNIAL VEGETATION, PAVEMENT, BUILDINGS, OR STRUCTURES USING PERMANENT MATERIALS COVER ALL AREAS THAT HAVE BEEN DISTURBED. VEGETATIVE COVER SHOULD BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED AREA.
14. THE SITE CONTRACTOR SHALL INCLUDE MAINTENANCE OF ALL BMP'S AS PART OF THEIR CONTRACT AND SHALL BE RESPONSIBLE FOR THE PROJECT UNTIL THE T.P.D.E.S. PERMIT IS TERMINATED.

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UTILITY CONSTRUCTION NOTES

1. LOCATION OF SITE UTILITIES SHALL BE VERIFIED BY CONTRACTOR AND THE PROPER UTILITY COMPANY PROVIDING SERVICE PRIOR TO THE START OF CONSTRUCTION.
2. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
3. UTILITY TIE-INS ARE SHOWN IN APPROXIMATE LOCATIONS. REFER TO MEP PLANS FOR EXACT TIE-IN OF ALL UTILITIES.
4. SITE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH CITY OF WACO REQUIREMENTS WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
5. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS, BACKFILL OF TRENCHES THROUGH ANY IMPROVED AREAS, SUCH AS STREET, DRIVES OR PARKING LOTS SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY (ASTM D-698).
6. PROPOSED ELECTRIC, TELEPHONE, AND TELEVISION LINES ARE SHOWN FOR COORDINATION PURPOSES ONLY. SYSTEM DESIGN PREPARED BY EACH RESPECTIVE AGENCY. REFER TO MEP PLANS FOR CONDUIT REQUIREMENTS.
7. ALL UNDERGROUND UTILITY CONDUITS SHALL BE PLACED 48" BELOW FINISH GRADE UNLESS NOTED OTHERWISE.
8. ALL UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
9. TOPS OF EXISTING HANDHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED FINISHED ELEVATIONS.
10. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 3000 P.S.I.
11. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODE AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
12. REFER TO ARCHITECTURAL PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
13. PVC CONDUIT SHALL BE SCHEDULE 40 PVC WITH LONG SWEEPS ONLY (36" MINIMUM RADIUS) AND CONTAIN PULLTAPE, UNLESS OTHERWISE NOTED.
14. SITE CONTRACTOR SHALL PROVIDE AND INSTALL THE CONCRETE PAD FOR THE TRANSFORMER PER THE ELECTRIC COMPANY SPECIFICATIONS.
15. SITE CONTRACTOR SHALL CONTACT ONCOR ELECTRIC DELIVERY TO COORDINATE INSTALLATION OF NEW TRANSFORMERS.
16. A MINIMUM 18" OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF THE ELECTRIC CONDUIT AND THE OUTSIDE OF THE WATER, STORM SEWER, SANITARY SEWER, OR GAS PIPE AT ALL CROSSINGS.
17. STUBS FOR FUTURE UTILITIES SHOULD BE CLEARLY MARKED AND ES&S CONTACTED FOR DATA COLLECTION.

ALLOWANCE NOTE

THE CONTRACTOR SHALL INCLUDE AS PART OF THE BASE BID AN ALLOWANCE FOR THE REMOVAL OF ROCK AND IMPORT OF SOILS INCLUDING A UNIT COST TIMES THE QUANITY BELOW. FINAL PAYMENT WILL BE BASED ON THIS UNIT PRICE TIMES THE FIELD MEASURED QUANTITY.

SUITABLE FILL IMPORT:	4,800 CUBIC YARDS
MASS ROCK EXCAVATION:	750 CUBIC YARDS
TRENCH ROCK EXCAVATION:	60 CUBIC YARDS

Engineering Surveys & Services
DELIVERING YOUR VISION ™
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10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

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6/17/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

Revised

1	SEPTEMBER 20, 2023
3	JANUARY 11, 2024
5	MARCH 11, 2024
8	JUNE 17, 2024

GENERAL NOTES

Sheet
C0.02

ES&S PROJECT NO. 15964

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

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

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

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

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

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

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.
2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.
3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.
6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.
7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.
8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.
9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet __ of __.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.
10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.
12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.
    If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals).

    The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet __ of __ and marked after backfilling as shown in the detail on Plan Sheet __ of __.
13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.
14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).
15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
    (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
    (1) *Low Pressure Air Test.*
    (A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
    (B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
    (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
    (ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3 $$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches
L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) *Mandrel Sizing.*
(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
(iii) All dimensions must meet the appropriate standard.
(B) *Mandrel Design.*
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) *Method Options.*
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.

(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
(a) All manholes must pass a leakage test.
(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
(1) Hydrostatic Testing.
(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
(2) Vacuum Testing.
(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

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TCEQ WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
    - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

      $$Q = \frac{LD\sqrt{P}}{148{,}000}$$

      Where:
      - Q = the quantity of makeup water in gallons per hour,
      - L = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
    - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

      $$L = \frac{SD\sqrt{P}}{148{,}000}$$

      Where:
      - L = the quantity of makeup water in gallons per hour,
      - S = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

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DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

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1/19/2024

STATE OF TEXAS
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Date
JANUARY 19, 2024

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Design: JH Drawn: SK

TCEQ GENERAL NOTES

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ES&S PROJECT NO. 15964

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CONTACT INFORMATION ⑥

FACILITY OWNER:
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY ⑨
13215 BEE CAVE PARKWAY BUILDING B, SUITE 110
BEE CAVE, TEXAS 78738
512/263-0100
JRIECHERS@WTCPUA.ORG

LAND OWNER:
10FSS Dripping Springs 2, LLC
3301 ATLANTIC AVE
RALEIGH, NC 27604-1695
(919) 695-1110

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
MATTHEW A. KRIETE, P.E.
ENGINEERING SURVEYS & SERVICES
(573) 449-2646

MAINTENANCE: PERSON OR FIRM RESPONSIBLE FOR EROSION/ SEDIMENTATION CONTROL:
NAME:
ADDRESS:
PHONE:

CONTRACTOR:
NAME:
ADDRESS:
PHONE:

PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION. CONTRACTOR:
NAME:
ADDRESS:
PHONE:

HOURS OF CONSTRUCTION

1. NO WORK SHALL BE DONE BETWEEN THE HOURS OF 8:00 P.M. AND 6:00 A.M; NOR ON SUNDAYS OR LEGAL HOLIDAYS WITHOUT THE WRITTEN PERMISSION OF THE WTCPUA IN EACH CASE, EXCEPT SUCH WORK AS MAY BE NECESSARY FOR THE PROPER CARE, MAINTENANCE AND PROTECTION OF THE WORK ALREADY DONE OR IN THE CASE OF AN EMERGENCY.

SANITARY FACILITIES

1. PROVISIONS SHALL BE MADE FOR NECESSARY SANITARY CONVENIENCES FOR THE USE OF LABORERS ON THE WORK. THE FACILITIES MUST BE PROPERLY SECLUDED FROM PUBLIC OBSERVATION AND SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

LIMITS OF CONSTRUCTION

1. THE LIMITS OF CONSTRUCTION SHALL BE BOUNDED BY THE RIGHT OF WAY LINE OR PERMANENT / TEMPORARY CASEMENT LIMIT SHOWN ON THE PLANS. LIMITS OF CONSTRUCTION MAY BE FURTHER RESTRICTED BY PLACEMENT OF SILT FENCE, TREE PROTECTION FENCING, OR OTHER APPURTENANCES AS SHOWN ON THE PLANS.
2. LIMITS OF CONSTRUCTION SHALL BE CLEARLY DELINEATED BY THE CONTRACTOR BY INSTALLING SILT FENCE, ORANGE TENSAR FENCING (4 – FOOT ROLL TIED TO 6-FOOT POSTS SET AT 10-FOOT INTERVALS) OR OTHER BARRIERS AS APPROVED BY THE ENGINEER. ALL TEMPORARY BARRIERS SHALL BE REMOVED AT THE END OF THE PROJECT.
3. ANY AREAS OUTSIDE THE LIMITS OF CONSTRUCTION DISTURBED BY THE CONTRACTOR SHALL IMMEDIATELY BE RESTORED TO PRECONSTRUCTION CONDITION.

PROTECTION OF BORE PITS

1. INSTALL BARRIER FENCING (TENSAR ORANGE FENCING OR CHAIN LINK FENCING) TO SURROUND THE BORE PITS. BARRIER FENCING SHALL REMAIN IN PLACE AT ALL TIMES WHILE THE BORE PIT IS OPEN. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY AND SAFETY AT THE BORE PITS.

HORIZONTAL CONTROLS

1. ALL LINEWORK SHALL BE STAKED PRIOR TO CONSTRUCTION WITH SEALED CUT SHEETS PROVIDED TO THE WTCPUA INSPECTOR PRIOR TO CONSTRUCTION.

CONSTRUCTION SEQUENCING

1. 48 HOURS PRIOR TO BEGINNING ANY WORK, CALL THE ONE-CALL BOARD OF TEXAS AT 811 OR 1-800-545-6005 FOR UTILITY LOCATIONS AND OBTAIN STREET CUT PERMIT FOR ANY WORK WITHIN CITY, COUNTY, AND/OR STATE RIGHT-OF-WAY.

CONSTRUCTION SEQUENCING ⑧

1. 48 HOURS PRIOR TO BEGINNING ANY WORK, CALL THE ONE-CALL BOARD OF TEXAS AT 811 OR 1-800-545-6005 FOR UTILITY LOCATIONS AND OBTAIN STREET CUT PERMIT FOR ANY WORK WITHIN CITY, COUNTY, AND/OR STATE RIGHT-OF-WAY.
2. INSTALL TEMPORARY EROSION CONTROLS AND TREE/NATURAL AREA PROTECTION FENCING PRIOR TO PRE-CONSTRUCTION MEETING AND PRIOR TO ANY SITE CLEARING, GRUBBING, EXCAVATION, MATERIAL STOCKPILING, OR OTHER CONSTRUCTION OPERATIONS.
3. SCHEDULE AND CONVENE A PRECONSTRUCTION MEETING INCLUDING BUT NOT LIMITED TO THE OWNER'S REPRESENTATIVE, ENGINEER, WTCPUA REPRESENTATIVE, FIRE DEPARTMENT, CITY, COUNTY, TXDOT REPRESENTATIVE, AND TCEQ REPRESENTATIVE, AS APPLICABLE.
4. INSTALL TRAFFIC CONTROL MEASURES.
5. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO INITIATING CONSTRUCTION.
6. ROUGH CUT BASINS DETENTION BASINS AND DIRECT RUNOFF TO BAINS TO ACT AS A SEDIMENT TRAP. INSTALL BASIN OUTFALL PIPES. DISTURB ONLY THE AREA NECESSARY FOR INSTALLATION.
7. COMMENCE CLEARING AND GRUBBING PER PLAN. CONTRACTOR SHALL REMOVE ALL STUMPS BY EXCAVATING TO INCLUDE REMOVAL OF ASSOCIATED ROOT SYSTEM. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
8. REMOVE AND STOCKPILE TOPSOIL IN AREAS AS REQUIRED.
9. COMMENCE OVEREXCAVATION OF HIGH PLASTIC SOILS IN AREA AROUND BUILDINGS. FOLLOW DIRECTION OF PLANS AND GEOTECHNICAL REPORT. ROUGH CUT ROADS/SITE, AS NECESSARY.
10. INSTALL STORM SEWERS INCLUDING UNDERGROUND DETENTION AND WATER QUALITY VAULTS. INSTALL INLET PROTECTION IMMEDIATELY UPON COMPLETION OF EACH STORM STRUCTURE.
11. INSTALL ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE WTCPUA WHEN SWITCHING SERVICE TO THE WTCPUA SYSTEM. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS/FACILITIES TO ENSURE SERVICE IS MAINTAINED DURING SWITCHOVER.
12. COMPLETE ALL UNDERGROUND INSTALLATIONS, INCLUDING INSTALLATION OF SLEEVES.
13. FINALIZE BUILDING SUBGRADE PREPARATION IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
13. BEGIN BUILDING CONSTRUCTION.
14. COMPLETE 1ST COURSE BASE AND LAY PAVEMENT.
15. REMOVE CONSTRUCTION SEDIMENT FROM SEDIMENT TRAP AND UNDERGROUND VAULTS. COMPLETE BASINS AND WATER QUALITY VAULTS.
20. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL WHEN ALL DISTURBED AREAS ARE STABILIZED.
21. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED BY CONSTRUCTION OPERATIONS.

TRAFFIC CONTROL NOTES

1. CONTRACTOR SHALL MAINTAIN REASONABLE LOCAL VEHICULAR TRAFFIC THROUGHOUT CONSTRUCTION OPERATIONS.
2. CONTRACTOR SHALL PROVIDE SIGNS, BARRICADES, FLAGGERS, AND OTHER MEASURES AS REQUIRED TO ALLOW FOR VEHICULAR AND PEDESTRIAN TRAFFIC TO PROCEED SAFELY WITH MINIMUM INCONVENIENCE.
3. SIGNS, BARRICADES, FLAGGERS, AND RELATED WORK SHALL BE IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND WITH THE REQUIREMENTS OF THE GOVERNING CITY/COUNTY.

SWPPP NOTES

THIS PROJECT IS SUBJECT TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT TXR150000 FOR CONSTRUCTION ACTIVITIES. THE GENERAL PERMIT REQUIRES THE PREPARATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WHICH HAS BEEN PROVIDED BY THE OWNER FOR USE BY THE CONTRACTOR. THE OWNER SHALL PROVIDE THE OWNER'S NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) TO THE TCEQ. THE CONTRACTOR'S RESPONSIBILITIES ARE AS FOLLOWS:

1. MAINTAIN A COPY OF THE SWPPP AND A SET OF CONSTRUCTION PLANS WITH THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN AT THE WORK SITE AT ALL TIMES.
2. FILE A NOTICE OF INTENT (NOI) AND APPLICABLE PAYMENT TO THE TCEQ AT LEAST 2 DAYS PRIOR TO SITE DISTURBANCE.
3. POST A COPY OF THE OWNER'S AND CONTRACTOR'S NOI FORMS AT THE WORK SITE.
4. SIGN THE CERTIFICATION AND OBTAIN A SIGNED CERTIFICATION STATEMENT FROM ALL SUBCONTRACTORS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL MEASURES WHICH INDICATES THAT THE CONTRACTOR AND SUBCONTRACTOR UNDERSTANDS THE PERMIT REQUIREMENTS (FORMS ARE IN THE SWPPP)
5. FOLLOW AND COMPLY WITH ALL ASPECTS OF THE TPDES GENERAL PERMIT NO. TXR150000. THIS INCLUDES BUT IS NOT LIMITED TO FIELD INSPECTIONS AND REPORT, MAINTAINING AND REPAIRING EROSION CONTROLS AND UPDATING EROSION CONTROLS AND UPDATING EROSION CONTROL PLAN SHEETS BASED ON FIELD CHANGES AND MODIFICATIONS.
6. FILE A COPY OF THE CONTRACTOR'S NOTICE OF TERMINATION (NOT) WITH THE TCEQ ONCE THE WORK IS COMPLETED IN ACCORDANCE WITH THE TPDES GENERAL PERMIT NO TXR.150000 AND HAS BEEN ACCEPTED BY THE OWNER.

WTCPUA WATER & WASTEWATER GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE STATE STATUTES AND U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS (O.S.H.A.). COPIES OF O.S.H.A. STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE OBTAINED FROM O.S.H.A. AUSTIN AREA OFFICE – LA COSTA GREEN BLDG 1033, LA POSADA DR, SUITE 375, AUSTIN, TEXAS 78752-3832, 512-374-0271.
2. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND TO THE STATE LAW, (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 ©) AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES WHEN OPERATING IN THE VICINITY OF ELECTRICAL LINES. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY REQUIREMENTS, AND FOR COORDINATION OF ALL WORK WITH THE APPROPRIATE ELECTRIC UTILITY COMPANY.
3. THE CONTRACTOR SHALL CONTACT THE ONE-CALL BOARD OF TEXAS AT 811 OR 1-800-545-6005 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION. THE LOCATION AND TYPE OF UTILITIES AND UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. IN ADDITIONAL TO NORMAL PRECAUTIONS WHEN EXCAVATING, USE EXTRA CAUTION WHEN EXCAVATING WITHIN 25 FEET OF ANY UTILITIES SHOWN ON THE PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN HIMSELF AND OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THE PROJECT. THIS INCLUDES ALL WATER, WASTEWATER, GAS, ELECTRICAL, TELEPHONE, CABLE TELEVISION, AND STREET AND DRAINAGE WORK. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER AND WTCPUA INSPECTOR WITHIN TWENTY-FOUR (24) HOURS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF ALL SPOIL MATERIAL FROM THE CONSTRUCTION SITE. ALL SPOILS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED SPOIL SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SECURING A PERMIT FOR THE SITE. THE CONTRACTOR SHALL NOTIFY THE WTCPUA INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO DISPOSAL OF THE MATERIAL. NO SPOILS ARE TO REMAIN OVERNIGHT IN THE FLOODPLAIN.
6. NO BLASTING OR BURNING WILL BE ALLOWED.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, AT HIS EXPENSE, ALL UTILITIES, PAVEMENT, CURB, FENCES OR ANY OTHER ITEMS DAMAGED DURING CONSTRUCTION REGARDLESS OF WHETHER THESE ITEMS ARE SHOWN ON THE CONSTRUCTION PLANS.
8. WHENEVER EXISTING UTILITIES, INDICATED OR NOT ON PLANS, PRESENT OBSTRUCTIONS TO GRADE AND/OR ALIGNMENT OF PROPOSED PIPE, CONTRACTOR IS TO IMMEDIATELY NOTIFY THE ENGINEER WHO WILL DETERMINE IF EXISTING IMPROVEMENTS ARE TO BE RELOCATED OR IF THE GRADE AND/OR ALIGNMENT OF PROPOSED PIPE IS TO BE CHANGED.
9. DUST PREVENTION SHALL BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. DUST CONTROL SHALL INCLUDE SPRAYING OF WATER ON ALL DISTURBED AREAS, SPOIL PILES, OR HAUL MATERIALS ASSOCIATED WITH THE PROJECT OR OTHER METHODS APPROVED BY THE WTCPUA.
10. CLEANUP – UPON COMPLETION AND BEFORE MAKING APPLICATION FOR ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL CLEAN ALL STREETS AND ALL GROUND OCCUPIED BY HIM IN CONNECTION WITH THE WORK OF ALL RUBBISH, EXCESS MATERIALS, EXCESS EXCAVATED MATERIALS, TEMPORARY STRUCTURES AND EQUIPMENT. ALL PARTS OF THE WORK SHALL BE LEFT IN A NEAT AND PRESENTABLE CONDITION SATISFACTORY TO THE WTCPUA AND OTHER GOVERNMENTAL BODIES HAVING JURISDICTION PRIOR TO SUBMITTAL OF THE FINAL PAYMENT.
11. THE CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESSES AND RESIDENCES AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO MINIMIZE DISRUPTION OF DELIVERIES, PARKING, AND OTHER ACTIVITIES.
12. DEWATERING, IF NECESSARY, SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL NOT CONSTITUTE A BASIS FOR ADDITIONAL PAYMENT.
13. THE MINIMUM DEPTH OF COVER FROM TOP OF PIPE TO FINISHED GRADE FOR ALL WATER LINES SHALL BE FOUR FEET. INSTALL LINES TO AVOID HIGH POINTS.
14. CONCRETE SHALL BE CLASS 'A' WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI, UNLESS OTHERWISE NOTED.
15. REINFORCING STEEL SHALL BE ASTM A 615M, GRADE 60 UNLESS OTHERWISE NOTED.
16. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE WTCPUA MUST RELY ON THE ADEQUACY OF THE DESIGN ENGINEER. APPROVAL OF THESE PLANS BY THE WTCPUA DOES NOT RELEASE THE DESIGN ENGINEER OF THESE RESPONSIBILITIES.

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."
2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].
3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)].
4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].
5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].
7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].
8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].
9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].
10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].
11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE.
12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).
13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].
14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].
15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].
16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].
17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C-651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].
18. DE-CHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

WEST TRAVIS COUNTY PUA WATER AND WASTEWATER UTILITY NOTES

1. WEST TRAVIS COUNTY PUA IS THE WATER AND / OR WASTEWATER SERVICE PROVIDER FOR THIS PROJECT. A PRE-CONSTRUCTION MEETING WITH THE WTCPUA SHALL BE HELD PRIOR TO COMMENCEMENT OF CONSTRUCTION TO SCHEDULE INSPECTION OF INSTALLATION OF WATER/WASTEWATER FACILITIES. WATER FACILITIES WILL BE INSPECTED UP TO, AND INCLUDING, THE WATER METER AND/OR FIRE HYDRANTS. THE CONTACT NUMBER FOR WTCPUA IS (512) 263- 0100.
2. THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND STANDARD DETAILS CURRENT AT THE TIME OF CONSTRUCTION SHALL GOVERN MATERIALS AND METHODS USED TO PERFORM THIS WORK. CITY OF AUSTIN SPECIFICATIONS AND STANDARD DETAILS ARE AVAILABLE AT HTTPS://LIBRARY.MUNICODE.COM/TX/AUSTIN/CODES/
3. CONTRACTOR SHALL OBTAIN ALL APPROVALS AND PERMITS, INCLUDING BUT NOT LIMITED TO STREET/DRIVEWAY CUT AND UTILITY CUT PERMITS FROM THE APPROPRIATE GOVERNMENTAL AGENCY BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.
4. THE WTCPUA SHALL BE CONTACTED AT (512) 263-0100 AT LEAST 48 HOURS BEFORE CONNECTING TO THEIR EXISTING WATER AND/OR WASTEWATER FACILITIES.
5. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 811 OR 1-800-545-6005 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION. IN ADVANCE OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.
6. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND/OR WASTEWATER SERVICES.
7. WHERE WATER LINES AND SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION). ANY DEVIATION THESE STANDARDS SHALL REQUIRE A VARIANCE APPROVED BY TCEQ BEFORE SUBMITTING PIPING ASSIGNMENTS TO THE WTCPUA.
8. THE CITY OF AUSTIN SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE. CONTRACT DOCUMENTS, WHICH INCLUDE A TRENCH SAFETY PLAN SIGNED AND SEALED BY A TEXAS PROFESSIONAL ENGINEER AND A PAY ITEM FOR TRENCH SAFETY MEASURES, IN COMPLIANCE WITH OSHA, STATE, COUNTY, AND CITY REQUIREMENTS BEFORE BEGINNING WORK ON THE PROJECT..
9. ALL MATERIAL TESTS, INCLUDING SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS, SHALL BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY FUNDED BY THE OWNER IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM 1804S.4.
10. CONNECTIONS TO EXISTING WTCPUA WATER LINES SHALL BE MADE BY CUT-IN TEES IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM 510.3(24). ISOLATION VALVES SHALL BE INSTALLED ON THE ENDS OF THE CUT-IN TEE, AS NECESSARY. A SHUT-OUT VALVE PLAN SHALL BE PROVIDED SHOWING THE LOCATION OF EXISTING GATE VALVES IN THE VICINITY OF THE CONNECTION. THE SHUT-OUT PLAN SHALL IDENTIFY ALL AFFECTED PROPERTYOWNERS. CONTRACTOR SHALL PERFORM ALL WORK AND SHALL FURNISH ALL MATERIALS, INCLUDING DRAINING AND CUTTING INTO EXISTING PIPING AND CONNECTING A NEW PIPELINE OR OTHER EXTENSION INTO THE EXISTING PRESSURE PIPING, FORMING AN ADDITION TO THE POTABLE WATER TRANSMISSION AND DISTRIBUTION NETWORK AND PERFORMING NECESSARY SHUTOFFS. CONTRACTOR SHALL SCHEDULE ALL SUCH CONNECTIONS IN ADVANCE AND SUCH SCHEDULE SHALL BE APPROVED BY THE WTCPUA BEFORE BEGINNING THE WORK. AT LEAST 48 HOURS-NOTICE SHALL BE GIVEN TO THE WTCPUA PRIOR TO MAKING THE CONNECTION, AND A REPRESENTATIVE FROM THE WTCPUA SHALL BE PRESENT WHEN THE CONNECTION IS MADE. PRESSURE TAPS MAY BE APPROVED ON A CASE-BY-CASE"SIZE ON SIZE" TAPS WILL NOT BE PERMITTED. WHEN APPROVED, ANY TAPS SHALL BE MADE BY USE OF AND APPROVED FULL CIRCLE, GASKETED CAST IRON OR DUCTILE IRON TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES PRIOR TO MAKING THE PRESSURE TAP AND THE USE OF PRECAST BLOCKS MAY BE USED TO HOLD THE TAP IN ITS CORRECTION POSITION PRIOR TO BLOCKING. THE BLOCKING BEHIND AND UNDER THE TAP SHALL HAVE A MINIMUM OF 24 HOURS CURING TIME BEFORE THE VALVE CAN BE REOPENED FOR SERVICE FROM THAT TAP. THE CONTRACTOR SHALL NOTIFY THE WTCPUA INSPECTOR A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE FOR THE WTCPUA TO NOTIFY THE AFFECTED CUSTOMERS. THE WTCPUA SHALL BE PRESENT WHILE ALL WORK IS PERFORMED TO MAKE THE CONNECTION.
11. THRUST RESTRAINT SHALL BE BY METAL THRUST RESTRAINTS IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM 510.3(22).
12. FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY OF STANDARD SPECIFICATION ITEM 51LS.3 E AND SHALL BE APPROVED FIRE DEPARTMENT OR OTHER APPROPRIATE PARTY PRIOR TO INSTALLATION. FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP WILL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED IN SERVICE. FIRE HYDRANTS THAT ARE TO BE USED AS DRAIN HYDRANTS SHALL BE PAINTED SILVER W/ BLUE CAPS PRIOR TO ACCEPTANCE. WHERE STORZ ADAPTORS ARE REQUIRED (HAYS COUNTY), FIRE HYDRANTS SHALL BE MANUFACTURED WITH INTEGRAL STORZ ADAPTORS.
13. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATION ITEM 510.3(29) AND/OR TCEQ RULES.
14. TEST PRESSURE FOR 2-HOUR TEST SHALL BE AT 175 PSI AT THE LOWEST POINT IN THE LINE.

    NOTE:
    PRIOR TO PRESSURE TESTING, CONTRACTOR SHALL VERIFY THAT THRUST BLOCKING AND/OR THRUST RESTRAINT BACK TO AND INCLUDING THE VALVE AGAINST WHICH THE PRESSURE TEST SHALL BE PERFORMED, HAS BEEN INSTALLED TO AT LEAST THE SPECIFICATIONS OF THIS PROJECT. FAILURE TO VERIFY THAT THRUST BLOCKING AND/OR THRUST RESTRAINT IN THE EXISTING LINE MEETS OR EXCEEDS THE SPECIFICATIONS OF THIS PROJECT MAY RESULT IN SERIOUS DAMAGE TO THE EXISTING WATERLINE.
15. WATER LINES SHALL BE FILLED WITH WATER AND ALL AIR EXPELLED AT LEAST 24 HOURS BEFORE TESTING. ALL SERVICE LATERALS AND DRAIN VALVE LEADS, WITH THE HYDRANT VALVES CLOSED AND NOZZLE CAPS OPEN SHALL BE INCLUDED IN THE TESTS.
16. CONTRACTOR SHALL SUBMIT A DISINFECTION AND FLUSHING PLAN IN ACCORDANCE WITH AWWA STANDARDS TO THE WTCPUA FOR APPROVAL. REQUIRED FLUSHING VOLUMES, FLUSHING SCHEDULE, AND METHOD OF DISPOSAL OF FLUSH WATER SHALL BE IN ACCORDANCE WITH THE APPROVED PLAN.
17. GATE VALVES SHALL BE RESILIENT SEATED GATE VALVES CONFORMING TO AWWA C509, WITH A MINIMUM RATED WORKING PRESSURE OF 250 PSIG.
18. FORCE MAIN TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATION ITEM 510.3(27) AND/OR TCEQ RULES.
19. GRAVITY SANITARY SEWER MAIN TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATION ITEMS 510.3(26) AND/OR TCEQ RULES. IN ADDITION, ALL GRAVITY SANITARY SEWER MAINS SHALL BE TELEVISED PRIOR TO ACCEPTANCE BY WTCPUA. DIGITAL FILES (VIA CD-ROM) CLEARLY SHOWING TELEVISED RECORDING SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOLLOWING INSPECTION.
20. LOCATOR 'FINDER' WIRE – ALL NON -METALLIC WATER LINES SHALL HAVE A FINDER WIRE LOCATED ABOVE THE PIPE. THE WIRE SHALL BE POLY-INSULATED NO. 10 SOLID COPPER AND WILL TERMINATE AT EACH ISOLATION VALVE SUCH THAT IT IS ACCESSIBLE FROM THE VALVE BOX.
21. LOCATOR 'FINDER' WIRE – ALL NON-METALLIC WASTEWATER LINES SHALL HAVE A FINDER WIRE LOCATED ABOVE THE PIPE. THE WIRE SHALL BE POLY-INSULATED NO. 10 SOLID COPPER AND WILL TERMINATE AT READILY ACCESSIBLE LOCATIONS THROUGHOUT THE COLLECTION SYSTEM.
22. ALL VALVE RISERS SHALL HAVE A 1'-6" SQUARE CONCRETE BOX POURED AROUND THEM AT FINISHED GRADE.
23. ALL MANHOLES SHALL BE LINED WITH A CORROSION RESISTANT LINING APPROVED BY THE WTCPUA.
24. BOLTED AND GASKETED COVERS SHALL BE USED FOR ALL MANHOLES LOCATED IN THE 100-YEAR FLOODPLAIN. WHERE THERE ARE MORE THAN THREE GASKETED MANHOLES IN A ROW, VENTS SHALL BE PROVIDED ON EVERY THIRD MANHOLE.
25. THE DOWNSTREAM END OF ANY FORCE MAIN SHALL BE TERMINATED IN A SANITARY SEWER MANHOLE IN A MANNER TO MINIMIZE TURBULENCE.
26. CONTRACTOR SHALL HAVE NECESSARY EROSION AND SEDIMENTATION CONTROLS IN PLACE PRIOR TO COMMENCING WATER/WASTEWATER FACILITY CONSTRUCTION.
27. RECORD DRAWINGS, AS STIPULATED BY THE WTCPUA, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR VERIFICATION AND FURNISHED TO THE WTCPUA UPON COMPLETION OF THE PROJECT.
28. THE WTCPUA WILL OWN AND OPERATE ALL WATER LINES AND APPURTENANCES UP TO AND INCLUDING THE WATER METER. THESE IMPROVEMENTS WILL BE DEFINED BY A RECORDED EASEMENT OR IN PUBLIC RIGHT-OF-WAY.
29. ANY PORTIONS OF WASTEWATER LINES INCLUDING SERVICES THAT ARE LOCATED OUTSIDE OF A RECORDED EASEMENT OR PUBLIC RIGHT-OF-WAY WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER, OR HIS/HER ASSIGNS.
30. WHERE EXISTING WATER AND/OR WASTEWATER INFRASTRUCTURE IS TO BE ABANDONED, THE ENGINEER SHALL SUBMIT AN ABANDONMENT PLAN FOR APPROVAL BY THE WTCPUA.
31. WATER SERVICES SHALL BE INSTALLED USING HDPE PIPE. COPPER IS NOT ALLOWED.
32. FOR ANY STORM SEWER LINE CROSSING A WATER OR WASTEWATER LINE CLOSER THAN 18", THE STORM SEWER PIPE SHALL BE LAID SUCH THAT NO STORM SEWER JOINTS WILL BE OVER THE WATER PIPE CROSSING.
33. REINFORCING STEEL SHALL BE ASTM A 615M, GRADE 60 UNLESS OTHERWISE NOTED.
34. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE WTCPUA MUST RELY ON THE ADEQUACY OF THE DESIGN ENGINEER. APPROVAL OF THESE PLANS BY THE WTCPUA DOES NOT RELEASE THE DESIGN ENGINEER OF THESE RESPONSIBILITIES.

Engineering Surveys & Services
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Texas Registered Engineering Firm #17700

Design: JH Drawn: SK

10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY ③
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

MATTHEW A. KRIETE
126148

Matthew A. Kriete

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
MARCH 11, 2024

Revised	
⑥	APRIL 18, 2024
⑧	JUNE 17, 2024
⑨	SEPTEMBER 20, 2024

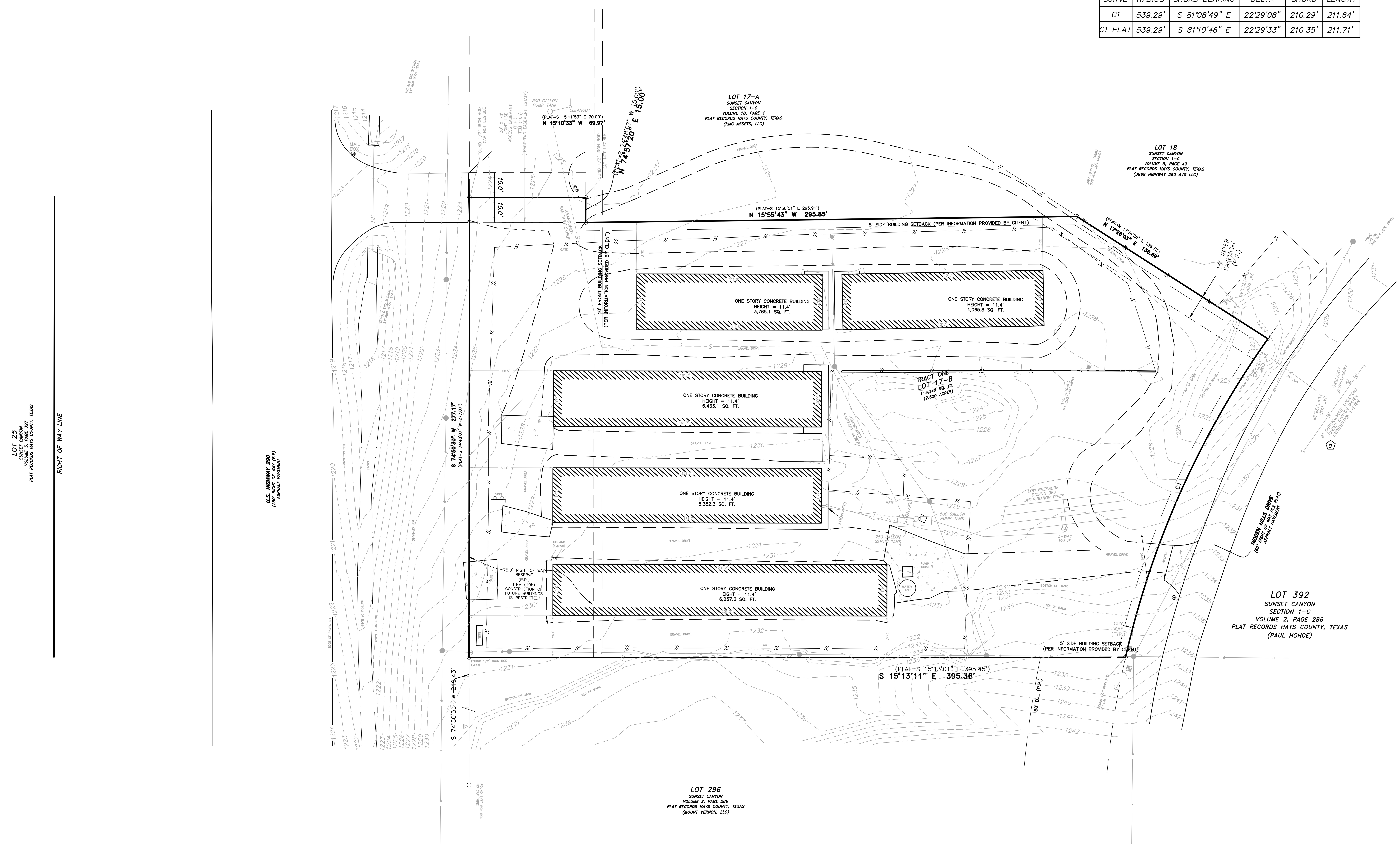
WEST TRAVIS COUNTY
PUBLIC UTILITY AGENCY
GENERAL NOTES

Sheet
C0.04

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FED-DRIPPINGSPRINGS\CAD\15964 COVER & DETAILS.DWG 9/20/2024

Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'



LOT 17-A
SUNSET CANYON
SECTION 1-C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)
LOT 18
SUNSET CANYON
SECTION 1-C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)
LOT 25
SUNSET CANYON
RIGHT OF WAY LINE
U.S. HIGHWAY 290
ASPHALT PAVEMENT
(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'
N 74°57'20" E 15.00'
(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
N 17°26'03" E 136.89'
15' WATER EASEMENT (P.P.)
10' FRONT BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
ONE STORY CONCRETE BUILDING
HEIGHT = 11.4'
3,765.1 SQ. FT.
ONE STORY CONCRETE BUILDING
HEIGHT = 11.4'
4,065.8 SQ. FT.
ONE STORY CONCRETE BUILDING
HEIGHT = 11.4'
5,433.1 SQ. FT.
ONE STORY CONCRETE BUILDING
HEIGHT = 11.4'
5,352.3 SQ. FT.
ONE STORY CONCRETE BUILDING
HEIGHT = 11.4'
6,257.3 SQ. FT.
TRACT ONE
LOT 17-B
114,149 SQ. FT.
(2.620 ACRES)
S 74°50'30" W 277.13'
(PLAT=S 74°48'07" W 277.07')
75.0' RIGHT OF WAY RESERVE (P.P.) ITEM (10h) CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
(PLAT=S 15°13'01" E 395.45')
S 15°13'11" E 395.36'
C1
HIDDEN HILLS DRIVE
LOT 392
SUNSET CANYON
SECTION 1-C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)
LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)
GRAVEL DRIVE
750 GALLON SEPTIC TANK
500 GALLON PUMP TANK
PUMP HOUSE
WATER TANK
3-WAY VALVE
LOW PRESSURE DOSING BED DISTRIBUTION PIPES
50' B.L. (P.P.)

8 REVISION NOTES
1. REMOVED WELL AREA.

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 30'

10FSS DRIPPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

6/17/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

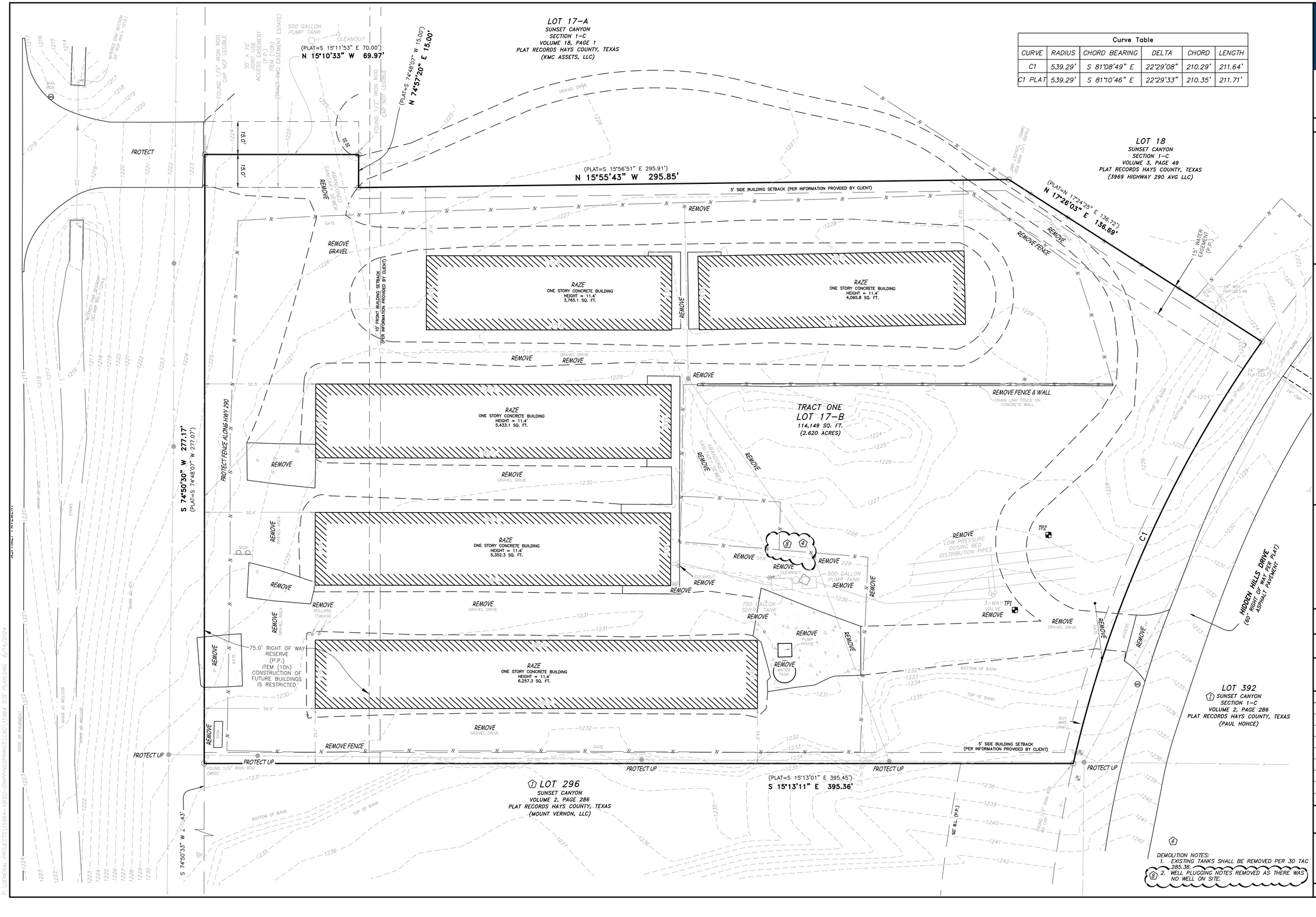
Date
SEPTEMBER 20, 2023

Revised
3 JANUARY 11, 2024
5 MARCH 11, 2024
8 JUNE 17, 2024

EXISTING CONDITIONS PLAN

Sheet
C1.01

ES&S PROJECT NO. 15964



Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

DEMOLITION NOTES:
1. EXISTING TANKS SHALL BE REMOVED PER 30 TAC 285.36.
2. WELL PLUGGING NOTES REMOVED AS THERE WAS NO WELL ON SITE.

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 20'

10FSS DRIPPING SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

6/17/2024

MATTHEW A. KRIETE
126148

MATTHEW A. KRIETE
LICENSED PROFESSIONAL
ENGINEER 126148

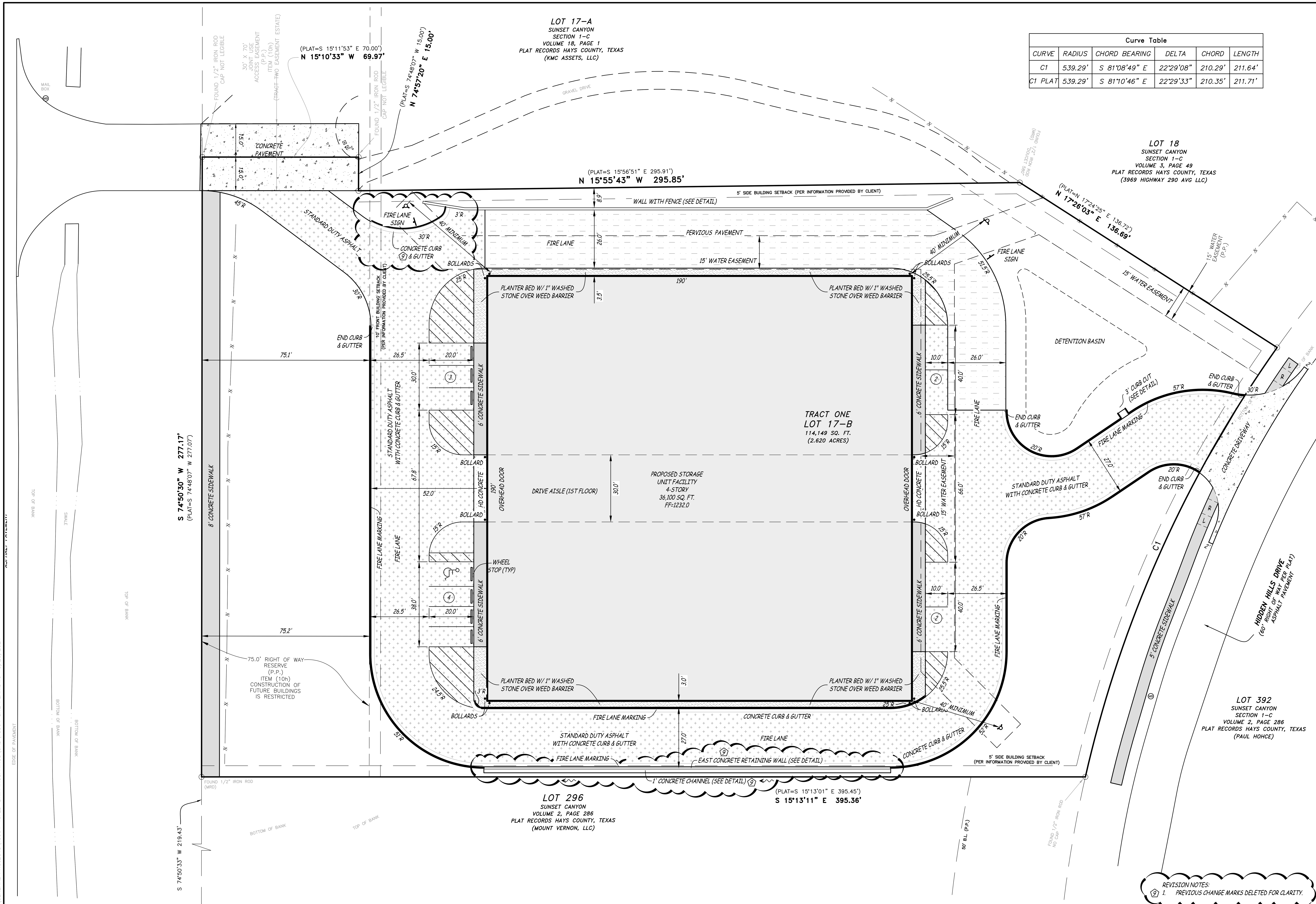
Date
JUNE 9, 2023

Revised	
1	SEPTEMBER 20, 2023
	CITY COMMENTS
3	JANUARY 11, 2024
4	JANUARY 19, 2024
8	JUNE 17, 2024

DEMOLITION PLAN

Sheet
C2.01

ES&S PROJECT NO. 15964



LOT 17-A
SUNSET CANYON
SECTION 1-C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)
(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'
(PLAT=S 74°48'07" W 15.00')
N 74°57'20" E 15.00'
CONCRETE PAVEMENT
(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
WALL WITH FENCE (SEE DETAIL)
PERVIOUS PAVEMENT
FIRE LANE
15' WATER EASEMENT
FIRE LANE SIGN
CONCRETE CURB & GUTTER
40' MINIMUM
STANDARD DUTY ASPHALT
BOLLARDS
PLANTER BED W/ 1" WASHED STONE OVER WEED BARRIER
END CURB & GUTTER
10' FRONT BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
LOT 18
SUNSET CANYON
SECTION 1-C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)
(PLAT=N 17°24'25" E 136.72')
N 17°26'03" E 136.69'
15' WATER EASEMENT
DETENTION BASIN
3' CURB CUT (SEE DETAIL)
FIRE LANE MARKING
CONCRETE DRIVEWAY
TRACT ONE
LOT 17-B
114,149 SQ. FT.
(2.620 ACRES)
PROPOSED STORAGE UNIT FACILITY
4-STORY
36,100 SQ. FT.
FF=1232.0
DRIVE AISLE (1ST FLOOR)
OVERHEAD DOOR
HD CONCRETE
6' CONCRETE SIDEWALK
STANDARD DUTY ASPHALT WITH CONCRETE CURB & GUTTER
WHEEL STOP (TYP)
S 74°50'30" W 277.17'
(PLAT=S 74°48'07" W 277.07')
8' CONCRETE SIDEWALK
75.0' RIGHT OF WAY RESERVE (P.P.) ITEM (10h) CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED
HIDDEN HILLS DRIVE
(60' RIGHT OF WAY PER PLAT) ASPHALT PAVEMENT
5' CONCRETE SIDEWALK
C1
LOT 392
SUNSET CANYON
SECTION 1-C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)
FIRE LANE MARKING
CONCRETE CURB & GUTTER
EAST CONCRETE RETAINING WALL (SEE DETAIL)
1' CONCRETE CHANNEL (SEE DETAIL)
(PLAT=S 15°13'01" E 395.45')
S 15°13'11" E 395.36'
LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)
S 74°50'33" W 219.43'
REVISION NOTES:
1. PREVIOUS CHANGE MARKS DELETED FOR CLARITY.

Curve Table

CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

SCALE: 1" = 20'

10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

Revised
1 SEPTEMBER 20, 2023
CITY COMMENTS
3 JANUARY 11, 2024
5 MARCH 11, 2024
7 MAY 28, 2024
8 JUNE 17, 2024
9 SEPTEMBER 20, 2024

SITE PLAN

Sheet
C3.01

ES&S PROJECT NO. 15964

Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

LOT 17-A
SUNSET CANYON
SECTION 1-C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)

(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'

(PLAT=S 74°48'07" W 15.00')
N 74°57'20" E 15.00'

LOT 18
SUNSET CANYON
SECTION 1-C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)

(PLAT=N 17°24'25" E 136.72')
N 17°26'03" E 136.69'

(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'

5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)

TRACT ONE
LOT 17-B
114,149 SQ. FT.
(2.620 ACRES)

PROPOSED STORAGE
UNIT FACILITY
4-STORY
36,100 SQ. FT.
FF=1232.0

DRIVE AISLE (1ST FLOOR)

DETENTION BASIN

S 74°50'30" W 277.17'
(PLAT=S 74°48'07" W 277.07')

S 74°50'33" W 2.43'

75.0' RIGHT OF WAY RESERVE (P.P.)
ITEM (10h)
CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED

LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)

(PLAT=S 16°13'04" E 396.45')
S 15°13'11" E 395.36'

LOT 392
SUNSET CANYON
SECTION 1-C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)

HIDDEN HILLS DRIVE
(60' RIGHT OF WAY PER PLAT)
ASPHALT PAVEMENT

REVISION NOTES:
9 1. PREVIOUS CHANGE MARKS DELETED FOR CLARITY.

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 20'

3 10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL
ENGINEER 126148

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Date
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1	SEPTEMBER 20, 2023
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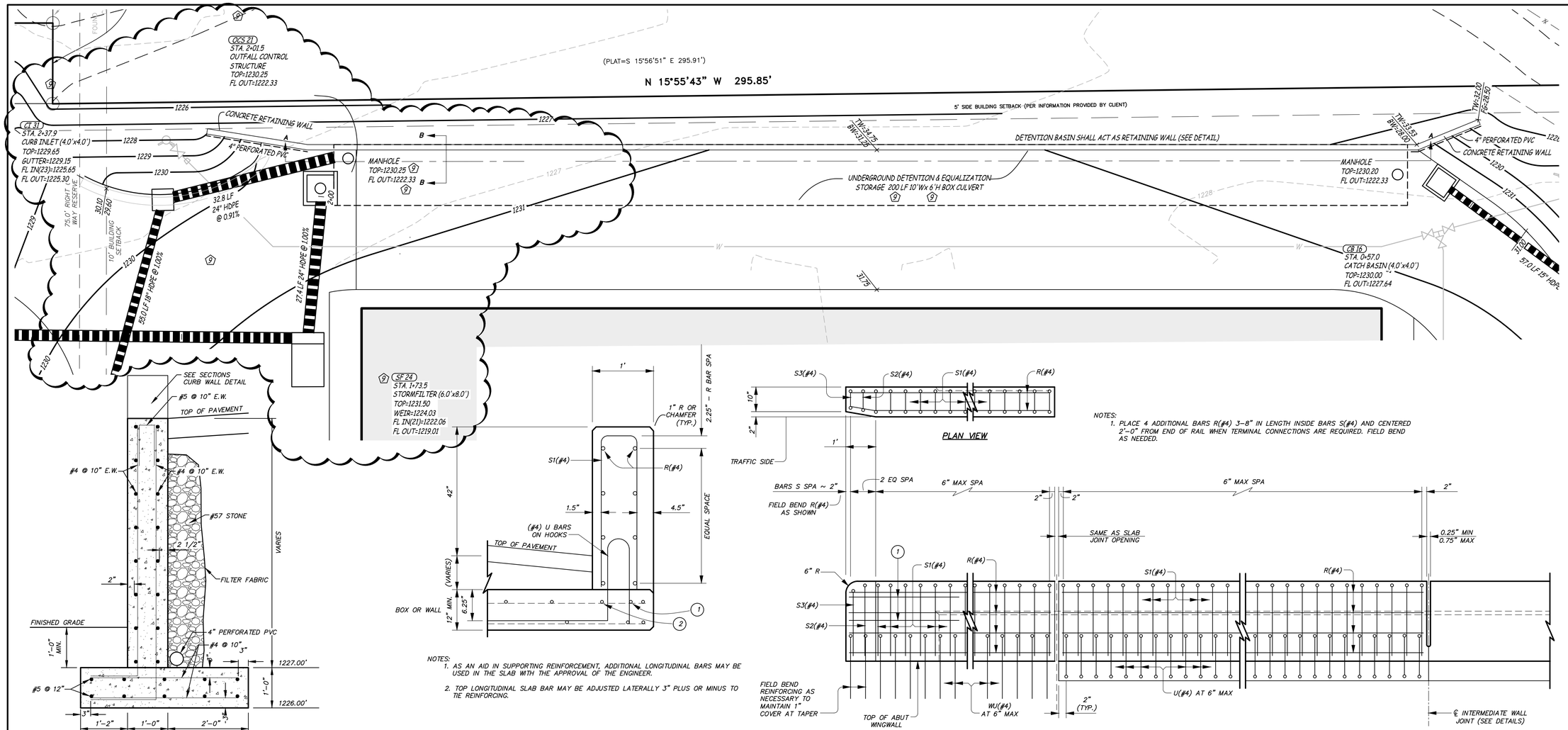
5	MARCH 11, 2024
6	MARCH 11, 2024
6	APRIL 18, 2024
7	MAY 28, 2024 8 JUNE 17, 2024
9	SEPTEMBER 20, 2024

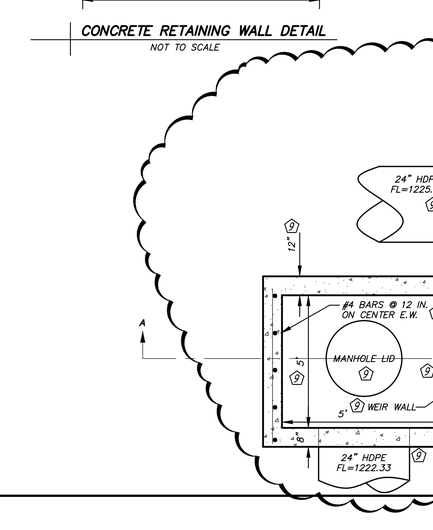
GRADING & DRAINAGE PLAN

Sheet
C4.01

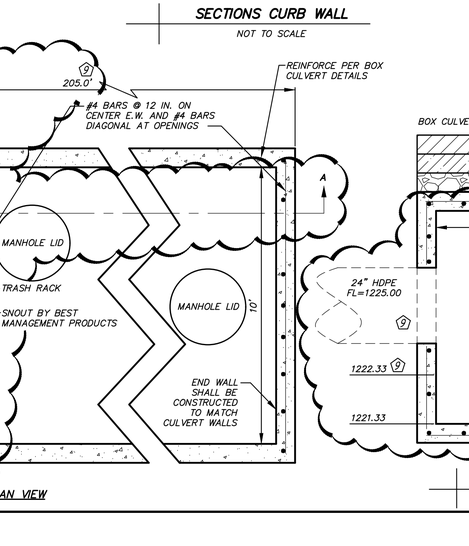
ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FSS--DRIPINGSPRINGS\CAD\15964 SITE PLAN.DWG 9/20/2024



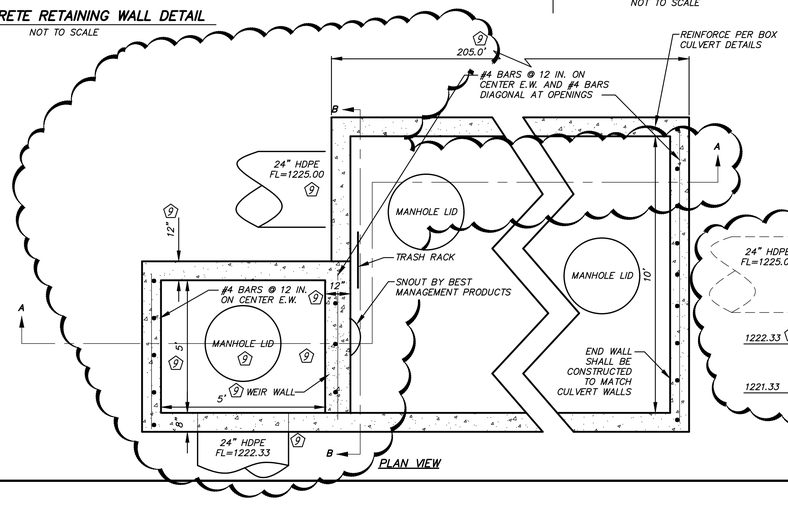


CONCRETE RETAINING WALL DETAIL
NOT TO SCALE



NOTES:
1. AS AN AID IN SUPPORTING REINFORCEMENT, ADDITIONAL LONGITUDINAL BARS MAY BE USED IN THE SLAB WITH THE APPROVAL OF THE ENGINEER.
2. TOP LONGITUDINAL SLAB BAR MAY BE ADJUSTED LATERALLY 3" PLUS OR MINUS TO TIE REINFORCING.

SECTIONS CURB WALL
NOT TO SCALE



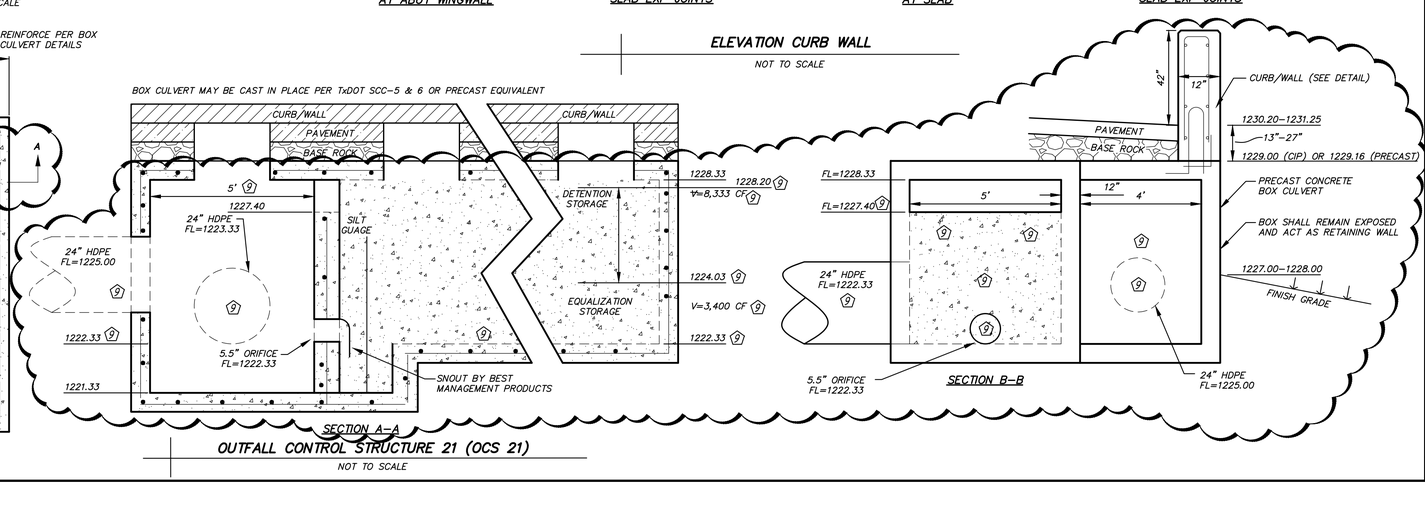
PLAN VIEW

PLAN VIEW

NOTES:
1. PLACE 4 ADDITIONAL BARS R(#4) 3'-8" IN LENGTH INSIDE BARS S(#4) AND CENTERED 2'-0" FROM END OF RAIL WHEN TERMINAL CONNECTIONS ARE REQUIRED. FIELD BEND AS NEEDED.

AT ABUT WINGWALL | AT BENTS WITH SLAB EXP JOINTS | AT SLAB | AT BENTS WITHOUT SLAB EXP JOINTS

ELEVATION CURB WALL
NOT TO SCALE



SECTION A–A | SECTION B–B

OUTFALL CONTROL STRUCTURE 21 (OCS 21)
NOT TO SCALE

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 10'

3 10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

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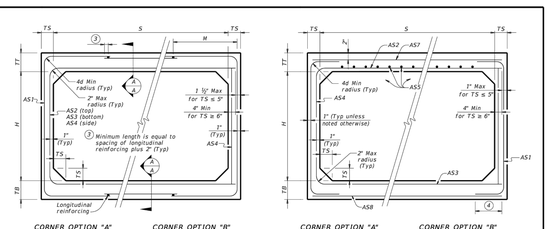
8	JUNE 17, 2024
9	SEPTEMBER 20, 2024

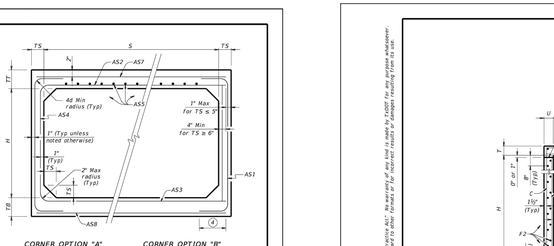
DETENTION BASIN PLAN

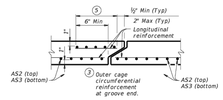
Sheet
C4.02

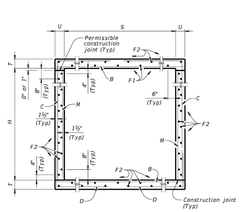
ES&S PROJECT NO. 15964

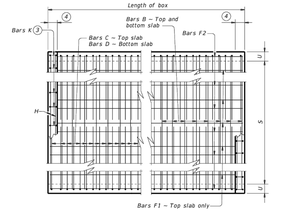
P:\CONFRA_PROJECTS\15964-10FED-DRIPPINGSPRINGS\CAD\15964_SITE PLAN.DWG 9/20/2024

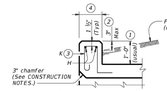












BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) ②							① Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
10	4	10	10	10	< 2	–	0.33	0.34	0.27	0.24	0.24	0.24	0.24	16.5
10	4	10	10	10	2 < 3	58	0.38	0.35	0.30	0.24	–	–	–	16.5
10	4	10	10	10	3 – 5	53	0.31	0.28	0.27	0.24	–	–	–	16.5
10	4	10	10	10	10	52	0.36	0.32	0.33	0.24	–	–	–	16.5
10	4	10	10	10	15	52	0.47	0.42	0.43	0.24	–	–	–	16.5
10	4	10	10	10	20	52	0.61	0.54	0.55	0.24	–	–	–	16.5
10	4	10	10	10	25	52	0.75	0.67	0.68	0.24	–	–	–	16.5
10	5	10	10	10	< 2	–	0.30	0.36	0.30	0.24	0.24	0.24	0.24	17.5
10	5	10	10	10	2 < 3	58	0.35	0.39	0.34	0.24	–	–	–	17.5
10	5	10	10	10	3 – 5	52	0.28	0.31	0.30	0.24	–	–	–	17.5
10	5	10	10	10	10	52	0.33	0.35	0.36	0.24	–	–	–	17.5
10	5	10	10	10	15	47	0.42	0.46	0.47	0.24	–	–	–	17.5
10	5	10	10	10	20	47	0.55	0.59	0.61	0.24	–	–	–	17.5
10	5	10	10	10	25	47	0.68	0.73	0.75	0.24	–	–	–	17.5
10	6	10	10	10	< 2	–	0.28	0.38	0.33	0.24	0.24	0.24	0.24	18.5
10	6	10	10	10	2 < 3	58	0.32	0.42	0.37	0.24	–	–	–	18.5
10	6	10	10	10	3 – 5	53	0.26	0.34	0.33	0.24	–	–	–	18.5
10	6	10	10	10	10	52	0.30	0.38	0.39	0.24	–	–	–	18.5
10	6	10	10	10	15	47	0.39	0.49	0.51	0.24	–	–	–	18.5
10	6	10	10	10	20	47	0.50	0.63	0.65	0.24	–	–	–	18.5
10	6	10	10	10	25	47	0.61	0.78	0.80	0.24	–	–	–	18.5
10	7	10	10	10	< 2	–	0.25	0.40	0.36	0.24	0.24	0.24	0.24	19.5
10	7	10	10	10	2 < 3	58	0.30	0.45	0.40	0.24	–	–	–	19.5
10	7	10	10	10	3 – 5	58	0.24	0.36	0.35	0.24	–	–	–	19.5
10	7	10	10	10	10	52	0.28	0.40	0.42	0.24	–	–	–	19.5
10	7	10	10	10	15	47	0.36	0.52	0.54	0.24	–	–	–	19.5
10	7	10	10	10	20	47	0.46	0.67	0.69	0.24	–	–	–	19.5
10	7	10	10	10	25	47	0.56	0.82	0.85	0.24	–	–	–	19.5
10	8	10	10	10	< 2	–	0.24	0.41	0.38	0.24	0.24	0.24	0.24	20.5
10	8	10	10	10	2 < 3	64	0.27	0.47	0.43	0.24	–	–	–	20.5
10	8	10	10	10	3 – 5	58	0.24	0.38	0.38	0.24	–	–	–	20.5
10	8	10	10	10	10	52	0.26	0.42	0.44	0.24	–	–	–	20.5
10	8	10	10	10	15	47	0.34	0.54	0.57	0.24	–	–	–	20.5
10	8	10	10	10	20	47	0.43	0.69	0.72	0.24	–	–	–	20.5
10	9	10	10	10	< 2	–	0.24	0.42	0.41	0.24	0.24	0.24	0.24	21.5
10	9	10	10	10	2 < 3	70	0.26	0.50	0.46	0.24	–	–	–	21.5
10	9	10	10	10	3 – 5	64	0.24	0.40	0.40	0.24	–	–	–	21.5
10	9	10	10	10	10	58	0.25	0.43	0.46	0.24	–	–	–	21.5
10	9	10	10	10	15	52	0.32	0.56	0.59	0.24	–	–	–	21.5
10	9	10	10	10	20	47	0.40	0.71	0.75	0.24	–	–	–	21.5
10	10	10	10	10	< 2	–	0.24	0.44	0.44	0.24	0.24	0.24	0.24	22.5
10	10	10	10	10	2 < 3	79	0.25	0.52	0.48	0.24	–	–	–	22.5
10	10	10	10	10	3 – 5	70	0.24	0.42	0.43	0.24	–	–	–	22.5
10	10	10	10	10	10	64	0.24	0.44	0.48	0.24	–	–	–	22.5
10	10	10	10	10	15	52	0.30	0.57	0.61	0.24	–	–	–	22.5
10	10	10	10	10	20	52	0.38	0.73	0.77	0.24	–	–	–	22.5

① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

DATE:
FILE:

CORNER OPTION "A"   CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER

CORNER OPTION "A"   CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

④ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)

SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation
Bridge Division Standard

SINGLE BOX CULVERTS
⑧ PRECAST
10'-0" SPAN

SCP-10

FILE: CD-SCP10-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS				
	DIST	COUNTY		SHEET NO.

TYPICAL SECTION

PLAN OF REINF STEEL

SECTION THRU CURB

② NOTE: #4 U–BARS MUST BE CAST INTO BOX PRIOR TO DELIVERY (SEE CURB WALL DETAIL)

BARS C

BARS D

BARS K (#4)
(Spa = 1'-0" Max)
(Length = 4'-2")

① 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

② For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

③ For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

④ 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

> The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.
>
> Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR.
> Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
> If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

CONSTRUCTION NOTES:

Do not use permanent forms.

Chamfer the bottom edge of the top slab 3" at the entrance.

Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.

Provide galvanized reinforcing steel if required elsewhere in the plans.

Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min
- Uncoated or galvanized ~ #7 = 3'-3" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.

See the Single Box Culverts Cast-In-Place Miscellaneous Detail (SCC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

> Cover dimensions are clear dimensions, unless noted otherwise.
> Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING   SHEET 1 OF 3

Texas Department of Transportation
Bridge Division Standard

SINGLE BOX CULVERTS
CAST-IN-PLACE
⑧ 0' TO 30' FILL

SCC-10

FILE: CD-SCC10-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
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REVISIONS 04/2021 Updated X values.				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:

BILLS OF REINFORCING STEEL (For Box Length = 40 feet)

SECTION DIMENSIONS				⑤ FILL HEIGHT	Bars B					Bars C							Bars D							Bars M ~ #4				Bars F1 ~ #4 at 18" Spa			Bars F2 ~ #4 at 18" Spa			Bars H 4 ~ #4		Bars K		QUANTITIES: Per Foot of Barrel		Curb		Total	
S	H	T	U		No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	" X "	" Y "	No.	Size	Spa	Length	Weight	" Y "	" Z "	No.	Spa	Length	Wt	No.	Length	Wt	No.	Length	Weight	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
10' – 0"	4' – 0"	8"	7"	7'	162	#6	6"	10' – 11"	2,656	162	#6	6"	10' – 4"	2,514	4' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	10' – 11"	29	24	67	0.724	219.9	0.8	96	29.8	8,893
10' – 0"	4' – 0"	9"	7"	10'	162	#6	6"	10' – 11"	2,656	162	#6	6"	10' – 5"	2,535	4' – 7"	5' – 10"	162	#6	6"	9' – 0"	2,190	5' – 10"	3' – 2"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	10' – 11"	29	24	67	0.793	221.0	0.8	96	32.5	8,934
10' – 0"	4' – 0"	10"	8"	13'	162	#6	6"	11' – 1"	2,697	162	#6	6"	10' – 7"	2,575	4' – 8"	5' – 11"	162	#6	6"	9' – 2"	2,230	5' – 11"	3' – 3"	82	12"	4' – 0"	219	7	39' – 9"	186	37	39' – 9"	982	11' – 1"	30	26	72	0.897	222.2	0.8	102	36.7	8,991
10' – 0"	4' – 0"	11"	8"	16'	162	#6	6"	11' – 1"	2,697	162	#6	6"	10' – 8"	2,595	4' – 9"	5' – 11"	162	#6	6"	9' – 3"	2,251	5' – 11"	3' – 4"	82	12"	4' – 0"	219	7	39' – 9"	186	37	39' – 9"	982	11' – 1"	30	26	72	0.967	223.3	0.8	102	39.5	9,032
10' – 0"	4' – 0"	12"	9"	20'	162	#6	6"	11' – 3"	2,737	162	#6	6"	10' – 10"	2,636	4' – 10"	6' – 0"	162	#6	6"	9' – 5"	2,291	6' – 0"	3' – 5"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	11' – 3"	30	26	72	1.074	228.0	0.8	102	43.8	9,223
10' – 0"	4' – 0"	13"	10"	23'	162	#6	6"	11' – 5"	2,778	162	#6	6"	10' – 11"	2,656	4' – 11"	6' – 0"	162	#6	6"	9' – 6"	2,312	6' – 0"	3' – 6"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	11' – 5"	31	26	72	1.183	230.1	0.9	103	48.2	9,306
10' – 0"	4' – 0"	14"	11"	26'	162	#6	6"	11' – 7"	2,819	162	#6	6"	11' – 1"	2,697	5' – 0"	6' – 1"	162	#6	6"	9' – 8"	2,352	6' – 1"	3' – 7"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	11' – 7"	31	26	72	1.294	233.1	0.9	103	52.6	9,428
10' – 0"	4' – 0"	15"	12"	30'	162	#6	6"	11' – 9"	2,859	162	#6	6"	11' – 3"	2,737	5' – 1"	6' – 2"	162	#6	6"	9' – 10"	2,393	6' – 2"	3' – 8"	108	9"	4' – 0"	289	7	39' – 9"	186	37	39' – 9"	982	11' – 9"	31	26	72	1.407	236.2	0.9	103	57.2	9,549
10' – 0"	5' – 0"	8"	7"	7'	162	#6	6"	10' – 11"	2,656	162	#6	6"	11' – 4"	2,758	5' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	10' – 11"	29	24	67	0.767	230.5	0.8	96	31.5	9,316
10' – 0"	5' – 0"	9"	7"	10'	162	#6	6"	10' – 11"	2,656	162	#6	6"	11' – 5"	2,778	5' – 7"	5' – 10"	162	#6	6"	9' – 0"	2,190	5' – 10"	3' – 2"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	10' – 11"	29	24	67	0.836	231.5	0.8	96	34.3	9,356
10' – 0"	5' – 0"	10"	8"	13'	162	#6	6"	11' – 1"	2,697	162	#6	6"	11' – 7"	2,819	5' – 8"	5' – 11"	162	#6	6"	9' – 2"	2,230	5' – 11"	3' – 3"	82	12"	5' – 0"	274	7	39' – 9"	186	41	39' – 9"	1,089	11' – 1"	30	26	72	0.947	232.4	0.8	102	38.7	9,397
10' – 0"	5' – 0"	11"	8"	16'	162	#6	6"	11' – 1"	2,697	162	#6	6"	11' – 8"	2,839	5' – 9"	5' – 11"	162	#6	6"	9' – 3"	2,251	5' – 11"	3' – 4"	82	12"	5' – 0"	274	7	39' – 9"	186	41	39' – 9"	1,089	11' – 1"	30	26	72	1.016	233.4	0.8	102	41.5	9,438
10' – 0"	5' – 0"	12"	9"	20'	162	#6	6"	11' – 3"	2,737	162	#6	6"	11' – 10"	2,879	5' – 10"	6' – 0"	162	#6	6"	9' – 5"	2,291	6' – 0"	3' – 5"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	11' – 3"	30	26	72	1.130	238.6	0.8	102	46.0	9,645
10' – 0"	5' – 0"	13"	10"	23'	162	#6	6"	11' – 5"	2,778	162	#6	6"	11' – 11"	2,900	5' – 11"	6' – 0"	162	#6	6"	9' – 6"	2,312	6' – 0"	3' – 6"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	11' – 5"	31	26	72	1.245	240.7	0.9	103	50.7	9,729
10' – 0"	5' – 0"	14"	11"	26'	162	#6	6"	11' – 7"	2,819	162	#6	6"	12' – 1"	2,940	6' – 0"	6' – 1"	162	#6	6"	9' – 8"	2,352	6' – 1"	3' – 7"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	11' – 7"	31	26	72	1.362	243.7	0.9	103	55.4	9,850
10' – 0"	5' – 0"	15"	12"	30'	162	#7	6"	11' – 9"	3,891	162	#6	6"	12' – 3"	2,981	6' – 1"	6' – 2"	162	#6	6"	9' – 10"	2,393	6' – 2"	3' – 8"	108	9"	5' – 0"	361	7	39' – 9"	186	41	39' – 9"	1,089	11' – 9"	31	26	72	1.481	272.5	0.9	103	60.1	11,004
10' – 0"	6' – 0"	8"	7"	7'	162	#6	6"	10' – 11"	2,656	162	#6	6"	12' – 4"	3,001	6' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	10' – 11"	29	24	67	0.811	241.0	0.8	96	33.3	9,737
10' – 0"	6' – 0"	8"	7"	10'	162	#6	6"	10' – 11"	2,656	162	#6	6"	12' – 4"	3,001	6' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	10' – 11"	29	24	67	0.811	241.0	0.8	96	33.3	9,737
10' – 0"	6' – 0"	9"	8"	13'	162	#6	6"	11' – 1"	2,697	162	#6	6"	12' – 6"	3,042	6' – 7"	5' – 11"	162	#6	6"	9' – 1"	2,210	5' – 11"	3' – 2"	82	12"	6' – 0"	329	7	39' – 9"	186	45	39' – 9"	1,195	11' – 1"	30	26	72	0.926	241.5	0.8	102	37.9	9,761
10' – 0"	6' – 0"	10"	8"	16'	162	#6	6"	11' – 1"	2,697	162	#6	6"	12' – 7"	3,062	6' – 8"	5' – 11"	162	#6	6"	9' – 2"	2,230	5' – 11"	3' – 3"	82	12"	6' – 0"	329	7	39' – 9"	186	45	39' – 9"	1,195	11' – 1"	30	26	72	0.996	242.5	0.8	102	40.7	9,801
10' – 0"	6' – 0"	12"	9"	20'	162	#6	6"	11' – 3"	2,737	162	#6	6"	12' – 10"	3,123	6' – 10"	6' – 0"	162	#6	6"	9' – 5"	2,291	6' – 0"	3' – 5"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	11' – 3"	30	26	72	1.185	249.1	0.8	102	48.2	10,067
10' – 0"	6' – 0"	13"	10"	23'	162	#6	6"	11' – 5"	2,778	162	#6	6"	12' – 11"	3,143	6' – 11"	6' – 0"	162	#6	6"	9' – 6"	2,312	6' – 0"	3' – 6"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	11' – 5"	31	26	72	1.307	251.2	0.9	103	53.1	10,150
10' – 0"	6' – 0"	14"	11"	26'	162	#6	6"	11' – 7"	2,819	162	#6	6"	13' – 1"	3,183	7' – 0"	6' – 1"	162	#6	6"	9' – 8"	2,352	6' – 1"	3' – 7"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	11' – 7"	31	26	72	1.430	254.2	0.9	103	58.1	10,271
10' – 0"	6' – 0"	15"	12"	30'	162	#7	6"	11' – 9"	3,891	162	#6	6"	13' – 3"	3,224	7' – 1"	6' – 2"	162	#6	6"	9' – 10"	2,393	6' – 2"	3' – 8"	108	9"	6' – 0"	433	7	39' – 9"	186	45	39' – 9"	1,195	11' – 9"	31	26	72	1.556	283.1	0.9	103	63.1	11,425
10' – 0"	7' – 0"	8"	7"	7'	162	#6	6"	10' – 11"	2,656	162	#6	6"	13' – 4"	3,244	7' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	10' – 11"	29	24	67	0.854	248.9	0.8	96	35.0	10,052
10' – 0"	7' – 0"	8"	7"	10'	162	#6	6"	10' – 11"	2,656	162	#6	6"	13' – 4"	3,244	7' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	10' – 11"	29	24	67	0.854	248.9	0.8	96	35.0	10,052
10' – 0"	7' – 0"	9"	8"	13'	162	#6	6"	11' – 1"	2,697	162	#6	6"	13' – 6"	3,285	7' – 7"	5' – 11"	162	#6	6"	9' – 1"	2,210	5' – 11"	3' – 2"	82	12"	7' – 0"	383	7	39' – 9"	186	45	39' – 9"	1,195	11' – 1"	30	26	72	0.975	248.9	0.8	102	39.8	10,058
10' – 0"	7' – 0"	10"	8"	16'	162	#6	6"	11' – 1"	2,697	162	#6	6"	13' – 7"	3,305	7' – 8"	5' – 11"	162	#6	6"	9' – 2"	2,230	5' – 11"	3' – 3"	82	12"	7' – 0"	383	7	39' – 9"	186	45	39' – 9"	1,195	11' – 1"	30	26	72	1.045	249.9	0.8	102	42.6	10,098
10' – 0"	7' – 0"	12"	9"	20'	162	#6	6"	11' – 3"	2,737	162	#6	6"	13' – 10"	3,366	7' – 10"	6' – 0"	162	#6	6"	9' – 5"	2,291	6' – 0"	3' – 5"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	11' – 3"	30	26	72	1.241	257.0	0.8	102	50.5	10,382
10' – 0"	7' – 0"	13"	10"	23'	162	#6	6"	11' – 5"	2,778	162	#6	6"	13' – 11"	3,386	7' – 11"	6' – 0"	162	#6	6"	9' – 6"	2,312	6' – 0"	3' – 6"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	11' – 5"	31	26	72	1.368	259.1	0.9	103	55.6	10,465
10' – 0"	7' – 0"	14"	11"	26'	162	#6	6"	11' – 7"	2,819	162	#6	6"	14' – 1"	3,427	8' – 0"	6' – 1"	162	#6	6"	9' – 8"	2,352	6' – 1"	3' – 7"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	11' – 7"	31	26	72	1.498	262.1	0.9	103	60.8	10,587
10' – 0"	7' – 0"	15"	12"	30'	162	#7	6"	11' – 9"	3,891	162	#6	6"	14' – 3"	3,467	8' – 1"	6' – 2"	162	#6	6"	9' – 10"	2,393	6' – 2"	3' – 8"	108	9"	7' – 0"	505	7	39' – 9"	186	45	39' – 9"	1,195	11' – 9"	31	26	72	1.630	290.9	0.9	103	66.1	11,740
10' – 0"	8' – 0"	8"	7"	7'	162	#6	6"	10' – 11"	2,656	162	#6	6"	14' – 4"	3,488	8' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	10' – 11"	29	24	67	0.897	259.5	0.8	96	36.7	10,474
10' – 0"	8' – 0"	8"	7"	10'	162	#6	6"	10' – 11"	2,656	162	#6	6"	14' – 4"	3,488	8' – 6"	5' – 10"	162	#6	6"	8' – 11"	2,170	5' – 10"	3' – 1"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	10' – 11"	29	24	67	0.897	259.5	0.8	96	36.7	10,474
10' – 0"	8' – 0"	9"	8"	13'	162	#6	6"	11' – 1"	2,697	162	#6	6"	14' – 6"	3,528	8' – 7"	5' – 11"	162	#6	6"	9' – 1"	2,210	5' – 11"	3' – 2"	82	12"	8' – 0"	438	7	39' – 9"	186	49	39' – 9"	1,301	11' – 1"	30	26	72	1.025	259.0	0.8	102	41.8	10,462
10' – 0"	8' – 0"	10"	8"	16'	162	#6	6"	11' – 1"	2,697	162	#6	6"	14' – 7"	3,548	8' – 8"	5' – 11"	162	#6	6"	9' – 2"	2,230	5' – 11"	3' – 3"	82	12"	8' – 0"	438	7	39' – 9"	186	49	39' – 9"	1,301	11' – 1"	30	26	72	1.095	260.0	0.8	102	44.6	10,502
10' – 0"	8' – 0"	12"	9"	20'	162	#6	6"	11' – 3"	2,737	162	#6	6"	14' – 10"	3,609	8' – 10"	6' – 0"	162	#6	6"	9' – 5"	2,291	6' – 0"	3' – 5"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	11' – 3"	30	26	72	1.296	267.5	0.8	102	52.7	10,803
10' – 0"	8' – 0"	13"	10"	23'	162	#6	6"	11' – 5"	2,778	162	#6	6"	14' – 11"	3,630	8' – 11"	6' – 0"	162	#6	6"	9' – 6"	2,312	6' – 0"	3' – 6"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	11' – 5"	31	26	72	1.430	269.6	0.9	103	58.1	10,887
10' – 0"	8' – 0"	14"	11"	26'	162	#6	6"	11' – 7"	2,819	162	#6	6"	15' – 1"	3,670	9' – 0"	6' – 1"	162	#6	6"	9' – 8"	2,352	6' – 1"	3' – 7"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	11' – 7"	31	26	72	1.566	272.6	0.9	103	63.5	11,008
10' – 0"	8' – 0"	15"	12"	30'	162	#7	6"	11' – 9"	3,891	162	#6	6"	15' – 3"	3,711	9' – 1"	6' – 2"	162	#6	6"	9' – 10"	2,393	6' – 2"	3' – 8"	108	9"	8' – 0"	577	7	39' – 9"	186	49	39' – 9"	1,301	11' – 9"	31	26	72	1.704	301.5	0.9	103	69.0	12,162

⑤ For direct traffic culverts (fill height ≤ 2 ft.), identify the required box size and select the option with the minimum fill height.

HL93 LOADING   SHEET 2 OF 3

Texas Department of Transportation
Bridge Division Standard

SINGLE BOX CULVERTS
CAST-IN-PLACE
⑧ 0' TO 30' FILL

SCC-10

FILE: CD-SCC10-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 04/2021 Updated X values.				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:

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Texas Registered Engineering Firm #17700

Design: JH   Drawn: SK

③ 10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

MATTHEW A. KRIETE 126148

Matthew A. Kriete

MATTHEW A. KRIETE
LICENSED PROFESSIONAL
ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

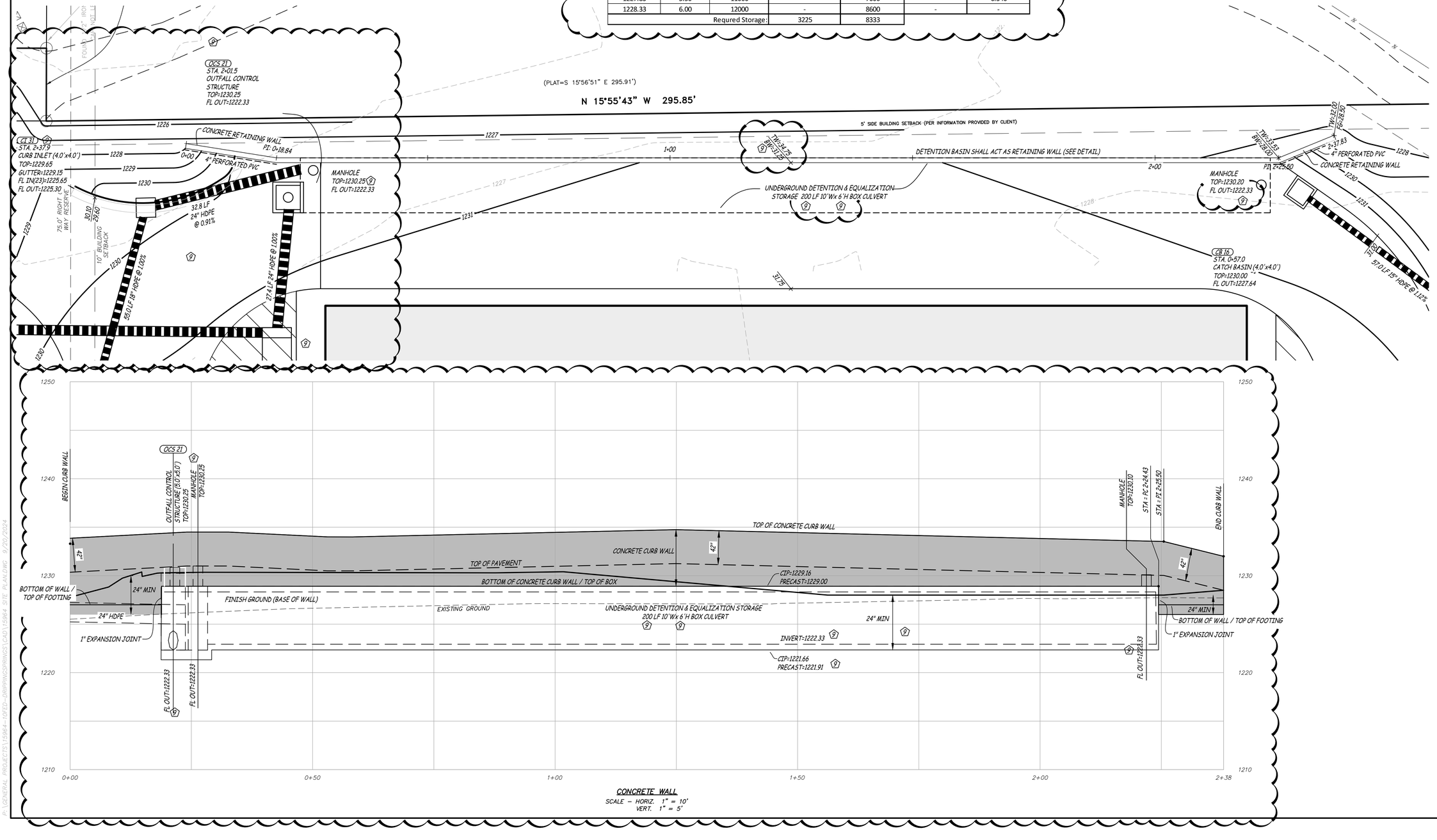
Revised	
①	SEPTEMBER 20, 2023
	CITY COMMENTS
②	DECEMBER 20, 2023
③	JANUARY 11, 2024
⑧	JUNE 17, 2024
⑨	SEPTEMBER 20, 2024

DETENTION BASIN DETAILS

Sheet
① C4.03

ES&S PROJECT NO. 15964

Underground Detention			Equalization Storage	Detention Storage	25 - YEAR EVENT	100 - YEAR EVENT
ELEVATION (FT)	STAGE (FT)	STORAGE (CUFT)	STORAGE (CUFT)		DISCHARGE (CFS)	DISCHARGE (CFS)
1222.33	0.00	0	0	-	-	-
1222.50	0.17	340	340	-	-	-
1223.00	0.50	1000	1000	-	-	-
1223.50	1.00	2000	2000	-	-	-
1224.00	1.50	3000	3000	-	-	-
1224.03	1.70	3400	3400	-	-	-
1224.33	2.00	4000	-	600	0.436	0.436
1224.83	2.50	5000	-	1600	0.710	0.710
1225.33	3.00	6000	-	2600	0.905	0.905
1225.83	3.50	7000	-	3600	1.064	1.064
1226.33	4.00	8000	-	4600	1.204	1.204
1226.83	4.50	9000	-	5600	1.330	1.330
1227.33	5.00	10000	-	6600	1.443	1.443
1227.83	5.50	11000	-	7600	-	6.340
1228.33	6.00	12000	-	8600	-	-
		Requred Storage:	3225	8333		



CONCRETE WALL
SCALE – HORIZ. 1" = 10'
VERT. 1" = 5'

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Texas Registered Engineering Firm #11700

Design: MAK Drawn: SK

N

0 1"
SCALE: 1" = 10'

3 10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

Date
DECEMBER 20, 2023

Revised

3	JANUARY 11, 2024
6	MARCH 11, 2024
8	JUNE 17, 2024
9	SEPTEMBER 20, 2024

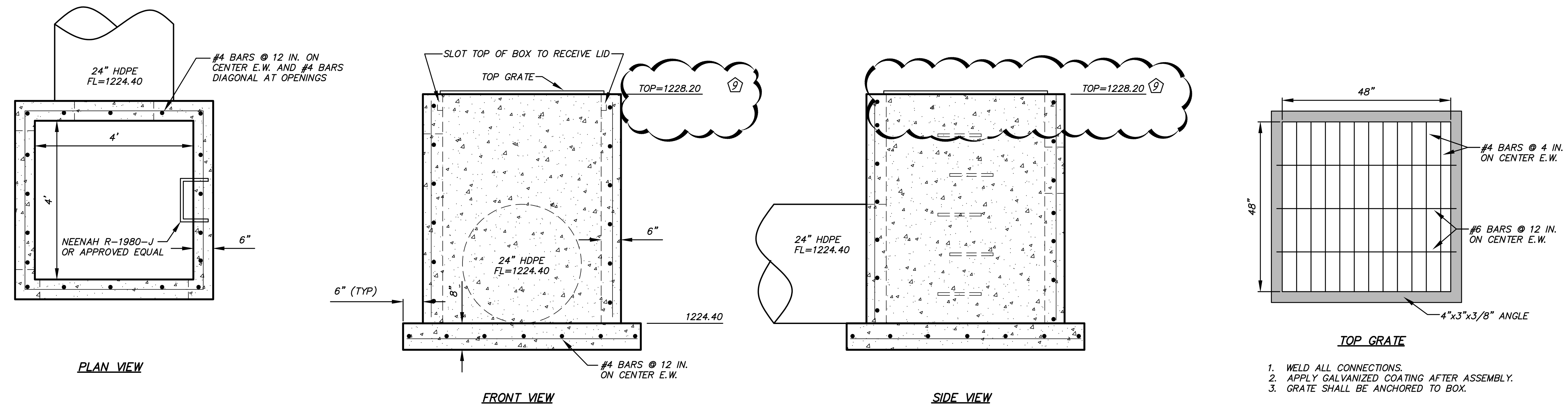
DETENTION BASIN PLAN

Sheet
C4.04

ES&S PROJECT NO. 15964

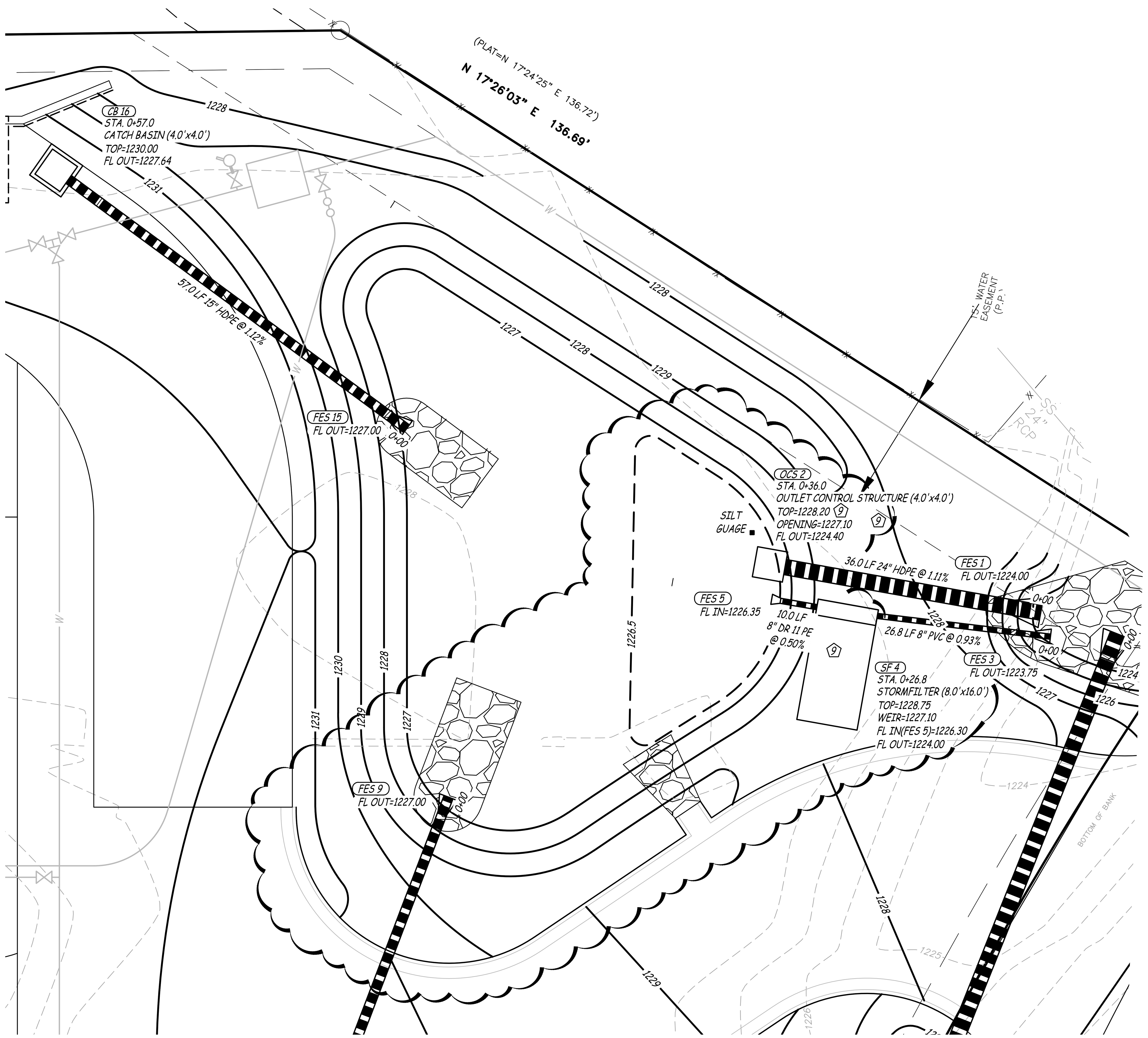
P:\GENERAL PRO\ECTS\15964 - 10FD - DRIPPINGSPRINGS\CAD\15964 SITE PLAN.DWG 9/20/2024

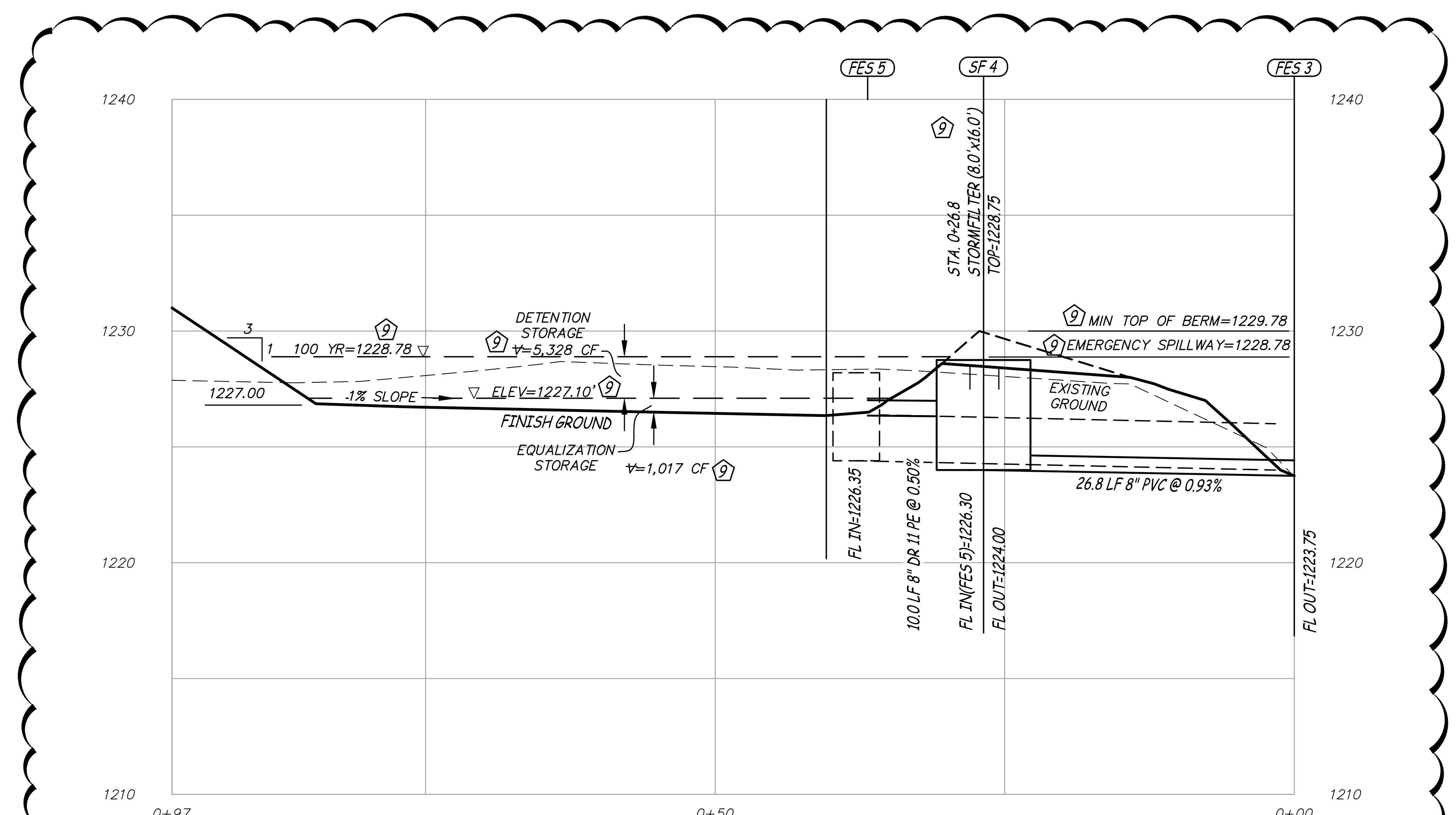
Detention Basin			Equalization Storage	Detention Storage	25 - YEAR EVENT	100 - YEAR EVENT
ELEVATION (FT)	STAGE (FT)	STORAGE (CUFT)	STORAGE (CUFT)		DISCHARGE (CFS)	DISCHARGE (CFS)
1226.35	0.00	0	0	-	-	-
1226.40	0.10	3	3	-	-	-
1226.50	0.20	29	29	-	-	-
1226.60	0.30	174	174	-	-	-
1226.70	0.40	320	320	-	-	-
1226.80	0.50	465	465	-	-	-
1226.90	0.60	611	611	-	-	-
1227.00	0.70	756	756	-	-	-
1227.10	0.80	1017	1017	-	-	-
1227.20	0.90	1230	-	264	0.385	0.385
1227.30	1.00	1550	-	584	0.567	0.567
1227.40	1.10	2000	-	877	0.695	0.695
1227.50	1.20	2300	-	1169	0.803	0.803
1227.60	1.30	2450	-	1461	0.899	0.899
1227.70	1.40	3000	-	1753	0.99	0.99
1227.80	1.50	3110	-	2045	1.06	1.06
1227.90	1.60	3380	-	2337	1.14	1.14
1228.00	1.70	3646	-	2626	1.21	1.21
1228.10	1.80	3991	-	3974	1.27	1.27
1228.20	1.90	4335	-	3318	1.33	1.33
1228.30	2.00	4679	-	3663	2.71	2.71
1228.40	2.10	5024	-	4007	5.17	5.17
1228.50	2.20	5368	-	4351	8.34	8.34
1228.60	2.30	5713	-	4696	12.08	12.08
1228.70	2.40	6057	-	5040	-	16.32
1228.80	2.50	6401	-	5385	-	-
1228.90	2.60	6746	-	5729	-	-
1229.00	2.70	8054	-	6073	-	-
		Requred Storage:	976	5328		



OUTFALL CONTROL STRUCTURE (OCS 2)

NOT TO SCALE





BASIN PROFILE

SCALE - HORIZ. 1" = 10'
VERT. 1" = 5'

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Design: MAK Drawn: SK

SCALE: 1" = 10'

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DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

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Date
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Revised
1 SEPTEMBER 20, 2023
CITY COMMENTS
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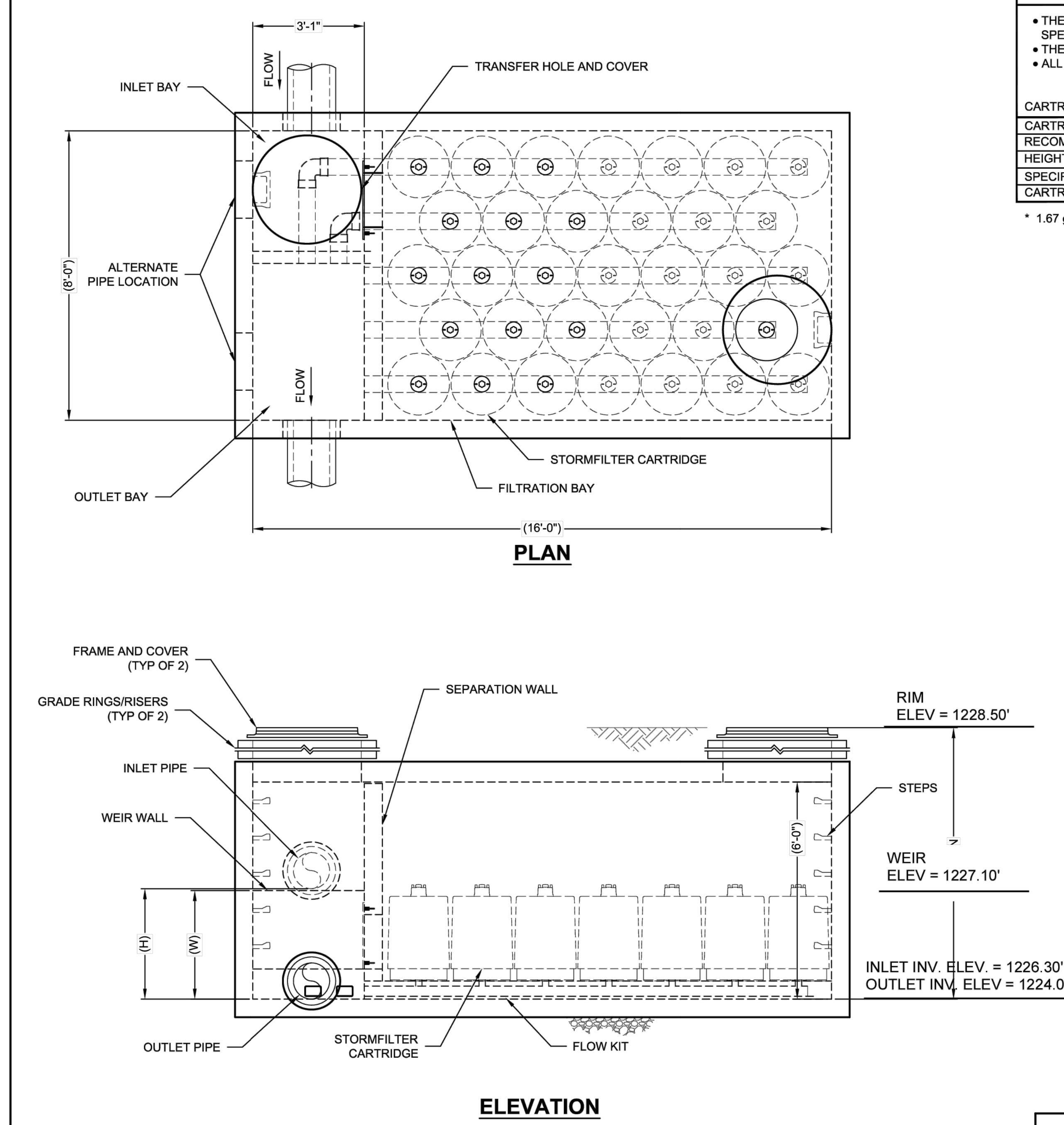
3 JANUARY 11, 2024
5 MARCH 11, 2024
6 APRIL 18, 2024
8 JUNE 17, 2024
9 SEPTEMBER 20, 2024

DETENTION BASIN PLAN

Sheet
C4.05

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FSS-DRIPPINGSPRINGS\CAD\15964 SITE PLAN.DWG 9/20/2024



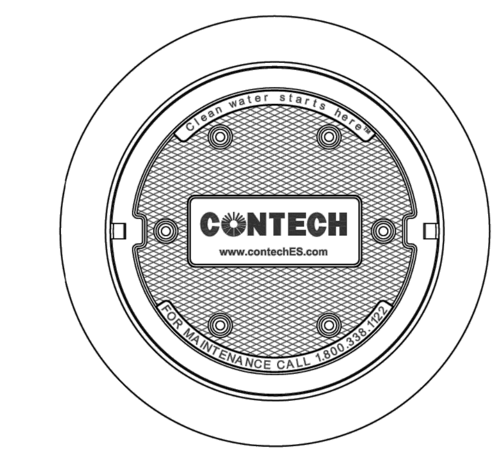
STORMFILTER DESIGN NOTES

- THE 8' x 16' PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.
- THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR RIGHT INLET CONFIGURATION.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"			18"			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			1.8'		
HEIGHT OF WEIR (W)	3.00'			~~2.25'~~ 3.10'			1.75'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	10	8.35	5

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



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

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	SF 4
WATER QUALITY FLOW RATE (cfs)	0.50
PEAK FLOW RATE (cfs)	OFFLINE
RETURN PERIOD OF PEAK FLOW (yrs)	NA
CARTRIDGE HEIGHT (27", 18", LOW DROP(LD))	18"
NUMBER OF CARTRIDGES REQUIRED	18
CARTRIDGE FLOW RATE	*
MEDIA TYPE (PERLITE, ZPG, PSORB)	ZPG

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE	1226.30	DR 11 PE	8"
OUTLET PIPE	1224.00	PVC	8"

UPSTREAM RIM ELEVATION	1228.75
DOWNSTREAM RIM ELEVATION	1228.75

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

PERFORMANCE SPECIFICATION
FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. **RADIAL MEDIA DEPTH SHALL BE 7-INCHES**. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST **38 SECONDS**.
SPECIFIC FLOW RATE SHALL BE 2 **GPM/SF (MAXIMUM)**. SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE **6 GPM/CF OF MEDIA (MAXIMUM).**

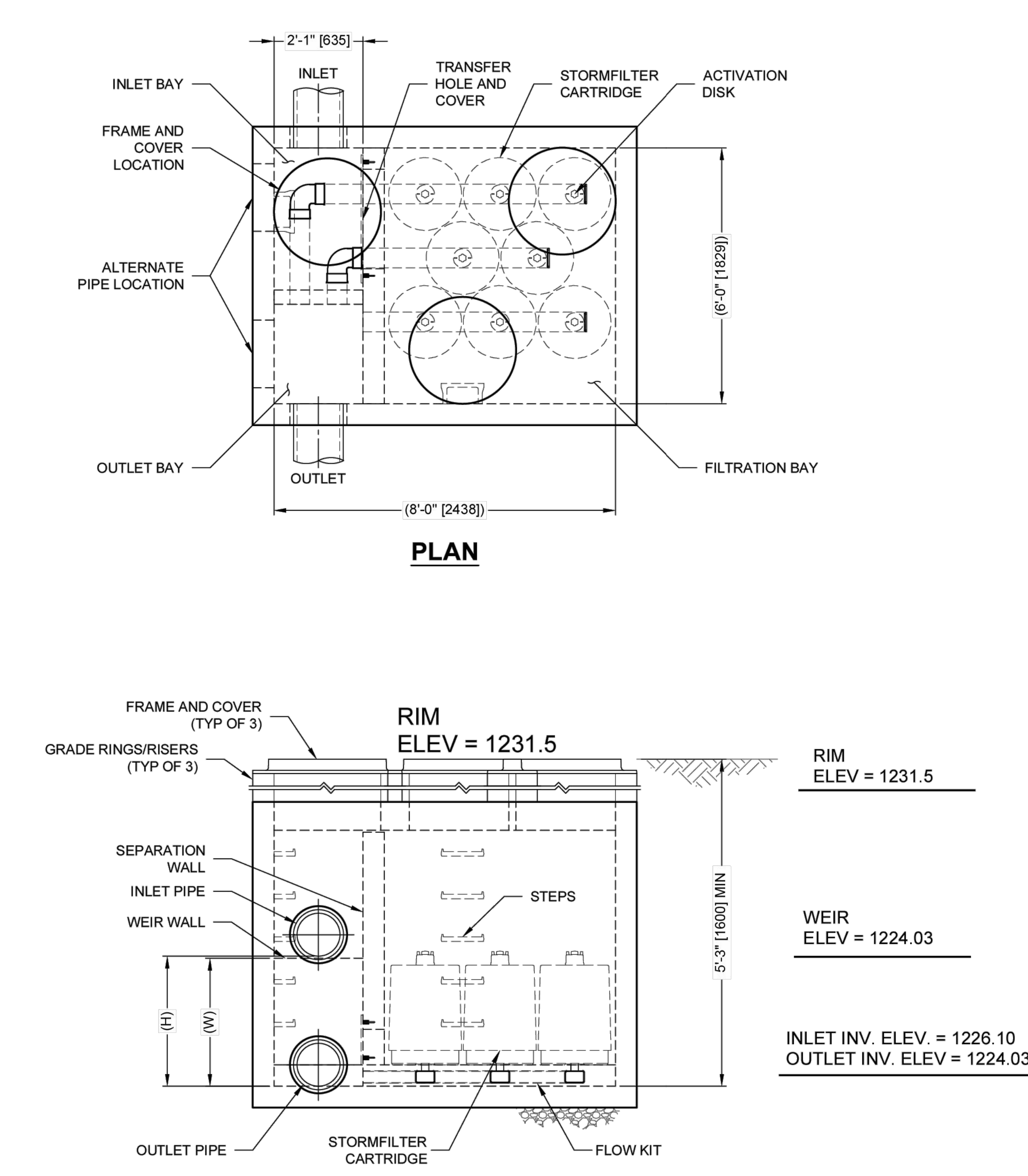
GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.contechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

The Stormwater Management StormFilter®

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

THE STORMWATER MANAGEMENT STORMFILTER
8' x 16' PEAK DIVERSION STORMFILTER
STANDARD DETAIL

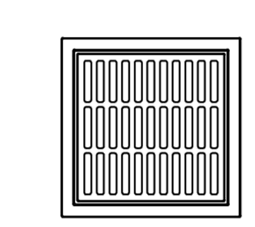


STORMFILTER DESIGN NOTES

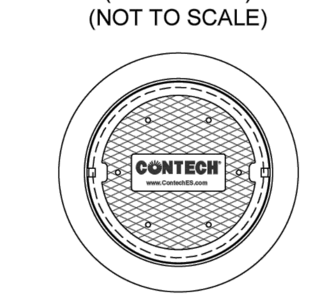
- STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD
- A 6' x 8' [1829 x 2438] PEAK DIVERSION STYLE STORMFILTER IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (8) AND IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR A RIGHT INLET CONFIGURATION
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS NOTED OTHERWISE

CARTRIDGE SIZE (in. [mm])	27 [686]			18 [457]			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H) (ft. [mm])	3.05 [930]			2.3 [701]			1.8 [549]		
HEIGHT OF WEIR (W) (ft. [mm])	~~3.00~~ [914] 5.02'			2.25 [686]			1.75 [533]		
SPECIFIC FLOW RATE (gpm/sf [L/s/m²])	2 [1.36]	1.67* [1.13]*	1 [0.68]	2 [1.36]	1.67* [1.13]*	1 [0.68]	2 [1.36]	1.67* [1.13]*	1 [0.68]
CARTRIDGE FLOW RATE (gpm [L/s])	22.5 [1.42]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.47]	10 [0.63]	8.35 [0.53]	5 [0.32]

* 1.67 gpm/sf [1.13 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND GRATE
(24" SQUARE)
(NOT TO SCALE)



FRAME AND COVER
(30" ROUND)
(NOT TO SCALE)

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	SF 24
WATER QUALITY FLOW RATE (cfs [L/s])	0.20
PEAK FLOW RATE (cfs [L/s])	13.34 CFS
RETURN PERIOD OF PEAK FLOW (yrs)	100 Year
CARTRIDGE FLOW RATE	
CARTRIDGE SIZE (27, 18, LOW DROP (LD))	27"
MEDIA TYPE (PERLITE, ZPG, PSORB)	ZPG
NUMBER OF CARTRIDGES REQUIRED	8
INLET BAY RIM ELEVATION	1231.50
FILTER BAY RIM ELEVATION	1231.50

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	1222.06	HDPE	24"
INLET PIPE 2			
OUTLET PIPE	1219.01	HDPE	24"

NOTES/SPECIAL REQUIREMENTS:

PERFORMANCE SPECIFICATION
FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. **RADIAL MEDIA DEPTH SHALL BE 7" [178].** FILTER MEDIA CONTACT TIME SHALL BE AT LEAST **38 SECONDS**. SPECIFIC FLOW RATE SHALL BE **2 GPM/SF [1.36 L/s/m²] (MAXIMUM)**. SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE **6 GPM/CF [13.39 L/s/m³] OF MEDIA (MAXIMUM).**

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. ALTERNATE DIMENSIONS ARE IN MILLIMETERS [mm] UNLESS NOTED OTHERWISE.
4. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
5. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
6. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 10' [3048] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
F. CONTRACTOR TO REMOVE THE TRANSFER OPENING COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

The Stormwater Management StormFilter®

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

SFPD0608 (6' x 8')
PEAK DIVERSION STORMFILTER
STANDARD DETAIL

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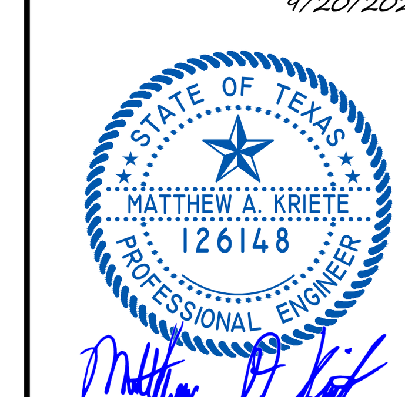
Texas Registered Engineering Firm #17700

Design: JH Drawn: SK

3 10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024



MATTHEW A. KRIETE
LICENSED PROFESSIONAL
ENGINEER 126148

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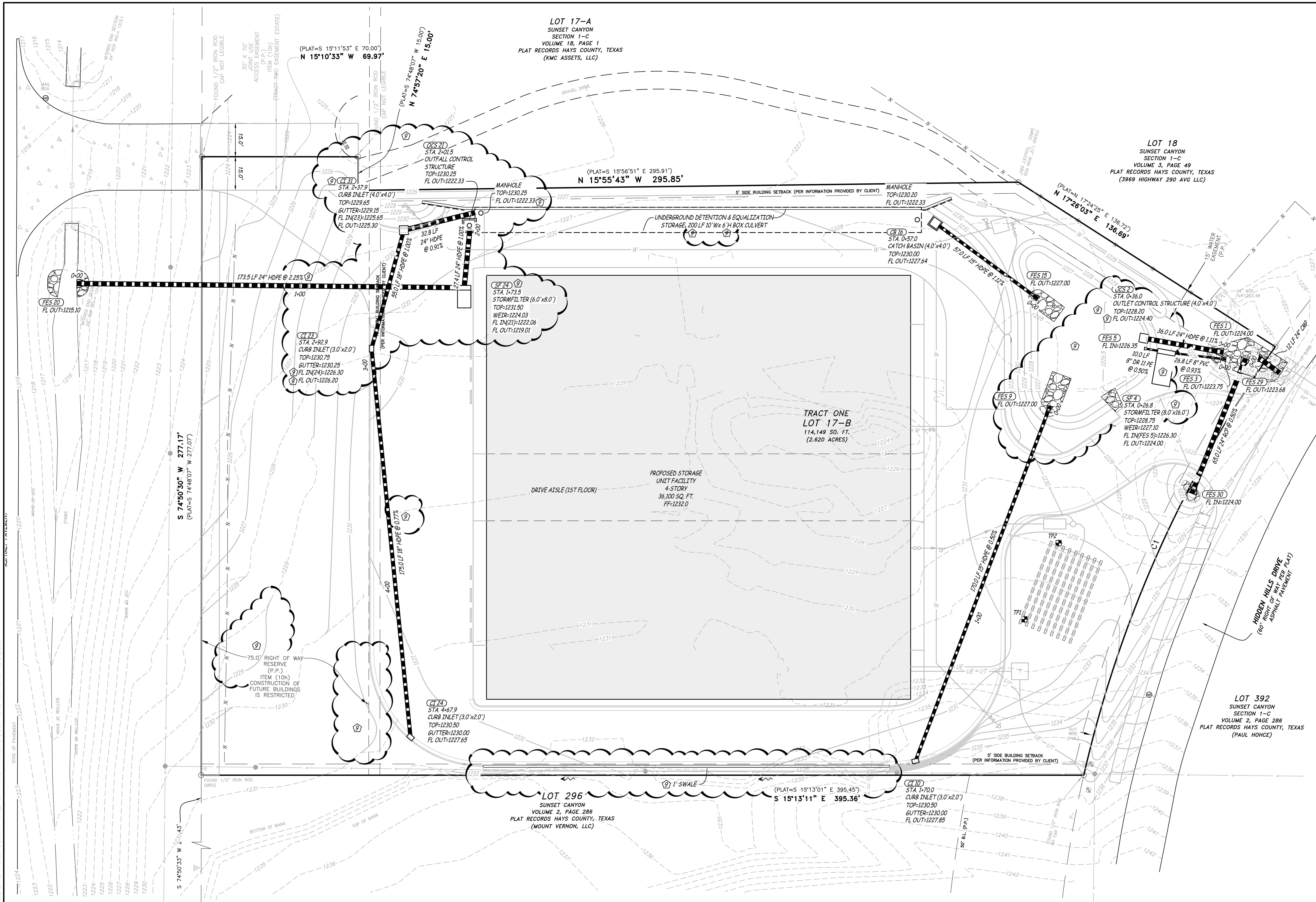
Date
8 JUNE 17, 2024

Revised
9 SEPTEMBER 20, 2024

STORM FILTER DETAILS

Sheet
8 C4.06

ES&S PROJECT NO. 15964



LOT 17-A
SUNSET CANYON
SECTION 1-C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)
(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'
(PLAT=S 74°48'07" W 15.00')
N 74°57'20" E 15.00'
(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
OCS 21
STA. 2+01.5
OUTFALL CONTROL STRUCTURE
TOP=1230.25
FL OUT=1222.33
CI 31
STA. 2+37.9
CURB INLET (4.0'x4.0')
TOP=1229.65
GUTTER=1229.15
FL IN(23)=1225.65
FL OUT=1225.30
MANHOLE
TOP=1230.25
FL OUT=1222.33
MANHOLE
TOP=1230.20
FL OUT=1222.33
UNDERGROUND DETENTION & EQUALIZATION STORAGE, 200 LF 10'Wx 6'H BOX CULVERT
32.8 LF 24" HDPE @ 0.91%
27.4 LF 24" HDPE @ 1.00%
55.0 LF 18" HDPE @ 1.00%
173.5 LF 24" HDPE @ 2.25%
FES 20
FL OUT=1215.10
SF 24
STA. 1+73.5
STORMFILTER (6.0'x8.0')
TOP=1231.50
WEIR=1224.03
FL IN(21)=1222.06
FL OUT=1219.01
CI 23
STA. 2+92.9
CURB INLET (3.0'x2.0')
TOP=1230.75
GUTTER=1230.25
FL IN(24)=1226.30
FL OUT=1226.20
CB 16
STA. 0+57.0
CATCH BASIN (4.0'x4.0')
TOP=1230.00
FL OUT=1227.64
57.0 LF 15" HDPE @ 1.12%
FES 15
FL OUT=1227.00
LOT 18
SUNSET CANYON
SECTION 1-C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)
(PLAT=N 17°24'25" E 136.72')
N 17°26'03" E 136.69'
15' WATER EASEMENT (P.P.)
OCS 2
STA. 0+36.0
OUTLET CONTROL STRUCTURE (4.0'x4.0')
TOP=1228.20
FL OUT=1224.40
FES 1
FL OUT=1224.00
36.0 LF 24" HDPE @ 1.11%
12 LF 24" CMP
FES 5
FL IN=1226.35
10.0 LF 8" DR 11 PE @ 0.50%
26.8 LF 8" PVC @ 0.93%
FES 3
FL OUT=1223.75
FES 29
FL OUT=1223.68
SF 4
STA. 0+26.8
STORMFILTER (8.0'x16.0')
TOP=1228.75
WEIR=1227.10
FL IN(FES 5)=1226.30
FL OUT=1224.00
FES 9
FL OUT=1227.00
65.0 LF 24" RCP @ 0.50%
FES 30
FL IN=1224.00
TRACT ONE
LOT 17-B
114,149 SQ. FT.
(2.620 ACRES)
PROPOSED STORAGE UNIT FACILITY
4-STORY
36,100 SQ. FT.
FF=1232.0
DRIVE AISLE (1ST FLOOR)
175.0 LF 18" HDPE @ 0.77%
170.0 LF 15" HDPE @ 0.50%
TP2
TP1
S 74°50'30" W 277.17'
(PLAT=S 74°48'07" W 277.07')
75.0' RIGHT OF WAY RESERVE (P.P.)
ITEM (10h)
CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED
CI 24
STA. 4+67.9
CURB INLET (3.0'x2.0')
TOP=1230.50
GUTTER=1230.00
FL OUT=1227.65
1' SWALE
(PLAT=S 15°13'01" E 395.45')
S 15°13'11" E 395.36'
CI 10
STA. 1+70.0
CURB INLET (3.0'x2.0')
TOP=1230.50
GUTTER=1230.00
FL OUT=1227.85
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)
LOT 392
SUNSET CANYON
SECTION 1-C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)
HIDDEN HILLS DRIVE
(60' RIGHT OF WAY PER PLAT)
ASPHALT PAVEMENT
FOUND 1/2" IRON ROD CAP NOT LEGIBLE
30' x 70' JOINT USE ACCESS EASEMENT (P.P.) ITEM (10h) (TRACT TWO EASEMENT ESTATE)
S 74°50'33" W

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

N

SCALE: 1" = 20'

DRIPPING SPRINGS PROPERTY

10FSS DRIPINGS SPRINGS 2, LLC
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

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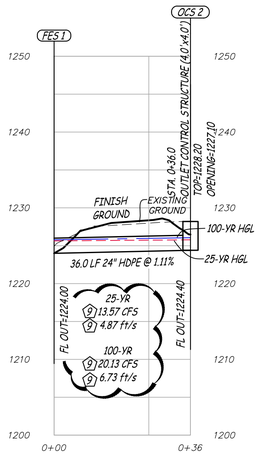
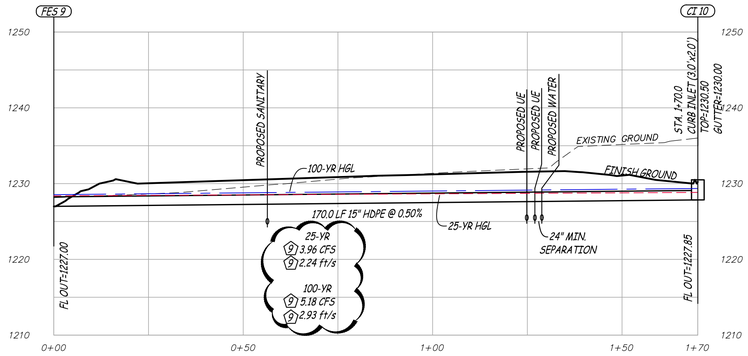
STORM SEWER PLAN

Sheet
C5.01

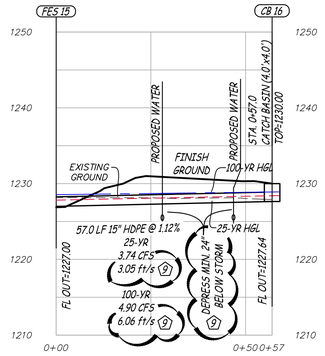
ES&S PROJECT NO. 15964



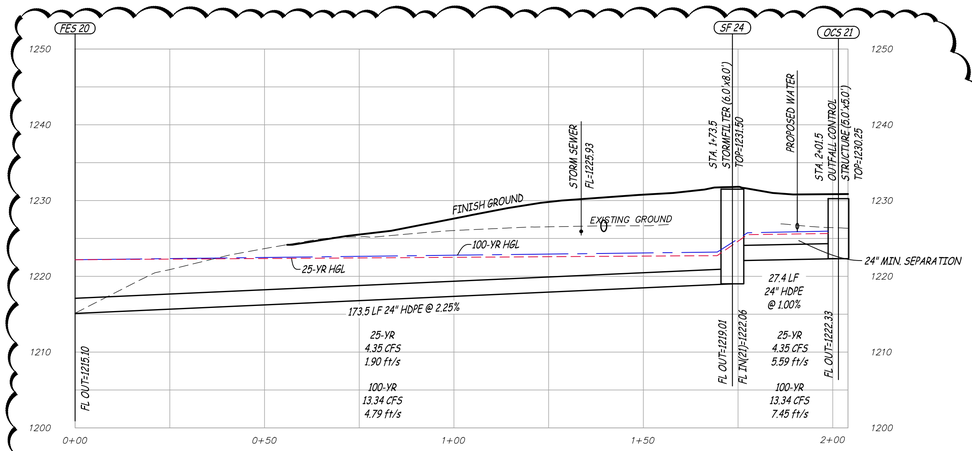
FES 1 THRU SOI 2
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



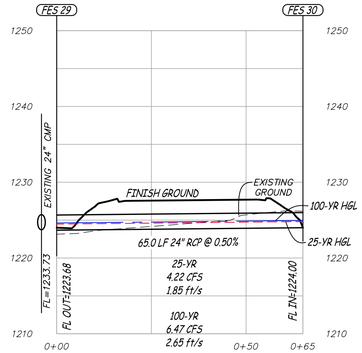
FES 9 THRU CI 10
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



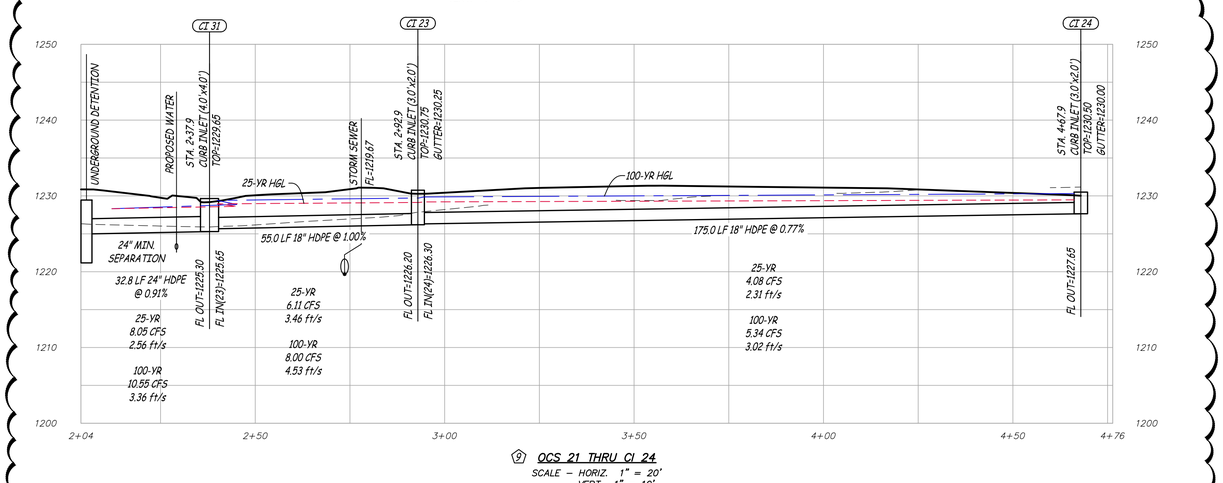
FES 15 THRU CI 16
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



9 FES 20 THRU BASIN 21
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



FES 29 THRU FES 30
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



9 OCS 21 THRU CI 24
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'

REVISION NOTES:
1. ADDED 25-YR & 100-YR HGL.
2. ADDED FLOW RATES AND VELOCITIES.
3. REMOVED PROFILES.
9 4. PREVIOUS CHANGE MARKS DELETED FOR CLARITY

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3 10FSS DRIPPING SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
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DRIPPING SPRINGS, HAYS COUNTY, TEXAS

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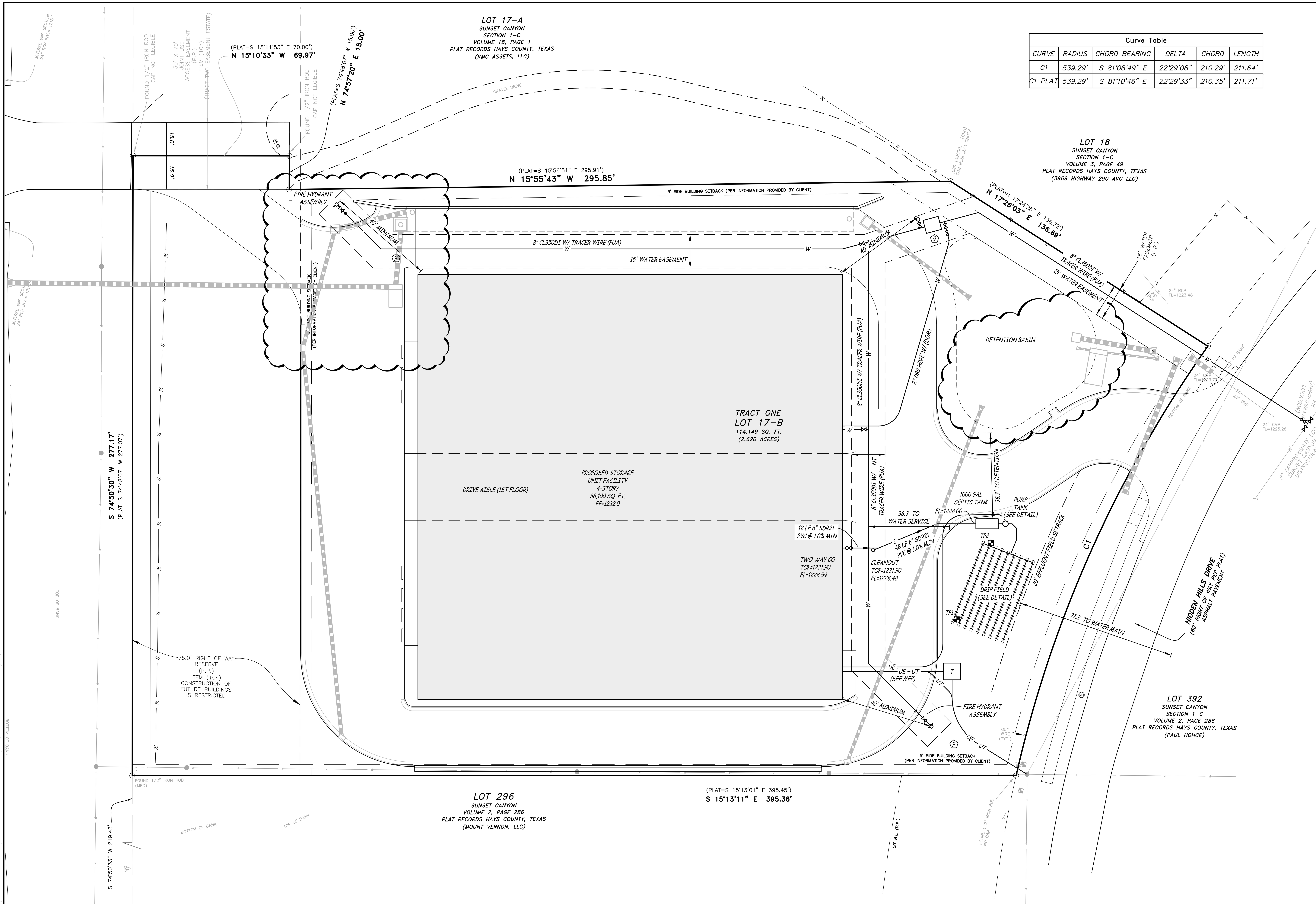
STORM SEWER PROFILES

Sheet
C6.01

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FSD-DRIPPINGSPRINGS\CAD\15964 STE PLAN.DWG 9/20/2024



LOT 17–A
SUNSET CANYON
SECTION 1–C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)
(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'
(PLAT=S 74°48'07" W 15.00')
N 74°57'20" E 15.00'
(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
LOT 18
SUNSET CANYON
SECTION 1–C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)
(PLAT=N 17°24'25" E 136.72')
N 17°26'03" E 136.69'
FIRE HYDRANT ASSEMBLY
40' MINIMUM
8" CL350DI W/ TRACER WIRE (PUA)
15' WATER EASEMENT
8" CL350DI W/ TRACER WIRE (PUA)
15' WATER EASEMENT
DETENTION BASIN
2" DR9 HDPE W/ (DOM)
TRACT ONE
LOT 17–B
114,149 SQ. FT.
(2.620 ACRES)
PROPOSED STORAGE
UNIT FACILITY
4-STORY
36,100 SQ. FT.
FF=1232.0
DRIVE AISLE (1ST FLOOR)
S 74°50'30" W 277.17'
(PLAT=S 74°48'07" W 277.07')
75.0' RIGHT OF WAY RESERVE (P.P.) ITEM (10h) CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED
12 LF 6" SDR21 PVC @ 1.0% MIN
TWO-WAY CO
TOP=1231.90
FL=1228.59
CLEANOUT
TOP=1231.90
FL=1228.48
48 LF 6" SDR21 PVC @ 1.0% MIN
36.3' TO WATER SERVICE
1000 GAL SEPTIC TANK
FL=1228.00
38.3' TO DETENTION
PUMP TANK (SEE DETAIL)
TP2
TP1
DRIP FIELD (SEE DETAIL)
20' EFFLUENT FIELD SETBACK
71.2' TO WATER MAIN
C1
HIDDEN HILLS DRIVE
(60' RIGHT OF WAY PER PLAT)
ASPHALT PAVEMENT
UE – UT (SEE MEP)
FIRE HYDRANT ASSEMBLY
40' MINIMUM
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
LOT 392
SUNSET CANYON
SECTION 1–C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)
(PLAT=S 15°13'01" E 395.45')
S 15°13'11" E 395.36'
LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)
S 74°50'33" W 219.43'

Curve Table

CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

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Design: MAK Drawn: SK

SCALE: 1" = 20'

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DRIPPING SPRINGS, HAYS COUNTY, TEXAS

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UTILITY PLAN

Sheet
C7.01

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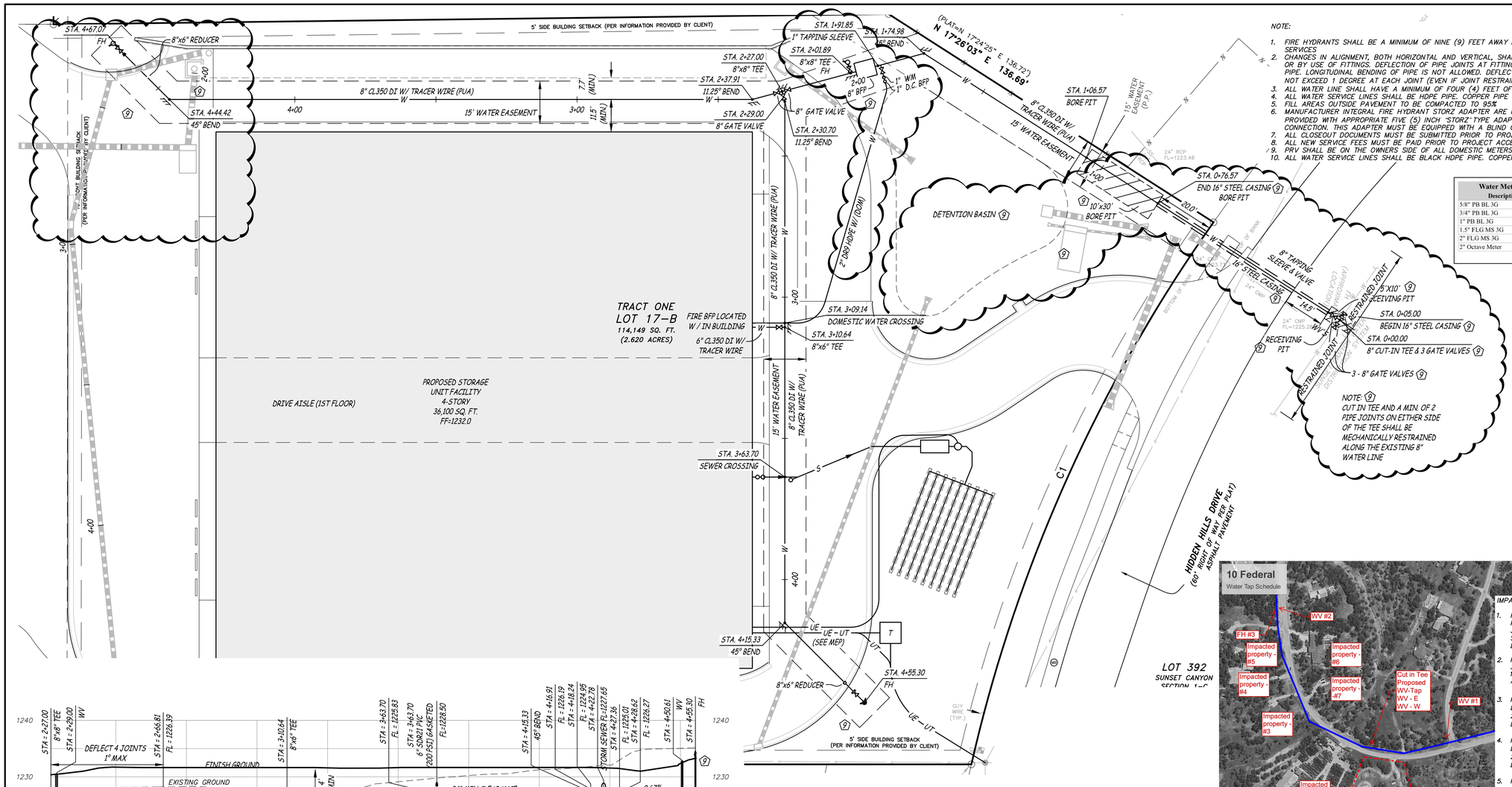
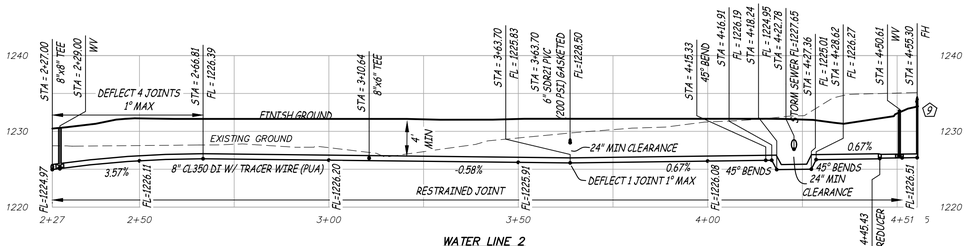


NOTE:

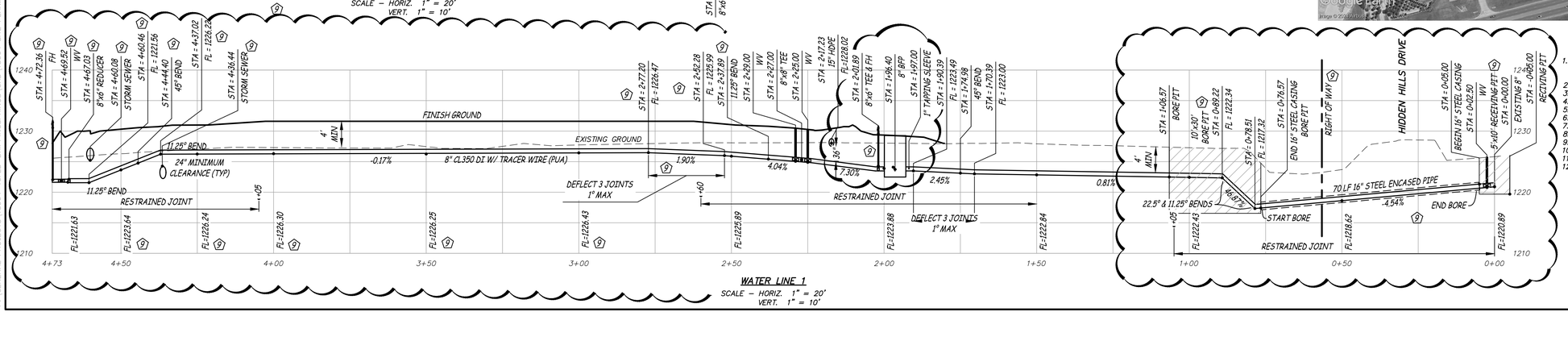
1. FIRE HYDRANTS SHALL BE A MINIMUM OF NINE (9) FEET AWAY FROM ALL WASTEWATER LINES AND SERVICES
2. CHANGES IN ALIGNMENT, BOTH HORIZONTAL AND VERTICAL, SHALL BE ACHIEVED BY DEFLECTION OF JOINTS OR BY USE OF FITTINGS. DEFLECTION OF PIPE JOINTS AT FITTINGS IS ONLY ALLOWED ON DUCTILE IRON PIPE. LONGITUDINAL BENDING OF PIPE IS NOT ALLOWED. DEFLECTION OF STRAIGHT PIPE SECTIONS SHALL NOT EXCEED 1 DEGREE AT EACH JOINT (EVEN IF JOINT RESTRAINT DEVICES ARE INSTALLED).
3. ALL WATER LINE SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER FROM FINISHED GRADE.
4. ALL WATER SERVICE LINES SHALL BE HDPE PIPE. COPPER PIPE IS NOT ALLOWED
5. FILL AREAS OUTSIDE PAVEMENT TO BE COMPACTED TO 95%
6. MANUFACTURER INTEGRAL FIRE HYDRANT STORZ ADAPTER ARE REQUIRED. FIRE HYDRANTS SHALL BE PROVIDED WITH APPROPRIATE FIVE (5) INCH "STORZ" TYPE ADAPTERS FOR THE PUMPER (STEAMER) CONNECTION. THIS ADAPTER MUST BE EQUIPPED WITH A BLIND CAP.
7. ALL CLOSEOUT DOCUMENTS MUST BE SUBMITTED PRIOR TO PROJECT ACCEPTANCE
8. ALL NEW SERVICE FEES MUST BE PAID PRIOR TO PROJECT ACCEPTANCE.
9. PRV SHALL BE ON THE OWNERS SIDE OF ALL DOMESTIC METERS WITH DOWNSTREAM SET POINT OF 65 PSI.
10. ALL WATER SERVICE LINES SHALL BE BLACK HDPE PIPE. COPPER PIPE IS NOT ALLOWED.

Water Meter Length and Total Length with Gaskets

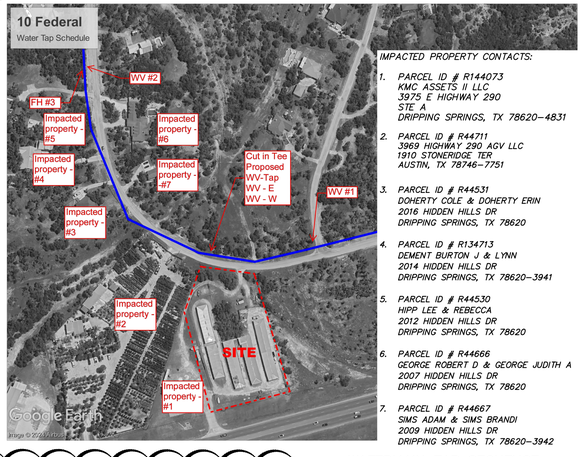
Description	Meter Length	With Gaskets
5/8" PB BL 3G	7.5" inches	7.75" inches
3/4" PB BL 3G	7.5" inches	7.75" inches
1" PB BL 3G	10.75" inches	11" inches
1.5" FLG MS 3G	13" inches	13.25 inches
2" FLG MS 3G	17" inches	17.25 inches
2" Octave Meter	10" inches	10.25 inches



WATER LINE 2
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



WATER LINE 1
SCALE – HORIZ. 1" = 20'
VERT. 1" = 10'



IMPACTED PROPERTY CONTACTS:

1. PARCEL ID # R144073
   KMC ASSETS II LLC
   3975 E HIGHWAY 290
   STE A
   DRIPPING SPRINGS, TX 78620-4831
2. PARCEL ID # R44711
   3969 HIGHWAY 290 AGV LLC
   1910 STONERIDGE TER
   AUSTIN, TX 78746-7751
3. PARCEL ID # R44531
   DOHERTY COLE & DOHERTY ERIN
   2016 HIDDEN HILLS DR
   DRIPPING SPRINGS, TX 78620
4. PARCEL ID # R134713
   DEMENT BURTON J & LYNN
   2014 HIDDEN HILLS DR
   DRIPPING SPRINGS, TX 78620-3941
5. PARCEL ID # R44530
   HIPP LEE & REBECCA
   2012 HIDDEN HILLS DR
   DRIPPING SPRINGS, TX 78620
6. PARCEL ID # R44666
   GEORGE ROBERT D & GEORGE JUDITH A
   2007 HIDDEN HILLS DR
   DRIPPING SPRINGS, TX 78620
7. PARCEL ID # R44667
   SIMS ADAM & SIMS BRANDI
   2009 HIDDEN HILLS DR
   DRIPPING SPRINGS, TX 78620-3942

WATERMAIN TAP SEQUENCE

1. NOTIFY WTCPUA AND IMPACTED PROPERTY OWNERS MINIMUM 72 HOURS PRIOR TO COMMENCING WITH WORK.
2. CLOSE WV #1 & WV #2
3. CUT EXISTING WATER MAIN
4. DISINFECT NEW PIPE, TEE, AND VALVES
5. INSTALL NEW WATER LINE, TEE, AND VALVES.
6. CLOSE WV-TAP
7. OPEN WV-E AND WV-W
8. OPEN FH #3
9. OPEN WV #1 AND FLUSH MAIN.
10. CLOSE FH #3
11. OPEN WV #2
12. NOTIFY WTCPUA AND IMPACTED PROPERTY OWNERS UPON COMPLETION.

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: CGH

N

0 1"
SCALE: 1" = 20'

3 10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
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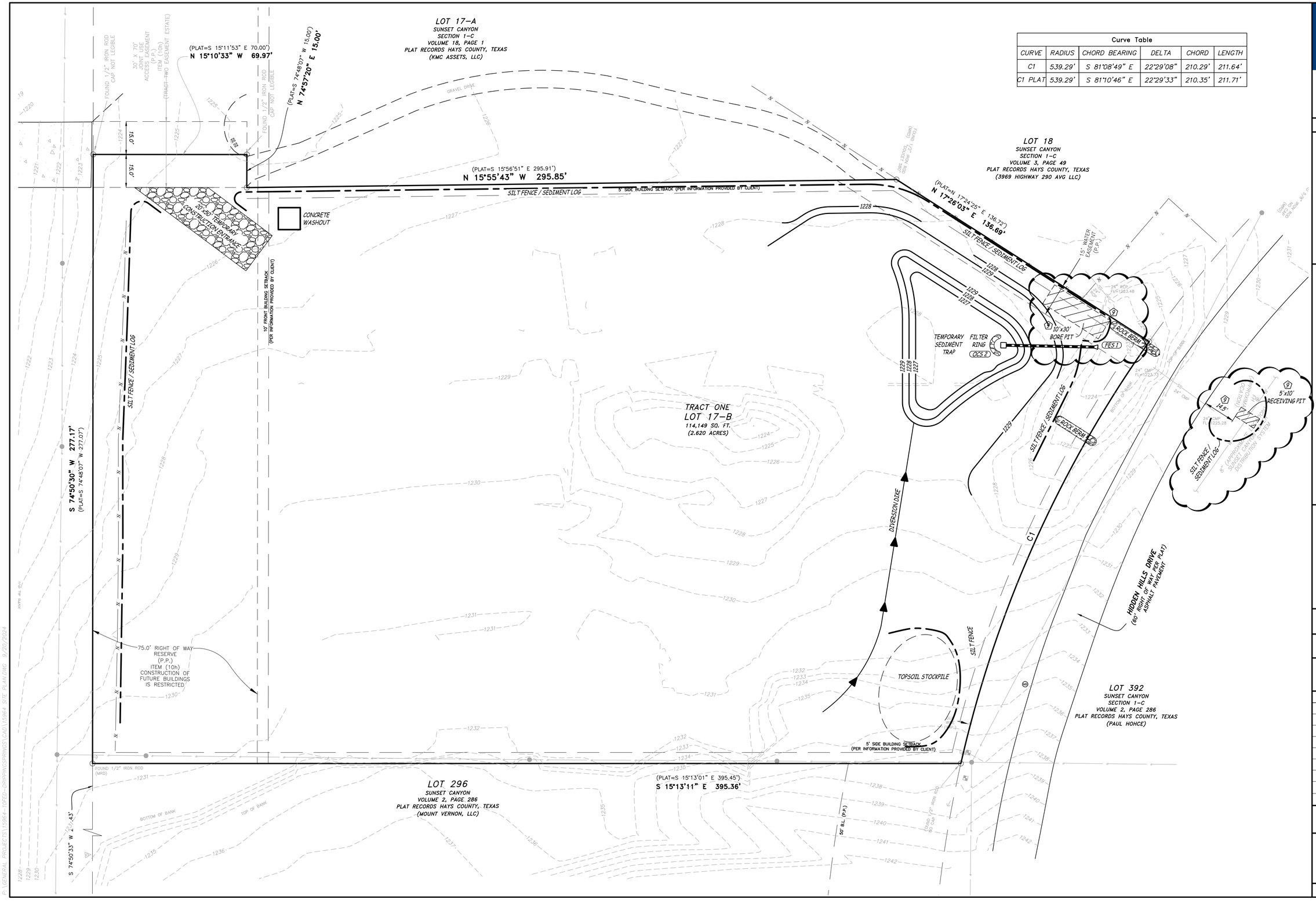
WATER MAIN PLAN & PROFILES

Sheet
C7.02

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FSS-DRIPPINGSPRINGS 2\CAD\15964_SITE PLAN.DWG 9/20/2024



Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

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Texas Registered Engineering Firm #17700

Design: MAK Drawn: SK

SCALE: 1" = 20'

3 10FSS DRIPINGS SPRINGS 2, LLC

DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

Revised

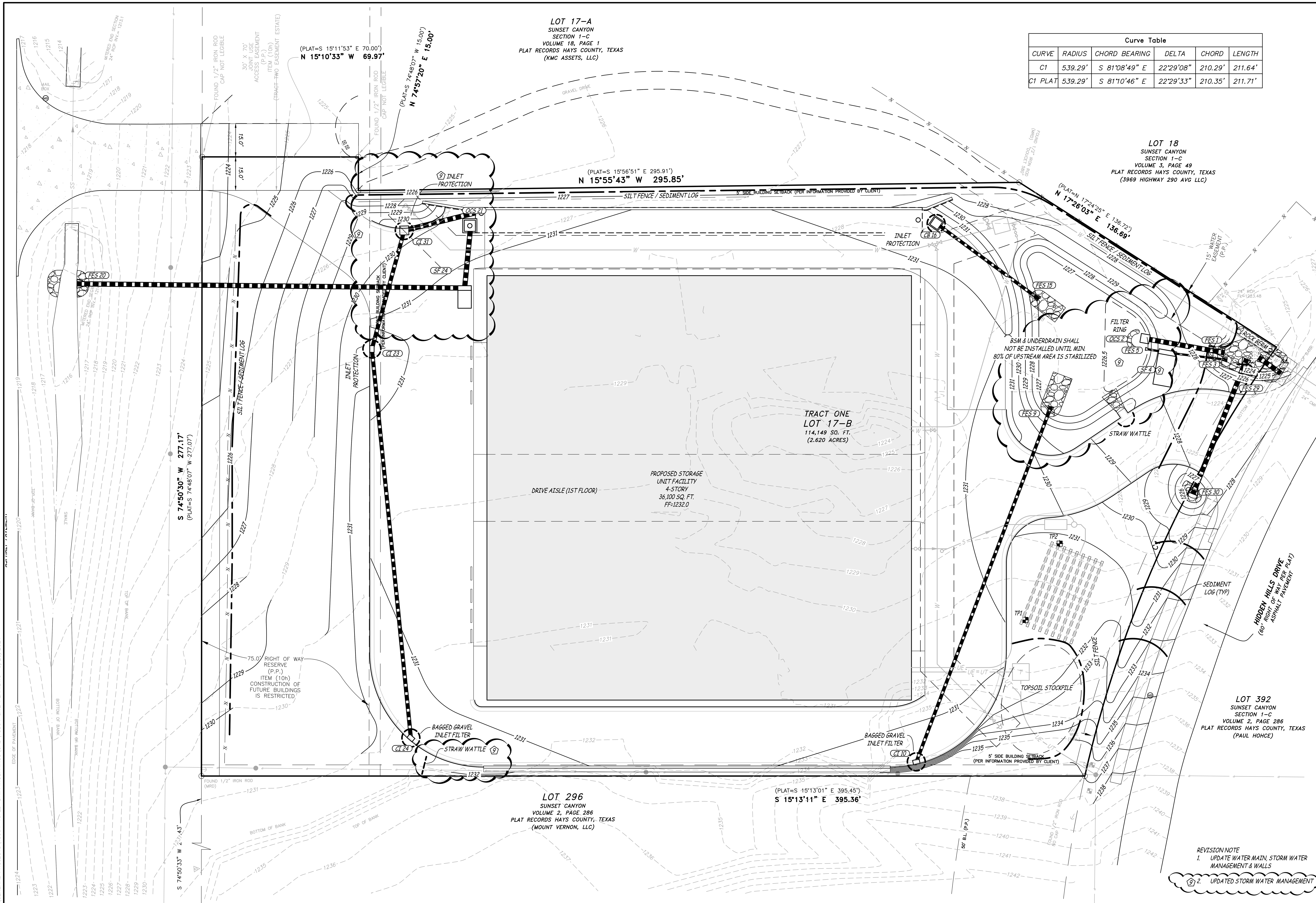
1	SEPTEMBER 20, 2023
	CITY COMMENTS
3	JANUARY 11, 2024
9	SEPTEMBER 20, 2024

INITIAL EROSION CONTROL PLAN

Sheet
C8.01

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FFD-DRIPPINGSPRINGS\CAD\15964 SITE PLAN.DWG 9/20/2024 KRIETE, MATTHEW



LOT 17-A
SUNSET CANYON
SECTION 1-C
VOLUME 18, PAGE 1
PLAT RECORDS HAYS COUNTY, TEXAS
(KMC ASSETS, LLC)
(PLAT=S 15°11'53" E 70.00')
N 15°10'33" W 69.97'
(PLAT=S 74°48'07" W 15.00')
N 74°57'20" E 15.00'
(PLAT=S 15°56'51" E 295.91')
N 15°55'43" W 295.85'
SILT FENCE / SEDIMENT LOG
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
LOT 18
SUNSET CANYON
SECTION 1-C
VOLUME 3, PAGE 49
PLAT RECORDS HAYS COUNTY, TEXAS
(3969 HIGHWAY 290 AVG LLC)
(PLAT=N 17°24'25" E 136.72')
N 17°26'03" E 136.69'
INLET PROTECTION
FES 20
FES 15
FES 1
FES 5
FES 3
FES 9
FES 29
FES 30
OCS 2
OCS 21
CI 31
CI 23
CI 24
CI 10
CB 16
SF 24
SF 4
ROCK BERM
FILTER RING
BSM & UNDERDRAIN SHALL NOT BE INSTALLED UNTIL MIN. 80% OF UPSTREAM AREA IS STABILIZED
STRAW WATTLE
TRACT ONE
LOT 17-B
114,149 SQ. FT.
(2.620 ACRES)
PROPOSED STORAGE UNIT FACILITY
4-STORY
36,100 SQ. FT.
FF=1232.0
DRIVE AISLE (1ST FLOOR)
S 74°50'30" W 277.17'
(PLAT=S 74°48'07" W 277.07')
75.0' RIGHT OF WAY RESERVE (P.P.) ITEM (10h) CONSTRUCTION OF FUTURE BUILDINGS IS RESTRICTED
BAGGED GRAVEL INLET FILTER
TOPSOIL STOCKPILE
SEDIMENT LOG (TYP)
TP1
TP2
HIDDEN HILLS DRIVE
(60' RIGHT OF WAY PER PLAT)
ASPHALT PAVEMENT
LOT 392
SUNSET CANYON
SECTION 1-C
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(PAUL HOHCE)
LOT 296
SUNSET CANYON
VOLUME 2, PAGE 286
PLAT RECORDS HAYS COUNTY, TEXAS
(MOUNT VERNON, LLC)
(PLAT=S 15°13'01" E 395.45')
S 15°13'11" E 395.36'
5' SIDE BUILDING SETBACK (PER INFORMATION PROVIDED BY CLIENT)
S 74°50'33" W
REVISION NOTE
1. UPDATE WATER MAIN, STORM WATER MANAGEMENT & WALLS
2. UPDATED STORM WATER MANAGEMENT

Curve Table

CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
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Design: MAK Drawn: SK

SCALE: 1" = 20'

10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
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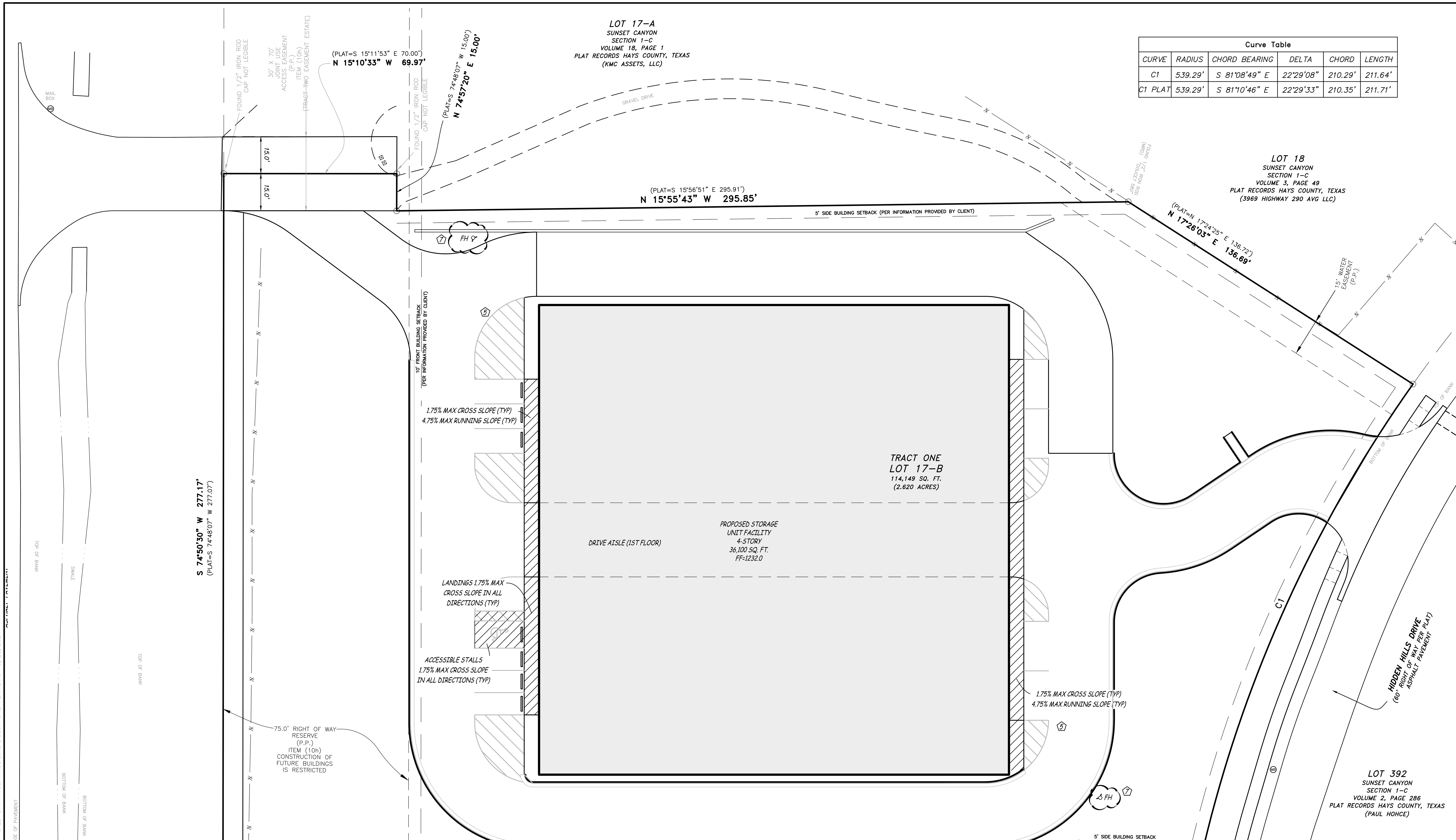
4	JANUARY 19, 2024
5	MARCH 11, 2024
6	APRIL 18, 2024
7	MAY 28, 2024
8	JUNE 17, 2024
9	SEPTEMBER 20, 2024

FINAL EROSION CONTROL PLAN

Sheet
C8.02

ES&S PROJECT NO. 15964



Curve Table

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ACCESSIBILITY NOTES

CODE REQUIRES THE FOLLOWING:

1. SIDEWALK SHALL NOT EXCEED 5% (1'-0" IN 20'-0") SLOPE WITH A 2% (1'-0" IN 50'-0") CROSS-SLOPE AND SHALL BE 5' WIDE EXCEPT AS NOTED ON SITE PLAN. PROVIDE STAIRS, RAMPS, CURBS, ETC., AS NOTED AND DETAILED.
2. PARKING AREAS FOR ACCESSIBLE SPACES AND ACCESS AISLE SHALL NOT EXCEED A 2% (1'-0" IN 50'-0") IN ANY DIRECTION. OTHER PORTIONS OF THE ACCESSIBLE ROUTE SHALL NOT EXCEED A 5% (1'-0" IN 20'-0") LONGITUDINAL SLOPE NOR A 2% (1'-0" IN 50'-0") CROSS-SLOPE. OTHER PARKING AREAS AND CROSS-SLOPE OR DRIVES SHALL NOT EXCEED A 5% (1'-0" IN 20'-0") SLOPE.
3. RAMPS SHALL NOT EXCEED 8.33% (1'-0" IN 12'-0") SLOPE WITH A 2% (1'-0" IN 50'-0") CROSS-SLOPE AND SHALL BE 5' WIDE EXCEPT AS NOTED ON SITE LAYOUT PLAN. RISE OF RAMP SHALL NOT EXCEED 6".
4. ALL SIDEWALK INTERSECTIONS SHALL HAVE A 5' x 5' LANDING AT 1/4" PER 1' MAX SLOPE IN ALL DIRECTIONS.

THESE PLANS AND SPECIFICATIONS HAVE BEEN DESIGNED WITH TOLERANCE BELOW THE CODE TO IMPROVE POST CONSTRUCTION COMPLIANCE. REFERENCE THE PLAN SHEETS AND DETAILS FOR SPECIFIED GRADES AND MAXIMUM GRADES.

FAIR HOUSING ACCESSIBILITY GUIDELINES

(FROM FAIR HOUSING ACT DESIGN MANUAL, REVISED APRIL 1998)

THE DESIGN REQUIREMENTS OF THE GUIDELINES TO WHICH NEW BUILDINGS AND DWELLING UNITS MUST COMPLY ARE PRESENTED IN ABRIDGED FORM BELOW. DWELLING UNITS ARE NOT SUBJECT TO THESE REQUIREMENTS ONLY IN THE RARE INSTANCE WHERE THERE ARE EXTREMES OF TERRAIN OR UNUSUAL CHARACTERISTICS OF THE SITE.

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10FSS DRIPINGS SPRINGS 2, LLC
DRIPPING SPRINGS PROPERTY
3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

5/28/2024
STATE OF TEXAS — MATTHEW A. KRIETE — 126148 — PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

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Design: MAK Drawn: SK

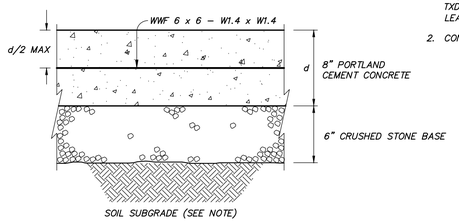
ACCESSIBILITY PLAN

Sheet: C9.01

ES&S PROJECT NO. 15964

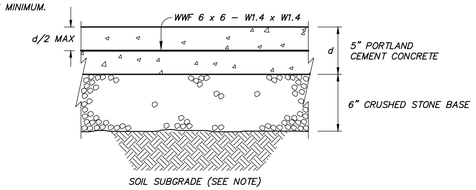
CONCRETE PAVEMENT NOTES:

1. SOIL SUBGRADE SHALL BE SCARIFIED TO 6" MINIMUM DEPTH AND MIXED WITH 7% HYDRATED LIME BY DRY UNIT WEIGHT PER TXDOT SPECIFICATION ITEM 260 TO AT LEAST 1' BEYOND EDGE OF PAVEMENT.
2. CONCRETE SHALL BE 3,500 PSI MINIMUM.



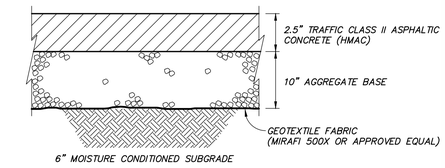
NOTE: TOP OF REINFORCEMENT SHALL BE A MINIMUM OF 2" BELOW THE TOP OF PAVEMENT.

HEAVY DUTY CONCRETE PAVEMENT
NOT TO SCALE

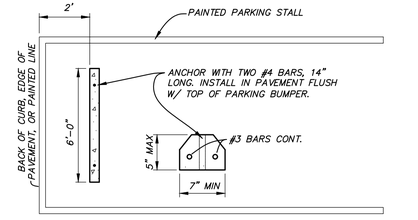


NOTE: TOP OF REINFORCEMENT SHALL BE A MINIMUM OF 2" BELOW THE TOP OF PAVEMENT.

STANDARD DUTY CONCRETE PAVEMENT (ALTERNATE)
NOT TO SCALE

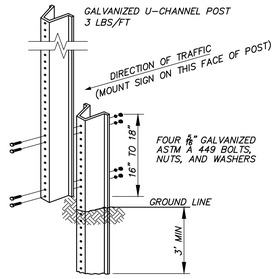


STANDARD DUTY ASPHALT PAVEMENT
NOT TO SCALE



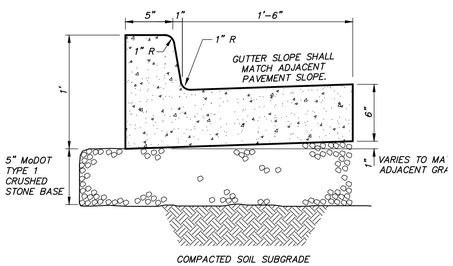
NOTES:
1. CONCRETE SHALL BE A MINIMUM 5,000 PSI AND AIR-ENTRAINED.
2. PROVIDE A MINIMUM 2 SLOTS ON THE BOTTOM OF THE BUMPER FOR DRAINAGE.

CONCRETE PARKING BUMPER
NOT TO SCALE



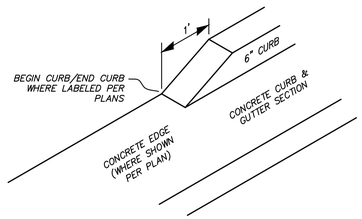
NOTES:
1. STUB HEIGHT AND SPLICE LAP SHALL BE 16" TO 18".
2. SPLICE SHALL NOT EXTEND BELOW THE GROUND.
3. ONLY ONE SPLICE WILL BE ALLOWED PER POST.
4. USE OF SPLICE IS OPTIONAL.
5. SIGNS SHALL BE 7' MIN. FROM FINISH GRADE TO BOTTOM OF LOWEST MOUNTED SIGN.

SIGN POST DETAIL
NOT TO SCALE



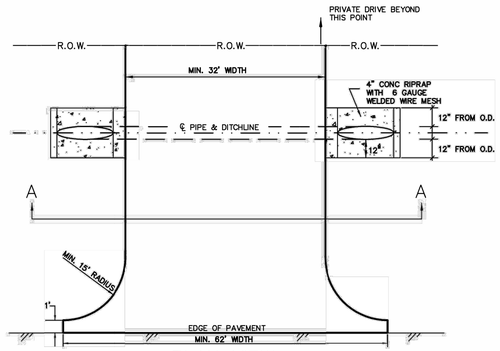
NOTES:
1. CURB AND GUTTER MAY BE INTEGRAL IF CONCRETE PAVEMENT IS USED.
2. INSTALL TRANSVERSE EXPANSION JOINTS TO MATCH ADJACENT PAVEMENT,OR AT EVERY 150' MAX.
3. INSTALL SAW-CUT JOINTS TO MATCH ADJACENT PAVEMENT OR EVERY 10' MAX.
4. SAW-CUT JOINTS SHALL EXTEND THROUGH THE ENTIRE CURB SECTION FROM THE TOP OF CURB TO A DEPTH OF 2" BELOW THE GUTTER SURFACE.

6" CONCRETE CURB & GUTTER SECTION
NOT TO SCALE

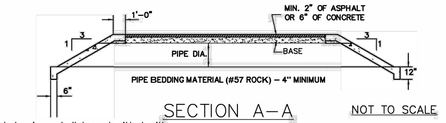


BEGIN CURB / END CURB DETAIL
NOT TO SCALE

HAYS COUNTY DRIVEWAY STANDARD



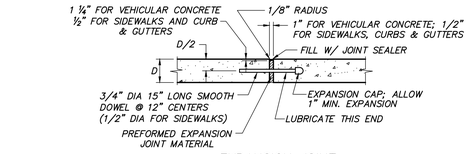
PLAN VIEW



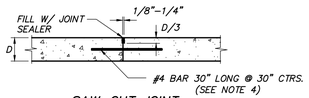
SECTION A–A NOT TO SCALE

NOTES:
- Engineered drawings shall be submitted with commercial driveway permit applications.
- Driveways shall be constructed of either **6"** of class "A" concrete reinforced with **#3** bars at **18" OC** both ways over **2"** of compacted base, or **2"** of asphalt over **8"** of compacted base.
- SET's shall be constructed of **4"** of class "A" concrete reinforced with **6ga** welded wire mesh with a minimum slope of **3:1** (**6:1** on pipes larger than D2).
- Culvert flowline shall match the flowline of the ditch, with min. **4"** thickness of pipe bedding material (**#57** rock).
- An expansion joint shall be placed at the ROW line, with **#4** smooth bars placed depth **12" OC.**
- Special conditions may apply to pipes larger than D2 pipe–arched **21"X15".**

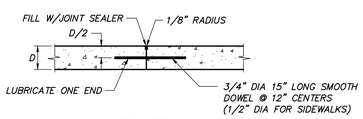
HAYS COUNTY, TEXAS
COMMERCIAL DRIVEWAY CULVERT–STYLE



EXPANSION JOINT



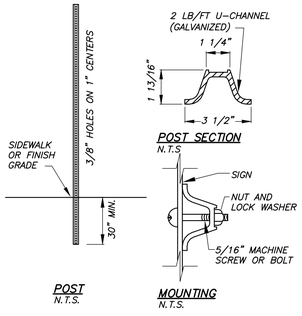
SAW–CUT JOINT

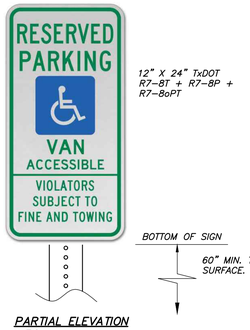


CONSTRUCTION JOINT

NOTES:
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT A PAVEMENT JOINT PLAN OF ALL CONCRETE PAVEMENT FOR APPROVAL.
2. CONCRETE PAVEMENT SHALL HAVE SAW–CUT OR CONSTRUCTION JOINTS EVERY 10 FEET FOR 4 INCH THICK PAVEMENT, 12 FEET FOR 5 INCH THICK PAVEMENT, AND 15 FEET FOR 6 INCH THICK PAVEMENT OR GREATER. PANELS SHALL BE CUT SUCH THAT PANELS ARE NEARLY SQUARE AND DO NOT EXCEED 1.4 LENGTH TO WIDTH RATIO. EXPANSION JOINTS SHALL BE PROVIDED AT ALL FIXED STRUCTURES, SUCH AS: LIGHT STANDARD FOUNDATIONS, SEWER STRUCTURES, BUILDINGS, WALLS, BOTTOM OF STAIRS, ROOF DRAINS, ETC., AND EVERY 150 FEET MAXIMUM. DOWEL BARS SHALL BE PROVIDED AT TRANSVERSE JOINTS IN ALL HEAVY DUTY PAVEMENT DRIVE AISLES.
3. THIS DETAIL APPLIES TO ALL CONCRETE PAVEMENT FOR PARKING LOTS, DRIVE/ACCESS AISLES, CURBS & GUTTERS, AND SIDEWALKS.
4. INCLUDE BAR WITH TRANSVERSE SAW–CUT JOINTS FOR HEAVY DUTY PAVEMENT. OMIT BAR WITH SAW–CUT JOINTS FOR STANDARD DUTY PAVEMENT AND SIDEWALKS.
5. PROVIDE CONSTRUCTION JOINT AT END OF DAYS WORK OR IF CONCRETE PLACEMENT IS SUSPENDED FOR MORE THAN 30 MINUTES.
6. SAW–CUT JOINTS SHALL BE CUT WITHIN 12 HOURS OF INITIAL SET OF CONCRETE. RAVELED JOINTS WILL NOT BE ACCEPTED.
7. ELASTOMERIC POLYURETHANE JOINT SEALANT IS REQUIRED FOR ALL JOINTS AND SHALL BE LIGHT GRAY IN COLOR.
8. OMIT DOWEL BARS FOR EXPANSION JOINTS AT BUILDINGS, LIGHT STANDARDS, AND ROOF DRAINS.

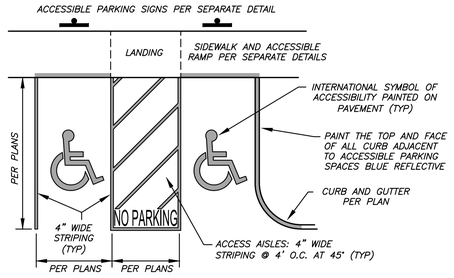
CONCRETE PAVEMENT JOINTS
NOT TO SCALE





NOTES:
1. SEE SITE PLAN SHEET(S) FOR SIGN LOCATIONS.
2. ALL SIGNS SHALL BE 0.80 ENGINEER GRADE REFLECTIVE ALUMINUM.

ACCESSIBLE PARKING STALL SIGNAGE
NOT TO SCALE

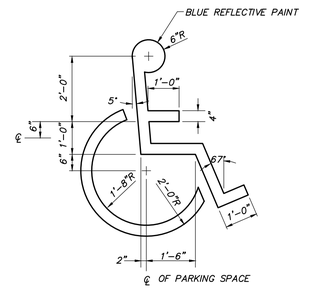


NOTES:
1. ALL ACCESSIBLE STRIPING SHALL BE BLUE REFLECTIVE.
2. ALL PAVEMENT WITHIN ACCESSIBLE PARKING AREAS SHALL BE AT 1.7% OR LESS SLOPE IN ALL DIRECTIONS.
3. THE WORDS "NO PARKING" SHALL BE PAINTED IN ALL ACCESS AISLES ADJACENT TO PARKING SPACE. THE WORDS MUST BE PAINTED IN ALL CAPITAL LETTERS WITH A LETTER HEIGHT OF AT LEAST TWELVE INCHES AND A STROKE WIDTH OF AT LEAST TWO INCHES. THE WORDS SHALL BE CENTERED IN EACH ACCESS AISLE.

ACCESSIBLE PARKING STALL STRIPING
NOT TO SCALE

18" X 12" REFLECTIVE ALUMINUM (80 MIL). RED LETTERS ON WHITE BACKGROUND.

FIRE LANE SIGN
NOT TO SCALE



ACCESSIBLE SYMBOL
NO SCALE

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3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

3

1/11/2024

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

Date
JUNE 9, 2023

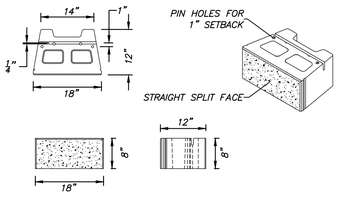
Revised
1 SEPTEMBER 20, 2023
CITY COMMENTS
2 JANUARY 11, 2024

Design: JH Drawn: SK

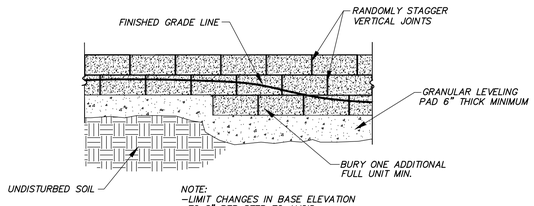
SITE DETAILS

Sheet
1 C10.01

ES&S PROJECT NO. 15964

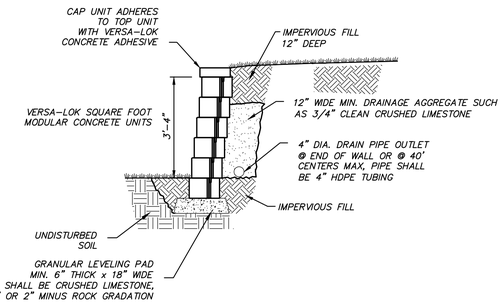


VERSA-LOK SQUARE FOOT UNIT

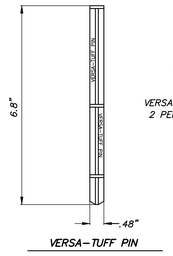


NOTE:
-LIMIT CHANGES IN BASE ELEVATION TO 8" PER STEP TO AVOID DIFFERENTIAL SETTLEMENT
-STEP OFTEN ENOUGH TO MAINTAIN MINIMUM REQUIRED EMBEDMENT

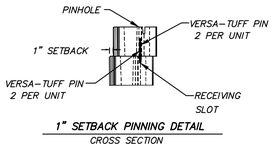
STEPPING BASE DETAIL



TYPICAL SECTION
UNREINFORCED RETAINING WALL

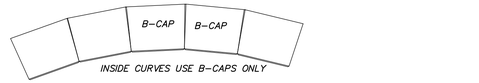


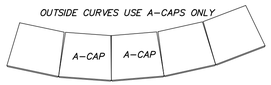
VERSA-TUFF PIN



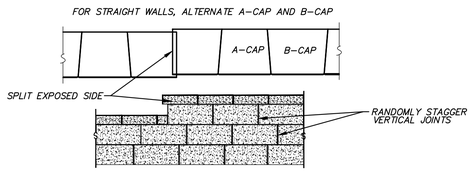
1" SETBACK PINNING DETAIL
CROSS SECTION

GENERAL NOTES FOR CAPPING:
1. CAPS SHALL BE ADHERED TO WALL USING VERSA-LOK CONCRETE ADHESIVE.
2. CAPS MAY BE PLACED WITH A 1/2" TO 1" OVERHANG OF TOP COURSE.
3. WHEN SPLITTING CAP UNIT FOR WALL END DO NOT USE A CAP SECTION LESS THAN 6" WIDE.
4. DO NOT OVERHANG CAP AT END OF COURSE MORE THAN 1"





PLAN VIEW



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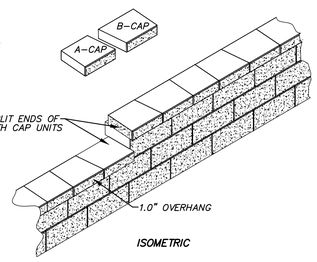
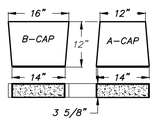
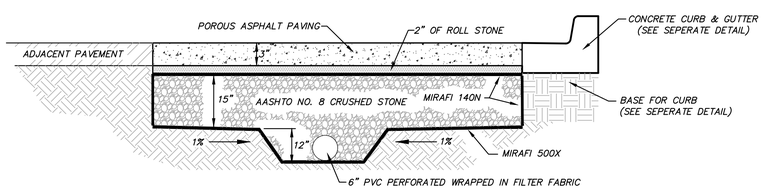


ISOMETRIC

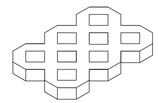


CAPPING DETAIL

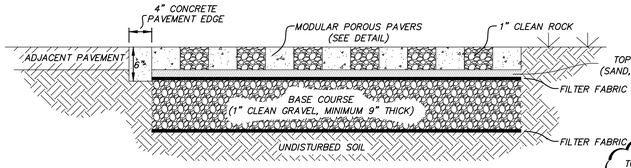
SEGMENTAL BLOCK RETAINING WALL DETAIL
NOT TO SCALE



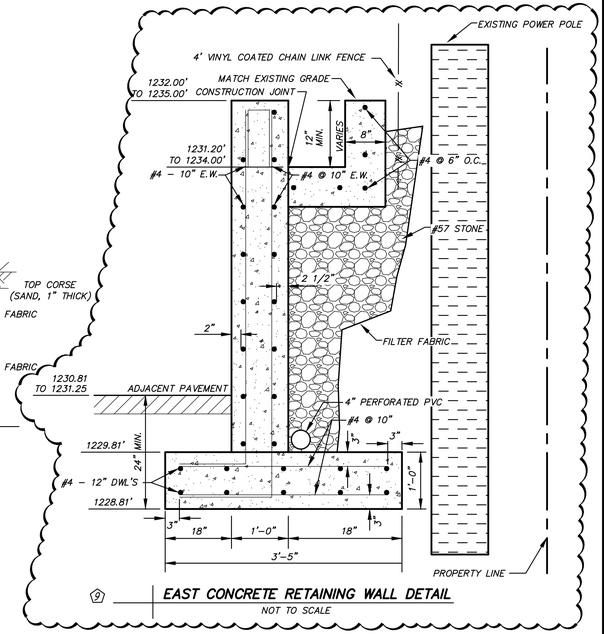
POROUS ASPHALT PAVEMENT
NOT TO SCALE



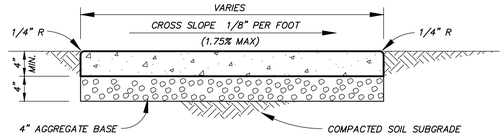
MODULAR POROUS PAVER BLOCK
NOT TO SCALE



MODULAR POROUS PAVER BLOCK FILTER STRIP (ALTERNATE)
NOT TO SCALE

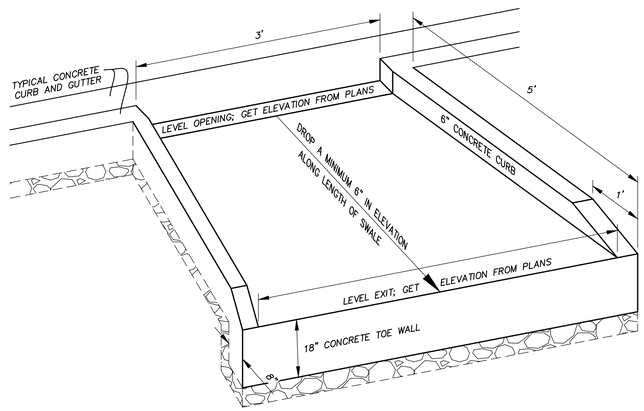


9 EAST CONCRETE RETAINING WALL DETAIL
NOT TO SCALE



NOTES:
1. SIDEWALK SHALL BE 5-8% AIR-ENTRAINED, 6 BAG MIX, 4,000 PSI PORTLAND CEMENT CONCRETE.
2. INSTALL TRANSVERSE EXPANSION JOINTS TO MATCH STREET OR CURB AND GUTTER EXPANSION JOINTS AND AT ALL DRIVEWAY APPROACHES, FIXED STRUCTURES, BUILDINGS, AND SIDEWALK RAMPS. SPACING SHALL NOT EXCEED 100'.
3. FOR SIDEWALKS UP TO 6 FT. WIDE, INSTALL TRANSVERSE SAW-CUT JOINTS AT SPACING EQUAL TO SIDEWALK WIDTH.
4. FOR SIDEWALKS WIDER THAN 6 FT., INSTALL LONGITUDINAL SAW JOINT AT CENTERLINE OR AT A SPACING NOT TO EXCEED 5 FT. TRANSVERSE SAW-CUT JOINT SPACING EQUAL TO HALF SIDEWALK WIDTH.
5. IF SIDEWALK IS REINFORCED, NO STEEL SHALL BE PLACED THROUGH AN EXPANSION JOINT.
6. SEE SEPARATE DETAIL FOR ADDITIONAL CONCRETE JOINT REQUIREMENTS.

CONCRETE SIDEWALK
NOT TO SCALE

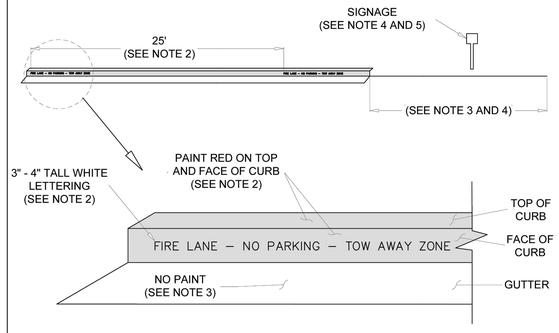


NOTES:
1. SWALE CAN BE POURED INTEGRALLY WITH CONCRETE CURB AND GUTTER OR SEPARATELY. IF POURED SEPARATELY INSTALL DOWELED CONSTRUCTION JOINT PER SEPARATE DETAIL.

CURB CUT WITH CONCRETE SWALE
NOT TO SCALE

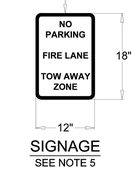
CURB AND GUTTER

LAYDOWN/RIBBON CURB OR NO CURB AND GUTTER



NOTE:
1. ALL CURBS TOUCHING THE FIRE LANE AS SHOWN ON THE STRIPING PLAN SHALL BE STRIPED AS SHOWN ON THIS DETAIL.
2. TOP AND FACE OF CURB PAINTED RED WITH 3" - 4" TALL WHITE LETTERS ON THE FACE OF CURB "FIRE LANE - NO PARKING - TOW AWAY ZONE" EVERY 25'.
3. NO PAINT ON GUTTERS, PAVEMENT, OR LAYDOWN CURBS.
4. SIGNAGE MAY BE REQUIRED IN AREAS WHERE THE CURB FOR A FIRE LANE DOES NOT EXIST.
5. WHERE REQUIRED, SIGNS SHALL BE SPACED NO MORE THAN 50' APART AND COMPLY WITH SECTION D103.6 OF THE INTERNATIONAL FIRE CODE.

WHITE REFLECTIVE BACKGROUND RED LETTERING AND BORDER



SIGNAGE
SEE NOTE 5

7 FIRE LANE MARKING

Hays County Fire Marshal's Office	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	900-FLM-HC
		N.T.S. STANDARD DETAIL

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DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

9/20/2024

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

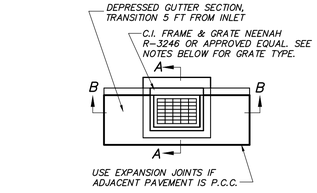
Revised
1 SEPTEMBER 20, 2023
CITY COMMENTS
5 JANUARY 11, 2024
7 MAY 28, 2024
9 SEPTEMBER 20, 2024

SITE DETAILS

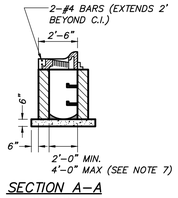
Sheet
C10.02

ES&S PROJECT NO. 15964

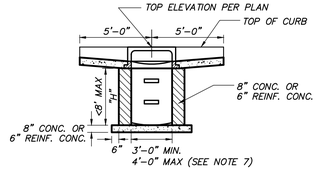
P:\GENERAL PROJECTS\15964-10FED--DRIPPINGSPRINGS\CAD\15964 COVER & DETAILS.DWG 9/20/2024



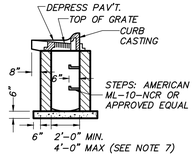
PLAN – SINGLE



SECTION A–A
ALTERNATE



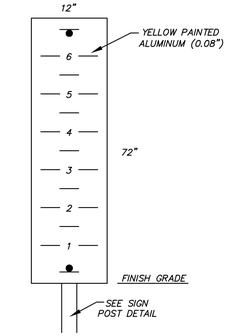
SECTION B–B



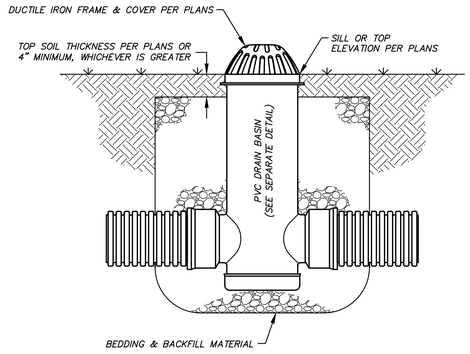
SECTION A–A

NOTES:
1. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS WITH 6% AIR.
2. INSTALL WEEP HOLES PER SEPARATE DETAIL.
3. REINFORCED CONCRETE SHALL BE #4 BARS AT 12" CTRS, BOTH WAYS AND #4 BARS DIAGONAL AT PIPE OPENINGS FOR BOXES UP TO 4.0' WIDTH AND <8' HEIGHT. SEE SEPARATE DETAIL FOR CONCRETE BOX DESIGN FOR DIMENSIONS THAT EXCEED THESE MAXIMUMS.
4. FORM ALL INVERTS FOR SMOOTH FLOW THRU STRUCTURE WITH NON SHRINK GROUT.
5. STEPS NOT REQUIRED WHERE "H" IS LESS THAN 4' PLACE STEPS ON VACANT WALL WHEN POSSIBLE. STAGGER STEPS 2" FROM CENTERLINE OF FRAME AND GRATE. TOP STEP SHALL BE 24" BELOW GRATE. STEP SPACING SHALL BE 16" TO BOTTOM OF STRUCTURE.
6. GRATE SHALL BE NEENAH TYPE C IF AT LOW POINT (SUMP) OR TYPE L BICYCLE VANE GRATE WHEN INLET IS SET ON GRADE (NOT IN SUMP).
7. FOR STRUCTURES LARGER THAN 3'x2' FOR SINGLE INLETS, OR 6'–2"x2' FOR DOUBLE INLETS, INSTALL REINFORCED CONCRETE TOP WITH 3'x2' OR 6'–2"x2' OPENING.
8. FOR BOXES <4' WIDE AND <8' TALL TOP REINFORCEMENT SHALL BE #4 BARS @ 8" E.W. WITH #4 BARS DIAGONAL AT OPENING. BOXES >4' WIDE AND >8' TALL REINFORCEMENT SHALL BE PER SEPARATE DETAIL.
9. TOP ELEVATION SHOWN ON THE PLAN SHALL BE THE CENTER OF THE CURB RETURN OF THE CASTING.
10. SLOPE THE TOP TO MATCH ADJACENT GRADE IF NOT LOCATED AT LOW POINT. MAINTAIN WATERTIGHTNESS.

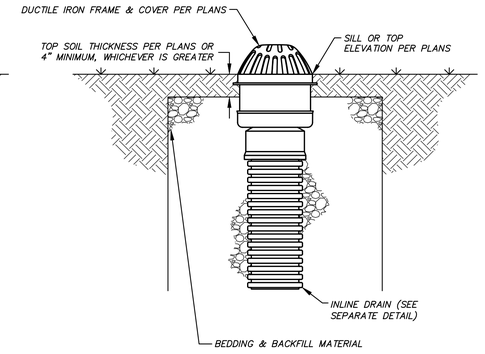
CURB INLET
NOT TO SCALE



② **SILT GAUGE DETAIL**
NOT TO SCALE



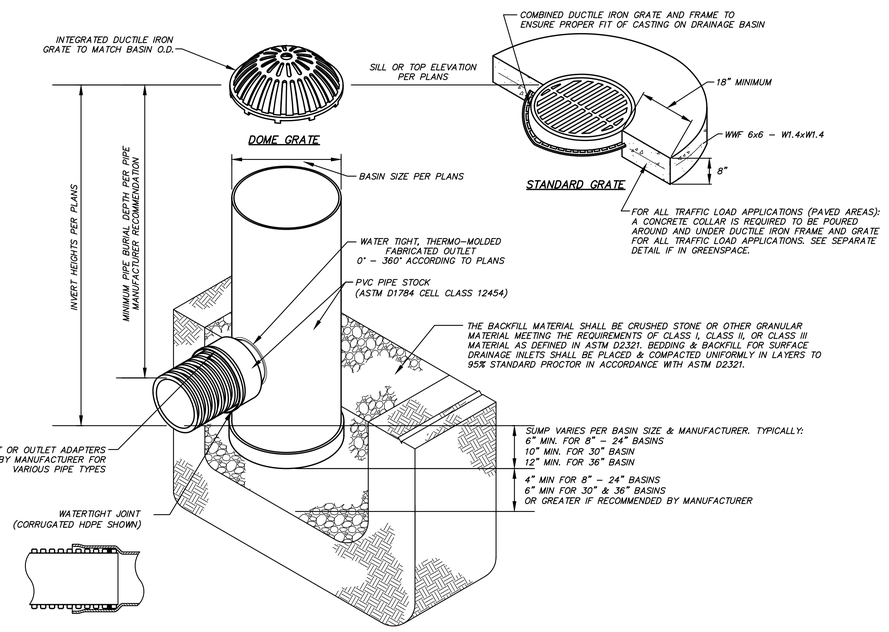
DRAIN BASIN



INLINE DRAIN

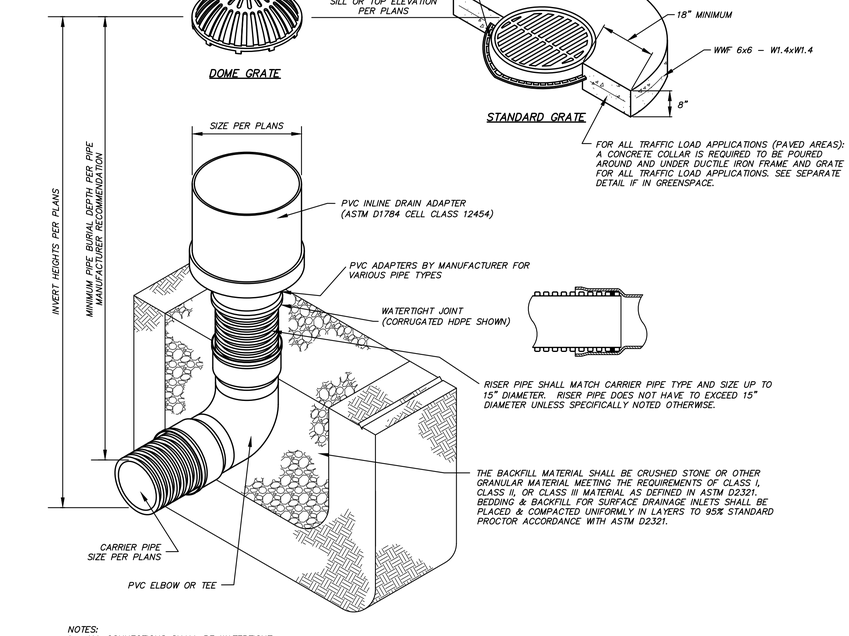
NOTES:
1. THE BEDDING & BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. ALL BEDDING & BACKFILL SHALL BE PLACED & COMPACTED UNIFORMLY IN LIFTS TO 95% STANDARD PROCTOR IN ACCORDANCE WITH ASTM D2321.

PVC BASIN/DRAIN INSTALLATION FOR NON–TRAFFIC/GREENSPACE AREAS ONLY
NOT TO SCALE



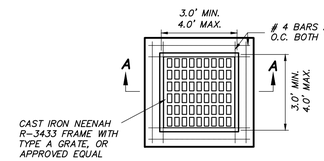
NOTES:
1. ALL CONNECTIONS SHALL BE WATERTIGHT.
2. SEE PLANS FOR GRATE TYPE FOR EACH BASIN.
3. ALL FRAMES & GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05, OR 80–55–06.
4. ALL STANDARD OR SOLID GRATES SHALL BE MEET H–20 LOAD RATING. DOME GRATES HAVE NO LOAD RATING.
5. DRAIN BASINS SHALL BE CUSTOM MANUFACTURED AS A SINGLE UNIT ACCORDING TO PLAN DIMENSIONS. RISERS SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY ENGINEER.
6. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE & PVC PIPE.

PVC DRAIN BASIN & GRATE
NOT TO SCALE

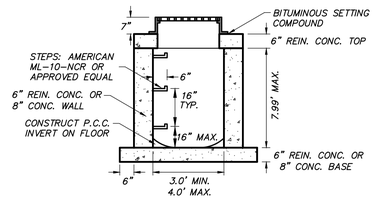


NOTES:
1. ALL CONNECTIONS SHALL BE WATERTIGHT.
2. SEE PLANS FOR GRATE TYPE FOR EACH DRAIN.
3. ALL FRAMES & GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05, OR 80–55–06.
4. ALL STANDARD OR SOLID GRATES SHALL BE MEET H–20 LOAD RATING. DOME GRATES HAVE NO LOAD RATING.
5. DRAIN ADAPTER SHALL BE CUSTOM MANUFACTURED AS A SINGLE UNIT ACCORDING TO PLAN DIMENSIONS. RISERS SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY ENGINEER.
6. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE & PVC PIPE.

PVC INLINE DRAIN & GRATE
NOT TO SCALE



PLAN VIEW



SECTION A–A

NOTES:
1. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS WITH 6% AIR.
2. REINFORCING STEEL SHALL BE GRADE 60.
3. INSTALL WEEP HOLES IN STRUCTURE PER SEPARATE DETAIL.
4. REINFORCED CONCRETE SHALL BE #4 BARS AT 12" CTRS, BOTH WAYS AND #4 BARS DIAGONAL AT PIPE OPENINGS.
5. FORM ALL INVERTS FOR SMOOTH FLOW THRU STRUCTURE.
6. SEE SEPARATE DETAIL FOR CONCRETE BOX DESIGN FOR DIMENSIONS THAT EXCEED THE MAXIMUMS LISTED HERE.
7. STEPS NOT REQUIRED WHERE "H" IS LESS THAN 4'. PLACE STEPS ON VACANT WALL WHEN POSSIBLE. STAGGER STEPS 2" EACH WAY FROM CENTERLINE OF FRAME AND LID.

CATCH BASIN
NOT TO SCALE

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3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

1/11/2024

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

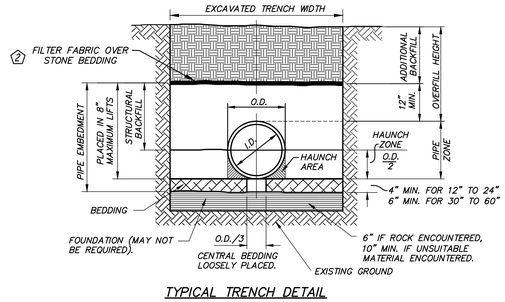
Revised
① SEPTEMBER 20, 2023
CITY COMMENTS
③ JANUARY 11, 2024

Design: JH Drawn: SK

STORM SEWER DETAILS

Sheet
①C11.01

ES&S PROJECT NO. 15964



TYPICAL TRENCH DETAIL

BACKFILL NOTES:

1. BEDDING, HAUNCH, AND STRUCTURAL BACKFILL SHALL BE IN CONFORMANCE WITH AASHTO M145 A1 OR A-3 COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D698.
2. ALL PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ASTM D2321 LATEST ADDITION.
3. HAUNCH, STRUCTURAL, AND ADDITIONAL BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D698.

TABLE I
CORRUGATED HDPE AND POLYVINYL CHLORIDE CIRCULAR PIPE

SPECIFIED DIA OF PIPE (IN.)	MIN OVERFILL HEIGHT (FT)	HDPE MAX OVERFILL HEIGHT* (FT)	POLYVINYL CHLORIDE MAX OVERFILL HEIGHT* (FT)		VIRGIN RESIN (AASHTO M294) OVERFILL HEIGHT* (FT)			ENGINEERED COMPOUND (RECYCLED, ASTM F2648) OVERFILL HEIGHT* (FT)			TRENCH WIDTH (IN.)
			SDR 35#	SDR 26#	CLASS 1**	CLASS 2**	CLASS 3**	CLASS 1**	CLASS 2**	CLASS 3**	
12	2	26	15	30	43	29	21	27	19	12	34
15	2	28	15	30	45	30	22	27	20	13	39
18	2	24	15	30	40	27	19	25	18	11	44
24	2	20	15	30	36	25	17	22	16	12	55
30	2.5	17	N/A	N/A	29	21	15	16	12	6	67
36	2.5	19	N/A	N/A	34	23	16	21	15	10	76
42	2.5	19	N/A	N/A	31	23	16	17	13	7	84
48	2.5	17	N/A	N/A	30	20	14	18	13	10	95
54	2.5	9	N/A	N/A	33	22	15	N/A	N/A	N/A	104
60	2.5	9	N/A	N/A	33	22	15	20	15	10	113

TABLE ASSUMES STANDARD PROCTOR DENSITY OF 95%

* MAXIMUM OVERFILL MEASURED FROM THE TOP OF PIPE TO SURFACE

** CLASS 1 – CRUSHED ROCK, ANGULAR; AASHTO M43 – 5, 6, 56, 57, 67

** CLASS 2 – CLEAN, COURSE GRAINED SOILS TO BORDERLINE CLEAN FINES; AASHTO M43 – 5, 6, 56, 57, 67; AASHTO M145 – A1, A3

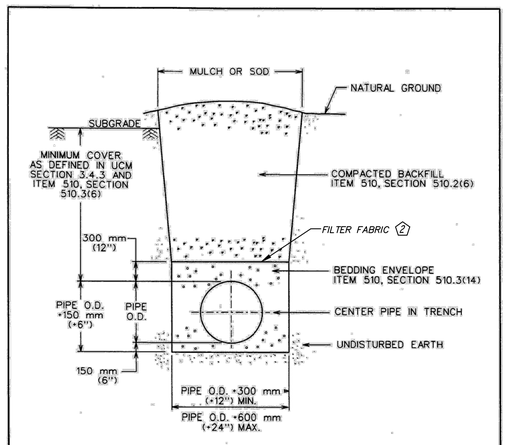
** CLASS 3 – COURSE GRAINED SOILS WITH FINES AND INORGANIC FINE-GRAINED SOILS; AASHTO M43 – GRAVEL AND SAND WITH <10% FINES; AASHTO M145 – A-2-4, A-2-5, A-2-6, A-4, OR A-6 WITH >30% RETAINED ON #200 SIEVE

** REFER TO CURRENT ADS INC. DRAINAGE HANDBOOK FOR A COMPLETE LISTING OF SUITABLE MATERIALS

PER ASTM D-3034 FOR PIPE UP TO 15" AND ASTM F679 OVER 15"

EMBEDMENT OF PLASTIC STORM SEWER PIPE

NOT TO SCALE



REFERENCES:

1. UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510,
   SECTION 510.2(6), "SELECT BACKFILL OR BORROW";
   SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER";
   SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
Bill Anderson 3/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5

TABLE II
MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIA. (IN.)	MINIMUM COVER (FT) FOR INDICATED AXLE LOADS (THOUSANDS OF POUNDS)			
	18–50	50–75	75–110	110–150
12–36	2.0	2.5	3.0	3.0
42–48	3.0	3.0	3.5	4.0

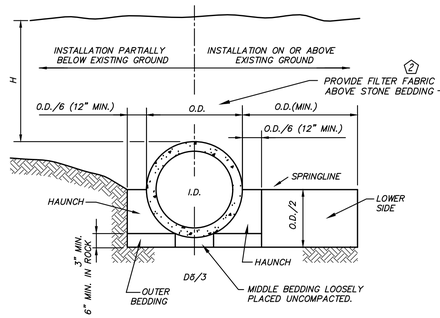
THE CONTRACTOR SHALL PROVIDE MINIMUM COVER PLUS ANY ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. IN UNPAVED SITUATIONS, THE SURFACE MUST BE MAINTAINED TO A LEVEL AND NON-RUTTED CONDITION.

LEGEND

I.D. = NORMAL INSIDE DIAMETER OF PIPE.
O.D. = OUTSIDE DIAMETER OF PIPE.
H = FILL COVER HEIGHT OVER PIPE (FEET).
MIN. = MINIMUM
MAX = MAXIMUM
= UNDISTURBED SOIL

CONSTRUCTION SEQUENCE:

1. PLACE BEDDING MATERIAL TO GRADE.
2. COMPACT BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
3. INSTALL PIPE TO GRADE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE SPRINGLINE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.

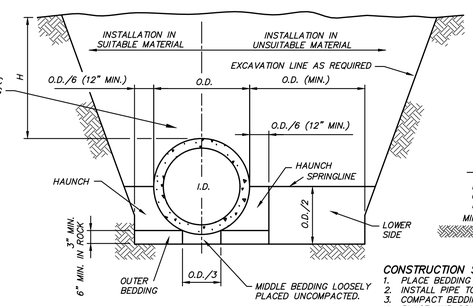


EMBANKMENT INSTALLATIONS

BEDDING AND COMPACTION REQUIREMENTS
(% MAX. DRY DENSITY PER ASTM D698)

INSTALLATION TYPE	BEDDING THICKNESS	HAUNCH AND OUTER BEDDING			LOWER SIDE BEDDING		
		CATEGORY 1 SOIL (A)	CATEGORY 2 SOIL (B)	CATEGORY 3 SOIL (C)	CATEGORY 1 SOIL (A)	CATEGORY 2 SOIL (B)	CATEGORY 3 SOIL (C)
1	O.D./24 MINIMUM, NOT LESS THAN 3". IF ROCK FOUNDATION, USE O.D./12 MINIMUM, NOT LESS THAN 6".	95	N/A	N/A	90	95	100
2	O.D/24 MINIMUM, NOT LESS THAN 3". IF ROCK FOUNDATION, USE O.D./12 MINIMUM, NOT LESS THAN 6".	90	95	N/A	85	90	95
3	O.D./24 MINIMUM, NOT LESS THAN 3". IF ROCK FOUNDATION, USE O.D./12 MINIMUM, NOT LESS THAN 6".	85	90	95	85	90	95
4	O.D./24 MINIMUM, NOT LESS THAN 3". IF ROCK FOUNDATION, USE O.D./12 MINIMUM, NOT LESS THAN 6".	NO COMPACTION REQUIRED	NO COMPACTION REQUIRED	85	NO COMPACTION REQUIRED	NO COMPACTION REQUIRED	85

(A) WELL GRADED MIXTURE OF STONE FRAGMENTS, GRAVEL AND SAND IN ACCORANCE W/ AASHTO M 145 GROUP A-1 OR A-3
(B) LOW PLASTIC GRANULAR MATERIAL IN ACCORDANCE W/ AASHTO M145 GROUP A-2 OR A-4
(C) SILTY CLAYS IN ACCORDANCE W/ AASHTO M145 GROUP A-5, A-6, OR A-7



TRENCH INSTALLATION

LEGEND

I.D.= NORMAL INSIDE DIAMETER OF PIPE.
O.D. = OUTSIDE DIAMETER OF PIPE.
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

CONSTRUCTION SEQUENCE:

1. PLACE BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE SPRINGLINE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.

GENERAL NOTES:

1. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE BETWEEN PIPES OF 1/2 O.D. OR 12", WHICHEVER IS GREATER, BUT NOT TO EXCEED 36".
2. USE MINIMUM CLASS III PIPE UNLESS NOTED OTHERWISE. CLASS IV & V SHALL BE USED AS REQUIRED BY BACKFILL DEPTH. CLASS I AND CLASS II REINFORCED CONCRETE PIPE SHALL ONLY BE USED FOR SEWERS IN TRENCHES OUTSIDE ROADBEDS, STREET LIMITS, PARKING LOTS AND INFLUENCE OF ANY STRUCTURE.

MAXIMUM HEIGHT OF FILL OVER RCP CULVERTS

INSTALLATION TYPE	PIPE CLASS (FEET)				
	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V
TYPE 1	14	18	21	33	50
TYPE 2	9	12	16	25	38
TYPE 3	7	10	12	19	30
TYPE 4	5	7	8	13	19

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

EMBEDMENT OF RCP STORM SEWER PIPE

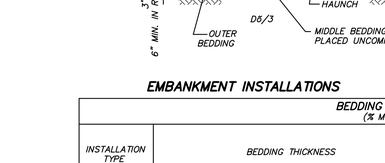
NOT TO SCALE

REQUIREMENTS FOR CULVERT PIPES AND SAFETY PIPE RUNNERS

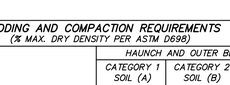
Pipe I.D.	RCP Wall "B" Thickness	TP Wall Thickness (8)	"D" (1)	Slope	Min Length of Unit	Single Pipe		Multiple Pipes	
						Skew	Pipe Runners Required	Skew	Pipe Runners Required
12"	2"	1.15"	17.00"	3:1	2' - 11"	≤ 45°	No	≤ 45°	No
				4:1	3' - 6"				
				6:1	4' - 9"				
15"	2 1/4"	1.30"	20.50"	3:1	3' - 8"	≤ 45°	No	≤ 45°	No
				4:1	4' - 7"				
				6:1	6' - 5"				
18"	2 1/2"	1.60"	24.00"	3:1	4' - 6"	≤ 45°	No	≤ 45°	No
				4:1	5' - 8"				
				6:1	8' - 0"				
24"	3"	1.95"	31.00"	3:1	6' - 2"	≤ 45°	No	= 30°	No
				4:1	7' - 10"			> 30°	Yes
				6:1	11' - 3"				
30"	3 1/2"	2.65"	38.50"	3:1	7' - 10"	= 15°	No	= 15°	No
				4:1	10' - 1"	> 15°	Yes	> 15°	Yes
				6:1	14' - 8"				
36"	4"	2.75"	45.50"	3:1	9' - 5"	= 0°	No	≥ 0°	Yes
				4:1	12' - 3"				
				6:1	17' - 11"	> 0°	Yes		
42"	4 1/2"	2.7"	52.50"	3:1	11' - 1"	≥ 0°	Yes	≥ 0°	Yes
				4:1	14' - 5"				
				6:1	21' - 2"				

PLAN
(Showing bell end connection.)

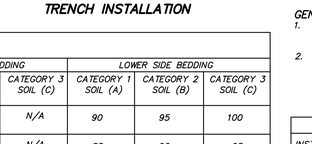
LONGITUDINAL ELEVATION
(Showing bell end connection.)

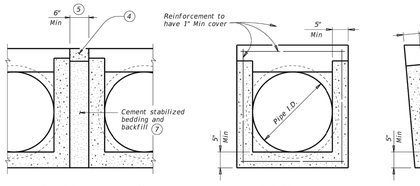


END DETAIL FOR INSTALLATION OF SAFETY PIPE RUNNERS
(If required)



OPTIONAL JOINT FOR RCP
(Showing joint between RCP and precast safety end treatment)





MULTIPLE PIPE INSTALLATION

OPTION WITH SQUARE BOTTOM

OPTION WITH INVERT BOTTOM

SECTION A-A

INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS
(If required)

SAFETY PIPE RUNNER DIMENSIONS

Max Safety Pipe Runner Length	Required Pipe Runner Size		
	Pipe Size	Pipe O.D.	Pipe I.D.
11' - 2"	3" STD	3.500"	3.068"
15' - 6"	3 1/2" STD	4.000"	3.548"
20' - 10"	4" STD	4.500"	4.026"
35' - 4"	5" STD	5.563"	5.047"

(1) Dimension "D" is based on reinforced concrete pipe (RCP) meeting the requirements of ASTM C-76, Class III, (RCP Wall "B" thickness). Adjust "D" for any other wall thickness used. For thermoplastic pipe (TP) take into account the annular space requirements for grouted connections.

(2) Slope as shown elsewhere in plans. Slope of 3:1 or flatter is required for vehicle safety.

(3) Toewall to be used only when dimension is shown elsewhere in the plans.

(4) Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap is considered subsidiary to the Item 467, "Safety End Treatment."

(5) Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.

(6) Measured along slope.

(7) Provide cement stabilized bedding and backfill in accordance with the Item 400, "Excavation and Backfill for Structures." Bedding and backfill is considered subsidiary to the Item 467, "Safety End Treatment." When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.

(8) Thermoplastic pipe wall thickness may vary. Adjust accordingly. Thermoplastic pipe requires the safety end treatments to have a bell end for grouted connections.

GENERAL NOTES:

Precast safety end treatment for reinforced concrete pipe (RCP), and thermoplastic pipe (TP) may be used for TYPE II end treatment as specified in Item "Safety End Treatment."

When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Manufacture this product in accordance with Item 467, "Safety End Treatment" except as noted below :

A. Provide minimum reinforcing of #4 at 6" (Grade 40) or #4 at 9" (Grade 60) each way or 6"x6" – D12 x D12 or 5"x5" – D10 x D10 welded wire reinforcement (WWR).

B. For precast (steel formed) sections, provide Class "C" concrete (f'c = 3,600 psi).

At the option and expense of the Contractor, the next larger size of safety end treatment may be furnished as long as the "D" dimension cast is that of the required size of pipe.

Pipe runners are designed for a traversing load of 1,800 Lbs at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

Provide safety pipe runners, cross pipes, pipe support posts, and pipe stubs meeting the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Galvanize all steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

Connect RCP using the Optional Joint for RCP detail shown or in accordance with Item 464 "Reinforced Concrete Pipe." Connect TP by grouting. See Pipe and Box Grouted Connections (PBGC) standard for grouted connections with TP and precast safety end treatment.

Texas Department of Transportation — Bridge Division Standard

(3) PRECAST SAFETY END TREATMENT
TYPE II ~ CROSS DRAINAGE

PSET-SC

File: CD-PSET-SC-21.dgn	DN: RLW	CK: KLR	DW: JTR	CK: GAF
(3) TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 12-21: Added NP TP.	DIST	COUNTY		SHEET NO.

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.

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1/11/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

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Date
JUNE 9, 2023

Revised

(1)	SEPTEMBER 20, 2023
	CITY COMMENTS
(2)	DECEMBER 19, 2023
(3)	JANUARY 11, 2024

Design: JH Drawn: SK

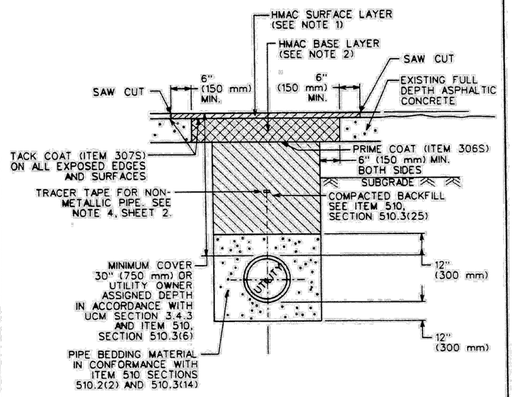
STORM SEWER DETAILS

Sheet
(1)C11.02

ES&S PROJECT NO. 15964

\\192.168.0.99\PROJECTS\GENERAL PROJECTS\15964-10FSD-DRIPPINGSPRINGS2\CAD\15964_COVER & DETAILS.DWG, 1/12/2024

REPAIR OF FULL DEPTH ASPHALTIC CONCRETE (UCM SECTION 5.5.13)

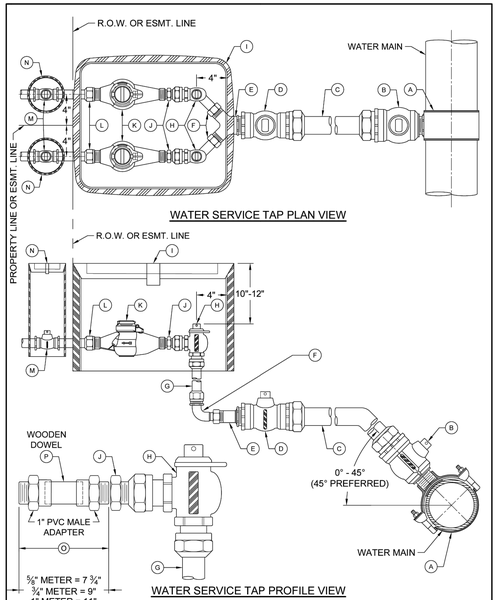


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FULL DEPTH ASPHALTIC CONCRETE PAVEMENT TRENCH REPAIR	
Bill Gardner 9/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1100S-5 1 OF 2

NOTES:

1. REPLACEMENT AC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   a) MIN. 2" (50 mm) HMAC TYPE "D" FOR TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
   b) MIN. 3" (75 mm) HMAC TYPE "C" FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS.
   SEE ITEM 340S, SECTION 340S.4.
2. THE COMBINED THICKNESS OF THE REPLACEMENT AC SURFACE AND BASE LAYERS SHALL MATCH THE THICKNESS OF EXISTING FULL DEPTH AC LAYER. HOWEVER, THE REPLACEMENT AC BASE LAYER SHALL BE A MINIMUM THICKNESS OF 6" (150 mm) OF TYPE A OR B HMA. A BASE LAYER TYPE THAT MATCHES THE NEW HMA SURFACE LAYER (SEE NOTE 1) MAY BE USED, IF THE TOTAL REPAIR AREA IS LESS THAN 300 SQUARE YARDS (250 SQUARE METERS).
3. CLASS "J" PC CONCRETE (ITEM 403S) OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE SUBSTITUTED IN THESE REPAIRS FOR THE FLEXIBLE BASE AND COMPACTED BACKFILL. PC CONCRETE GREATER THAN A 2 SACK MIX WILL NOT BE ALLOWED.
4. AS PER CITY OF AUSTIN STANDARD SPECIFICATION 510, SECTION 510.2(8)1K)5, FOR ALL NON-METALLIC PIPE, DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND A MINIMUM OF 12" (300 mm) BELOW THE SUBGRADE, OR A MINIMUM OF 18" (450 mm) BELOW FINISHED GRADE ON AREAS OUTSIDE THE LIMITS OF PAVEMENT, SHALL BE PLACED INDUCTIVE TRACER TAPE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL BE ENCASED IN A PROTECTIVE, INERT, PLASTIC JACKET AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FULL DEPTH ASPHALTIC CONCRETE PAVEMENT TRENCH REPAIR	
Bill Gardner 9/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1100S-5 2 OF 2



CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
RECORD COPY SIGNED JEFF A. KYLE 08/16/2019 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 520-AW-01B 1 OF 2

MATERIALS LIST:

A. 2" SERVICE CLAMP, SPL WW-264
B. 2" CORPORATION STOP, SPL WW-68
C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
D. 2" BALL VALVE, SPL WW-68
E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
F. 1" SWIVEL NUT X 1" COMPRESSION 90° BEND, SPL WW-68
G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
H. 1" ANGLE METER STOP, SPL WW-68
I. METER BOX AND LID, SPL WW-145A:
   FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

MATERIALS TO BE INSTALLED BY PLUMBER:

J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
K. WATER METER PURCHASED FROM AUSTIN WATER
L. BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT:
   5/8" AND 3/4" METERS: 8 1/2" LONG x 3/4" DIA.
   1" METERS: 8 1/2" LONG x 1" DIA.
M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
7. METER SIZES TO BE SHOWN ON PLANS.
8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
9. INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
10. TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2' DEPTH OF COVER.
11. 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
12. SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
13. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE **"RECLAIMED WATER"** CAST INTO THEM, SPL WW-145A.

CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
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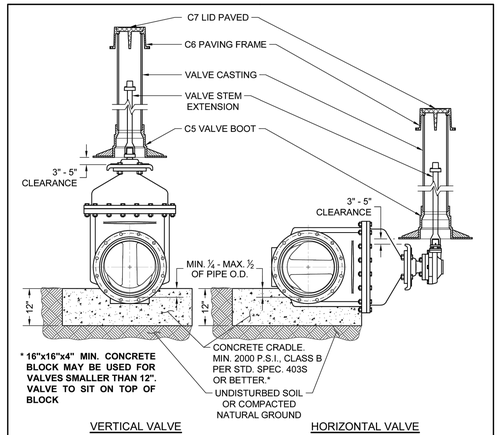


*** 16"x16"x4" MIN. CONCRETE BLOCK MAY BE USED FOR VALVES SMALLER THAN 12". VALVE TO SIT ON TOP OF BLOCK**

VERTICAL VALVE

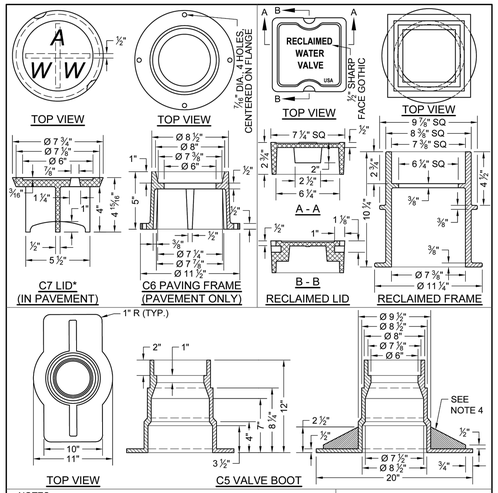
HORIZONTAL VALVE
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:

1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 1 OF 4



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:

C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS

* LETTERING SHALL BE 1 ½" 2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
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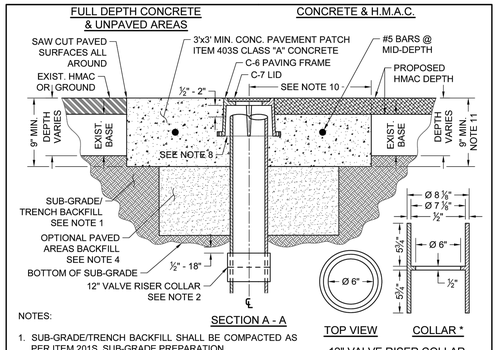
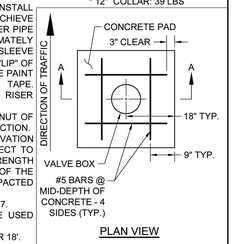
FULL DEPTH CONCRETE & UNPAVED AREAS

CONCRETE & H.M.A.C.



NOTES:

1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ½" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.



PLAN VIEW

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
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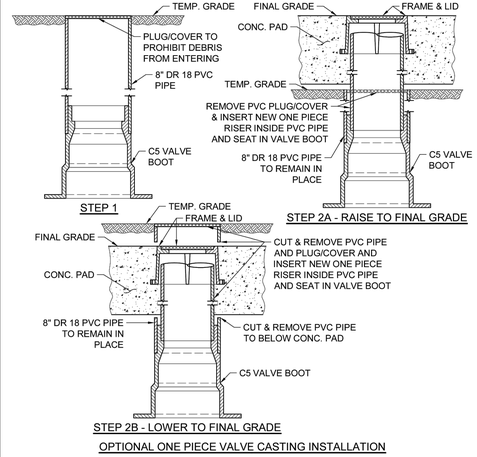
NOTES (CON'T):

8. PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED ½" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
9. IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
10. VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
11. MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



OPTIONAL ONE PIECE VALVE CASTING INSTALLATION

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 4 OF 4

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DRIPPING SPRINGS PROPERTY

3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

3/11/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
JUNE 9, 2023

Revised

1	SEPTEMBER 20, 2023
	CITY COMMENTS
3	JANUARY 11, 2024
5	MARCH 11, 2024

Design: JH Drawn: SK

WATER DETAILS

Sheet
3 C12.01

ES&S PROJECT NO. 15964

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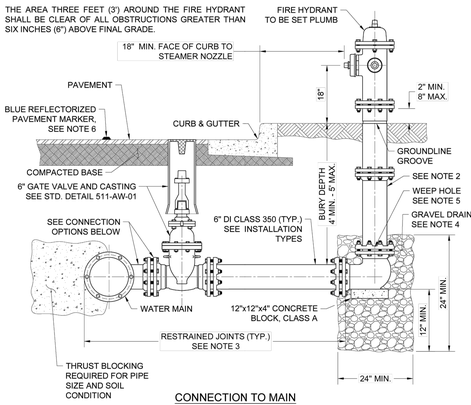
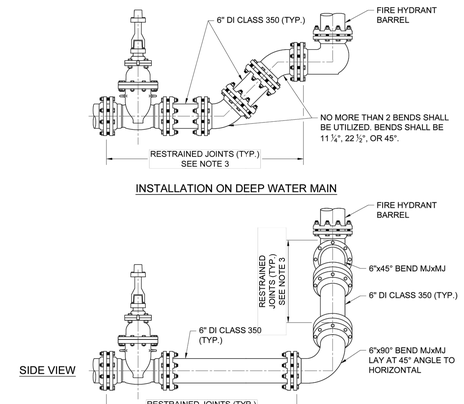


CITY OF AUSTIN AUSTIN WATER		FIRE HYDRANT ASSEMBLY	
JEFF A. KYLE	11/06/2023	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-02
	ADOPTED		1 OF 3

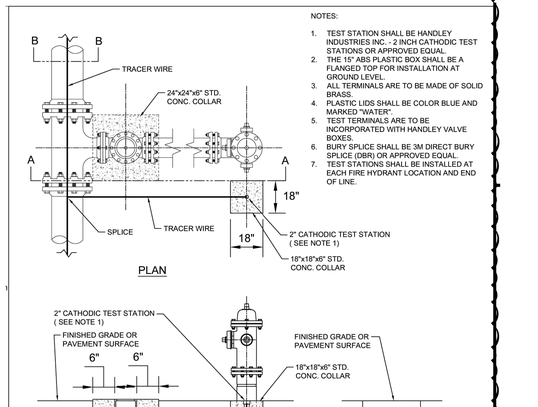


CITY OF AUSTIN AUSTIN WATER		FIRE HYDRANT ASSEMBLY	
JEFF A. KYLE	11/06/2023	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-02
	ADOPTED		2 OF 3

NOTES: APPLICABLE TO ALL INSTALLATION TYPES.

1. NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 6" OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 4' FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 4' - 5'. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT INCLUDING MJ RESTRAINT OF TEE AT THE MAIN. JOINTS SHOWN MAY VARY. SEE SPL WW-27A, WW-27A-01, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 24" IN DIAMETER AND 12" DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 12" ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620.
5. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS. CUT SLITS IN POLY-FILM WRAP AT BOOT TO ALLOW WATER TO ESCAPE FROM WEEP HOLES AND POLY-WRAP.
6. A BLUE TYPE II-B-B REFLECTORIZED PAVEMENT MARKER, CONFORMING TO STANDARD SPECIFICATION ITEM NO. 863S, SHALL BE PLACED 2 TO 3 FEET OFFSET FROM THE CENTERLINE OF PAVED STREETS, ON THE SIDE OF AND IN LINE WITH ALL NEWLY INSTALLED FIRE HYDRANTS.

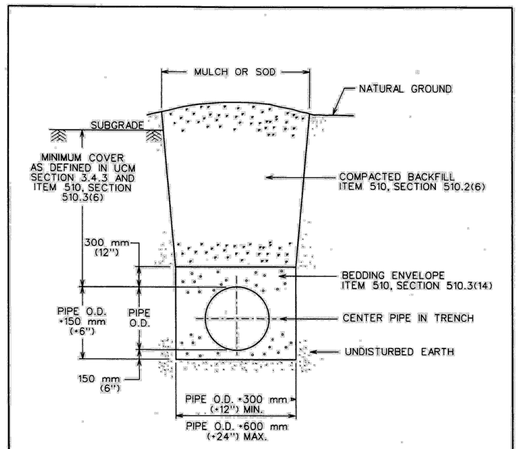
CITY OF AUSTIN AUSTIN WATER		FIRE HYDRANT ASSEMBLY	
JEFF A. KYLE	11/06/2023	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-02
	ADOPTED		3 OF 3



NOTES:

1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. - 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
6. BURY SPLICE SHALL BE 3M DIRECT BURY SPLICE (DBR) OR APPROVED EQUAL.
7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION AND END OF LINE.

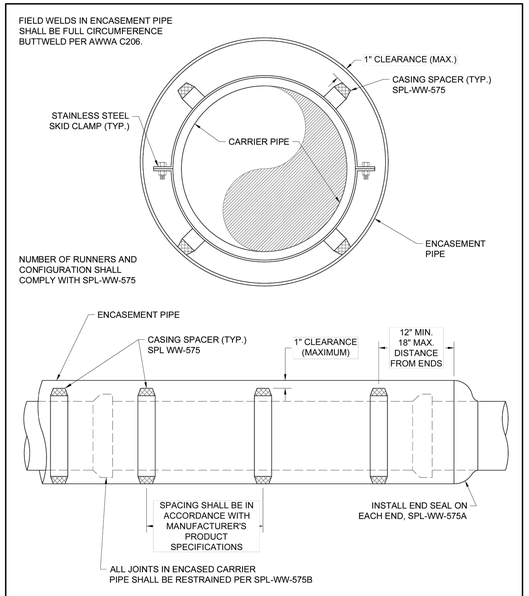
WTCPUA CONSTRUCTION STANDARDS AND DETAILS	
TRACER WIRE INSTALLATION AND TEST STATION LOCATION	



REFERENCES:

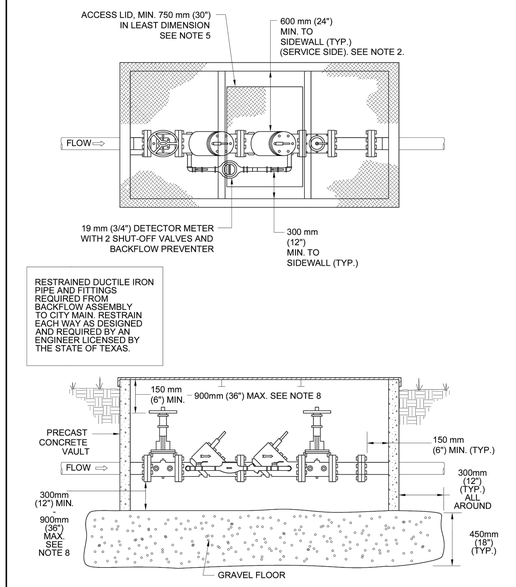
1. UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
Bice Gardner	3/13/06	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5
	ADOPTED		



APPLICABLE REFERENCES:
STANDARD SPECIFICATION: ITEM 505.4 & 510.3 (19)

CITY OF AUSTIN AUSTIN WATER		ENCASEMENT PIPE DETAIL WITH CASING SPACERS	
JEFF A. KYLE	02/22/2021	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 501-AW-01
	ADOPTED		1 OF 1



CITY OF AUSTIN WATER AND WASTEWATER UTILITY		STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
RECORD COPY SIGNED BY KATHI L FLOWERS	08/31/2011	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 520S-19C
	ADOPTED		1 OF 2

NOTES:

1. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
2. ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.
3. BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.
4. CLEARANCE SHALL BE AS INDICATED,AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM.
5. ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.
6. TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.
7. VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.
8. VAULT DEPTH MAY NOT EXCEED 1.8m (72"), BOTTOM OF LID TO TOP OF FLOOR.
9. HAND WHEELS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.
10. FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H20 LOADING REQUIRED).
11. FOR VAULT SEE SPL WW-298 OR APPROVED EQUAL (H20 LOADING REQUIRED).
12. VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.
13. THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
RECORD COPY SIGNED BY KATHI L FLOWERS	08/31/2011	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 520S-19C
	ADOPTED		2 OF 2

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DRIPPING SPRINGS, HAYS COUNTY, TEXAS

4/24/2024

MATTHEW A. KRIETE LICENSED PROFESSIONAL ENGINEER 126148

IF ORIGINAL SIGNATURE OR DIGITAL AUTHENTICATION IS NOT PRESENT THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

Date
MARCH 11, 2024

Revised
APRIL 18, 2024

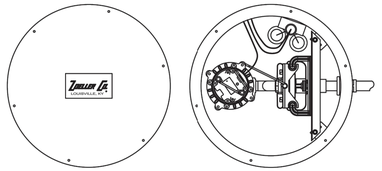
Design: JH Drawn: SK

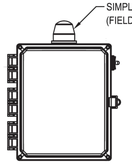
WATER DETAILS

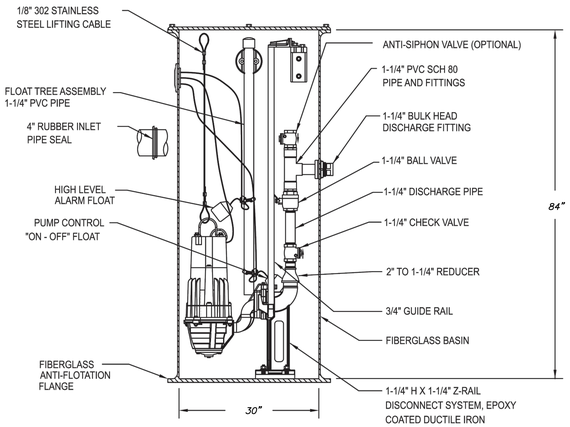
Sheet
C12.02

ES&S PROJECT NO. 15964

P:\GENERAL PROJECTS\15964-10FDS--DRIPPINGSPRINGS\CAD\15964 COVER & DETAILS.DWG 4/24/2024





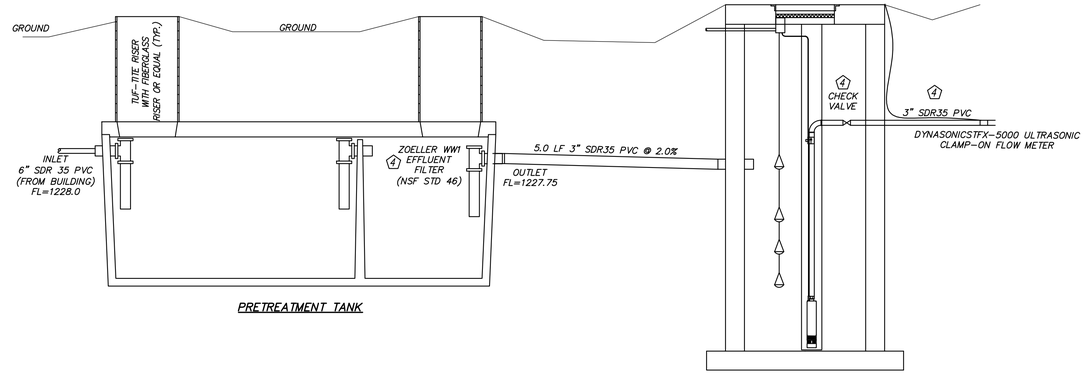


WET WELL DETAIL

NOT TO SCALE

CONTROL PANEL REQUIRMENTS

1. ELECTRICAL SERVICE DESIGN AND PERMITTING TO CONTROL PANEL SHALL BE BY CONTRACTOR
2. UTILIZE CORROSIVE RESISTANT EQUIPMENT IN THE WET WELL.
3. PROVIDE A WATERTIGHT SEAL AND SEPARATE STRAIN RELIEF FOR ALL FLEXIBLE CABLE.
4. EQUIPMENT SHALL COMPLY WITH WEATHERPROOF EQUIPMENT; NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) 4 AT A MINIMUM AND 4X WHERE NECESSARY. AND NEMA STANDARD 250-2014, PUBLISHED DECEMBER 15, 2014.
5. INSTALL A ONE HUNDRED TEN VOLT (110V) POWER RECEPTACLE AT THE CONTROL PANEL LOCATED OUTDOORS TO FACILITATE MAINTENANCE.
6. PROVIDE GROUND FAULT CIRCUIT INTERRUPTION (GFCI) PROTECTION FOR ALL OUTDOOR RECEPTACLES.
7. ALARM SYSTEMS WITH AN UNINTERRUPTED POWER SERVICE SHALL BE PROVIDED FOR PUMPING SYSTEMS.
4. 8. VISUAL AND AUDIO ALARM SHALL HAVE A MANUAL "SILENCE" SWITCH.



PRETREATMENT TANK

WET WELL

4 NOTES:

1. ALL TOPS/LIDS SHALL BE SET 3" HIGHER THAN SURROUNDING GRADE. BACKFILL AROUND EACH VIA SLOPING UP FLUSH WITH TOPS/LIDS ALLOWING FOR EASY MOWING OVER THE TOP. FINAL GRADE SHALL DIRECT ALL SURFACE RUNOFF AROUND THE TOPS/LIDS, NOT ACROSS.
2. TANK SHALL BE REINFORCED CONCRETE (ASTM C1227), FIBERGLASS, OR REINFORCED POLYETHENE WITH WATER TIGHT AND STURDY CONSTRUCTION AND SHALL BE MARKED WITH MANUFACTURER'S NAME, ADDRESS, AND TANK CAPACITY.
3. TANK RISERS SHALL BE A MIN DIAMETER OF 12".
4. DIRECTION OF FLOW SHALL BE LABELED ON TANK.
5. FLOWLINES CAN BE ADJUSTED TO ACCOUNT FOR SPECIFIC TANK MANUFACTURER REQUIREMENTS. MAINTAIN TOP/LID ELEVATIONS AS SHOWN. OBTAIN APPROVAL OF ALL ADJUSTMENTS PRIOR TO ORDERING.
6. PRETREATMENT TANK SHALL BE 1000 GALLON AND SHALL BE FITTED WITH INLET TEE AND OUTLOT TEE.
7. OUTLET TEE SHALL BE FITTED WITH FILTER.
8. TANKS SHALL BE BEDDED AND BACKFILLED WITH SAND, SANDY LOAM, OR PEA GRAVEL.
9. INSPECTION
   - 9.1. TANK EXCAVATION, BEDDING, AND BACKFILL MUST BE OBSERVED BY A CERTIFIED PROFESSIONAL.
   - 9.2. TANKS SHALL BE FILLED AND OBSERVED FOR LEAKS AFTER 24-HOURS. ANY LEAKS FOUND MUST BE REPAIRED.
   - 9.3. DOSING FIELD SHALL BE INSPECTED FOR PLAN CONFORMANCE BY A CERTIFIED PROFESSIONAL
   - 9.4. ADDITIONAL OBSERVATIONS MUST BE MADE AS REQUIRED BY THE HAYS COUNTY HEALTH DEPARTMENT.
   - 9.5. PRIOR TO SUBSTANTIAL COMPLETION, ALL COMPONENTS OF THE PUMP AND CONTROLS SHALL BE TESTED AND CONFIRMED TO OPERATE AS DESIGNED, INCLUDING ALARMS, PUMP DOSING RATE, PUMP ON/OFF, CONTROL LOGGING. ETC.

TANK - WET WELL CROSS SECTION

NOT TO SCALE

PUMP DETAILS

	CURRENT OPERATIONS
AVERAGE FLOW IN LIFT STATION	100.6 GPD
STATIC HEAD	7.25 FT
TOTAL DYNAMIC HEAD	10.35 FT
DOSAGE RATE	15 GPM
DESIGN PUMP	ZOELLER 803 ~60 208V/0.5 HP SUBMERSIBLE PUMP (ELECTRIC = SINGLE PHASE)
PUMP DISCHARGE OUTLET SIZE	0'-1 1/4"
PUMP TIME	2.8 MIN
CYCLES PER DAY	1.2 CYCLES

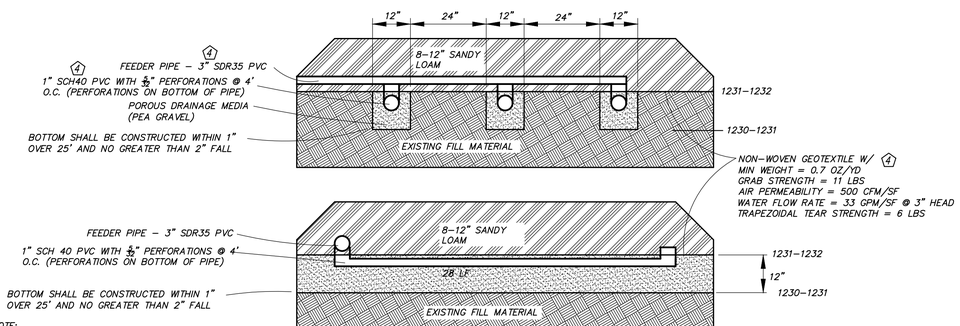
WET WELL ELEVATIONS

7

	PER DATUM	FROM TOP OF TANK	FROM BOTTOM OF TANK
TOP	1231.00	0.00	90.00
FEEDER PIPE	1229.00	24.00	66.00
FL IN	1227.60	40.80	49.20
PUMP ON	1226.80	50.40	39.60
ALARM ON	1227.50	42.00	48.00
PUMP OFF	1224.55	77.40	12.60
WET WELL FLOOR	1224.00	84.00	6.00
LIFT STATION BASE	1223.50	90.00	0.00

WET WELL AND VALVE VAULT NOTES:

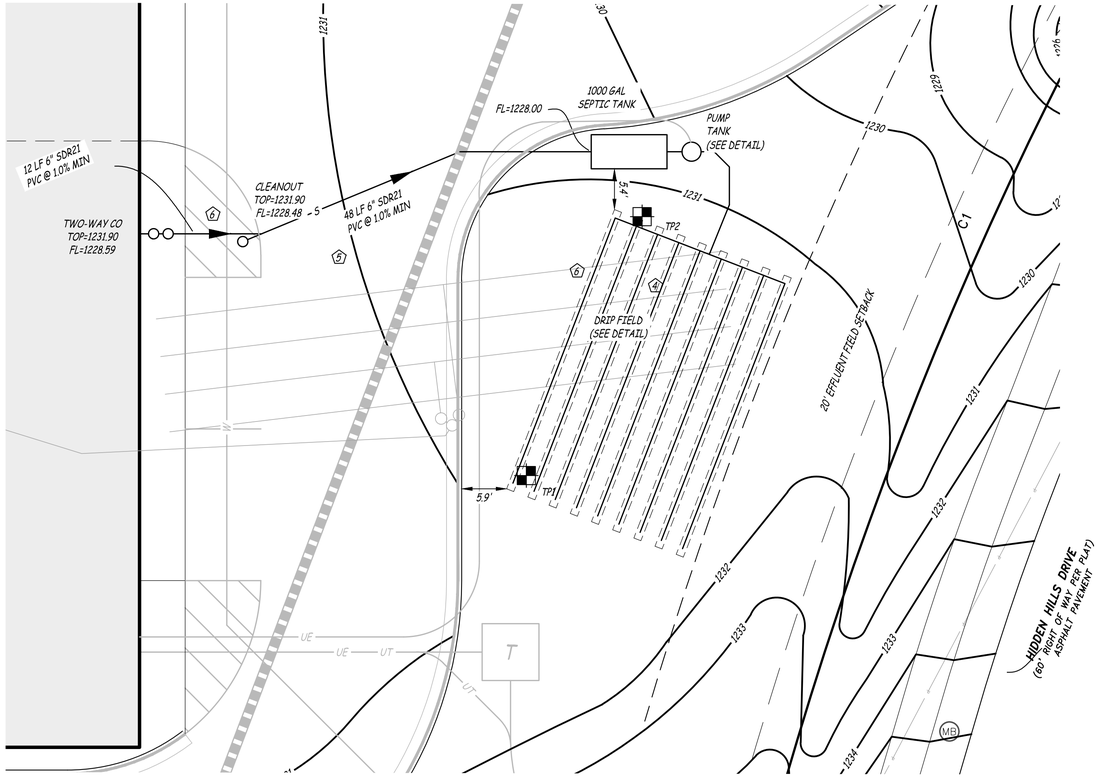
1. CONTRACTOR SHALL SELECT PUMP AND/OR PACKAGE PUMP SYSTEM MEETING REQUIREMENTS NOTED AND SUBMIT TO ENGINEER FOR FINAL DESIGN AND APPROVAL.
2. FLOATS ARE SHOWN AN A VISUAL REPRESENTATION. WATER ELEVATION DEVICE TO BE SELECTED BY CONTRACTOR.



NOTE:
4 1. EXISTING FILL IN DOSING AREA SHALL CONTAIN LESS 30% GRAVEL. EXISTING GRAVEL DRIVEWAY (UPPER 6"-8" OF SOILS) SHALL BE REMOVED AND REPLACED SILTY CLAY LOAM SOILS.
2. A MIN OF 12" OF SOILS SHALL BE PROVIDED BETWEEN FRACTURED OR SOLID ROCK & CONTAINING LESS THAN 30% GRAVEL.

DOSING TRENCH DETAIL

NOT TO SCALE



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N

0 1"
SCALE: 1" = 10'

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3976B E. US 290
DRIPPING SPRINGS, HAYS COUNTY, TEXAS

5/28/2024

STATE OF TEXAS
MATTHEW A. KRIETE
126148
PROFESSIONAL ENGINEER

MATTHEW A. KRIETE
LICENSED PROFESSIONAL ENGINEER 126148

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Date
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Revised	
1	SEPTEMBER 20, 2023
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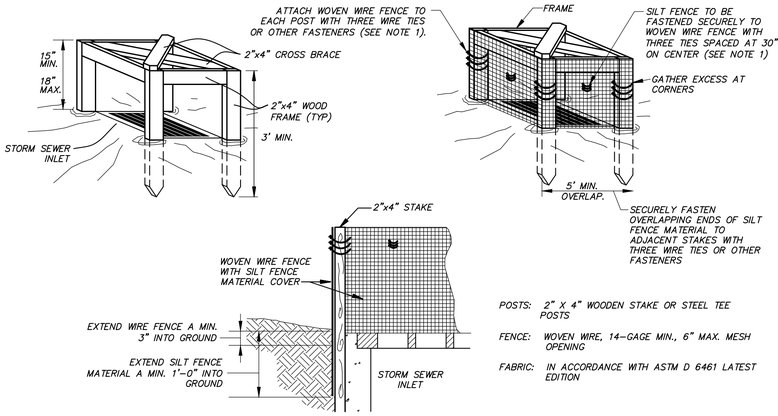
	SEPTEMBER 27, 2023
3	JANUARY 11, 2024
4	JANUARY 19, 2024
6	APRIL 18, 2024
7	MAY 28, 2024

Design: JH Drawn: SK

SANITARY SEWER DETAILS

Sheet
1 C13.01

ES&S PROJECT NO. 15964



POSTS: 2" X 4" WOODEN STAKE OR STEEL TEE POSTS

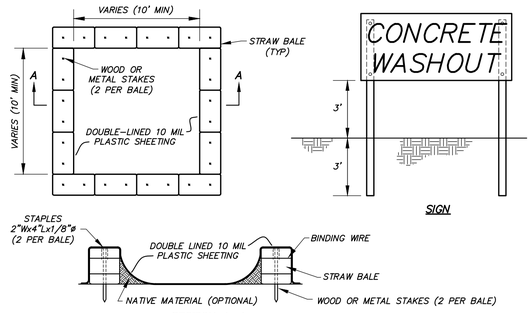
FENCE: WOVEN WIRE, 14-GAGE MIN., 6" MAX. MESH OPENING

FABRIC: IN ACCORDANCE WITH ASTM D 6461 LATEST EDITION

1. ATTACH THE WOVEN WIRE FENCE TO EACH POST AND THE GEOTEXTILE TO THE WOVEN WIRE FENCE (SPACED EVERY 30") WITH THREE WIRE TIES OR OTHER FASTENERS, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART.
2. WHEN TWO SECTIONS OF SILT FENCE MATERIAL ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED ACROSS TWO POSTS.
3. MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. DEPTH OF ACCUMULATED SEDIMENTS MAY NOT EXCEED ONE-THIRD THE HEIGHT OF THE FABRIC. MAINTENANCE CLEANING MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ONE-THIRD THE HEIGHT OF THE SILT FENCE MATERIAL.
4. ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT.

SILT FENCE INLET PROTECTION

NOT TO SCALE

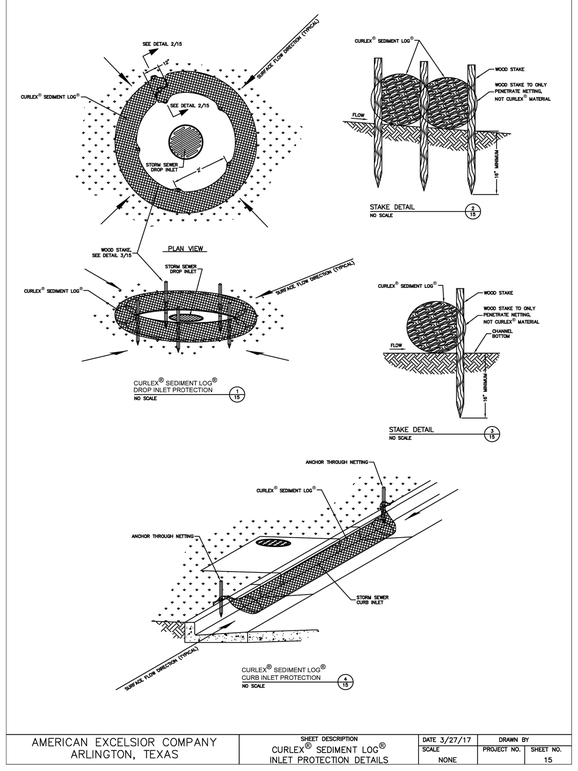


SECTION A-A

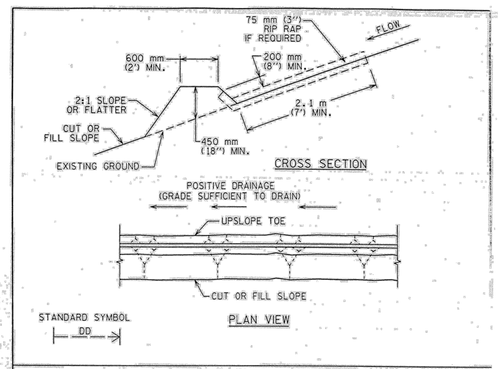
NOTES:
1. ALL CONCRETE WASTE MATERIAL, INCLUDING WASHOUT WATER, SHALL BE TOTALLY CONTAINED.
2. SEE SWPPP FOR MORE DETAILS.
3. UPON PROJECT COMPLETION CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CONCRETE WASTE FROM THE OWNER'S PROPERTY PER ALL APPLICABLE SOLID WASTE REGULATIONS.
4. CONSTRUCT SIGN OF WEATHER PROOF MATERIALS OF A SIZE EASILY READABLE BY CONCRETE TRUCK DRIVERS. PLACE SIGN WITHIN 10' OF WASHOUT.
5. CONTRACTOR SHALL CONTAIN WASHOUT WATERS AT ALL TIMES.

CONCRETE WASHOUT AREA

NOT TO SCALE

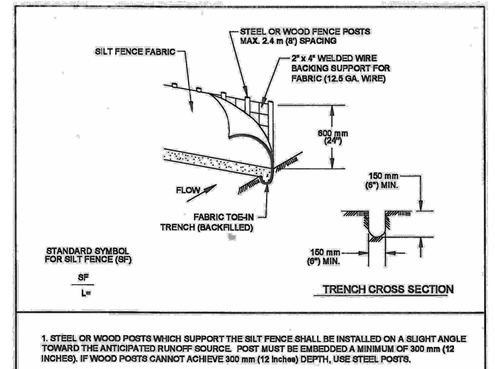


AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS	SHEET DESCRIPTION: CURLEX® SEDIMENT LOG® INLET PROTECTION DETAILS	DATE 3/27/17	DRAWN BY
		SCALE: NONE	PROJECT NO.
			SHEET NO. 15



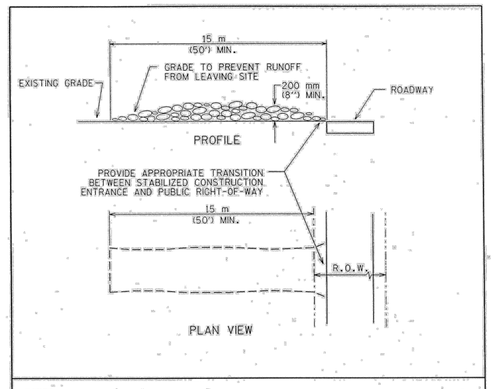
GENERAL NOTES :
1. ALL DIKES SHALL BE MACHINE COMPACTED.
2. ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. a. DIVERTED RUNOFF FROM A PROTECTED OR STABILIZED AREA SHALL HAVE ITS OUTLET FLOW DIRECTED TO AN UNDISTURBED STABILIZED AREA OR INTO A LEVEL SPREADER OR GRADE STABILIZATION STRUCTURE.
   b. DIVERTED RUNOFF FROM A DISTURBED OR EXPOSED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE, SUCH AS A ROCK BERM, BRUSH BERM, STONE OUTLET STRUCTURE, SEDIMENT TRAP OR SEDIMENT BASIN OR TO AN AREA PROTECTED BY ANY OF THESE PRACTICES.
4. UNLESS OTHERWISE SPECIFIED, EROSION STABILIZATION SHALL BE OPEN GRADED ROCK 75 TO 125 mm (3 TO 5 inches) IN DIAMETER EMBEDDED IN SOIL SURFACE.
5. INSPECTION SHALL BE CONDUCTED WEEKLY OR AFTER EACH RAINFALL EVENT.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	DIVERSION DIKE	
ADOPTED 3.27.00	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 622S-1



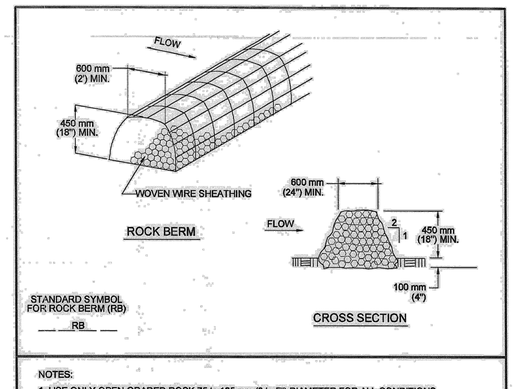
1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 Inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 Inches) DEEP AND 150 mm (6 Inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
ADOPTED 9/1/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1



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

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
ADOPTED 5/23/00	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



NOTES:
1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
ADOPTED 8/24/2010	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1

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DRIPPING SPRINGS, HAYS COUNTY, TEXAS

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1/11/2024

STATE OF TEXAS
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Date
JUNE 9, 2023

Revised
1 SEPTEMBER 20, 2023
CITY COMMENTS
3 JANUARY 11, 2024

Design: JH Drawn: SK

EROSION CONTROL DETAILS

Sheet
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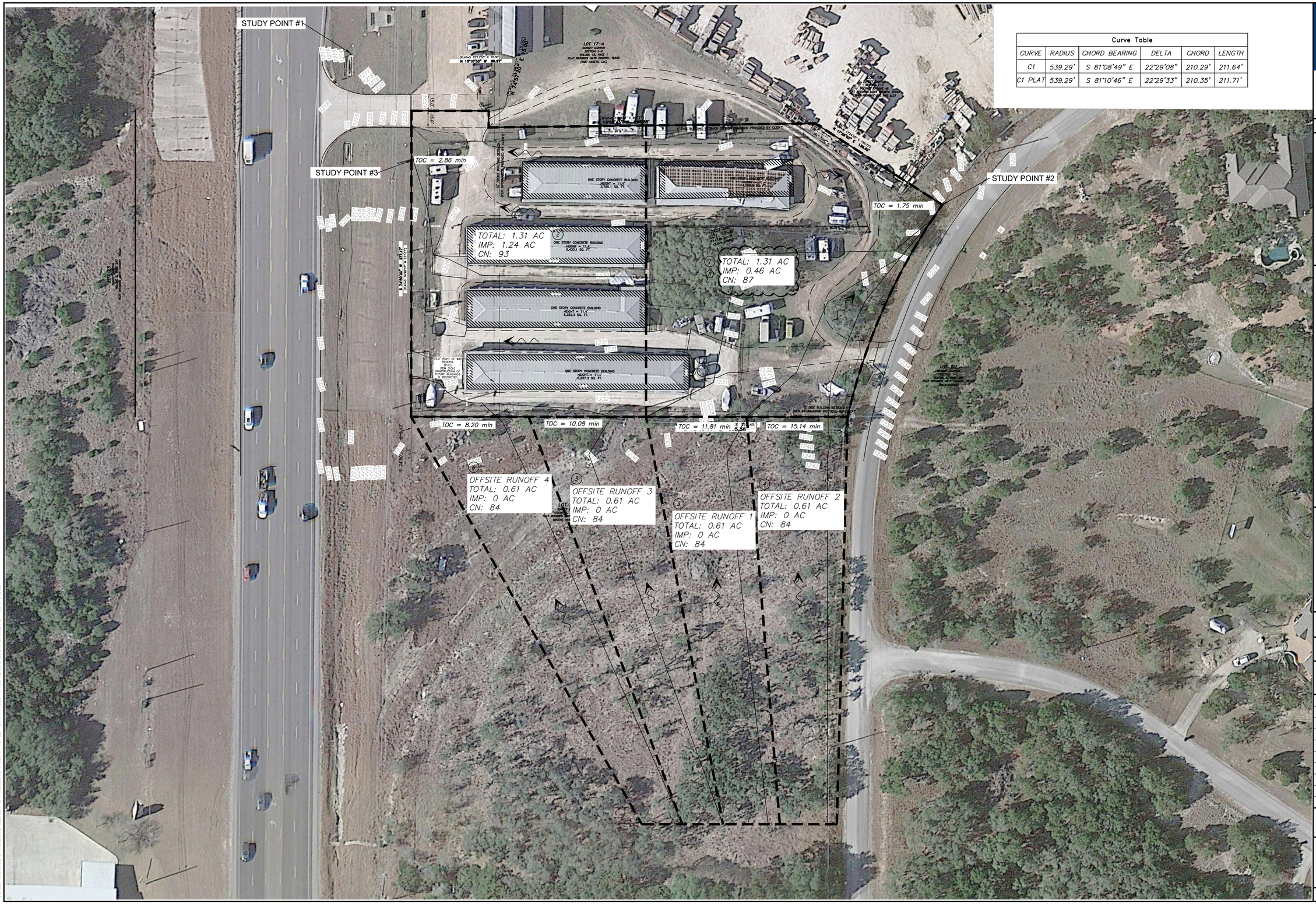

Curve Table					
CURVE	RADIUS	CHORD BEARING	DELTA	CHORD	LENGTH
C1	539.29'	S 81°08'49" E	22°29'08"	210.29'	211.64'
C1 PLAT	539.29'	S 81°10'46" E	22°29'33"	210.35'	211.71'

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6/17/2024

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Date
SEPTEMBER 20, 2023

Revised	
⬠3	JANUARY 11, 2024
⬠8	JUNE 17, 2024

PRE-DEVELOPMENT
DRAINAGE AREA MAP

Sheet
C15.01

ES&S PROJECT NO. 15964

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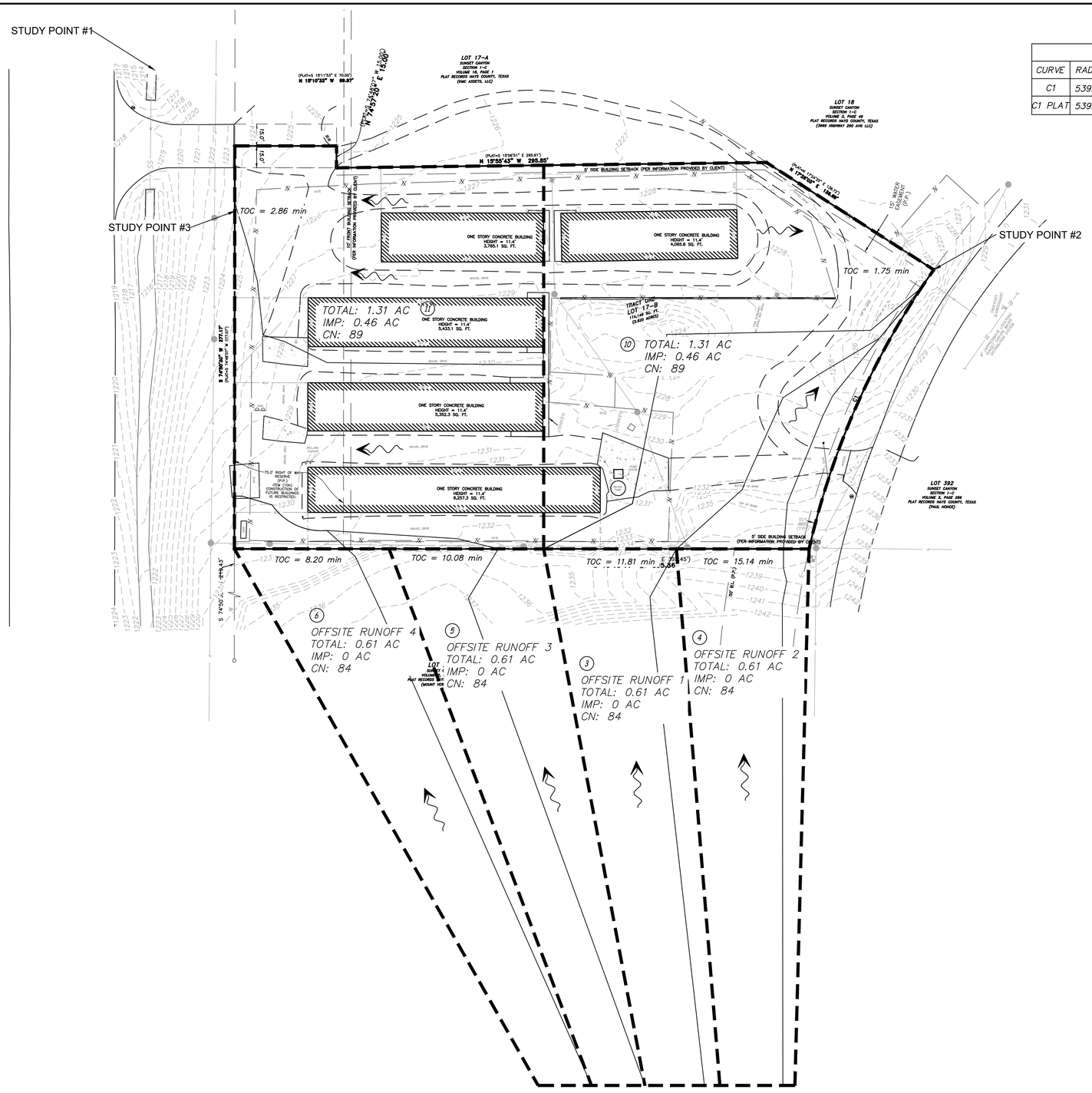

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(2) REVISION NOTES
1. ADDED FLOW INDICATORS

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0 1"
SCALE: 1" = 20'

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(3) 1/11/2024

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Date
SEPTEMBER 20, 2023

Revised
(2) DECEMBER 20, 2023
(3) JANUARY 11, 2024

35% IMPERVIOUS DRAINAGE AREA MAP

Sheet
C15.02

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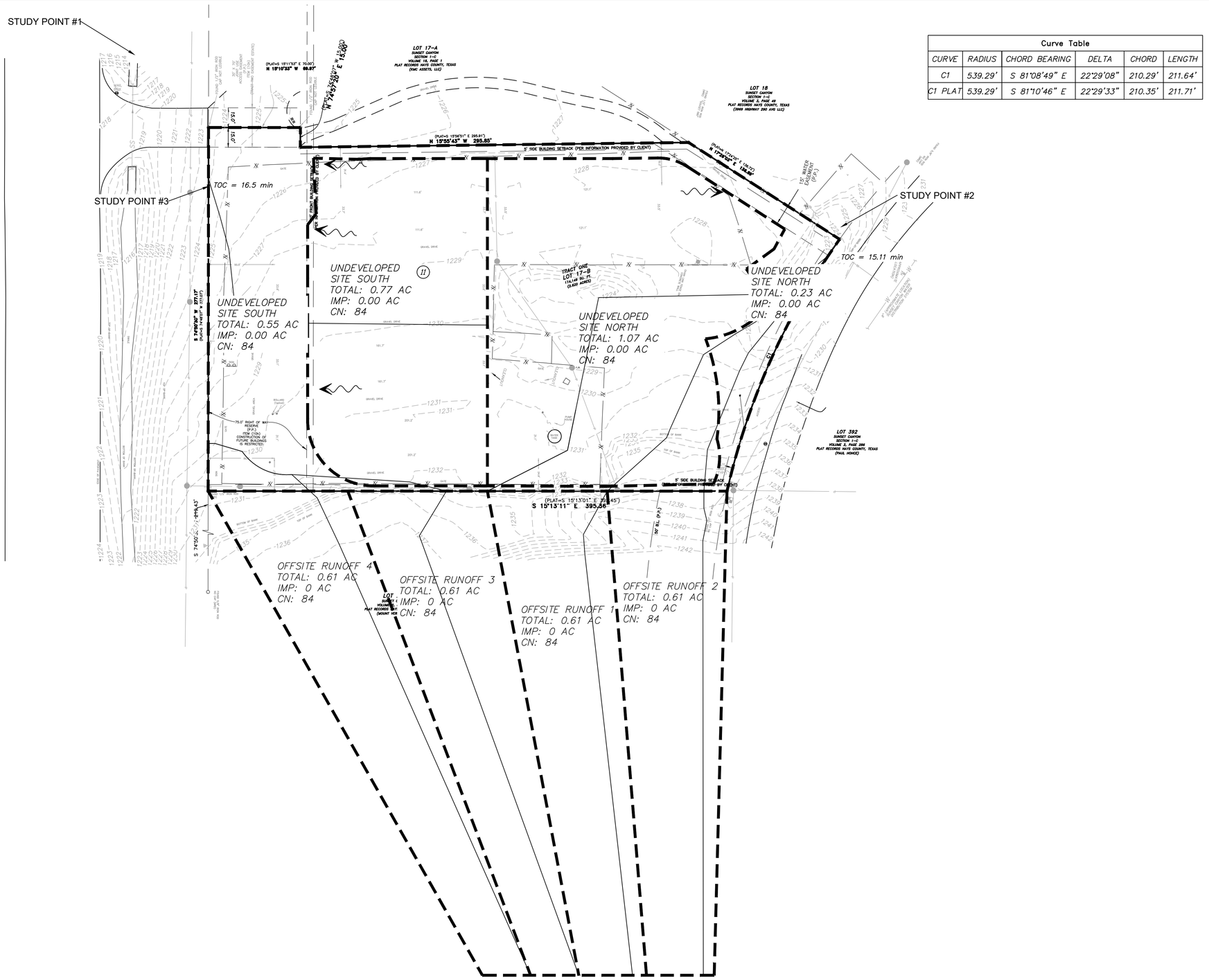

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Date
SEPTEMBER 17, 2024

Revised

UNDEVELOPED
DRAINAGE AREA MAP

Sheet
C15.03

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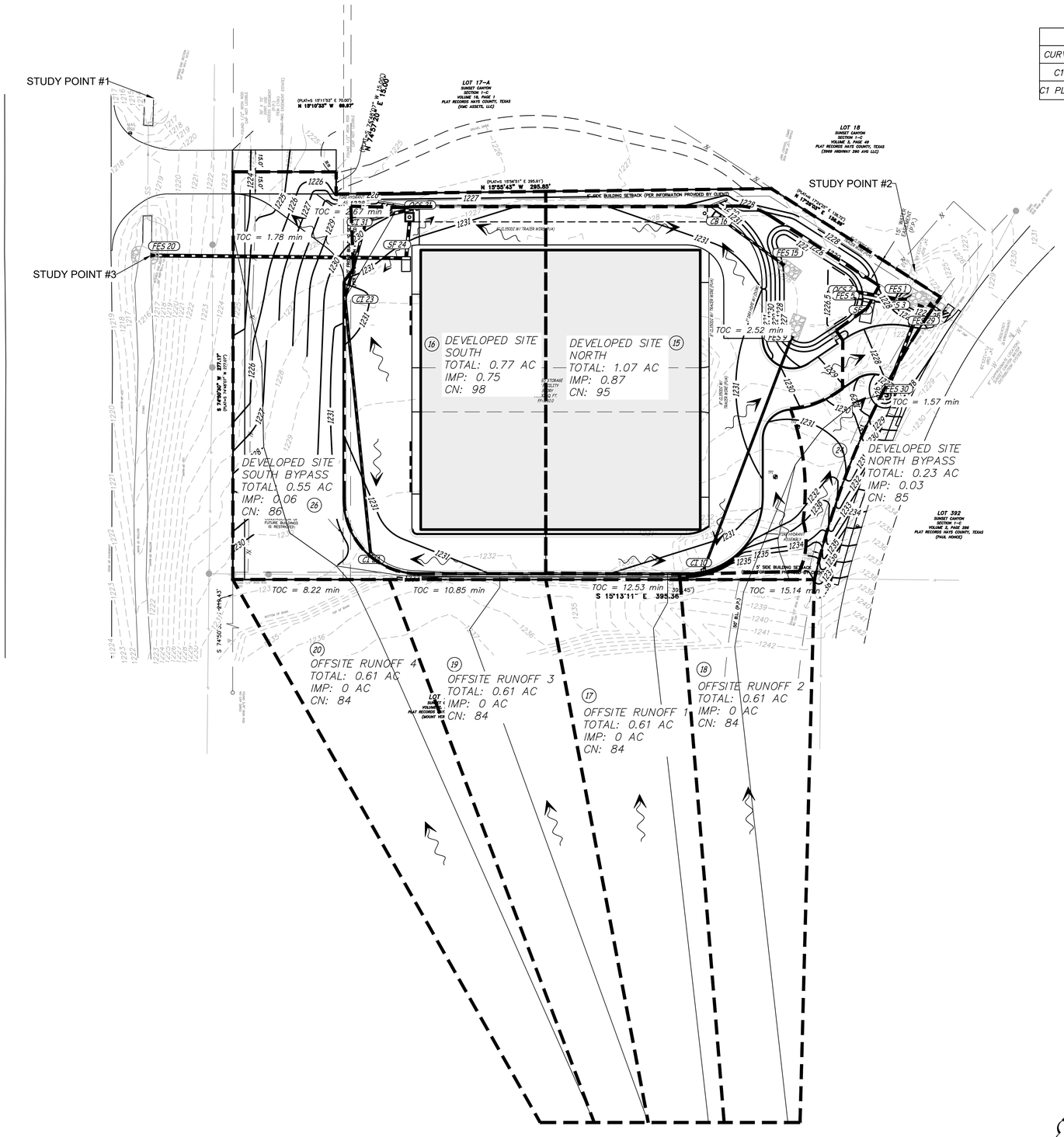

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REVISION NOTES

1. ADDED FLOW INDICATORS

⑨
2. UPDATED ONSITE BASIN VALUES
3. PREVIOUS CHANGE MARKS DELETED FOR CLARITY

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①	SEPTEMBER 20, 2023
②	DECEMBER 20, 2023
③	JANUARY 11, 2024
⑤	MARCH 11, 2024
⑧	JUNE 17, 2024
⑨	SEPTEMBER 20, 2024

POST DEVELOPMENT
DRAINAGE AREA MAP

Sheet
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ES&S PROJECT NO. 15964

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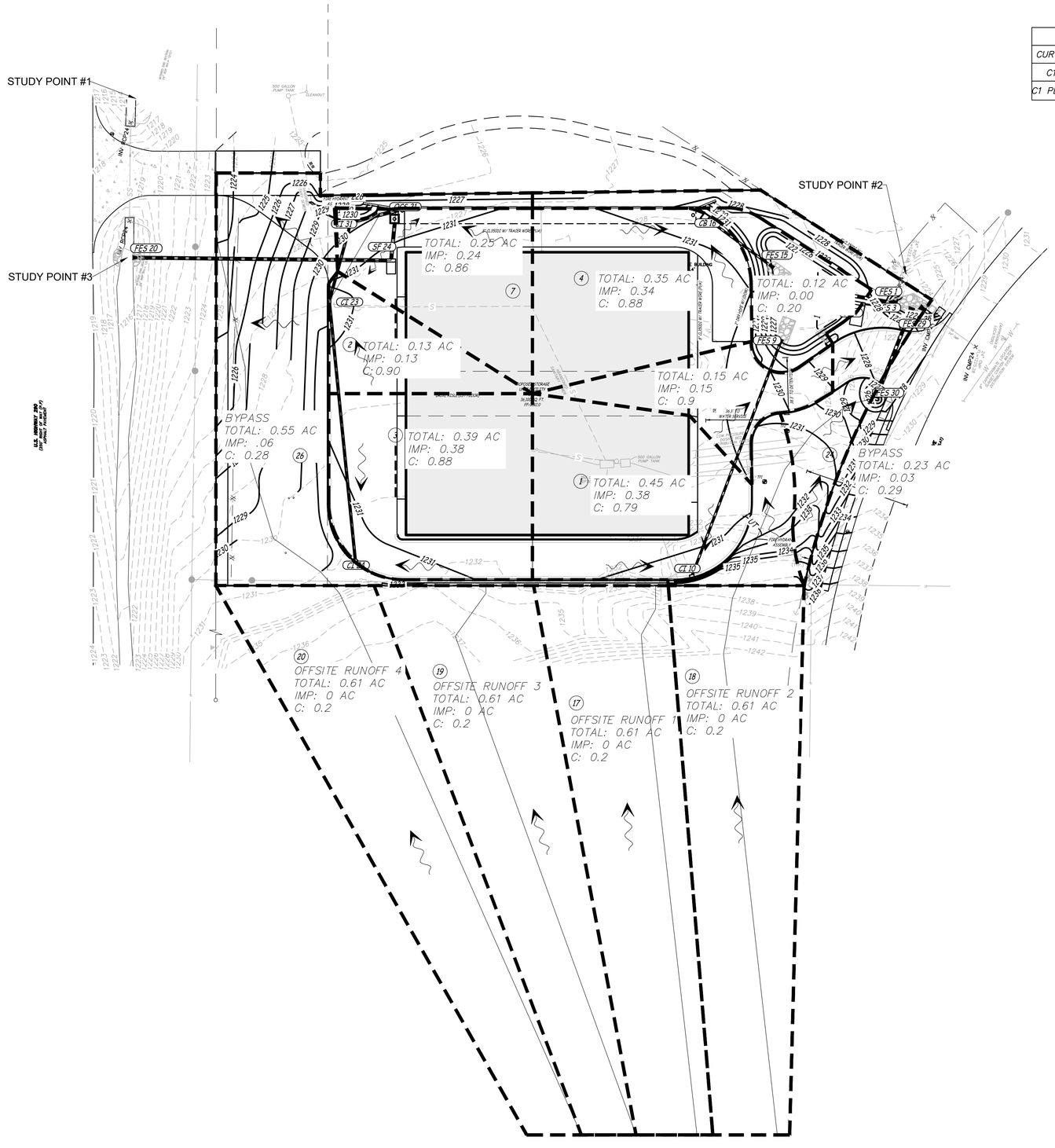

REVISION NOTES
1. ADDED FLOW INDICATORS
2. UPDATED ONSITE BASIN VALUES
3. PREVIOUS CHANGE MARKS DELETED FOR CLARITY

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9	SEPTEMBER 20, 2024

STORM SEWER DRAINAGE MAP

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