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: PEC La Cima Substation						**2. Regulated Entity No.:**			
3. Customer Name: Pedernales Electric Cooperative INC						**4. Customer No.:** CN601327927			
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):**			7.5
9. Application Fee:	$5,000		**10. Permanent BMP(s):**			Sedimentation/Filtration Pond			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Hays		**14. Watershed:**			Upper San Marcos River			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	_X_ 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 _X_ 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.
Greg Ulcak, PE Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 11/14/24

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):	

General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) 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.

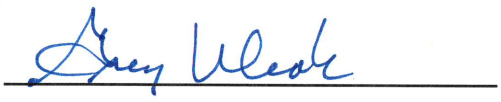
Signature

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 **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Civil Design Group, LLC (Greg Ulcak, PE)

Date: 11/14/24

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: PEC La Cima Substation
2. County: Hays
3. Stream Basin: Guadalupe River Basin
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [ ] SCS
   [ ] Modification
   [ ] AST
   [ ] UST
   [ ] Exception Request

7. Customer (Applicant):

Contact Person: Christian Powell
Entity: Pedernales Electric Cooperative
Mailing Address: 303 Colorado St., Suite 2300
City, State: Austin, Texas Zip: 78701
Telephone: _____ FAX: _____
Email Address: _____

8. Agent/Representative (If any):

Contact Person: Greg Ulcak,PE
Entity: Civil Land Group, LLC
Mailing Address: 206 West Main St., Ste. 101
City, State: Round Rock, Texas Zip: 78664
Telephone: (512) 992-0118 FAX: _____
Email Address: gulcak@civlndgrp.com

9. Project Location:

[X] The project site is located inside the city limits of San Marcos, Texas
[ ] The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
[ ] The project site is not located within any city's limits or ETJ.

10. [X] The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

The project is located at 2701 RR12, San Marcos Texas. Site is on west side of RR 12 at a driveway just south of Academy Drive & north of W.Centerpoint.

11. [X] **Attachment A – Road Map.** A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. [X] **Attachment B - USGS / Edwards Recharge Zone Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

[X] Project site boundaries.
[X] USGS Quadrangle Name(s).
[X] Boundaries of the Recharge Zone (and Transition Zone, if applicable).
[X] Drainage path from the project site to the boundary of the Recharge Zone.

13. [X] **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

[X] Survey staking will be completed by this date: 12-15-2024

14. [X] **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

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

15. Existing project site conditions are noted below:

- [ ] Existing commercial site
- [ ] Existing industrial site
- [ ] Existing residential site
- [ ] Existing paved and/or unpaved roads
- [ ] Undeveloped (Cleared)
- [X] Undeveloped (Undisturbed/Uncleared)
- [ ] Other: _____

Prohibited Activities

16. [X] I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. [N/A] I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

18. The fee for the plan(s) is based on:

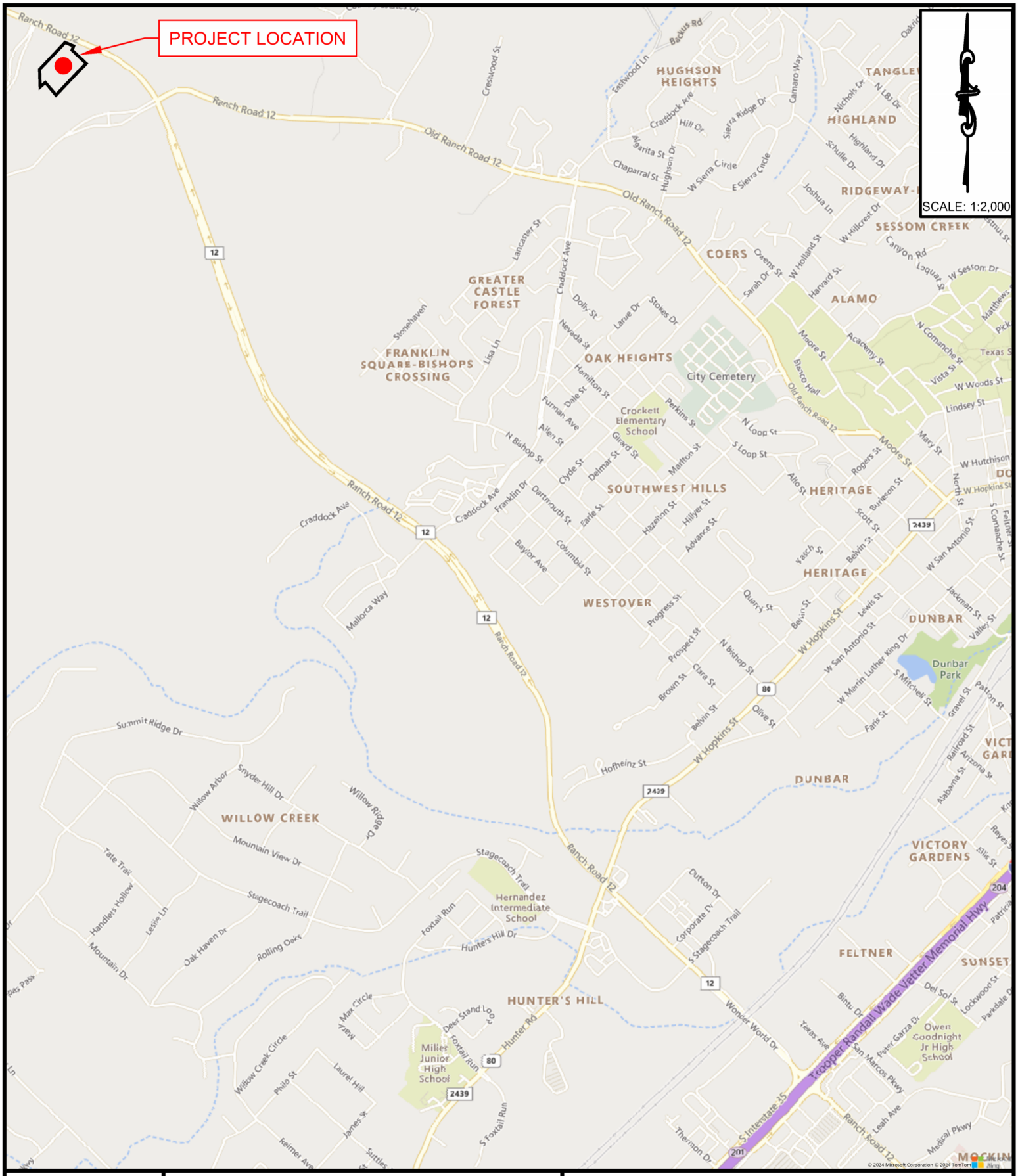
- [X] For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- [ ] For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- [ ] For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- [ ] A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- [ ] A request for an extension to a previously approved plan.

19. [X] Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- [X] ~~TCEQ cashier~~ via TCEQ EPAY
- [ ] Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- [ ] San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

21. [X] No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



2701 RANCH ROAD 12
SAN MARCOS, TEXAS

ATTACHMENT A - ROAD MAP

ATLAS DESIGN SERVICES

WWW.ATLASDGN.COM

ADMIN@ATLASDGN.COM

PHONE: (737) 667-5422

FIRM # F-22445

3001 S LAMAR BLVD, SUITE A-230 AUSTIN, TEXAS 78704

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

The National Map
US Topo

SAN MARCOS NORTH QUADRANGLE
TEXAS
7.5-MINUTE SERIES

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, October 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
0°32´
9 MILS
3°50´
68 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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

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

CONTOUR INTERVAL 10 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

ADJOINING QUADRANGLES
1 Driftwood
2 Mountain City
3 Buda
4 Wimberley
5 Uhland
6 Hunter
7 San Marcos South
8 Martindale

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

SAN MARCOS NORTH, TX
2022

NSN. 7643016398095
NGA REF NO. USGSX24K39669

LA CIMA SUBSTATION

ATTACHMENT C – Project Description

The site is 7.50 acres located at 2701 RR 12, Unit B, San Marcos, Texas 78666. This site lies within the Edward's Aquifer Recharge Zone.

This site is currently undeveloped with zero impervious cover.

The proposed project will be an electric substation for Pedernales Electric Corporation, Inc. (PEC)

The proposed site will include 2.55 acres of impervious cover (34.0%). The impervious cover requires a total TSS removal of 2190 lbs. The proposed Sand Filter is 89% efficient and will remove of 2190 lbs of TSS.

The TSS calculations are included on the Construction Plans - Drawing # C-114.

Site Summary:

Site Area: 7.50 acre
Offsite Area: N/A
Impervious Cover: 34%
Permanent BMP(s): Sand Filter
Proposed Site Use: Electric Substation
Site History: Site is an undeveloped portion of La Cima Master Planned Community
Previous Development: Undeveloped
Areas to be demolished: None

24038869 DEED Total Pages: 5
Filed and Recorded: 10/04/2024 04:25:54 PM

'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.

GENERAL WARRANTY DEED

GF# 2338466-COM

STATE OF TEXAS §
§
COUNTY OF HAYS §

Date: Effective October 4, 2024

Grantor: LA CIMA COMMERCIAL, LP, a Texas limited partnership

Grantee: PEDERNALES ELECTRIC COOPERATIVE, INC., a Texas electric cooperative corporation

Address: PO Box 1
Johnson City, TX 78636
Blanco County

Consideration:

The sum of Ten and No/100 Dollars ($10.00) and other good and valuable cash consideration in hand paid by Grantee to Grantor, the receipt and sufficiency of which is hereby acknowledged, and for the payment of which no lien, express or implied, is retained against the Property.

Property (including any improvements):

Being 7.5 acres of land, more or less, out of the JOHN WILLIAMS SURVEY, ABSTRACT NO. 490 and the JOHN MAXIMILIAN, JR. SURVEY NO. 15, ABSTRACT NO. 299, Hays County, Texas, being out of that called 31.079 acres conveyed to La Cima Commercial LP in Document No. 17016156, Official Public Records, Hays County, Texas. Said 7.5 acres being more particularly described by metes and bounds attached hereto as Exhibit "A".

Reservations from and Exceptions to Conveyance and Warranty:

This conveyance is made and accepted subject to all matters of record affecting the Property and all matters apparent on the ground.

Grantor, for the consideration and subject to the reservations from and exceptions to the conveyance and warranty set forth herein, has GRANTED, SOLD AND CONVEYED and does hereby GRANT, SELL AND CONVEY to Grantee all of the Property, together with all and singular the improvements located thereon and all rights and appurtenances pertaining thereto, including all right, title and interest of Grantor in and to adjacent streets, alleys, rights-of-way, roadways, strips and gores, easements and in-the-ground utilities. TO HAVE AND TO HOLD the Property to Grantee, Grantee's heirs, executors, administrators, legal representatives, successors and assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, legal representatives, successors and assigns to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, executors, administrators, legal representatives, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty set forth above.

To the extend Grantor owns any mineral rights, Grantor expressly waives rights to use the surface of the Property for any exploration, investigation, prospection, drilling, mining, producing or excavation of any minerals or other purpose related to the mineral estate. This is not intended to be a warranty or agreement that other parties owning mineral rights have the rights to use the surface as allowed by law.

SIGNATURE AND NOTARY PAGE FOLLOWS

GRANTOR:
LA CIMA COMMERCIAL, LP, a Texas limited partnership
By: La Cima Commercial GP, LLC, General Partner

BY: _____
Bryan W. Lee, Manager

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

This instrument was acknowledged before me on September 27, 2024, by Bryan W. Lee, Manager of La Cima Commercial GP, LLC, a Texas limited liability company, General Partner of LA CIMA COMMERCIAL, LP, a Texas limited partnership, on behalf of said partnership and company.

STEPHANIE FARBER
My Notary ID # 12002851
Expires June 13, 2028

_____
Notary Public's Signature
Notary State of TEXAS

AFTER RECORDING, PLEASE RETURN TO:

Exhibit "A"

BEING a 7.500 acre tract of land lying in the John Williams Survey, Abstract 490 and in the John Maximillion Jr. Survey No. 15, Abstract 299, Hays County, Texas, same being a portion of a 31.079 acre tract of land described as Exhibit "B" and recorded in document number 17016156, Official Public Records of Hays County, Texas, same also being described as follows:

BEGINNING at a 5/8" iron rod found with Texas Department of Transportation Type III aluminum disk (Northing: 13,877,093.77, Easting: 2,258,535.22) in the southwest right-of-way line of R.M. Highway 12 (varying width right-of-way) for the north corner of the aforementioned 31.079 acre tract, the south corner of a 0.0458 of an acre tract of land as described and recorded in document number 16006618, Official Public Records of Hays County, Texas, a west corner of a 0.464 of an acre tract of land as described and recorded in volume 4254, page 511, Official Public Records of Hays County, Texas, the east corner of a 4.337 acre tract of land described as "Tract One" and recorded in volume 1080, page 874, Official Public Records of Hays County, Texas, and the north corner of the herein described 7.500 acre tract, from which a 1/2" iron rod found in the northwest line of said 4.337 acre tract bears N81°37'38"W a distance of 122.24 feet;

THENCE along the southwest right-of-way line of the aforementioned R.M. Highway 12, a northeast line of the aforementioned 31.079 acre tract and a southwest line of the aforementioned 0.464 of an acre tract, S66°44'02"E a distance of 147.44 feet (S66°44'02"E - 147.44') to a 5/8" iron rod found with Texas Department of Transportation Type III aluminum disk for an interior corner of said 0.464 of an acre tract and an east corner of the herein described 7.500 acre tract;

THENCE along a southeast line of the aforementioned 31.079 acre tract and a northwest line of the aforementioned 0.464 of an acre tract, S23°05'26"W a distance of 19.99 feet to a 5/8" iron rod found with Texas Department of Transportation Type III aluminum disk in a southwest right-of-way line of the aforementioned R.M. Highway 12 for an interior corner of said 31.079 acre tract, a west corner of said 0.464 of an acre tract;

THENCE leaving the southwest right-of-way line of the aforementioned R.M. Highway 12, S23°05'26"W a distance of 46.36 feet a 1/2" iron rod set with plastic cap stamped "CDS/MUERY S.A. TX." for an interior corner of the herein described 7.500 acre tract;

THENCE S46°22'49"E a distance of 310.56 feet to a 1/2" iron rod set with plastic cap stamped "CDS/MUERY S.A. TX." for an east corner of the herein described 7.500 acre tract, from which a 5/8" iron rod found with Texas Department of Transportation Type III aluminum disk in the southwest right-of-way line of the aforementioned R.M. Highway 12 and a northeast line of the aforementioned 31.079 acre tract for the east corner of the aforementioned 0.464 of an acre tract bears N78°45'57"E a distance of 310.95 feet;

THENCE S43°23'46"W a distance of 694.58 feet to a 1/2" iron rod set with plastic cap stamped "CDS/MUERY S.A. TX." in a southwest line of the aforementioned 31.0179 acre tract and the northeast line of Lot 1 of the La Cima Fire Station Plat as described and recorded in document number 21021091, Plat Records of Hays County, Texas, for the south corner of the herein described 7.500 acre tract, from which a 1/2" iron rod found with plastic cap stamped "BCG" bears S40°23'45"E a distance of 181.93 feet (Record - S40°23'45"E);

THENCE along a southwest line of the aforementioned 31.079 acre tract and the northeast line of the aforementioned Lot 1, N40°23'45"W a distance of 263.02 feet (Record - N40°23'45"W) to a 1/2" iron rod found with plastic cap stamped "BCG" for an interior corner of said 31.079 acre tract, the north corner of said Lot 1 and an interior corner of the herein described 7.500 acre tract;

THENCE along a southeast line of the aforementioned 31.079 acre tract and the northwest line of the aforementioned Lot 1, S48°50'54"W a distance of 109.33 feet (Record - S48°50'54"W - 109.93') to a 1/2" iron rod found for an angle corner of said 31.079 acre tract, an angle corner of the aforementioned 4.337 acre tract and an angle corner of the herein described 7.500 acre tract;

THENCE along a west line of the aforementioned 31.079 acre tract and the east line of the aforementioned 4.337 acre tract, N01°39'13"W a distance of 282.80 feet (Record - N01°39'13"W - 282.80') to a 1/2" iron rod found for the west corner of said 31.079 acre tract and an interior corner of said 4.337 acre tract and the west corner of the herein described 7.500 acre tract;

THENCE along the northwest line of the aforementioned 31.079 acre tract and a southeast line of the aforementioned 4.337 acre tract, N43°23'46"E a distance of 587.87 feet (Record - N43°23'46"E - 587.88') to the **PLACE OF BEGINNING** and containing 7.500 acres of land.

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.

24038869 DEED
10/04/2024 04:25:54 PM Total Fees: $37.00

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

Elaine H Cárdenas

Horizon™
Environmental Services

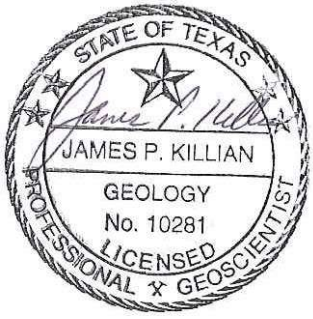
GEOLOGIC ASSESSMENT
APPROXIMATELY 7-ACRE PEC LA CIMA SUBSTATION SITE
2701 RANCH ROAD 12
SAN MARCOS, HAYS COUNTY, TEXAS
HJN 23302 GA

PREPARED FOR:

CIVIL LAND GROUP, LLC
ROUND ROCK, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES
A BRANCH OF LJA ENVIRONMENTAL SERVICES, LLC
TBPG FIRM REGISTRATION NO. 50679



JANUARY 2024

1507 S Interstate 35 • Austin, Texas 78741-2502 • 512.328.2430 • www.horizon-esi.com
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TABLE OF CONTENTS

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

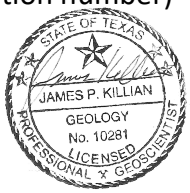
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: James Killian Telephone: 512-328-2430

Date: 10 January 2024 Fax: 512-328-1804

Representing: Horizon Environmental Services and TBPG Form Registration No. 50679 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Approximately 7-acre PEC La Cima Substation Site; 2701 Ranch Road 12, San Marcos, Hays County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 15 November and 11 to 13 December 2023
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition 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)

Soil Name	Group*	Thickness(feet)
Comfort-Rock outcrop complex, 1-8% slopes (CrD)	D	1.1

** 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" = 400'
   Site Geologic Map Scale: 1" = 400'
   Site Soils Map Scale (if more than 1 soil type): 1" = 300'

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 0 (#) 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.

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ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: PEC La Cima Substation Site; 2701 Ranch Road 12, San Marcos, Hays Co., TX

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)	DIM	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	
F-1	29.900913	-97.990315	SH/SC	20	Ked	5	3	2.5					C,F,O	25	45		X	X		Hillside
F-2	29.900805	-97.990447	SC	20	Ked	0.5	0.5	3					C,F,O	30	50		X	X		Hillside
F-3	29.901573	-97.991161	SH/SC	20	Ked	6	2.5	2					C,F,O	15	35	X		X		Hillside
F-4	29.901946	-97.990456	SC	20	Ked	1	0.5	1					C,F,O	10	30	X		X		Hillside

* DATUM:_____

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	Man-made 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.

James P. Killian

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

Date: 01/10/2024

Sheet __1___ of ___1___

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

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ATTACHMENT B

STRATIGRAPHIC COLUMN

Geologic Unit	Geologic Member	Hydrologic Unit	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
				862	0
Edwards Group	Leached & Collapsed (Kplc)	Edwards Aquifer	90	772	90
	Regional Dense (Kprd)	Edwards Aquifer	20	752	110
	Grainstone (kkg)	Edwards Aquifer	65	687	175
	Kirschberg Evaporite (Kkke)	Edwards Aquifer	60	627	235
	Dolomitic (Kkd)	Edwards Aquifer	130	497	365
	Basal Nodular (Kkbn)	Edwards Aquifer	60	437	425
Glen Rose (Kgr)	Upper (Kgru)	Confining Unit	400	37	825

Note: Unit elevation and thickness given with respect to a ground surface elevation of 862 ft along the southeastern corner of the subject site.

Horizon Environmental Services

Date:	01/11/2024
Drawn:	KRW
HJN NO:	23302.001 GA

Attachment B

Stratigraphic Column
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

23302--PEC_La_Cima_Substation_Site\Graphics\23302-001GA_05A_Strat.mxd

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ATTACHMENT C

DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of approximately 7 acres located at 2701 Ranch Road 12, San Marcos, Hays County, Texas, was conducted pursuant to Texas rules for regulated activities in the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site consists of undeveloped mixed rangeland and woodlands. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

The entire subject site is located within the EARZ, as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves.

The subject site is completely underlain by the Leached and Collapsed Member (Kplc) of the Edwards Group-Person Formation (Blome et al., 2005), which has an estimated maximum thickness of about 90 feet thick.

A total of 4 naturally occurring geologic features (F-1 to F-4) and no man-made features were identified at this site. Further information pertaining to the features is presented in the following Attachments D, E, and F.

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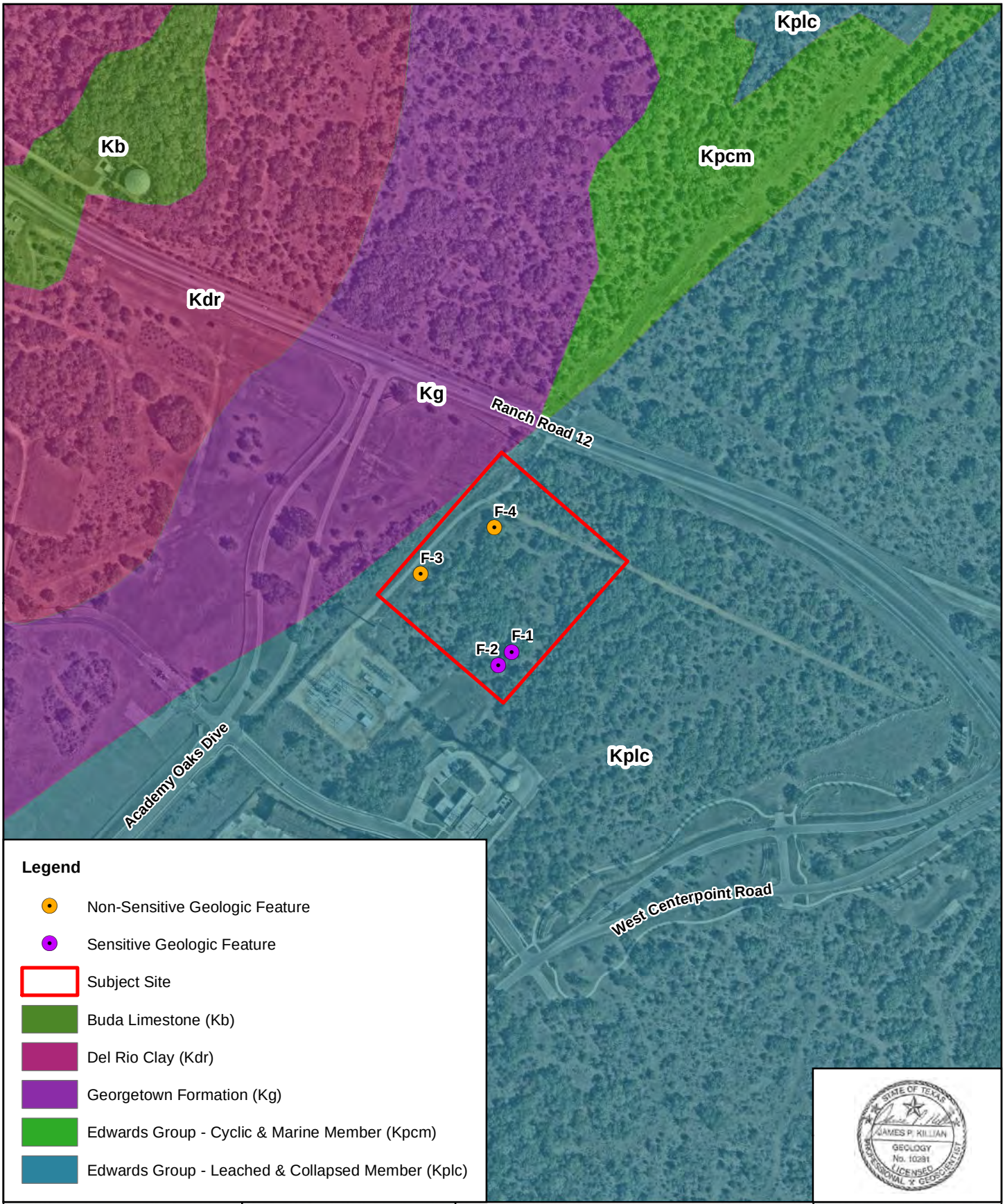
ATTACHMENT D

SITE GEOLOGIC MAP



Legend

- Non-Sensitive Geologic Feature
- Sensitive Geologic Feature
- Subject Site
- Buda Limestone (Kb)
- Del Rio Clay (Kdr)
- Georgetown Formation (Kg)
- Edwards Group - Cyclic & Marine Member (Kpcm)
- Edwards Group - Leached & Collapsed Member (Kplc)

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services

Date:	01/10/2024
Drawn:	KRW
HJN NO:	23302.001 GA
Source:	Blome et al., 2005; Nearmap, 2023

Attachment D

Site Geologic Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

N

0 200 400
Feet

23302--PEC_La_Cima_Substation_Site\Graphics\23302-001GA_06A_SGM

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ATTACHMENT E

SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 2005). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site consists of approximately 7 acres of mixed rangeland and woodlands located at 2701 Ranch Road 12 in San Marcos, Hays County, Texas (Appendix F, Figure 1).

2.2 LAND USE

The subject site is reportedly vacant land. No habitable structures were observed on the site. Ranch Road 12 is near the northeastern border of the site and Flint Ridge Road is near the southern border of the site. Surrounding lands are generally used for rural and suburban residences, recreation, and utility facilities, or are vacant.

2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on moderately sloping terrain within the Sink Creek watershed (Appendix F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 818 feet above mean sea level (amsl) within an unnamed tributary of Sink Creek near the northern site corner along Ranch Road 12 to a maximum of approximately

862 feet amsl near the southeastern site corner (USGS, 1973). Drainage on the site occurs primarily by overland sheet flow from southwest to northeast toward an unnamed tributary of Sink Creek.

2.4 EDWARDS AQUIFER ZONE

The subject site is found within the Edwards Aquifer Recharge Zone (TCEQ, 2023) (Attachment F, Figure 2).

2.5 SURFACE SOILS

One soil unit is mapped within the subject site (NRCS, 2024) (Appendix F, Figure 4). Comfort-Rock outcrop complex, 1 to 8% slopes (CrD), consists of shallow, clayey soils and Rock outcrop on side slopes and on hilltops and ridgetops on uplands in the Edwards Plateau Land Resource Area. Comfort extremely stony clay makes up 49% to more than 95% of the complex, but on average makes up 70%. The areas of Rock outcrop are long, narrow horizontal bands on hill slopes and along small drains. The Comfort soil is between the bands of Rock outcrop. Cobbles and stones as much as 4 feet across cover about 45% of the surface. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The Comfort soil is well-drained. Surface runoff is slow to medium. Permeability is slow, and the available water capacity is very low. The rooting zone is shallow. Water erosion is a slight hazard. Typically, Rock outcrop is dolomitic limestone that is barren of soil except in narrow fractures in the rock. The soils in this complex are used as rangeland and as habitat for wildlife. Production of range forage is low because of the restricted rooting depth, the very low available water capacity, and the cobbles and stones on the surface (Batte et al., 1984).

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed no water wells on the subject site and 5 wells within 0.5 miles of the subject site (TCEQ, 2023; TWDB, 2023). According to the TWDB records, all the off-site wells are reportedly completed within the Edwards and Trinity aquifers at total depths ranging from 240 to 1100 feet below surface. Horizon observed no wells on the subject site.

The results of this assessment do not preclude the existence of undocumented/abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the feature until the TCEQ is contacted.

2.7 GEOLOGY

Literature Review

The subject site is underlain by the Leached and Collapsed Member (Kplc) of the Edwards Group-Person Formation (Blome et al., 2005). The Leached and Collapsed member (Kplc) comprises crystalline limestone, mudstone to grainstone, with chert, extensive collapsed breccia, and isolated stromatolitic limestone. It is identified in the field by bioturbated iron-stained

beds separated by massive limestone beds, and presence of the fossil coral *Montastraea* sp. This member is considered the most cavernous unit in the San Marcos platform facies. It is classified as having nonfabric-selective porosity and very high permeability rates (Small and Hanson, 1994). Thickness ranges from 70 to 100 ft.

The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

The subject site is located within the Balcones Fault Zone. Available geologic reports indicate the nearest mapped fault is located approximately 0.1 mile to the northwest, trending from southwest to northeast (Blome et al., 2005).

Field Assessment

The Site Geologic Map is provided as Attachment D. The Geologic Assessment Table (Attachment A) describes those features observed on the subject site that meet the TCEQ definition of a potential recharge feature. Horizon observed approximately 4 naturally occurring geologic features (F-1 to F-4) on the subject site that meet the TCEQ definition of a potential recharge feature. No man-made features were identified on the subject site.

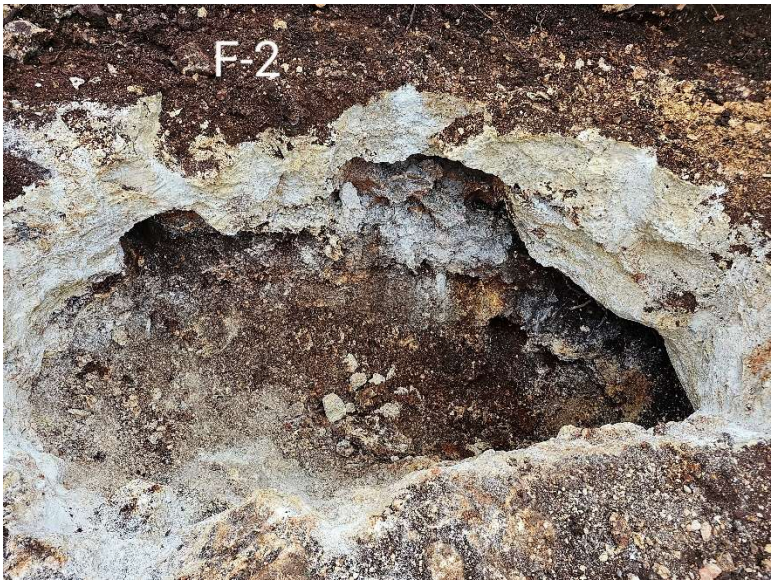
The geologic features identified on the subject site are described as follows:

Geologic Feature F-1: Sinkhole measuring approximately 5 feet long by 3 feet wide by 1 foot deep, with a solution cavity portal near its center about 2.5 feet long by 1.5 feet wide by 1.5 feet deep. Horizon initially excavated the feature by hand and slight air flow conductivity was noted at the opening. This feature has a minor infiltration rate and a surface runoff catchment of less than 0.4 acres. This feature has been deemed sensitive for groundwater recharge and therefore has a (pre-approved by James Slone) TCEQ buffer of 200 feet upslope and 25 feet downslope surrounding the feature.

Geologic feature F-1 (sinkhole), facing down

Geologic Feature F-2: Solution cavity located in an open area that measures approximately 0.5 feet in diameter by 4 feet deep. High air flow conductivity was noted at the opening. After limited hand excavation, probing with a steel rod encountered loose small rocks and/or cobbles about 4 feet below the surface. Horizon staff began excavation of the feature on 11 December 2023 using a backhoe with hoe ram attachment and finished on 12 December 2023. Excavation dimensions measured approximately 10 feet in length by 5 feet wide by 10 feet deep. Approximately 5 feet below the surface on the east end of the excavation is an entrance (6 feet across) into a solutioned bedrock void that extends about 6 feet toward the east, where it then splits into two tunnels, one continuing due east and the other extending towards the northeast. The eastern tunnel measures approximately 9 feet long by 1.5 feet wide by 0.5 to 1 foot high. The northeastern tunnel measures approximately 4.5 feet long by 1 to 2.5 feet wide by 0.5 to 1 foot high. The floor of the feature was massively infilled with loose soil/clay. The void is approximately 18 feet long (from west to east) and 6 feet from north to south at the widest section of the void (near the opening). Interior ceiling heights in the void are less than 2 feet on average. This feature has a moderate to high infiltration rate and a surface runoff catchment of less than 0.4 acres. This feature has been deemed sensitive for groundwater recharge and therefore has a (pre-approved by James Slone) TCEQ buffer of 200 feet upslope and 25 feet (instead of 50 feet) downslope surrounding the excavation/footprint of the void.

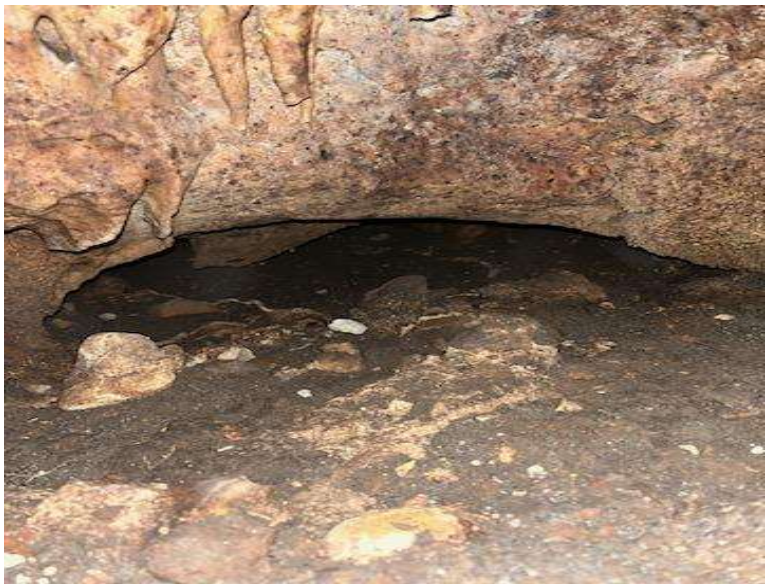
Geologic feature F-2 (solution cavity) before excavation, facing down



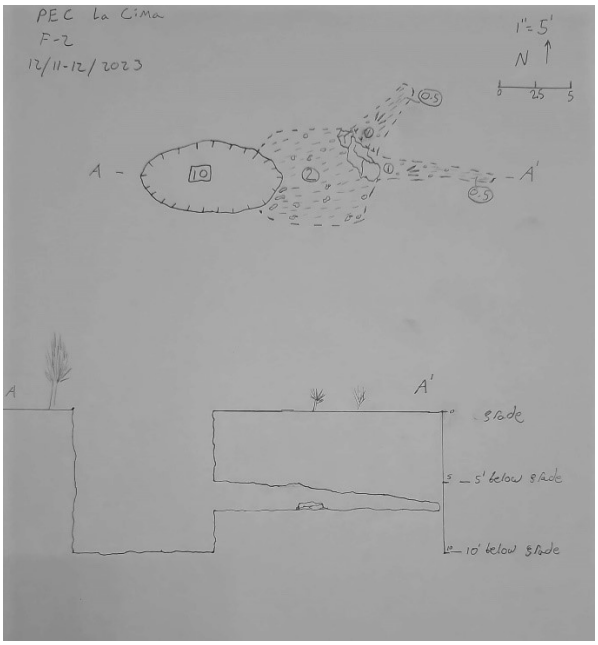
Geologic feature F-2 after excavation, facing north

Close-up view of interior of F-2

Eastern tunnel of F-2



Northeast tunnel of F-2



Sketch of F-2

Geologic feature F-3: This apparent sinkhole/solution cavity feature is located within an existing overhead electrical transmission line easement with a private, unpaved service road. Based on recent Phase II karst survey results (i.e., mechanical excavation), this feature appears to be a product of man-made fill (i.e., boulders, rocks, and fines) placed off to the side after utility easement/road cutting operations were completed. In addition, no apparent solutioned voids and/or mesocaverns were identified within the walls and/or floors of the excavated feature. Therefore, this feature has been deemed non-sensitive for aquifer point recharge.

Geologic feature F-3, facing northwest

Geologic feature F-3 after excavation, facing north

Geologic feature F-3 after excavation, facing south

Geologic feature F-3 after excavation, facing north

Geologic Feature F-4: Solution cavity measuring approximately 1 foot long by 0.5 feet wide by 1 foot deep. Very slight air flow conductivity was noted at the opening. After limited hand excavation, probing with a steel rod encountered loose small rocks and/or cobbles about 1.5 feet below the surface. Horizon staff excavated the feature (5 feet long by 3.5 feet wide by 2 feet deep) on 12 December 2023 using a backhoe with hoe ram attachment. After mechanical excavation, Horizon probed the floor of the feature with a steel rod; however, no portals and/or voids were discovered in the floor or the feature. This feature has been deemed non-sensitive for groundwater recharge capability. This feature has a very low infiltration rate and a surface runoff catchment of less than 0.1 acre.

Geologic feature F-4 (solution cavity) before excavation, facing down

Geologic feature F-4 after excavation, facing northeast

3.0 CONCLUSIONS AND RECOMMENDATIONS

Two geologic features (F-1 and F-2) were identified at the subject site that would require protection or mitigation pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213). Features F-3 and F-4 have been deemed non-sensitive for aquifer point recharge and therefore would not require protection or mitigation pursuant to TCEQ rules for protection of the Edwards Aquifer. The site generally appears well-suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any site disturbing activities.

Because the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. If any subsurface voids are encountered during site development, work should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful contribution to the Edwards Aquifer.

4.0 REFERENCES

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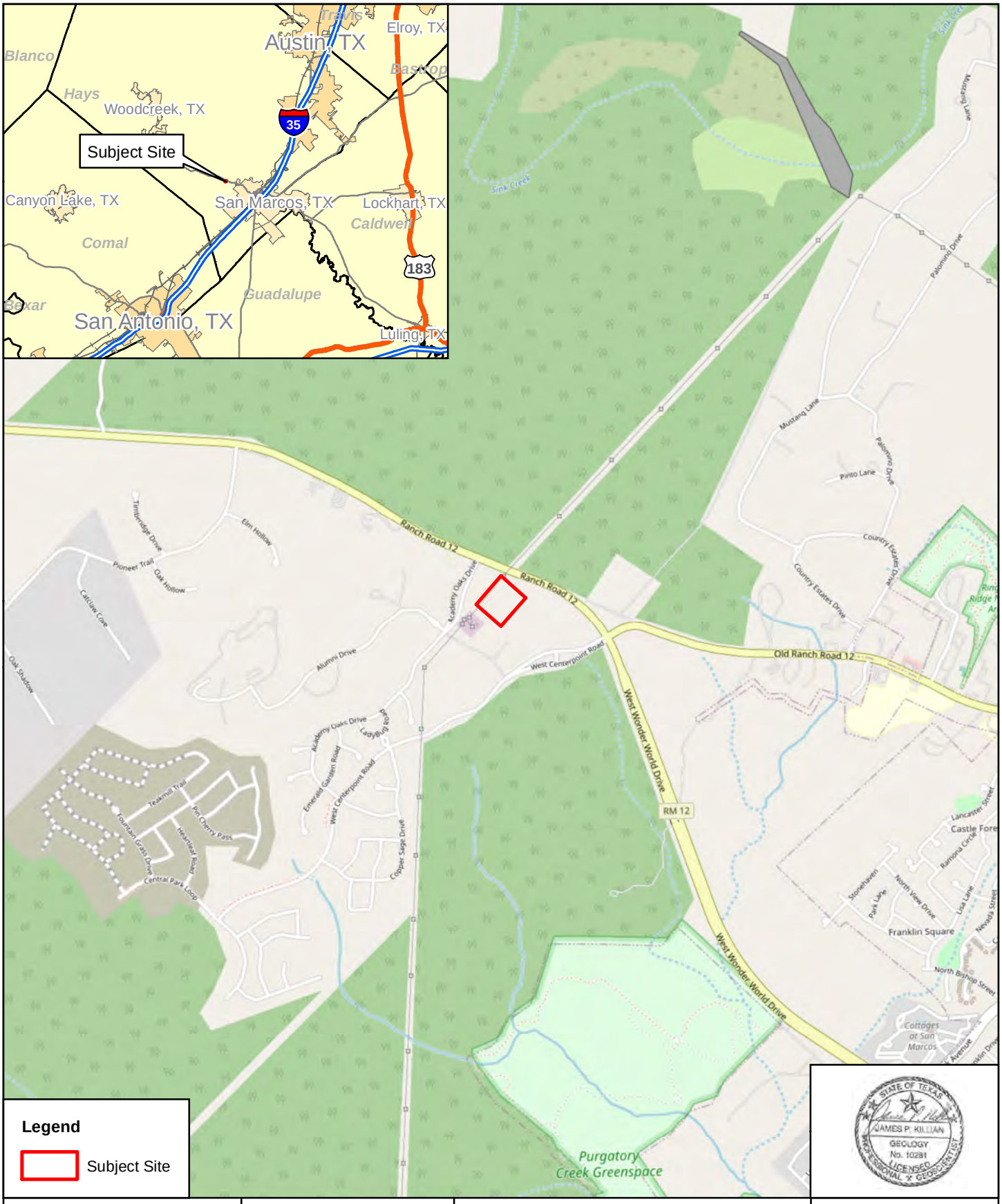
(TWSC) United States Geological Survey, Texas Water Science Center. Geologic Database of Texas, <https://txpub.usgs.gov/txgeology/>. Updated 1 February 2014; Accessed 15 November 2023.

(UT-BEG) University of Texas Bureau of Economic Geology, C.V. Proctor, Jr., T.E. Brown, J.H. McGowen, N.B. Waechter, and V.E. Barnes. *Geologic Atlas of Texas*, Austin Sheet, Francis Luther Whitney Memorial Edition. 1974; revised 1981.

(USGS) US Geological Survey. 7.5-minute series topographic maps, San Marcos North, Texas, quadrangle. 1973.

ATTACHMENT F

ADDITIONAL SITE MAPS



Date:	11/10/2023
Drawn:	TED
HJN NO:	23302.001 GA
Source:	OSM, 2023

Attachment F, Figure 1

Vicinity Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

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Feet

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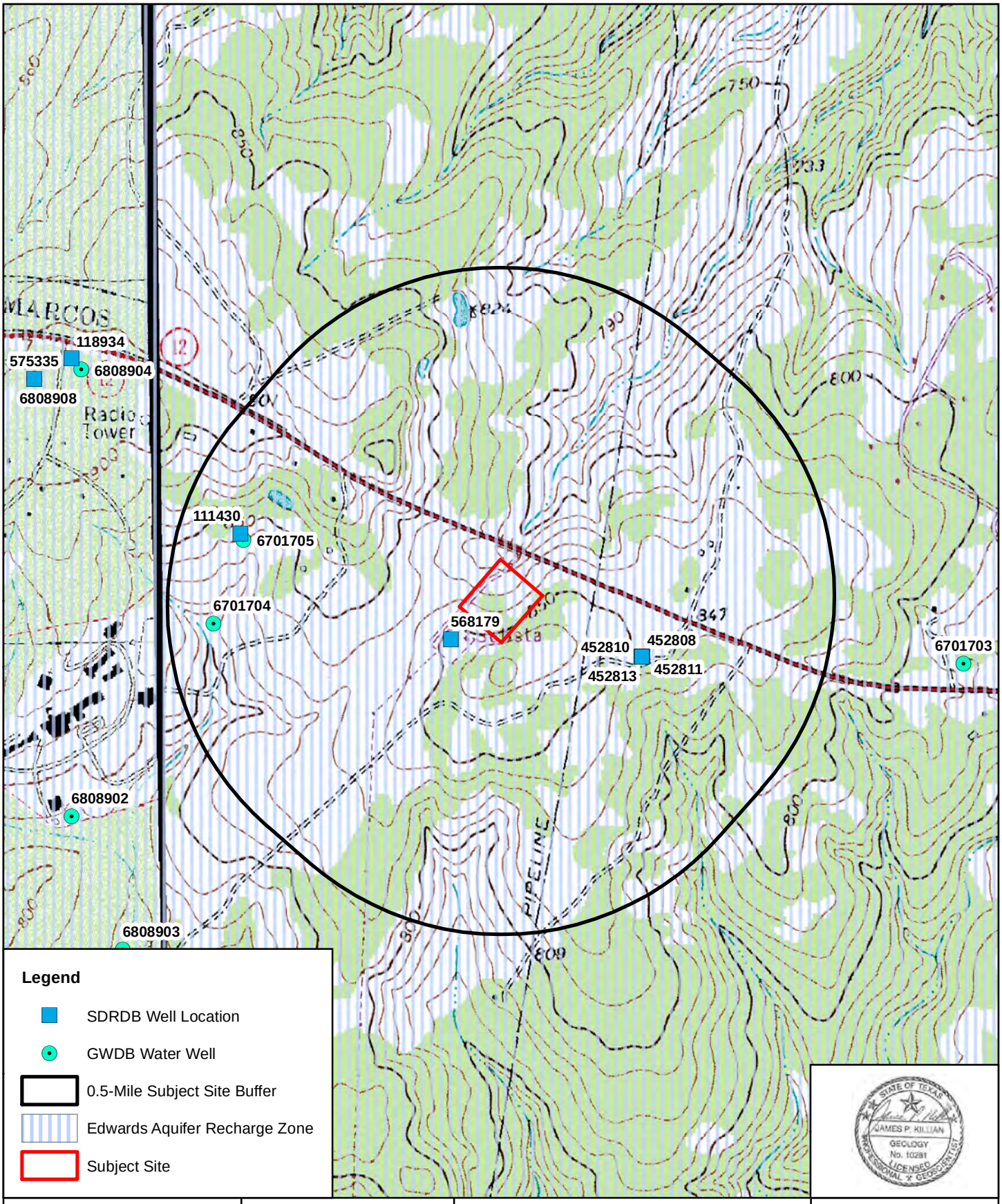

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services

Date:	11/10/2023
Drawn:	TED
HJN NO:	23302.001 GA
Source:	TCEQ, 2023; TWDB, 2023; USGS, 1973

Attachment F, Figure 2

Topography and Hydrogeology Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

N

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Feet

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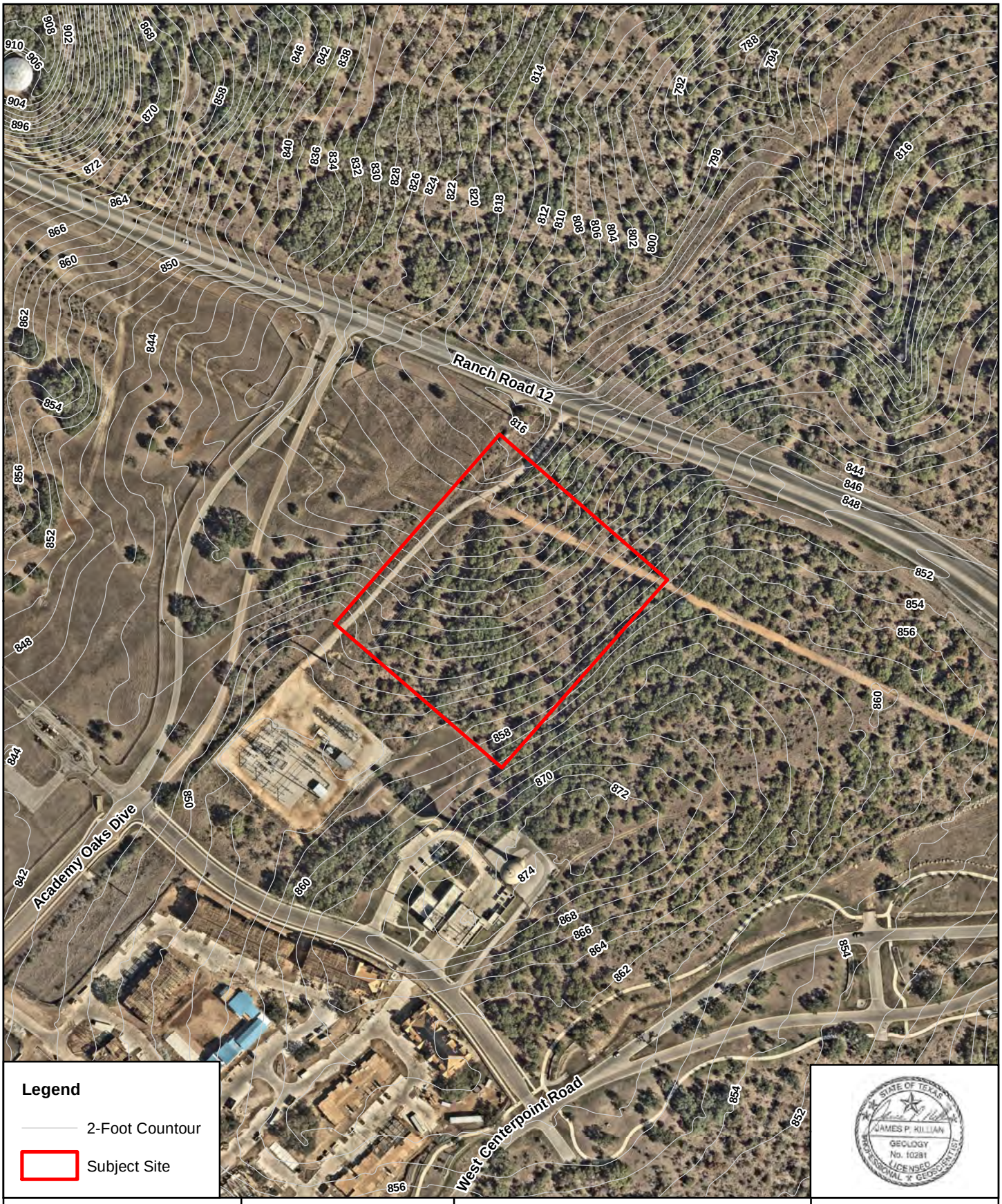

Date:	11/10/2023
Drawn:	TED
HJN NO:	23302.001 GA
Source:	COSM, 2019; Nearmap, 2023

Horizon Environmental Services

Attachment F, Figure 3

Site Topography Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

N

0 150 300
Feet

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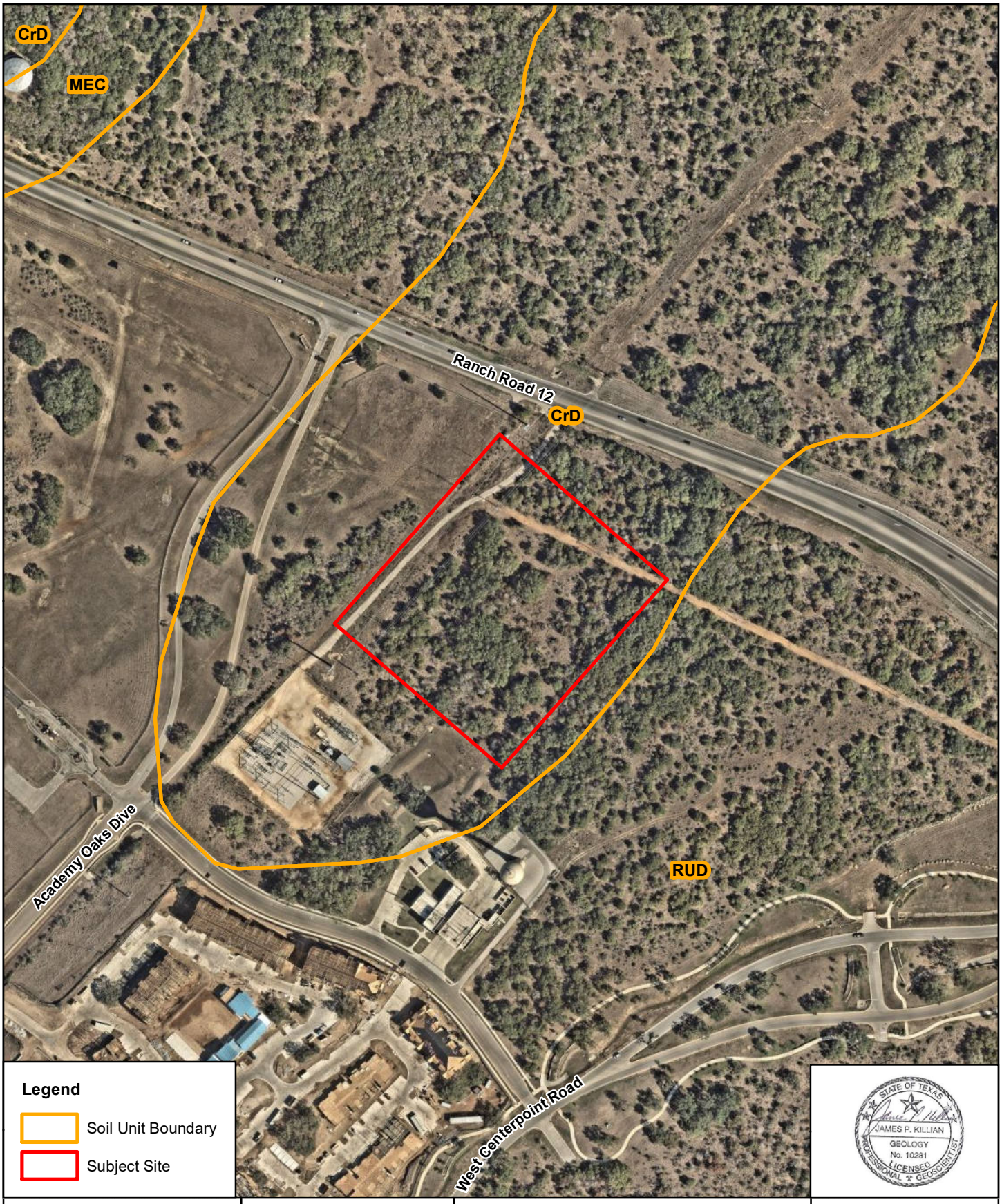

Legend

- Soil Unit Boundary
- Subject Site

STATE OF TEXAS
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GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon™ Environmental Services

Date:	11/10/2023
Drawn:	TED
HJN NO:	23302.001 GA
Source:	Nearmap, 2023; NRCS, 2019

Attachment F, Figure 4

Site Soil Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

N

0 150 300
Feet

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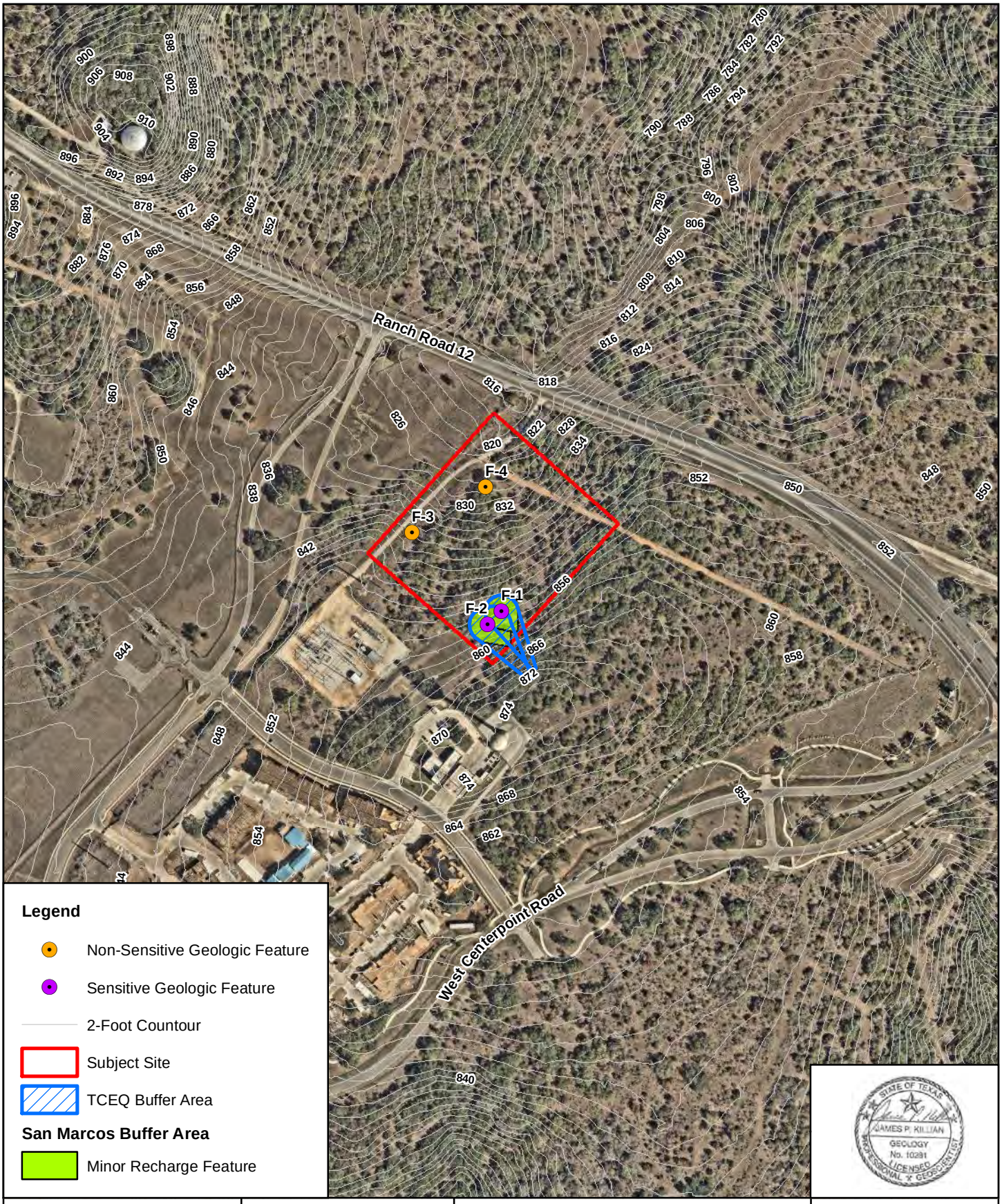

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No. 10281
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PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services

Date:	12/21/2023
Drawn:	KRW
HJN NO:	23302.001 GA
Source:	Nearmap, 2023

Attachment F, Figure 5

Site Geologic Buffer Map
PEC La Cima Substation Site
2701 Ranch Road 12
San Marcos, Hays County, Texas

N

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Feet

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Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), 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.

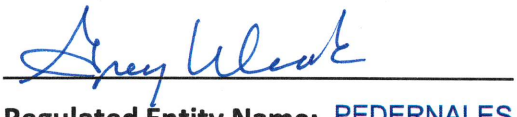
Signature

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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Greg Ulcak, PE

Date: 11/14/24

Signature of Customer/Agent:



Regulated Entity Name: PEDERNALES ELECTRIC COOPERATIVE SUBSTATION

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): X

3. Estimated projected population: 0

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	61,050	÷ 43,560 =	1.40
Parking		÷ 43,560 =	
Other paved surfaces	49,900	÷ 43,560 =	1.15
Total Impervious Cover	110,950	÷ 43,560 =	2.55

Total Impervious Cover 2.55 **÷ Total Acreage** 7.50 **X 100 =** 34.0 **% Impervious Cover**

5. [X] **Attachment A - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. [X] Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. 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.

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

   [ ] Concrete
   [ ] Asphaltic concrete pavement
   [ ] Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

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

10. 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.

11. [ ] A rest stop will be included in this project.

    [ ] A rest stop will not be included in this project.

12. ☐ 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

13. ☒ **Attachment B - 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 the 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

14. The character and volume of wastewater is shown below:

_____% Domestic	_____Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day __0__	

15. Wastewater will be disposed of by: N/A

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

☐ **Attachment C - 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):

☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.

☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

☐ The SCS was previously submitted on_____.

☐ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☐ The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:

☐ Existing.
☐ Proposed.

16. ☐ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = 40'.

18. 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): Zone "X" as shown on FEMA floodplain 48209C0388F, dated 9/2/2005

19. ☒ 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, open space, etc. are shown on the plan.

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

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☐ 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 §76.

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

21. Geologic or manmade features which are on the site:

☒ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. [X] The drainage patterns and approximate slopes anticipated after major grading activities.

23. [X] Areas of soil disturbance and areas which will not be disturbed.

24. [X] Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. [X] Locations where soil stabilization practices are expected to occur.

26. [ ] Surface waters (including wetlands).

    [X] N/A

27. [ ] Locations where stormwater discharges to surface water or sensitive features are to occur.

    [X] There will be no discharges to surface water or sensitive features.

28. [X] Legal boundaries of the site are shown.

Administrative Information

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

30. [X] Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

2701 RANCH ROAD 12 WPAP

ATTACHMENT A – Factors Affecting Surface Water Quality

The primary factors affecting surface and groundwater quality upon completion of the proposed development, include the following items:

1) Sediment loading from new impervious cover & drainage pattern
2) Small Hydrocarbon contamination from spills/leaks

Sediment loading from new impervious cover
The addition of impervious cover related to new facilities and paving will create a collection surface for transported sediment that will ultimately become suspended in on site runoff generated during rainfall events. The site design accounts for this through the use of Stormwater Sand Bed structure. The water quality filtration system has been designed per the Edwards Aquifer Technical Guidance Manual for Best Management Practices (BMPs). Calculations for system are included in the attached Construction Plans, Sheet C-114.

Small Hydrocarbon contamination from spills/leaks
The proposed facility will include parking for motor vehicles. This use presents the opportunity for small oil leaks onto the parking surface. Pollutants remaining on the pavement surface will be carried to the water quality pond via the first flush of subsequent rainfall events.

2701 RANCH ROAD 12 WPAP

ATTACHMENT B – Volume and Character of Stormwater

It is expected that the character of surface water and ground water run-off would be consistent with a development used for a electric sub-station. Constituents would include hydrocarbon-based product residues, silt, and chemicals resulting from vehicular emissions and landscape maintenance.

The expected volume of run-off was based on the Rational method. This was calculated using "C" factors, which are based on impervious cover and the nature of surfaces over which run-off water flows. These calculations are presented in the attached Construction Documents on construction plans, sheets C-110 – C111.

The stormwater quality for the site was determined using “Complying with the Edwards Aquifer Rules: Technical Guidance in Best Management Practices”.

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: Greg Ulcak, PE

Date: 11/14/24

Signature of Customer/Agent:

Greg Ulcak

Regulated Entity Name: PEDERNALES ELECTRIC COOPERATIVE SUBSTATION

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

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

[X] 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.

[X] 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.

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

[X] 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. [X] 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.

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

9. [X] **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. [X] **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.

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

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

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

Administrative Information

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

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

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

2701 RANCH ROAD 12 WPAP

ATTACHMENT A - SPILL RESPONSE ACTIONS

Oil and hazardous wastes on dirt and land have the potential to contaminate the environment and kill plant and animal life. Left unattended, spills will eventually migrate through the soil to the nearest water source, such as a sewer or river.

Every organization has the responsibility to clean up their own spills as quickly as possible and to minimize the impact on the environment. You must use spill kits and spill response procedures to perform this task.

In response to a spill:

- ASSESS THE SPILL AND DETERMINE WHETHER HELP IS NEEDED. Make sure the source of the spill is isolated by closing a valve, up righting the container, or otherwise stopping the source of the spill.
- CONTAIN THE SPILL TO PREVENT IT SPREADING. It is vital to keep spills away from drains or water as the spill spreads very quickly across the water surface.
- USE PERSONAL PROTECTIVE EQUIPMENT. PPE provided in oil spill kits is designed to withstand the effects of oils and additives. The gloves provide a good grip even in slippery conditions.
- ABSORB THE SPILL USING SPILL ABSORBENTS. The aim is to remove all the oil from the ground, even if this means digging up some soil where oil has penetrated the surface.
- DISPOSE OF WASTE ABSORBENT BY PLACING IT INTO SEALED PLASTIC BAGS. A licensed contractor should transport these bags to a registered hazardous waste disposal site.
- REPORT ALL SPILLS. Spills should be documented in the SWPPP.

Keep People Safe

- Avoid direct contact with the spilled material.
- Avoid inhalation of any gases, fumes, vapors, or smoke. All personnel should stay upwind (some gases inhibit the sense of smell or may be dangerous at undetectable concentrations).
- Move and keep people away from the incident scene.
- Find and, if possible, safely remove all ignition sources.
- Assess the situation with regard to injuries as needed.
- Contact the appropriate authorities and responsible parties to determine if specialized clean up is required.

Every effort will be taken to be cautious and prevent spills. In the event of a fuel or hazardous substance spill as defined by the Reportable Quantities Table (30 TAC 327 and printed from TCEQ website), the contractor is required to clean up the spill and notify the TCEQ as required in 30 TAC 327. During business hours report spills to the TCEQ's Austin Regional Office at (512) 339-2929, after business hours call 1-800-832-8224, the State Emergency Response Center.

2701 RANCH ROAD 12 WPAP

ATTACHMENT B - POTENTIAL SOURCES OF CONTAMINIATION

Surface water quality can be affected by disturbance during construction and by development after construction. Soil disturbance from clearing and grubbing, and cut and fill operations can lead to discharge of sediment unless adequate temporary erosion control measures are in place. For this project, the proposed water quality ponds will be rough cut first and along with perimeter silt fence and rock berms will prevent sediment from leaving the site. The proposed water quality ponds will also be utilized to serve as a temporary sedimentation pond during construction. Siltation collected by the control measures will be cleaned from trap, fences, berms, ponds, etc. on a routine schedule as outlined in the SWPPP and contract specifications.

During construction, surface water quality may also be affected by a spill of hydrocarbons or other hazardous substances used in construction. The most likely instances of a spill of hydrocarbons or hazardous substances are:

1. Refueling construction equipment.
2. Performing operator-level maintenance, including adding petroleum, oils, or lubricants.
3. Unscheduled or emergency repairs, such as hydraulic fluid leaks.

Every effort will be taken to be cautious and prevent spills. In the event of a fuel or hazardous substance spill as defined by the Reportable Quantities Table (30 TAC 327 and printed from TCEQ website), the contractor is required to clean up the spill and notify the TCEQ as required in 30 TAC 327. During business hours report spills to the TCEQ's Austin Regional Office at (512) 339-2929, after business hours call 1-800-832-8224, the State Emergency Response Center.

2701 RANCH ROAD 12 WPAP

ATTACHMENT C - SEQUENCE OF MAJOR ACTIVITIES

Described below are the major construction activities that are the subject of this SWPPP. They are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sedimentation control.

A. Construct rock construction entrance/exit.
B. Install silt fence down slope from construction activities that disturb site soil and tree protection fencing as necessary.
C. Rough cut all ponds. Either the permanent outlet structure or temporary outlet must be constructed prior to development of any embankment or excavation that leads to ponding conditions. The outlet system must consist of a low-level outlet and an emergency overflow.
D. Clear and grub the improvement areas as needed.
E. Rough grade site in accordance with plans and excavations.
F. Underground utilities shall be installed.
G. Final Grading – Silt fence will be maintained down slope from disturbed soil during this operation; and
H. Complete drainage and paving. Installation of base materials and/or paving should occur as soon as it is feasible to do so;
I. Complete permanent water quality controls;
J. Completion of on-site stabilization;
K. Finalize all site improvements
L. Finalize cleaning of erosion and sedimentation controls and storm drain structures.
M. Dispose of all construction debris and trash. Hydromulch any disturbed areas following site cleanup. Complete and clean out permanent erosion control and site restoration.

The actual schedule for implementing pollutant control measures will be determined by project construction progress. Down slope protective measures must always be in place before soil is disturbed.

2701 RANCH ROAD 12 WPAP

ATTACHMENT D - TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

A variety of storm water pollutant controls are recommended for this project. Some controls are intended to function temporarily and will be used as needed for pollutant control during the construction period. These include temporary sediment barriers and a temporary sediment basin. For most disturbed areas, permanent stabilization will be accomplished by covering the soil with pavement, or vegetation.

Upgradient Drainage will be routed around the site via drainage ditches.

Onsite Drainage will utilize the following BMPs

A. Erosion and Sediment Controls

1. Soil Stabilization - The purpose of soil stabilization is to prevent soil from leaving the site. In the natural condition, soil is stabilized by native vegetation. The primary technique to be used at this project for stabilizing site soil will be to provide a protective cover of grass, pavement, or building.

    (a) Silt Fence – Silt Fence will be utilized around the south and east perimeter of the site to capture sediment from the disturbed area. Additionally silt fence will be around three sides of the Temporary Staging/Spoils area.
    (b) Temporary Seeding - Within 14 days after construction activity ceases on any particular area, all disturbed ground where there will not be construction for longer than 21 days must be seeded with fast-germinating temporary seed and protected with mulch.

2. Temporary Sediment Basins will be created by excavating the water quality and detention ponds and utilizing a low water and overflow area to allow sedimentation and still release water downstream.

B. Other Pollutant Controls

1. Control of sediments has been described previously. Other aspects of this SWPPP are listed below:

    (a) Dust Control - Construction traffic must enter and exit the site at the stabilized construction entrance. The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic.

    Water trucks will be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general contractor to a degree that is acceptable to the Construction Manager, and in compliance with applicable local and state dust control regulations.

After construction, the site will be stabilized (as described elsewhere), which will reduce the potential for dust generation.

(b) Solid Waste Disposal - No solid materials, including building materials, are allowed to be discharged from the site with storm water. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied periodically by a contract trash disposal service and hauled away from the site.

(c) Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

(d) Sanitary Facilities - All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at the site throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a commercial operator.

Downgradient Drainage will be a roadside ditch along RR12. Rock berms will be utilized to prevent downstream sedimentation.

Critical Environmental Features have been located onsite. The CEF's have been identified and setbacks have been determined.

2701 RANCH ROAD 12 WPAP

ATTACHMENT F - STRUCTUAL PRACTICES

Temporary Sediment Basins will be created by excavating the water quality and detention ponds to 100% of the final volumes for the ponds. They will include a low water and overflow area to allow sedimentation and still release water downstream. Either the permanent outlet structure or temporary outlet must be constructed prior to development of any embankment or excavation that leads to ponding conditions. The outlet system must consist of a low-level outlet and an emergency overflow.

There are drainage ditches along the perimeter of the site to divert offsite drainage. Additionally, there on two onsite ditches that will divert existing drainage around the developed portion of the site.

TIME OF CONCENTRATION										
	SHEET FLOW				SHALLOW CONCENTRATED FLOW					
BASIN	L (ft)	SLOPE (ft / ft)	n	Tc (min)	L (ft)	SLOPE (ft / ft)	PAVED? (y/n)	Tc (min)	Total Tc (min)	Lag (min)
EX01	200	0.044	0.15	10.95	531	0.078	n	1.97	12.9	7.8
OS01	200	0.045	0.15	10.82	934	0.044	n	4.61	15.4	9.3

OS01
A = 263,251 SF
A = 6.04 AC
Q25 = 42.7 CFS
Q100 = 55.9 CFS

EX01
A = 526,325 SF
A = 12.08 AC
Q25 = 88.7 CFS
Q100 = 118.0 CFS

POINT OF STUDY

POINT OF STUDY

1/2" IRON ROD FOUND

1/2" IRON ROD FOUND

1/2" IRON ROD FOUND WITH PLASTIC CAP STAMPED "BCG"

1/2" IRON ROD FOUND WITH PLASTIC CAP STAMPED "BCG"

EXISTING DRAINAGE SUMMARY TABLE (SCS METHOD - SAN MARCOS)											
			NRCS CURVE NUMBER (COA DCM TABLE 2-5)			COMPOSITE CN	Total Tc (Min)	DISCHARGE "Q" (CFS)			
BASIN	AREA	%IC	Soil Group	IC	PC			2-YR	10-YR	25-YR	100-YR
EX01	12.08	0.00%	D	98	89	89.0	12.9	43.2	70.9	88.7	118.0
OS01	6.04	32.72%	D	98	89	91.9	15.4	22.5	34.8	42.7	55.9

SENERGY
POWERED BY SCHNEIDER ENGINEERING
TX Reg. #F-1594
191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWEREDBYSENERGY.COM

THIS DOCUMENT IS RELEASED FOR THE PURPOSES OF INTERIM REVIEW AND COMMENT UNDER THE AUTHORITY OF GREGORY ULCAK, P.E. 91201 ON OCTOBER 24, 2024 IT IS NOT INTENDED FOR BIDDING, PERMITTING AND/OR CONSTRUCTION PURPOSES

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

EXISTING AREA DRAINAGE MAP
F_0602_Attachment G

DATE 10/01/24
SCALE AS SHOWN
DWG. NO. C-110

Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref_30550004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Fri Oct 25, 2024 – 12:14am By: admin

TIME OF CONCENTRATION										
	SHEET FLOW				SHALLOW CONCENTRATED FLOW					
BASIN	L (ft)	SLOPE (ft / ft)	n	Tc (min)	L (ft)	SLOPE (ft / ft)	PAVED? (y/n)	Tc (min)	Total Tc (min)	Lag (min)
OS01	200	0.045	0.15	10.82	934	0.044	n	4.61	15.4	9.3
P01	200	0.010	0.15	19.73	75	0.010	n	0.77	20.5	12.3
P02	200	0.063	0.15	9.44	427	0.061	n	1.79	11.2	6.7

OS01
A = 263,251 SF
A = 6.04 AC
Q25 = 42.7 CFS
Q100 = 55.9 CFS

P01
A = 129,807 SF
A = 2.98 AC
Q25 = 19.0 CFS
Q100 = 24.7 CFS

P02
A = 396,518 SF
A = 9.10 AC
Q25 = 70.8 CFS
Q100 = 94.0 CFS

POINT OF STUDY

7.500 ACRE PROPOSED SITE

HIGHWAY 12 (ASPHALT)

PROPOSED DRAINAGE SUMMARY TABLE (SCS METHOD - SAN MARCOS)												
			NRCS CURVE NUMBER (COA DCM TABLE 2-5)			COMPOSITE CN	Total Tc (Min)	DISCHARGE "Q" (CFS)				POND ROUTING
BASIN	AREA	%IC	Soil Group	IC	PC			2-YR	10-YR	25-YR	100-YR	
OS01	6.04	33.20%	D	98	89	92.0	5.0	22.6	34.8	42.7	55.9	UND
P01	2.98	81.76%	D	98	80	94.7	5.0	10.5	15.6	19.0	24.7	DET
P02	9.10	1.21%	D	98	89	89.1	5.0	34.6	56.6	70.8	94.0	UND

DET - DETENTION POND
UND - UNDETAINED

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TX Reg. #F-1594
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DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

PROPOSED AREA DRAINAGE MAP
F_0602_Attachment G

DATE 10/01/24
SCALE AS SHOWN
DWG. NO. C-111

Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref_3055004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Fri, Oct 25, 2024 - 2:19pm By: admin

2701 RANCH ROAD 12 WPAP

ATTACHMENT H - TEMPORARY SEDIMENT PONDS

Temporary Sediment Basins will be created by excavating the water quality and detention ponds and utilizing a low water and overflow area to allow sedimentation and still release water downstream.

All ponds must be rough cut to 100% of the final pond volume. Either the permanent outlet structure or temporary outlet must be constructed prior to development of any embankment or excavation that leads to ponding conditions. The outlet system must consist of a low-level outlet and an emergency overflow.

Below are the stage-storage tables for the ponds. Details and calculations of the ponds can be found in the attached Construction Documents, Sheet C-114.

STAGE / STORAGE TABLE

SEDIMENTATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.50	0	0	0
0.50	829.00	1,190	298	298
1.00	829.50	1,954	786	1,084
2.00	830.50	1,954	1,954	3,038
3.00	831.50	1,954	1,954	4,992
4.00	832.50	1,954	1,954	6,946

FILTRATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.5	2,098	0	0
1.00	829.5	2,098	2,098	2,098
2.00	830.5	2,098	2,098	4,196
3.00	831.5	2,098	2,098	6,294
4.00	832.5	2,098	2,098	8,392

STAGE / STORAGE / DISCHARGE TABLE

DETENTION POND (UN-BLOCKED ORIFICE)

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)	CULVERT / ORIFICE 18 IN (CFS)	WEIR 6 LF (CFS)	TOTAL DISCHARGE (CFS)
0	824.00	3409	0	0	.00	.00	.00
0.50	824.50	3,676	1,771	1,771	1.24	.00	1.24
1.00	825.00	3,956	1,908	3,679	4.27	.00	4.27
1.50	825.50	4,249	2,051	5,731	7.37	.00	7.37
2.00	826.00	4,554	2,201	7,931	9.51	.00	9.51
2.50	826.50	4,871	2,356	10,288	11.25	.00	11.25
3.00	827.00	5,200	2,518	12,805	12.76	.00	12.76
3.50	827.50	5,729	2,732	15,538	14.11	.00	14.11
4.00	828.00	6,259	2,997	18,535	15.34	.00	15.34
4.50	828.50	6,815	3,269	21,803	16.48	.00	16.48
5.00	829.00	7,371	3,547	25,350	17.54	58.87	76.41

2701 RANCH ROAD 12 WPAP

ATTACHMENT A - INSPECTION AND MAINTENANCE OF BMPs

The following guidelines should be used for the maintenance plan for permanent BMPs.

- ***During Construction.*** The ponds shall be rough graded at 100% capacity. Either the permanent outlet or a temporary outlet must be constructed prior to development of embankment or excavation that could lead to ponding conditions. The outlet system must consist of a sump pit outlet and an emergency spillway. Prior to site completion, the ponds shall be fully constructed and stabilized to minimize sediment loads. Until all the construction within the basin's drainage area has been completed and exposed earth stabilized, the basin will be inspected weekly and after all rain events.

- ***Mowing.*** Grassy side-slopes & embankments of the sedimentation and detention basins should be mowed regularly to discourage woody growth and control weeds. When mowing is performed, a mulching mower should be used or grass clippings should be caught and removed.

- ***Inspections.*** Inspections should take place weekly and during or immediately following wet weather for excess sediment. The inlet and outlet structure should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired/revegetated immediately. Cracks, voids, and undermining should be patched/filled to prevent additional structural damage.

- ***Debris and Litter Removal.*** As part of periodic mowing operations and inspections, debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the inlet and outlet structure. These items should be checked for possible clogging.

- ***Erosion Control.*** The basin side slopes, emergency spillway, and embankment all may suffer from slumping and erosion. Corrective measures such as re-grading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.

- ***Nuisance Control.*** During inspections, the facility should be evaluated in terms of nuisance control (insects, weeds, odors).

- ***Maintenance Access.*** Maintenance will be performed by maintenance personnel from within the basins. Maintenance equipment and materials to be removed will be hoisted in and out of the basins via buckets using applicable mechanical equipment.

<u>Record Keeping</u>

- ***Routine and Storm Event.*** Owner will keep a record of both routine and non-routing inspections. Additionally, all maintenance and repairs shall be detailed in via SWPPP addendums. This record shall be available for review and inspection by TCEQ upon request.

2701 RANCH ROAD 12 WPAP

ATTACHMENT J - SCHEDULE OF INTERIUM & PERMANENT SOIL STABILIZATION PRACTICES

Described below is the schedule of the major soil and stabilization practices. They are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sedimentation control.

2.55 Acres of the Site (7.5 Acres) will be disturbed.

A. Construct rock construction entrance/exit.
B. Install silt fence down slope from construction activities that disturb site soil and tree protection fencing as necessary.
C. Rough cut all ponds. Either the permanent outlet structure or temporary outlet must be constructed prior to development of any embankment or excavation that leads to ponding conditions. The outlet system must consist of a low-level outlet and an emergency overflow.
D. Completion of on-site stabilization.
E. Finalize cleaning of erosion and sedimentation controls and storm drain structures.
F. Dispose of all construction debris and trash. Hydromulch any disturbed areas following site cleanup. Complete and clean out permanent erosion control and site restoration.

The actual schedule for implementing pollutant control measures will be determined by project construction progress. Down slope protective measures must always be in place before soil is disturbed.

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B
San Marcos, Texas 78666

SITE PLAN

Permit No. 2024-53133

SITE FINAL CHECKLIST

Call Permit Center or email SiteFinal@SanMarcosTX.gov to schedule 3+ days ahead.

This list is not all-inclusive, but covers most of the items that will be checked. *Items are assessed per the City-approved SITE plans and subsequent City-approved addenda.* ***If changes were made during construction without SITE permit addendum submittal for City review and approval, Site Final approval will be delayed while an addendum is reviewed and hopefully approved.*** **CASH** fiscal security (not a bond) is required to defer completion of Site Final items until final Certificate of Occupancy (CofO).

PRIOR TO ISSUANCE OF TEMPORARY CERTIFICATE OF OCCUPANCY (TCO)

Engineering (All items as applicable) CONTACT: Engineering_Submittals@SanMarcosTX.gov/A. Garcia 512.393.8129

- Proper permanent pond/other WQ/drainage-related construction, including berms, discharge controls, etc.
- Acceptance of Engineer's Letter of Concurrence for pond(s) &/or other WQ/drainage-related control(s).
- Approval of all easement(s), easement amendment, & maintenance covenant(s) **before** recording at co.

Planning (All items as applicable) QUESTIONS: Brittany Faulkner 512.393.8369

- Correct photometrics, sidewalks, bicycle parking, equivalent dumpster/recycling space & screening.
- Correct mitigation trees, street trees, other landscaping, plantings/barriers to screen mech./utility vaults.
- Correct parking layout/striping, wheel stops, parking screening, identified ADA/visitor/compact parking.
- Compliance with any special/unique PDD or other Planning Agreement site requirements.
- 911 address assigned for project. ***Note that tree removals, more/different lighting, etc. require Addenda.***

Environmental/SWPPP (All items as applicable) CONTACT: Scott Bechtel 512.805.2648

- Discharge controls for curb cuts & downspouts/roof drains not tied-in to stormwater system; SW tie-ins.
- Correct site surface types (concrete, pavers, asphalt, etc.), including driveway approaches.
- Temporary electric meter assembly & water meter on fire hydrant removed.
- **Permanent** stabilization/revegetation: At least 70% vegetative cover inside a thrown hula-hoop landing ANYWHERE onsite & **offsite disturbed areas**. **WEEDS** & rye alone not accepted as permanent stabilization.
- Tree/special feature protection fence & temporary erosion controls removed, except for controls serving unstabilized areas; controls must be removed after 70% revegetation is approved by the City.
- Slopes, headwalls, behind wheelchair ramps, etc. require sod or seed/degradable retention blankets.
- Construction debris, trash, materials, supplies, equipment, fencing, mobile minis, dumpsters, stabilized construction entrances/exits, contractors' trailers & signage, portable toilets, etc. removed.
- Site & adjacent street(s) cleaned of construction dirt, rocks, etc. that can wash into stormwater systems.
- Compliant "Finished Construction" Elevation Certificate(s) on current FEMA Form FF-206-FY22-152.

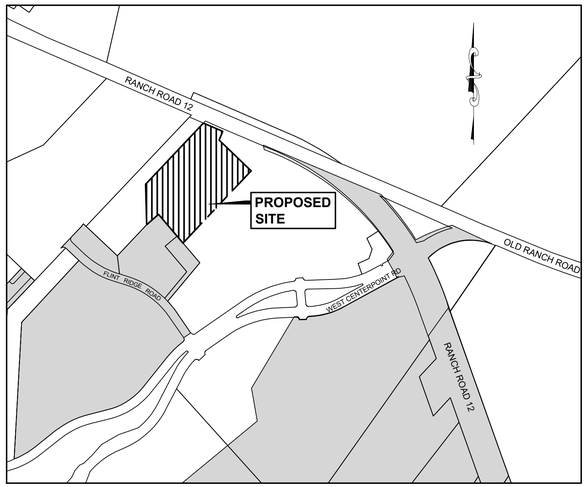
TCO/CofO Approval (All items as applicable) QUESTIONS: Katy Riddle 512.805.2630

- **All outstanding fees paid, including CASH fiscal security (not a bond) for deferred items listed above.**
- **Final approval of Permit Ctr Manager, Chief Building Official, Fire Marshal, & other City departments.**

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CofO)

- Permanently stabilization as described above achieved; any other deferred/fiscal security items finished.
- All temporary erosion/sedimentation controls, including inlet protection, & temporary irrigation removed.
- TPDES Notice of Termination (NOT) submitted to TCEQ, if applicable. TPDES SWPPP Construction Site Notice (CSN) onsite posting removed. Completed CSN or NOT, as applicable, submitted to the City.

8.9.2024



SHEET INDEX:

OWNER:

PEDERNALES ELECTRIC COOPERATIVE, INC.
MIKE MOORE
201 S. AVENUE F
JOHNSON CITY, TEXAS 78636
830-868-7155

SUBMITTAL PREPARED BY:

CIVIL LAND GROUP, LLC
GREG ULCAK, P.E.
206 W. MAIN STREET, SUITE 101
ROUND ROCK, TEXAS 78664
PHONE: (512) 992-0118
FAX: (512) 246-1856
TEXAS REGISTERED ENGINEERING FIRM F-10523

PROJECT ADDRESS:
2701 RANCH ROAD 12, UNIT B
SAN MARCOS, TEXAS 78666

ZONING:
CD-1

FLOOD PLAIN:
NO PORTION OF THIS PROJECT FALLS WITHIN THE 100 FLOOD PLAIN, PER FEMA FLOODPLAIN MAP 48209C0388F, EFF. 9/2/2005.

AQUIFER NOTE:
THIS PROJECT IS IN THE EDWARDS AQUIFER RECHARGE ZONE OR EDWARDS AQUIFER CONTRIBUTING ZONE.

TPDES STATUS NOTE:
"THIS PROJECT IS SUBJECT TO TCEQ'S TPDES SWPPP REGULATIONS PER TEXAS WATER CODE CHAPTER 26. IF NOT ALREADY DONE, HAVE A TX PE, CPESC, OR QPSWPPP DEVELOP A PROJECT-SPECIFIC SWPPP AND SEEK APPLICABLE TPDES PERMIT TXR150000 COVERAGE IMMEDIATELY PER TXR150000 PARTS I-III AND CITY CODE SECTION 86.529(B)(2) OR 86.529(C)(3). A HARD-COPY OF THE SWPPP, INCLUDING FULL-SIZE SITE MAP, MUST BE AVAILABLE AT THE PRE-CON MEETING, KEPT ONSITE, AND UPDATED TO MATCH SITE CONDITIONS DURING THE PROJECT."

WATERSHED PROTECTION PLAN:
A PHASE 2 WATERSHED PROTECTION PLAN HAS BEEN APPROVED FOR THIS PROJECT AS OF XX/XX/XXXX .

BENCHMARK LIST:

BM 1
SET CHISELED SQUARE
NORTHING: 13,877,191.32
EASTING: 2,287,993.17
ELEVATION: 829.51'

BM 2
SET CHISELED SQUARE
NORTHING: 13,876,944.56
EASTING: 2,288,325.8
ELEVATION: 826.26'

SEQUENCE OF CONSTRUCTION:

1. OBTAIN CITY-APPROVED SITE PLAN PERMIT AND APPLICABLE TPDES SWPPP PERMIT TXR150000 COVERAGE; HAVE A TX PE, CPESC, OR QPSWPPP PREPARE PROJECT-SPECIFIC SWPPP.
2. INSTALL TEMPORARY EROSION/SEDIMENTATION CONTROLS, AND TREE PROTECTION FENCING IF APPLICABLE, PER PLANS.
3. UPLOAD TO MYGOVERNMENTONLINE.ORG OR OTHERWISE PROVIDE TO THE PERMIT CENTER THE SIGNED, CERTIFIED APPLICABLE TPDES CONSTRUCTION SITE NOTICE (CSN). POST THE CSN IN PUBLIC VIEW.
4. SCHEDULE PRE-CON MEETING WITH THE PERMIT CENTER, 512-805-2630.
5. CLEAR AND ROUGH GRADE THE CUT PORTION FO THE DETENTION POND TO BE UTILIZED AS A SEDIMENTATION BASIN FOR THE TEMPORARY EROSION CONTROL.
6. BEGIN SITE CLEARING AND GRADING
7. HAVE A CISEC, CESSWI, OR QCIS CONDUCT WEEKLY SWPPP INSPECTIONS AND DOCUMENT. MAINTAIN ALL EROSION CONTROL MEASURES AND ADDRESS ALL IDENTIFIED CORRECTIVE ACTIONS
8. CONSTRUCT IMPROVEMENTS PER CITY-APPROVED SITE PLANS.
9. COMPLETE PERMANENT STABILIZATION: RESTORE AND RE-VEGETATE ALL UNCOVERED AREAS DISTURBED DURING THE PROJECT, INCLUDING OFFSITE AREAS.
10. SCHEDULE SITE FINAL INSPECTION WITH THE PERMIT CENTER: SITEFINAL@SANMARCOSTX.GOV OR 512-805-2630.
11. COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
12. WITH CITY APPROVAL, REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OF AT LEAST 70% DENSITY, EVENLY DISTRIBUTED WITH NO LARGE BARE AREAS, IS ESTABLISHED.
13. UPLOAD TO MYGOVERNMENTONLINE.ORG OR OTHERWISE PROVIDE TO THE PERMIT CENTER THE INITIALED, DATED, COMPLETED TPDES CSN OR TPDES NOTICE OF TERMINATION, AS APPLICABLE. CITY ISSUES CERTIFICATE OF ACCEPTANCE OR OCCUPANCY.

NOTE:

Upon completion of the proposed Stormwater Detention and/or Water Quality structural control(s), and prior to the release of the Certificate of Acceptance or Occupancy by the Permit Center, the Design Engineer shall certify in writing that the proposed structural control(s) was inspected (including date and time of the inspection) and constructed in conformance with the approved plans.
Any such structural control(s) built within the City of San Marcos must maintain compliance with the City's Municipal Separate Storm Sewer System (MS4) and applicable MS4 ordinances. Prior to release of the Certificate of Acceptance or Occupancy, a City easement must be shown around all structural controls including a Maintenance Covenant within the City limits.

REVISIONS

NO.	DESCRIPTION	BY	REVISE (R) ADD (D) VOID (V) SHEET NO.'s	TOTAL # SHEETS IN PLAN SET	NET CHANGE IMP. COVER (sq.ft.)	TOTAL SITE IMP. COVER (sq.ft.)/%	CITY OF SAN MARCOS APPROVAL/ DATE	DATE IMAGED

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.
LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

COVER SHEET

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-101

SZENERGY™ POWERED BY SCHNEIDER ENGINEERING
TX Reg. #F-1594
191 Menger Springs Parkway - Boerne TX 78006
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JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED
PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
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Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\01--LCS--CS.dwg Last Plotted: Fri, Jan 24, 2025 - 12:14am By: admin

CITY OF SAN MARCOS
DEVELOPMENT SERVICES
CONSTRUCTION REQUIREMENTS AND NOTES

Revised Date: 5-22-2024
The following City of San Marcos (COSM) requirements supersede, as a minimum requirement, any and all non "redline" comments, specifications, or details listed on the plan.

Plan Review and Revisions

1. The owner, contractor and representatives are responsible for complying with the most current local, state and federal laws, rules and ordinances.

2. The COSM review does not authorize any violations of details, specification, standard products ordinances or laws of the COSM. No code violations listed, drawn, or described in this plan, and/or otherwise installed, manufactured or built, are "approved" by the COSM.

3. A copy of COSM approved plans and any approved revisions bearing a review seal from the COSM must be available on-site at all times.

4. During construction, plan changes or revisions must be uploaded into MyPermitNow for staff review prior to the changes being made. Final Certificate of Occupancy or Certificate of Acceptance will NOT be issued until all changes have been documented and approved.

5. COSM adopted codes with local amendments:

International Building Code - 2021
International Energy Conservation Code - 2021
International Plumbing Code - 2021
National Electric Code - 2020
International Mechanical Code - 2021
International Fire Code - 2021
International Fuel Gas Code - 2021
San Marcos Land Development Code (as amended)
Smart Code (as amended)
Code SMTX (as amended)
International Property Maintenance Code - 2021
International Swimming Pool and Spa Code - 2021
International Residential One/Two Family Code - 2021
International Existing Building Code - 2021

Accessory-Permits and Activities

1. Neither the review of these plans, nor the issuance of a Building or Site Plan Permit, authorizes accessory permits. The owner is responsible for completing the following accessory permits or activities: (verify with the department or division listed below, even if depicted within this plan by the design professional):

- Addressing (Permit Center)
- Assignment of Building Numbers (Permit Center)
- Controlled Access Gates (Fire Prevention)
- Any Fire Protection System [fire alarm, sprinkler, hood system] (Fire Prevention)
- Any Storage Tanks (Fire Prevention)
- High Piled Combustible Stock (Fire Prevention)
- Any Sign and/or Sign Standard (Permit Center)
- Irrigation (Permit Center)
- Fence (Permit Center)
- On-Site Sewage Facilities (OSSF's) (Code Compliance)
- Commercial Swimming pools, spa, & Public Interactive Water Feature (PIWF's) (Permit Center/Code Compliance)
- Backflow Prevention Devices (Water Department)
- Street Closure/Traffic Control Plans (Public Services-Transportation Division)
- Right of Way "ROW" (Public Services-Transportation Division)
- EPA or TCEQ permits (State/Permit Center)
- Floodplain Permit (Permit Center)

2. Any portion of work, including, but not limited to, traffic control, which lies in Texas Department of Transportation (TxDOT), Union Pacific Railroad (UPRR) or County property or right of way, shall be permitted and approved by that authority. All required permits shall be secured by the owner or contractor from COSM and any other appropriate authority. A copy of all permit must be on site and available to City Inspector on request.

3. Contractor shall notify the Engineering Department (512-393-8130) and setup a consultation with Engineering Inspector at least 2 weeks before connection with the City water/wastewater system.

4. Contractor shall submit a road closure permit application and setup a consultation with Engineering Inspector Engineering Department (512-393-8130) at least 2 weeks before any lane or road closure.

General Construction Notes

1. Pre-Construction Meeting - Site and/or Building contractor(s) is/are responsible for scheduling a pre-construction meeting with COSM inspector(s) by contacting the Permit Center (512-805-2630) prior to any site work, including demolition. For Public Improvement Construction Projects (PICP's) contact the Engineering Department at (512-393-8130) at capital_imp_info@sanmarcostx.gov.

2. Site Requirements - The general contractor, owner, and subcontractors are responsible for maintaining a safe and clean work site.

3. Any reference in this section to water, wastewater, electric or other public utility is meant to refer to the utility of certification or Authority Having Jurisdiction.

4. Pre-Construction Video - A video in Windows media format or equivalent of the complete site conditions for all **Public Improvement Construction Projects** (and as requested for Site Plan Projects) is required prior to construction. Provide a copy to the COSM upon request.

5. Inspections - Inspections can be scheduled with the respective divisions by contacting them at:

Building Inspections	www.mypermitnow.org
Fire Prevention/Inspections	www.mypermitnow.org
Site Final Inspections	sitefinal@sanmarcostx.gov
Engineering Inspections	512-393-8130
PICP Inspections	512-393-8130
Code Compliance	512-393-8440 (Food, Pool permits, etc...)

6. Trash - Approved trash containment must be provided for each lot under construction. Commercial solid waste haulers servicing construction sites must hold a permit from the Community Enhancement Initiatives Manager and are subject to commercial solid waste hauler fees.

7. Open Burning - Burning is prohibited in the COSM limits.

8. Blasting - Blasting is prohibited in the COSM limits.

9. Construction Noise-Construction noise, declared a nuisance under COSM ordinance, is not permitted between 9:00 p.m. and 7:00 a.m.

10. Weekend and Holiday work - Weekend and Holiday work is not allowed within a public right- of- way without prior approval.

11. Facilities - Maintained portable bathroom facilities must be provided with a minimum of one bathroom unit per one and two family residential lots. All construction sites are required to provide one bathroom unit per ten construction persons on the job.

12. Access - Temporary access driveways on the job site (aka stabilized construction entrances/exits) must comply with the current City detail, including curb protection. No mud, rock, or debris permitted on any off site roadway. The general contractor and/or owner are responsible for immediately removing any debris on roadways caused by construction.

13. Combustible Construction -An all-weather surfaced roadway and working fire hydrant(s) are required to be installed on property prior to the construction of combustible material. Road base alone is not acceptable.

14. Safety - The general contractor, subcontractors and the owner are responsible for maintaining a safe construction operation at all times. All federal OSHA and state details, as well as local codes, shall be adhered to during the construction phase.

15. Address - The site, separate buildings, electrical disconnects, and/or temporary construction trailers must have an address visible from the street or roadway.

16. Required Postings - All COSM and State permits must be posted facing the street or roadway (where practical). Permanent marker is not an approved marking device.

17. Form Survey Requirements- Prior to requesting a foundation inspection by the Building Inspector, a Form Survey must be completed by a State Registered Land Surveyor validating building location to COSM setback requirements.

18. Floodplain Elevation Certificates - Where and when required, a "Building Under Construction" Elevation Certificate must be completed by a State Registered Land Surveyor (or State Registered Engineer or Architect) on FEMA form expiring Nov 2018 and submitted to the Permit Center at least 36 hours prior to foundation pouring to allow time for review and acceptance. A Land Surveyor's "Finished Construction" Elevation Certificate must also be submitted to and accepted by the Floodplain Administrator before Temporary "Certificate of Occupancy" will be issued.

19. If any geologic or manmade environmental feature is discovered during construction, notify Texas Commission on Environmental Quality (TCEQ) and the COSM Development Services within 24 hours or as soon as practicable. The contractor is required to provide compliance documentation as applicable.

20. EPA/TCEQ - Any required EPA or TCEQ permit(s) is/are separate permit(s) and the responsibility of the contractor. Provide a copy of such permit(s) to the Permit Center.

21. Abandoned wells must be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation (TDLR), 16 Texas Administrative Code (TAC), Chapter 76. A plugging report must be submitted (by a licensed water well driller) to the TDLR Water Well Drillers Program, Austin Texas. If a well is intended for use, it must comply with 16 TAC.

22. Any tree 9" in diameter or larger at 4.5' above natural grade is considered "regulated". Please refer to the LDC and technical manuals for tree survey, preservation and mitigation requirements. Also refer to the Design & Construction Guide for the tables and tree protection standard details as noted in #25.

23. All product submittals for Public Improvements Construction Projects shall be submitted to the COSM (after approval by the Design Engineer) in PDF format and approved by the COSM prior to construction.

24. Prior to COSM acceptance of the project, all graded and disturbed areas are to be at least 70% re-vegetated with no large bare areas (greater than 3' diameter) in accordance with COSM and project specifications.

25. On the COSM's Design & Construction Guide webpage, located under Engineering & Capital Improvements, the following documents can be found: These Development Construction Requirements and Notes, Detail Design Criteria, Specifications and Details, Standard Product List, Modification to Austin/TxDOT Standard Specifications, Tree Preservation and Mitigation Tables, Landscape Calculation Table, Parking Table.

26. TX 811(811) must be used to locate all existing utilities for the contractor. Once locates are provided, it is the contractor's responsibility to retain these locations. Repeat locates within 14 days will be charged to the contractor.

27. Appropriate erosion controls and tree protection measures shall be in place prior to any site disturbance.

28. Fire extinguisher is required on all construction sites. Minimum of one per site, per floor at each stairwell or each storage shed. 2A10BC minimum size (51bs).

29. Standpipe system required for any construction over 30 feet in height. Required to maintained within one floor of top construction floor. Approved lighted stairway access required.

30. Construction site required to be kept clean, travel paths clear and stored combustible pile spread out.

31. Fire watches are required to be approved prior to implementing (does not apply for hot work). (Fire Prevention at 512-393-8480)

32. Hot work permit(s) required as per Chapter 38 of Fire Code.

33. If building is designed with an automatic sprinkler system, the system must be installed, inspected and operational before occupying building (includes furniture and staff).

34. All work in the right-of-way or COSM easement will be constructed and restored in accordance to current COSM details and specifications.

Public Rights-of-Way

1. Where there is a conflict between the drawings and the COSM specifications and details, the more stringent shall apply. In no case is a contractor or owner authorized to construct, build or develop in contrast with adopted COSM codes, standards or details.

2. Location of existing lines is approximate. The contractor shall verify the location and elevation of utilities prior to beginning construction. Conflicts with the proposed work should be brought to the attention of the Engineer of Record and the project inspector immediately. It shall be the contractor's responsibility to repair any damages made as a result of construction at the contractor's expense.

3. The contractor shall not attempt to determine locations by scaling from plans. While every attempt has been made to prepare these plans to scale, the Engineer of record should be consulted if clarifications are needed.

4. Emergency Telephone Numbers (numbers may change - contractor should verify numbers)

Tx 811 (formerly DigTess)	811
Police - Fire - EMS	911
TX DOT	512-353-1061
Century Telephone	512-754-5223
Southwestern Bell	1-800-464-7928
Gas Company	1-800-427-7142
Spectrum	855-578-5500
Grande	800-218-5725
University	512-245-2108 and/or 245-2508
Pedernales Electric	888-554-4732
Bluebonnet Electric	800-949-4414
SM Electric Utilities	512-393-8313
SM Water/WW Utilities	512-393-8010

5. The contractor is responsible for acquiring any temporary construction easements for the project. Documentation shall be provided to the Permit Center.

6. The contractor shall be responsible for relocating any COSM water and wastewater utility lines and service taps where required. The contractor shall be responsible for relocating any COSM traffic facilities where required at the contractor's expense.

7. Contractor shall keep driveways open and accessible during construction. Underground utilities crossing commercial driveways shall be installed such that a minimum 10' traffic lane is kept open at all times. Spoilage material shall not be mounded more than 18" high adjacent to a driveway or intersection.

8. No construction operation relative to installation of utilities, including stockpiling of excavated materials, shall be permitted within the limits of existing pavements carrying traffic on state highways or COSM roads and streets unless specifically authorized in writing by the respective Authority Having Jurisdiction.

9. The contractor shall develop and submit a traffic control plan, which will show both daytime and nighttime operations during various phases of construction. The plan must be submitted to mypermitnow org for review at least 14 days before construction begins. The plan must be approved before construction begins. The contractor shall designate a person who will be accessible on a 24-hour basis and responsible for the maintenance of the traffic control devices. This 24-hour contact number must be posted visible to the street on the job site and provided to the Public Services-Transportation Division. The contractor is responsible for furnishing the traffic control devices described in the plan and all costs associated with installation, maintenance and removal.

10. Any damage caused to any existing COSM water/wastewater, or storm sewer infrastructure will be repaired by the contractor to the satisfaction of the COSM at the contractor's expense prior to the Certificate of Occupancy or Certificate of Acceptance being issued.

11. When work is performed on private property or easements, all lawn grass, shrubbery, flowers, site utilities (including irrigation systems), trees and fences in the way of the work shall be removed, protected and replaced to their original condition and position upon completion of the work. All property monuments disturbed during construction shall be restored by a Registered Professional Land Surveyor at the contractor's expense.

12. The contractor must provide a Proof of Destination and truck route documents for trucks used to deliver or remove material or spoils from the job site upon request by inspectors.

13. All valves, manholes, SMEU electrical facilities and other appurtenances must remain accessible to COSM crews AT ALL TIMES during construction. These appurtenances shall also be raised to final grade, if within the project limits.

14. All assets constructed within the COSM's right-of-way must be submitted to the COSM with GPS coordinates at the end of each project. Coordinates will be submitted for all assets (including directional changes, valves, manholes, format, on the NAO 1983 State Plane Texas South Central FIPS 4204 Feet Coordinate System. All coordinates will be submitted in grid units. The required file type for coordinate data submission is *txt format.

15. The right-of-way will be kept clean at all times. Daily and sometimes more frequent sweeping may be required. A citation will be issued if the right-of-way is not kept clean. Do NOT wash, sweep or otherwise cause construction soil or debris to be deposited into any storm water drainage or conveyance system.

16. The Owner shall coordinate temporary relocation of mailboxes with the San Marcos Postmaster. Final location shall be in accordance with the local post office requirements.

17. All permanent pavement markings should be Type I and Type II per COSM specifications and details.

18. Any traffic changes, including signs, signals and/or pavement markings shall be the responsibility of the contractor.

19. All Material Testing shall follow the schedule below:

CITY OF SAN MARCOS TESTING SCHEDULE	
Description:	*Rate:
Soils:	
Standard Proctor - Trench Backfill	Per Material Source
Standard Proctor - Raw Subgrade	Per Material Source or Street
Densities - Trench Backfill**	Per 200 LF Pipe per lift
Densities - Cement Stabilizer	Per 200 LF Pipe
Backfill Densities - Raw	Per 100 LF Street per lift
Subgrade** Densities - Driveways	Per 5 Driveways
Base:	
Sieve Analysis	Per 300 LF Street
Atterbergs Limits	Per 300 LF Street
Modified Proctor	Per Material Change
Densities of Compacted Base**	Per 300 LF Street per lift
Wet Ball Mill Test	Per Material Source
Triaxial Test	Per Material Source
Hot-Mix Asphalt Concrete (HMAC):	
Extraction, Sieve Analysis	Per 500 Tons or Day
Lab Density & Stability	Per 500 Tons or Day
Theoretical Density (Rice Method)	Per 500 Tons or Day
Temperature - During Lay-Down	Continuous as Needed
Thickness - In Place	Per 300 LF Street
% Air Voids - In Place	Per 300 LF Street
% Theoretical Density - In Place	Per 300 LF Street

CITY OF SAN MARCOS TESTING SCHEDULE	
Description:	*Rate:
Concrete: (Unconfined Compression, 7, 14 & 28 Day)	
Curb and Gutter	Per 1000 LF C&G
Sidewalk	Per 4000 SF
Driveway	Per 2500 SF
Curb Inlets	Per 10 Inlets
Air, Slump & Compression - In Place	Per exposed structure
Slump & Compression -In Place	Per underground structure

* The above testing rates are only anticipated guidelines. The COSM reserves the right to require at owner's expense additional testing at the COSM's discretion.
** Testing must be conducted during backfill operations
*** Density will be per COSM details.

Erosion Control and Stormwater Management

1. It is unlawful for any general contractor, subcontractor or owner to allow or cause to be allowed, erosion of material from a construction site.

2. Appropriate erosion controls and tree protection measures shall be in place prior to any site disturbance. Site work permitted by a Site Plan Permit and/or a Demolition Permit cannot begin until erosion control and tree protection measures are in place.

3. All construction-related vehicle parking and activity (including employee personal vehicles and delivery vehicles) must be located within the Limits of Construction, with appropriate controls, or designated parking/access on APPROVED surfaces outside the Limits of Construction.

4. Certain erosion control measures identified by the COSM are to be employed to prevent erosion; however, these are only minimum standards. See construction details on Design & Construction Guide webpage, located under Engineering & Capital Improvements.

5. In the event of unusual site conditions, proximity to any water bodies and/or weather related events, more stringent requirements may be necessary (on-site or off) to maintain erosion and sedimentation control.

6. The owner or their designee is responsible for all changes, upgrades and continued maintenance of all erosion control and storm water management features at all times.

7. Erosion control measures and storm water management practices will be inspected by the COSM prior to and during the construction process:

Engineering Inspections is responsible for the inspection of Public Improvements Construction Projects (PICP) and infrastructure in the ROW to the property line or easement, excluding sidewalks and drive ways as noted under the driveway and sidewalk section.

Planning/Development Services is responsible for the inspection of all residential and commercial construction.

8. All designs to prevent the erosion of soil and the transport of sediment and debris from the construction site, or surrounding areas disturbed by construction shall, be maintained by the contractor during construction.

9. All streets adjacent to the project site must be kept clean of mud, rocks, trash, and building debris at all times. Daily or more frequent sweeping may be necessary, including the street center/turn lane and gutters. During muddy conditions, clean vehicle tires before leaving the site and/or remove mud, dust and dirt from public streets regularly throughout the day; sweep roads as soon as possible. Or prevent vehicles from leaving the site during muddy conditions. Migration of material or sediment from the site will require daily cleanup of paved streets and of drainage areas impacted by onsite or offsite construction. The contractor is required to take any necessary measures to prevent the migration of dust into the air due to construction activities.

10. All storm drain inlets within 200 feet of any permitted construction area must be protected per City detail (refer to #4 above).

11. Dewatering operations must use SWPPP-specified methods only. If such methods are only general or not applicable, pump from the top of the pool of water (rather than the bottom) and discharge to a vegetated, upland area (away from waterbodies or drainage) or use another type of filtration prior to discharge EVERY TIME. Refer to the EPA 2017 Construction General Permit, Section 2.4, as applicable.

12. The contractor or owner must have a designated person responsible for continuous (24 hours a day/7 days a week) monitoring of erosion control measures to ensure compliance with all federal, state, and local laws and regulations.

13. Do NOT wash, sweep or otherwise cause construction soil or debris to be deposited into any storm water drainage or conveyance system.

14. COSM MS4- Projects with a disturbed area of 1 to <5 acres must submit a signed, certified Small Construction Site Notice (CSN) to the COSM through MyPermitNow prior to construction activity starting. Projects with disturbed area of 5+ acres must submit a signed, certified Notice of Intent (NOi) to TCEQ; they must also submit the signed certified NOi and Large CSN received from TCEQ to the COSM through MyPermitNow prior to construction activity starting. COSM is the MS4 operator; these submissions to the COSM meet the required initial notification to the MS4 operator. CSN must be displayed at a construction site in public view prior to the commencement of construction activities.

15. Contractor shall provide qualified personnel to perform SWPPP inspections on projects equal to 1 acre or greater. Qualified personnel shall have CISEC, CESSWI, or equivalent certification approved by the MS4.

16. Qualified personnel shall inspect the construction site at least once every seven calendar days. A project-specific SWPPP must be prepared in accordance with the requirements of the Construction General Permit and shall be designed and signed by a licensed professional engineer (Texas) with competence in this area as required by Texas Engineering Practice Act Section 137 and/or a Certified Professional in Erosion and Sedimentation Control (CPESC). The SWPPP must be onsite at all times and shall be made available to the City of San Marcos upon request.

Water Utility Notes - *The requirements stated in most current version of the Water Distribution System Design Criteria Technical Manual shall supersede these notes if they conflict.*

1. All taps to the COSM water system for private property shall be metered.

2. When a tap is proposed on an existing Asbestos Cement (AC) pipe the contractor will replace the AC pipe segment with an approve PVC pipe per City Standard Product List (SPL). If the proposed tap is less than 24 inches from an AC pipe joint the replacement of the AC pipe will require addition segments to ensure adequate tap and joint separation. New pipe will be connected to the existing AC pipe with and wide range coupling adaptor per City SPL.

3. A list of accepted metering devices can be found on the engineering webpage under SPL WW-144. All metering devices shall be located on public right-of-way in easement.

4. All water utility lines leading to private property (except some authorized small domestic water lines) shall be provided with a testable back flow prevention device approved by the AWWA and the COSM. See detail.

5. The back-flow prevention device must be located as close as possible to the public right-of- way on private property.

6. A backflow prevention device with a low-flow indicator is required on all dedicated fire lines as per COSM details.

7. Any bypass to a backflow prevention device must have a testable back flow prevention device at least equivalent to the primary line approved by the AWWA and the COSM.

8. It is the responsibility of the owner and contractor to verify the type and size of the backflow prevention device with the COSM's Water Services (512)393-8010, for the property served, prior to construction.

9. Accepted Metering Devices - See Standard Product List WW-144

10. Accepted Utility Line Types (verify use with Inspector)

Use	Pipe Material	[1] Pipe Sizes	[2] SPL
Service lines	Copper Tubing	1"	WW-613
Service lines	Polyethylene Tubing	1"	WW-65
Service lines	PVC	2"	WW-587
Service lines	PVC	4",6",8",12"	WW-308
Fire Hydrant Lead	DI	6"	WW-27
[3] Distribution lines	PVC	8" or 12"	WW-308 or WW-308A
[3] Distribution lines	DI	8" or 12"	WW-27 or WW-27F
Transmission lines	PVC	16" or 24"	WW-308C
Transmission lines	DI	16" or 24"	WW-27 or WW-27F

Note 1
If the required pipe size is not listed; then install the next larger size listed and reduce to the needed size at the meter per the COSM details. See COSM details for more information.

Note 2
The COSM Standard Products List (SPL) can be found on the engineering webpage.

Note 3
The minimum distribution system line size is eight (8) inches, with the exception of short Cul-de-Sacs as indicated in the City's Water Distribution System Design Criteria Technical Manual

11. Private property fire hydrants shall be RED - Public fire hydrants shall be factory coated aluminum based silver paint. No pre-owned hydrants permitted.

12. All utility lines shall be tested after all appurtenances (hydrants, sampling ports, valves, etc.) are installed complete in place and located at final grade. All utility lines shall be tested from gate valve to gate valve at 200 psi for 10 minutes and @ 150 psi for 2 hours. A fire line dedicated for a fire protection system shall be tested @ 200 psi for 2 hrs.

13. A licensed underground installer certified by the Texas Commission on Fire Protection must perform underground fire line installation (Fire Sprinkler System). Most plumbers and utility contractors do not meet this criterial Please verify before construction.

14. COSM to be given 48-hour notice (required) prior to all testing of utility lines. COSM inspection required for all utility lines.

Public

All utility taps, line installations, extensions, or adaptations in the public right-of- way, up to and including the metering device, for all Public Improvement Construction Projects will be inspected by the Engineering Inspector.

Private

- All domestic water line installations, extensions, or adaptations on public or private property for all Site Plan Permits, including the valve, and meter will be inspected by a Building Inspector.

  Private utility lines utilized by any fire protection system (fire line), or utility combo line will be inspected by the Fire Prevention Office.

- All backflow prevention devices will be reviewed by the Backflow Prevention Manager (Public Services-Water Division) prior to installation.

15. All backflow prevention devices must be tested by a State licensed/certified back flow prevention assembly tester. Test reports shall be on a form as prescribed by the COSM-Public Services Water Division. All testers submitting inspection results must be registered prior to testing devices by the -Public Services Water Division. A copy of the test results are to be submitted to the COSM-Public Services Water Division and the COSM Inspector prior to activation of water service. A copy of the backflow test is to be attached to the back-flow prevention device that was inspected and/or tested.

16. All water lines leading to private property must provide a bacteriological test to the inspector noted in the inspections section above. All bacteriological samplings must be certified within 20 days of project acceptance. On all dead-end lines and lines not yet tied into a water system, an automatic flush valve shall be installed with an approved water meter. After the pressure tests and bacteriological samples have passed, the Contractor must give notice to the Engineering Inspector for activation of the device.

17. Fire hydrants must be placed or moved to finished elevation after installation per detail 511S-17-SM. Finished elevation is 18" to 24" from the center of the lowest connection to the adjacent grade.

18. Fire hydrant is rejoined within 100 feet of the Fire Department Connection (FDC) is building is equipped with a fire sprinkler system.

19. Fire hydrants are required to have a clear area of 5 feet. No plants, trees or obstacles allowed except as impact protection outline by Fire Code

20. Fire hydrants are required to be marked with a blue reflective marker in the roadway 6" to 10" off center of the roadway towards the hydrant. On corner lot installation, both roadways are required to be marked.

21. The underground contractor must submit a report (on company letterhead) to fireplan@sanmarcostx.gov indicating that the fire line is complete and has been flushed of all debris.

22. All fire hydrants that have not been inspected or flushed are considered "out of service" and are required to have a black plastic wrap covering the hydrant.

23. COSM will not perform the tie-in of a public service line to a private line.

24. It is the responsibility of the owner or contractor to tie to the COSM's line from the right-of-way or public easement to the private property line. It is the licensed plumber/utility contractor responsibility to maintain proper slope and connection of system to the public connection.

25. Fire hydrants capable of producing the required GPM (based on construction type) must be located within 500 foot of the most remote portion of the building using accessible surfaced roadway for measurement.

26. Fire hydrants must be operational prior to beginning combustible construction.

27. All valves in a COSM right-of-way will be operated by COSM personnel only. The contractor may not operate any COSM owned valve. The general contractor will be fined if a water valve is operated without express written consent of the Water Utility, regardless of who operated the valve.

28. Only temporary water meters approved by the COSM are authorized for use on any fire hydrant (public or private).

29. Temporary meters may be relocated from one hydrant to another only by Water- Waste/Water personnel.

30. A fine will be imposed on operators using fire hydrants without meters, with unapproved meters, or failing to use approved backflow prevention or air gap protection.

31. Thrust blocks are not permitted. All fittings shall be mechanically restrained. Bell joints shall be mechanically restrained in accordance with the Engineer of Record's specifications based on site conditions. A joint restraint table, sealed by the Engineer of Record must be submitted with each set of plans. If a joint restraint table is not available, all joints must be mechanically restrained.

32. The service address must be posted and visible (as per COSM specifications) from the street prior to the installation of the meter as per Chapter 38 of local ordinances.

33. Disinfection sample taps shall be installed at proper locations (not more than 1000-foot intervals) along public water lines.

Wastewater - *The requirements stated in most current version of the Wastewater Collection System Design Criteria Technical Manual shall supersede these notes if they conflict.*

1. Required Equipment - The following are the acceptable materials for the type of lines or connections shown:

Public Sewer Lines - SDR 26 in the COSM right of way (as a minimum). See SPL WW227 &WW-227A

Private Sewer Lines - Schedule 40 or SDR 26 Approved connections - See SPL WW-354

2. Inspection

Engineering Inspections is responsible for inspection of all utility taps, line installations, extensions, and adaptations on all Public Improvement Construction Projects. See 510.3(26) Quality Testing for Installed Pipe-of the Modifications of Austin Specifications for moredetails.

- 4-psi minimum pressure test on lines
- Lines must be flushed immediately prior to the TV test
- TV test on all public lines (copy of video to Engineering Inspections)
- Mandrel test required 30 days after installation

Building Inspections is responsible for inspection of all utility taps, service laterals, and private lines on all Site Preparation Projects and all residential and commercial construction.

- Low-pressure air test with 5 PSI on all lines
- Force mains; 5 psi over working pressure with minimum of 50 psi, for 1 hour

3. All sewer lines shall be tested after all appurtenances are located at final grade.

4. All services must be six inch minimum and must have clean-outs; dual services shall have clean- outs on each line located no less than six feet apart at the property line. See detail 520s- 1-SM & 520S-3-SM for more details and TCEQ specifications.

5. All manholes to be cored (not chiseled) and lined with products from the Standard Products List. See specification 506.5F. Pipe connection to existing manholes and junction boxes for more details.

6. All manholes shall be tested per specification 506.6 prior to lining. All manholes are to be lined per SPL 511.

7. The COSM will not perform the tie-in of lines to privately owned and maintained lines or clean- outs. It is the licensed plumber/utility contractor responsibility to maintain proper slope, connection and drainage of system to the public connection.

8. Pipe stub-outs must be provided and located in manholes to facilitate future expansion.

9. All commercial property must have a wastewater sampling port installed per the COSM's sample port detail 520-4B-SM, and wastewater collection system standard design criteria. The wastewater sampling port must not be located in a drive-thru, traffic lane, or driveway access area.

Driveways and Sidewalks

1. All sidewalks and driveway approaches will be inspected by the COSM.

Engineering Inspections will inspect the following items:
- All Commercial project driveway approaches and sidewalks
- Any new, extension or addition to a drive on a existing property (Driveway Permit or Infill New Residential)
- All new subdivision work inclusive of the street, curb, curb cut ramps to a public street, sidewalk and driveway access installed during initial construction prior to COSM acceptance of subdivision
- All Public Improvement Construction Projects

Building Inspections will inspect the following:
- All sidewalk construction and driveway access in development "build-out" after acceptance of subdivision by the COSM.

2. Meters, valves, or other obstructions are not permitted in sidewalks or driveways. All meters must be located in a public right-of-way or easement given by the property owner (and legally recorded).

3. Meters and other utility obstructions must be relocated by and at the expense of the own e r or contractor.

4. Driveway access grade at sidewalk cannot exceed 2%.

5. All sidewalks and driveways shall meet applicable TAS standards.

Public Street Construction

1. All new street construction in public right-of-way and easements will be inspected by the Engineering Inspectors.

2. All street lights shown on the approved construction plans shall be active prior to project acceptance. If street light service is to be in the COSM's name, contact San Marcos Electric Utility, (512) 393-8300

3. Flexible Base & Sub-grade: Will follow the City specification noted in the 200: Series Subgrade & Base Construction.

4. Cutback Asphaltic material (Prime Coat) shall be applied to the completed base course and allowed to set 24 hours before paving the roadway. An Emulsified Asphalt Tack Coat can be used in lieu of the prime coat and/or placed on the prime coat.

5. Asphalt must be at a temperature between 250° F and 350° F when discharged from the mixer and compacted using steel-wheel rollers, vibratory rollers and pneumatic-tire rollers.

6. The contractor or their testing technician shall check the density of the compacted asphalt at regular intervals. Samples of the asphalt shall be taken as the asphalt leaves the hopper of the paving machine before compaction and cores shall be taken at these sampling locations. A minimum of 3 samples shall be taken daily unless the total volume is determined to be small enough to warrant taking only one sample.

Electric Utility Notes

1. Electrical service will be provided in accordance with SMEU "Rules and Regulations" and "Line Extension Policy" within the PUC designated SMEU service area.

2. Electric Service in San Marcos Electric Utility (SMEU) Service Territory:

A. For non-emergency service, Contact SMEU 48 hours in advance to schedule electric service connection for new service or disconnection/reconnection for modified service.
i. For Emergency Electric Service contractors may disconnect and reconnect temporary electric service without advanced notice. Contractor must contact SMEU within 24 hours to make permanent electric service connection.

B. SMEU must receive notification from the COSM Electrical Inspector that the Customer's electrical installation has passed final electrical inspections before electric service is connected by SMEU personnel.

C. SMEU has the right to deny service connection for any identified electrical hazard.

3. For plan review of projects requiring electric service from San Marcos Electric Utility (SMEU), a minimum of the following items must be provided to SMEU by the property owner or contractor: a completed Electric Service Application, a set of customer drawings including plat drawings showing all easements, scaled elevation drawings for any structures that exceed a single story, and a total connected load estimate (including service voltage requirements).
Contact San Marcos Electric Utility at 512-393-8300 for detailed plan review submittal requirements.

4. All services shall have a single disconnecting means in an approved location on the exterior or outside of the building served.

5. All electric disconnecting means and meters shall be assessable.

6. At the time of Phase 2 inspection, the meter sockets shall be labeled with 1" x 2" digitally printed vinyl stickers. Disconnect panel(s) shall be labeled with 2" x 4" digitally printed vinyl stickers. Panel must have address numbers, number of panel (ex. 2 of 4) and location of next disconnect panel. Both doors and meter socket must have permanent labeling affixed before SMEU will install meters. SMEU may deny meter connection if the required labeling is not present.

7. Panel and socket markings are not allowed to be paint or marker.

8. The service mast shall have at least two points of attachment to the building. One point of attachment must be within 12 inches of the service equipment. The service equipment may not be used to meet this requirement.

9. If electric overhead power lines exist in the project area, Texas Law Article 1436c, prohibits all activities in which persons or equipment may come within six (6) feet of energized overhead power lines and Federal Regulations, Title 29, Part 1910.180(i) and Part 1926.550(a)(15) require a minimum of 10 feet from these facilities. Where Contractor must work near overhead power lines, contact the service provider for the lines to be de-energized and/or moved at Contractor's expense. For non-emergency work, contact SMEU 48 hours in advance to schedule lines to be de-energized or moved.

10. Contact the local service provider for information on their specific installation requirements

San Marcos Electric Utility(SMEU)	512-393-8300
Pedernales Electric Cooperative	888-554-4732 #7525
Bluebonnet Electric Cooperative	800-842-7708
(Ask for Lockhart engineering dept.)	

NOTE: This document is not meant or designed to be an all-inclusive document. The function of this 'requirements' document is to provide information on issues identified by the COSM inspection staff based on daily field operations and common issues. It is the intent of this document to facilitate the construction process in common overlapping areas between COSM departments and divisions and private contractors. In all cases, contractors, subcontractors and owners are responsible for knowing and utilizing the state, federal, or COSM codes and laws where applicable. No code violations are "approved". COSM signed or reviewed plans are not authorization to violate codes, laws, or ordinances. A copy of plans bearing a seal from Building Inspections and/or the Permit Center is required to be available on-site at all times. Any changes or revisions to these plans must first be submitted to the COSM by the design professional for review and written authorization. A review seal from the COSM must be affixed to these revised plans and they must be available on- site at all times.

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191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWEREDBYSENERGY.COM

JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.
LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

GENERAL NOTES

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-102

Drawing: W:\Company Share\CLG Projects\23--Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\02--LCS--GN.dwg Last Plotted: Thu Jan 23, 2025 -- 3:12pm By: CLG

LA CIMA
PEC SUBSTATION
MINOR PLAT

STATE OF TEXAS §
COUNTY OF HAYS §

I, BRYAN LEE, MANAGER & DIRECTOR OF LA CIMA COMMERCIAL GP, LLC, A TEXAS LIMITED LIABILITY COMPANY, GENERAL PARTNER OF LA CIMA COMMERCIAL, LP, A TEXAS LIMITED PARTNERSHIP, BEING THE OWNER OF THAT CERTAIN REMAINDER OF A CALLED 31.079 ACRE TRACT OF LAND OUT OF THE JOHN WILLIAMS SURVEY, ABSTRACT NO. 490 AND THE JOHN MAXIMILIAN JR. SURVEY NO. 15, ABSTRACT NO. 299, HAYS COUNTY, TEXAS, DESCRIBED IN THE DEED TO LA CIMA COMMERCIAL, LP, OF RECORD IN DOCUMENT NO. 17016156, OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS;

DO HEREBY SUBDIVIDE 7.500 ACRES OF LAND OUT OF THE SAID 31.079 ACRE TRACT, AS SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS

LA CIMA PEC SUBSTATION PLAT

FUTURE SUBDIVISION TO THE CITY OF SAN MARCOS, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, HEREBY DEDICATE TO THE USE OF THE PUBLIC FOREVER PUBLIC RIGHT-OF-WAY AND DRAINS, EASEMENTS (EXCLUDING LANDSCAPE AREA WITHIN EASEMENTS), PARKS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

IN WITNESS WHEREOF, BRYAN W. LEE, HAVE CAUSED THESE PRESENTS TO BE

EXECUTED THIS THE _____ DAY OF _____, 2024 A.D.

_____
BRYAN LEE, MANAGER & DIRECTOR OF LA CIMA COMMERCIAL GP, LLC, A TEXAS LIMITED LIABILITY COMPANY,
GENERAL PARTNER OF LA CIMA COMMERCIAL, LP, A TEXAS LIMITED PARTNERSHIP
303 COLORADO STREET, SUITE 2300
AUSTIN, TX 78701

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED, BRYAN LEE, MANAGER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF_____, 2024,

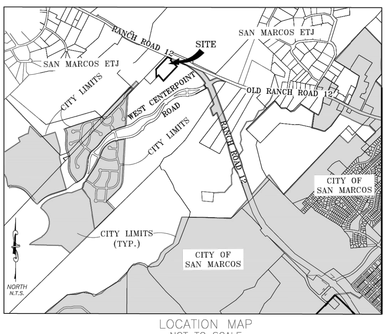
BY: _____
NOTARY PUBLIC

_____
JAMES R. DYESS
HORIZON BANK, SSB
600 CONGRESS AVENUE, SUITE 400
AUSTIN, TX 78701

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED, JAMES R. DYESS, LIENHOLDER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF_____, 2024,

BY: _____
NOTARY PUBLIC



LOCATION MAP
NOT TO SCALE

FLOOD NOTE:

THE SUBJECT TRACT IS SHOWN WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS IDENTIFIED BY THE FLOOD INSURANCE RATE MAP PANEL NO. 48209C-0388-F, DATED SEPTEMBER 02, 2005.

THE ABOVE STATEMENT IS MEANT FOR FLOOD INSURANCE DETERMINATION ONLY AND THIS SURVEYOR ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP(S).

UTILITY NOTE:

WATER/WASTE WATER: CITY OF SAN MARCOS
630 EAST HOPKINS STREET
SAN MARCOS, TEXAS 78666

ELECTRIC: PEDERNALES ELECTRIC COOPERATIVE
201 SOUTH AVENUE F
JOHNSON CITY, TEXAS 78636

STATE OF TEXAS §
COUNTY OF HAYS §

KNOW ALL MEN BY THESE PRESENTS:

THAT, ELAINE H. CARDENAS, CLERK OF HAYS COUNTY COURT DOES HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING AND THE CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORDS IN MY

OFFICE ON THE _____ DAY OF _____, 2024, A.D., IN THE PLAT RECORDS OF SAID

COUNTY AND STATE IN DOCUMENT NUMBER _____ WITNESS MY HAND AND SEAL OF OFFICE

OF COUNTY CLERK OF SAID COUNTY ON THIS THE ____ DAY OF _____, 2024, A.D.

FILED FOR RECORD AT _____ O'CLOCK __M. THIS THE ____ DAY OF _____, 2024, A.D.

BY: _____
ELAINE H. CARDENAS
COUNTY CLERK
HAYS COUNTY, TEXAS

AQUIFER NOTE:

THIS PROJECT IS IN THE EDWARDS AQUIFER RECHARGE ZONE BUT IS NOT IN THE CONTRIBUTING ZONE.

PROJECT ADDRESS:

THIS PROJECT IS LOCATED SOUTH OF R.M. HIGHWAY NO. 12 AND NORTH OF LA CIMA FIRESTATION, HAYS COUNTY, TEXAS.

NOTES:

1. BUFFER ZONES PER THE APPROVED WATER PROTECTION PLAN PHASE 1 ON NOVEMBER 20, 2014.
2. FIRE HYDRANT SPACING AND WATER FLOW WILL MEET CITY SPECIFICATIONS.
3. AS USED HEREIN, THE TERM "DEVELOPER" SHALL MEAN "LA CIMA COMMERCIAL, LLC" OR ITS SUCCESSORS OR ASSIGNS.
4. THIS SUBDIVISION IS SUBJECT TO AND SHALL COMPLY WITH THE FOLLOWING AGREEMENTS BETWEEN THE OWNER AND HAYS COUNTY:

   AGREEMENT REGARDING LA CIMA HABITAT PRESERVATION, PURGATORY CREEK PARKLAND DEDICATION, AND CENTERPOINT RIGHT-OF-WAY DEDICATION" (EXECUTED JUNE 2, 2015).
   HAYS COUNTY LICENSE AGREEMENT (EXECUTED AUGUST 28, 2015).
5. THE SUBJECT TRACT SHOWN HEREON IS IN THE SAN MARCOS CISD.
6. THIS DEVELOPMENT IS REGULATED PURSUANT TO THE DEVELOPMENT AGREEMENT AS APPROVED BY THE SAN MARCOS CITY COUNCIL VIA RESOLUTION NO. 2022-106R AND AS RECORDED IN THE REAL PROPERTY RECORDS OF HAYS COUNTY AS INSTRUMENT NUMBER 22046142 AND AS AMENDED.
7. IMPERVIOUS COVER IS 60% OF THE GROSS AREA OF THE SUBDIVISION.
8. IMPROVEMENTS WITHIN DRAINAGE EASEMENTS WILL BE PRIVATELY MAINTAINED.
9. A GREENWAY IS REQUIRED TO BE CONSTRUCTED ALONG RR12 AT TIME OF SITE PERMITTING IN ACCORDANCE WITH CITY OF SAN MARCOS STANDARDS.
10. SIDEWALKS ARE REQUIRED.
11. SUBJECT TRACT DOES NOT FALL WITHIN THE SAN MARCOS RIVER CORRIDOR.

CITY OF SAN MARCOS
APPROVAL CERTIFICATE

APPROVED ADMINISTRATIVELY AND AUTHORIZED TO BE RECORDED ON THE _____ DAY OF _____, 20___, BY THE DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES OF THE CITY OF SAN MARCOS, TEXAS.

_____ _____
CIP & ENGINEERING DATE

_____ _____
DIRECTOR OF PLANNING & DEVELOPMENT SERVICES DATE

_____ _____
RECORDING SECRETARY DATE

STATE OF TEXAS §
COUNTY OF HAYS §

I, DANIEL WAYNE COGBURN, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY MADE UNDER THE DIRECTION AND SUPERVISION OF DANIEL WAYNE COGBURN, RPLS NO. 6894 AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

BY: _____ _____
DANIEL COGBURN DATE
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. 6894 - STATE OF TEXAS
BOWMAN CONSULTING GROUP, LTD.
807 LAS CIMAS PKWY, LAS CIMAS II, #350
AUSTIN, TEXAS 78746
512-327-1180

SHEET 1 OF 2

FILE: P:\005956 - Lazy Oaks Ranch\005956-01-002 (SUR) - Freeman Tract\Survey\Working\Final Plat\005956_La Cima PEC Substation_FINAL.dwg		
DATE: 08/15/2024	DRAWN BY: EH	CREW: CC, BT
SCALE: 1"=80'	CHECKED BY: DC	FB #:
JOB #: 005956	DRAWING #:	PLAN #:
PROPERTY OWNER CONTACT INFO: 512-457-8000, BLEE@GBCLLP.COM		
NO.	REVISION	BY / DATE

PLOT DATE: Aug 15,2024-1:36pm

Bowman CONSULTING
Bowman Consulting Group, Ltd.
807 Las Cimas Pkwy, Las Cimas II, #350, Austin, Texas 78746
Phone: (512) 327-1180 Fax: (512) 327-4062
www.bowmanconsulting.com © Bowman Consulting Group, Ltd.
TBPE Firm No. F-14309 | TBPLS Firm No. 101206-00

MINOR PLAT
LA CIMA PEC SUBSTATION
JOHN WILLIAMS SURVEY, ABSTRACT 490
& JOHN MAXIMILIAN JR. SURVEY NO. 15,
ABSTRACT NO. 299
HAYS COUNTY, TEXAS

CoSM #PC 24-30

Ltr	Date	Revision	By	Chkd	Appd

APPROVED G.ULCAK | CHECKED G.ULCAK | DRAWN B.FRYE

PEDERNALES ELECTRIC COOPERATIVE, INC.
LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

PLAT (1)

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax: (512) 246-1856
Texas Registered Engineering Firm F-10523

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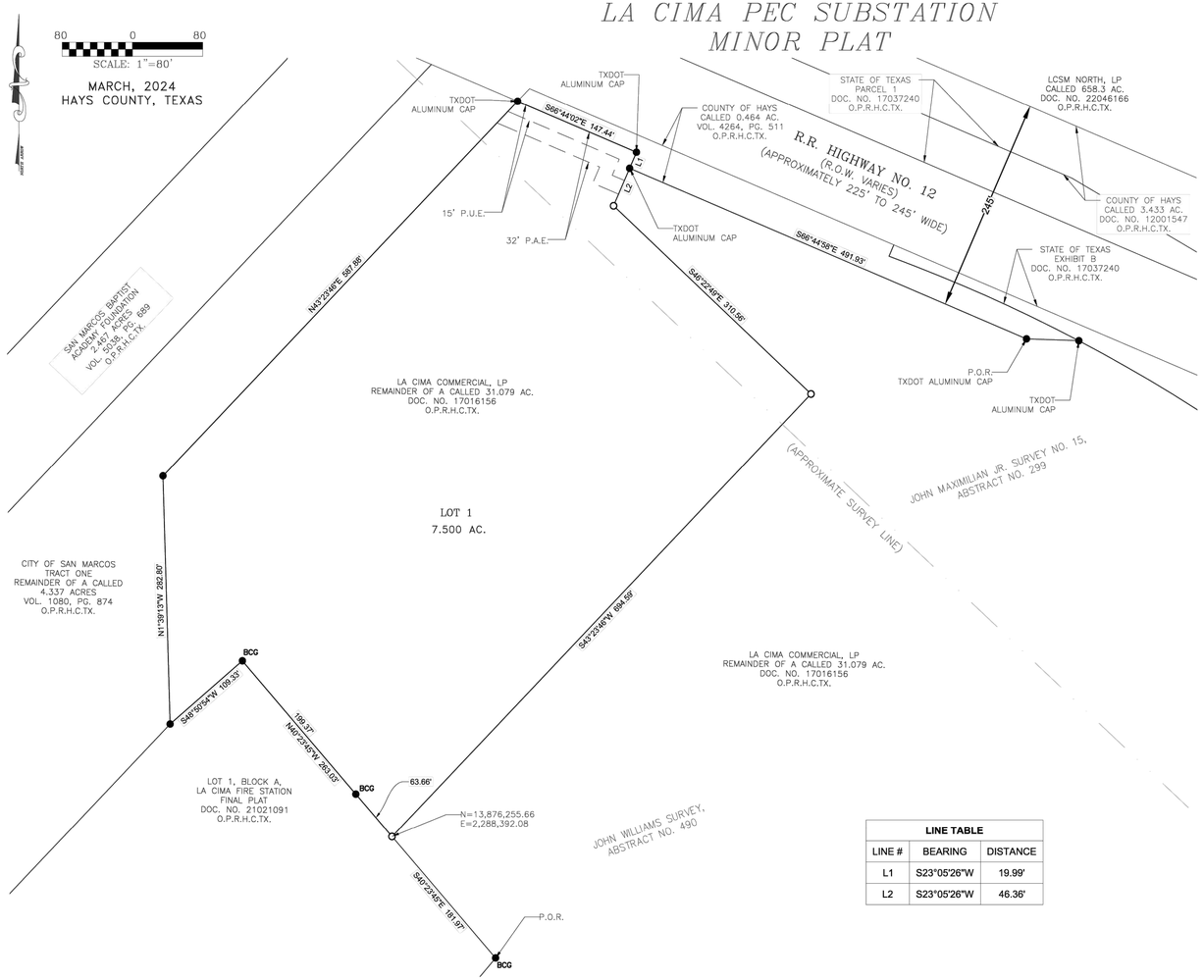
191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWERED@SENERGY.COM

DATE 01/02/2025
SCALE AS SHOWN
DWG NO. C-103

LA CIMA PEC SUBSTATION
MINOR PLAT



BENCHMARK LIST: NAVD 88 - GEOID 12A CONSTRAINED TO:
-NGS OPUS
-NGS AREA BENCHMARKS: AX2439, AX2440, AX2441, AY1578, AY1579
-NGS CORS STATIONS: SAM2, TXAU, TXSE, TXSM
-SMARTNET USA CORS STATIONS: G4SM, LCAS, LCFL, LCJC, LCLU, LCNX, LCSM, SGI1, TXSS

CITY OF SAN MARCOS GPS MONUMENT NO. 14
(APRIL 2005 DATASHEET, GEOID MODEL NOT LISTED)
PUBLISHED GRID NORTHING: 13874895.73'
PUBLISHED GRID EASTING: 2296145.77'
PUBLISHED NAVD88 ELEVATION: 744.89'
MEASURED GRID NORTHING: 13874895.55
MEASURED GRID EASTING: 2296146.59
MEASURED NAVD88 (GEOID 12A) ELEVATION: 744.98'

BM: 90
80D NAIL SET WITH "BCG" WASHER
NORTHING = 13875703.67, EASTING = 2287016.05
ELEVATION = 839.48'

BM: 303
SQUARE SET IN NW CORNER OF HEADWALL
GRID: NORTHING = 13877157.60, EASTING = 2288475.12
ELEVATION = 818.03'

BM: 20,001
MAGNAIL IN CONCRETE
GRID: NORTHING = 13875685.98, EASTING = 2287031.28
ELEVATION = 838.88'

LOT SUMMARY	
LOTS (1)	7.500 ACRES
TOTAL	7.500 ACRES

LEGEND

○	1/2" IRON ROD SET WITH CAP STAMPED "BCG"
● BCG	1/2" IRON ROD W/ PLASTIC CAP STAMPED "BCG" PREVIOUSLY SET
●	1/2" IRON ROD FOUND (OR AS NOTED)
P.O.R.	POINT OF REFERENCE
P.A.E.	PUBLIC ACCESS EASEMENT
P.U.E.	PUBLIC UTILITY EASEMENT
( )	RECORD INFORMATION
O.P.R.H.C.TX.	OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS
D.R.H.C.TX.	DEED RECORDS OF HAYS COUNTY, TEXAS
P.R.H.C.TX.	PLAT RECORDS OF HAYS COUNTY, TEXAS

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	S23°05'26"W	19.99'
L2	S23°05'26"W	46.36'

NOTES:

1. BEARING BASIS IS TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83, GRID.
2. DISTANCES SHOWN HEREON ARE BASED ON SURFACE MEASUREMENTS, TO CONVERT SURFACE DISTANCES TO GRID, MULTIPLY BY THE COMBINED SCALE FACTOR.
3. THE COMBINED SCALE FACTOR FOR THIS PROJECT IS 0.999875.
4. THIS PROJECT WAS COMPLETED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT;

SHEET 2 OF 2

FILE: P:\005956 - Lazy Oaks Ranch\005956-01-002 (SUR) - Freeman Tract\Survey\Working\ Final Plat\005956_La Cima PEC Substation_FINAL.dwg		
DATE: 08/15/2024	DRAWN BY: EH	CREW: CC, BT
SCALE: 1"=80'	CHECKED BY: DC	FB #:
JOB #: 005956	DRAWING #:	PLAN #:
PROPERTY OWNER CONTACT INFO: 512-457-8000, BLEE@DBCLLP.COM		
NO.	REVISION	BY DATE

Bowman CONSULTING
Bowman Consulting Group, Ltd.
807 Las Cimas Pkwy, Las Cimas II, #350, Austin, Texas 78746
Phone: (512) 327-1180 Fax: (512) 327-4062
www.bowmanconsulting.com © Bowman Consulting Group, Ltd.
TBPE Firm No. F-14309 | TBPLS Firm No. 101206-00

MINOR PLAT
LA CIMA PEC SUBSTATION
JOHN WILLIAMS SURVEY, ABSTRACT 490
& JOHN MAXIMILIAN JR. SURVEY NO. 15,
ABSTRACT NO. 299
HAYS COUNTY, TEXAS

CoSM #PC 24-30

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Civil Land Group, LLC
206 W. Main Street Suite 101
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(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

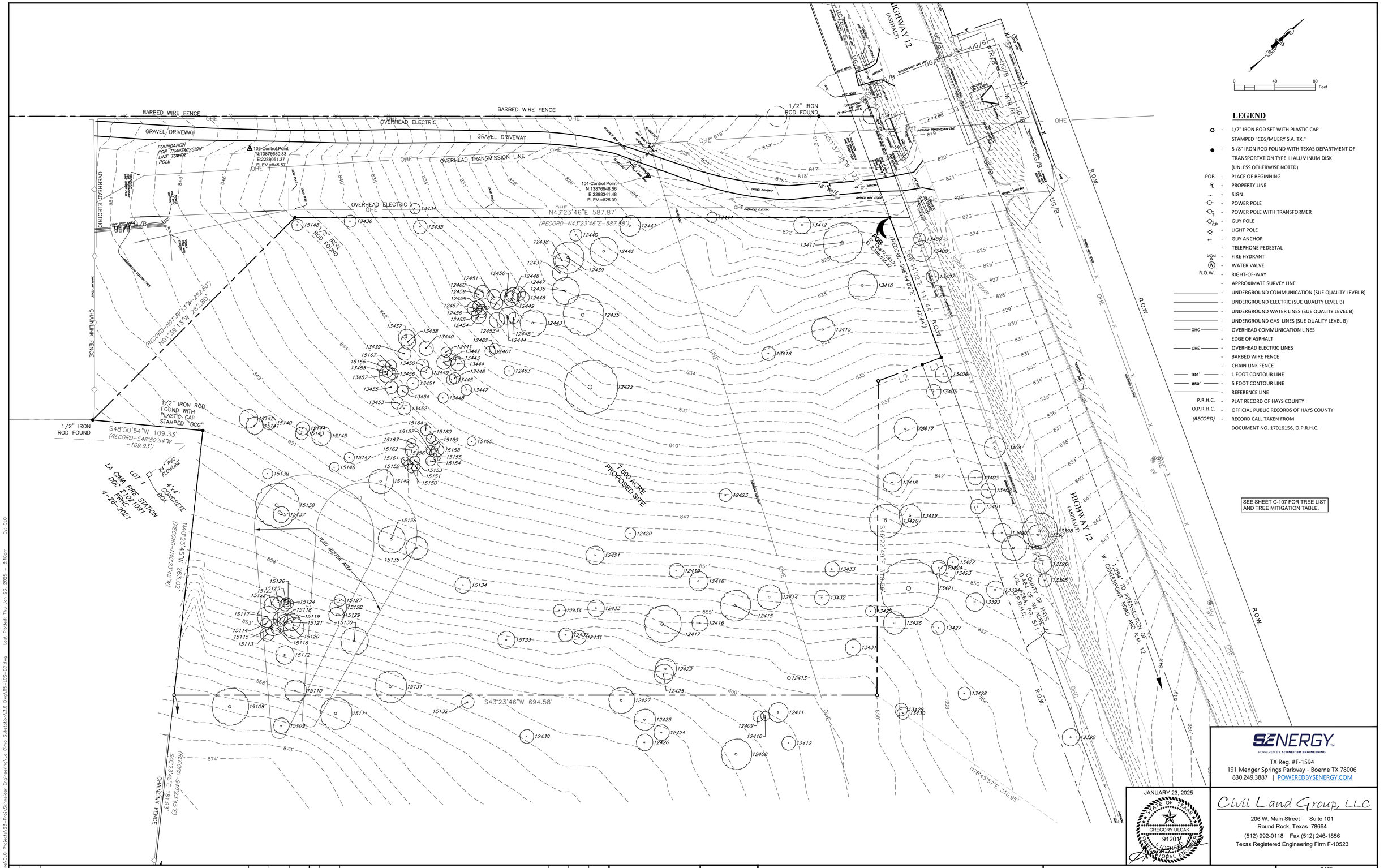
PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

PLAT (2)

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-104

Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\03-04 LCS-Plat.dwg Last Plotted: Thu Jan 23, 2025 - 3:16pm By: CLG



0 40 80 Feet

LEGEND

- 1/2" IRON ROD SET WITH PLASTIC CAP STAMPED "CDS/MUERY S.A. TX."
- 5 /8" IRON ROD FOUND WITH TEXAS DEPARTMENT OF TRANSPORTATION TYPE III ALUMINUM DISK (UNLESS OTHERWISE NOTED)
- POB - PLACE OF BEGINNING
- PROPERTY LINE
- SIGN
- POWER POLE
- POWER POLE WITH TRANSFORMER
- GUY POLE
- LIGHT POLE
- GUY ANCHOR
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- WATER VALVE
- R.O.W. - RIGHT-OF-WAY
- APPROXIMATE SURVEY LINE
- UNDERGROUND COMMUNICATION (SUE QUALITY LEVEL B)
- UNDERGROUND ELECTRIC (SUE QUALITY LEVEL B)
- UNDERGROUND WATER LINES (SUE QUALITY LEVEL B)
- UNDERGROUND GAS LINES (SUE QUALITY LEVEL B)
- OHC - OVERHEAD COMMUNICATION LINES
- EDGE OF ASPHALT
- OHE - OVERHEAD ELECTRIC LINES
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- 851' - 1 FOOT CONTOUR LINE
- 850' - 5 FOOT CONTOUR LINE
- REFERENCE LINE
- P.R.H.C. - PLAT RECORD OF HAYS COUNTY
- O.P.R.H.C. - OFFICIAL PUBLIC RECORDS OF HAYS COUNTY
- (RECORD) - RECORD CALL TAKEN FROM DOCUMENT NO. 17016156, O.P.R.H.C.

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191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWEREDBYSENERGY.COM

JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

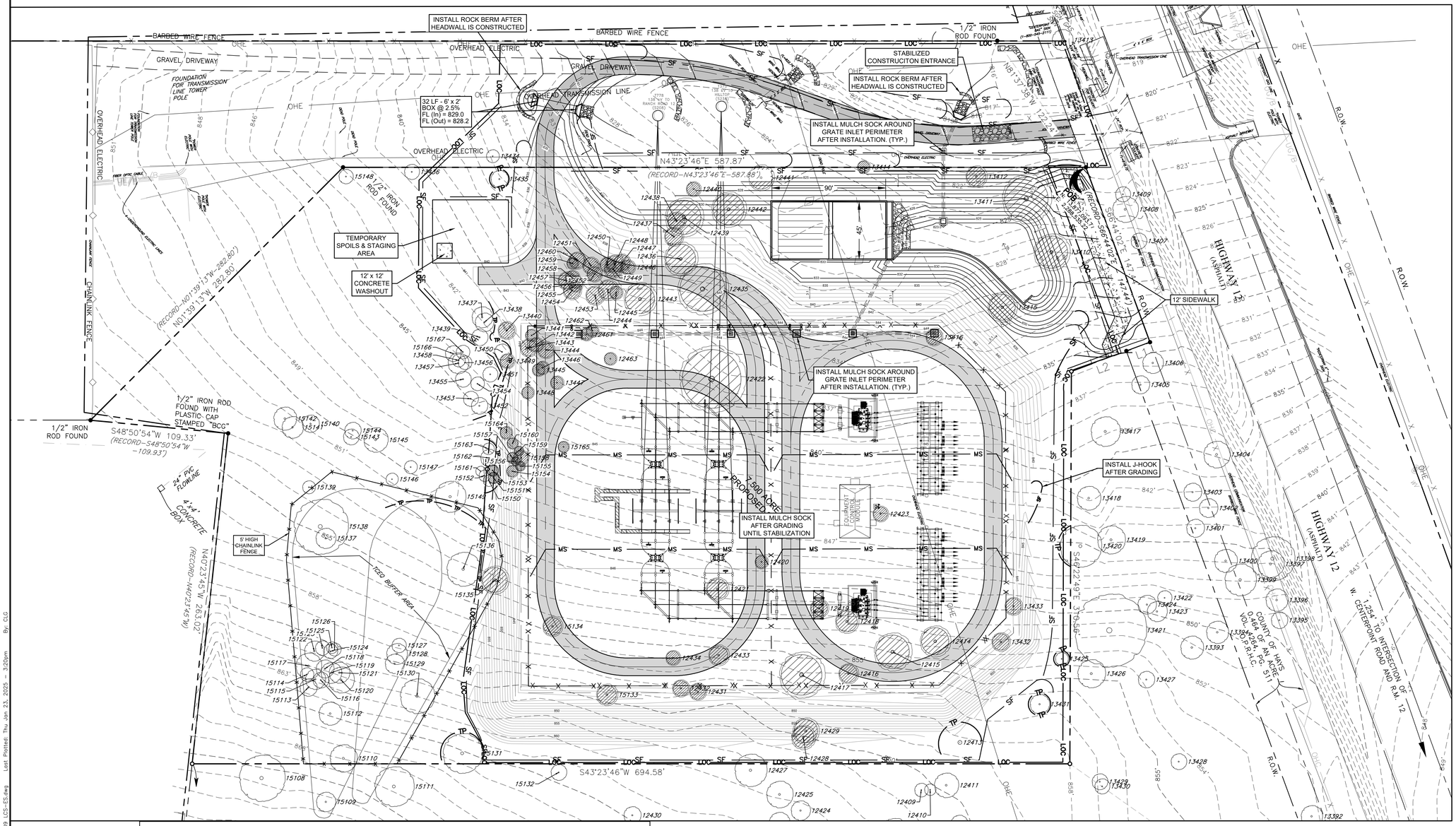
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

EXISTING TOPOGRAPHIC PLAN

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-105

Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\05-LCS-EC.dwg Last Plotted: Thu Jan 23, 2025 - 3:18pm By: CLG



0 40 80 Feet

LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- PROPERTY LINE
- ROW — RIGHT OF WAY
- 578 — PROPOSED CONTOURS
- 995 — EXISTING CONTOURS
- CWQZ — CRITICAL WATER QUALITY ZONE
- EXISTING EASEMENT
- PROPOSED SOLID FENCE
- EXISTING FENCE
- FOUNDATION
- PROPOSED PH 1 - EQUIPMENT
- PROPOSED PH 2 - EQUIPMENT
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- STABLIZED CONSTRUCTION ENTRANCE
- ROCK BERM
- T — T — TREE PROTECTION
- SF — SILT FENCE
- SF — J-HOOK SILT FENCE
- 369 — EXISTING TREES TO REMAIN
- 368 — EXISTING TREES TO BE REMOVED

A Stormwater Pollution Prevention Plan (SWPPP) must be developed/amended and stamped by a TX PE, CPESC, or QPSWPPP [City Code Section 86.529(b)(2) or 86.529 (c)(3)], available (hard-copy, including a full-size of sheet C5) at the Pre-Con Meeting, kept onsite, and updated to match site conditions during the project. The associated TCEQ Construction Site Notice must be submitted to the Permit Center to schedule the Pre-Con Meeting and posted in public view (TXR150000 Part III.D.2.) prior to/at the Pre-Con Meeting.

Before any dirt work starts, all erosion and sedimentation controls (ESCs), and tree protection fence(s) (TPF) if applicable, must be installed per CoSM standard details and this City-approved plan AND their installation approved by a City site inspector at an onsite Pre-Con Meeting. Call the Permit Center at 512-805-2630 to schedule. [TXR150000 Part III.G.1. and City Code Section 86.529(a)]

Contractor must have a CISEC, CESSWI, or QCIS conduct weekly SWPPP inspections and document per TXR150000 Part III.F.7 and City Code Sections 86.523 and 86.529(b)(9) or 86.529(c)(10). Contractor must maintain all ESC measures, address all identified corrective actions, and document per TXR150000 Part III.F.6-7 and City Code Section 86.529(c)(11).

Per TXR150000 Part III.F.1.(m)., locations of the following, as applicable, must be marked on this plan sheet in the field (so include symbols in the Legend): the TPDES Construction Site Notice posting in public view, staging, spoils storage, concrete washout, dumpsters, portable toilet(s), fueling point(s), and other potential contaminant sources. This sheet must also be updated as these potential contaminant sources are moved or other changes occur during the project. Date and initial all pen and ink changes.

If there is a break of more than 14 days during the project where no dirt work is done on a site portion(s) within the LOC, temporary (or permanent) stabilization is required per TXR150000 Part III.F.2.(b).iii and City Code Section 86.529(a). Such dirt work stoppage includes time periods between rough grading completion and construction start, between construction start and final grading, between construction and final stabilization, etc. Use temporary (or permanent) seeding, compacted first-grind mulch, rock/stone, biodegradable blankets with no plastic netting, or similar for areas < 3H:1V. Note that matting or blankets require ongoing maintenance. For areas > 3H:1V, use seed covered with soil retention blankets or equivalent controls listed in the TxDOT Interactive Approved Products List (APL) for use in such areas: Workbook: TxDOT_Interactive APL (tamu.edu).

Any existing stormwater inlets within 200' of the LOC must have inlet protection. Stormwater inlet protection is also required as new stormwater inlets are added to the site, if applicable.

Concrete waste, concrete wash water, and masonry/stucco/paint mixing and wash water, as applicable, must be contained in sufficient pre-made structure(s), lined structure(s), or lined pit(s) per TXR150000 Part V.D.

Pavement, stone/rock, sod, or another type of flow dissipation is required downstream of all curb cuts/outfalls, surrounding all area/grate inlets, and underneath all open downspouts/rain chains, roof drains/large downspout nozzles (aka cow tongues), etc. Decomposed granite, pea gravel or smaller, rubber or landscape mulch, pine bark, pecan shells, wood chips, and any other material that is easily displaced during rain events are not allowed in these areas.

All uncovered areas disturbed during the project must be permanently stabilized with uniform perennial vegetative cover (warm season grass, etc.) of at least 70% density, evenly distributed with no large bare areas, per TXR150000 Parts I.B, III.G.1.(g) and (h), and III.G.2. <City Code Subpart A, Chap. 86, Art. 8, Div. 2.§ 86.523 and § 86.529(a).

City Code Section 14.026, §3305.2 Construction Debris / Trash Containment. Contractors shall ensure that every construction, remodel, repair, or renovation site has a method of containment for construction debris and trash. The contractor shall ensure that construction debris and trash are removed from the site on a regular basis so that the site is maintained in a clean, sanitary, and safe condition at all times.

City Code Section 14.026, §3305.4 Street Cleaning. Adjacent streets to the construction site shall be maintained and free of dirt, mud, rocks and other construction debris at all times. Dirt, gravel, etc., shall not be swept, washed, or otherwise deposited into unprotected storm water systems.

City Code Section 14.026, §3305.5 Spoils piles. All spoils piles shall be utilized on site or removed from construction sites as soon as possible. While onsite, all piles must be minimized in height, volume and footprint, and in no case shall piles exceed eight feet in height. Seeding or covering of undisturbed portions of spoils piles is required if the piles will not be increased or decreased for more than 14 calendar days, as specified in the TPDES construction stormwater pollution prevention plan regulations, regardless of the size of the site and/or pile. In no case shall site final and/or building final inspections be approved until all spoils piles have been removed from construction sites.

ALLOWABLE IMPERVIOUS COVER:	20% over 5 ACRES
SITE AREA:	7.50 ACRES
IMPERVIOUS COVER:	144,203 SF (3.31 Acres) = 44.13%
ALLOWED IMPERVIOUS COVER AT 20% FOR 7.5 Acres =	1.5 ACRES
IMPERVIOUS COVER OVER ALLOWABLE =	1.78 ACRES
REQUIRED TRANSFER ACREAGE =	8.9 ACRES

E/S CONTROL SUMMARY TABLE

REVEGETATION AREA:	62,912	S.F.
SILT FENCE:	3,377	L.F.
TREE PROTECTION FENCE:	715	L.F.
MULCH LOG:	975	L.F.
ROCK BERM:	224	L.F.
AREA WITHIN LOC:	272,382	S.F.

NOTE:
SEE SHEET C107 FOR TREE MITIGATION TABLE & TREE LIST

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JANUARY 23, 2025

STATE OF TEXAS — GREGORY ULCAK — 91201 — LICENSED — PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

EROSION & SEDIMENTATION CONTROLS AND TREE PROTECTION PLAN

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-106

Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\06-09 LCS-ES.dwg Last Plotted: Thu Jan 23, 2025 - 3:20pm By: CLG

TREE TABLE				
POINT NO.	TYPE	SIZE	HERITAGE	REMOVE
12413	CEDAR	27.5		
12414	OAK(MULTI)	21.5		R
12415	OAK(MULTI)	26.5	H	R
12416	OAK(MULTI)	14		R
12417	OAK(MULTI)	32		R
12418	CEDAR(MULTI)	16.5		R
12419	CEDAR	13		R
12420	OAK(MULTI)	9.5		R
12421	CEDAR(MULTI)	16		R
12422	OAK(MULTI)	46.5	H	R
12423	ELM(MULTI)	11		R
12428	CEDAR(MULTI)	17		R
12429	CEDAR(MULTI)	18.5		R
12431	CEDAR	12		R
12432	CEDAR(MULTI)	12		R
12433	CEDAR(MULTI)	14.5		R
12434	OAK(MULTI)	10.5		R
12435	OAK(MULTI)	35.5	H	R
12436	OAK(MULTI)	23.5	H	R
12437	OAK(MULTI)	13.5		R
12438	OAK(MULTI)	13		R
12439	OAK(MULTI)	27		R
12440	OAK(MULTI)	10.5		R
12441	OAK(MULTI)	18		R
12442	OAK(MULTI)	24.5	H	R
12443	OAK(MULTI)	23		R
12444	OAK(MULTI)	14.5		R
12445	OAK(MULTI)	9.5		R
12446	OAK(MULTI)	10.5		R
12447	OAK(MULTI)	12		R
12448	OAK(MULTI)	13		R
12449	OAK(MULTI)	13		R
12450	OAK(MULTI)	11		R
12451	OAK(MULTI)	12		R
12452	OAK(MULTI)	11		R
12453	OAK(MULTI)	13.5		R
12454	OAK(MULTI)	13		R
12455	OAK(MULTI)	10		R
12456	OAK(MULTI)	9		R
12457	OAK(MULTI)	12.5		R
12458	OAK(MULTI)	10.5		R
12459	OAK(MULTI)	8.5		R
12460	OAK(MULTI)	12		R
12461	OAK(MULTI)	9		R
12462	OAK(MULTI)	9		R
12463	OAK(MULTI)	9		R
13410	OAK(MULTI)	25.5	H	R
13411	OAK(MULTI)	34.5	H	R
13412	CEDAR	15		R
13414	ELM	9		R
13415	OAK(MULTI)	20.5		R
13416	CEDAR	12		R
13425	ELM	9		
13431	CEDAR(MULTI)	13.5		
13432	CEDAR(MULTI)	13		R
13433	CEDAR(MULTI)	12.5		R
13435	CEDAR(MULTI)	12		
13436	OAK(MULTI)	10.5		
13437	OAK(MULTI)	14.5		
13438	OAK(MULTI)	13		
13439	OAK(MULTI)	11.5		
13440	OAK(MULTI)	12.5		R
13441	OAK(MULTI)	9		R
13442	OAK(MULTI)	10.5		R
13443	OAK(MULTI)	12.5		R
13444	OAK(MULTI)	12		R
13445	OAK(MULTI)	9		R
13446	OAK(MULTI)	9.5		R
13447	OAK(MULTI)	9.5		R
13448	OAK(MULTI)	9		R

TREE TABLE				
POINT NO.	TYPE	SIZE	HERITAGE	REMOVE
13449	OAK(MULTI)	10.5		R
13450	OAK(MULTI)	11		
13451	OAK(MULTI)	10.5		
13452	OAK(MULTI)	11.5		
13453	OAK(MULTI)	10.5		
13454	OAK(MULTI)	9.5		
13455	OAK(MULTI)	11		
13456	OAK(MULTI)	9.5		
13457	OAK(MULTI)	14.5		
13458	OAK(MULTI)	9		
15110	CEDAR(MULTI)	19		
15112	CEDAR	16		
15113	OAK(MULTI)	12		
15114	OAK(MULTI)	9.5		
15115	OAK(MULTI)	14		
15116	OAK(MULTI)	11		
15117	OAK(MULTI)	18		
15118	OAK(MULTI)	12.5		
15119	OAK(MULTI)	14.5		
15120	OAK(MULTI)	18		
15121	OAK(MULTI)	14.5		
15122	OAK(MULTI)	14		
15123	OAK(MULTI)	10		
15124	OAK(MULTI)	10		
15125	OAK(MULTI)	8		
15126	OAK(MULTI)	9		
15127	OAK(MULTI)	10		
15128	OAK(MULTI)	14.5		
15129	OAK(MULTI)	13.5		
15130	OAK(MULTI)	24	H	
15131	OAK(MULTI)	27.5	H	
15133	CEDAR(MULTI)	15		R
15134	OAK(MULTI)	14		R
15135	OAK(MULTI)	19.5		R
15136	OAK(MULTI)	23.5	H	
15137	OAK(MULTI)	14		
15138	OAK(MULTI)	38		
15139	OAK(MULTI)	9		
15140	OAK(MULTI)	12		
15141	OAK(MULTI)	15		
15142	OAK(MULTI)	16		
15143	OAK(MULTI)	11		
15144	OAK(MULTI)	11.5		
15145	OAK(MULTI)	17		
15146	ELM	8.5		
15147	OAK(MULTI)	9		
15148	OAK(MULTI)	10		
15149	OAK(MULTI)	21.5		
15150	OAK(MULTI)	8		
15151	OAK(MULTI)	8		
15152	OAK(MULTI)	8		
15153	OAK(MULTI)	8		
15154	OAK(MULTI)	8.5		R
15155	OAK(MULTI)	7		R
15156	OAK(MULTI)	6.5		R
15157	OAK(MULTI)	8		R
15158	OAK(MULTI)	11		R
15159	OAK(MULTI)	7		R
15160	OAK(MULTI)	8		R
15161	OAK(MULTI)	7		
15162	OAK(MULTI)	12		
15163	OAK(MULTI)	8		
15164	OAK(MULTI)	9		R
15165	ELM	8		R
15166	OAK(MULTI)	11		
15167	OAK(MULTI)	9.5		
TOTAL		1873	10	75

Filter	TREE NUMBER	TREE SPECIES	CLASSIFICATION*	CALIPER (INCHES)	STATUS	MITIGATION IN CALIPER INCHES	EXISTING TREE CREDITS
	12413	CEDAR	Type 2	27.5	Preserved	0	0
	12414	OAK(MULTI)	Type 1	21.5	Removed	21.5	0
	12415	OAK(MULTI)	Type 1	26.5	Removed	53	0
	12416	OAK(MULTI)	Type 1	14	Removed	14	0
	12417	OAK(MULTI)	Type 1	32	Removed	64	0
	12418	CEDAR(MULTI)	Type 2	16.5	Removed	16.5	0
	12419	CEDAR	Type 2	13	Removed	13	0
	12420	OAK(MULTI)	Type 1	9.5	Removed	9.5	0
	12421	CEDAR(MULTI)	Type 2	16	Removed	16	0
	12422	OAK(MULTI)	Type 1	46.5	Removed	93	0
	12423	ELM(MULTI)	Type 1	11	Removed	11	0
	12428	CEDAR(MULTI)	Type 2	17	Removed	17	0
	12429	CEDAR(MULTI)	Type 2	18.5	Removed	18.5	0
	12431	CEDAR	Type 2	12	Removed	12	0
	12432	CEDAR(MULTI)	Type 2	12	Removed	12	0
	12433	CEDAR(MULTI)	Type 2	14.5	Removed	14.5	0
	12434	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	12435	OAK(MULTI)	Type 1	35.5	Removed	71	0
	12436	OAK(MULTI)	Type 1	23.5	Removed	23.5	0
	12437	OAK(MULTI)	Type 1	13.5	Removed	13.5	0
	12438	OAK(MULTI)	Type 1	13	Removed	13	0
	12439	OAK(MULTI)	Type 1	27	Removed	54	0
	12440	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	12441	OAK(MULTI)	Type 1	18	Removed	18	0
	12442	OAK(MULTI)	Type 1	24.5	Removed	49	0
	12443	OAK(MULTI)	Type 1	23	Removed	23	0
	12444	OAK(MULTI)	Type 1	14.5	Removed	14.5	0
	12445	OAK(MULTI)	Type 1	9.5	Removed	9.5	0
	12446	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	12447	OAK(MULTI)	Type 1	12	Removed	12	0
	12448	OAK(MULTI)	Type 1	13	Removed	13	0
	12449	OAK(MULTI)	Type 1	13	Removed	13	0
	12450	OAK(MULTI)	Type 1	11	Removed	11	0
	12451	OAK(MULTI)	Type 1	12	Removed	12	0
	12452	OAK(MULTI)	Type 1	11	Removed	11	0
	12453	OAK(MULTI)	Type 1	13.5	Removed	13.5	0
	12454	OAK(MULTI)	Type 1	13	Removed	13	0
	12455	OAK(MULTI)	Type 1	10	Removed	10	0
	12456	OAK(MULTI)	Type 1	9	Removed	9	0
	12457	OAK(MULTI)	Type 1	12.5	Removed	12.5	0
	12458	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	12459	OAK(MULTI)	Type 1	8.5	Removed	8.5	0
	12460	OAK(MULTI)	Type 1	12	Removed	12	0
	12461	OAK(MULTI)	Type 1	9	Removed	9	0
	12462	OAK(MULTI)	Type 1	9	Removed	9	0
	12463	OAK(MULTI)	Type 1	9	Removed	9	0
	13410	OAK(MULTI)	Type 1	25.5	Removed	51	0
	13411	OAK(MULTI)	Type 1	34.5	Removed	69	0
	13412	CEDAR	Type 2	15	Removed	15	0
	13414	ELM	Type 1	9	Removed	9	0
	13415	OAK(MULTI)	Type 1	20.5	Removed	20.5	0
	13416	CEDAR	Type 2	12	Removed	12	0
	13425	ELM	Type 1	9	Preserved	0	4.5
	13431	CEDAR(MULTI)	Type 2	13.5	Preserved	0	0
	13432	CEDAR(MULTI)	Type 2	13	Removed	13	0
	13433	CEDAR(MULTI)	Type 2	12.5	Removed	12.5	0
	13435	CEDAR(MULTI)	Type 2	12	Preserved	0	0
	13436	OAK(MULTI)	Type 1	10.5	Preserved	0	5.25
	13437	OAK(MULTI)	Type 1	14.5	Preserved	0	7.25
	13438	OAK(MULTI)	Type 1	13	Preserved	0	6.5
	13439	OAK(MULTI)	Type 1	11.5	Preserved	0	5.75
	13440	OAK(MULTI)	Type 1	12.5	Removed	12.5	0
	13441	OAK(MULTI)	Type 1	9	Removed	9	0
	13442	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	13443	OAK(MULTI)	Type 1	12.5	Removed	12.5	0
	13444	OAK(MULTI)	Type 1	12	Removed	12	0
	13445	OAK(MULTI)	Type 1	9	Removed	9	0
	13446	OAK(MULTI)	Type 1	9.5	Removed	9.5	0
	13447	OAK(MULTI)	Type 1	9.5	Removed	9.5	0
	13448	OAK(MULTI)	Type 1	9	Removed	9	0
	13449	OAK(MULTI)	Type 1	10.5	Removed	10.5	0
	13450	OAK(MULTI)	Type 1	11	Preserved	0	5.5
	13451	OAK(MULTI)	Type 1	10.5	Preserved	0	5.25
	13452	OAK(MULTI)	Type 1	11.5	Preserved	0	5.75
	13453	OAK(MULTI)	Type 1	10.5	Preserved	0	5.25
	13454	OAK(MULTI)	Type 1	9.5	Preserved	0	4.75

Filter	TREE NUMBER	TREE SPECIES	CLASSIFICATION*	CALIPER (INCHES)	STATUS	MITIGATION IN CALIPER INCHES	EXISTING TREE CREDITS
	13455	OAK(MULTI)	Type 1	11	Preserved	0	5.5
	13456	OAK(MULTI)	Type 1	9.5	Preserved	0	4.75
	13457	OAK(MULTI)	Type 1	14.5	Preserved	0	7.25
	13458	OAK(MULTI)	Type 1	9	Preserved	0	4.5
	15110	CEDAR(MULTI)	Type 2	19	Preserved	0	0
	15112	CEDAR	Type 2	16	Preserved	0	0
	15113	OAK(MULTI)	Type 1	12	Preserved	0	6
	15114	OAK(MULTI)	Type 1	9.5	Preserved	0	4.75
	15115	OAK(MULTI)	Type 1	14	Preserved	0	7
	15116	OAK(MULTI)	Type 1	11	Preserved	0	5.5
	15117	OAK(MULTI)	Type 1	18	Preserved	0	9
	15118	OAK(MULTI)	Type 1	12.5	Preserved	0	6.25
	15119	OAK(MULTI)	Type 1	14.5	Preserved	0	7.25
	15120	OAK(MULTI)	Type 1	18	Preserved	0	9
	15121	OAK(MULTI)	Type 1	14.5	Preserved	0	7.25
	15122	OAK(MULTI)	Type 1	14	Preserved	0	7
	15123	OAK(MULTI)	Type 1	10	Preserved	0	5
	15124	OAK(MULTI)	Type 1	10	Preserved	0	5
	15125	OAK(MULTI)	Type 1	8	Preserved	0	4
	15126	OAK(MULTI)	Type 1	9	Preserved	0	4.5
	15127	OAK(MULTI)	Type 1	10	Preserved	0	5
	15128	OAK(MULTI)	Type 1	14.5	Preserved	0	7.25
	15129	OAK(MULTI)	Type 1	13.5	Preserved	0	6.75
	15130	OAK(MULTI)	Type 1	24	Preserved	0	24
	15131	OAK(MULTI)	Type 1	27.5	Preserved	0	27.5
	15133	CEDAR(MULTI)	Type 2	15	Removed	15	0
	15134	OAK(MULTI)	Type 1	14	Removed	14	0
	15135	OAK(MULTI)	Type 1	19.5	Removed	19.5	0
	15136	OAK(MULTI)	Type 1	23.5	Preserved	0	11.75
	15137	OAK(MULTI)	Type 1	14	Preserved	0	7
	15138	OAK(MULTI)	Type 1	38	Preserved	0	38
	15139	OAK(MULTI)	Type 1	9	Preserved	0	4.5
	15140	OAK(MULTI)	Type 1	12	Preserved	0	6
	15141	OAK(MULTI)	Type 1	15	Preserved	0	7.5
	15142	OAK(MULTI)	Type 1	16	Preserved	0	8
	15143	OAK(MULTI)	Type 1	11	Preserved	0	5.5
	15144	OAK(MULTI)	Type 1	11.5	Preserved	0	5.75
	15145	OAK(MULTI)	Type 1	17	Preserved	0	8.5
	15146	ELM	Type 1	8.5	Preserved	0	4.25
	15147	OAK(MULTI)	Type 1	9	Preserved	0	4.5
	15148	OAK(MULTI)	Type 1	10	Preserved	0	5
	15149	OAK(MULTI)	Type 1	21.5	Preserved	0	10.75
	15150	OAK(MULTI)	Type 1	8	Preserved	0	4
	15151	OAK(MULTI)	Type 1	8	Preserved	0	4
	15152	OAK(MULTI)	Type 1	8	Preserved	0	4
	15153	OAK(MULTI)	Type 1	8	Preserved	0	4
	15154	OAK(MULTI)	Type 1	8.5	Removed	8.5	0
	15155	OAK(MULTI)	Type 1	7	Removed	0	0
	15156	OAK(MULTI)	Type 1	6.5	Removed	0	0
	15157	OAK(MULTI)	Type 1	8	Removed	8	0
	15158	OAK(MULTI)	Type 1	11	Removed	11	0
	15159	OAK(MULTI)	Type 1	7	Removed	0	0
	15160	OAK(MULTI)	Type 1	8	Removed	8	0
	15161	OAK(MULTI)	Type 1	7	Preserved	0	0
	15162	OAK(MULTI)	Type 1	12	Preserved	0	6
	15163	OAK(MULTI)	Type 1	8	Preserved	0	4
	15164	OAK(MULTI)	Type 1	9	Removed	9	0
	15165	ELM	Type 1	8	Removed	8	0
	15166	OAK(MULTI)	Type 1	11	Preserved	0	5.5
	15167	OAK(MULTI)	Type 1	9.5	Preserved	0	4.75

TOTAL CALIPER INCHES REMOVED:	**1301**
TOTAL NUMBER TREE CREDITS PROVIDED:	**55**

REQUIRED CALIPER MITIGATION:	**[902] CALIPER INCHES**

*Type 4 trees require an ISA certified arborist, consulting arborist, and/or the City's Urban Forester for certification

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TX Reg. #F-1594
191 Menger Springs Parkway - Boerne TX 78006
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JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

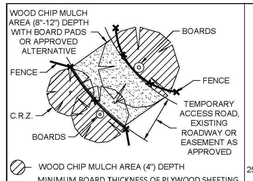
PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

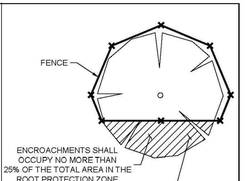
EXISTING TREE LIST & MITIGATION TABLE

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-107

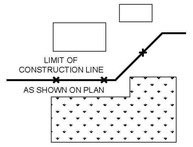
Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\06-09 LCS-ES.dwg Last Plotted: Thu Jan 23, 2025 - 3:20pm By: CLG



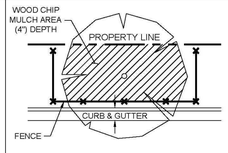
LINEAR CONSTRUCTION THROUGH TREES



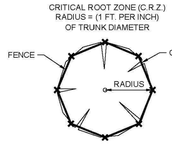
TREES BEING DISTURBED



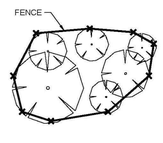
NATURAL AREAS



TREES IN PAVING AREA

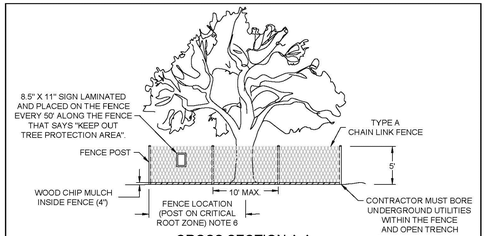


INDIVIDUAL TREE

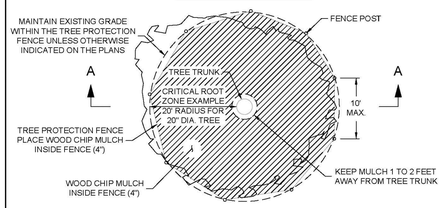


GROUP OF TREES

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	TREE PROTECTION FENCE LOCATION	
RECORD COPY SIGNED BY	3/17/2017	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 1



CROSS SECTION A-A

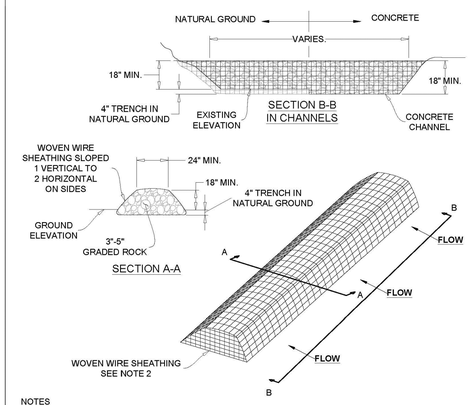


PLAN VIEW

NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.
2. IF THERE IS NO EXISTING IRRIGATION, SEE SPECIFICATIONS FOR WATERING REQUIREMENTS.
3. NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
4. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
5. SEE TREE PRESERVATION PLAN FOR ANY MODIFICATIONS WITHIN THE TREE PROTECTION AREA.
6. ROOT PROTECTION ZONE EQUALS TO CRITICAL ROOT ZONE AND IS DETERMINED BY MEASURING THE TREE'S DIAMETER AT 54 INCHES FROM THE NATURAL GROUND LEVEL. FOR EVERY INCH IN DIAMETER THERE IS 1 FOOT RADIUS TREE PROTECTION.

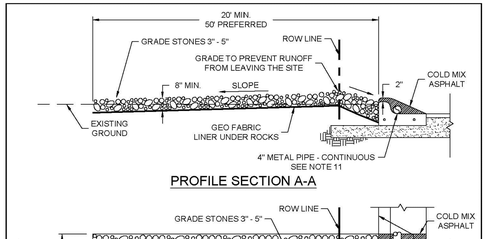
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	TREE PROTECTION FENCE TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY	3/17/2017	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 1



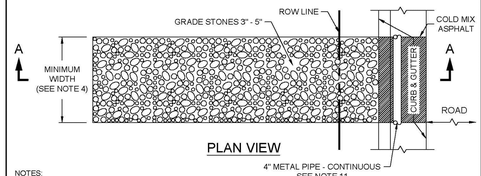
NOTES

1. USE ONLY OPEN GRADED ROCK 3"-5" IN DIAMETER.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT CONSTRUCTION, TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO 6", THE SILT WILL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	ROCK BERM DETAIL	
RECORDED COPY SIGNED BY	8/4/2014	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	639S-1-SM
LAURIE MOYER, P.E.	ADOPTED		N.T.S. STANDARD DETAIL



PROFILE SECTION A-A

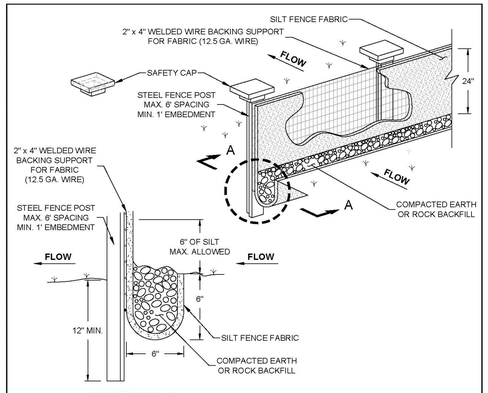


PLAN VIEW

NOTES:

1. STONE SIZE: 3-5" OPEN GRADED ROCK.
2. LENGTH: 50' PREFERRED OR AS EFFECTIVE BUT NOT LESS THAN 20'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. DIMENSIONS OF SITE WILL DICTATE THE DIMENSIONS OF THE STABILIZED CONSTRUCTION ENTRANCES IF THE PREFERRED DIMENSIONS ARE NOT POSSIBLE ON SITE.
6. 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 THAT DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
7. 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 MEASUREMENT DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENT THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
9. WHEN ALL SITE WORK IS COMPLETED, REMOVE STABILIZED CONSTRUCTION ENTRANCE COMPLETELY. REGRADE TO ORIGINAL CONDITION, ELEVATION AND RESTORE TO MATCH EXISTING OR PROPOSED CONDITIONS.
10. TOP OF GRADE STONES SHALL MATCH TOP OF EXISTING PAVEMENT OR CURB. COLD MIX ASPHALT & 4" METAL PIPE OR ALTERNATIVE WILL NOT BE REQUIRED WHERE THERE IS NO CATCH OR SPILL CURB.
11. PRE-FABRICATED CURB RAMPS ARE AN ACCEPTABLE ALTERNATIVE TO COLD MIX ASPHALT AND 4" METAL PIPE.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY	1/1/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 1

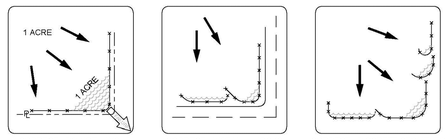


SECTION A-A

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS SHALL MATCH THE TOP OF THE FENCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1'.
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 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY AND REPAIR OR REPLACEMENT SHALL BE MADE WITHIN 24 HOURS OF INSPECTION.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS PERMANENTLY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WITHIN 24 HOURS WHEN IT REACHES A DEPTH OF 6" OR AS DIRECTED BY OWNER. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. INSTALL J-HOOK SPACING PER ENGINEER'S DESIGN , BUT NOT TO EXCEED 200'.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	SILT FENCE	
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 2

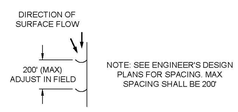


SILT FENCE TURNBACK DETAIL

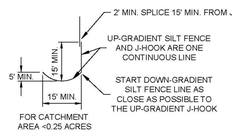
SILT FENCE PLACEMENT FOR PERIMETER CONTROL

PLAN VIEW

I. SPACING REQUIREMENTS:



II. SIZING REQUIREMENTS:



The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	SILT FENCE	
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM
LAURIE MOYER, P.E.	ADOPTED		2 OF 2

SZENERGY
POWERED BY SCHNEIDER ENGINEERING
TX Reg. #F-1594
191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWEREDBYSENERGY.COM

JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

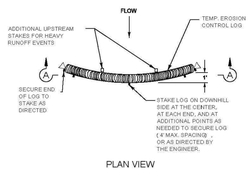
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

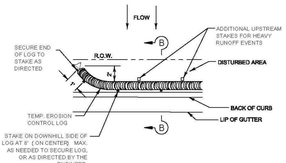
EROSION AND SEDIMENTATION CONTROL DETAILS (1)

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-108

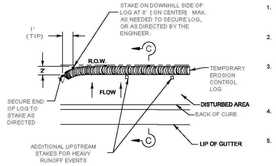
Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\08-09 LCS-ES.dwg Last Plotted: Thu Jan 23, 2025 - 3:46pm By: CLG



PLAN VIEW



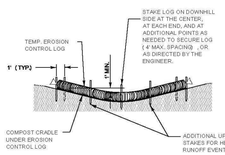
PLAN VIEW



PLAN VIEW

GENERAL NOTES:

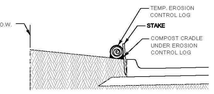
1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.



SECTION A-A

EROSION CONTROL LOG DAM

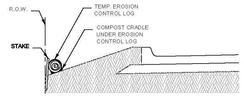
CL-D



SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

CL-BOC



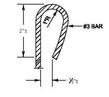
SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

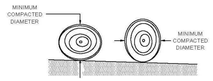
CL-ROW

LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET



REBAR STAKE DETAIL



DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area)

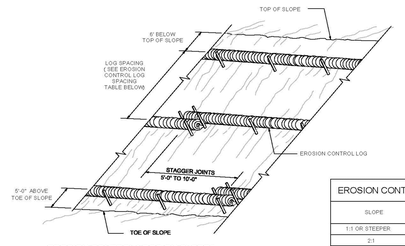
Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 50/' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Clearing and removal of accumulated sediment deposits is incidental and will not be paid for separately.

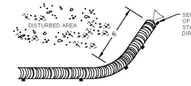
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024
RECORD COPY SIGNED BY	1/1/2020
LAURIE MOYER, P.E.	ADOPTED
MULCH SOCK	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1-SM
	1 OF 3



EROSION CONTROL LOGS ON SLOPES

STAKE AND TRENCHING ANCHORING

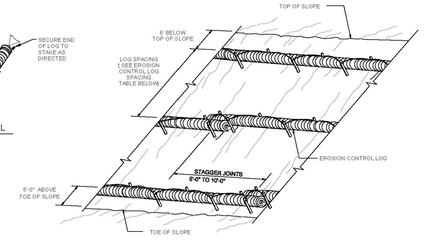
CL-SST



END SECTION RAP DETAIL

EROSION CONTROL LOG SPACING TABLE				
SLOPE	LOG DIAMETER			
	6"	9"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

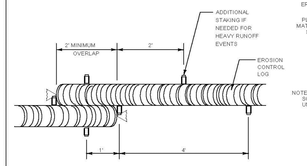
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE: SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER; HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART



EROSION CONTROL LOGS ON SLOPES

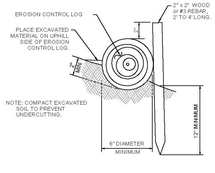
STAKE AND LASHING ANCHORING

CL-SSL

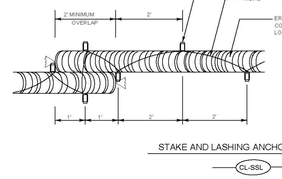


STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

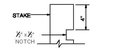


TRENCH DEPTH TABLE	
LOG DIAMETER	DEPTH
6"	2"
9"	3"
12"	4"
18"	6"

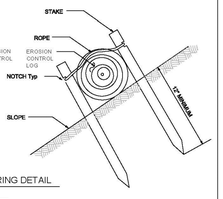


STAKE AND LASHING ANCHORING DETAIL

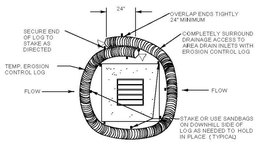
CL-SSL



STAKE NOTCH DETAIL

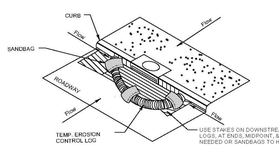


The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024
RECORD COPY SIGNED BY	1/1/2020
LAURIE MOYER, P.E.	ADOPTED
MULCH SOCK	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1-SM
	2 OF 3



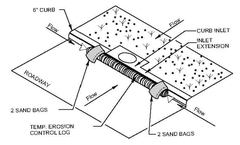
EROSION CONTROL LOG AT DROP INLET

CL-DI



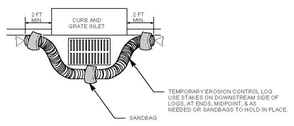
EROSION CONTROL LOG AT CURB INLET

CL-CI



EROSION CONTROL LOG AT CURB INLET

CL-CI

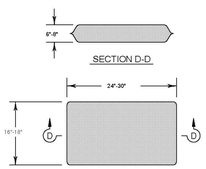


EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI

NOTE:

EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



SANDBAG DETAIL

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024
RECORD COPY SIGNED BY	1/1/2020
LAURIE MOYER, P.E.	ADOPTED
MULCH SOCK	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1-SM
	3 OF 3

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JANUARY 23, 2025

STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

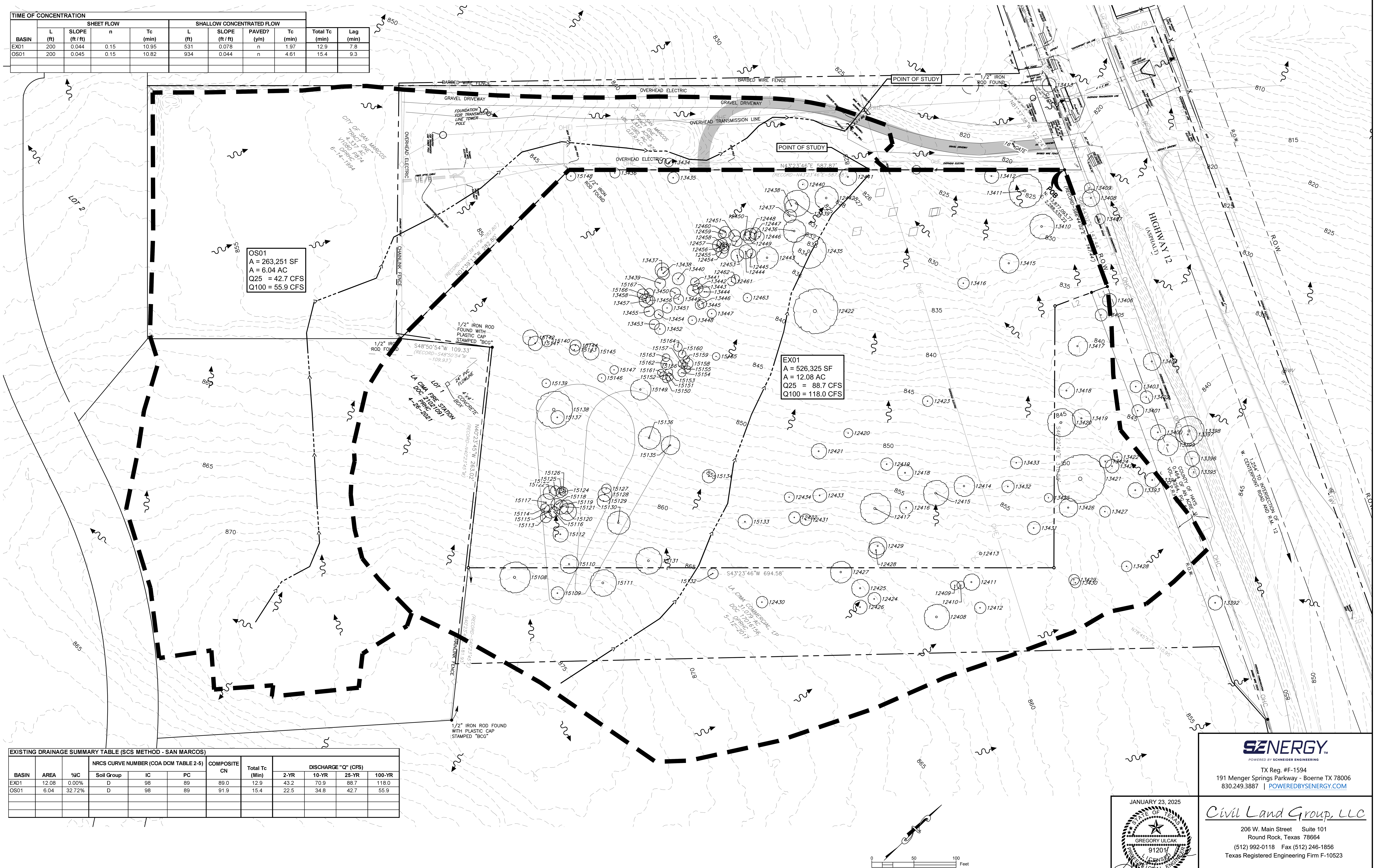
EROSION AND SEDIMENTATION CONTROL DETAILS (2)

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-109

Drawing: W:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\06-09 LCS-ES.dwg Last Plotted: Thu Jan 23, 2025 - 3:47pm By: CLG

TIME OF CONCENTRATION

BASIN	SHEET FLOW L (ft)	SHEET FLOW SLOPE (ft / ft)	SHEET FLOW n	SHEET FLOW Tc (min)	SHALLOW CONCENTRATED FLOW L (ft)	SHALLOW CONCENTRATED FLOW SLOPE (ft / ft)	SHALLOW CONCENTRATED FLOW PAVED? (y/n)	SHALLOW CONCENTRATED FLOW Tc (min)	Total Tc (min)	Lag (min)
EX01	200	0.044	0.15	10.95	531	0.078	n	1.97	12.9	7.8
OS01	200	0.045	0.15	10.82	934	0.044	n	4.61	15.4	9.3



EXISTING DRAINAGE SUMMARY TABLE (SCS METHOD - SAN MARCOS)

BASIN	AREA	%IC	NRCS CURVE NUMBER (COA DCM TABLE 2-5) Soil Group	IC	PC	COMPOSITE CN	Total Tc (Min)	DISCHARGE "Q" (CFS) 2-YR	10-YR	25-YR	100-YR
EX01	12.08	0.00%	D	98	89	89.0	12.9	43.2	70.9	88.7	118.0
OS01	6.04	32.72%	D	98	89	91.9	15.4	22.5	34.8	42.7	55.9

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Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.	Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.
LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

EXISTING DRAINAGE AREA MAP

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-110

Drawing: Z:\Company Share\CLG Projects\(23-Pro)\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref\3055004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Thu Jan 23, 2025 7:40pm By: admin

TIME OF CONCENTRATION

BASIN	SHEET FLOW L (ft)	SHEET FLOW SLOPE (ft / ft)	SHEET FLOW n	SHEET FLOW Tc (min)	SHALLOW CONCENTRATED FLOW L (ft)	SHALLOW CONCENTRATED FLOW SLOPE (ft / ft)	SHALLOW CONCENTRATED FLOW PAVED? (y/n)	SHALLOW CONCENTRATED FLOW Tc (min)	Total Tc (min)	Lag (min)
OS01	200	0.045	0.15	10.82	934	0.044	n	4.61	15.4	9.3
P01	200	0.010	0.15	19.73	75	0.010	n	0.77	20.5	12.3
P02	200	0.063	0.15	9.44	427	0.061	n	1.79	11.2	6.7

$$T_t = \frac{0.42(nL)^{0.8}}{P_2^{0.5}(S)^{0.4}} \quad \text{[Equation 3.3]}$$

Where,

Tt = Sheet flow travel time in minutes

L = Length of the reach in feet

Unpaved $T_t = \frac{L}{60*16.1345*S^{0.5}}$ [Equation 3.4]

Paved $T_t = \frac{L}{60*20.3282*S^{0.5}}$ [Equation 3.5]

Where,

T_t = Travel time for shallow concentrated flows in minutes

L = Length of the reach in feet

S = Slope of the ground in feet/feet

RUNOFF SUMMARY

Point of Analysis	Storm Event	Existing Flow (cfs)	Proposed Flow without Detention (cfs)	Detention Storage (cf)	Proposed Flow with Detention (cfs)	Net Change (cfs) (Proposed - Existing)
EX01	002-YR	43.20	45.10	3,402	42.80	-0.4
EX01	010-YR	70.90	72.20	6,535	67.60	-3.3
EX01	025-YR	88.70	89.80	8,998	83.50	-5.2
EX01	100-YR	118.00	118.70	13,802	109.20	-8.8
OS01	002-YR	22.50	22.60	N/A	22.50	0.00
OS01	010-YR	34.80	34.80	N/A	34.80	0.00
OS01	025-YR	42.70	42.70	N/A	42.70	0.00
OS01	100-YR	55.90	56.00	N/A	55.90	0.00
P01	002-YR		10.50	3,402	8.20	
P01	010-YR		15.60	6,535	11.00	
P01	025-YR		19.00	8,998	12.70	
P01	100-YR		24.70	13,802	15.20	
P02	002-YR		34.60	N/A	34.60	
P02	010-YR		56.60	N/A	56.60	
P02	025-YR		70.80	N/A	70.80	
P02	100-YR		94.00	N/A	94.00	

OS01
A = 263,251 SF
A = 6.04 AC
Q25 = 42.7 CFS
Q100 = 55.9 CFS

P01
A = 129,807 SF
A = 2.98 AC
Q25 = 19.0 CFS
Q100 = 24.7 CFS

P02
A = 396,518 SF
A = 9.10 AC
Q25 = 70.8 CFS
Q100 = 94.0 CFS

POINT OF STUDY

7.500 ACRE PROPOSED SITE

HIGHWAY 12 (ASPHALT)

PROPOSED DRAINAGE SUMMARY TABLE (SCS METHOD - SAN MARCOS)

BASIN	AREA	%IC	NRCS CURVE NUMBER (COA DCM TABLE 2-5) Soil Group	IC	PC	COMPOSITE CN	Total Tc (Min)	DISCHARGE "Q" (CFS) 2-YR	10-YR	25-YR	100-YR	POND ROUTING
OS01	6.04	33.20%	D	98	89	92.0	5.0	22.6	34.8	42.7	55.9	UND
P01	2.98	81.76%	D	98	80	94.7	5.0	10.5	15.6	19.0	24.7	DET
P02	9.10	1.21%	D	98	89	89.1	5.0	34.6	56.6	70.8	94.0	UND

DET - DETENTION POND
UND - UNDETAINED

IMPERVIOUS COVER INFORMATION:

TOTAL AREA : **7.50 AC**

PRE-CONSTRUCTION IMPERVIOUS COVER: **0.00 AC**

POST-CONSTRUCTION IMPERVIOUS COVER: **3.31 AC**

I.C. CALCULATIONS:

(POST-CONSTRUCTION IMPERVIOUS COVER X 100) / TOTAL AREA : (3.31 AC X 100) / 7.5 AC = 44.13%

UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS, AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DETENTION AND FILTRATION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE

CHECKED G.ULCAK

APPROVED G.ULCAK

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JANUARY 23, 2025
STATE OF TEXAS
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PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

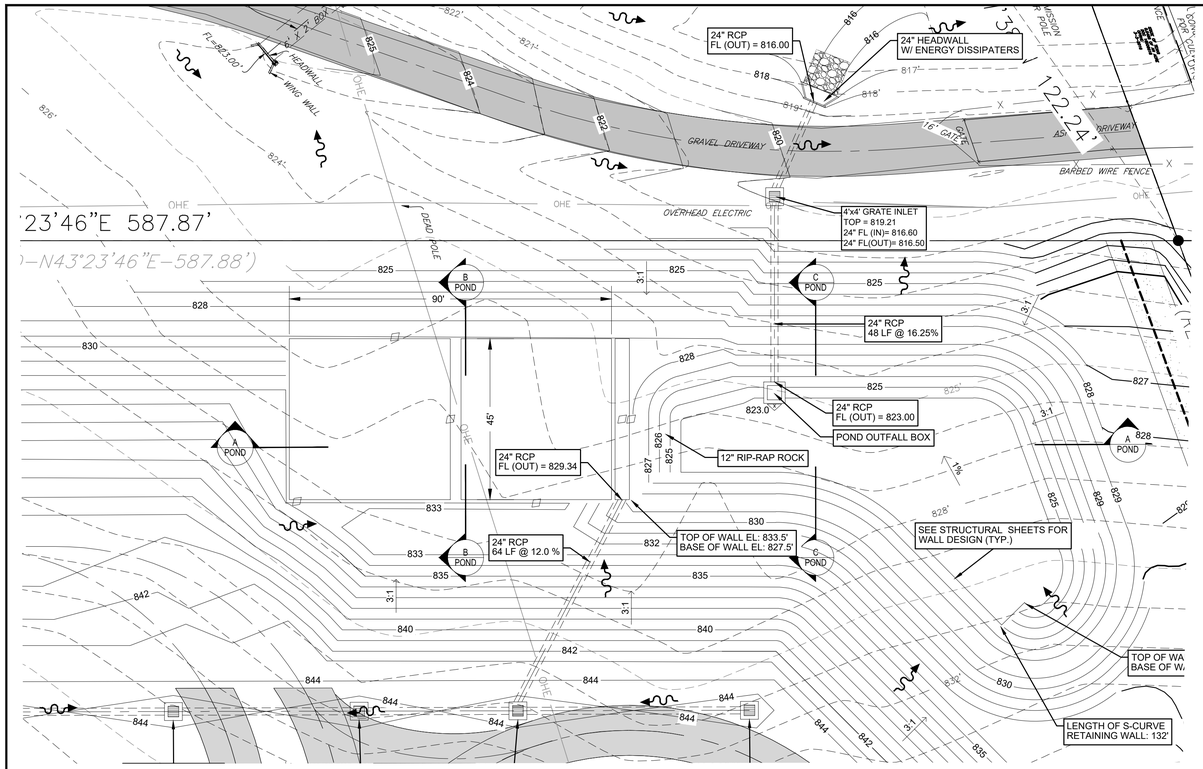
PROPOSED DRAINAGE AREA MAP

DATE 01/02/2025

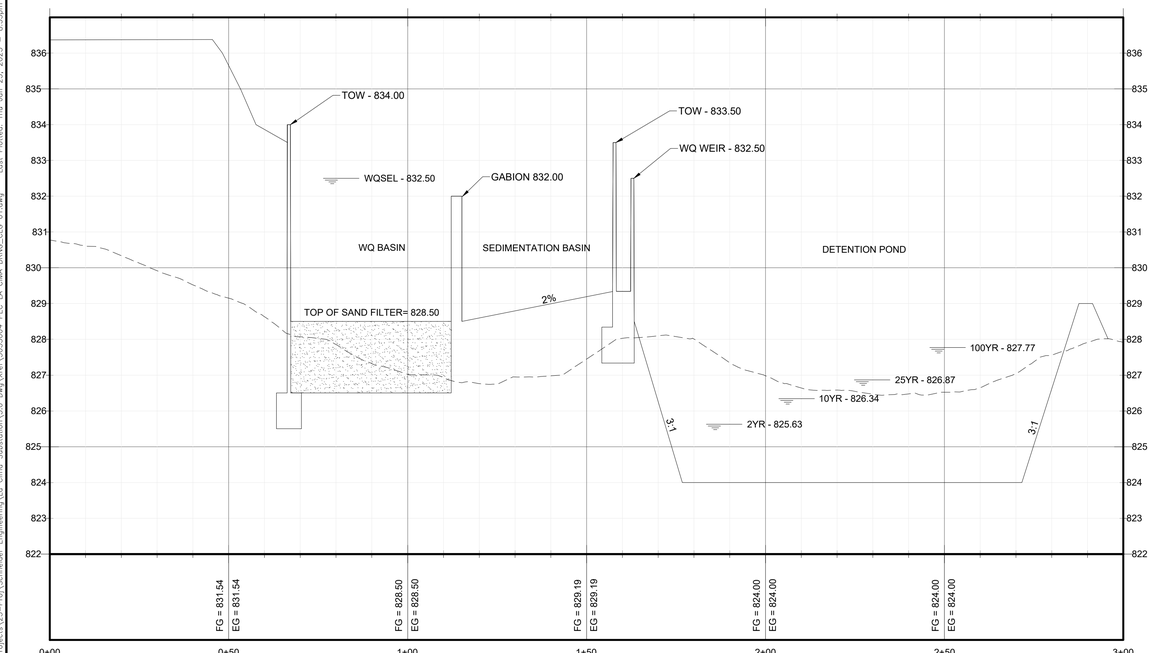
SCALE AS SHOWN

DWG. NO. C-111

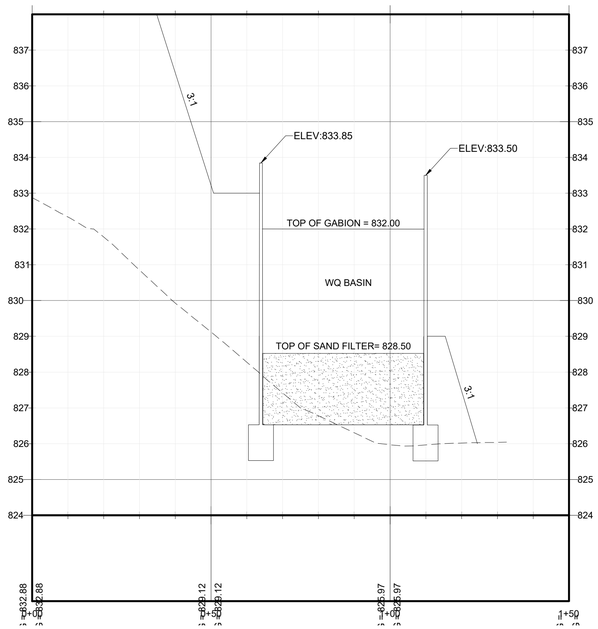
Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref_3055004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Thu Jan 23, 2025 - 7:43pm By: admin



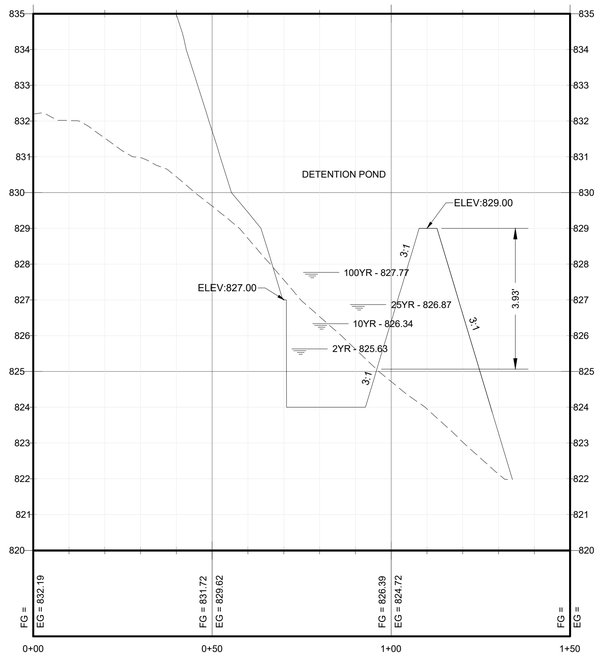
POND SECTION A

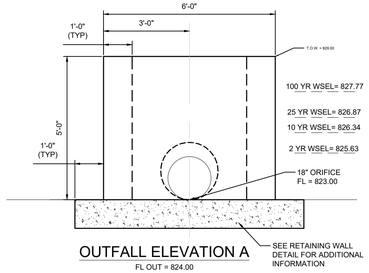


POND SECTION B



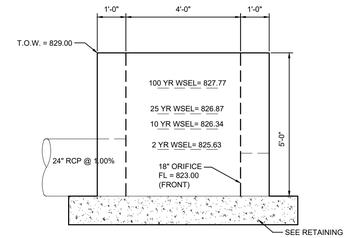
POND SECTION C





OUTFALL ELEVATION A

FL OUT = 824.00
N.T.S.



OUTFALL ELEVATION B

FL OUT = 824.00
N.T.S.

STAGE / STORAGE TABLE

SEDIMENTATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.50	0	0	0
0.50	829.00	1,190	298	298
1.00	829.50	1,954	786	1,084
2.00	830.50	1,954	1,954	3,038
3.00	831.50	1,954	1,954	4,992
4.00	832.50	1,954	1,954	6,946

FILTRATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.5	2,098	0	0
1.00	829.5	2,098	2,098	2,098
2.00	830.5	2,098	2,098	4,196
3.00	831.5	2,098	2,098	6,294
4.00	832.5	2,098	2,098	8,392

STAGE / STORAGE / DISCHARGE TABLE

DETENTION POND (UN-BLOCKED ORIFICE)

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)	CULVERT / ORIFICE 18 IN (CFS)	WEIR 6 LF (CFS)	TOTAL DISCHARGE (CFS)
0	824.00	3409	0	0	.00	.00	.00
0.50	824.50	3,676	1,771	1,771	1.24	.00	1.24
1.00	825.00	3,956	1,908	3,679	4.27	.00	4.27
1.50	825.50	4,249	2,051	5,731	7.37	.00	7.37
2.00	826.00	4,554	2,201	7,931	9.51	.00	9.51
2.50	826.50	4,871	2,356	10,288	11.25	.00	11.25
3.00	827.00	5,200	2,518	12,805	12.76	.00	12.76
3.50	827.50	5,729	2,732	15,538	14.11	.00	14.11
4.00	828.00	6,259	2,997	18,535	15.34	.00	15.34
4.50	828.50	6,815	3,269	21,803	16.48	.00	16.48
5.00	829.00	7,371	3,547	25,350	17.54	58.87	76.41

NOTE:

Upon completion of the proposed Stormwater Detention and/or Water Quality structural control(s), and prior to the release of the Certificate of Acceptance or Occupancy by the Permit Center, the Design Engineer shall certify in writing that the proposed structural control(s) was inspected (including date and time of the inspection) and constructed in conformance with the approved plans.

Any such structural control(s) built within the City of San Marcos must maintain compliance with the City's Municipal Separate Storm Sewer System (MS4) and applicable MS4 ordinances. Prior to release of the Certificate of Acceptance or Occupancy, a City easement must be shown around all structural controls including a Maintenance Covenant within the City limits.

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JANUARY 23, 2025

STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED
PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

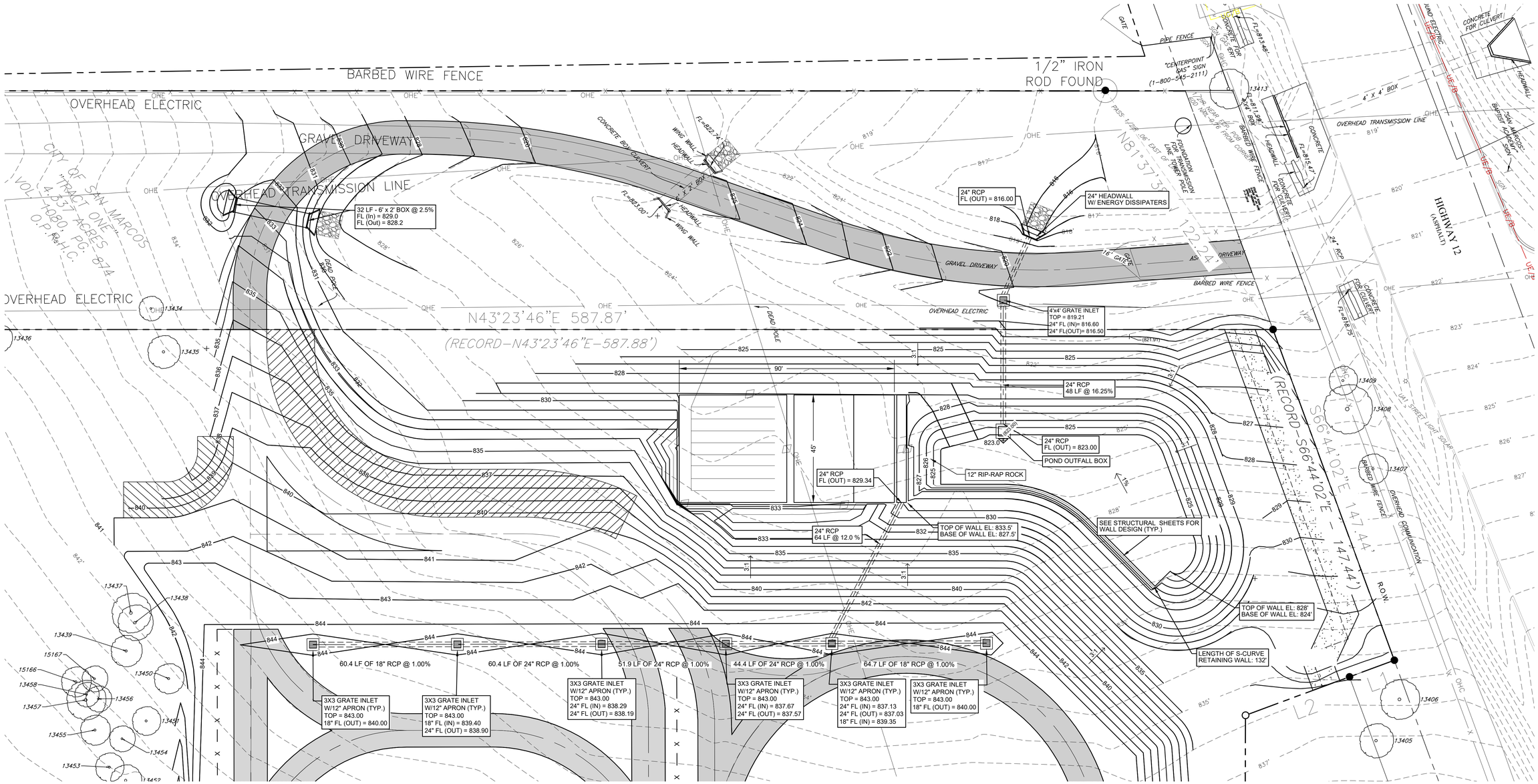
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

POND LAYOUT & SECTIONS

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-112

Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref\3055004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Thu Jan 23, 2025 - 8:33am By: admin



VEGETATIVE FILTER STRIP

NOTE:

Upon completion of the proposed Stormwater Detention and/or Water Quality structural control(s), and prior to the release of the Certificate of Acceptance or Occupancy by the Permit Center, the Design Engineer shall certify in writing that the proposed structural control(s) was inspected (including date and time of the inspection) and constructed in conformance with the approved plans.

Any such structural control(s) built within the City of San Marcos must maintain compliance with the City's Municipal Separate Storm Sewer System (MS4) and applicable MS4 ordinances. Prior to release of the Certificate of Acceptance or Occupancy, a City easement must be shown around all structural controls including a Maintenance Covenant within the City limits.

0 20 40 Feet

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Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

WATER QUALITY AND DETENTION POND PLAN (ENLARGED)

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-113

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TCEQ WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES:

1. A written notice of construction must be submitted to the 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.
2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.
4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
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 approved plans and 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.
6. 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.
7. Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.
8. Litter, construction debris, and construction chemicals exposed tO stormwater shall be prevented from being discharged offsite.
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. If portions of the site will have a temporary or permanent 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.
11. The following records shall 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.
12. The holder of any approved Edward Aquifer protection plan 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 water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

    B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

    C. any development of land previously identified as undeveloped in the original water pollution abatement 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

TSS Removal Calculations 04-20-2009

Project Name: PEC LA CIMA
Date Prepared: 10/2/2024

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

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

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

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

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

County =	Hays	
Total project area included in plan * =	2.98	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.44	acres
Total post-development impervious cover fraction * =	0.82	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	2190	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	2.98	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.44	acres
Post-development impervious fraction within drainage basin/outfall area =	0.82	
$L_{M\ THIS\ BASIN}$ =	2190	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

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

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

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

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

A_C =	2.98	acres
A_I =	2.44	acres
A_P =	0.54	acres
L_R =	2488	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	2488	lbs.
F =	1.00	

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

Rainfall Depth =	4.00	inches
Post Development Runoff Coefficient =	0.65	
On-site Water Quality Volume =	28149	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	5630	
Total Capture Volume (required water quality volume(s) x 1.20) =	33779	cubic feet

STAGE / STORAGE TABLE

SEDIMENTATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.50	0	0	0
0.50	829.00	1,190	298	298
1.00	829.50	1,954	786	1,084
2.00	830.50	1,954	1,954	3,038
3.00	831.50	1,954	1,954	4,992
4.00	832.50	1,954	1,954	6,946

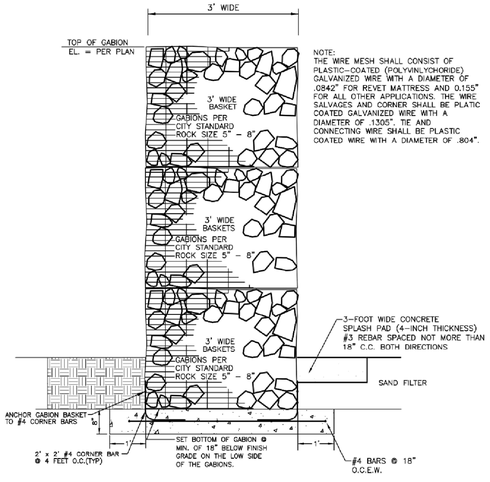
FILTRATION POND

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	828.5	2,098	0	0
1.00	829.5	2,098	2,098	2,098
2.00	830.5	2,098	2,098	4,196
3.00	831.5	2,098	2,098	6,294
4.00	832.5	2,098	2,098	8,392

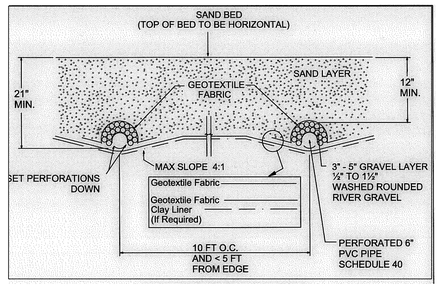
STAGE / STORAGE / DISCHARGE TABLE

DETENTION POND (UN-BLOCKED ORIFICE)

STAGE (FT)	ELEVATION (FT MSL)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)	CULVERT / ORIFICE 18 IN (CFS)	WEIR 6 LF (CFS)	TOTAL DISCHARGE (CFS)
0	824.00	3409	0	0	.00	.00	.00
0.50	824.50	3,676	1,771	1,771	1.24	.00	1.24
1.00	825.00	3,956	1,908	3,679	4.27	.00	4.27
1.50	825.50	4,249	2,051	5,731	7.37	.00	7.37
2.00	826.00	4,554	2,201	7,931	9.51	.00	9.51
2.50	826.50	4,871	2,356	10,288	11.25	.00	11.25
3.00	827.00	5,200	2,518	12,805	12.76	.00	12.76
3.50	827.50	5,729	2,732	15,538	14.11	.00	14.11
4.00	828.00	6,259	2,997	18,535	15.34	.00	15.34
4.50	828.50	6,815	3,269	21,803	16.48	.00	16.48
5.00	829.00	7,371	3,547	25,350	17.54	58.87	76.41



GABION BASKET WALL DETAIL
N.T.S.



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JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED PROFESSIONAL ENGINEER

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Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

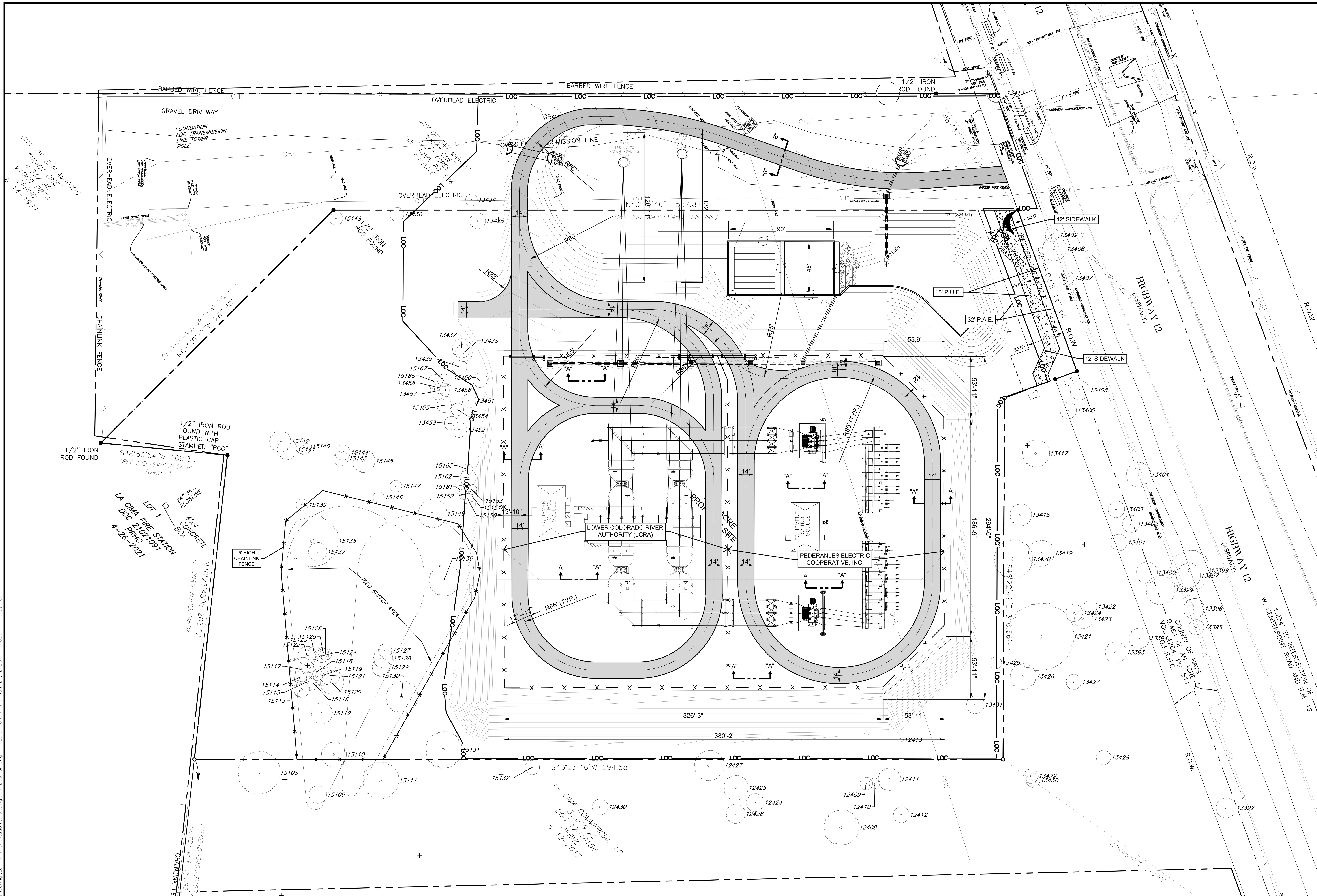
PEDERNALES ELECTRIC COOPERATIVE, INC.

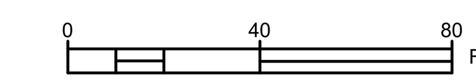
LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

WATER QUALITY AND DETENTION POND NOTES & DETAILS

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-114

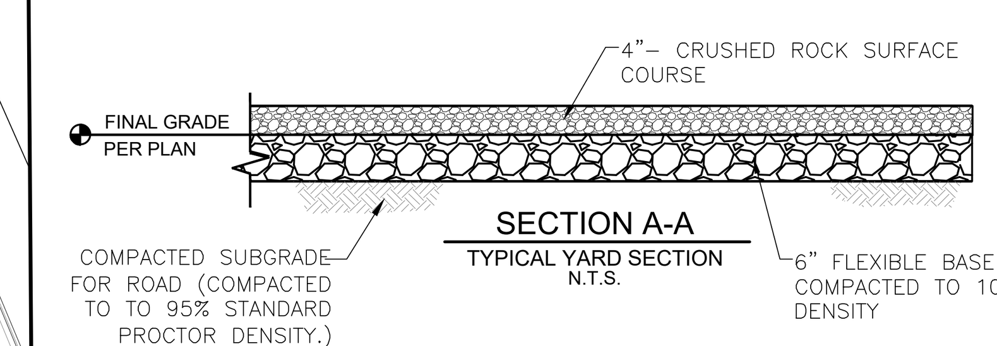
Drawing: Z:\Company Share\CLG Projects\23--Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\Xref\3055004 PEC LA CIMA DRNG_CLG 01.dwg Last Plotted: Thu Jan 23, 2025 -- 8:41pm By: admin



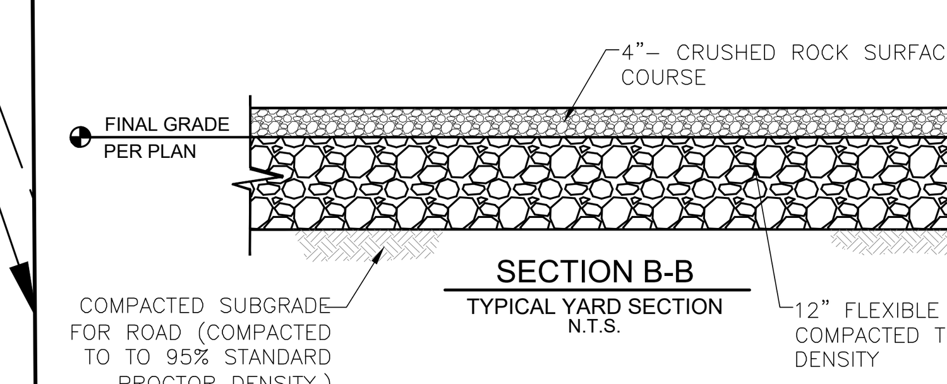


LEGEND:

LOC	LIMITS OF CONSTRUCTION
	PROPERTY LINE
ROW	RIGHT OF WAY
578	PROPOSED CONTOURS
995	EXISTING CONTOURS
CWQZ	CRITICAL WATER QUALITY ZONE
	EXISTING EASEMENT
	PROPOSED SOLID FENCE
	EXISTING FENCE
	FOUNDATION
	PROPOSED PH 1 - EQUIPMENT
	PROPOSED DRIVE
	PROPOSED SIDEWALK



SECTION A-A
TYPICAL YARD SECTION
N.T.S.



SECTION B-B
TYPICAL YARD SECTION
N.T.S.

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Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.	Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

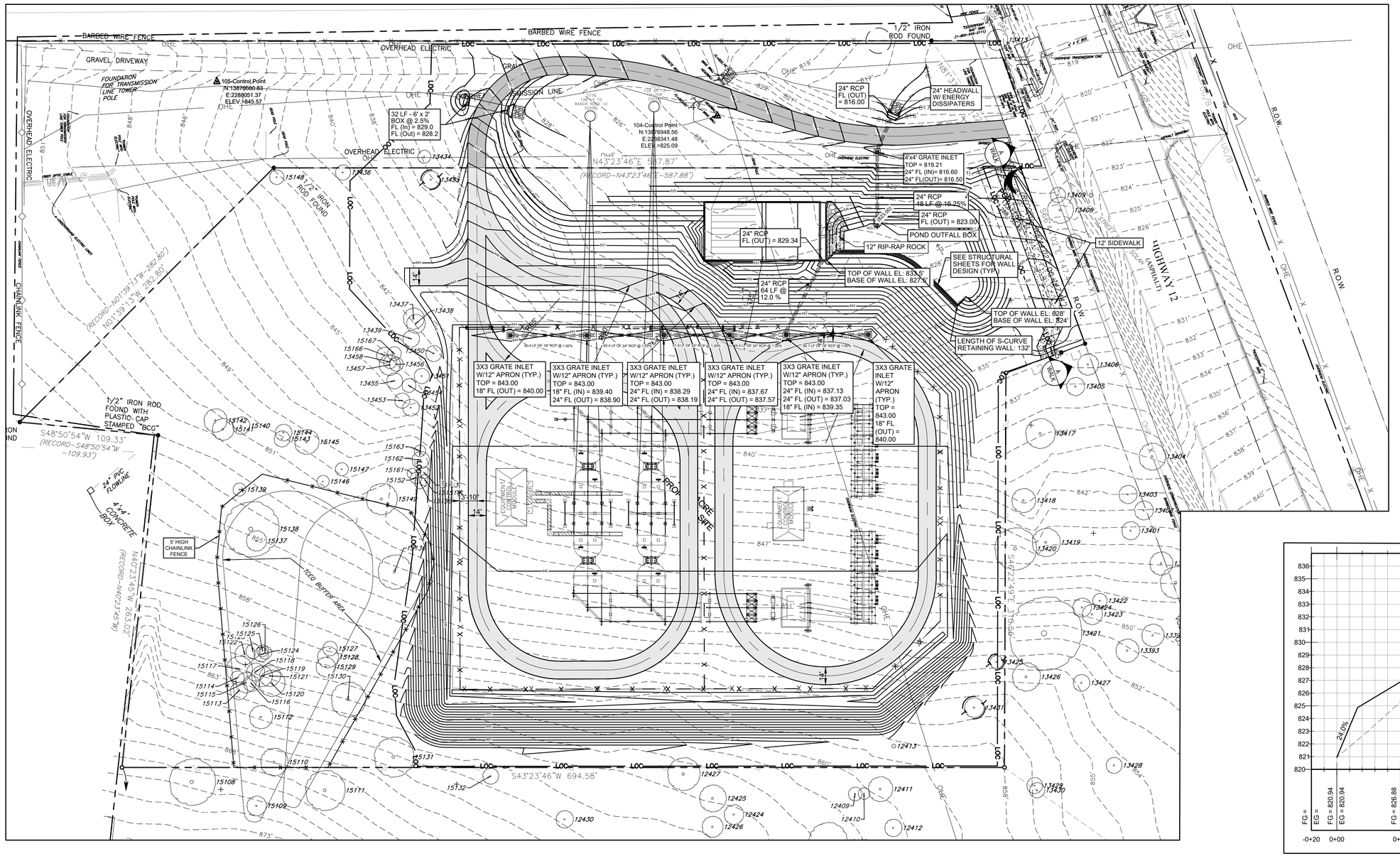
LA CIMA SUBSTATION

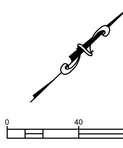
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

SITE PLAN & DIMENSIONAL CONTROL PLAN

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-115

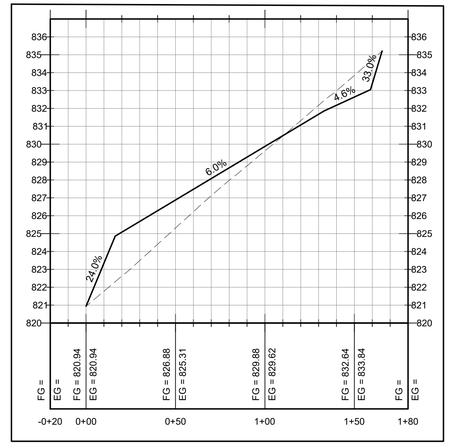
Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\15-LCS-SP.dwg Last Plotted: Thu Jan 23, 2025 - 10:53pm By: admin





LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- PROPERTY LINE
- ROW — RIGHT OF WAY
- 578 — PROPOSED CONTOURS
- 995 — EXISTING CONTOURS
- EXISTING EASEMENT
- PROPOSED SOLID FENCE
- EXISTING FENCE
- FOUNDATION
- PROPOSED - EQUIPMENT
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- 369 — EXISTING TREES TO REMAIN



SIDEWALK SECTION A-A

If there is a break of more than 14 days while grading and/or between rough grading completion and construction start where no work is done on a site portion(s) within the limits of construction, temporary (or permanent) stabilization is required per TXR150000 Part III.F.2.(b).iii/City Code Section 86.529(a). Use temporary (or permanent) seeding, compacted first-grind mulch, rock/stone, biodegradable straw matting, biodegradable blankets with no plastic netting, or similar for areas < 3H:1V. Note that matting or blankets require ongoing maintenance. For areas > 3H:1V, use seed covered with soil retention blankets or equivalent controls listed in the TxDOT Interactive Approved Products List (APL) for use in such areas: Workbook: TxDOT_Interactive APL (tamu.edu).

ALLOWABLE IMPERVIOUS COVER:	20% over 5 ACRES
SITE AREA:	7.50 ACRES
IMPERVIOUS COVER:	143,203 SF (3.31 Acres) = 44.13%
ALLOWED IMPERVIOUS COVER AT 20% FOR 7.5 Acres =	1.5 ACRES
IMPERVIOUS COVER OVER ALLOWABLE =	1.78 ACRES
REQUIRED TRANSFER ACREAGE =	8.9 ACRES

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Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

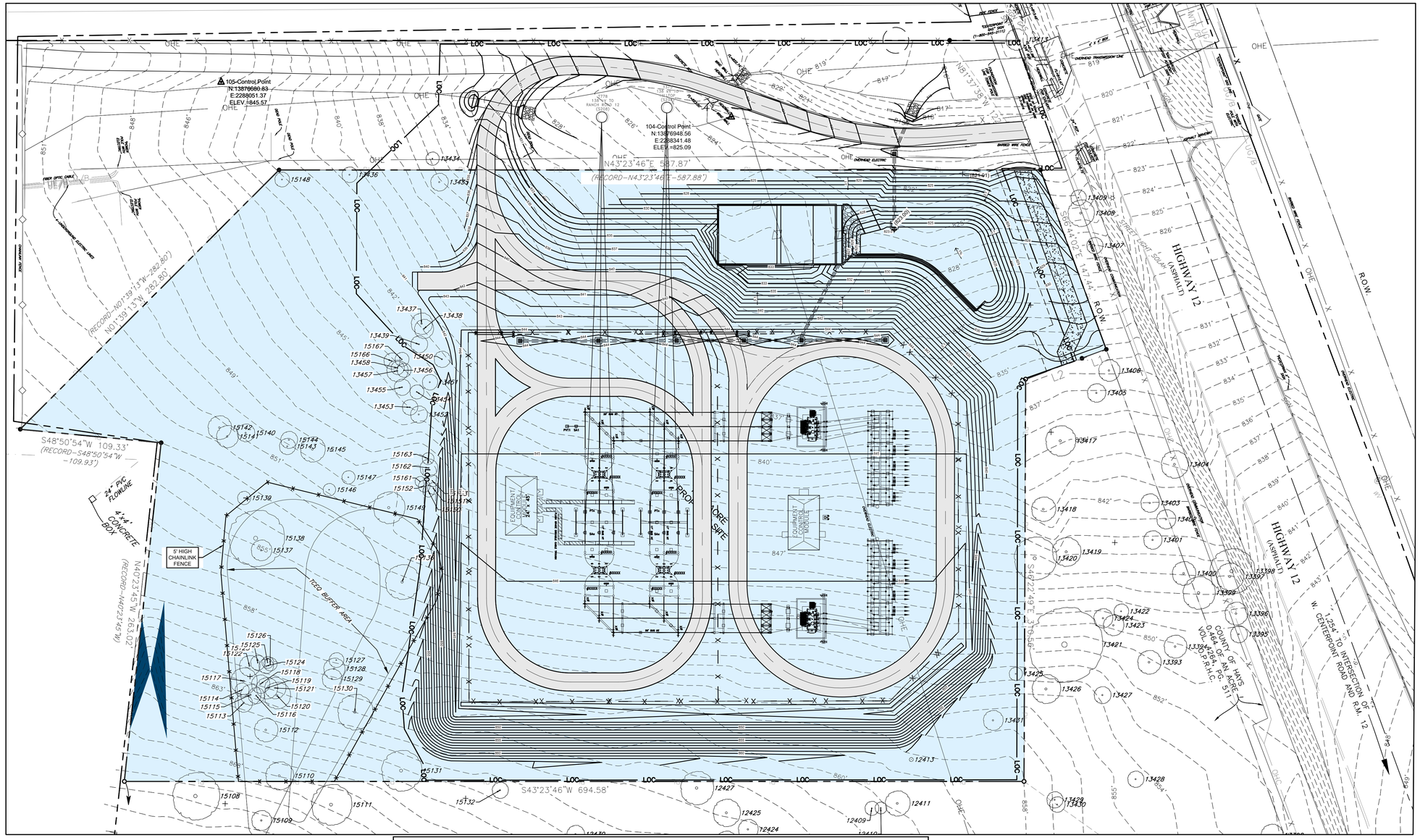
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

GRADING PLAN

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-116

Drawing: Z:\Company Share\CLG Projects\23-Pro\Schneider Engineering\La Cima Substation\3.0 Dwg\16-LCS-GP.dwg Last Plotted: Thu Jan 23, 2025 - 11:01pm By: admin



0 40 80 Feet

LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- PROPERTY LINE
- ROW — RIGHT OF WAY
- 578 — PROPOSED CONTOURS
- 995 — EXISTING CONTOURS
- EXISTING EASEMENT
- PROPOSED SOLID FENCE
- EXISTING FENCE
- FOUNDATION
- PROPOSED - EQUIPMENT
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- 369 — EXISTING TREES TO REMAIN

Slopes Table

Number	Minimum Slope	Maximum Slope	Area (Ac)	Color
1	0.00%	15.00%	7.47	
2	15.00%	25.00%	0.00	
3	25.00%	100.00%	0.02	

Existing Slope Map Table in the Edwards Aquifer Recharge Zone (EARZ)

Zone	Slope Range	Area (SF)	Area (Acres)	Impervious cover percentage allowed	Impervious cover allowed (SF)	Impervious cover Existing Condition (SF)	Impervious Cover Proposed Condition (SF)
Site Area	***All slopes	326700	7.50	20%	65340	0	*****144203
	15%-25%	0	0.00	20%	0		
	25% and greater	871	0.02	20%	174	0	0
Zone	Slope Range	Area (SF)	Area (Acres)	Impervious cover percentage allowed	Impervious cover allowed (SF)	Impervious cover Existing Condition (SF)	Impervious Cover Proposed Condition (SF)
Water Quality Buffer Zone	*0%-20%	0	0.00	10%	0		
	**20% and greater	0	0.00	0%	0		
Water Quality Zone	All slopes	0	0.00	0%	0		
Sensitive Feature Protection Zones	All slopes	0	0.00	0%	0		

*Addition to impervious cover allowed in the Water Quality Buffer Zone requires an approve mitigation plan and cannot exceed 20%.
**Addition to impervious cover allowed in the Water Quality Buffer Zone requires an approve mitigation plan and cannot exceed 10%.
*** All slopes = the area of the entire lot/development.
****If other areas of a Master Plan are reserved as open space to allowed more impervious cover than the maximum per code for the site, supporting documentation must be provided.
*****No impervious cover is allowed in the water quality zone or sensitive feature protection zones.
******Transfer to La Cima Substation per Plat

ALLOWABLE IMPERVIOUS COVER: 20% over 5 ACRES
SITE AREA: 7.50 ACRES
IMPERVIOUS COVER: 144,203 SF (3.31 Acres) = 44.13%
ALLOWED IMPERVIOUS COVER AT 20% FOR 7.5 Acres = 1.5 ACRES
IMPERVIOUS COVER OVER ALLOWABLE = 1.78 ACRES
REQUIRED TRANSFER ACREAGE = 8.9 ACRES

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Texas Registered Engineering Firm F-10523

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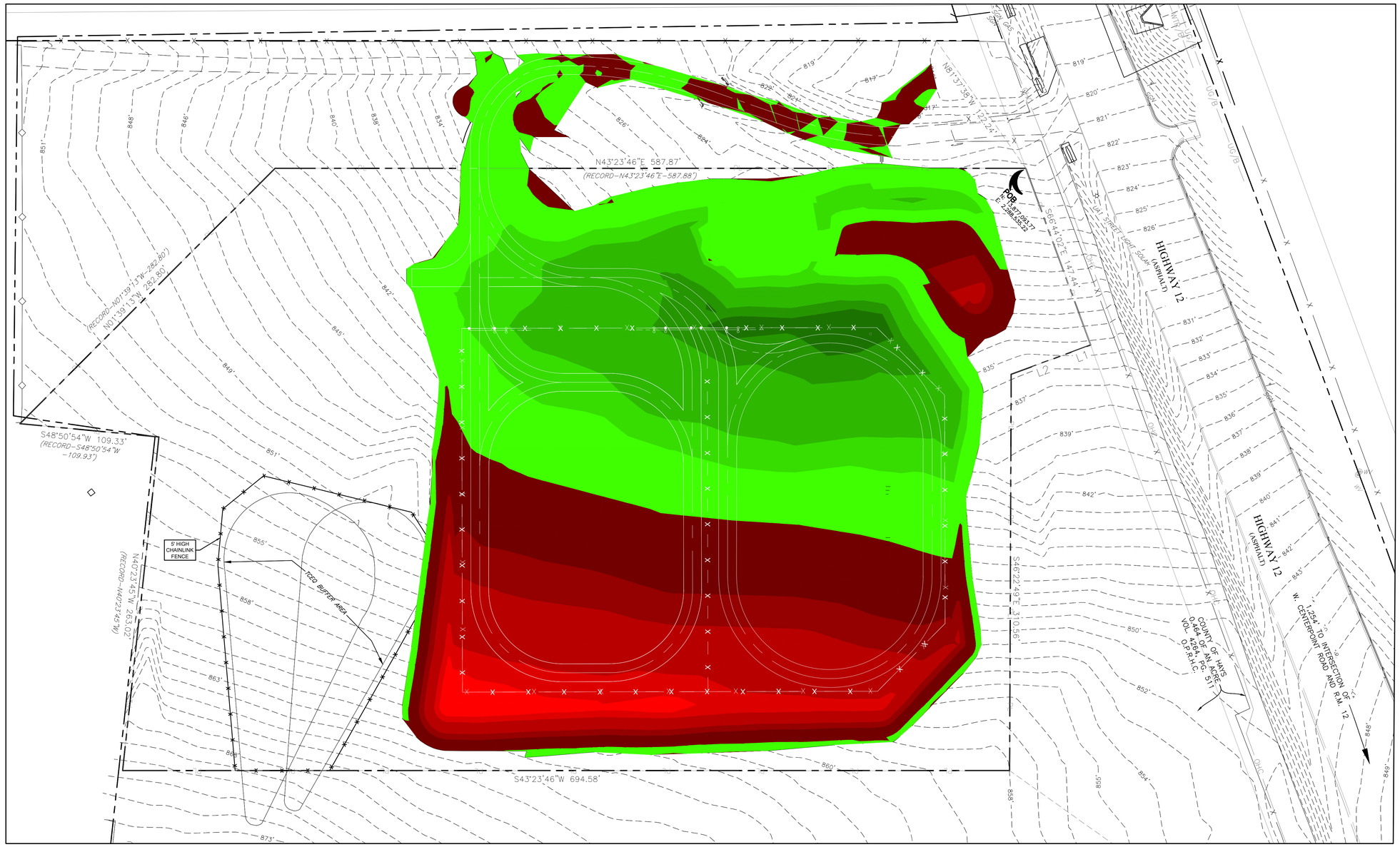
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

SLOPE MAP

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-117

Drawing: Z:\Company Share\LCG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\17-LCS-SM.dwg Last Plotted: Fri, Jan 24, 2025 - 12:03am By: admin



SURFACE ELEVATIONS				
NO.	MIN.	MAX.	COLOR	AREA (SF)
1	-16.00	-14.00		568.64
2	-14.00	-12.00		2705.10
3	-12.00	-10.00		7476.13
4	-10.00	-8.00		10098.82
5	-8.00	-6.00		12271.26
6	-6.00	-4.00		15116.91
7	-4.00	-2.00		18234.99
8	-2.00	0.00		24550.54
9	0.00	2.00		32294.38
10	2.00	4.00		24269.11
11	4.00	6.00		20945.02
12	6.00	8.00		14734.65
13	8.00	10.00		12706.22
14	10.00	12.00		7291.60
15	12.00	14.00		2895.57
16	14.00	16.00		57.14

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
TINN VOLUME	**1.000**	**1.000**	206216.08 Sq. Ft.	16631.17 Cu. Yd.	19849.71 Cu. Yd.	3218.54 Cu. Yd.<Fill>
Totals			206216.08 Sq. Ft.	16631.17 Cu. Yd.	19849.71 Cu. Yd.	3218.54 Cu. Yd.<Fill>

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STATE OF TEXAS
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91201
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Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

CUT & FILL PLAN

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-118

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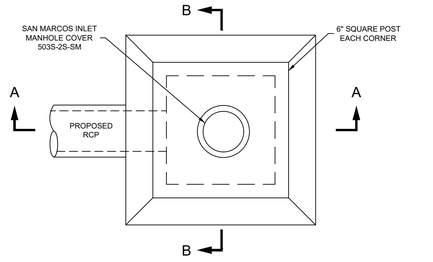
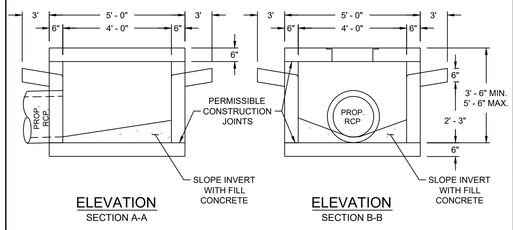


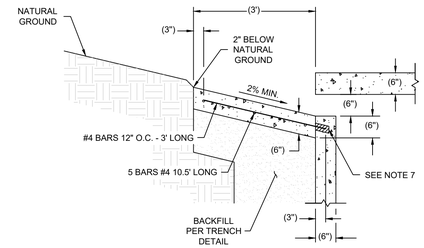
PLAN VIEW



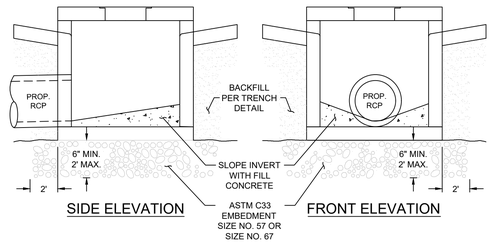
ELEVATION
SECTION A-A

ELEVATION
SECTION B-B

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	PRECAST 4-SIDED AREA INLET	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-9-SM 1 OF 3



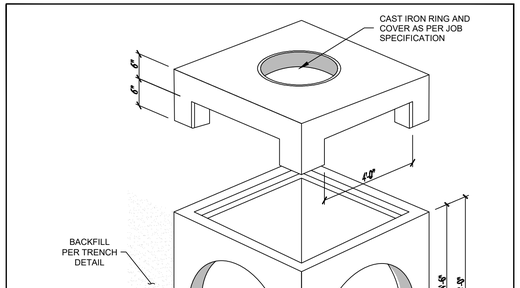
INLET OPENING



SIDE ELEVATION

FRONT ELEVATION

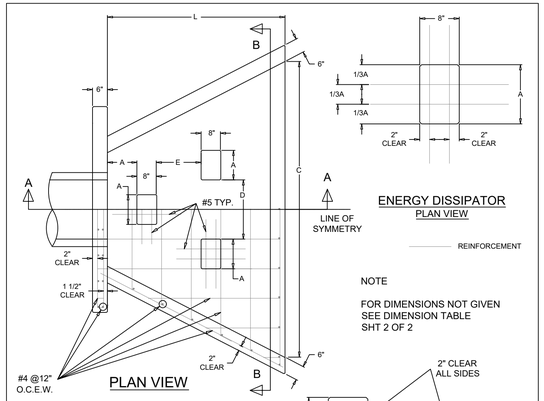
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	PRECAST 4-SIDED AREA INLET	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-9-SM 2 OF 3



NOTES:

1. REBAR PLACEMENT WILL BE PER MANUFACTURERS RECOMMENDATION. IF POSSIBLE TRAFFIC LOADS DESIGN MUST MEET HS-20 MINIMUM BEARING CAPACITY. CAST IN PLACE MUST BE SUBMITTED & SEALED BY DESIGN ENGINEER.
2. ALL CUT STEEL SHALL BE REPLACED WITH ADDITIONAL DIAGONAL BARS OF THE SAME DIAMETER.
3. INLET RING AND COVER SHALL BE IN ACCORDANCE WITH CITY OF SAN MARCOS STANDARD 503S-2S-SM.
4. CONCRETE COVERAGE OF STEEL SHALL BE 2" MIN. AT ALL SURFACES.
5. ALL MEASUREMENTS ARE MINIMUM UNLESS OTHERWISE NOTED.
6. CONSULT MANUFACTURER BEFORE HANDLING.
7. DRILL 3" DEEP HOLES (5/8" DIA.) AT 12" O.C.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	PRECAST 4-SIDED AREA INLET	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-9-SM 3 OF 3

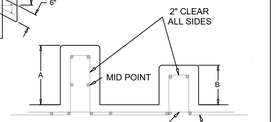


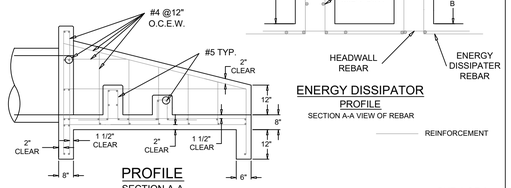
ENERGY DISSIPATOR
PLAN VIEW

REINFORCEMENT

NOTE

FOR DIMENSIONS NOT GIVEN SEE DIMENSION TABLE SHT 2 OF 2





PROFILE
SECTION A-A

HEADWALL REBAR

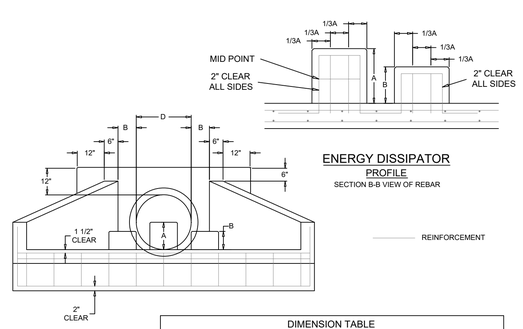
ENERGY DISSIPATER REBAR

ENERGY DISSIPATOR
PROFILE
SECTION A-A VIEW OF REBAR

REINFORCEMENT

SHT 1 OF 2

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	TYPICAL HEADWALL AND ENERGY DISSIPATOR	
RECORDED COPY SIGNED BY LAURIE MOYER, P.E.	11/18/2014 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	508S-13-SM N.T.S. STANDARD DETAIL



ENERGY DISSIPATOR
PROFILE
SECTION B-B VIEW OF REBAR

REINFORCEMENT

PROFILE
SECTION B-B

DIMENSION TABLE							
D	18"	21"	24"	27"	30"	33"	36"
A	9"	10"	12"	14"	15"	16	18"
B	6"	7"	8"	9	10"	11"	12"
C	90"	105"	120"	135"	150"	165"	180"
L	54"	63"	72"	81"	90"	99"	108"
E	12"	14"	16"	18"	20"	22"	24"

NOTE:

1. ALL CONCRETE SHALL BE TYPE "C" PER SPEC. 403S
2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.
4. DISCHARGE VELOCITIES GREATER THAN 6 FEET/SECOND AFTER DISSIPATOR ALSO REQUIRE ROCK OUTLET PROTECTION.
5. DETAIL IS NOT FOR PIPES WITH EXIT VELOCITIES EXCEEDING 15 FEET PER SECOND.
6. ALL SPACING FOR CAST-IN-PLACE HEADWALLS AND DISSIPATORS.
7. ANY WALL THICKER THEN 6" WILL BE DOUBLE MATTED WITH REINFORCEMENT REBAR.

SHT 2 OF 2

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	TYPICAL HEADWALL AND ENERGY DISSIPATOR	
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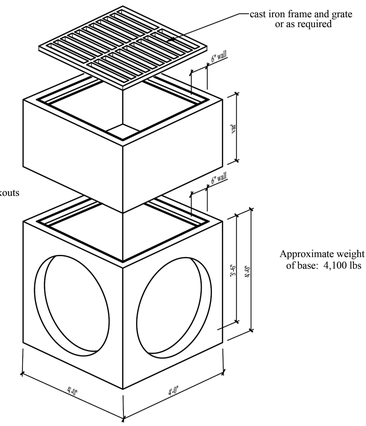
3' x 3' x var Grade Inlet



Bottom Section
36" dia thinwall knockouts all four sides

Approximate weight of base: 4,100 lbs

Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20

Notes:
- Consult manufacturer before handling

Capital Precast

CAPITAL PRECAST, INC.
6905 SOUTH OLD BASTROP HWY
SAN MARCOS, TEXAS 78666
PH. (830) 606-6200

FOR 3' x 3' x var Grade Inlet
JOB
DRAWN RW | DATE 12/1/2015 | Rev. No. | SHEET 1 OF 1
FILE catalog/grate inlets/3x3 Grate Inlet

SZENERGY™
POWERED BY SCHNEIDER ENGINEERING
TX Reg. #F-1594
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JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED
PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

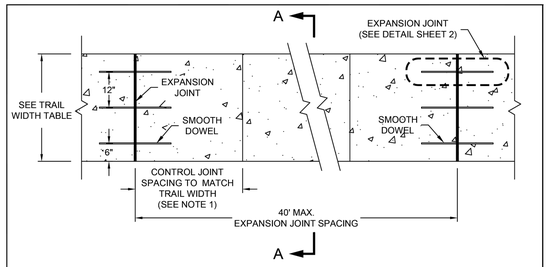
PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION
2701 Ranch Road 12, Unit B San Marcos, Texas 78666

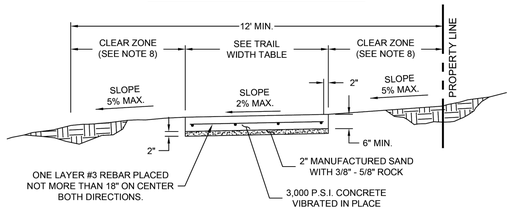
STANDARD DETAILS (1)

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-119

Drawing: Z:\Company Share\CLG Projects\23-Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\19-20 LCS-DETL.dwg Last Plotted: Thu Jan 23, 2025 - 10:32pm By: admin



CONCRETE TRAIL PLAN VIEW

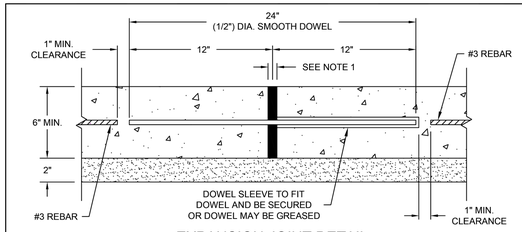


SECTION A - A

REBAR PLACEMENT NOTES:

1. REINFORCEMENT SHALL BE ACCURATELY PLACED AT SLAB MID-DEPTH AND HELD FIRMLY IN PLACE BY MEANS OF BAR SUPPORTS OF ADEQUATE STRENGTH AND NUMBER THAT WILL PREVENT DISPLACEMENT AND KEEP THE STEEL AT ITS PROPER POSITION DURING THE PLACEMENT OF THE PORTLAND CEMENT CONCRETE.
2. IN NO INSTANCE SHALL THE STEEL BE PLACED DIRECTLY ON THE SUBGRADE, SAND CUSHION LAYER OR CLOSER THAN 2" TO THE OUTSIDE EDGE OF THE CONCRETE.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	IMPROVED HIKE AND BIKE TRAIL - CONCRETE	
RECORD COPY SIGNED BY	12/11/2015	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1A-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 2



EXPANSION JOINT DETAIL

NOTES:

1. CONTROL JOINTS SHALL BE 1/4 INCH WIDE AND 3/4 INCH DEEP TOOLED OR SAW CUT INTO TRAIL.
2. CONSTRUCT 3/4" REDWOOD EXPANSION JOINTS AT MAXIMUM 40'- 0" SPACING ALONG LENGTH OF SIDEWALK. EXPANSION JOINTS SHALL INCLUDE SMOOTH DOWELS CENTERED TO THE JOINT AT 12" C-C.
3. IF SIDEWALK IS ADJOINED TO CURB, EXPANSION JOINT IS REQUIRED, UNLESS APPROVED BY THE CITY INSPECTOR.
4. SIDEWALKS DO NOT REQUIRE A BORDER ON SIDES.
5. RAMPS AT INTERSECTION WILL BE CONCRETE. AT STREET INTERSECTION FOLLOW CITY DETAIL 432S-3-SM.
6. TRAIL MARKERS OF APPROVED DESIGN SHOWING DISTANCE ALONG PATH AS DIRECTED BY CITY WITH TRAIL NAME AND DISTANCE FROM START. MARKERS MUST BE HIGHLY VISIBLE FROM BOTH DIRECTIONS ON THE TRAIL. TRAIL MARKERS TO BE PLACED 1 FOOT OFFSET FROM EDGE OF TRAIL.
7. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
8. CLEAR ZONE CAN BE SHIFTED TO ONE SIDE PER PROJECT'S CONSTRAINTS. CLEAR ZONE CAN NOT HAVE LARGE SHRUBS OR TREES WITHIN IT AND WILL HAVE 10 FEET (8 FEET MINIMUM) OF OVERHEAD CLEARANCE. TREES 9" OR LARGER REQUIRE MITIGATION PER CODE IF REMOVED.

TRAIL WIDTH TABLE	
TYPE OF PARK	WIDTH OF TRAIL
REGIONAL PARKS	10 - 12 FEET
NEIGHBORHOOD PARKS	5 FEET
GREEN SPACE	6 - 8 FEET
SPECIAL USE FACILITIES	5 FEET

PARKS AND RECREATION DEPARTMENT WILL DETERMINE THE PARK DESIGNATION.

REFERENCES
DETAIL 432-3-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	IMPROVED HIKE AND BIKE TRAIL - CONCRETE	
RECORD COPY SIGNED BY	12/11/2015	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1A-SM
LAURIE MOYER, P.E.	ADOPTED		2 OF 2

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Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

STANDARD DETAILS (2)

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-120

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191 Menger Springs Parkway - Boerne TX 78006
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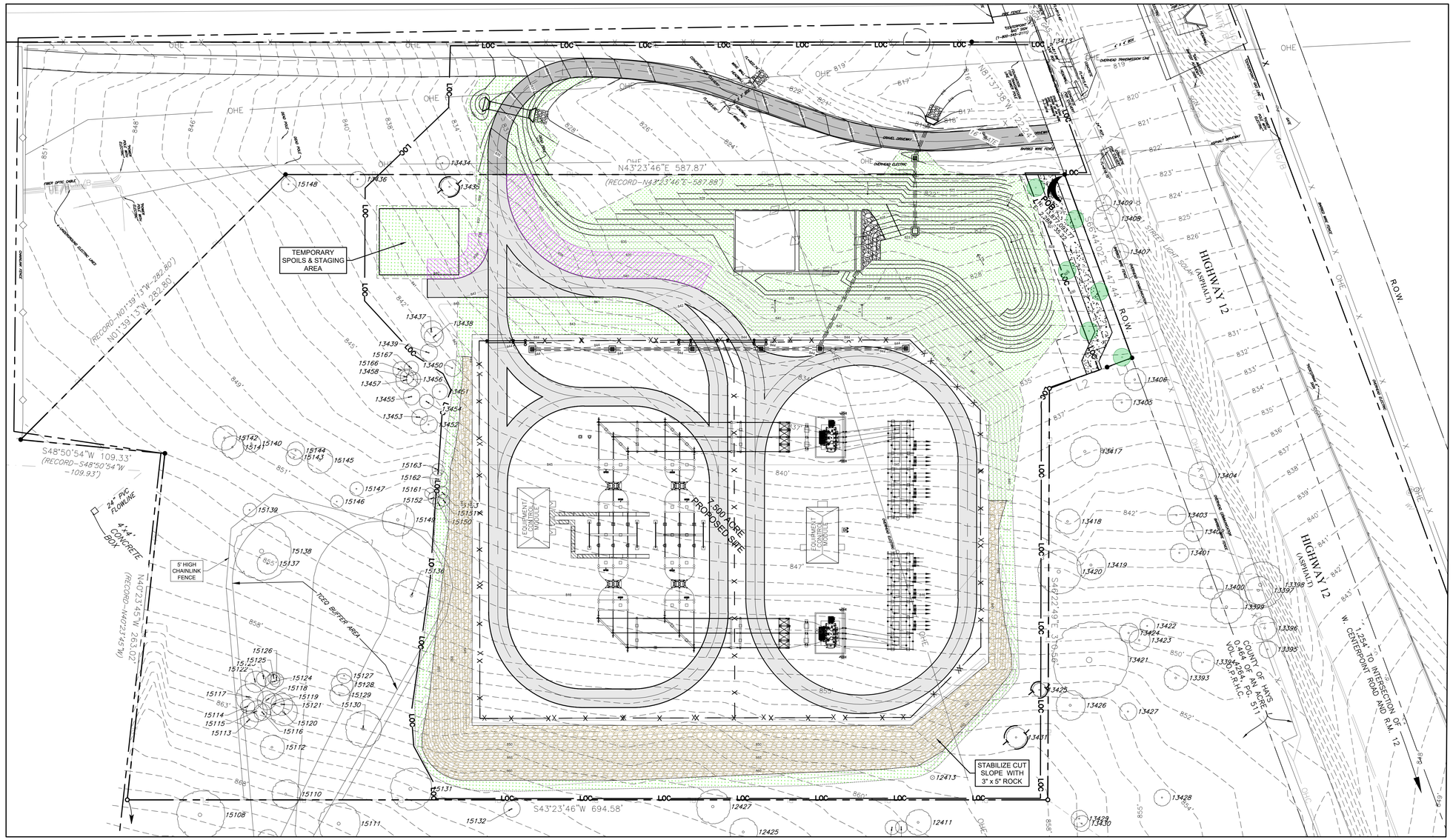
JANUARY 23, 2025

STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED
PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523



0 40 80 Feet

LEGEND:

- LOC — LIMITS OF CONSTRUCTION
- PROPERTY LINE
- ROW — RIGHT OF WAY
- 578 — PROPOSED CONTOURS
- 995 — EXISTING CONTOURS
- EXISTING EASEMENT
- PROPOSED SOLID FENCE
- EXISTING FENCE
- FOUNDATION
- PROPOSED - EQUIPMENT
- PROPOSED DRIVE
- PROPOSED SIDEWALK
- REVEG (62,912 SF)
- 3" x 5" CUT SLOPE STABILIZATION ROCK (23,232 SF)
- EXISTING TREES TO REMAIN
- PROPOSED TREES
- VEGETATIVE FILTER STRIP

SENERGY
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JANUARY 23, 2025
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Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN	B.FRYE
CHECKED	G.ULCAK
APPROVED	G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

REVEGATION / LANDSCAPE PLAN

DATE	01/02/2025
SCALE	AS SHOWN
DWG. NO.	C-121

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DATE:
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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	Dimensions W	X	Y	Z	Variable Reinforcing Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Estimated Quantities per ft of wing length (2-wings) ③ Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING (2-wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:
(All values are in feet.)

Hw = H + T + C - 0.250'
A = (Hw - 0.333') (SL)
B = (A) tangent (30°)
Lw = (A) ÷ cosine (30°)

For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

For precast culverts:
Ltw = (N) (2U + S) + (N - 1) (0.5')

Total wingwall area (two wings ~ SF) = (Hw + 0.333') (Lw)

Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert barrel length
N = Number of culvert spans

See applicable box culvert standard sheet for H, S, T, and U values.

① Extend Bars P 3'-0" minimum into bottom slab of box culvert.

② Adjust as necessary to maintain 1 1⁄4" clear cover and 4" minimum between bars.

③ Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.

④ Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.

⑤ When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap." Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'-6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.

⑥ At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.

⑦ 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 Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

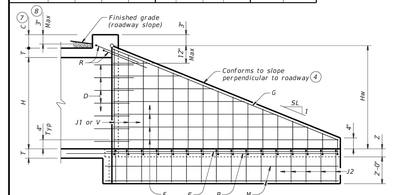
⑧ For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

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.

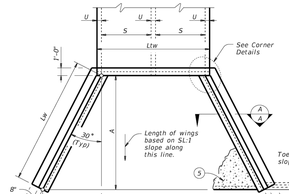
MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
In riprap concrete synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

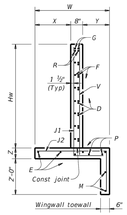
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.



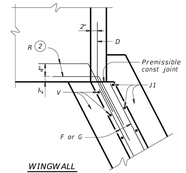
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



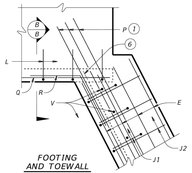
PLAN
(Showing dimensions.)



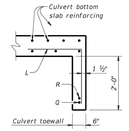
SECTION A-A



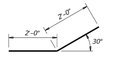
WINGWALL



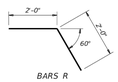
FOOTING AND TOEWALL



SECTION B-B ⑤



BARS D



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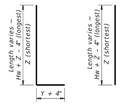
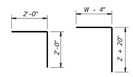


BARS J1 BARS V



BARS L BARS J2

Texas Department of Transportation — Bridge Division Standard

CONCRETE WINGWALLS WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

FILE: CD-FW0-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

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DATE:
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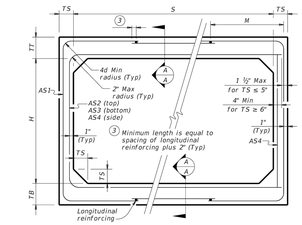
BOX DATA

SECTION DIMENSIONS S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	Fill Height (ft.)	M (Min) (in.)	REINFORCING (sq. in. / ft.) ② AS1	AS2	AS3	AS4	AS5	AS7	AS8	① Lift Weight (tons)
6	2	8	7	7	< 2	-	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2
6	2	7	7	7	2 < 3	43	0.25	0.21	0.17	0.17	-	-	-	6.8
6	2	7	7	7	3 – 5	43	0.20	0.17	0.17	0.17	-	-	-	6.8
6	2	7	7	7	10	39	0.20	0.17	0.17	0.17	-	-	-	6.8
6	2	7	7	7	15	39	0.26	0.20	0.20	0.17	-	-	-	6.8
6	2	7	7	7	20	39	0.34	0.26	0.26	0.17	-	-	-	6.8
6	2	7	7	7	25	39	0.43	0.32	0.32	0.17	-	-	-	6.8
6	2	7	7	7	30	39	0.52	0.38	0.39	0.17	-	-	-	6.8
6	3	8	7	7	< 2	-	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9
6	3	7	7	7	2 < 3	43	0.21	0.24	0.19	0.17	-	-	-	7.5
6	3	7	7	7	3 – 5	39	0.17	0.18	0.17	0.17	-	-	-	7.5
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	-	-	-	7.5
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	-	-	-	7.5
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	-	-	-	7.5
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	-	-	-	7.5
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	-	-	-	7.5
6	4	8	7	7	< 2	-	0.19	0.34	0.25	0.17	0.19	0.19	0.17	8.6
6	4	7	7	7	2 < 3	43	0.19	0.27	0.21	0.17	-	-	-	8.2
6	4	7	7	7	3 – 5	39	0.17	0.21	0.19	0.17	-	-	-	8.2
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	-	-	-	8.2
6	4	7	7	7	15	38	0.18	0.27	0.27	0.17	-	-	-	8.2
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	-	-	-	8.2
6	4	7	7	7	25	38	0.29	0.43	0.42	0.17	-	-	-	8.2
6	4	7	7	7	30	38	0.35	0.51	0.52	0.17	-	-	-	8.2
6	5	8	7	7	< 2	-	0.19	0.37	0.28	0.17	0.19	0.19	0.17	9.3
6	5	7	7	7	2 < 3	43	0.17	0.30	0.24	0.17	-	-	-	8.9
6	5	7	7	7	3 – 5	43	0.17	0.23	0.21	0.17	-	-	-	8.9
6	5	7	7	7	10	39	0.17	0.22	0.23	0.17	-	-	-	8.9
6	5	7	7	7	15	38	0.17	0.28	0.29	0.17	-	-	-	8.9
6	5	7	7	7	20	38	0.20	0.37	0.38	0.17	-	-	-	8.9
6	5	7	7	7	25	38	0.25	0.45	0.46	0.17	-	-	-	8.9
6	5	7	7	7	30	38	0.30	0.54	0.55	0.17	-	-	-	8.9
6	6	8	7	7	< 2	-	0.19	0.38	0.30	0.17	0.19	0.19	0.17	10
6	6	7	7	7	2 < 3	52	0.17	0.32	0.26	0.17	-	-	-	9.6
6	6	7	7	7	3 – 5	52	0.17	0.24	0.22	0.17	-	-	-	9.6
6	6	7	7	7	10	43	0.17	0.23	0.24	0.17	-	-	-	9.6
6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	-	-	-	9.6
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	-	-	-	9.6
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	-	-	-	9.6
6	6	7	7	7	30	38	0.27	0.55	0.57	0.17	-	-	-	9.6

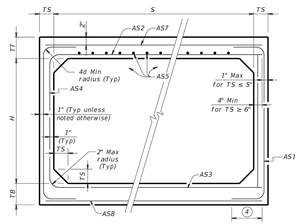
① For box length = 8'-0"

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.



CORNER OPTION "A" CORNER OPTION "B"

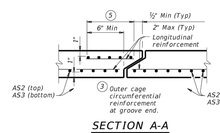
FILL HEIGHT 2 FT AND GREATER



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 PRECAST 6'-0" SPAN

SCP-6

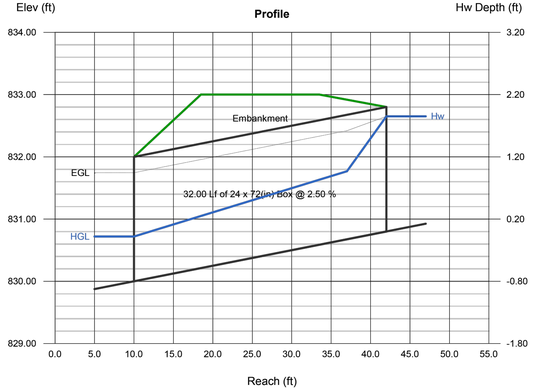
FILE: CD-SCP06-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Friday, Jan 10 2025

LA CIMA DRVEY CULVERT

Invert Elev Dn (ft)	= 830.00	**Calculations**	
Pipe Length (ft)	= 32.00	Qmin (cfs)	= 42.70
Slope (%)	= 2.50	Qmax (cfs)	= 42.70
Invert Elev Up (ft)	= 830.80	Tailwater Elev (ft)	= Normal
Rise (in)	= 24.0		
Shape	= Box	**Highlighted**	
Span (in)	= 72.0	Qtotal (cfs)	= 42.70
No. Barrels	= 1	Qpipe (cfs)	= 42.70
n-Value	= 0.012	Qovertop (cfs)	= 0.00
Culvert Type	= Flared Wingwalls	Veloc Dn (ft/s)	= 9.88
Culvert Entrance	= 30D to 75D wingwall flares	Veloc Up (ft/s)	= 6.12
Coeff. K,M,c,Y,k	= 0.026, 1, 0.0347, 0.81, 0.4	HGL Dn (ft)	= 830.72
		HGL Up (ft)	= 831.96
Embankment		Hw Elev (ft)	= 832.65
Top Elevation (ft)	= 833.00	Hw/D (ft)	= 0.93
Top Width (ft)	= 15.00	Flow Regime	= Inlet Control
Crest Width (ft)	= 6.00		



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TX Reg. #F-1594
191 Menger Springs Parkway - Boerne TX 78006
830.249.3887 | POWEREDBYSENERGY.COM

JANUARY 23, 2025
STATE OF TEXAS
GREGORY ULCAK
91201
LICENSED
PROFESSIONAL ENGINEER

Civil Land Group, LLC
206 W. Main Street Suite 101
Round Rock, Texas 78664
(512) 992-0118 Fax (512) 246-1856
Texas Registered Engineering Firm F-10523

Ltr.	Date	Revision	By	Chkd.	Appd.

Ltr.	Date	Revision	By	Chkd.	Appd.

DRAWN B.FRYE
CHECKED G.ULCAK
APPROVED G.ULCAK

PEDERNALES ELECTRIC COOPERATIVE, INC.

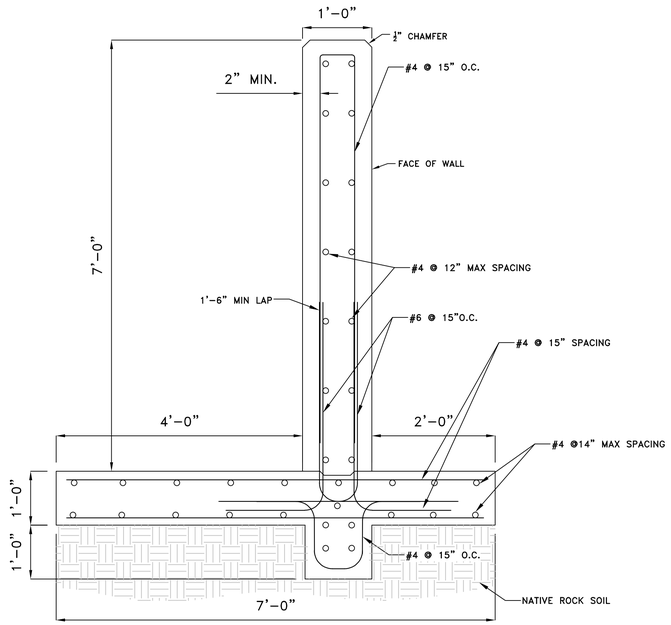
LA CIMA SUBSTATION

2701 Ranch Road 12, Unit B San Marcos, Texas 78666

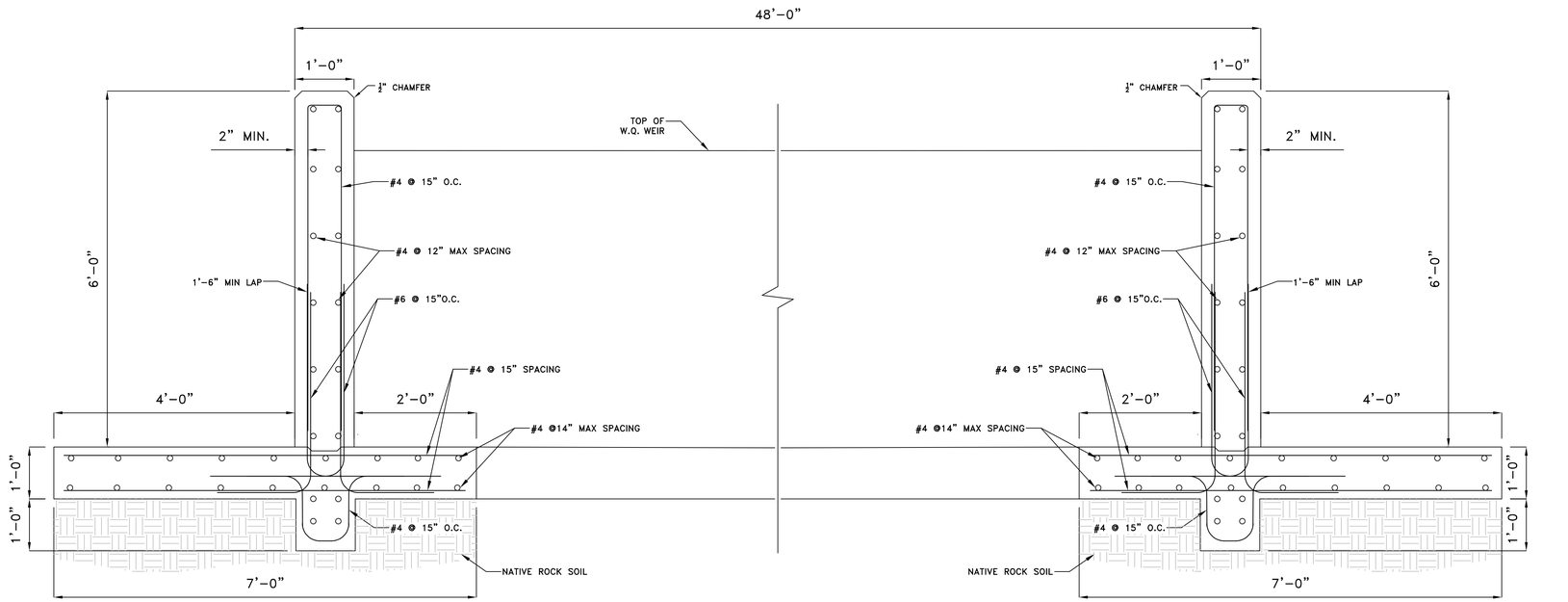
ENTRANCE DRIVE CULVERT & DETAILS

DATE 01/02/2025
SCALE AS SHOWN
DWG. NO. C-122

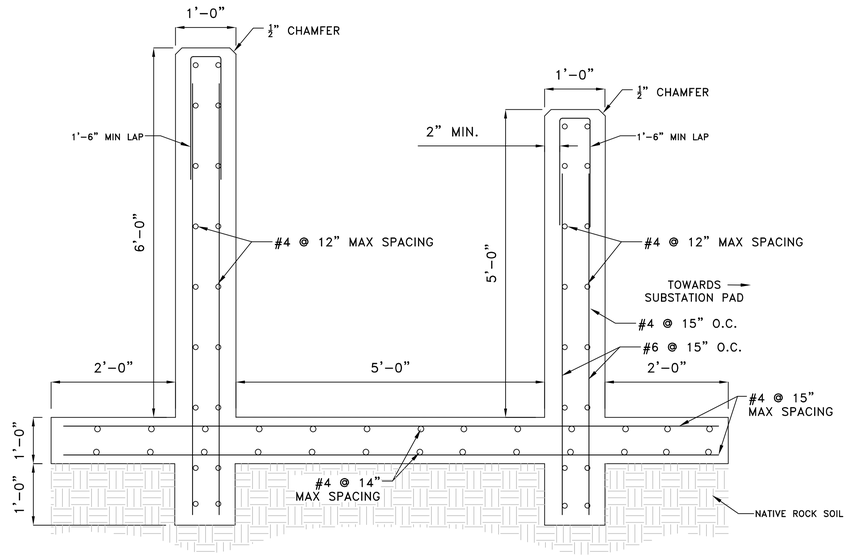
Drawing: Z:\Company Share\CLG Projects\23--Proj\Schneider Engineering\La Cima Substation\3.0 Dwg\22-LCS-DETL3.dwg Last Plotted: Thu Jan 23, 2025 - 10:47pm By: admin



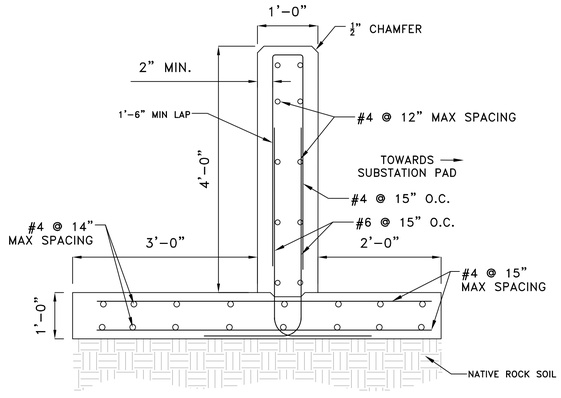
RETAINING WALL SECTION A–A
REINFORCEMENT DETAILS



RETAINING WALL SECTION B–B
REINFORCEMENT DETAILS



SECTION C–C
REINFORCEMENT DETAILS



RETAINING WALL SECTION D–D
REINFORCEMENT DETAILS

NOTES:

1. MATERIAL COMPACTION FOR NATIVE ROCK SOIL NOT REQUIRED.

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J. GREG GRUSENDORF
P.E. #80199
01/21/2025

ISSUED
FOR CONSTRUCTION

01-21-2025

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STATE OF TEXAS
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80199
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C					
B					
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G					
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J					
K					

DRAWN RGG
CHECKED JGG
APPROVED JGG

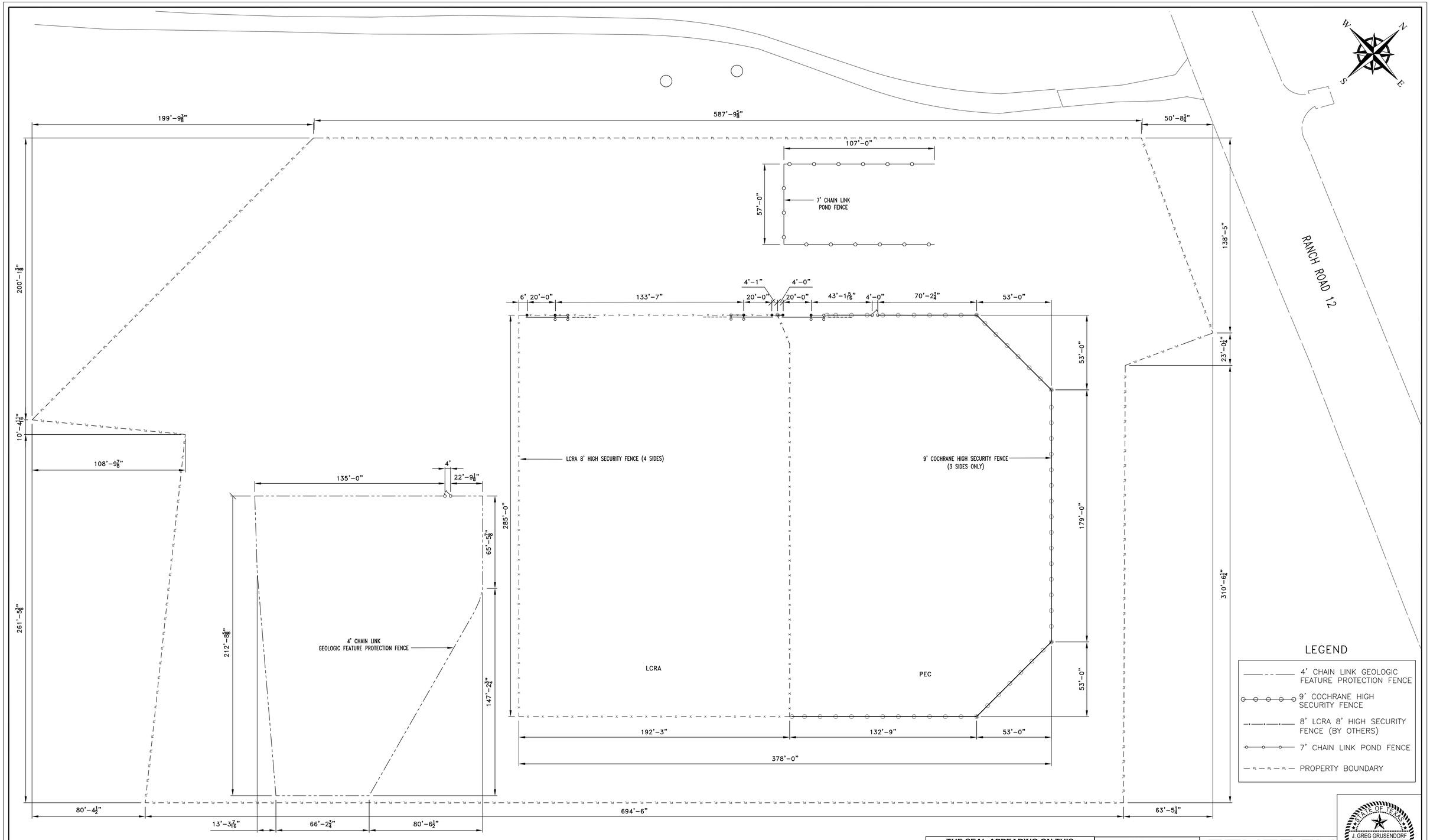
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

RETAINING WALL
REINFORCEMENT DETAILS

DATE 10/25/2024
SCALE N.T.S.
DWG. NO. 2S–195–C–053

23PEC60-R00000001633

SEQ NO: 011



LEGEND

- 4' CHAIN LINK GEOLOGIC FEATURE PROTECTION FENCE
- 9' COCHRANE HIGH SECURITY FENCE
- 8' LCRA 8' HIGH SECURITY FENCE (BY OTHERS)
- 7' CHAIN LINK POND FENCE
- PROPERTY BOUNDARY

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P.E. #80199
01/21/2025

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01-21-2025

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CHECKED RGG
APPROVED JGG

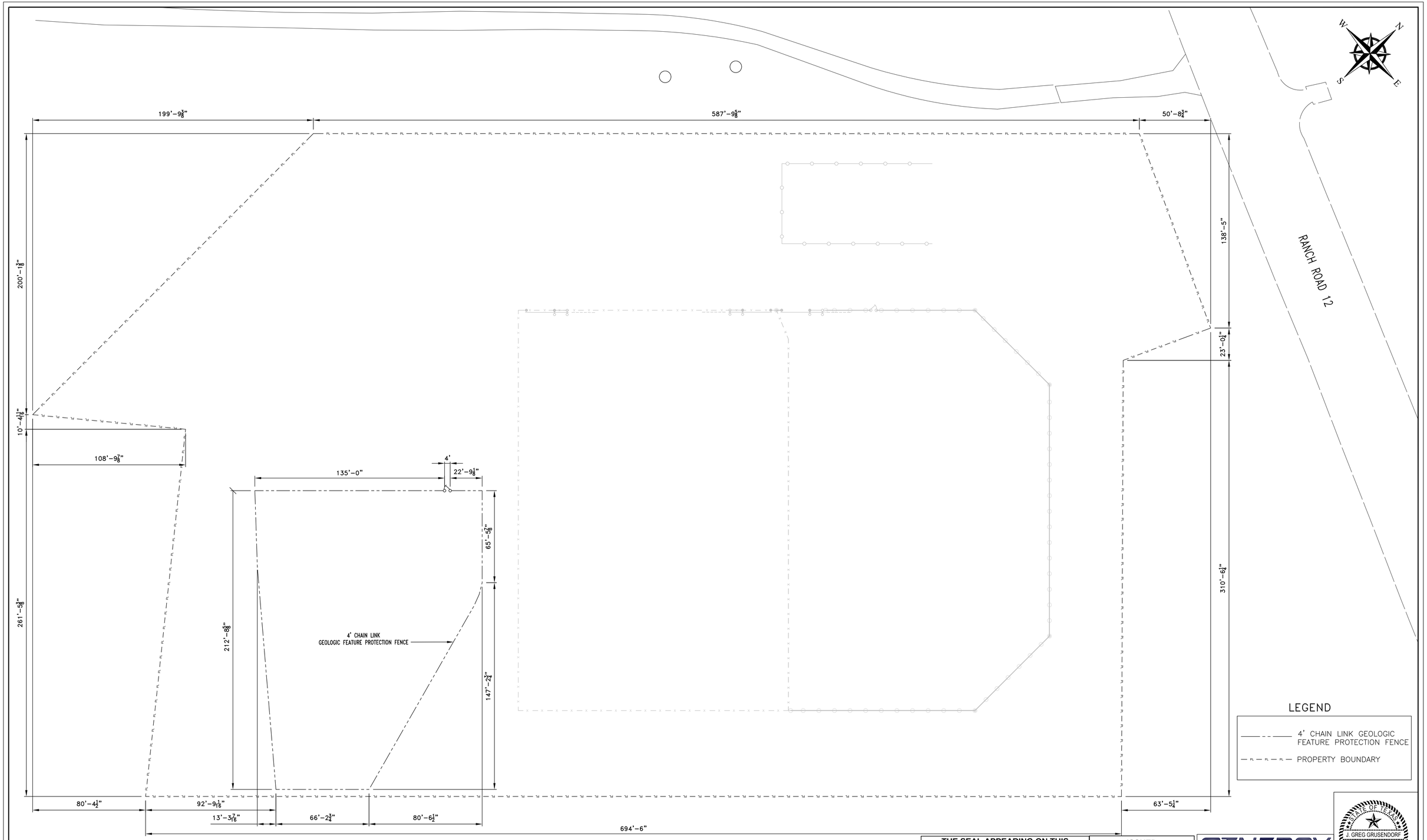
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

OVERALL FENCE LAYOUT

DATE 04-24
SCALE 1"=30'-0"
DWG. NO. 2S-195-E-203

23PEC60-R00000001633

SEQ NO: 018



LEGEND

- 4' CHAIN LINK GEOLOGIC FEATURE PROTECTION FENCE
- PROPERTY BOUNDARY

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CHECKED RGG
APPROVED JGG

PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS

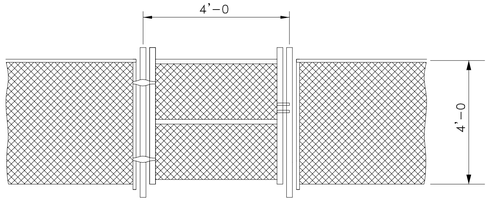
LACIMA SUBSTATION

4' GEOLOGIC FEATURE PROTECTION FENCE LAYOUT

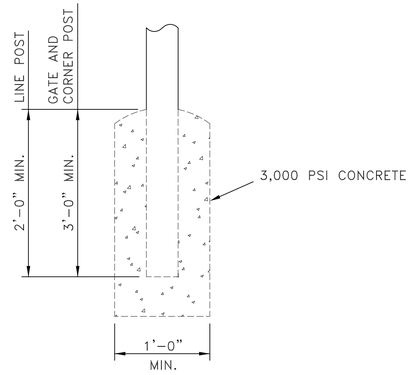
DATE 04–24
SCALE 1"=30'–0"
DWG. NO. 2S–195–E–204

23PEC60-R00000001633

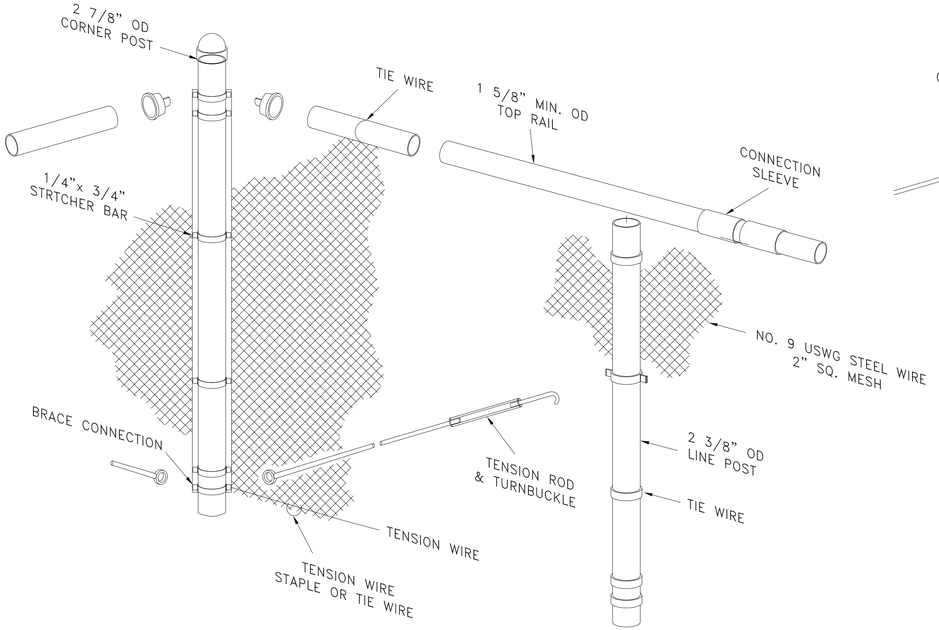
SEQ NO: 019



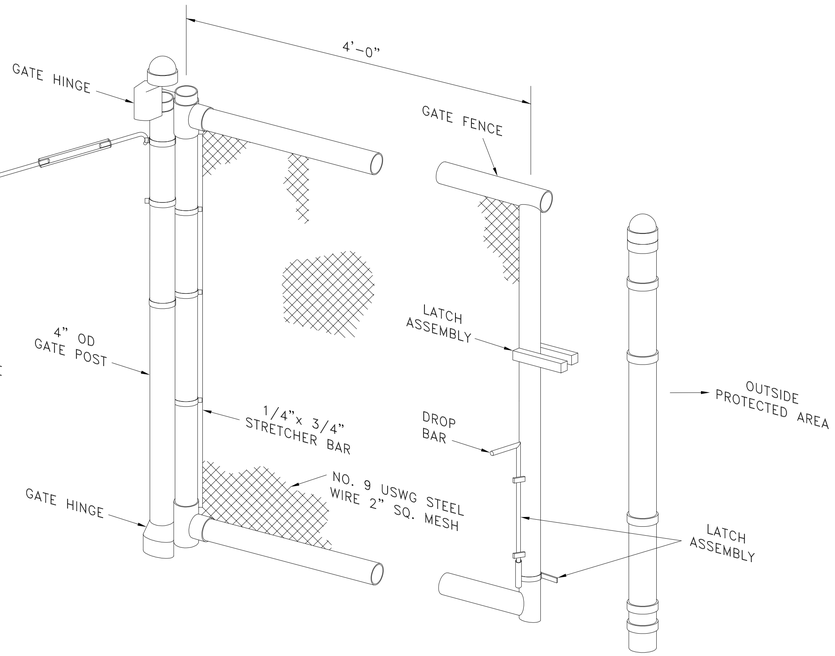
TYPICAL FENCE ELEVATION



TYPICAL FOUNDATION DETAIL



TYPICAL FENCE COMPONENT ARRANGEMENT
(POST TYPES SHOWN ARE ILLUSTRATIVE ONLY)
(HARDWARE CLOTH NOT SHOWN)



TYPICAL GATE ARRANGEMENT
(POST TYPES SHOWN ARE ILLUSTRATIVE ONLY)
(HARDWARE CLOTH NOT SHOWN)

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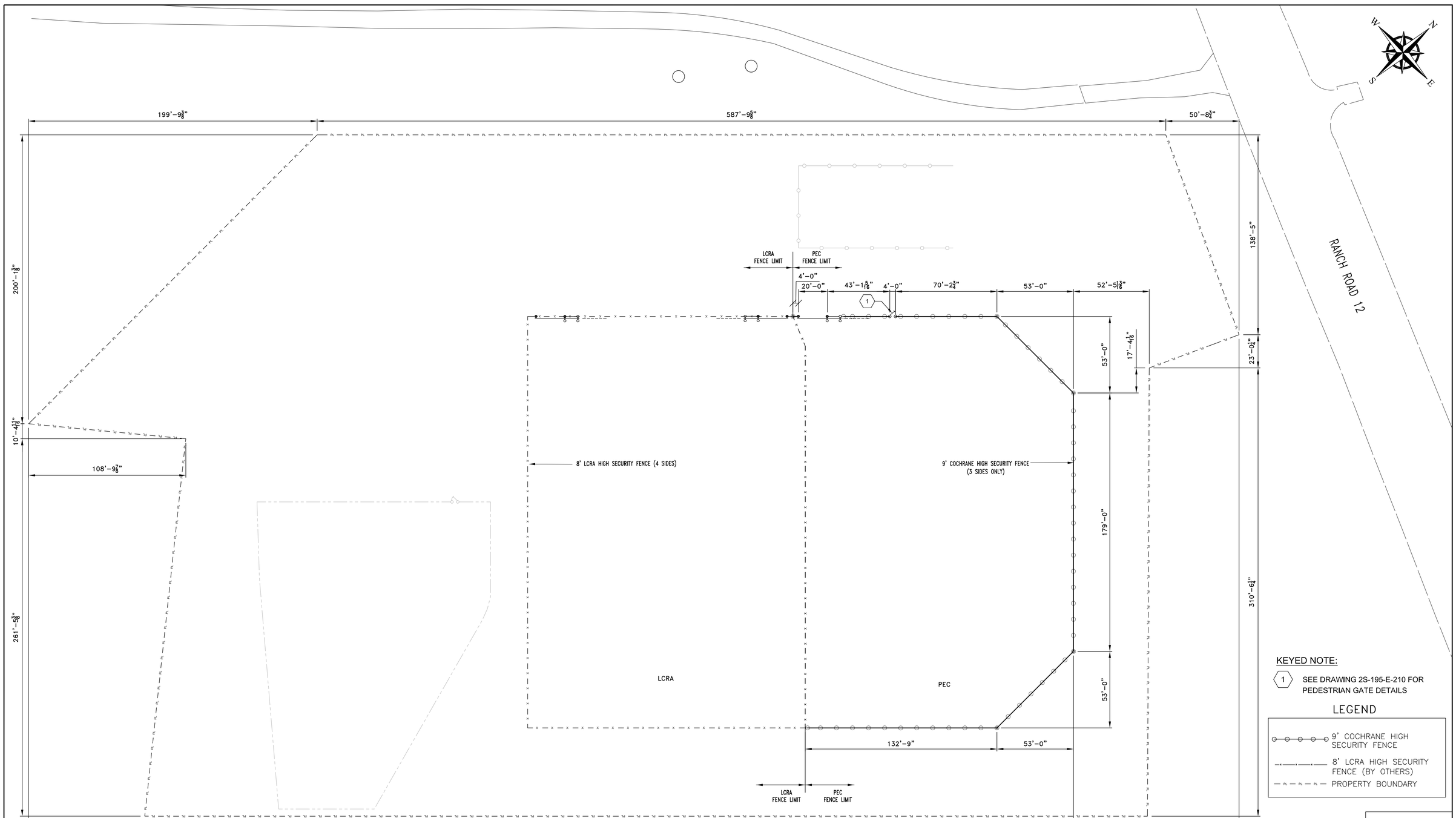
APPROVED JGG

PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

4' GEOLOGIC FEATURE PROTECTION FENCE DETAILS

DATE 10/14/2024
SCALE N.T.S.
DWG. NO. 2S-195-E-205



KEYED NOTE:

1. SEE DRAWING 2S-195-E-210 FOR PEDESTRIAN GATE DETAILS

LEGEND

- 9' COCHRANE HIGH SECURITY FENCE
- 8' LCRA HIGH SECURITY FENCE (BY OTHERS)
- PROPERTY BOUNDARY

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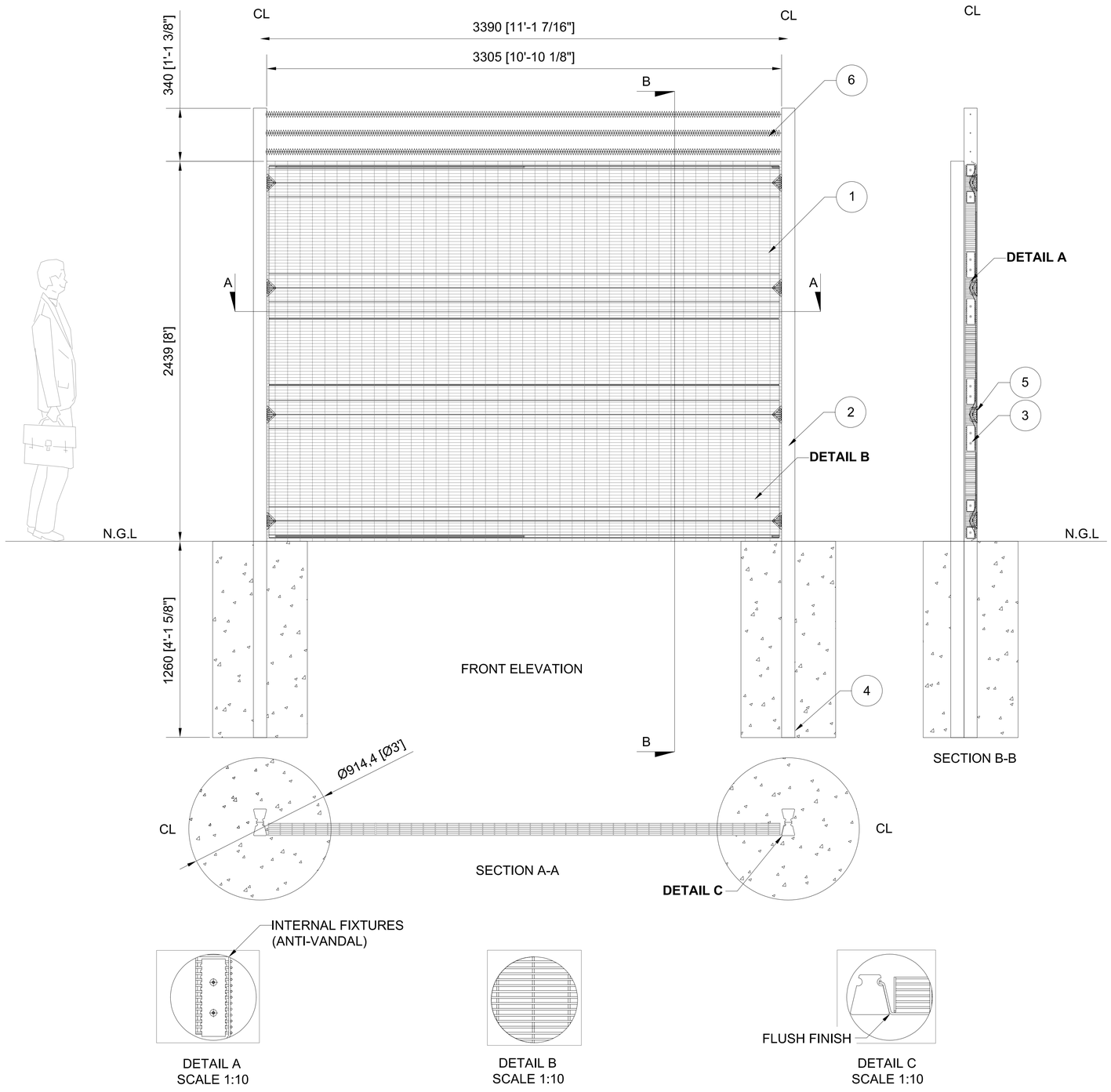
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

SUBSTATION FENCE LAYOUT

DATE 04-24
SCALE 1"=30'-0"
DWG. NO. 2S-195-E-206

23PEC60-R00000001633

SEQ NO: 021



DETAIL A
SCALE 1:10

DETAIL B
SCALE 1:10

DETAIL C
SCALE 1:10

SPECIFICATION

CLEARVU SHUTTER WALL PANEL

NO#	ITEM	DESCRIPTION
1	PANEL	CLEARVU SHUTTER MESH PANELS [10'-10 1/8"]3305mm WIDE x [8']2439mm HIGH GALVANIZED WIRE. PANEL FORMATION: PANEL REINFORCED WITH 4 X 50mm DEEP V-BENDS, 2 x FLANGES ALONG SIDES (INTERNAL FIXTURES - ANTI VANDAL, ALLOWING FOR FLUSH POST AND PANEL FINISH, LINE WIRE SECURE CONNECTION, LOCKING RECESS MECHANISM) AND 30° FLANGE AT TOP AND TOE. (ARROW - STRAIGHT EDGES, INTEGRATED ANGLE). COATING: MESH GALVANIZED,THEN MARINE FUSION BOND COATED. (PATENTS AND DESIGN REGISTRATIONS APPLY)
2	POST	COCHRANE TAPER LOCKING POST GALVANIZED, SEALED WITH STEEL CAPS THEN STRUCTURAL MARINE GARDE COATED.
3	CLAMPS	SINGLE BOLT COMB CLAMPS. DOUBLE BOLT COMB CLAMPS. COATING: GALVANIZED,THEN MARINE FUSION BOND COATED.
4	FOUNDATION	4.15 foot x 36" DEEP CONCRETE.
5	ANTI-SCALES	COCHRANE ANTI-SCALE
6	TOPPING	3 STRAND RIBBON STRIP

CONSTRUCTION UNIT: N6.4

ALL WORK ON THIS SHEET, UNLESS NOTED OTHERWISE, SHALL BE ASSOCIATED WITH CONSTRUCTION UNIT N6.4.

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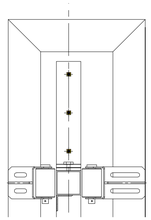
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

9' COCHRANE HIGH SECURITY FENCE DETAILS

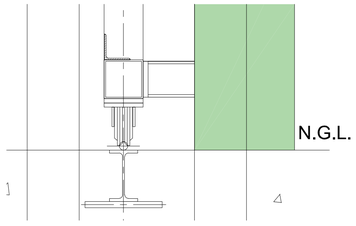
DATE 09-24
SCALE N/A
DWG. NO. 2S-195-E-207

Single Leaf Sliding Gate - Technical Specification

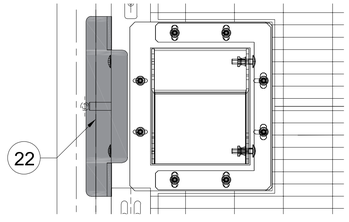
20' Wide x 10' High Gate



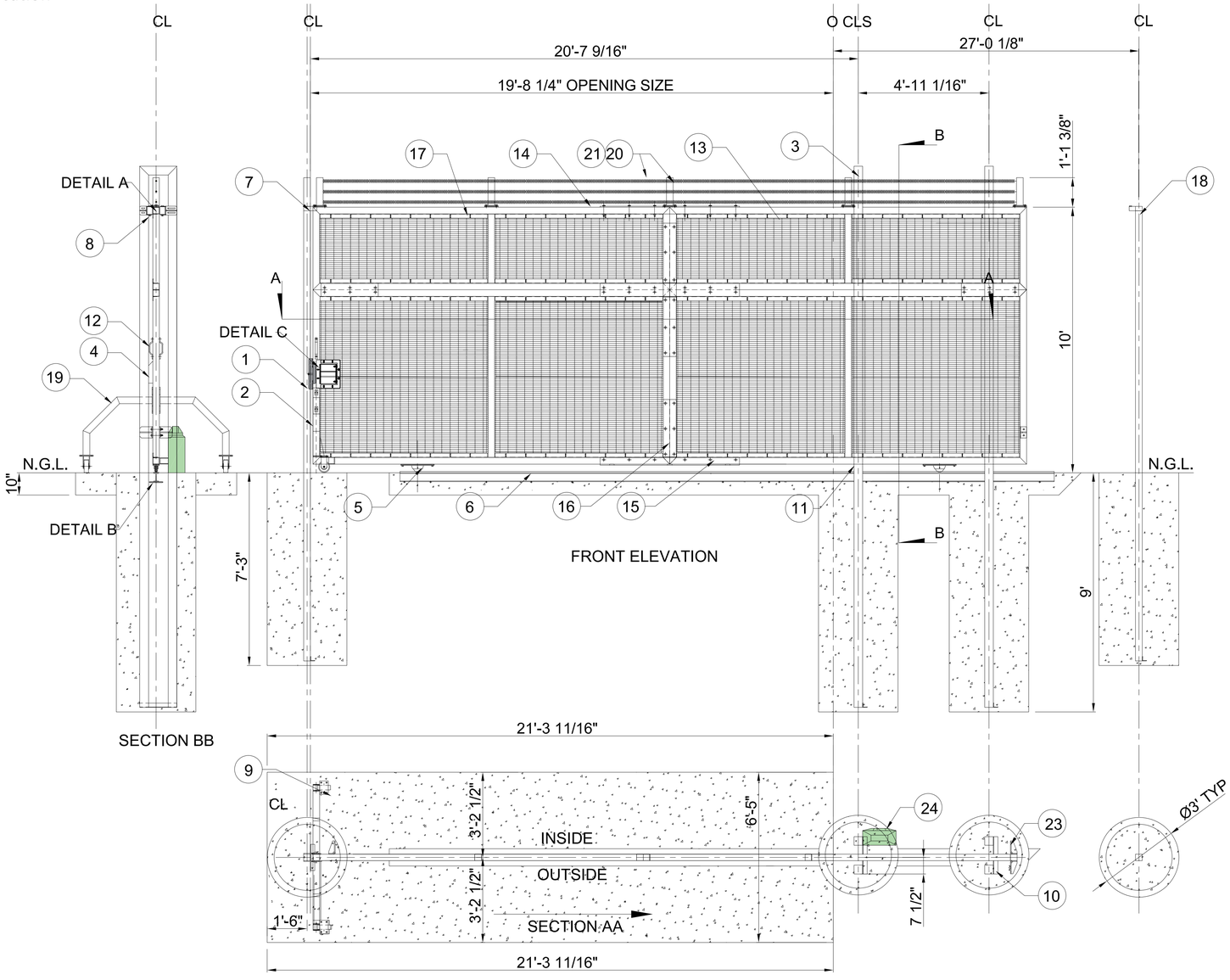
DETAIL A
SCALE 1:16



DETAIL B
SCALE 1:10



DETAIL C
SCALE 1:10



SPECIFICATION

BILL OF MATERIAL

NO#	ITEM	DESCRIPTION	QTY#
1	LOCK POST	SQUARE TUBE.	1
2	GATE FRAME	SQUARE TUBE.	3
3	PORTAL	SQUARE TUBE.	1
4	LOCKING DEVICE	T-SLIDE LOCK, WITH LOCK BOX: CSP-05-0001•74•00•02-18-A CSP-05-0001•74•00•02-18-B	1
5	GATE WHEEL	HD GATE WHEEL.	2
6	STD GATE RAIL	ROUND BAR, FIXED TO IPE.	1
7	GATE GUIDE	FLAT BAR.	1
8	GUIDE WHEEL	STD ROLLERS.	2
9	STOPPER	STPR2014_00_00	1
10	BASE PIN	ANGLE IRON.	2
11	ANTI-LIFT	ANT-L-BKT-00-00-00	1
12	HANDLE	GRAB HANDLE	2
13	MESH	CLEARVU SHUTTER MESH	8
14	JOINING PLATES	JOININGPLT-01-00-00-00	1
15	JOINING PLATES	JOININGPLT-02-00-00-00	2
16	JOINING PLATES	JOININGPLT-03-00-00-00	14
17	ANGLE IRON	ANGLE IRON TO SECURE MESH	16
18	CATCH POST	SQUARE TUBE	1
19	TRAINING WHEELS	BOLT-ON TRAINING WHEEL SET	1
20	TOPPING	3 STRAND RIBBON MESH	1
21	TOPPING EXT	SQUARE TUBE	5
22	PLATE	PIN PROTECTION PLATE	1
23	EMERGENCY STOPPER	BOLT ON STOPPER	1
24	MOTOR	MOTOR TO BE CONFIRMED	1

CONSTRUCTION UNIT: N6.5 & L15.1

ALL WORK ON THIS SHEET, UNLESS NOTED OTHERWISE, SHALL BE ASSOCIATED WITH CONSTRUCTION UNIT N6.5 & L15.1.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
J. GREG GRUSENDORF
P.E. #80199
01/21/2025

ISSUED FOR CONSTRUCTION

01-21-2025

SZENERGY
POWERED BY SCHNEIDER ENGINEERING
TEXAS REGISTRATION NUMBER F-1594

STATE OF TEXAS
J. GREG GRUSENDORF
80199
LICENSED
PROFESSIONAL ENGINEER

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DRAWN RHH
CHECKED RNF
APPROVED JGG

PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS

LACIMA SUBSTATION

SLIDING GATE
DETAILS

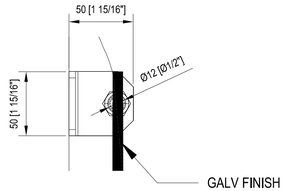
DATE 04–23
SCALE N/A
DWG. NO. 2S–195–E–209

23PEC60-R00000001633

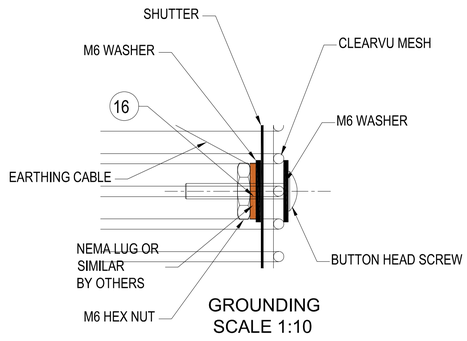
SEQ NO: 023

Pedestrian Gate - Technical Specification

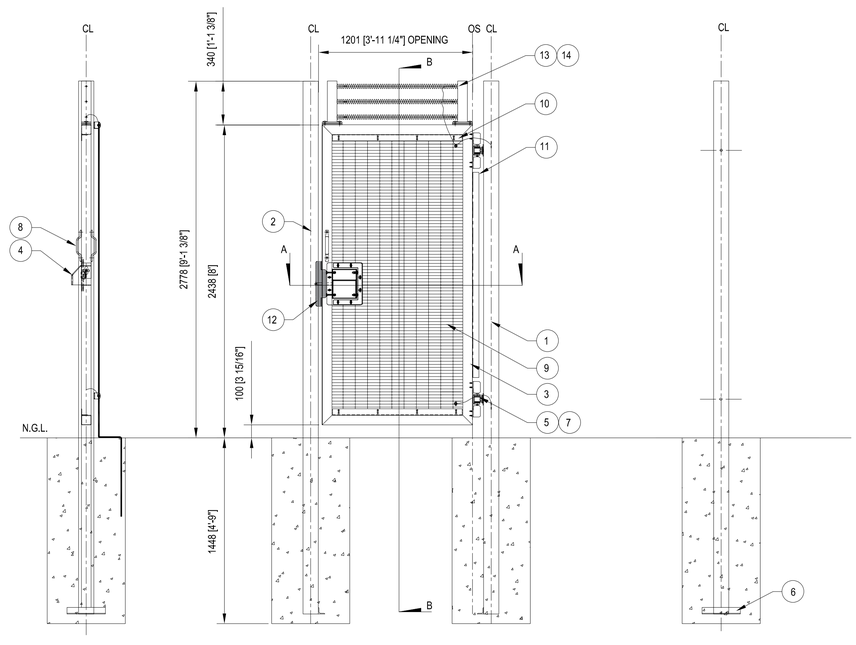
4' Wide x 8' High Gate



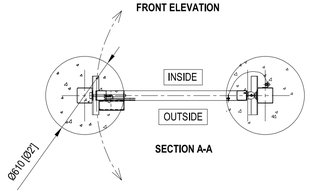
LUG DETAIL
SCALE 1:4



GROUNDING
SCALE 1:10

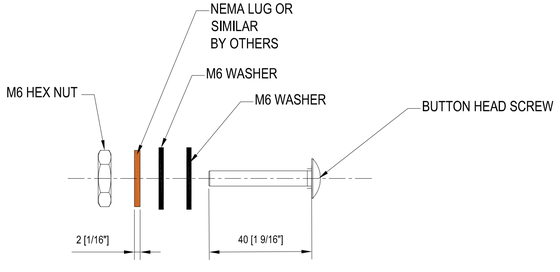


SECTION B-B

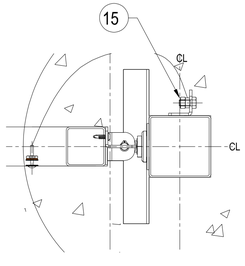


FRONT ELEVATION

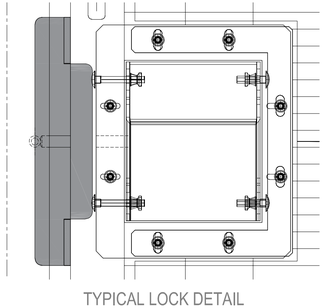
SECTION A-A



DETAIL OF
EARTHING IN
EXPLODED VIEW



TYPICAL HINGE DETAIL
SCALE 1:10



TYPICAL LOCK DETAIL
SCALE 1:10

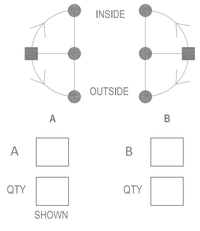
SPECIFICATIONS

BILL OF MATERIAL

NO#	ITEM	DESCRIPTION	QTY#
1	HINGE POST	SQUARE TUBE	1
2	LOCKING POST	SQUARE TUBE	1
3	GATE FRAME	SQUARE TUBE	1
4	LOCKING DEVICE	T-SLIDE LOCK, WITH LOCK BOX: CSP-05-0001•74•00•02-18-A CSP-05-0001•74•00•02-18-B	1
5	HINGE	LARGE HINGE: CSP-05-4861_M27•18-02-A-R02	2
6	BASE PIN	ANGLE IRON: CSP-05-0001•74•00•06-18-A-002	2
7	COVER PLATE	CSP-05-0001•74•00•01-18-B CSP-05-0001•74•00•01-18-C	4
8	HANDLE	GRAB HANDLE	2
9	MESH	CLEARVU SHUTTER MESH	1
10	ANGLE IRO N	ANGLE IRON TO SECURE MESH	2
11	ANGLE IRO N	ANTI TAMPERING ANGLE IRON	1
12	PLATE	PIN PROTECTION PLATE	1
13	TOPPING	3 STRAND RIBBON STRIP	1
14	TOPPING EXTENSION	SQUARE TUBE	2
15	LUG	GROUNDING LUG	4
16	EARTHING	**EARTHING MATERIAL SUPPLIED BY OTHERS**	-

OPENING DIRECTION TERMS AND CONDITIONS:
DEAR CLIENT, KINDLY TAKE NOTE THAT SHOULD THE OPENING DIRECTION OF THE GATE NOT BE CLEARLY INDICATED WE CONCLUDE THAT OPENING DIRECTION A IS ACCEPTED ON APPROVAL OF DRAWINGS.

OPENING DIRECTION:



CONSTRUCTION UNIT: N6.6

ALL WORK ON THIS SHEET, UNLESS NOTED OTHERWISE, SHALL BE ASSOCIATED WITH CONSTRUCTION UNIT N6.6.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
J. GREG GRUSENDORF
P.E. #80199
01/21/2025

STATE OF TEXAS
J. GREG GRUSENDORF
80199
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR CONSTRUCTION

01-21-2025

SZENERGY
POWERED BY SCHNEIDER ENGINEERING
TEXAS REGISTRATION NUMBER F-1594

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DRAWN RNF
CHECKED WSE
APPROVED JGG

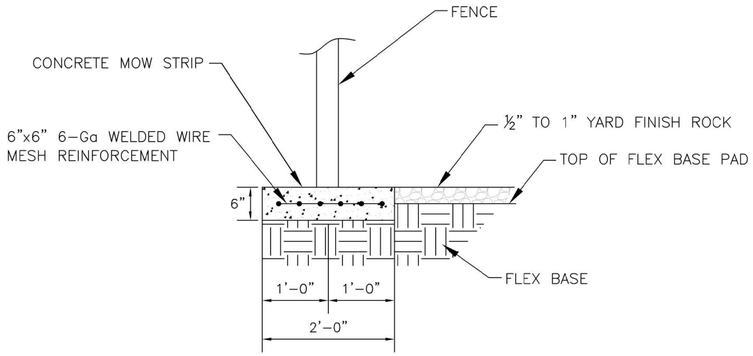
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

PEDESTRIAN GATE
DETAILS

DATE 09-24
SCALE N/A
DWG. NO. 2S-195-E-210

23PEC60-R00000001633

SEQ NO: 024



NOTES:

1. REINFORCING STEEL SHALL BE PER ASTM A185 SPECIFICATION.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
3. THE TESTED SLUMP VALUE SHOULD BE NO GREATER THAN 5" FOR THE SLAB.
4. CONTRACTOR SHALL VERIFY ALL QUANTITIES.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
J. GREG GRUSENDORF
P.E. #80199
01/21/2025

ISSUED FOR CONSTRUCTION

01-21-2025

SENERGY
POWERED BY SCHNEIDER ENGINEERING
TEXAS REGISTRATION NUMBER F-1594

STATE OF TEXAS
J. GREG GRUSENDORF
80199
LICENSED PROFESSIONAL ENGINEER

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CHECKED JGG
APPROVED JGG

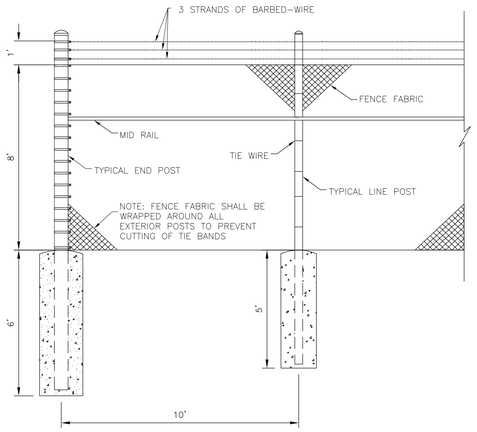
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

CONCRETE
MOW STRIP DETAILS

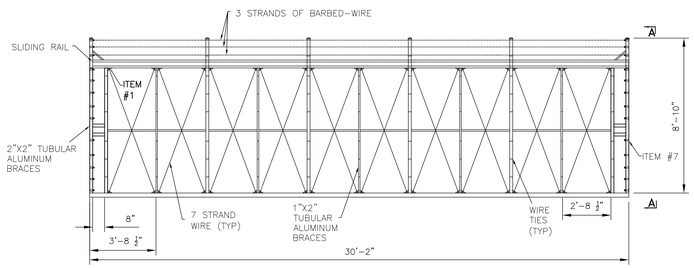
DATE 10–14–2024
SCALE 1" = 1'–0"
DWG. NO. 2S–195–E–211

23PEC60-R00000001633

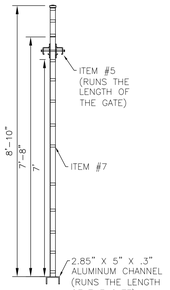
SEQ NO: 025



TYPICAL FENCE SECTION

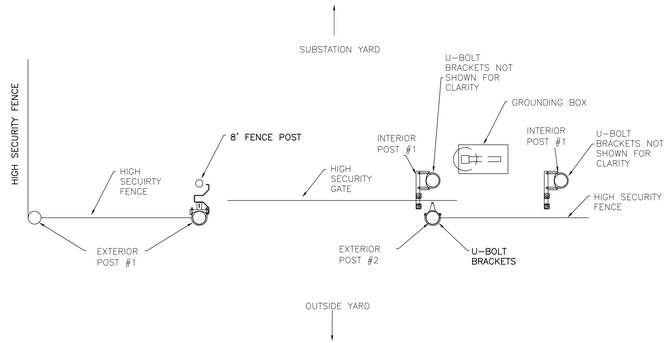


FRONT VIEW

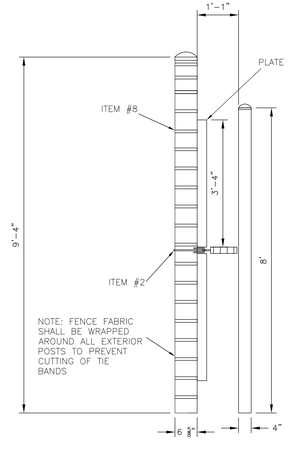


SECTION A-A

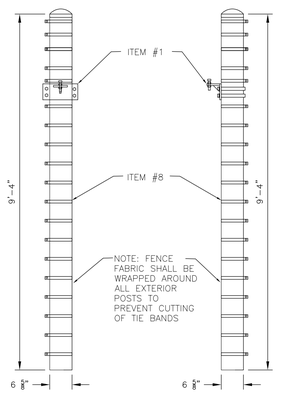
TYPICAL FENCE SECTION



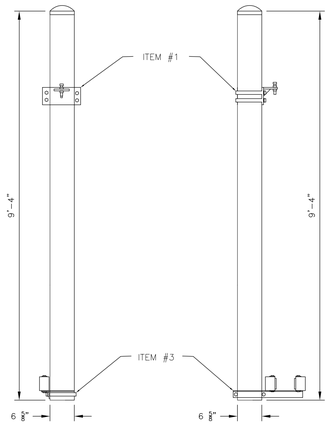
POLE LAYOUT



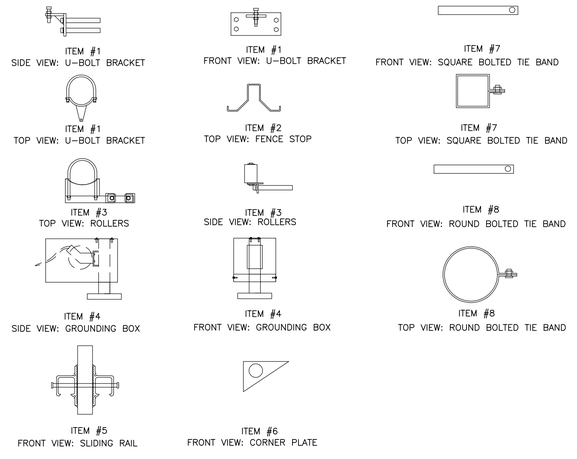
EXTERIOR POST #1



EXTERIOR POST #2



INTERIOR POST #1



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY: J. GREG GRUSENDORF P.E. #80199 01/21/2025

ISSUED FOR CONSTRUCTION

01-21-2025

SZENERGY
POWERED BY SCHNEIDER ENGINEERING
TEXAS REGISTRATION NUMBER F-1594

STATE OF TEXAS — J. GREG GRUSENDORF — 80199 — LICENSED PROFESSIONAL ENGINEER

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CHECKED RNF
APPROVED JGG

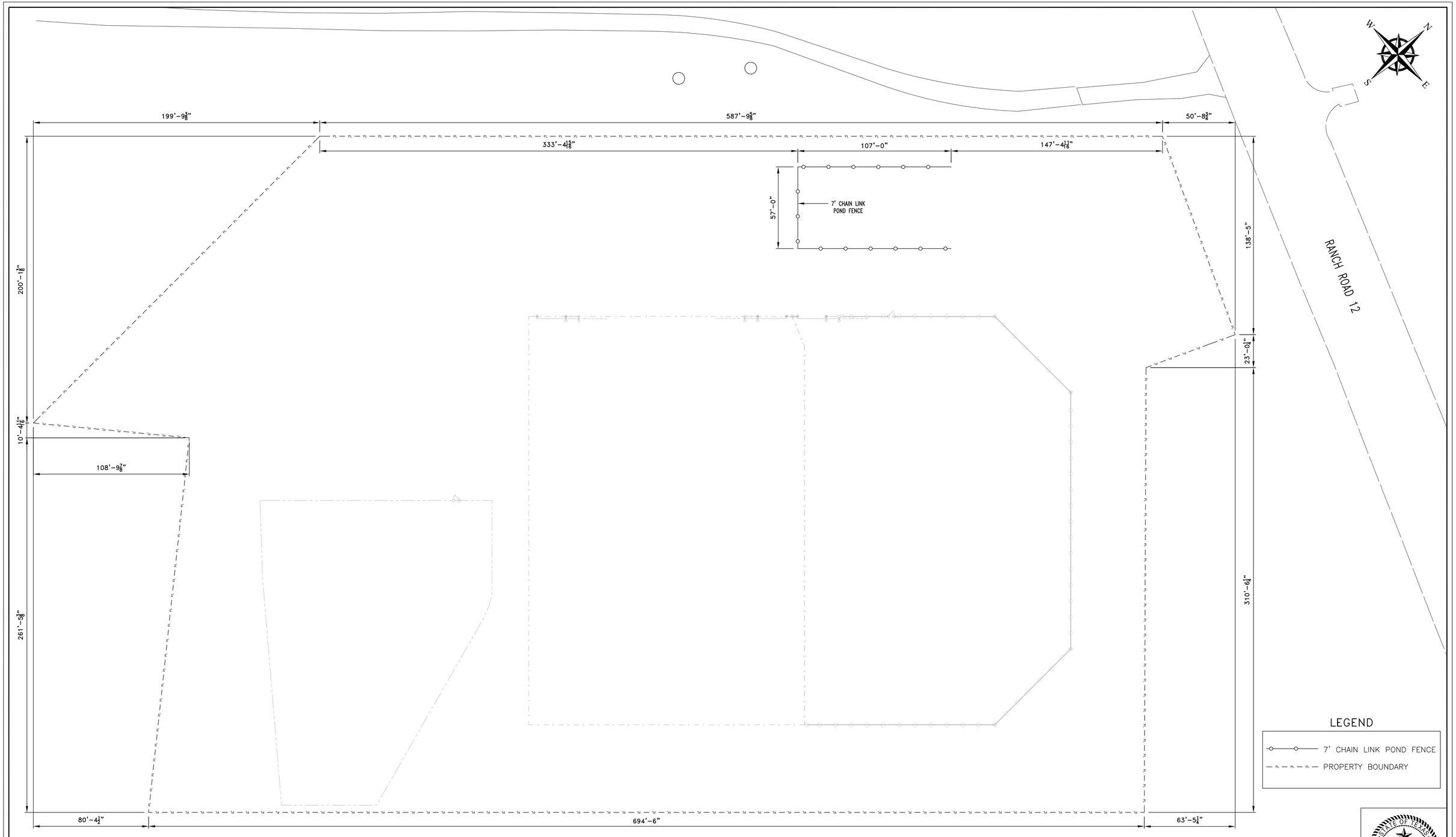
PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

8' LCRA HIGH SECURITY FENCE DETAILS

DATE 01-25
SCALE N.T.S.
DWG. NO. 2S-195-E-212

23PEC60-R00000001633

SEQ NO: 026



LEGEND

7' CHAIN LINK POND FENCE

PROPERTY BOUNDARY

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY: J. GREG GRUSENDORF P.E. #80199 01/21/2025

ISSUED FOR CONSTRUCTION

01-21-2025

SENERGY
POWERED BY SCHNEIDER ENGINEERING
TEXAS REGISTRATION NUMBER F-1594

STATE OF TEXAS
J. GREG GRUSENDORF
80199
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PROFESSIONAL ENGINEER

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CHECKED RGG
APPROVED JGG

PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

7' CHAIN LINK POND FENCE LAYOUT

DATE 04-24
SCALE 1"=30'-0"
DWG. NO. 2S-195-E-213

23PEC60-R00000001633

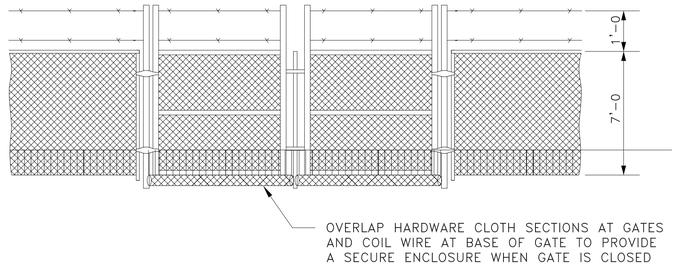
SEQ NO: 027

DANGER SIGNAGE
(UTICOM U1114DP-G, TYP.)

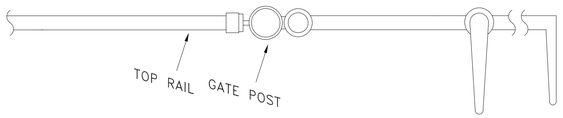
SIGNAGE

1. DANGER SIGNS MEETING CURRENT NESC REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT EACH ENTRANCE AND ALONG THE FENCE ON EACH SIDE EVENLY SPACED AT INTERVALS OF NO MORE THAN 50 FEET. DANGER SIGNS SHALL BE PLACED 5'10" ABOVE FINAL GRADE. DANGER SIGNS SHALL BE UTICOM U1114DP-G, BILINGUAL SIGNS THAT READ, "DANGER HIGH VOLTAGE INSIDE. KEEP OUT! WILL SHOCK, BURN OR CAUSE DEATH" IN ENGLISH AND SPANISH.

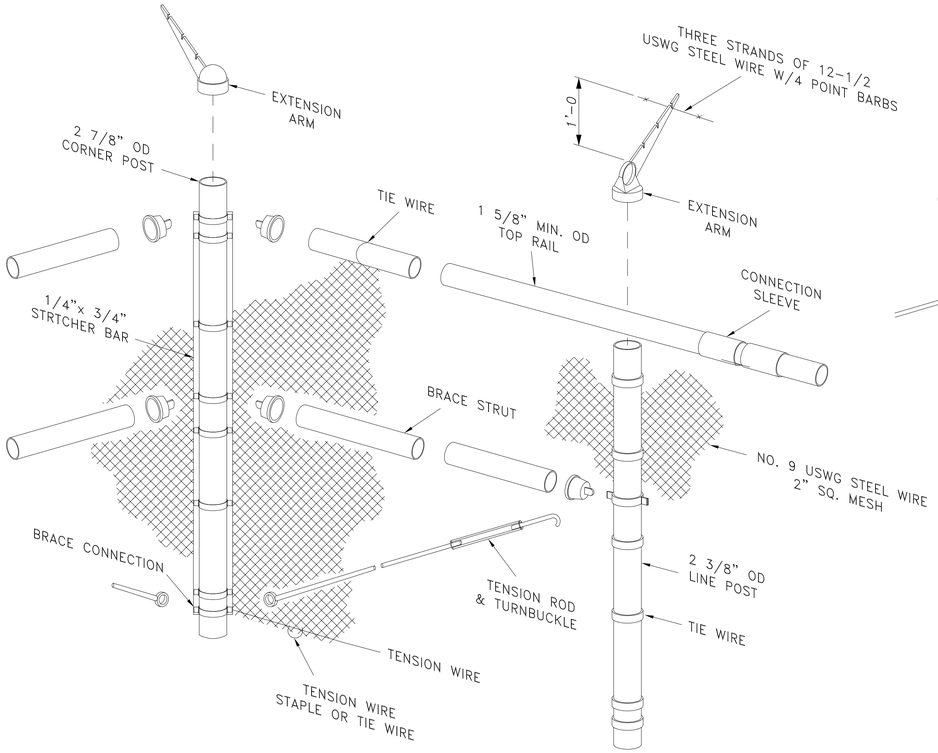
2. ALL ENTRY SIGNAGE SHOULD BE PROVIDED AND INSTALLED BY CONTRACTOR. COORDINATE WITH OWNER FOR INFORMATION.



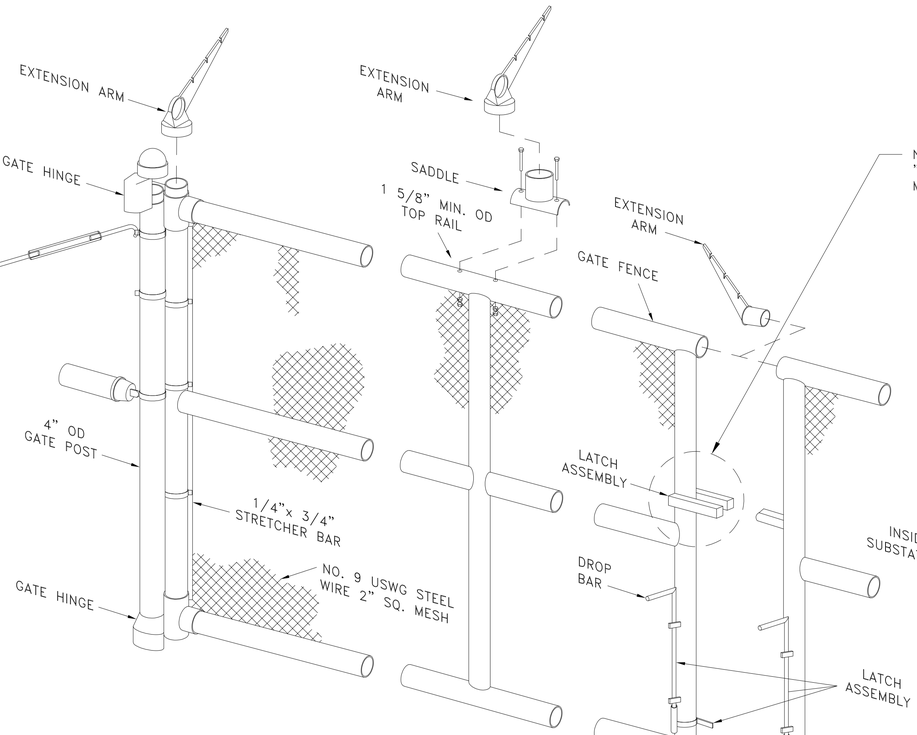
TYPICAL FENCE ELEVATION



TYPICAL GATE PLAN VIEW



TYPICAL FENCE COMPONENT ARRANGEMENT
(POST TYPES SHOWN ARE ILLUSTRATIVE ONLY)
(HARDWARE CLOTH NOT SHOWN)



TYPICAL GATE ARRANGEMENT
(POST TYPES SHOWN ARE ILLUSTRATIVE ONLY)
(HARDWARE CLOTH NOT SHOWN)

TYPICAL FENCE SECTION

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
J. GREG GRUSENDORF
P.E. #80199
01/21/2025

ISSUED FOR CONSTRUCTION
01-21-2025

SENERGY
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TEXAS REGISTRATION NUMBER F-1594

STATE OF TEXAS
J. GREG GRUSENDORF
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APPROVED JGG

PEDERNALES ELECTRIC COOPERATIVE, INC.
JOHNSON CITY, TEXAS
LACIMA SUBSTATION

7' CHAIN LINK
POND FENCE DETAILS

DATE 01-25
SCALE N.T.S.
DWG. NO. 2S-195-E-214

23PEC60-R00000001633

SEQ NO: 028

Permanent 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)(C), (D)(Ii), (E), and (5), 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 **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Greg Ulcak, PE

Date: 11/14/24

Signature of Customer/Agent

Regulated Entity Name: PEC La Cima Substation

Permanent Best Management Practices (BMPs)

Permanent best management practices and measures that will be used during and after construction is completed.

1. [X] Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   [ ] N/A

2. [X] 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.

   [X] 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

3. ☒ 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

4. 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.

5. 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 A - 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.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

- [X] 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.

7. [X] **Attachment C - BMPs for On-site Stormwater**.

   - [X] 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.

8. [ ] **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

   [X] N/A

9. [X] The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

   - [X] The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
   - [ ] **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. [X] **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

    - [X] Design calculations (TSS removal calculations)
    - [X] TCEQ construction notes
    - [X] All geologic features
    - [X] All proposed structural BMP(s) plans and specifications

    [ ] N/A

11. [X] **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    [X] Prepared and certified by the engineer designing the permanent BMPs and measures
    [X] Signed by the owner or responsible party
    [X] Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    [X] A discussion of record keeping procedures

    [ ] N/A

12. [ ] **Attachment H - 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.

    [X] N/A

13. [ ] **Attachment I -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 results in water quality degradation.

    [X] N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. [X] 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.

    [ ] N/A

15. [X] 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.

    [ ] N/A

2701 RANCH ROAD 12 WPAP

ATTACHMENT B: BMPs FOR UPGRADIENT STORMWATER

Upgradient water is made up of sheet flow and shallow concentrated flow across undeveloped area as shown in the Construction Documents, Sheets C-110. These areas are routed around the developed portion of the site in new ditches and captured in the proposed pond. Undeveloped areas that do not get routed to the pond will drain to existing ditched along the existing drive and/or routed directly to the ditch along RR12.

ATTACHMENT C: BMPs FOR ON-SITE STORMWATER

On-site stormwater will travel as sheet flow, shallow concentrated flow, ditches or across pervious areas before being collected sedimentation/filtration and detention pond. After treatment, the flows will exit the detention pond to the drainage ditch along RR 12. All runoff will be released from the site and eventually drain into the Sink Creek.

TCEQ-0600 ATTACHMENTS A & B: BMPS FOR UPGRADIENT AND ON_SITE STORMWATER

2701 RANCH ROAD 12 WPAP

ATTACHMENT G - INSPECTION, INSPECTION, REPAIR, & RETROFIT

The following guidelines should be used for the maintenance plan for permanent BMPs.

- ***During Construction.*** The ponds shall be rough graded at 100% capacity. Either the permanent outlet or a temporary outlet must be constructed prior to development of embankment or excavation that leads to ponding conditions. The outlet system must consist of a sump pit outlet and an emergency spillway meeting the requirements of the City of Austin Drainage and/or Environmental Criterial manual.

  Prior to site completion, the ponds shall be fully constructed and stabilized to minimize sediment loads. The basins shall become operational prior to first occupancy. Until all the construction within the basin's drainage area has been completed and exposed earth stabilized, the basin will be inspected weekly and after all rain events.

- ***Mowing.*** Grassy side-slopes & embankments of the sedimentation and detention basins should be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least twice annually, or more frequently if vegetation exceeds 18 inches in height. When mowing is performed, a mulching mower should be used or grass clippings should be caught and removed. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

- ***Inspections.*** Inspections should take place a minimum of twice a year to evaluate facility operation. One inspection should take place during or immediately following wet weather to determine if the basin is meeting the target detention time. The remaining inspections should occur between storm events. The filtration sand bed shall be inspected for excess sediment. The inlet and outlet structure should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet as described in previous sections. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired/revegetated immediately. Cracks, voids, and undermining should be patched/filled to prevent additional structural damage. The inspections should be carried out with as-built pond plans in hand.

- ***Sediment Removal.*** A properly designed pond will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with level sensor operation. Sediment shall be removed from the filtration sand bed and basin at least every 5 years, or when sediment depth exceeds 6 inches (or 12 inches during construction).

- ***Debris and Litter Removal.*** As part of periodic mowing operations and inspections,

debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the inlet and outlet structure. These items should be checked for possible clogging.

- ***Erosion Control.*** The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.

- ***Nuisance Control.*** Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

- ***Maintenance Access.*** Maintenance will be performed by maintenance personnel from within the basins. Maintenance equipment and materials to be removed will be hoisted in and out of the basins via buckets using applicable mechanical equipment.

Non-Routine Maintenance

- ***Structural Repairs and Replacement.*** With each inspection, any damage to structural elements of the basin (pipes, sand filtration, concrete drainage structures) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Record Keeping

- ***Routine and Storm Event.*** Owner will keep a record of both routine and non-routing inspections. Additionally, all maintenance and repairs shall be detailed. This record shall be available for review and inspection by TCEQ upon request.

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

I Christian Powell,
Print Name

Chief Compliance Officer,
Title - Owner/President/Other

of Pedernales Electric Cooperative,
Corporation/Partnership/Entity Name

have authorized Greg Ulcak, PE
Print Name of Agent/Engineer

of Civil Land Group, 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:

Christian Powell
Applicant's Signature

10-10-2024
Date

THE STATE OF Texas §

County of Blanco §

BEFORE ME, the undersigned authority, on this day personally appeared Christian Powell 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 10 day of October, '24.

Christina Gonzales
NOTARY PUBLIC

CHRISTINA GONZALES
Notary Public, State of Texas
Notary ID# 13339029-4
My Commission Expires
OCTOBER 22, 2025

Christina Gonzales
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: October 22, 2025

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: PEC La Cima Substation
Regulated Entity Location: 2701 Ranch Road 12, San Marcos, Texas 78666
Name of Customer: Pedernales Electric Cooperative, LLC
Contact Person: Greg Ulcak, PE Phone: 512-423-1916
Customer Reference Number (if issued):CN CN601327927
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

[X] Hays [ ] Travis [ ] Williamson

San Antonio Regional Office (3362)

[ ] Bexar [ ] Medina [ ] Uvalde
[ ] Comal [ ] Kinney

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

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

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

Site Location (Check All That Apply):

[X] 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	7.5 Acres	$ 5,000
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	$
Extension of Time	Each	$

Signature: Greg Ulcak Date: 11/14/24

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number (*if issued*)	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** (*if issued*)
CN 601327927		**RN**

SECTION II: Customer Information

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

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

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

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

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

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

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☐ **Yes** ☐ **No**

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

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

15. Mailing Address:							
	City		**State**		**ZIP**	**ZIP + 4**	

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

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

( ) -		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	2701 Ranch Road 12							
	City	San Marcos	**State**	TX	**ZIP**	78666	**ZIP + 4**	
24. County	Hays							

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

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

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

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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

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

Electric Substation

34. Mailing Address:	**303 Colorado Street, Suite 2300**							
	c/o Bryan Lee							
	City	**Austin**	**State**	**TX**	**ZIP**	**78701**	**ZIP + 4**	
35. E-Mail Address:								

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

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

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

SECTION IV: Preparer Information

40. Name:	Civil Design Group (Greg Ulcak, PE)	**41. Title:**	Authorized Agent

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 423-1916		( ) -	gulcak@civlndgrp.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:	Civil Design Group (on behalf of Pedernales Electric Cooperative, INC)	**Job Title:**	
Name *(In Print):*	Greg Ulcak, PE	**Phone:**	(512) 423- **1916**
Signature:	Greg Ulcak	**Date:**	11/14/24