Comal County Environmental Health
OSSF Inspection Sheet

Installer Name: Countryside **OSSF Installer #:** OS0002929

1st Inspection Date: 9/12/25 **2nd Inspection Date:** _____ **3rd Inspection Date:** _____

Inspector Name: Corey Allen **Inspector Name:** _____ **Inspector Name:** _____

Permit#: 118344 **Address:** 7100 US Hwy 281 N

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
1	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Site and Soil Conditions Consistent with Submitted Planning Materials	X	285.31(a) 285.30(b)(1)(A)(iv) 285.30(b)(1)(A)(v) 285.30(b)(1)(A)(iii) 285.30(b)(1)(A)(ii) 285.30(b)(1)(A)(i)		X		
2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards	X	285.91(10) 285.30(b)(4) 285.31(d)		X		
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)	X	285.32(a)(1)		X		
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot	X	285.32(a)(3)		X		
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)	X	285.32(a)(5)		X		
6	PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(G) 285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(iv) 285.32(b)(1)(F) 285.32(b)(1)(B) 285.32(b)(1)(C)(i) 285.32(b)(1)(C)(ii) 285.32(b)(1)(D) 285.32(b)(1)(E) 285.32(b)(1)(A) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(i) 285.32(b)(1)(E)(ii)(I)				
7	PRETREATMENT Grease Interceptors if required for commercial		285.34(d)				

Inspector Notes: **9/12/25 CA: Revision showing tight lines plumber installed. Tanks level no leaks cover**

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OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
8	SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If SingleTank, 2Compartments Provided withBaffle SEPTIC TANK Inlet Flowline Greater than3" and " T " Provided on Inlet and OutletSEPTIC TANK Septic Tank(s) MeetMinimum Requirements		285.32(b)(1) (E)285.91(2)285.32(b)(1) (F)285.32(b)(1)(E) (iii)285.32(b)(1)(E)(ii) (II)285.32(b)(1)(E)(ii) (I)285.32(b)(1)(E) (i)285.32(b)(1) (D)285.32(b)(1)(C) (ii)285.32(b)(1)(C) (i)285.32(b)(1) (B)285.32(b)(1) (A)285.32(b)(1)(E)(iv)				
9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used	x	285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)		x		
10	SEPTIC TANK Inspection / Clean Out Port & Risers Provided on Tanks Buried Greater than 12" Sealed and Capped		285.38(d)				
11	SEPTIC TANK Secondary restraint system providedSEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions		285.38(d) 285.38(e)				
12	SEPTIC TANK Tank Volume Installed			3000			
13	PUMP TANK Volume Installed			6000			
14	AEROBIC TREATMENT UNIT Size Installed	x		800	x		
15	AEROBIC TREATMENT UNIT Manufacturer AEROBIC TREATMENT UNIT Model Number	x x		NuWater	x x		
16	DISPOSAL SYSTEM Absorptive		285.33(a)(4) 285.33(a)(1) 285.33(a)(2) 285.33(a)(3)				
17	DISPOSAL SYSTEM Leaching Chamber		285.33(a)(1) 285.33(a)(3) 285.33(a)(4) 285.33(a)(2)				
18	DISPOSAL SYSTEM Drip Irrigation	x	285.33(c)(3)(A)-(F)		x		

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
32	EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0% EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field (1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom) EFFLUENT DISPOSAL SYSTEM Lateral Depth of 18 inches to 3 ft. & Vertical Separation of 1ft on bottom and 2 ft. to restrictive horizon and ground water respectfully EFFLUENT DISPOSAL SYSTEM Lateral Drain Pipe (1.25 - 1.5" dia.) & Pipe Holes (3/16 - 1/4" dia. Hole Size) 5 ft. Apart		285.33(b)(3)(A) 285.33(b)(3)(A) 285.33(b)(3) (B)285.91(13) 285.33(b)(3)(D) 285.33(b)(3)(F)				
33	AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.	X	285.32(c)(1)		X		
34	AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided AEROBIC TREATMENT UNIT Secondary restraint system provided AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions	X X X			X X X		
35	AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.	X			X		
36	PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction PUMP TANK Sampling Port Provided in the Treated Effluent Line PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump						
37	PUMP TANK Inspection/Clean Out Port & Risers Provided PUMP TANK Secondary restraint system provided PUMP TANK Riser permanently fastened to lid or cast into tank PUMP TANK Riser cap protected against unauthorized intrusions						
38	PUMP TANK Secondary restraint system provided						
39	PUMP TANK Electrical Connections in Approved Junction Boxes / Wiring Buried	X					

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
40	APPLICATION AREA Distribution Pipe, Fitting, Sprinkler Heads & Valve Covers Color Coded Purple?	X	285.33(d)(2)(G)(iii)(II) 285.33(d)(2)(G)(iii)(III) 285.33(d)(2)(G)(v) 285.33(d)(2)(G)(iii) 285.33(d)(2)(G)(iv) 285.33(d)(2)(G)(i) 285.33(d)(2)(G)(ii) 285.33(d)(2)(G)(iii)(I)				
41	APPLICATION AREA Low Angle Nozzles Used / Pressure is as required APPLICATION AREA Acceptable Area, nothing within 10 ft of sprinkler heads? APPLICATION AREA The Landscape Plan is as Designed	X X	285.33(d)(2)(G) (i)285.33(d)(2) (A)285.33(d)(2)(F)				
42	APPLICATION AREA Area Installed	X					
43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						

Special Permit Conditions on Next Page

COMAL COUNTY
ENGINEER'S OFFICE

Permit of Authorization to Construct an On-Site Sewage Facility
Permit Valid For One Year From Date Issued

Permit Number:	118344
Issued This Date:	03/11/2025
This permit is hereby given to:	Community Bible Church of Bulverde

To start construction of a private, on-site sewage facility located at:

7100 US HWY 281 N
SPRING BRANCH, TX 78070

Subdivision:	CBCB
Unit:	-
Lot:	1
Block:	1
Acreage:	4.0000

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System:	Aerobic
	Drip Irrigation

This permit gives permission for the construction of the above referenced on-site facility to commence. Installation must be completed by an installer holding a valid registration card from the Texas Commission on Environmental Quality (TCEQ). Installation and inspection must comply with current TCEQ and Comal County requirements.

Call (830) 608-2090 to schedule inspections.

March 11, 2025

COMAL COUNTY
ENGINEER'S OFFICE

RE: ***7100 US HWY 281***
CBCB
Lot 1 – Block 1

Special Permit Conditions for Permit 118344

(Beginning at License to Operate)

A flow meter will be installed on the outflow line of the pump tank. As a condition of the License to Operate readings from this meter must be taken daily and recorded. The recorded daily readings must be submitted to the Comal County Environmental Health Office monthly beginning 30 days after the issuance of the License to Operate and continuing monthly every 30 days for 12 consecutive months. Failure to provide the required meter readings every month as indicated, or if at any time the daily meter readings are shown to exceed the total permitted flow of 3500 gallons per day, the License to Operate will be void and a new permit must be obtained.

If you have any questions, you can email me or call the office.

Thank You,

| **Brandon Olvera** | **Designated Representative OS0034792** |

| Comal County | www.cceo.org | f: 830-608-2078 | e: olverb@co.comal.tx.us |

195 David Jonas Dr, New Braunfels, Texas 78132 - Phone (830) 608-2090

RECEIVED
By Kathy Griffin at 1:44 pm, Jan 31, 2025

COMAL COUNTY
ENGINEER'S OFFICE

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded items

		118344
Date Received	*Initials*	*Permit Number*

Instructions:

Place a check mark next to all items that apply. For items that do not apply, place "N/A". This OSSF Development Application Checklist **must** accompany the completed application.

OSSF Permit

- [X] Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate
- [X] Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer
- [X] Planning Materials of the OSSF as Required by the TCEQ Rules for OSSF Chapter 285. Planning Materials shall consis of a scaled design and all system specifications.
- [X] Required Permit Fee - See Attached Fee Schedule
- [X] Copy of Recorded Deed
- [X] Surface Application/Aerobic Treatment System
  - [X] Recorded Certification of OSSF Requiring Maintenance/Affidavit to the Public
  - [X] Signed Maintenance Contract with Effective Date as Issuance of License to Operate

I affirm that I have provided all information required for my OSSF Development Application and that this application constitutes a completed OSSF Development Application.

Signature of Applicant

1/28/2025
Date

___ COMPLETE APPLICATION

Check No. _____ Receipt No._____

INCOMPLETE APPLICATION
___ (Missing Items Circled, Application Refused)

Revised: September 2019

COMAL COUNTY

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 7813
(830) 608-2090
WWW.CCEO.ORG

Date 12/18/24

Permit Number 118344

1. APPLICANT / AGENT INFORMATION

Community Bible Church of Bulverde

Owner Name	~~HOME CHURCH Texas~~	Agent Name	Stephen Jetton
Mailing Address	PO BOX 249	Agent Address	2573 Deer Stand Loop
City, State, Zip	SPRING BRANCH, TX, 78070	City, State, Zip	San Marcos TX 78666
Phone #	830-228-5654	Phone #	512-757-1259
Email	Mike@homechurchtx.com	Email	stephen.jetton@gmail.com

2. LOCATION

Subdivision Name CBCB Unit _____ Lot 1 Block 1

Survey Name / Abstract Number ABS 140450 Acreage 4.00

Address 7100 US Hwy 281 City Spring Branch State TX Zip 78070

3. TYPE OF DEVELOPMENT

☐ Single Family Residential

Type of Construction (House, Mobile, RV, Etc.) _____

Number of Bedrooms _____

Indicate Sq Ft of Living Area _____

☒ Non-Single Family Residential

(Planning materials must show adequate land area for doubling the required land needed for treatment units and disposal area)

Type of Facility Church Remodel

Offices, Factories, Churches, Schools, Parks, Etc. - Indicate Number Of Occupants 875

Restaurants, Lounges, Theaters - Indicate Number of Seats NA

Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds NA

Travel Trailer/RV Parks - Indicate Number of Spaces NA

Miscellaneous No food preparation. Only restroom use.

Estimated Cost of Construction: $ 350000.00 (Structure Only)

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

☐ Yes ☐ No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water ☒ Public ☐ Private Well ☐ Rainwater

4. SIGNATURE OF OWNER

By signing this application, I certify that:

- The completed application and all additional information submitted does not contain any false information and does not conceal any materia facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews requir by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Signature of Owner _____ Date 12/19/24

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 781
(830) 608-2090
WWW.CCEO.ORG

Planning Materials & Site Evaluation as Required Completed By Stephen Jetton

System Description Aerobic Drip

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 3000 Trash 6000 EQ 800GPDATU Absorption/Application Area (Sq Ft) 5040

Gallons Per Day (As Per TCEQ Table III) 3500

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? ☐ Yes ☒ No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

Is there at least one acre per single family dwelling as per 285.40(c)(1)? ☒ Yes ☐ No

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will no be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? ☒ Yes ☐ No

Is there an existing TCEQ approval CZP for the property? ☐ Yes ☒ No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? ☐ Yes ☒ No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Signature of Designer

1/28/2025
Date

202506002561 01/28/2025 09:46:38 AM 1/1

AFFIDAVIT TO THE PUBLIC

THE COUNTY OF COMAL
STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality Rules for On-Site Sewage Facilities (OSSF's), this document is filed in the Deed Records of Comal County, Texas.

I

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (commission) to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the commission primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The commission, under the authority of the TWC and the Texas Health and Safety code, requires owner's to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the commission requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the commission of the suitability of this OSSF, nor does it constitute any guarantee by the commission that the appropriate OSSF was installed.

II

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as **(insert legal description):** _____

CRCB Block 1 Lot 1 ABS 140450
4.00 - ACRES

The property is owned by **(insert owner's full name):** Home Church Texas
WILLIAM R. MICALE

This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two-year service policy, the owner of an aerobic treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from the Comal County Engineer's Office.

WITNESS BY HAND(S) ON THIS 19 DAY OF December, 2024

WILLIAM R. MICALE

Owner(s) signature(s)

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 19 DAY OF December, 2024

Notary Public, State of Texas

JESSICA MILLS
Notary ID #130131267
My Commission Expires
March 18, 2025

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
01/28/2025 09:46:38 AM
MARY 1 Page(s)
202506002561

Bobbie Koepp

WASTEWATER TREATMENT FACILITY MONITORING AGREEMENT

Regulatory Authority_____
Block Creek Aerobic Services, LLC
444 A Old Hwy #9
Comfort, TX 78013
Off. (830) 995-3189
Fax. (830) 995-4051

Permit/License Number_____
Customer HOME CHURCH (MIKE ANDREWS)
Site Address 7100 HWY 281 N.
City SPRING BRANCH **Zip** 78070
Mailing Address PO BOX 249 SPRING BRANCH TX 78070
County COMAL **Map #**_____
Phone 830-228-9654
Email MIKE@HOMECHURCHTX.COM

I. General: This Work for Hire Agreement (hereinafter referred to as "Agreement") is entered into by and between _____ (hereinafter referred to as "Customer") and Block Creek Aerobic Services, LLC. By this agreement, Block Creek Aerobic Services, LLC and its employees (hereinafter inclusively referred to as "Contractor") agree to render services at the site address stated above, as described herein, and the Customer agrees to fulfill his/her/their responsibilities, as described herein.

II. Effective Date:

This Agreement commences on _____ and ends on _____ for a total of two (2) years (initial agreement) or one (1) year (thereafter). If this is an initial agreement (new installation), the Customer shall notify the Contractor within two (2) business days of the system's first use to establish the date of commencement. If no notification is received by Contractor within ninety (90) days after completion of installation or where county authority mandates, the date of commencement will be the date the "License to operate" (Notice of Approval) was issued by the permitting authority. This agreement may or may not commence at the same time as any warranty period of installed equipment, but in no case shall it extend the specified warranty.

III. Termination of Agreement:

This Agreement may be terminated by either party for any reason, including for example, substantial failure of either party to perform in accordance with the terms of this Agreement, without fault or liability of the terminating party. The terminating party must provide written notice to the non-terminating party thirty (30) days prior to the termination of this Agreement. If this Agreement is terminated, Contractor will be paid at the rate of $75.00 per hour for any work performed and for which compensation has not been received. After the deduction of all outstanding charges, any remaining monies from prepayment for services will be refunded to customer within thirty (30) days of termination of this Agreement. Either party terminating this Agreement for any reason, including non-renewal, shall notify in writing the equipment manufacturer and the appropriate regulatory agency a minimum of thirty (30) days prior to the date of such termination. Nonpayment of any kind shall be considered breach of contract and a termination of contract.

IV. Services:

Contractor will:

a. Inspect and perform routine upkeep on the On-Site Sewage Facility (hereinafter referred to as OSSF) as recommended by the treatment system manufacturer, and required by state and/or local regulation, for a total of three visits to site per year. The list of items checked at each visit shall be the: control panel, Electrical circuits, timer, Aeration including compressor and diffusers, CFM/PSI measured, lids safety pans, pump, compressor, sludge levels, and anything else required as per the manufacturer.

b. Provide a written record of visits to the site by means of an inspection tag attached to or contained in the control panel.

c. Repair or replace, if Contractor has the necessary materials at site, any component of the OSSF found to be failing or inoperative during the course of a routine monitoring visit. If such services are not covered by warranty, and the service(s) cost less than $100.00, Customer hereby authorizes Contractor to perform the service(s) and bill Customer for said service(s). When service costs are greater than $100.00, or if contractor does not have the necessary supplies at the site, Contractor will notify Customer of the required service(s) and the associated cost(s). Customer must notify Contractor of arrangements to affect repair of system with in two (2) business days after said notification.

d. Provide sample collection and laboratory testing of TSS and BOD on a yearly basis (commercial systems only).

e. Forward copies of this Agreement and all reports to the regulatory agency and the Customer.

f. Visit site in response to Customer's request for unscheduled services within forty-eight (48) hours of the date of notification (weekends and holidays excluded) of said request. Unless otherwise covered by warranty, costs for such unscheduled responses will be billed to Customer.

V. Disinfection:

NA

RC

Customer's Initials

Contractor's Initials

_____Not required; X required. The responsibility to maintain the disinfection device(s) and provide any necessary chemicals is that of the Customer.

VI. Electronic Monitoring:

Electronic Monitoring is not included in this Agreement.

VII. Performance of Agreement:

Commencement of performance by Contractor under this Agreement is contingent on the following conditions:

a. If this is an initial Agreement (new installation):

I. Contractor's receipt of a fully executed original copy or facsimile of this agreement and all documentation requested by Contractor.

If the above conditions are not met, Contractor is not obligated to perform any portion of this Agreement.

VIII. Customer's Responsibilities:

The customer is responsible for each and all of the following:

a. Provide all necessary yard or lawn maintenance and removal of all obstacles, including but not limited to dogs and other animals, vehicles, trees, brush, trash, or debris, as needed to allow the OSSF to function properly, and to allow Contractor safe and easy access to all parts of the OSSF.

b. Protect equipment from physical damage including but not limited to that damage caused by insects.

c. Maintain a current license to operate, and abide by the conditions and limitations of that license, and all requirements for and OSSF from the State and/or local regulatory agency, whichever requirements are more stringent, as well as the proprietary system's manufacturer recommendations.

d. Notify Contactor immediately of any and all alarms, and/or any and all problems with, including failure of, the OSSF.

e. Provide, upon request by Contractor, water usage records for the OSSF so that the Contractor can perform a proper evaluation of the performance of the OSSF.

f. Allow for samples at both the inlet and outlet of the OSSF to be obtained by Contractor for the purpose of evaluating the OSSF's performance. If these samples are taken to a laboratory for testing, with the exception of the service provided under Section IV (d) above, Customer agrees to pay Contractor for the sample collection and transportation, portal to portal, at a rate of $35.00 per hour, plus the associated fees for laboratory testing.

g. Prevent the backwash or flushing of water treatment or conditioning equipment from entering the OSSF.

h. Prevent the condensation from air conditioning or refrigeration units, or the drains of icemakers, from hydraulically overloading the aerobic treatment units. Drain lines may discharge into the surface application pump tank if approved by system designer.

i. Provide for pumping and cleaning of tanks and treatment units, when and as recommended by Contactor, at Customer's expense.

j. Maintain site drainage to prevent adverse effects on the OSSF.

k. Pay promptly and fully, all Contractor's fees, bills, or invoices as described herein.

IX. Access by Contractor:

Contractor is hereby granted an easement to the OSSF for the purpose of performing services described herein. Contractor may enter the property during Contractor's normal business hours and/or other reasonable hours without prior notice to Customer to perform the Services and/or repairs described herein. Contractor shall have access to the OSSF electrical and physical components. Tanks and treatment units shall be accessible by means of man ways, or risers and removable covers, for the purpose of evaluation as required by State and/or local rules and the proprietary system manufacturer. It is Customers responsibility to keep lids exposed and accessible at all times.

X. Limit of Liability:

Contractor shall not be held liable for any incidental, consequential, or special damages, or for economic loss due to expense, or for loss of profits or income, or loss of use to Customer, whether in contract tort or any other theory. In no event shall Contractor be liable in an amount exceeding the total Fee for Services amount paid by Customer under this Agreement.

XI. Indemnification:

Customer (whether one or more) shall and does hereby agree to indemnify, hold harmless and defend Contractor and each of its successors, assigns, heirs, legal representatives, devisees, employees, agents and/or counsel (collectively "Indemnitees") from and against any and all liabilities, claims, damages, losses, liens, causes of action, suits, fines, judgments and other expenses (including, but not limited to, attorneys' fees and expenses and costs of investigation), of any kind, nature or description, (hereinafter collectively referred to as "Liabilities") arising out of, caused by, or resulting, in whole or in part, from this Agreement.

_____ RC

Customer's Initials

Contractor's Initials

THIS INDEMNITIFCATION APPLIES EVEN IF SUCH LIABILITIES ARE CAUSED BY THE CONCURRENT OR CONTRIBUTORY NEGLIGENCE OR BY THE STRICT LIABILITY OF ANY INDEMNITEE.

Customer hereby waives its right of recourse as to any Indemnitee when Indemnification applies, and Customer shall require its insurer(s) to waive its/their right of subrogation to the extent such action is required to render such waiver of subrogation effective. Customer shall be subrogated to Indemnitees with respect to all rights Indemnitees may have against third parties with respect to matters as to which Customer provides indemnity and/or defense to Indemnitees. No Indemnification is provided to Indemnitees when the liability or loss results from (1) the sole responsibility of such Indemnitee; or, (2) the willful misconduct of such Indemnitee. Upon irrevocable acceptance of this Indemnification obligation, Customer, in its sole discretion, shall select and pay counsel to defend Indemnitees of and from any action that is subject to this Indemnification provision. Indemnitees hereby covenant not to compromise or settle any claim or cause of action for which Customer has provided Indemnification without the consent of Customer.

XII. Severability:

If any provision of the "Proposal and Contract" shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of the "Agreement" is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

XIII. Fee for Services:

The Fee for Services does not include any fees for equipment, material, labor necessary for non-warranty repairs, unscheduled inspections, or Customer requested visits to the site.

XIV. Payment:

Full payment is due upon execution of this Agreement (Required of new Customer). For any other service(s) or repair(s) provided by Contractor the Customer shall pay the invoice(s) for said service(s) or repair(s) within thirty (30) days of the invoice date. The Contractor shall mail all invoices on the date of invoice. All payments not received within thirty (30) days from the invoice date will be subject to a $29.00 late penalty and a 1.5% per month carrying charge, as well as any reasonable attorney's fees, and all collection and court costs incurred by Contractor in collection of unpaid debt(s). Contractor may terminate contract at any time for nonpayment for services. Any check returned to Contractor for any reason will be assessed a $30.00 return check fee.

XV. Application or Transfer of payment:

The fees paid for this agreement may be transferred to subsequent property owner(s); however, this Agreement is not transferable. Customer shall advise the subsequent property owner(s) of the State requirement that they sign a replacement agreement authorizing Contractor to perform the herein described Services, and accepting Customer's Responsibilities. This replacement Agreement must be signed and received in Contractor's offices within ten (10) business days of date of transfer of property ownership. Contractor will apply all funds received from Customer first to any past due obligation arising from this Agreement including late fees or penalties, return check fees, and/or charges for services or repairs not paid within thirty (30) days of invoice date. Any remaining monies shall be applied to the funding of the replacement Agreement. The consumption of funds in this manner may cause a reduction in the termination date of effective coverage per this Agreement. See Section IV.

XVI. Entire Agreement:

This agreement contains the entire Agreement of the parties, and there are no other conditions in any other agreement, oral or written.

Rudy Carson

Block Creek Aerobic Services, LLC,
Contractor
MP# 0002036

Customer Signature

12/19/24
Date

RC

Customer's Initials

Contractor's Initials

OSSF SOIL EVALUATION FORM

Owner's Name: Community Bible Church Bulverde

Physical Address: 7100 US Hwy 281 – Spring Branch, Texas 78070

Legal Description: CBCB Block 1, Lot 1 Abs 140450 – 4.00-acres

Date Performed: 11-16-2024 **Proposed Excavation Depth:** 12"

Requirements:

- At least two soil evaluations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil evaluations must be shown on the application site drawing or designer's site drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least 2-ft. below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.
- Please describe each soil horizon and identify any restrictive features in the space provided below. Draw lines at the appropriate depths.

Soil Boring Number: 1

Depth (ft.)	Textural Class	Structure (For class III – blocky, platy or massive)	Drainage (Mottles, Water Table)	Restrictive Horizon	Observations
0 **0-**12" 1 2 3 4 5	IV	< 30 % gravel	No signs of Mottling	12" end of hole.	Class IV soils. No shallow groundwater noted. Not suitable for standard disposal. Aerobic drip irrigation recommended.

Soil Boring Number: 2

Depth (ft.)	Textural Class	Structure (For class III – blocky, platy or massive)	Drainage (Mottles, Water Table)	Restrictive Horizon	Observations
0 **0-**12" 1 2 3 4 5	IV	< 30 % gravel	No signs of Mottling	12" end of hole.	Class IV soils. No shallow groundwater noted. Not suitable for standard disposal. Aerobic drip irrigation recommended.

Features of Site Area

Presence of 100-year flood zone	**No**
Presence of adjacent ponds, streams, water impoundment's	**No**
Existing or proposed water well in nearby area	**No**
Organized sewage available to lot or tract	**No**
Recharge features within 150 feet	**No**

I certify that the above statements are true and are based on my own field observations.

Signature of Site evaluator_____ **11-16-2024**

Preliminary Field Check For Drip Systems

DATE: 03/10//2025

INSPECTOR: Efrain Gallegos

OBSERVATION: 15” + found in proposed areas.

Southwest Septic Design

On-Site Sewage Facility Application and Design

***Prepared For*:**

Community Bible Church Bulverde
7100 US HWY 281
Spring Branch, Texas 78070

Design 12075024

Prepared By:

Stephen F. Jetton _____
Registered Professional Sanitarian

1/28/2025

Stephen F. Jetton • Southwest Septic Design
2573 Deer Stand Loop • San Marcos, Texas 78666 • Mobile (512) 757-1259
E – Mail stephen.jetton@gmail.com

January 28, 2025

7100 US HWY 281
Spring Branch, Texas 78070

To whom it may concern,

The BOD requirements should fall under that of domestic household use. This is for a church group that will require restroom use. Food will be catered or warmed on site. The following figures were taken from Table III TCEQ Chapter 285 and the publication Designing for High Strength Wastewater by Bruce J. Lesiker, PH. D, for the BOD loading rates.

Restroom Facility (no food or showers per occupant) using water saving devices = 4 GPD
Table III estimates 4GPD/Person

Maximum 875 employees/customers @ 4 GPD/7 = 500 GPD.

Toilet waster / Person = 0.01
0.01 lbs./day/person x 69 = 0.69 lbs./day

0.69 lbs. BOD/Day x 1,000,000 / 500 GPD x 8.34 = 165.47 mg/L

This BOD figure will be reduced by approximately 30% due to anaerobic treatment from the equalization and trash tank.

Please call me if you have any questions or need additional information.

Sincerely,

Stephen F. Jetton, R.S.

OSSF SOIL EVALUATION FORM

Owner's Name: Community Bible Church Bulverde

Physical Address: 7100 US Hwy 281 – Spring Branch, Texas 78070

Legal Description: CBCB Block 1, Lot 1 Abs 140450 – 4.00-acres

Date Performed: 11-16-2024 **Proposed Excavation Depth:** 12"

Requirements:

- At least two soil evaluations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil evaluations must be shown on the application site drawing or designer's site drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least 2-ft. below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.
- Please describe each soil horizon and identify any restrictive features in the space provided below. Draw lines at the appropriate depths.

Soil Boring Number: 1

Depth (ft.)	Textural Class	Structure (For class III – blocky, platy or massive)	Drainage (Mottles, Water Table)	Restrictive Horizon	Observations
0 **0-**12" 1 2 3 4 5	IV	< 30 % gravel	No signs of Mottling	12" end of hole.	Class IV soils. No shallow groundwater noted. Not suitable for standard disposal. Aerobic drip irrigation recommended.

Soil Boring Number: 2

Depth (ft.)	Textural Class	Structure (For class III – blocky, platy or massive)	Drainage (Mottles, Water Table)	Restrictive Horizon	Observations
0 **0-**12" 1 2 3 4 5	IV	< 30 % gravel	No signs of Mottling	12" end of hole.	Class IV soils. No shallow groundwater noted. Not suitable for standard disposal. Aerobic drip irrigation recommended.

Features of Site Area

Presence of 100-year flood zone	**No**
Presence of adjacent ponds, streams, water impoundment's	**No**
Existing or proposed water well in nearby area	**No**
Organized sewage available to lot or tract	**No**
Recharge features within 150 feet	**No**

I certify that the above statements are true and are based on my own field observations.

Signature of Site evaluator_____ **11-16-2024**

Stephen F. Jetton Registered Sanitarian #3530

Southwest Septic Design

2573 Deer Stand Loop
San Marcos, Texas 78666
Hays County

Stephen.jetton@gmail.com
Mobile (512) 757-1259

Design Report
On-Site Sewage facility
Aerobic Wastewater Treatment System
Utilizing Drip Irrigation Application

OWNER/SITE LOCATION:
Community Bible Church Bulverde
7100 US HWY 281
CBCB Block 1, Lot 1, Abs 140450 – 4.00-acres
Spring Branch, Texas 78070

SITE DESCRIPTION & EVALUATION:
This design was based on §285 TCEQ, On-Site Sewage Facilities. Minimum separation distances as stated in §285 TCEQ, On-Site Sewage Facilities, must be maintained. A soil evaluation revealed Class IV soils (see included site evaluation form). The original ground surface will be tilled/scarified. The installer will then place the drip emitters directly on top of the scarified surface. Upon placement of the drip emitters, at least 8" of class III loam will be imported for the final cover. No recharge features are located within 150 ft. of the proposed system. This system is not within the regulated flood plain. Water to this property is will be serviced by a public water supply.

WASTEWATER DESIGN FLOW:
This design requested is for the remodel of Home Church. This design is based on a single day, with 2 services each Sunday. Due to a limited drain field area, we will base this design using weekly averaging to calculate the daily flow. This Church at maximum capacity will have 875 people. This number includes both members and employees. The Church will not cook food at this facility. The waste-flow will be generated by restroom use. Therefore, I will use 4GPD which is typical of office restroom use. The total expected flow from this business will be 3500 gallons, or ***500 gallons per day*** using weekly averaging. This design is based on the regulations of TCEQ, Texas Commission of Environmental Quality, effective 6-14-2024.

AEROBIC TREATMENT SYSTEM DESCRIPTION:
All wastewater generated will flow to a 3000-gallon trash tank. Effluent from the trash tank will then flow to (2) 3000-gallon, in series equalization tanks. The wastewater from the equalization tanks will be pumped to a Nuwater Aerobic Treatment Plant, Model B-800. The 854-gallon pump tank in the B-800 serves as storage tank prior to the treated effluent being discharged to the drip lines. The system proposed, is considered a "package system" and will be installed according to the manufacturer's instructions. This is a soil absorption treatment system utilizing evaporation and transpiration. This system has been designed, by request of the homebuilder, to the minimum standards effective to this date. Therefore, performance of the system is not, and cannot be guaranteed, even though all provisions of the rules and regulations have been complied with. If

1/28/2025

failure should occur, additions to the system may have to be made. In extreme cases, a substitute system may be required. By accepting this design, the agrees and understands that the designer cannot, and will not be liable for any more than the agreed upon design fee.

Abandon Regulations:

The installer will abandon the existing system according to §285.36 Abandoned Tanks, Boreholes, Cesspools, and Seepage Pits.

(a) An abandoned tank is a tank that is not to be used again for holding sewage.

(b) To properly abandon, the owner shall conduct the following actions, in the order listed.

(1) All tanks, boreholes, cesspools, seepage pits, holding tanks, and pump tanks shall have the wastewater removed by a waste transporter, holding a current registration with the executive director.

All tanks, boreholes, cesspools, seepage pits, holding tanks, and pump tanks shall be filled to ground level with fill material (less than three inches in diameter) which is free of organic and construction debris.

Number of Employees/Members		875 @ 4 GPD
Average Expected Flow		3500 GPD (Sunday Service)
Weely Average	**3500/7 days per week**	500 Gallons Per Day
Application Rate	***Class IV***	0.10
Minimum Application Area	***(GPD)/ (0.10 Gal./ft²/Day)***	5000 ft² minimum; 5040ft² utilized

System Components Equalization Tank – Block Creek Products

Trash Tank	3000-gallon 1C
Equalization Tank	(2) 3000-gallon 1C
Solids Pump	Liberty LE40 4/10 H.P. (Dual Alternating Pump System).
Discharge Pipe	2” Sch. 40 PVC

Reserve Capacity:

Pump Tank gallons per inch: 69.4” with 86.5” usable gallons

Operating Capacity: 41” x 34.7” = 1422.70 operating gallons

Reserve Capacity Alarm 1: 86.5 x 69.4 = 6003.1 (6003.1 – 4094.6 = 1908.5) 1908.5 gallons reserve.

Pump off	7” above tank floor	485.8 Gallons
Pump on	8” above tank floor	555.2 Gallons
Alarm on Secondary Pump On.	59” above tank floor	4094.6 Gallons

STATE OF TEXAS STEPHEN F. JETTON 3530 REGISTERED PROFESSIONAL SANITARIAN

1/28/2025

A flow meter will be installed to measure correct dosing time. (2) 3000-gallon, single-compartment pump tanks allow for more than four hours reserve in the equalization tank utilizing a duplex pumping system.

A commercial timer (OMRON HC3R, or equivalent) will be used to cycle power to the pump-on every hour for a total of 24 doses per day at ~ 21 gallons per dose. The installer will measure and control the GPM by installing a ball or gate valve. Timer settings will be based on these findings. Please see attached specification sheet.

A check-valve must be installed on each supply line leaving each pump, so that the wastewater will not re-enter the pump chamber.

System Components Nuwater ATU B-800:

Trash Tank	431-gallon 1C
Aeration Tank	800 gallons per day
Pump Tank	854 gallons

Pump Tank:

Pump Tank gallons per inch: 16.11”

Operating Capacity: 16.11” x 22” = ***354.42 operating gallons***

Reserve Capacity: 53” usable depth (53 x 16.11 = 854.00) 854.00 – 483.30 = ***370.70 reserve gallons.***

Pump off	7” above tank floor	112.77 Gallons
Pump on	8” above tank floor	128.88 Gallons
Alarm on Secondary Pump On.	30” above tank floor	483.30 Gallons

An 854-gallon, single-compartment pump tanks, utilizing a duplex pumping system, allows for more than 1 day’s flow above the alarm-on level.

A check-valve must be installed on each supply line leaving each pump, so that the wastewater will not re-enter the pump chamber.

Flow Meter Installed outside of PUMP TANK – Model Netafim WMR 2EV 10USG.

Pump and Drip Line Requirements:

Pump: Ashland Pump CPM Series – 20+CPM5-115 20GPM ½ H.P.

Drip line: ***Netafim*** ½” – Emitter will drip 0.61 gph @ ~ 25

Dosing: *This system will have a total of 2520 linear feet of drip tubing. 2 Zones with 1260 linear feet per zone.*

2520 sq. ft. / 4 sq. ft. per emitter = 630 emitters.

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1/28/2025

630 emitters spaced 2 ft. apart = 1260 minimum linear ft. of line per zone.

630 emitters x 0.61 gph = 384.30 gph = 6.41 GPM dosing rate.

Total Flow: ***6.41 GPM Per Zone***

1260' of drip lines utilized divided by 5 loops (see site plan). There will be 5 total connectors to both the supply and return line

Pump Data:

Design Goals: Provide 6.41 GPM to 5 emitter lines at 25 PSI.

6.41 GPM + 1.6(5 connectors) = 14.41 GPM

Elevation Head: 6 *(assumed elevation at top of pump 1026 and highest point on supply line 1032 Using Zone 2 as the furthest zone).*

Pressure Head: 25 psi x 2.31 ft/psi = 57.75 ft.

Loss in Supply Line (Using Zone 2 as longest line.): 1" Sch. 40 PVC @ 14.41 GPM = 11.63 per 100 ft. (90 x 11.63/100 x 1.2) = 12.56

Loss in Return Line: 1" Sch.40 PVC @ 8.0 gpm = 3.63 per 100 ft. (175 x 3.63/100 x 1.2) = 7.62

TDH = 6 ft. + 57.75 + 12.56 + 7.62 + 5 (misc. losses from filters and valves) + 8.1 (KRAIN 6402 operating at 40PSI 2.31 * 3.5) = 97.03 (within pump curve).

Pump Timing:

Total Irrigation Time = 500 GPD/6.41 = ~ 78 minutes per day
6.41 GPM x 6 minutes per dose = 38.46 gallons per dose.

A commercial irrigation timer will be used to cycle power to the pump-on at 6 minutes per dose with ~ 13 total doses per day at ~ 38.46 gallons per dose. This system will be set to dose 1 time per hour with approximately 1.84 hours between doses.

Alarm System:

An audio/visual high-water alarm will be installed on this system with a Timed Control with 24hr timer (OMRON HC3R) or equal. The alarm/light will be installed in a high visible location close to the pump tank.

Additional Components:

- **35 PSI Pressure Reducer** will be used to maintain the 25 PSI for the flushing cycle. The installer will consult me, or G.P. Equipment when purchasing this device. The pressure reducer will be placed in-line between the pump and the distribution field.
- **Pressure Gauge** of not less than 45 PSI will be installed to regulate flow to the emitter field.

1/28/2025

- **Filter** – 140-Mesh (Netafim DF100.140) 1" Filter.
- **Vacuum Breakers: API VBKB-1** – Vacuum breakers installed at the high points on supply and return line with position elevation so as not to drain when not pressurized.
- **Flush Valve**: generic 1" PVC ball valve with continuous flushing port.

Pipe and Fittings:

Supply line, manifold shall be 1" scheduled 40 PVC. The return line shall be 1" scheduled 40 PVC. All joints shall be sealed with approved solvent-type PVC cement.

Additional Requirements:

- Loops and flex connect made of flexible PVC with a spin lock connector will be used to prevent kinking of tubing.
- Check Valves are necessary to prevent backflow and to isolate zones. Every zone should have a check valve at the supply and return manifolds.
- A minimum of two vacuum relief valves will be installed at the highest point on both the supply and return manifolds to prevent siphoning of effluent from higher to lower parts of the field. They should be in an irrigation or valve box, lined with a pea gravel bed of at least 6 inches.

Installation Notes:

- Refer to site plan for component placement and follow manufacturer's instructions for installation of treatment plant and aerator.
- All materials and construction methods are required to conform to the standards for Private Sewage Facility's set forth in the Texas Administrative Code, δ285 On-Site Sewage Facilities. The installer must have a current and valid Texas installer certificate, and is required to have at the minimum an Installer II certification.
- The installer must notify designer and regulatory authority at least 48 hours in advance to schedule required inspections to ensure that the system is installed in accordance with the approved plans and specifications.
- The installer may not alter these plans without the approval of the designer.
- All electrical installation must follow applicable electric codes.
- ***It is the responsibility of the installer to maintain the minimum setback requirements as stated in δ285.***
- ***A Diversion berm will be place when needed to protect irrigation area from excessive runoff.***

Tank Notes:

- The bottom of the excavation for the tanks shall be level and free of large rocks and debris.
- All tanks are to be set level on a layer, with a minimum thickness of 4 inches, of sand, sandy loam, clay loam, or pea gravel.
- Tank excavations must be backfilled with soil or pea gravel that is free of rock larger than ½ inch in diameter. Class IV soils and gravel larger than ½ inch in diameter are not acceptable for use as backfill material. If the top of a septic tank extends above the ground surface, soil may be mounded over the tank to maintain slope to the drain field.

1/28/2025

- Effective September 1, 2023, inspection and cleanout ports shall have risers over the port openings, which extend to two inches above grade. A secondary plug, cap, or other suitable restraint system shall be provided below the riser cap to prevent tank entry if the cap is unknowingly damaged or removed, 30 TAC §285.38 (c).
- Risers shall be permanently fastened to the tank lid.
- The riser lid shall screw down and have a lock or weigh 65lbs.
- A secondary plug, cap, netting, etc. shall be provided below the riser lid.
- All openings in the tank must be properly sealed to prevent the escape of wastewater, or to prevent the infiltration of water.
- Tanks must be filled with water for 24 hours to test for leaks and structural integrity.
- The tanks must be set low enough to have fall of at least 1/8" per foot from house to tank.
- PVC pipe from house to tank must be at least Sch.40 or SDR 26.

Irrigation Notes:

- Drip lines shall be 1/2" Netafim. Sleeve any pipe that crosses under any roads or driveways with Sch.40 PVC.
- Distribution is through a self-flushing 140-mesh filter, then through a 1" SCH-40 manifolds.
- A 1" SCH-40 return line installed to flush the system by cycling a 1" ball valve.
- Vacuum breakers installed at the highest point on each manifold to prevent siphoning of effluent from higher to lower parts of the field.
- If irrigation area does not have established vegetation, a mixture of winter rye and Bermuda grasses will be seeded to establish seasonal vegetation.
- ***The installer shall notify property owner prior to removal of any trees that may obstruct the operation of the irrigation system.***
- ***Vegetation must be established before system is used.***

Non-Standard Electrical Wiring Notes:

30 TAC §285.32 (d) (5) identifies electrical wiring for non-standard systems shall be installed according to 30 TAC §285.34 (c). 30 TAC §285.34 (c) identifies the electrical wiring shall conform to the requirements of the National Electric code. Additionally, all external wiring shall be installed in approved, rigid, non-metallic gray code electrical conduit. The conduit shall be buried according to the requirements in the National Electrical Code and terminated at a main circuit breaker panel or sub-panel. Connections shall be in approved junction boxes All electrical components shall have an electrical disconnect within direct vision from the place where the electrical device is being serviced. Electrical disconnects must be weatherproof (approved for outdoor use) and have maintenance lockout provisions.

Additional Notes:

- Install audio-visual alarm for aerator and pump on separate breakers.
- The high water and air compressor alarms shall be audio/visual and mounted in a place that can be easily seen and heard when the alarms are activated.
- A 140 Mesh Filter and hose bib must be installed in pump tank at tank inspection port.

Maintenance Requirements:

1/28/2025

- The applicant must furnish to the regulatory authority a valid maintenance contract with a certified maintenance company before a permit will be issued.
- The maintenance company will verify that the system is operating properly and that they will provide on-going maintenance of the installation.
- The initial contract will be a minimum of 2 years.
- A maintenance contract will authorize the Maintenance Company to maintain and repair the system as needed.
- The owner must continuously maintain a signed written contract with a valid maintenance company and shall submit a copy of the contract to the permitting authority at least 30 days prior to the date service will cease.

Affidavit:

- The applicant must file a certified copy of an affidavit at the County clerk's office and filed in reference to the real property deed on which the surface application system is the be installed.
- The affidavit will state that the property shall not be transferred to a new owner without:
  (1) The new owner being advised that the property contains a drip system for wastewater disposal;
  (2) The permit issued to the previous owner of the property being transferred to the new owner in accordance with §285.20(5) of the TCEQ OSSF Rules. The permit will be issued in the name of the owner of the OSSF. Permits shall be transferred to the new owner automatically upon legal sale of the OSSF. The transfer of an OSSF permit under this section shall occur upon actual transfer of the property on which the OSSF is located unless the ownership of the OSSF had been severed from the property.
  (3) The new owners submitting a valid maintenance contract to the permitting authority.

Operation and Management Notes:

- The OSSF should not be treated as a normal city sewer.
- Water conservation practices should be always used. Consult your local authorities for more information.
- Run the dishwasher with a full load whenever possible
- Avoid running water continuously when brushing teeth, washing hands, or cleaning food and utensils.
- Repair any water leaks immediately, such as running toilets or leaky faucets.
- The owner is responsible for cleaning and pumping the septic tank, typically every 2 to 3 years depending on system usage.
- Do not use the toilet to dispose of tissue, feminine hygiene products, trash, cigarettes, etc.
- It is recommended that you do not use the garbage disposal and/ or garbage grinders in the facility serviced by this system.
- Household chemicals should be used in moderation.
- In accordance with §285, no water softener backwash water may be introduced into any part of the OSSF.
- Chemical additives or the so-called enzymes should not be used during the operation of this system. Some of these additives may even be harmful to the facilities operation.
- Do not build driveways, storage buildings, decks, or other structures over the tank or disposal area.
- The OSSF must be protected from meeting vehicular traffic.

1/28/2025

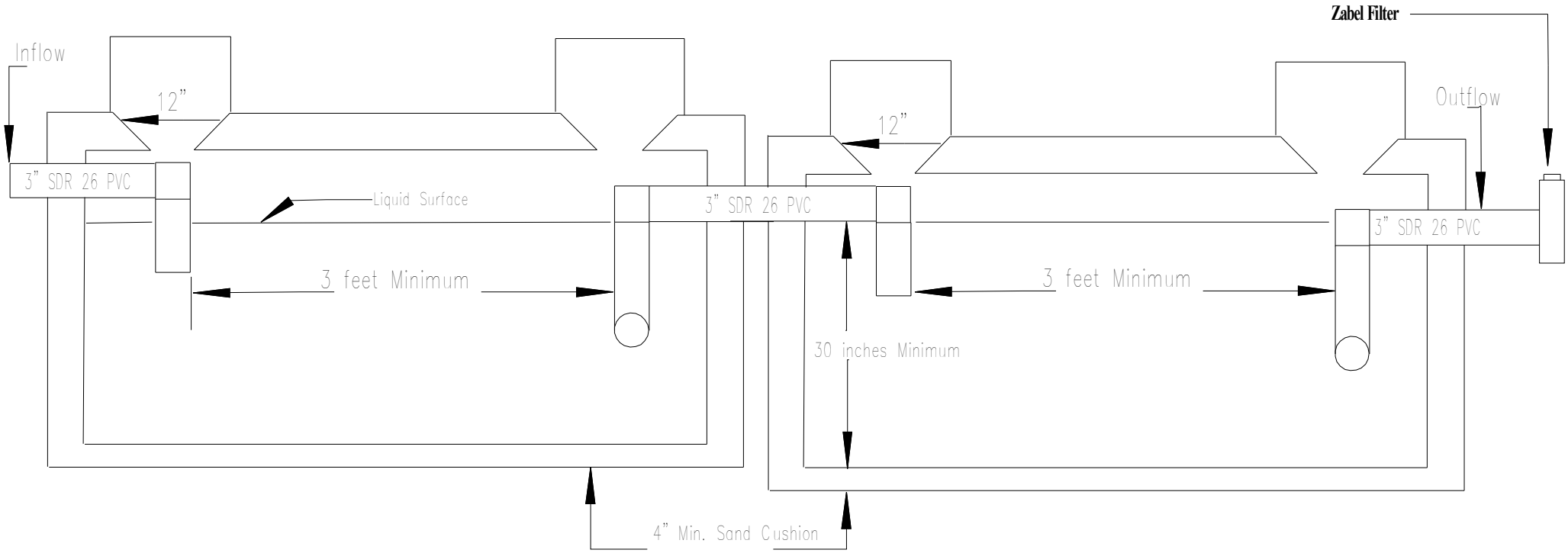
- A strong vegetative cover is essential for the proper operation of this system. The property owner is solely responsible for maintaining this vegetation. The irrigation area should be groomed by mowing on a regular basis.
- Sprinkler Systems will not be allowed to be constructed on, or near this on-site sewage facility system.
- If you notice a problem with the disposal area, or any of the alarms are activated, contact your maintenance provider immediately.
- Never place a greater wastewater load on your system than that prescribed by the design of the system (***3500 gallons per day on Sunday or 500 Gallons Dosed Per Day using Weekly Averaging***).

****This proposed system has been designed generally following the minimum requirements under TCEQ δ285 On-Site Sewage Facilities. The site evaluation and subsequent design are based on technical information currently available. The performance of the OSSF is not, and cannot be guaranteed even though all provisions of the Standards have been complied with. If failure should occur, additions to the OSSF may have to be made. By accepting this design, the homeowner/builder, understands that the designer will not be liable for more than the agreed upon design fee.***

1/28/2025

Figure 2 - Typical Two Septic Tanks in Series

1/28/2025



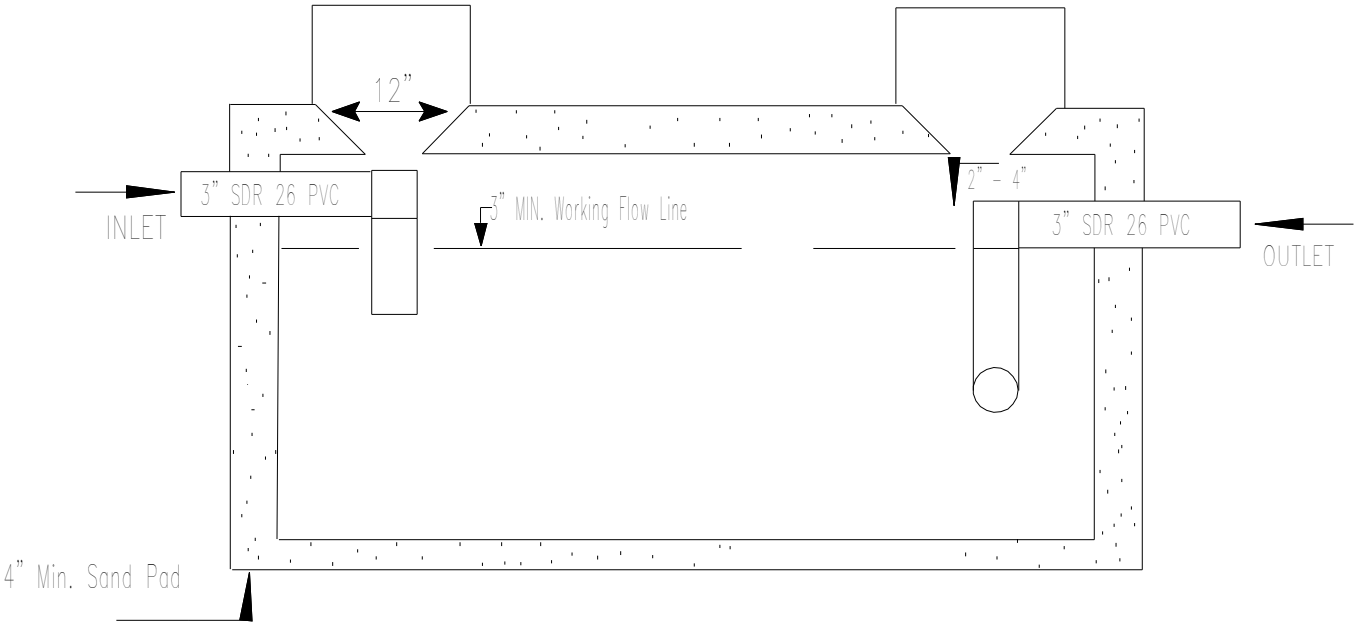
3000 Gallon
1 Compartment Septic Tank

The First Tank Must Be One - Half to Two - Thirds of the Total Volume of Both Tanks

3000 Gallon
1 Compartment Septic Tank

Set Secondary Tank 3" Below First Tank

NOT TO SCALE

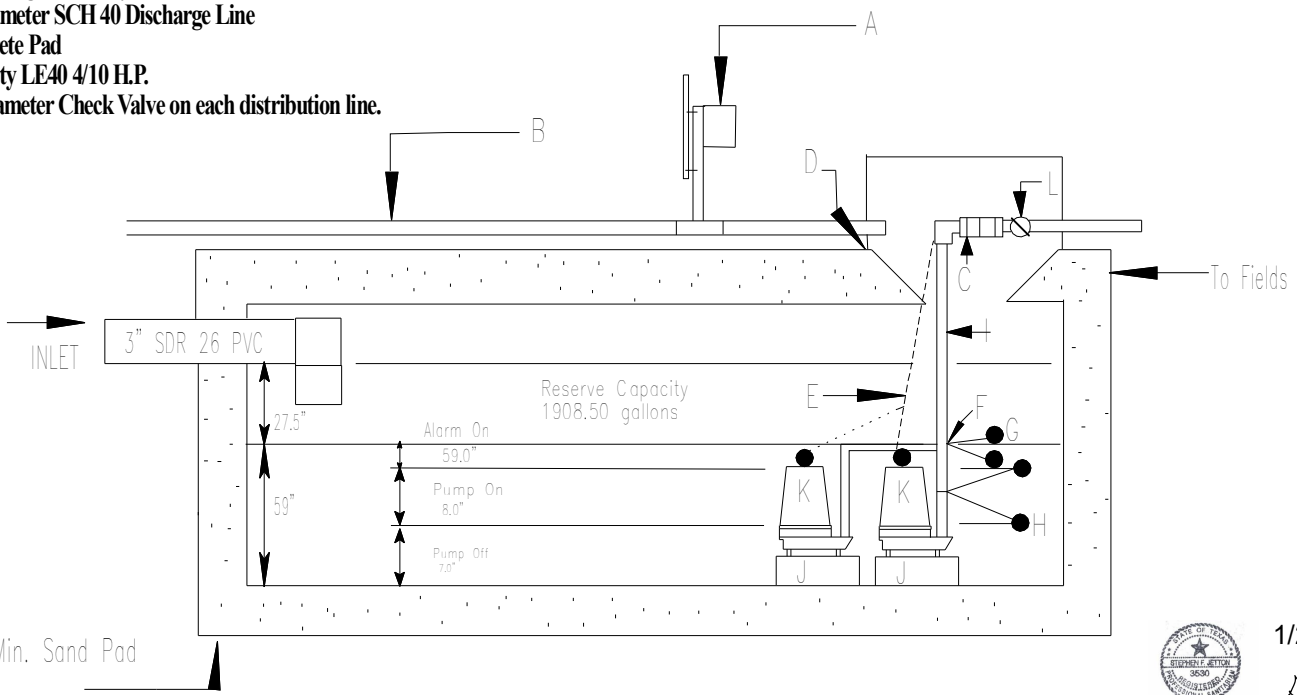


Typical 3000-Gallon Equalization Tank.

A - Weatherproof Electrical Enclosure(Mount to Post or Building)
B - Electrical Conduit
C - Threaded Union Repair Coupling
D - Watertight Sealant
E - 3/8" Nylon lifting Rope (optional)
F - Stainless or Plastic Clamp
G - High level alarm Mercury Switch(for Audio/Visual Alarm)
H - Wide Angle Mercury Float Switch
I - 2" Diameter SCH 40 Discharge Line
J - Concrete Pad
K - Liberty LE40 4/10 H.P.
L - 2" Diameter Check Valve on each distribution line.

Check Valves must be placed on both Supply Lines

Alarm on for each pump must be at the same level. See design notes for specifications.



1/28/2025

Typical 3000-Gallon Equalization Tank.

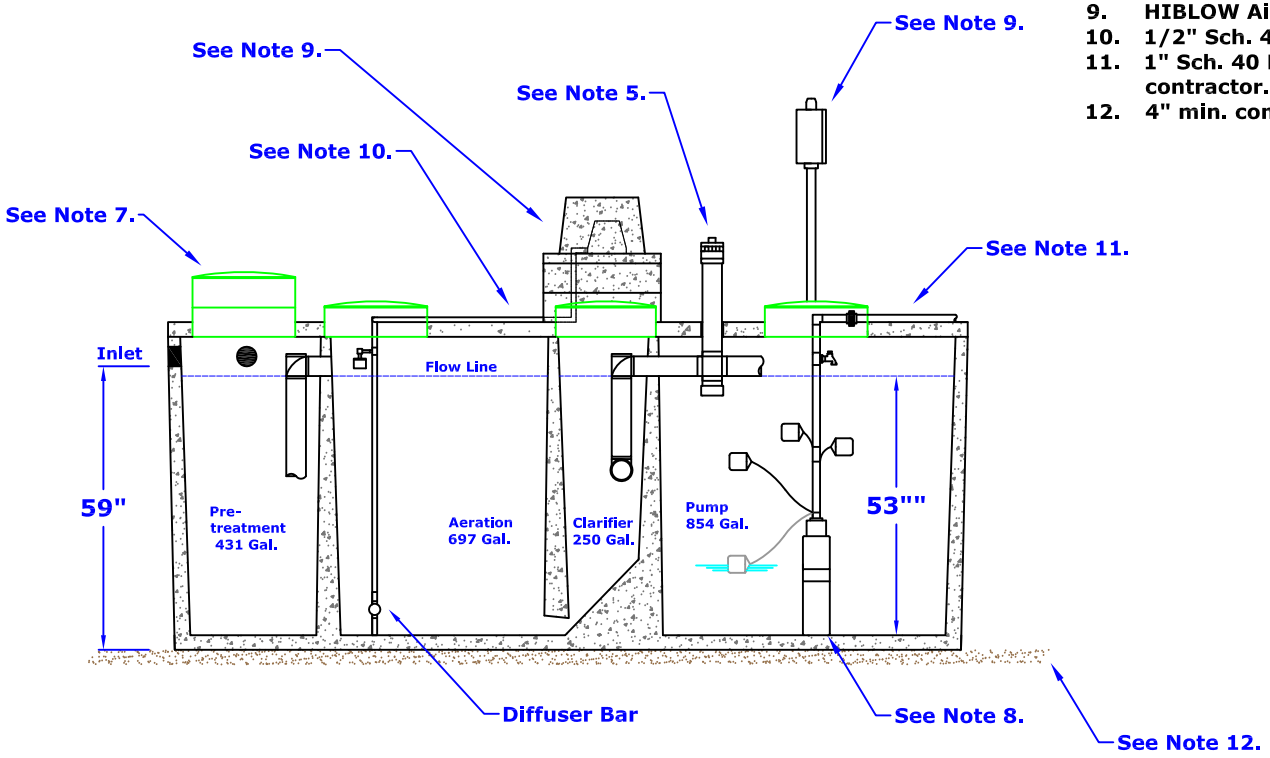
Not to Scale

Assembly Details

OSSF

DIMENSIONS:
Outside Height: 67"
Outside Width: 75"
Outside Length: 164.5"

MINIMUM EXCAVATION DIMENSIONS:
Width: 87"
Length: 177"



GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 16,700 lbs.
4. Treatment capacity is 800 GPD. Pump compartment set-up for a 420 GPD Flow Rate (5 beedroom, < 4,501 sq/ft living aera). Please specify for additional set-up requirements. BOD Loading = 2.60 lbs. per day.
5. Standard tablet chlorinator or Optional Liquid chlorinator. NSF approved chlorinators (tablet & liquid) available.
6. Bio-Robix B-800 Control Center w/ Timer for night spray application. Optional Micro Dose (min/sec)timer available for drip applications. Electrical Requirement to be 115 Volts, 60 Hz, Single Phase, 30 AMP, Grounded Receptacle.
7. 20" Ø acess riser w/ lid (Typical 4). Optional extension risers available.
8. 20 GPM 1/2 HP, high head effluent pump.
9. HIBLOW Air Compressor w/ concrete housing.
10. 1/2" Sch. 40 PVC Air Line (Max. 50 Lft from Plant).
11. 1" Sch. 40 PVC pipe to distribution system provided by contractor.
12. 4" min. compacted sand or gravel pad by Contractor

4-6: See design notes.

1/28/2025

STATE OF TEXAS STEPHEN F. HITTON 35560 REGISTERED PROFESSIONAL ENGINEER

NuWater B-800
Aerobic Treatment Plant (Assembled)

Model: B-800

March, 2010
By: A.S.

Scale:
* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B800-2

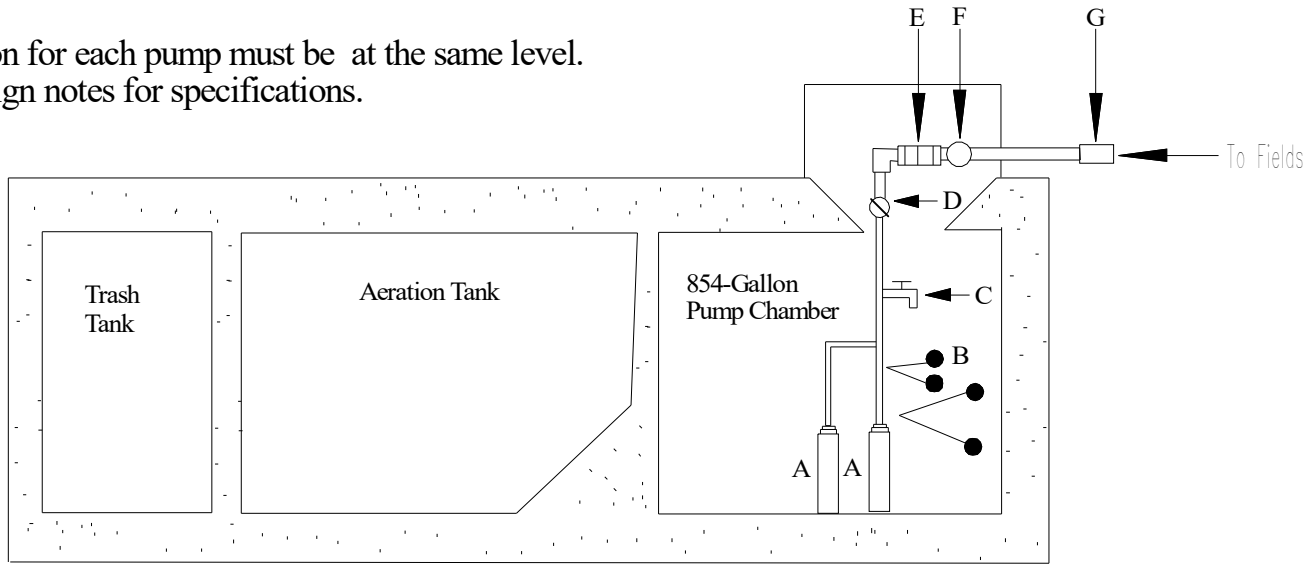
Advantage Wastewater Solutions llc.
444 A Old Hwy No 9
Comfort, TX 78013
830-995-3189
fax 830-995-4051

Typical Pump Tank Cross Section

A -Ashland CPM Series - 20+CPM5-115 20GPM 1/2 H.P.
B - Wide Angle Mercury Float Switch
C - Sampling Port
D - Pressure Regulator
E - Quick Disconnect Union
F - 45 PSI Pressure Guage

G - Check Valve Must be Used on Each Supply Line

Alarm on for each pump must be at the same level.
See design notes for specifications.



NuWater B-800 (800 GPD) Aerobic Treatment Plant

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1/28/2025

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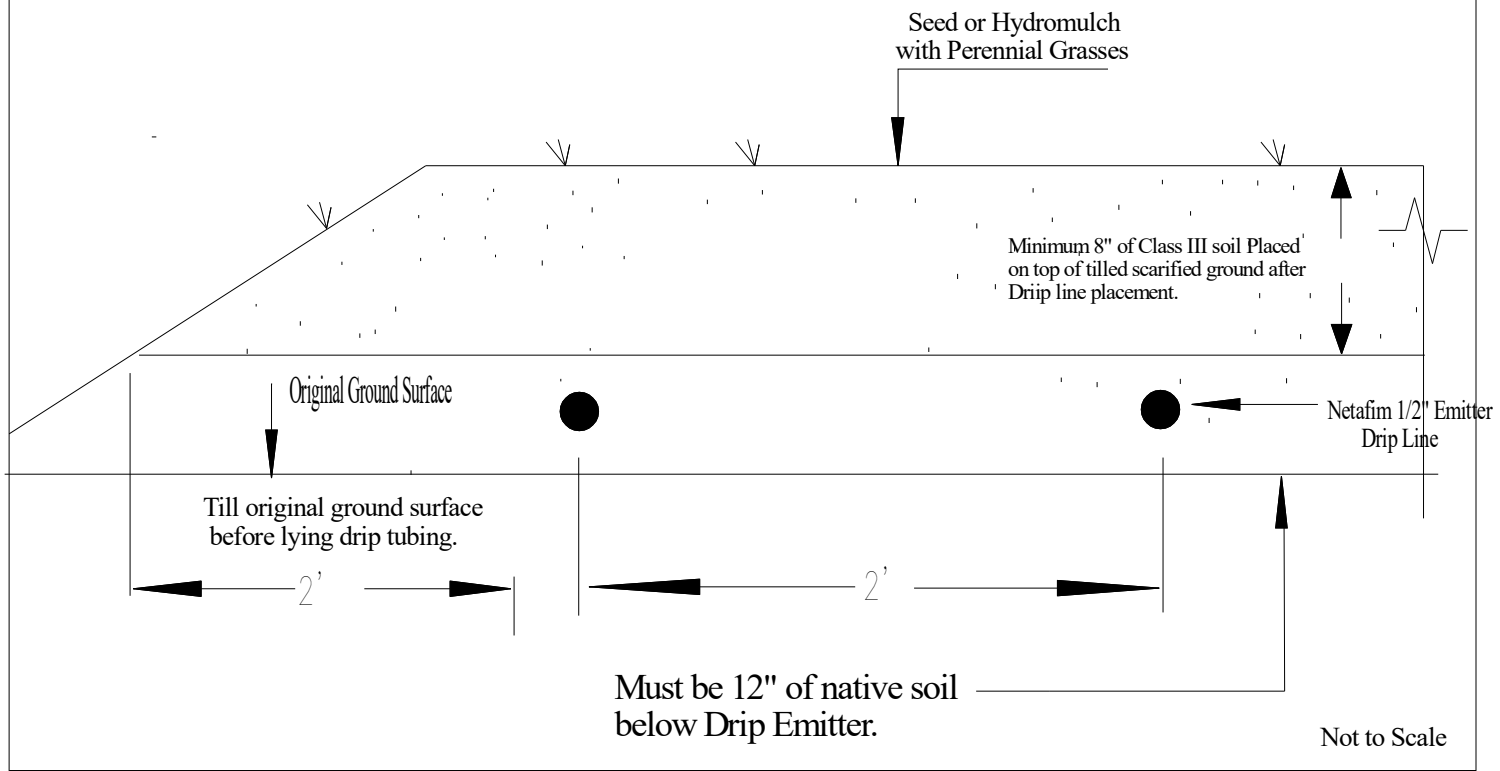

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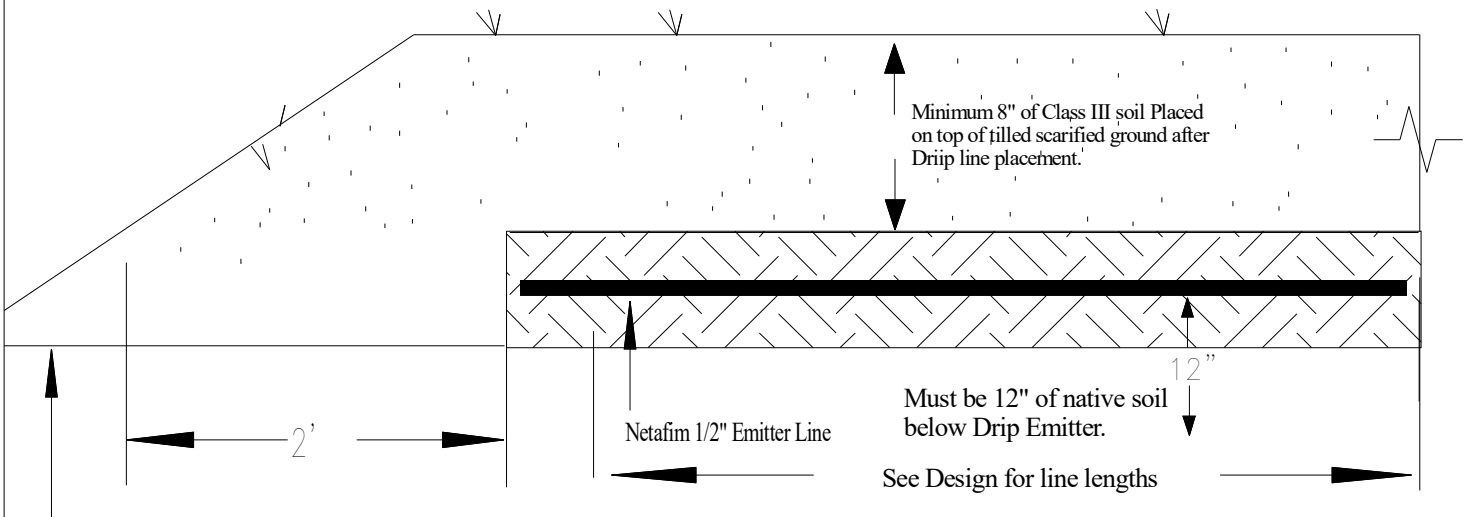

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WASTEWATER DIVISION

BIOLINE® DRIPLINE

THE WORLD'S MOST ADVANCED CONTINUOUS SELF-CLEANING, PRESSURE COMPENSATING DRIPLINE SPECIFICALLY DESIGNED FOR WASTEWATER

CROSS SECTION OF BIOLINE DRIPLINE

Bioline dripper inlets are positioned in the center of flow where water is the cleanest

PRODUCT ADVANTAGES

- Pressure compensation - all drippers deliver equal flow, even on sloped or rolling terrain.
- Unique flow path - Turbonet technology provides more control of water and a high resistance to clogging.
- Continuous self-flushing dripper design - flushes debris, as it is detected - throughout operation, not just at the beginning or end of a cycle. Ensures uninterrupted dripper operation.
- Single hole dripper outlet from tubing:
  - Better protection against root intrusion
  - Allows the dripline to be used in subsurface applications without need for chemical protection
- Drippers capture water flow from the center of the tubing - ensures that only the cleanest flow enters the dripper.
- Built-in physical root barrier - drippers are protected from root intrusion without the need for chemical protection. Water exits dripper in one location while exiting the tubing in another.
- Three dripper flow rates - provides the broadest range of flow rates available. Allows the designer to match the dripline to any soil or slope condition.
- Bioline tubing is completely wrapped in purple - easily identifying it for non-potable use, regardless of how the tubing is installed.
- Anti-bacterial-impregnated drippers - prevents buildup of microbial slime.
- Can be used subsurface - Bioline can be installed on-surface, under cover or subsurface.
- No special storage requirements - does not degrade if stored outdoors.
- Techfilter compatible - an optional level of prot
  limited lifetime warranty against root intrusion.

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APPLICATIONS

- Typically installed following a treatment process
- Can be used with domestic septic tank effluent with proper design, filtration and operation
- Reuse applications including municipally treated effluent designated for irrigation and other disinfected and non-disinfected water sources.

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- Pressure compensation range: 7 to 58 psi (stainless steel clamps recommended above 50 psi)
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD, 0.57" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

Additional spacing and pipe sizes available by special order. Please contact Netafim USA Customer Service for details.

BIOLINE DRIPLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.3 GPM REQUIRED PER LATERAL TO ACHIEVE 3 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	102	94	84	136	127	113	161	151	137
	25	151	136	118	203	184	161	245	223	197
	35	193	171	146	260	232	200	315	283	245
	40	211	186	158	286	254	218	347	311	267
	45	228	200	169	310	274	233	377	335	287
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 3 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.0 GPM REQUIRED PER LATERAL TO ACHIEVE 2.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	128	115	100	172	155	136	205	187	165
	25	183	161	137	248	220	188	301	268	231
	35	228	198	166	310	272	229	379	333	283
	40	248	214	178	338	295	247	413	362	305
	45	266	229	190	364	316	263	447	389	327
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.6 GPM REQUIRED PER LATERAL TO ACHIEVE 2.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	161	141	119	217	191	164	263	233	201
	25	221	190	157	302	261	218	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	278	493	421	347
	45	310	261	212	427	362	296	527	449	369
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.2 GPM REQUIRED PER LATERAL TO ACHIEVE 1.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	201	171	140	275	235	194	337	289	241
	25	266	222	179	366	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	369
	40	337	280	223	469	391	313	583	487	393
	45	358	296	235	497	413	331	619	517	415
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.8 GPM REQUIRED PER LATERAL TO ACHIEVE 1.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	248	205	163	344	285	228	427	355	285
	25	315	258	203	440	361	286	549	453	359
	35	367	299	234	513	419	331	643	527	417
	40	389	316	248	545	445	350	683	559	441
	45	409	332	260	574	468	367	721	589	463
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.4 GPM REQUIRED PER LATERAL TO ACHIEVE 0.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	301	242	188	422	341	265	531	429	335
	25	369	296	228	520	418	323	655	527	409
	35	421	337	260	595	476	368	749	603	467
	40	443	354	273	626	501	387	790	635	491
	45	464	371	285	656	524	404	829	665	513
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

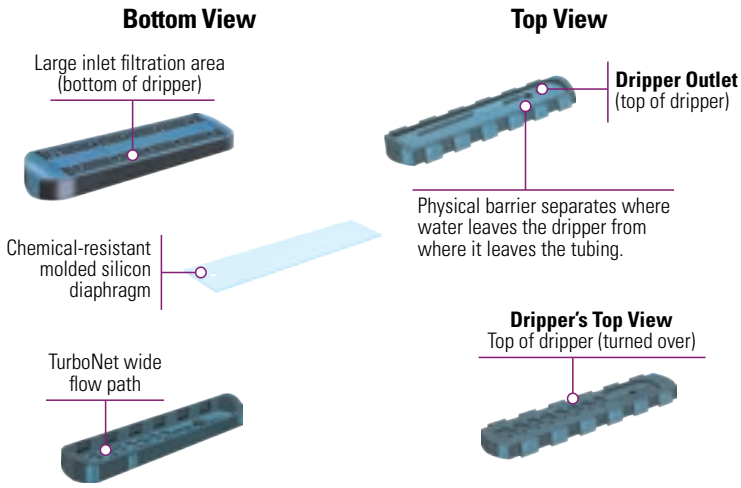
Lateral lengths are based on flows allowing for a 0.5 fps flushing/scouring velocity

Netafim recommends flushing velocities capable of breaking free any accumulated bioslimes and debris in the piping network.

Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
2. Netafim does not endorse a specific flushing velocity.
3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
4. Using a flushing velocity less than 1 fps does not provide turbulent flow as defined by Reynolds Number.
5. Higher flushing velocities provide more aggressive flushing.

7-16-2024

EXPLODED VIEW OF BIOLINE DRIPPER



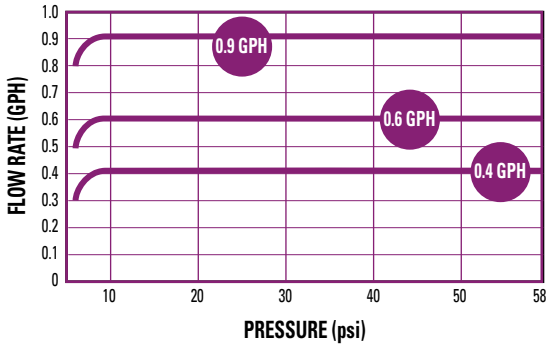
BIOLINE DRIPPER OPERATION

Bioline® drippers are pressure compensating - delivering the water uniformly into the soil for further treatment or for reuse by the landscape. These unique drippers allow the tubing to be installed on flat topography or steep slopes.

Bioline drippers are protected against microbial slime. Each dripper is impregnated with an antimicrobial agent to resist biological build-up.

Netafim drippers are continuously self-cleaning during operation, not just at the beginning and end of a cycle. The result is dependable, clog-free operation, year after year.

DRIPPER FLOW RATE VS. PRESSURE



Between 0 and 7 psi, the dripper functions as a turbulent flow emitter, ensuring that the nominal design flow is not exceeded at system start-up.

FLOW PER 100 FEET

DRIPPER SPACING	0.4 GPH DRIPPER		0.6 GPH DRIPPER		0.9 GPH DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.0	0.67	61.0	1.02	92.0	1.53
18"	26.7	0.44	41.0	0.68	61.0	1.02
24"	20.0	0.34	31.0	0.51	46.0	0.77

SPECIFYING INFORMATION

SAMPLE MODEL NUMBER

08WRAM.6-24 V

(A) (1) (2) (3)

A Bioline Dripline = **08WRAM**

1 DRIPPER FLOW RATE
0.4 GPH = **.4**
0.6 GPH = **.6**
0.9 GPH = **1**

2 DRIPPER SPACING
12" = **12**
18" = **18**
24" = **24**

3 COIL LENGTH
500' = **V500**
1,000' = **V**

BLANK Tubing Model Number: 250' = 08WRAM-250

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER
0.4 GPH	12"	1,000' 500'	08WRAM.4-12V 08WRAM.4-12V500
0.4 GPH	18"	1,000' 500'	08WRAM.4-18V 08WRAM.4-18V500
0.4 GPH	24"	1,000' 500'	08WRAM.4-24V 08WRAM.4-24V500
0.6 GPH	12"	1,000' 500'	08WRAM.6-12V 08WRAM.6-12V500
0.6 GPH	18"	1,000' 500'	08WRAM.6-18V 08WRAM.6-18V500
0.6 GPH	24"	1,000' 500'	08WRAM.6-24V 08WRAM.6-24V500
0.9 GPH	12"	1,000' 500'	08WRAM1-12V 08WRAM1-12V500
0.9 GPH	18"	1,000' 500'	08WRAM1-18V 08WRAM1-18V500
0.9 GPH	24"	1,000' 500'	08WRAM1-24V 08WRAM1-24V500
Blank Tubing 17mm		250'	08WRAM-250

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BIOLINE FITTINGS

FITTING APPLICATIONS

- Fits Bioline Dripline

FITTING SPECIFICATIONS

- Barbed fittings for a secure fit
- Easy installation without glue or tools
- Maximum recommended system pressure without clamps: 50 psi
- Allows for easy on-site inspection of proper fitting installation

TLCOUP
Insert Coupling

TLELL
Insert Elbow

TLTEE
Insert Tee

TLCROS
Insert Cross

TL050MA
½" Male Adapter

TL075MA
¾" Male Adapter

TL075FTEE
Combination Tee
Ins x Ins x ¾" FPT

TL2W075MA
2-Way Insert
¾" MPT x Insert

TLIAPE-B
Insert Adapter for 1" or Larger PE (Requires 11mm or 7/16" drill or punch)

TLIAPVC-B
Insert Adapter with Grommet
1½" or larger PVC Pipe

TDBIT16.5
Drill Bit for TLIAPVC Fitting (16.5mm or 21/32")

TLFIG8
Figure 8 Line End

TLS6
6" Soil Staple

FITTING DEFINITIONS

FPT = Female Pipe Thread
MPT = Male Pipe Thread
Ins x Ins = Insert by Insert

TLSOV
Shut-Off Valve
Ins x Ins

TLCV
Inline Check Valve

- Flow Range: 0.9 to 4.4 GPM
- Opening Pressure: 10.2 psi
- Closing Pressure: 5.8 psi
  (13.4 Feet Column of Water)

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NETAFIM™

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Fresno, CA 93727
CS 888 638 2346
www.netafimusa.com

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IRRIGATION-MART
we SAVVY irrigation

K-RAIN 4000
DISTRIBUTING VALVES
THE NEXT GENERATION OF *PROFESSIONAL* PRODUCTS.

4000

FEATURES/BENEFITS

- **2 Year Trade Warranty-** Factory support up to two years after purchase.
- **ABS Polymer Construction-** High-strength, non-corrosive body for long product life.
- **Available in 4 and 6 Outlet Models-** Can quickly and easily change from two to six watering zones.
- **Simplicity of Design-** Valves are easily maintained and serviced for long product life.
- **Operates at Low 10 GPM at Pressures of 25-75 PSI-** Reliably automates multiple zoned residential and small commercial irrigation or wastewater systems.

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K RAIN®

IRRIGATION SOLUTIONS WORLDWIDE™

K-RAIN MODEL 4000: DISTRIBUTING VALVE

The 4000 distributing valve offers a reliable, economical way to automate multiple zoned residential and small commercial irrigation systems. The simplicity of design and a minimum of moving parts ensures ease of maintenance and long service life.

These patented valves allow for the number of watering zones to be changed quickly and easily. They are ideally suited for both city water and pump applications and may also be used for onsite wastewater or effluent water applications.

The 4000 valve is available in 4 or 6 outlet models. A quick change of the cam allows the valve to operate from 2 to 6 zones. The valve will operate with flows as low as 10 GPM and at pressures of 25 to 75 PSI.

The distributing valve shall carry a two-year trade warranty against manufacturing defects.

HOW TO SPECIFY

MODELS

4 Outlet - 1 1/4" x 1 1/4" Models

4400	No Cam
4402	Cammed for 2 Zone Operation
4403	Cammed for 3 Zone Operation
4404	Cammed for 4 Zone Operation

Other Options: Add to Part Number

RCW	Reclaimed Water Use

4 Outlet - 1" x 1" Models

4410	No Cam
4412	Cammed for 2 Zone Operation
4413	Cammed for 3 Zone Operation
4414	Cammed for 4 Zone Operation

6 Outlet - 1 1/4" x 1" Models

4600	No Cam
4602	Cammed for 2 Zone Operation
4603	Cammed for 3 Zone Operation
4604	Cammed for 4 Zone Operation
4605	Cammed for 5 Zone Operation
4606	Cammed for 6 Zone Operation

Other Options: Add to Part Number

RCW	Reclaimed Water Use

6 Outlet - 1" x 1" Models

4610	No Cam
4612	Cammed for 2 Zone Operation
4613	Cammed for 3 Zone Operation
4614	Cammed for 4 Zone Operation
4615	Cammed for 5 Zone Operation
4616	Cammed for 6 Zone Operation

SPECIFICATIONS

- Constructed of High Strength, Non-Corrosive ABS Polymer
- Flow Range:
  4 Outlet Valve: 10-40 GPM
  6 Outlet Valve: 10-25 GPM
- Pressure Rating: 25 - 75 PSI
- Pressure Loss:

4 Outlet Valve

Flow (GPM)	10	20	30	40
PSI Loss	2.0	3.0	4.5	6.4

6 Outlet Valve

Flow (GPM)	10	20	30
PSI Loss	2.5	4.5	7.5

- Inlet: Slip and Glue Connection
  4400 Series: to 1 1/4" PVC Pipe
  4410 Series: to 1" PVC Pipe
  4600 Series: to 1 1/4" PVC Pipe
  4610 Series: to 1" PVC Pipe
- Outlets: Slip and Glue Connections
  4400 Series: to 1 1/4" PVC Pipe
  4410 Series: to 1" PVC Pipe
  4600 Series: to 1" PVC Pipe
  4610 Series: to 1" PVC Pipe
- Dimensions: Height: 5-3/4"
  Width: 5-3/4"

INSTALLATION TIPS

- We Recommend the Installation of an Atmospheric Vacuum Breaker Between the Pump and the Valve.

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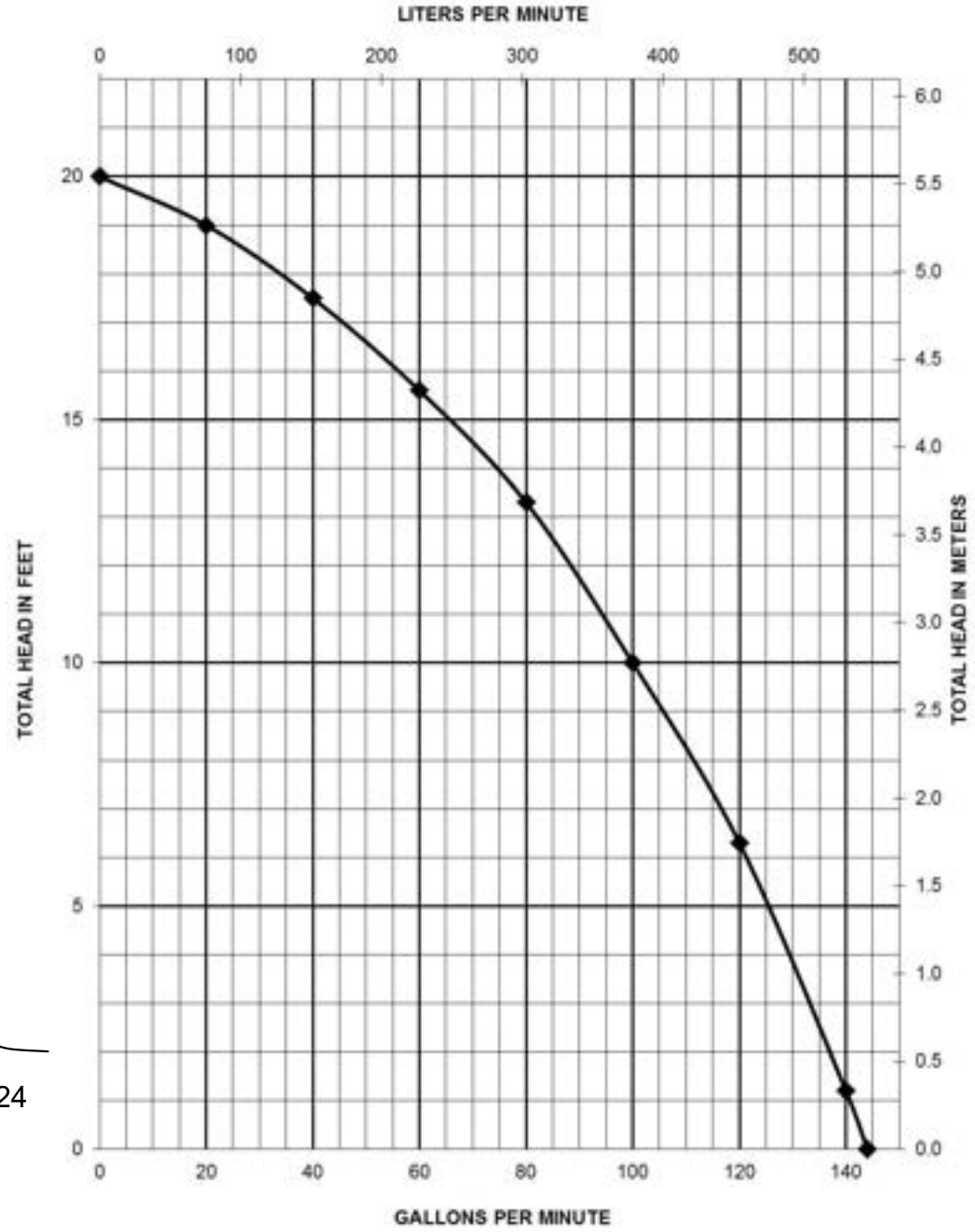
Pump Specifications

LE40 Series
4/10 HP Submersible Sewage Pump



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CISTERN PUMPS

CPM Series

Ashland Pump – CPM Series

The Ashland Pump CPM Series is designed to operate in filtered effluent/gray water applications. The bottom suction design allows for maximum drawdown of fluid and the hydraulic stages are able to pass 1/8” solids without damage to the pump.

Installations in cistern tanks, rain basin catchments or anywhere drawdown levels need to be maximized are ideal applications for the Ashland Pump CPM Series.

APPLICATIONS

- Filtered Effluent Water Pumping
- Gray Water Pumping
- Water Feature / Aeration Applications
- Rain Water Basin Applications

FEATURES

7-16-2024

- Bottom suction design for maximum drawdown
- Able to pass 1/8” solids
- Available in 10, 20 and 30 GPM flow rates
- ½ HP, 115V and 230V single phase motors
- Heavy duty discharge with stainless steel internal threads
- 600 Volt, 10’ SJOOW jacketed lead
- High shut-off pressure
- Quiet operation
- Standard removable base for stable mounting

ORDERING INFORMATION

CPM SERIES CISTERN PUMP						
Model/Order No.	GPM	HP	Voltage/Ph.	Stage Count	Length (in.)	Shipping Wt. (lbs.)
10CPM5-115	10	1/2	115/1	7	26	17
10CPM5-230	10		230/1	7	26	17
20CPM5-115	20		115/1	5	25	16
20CPM5-230	20		230/1	5	25	16
20+CPM5-115	20+		115/1	6	26	17
20+CPM5-230	20+		230/1	6	26	17
30CPM5-115	30		115/1	4	25	16
30CPM5-230	30		230/1	4	25	16

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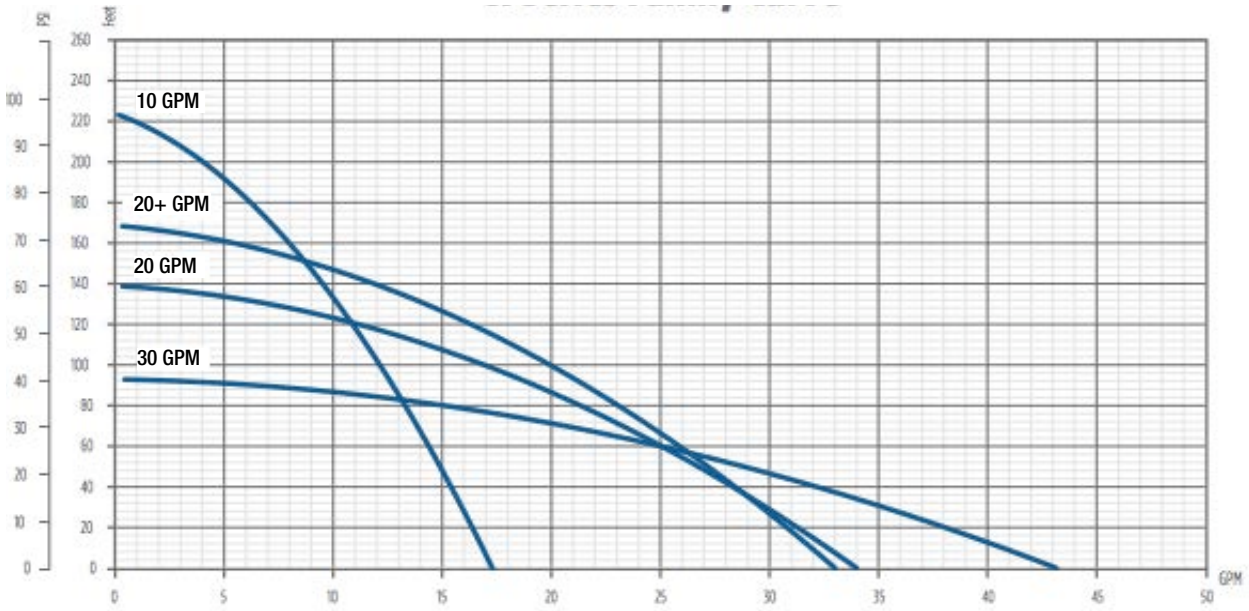
ASHLAND PUMP CPM SERIES CISTERN PUMP PERFORMANCE



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Ashland

P U M P

Honest, Professional, Dependable

1899 Cottage Street, Ashland, Ohio 44805
Telephone: 855 281-6830 • Fax: 877 326-1994 • ashlandpump.com

'M' AND 'WMR' WATER METERS

INDUSTRY'S SMALLEST WATER METERS WITH THE BEST PERFORMANCE

'M' WATER METER
(COPPER ALLOY BODY)

'M' WATER METER
(PLASTIC BODY)

'WMR' WATER METER
(CAST IRON BODY)

PRODUCT ADVANTAGES

- Industry's smallest water meters provide ± 2% accuracy over a wide range of flows.
- Magnetically driven sealed register are stainless steel encapsulated and guaranteed not to accumulate moisture or fog.
- 'M' Water Meters utilize the multi-jet principle assuring an equally distributed load on the impeller minimizing wear and maintaining accuracy.
- 'M' Water Meters have only one moving part, the impeller, is in contact with the water for minimum wear and the utmost reliability.
- 'WMR' Water Meters contain an in-line axial turbine which allows foreign matter to pass through the meter without clogging.
- Wide clearances in the measuring chamber provide full pipe flow measurements and high reliability.

APPLICATIONS

- For main supply lines in agriculture and landscape applications

SPECIFICATIONS - 'M' WATER METERS

- Iron Body Sizes: 3/4", 1" and 1 1/2"
- Plastic Body Sizes: 3/4" and 1"
- Maximum Working Pressure: 140 psi
- Maximum Liquid Temperature: 122° F
- Body Material: Corrosion Proof Copper Alloy or Polypropylene (plastic)
- Connections: Male Pipe Thread
- Register Options: Reed Switch, Photo Diode or ER Digital
- Reed Switch Register Pulse Outputs: 0.1 or 1.0
- Photo Diode Register Pulse Outputs: 0.0015, 0.0021 or 0.0074
- ER Digital Register Pulse Outputs:
  Gallons - .1, 1, 10, 100, 1000
  Acre Feet - .0001, .001, .01, .1
- Straight Pipe Installation Requirement: None

SPECIFICATIONS - 'WMR' WATER METER

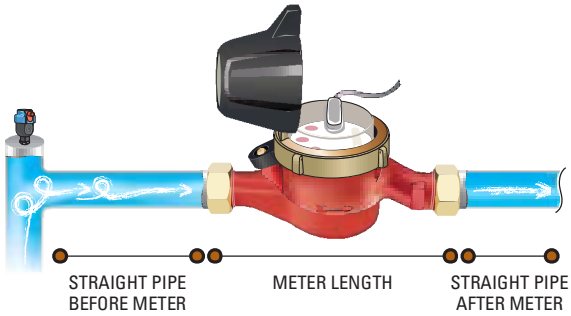
- Size: 2"
- Maximum Working Pressure: 230 psi
- Maximum Liquid Temperature: 131° F
- Body Material: Cast Iron with Polyester Coating
- Connections: Male Pipe Thread
- Register Options: Reed Switch, Photo Diode or ER Digital
- Reed Switch Register Pulse Outputs: 10 or 3.26
- Photo Diode Register Pulse Outputs: 1.0 or 0.055
- ER Digital Register Pulse Outputs:
  Gallons - .1, 1, 10, 100, 1000
  Acre Feet - .0001, .001, .01, .1
- Straight Pipe Installation Requirement: 10 x D upstream and 5 x D downstream (D=meter size)

5/29/2024

'M' AND 'WMR' WATER METERS

STRAIGHT PIPE INSTALLATION REQUIREMENT

METER SIZE	UPSTREAM DISTANCE	DOWNSTREAM DISTANCE	METER LENGTH	TOTAL REQUIREMENT
'M' WATER METERS - 0 D X 0 D				
3/4"	0"	0"	11 1/4"	11 1/14"
1"	0"	0"	14 3/4"	14 3/4"
1 1/2"	0"	0"	17 1/4"	17 1/4"
'WMR' WATER METER - 10 D X 5 D				
2"	20"	10"	14"	44"



INSTALLATION REQUIREMENTS

'M' WATER METERS

- Dial face must be horizontal
- There are no straight pipe installation requirements
- Prior to installation of the meter, the pipeline should be thoroughly flushed
- Meter must be installed so that the pipe will be full of water at all times during metering
- To eliminate air in the system, continuous acting air vents of proper size and type are required

INSTALLATION REQUIREMENTS

'WMR' WATER METER

- The meter may be installed in any position - for non-horizontal positions, the flow should be upwards
- Straight pipe installation requirement of 10 x diameter pipe upstream (before the meter) and 5 x diameter pipe downstream (after the meter)
- Prior to installation of the meter, the pipeline should be thoroughly flushed
- Meter must be installed so that the pipe will be full of water at all times during metering
- To eliminate air in the system, continuous acting air vents of proper size and type are required

REED SWITCH REGISTERS

METER SIZE	REGISTER TOTALIZER	VOLUME UNIT	PULSE OUTPUT (GALS/PULSE)	POINTER RESOLUTION POINTER 1	POINTER 2	POINTER 3
3/4" 'M'	GALLON	GALLON x 10	0.1	x 0.01 GALLON	x 0.1 GALLON	x 1.0 GALLON
3/4", 1" & 1 1/2" 'M'	GALLON	GALLON x 100	1.0	x 0.10 GALLON	x 1.0 GALLON	x 10 GALLON
2" 'WMR'	GALLON	GALLON x 1,000	10	x 1.0 GALLON	x 10 GALLON	x 100 GALLON
2" 'WMR'	ACRE FEET	ACRE FEET x 1.000	3.26	x 0.000001	x 0.00001	x 0.0001

PHOTO DIODE REGISTERS

METER SIZE	REGISTER TOTALIZER	VOLUME UNIT	FLOW RATE UNITS	POINTER RESOLUTION POINTER 1	POINTER 2	POINTER 3
3/4" 'M'	GALLON	GALLON x 10	0.0015	x 0.01 GALLON	x 0.1 GALLON	x 1.0 GALLON
1" 'M'	GALLON	GALLON x 100	0.0021	x 0.1 GALLON	x 1.0 GALLON	x 10 GALLON
1 1/2" 'M'	GALLON	GALLON x 100	0.0074	x 0.1 GALLON	x 1.0 GALLON	x 10 GALLON
2" 'WMR'	GALLON	GALLON x 1,000	1.0	x 1.0 GALLON	x 10 GALLON	x 100 GALLON
2" 'WMR'	GALLON	GALLON x 1,000	0.055	x 1.0 GALLON	x 10 GALLON	x 100 GALLON

ELECTRONIC (ER) DIGITAL REGISTERS

METER SIZE	REGISTER TOTALIZER	PULSE OUTPUT (GALS/PULSE)	FLOW RATE UNITS
3/4", 1", 1 1/2" 'M'	GALLON	.1, 1, 10, 100, 1000	GPM
3/4", 1", 1 1/2" 'M'	ACRE FEET	.0001, .001, .01, .1	GPM
2" 'WMR'	GALLON	.1, 1, 10, 100, 1000	GPM
2" 'WMR'	ACRE FEET	.0001, .001, .01, .1	GPM

5/29/2024

7100 US HWY 281
Spring Branch, Texas 78070

CBCB
Block 1, Lot 1
ABS 140450 - 4.00-acres
Comal County, Texas

A1 - Home Church.
A2 - Portable Building/Classroom - No Plumbing.
A3 - Portable Building/Classrrom - With Plumbing.
A4 - Outdoor Men & Women's Restroom.
B1 - Existing Septic Tank(s) - 100% Abandoned.
Also Double Area for Treatment Tanks.
B2 - Existing Aerobic Spray Head - 100% Abandoned.
B3 - 3000-Gallon 1C Trash Tank.
B4 - 3000-Gallon Equalization Tank.
B5 - Nuwater 800GPD ATU - Model B-800.
C - 1" Sch.40 Supply Line.
D - 1" Sch. 40 Return Line.
E - Vacuum Breakers Installed at Highest Points on both the Supply Line and Return Manifolds.
F- The Following will be installed inside the Pump Tank. 140 Mesh Filter, Hose Bib, Pressure Reducer, Check Valve, and Pressure Guages (see tank crossection). Flush line must return to Trash Tank. Check Valve at Distribution Manifold to prevent Backflow.
G - 2 Zone KRain Indexing Valve Model 6402.
H - Gate Valve in Riser of Trash Tank to Control Flushing.
I - Check Valve on Retrun Line to Isolate Zones.
J - See Ch. 290 H20/OSSF Crossing Note on Site Plan.
K - Fencing will be used to Restrict Public Access to the Treatment Systems. Access Should only be given to Perform Maintenance.
L - Flow Meter - Netafim WMR 2EV 10USG.

X - Profile Hole.
C/O - Two-Way Cleanout.

System is designed to operate at 25 PSI.

3" or 4" SCH. 40 PVC between Hurch and Tank.
Provide 2-Way Cleanout from Church to Tank.

Install 2520 linear feet of Drip Tubing; 2 - 1260' Fields.

5 total connections to the return line and 5 total connections to supply line per Field. 5 - 252' Loops Per Field.

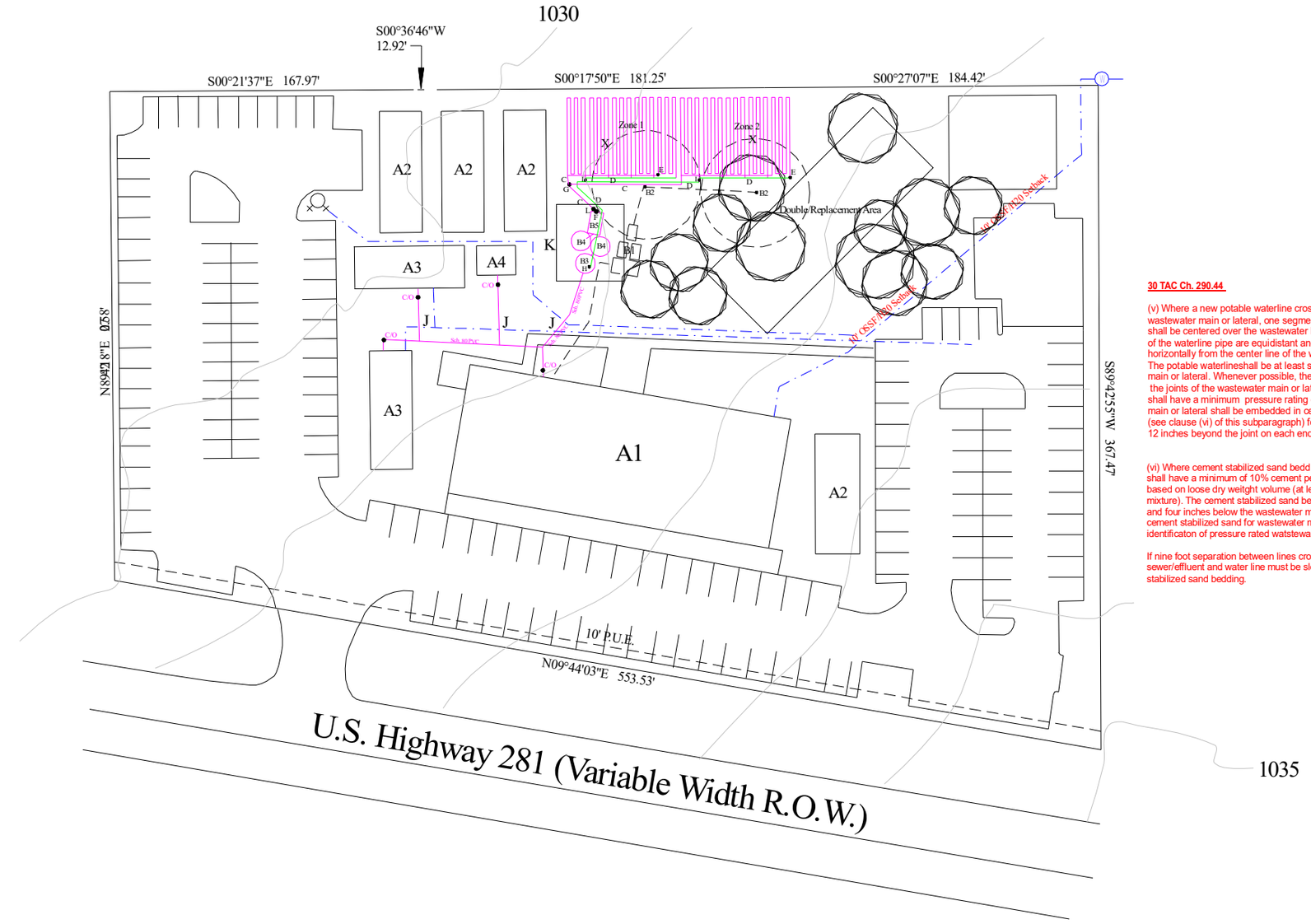
Maintain 5' Property Lines.
Maintain 1' from Underground Easements.
Maintain 10' from Water Lines.

**Back-Fill with at least 8" of Class III soil.*

**System may differ Slightly than Design based upon Conditions Encountered during Installation.*

**Minimum Separation and Setback Requirements as Stated in Chapter 285, TCEQ, On-Site Sewage Facilities, Must be Maintained.*

**This is not intended to be used as an official survey. All structures and Contour locations are approximate.*



30 TAC Ch. 290.44

(v) Where a new potable waterline crosses a new, pressure rated wastewater main or lateral, one segment of the waterline pipe shall be centered over the wastewater line such that the joints of the waterline pipe are equidistant and at least nine feet horizontally from the center line of the wastewater main or lateral. The potable waterlineshall be at least six inches above the wastewater main or lateral. Whenever possible, the crossing shall becentered between the joints of the wastewater main or lateral. The wastewater pipe shall have a minimum pressure rating of at least 150 psi. The wastewater main or lateral shall be embedded in cement stabilized sand (see clause (vi) of this subparagraph) for the total length of one pipe segment plus 12 inches beyond the joint on each end.

(vi) Where cement stabilized sand bedding is required, the cement stabilized sand shall have a minimum of 10% cement per cubit yard of cement stabilized sand mixture, based on loose dry weitght volume (at least 2.5 bags of cement per cubic yard of mixture). The cement stabilized sand bedding shall be a minimum of six inches above and four inches below the wastewater main or lateral. The use of brown coloring in cement stabilized sand for wastewater main or lateral bedding is recommended for the identificaton of pressure rated watstewater mains during future construction.

If nine foot separation between lines crossing and pipe joints cannot be achieved, both sewer/effluent and water line must be sleeved with Sch. 40 PVC pipe in addition to cement stabilized sand bedding.

STATE OF TEXAS
STEPHEN F. JETTON
3530
REGISTERED
PROFESSIONAL SANITARIAN

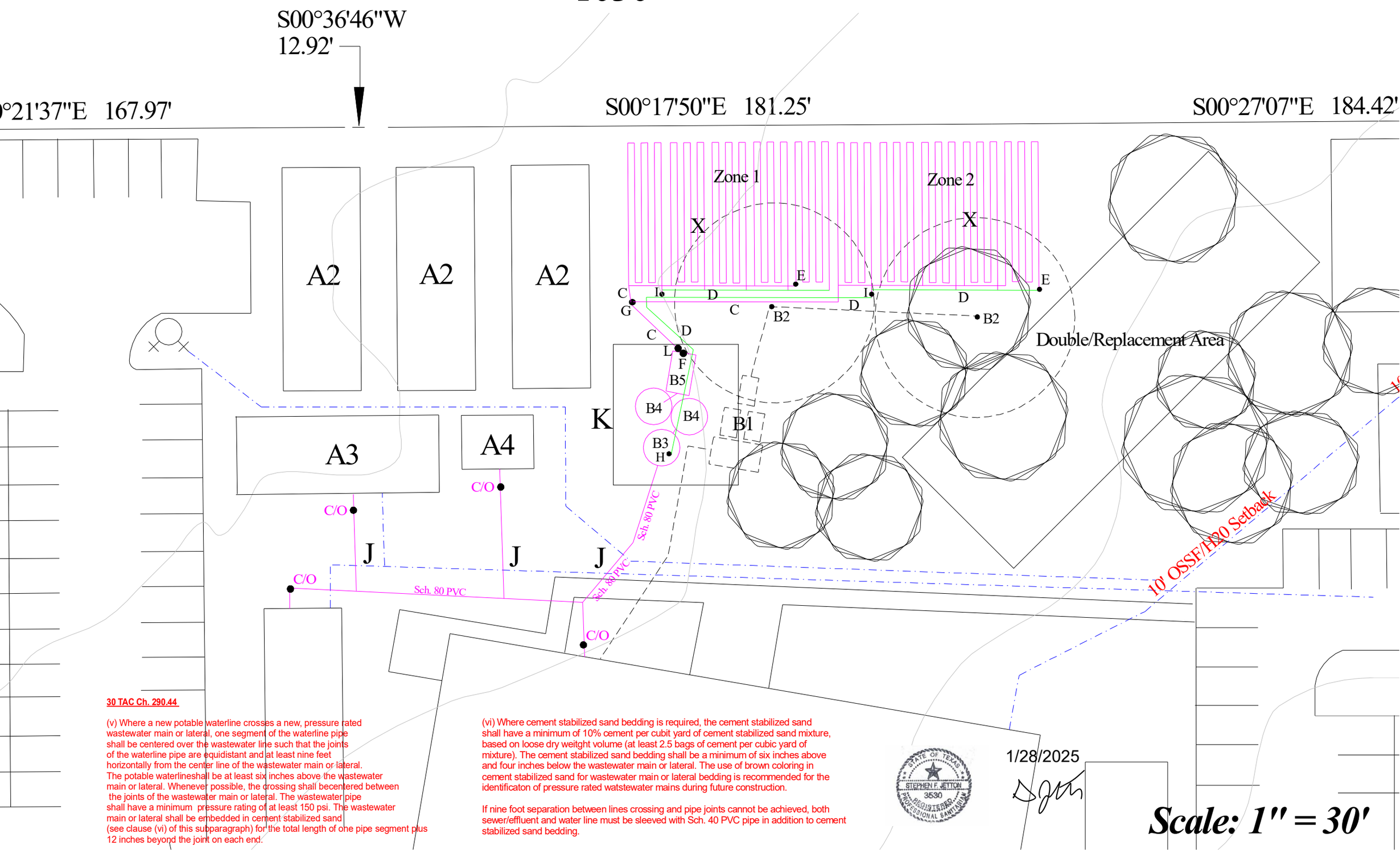
1/28/2025

Flood Plain Note: This Property depicted is Not within the 100-Year Flood Plain according to Map Panel No. 48091 C0 210F dated September 2, 2009.

N

0' 40' 80' 160'

Scale: 1" = 80'


S00°36'46"W
12.92'
°21'37"E 167.97'
S00°17'50"E 181.25'
S00°27'07"E 184.42'
A2
A2
A2
A3
A4
Zone 1
Zone 2
X
X
Double/Replacement Area
K
B1
B2
B2
B3
B4
B4
B5
C
D
E
F
G
H
I
L
C/O
C/O
C/O
C/O
J
J
J
Sch. 80 PVC
Sch. 80 PVC
Sch. 80 PVC
10' OSSF/HZO Setback
30 TAC Ch. 290.44
(v) Where a new potable waterline crosses a new, pressure rated wastewater main or lateral, one segment of the waterline pipe shall be centered over the wastewater line such that the joints of the waterline pipe are equidistant and at least nine feet horizontally from the center line of the wastewater main or lateral. The potable waterlineshall be at least six inches above the wastewater main or lateral. Whenever possible, the crossing shall becentered between the joints of the wastewater main or lateral. The wastewater pipe shall have a minimum pressure rating of at least 150 psi. The wastewater main or lateral shall be embedded in cement stabilized sand (see clause (vi) of this subparagraph) for the total length of one pipe segment plus 12 inches beyond the joint on each end.
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STATE OF TEXAS
STEPHEN F. JETTON
3530
REGISTERED
PROFESSIONAL SANITARIAN
1/28/2025
Scale: 1" = 30'

4+1
TM

TM 21274NC-KS

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.

4+1
TM (4)

WARRANTY DEED WITH VENDOR'S LIEN

Date: July 7, 2015

Grantor: COMMUNITY BIBLE CHURCH, a Texas Non-Profit Corporation

Grantor's Mailing Address (including county): 2477 N. Loop 1604 East, San Antonio, Bexar County, Texas 78232

Grantee: COMMUNITY BIBLE CHURCH BULVERDE

Grantee's Mailing Address (including county): 7100 N. Hwy. 281, Spring Branch, Comal County, Texas 78070

Consideration: TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of the execution and delivery by Grantee herein of its one certain promissory note of even date herewith in the principal sum of ONE MILLION SIX HUNDRED TWENTY-SEVEN THOUSAND FIVE HUNDRED AND NO/100 DOLLARS ($1,627,500.00), payable to the order of BANK OF THE WEST, as therein provided and bearing interest at the rate therein specified and providing for acceleration of maturity in event of default and for attorney's fees, the payment of which note is secured by the vendor's lien herein retained, and is additionally secured by a deed of trust of even date herewith to VICKY POGUE GUNNING, Trustee.

Property (including any improvements):

SEE EXHIBIT "A" ATTACHED HERETO AND INCORPORATED BY REFERENCE.

Reservations from and Exceptions to Conveyance and Warranty:

1. Channel Easement recorded in Volume 127, Page 608, Deed Records, Comal County, Texas.
2. Electric Utility Easement recorded in Document No. 9806013547, Official Public Records, Comal County, Texas.
3. 15' Wide Water Pipeline Easement recorded in Document No. 201106007141, Official Public Records, Comal County, Texas.
4. The existence of an on-site sewage facility (OSSF), together with the terms and conditions relative to the maintenance of same, as evidenced by the Affidavit to the Public dated August 21, 2009, recorded in Document No. 200906029793, Official Public Records, Comal County, Texas.
5. All leases, grants, exceptions or reservations of coal, lignite, oil, gas and other minerals, together with all rights, privileges and immunities relating thereto, appearing in the Public Records.
6. Fence outsets along rear and southern side property lines as shown on survey by Westar Alamo Land Surveyors dated May 21, 2015. Fence insets along northern side property line as shown on survey by Westar Alamo Land Surveyors dated May 21, 2015.

7. Metal Building encroaches the 10' electric easement as shown on survey by Westar Alamo Land Surveyors dated May 21, 2015.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sell, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in any wise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, and successors to warrant and forever defend all and singular the property to Grantee and Grantee's heirs, executors, administrators, 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.

The vendor's lien against and superior title to the property are retained until each note described is fully paid according to its terms, at which time this deed shall become absolute.

BANK OF THE WEST, at the instance and request of the Grantee herein, having advanced and paid cash to Grantor herein that portion of the purchase price of the herein described property as is evidenced by the herein described Note, the Vendor's Lien, together with the Superior Title to said property, is retained herein for the benefit of Grantor and the same are hereby TRANSFERRED and ASSIGNED to BANK OF THE WEST, without recourse.

When the context requires, singular nouns and pronouns include the plural.

COMMUNITY BIBLE CHURCH, a Texas
Non-Profit Corporation

BY: _____
WILLIAM R. MICALE, Chief Financial Officer

(Acknowledgment)

STATE OF TEXAS
COUNTY OF BEXAR

This instrument was acknowledged before me on the 15 **day of** July **, 2015,** by WILLIAM R. MICALE, Chief Financial Officer of COMMUNITY BIBLE CHURCH, a Texas Non-Profit Corporation, on behalf of said corporation.

_____
Notary Public, State of Texas
Notary's name (printed):
Notary's commission expires:

KIM SCHMIDT
MY COMMISSION EXPIRES
March 06, 2016

AFTER RECORDING RETURN TO:

Community Bible Church Bulverde
7100 N. Hwy 281
Spring Branch, Tx 78070
attn: Val Loy

PREPARED IN THE LAW OFFICES OF:
BECK & BECK
4940 Broadway, Suite 315
San Antonio, Texas 78209

Exhibit "A"

The EXHIBIT "A" is attached to and by this reference is made a part of the Deed of Trust, dated July 7, 2015, and executed in connection with a loan or other financial accommodations between BANK OF THE WEST and COMMUNITY BIBLE CHURCH BULVERDE.

DESCRIIPTION OF REAL PROPERTY

All that real property located in Comal County, State of Texas, legally described as follows:

Being 4.000 acres of land, more or less, out of the Simon Freechild Survey 75, Abstract 153, Comal County, Texas, and being Tract 1 and Tract 2 described in a Warranty Deed with Vendor's Lien recorded in Document No. 200606008545, Official Public Records, Comal County, Texas, said 4.000 acres being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2 inch iron rod found for the southwest corner of this 4.000 acres, same being the northwest corner of the Majestic Oaks Manor, LTD 5.3610 acres (Document No. 201406017570) and on the East Right-of-Way line of N. Hwy. 281, same also being the **POINT OF BEGINNING;**

THENCE along the East Right-of-Way line of said N. Hwy. 281, North 10 degrees 18 minutes 00 seconds East (Bearing Basis), a distance of 553.45 feet (called 554.77 feet) to a 1/2 inch iron rod found for the northwest corner of this 4.000 acres, same being the southwest corner of the TCW Enterprises, LTD 2.000 acres (Document No. 200106016999);

THENCE along the line common to this 4.000 acres and said TCW 2.000 acres, North 89 degrees 50 minutes 15 seconds East, a distance of 270.79 feet (called 270.68 feet) to a point for the northeast corner of this 4.000 acres from which the center of a wood fence post bears South 15 degrees 03 minutes 38 seconds East, a distance of 0.77 feet, same point being the southeast corner of said TCW 2.000 acres and on the West line of the River Crossing Carriage Houses, LTD 15.367 acres (PID 363056, Deed of Record not found);

THENCE along the lines common to this 4.000 acres and said Carriage Houses 15.367 acres, the following courses and distances:

South 00 degrees 12 minutes 29 seconds West (called South 00 degrees 31 minutes 25 seconds West), at a distance of 46.14 feet pass a 1/2 inch iron rod, at a distance of 105.22 feet pass a 1/2 inch iron rod, at a distance of 158.78 feet pass a 1/2 inch iron rod and continuing for a total distance of 168.63 feet to a point for an angle corner;

South 01 degrees 10 minutes 52 seconds West (called South 00 degrees 19 minutes 45 seconds West), a distance of 12.92 feet to a point for an angle corner;

South 00 degrees 16 minutes 16 seconds West (called South 00 degrees 20 minutes 29 seconds West), at a distance of 60.91 feet pass a 1/2 inch iron rod, at a distance of 110.83 pass a 1/2 inch iron rod and continuing for a total distance of 181.25 feet (called 193.83 feet) to a point for an angle corner;

South 00 degrees 10 minutes 51 seconds West (called South 00 degrees 08 minutes 14 seconds West), a distance of 184.66 feet to a 1/2 inch iron rod found for the southeast corner of this 4.000 acres, same being the northeast corner of said Majestic Oaks 5.3610 acres;

THENCE along the line common to this 4.000 acres and said Majestic Oaks 5.3610 acres, North 89 degrees 39 minutes 49 seconds West (called North 89 degrees 53 minutes 17 seconds West), a distance of 367.43 feet (called 367.25 feet) to the **POINT OF BEGINNING**, and containing 4.000 acres of land, more or less.

FILED AND RECORDED

Instrument Number: *201506028630*

Recording Fee: 38.00

Number Of Pages: 5

Filing and Recording Date: 07/17/2015 11:03AM

Deputy: LAURA JENDRUSCH

I hereby certify that this instrument was FILED on the date and time stamped hereon and RECORDED in the OFFICIAL PUBLIC RECORDS of Comal County, Texas.

COUNTY COURT OF COMAL COUNTY, TEXAS

Bobbie Koepp

Bobbie Koepp, County Clerk

Comal County, Texas

NOTICE: It is a crime to intentionally or knowingly file a fraudulent court record or instrument with the clerk.

DO NOT DESTROY - *Warning, this document is part of the Official Public Record.*

HOME CHURCH

7100 U.S. 281
SPRING BRANCH, TEXAS 78070

COVER SHEET

SHEET INDEX

LOCATION MAP
NOT-TO-SCALE

OWNER/CLIENT:

HOME CHURCH
7100 U.S. 281
SPRING BRANCH, TX 78070
TEL: 830-228-5654

PROJECT ARCHITECT:

POWERS Goolsby architects
1824 universal city blvd - universal city, tx 78148
phone 210.659.0229 - fax 210.566.4844

CIVIL ENGINEER:

MODECO, LLC
CIVIL ENGINEERING SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

PROJECT SURVEYOR:

MATKIN HOOVER ENGINEERING & SURVEYING
HEADQUARTERS
8 SPENCER ROAD SUITE 300
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
GEORGETOWN, TEXAS REGISTERED SURVEYING FIRM F-10194347
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-9005/2
CIVIL ENGINEERS SURVEYORS LAND PLANNERS
CONSTRUCTION MANAGERS CONSULTANTS

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #20240601 4574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C0.0

PROGRESS SET

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT. (AT THE CONTRACTORS EXPENSE)

2. CONTRACTOR MUST CALL TEXAS ONE CALL SYSTEM PRIOR TO CONSTRUCTION OR ANY TYPE OF DIGGING.

5. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

TEXAS WATER COMPANY (WATER)			1-830-312-4600
TEXAS STATE WIDE ONE CALL LOCATOR (TEXAS 811)	811	OR	1-800-545-6005
GVTC			"
SPECTRUM			"
PERDENALES ELECTRICCOOPERATIVE, INC.			"

6. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS/HER EXPENSE.

7. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON THE PLANS OR NOT.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING OVERHEAD AND UNDERGROUND ELECTRIC UTILITIES WITHIN OR ADJACENT TO WORK AREAS.

9. NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, UTILITIES, SIGNS, LANDSCAPING, STRUCTURES AND DRAINAGE SYSTEMS AT NO ADDITIONAL COST.

11. NO MATERIAL OR EQUIPMENT SHALL BE STORED OVER ANY EXISTING UTILITY.

12. PER FEDERAL REGULATIONS TITLE 49, PART 192.181, THE UTILITY COMPANY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR PROTECT AND MAINTAIN ADEQUATE CLEARANCE WITHIN THE PROJECT LIMITS OF CONSTRUCTION.

13. ALL SPOILS AND OTHER SUITABLE MATERIALS FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS/HER EXPENSE.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CONSTRUCTION STAKING AT THE CONTRACTOR EXPENSE.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS AND STAKING. PROPERTY CORNER MARKERS AND STAKING DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF TEXAS AT THE CONTRACTORS EXPENSE.

16. CONTRACTOR SHALL MAINTAIN THE JOBSITE IN A SAFE, NEAT, AND WORKMAN LIKE MANNER AT ALL TIMES. JOBSITE SAFETY SHALL NOT BE COMPROMISED.

17. THE CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.

18. SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING FROM THE SITE ALL ITEMS SHOWN TO REMOVED AND/OR DEMOLISHED. ALL MATERIALS REMOVED AND DEMOLISHED ONSITE SHALL BE COMPLETED BY THE SITE CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

19. ALL EXISTING ITEMS NOT SPECIFICALLY NOTED TO BE REMOVED SHALL REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPLACING ALL EXISTING ITEMS REMOVED OR DEMOLISHED THAT WERE TO REMAIN IN PLACE.

20. THE CONTRACTOR SHALL SAW CUT ALL EXISTING PAVEMENT, CURBS AND SIDEWALK AT THE LOCATION SPECIFIED ON THIS PLAN AND AT NEW PAVEMENT, CURB AND SIDEWALK JUNCTURES. NO JAGGED OR IRREGULAR CUTS WILL BE ACCEPTED.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AT THE ANTICIPATED INSTALLATION SITES WITH THE PROJECT WORK ZONE IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO CONSTRUCT THE PROJECT DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTORS [LAN SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, THE CONTRACTOR AND/OR THE CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND THE TRENCH EXCAVATION.

CAUTION!!!!

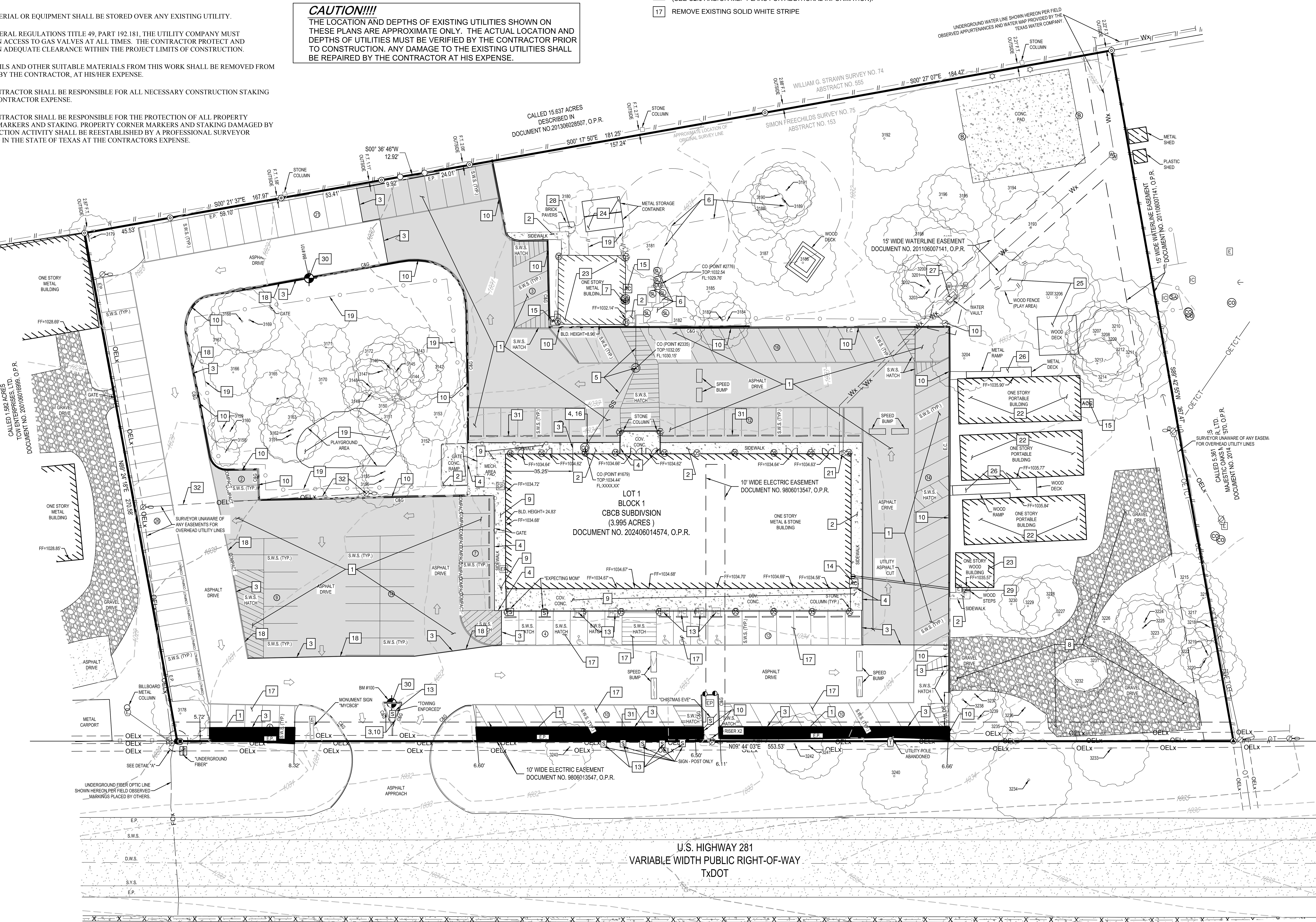
THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

KEYED NOTES

1. REMOVE AND DISPOSE OF EXISTING ASPHALT PAVING
2. REMOVE AND DISPOSE OF EXISTING CONCRETE FLATWORK AND SIDEWALK
3. SAW CUT AND PROTECT NEW EDGE OF EXISTING PAVEMENT.
4. SAW CUT AND PROTECT NEW EDGE OF EXISTING CONCRETE.
5. VERIFY LOCATION, ISOLATE, REROUTE, REMOVE AND DISPOSE OF EXISTING DOMESTIC SEWER SERVICE AS NEEDED. CONTRACTOR SHALL ENSURE SEWER IS MAINTAINED DURING DURATION OF CONSTRUCTION. SEE SHEET C2.0 FOR PROPOSED SERVICE REROUTE INFORMATION AND DETAILS.
6. CONTRACTOR SHALL COORDINATE AND OBTAIN PERMIT WITH COMAL COUNTY ENGINEERS OFFICE PRIOR TO COMMENCING CONSTRUCTION OR DEMOLITION OF WORK ON THE EXISTING ONSITE SEWERAGE FACILITY (OSSF). CONTRACTOR SHALL VERIFY LOCATION, ISOLATE, PUMP, CLEAN AND INSPECT THE EXISTING ONSITE SEPTIC SYSTEM. CONTRACTOR SHALL CRUSH/BACKFILL OR REMOVE/DISPOSE OF EXISTING SEPTIC TANKS AND SPRAY FIELD LINES. THE WORK & PERMITTING SHALL BE DONE IN ACCORDANCE WITH COMAL COUNTY'S OSSF STANDARDS AND REGULATIONS. SEE SHEET C2.0 FOR THE PROPOSED SERVICE REROUTE, AND ADDITIONAL IMPROVEMENT INFORMATION AND DETAILS.
7. EXISTING OSSF (SEPTIC) CONTROLS TO BE REMOVED AND DISPOSED OR REUSED IF POSSIBLE.
8. REMOVE AND DISPOSE OF EXISTING GRAVEL PARKING PARKING AREA.
9. PROTECT EXISTING CONCRETE SIDEWALK AND FLATWORK
10. REMOVE AND DISPOSE OF EXISTING CONCRETE CURB
11. PROTECT EXISTING FIRE HYDRANT ASSEMBLY AND ENSURE THE ASSEMBLY IS NOT BLOCKED DURING THE DURATION OF CONSTRUCTION.
12. PROPOSED UTILITY TIE IN POINT (SEE SHEET C2.0)
13. EXISTING SIGNS TO BE REMOVED AND STORED FOR REUSE IF NEEDED. OTHERWISE CONTRACTOR SHALL DISPOSE OF EXISTING SIGNS
14. REMOVE AND RELOCATE EXISTING AC UNIT ON A NEW CONCRETE PAD. NEW LOCATION TO BE DETERMINED BY THE MECHANICAL ENGINEER OR CONTRACTOR.
15. EXISTING AC UNITS TO BE REMOVED AND STORED FOR REUSE IF NEEDED. OTHERWISE CONTRACTOR SHALL DISPOSE OF EXISTING AC UNITS.
16. CUT, CAP AND RE-ROUTE EXISTING UTILITY SERVICE (SEE C2.0 AND/OR MEP PLANS FOR ADDITIONAL INFORMATION).
17. REMOVE EXISTING SOLID WHITE STRIPE
18. SAW CUT ON CENTER OF EXISTING RED FIRE LANE STRIPE
19. REMOVE AND DISPOSE OF EXISTING FENCE
20. EXISTING PLAYGROUND EQUIPMENT TO BE REMOVED AND STORED FOR REUSE IF NEEDED. OTHERWISE CONTRACTOR SHALL DISPOSE OF EXISTING PLAYGROUND.
21. PROTECT EXISTING WALL MOUNTED FDC AND ENSURE ACCESS IS NOT BLOCKED DURING CONSTRUCTION.
22. REMOVE AND RELOCATE EXISTING PORTABLE BUILDINGS AND APPURTENANCES TO THE NEW LOCATION ONSITE (SEE C1.0). ALL EXISTING UTILITIES SHALL BE SHUT OFF, DISCONNECTED AND REMOVED.
23. EXISTING BUILDINGS AND APPURTENANCES TO BE DEMOLISHED AND REMOVED. ALL EXISTING UTILITIES SHALL BE SHUT OFF, DISCONNECTED AND REMOVED.
24. EXISTING METAL STORAGE CONTAINERS TO BE REMOVED.
25. EXISTING WOOD DECK AND WOOD FENCED PLAY AREA TO BE REMOVED.
26. EXISTING PORTABLE RAMPS TO BE REMOVED, STORED AND REUSED IF POSSIBLE @ NEW PORTABLE LOCATION. OTHERWISE CONTRACTOR SHALL DISPOSE OF EXISTING RAMPS.
27. PROTECT EXISTING WATER VAULT
28. REMOVE AND DISPOSE OF BRICK PAVERS
29. REMOVE AND DISPOSE OF WOOD STEPS
30. PROTECT AND MAINTAIN EXISTING BENCH MARKS DURING CONSTRUCTION. CONTRACTOR CAN ALSO HIRE A TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR TO RELOCATE ONSITE IF DESIRED.
31. REMOVE AND STORE EXISTING PARKING LOT WHEEL STOPS FOR REUSE IF NEEDED. OTHERWISE CONTRACTOR SHALL DISPOSE.
32. EXISTING LIGHT POLE AND OVERHEAD ELECTRIC SERVICE TO BE REMOVED AND DISPOSED.

SCALE: 1"= 30'

0 30' 60' 90'



LOCATION MAP

NOT TO SCALE

LEGEND AND ABBREVIATIONS

(line)	PROPERTY LINE
OELx	ELECTRIC (OVERHEAD)
OET	ELECTRIC/TELEPHONE (OVERHEAD)
OETCT	ELECTRIC/TELEPHONE/CABLE TV (OVERHEAD)
SSx	SANITARY SEWER
SDx	STORM DRAIN
FOx	FIBER OPTIC (UNDERGROUND)
Wx	WATER
X X X X	CHAIN-LINK FENCE
// // // //	WOOD FENCE
○ ○ ○	CHAIN-LINK FENCE
□ □ □	IRON FENCE
X X X X	GAURD FENCE
	EXISTING CURB
	EXISTING CURB TO BE REMOVED
	EXISTING CONCRETE TO BE REMOVED
	EXISTING PAVEMENT TO BE REMOVED
②	PROPOSED PARKING SPOTS
♿	PROPOSED ACCESSIBLE PARKING
(TYP.)	TYPICAL FEATURE
TC:	TOP OF CURB ELEVATION
G:	GUTTER ELEVATION
C&G	CONCRETE CURB & GUTTER
F.T.	FENCE TIE
FL	FLOWLINE
E.C.	EDGE OF CONCRETE
E.P.	EDGE OF PAVEMENT
E.G.	EDGE OF GRAVEL
S.Y.S.	SOLID YELLOW STRIPE
S.W.S.	SOLID WHITE STRIPE
D.W.S.	DASHED WHITE STRIPE
BLDG.	BUILDING
CONC.	CONCRETE
○	SET 1/2" IRON ROD WITH A RED PLASTIC CAP STAMPED "MATKIN-HOOVER ENG. & SURVEY"
●	FOUND 1" IRON ROD
	FOUND PK NAIL WITH WASHER STAMPED " PROTECH"
	FOUND 1/2" IRON ROD WITH ALUMINUM CAP STAMPED "PROTECH"
	FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4233"
	FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4283"
	FOUND TxDOT MONUMENT, TYPE 1
	HORIZONTAL/VERTICAL CONTROL POINT
B	BASKETBALL POST
E	ELECTRIC METER
S	TRAFFIC SIGN
	HANDICAP
HC	HANDICAP SIGN
	UTILITY MARKERPOST
EP	ELECTRIC PANEL
E	ELECTRIC BOX
T	TELEPHONE PEDESTAL
SL	SEPTIC TANK LID
SA	SEPTIC ALARM
ST	SEPTIC TANK
	SANITARY SEWER CLEANOUT
	UTILITY STUBOUT
	UTILITY POLE
	UTILITY POLE WITH GUY WIRE
	UTILITY POLE WITH ELECTRIC TRANSFORMER
	UTILITY / LIGHT POLE
	LIGHT POLE
	BOLLARD POST
AC	A/C PAD
DS	DOWN SPOUT
W	WATER METER
	WATER VALVE
	FIRE HYDRANT
FDC	FIRE DEPT. CONNECTION
IC	IRRIGATION CONTROL VALVE
	PAINTED DIRECTIONAL ARROWS
	TREE

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKINHOOVER ENGINEERING & SURVEYING

HEADQUARTERS
8 SPENCER ROAD SUITE 300
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
GEORGETOWN, TEXAS REGISTERED SURVEYING FIRM F-10194347
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN ISLAND AT ENTRANCE
EL: 1032.35'

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH

7100 US-281

SPRING BRANCH, TEXAS 78070

EXISTING CONDITIONS SITE DEMOLITION PLAN

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

PLAT NO. N/A

JOB NO. 23-018

DATE AUGUST 2024

SHEET C0.1

PROGRESS SET

Date: Aug 08, 2024, 9:54am User ID: JLieck
File: C:\MODECO\JOBS\23-018 - CBCB - 7100 HWY 281\Design\CIVIL\EXDP23-018.dwg

DIMENSIONAL CONTROL NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB, TO FACE OF BUILDINGS, TO CENTER OF PAINT STRIPPING, OR PERPENDICULAR TO THE PROPERTY LINE. CONTRACTOR SHALL VERIFY DIMENSIONS MATCH STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY EXISTING SURVEYING STAKING IS PRESENT AND DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS PRIOR TO COMMENCING CONSTRUCTION.
5. THE CONTRACTOR IS REQUIRED TO CALL FOR UTILITY LOCATES.PRIOR TO COMMENCING CONSTRUCTION.
6. ALL FACE OF CURB RADII ARE 2.0 FEET, UNLESS NOTED OTHERWISE.
7. SEE CIVIL DETAIL SHEETS FOR APPLICABLE DETAILS.

PAVING NOTES:

1. ALL ON-SITE PAVEMENT IS TO BE ASPHALT PAVING OR AS SHOWN OR NOTED IN PLAN VIEW.
2. ALL CURBS ARE 6" HIGH, UNLESS OTHERWISE INDICATED.
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL CONFORM TO ALL APPLICABLE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION).
4. SEE CIVIL DETAILS FOR PAVEMENT DETAILS.
5. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CONCRETE, CURBS, AND SIDEWALKS AT NEW PAVEMENT, CONCRETE, CURB AND SIDEWALK JUNCTURES. NO JAGGED OR IRREGULAR CUTS WILL BE ALLOWED OR ACCEPTED.
6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITIONS, ANY DAMAGE DONE TO EXISTING UTILITIES, FENCE, PAVEMENT, CURBS, DRIVEWAYS OR SIDEWALKS TO REMAIN (NO SEPARATE PAY ITEM).

STRIPPING NOTES:

1. ALL PAVEMENT MARKINGS AND SIGNAGE REQUIREMENTS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" MUTCD LATEST EDITION.
2. ALL PAVEMENT MARKINGS ARE WHITE UNLESS OTHERWISE NOTED.
3. ALL TRAFFIC MARKINGS SHALL BE PAINTED TWICE. MARKINGS OTHER THAN YELLOW SHALL HAVE A SECOND COAT COLOR AS PER DETAIL AND STRIPPING PLAN.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AT THE ANTICIPATED INSTALLATION SITES WITH THE PROJECT WORK ZONE IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO CONSTRUCT THE PROJECT DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTORS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, THE CONTRACTOR AND/OR THE CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND THE TRENCH EXCAVATION.

CAUTION!!!!

THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

KEYED NOTES

1. PROPOSED CONCRETE SIDEWALK (WIDTH VARIES PER PLAN) (SEE C5.0, DTL. 4)
2. PROPOSED HANDICAP PARKING STALL AND LOADING ZONES (SEE C5.0, DTL. 1&2)
3. PROPOSED WHEEL STOP TYP. (SEE C5.0, DTL. 3)
4. PROPOSED SIDEWALK RAMP (SEE C5.0, DTL.8)
5. PROPOSED FLUSH CURB (SEE C5.0, DTL. 13)
6. PROPOSED 6" TALL STANDARD CURB (SEE C5.0, DTL. 5)
7. PROPOSED CROSS WALK (SEE C5.0, DTL. 9)
8. SAW CUT AND MATCH EXISTING PAVEMENT & CURB
9. MATCH EXISTING PAVEMENT ELEVATION AT FACE OF NEW CURB
10. TIE TO EXISTING SIDEWALK
11. PROTECT EXISTING SIDEWALK
12. PROPOSED CLEAN OUT (SEE C2.0)
13. PROPOSED EARTHEN DRAINAGE SWALE (SEE SHEET C4.0 FOR DETAILS)
14. 2' CURB TRANSITION FROM FLUSH TO STANDARD HEIGHT
15. CURB HEIGHT VARIES FROM 6" TO FLUSH @ TOP OF RAMP (SEE SHEET C4.0 FOR DETAILS)
16. PROPOSED RAMP, RAILING AND LANDING FOR PORTABLES (SEE ARCHITECTURAL/STRUCTURAL PLANS FOR DETAILS)
17. EXISTING BENCH MARK TO BE PROTECTED DURING CONSTRUCTION.
18. 2' WIDE CONCRETE "V" FLUME (SEE C4.0 FOR ADDITIONAL INFORMATION)
19. ROCK RIP RAP 3-5 INCH 2 LAYERS W/ GEOTEXTILE UNDERLAYMENT (ROCK SELECTION BY OWNER)
20. PROPOSED PERVIOUS PAVER SYSTEM, INFILL GRAVEL TYPE BY ARCHITECT/OWNER (TRUE GRIP PRO PLUS OR APPROVED EQUAL)
21. SEATING AND LANDSCAPE AREA (SEE ARCHITECTURAL PLANS FOR DETAILS)
22. PROPOSED PERVIOUS GRAVEL PATH W/PAVERS (TRUE GRIP PRO PLUS OR APPROVED EQUAL)
23. PROPOSED PLAYGROUND FENCE (SEE ARCHITECTURAL PLANS FOR DETIALS)
24. EXISTING PARKING LOT SURFACE SHALL BE CLEANED, REPAIRED, RESURFACED AND SEAL COATED COATED PRIOR TO PAINTING NEW PARKING LOT STRIPES
25. NEW PARKING LOT STRIPES TO TO MATCH EXISTING
26. NEW PARKING LOT STRIPES AND LAYOUT IN THIS AREA

PARKING SUMMARY TABLE	
LAND/BUILDING USE	CHURCH
BUILDING SQUARE FOOTAGE	12,786 SQFT
STANDARD PARKING STALLS (9'x18')	
EXISTING STANDARD PARKING STALLS TO REMAIN	50
PROPOSED STANDARD PARKING STALLS	161
SUBTOTAL STANDARD PARKING STALLS	211
ACCESSIBLE PARKING (ADA)	
REQUIRED STANDARD ACCESSIBLE PARKING STALLS	6
REQUIRED "V" VAN ACCESSIBLE PARKING STALLS	1
EXISTING "V" VAN ACCESSIBLE PARKING STALLS	0
EXISTING STANDARD ACCESSIBLE PARKING STALLS	0
PROPOSED STANDARD ACCESSIBLE PARKING STALLS	6
PROPOSED "V" VAN ACCESSIBLE PARKING STALLS	1
SUBTOTAL OF ACCESSIBLE PARKING	7
TOTAL PROPOSED AND EXISTING PARKING SPACES	218

LOCATION MAP
NOT TO SCALE

0 30' 60' 90'

SCALE: 1"= 30'

LEGEND AND ABBREVIATIONS

- PROPERTY LINE
- CHAIN-LINK FENCE
- WOOD FENCE
- CHAIN-LINK FENCE
- IRON FENCE
- GAURD FENCE
- EXISTING CURB
- PROPOSED 6" STANDARD CURB
- PROPOSED FLUSH CURB
- PROPOSED SAW TOOTH CURB
- PROPOSED RETAINING WALL
- PROPOSED CONCRETE
- HEAVY DUTY PAVEMENT (SEE SHEET C5.0)
- LIGHT DUTY PAVEMENT (SEE SHEET C5.0)
- (2) PROPOSED PARKING SPOTS
- PROPOSED ACCESSIBLE PARKING
- (TYP.) TYPICAL FEATURE
- TC: TOP OF CURB ELEVATION
- G: GUTTER ELEVATION
- C&G CONCRETE CURB & GUTTER
- F.T. FENCE TIE
- FL FLOWLINE
- E.C. EDGE OF CONCRETE
- E.P. EDGE OF PAVEMENT
- E.G. EDGE OF GRAVEL
- S.Y.S. SOLID YELLOW STRIPE
- S.W.S. SOLID WHITE STRIPE
- D.W.S. DASHED WHITE STRIPE
- BLDG. BUILDING
- CONC. CONCRETE
- SET 1/2" IRON ROD WITH A RED PLASTIC CAP STAMPED "MATKIN-HOOVER ENG. & SURVEY"
- FOUND 1" IRON ROD
- FOUND PK NAIL WITH WASHER STAMPED " PROTECH"
- FOUND 1/2" IRON ROD WITH ALUMINUM CAP STAMPED "PROTECH"
- FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4233"
- FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4283"
- FOUND TxDOT MONUMENT, TYPE 1
- HORIZONTAL/VERTICAL CONTROL POINT
- (B) BASKETBALL POST
- (E) ELECTRIC METER
- [S] TRAFFIC SIGN
- HANDICAP
- [HC] HANDICAP SIGN
- UTILITY MARKERPOST
- [EP] ELECTRIC PANEL
- [E] ELECTRIC BOX
- [T] TELEPHONE PEDESTAL
- (SL) SEPTIC TANK LID
- (SA) SEPTIC ALARM
- [ST] SEPTIC TANK
- SANITARY SEWER CLEANOUT
- UTILITY STUBOUT
- UTILITY POLE
- UTILITY POLE WITH GUY WIRE
- UTILITY POLE WITH ELECTRIC TRANSFORMER
- UTILITY / LIGHT POLE
- LIGHT POLE
- BOLLARD POST
- [AC] A/C PAD
- DOWN SPOUT
- [W] WATER METER
- WATER VALVE
- FIRE HYDRANT
- FIRE DEPT. CONNECTION
- [IC] IRRIGATION CONTROL VALVE
- PAINTED DIRECTIONAL ARROWS
- TREE

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKIN HOOVER ENGINEERING & SURVEYING

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN BLAND AT ENTRANCE
EL: 1032.35'

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070

DIMENSIONAL CONTROL AND PAVING PLAN

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C1.0

PROGRESS SET

GENERAL UTILITY CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT. (AT THE CONTRACTORS EXPENSE)
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT BEST MANAGEMENT PRACTICES TO ENSURE SEDIMENT AND EROSION WILL BE CONTAINED WITHIN THE DESIGNATED PROJECT WORK ZONE.
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL BE APPROVED BY THE TEXAS WATER COMPANY AND COMPLY WITH THE FOLLOWING AS APPLICABLE:
   A. CURRENT “TEXAS WATER COMPANY'S, WATER STANDARD GUIDELINES AND SPECIFICATIONS ”
   B. CURRENT “TEXAS WATER COMPANY'S, WASTEWATER STANDARD SPECIFICATIONS”
   C. CURRENT CITY OF SAN ANTONIO “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION”
   D. CURRENT TXDOT “STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE”
4. CONTRACTOR MUST CALL TEXAS ONE CALL SYSTEM PRIOR TO CONSTRUCTION OR ANY TYPE OF DIGGING.
5. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

TEXAS WATER COMPANY (WATER)			1-830-312-4600
TEXAS STATE WIDE ONE CALL LOCATOR (TEXAS 811)	811	OR	1-800-545-6005
GVTC			“
SPECTRUM			“
PERDENALES ELECTRICCOOPERATIVE, INC.			“

6. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS/HER EXPENSE.
7. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON THE PLANS OR NOT.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING CPS ENERGY OVERHEAD AND UNDERGROUND ELECTRIC UTILITIES WITHIN OR ADJACENT TO WORK AREAS.
9. NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, UTILITIES, SIGNS, LANDSCAPING, STRUCTURES AND DRAINAGE SYSTEMS AT NO ADDITIONAL COST.
11. NO MATERIAL OR EQUIPMENT SHALL BE STORED OVER ANY EXISTING UTILITY.
12. PER FEDERAL REGULATIONS TITLE 49, PART 192.181, THE NATURAL GAS PROVIDER MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR PROTECT AND MAINTAIN ADEQUATE CLEARANCE WITHIN THE PROJECT LIMITS OF CONSTRUCTION.
13. THE CONTRACTOR SHALL PROCEED WITH CAUTION WHEN EXCAVATING IN THE VICINITY OF TREES. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. THE CONTRACTOR SHALL CONTACT THE CITY ARBORIST FOR GUIDANCE.
14. ALL SPOILS AND OTHER SUITABLE MATERIALS FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS/HER EXPENSE.
15. ALL SERVICES ARE BROUGHT TO WITHIN 5 FEET OF THE BUILDING, THE CONTRACTOR/PLUMBER SHALL CONNECT ALL SERVICES TO THE BUILDING IN ACCORDANCE WITH THE APPROPRIATE PLUMBING CODE AND/OR AS DIRECTED BY THE PLUMBING INSPECTOR.
16. ELECTRICAL SERVICES HAVE BEEN SHOWN ON THE PLANS FOR REFERENCE PURPOSES ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT CPS ENERGY AND TEXAS ONE CALL SYSTEM 48 HOURS IN ADVANCE TO DETERMINE LOCATION OF ELECTRICAL UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
17. TOPOGRAPHIC INFORMATION HAS NOT BEEN PROVIDED ON THE UTILITY PLAN. IT IS THE CONTRACTORS RESPONSIBILITY TO REFERENCE THE GRADING AND DRAINAGE PLAN FOR TOPOGRAPHIC INFORMATION.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CONSTRUCTION STAKING AT THE CONTRACTOR EXPENSE.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS AND STAKING. PROPERTY CORNER MARKERS AND STAKING DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF TEXAS AT THE CONTRACTORS EXPENSE.
20. CONTRACTOR SHALL MAINTAIN THE JOBSITE IN A SAFE, NEAT, AND WORKMAN LIKE MANNER AT ALL TIMES. JOBSITE SAFETY SHALL NOT BE COMPROMISED.
21. THE CONTRACTOR SHALL MAINTAIN A MINIMUM DEPTH OF BURY OF 4-FEET TO THE TOP OF PIPE FOR ALL PUBLIC WATER SERVICE MAINS 6" AND LARGER.
22. THE CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
23. THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER LINE AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY)
24. NO WATER JETTING IS ALLOWED.
25. THE CONTRACTOR SHALL REFERENCE AND FOLLOW THE REQUIREMENTS AND NOTES OUTLINED BY THE TEXAS WATER COMPANY FOR THE CONSTRUCTION OF THE UTILITIES FOR THIS PROJECT.

TRAFFIC CONTROL NOTE:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT AND COMPLY WITH ALL TRAFFIC CONTROL REQUIREMENTS SET FORTH BY ALL REGULATING ENTITIES PRIOR TO THE START OF ANY WORK.

TRENCH EXCAVATION SAFETY PROTECTION

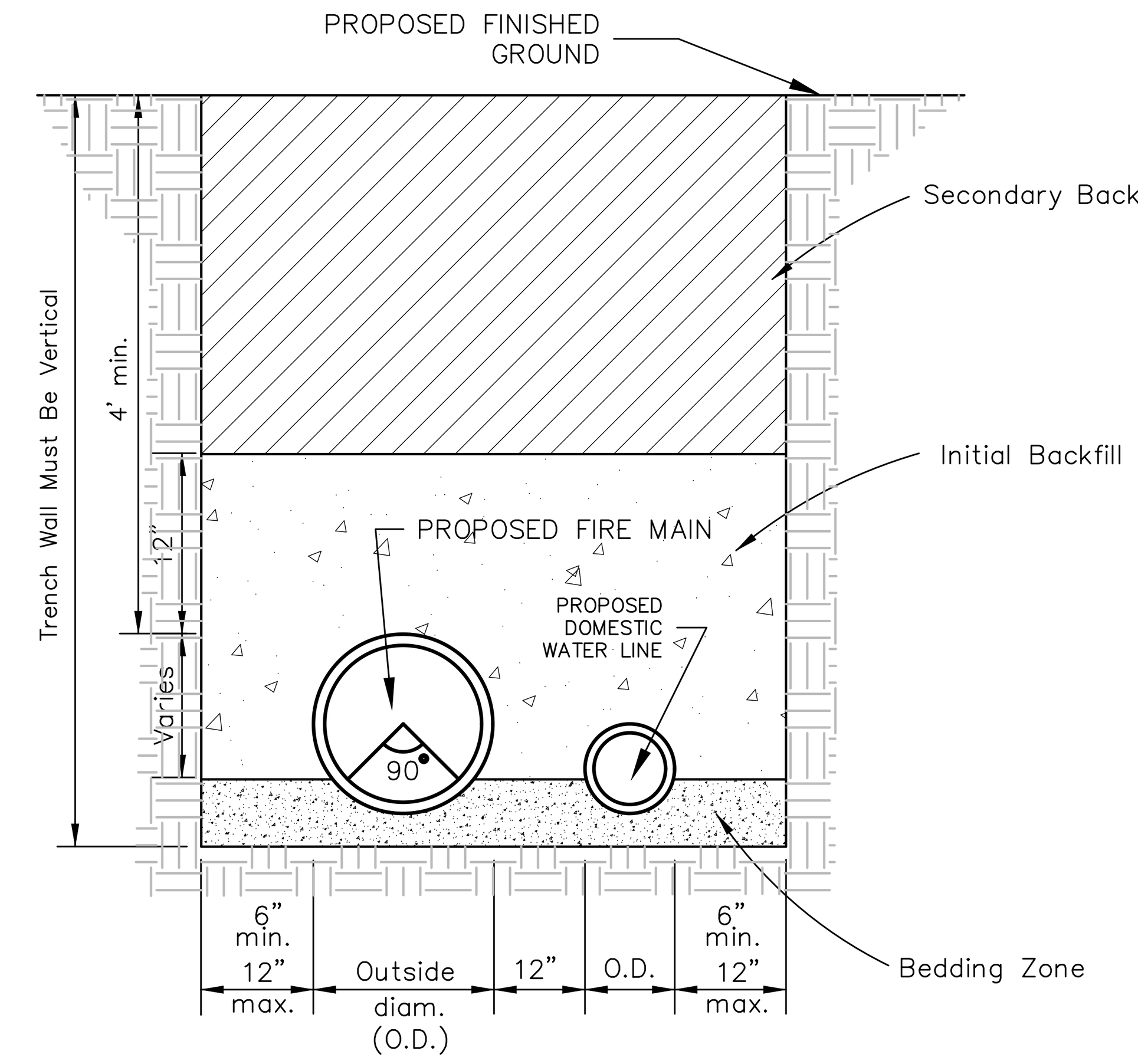
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AT THE ANTICIPATED INSTALLATION SITES WITH THE PROJECT WORK ZONE IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO CONSTRUCT THE PROJECT DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTORS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, THE CONTRACTOR AND/OR THE CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND THE TRENCH EXCAVATION.

CAUTION!!!!

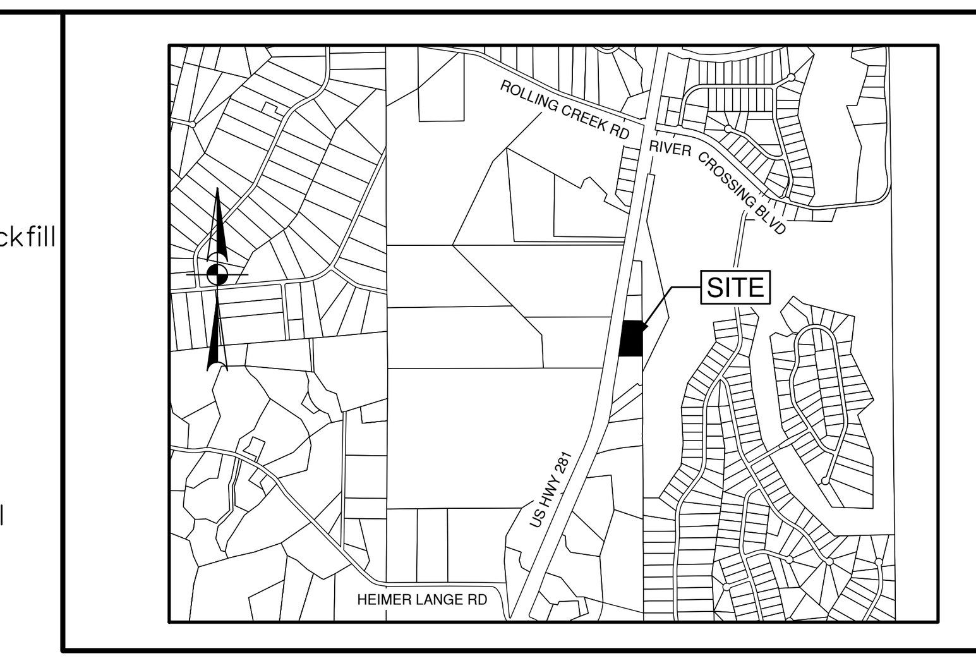
THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

TOPOGRAPHY NOTE

THE EXISTING AND PROPOSED TOPOGRAPHIC CONTOUR DATA AND SPOT ELEVATIONS ARE SHOWN ON THE GRADING AND DRAINAGE PLAN SHEET C4.0. THE UTILITY CONTRACTOR SHALL REFERENCE THE GRADING AND DRAINAGE PLAN FOR ADDITIONAL INFORMATION ON THE EXISTING AND PROPOSED CONTOURS AND SPOT ELEVATIONS.



JOINT TRENCH DETAIL

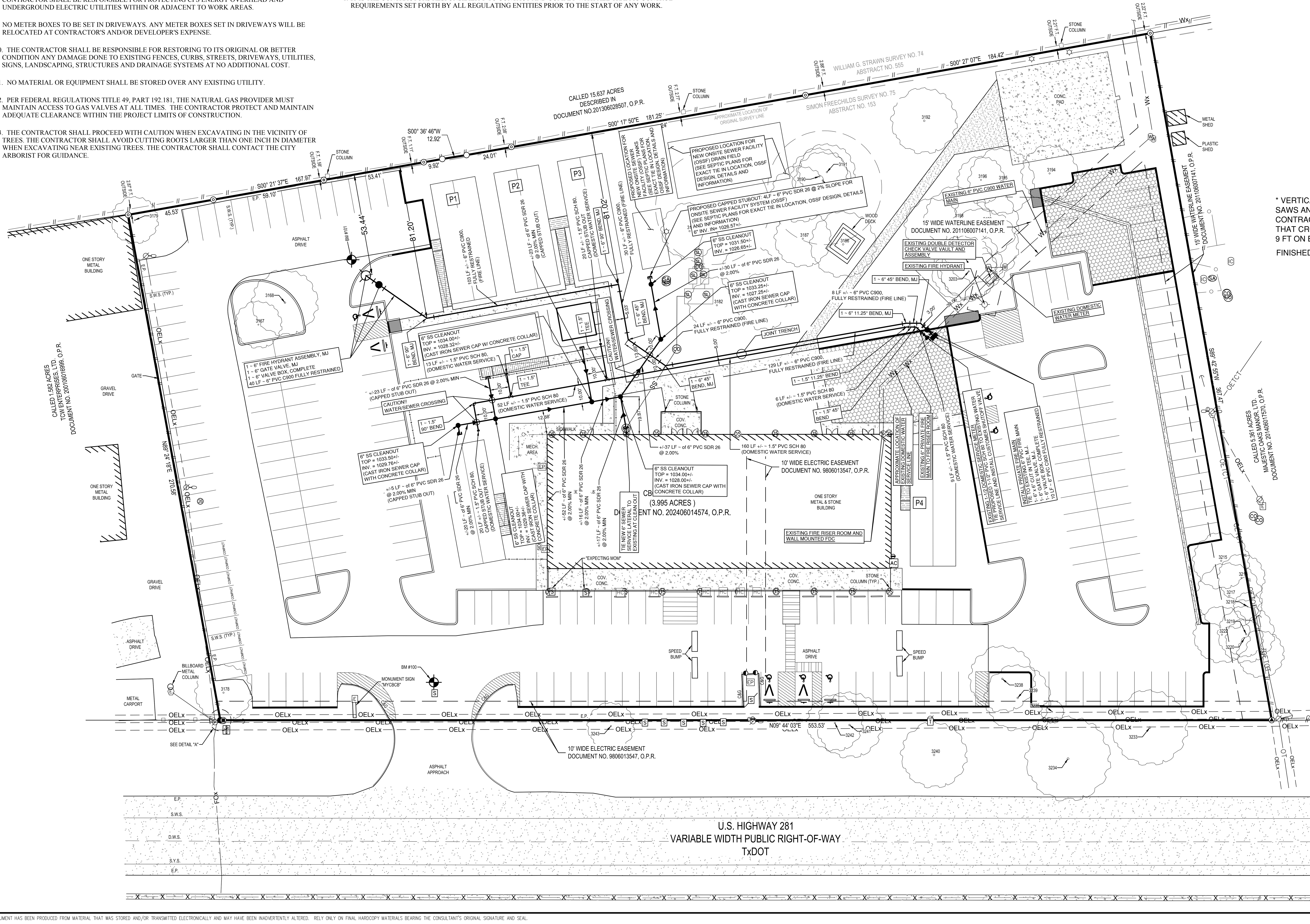


LOCATION MAP

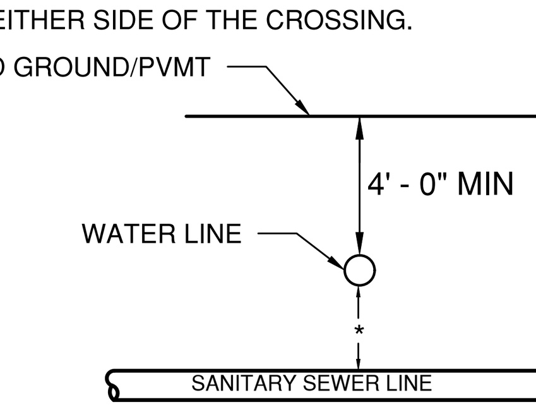
NOT TO SCALE

SCALE: 1"= 30'

0 30' 60' 90'



* VERTICAL SEPARATION DISTANCE SHALL COMPLY WITH SAWS AND TCEQ REQUIREMENTS. AT A MINIMUM THE CONTRACTOR SHALL CONCRETE ENCASE ALL WATER LINES THAT CROSS WITHIN 2' OR LESS OF A SANITARY SEWER LINE 9 FT ON EITHER SIDE OF THE CROSSING.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NTS

FIRE MAIN CONSTRUCTION NOTES:

1. CONNECTION TO EXISTING 6" WATER MAIN: CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING 6” WATER MAIN. CONTRACTOR SHALL ISOLATE EXISTING 6” WATER MAIN, BLOW OFF WATER PRESSURE, AND CONNECT THE PROPOSED 6" WATER MAIN.
2. ALL PIPING SHALL BE MINIMUM CLASS 200. THE PROPOSED FIRE MAIN SHALL BE PVC C900 (DR14) PIPE.
3. WHERE THE PROPOSED FIRE MAIN IS IN CONFLICT WITH OTHER UNDERGROUND UTILITIES THE CONTRACTOR SHALL INSTALL BENDS AS NECESSARY TO REROUTE THE WATER MAIN AND RESOLVE CONFLICT.
4. ALL PROPOSED WATER MAIN SHALL BE BURIED A MINIMUM OF 4 FEET.
5. CONTRACTOR SHALL CHLORINATE NEW MAIN WITH HTH.
6. ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH TEXAS WATER COMPANY STANDARD SPECIFICATIONS AND REQUIREMENTS. THE ONSITE FIRE MAIN SHALL BE TESTED BY THE CONTRACTOR AND THE ENGINEER OR INSPECTOR MUST BE PRESENT DURING THE TEST.
7. FIRE MAIN SHALL ALSO BE FLUSHED AND TESTED IN ACCORDANCE WITH NFPA 24.
8. AFTER DISINFECTION, TESTING AND ACCEPTANCE THE CONTRACTOR SHALL FINALIZE CONNECTIONS AND REFILL THE EXISTING FIRE MAIN.
9. THE WATER MAIN AND FIRE MAIN SHALL BE RESTRAINED AS INDICATED IN PLAN VIEW.

LEGEND AND ABBREVIATIONS

Symbol	Description
	PROPERTY LINE
OELx	ELECTRIC (OVERHEAD)
OET	ELECTRIC/TELEPHONE (OVERHEAD)
OETCT	ELECTRIC/TELEPHONE/CABLE TV (OVERHEAD)
SSx	SANITARY SEWER
SDx	STORM DRAIN
FOx	FIBER OPTIC (UNDERGROUND)
Wx	WATER
X X X X	CHAIN-LINK FENCE
// // // //	WOOD FENCE
○ ○ ○	CHAIN-LINK FENCE
□ □ □	IRON FENCE
X X X X	GAURD FENCE
FITTINGS AND VALVES; FIRE HYDRANT ASSEMBLY	PROPOSED WATER LINE AND FITTINGS
	PROPOSED SEWER MAIN AND CLEANOUT
(TYP.)	TYPICAL FEATURE
TC:	TOP OF CURB ELEVATION
G:	GUTTER ELEVATION
C&G	CONCRETE CURB & GUTTER
F.T.	FENCE TIE
FL	FLOWLINE
E.C.	EDGE OF CONCRETE
E.P.	EDGE OF PAVEMENT
E.G.	EDGE OF GRAVEL
S.Y.S.	SOLID YELLOW STRIPE
S.W.S.	SOLID WHITE STRIPE
D.W.S.	DASHED WHITE STRIPE
BLDG.	BUILDING
CONC.	CONCRETE
○	SET 1/2" IRON ROD WITH A RED PLASTIC CAP STAMPED "MATKIN-HOOVER ENG. & SURVEY"
●	FOUND 1" IRON ROD
	FOUND PK NAIL WITH WASHER STAMPED " PROTECH"
	FOUND 1/2" IRON ROD WITH ALUMINUM CAP STAMPED "PROTECH"
	FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4233"
	FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED "RPLS 4283"
	FOUND TxDOT MONUMENT, TYPE 1
	HORIZONTAL/VERTICAL CONTROL POINT
B	BASKETBALL POST
E	ELECTRIC METER
S	TRAFFIC SIGN
	HANDICAP
HC	HANDICAP SIGN
	UTILITY MARKERPOST
EP	ELECTRIC PANEL
E	ELECTRIC BOX
T	TELEPHONE PEDESTAL
SL	SEPTIC TANK LID
SA	SEPTIC ALARM
ST	SEPTIC TANK
	SANITARY SEWER CLEANOUT
	UTILITY STUBOUT
	UTILITY POLE
	UTILITY POLE WITH GUY WIRE
	UTILITY POLE WITH ELECTRIC TRANSFORMER
	UTILITY / LIGHT POLE
	LIGHT POLE
	BOLLARD POST
AC	A/C PAD
DS	DOWN SPOUT
W	WATER METER
	WATER VALVE
	FIRE HYDRANT
FDC	FIRE DEPT. CONNECTION
IC	IRRIGATION CONTROL VALVE
	PAINTED DIRECTIONAL ARROWS
	TREE

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKINHOOVER ENGINEERING & SURVEYING

HEADQUARTERS 8 SPENCER ROAD SUITE 300 BOERNE, TEXAS 78006 OFFICE: 830.249.0600 FAX:830.249.0099
3303 SHELL ROAD SUITE 3 GEORGETOWN, TEXAS 78628 OFFICE: 512.868.2244
GEORGETOWN, TEXAS REGISTERED SURVEYING FIRM F-10194347
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN ISLAND AT ENTRANCE
EL: 1032.35'

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070

SITE UTILITY PLAN

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

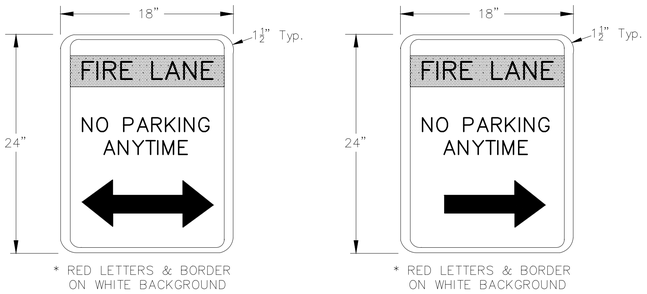
PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C2.0

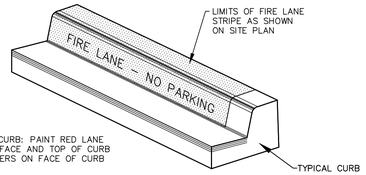
PROGRESS SET

Date: Aug 07, 2024, 10:02pm User ID: JLieck
File: C:\MODECO\JOBS\23-018 - CBCB - 7100 HWY 281\Design\CIVIL\SUP23-018.dwg

FIRE LANE SIGNAGE REQUIREMENTS

1. Signs should be standard size (18" x 24") as specified by Texas Manual on Uniform Traffic Control Devices on Streets and Highways - Code R7 - 35..
2. Signs should have RED letters and border on a WHITE background.
3. For designated fire lanes less than forty (40) feet: Provide one (1) sign with a double arrow.
4. For designated fire lanes from forty (40) feet to ninety (90) feet: Provide two (2) signs with right and left arrows.
5. For designated fire lanes of one hundred (100) feet or more: Provide three (3) signs with right/left and double arrows in the middle.
6. The bottom edge of the sign must be at least seven (7) feet above grade where the sign is installed and at least two (2) feet from the curb edge.
7. Final layout of fire lane markings and signage shall be coordinated with the Fire Dept. inspector prior to installation

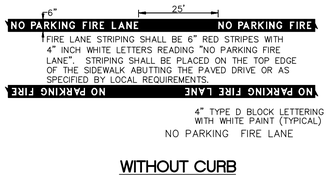




1. STANDARD 6" CURB: PAINT RED LANE STRIPE ON BOTH FACE AND TOP OF CURB PAINT WHITE LETTERS ON FACE OF CURB ONLY

2. 50 FOOT SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

WITH CURB



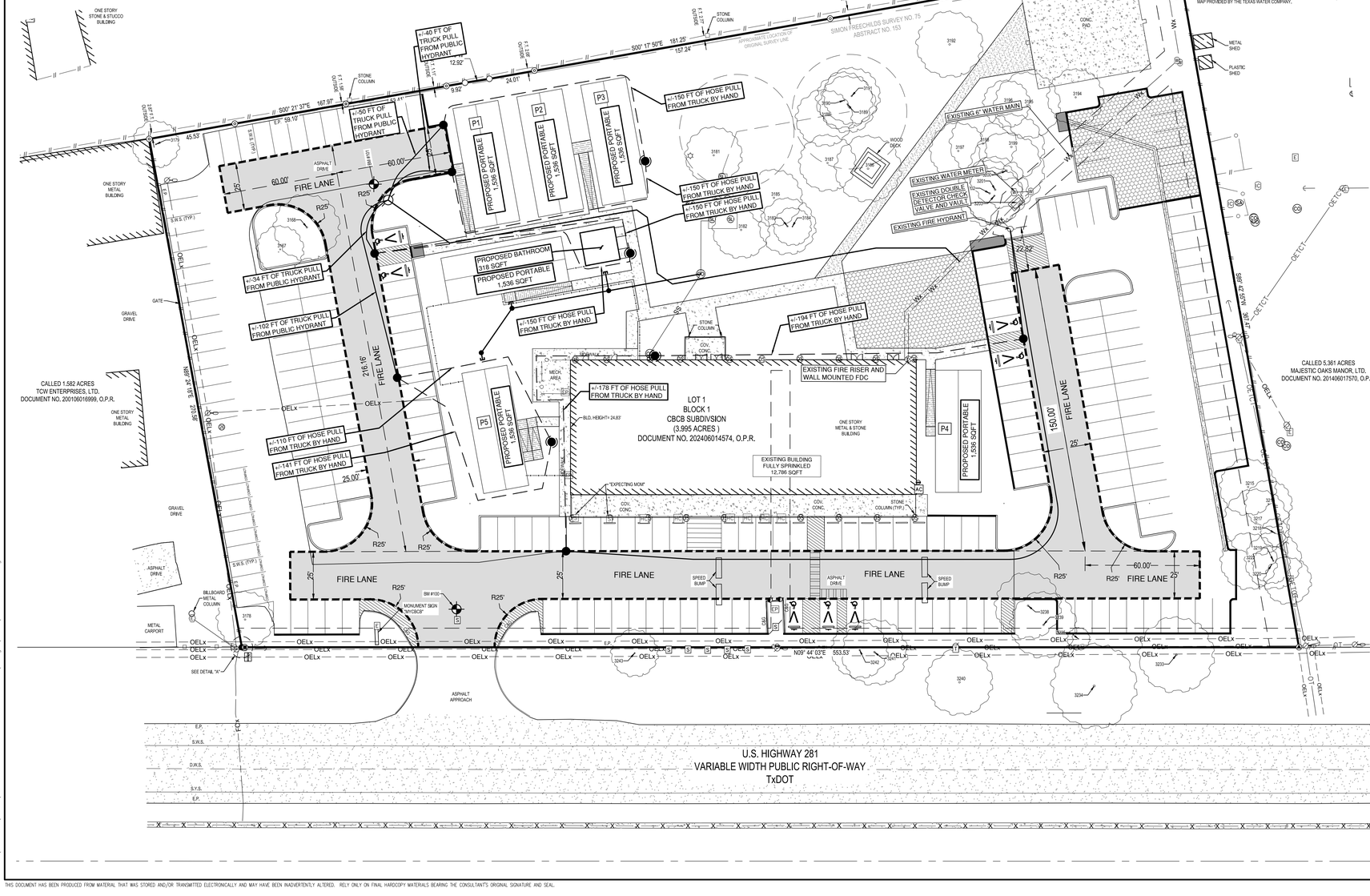
WITHOUT CURB

FIRE LANE MARKING DETAIL

(NOT TO SCALE)

LOCATION MAP

NOT TO SCALE



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Wx	WATER
X X X X	CHAIN-LINK FENCE
// // // //	WOOD FENCE
O O O O	CHAIN-LINK FENCE
□ □ □ □	IRON FENCE
X X X X	GAURD FENCE
	EXISTING CURB
	PROPOSED 6" STANDARD CURB
	PROPOSED FLUSH CURB
	PROPOSED SAW TOOTH CURB
	PROPOSED RETAINING WALL
	PROPOSED CONCRETE
	HEAVY DUTY PAVEMENT (SEE SHEET C5.0)
	LIGHT DUTY PAVEMENT (SEE SHEET C5.0)
(2)	PROPOSED PARKING SPOTS
♿	PROPOSED ACCESSIBLE PARKING
(TYP.)	TYPICAL FEATURE
TC:	TOP OF CURB ELEVATION
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	WATER VALVE
	FIRE HYDRANT
FC	FIRE DEPT. CONNECTION
IC	IRRIGATION CONTROL VALVE
	PAINTED DIRECTIONAL ARROWS
	TREE

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKIN HOOVER ENGINEERING & SURVEYING

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN BLAND AT ENTRANCE
EL: 1032.39

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE: FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070

FIRE PROTECTION SITE PLAN

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C3.0

PROGRESS SET

Date: Aug 06, 2024, 2:35pm User ID: JLieck
Files: C:\MODECO\JOBS\23-018 - CBCB - 7100 HWY 281\Design\CIVIL\FPSP23-018.dwg

GRADING AND DRAINAGE NOTES:

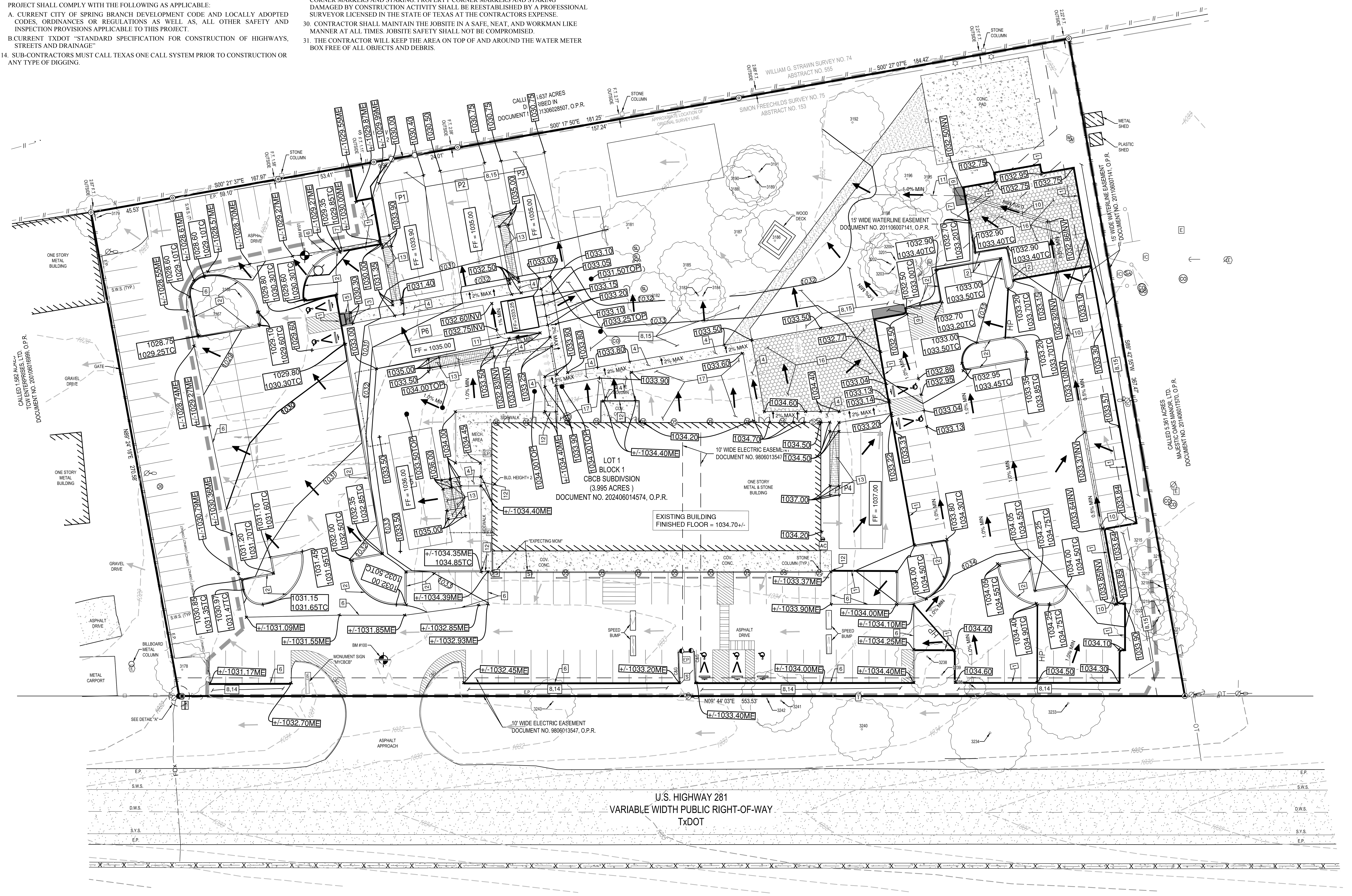
1. ALL GRADES AND CONTOURS SHOWN ARE FINAL TOP OF FINISHED SURFACE ELEVATIONS.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACES AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL FOUNDATIONS. CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
3. NO ABRUPT CHANGES OF GRADE SHALL OCCUR.
4. ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS SHALL BE STRIPPED OF VEGETATION AND LOOSE TOP SOIL. ANY POCKETS OF DEBRIS ENCOUNTERED SHOULD ALSO BE REMOVED.
5. ALL DISTURBED AREAS, LANDSCAPE ISLANDS, AND LANDSCAPE AREAS WITHIN THE PROJECT LIMITS SHALL BE RE-VEGETATED, BY THE CONTRACTOR, WITH A MINIMUM OF 6" OF TOP SOIL AND A GRASS SOD OR GRASS SEED MIXTURE THAT IS COMMON TO THE PROJECT SITE AND SURROUNDING AREA OR IN ACCORDANCE WITH THE LANDSCAPING PLANS.
6. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
7. REFER TO THE GEOTECHNICAL REPORT FOR SUBSURFACE INFORMATION AND CONSTRUCTION GUIDELINES.
8. ALL EXCAVATION IS UNCLASSIFIED.
9. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCE, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, INTO EXISTING STORM DRAINS OR ONTO ADJACENT STREETS OR WALKWAYS. CLEAN UP OF SILT WASHED OFFSITE SHALL BE CONTRACTOR'S SOLE EXPENSE AND SHALL BE DONE IMMEDIATELY AFTER EACH OCCURRENCE. CONTRACTOR MUST MAINTAIN AND DEVELOP AN EROSION AND SEDIMENTATION CONTROL PLAN DURING CONSTRUCTION.
10. CONTRACTOR SHALL ADJUST THE TOP ELEVATIONS AS NECESSARY OF ALL CLEANOUTS, MANHOLES, VALVE BOXES, METER BOXES, JUNCTION BOXES, ETC. TO MATCH PROPOSED GRADES AND PREVENT PONDING OF WATER ON TOP OF THESE ITEMS. (NO SEPARATE PAY ITEM)
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT. (AT THE CONTRACTORS EXPENSE)
12. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT BEST MANAGEMENT PRACTICES TO ENSURE SEDIMENT AND EROSION WILL BE CONTAINED WITHIN THE DESIGNATED PROJECT WORK ZONE.
13. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL COMPLY WITH THE FOLLOWING AS APPLICABLE:
    A. CURRENT CITY OF SPRING BRANCH DEVELOPMENT CODE AND LOCALLY ADOPTED CODES, ORDINANCES OR REGULATIONS AS WELL AS, ALL OTHER SAFETY AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
    B. CURRENT TXDOT "STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE"
14. SUB-CONTRACTORS MUST CALL TEXAS ONE CALL SYSTEM PRIOR TO CONSTRUCTION OR ANY TYPE OF DIGGING.
15. EXISTING UTILITIES ARE SHOWN ON THE UTILITY PLAN. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO COMMENCING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
16. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON THE PLANS OR NOT.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL OVERHEAD AND UNDERGROUND ELECTRIC UTILITIES WITHIN OR ADJACENT TO WORK AREAS.
18. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS IN PAVEMENT WILL BE ACCEPTED.
19. ALL CURBS ARE (0.5') 6" UNLESS OTHERWISE SPECIFIED.
20. SEE CIVIL DETAIL SHEETS FOR APPLICABLE DETAILS.
21. EXISTING BUILDINGS SHALL REMAIN ACCESSIBLE AT ALL TIMES. CONTRACTOR SHALL PROVIDE SAFE INGRESS/EGRESS TO ALL BUILDINGS AT ALL TIMES.
22. NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, UTILITIES, SIGNS, LANDSCAPING, STRUCTURES AND DRAINAGE SYSTEMS AT NO ADDITIONAL COST.
24. NO MATERIAL OR EQUIPMENT SHALL BE STORED OVER ANY EXISTING UTILITY.
25. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ACCESS AND ADEQUATE CLEARANCE TO GAS VALVES AT ALL TIMES WITHIN THE PROJECT LIMITS OF CONSTRUCTION.
26. THE CONTRACTOR SHALL PROCEED WITH CAUTION WHEN EXCAVATING IN THE VICINITY OF TREES. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. THE CONTRACTOR SHALL CONTACT THE CITY ARBORIST FOR GUIDANCE.
27. ALL SPOILS AND OTHER SUITABLE MATERIALS FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS/HER EXPENSE.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CONSTRUCTION STAKING AT THE CONTRACTOR EXPENSE.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS AND STAKING. PROPERTY CORNER MARKERS AND STAKING DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF TEXAS AT THE CONTRACTORS EXPENSE.
30. CONTRACTOR SHALL MAINTAIN THE JOBSITE IN A SAFE, NEAT, AND WORKMAN LIKE MANNER AT ALL TIMES. JOBSITE SAFETY SHALL NOT BE COMPROMISED.
31. THE CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.

KEYED NOTES

1	FLUSH CURB (SEE C1.0 AND C5.0 FOR DETAILS)
2	STANDARD CURB (SEE C1.0 AND C5.0 FOR DETAILS)
3	PROPOSED SIDEWALK RAMP (SEE C1.0 & C5.0)
4	PROPOSED CONCRETE SIDEWALK (SEE C1.0 AND C5.0 FOR DETAILS)
5	CURB HEIGHT VARIES FROM 6" TO FLUSH @ END OF RAMP
6	MATCH EXISTING PAVEMENT ELEVATION AND/OR CURB AT THE SAW CUT EDGE
7	2' CURB TRANSITION FROM STANDARD TO FLUSH CURB
8	HYDRO SEED OR SOD ALL DISTURBED, IMPROVED OR GRADED AREAS (SEE LANDSCAPE PLANS IF AVAILABLE FOR ADDITIONAL INFORMATION)
9	ROCK RIP-RAP 4-6 INCH 2 LAYERS WITH GEO-TEXTILE UNDER LAMENT (ROCK SELECTION BY OWNER)
10	2' WIDE CONCRETE "V" FLUME @ 0.5% MINIMUM SLOPE W/ 1% SIDE SLOPES
11	VEGETATED EARTHEN DRAINAGE SWALE @ 1% MINIMUM SLOPE
12	MATCH EXISTING CONCRETE ELEVATION
13	PROPOSED RAMP, LANDING, AND RAILING FOR PORTABLES (SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS)
14	RE-GRADE AREA TO MATCH PROPOSED BACK OF CURB (MINIMUM 2% SLOPE)
15	RE-GRADE AREA TO MATCH PROPOSED BACK OF CURB (MINIMUM 1% SLOPE)
16	PROPOSED PERVIOUS PAVEMENT (TRUE GRID PRO PLUS OR APPROVED EQUAL, INFILL GRAVEL TYPE BY ARCHITECT/OWNER)
17	PROPOSED LANDSCAPE AND SEATING AREAS TO BE GRADED FOR POSITIVE DRAINAGE (MINIMUM 1% SLOPE)

SCALE: 1"= 30'

0 30' 60' 90'



LOCATION MAP

NOT TO SCALE

LEGEND AND ABBREVIATIONS

- PROPERTY BOUNDARY LINE
- PROJECT LIMITS
- PROPOSED FLOW ARROW
- EXISTING FLOW ARROW
- SWALE
- PROPOSED CONCRETE FLATWORK
- 902.90 TC — PROPOSED TOP OF CURB ELEVATION
- 902.90 — PROPOSED ELEVATION
- 902.90 ME — MATCH EXISTING ELEVATION
- 902.90 TL — PROPOSED TOP OF LANDING ELEVATION
- 902.90 BS — PROPOSED BOTTOM OF STAIRS ELEVATION
- 902.90 TS — PROPOSED TOP OF STAIRS ELEVATION
- 902.90 TW — PROPOSED TOP OF WALL
- 902.90 BW — PROPOSED BOTTOM OF WALL
- 902.90INV — PROPOSED INVERT ELEVATION
- 1088 — EXISTING 1' CONTOURS
- 901 / 900 — PROPOSED CONTOURS

HP	HIGH POINT
ES	EARTHEN SWALE
APPROX.	APPROXIMATELY
INV.	INVERT
PVC	POLYVINYL CHLORIDE
ROW	RIGHT-OF-WAY
C.M.	CONTROLLING MONUMENT
B.S.	BUILDING SETBACK
()	RECORD INFORMATION
CRZ	CRITICAL ROOT ZONE

SIDEWALK/CROSSWALK GRADING NOTE:
THE MAXIMUM RUNNING SLOPE AND CROSS SLOPE SHALL BE 5% AND 2% MAXIMUM, RESPECTIVELY, FOR ALL PROPOSED SIDEWALKS, CROSSWALKS AND/OR ACCESSIBLE ROUTES.

HANDICAP PARKING AREA GRADING NOTE:
THE MAXIMUM RUNNING SLOPE AND CROSS SLOPE SHALL BE 2% FOR ALL PROPOSED HANDICAP ACCESSIBLE PARKING AND LOADING AREAS.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AT THE ANTICIPATED INSTALLATION SITES WITH THE PROJECT WORK ZONE IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO CONSTRUCT THE PROJECT DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTORS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, THE CONTRACTOR AND/OR THE CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND THE TRENCH EXCAVATION.

CAUTION!!!!

THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKINHOOVER ENGINEERING & SURVEYING
HEADQUARTERS
8 SPENCER ROAD SUITE 300
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
GEORGETOWN, TEXAS REGISTERED SURVEYING FIRM F-10194347
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN ISLAND AT ENTRANCE
EL: 1032.35'

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070
GRADING AND DRAINAGE PLAN

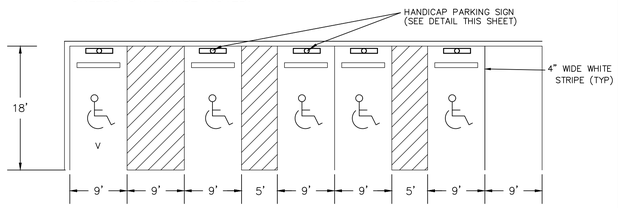
LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C4.0

PROGRESS SET

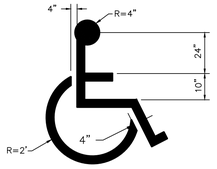
Date: Aug 07, 2024, 12:56pm User ID: JLieck
File: C:\MODECO\JOBS\23-018 - CBCB - 7100 HWY 281\Design\CIVIL\GRDP23-018.dwg

NOTE: ALL PAVEMENT MARKINGS AND SIGNAGE OF HANDICAP PARKING AREAS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TAS/ADA STANDARDS.
ALL STRIPING SHALL BE 4" PAINTED WHITE STRIPES, UNLESS OTHERWISE NOTED.



"V" DESIGNATES A VAN ACCESSIBLE PARKING SPACE

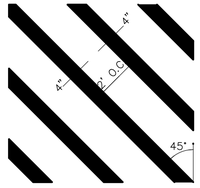
PARKING AREA DETAIL
NOT-TO-SCALE



HANDICAP PARKING STALL SYMBOL
NOT-TO-SCALE

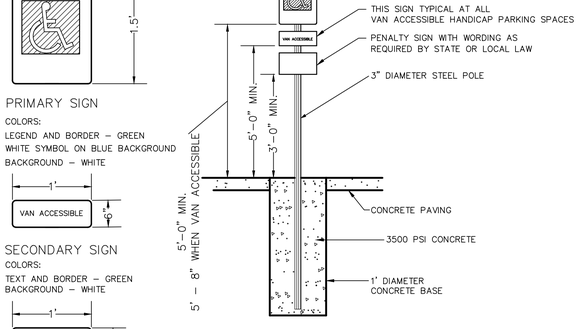
NOTE: SYMBOL SHALL BE PAINTED IN CENTER OF PARKING STALL.

NOTE: ALL TRAFFIC FLOW ARROWS AND STRIPPING TO BE SOLID WHITE REFLECTIVE PAINT AS PER DIMENSIONS.



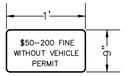
STRIPING DETAIL
(FOR HANDICAPPED PARKING AREA)
(NOT TO SCALE)

1



PRIMARY SIGN
COLORS:
LEGEND AND BORDER – GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND – WHITE

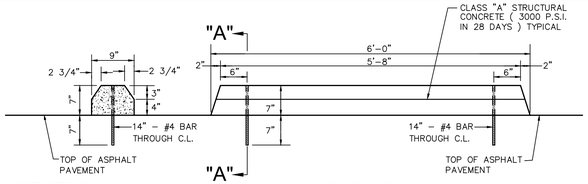
SECONDARY SIGN
COLORS:
TEXT AND BORDER – GREEN
BACKGROUND – WHITE



PENALTY SIGN
COLORS:
TEXT AND BORDER – GREEN
BACKGROUND – WHITE

HANDICAP PARKING SIGNAGE DETAIL
NOT-TO-SCALE

2



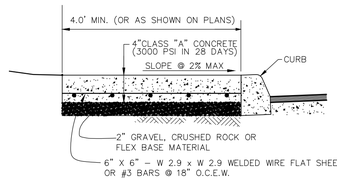
SECTION " A-A"

FRONT VIEW

NOTE: SEE DIMENSIONAL CONTROL PLANS FOR LOCATION OF WHEEL STOPS IN PARKING SPACES.

WHEEL STOP DETAIL
NOT-TO-SCALE

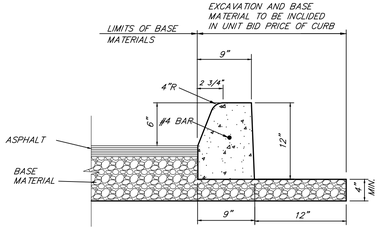
3



SIDEWALK DETAIL
(NOT TO SCALE)

NOTE:
GROOVED JOINTS IN THE SIDEWALK SHALL BE AT A MAX. SPACING OF 10 FT. AND SHALL HAVE ¾" EXPANSION JOINTS AT A MAX. SPACING OF 60' AND TO COINCIDE WITH THE CURB EXP. JOINTS

4



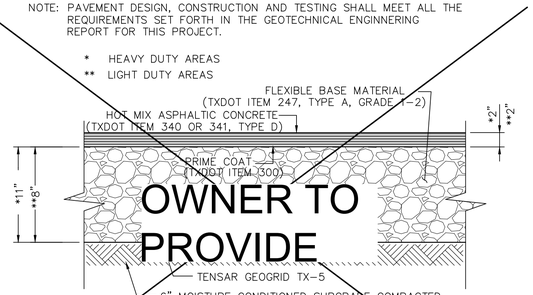
STANDARD CURB DETAIL
NOT-TO-SCALE

NOTE:
¾" REDWOOD OR CYPRESS WOOD EXPANSION JOINTS TO BE PLACED AT THE BEGINNINGS AND END OF CURVES, DRIVEWAYS, WHEEL CHAIR RAMPS, INLETS, ILLUMINATION/SIGNAL FOUNDATIONS AND OTHER FIXED OBJECTS.

5

NOTE: PAVEMENT DESIGN, CONSTRUCTION AND TESTING SHALL MEET ALL THE REQUIREMENTS SET FORTH IN THE GEOTECHNICAL ENGINNERING REPORT FOR THIS PROJECT.

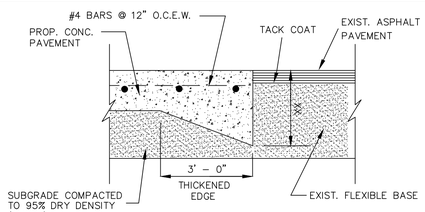
* HEAVY DUTY AREAS
** LIGHT DUTY AREAS



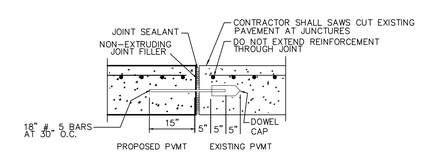
ASPHALT PAVEMENT DETAIL
NOT-TO-SCALE

REFERENCE THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY _____ FOR ADDITIONAL DETAILS AND INFORMATION (PROJECT NO. _____ DATED _____)

6



CONCRETE/ASPHALT PAVEMENT JUNCTURE



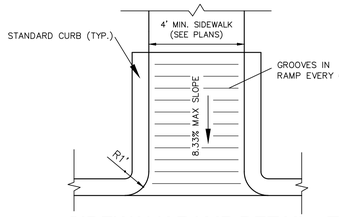
CONCRETE/CONCRETE PAVEMENT JUNCTURE

PAVEMENT JUNCTURE DETAILS
NOT-TO-SCALE

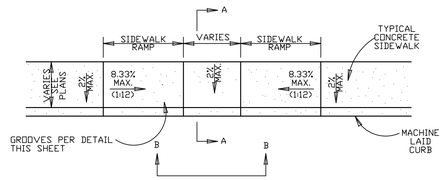
7

GENERAL NOTES:

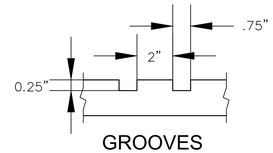
1. RAMP SURFACE SHALL BE BROOM FINISHED WITH GROOVES PLACED PERPENDICULAR TO THE PATH OF TRAVEL IN A MANNER COMPLIANT WITH TAS REQUIREMENTS (SEE DETAIL THIS SHEET).
2. CONCRETE USED IN THE CONSTRUCTION OF THE ACCESSIBLE RAMPS OFFSITE SHALL BE STAINED WITH A COLOR OF LIGHT REFLECTIVE VALUE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF THE ADJACENT CONCRETE WALK. COLOR SHALL BE SELECTED AS REQUIRED BY CITY CODE OR INSPECTOR.
3. DOWEL RAMP TO ABUTTING CONCRETE STRUCTURES WITH #4 BARS @12" O.C.
4. RAMP SHALL BE A MINIMUM OF 4" THICK AND REINFORCED IN THE SAME MANNER AS THE ADJACENT SIDEWALKS AND FLATWORK.



SIDEWALK RAMP DETAIL - TYPE I
NOT-TO-SCALE



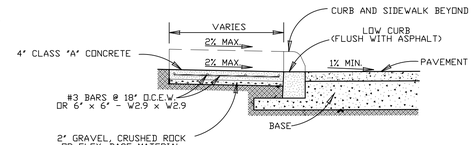
SIDEWALK RAMP - TYPE II
NO SCALE



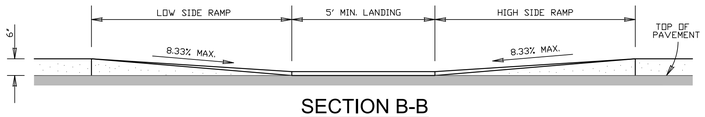
SIDEWALK RAMP DETAIL - TYPICAL
NOT-TO-SCALE

NOTE:
SIDEWALK RAMPS LONGER THAN 6' WITH MORE THAN 6" IN RISE REQUIRE HANDRAIL ON BOTH SIDES.
(REF. ARCH PLANS FOR RAILING DETAILS)

GROOVES



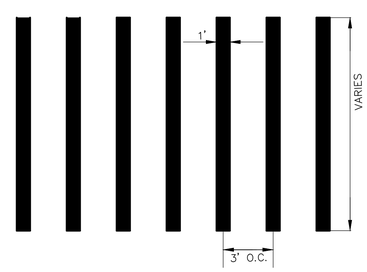
SECTION A-A
NO SCALE



SECTION B-B
CURB PROFILE WHERE SIDEWALK ABUTS CURB
NO SCALE

8

NOTES:
1. CONTRACTOR SHALL PAINT MARKING AS PER DETAILS AND STRIPING PLAN.
2. ALL TRAFFIC MARKINGS SHALL BE SOLID REFLECTIVE TRAFFIC PAINT.
3. ALL TRAFFIC MARKING SHALL PAINTED TWICE. FIRST COAT SHALL BE YELLOW AND SECOND COAT SHALL BE WHITE. MARKINGS OTHER THAN WHITE SHALL HAVE THE SECOND COAT COLOR AS PER DETAIL AND STRIPPING PLAN.



TYPICAL PEDESTRIAN CROSSWALK MARKING DETAIL

9

NOT USED

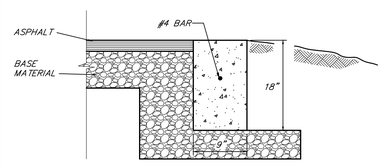
10

NOT USED

11

NOT USED

12



FLUSH/HEADER CURB DETAIL
(NOT TO SCALE)

13

NO.	REVISION	DATE

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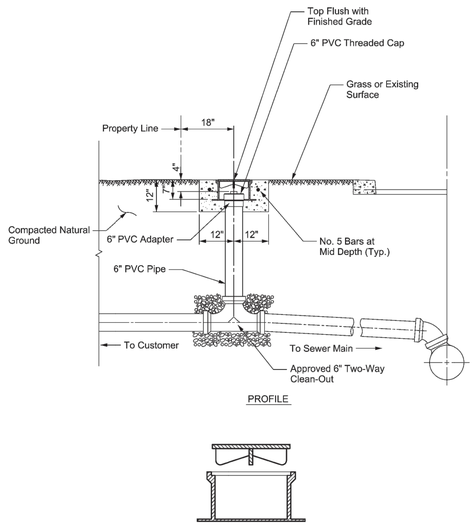
MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070
CIVIL DETAILS
(SHEET 1OF 3)

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #20240601457A)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C5.0

PROGRESS SET

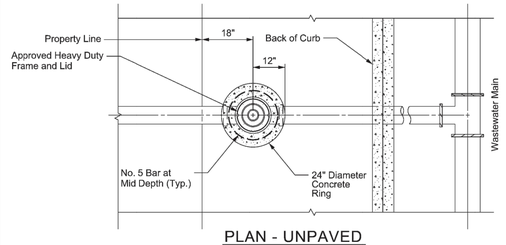


PROFILE

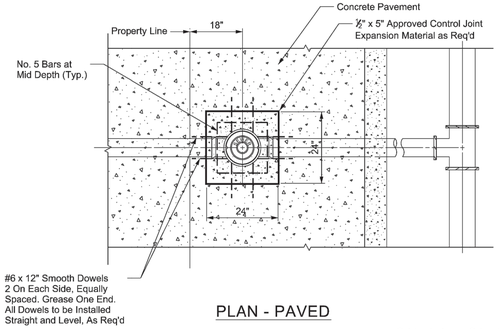
*Approved Frame & Lid (Heavy Duty)

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

PROPERTY OF	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM		MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS		DD-854-02	SHEET 1 OF 3



PLAN - UNPAVED

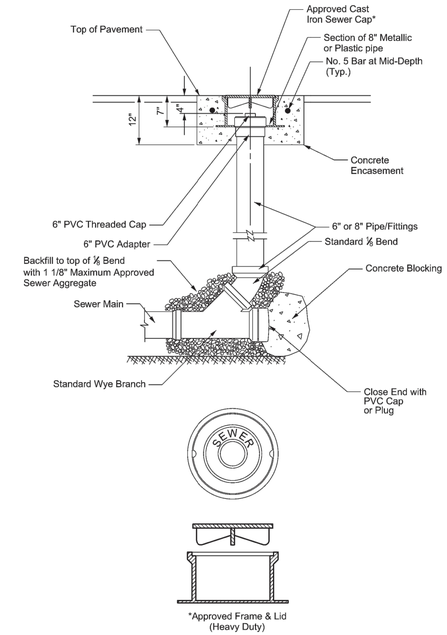


PLAN - PAVED

*Approved Frame & Lid (Heavy Duty)

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

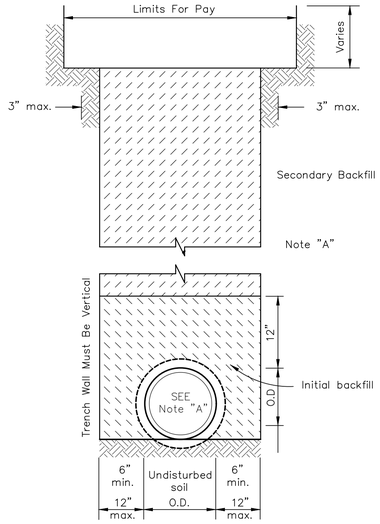
PROPERTY OF	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM		MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS		DD-854-02	SHEET 2 OF 3



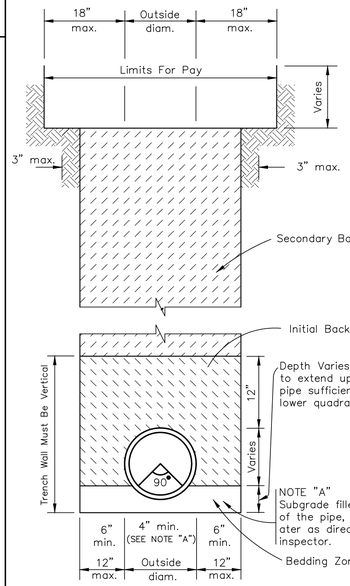
*Approved Frame & Lid (Heavy Duty)

Note: Depending upon the type of service that an 8 inch lateral (on a dead end main) is providing, a standard manhole in lieu of this cleanout may be required. Consult with the SAWS Inspector.

PROPERTY OF	TYPICAL CLEANOUT DETAIL (ON DEAD-END MAIN)	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM		MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS		DD-854-02	SHEET 3 OF 3

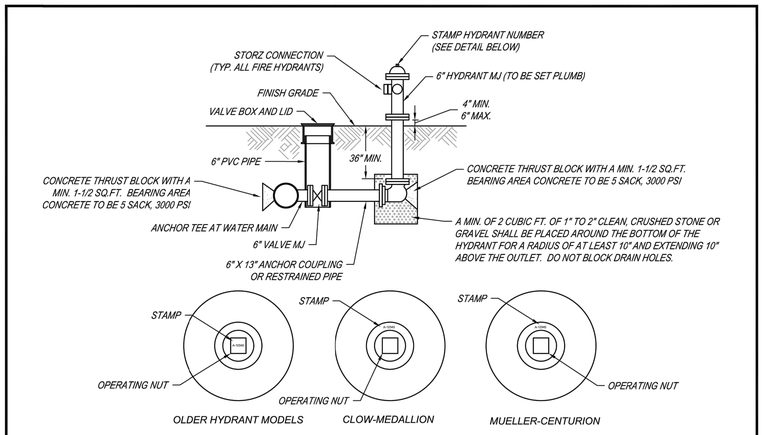


EXISTING STABLE BEDDING CONDITIONS (RIGID PIPE)



RIGID PIPE – UNSTABLE or UNACCEPTABLE CONDITIONS
FLEXIBLE PIPE – ALL CONDITIONS

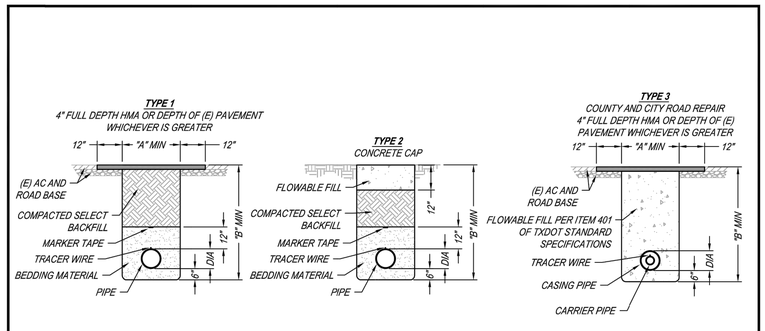
TRENCH DETAILS



HYDRANT NUMBER LOCATION TOP VIEW

NOTE:
1. ALL HYDRANTS SHALL BE TURN LEFT TO OPEN.
2. FIRE HYDRANTS SHALL BE INSTALLED WITH STORZ TYPE CONNECTION, INTEGRAL CONNECTION OR STORZ ADAPTORS SHALL BE REQUIRED ON ALL FIRE HYDRANTS.
3. SEE STD. DWG. MAIN-V8 FOR VALVE BOX INSTALLATION

TEXAS WATER COMPANY	STANDARD FIRE HYDRANT INSTALLATION		SHEET NO.
1399 Sattler Road Canyon Lake, Texas 78133 (830) 312-4600	February 15, 2024		MAIN-HYD



PIPE DIA	WIDTH "A"	DEPTH "B"
4"	16"	36"
6"	18"	42"
8"	20"	44"
12"	30"	52"
16"	36"	56"
>16"	DIA + 24"	DIA + 40"

NOTES:
1. SEE GENERAL NOTES CONCERNING BEDDING AND COMPACTION.
2. ALL TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT OR STRUCTURES SHALL BE FILLED IN MAXIMUM 6 INCH LIFTS, COMPACTED TO 95% STANDARD PROCTOR DENSITY. TRENCHES IN OTHER AREAS TO BE COMPACTED TO THE DENSITY OF THE ADJACENT UNDISTURBED SOIL.
3. ALL ASPHALT MATERIAL SHALL BE TYPE C GRADATION, USING AC-10 OIL AND SHALL BE COMPACTED TO AT LEAST 97% OF MAXIMUM DENSITY.
4. MARKER TAPE ATTACHED TO THE TOP OF PIPE WITH DUCT TAPE.
5. INSULATED 12 AWG SOLID DIRECT BURIAL RATED (30 MIL POLYETHYLENE JACKET MINIMUM) COPPER TRACER WIRE SHALL BE INSTALLED ABOVE AND ALONG ALL WATER LINES.
6. SEE TEST STATION DETAIL FOR TRACER WIRE TERMINATION.

TEXAS WATER COMPANY	PIPE TRENCH DETAIL		SHEET NO.
1399 Sattler Road Canyon Lake, Texas 78133 (830) 312-4600	February 15, 2024		MAIN-TRN

NO.	REVISION	DATE

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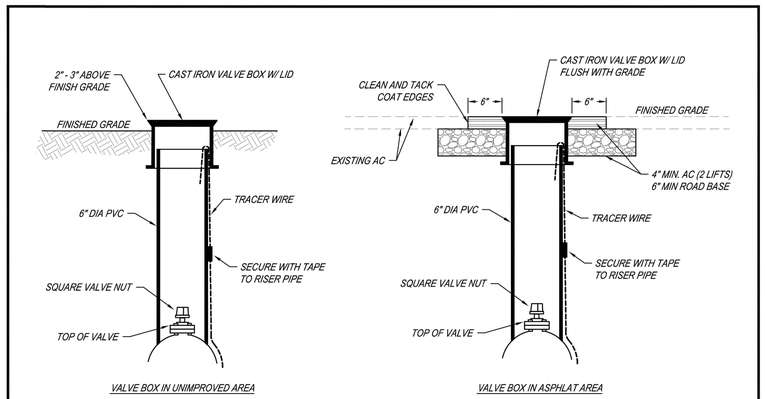
MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070
CIVIL DETAILS
(SHEET 2 OF 3)

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #20240614574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C5.1

PROGRESS SET



NOTES:

1. ALL ASPHALT MATERIAL SHALL BE TYPE C GRADATION, USING AC-10 OIL AND SHALL BE COMPACTED TO AT LEAST 97% OF MAXIMUM DENSITY.
2. VALVE BOX SHALL BE CENTERED ON VALVE.

TEXAS WATER COMPANY
1399 Sattler Road Canyon Lake, Texas 78133 (830) 312-4600

VALVE BOX INSTALLATION

February 15, 2024

SHEET NO. MAIN-VB

1

NOT USED

2

NOT USED

3

NOT USED

4

NOT USED

5

NO.	REVISION	DATE

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MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070
CIVIL DETAILS
(SHEET 3 OF 3)

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #20240601457A)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C5.2

PROGRESS SET

Date: Aug 06, 2024, 7:09pm User ID: JLieck
File: C:\MODECO\JOBS\23-018 - CBCB - 7100 HWY 281\Design\CIVIL\DT23-018.dwg

EROSION AND SEDIMENTATION CONTROL NOTES:

1. DO NOT DISTURB AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR IMPROVEMENTS.
2. CONSTRUCTION ENTRANCE/EXIT LOCATION (IF NEEDED), CONCRETE WASHOUT PIT (IF NEEDED), AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD (IF NEEDED) TOP BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING , IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR CLARITY.
7. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS (IF PROVIDED).
8. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATER SHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
9. UPON COMPLETION OF THE PROJECT AND AFTER A MINIMUM OF 85% VEGETATION , CONTRACTOR SHALL REMOVE ALL SEDIMENT & EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS AND DRAINAGE FEATURES.

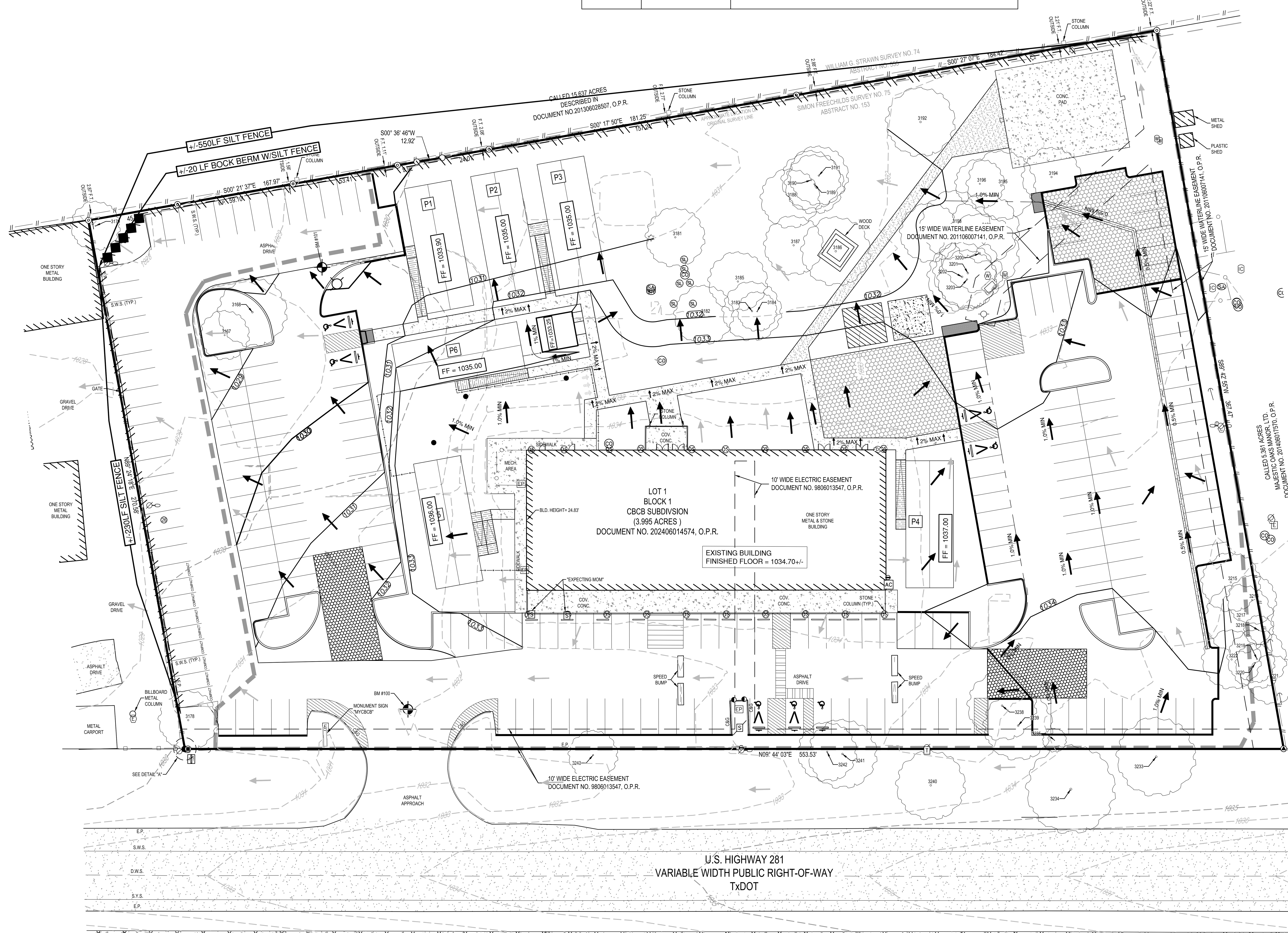
DATE	SIGNATURE	DESCRIPTION

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AT THE ANTICIPATED INSTALLATION SITES WITH THE PROJECT WORK ZONE IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO CONSTRUCT THE PROJECT DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTORS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, THE CONTRACTOR AND/OR THE CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND THE TRENCH EXCAVATION.

CAUTION!!!!

THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.



LOCATION MAP

NOT TO SCALE

SCALE: 1"= 30'

0 30' 60' 90'

LEGEND AND ABBREVIATIONS

- PROPERTY BOUNDARY LINE
- PROJECT LIMITS
- PROPOSED FLOW ARROW
- EXISTING FLOW ARROW
- SWALE
- PROPOSED CONCRETE FLATWORK
- 1088 EXISTING 1' CONTOURS
- (901) (900) PROPOSED CONTOURS
- SILT FENCE
- ROCK BERM W/SILT FENCE
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE TRUCK WASHOUT PIT

HP	HIGH POINT
ES	EARTHEN SWALE
APPROX.	APPROXIMATELY
INV.	INVERT
PVC	POLYVINYL CHLORIDE
ROW	RIGHT-OF-WAY
C.M.	CONTROLLING MONUMENT
B.S.	BUILDING SETBACK
()	RECORD INFORMATION
CRZ	CRITICAL ROOT ZONE

PROJECT SURVEYOR AND NOTES

BOUNDARY, TOPOGRAPHIC AND IMPROVEMENT SURVEY PROVIDED BY:

MATKINHOOVER ENGINEERING & SURVEYING
HEADQUARTERS
8 SPENCER ROAD SUITE 300
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244
GEORGETOWN, TEXAS REGISTERED SURVEYING FIRM F-10194347
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS
CONSTRUCTION MANAGERS CONSULTANTS

NOTE:
BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE, NAD83.

BENCHMARKS

BM #100
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN ISLAND AT ENTRANCE
EL: 1032.35'

BM#101
SET PK NAIL WASHER STAMPED " MATKIN HOOVER ENG & SVY" IN CURB ON EAST SIDE OF PLAYGROUND.
EL: 1029.94'

NO.	REVISION	DATE

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE, FIRM REGISTRATION # 14593

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070

EROSION AND SEDIMENTATION CONTROL PLAN

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CBCB SUBDIVISION (DOCUMENT #202406014574)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C6.0

PROGRESS SET

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS IF PROVIDED.

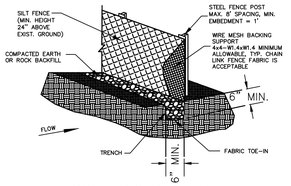
EXHIBIT 2

SILT FENCE

SILT FENCE
A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective.

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

MATERIALS:
(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of u.s. sieve no. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with tee or y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft, and brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

INSTALLATION:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) 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. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

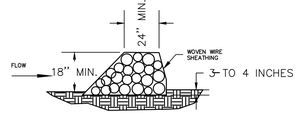
COMMON TROUBLE POINTS:
(1) Fence not installed along the contour causing water to concentrate and flow over the fence.
(2) Fabric not seated securely to ground (runoff passing under fence).
(3) Fence not installed perpendicular to flow line (runoff escaping around sides).
(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence).

INSPECTION AND MAINTENANCE GUIDELINES:
(1) Inspect all fencing weekly, and after rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE

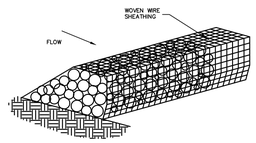
ROCK BERM

ROCK BERMS
The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.



CROSS SECTION

N.T.S.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic Diagram of a Rock Berm (NCTCOG, 1993)

MATERIALS:
(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

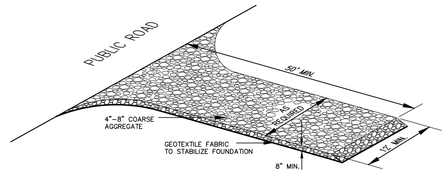
INSTALLATION:
(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
(3) Place the rock along the sheathing as shown in the diagram to a height not less than 18".
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
(5) Berm should be built along the contour at zero percent grade or as near as possible.
(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

COMMON TROUBLE POINTS:
(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm).
(2) Berm not installed perpendicular to flow line (runoff escaping around one side).

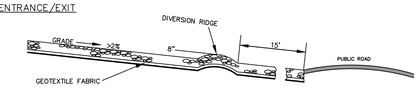
INSPECTION AND MAINTENANCE GUIDELINES:
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

ROCK BERM

STABILIZED CONSTRUCTION ENTRANCE/EXIT



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS:
(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

INSTALLATION:
(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
(8) Install pipe under pad as needed to maintain proper public road drainage.

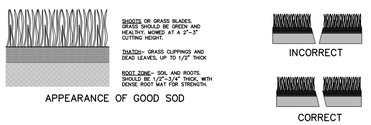
COMMON TROUBLE POINTS:
(1) Inadequate runoff control-sediment washes onto public road.
(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.
(3) Pad too short for heavy construction traffic-extend pad beyond the minimum 50 foot length as necessary.
(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road.
(5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE/EXIT

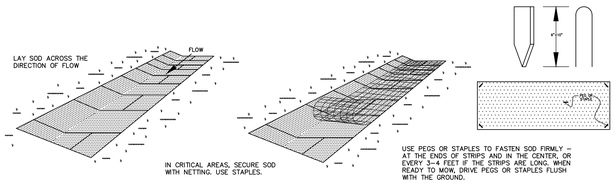
LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



APPEARANCE OF GOOD SOD

NOTES:
ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").



MATERIALS:
(1) Sod should be machine cut at a uniform soil thickness of 3/4 inch (± 1/4 inch) at the time of cutting. This thickness should exclude shoot growth and thatch.
(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.
(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.
(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

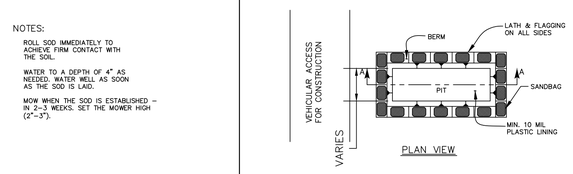
SITE PREPARATION:
(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.
(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.
(3) Fertilize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

INSTALLATION IN CHANNELS:
(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).
(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

GENERAL INSTALLATION (VA DEPT. OF CONSERVATION, 1992):
(1) Sod should not be cut or laid in excessively wet or dry weather. Sod also should not be laid on soil surfaces that are frozen.
(2) During periods of high temperature, the soil should be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.
(3) The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints should be staggered to promote more uniform growth and strength. Care should be exercised to ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots (see above)
(4) On slopes 3:1 or greater, or wherever erosion may be a problem, sod should be laid with staggered joints and secured by stapling or other approved methods. Sod should be installed with the length perpendicular to the slope (on contour).
(5) As sodding of clearly defined areas is completed, sod should be rolled or tamped to provide firm contact between roots and soil.
(6) After rolling, sod should be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thoroughly wet.
(7) Until such time as a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.
(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2-3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

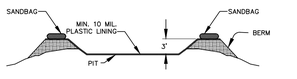
INSPECTION AND MAINTENANCE GUIDELINES:
(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.
(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

SOD INSTALLATION



PLAN VIEW

GENERAL NOTES:
1) Detail above illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.
2) Washout pit shall be located in an area easily accessible to construction traffic.
3) Washout pit shall not be located in areas subject to inundation from storm water runoff.
4) Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies.
5) Temporary concrete washout facility should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.

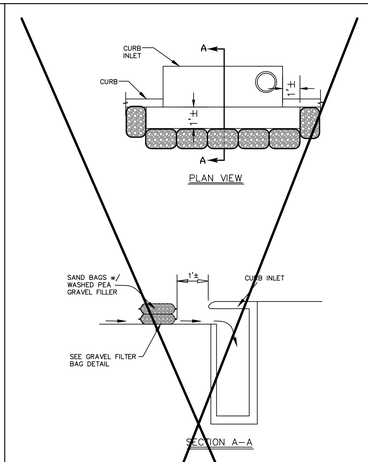


SECTION A-A

MATERIALS:
1) Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

INSPECTION AND MAINTENANCE GUIDELINES:
1) When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of.
2) Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of.
3) Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

CONCRETE TRUCK WASHOUT PIT



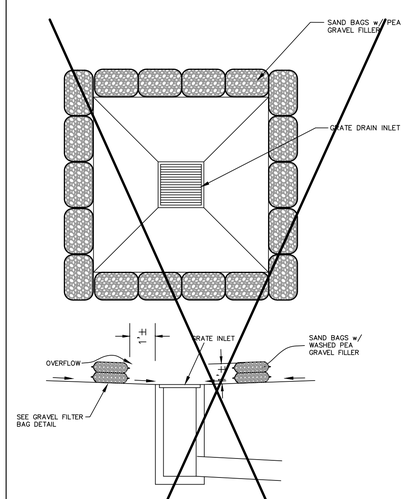
PLAN VIEW

SECTION A-A

GENERAL NOTES:
1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

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

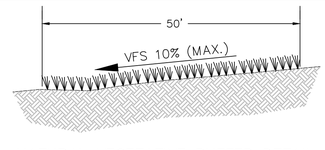
BAGGED GRAVEL CURB INLET PROTECTION



GENERAL NOTES:
1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

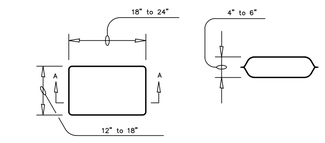
INSPECTION AND MAINTENANCE GUIDELINES:
1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such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

BAGGED GRAVEL GRATE INLET PROTECTION



NATURAL VEGETATIVE BUFFER DETAIL

N.T.S.

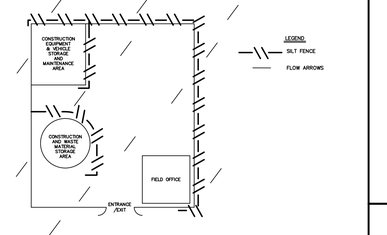


PLAN VIEW SECTION A-A

MATERIALS:
1) The filter bag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight of 4 ounces/sy, have a Mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
2) The filter bag shall be filled with clean, medium (washed pea gravel), to course gravel (0.31 to 0.75 inch diameter).

GRAVEL FILTER BAG DETAIL

TYP. CONSTRUCTION STAGING AREA



THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS IF PROVIDED.

EXHIBIT 3

NO.	REVISION	DATE

MODECO, LLC
ENGINEERING & CONSTRUCTION SOLUTIONS
12790 FM 1560 N #216
HELOTES, TEXAS 78023
PHONE: 210-688-0000
TBPE FIRM REGISTRATION # 14593

THIS DOCUMENT IS RELEASED FOR REVIEW PURPOSES UNDER THE AUTHORIZATION OF JUSTIN M. LIECK, P.E. #110074 ON AUGUST 9, 2024

HOME CHURCH
7100 US-281
SPRING BRANCH, TEXAS 78070

EROSION AND SEDIMENTATION CONTROL DETAILS

LEGAL DESCRIPTION
LOT 1 (3.995 AC)
BLOCK 1
CIBCB SUBDIVISION (DOCUMENT #20240601457A)

PLAT NO. N/A
JOB NO. 23-018
DATE AUGUST 2024
SHEET C6.1

PROGRESS SET