

Storm Water Pollution Prevention Plan (SWP3)

For:

Jaro North – Land Development

NWC of HWY 123 & FM 758
New Braunfels, Texas Guadalupe
TPDES Permit ID: TXR1529RL

SWP3 prepared for:

Lennar Homes of Texas Land and Construction, Ltd.
Brian Barron, Division President
100 NE Loop 410, Suite 1155
San Antonio, Texas 78216
Phone: 210-403-6200

SWP3 prepared by:

Environmental Management Group, LLC
Matthew D. Martin
2260 Highland Village Rd., Suite 400
Highland Village, Texas 75077
Phone: 214-923-2086

SWP3 Preparation Date: 7/10/2024

Estimated Construction Start Date: July 10, 2024

Estimated Construction Complete Date: July 31, 2026

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- Concrete Sawcutting Waste Management
- Sensitive Area / Orange Safety Fence / Construction Debris Fence
- Proper Equipment and Vehicle Fueling and Maintenance Procedures

Non-Structural Erosion and Sediment Controls

- Vegetated Buffer Strips
- Street Cleaning
- Dewatering Operations

Structural Erosion and Sediment Controls

- Silt Fence
- Depressed Grade Sediment Trap (Cut Back Curb)
- Straw Wattles / Fiber Rolls / Mulch Sock
- Stabilized Construction Exit
- Drainage Channels or Swales
- Rock Berms / Check Dams
- Inlet Protection
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- Curb Inlet Protection (Wire Fabric Structure)
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- Concrete Washout Area
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- Erosion Control Blanket Buffer
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Gravel Bag Berm
Temporary Sediment Basin

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INTRODUCTION

This SWP3 is designed to address the following objectives:

- Address discharges authorized by the Construction General Permit (CGP) that will reach Waters of the U.S., including discharges to municipal separate storm sewer systems (MS4s) and privately owned separate storm sewer systems that drain to Waters of the U.S.
- Identify and address all pollutants and their sources that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment storage areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project.
- Describe the implementation of practices that will be used to minimize to the extent practicable the discharge of pollutants in storm water associated with construction activity and non-stormwater discharges in compliance with the terms and conditions of the CGP.
- Ensure site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity.
- Ensure stabilization BMPs are installed that reduce or eliminate pollutants after construction is completed.

A copy of the Owner's Notice of Intent ("NOI") submitted to the Texas Commission on Environmental Quality (TCEQ) on the "STEERS" electronic filing system and the permit certificate indicating a Permit Authorization number will be included in Appendix "D" of this SWP3 once it is filed.

The SWP3 will be kept electronically. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or stormwater management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site. If the SWP3 is retained off-site, then it shall be made available as soon as reasonably possible. In most instances, it is reasonable that the SWP3 shall be made available within 24 hours of the request.

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Contact Information & Areas of Responsibility

Owner/Primary Operator & SWP3 Contacts	
Contact	Area of Responsibility
<p>Owner/Primary Operator: Brian Barron, Division President 100 NE Loop 410, Suite 1155 San Antonio, TX 78216 Phone: 512-418-0258</p>	<p>The Owner, "Lennar Homes of Texas Land and Construction, Ltd." has complete control over the plans and specification for the development. The Owner will develop and implement the SWP3 and Construction General Permit (CGP) requirements on a day-to-day basis for the entire development, monitor and direct Contractors / Operators, Owner's BMP installers and Owner's maintenance personnel. The Owner will hire Contractors to construct the development and will delegate various SWP3 responsibilities to Third Party Inspectors, BMP installers and Contractors / Operators. The Owner will supply the Contractors / Operators with plans specifications and SWP3 requirements prior to the start of the Contractor's / Operator's start of work. Owner will provide Contractors / Operators with any changes to the original plans, specifications and SWP3 in a timely manner.</p> <p>Lennar's Land Development Manager (LDM) is a delegated signatory of SWP3 inspections and amendments. The LDM will implement the CGP on a day-to-day basis, and monitor and direct Contractors, BMP installers, and stormwater compliance inspectors. The LDM will coordinate the corrective actions found on the inspection and sign inspection reports as the Duly Authorized Representatives of Lennar. (Other Lennar associates will also have signing authority for cases when the LDM is not available. See Delegation of Signatories form delegating signing authority)</p>
<p>SWP3 Contact(s) Lennar Homes of Texas, Land and Construction Ltd. 100 NE Loop 410, Suite 1155 San Antonio, TX 78216 Phone: 737-600-6686 Marcus Walters, Division Environmental Manager (DEM) 830-388-1002 Matt Cardenas, Division Environmental Manager (DEM) 726-223-1102 Jimena Koszuta, Division Environmental Manager, (DEM) 726-437-9473 Irene Rocha, Division Environmental Manager, (DEM) 210-612-5165 Ryan Dorth, Division Environmental Manager (DEM) 726-241-6463 Jonathan Huston, Division Environmental Manager (DEM) 210-853-9569</p>	<p>Provide oversight for the implementation of the Construction General Permit and the SWP3 on behalf of the Owner. Attend pre-construction meetings with the General Contractor / Operators and assign General Contractor / Operators SWP3 responsibilities. Interact with and direct the SWP3 Preparer and BMP Inspector. Coordinate SWP3 amendments with the SWP3 Preparer and maintain the SWP3 document.</p>

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Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

SWP3 Preparer & SWP3 BMP Inspector	
Contact	Area of Responsibility
<p>SWP3 Preparer: Environmental Management Group, LLC Matthew D. Martin, Principal Owner 2260 Highland Village Rd., Suite 400 Highland Village, TX 75077 Telephone: 214-923-2086 Email: info@emg-llc.net</p>	<p>Develop the SWP3. Evaluate changing conditions and develop SWP3 amendments at the direction of the Owner.</p>
<p>SWP3 BMP Inspector: Environmental Management Group, LLC Jose Garcia, Field Operations Manager 2260 Highland Village Rd., Suite 400 Highland Village, TX 75077 Telephone: 214-923-2086 Email: info@emg-llc.net</p>	<p>Perform SWP3 inspections according to the following schedule:</p> <p><input checked="" type="checkbox"/> Every 7 calendar days</p> <p><input type="checkbox"/> Every 7 calendar days and after .5" or greater storm event</p> <p>Inspection reports will be completed using StormPro, a web based SWP3 Inspection and reporting database. (See Section 4.1 – Inspection Schedule and Procedures)</p>

Subcontractors	
Contact	Area of Responsibility
Owner's Erosion & Sediment Control Contractor:	Install, maintain, repair, or replace erosion and sediment controls and temporary or permanent soil stabilization at the direction of the Owner or General Contractor / Operator.
Landscape / Hardscape Contractor	At the direction of the Owner, install landscaping, including plants and trees; install permanent soil stabilization measures, including hydroseed, hydromulch, broadcast seed, and/or sod; install hardscape, including sidewalks, entrance monuments and masonry work in common areas.

General Contractors

Each Contractor is a Primary Operator and has day-to-day operational control of all geographic areas of the project site where they are performing construction activities. The construction activities that the Contractor is responsible for are listed in Section 1.2 and the geographic area of SWP3 control is delineated on the site map. The. Each Contractor working under this shared SWP3 is responsible for the following items:

- Meet the requirements set forth in Part III. B. 2. of TXR150000 (Responsibilities of Primary Operators with day-to-day control).
- Before earth disturbing activities begin, sign and certify the SWP3, submit a Notice of Intent (NOI) to the TCEQ, submit a copy of the NOI to the local MS4, and post a Construction Site Notice at the entrance to Contractor / Operator's construction activity.

Contact	Responsibilities
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General Contractor /Operator:
V.K. Knowlton Construction and Utilities, Inc.
Shakotah Keefe Knowlton - Vice President
18225 FM 2252
San Antonio, TX 78266
Email: shakotah@vkk.com
Phone: 210-651-6860

Geographic Areas of Responsibility:
List the areas of the project where the contractor is responsible for construction activities:

- Unit 1
- TxDOT

For GC with multiple permits

Geographic Areas of Responsibility	TPDES Number:
	TXR1531RL

- The General Contractor will be responsible for installing and maintaining BMPs outlined below:
- Material Handling
 - Material and Equipment Storage and Staging Area
 - Stockpile Management
 - Waste Management
 - Portable Toilet Facilities
 - Trash Containment
 - Concrete Sawcutting Waste Management
 - Sensitive Area / Orange Safety Fence / Construction Debris Fence
 - Proper Equipment and Vehicle Fueling and Maintenance Procedures
 - Non-Structural Erosion and Sediment Controls
 - Dust Control
 - Street Cleaning
 - Dewatering Operations
 - Subgrade Stabilization Management
 - Paving Operations
 - Silt Fence
 - Depressed Grade Sediment Trap (Cut Back Curb)
 - Straw Wattles / Fiber Rolls / Mulch Sock
 - Stabilized Construction Exit
 - Diversion Berm / Diversion Dike
 - Drainage Channels or Swales
 - Rock Berms / Check Dams
 - Inlet Protection for Type "E" Inlets, Area Inlets, Drop Inlets
 - Curb Inlet Protection (Wire Fabric Structure)
 - Siltsack Drop Inlet Protection
 - Inlet Protection for Stage 1 Inlets (Lower Stage)
 - Concrete Washout Area
 - Erosion Control Blanket Buffer
 - Earthen Berm Check Dam
 - Temporary Sediment Basin

1.2. *Nature of Construction*

Lennar Homes of Texas Land and Construction, Ltd., is developing the infrastructure, finished lots, and related amenities for a residential community known as “Jaro North” Construction for this development community will progress in a series of construction activities and the start of each activity will be dependent on economic conditions and other determining factors. Each construction activity may be performed by a different General Contractor / Operator, and more than one activity may occur at a time. When development of finished lots is complete, control of the lots will transfer to the new owner or to Lennar’s homebuilding department, and the transferred lots will no longer be under control of this SWP3.

Lot Transfer Process (Check which scenario applies):

- Finished lots will be transferred both to Lennar’s homebuilding department and to other merchant homebuilders.

At the completion of land development activity in each section of the development, Lennar Homes of Texas Land and Construction, Ltd. will transfer control of the finished lots both to homebuilders that purchase them through a purchase contract and to Lennar’s homebuilding department through an internal transfer process. For lots that are sold to other homebuilders, provisions for compliance with state stormwater regulations are included in the purchase agreement between the Lennar Homes of Texas Land and Construction, Ltd. and the homebuilders.

- Lots will be transferred to Lennar’s homebuilding department.

At the completion of land development activity in each section of the development, Lennar Homes of Texas Land and Construction, Ltd. will transfer control of the finished lots to Lennar’s homebuilding department through an internal transfer process. Lots that have transferred to Lennar’s homebuilding department will be under control of a separate SWP3.

Whether the finished lots are “taken down” by another homebuilder or Lennar’s homebuilding department, the lots will be appropriately identified on the SWP3 site map and will no longer be under control of this SWP3. Upon transfer of control, the homebuilder purchasing the lots or Lennar’s homebuilding department will be responsible for compliance with the CGP for areas of their work, developing and implementing a SWP3, installing and maintaining BMPs for their work, installing and maintaining inlet protection for inlets they discharge into, and cleaning the streets of track out generated by homebuilder operations in accordance with the CGP.

Lennar Homes of Texas Land and Construction, Ltd. will maintain the “public/common areas” such as sediment basins, outfalls, parks, and other open spaces until the storm drain system is accepted by the respective public agency or homeowners’ association, whichever the case may be.

Lennar Homes of Texas Land and Construction, Ltd. has submitted a TCEQ Primary Operator Notice of Intent and has received an authorization to discharge in accordance with the TCEQ construction General Permit.

Lennar Homes of Texas Land and Construction, Ltd. and each General Contractor / Operator shall file a NOT with the TCEQ within 30 days after either of the following is achieved: (a) final stabilization has been achieved on all portions of the site that are the responsibility of the permittee; (b) a transfer of operational control has occurred to another permittee; or (c) the operator has obtained authorization under an alternative TPDES general permit.

1.3 Construction Activities covered by the SWP3

Below is a list of Construction Activities and responsibilities that are associated with this development.

Clearing and Grubbing

Clearing and Grubbing consists of overall site clearing, grubbing and topsoil stripping and stockpiling per approved construction drawings from a civil engineer.

The General Contractor will be responsible for site clearing and grubbing the entire site within the defined limits of construction per the Engineered Construction Plans, including implementing Best Management Practice as defined in General Contractor Responsibilities in Section 1.1.

The General Contractor will implement the BMPs that apply to their work within the geographic area of responsibility, as defined in Section 1.1. This may include the employment of their own erosion and sediment control contractor to install, maintain, repair, or replace stormwater controls. (See Section 2.2)

Grading

Land grading consists of reshaping the ground surface to planned elevations, per approved construction drawings from a civil engineer. Land grading consists of clearing, grubbing, mass grading, grading, excavation, sediment basins, detention ponds, and stockpiling of soils.

The General Contractor(s) will be responsible for grading the entire site within the defined limits of construction per the Engineered Construction Plans, including implementing Best Management Practice as defined in General Contractor Responsibilities in Section 1.1.

The General Contractor(s) will implement the BMPs that apply to their work within the geographic area of responsibility, as defined in Section 1.1. This may include the employment of their own erosion and sediment control contractor to install, maintain, repair, or replace stormwater controls. (See Section 2.2)

Utilities

Utility construction consists of the installation of water mains, sewers, storm sewer drains, pumping stations, treatment plants, and storage tanks. Water, sewage, and drainage will be installed in accordance with the approved construction drawings from the civil engineer.

The General Contractor(s) will install the storm sewer, sanitary sewer, and water services for the development. The Utility Contractor will have responsibilities during the installation of these activities and the geographic area of control will consist of areas where utility installation is occurring. The Utility Contractor is not responsible for gas, phone, cable, and electrical installation.

Utility Contractor(s) will be responsible for grading and excavating within the defined limits of construction in accordance with the Engineered Construction Plans, including implementing Best Management Practice as defined in General Contractor Responsibilities in Section 1.1.

The General Contractor(s) will implement the BMPs that apply to their work within the geographic area of responsibility, as defined in Section 1.1. This may include the employment of their own erosion and sediment control contractor to install, maintain, repair, or replace stormwater controls. (See Section 2.2)

Paving

Paving construction consists of the installation of streets, alleys, turn lanes, bridge construction, parking lots, and sidewalks. The pavement will be installed in accordance with the approved construction drawings from the civil engineer.

The General Contractor(s) will be responsible for the installation of streets, alleys, turn lanes, bridge construction, parking lots, and sidewalks for the development. The Paving Contractor will have responsibility for pavement installation, geographic area of control will consist of areas where paving is occurring.

The General Contractor(s) will be responsible for grading and paving within the defined limits of construction in accordance with the Engineered Construction Plans, including implementing Best Management Practice as defined in General Contractor Responsibilities in Section 1.1.

The General Contractor(s) will implement the BMPs that apply to their work within the geographic area of responsibility, both of which are listed below. This may include the employment of their own erosion and sediment control contractor to install, maintain, repair, or replace stormwater controls.

1.4 Sequence of Construction Activity

Below is a list of the construction activities associated with this SWP3 and the General Contractor / Operators associated with each activity. As additional construction activities begin, they will be added to the list below, and the General Contractor / Operator associated with the activity will be added to the list as new construction contracts are awarded and the General Contractor / Operator assumes SWP3 responsibility. Construction activities may be included in this SWP3 before a General Contractor / Operator is awarded a construction contract for the construction activity, in which case, the Contractor's name will be added once awarded the construction contract. Operators' permit documentation will be documented in Appendix "G".

Unit 1			
General Contractor / Operator's: VKK			
General Contractor TPDES Permit Number: TXR1531RL			
No.	Sequence of Construction Activities	Estimated Start Date	Duration (in Days)
1.	Clearing and grubbing the entire site	TBD	TBD
2.	Rough Grade of Temporary Sediment Basin, Detention Pond, Streets, Earthwork of Lots	TBD	TBD
3.	Installation of sanitary sewer, water, storm sewer and dry utilities (electric, phone, communications)	TBD	TBD
4.	Installation of pavement base material, concrete curb and asphalt pavement	TBD	TBD
5.	Landscape/Hardscape/Sidewalks/Monuments	TBD	TBD

TxDOT			
General Contractor / Operator's: VKK			
General Contractor TPDES Permit Number: TXR1531RL			
No.	Sequence of Construction Activities	Estimated Start Date	Duration (in Days)
1.	Clearing, Rough Grade, Demolition, and Earthwork of road improvement area	TBD	TBD
2.	Installation of utilities for signal lights	TBD	TBD
3.	Installation of pavement base material and asphalt pavement	TBD	TBD
4.	Final Stabilization	TBD	TBD

1.5 Areas of Control

Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators has been developed for this project. Operators shall independently obtain authorization but shall also work together to prepare and implement this single, comprehensive SWP3 for the entire construction site.

Lennar Homes of Texas Land and Construction, Ltd. is the Owner of the Jaro North community, will act as a Primary Operator, and shall meet the requirements set forth in Part III. B. of TXR150000

As development progresses, Lennar Homes of Texas Land and Construction, Ltd. will contract with one or more General Contractors to perform the construction activities, such as demolition, clearing & grubbing, grading, underground utilities, street paving, and landscaping. The construction activities may be performed by the same General Contractor, or each construction activity may be performed by different General Contractors. The construction activities and General Contractors covered by this SWP3 are listed in Section 1.2: Nature and Sequence of Construction Activity.

The General Contractor(s) performing construction activities in this development will be Primary Operators; shall meet the requirements set forth in Part III. B. of TXR150000; and will all work under this shared SWP3. Each Operator will sign and certify the SWP3 in accordance with the Construction General Permit (CGP). As development progresses and new General Contractors are added to this SWP3, their contact information will be added to Section 1.1 "Contact Information" and they will sign and certify the SWP3.

As each construction activity is added, this SWP3 will be amended to include the associated details for that construction activity. The information will include the area under the General Contractor's control and the area under the Owners control, the disturbed acreage for the activity, maps with proposed BMP's and their proposed locations, a description of the BMPs that the Owner and General Contractor will implement, the operator responsible for installing, maintaining and removing each of the controls, the construction start date, dates of major grading work, dates of completion and dates of stabilization for each activity, and the additional operator's signed SWP3 Certification and Notice of Intent.

Each General Contractor will have day-to-day operational control of the activities that are necessary to ensure compliance with the Construction General Permit and the SWP3 in areas of the project where they are operators. Lennar Homes of Texas Land and Construction, Ltd. will implement the SWP3 and CGP requirements during "Idle" periods where there are no General Contractors onsite and land development activity transitions from one construction activity to another. SWP3 responsibility that has been assigned to a General Contractor / Operator for any particular construction activity will transfer to the Owner after acceptance or substantial completion of the General Contractor / Operator's work.

1.6 Project / Site Information

Project / Site Name: Jaro North		
Project Location / Intersection: NWC of HWY 123 & FM 758		
City: New Braunfels	State: Texas	ZIP Code: Guadalupe
County: Guadalupe		
Latitude: 29.702663° N (decimal)		Longitude: -97.969198° W (decimal)
Method for determining latitude/longitude:		
<input type="checkbox"/> USGS topographic map (specify scale: 7.5 minute series)	<input type="checkbox"/> EPA Website	<input type="checkbox"/> GPS
<input checked="" type="checkbox"/> Other (please specify): Google Maps		
Is the project located in Indian country?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." Not applicable		
Owner/Primary Operator's TPDES Authorization Number: TXR1529RL		
Will this project be developed in multiple units within a larger common plan of development?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
Estimated Start Date for all of Land Development activity per Unit:	Unit 1	July 10, 2024
	TxDOT	July 10, 2024
Estimated Project Completion Date for all Land Development activity per Unit:	Unit 1	July 31, 2026
	TxDOT	July 31, 2026
Percentage impervious area before construction per Unit:	Unit 1	0%
	TxDOT	98.1%
Percentage impervious area after construction per Unit:	Unit 1	41.42%
	TxDOT	100%
Runoff coefficient before construction:	Unit 1	0.29
	TxDOT	0.29
Runoff coefficient after construction:	Unit 1	0.5
	TxDOT	0.5
List the areas covered by this SWP3 and the associated disturbed acreage under Lennar's control per Unit:	Unit 1	36.39 acres
	TxDOT	6.05 acres
Total acreage to be disturbed:	42.44 Total Acres Disturbed	
Total project acres:	163.8 Acres	
Will there be other operators conducting construction activity in this development?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

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Will there be other operators using this SWP3?

YES **NO**

Support facility activities:	
List and describe all support activities that are dedicated to serving this project, including asphalt plants, concrete batch plants, borrow pits, or other activities supporting this construction site (N/A if not applicable); associated permits located in Appendix "F"	
Description:	N/A
Location:	N/A
Responsible Party:	N/A
Will this support facility activity be covered under Owner's TPDES Authorization number?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
If Yes, list the sections of the SWP3 that discuss BMPs associated with the support facility.	N/A
If No, enter the TPDES Authorization Number associated with this support activity?	TXR15
If No, describe the location of the SWP3 that covers the support facility activities	N/A

1.7 Sediment Basin

Sites With Drainage Areas of Ten or More Acres

Sedimentation Basin(s)

- a) A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. Capacity calculations shall be included in the SWP3. Sedimentation basins must be designed for and appropriate for controlling runoff at the site and existing detention or retention ponds at the site may not be appropriate.
- b) Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.
- c) If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.
- d) Unless infeasible, when discharging from sedimentation basins and impoundments, the permittee shall utilize outlet structures that withdraw water from the surface.

Sediment Basin Calculations:	
Will a sediment basin be used?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO, a sediment basin is not required. <input type="checkbox"/> NO, it is infeasible to install a sediment basin.
If No, explain the reason(s) that it is not required or infeasible to install a sediment basin:	
If No, list the equivalent control measures that will be used:	
If Yes, enter the following information and calculations (<i>repeat chart for each sediment basin used</i>):	

Basin Name or Location:	
Total Service Area (acres) served by the drainage location. <i>Do not include offsite or stabilized areas if flows from these areas are diverted around the disturbed soil and the basin:</i>	
Disturbed acreage served by the drainage location:	
2-year, 24-hour storm event depth:	
Basin Volume Capacity Calculations:	
Required volume of basin (Calculated runoff from a 2-year, 24-hour storm event):	
Provided volume of the Sediment Basin:	
Type of outlet structure that will be utilized to withdraw water from the surface of the basin.	High Flow Dewatering Outlet with Rubbish Screen

SEQUENCE OF CONSTRUCTION:

1. OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO TCEQ), IF APPLICABLE.
2. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
3. BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
4. BEGIN SITE CLEARING AND GRADING.
5. RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
6. COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
7. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% EVENLY ESTABLISHED. RYE IS NOT ACCEPTED.

EROSION CONTROL NOTES:

1. LIMITS OF CONSTRUCTION AND OTHER EROSION CONTROL IMPROVEMENTS SHOWN OUTSIDE THE PROPERTY ARE SHOWN FOR GRAPHICAL PURPOSE ONLY. IF NEAR PROPERTY LINE, THE INTENT IS TO BE PLACED NEAR THE PROPERTY LINE, NOT ON THE ADJACENT PROPERTY.
2. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
3. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
4. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED IN THE SWPPP DOCUMENTS AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
5. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
6. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
7. 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 VISUAL CLARITY.
8. 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.
9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UP-GRADIENT AREAS.
10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
12. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2(N).

HYDRAULIC MULCH

MATERIALS:

HYDRAULIC MULCHES: WOOD FIBER MULCH CAN BE APPLIED ALONE OR AS A COMPONENT OF HYDRAULIC MATRICES. WOOD FIBER APPLIED ALONE IS TYPICALLY APPLIED AT THE RATE OF 2,000 TO 4,000 LB/ACRE. WOOD FIBER MULCH IS MANUFACTURED FROM WOOD OR WOOD WASTE FROM LUMBER MILLS OR FROM URBAN SOURCES.

HYDRAULIC MATRICES: HYDRAULIC MATRICES INCLUDE A MIXTURE OF WOOD FIBER AND ACRYLIC POLYMER OR OTHER TACKIFIER AS BINDER. APPLY AS A LIQUID SLURRY USING A HYDRAULIC APPLICATION MACHINE (I.E., HYDRO SEEDER) AT THE FOLLOWING MINIMUM RATES, OR AS SPECIFIED BY THE MANUFACTURER TO ACHIEVE COMPLETE COVERAGE OF THE TARGET AREA: 2,000 TO 4,000 LB/ACRE WOOD FIBER MULCH, AND 5 TO 10% (BY WEIGHT) OF TACKIFIER (ACRYLIC COPOLYMER, GUAR, PSYLLIUM, ETC.)

BONDED FIBER MATRIX: BONDED FIBER MATRIX (BFM) IS A HYDRAULICALLY APPLIED SYSTEM OF FIBERS AND ADHESIVES THAT UPON DRYING FORMS AN EROSION RESISTANT BLANKET THAT PROMOTES VEGETATION, AND PREVENTS SOIL EROSION. BFMS ARE TYPICALLY APPLIED AT RATES FROM 3,000 LB/ACRE TO 4,000 LB/ACRE BASED ON THE MANUFACTURER'S RECOMMENDATION. A BIODEGRADABLE BFM IS COMPOSED OF MATERIALS THAT ARE 100% BIODEGRADABLE. THE BINDER IN THE BFM SHOULD ALSO BE BIODEGRADABLE AND SHOULD NOT DISSOLVE OR DISPERSE UPON RE-MELTING. TYPICALLY BIODEGRADABLE BFMS SHOULD NOT BE APPLIED IMMEDIATELY BEFORE, DURING OR IMMEDIATELY AFTER RAINFALL IF THE SOIL IS SATURATED. DEPENDING ON THE PRODUCT, BFMS TYPICALLY REQUIRE 12 TO 24 HOURS TO DRY AND BECOME EFFECTIVE.

INSTALLATION:

1. PRIOR TO APPLICATION, ROUGHEN EMBANKMENT AND FILL AREAS BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
2. TO BE EFFECTIVE, HYDRAULIC MATRICES REQUIRE 24 HOURS TO DRY BEFORE RAINFALL OCCURS.
3. AVOID MULCH OVER SPRAY ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, EXISTING VEGETATION, ETC.
4. 4" OF TOP SOIL SHALL BE PLACED.

INSPECTION AND MAINTENANCE GUIDELINES:

1. MULCHED AREAS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.
2. AREAS DAMAGED BY STORMS OR NORMAL CONSTRUCTION ACTIVITIES SHOULD BE REGRADED AND HYDRAULIC MULCH REAPPLIED AS SOON AS PRACTICAL.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

City of Seguin Utilities (Sewer)	830-386-2222
Crystal Clear SUD	830-372-1031
Spectrum Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	830-643-5786
AT&T Telephone	830-303-1333
Erick White PM	210-283-1706
Scott McCreary (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

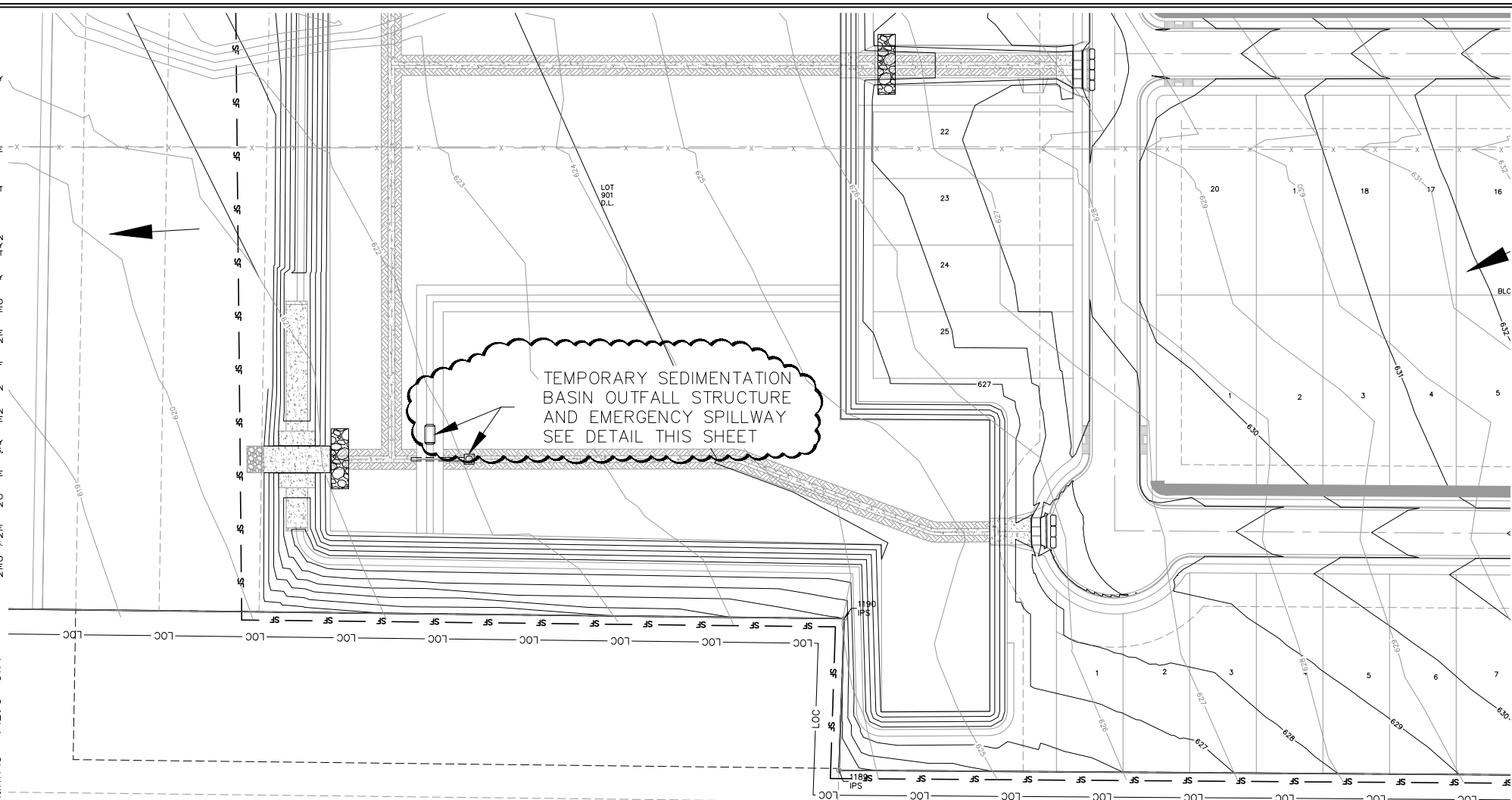
TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

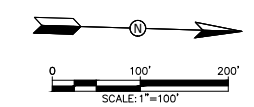
TRENCH EXCAVATION SAFETY PROTECTION

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



TEMPORARY SEDIMENTATION BASIN OUTFALL STRUCTURE AND EMERGENCY SPILLWAY SEE DETAIL THIS SHEET



LEGEND

- SF SILT FENCE
- LOC LIMITS OF CONSTRUCTION
- 900 EXISTING CONTOURS
- 900 PROPOSED CONTOURS
- EDGE OF PAVEMENT
- FLOW ARROWS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING TREE
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TRUCK WASH OUT PIT
- CONSTRUCTION STAGING AREA
- ROCK BERM
- SOIL RETENTION BLANKET
- GRAVEL FILTER BAGS
- CURLEX BLANKET



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

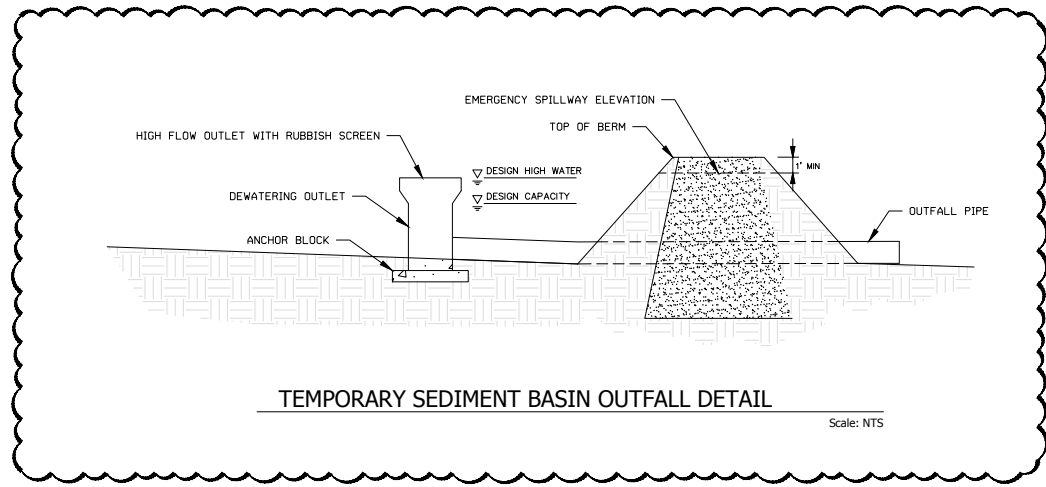
**TEMPORARY SEDIMENT
BASIN**

SHEET **47A** OF **49**

NO	DATE	ISSUES AND REVISIONS
Δ	6/17/24	TEMPORARY SEDIMENT BASIN SHEET ADDED



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351



TEMPORARY SEDIMENT BASIN OUTFALL DETAIL

Scale: NTS

Drawing Name: N:\Projects\JB\0272_Jaro North Subdivision\Construction Drawings\7 EROSION CONTROL PLAN.dwg User: byronobara Jun 17, 2024 12:28pm

1.8 Soils, Slopes, Vegetation, and Drainage Patterns

Soil type(s):

Branyon Series

The Branyon series consists of very deep, moderately well drained, very slowly permeable soils that formed in calcareous clayey alluvium derived from mudstone of Pleistocene age. These nearly level to very gently sloping soils occur on treads of stream terraces on river valleys. Slope ranges from 0 to 3 percent.

- Ap--0 to 10 cm, (0 to 4 in); dark gray (10YR 4/1) clay, very dark gray (10YR 3/1), moist; moderate fine granular structure; extremely hard, very firm, , moderately sticky, moderately plastic; fine roots throughout; 1 percent fine faint spherical weakly cemented iron-manganese concretions in matrix; slight effervescence, by HCl, 1 normal; moderately alkaline; abrupt smooth boundary.
- Bk--10 to 31 cm, (4 to 12 in); dark gray (10YR 4/1) clay, very dark gray (10YR 3/1), moist; moderate medium angular blocky structure; extremely hard, very firm, very sticky, very plastic; fine roots throughout; very fine tubular pores; 15 percent faint pressure faces on all faces of peds; 1 percent fine spherical weakly cemented iron-manganese concretions in matrix; 1 percent fine prominent irregular very weakly cemented white (10YR 8/1) carbonate concretions in matrix; strong effervescence, by HCl, 1 normal; moderately alkaline; gradual wavy boundary.
- Moderately well drained. Permeability is very slow. Runoff is high on slopes less than 1 percent and very high 1 to 3 percent. Water enters the soil rapidly when it is dry and cracked and very slowly when it is moist.

Houston Black Series

The Houston Black series consists of very deep, moderately well drained, very slowly permeable soils that formed in clayey residuum derived from calcareous mudstone of Cretaceous Age. These nearly level to moderately sloping soils occur on interfluvies and side slopes on upland ridges and plains on dissected plains. Slopes are mainly 1 to 3 percent but range from 0 to 8 percent.

- A--0 to 20 cm (0 to 8 in); very dark gray (10YR 3/1) clay, black (10YR 2/1), moist; moderate medium granular and moderate fine subangular blocky structure; extremely hard, very firm, very sticky, moderately plastic; fine roots throughout; very fine tubular pores; 5 percent distinct pressure faces on all faces of peds; 1 percent fine spherical weakly cemented iron-manganese concretions in matrix; 1 percent 2 to 5-mm shell fragments; 1 percent krotovinas; strong effervescence; moderately alkaline; clear wavy boundary.
- Bw--20 to 61 cm (8 to 24 in); very dark gray (10YR 3/1) clay, black (10YR 2/1), moist; moderate fine angular blocky and moderate very fine angular blocky parts to moderate fine wedge; extremely hard, very firm, very sticky, very plastic; fine roots throughout; very fine tubular pores; 5 percent distinct pressure faces on all faces of peds; 1 percent fine spherical weakly cemented iron-manganese concretions in matrix; strong effervescence; moderately alkaline; gradual wavy boundary.
- Moderately well drained. Permeability is very slow. Surface runoff is high on 0 to 1 percent slopes and very high on slopes greater than 1 percent. Water enters the soil rapidly when it is dry and cracked, and very slowly when it is moist.

Unit(s)	Soil(s) Associated with Unit
Phase 1	Branyon & Houston Black Series
TxDOT	Branyon & Houston Black Series

Slopes:

Phase 1	0% to 3%
TxDOT	0% to 5%

Vegetation: Existing vegetation on the site consists of native grasses and trees.

Description of drainage system:

The drainage system in this development consists of concrete streets, curbs, and gutters, which convey stormwater to storm sewer inlets, into the underground storm sewer system that drain engineered drainage channels which discharge into an onsite detention ponds.

Unit 1

Pre-construction Drainage Patterns:

Stormwater sheet flows over property that drains primarily towards the South East(prior to grading).

Post-construction Drainage Patterns:

Stormwater from this Unit drains South through the Streets to 4 curb inlets into drainage channels that lead into Detention Pond A that discharges from 1 outfall at the South East corner of the detention pond where the stormwater then sheet flows to the South East corner of the site

Stormwater from the North portion of the site sheet flows East into Detention Pond B that discharges from an outfall and leaves the site via a culvert at the North East corner.

Run On is anticipated at the South West corner of the site to be captured via a culvert that will feed into the drainage channel that runs along the Southern perimeter of the Unit into Detention Pond A.

Run On will also be captured in the South West corner of the site via a culvert under the site entrance where it will then flow through road side drainage channel along FM 758.

Outfalls:

Identifier/Name	Type	Location
#1-Unit1	Culvert	North East Corner of Unit
#2-Unit1	Culvert	South East Corner of Unit

Stormwater Management Facilities (SMF):

Identifier/Name	Type	Location
Detention Pond A	Detention Pond	Northern Perimeter of Unit
Detention Pond B	Detention Pond	South East Corner of Unit

TxDOT

Pre-construction Drainage Patterns:

Stormwater sheet flows over property that drains primarily towards the South and East (prior to grading).

Post-construction Drainage Patterns:

Stormwater drainage patterns will not change as a result of the road improvement construction.

Run On is anticipated from the North of construction on HWY 123 via the road side drainage channel on the East and West sides of the road.

Outfalls:

Identifier/Name	Type	Location
N/A	N/A	N/A

Stormwater Management Facilities (SMF):

Identifier/Name	Type	Location
N/A	N/A	N/A

Floodplain:

Unit 1	No portion of the site is within the 100-year floodplain.
TxDOT	No portion of the site is within the 100-year floodplain.

1.10 *Endangered or Threatened Species*

Are there any endangered or threatened species and critical habitats that will be impacted by construction activity at the site?

YES NO

If yes, describe the species and/or critical habitat (per information provided by the developer) and any BMPs applicable to protecting critical habitat: N/A

1.11 Historic Preservation

Are there any historic sites that will be impacted by construction activity at the site?

YES NO

Describe how this determination was made: National Registration of Historic Places

If yes, describe the location of the historic site in relation to the construction site:

If yes, are additional BMPs required in order to minimize impacts to the historical site by construction activity at this site?

YES Additional BMPs required:

NO, the requirements of the Construction General Permit, and the BMPs listed in this SWP3 are adequate to minimize impacts.

1.9 Receiving Waters / Impaired Waters / TMDL

Description of receiving waters:

The receiving water at or near the site that may be disturbed or may receive discharges from the disturbed areas of this development is: SegID: 1804A Geronimo Creek

Unit 1 & TxDOT

Stormwater leaves the site from the North detention pond and goes under SH 123 and drains into a stock pond, then drains South West and into the road side drainage channel along SH 123, where it then drains South before it confluences into an unnamed tributary. Stormwater discharged from the South detention pond sheet flows East and goes under FM 758 where it then flows South along SH 123 road side drainage channel before it confluences into an unnamed tributary. The Unnamed tributary drains South through agricultural land and behind rural residential areas before it confluences with Geronimo Creek 0.56 miles East of SH 123.

Geronimo Creek is approximately 3.56 miles South of the site.

Description of impaired waters:

Is the receiving water listed on the 2022 Texas Integrated Report Index of Water Quality Impairments?

YES NO

If yes, the pollutants associated with the impaired water body are:

2022 Texas Integrated Report - Index of Water Quality Impairments					
Segment ID	Segment Name	AU ID	Parameter	Category	Carry Forward
1804A	Geronimo Creek	1804A_01	Bacteria in water (Recreation Use)	5c	N

Is the receiving water body a 303(d) listed water body?

YES NO

If yes, the pollutants associated with the 303(d) water body are:

2022 Integrated Report - Texas 303(d) List (Category 5)					
Segment ID	Segment Name	AU ID	Impairment Description	Year First Listed	Impairment Category
1804A	Geronimo Creek	1804A_01	Bacteria in water (Recreation Use)	2006	5c

Total Maximum Daily Load (TMDL) Requirements

Does this receiving water(s) for this site have an existing TMDL and I-Plan?

YES NO

If yes, are additional BMPs required in order to be consistent with any applicable condition, goal, or requirement in the TMDL?

YES, the additional BMPs required include:

NO, the requirements of the Construction General Permit, and the BMPs listed in this SWP3 are adequate to be consistent with the TMDL.

N/A

Does the receiving water(s) for this site have a TMDL under development?

YES NO

Waterbody Name	Waterbody ID	Most Current Data Available	Location	Map	Waterbody Type	Size	Unit	Status	State TMDL Development Status
<u>Geronimo Creek</u>	TX-1804A_01	2014	Entire Water Body	Waterbody Map	Freshwater Stream	17.9	Miles	Impaired	TMDL needed

1.12 Applicable Federal, Tribal, State or Local Programs

Tribal: This site is not located in an area where separate Tribal Requirements may apply. Therefore, no additional stormwater management controls are required to minimize the effects of stormwater runoff to affected areas. There are no Tribal properties that fall under the Tribal Requirements for the State of Texas.

Local Regulations-Municipal Separate Storm Sewer System (MS4) Operator:

The following local regulations, ordinances and requirements have been included for reference and are not intended to be enforceable by federal governments but may be enforceable by state governments. (Local Qualified or State Delegated Programs). The local requirements are provided herein to assist in maintaining the SWP3s consistency with local requirements for soil and erosion control and stormwater management. These local requirements will be updated to include changes or additional requirements during the period of coverage under the CGP. Copies of the applicable ordinances or local regulations are included in Appendix "M" of this SWP3. The complete ordinances can be found on the respective regulatory agency's website.

The site is located in the City of Seguin MS4.

The following sections of the City of Seguin Code of Ordinances were taken into consideration in the development of this SWP3:

Sec. 2.9. - Subdivision development.

Part II. E. 3 (d) of the TXR150000 Construction General Permit requires that all primary operators must (1) provide a copy of the signed NOI to the operator of any MS4 receiving the discharge, and (2) list in the SWP3 the names and addresses of all MS4 operators receiving a copy. The TCEQ Notice of Intent for each operator for this site shall be submitted to the MS4 at the mailing address or email address below. A copy of the cover letter and return receipt or printed email correspondence is located under Appendix "D": NOI/NOC/NOT.

MS4 ADDRESS:

City of Seguin
Development Services Center
108 E. Mountain Street
Seguin, Texas 78155
830-386-2594
permits@seguintexas.gov

1.13 Site Features and Sensitive Areas to be Protected

Sensitive areas located on site that must be protected include: N/A

Description of measures to protect these features: N/A

Edwards Aquifer:

Does site discharge to the Edwards Aquifer Recharge Zone: YES NO

Does site discharge to the Edwards Aquifer Contributing Zone: YES NO

If yes, a copy of the Edwards Aquifer Protection Plan (EAPP), which may include a Water Pollution Abatement Plan (WPAP) or a Contributing Zone Plan (CZP) will be kept onsite and the approval letter will be placed in Appendix "J".

This SWP3 includes all provisions and BMPs necessary to meet the requirements of the EAPP for this development.

For discharges located within ten stream miles upstream of the Edwards Aquifer recharge zone, applicants shall also submit a copy of the NOI to the appropriate TCEQ regional office.

Counties: Comal, Bexar, Medina, Uvalde, and Kinney

Contact: TCEQ Water Program Manager
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
(210) 490-3096
EAPP@TCEQ.Texas.Gov

Counties: Williamson, Travis, and Hays

Contact: TCEQ Water Program Manager
Austin Regional Office
12100 Park 35 Circle
Room 179, Building A
Austin, Texas 78753
(512) 339-2929
EAPP@TCEQ.Texas.Gov

1.14 Potential Sources of Pollution

Table #1: Potential sources of sediment to stormwater runoff (Check if pollutant applies to site):

- Installation of Sediment and Erosion Controls
- Vehicle Tracking
- Grading Operations
- Exposed Soils and Slopes
- Import/Export Operations
- Utility Excavation Operations
- Landscaping Operations
- Topsoil Stripping and Stockpiling
- Fine Grading of Lots
- Other:

Table #2: Construction Activities associated with Pollutants: (Check if pollutant applies to site and update the list as necessary):

Activity Type	Pollutant	Visually Observable
Soil Disturbance:		
<input checked="" type="checkbox"/> Clear & Grub	Sediment and organics	Cloudy to opaque
<input checked="" type="checkbox"/> Remove and Re-compact	Sediment	Cloudy to opaque
<input checked="" type="checkbox"/> Fine Grading	Sediment	Cloudy to opaque
<input checked="" type="checkbox"/> Trenching	Sediment	Cloudy to opaque
<input checked="" type="checkbox"/> Stockpiling	Sediment	Cloudy to opaque
Asphalt:		
<input checked="" type="checkbox"/> Street Construction	Hydrocarbons	Oily sheen
<input checked="" type="checkbox"/> Street Improvements	Hydrocarbons	Oily sheen
<input checked="" type="checkbox"/> Street Demolition	Hydrocarbons	Oily sheen
Concrete Laden Liquid:		
<input checked="" type="checkbox"/> Curb & Gutter	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Sidewalks	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Foundations	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Driveways	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Medians	pH	Cloudy to Milky
<input type="checkbox"/> Stuccoing	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Grouting	pH	Cloudy to Milky
<input checked="" type="checkbox"/> Washouts/Clean up	pH	Cloudy to Milky
General:		
<input type="checkbox"/> Framing	Sawdust	Yes
<input type="checkbox"/> Painting	Paint (when wet)	Yes
<input type="checkbox"/> Dry Walling	Gypsum/Joint Compound	Yes
<input type="checkbox"/> Tiling	Ceramic dust	Yes
<input type="checkbox"/> Cabinet Building/Installing	Sawdust	Yes
<input type="checkbox"/> Plumbing	PVC Glue (when wet)/Plastic	Yes
<input type="checkbox"/> Wiring/Electrical Utilities	Copper/Plastic/Metals	Yes
<input type="checkbox"/> Heating/Air Conditioning	Sheet metal/fiberglass wool	Yes

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Activity Type		Pollutant	Visually Observable
<input checked="" type="checkbox"/>	Landscaping	Containers/mulch/soil	Yes

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Equipment Type		Equipment Type	
<input checked="" type="checkbox"/>	Backhoe loader(s)	<input checked="" type="checkbox"/>	Fork & Rough-terrain lifts (Pettibone)
<input checked="" type="checkbox"/>	Water truck(s)	<input checked="" type="checkbox"/>	Generator(s)
<input checked="" type="checkbox"/>	Scraper(s)	<input checked="" type="checkbox"/>	Concrete boom pumps
<input checked="" type="checkbox"/>	Loader(s)	<input checked="" type="checkbox"/>	Concrete pumps
<input checked="" type="checkbox"/>	Bull dozer(s)	<input checked="" type="checkbox"/>	Asphalt planer / grinder
<input checked="" type="checkbox"/>	Motor-grader	<input checked="" type="checkbox"/>	Asphalt paving machine
<input checked="" type="checkbox"/>	Excavator(s) / Track hoe(s)	<input checked="" type="checkbox"/>	Street striping equipment
<input checked="" type="checkbox"/>	Dump trucks (10-wheel)	<input checked="" type="checkbox"/>	Building material delivery trucks
<input checked="" type="checkbox"/>	Belly/Bottom dumps (tractor/trailer)	<input checked="" type="checkbox"/>	Personal cars and light trucks
<input checked="" type="checkbox"/>	Tractor: skip loader	<input checked="" type="checkbox"/>	Waste hauling trucks
<input checked="" type="checkbox"/>	Skid steer loaders (Bobcat)	<input checked="" type="checkbox"/>	Trencher(s)
<input checked="" type="checkbox"/>	Concrete delivery trucks	<input type="checkbox"/>	Stucco/Plaster spray pumps
<input checked="" type="checkbox"/>	Portable concrete mixers	<input type="checkbox"/>	Spray paint equipment (airless)
<input checked="" type="checkbox"/>	Compaction equipment	<input type="checkbox"/>	Other

Table #3: Potential Construction Site Pollutants (Check if pollutant applies to site):

YES	Pollutant	Constituent	Visually Observable	Typical Location
Asphalt Products				
<input checked="" type="checkbox"/>	Hot Asphalt	Hydrocarbons- liquid or solid	Yes- Black material, Rainbow surface Brown suspension	Streets, Material storage
<input checked="" type="checkbox"/>	Asphalt Emulsion	Hydrocarbons- liquid or solid	Yes- Black material, Rainbow surface Brown suspension	Streets, Material storage
<input type="checkbox"/>	Cold Mix	Hydrocarbons- liquid or solid	Yes- Black material, Rainbow surface Brown suspension	Streets, Material storage
<input type="checkbox"/>	Crumb Rubber	Hydrocarbons- liquid or solid	Yes- Black material, Rainbow surface Brown suspension	Streets, Material storage
<input type="checkbox"/>	Asphalt Concrete	Hydrocarbons- liquid or solid	Yes- Black material, Rainbow surface Brown suspension	Streets, Material storage

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

YES	Pollutant	Constituent	Visually Observable	Typical Location
Cleaning Products				
<input checked="" type="checkbox"/>	Detergents	Suds, foam, froth	Yes	All areas
<input checked="" type="checkbox"/>	Solvents	VOC, SVOC	No	Staging areas, Material Storage
<input checked="" type="checkbox"/>	Acids	Acids, - pH	No	All areas
<input checked="" type="checkbox"/>	Bleaches	Residual Chlorine	No	Material Storage
<input checked="" type="checkbox"/>	TSP	Phosphate	No	Material Storage
Vehicle				
<input checked="" type="checkbox"/>	Batteries	Sulfuric acid, Lead, pH	No	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Diesel Fuel	Petroleum distillates, naphthalene, xylene	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Gasoline	Benzene, toluene, xylene, MTBE	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Hydraulic Oil	Mineral oil, trace additives	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Engine Oil	Mineral oil, additives, combustion byproducts	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Transmission Oil	Mineral oil, trace additives	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Engine Coolant	Ethylene and propylene glycol, heavy metals	Yes- Green/red liquid/stain	Staging, streets, and material storage areas
<input checked="" type="checkbox"/>	Grease	Petroleum hydrocarbons	Yes- Sheen/Stain	Staging, streets, and material storage areas
<input type="checkbox"/>	Kerosene	Petroleum hydrocarbons	Yes- Sheen/Stain	Staging, streets, and material storage areas
Landscaping and Other Products				
<input checked="" type="checkbox"/>	Fertilizer-in-organic	Nitrate, Phosphate, Organic Nitrogen, Potassium	No	Material storage area Landscaping Activities
<input checked="" type="checkbox"/>	Fertilizers organic	TOC, Nitrate, Organic Nitrogen, COD	No	Material storage area Landscaping Activities
<input checked="" type="checkbox"/>	Lime	Alkalinity, pH	No	Material storage area Landscaping Activities
<input checked="" type="checkbox"/>	Pesticide	Check lab for specific pesticide	No	Material storage area Landscaping activities
<input checked="" type="checkbox"/>	Herbicide	Check lab for specific herbicide	No	Material storage area Landscaping activities
<input checked="" type="checkbox"/>	Natural Earth	Sand, Gravel, and Top Soil	Yes- Cloudiness and turbidity	Material storage area Landscaping Activities
Portland Concrete Cement and Masonry Products				
<input checked="" type="checkbox"/>	Concrete (wet)	Fly ash, heavy metals, Portland cement	Yes- White solid, milky liquid	Streets & building pads
<input checked="" type="checkbox"/>	Concrete coring slurry	Turbidity and pH	Yes- Gray liquid	Streets
<input checked="" type="checkbox"/>	Concrete sawing slurry	Turbidity and pH	Yes- Gray liquid	Streets
<input checked="" type="checkbox"/>	Portland Cement (PCC)	Aluminum calcium iron oxide, calcium sulfate pH	Yes -Gray powder	Material Storage Areas, Streets
<input checked="" type="checkbox"/>	Sealant	Methyl Methacrylate, Cobalt, Zinc	No	Material Storage Areas, Streets

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

YES	Pollutant	Constituent	Visually Observable	Typical Location
<input checked="" type="checkbox"/>	Concrete rinse water	pH	Yes- Milky liquid	Streets, Drainage Structures, Concrete Truck Washout, Concrete Rinse Water
<input checked="" type="checkbox"/>	Masonry Products	pH, Alkalinity	No	Material Storage Areas, Streets
<input checked="" type="checkbox"/>	Curing Compounds	Glass Oxide, urea extended phenol	Yes- Creamy white	Material Storage Areas, Streets
<input checked="" type="checkbox"/>	Non-pigmented curing compounds	Acidity, alkalinity, pH, VOC, SVOC	No	Material Storage Areas, Streets
<input checked="" type="checkbox"/>	Grout	Silica sand, Portland cement	Yes- White powder	Landscaping Activities
<input type="checkbox"/>	Drywall joint compound	Pigment, vinyl acetate	Yes- White putty	
Painting Products				
<input checked="" type="checkbox"/>	Paint	Ethylene glycol, titanium oxide, VOC	Yes- Colored liquid	Material Storage Area, Railings, Streets
<input checked="" type="checkbox"/>	Paint strippers	VOC, SVOC	No	Material Storage Area
<input checked="" type="checkbox"/>	Lacquers, Varnish, Enamels, Turpentine	COD, VOC, SVOC	No	Material Storage Area
<input checked="" type="checkbox"/>	Thinners	VOC, COD	No	Material Storage Area
<input checked="" type="checkbox"/>	Sealers	Diacetone alcohol, COD	No	Material Storage Area, Streets
<input checked="" type="checkbox"/>	Solvents	COD, VOC, SVOC	NO	Material Storage Area, Streets
Soil Amendments/Stabilization Products				
<input checked="" type="checkbox"/>	Polymer/copolymer	BOD, COD, DOC, Nitrate, Sulfate, Nickel	No	Landscaping Activities, Material Storage, runoff from treated areas
<input checked="" type="checkbox"/>	Straw/mulch	Solids	Yes	Landscaping Activities, material storage, runoff from treated areas
<input checked="" type="checkbox"/>	Lignon Sulfonate	Alkalinity, TDS	No	Landscaping Activities, material storage, runoff from treated areas
<input checked="" type="checkbox"/>	Psyllium	COD, TOC	No	Landscaping Activities, material storage, runoff from treated areas
<input checked="" type="checkbox"/>	Guar/Plant Gums	COD.TOC, Nickel	No	Landscaping Activities, material storage, runoff from treated areas
<input checked="" type="checkbox"/>	Gypsum	Ph, Calcium. Sulfate, Aluminum, Barium, Manganese, Vanadium	No	Landscaping Activities, material storage, runoff from treated areas

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Dust Palliative Products				
<input checked="" type="checkbox"/>		Salts (Magnesium Chloride, Calcium Chloride, and natural Brines)	No	All areas
Treated Wood Products				
<input checked="" type="checkbox"/>	Wolmanized Natural Select™ (Copper Azole), Preserve and NatureWood® (ACQ), MicroPro™, Smart Sense™ (MCQ), and Advance Guard® (Borate.)	Copper, Arsenic, Zinc, Chromium	No	Material Storage
<input checked="" type="checkbox"/>	Creosote	Rainbow Surface or Brown Suspension	Yes	All areas
Other Pollutants				
<input checked="" type="checkbox"/>	Adhesives	Cod, Phenols, SVOC	No	Material Storage
<input checked="" type="checkbox"/>	Animal Waste	Solids	Yes	All areas
<input checked="" type="checkbox"/>	Human Sanitary Waste	Solids & Liquids	Yes	Sanitation Facilities (portable toilets)
<input checked="" type="checkbox"/>	Hydro-testing/flushing	Chlorine, turbidity	Chlorine is not visible	All areas
<input checked="" type="checkbox"/>	Sediment	Soil, Turbidity, dust	Yes- Muddy, dusty,	All areas
<input checked="" type="checkbox"/>	Vegetation	Organic matter	Yes	All areas
<input checked="" type="checkbox"/>	Solid Waste	Floatable and blowable trash and debris	Yes	All areas
<input type="checkbox"/>	Tile	Solids	Yes	Material Storage Areas
<input checked="" type="checkbox"/>	Contaminated Soils	Petroleum	Yes- rainbow surface, sheen and odor	All areas
<input checked="" type="checkbox"/>	Portable Toilet Waste	Bacteria, organic waste, disinfectant	Yes, colored liquid and solids	Staging areas & all construction areas
<input type="checkbox"/>	Historic Land Use contaminants (if applicable)			

1.15 Allowable Non-Stormwater Discharges

The non-stormwater discharges that are authorized by the Construction General Permit TXR150000 are as follows:

- Discharges from emergency fire-fighting activities (emergency fire-fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities)
- Uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first de-chlorinated and discharges are not expected to adversely affect aquatic life), which include flushings from systems that utilize potable water, surface water, or groundwater that does not contain additional pollutants (uncontaminated fire hydrant flushings do not include systems utilizing reclaimed wastewater as a source water);
- Water from the routine washing of vehicles, the external portion of buildings or structures, and pavement, where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), where pressure washing is not conducted, and where the purpose is to remove mud, dirt, or dust;
- Water used to control dust;
- Potable water sources including waterline flushings (excluding discharges of hyper-chlorinated water, unless the water is first de-chlorinated and discharges are not expected to adversely affect aquatic life);
- Uncontaminated air conditioning condensate;
- Uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents; and Lawn watering and similar irrigation drainage.

The allowable non-stormwater discharges that may occur at this site and the associated BMPs are as follows: (Refer to Section 2 for specific BMP specification sheets)

Potable Water Sources

BMP Description: Do not allow hoses or irrigation lines to run unchecked. Shut off water or use a nozzle to stop the flow of water when not needed. Maintain back of curb protection and inlet protection as the best management practice to control the discharge of pollutants.

<i>Responsible Staff</i>	The General Contractor managing the potable water source is responsible to implement BMPs for potable water sources.
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Fire Hydrant Flushings

BMP Description: Fire hydrant and water line flushings will be directed away from disturbed soil, allowed to flow along the paved curb and gutter system, and toward storm sewer inlets with inlet protection in place. (See BMP S8 – S8.4) The water being discharged from water line flushings typically does not contain chlorine at levels above that which are safe for drinking, therefore de-chlorination would not typically be necessary. If disinfection by hyperchlorination is necessary, however, the water line flushings will be de-chlorinated by either injecting sodium dioxide (de-chlor) into the water line near the discharge point, or by mixing sodium dioxide in powder form at the discharge location. De-chlorinating the water line flushings is the responsibility of the General Contractor / Operator conducting the water line flushing.

<i>Responsible Staff</i>	The General Contractor conducting the hydrant flushing is responsible to implement BMPs.
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Water from the routine washing of the external portion of buildings or structures, and pavement

BMP Description: Surfaces to be washed will be scraped or broomed clean prior to applying water. The minimum amount of water will be used to minimize the non-stormwater discharges. Wash water will be directed to adequate sediment controls, such as vegetated areas, inlet protection, silt fences, rock berms, or sediment ponds. (See BMPs EC4, S1, S3, S5, S6, S7, S8 – S8-4, PC2)

<i>Responsible Staff:</i>	The General Contractor or subcontractor conducting the washing of buildings, structures or pavement is responsible to implement BMPs.
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Water used to control dust

BMP Description: Water for dust control will be applied at the minimum rate to adequately control fugitive dust while minimizing runoff, and will be conducted in a location with vegetated buffers or adequate sediment controls, such as silt fences, rock berms, or a sediment pond, are in place down-stream. (BMP NS2)

<i>Responsible Staff:</i>	The General Contractor or subcontractor conducting the construction activity or with operational control of the area where dust control measures are being implemented.
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Uncontaminated ground water or spring water

BMP Description: If necessary, ground water will be discharged using one or more of several BMPs prior to discharge including using a water pump gravity bag filter, discharging to a large vegetated area, directing discharges to in-place sediment controls such as vegetated buffers, silt fences, rock berms, or to a sediment pond. (BMP PC2)

<i>Responsible Staff:</i>	The General Contractor or subcontractor conducting the dewatering is responsible to implement BMPs.
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Lawn watering and similar irrigation drainage

BMP Description: Lawn watering and similar irrigation will be conducted in a manner to minimize overspray onto paved or concrete surfaces. The time and volume of water applied will be limited so as to provide sufficient infiltration, but to minimize erosion.

<i>Responsible Staff:</i>	The General Contractor or subcontractor conducting the irrigation is responsible to implement BMPs.
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All practicable efforts shall be made to minimize or eliminate non-stormwater discharges. Onsite representatives of each operator shall observe the development for non-stormwater discharges and activities with a potential to cause a non-stormwater discharge as part of their routine day-to-day activities and implement measures to minimize impacts to stormwater by having the discharges directed to sediment and erosion control structures prior to discharge.

The Operator that generates the non-stormwater discharge or the potential for a non-stormwater discharge is responsible for implementation, maintenance, and management of the appropriate controls associated with the discharge.

1.16 Prohibited Discharges

The following discharges are prohibited:

- (a) Wastewater from wash out of concrete trucks, unless managed by appropriate controls;
- (b) Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (c) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
- (d) Soaps or solvents used in vehicle and equipment washing.
- (e) Toxic or hazardous substances from a spill or other release.

1.17 Past Land Uses

This site has primarily been used for agricultural purposes.

Are there any known contaminations on site from previous land uses or operations?

YES NO

1.18 Amendments to the SWP3

The project site and activities are dynamic and continually undergoing change. The very nature of construction is to transform one set of conditions into another and does this through on-going changes. As such, the storm water pollution prevention plan must be flexible and evolve with the project. As conditions change and necessitate the need for SWP3 revisions, the SWP3 will be updated and amended by the SWP3 preparer to address these changes.

The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within 7 calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

The SWP3 must be modified when:

- A change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not be previously addressed in the SWP3;
- Changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs;
- Result of inspections or investigations by site operators, operators of a municipal separate storm sewer system (MS4) receiving the discharge, authorized TCEQ personnel, or federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.
- The permittee receives written notice of changes applicable to protecting surface water resources in sediment and erosion control site plans or site permits, stormwater management site plans, or site permits approved by state or local officials.

Amendments to the SWP3 will be ordered by Lennar Homes of Texas Land and Construction, Ltd., prepared by the SWP3 preparer listed in Section 1.1, documented on the amendment form; and tracked on the amendment log both contained in Appendix "E". The forms are to be filled out completely, documenting the reason for the amendment and how it modifies current conditions. The amendment form shall be signed in accordance with 30 TAC §305.144 (relating to Signatories to Reports), or by a Duly Authorized Representative (DAR) pursuant to 30 TAC §305.128. See Section 4.4 for a list of the delegated Duly Authorized Representatives (DARs) and Appendix "I" for copies of the Delegation of Signatory form authorizing the DAR to sign documents

When making an amendment to the SWP3 document:

1. Add a very brief description of the amendment to the Amendment Log and assign an amendment number.
2. Cross out the old information in the SWP3 that is being amended (do not throw anything away).
3. Make the necessary change by writing in the new information, inserting the new page(s), adding the revised text/chart.
4. Label the changes with the corresponding amendment number and a brief description of what changed.
5. Complete the amendment form documenting the reason for the amendment and how it modifies SWP3. Include the amendment number on the amendment form.
6. Place the amendment form and any associated documents in the applicable sections of the SWP3.
7. If an entire page has been replaced with a new page through amendment, old page will be placed in Appendix "O." Appendix "O" contains pages of the SWP3 that have been replaced through amendments. These pages are not current and are included for reference only.

SECTION 2: BEST MANAGEMENT PRACTICES

This section describes practices that will be implemented to minimize or control potential pollutants in stormwater discharges and the timing of their installation. Best Management Practices (BMPs) may either be structural or nonstructural in nature. Structural BMPs are physical measures designed to minimize impacts to stormwater runoff by functioning mechanically to minimize erosion, sediment, and pollutant discharges. These erosion and sediment controls may be temporarily used during construction only and removed after stabilization has been achieved, or they may be permanent, designed to remain in place after construction is complete. Nonstructural BMPs are processes and practices implemented to minimize the potential for pollutant discharge during and after construction. This SWP3 is designed to implement an effective combination of both structural and nonstructural BMPs to minimize impacts to stormwater runoff during construction activities.

2.1 General timing of installation of associated BMPs:

The items below apply to all construction activities, shall be installed or maintained prior to commencing construction, and apply at all times from initial mobilization onto the development through acceptance of the Notice of Termination.

1. Conduct pre-construction meeting with General Contractor / Operator responsible for this construction activity and assign SWP3 responsibility.
2. Established equipment and material storage area
3. Cleaning, washing or maintenance of construction equipment or vehicles is not allowed on site.
4. Minimize tracking of sediment offsite and provide street cleaning as necessary.
5. Prevent and manage spills of stored substances per the spill response plan. (Section 3.1). Keep a spill kit on site during land development.
6. Install and maintain temporary sanitary facilities (portable toilets) for workforce on dirt and away from water courses and inlets.
7. Install and maintain trash and debris containment, such as dumpsters, trash pens, or barrels.
8. Minimize the exposure of waste materials to storm water. If the waste containers have lids, the lids must be closed at the end of each workday. For waste containers that do not have lids, where the container itself is not sufficiently secure enough to prevent the discharge of pollutants absent a cover and could leak, the container should be covered to minimize exposure of waste to precipitation. Appropriate methods include the use of a tarp, plastic sheeting, temporary roof, placing waste in a location with a roof such as inside the garage of a home, or a similarly effective means to minimize discharge of a waste stream, such as providing secondary containment. Install and maintain equipment and material storage areas where materials will be stored on disturbed soils.
9. Provide dust control.
10. Prevent discharges from waste disposal containers to the stormwater drainage system or receiving water.
11. Conduct proper equipment and vehicle fueling and maintenance procedures.
12. When making saw-cuts in pavement, use as little water as possible. Contain the slurry by placing sand or gravel bags downgradient of the sawcut activity or around the downgradient inlets. After the liquid evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site.
13. Implement material handling BMPs for all hazardous and non-hazardous materials being used.
14. Implement measures to control all non-stormwater discharges during construction.
15. Implement spill prevention and control BMPs. (Section 3.1)
16. Properly manage and contain trash and waste material at all times
17. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days.

2.2 BMP Implementation for Each Construction Activity

Unit 1 Land Development – BMP Implementation

Clearing and Grubbing the entire site

1. Install and/or Maintain Stabilized Construction Exits for the site.
2. Clear only enough areas to install the first set of erosion and sediment controls required for the specific construction activity.
3. Install perimeter silt fences downgradient of construction activity on areas indicated on the site map. (BMP S1) Areas needing maintenance are identified on the regular SWP3 inspection. (Section 4)
4. Install temporary culvert crossing when crossing tributaries.
5. Preserve native topsoil at the site, unless infeasible.
6. Begin overall site clearing, grubbing and topsoil stripping and stockpiling.
7. Begin clearing vegetation and trees.
8. Establish topsoil stockpiles and stabilize with erosion controls if activity will cease on the stockpile for more than 14 days.
9. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days.
10. All temporary erosion and sediment controls are to remain in place or be replaced with an alternative control until the up-gradient areas are stabilized.
11. Temporary erosion and sediment controls may remain in place for use during subsequent construction activity or may be removed after stabilization is achieved.

Rough grade of Rough Grade of Temporary Sediment Basin, Drainage Channels / Swales, Detention Pond lots, and street and alleys.

1. Install and/or Maintain Stabilized Construction Exits for the site.
2. If not already cleared, clear only enough areas to install the first set of erosion and sediment controls required for the specific construction activity.
3. Install or verify previous installation of perimeter silt fences downgradient of construction activity on areas indicated on the site map.
4. Construct Temporary Sediment Basin, Drainage Channels / Swales, Detention Pond using borrow and fill locations as indicated on the site map. (Temporary Sediment Basin / Drainage Channels or Swales Stormwater Detention Structure)
5. Install Gravel Bag Berm / Rock Berms / Check Dams at down gradient discharge points of Temporary Sediment Basin, Drainage Channels / Swales, Detention Pond, (Gravel Bag Berm / Rock Berms / Check Dams)
6. Install slope protection on final graded slopes of Temporary Sediment Basin, Drainage Channels / Swales, Detention Pond (Erosion Control Blanket (i.e. "Curlex"))
7. Install velocity dissipation devices at outfall of Detention Pond, Temporary Sediment Basin, Drainage Channels, Detention Pond,.
8. If concrete is being installed, establish concrete washout area per the concrete washout specification.
9. Implement BMPs for dewatering operations if applicable.
10. Perform earthwork on lots and streets.
11. Minimize soil compaction in post-construction pervious areas unless infeasible.
12. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days.
13. Install stockpile containment as needed and stabilize with erosion controls if activity will cease on the stockpile for more than 14 days.

Installation of sanitary sewer, water, storm sewer and dry utilities (electric, phone, communications)

1. Install and/or Maintain Stabilized Construction Exits for the site.
2. Avoid excavation of trenches and stockpiling of material during inclement weather, schedule construction accordingly.
3. Implement BMPs for dewatering operations.
4. Install concrete washout area per the Concrete Washout Specification.
5. Install Gravel Bag Berm / Rock Berms / Check Dams at down gradient discharge points prior to headwall construction (Gravel Bag Berm / Rock Berms / Check Dams)
6. Install water distribution system, sanitary sewer collection system, storm sewer collection system.
7. Install inlet protection once inlet boxes are installed and connected.
8. Install dry utilities such as electrical, phone, gas, and communications on lots.
9. Backfill areas of utility installation to subgrade.
10. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days.

Installation of pavement base material, concrete curb and asphalt pavement, and construction of bridge(s)

1. Locate storm sewer inlets and verify Stage 1 inlet protection.
2. Lay first course of road base material and perform proof roll. Use material delivery BMPs.
3. If not already installed, install concrete washout area per the Concrete Washout Specification.
4. Install Gravel Bag Berm / Rock Berms / Check Dams at down gradient discharge points prior to starting bridge construction. (Gravel Bag Berm / Rock Berms / Check Dams)
5. Install concrete curb and back fill the lots to the curb.
6. Lay second course of road base material and roll to final grade.
7. Lay asphalt pavement.
8. Install back of curb protection and curb inlet protection. If temporary access to the lots is needed, install Culex buffer.
9. Spread topsoil from stockpiles in landscape areas and finished lots.
10. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days. Hydraulic Mulch right of ways & Broadcast seed on finished lots.
11. All temporary erosion and sediment controls are to remain in place or be replaced with an alternative control until the up gradient areas are stabilized.

Landscape/Hardscape/Sidewalks/Monuments

1. Verify existing installation of perimeter controls such as silt fences or straw wattles and inlet protection and re-install or maintain as needed.
2. Locate storm sewer inlets and establish inlet protection if not already established. Clear areas to be landscaped of temporary erosion controls as needed.
3. Install concrete washout area per the concrete washout specification.
4. Install hardscape, sidewalks, landscape and irrigation in common areas.
5. Initiate permanent stabilization on all areas where construction activity will cease for at least 14 days. If applicable, install non trenched erosion control at back of curb in newly landscaped areas.
6. Remove temporary erosion and sediment controls when vegetation is established.

TxDOT – BMP Implementation

Clearing, Rough Grade, Demolition and Earthwork of road improvement area

1. Install and/or Maintain Stabilized Construction Exits for the site. (BMP S4)
2. Clear only enough areas to install the first set of erosion and sediment controls required for the specific construction activity.
3. Install perimeter silt fences downgradient of construction activity on areas indicated on the site map. (BMP S1) Areas needing maintenance are identified on the regular SWPPP inspection. (Section 4)
4. Preserve native topsoil at the site, unless infeasible.
5. Begin overall site clearing, grubbing and topsoil stripping and stockpiling.
6. Begin clearing vegetation and trees.
7. Conduct demolition and removal activities.
8. Establish topsoil stockpiles and stabilize with erosion controls if activity will cease on the stockpile for more than 14 days. (BMP M3)
9. Initiate temporary or permanent stabilization on all areas where construction activity will cease for at least 14 days. (BMPs EC2)

Installation of utilities for signal lights

1. Avoid excavation of trenches and stockpiling of material during inclement weather, schedule construction accordingly.
2. Implement BMPs for dewatering operations. (BMP NS4)
3. Install electrical and other appurtenances related to traffic light installation.
4. Backfill areas of utility installation to subgrade.
5. Initiate temporary or permanent stabilization measures immediately on all areas where construction activity will cease for at least 14 days. (BMPs EC2)

Installation of pavement base material and asphalt pavement

1. Lay first course of road base material and perform proof roll. Use material delivery BMPs.
2. If not already installed, install concrete washout area per the Concrete Washout Specification. (BMP S9)
3. Install concrete curb and back fill the lots to the curb.
4. Lay second course of road base material and roll to final grade.
5. Lay asphalt pavement. (BMP NS7)
6. Install back of curb protection and curb inlet protection (BMPs S1, S8).
7. Spread topsoil from stockpiles in landscape areas and finished areas.
8. Initiate temporary or permanent stabilization measures immediately on all areas where construction activity will cease for at least 14 days. (BMPs EC2)
9. All temporary erosion and sediment controls are to remain in place or be replaced with an alternative control until the up-gradient areas are stabilized.

Final Stabilization

1. Initiate permanent stabilization measures immediately on all areas where construction activity will cease for at least 14 days. (BMPs EC2)

The General Contractor will file a Notice of Termination after all the above work is complete. Lennar activities will continue under this permit number for home building purposes.

General Contractor(s) to File Notice of Termination upon completion of work

1. All disturbed soils/areas shall be stabilized in accordance with CGP and SWP3 requirements.
2. Convert the temporary detention basin to a permanent facility in accordance with design plans and specifications including removal of accumulated sediment, installing the permanent outfall, installation of landscaping and irrigation.
3. Remove silt fence in common areas once vegetative final stabilization has been established.
4. Remove inlet protection from inlets in common areas and reserves where all upstream areas have been stabilized.
5. Certain temporary erosion and sediment control BMPs such as perimeter silt fence on lots and inlet protection on nearby curb inlets will remain in place after stabilization and after the lots have been purchased by homebuilders or transferred to Lennar's homebuilding department. *Homebuilders that purchase lots, including Lennar's homebuilding department, are responsible for compliance with the CGP for areas of their work. Upon purchase, the homebuilders are required obtain permit coverage, develop and implement a SWP3, install and maintain BMPs for their work, install and maintain inlet protection for inlets they discharge into, clean the streets of track out generated by homebuilding operations in accordance with the CGP.*
6. All construction materials and debris will be removed from the site.
7. All underground drainage structures will be clean and working at full capacity.
8. Remove all other temporary erosion and sediment control BMPs and if applicable stabilize any areas that permanent stabilization measures did not establish well enough to meet NOT requirements.
9. Maintenance schedules for the applicable Post Construction BMPs are to be delivered to the permitting agency or the Home Owners Association, whichever the case may be.
10. General Contractor to file NOT in accordance with the CGP.
11. Lennar Homes of Texas Land and Construction, Ltd. Stormwater Permit will carry over to the homebuilding SWP3 and will cover all areas owned by Lennar Homes.

GOOD HOUSEKEEPING BMPs

Material Handling

BMP Description:

The purpose of this BMP is to prevent or reduce the discharge of pollutants to the storm sewer system or watercourses from material use onsite. These procedures apply when the following materials are used or prepared onsite:

- Pesticides and herbicides
- Fertilizers
- Detergents
- Petroleum products such as fuel, oil, and grease
- Asphalt and other concrete components
- Other hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Other materials that may be detrimental if released to the environment

Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge

Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

Chemicals will be stored in their original containers with the labels intact for proper identification.

Safety Data Sheets (Available by calling the 3E Company at 800-451-8346) and original labels for products used or stored at the site will be retained as they contain important storage, handling, and disposal information.

Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.

Paint brushes and equipment for water and oil based paints should be cleaned within a contained area and should not be allowed to contaminate site soils, watercourses, or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused should be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths should be disposed of as solid waste.

Do not clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or stream. "Paint out" brushes as much as possible. Rinse water-based paints to the sanitary sewer where permitted, or into a concrete washout pit or temporary sediment trap. Filter and reuse thinners and solvents. Dispose of excess oil-based paints and sludge as hazardous waste.

Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures. Clean up and properly dispose of all spills immediately.

Construction materials will be used according to the manufacturer's recommendation for proper use and disposal.

Equipment and Construction materials delivery drivers will exit the site through the stabilized construction exit so as to minimize offsite sediment tracking. Any sediment tracked offsite will be cleaned as soon as practicable so as to minimize impacts to stormwater.

During landscaping, fertilizers and pesticides will not be applied just before or during a storm event. Such landscape chemicals will be applied in the minimum amount recommended by the manufacturer. Fertilizers will be worked into the soil to minimize contact with stormwater.

<i>Installation Schedule:</i>	Whenever construction materials are being used onsite.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days. Material storage areas will be kept clean and organized. Perimeter controls, containment structures, covers, and liners will be repaired or replaced as needed to maintain proper function.
<i>Responsible Staff:</i>	The General Contractor / Operator will implement material handling BMPs for the materials they are using.
<i>Location:</i>	Wherever materials are being handled or used.

Material and Equipment Storage and Staging Area

BMP Description:

Construction equipment and construction materials will be stored at the combined material and equipment staging area. A large container may be used to store small tools, parts or other construction material. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use). All hazardous or regulated waste materials such as oil filters, petroleum products, paint and equipment maintenance fluids will be stored in sealed containers under cover within the staging area.

<i>Installation Schedule:</i>	Grade the material and equipment storage and staging area prior to storing materials. Complete the installation before any infrastructure is constructed at the site. Maintain until final demobilization of equipment.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days. Staging areas will be kept clean and organized. Perimeter controls, containment structures, covers, and liners will be repaired or replaced as needed to maintain proper function.
<i>Responsible Staff:</i>	The General Contractor / Operator will implement material and equipment storage and staging BMPs from initial mobilization to final demobilization.
<i>Location:</i>	At a location with relative easy access and in proximity to the construction entrance to facilitate delivery of materials.

Stockpile Management

BMP Description:

If soil, sediment, and aggregate is stockpiled for more than one day or has the potential to discharge pollutants, the stockpile must be managed properly so as to minimize discharges of sediment or other pollutants. This is done by implementing control measures such as silt fence or wattles around the stockpile, or by placing the stockpile where offsite stormwater discharges from the stockpile are minimized.

<i>Installation Schedule:</i>	Make plans for stockpile placement and install perimeter controls (if applicable) prior to stockpiling soil or sediment. If protection from wind is needed, cover, or contain the stockpile whenever it is not actively being accessed.
<i>Installation, Maintenance and Inspection:</i>	Protect from contact with stormwater (including run-on) using a temporary sediment barrier such as silt fence, straw wattles, or a sand bag sediment barrier. Where practicable, provide cover or appropriate temporary stabilization to avoid direct contact with precipitation or to minimize sediment discharge. Do not hose down or sweep soil or accumulated sediment on pavement into any stormwater conveyance (unless connected to a sediment basin or similar control), storm drain inlet, or surface water. Contain and securely protect from wind during windy conditions. Inspect every 7 days for the presence of proper stockpile management practices.
<i>Responsible Staff:</i>	The General Contractor / Operator who generated the stockpile is responsible for installation and maintenance of stockpile management BMPs.
<i>Location:</i>	Whenever possible, locate stockpiles behind existing sediment controls, outside of any natural vegetated buffers.

Waste Management

BMP Description:

Large volumes of debris and trash are often generated at construction sites, including packaging, pallets, wood waste, personal trash, scrap material, and a variety of other wastes. Debris and trash management is used to minimize floatables and other wastes in stormwater. By controlling the trash and debris onsite, stormwater quality is improved and the need for extensive clean up upon completion of the project is reduced. The site will be routinely patrolled for regular trash and debris collection. Once collected, the waste will be stored in trash containers as described below. When full, the containers will be emptied and the trash hauled to an approved off site landfill. To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines should be a priority.

Minimize the exposure of construction wastes, trash, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

Waste generation will be minimized by purchasing only the amount of material estimated as necessary for the application, and where practicable, using all of a product prior to disposal of the container. If disposal is necessary for excess product, the manufacturer’s recommendations or local or state regulations for proper disposal will be followed.

Disposal of concrete truck wash outs, stucco wastes, masonry wastes, surplus concrete, drum water, or paint washout will be limited to the designated concrete washout areas.

All liquid waste, including hazardous and regulated waste generated on site will be stored under cover, in leak proof and appropriately labeled containers to await proper disposal by licensed disposal companies. The sub-contractor that generated the hazardous or regulated waste is responsible for its disposal. Minimize the discharge of pollutants from equipment washing. Wash waters must be contained onsite in a designated area and prevented from discharging offsite.

Place an adequate number of portable toilets in relative proximity to where workers are present.

<i>Installation Schedule:</i>	Verify that activity-based BMPs are in place prior to the commencement of associated activities.
<i>Installation, Maintenance and Inspection:</i>	Inspect waste storage and disposal areas during regular weekly, pre-rain event, extended event, and post rain event inspections. Arrange for regular waste collection.
<i>Responsible Staff:</i>	The General Contractor is responsible for waste management BMPs for the associated construction activity including disposal of solid and liquid waste.
<i>Location:</i>	Locate waste storage areas, washouts, and receptacles away from the street or stormwater conveyances.

Portable Toilet Facilities

BMP Description:

The objective of sanitary waste management is to provide for collection and disposal of sanitary waste in a manner that minimizes the exposure to precipitation and stormwater. This is most often accomplished by providing portable facilities for construction site workers.

Installation Schedule:	Place portable toilets at the beginning of construction, before workers are present and maintain until final demobilization.
Installation, Maintenance and Inspection:	Inspected every 7 days for proper location placement and evidence of leaking holding tanks. Toilets with leaking holding tanks will be removed from the site and replaced with new portable toilets. Portable toilets shall be maintained by independent contractor on their recommended guidelines. Portable Toilets shall be placed on level ground and maintained regularly. When high winds are expected, portable toilets shall be anchored or otherwise secured to prevent them from being blown over.
Responsible Staff:	The General Contractor / Operator will be responsible for placing, maintaining, and removing portable toilet facilities for their construction activities.
Location:	Sanitary facilities shall be placed a minimum of 50 feet away from storm drain inlets, conveyance channels or surface waters. If unable to meet the 50 foot requirement due to site configuration, portable toilets shall be a minimum of 20 feet away from storm drain inlets, conveyance channels or surface waters and secondary containment shall be provided in case of spills. Once streets have been paved, place portable toilets on the lot in the front of the homesite, behind the back of curb controls. Portable toilet facilities must be positioned so that they are secure and will not be tipped or knocked over, and so that they are located away from surface water and stormwater inlets or conveyances. They should be located on a level permeable area at least 6 feet from streets/gutters or other conveyances and 20 feet away from storm drain inlets, unless infeasible.

Trash Containment

BMP Description:

Waste materials will be collected and contained in trash pens, trash barrels, metal dumpsters in the staging area or as determined by the general contractor. .Minimize the exposure of waste materials to storm water. If the containers have lids, the lids must be closed at the end of each work day. For waste containers that do not have lids, where the container itself is not sufficiently secure enough to prevent the discharge of pollutants absent a cover and could leak, the container should be covered to minimize exposure of waste to precipitation. Appropriate methods include the use of a tarp, plastic sheeting, temporary roof, placing waste in a location with a roof such as inside the garage of a home, or a similarly effective means to minimize discharge of a waste stream, such as providing secondary containment.

<i>Installation Schedule:</i>	Install trash containers after initial mobilization, once the staging area has been established. Maintain until construction activities are complete.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days for the presence of functional waste containers such as pens, trash barrels or metal dumpsters and for uncontained blowable or floatable trash or debris. Police the construction area and surrounding areas daily and collect all blowable or floatable construction debris, trash and litter in containers. Containers shall be located at least 10 feet away from storm sewer inlets and waterways and up gradient of sediment controls. No construction waste materials will be buried on site. Empty the container when debris reaches the capacity of the container or sooner. Wastes must be cleaned up immediately if containers overflow.
<i>Responsible Staff:</i>	The General Contractor / Operator will be responsible for collecting, containing and disposing of trash, and for placing, maintaining, and removing trash containers for their construction activities.
<i>Location:</i>	The location shall be determined by the General Contractor / Operator, but should be located in proximity to the location where trash and debris are being generated. Locations will be indicated on the site map.

Temporary Sanitary Wastewater Storage & Management Facility

BMP Description:

This waste management BMP provides temporary facilities to manage the storage and transportation of the sanitary wastewater produced in the service area prior to connecting the sanitary sewer collection system to the permanent wastewater treatment facility.

The temporary sanitary wastewater storage and management facility (Facility) includes a series of double-walled, self-contained storage tanks and pumps. Additional storage tanks shall be added as necessary to accommodate additional storage needs. Stored wastewater shall be removed from the tanks by a licensed waste hauler and transported to an offsite wastewater treatment facility.

<i>Installation Schedule:</i>	Install the Facility once the sanitary sewer system has been approved by the local municipality and prior to discharge of wastewater by occupied homes within the service area. The Facility will remain operational until the permanent wastewater treatment facility is operational and connected to the sanitary sewer collection system.
<i>Installation, Maintenance and Inspection:</i>	<ul style="list-style-type: none"> ● The Facility shall be constructed on level ground, away from stormwater conveyance systems. ● Provide secondary containment by using double-walled storage tanks and providing a stabilized earthen berm and/or trench around the tanks capable of containing leaks or spills generated during the wastewater transfer process. ● Provide stabilize access such as asphalt or concrete pavement, or a stabilized construction access (S4) to the Facility to minimize offsite tracking. ● Clean streets daily or as needed to remove track out or deposited sediment from paved surfaces, including public roads, private roads, curbs and gutters. ● Inspect every 7 days for offsite tracking, structural concerns and evidence of leaking holding tanks, pumps or hoses. ● Routinely inspect throughout the day when transfer of wastewater is occurring. ● Any leaking storage tanks will be removed from the site and replaced with a new tank. ● Immediately clean up and properly dispose of any spills.
<i>Responsible Staff:</i>	The General Contractor / Operator will be responsible for installation, operation, maintenance, and removal of the Facility.
<i>Location:</i>	The facility should be located on level soil or a permeable area atop an impervious liner and near the lowest manhole in the sanitary sewer collection system. Locations will be shown on the site map.

Concrete Sawcutting Waste Management

Sawcutting of concrete pavement is a routine practice used to control shrinkage cracking immediately following placement of plastic concrete. It is also used to remove curb sections and pavement sections for pavement repairs, utility trenches, and driveways. Sawcutting for joints involves sawing a narrow, shallow groove in the concrete, while sawcutting for removals is usually done full depth through the slab. Water is used to control saw blade temperature and to flush the detritus from the sawed groove. The objective of concrete sawcutting waste management is to prevent the resulting slurry of process water and fine particles with its high pH from becoming a water pollutant.

BMP Description:

Concrete sawcutting waste management is applicable on construction activities where sawcutting is part of the work, regardless of the size of the total area disturbed. It is also applicable on repair and maintenance projects that may not be required to implement erosion and sediment controls.

Concrete sawcutting waste management is based on the proper collection and disposal of the slurry and cuttings.

Installation Schedule:	Whenever sawcutting of concrete on streets, curbs, or alleys is occurring.
Installation, Maintenance, and Inspection:	<p>Slurry Collection</p> <ul style="list-style-type: none"> ● During sawcutting operations, the slurry and cuttings shall be recovered and not be allowed to discharge from the site. ● If the pavement to be cut is near a storm drain inlet, the inlet shall be blocked by sandbags or equivalent temporary measures to prevent the slurry from entering the inlet. Remove the sandbags immediately after completing sawcutting operations, so they do not cause drainage problems during storm events. ● The slurry and cuttings shall not be allowed to remain on the pavement to dry out. <p>Slurry Disposal</p> <ul style="list-style-type: none"> ● Develop pre-determined, safe slurry disposal areas. ● Collected slurry and cuttings should be immediately hauled from the site for disposal at a waste facility. If this is not possible, the slurry and cuttings shall be discharged into onsite containment. ● The onsite containment may be an excavated or bermed pit lined with plastic that is a minimum of 10 millimeters thick. Refer to S6 Concrete Washout Area for additional design criteria and an example schematic. If the project includes placement of new concrete, slurry from sawcutting may be disposed of in facilities designated for the washout of concrete trucks instead constructing a separate containment. ● The containment shall be located a minimum of 50 feet away from inlets, swales, drainage ways, channels, and other waters, if the site configuration provides sufficient space to do so. In no case shall the collection area be closer than 20 feet from inlets, swales, drainage ways, channels and other waters. ● Several, portable, pre-fabricated, concrete washout, collection basins are commercially available and are an acceptable alternative to an onsite containment pit. ● Remove waste concrete when the containment is half full. Always maintain a minimum of one-foot freeboard. ● Onsite evaporation of slurry water and recycling of the concrete waste is the preferred disposal method. When this is not feasible, discharge from the collection area shall only be allowed if a passive treatment system is used to remove the fines. Criteria are in Section 3.7 Passive

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	<p>Treatment System. Mechanical mixing is required in the collection area. The pH must be tested, and discharge is allowed only if the pH does not exceed 8.0. The pH may be lowered by adding sulfuric acid to the slurry water. Dewatering of the collection area after treatment shall follow the criteria NS5 Dewatering Operations.</p> <ul style="list-style-type: none"> ● Care shall be exercised when treating the slurry water for discharge. Monitoring must be implemented to verify that discharges from the collection area do not violate groundwater or surface water quality standards. ● Geotextile fabrics such as those used for silt fence should not be used to control sawcutting waste, since the grain size is significantly smaller than the apparent opening size of the fabric. ● Use waste and recycling haulers and facilities approved by the local municipality. <p>Concrete sawcutting waste management measures should be inspected regularly (at least as often as required by the TPDES Construction General Permit). Project personnel should inspect the operations to assure that operators are diligent in controlling the water produced by the sawcutting activities.</p> <p>Pavement should be inspected each day after operations to ensure that waste removal has been adequately performed. Residual waste should be cleaned. Reinforce proper procedures with workers.</p> <p>Inspect the collection area for signs of unauthorized discharges. Repair containment area as needed. Remove sediment and fines when the collection area volume is reduced by 50 percent.</p>
Responsible Staff:	Saw Cutting Trade Partner and General Contractor
Location:	Where cutting of concrete is occurring.

Sensitive Area / Orange Safety Fence / Construction Debris Fence

BMP Description:

It is advantageous to promote the protection of watersheds, surface waters, and sensitive areas within the areas of SWP3 control while providing secondary containment for floatable and blowable construction debris and litter.

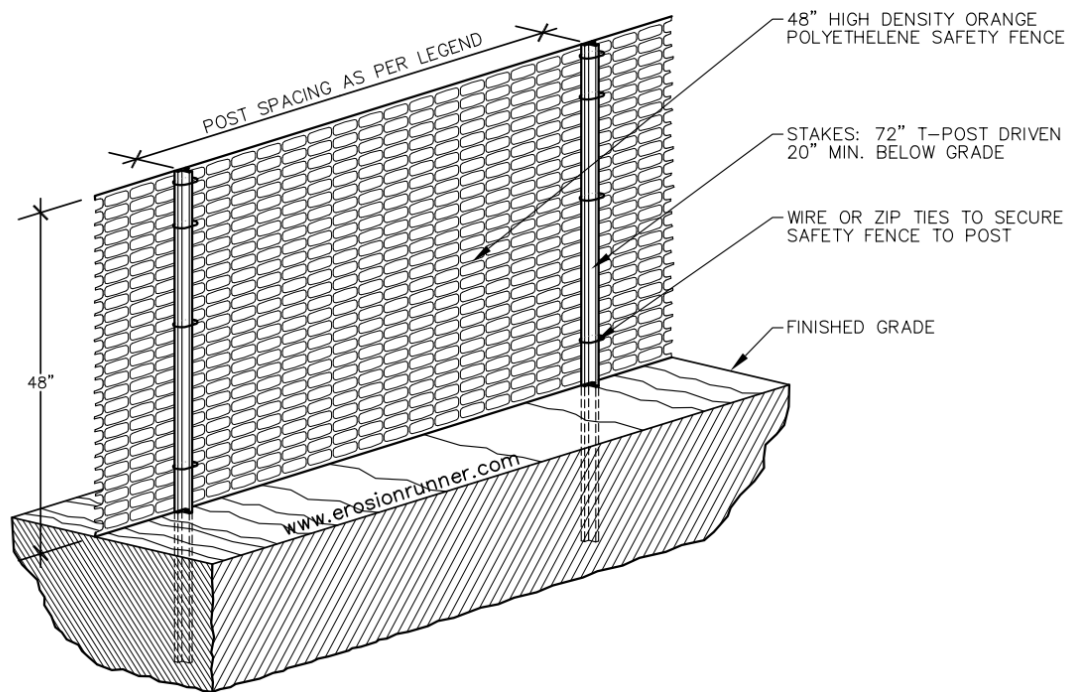
- Limits the movement of personnel, vehicles, and equipment, to only specific, predetermined areas necessary for ingress/egress and for performing the work. This minimizes disruption of the site, maximizes the preservation of existing vegetation, and reduces the potential for soil erosion or compaction.
- Protecting sensitive areas, such as water bodies or newly seeded areas.
- Preventing unnecessary, unauthorized, or inadvertent access by people, vehicles, and equipment, to structural BMPs or other prohibited areas of the construction site.
- Using barriers for confining construction activities, debris, and litter to specific, predetermined locations at a given construction site reduces the potential for soil erosion, by minimizing the area of disturbance.

<i>Installation Schedule:</i>	Sensitive Area / Orange Safety Fence / Construction Debris Fence should be in place before any excavation or grading is begun, should be kept in good repair for the duration of construction activities, and should be the last items removed during the final cleanup after the completion of the construction activity.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days for fence damage. Inspect for the presence of Sensitive Area / Orange Safety Fence / Construction Debris Fence where necessary to protect preserved areas. Repair or replace any Sensitive Area / Orange Safety Fence / Construction Debris Fence that has been damaged or removed.
<i>Responsible Staff:</i>	The General Contractor is responsible for installing Sensitive Area / Orange Safety Fence / Construction Debris Fence
<i>Location:</i>	Property lines adjacent to watersheds, surface waters, and sensitive areas within the areas of SWP3 control and any area where secondary containment of floatable and blowable construction debris and litter is needed. Locations will be indicated on the site map(s).

48" Safety Fence, 72" T-Posts

LEGEND

SAF12	48" ORANGE FENCE, 12 FEET O.C.
SAF11	48" ORANGE FENCE, 11 FEET O.C..
SAF10	48" ORANGE FENCE, 10 FEET O.C.
SAF9	48" ORANGE FENCE, 9 FEET O.C.
SAF8	48" ORANGE FENCE, 8 FEET O.C..
SAF7	48" ORANGE FENCE, 7 FEET O.C.
SAF6	48" ORANGE FENCE, 6 FEET O.C.



Proper Equipment and Vehicle Fueling and Maintenance Procedures

BMP Description:

Several types of vehicles and equipment will be used onsite throughout construction, including delivery trucks and trailers, water trucks, tractors, dozers, trackhoes, scrapers, cement mixers, trenchers, excavators and skid-steers. All major equipment / vehicle maintenance will be performed offsite and only minor equipment maintenance will occur onsite. All equipment fluids generated from maintenance activities will be disposed of into designated drums or sealed containers, labeled accordingly, stored in secondary containment such as spill trays and hauled offsite to an appropriate disposal facility. Where possible, vehicles and equipment will be stored over an impervious surface, away from stormwater conveyances, to facilitate cleanup of potential leaks or spills and minimize contact with stormwater. Conduct equipment and vehicle maintenance on level ground over impervious secondary containment such as drip pans, polyethylene sheeting, or equivalent. Vehicles and equipment used on site will be monitored and maintained to prevent leaks from occurring.

NOTE: NO EQUIPMENT OR VEHICLE WASHING IS ALLOWED ON THE JOBSITE.

<i>Installation Schedule:</i>	Implement fueling and maintenance practices whenever equipment is onsite.
<i>Installation, Maintenance and Inspection:</i>	The construction areas and equipment storage areas will be inspected during the regular BMP inspection for the evidence of proper equipment fueling and maintenance procedures. Leaks will be repaired immediately, or the leaky vehicle or equipment will be removed from the site. Keep ample supply of spill-cleanup materials onsite. Clean up all spills immediately.
<i>Responsible Staff:</i>	The General Contractor / Operator is responsible for implementing proper equipment and vehicle fueling and maintenance for their own equipment or vehicles.
<i>Location:</i>	At the designated material and equipment storage and staging area. Locations will be indicated on the site maps.

Non-Structural Erosion and Sediment Controls

This section describes the non-structural BMPs that will be implemented onsite. Nonstructural BMPs are processes and practices implemented to minimize the potential for pollutant discharge during construction

Non-Structural Erosion and Sediment Controls

Construction activity will be phased allowing vegetation to remain in place until necessary to remove it for construction to proceed. Areas are not to be disturbed until it is necessary for construction to proceed.

Disturbed areas are to be temporarily or permanently stabilized as soon as practicable after construction is complete.

Whenever possible, vegetated buffers will be preserved around the area of construction activity so as to minimize impacts to stormwater runoff.

Materials and equipment should not be delivered during rain events or extremely wet conditions. Monitor weather conditions and forecasts to schedule material and equipment deliveries to occur before anticipated rain events.

If sediment enters the street, storm drain system, or stormwater management basins, accumulations will be removed at a frequency to minimize negative effects and prior to the next rain event, if possible.

Dust Control

BMP Description:

The purpose of dust control is to prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards and improve traffic safety. This practice is applicable to areas subject to dust blowing and movement where on and off-site impacts are likely without treatment. Dust can be controlled by using one or more of the following methods.

- Irrigation by water sprinkling
- Mulches bound with natural or chemical binders.
- Temporary Vegetative cover
- Sprayed-on adhesives on mineral soils
- Tillage to roughen surface and bring clods to the surface

<i>Installation Schedule:</i>	Implement dust control methods immediately whenever dust can be observed blowing or there is a potential for dust to blow on the site.
<i>Installation, Maintenance and Inspection:</i>	The site shall be inspected daily by personnel provided by the General Contractor / Operator conducting the construction activity, and every 7 days by the BMP inspector for the need to implement dust control. Areas where dust control has been applied will be inspected for potential runoff or offsite tracking of sediment.
<i>Responsible Staff:</i>	The General Contractor / Operator will be responsible for implementing dust control BMPs for their construction activities.
<i>Location:</i>	Applicable to all disturbed areas of the development

Vegetated Buffer Strips

BMP Description:

A vegetated buffer strip is a continuous strip of land that is either left vegetated with native plant community intact or has been temporarily planted, sodded, or seeded. A vegetated sediment filter strip is not considered stabilized unless the perennial vegetative cover is uniform (evenly distributed without large bare areas) and has a density of at least 70 percent of the natural cover of the native vegetation. The purpose of this BMP is to reduce stormwater runoff velocity as it passes through the vegetated strip and filter out sediment and coarse debris from bare ground of construction areas. Vegetated buffers prevent erosion, trap sediment, filter runoff, provide public access, enhance the site amenities, and function as a floodplain during high water periods. They also provide a pervious strip along a shoreline to accept sheet flow from developed areas and help minimize the adverse impacts of runoff

<i>Installation Schedule:</i>	Vegetated Buffer Strips should be allocated and preserved prior to commencement of construction and remain in place throughout the construction activity.
<i>Installation Maintenance and Inspection:</i>	The site will be inspected every 7 days for the presence and function of vegetated buffers. Alternative controls such as silt fence will be installed on areas where buffers have been disturbed or are not feasible.
<i>Responsible Staff:</i>	The General Contractor is responsible to preserve and maintain the vegetated buffer strip.
<i>Location:</i>	<p>The locations of the buffer strips will be identified on the BMP site map. Buffer strips should be used in the following conditions:</p> <ul style="list-style-type: none"> ● Where physical site conditions preclude installation of any barrier-type erosion control measures to control runoff, erosion, and sedimentation adequately. ● Along specific internal elements of the construction area such as roads, parking areas, and around buildings. ● Between a construction area and a critical natural area such as wildlife refuge, wetlands, and drainage corridors (rivers, bayous, streams, channels, and ditches). ● Areas where sediment can be quickly transported from the construction site such as along existing roadways with nearby storm inlets. <p>The natural buffer around a sensitive feature should extend a minimum of 50 feet in all directions. Where the boundary of the drainage area to the feature lies more than 50 feet from the feature, the buffer should extend to the boundary of the drainage area or 200 feet, whichever is less. Vegetated buffer strips are not required if the existing barrier-type erosion control measures, such as silt fence, control runoff, erosion, and sedimentation adequately. An adequately sized buffer strip may be used without other barrier-type measures if the adjacent area is undisturbed and is an area where future construction activities will occur in relation to the development of the project.</p>

Street Cleaning

BMP Description:

Street cleaning is the process of removing track out or deposited sediment from paved surfaces, including public roads, private roads, curbs and gutters. The purpose of this BMP is to reduce the amount of sediment tracked and deposited into roadways from construction traffic.

<i>Implementation Schedule:</i>	Perform street cleaning as needed from the initial mobilization until filing of the NOT. If excess sediment has been tracked into the streets, or if rain is expected, clean the streets as often as necessary to keep the streets as clean as possible.
<i>Installation, Maintenance and Inspection:</i>	The streets will be inspected routinely and during the regular BMP inspection for track-out and deposited sediment on to paved areas or roads. Perform street cleaning to supplement stabilized access roads and parking areas. Remove and dispose of swept material properly. Disposal of sediment into inlets is prohibited. Dust suppression measures must be implemented while sweeping is being conducted.
<i>Responsible Staff:</i>	The General Contractor / Operator is responsible to clean the tracking associated with construction activity. The Owner is responsible for street cleaning after acceptance or completion of the General Contractor / Operator's work and when there is not a General Contractor conducting construction activity.
<i>Location:</i>	On all onsite paved streets and adjacent to the construction site.

Dewatering Operations

BMP Description:

Dewatering operations are Best Management Practices that minimize the discharge of pollutants when non-stormwater, accumulated precipitation, and/or groundwater must be removed from a work location so that construction work may be accomplished. If the water cannot be discharged to a sediment basin prior to discharge, it must be treated with the appropriate BMPs prior to discharge to any surface waters. Options for discharge not entering a sediment basin are as follows:

- **Using a water pump gravity bag filter.**
 - The bag should be installed where its discharge will flow away from the disturbed area and onto vegetation or into a swale or drainage ditch with erosion and sediment controls. Bags should be placed on a level, stable surface that is prepared with mulch, straw, small aggregate, or other material as recommended by the manufacturer. In some cases, the bag may be placed directly on vegetation or well graded soil. The key is to have a surface without rocks or other protrusions that could puncture the bag.
 - The bag should be made of a non-woven, needle-punched, geotextile.
 - The smallest apparent opening size currently available is 70 microns. This size will not capture fine silt and clay particles. A passive treatment system will be necessary with the bag to capture these soils.
 - Bags are available in sizes ranging from 6 feet x 6 feet to 15 feet x 25 feet. The size of the bag should be specified based on availability of space, flow rates, and duration of use. If space is available, larger bags will last longer between replacements and may have a lower price per square foot. However, larger bags are heavier when sediment-laden. Equipment must be available to lift and remove the bag from the site for disposal.
 - Bags are not reusable. Make sure they are installed at a location where equipment has access to the bags for lifting and removal without causing erosion or damaging other erosion and sediment controls.
- **Discharging to a large vegetated area.** The vegetated area must be large enough to detain the volume being dewatered. The size of area needed is dependent on type of vegetation (interception storage and water uptake capacity) and soil type (infiltration rate) and condition (wet or dry).
- **Directing discharges to in-place sediment controls** such as silt fences, rock berms, or to a sediment basin. Controls for continuous dewatering, such as a condition of high groundwater, need to provide effective removal of sediment over long periods. Controls that clog easily are not appropriate for controlling long-term dewatering operations.

The discharge points must be adequately protected from erosion and scour. Pumped water may be sprayed through a nozzle on the end of a discharge hose to provide velocity dissipation. The discharge must not flow over disturbed soil, but must be dispersed over rock riprap, sand bags, plastic sheeting or other energy dissipation measures.

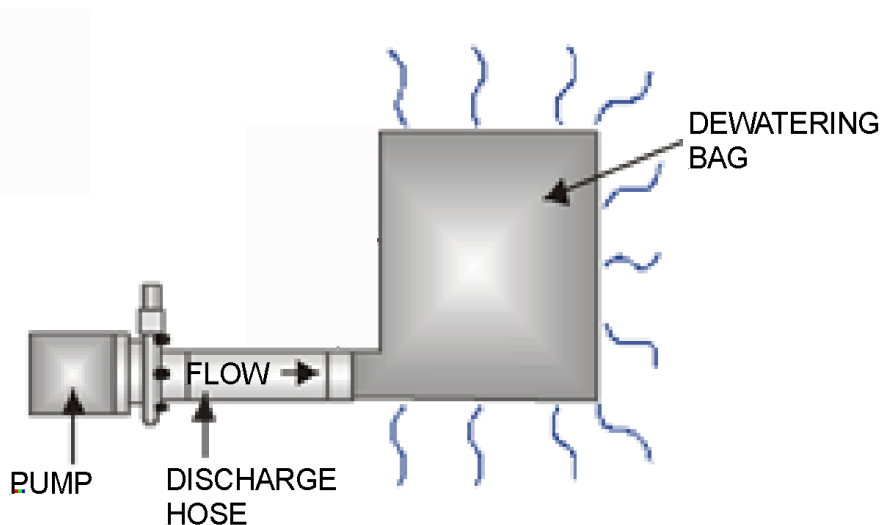
Pumped water that has sheen or other evidence of pollutants shall be collected and sampled before it is discharged. State or local discharge permit requirements may exist for the pollutant(s) suspected of being in the water.

If the collected water is contaminated with oil, grease, or other petroleum products, oil/water separator or a filtration mechanism may be necessary prior to the discharge.

Installation Schedule:	Prior to commencement of dewatering operations and throughout the dewatering process.
Installation, Maintenance and Inspection:	Site personnel provided by the General Contractor / Operator must monitor the dewatering operations. Install energy dissipation devices or erosion controls at the discharge points prior to commencing operations. Eroded areas should be repaired, and erosion controls should be installed to prevent future erosion.

	<p>Dewatering pumps and sediment controls should be monitored frequently, at least hourly, while pumps are in operation to prevent unauthorized discharges and to catch erosion problems or control failure.</p> <p>Personnel must observe and evaluate dewatering controls at a minimum of once per day on the days when dewatering discharges from the construction site occur. Please reference Section 4.1 for Observation and Evaluation of dewatering controls protocols.</p> <p>Conventional sediment controls should be inspected at least weekly when used for continuous dewatering, because they will become overcome with sediment more quickly than when used to control runoff from storm events. The controls shall be maintained according to the criteria in their respective sections. They should be replaced when they no longer provide the necessary level of sediment removal.</p> <p>Sediment filter bags should be checked to determine if they need replacing. The bags cannot be cleaned or reused. They should be used until they reach the manufacturer's recommended capacity. The entire bag with sediment can be disposed of as solid waste. If a controlled location onsite or a spoil site is available, the bag can be cut open and the sediment spread on the ground. Only the bag is waste in this case.</p>
Responsible Staff:	The General Contractor / Operator conducting the dewatering operations is responsible for installing and maintaining dewatering BMPs.
Location:	Near the location of the accumulated water, in a large vegetated area, upstream of erosion and sediment controls or sediment basins, and as indicated on the site map.

Water Pump Gravity Bag Filter Option



Subgrade Stabilization Management

BMP Description:

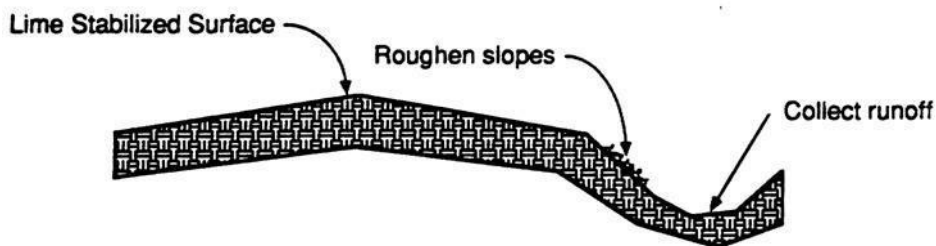
Lime and other chemicals are used extensively in the Texas region to stabilize pavement subgrades for roadways, parking lots, and other paved surfaces, and as a subgrade amendment for building pad sites. These chemicals are applied to the soil and mixed through disking and other techniques, and then allowed to cure. The objective of subgrade stabilization management is to reduce the potential for runoff to carry the chemicals offsite, where they may impact aquatic life in streams, ponds, and other water bodies.

Subgrade Stabilization Management should include the following criteria, if feasible:

- The contractor shall limit the amount of stabilizing agent onsite to that which can be thoroughly mixed and compacted by the end of each workday.
- Stabilizers shall be applied at rates that result in no runoff, if feasible.
- Stabilization shall not occur immediately before and during anticipated rainfall events.
- Geotextile fabrics such as those used for silt fence should not be used to treat chemical runoff, because the chemicals are dissolved in the water and won't be affected by a barrier and the suspended solids are significantly smaller than the apparent opening size of the fabric.
- Provide containment around chemical storage, loading and dispensing areas.
- If soil stabilizers are stored onsite, they shall be considered hazardous material and shall be managed according to the criteria in M1.

Installation Schedule:	Whenever cement, lime or other any chemicals are required for soil stabilization.
Installation, Maintenance and Inspection:	Subgrade stabilization operation should be observed frequently by the contractor as the operations proceed for evidence of discharges. Inspect the down slope perimeter and all outfalls for evidence of discharges. Pay particularly attention to the outfall of drainage pipes connected to inlets within the area being stabilized. If a discharge is found, immediately halt stabilization operations until additional controls can be implemented.
Responsible Staff:	The General Contractor / Operator will be responsible subgrade stabilization management that is related to their construction activity.
Location:	All areas where chemical stabilization is being used and where stabilization chemicals are being stored or delivered.

The following schematic is an example application of the construction control. It is intended to assist in understanding the control's design and function. The schematic is **not for construction**.



Schematic of Controls for Subgrade Stabilization

Paving Operations

BMP Description:

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runoff and runoff pollution, properly disposing of wastes, and training employees and subcontractors. These procedures are implemented where paving, surfacing, resurfacing, or saw cutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Implementation

- Avoid paving during the wet season when feasible.
- Reschedule paving and grinding activities if rain is in the forecast.
- Store materials away from drainage courses to prevent stormwater runoff (see M1 – Material Handling and M2 – Material and Equipment Storage and Staging Area)
- Protect drainage courses, particularly in areas with a grade, by employing BMPs to divert runoff or to trap and filter sediment.
- Stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses. Materials should be stored consistent with M3 - Stockpile Management.
- Disposal of concrete and asphalt waste should be in conformance with WM1 - Waste Management.

Saw Cutting, Grinding, and Pavement Removal

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves asphalt concrete (AC), the following steps should be implemented to prevent the discharge of grinding residue, un-compacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
 - AC grindings, pieces, or chunks used in embankments or shoulder backing must not be allowed to enter any storm drains or watercourses.
 - Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt must be recycled or disposed.
- Do not allow saw-cut slurry to enter storm drains or watercourses.

Asphaltic Concrete Paving

- Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste properly.
- Old asphalt must be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate must not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized.
- Seal coat, tack coat, slurry seal, or fog seal should not be applied if rainfall is predicted to occur during the application or curing period.

Paving Equipment

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use.
- Clean up spills with absorbent materials rather than burying.
- Use only non-toxic substances to coat asphalt transport trucks and asphalt spreading equipment.
- Paving equipment parked onsite should be parked over plastic to prevent soil contamination.
- Clean asphalt coated equipment offsite whenever possible.

<i>Installation Schedule:</i>	Prior to and during all asphalt paving activities.
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Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

<i>Installation, Maintenance and Inspection:</i>	Verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect during regular weekly and post rain event inspections. Observe non-stormwater BMPs as a part of routine activities. Keep ample supplies of drip pans or absorbent materials onsite. Inspect and maintain machinery regularly to minimize leaks and drips.
<i>Responsible Staff:</i>	The General Contractor / Operator will be responsible for implementing paving BMPs related to their construction activity.
<i>Location:</i>	All areas where paving activities are being performed.

Structural Erosion and Sediment Controls

This section describes erosion and sediment control BMPs that are designed and installed to minimize the discharge of sediment in stormwater runoff by mechanically reducing the flow velocity and promoting sediment deposition.

Silt Fence

BMP Description:

A silt fence is a temporary sediment control fence consisting of geotextile fabric supported by wood or metal T-posts to minimize sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. The purpose of a silt fence is to decrease the velocity of sheet flow and intercept and detain stormwater, causing runoff to pond allowing heavier solids to settle out while allowing water to percolate through. Silt fence should not be used in areas of concentrated flows. The drainage area above any fence should usually not exceed a quarter of an acre. Avoid long runs of silt fence because they concentrate the water in a small area where it will easily overflow the fence. Use J-hooks which have ends turning up the slope to break up long fence runs and provide multiple storage areas that work like mini-retention areas.

The silt fence fabric shall be of woven or non-woven polypropylene, polyethylene or polyamide thermoplastic fibers. The silt fence fabric shall be non-biodegradable, inert to most soil chemicals, ultraviolet resistant, unaffected by moisture or other weather conditions, and permeable to water while retaining sediment. Silt fence may be standard non-reinforced type, or steel reinforced type. The type of silt fence used will depend on several factors including design life, contributing slope, local requirements, or other factors.

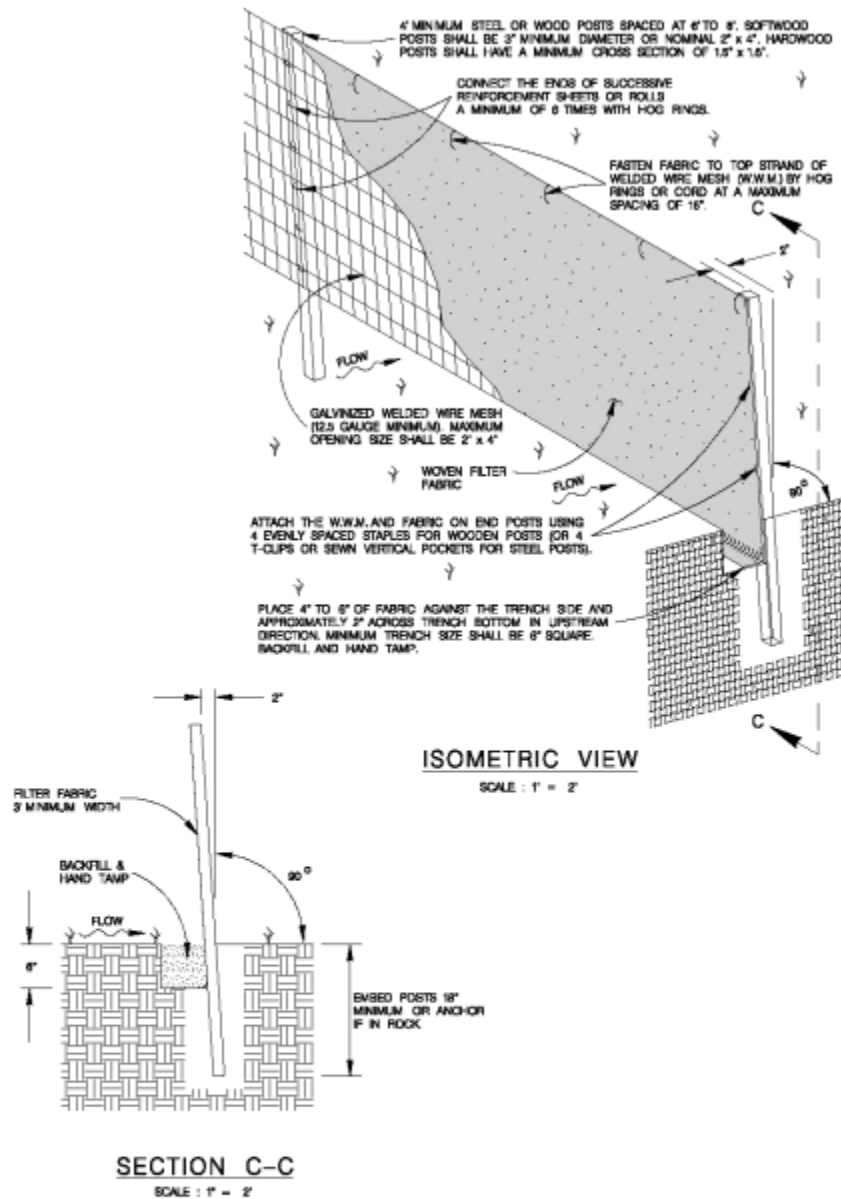
Standard non-reinforced silt fence may be used when the contributing slope is less than or equal to 3%. It consists of geotextile filter fabric supported by 2" x 2" wood posts at least 42" in length, spaced no more than 6 feet apart; driven at least 18" into the ground; or by steel T- posts at least 4 feet in length, spaced not more than 8 feet apart driven at least 12" into the ground.

Reinforced silt fence shall be used when the contributing slope is greater than 3%. It consists of woven or non-woven geotextile filter fabric supported a minimum of 4-inch by 4-inch 14 gage wire mesh. Posts shall be steel and at least 4 feet in length, spaced no more than 8 feet apart driven at least 12" into the ground.

<i>Installation Schedule:</i>	Install silt fence in locations indicated on the SWP3 site map prior to earth disturbing activity. Refer to "Section 2: General timing of implementation of associated BMPs" for the timing of installation for each construction activity.
<i>Installation Maintenance and Inspection:</i>	Inspect every 7 days. Silt fences shall be placed on the topographical contour to the extent practicable. They may not be placed perpendicular to the contour on slopes greater than 2%. Double row fences may be used. 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. Silt fence should remain in place until the upstream disturbed area is permanently stabilized. Under normal conditions, silt fences require removal of deposited sediment. Sediment deposits should be removed when accumulation reaches 50% of the above ground height of the silt fence. If maintenance is difficult due to location or presence of wet soils that prohibit prompt cleaning after runoff events, additional parallel fences should be constructed.
<i>Responsible Staff:</i>	The operator responsible for installation, maintenance, and removal of silt fence will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible. As finished lots are transferred to homebuilders, the homebuilders will be responsible for maintenance of silt fence on areas that are downgradient of their construction activity.
<i>Location:</i>	Along the downgradient edge of disturbed areas where erosion is likely to occur in the form of sheet or rill erosion and around or downslope of soil stockpiles.

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

	<p>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. Refer to site map(s) for locations.</p>
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SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

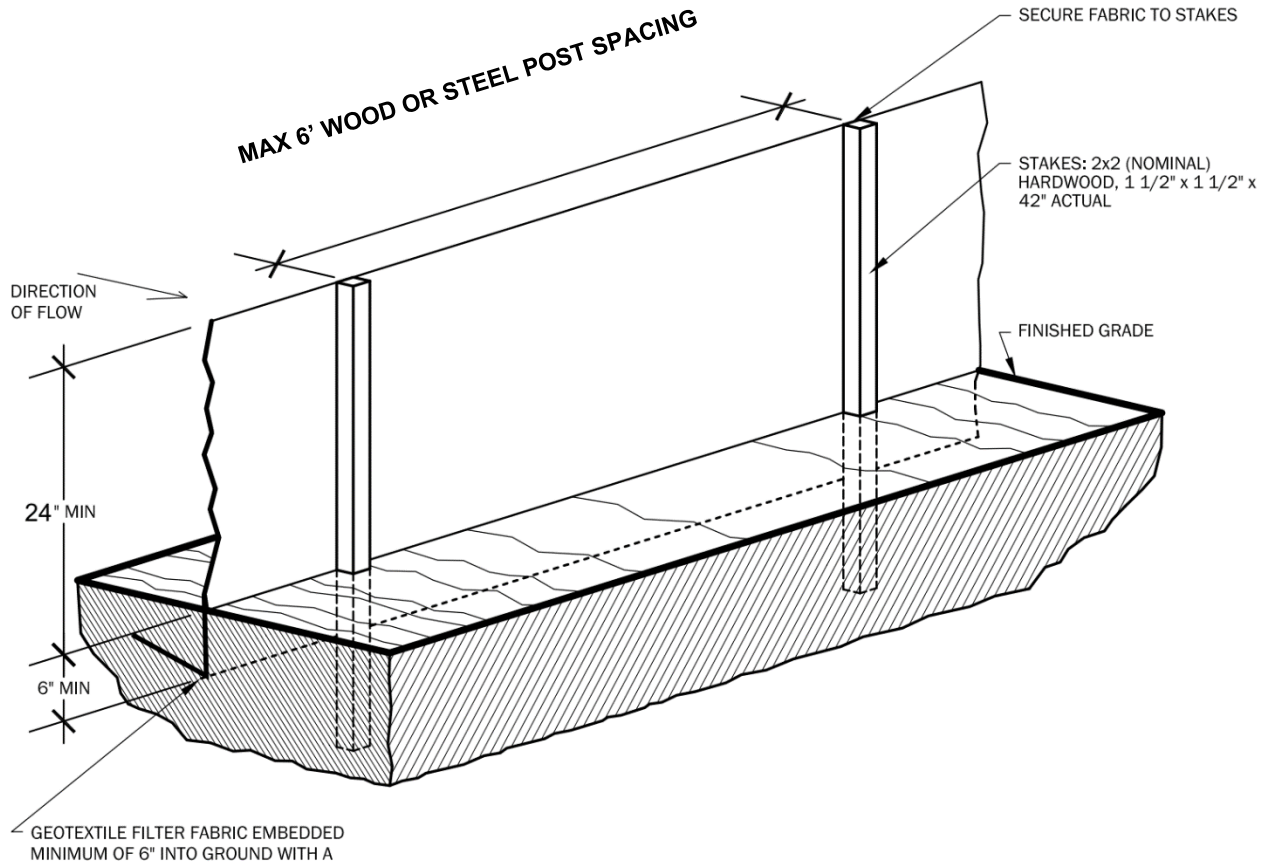
SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM /FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

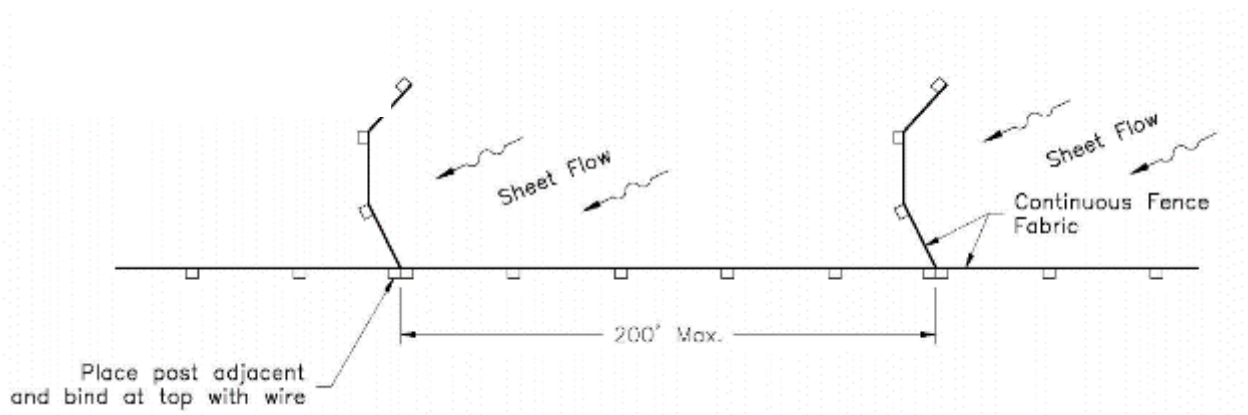
1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE





Non-Reinforced Silt Fence Typical Installation



J-Hook Typical Installation

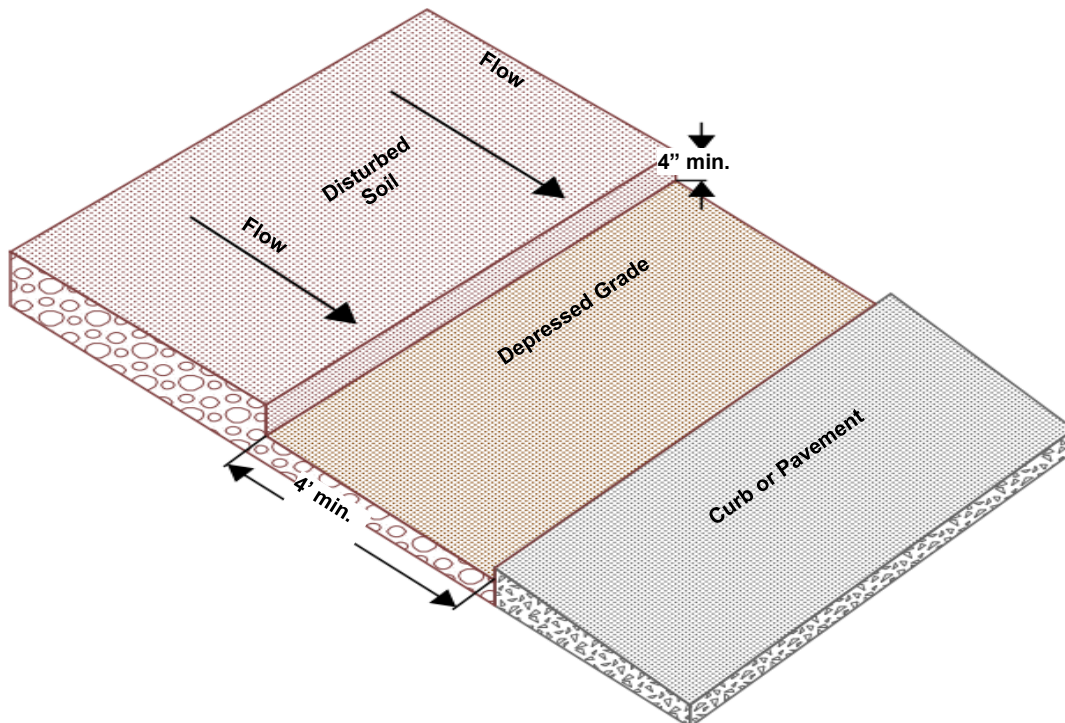
Depressed Grade Sediment Trap (Cut Back Curb)

BMP Description:

A temporary sediment trap formed by grading or leaving the grade at the back-of-curb or edge of pavement depressed to intercept sediment-laden runoff from the site during construction and retain sediment onsite. The hardscape (street, sidewalk, curb, alley or roadway) acts as a barrier to retain the stormwater to promote sediment deposition prior to the stormwater discharging offsite.

Installation Schedule:	To be implementing along the perimeter of paved streets. Apply depressed grade sediment traps during street construction and when installing the concrete curbs. As the depressed grade sediment traps are back-filled to grade the lots, install alternative sediment controls such as silt fence along the back of curbs.
Installation, Maintenance and Inspection:	Excavate soil from behind the curb, sidewalk, or roadway 3-4 inches down from the top of the hardscape and excavate the soil back 3-4 feet back from the hardscape. The depth and length of the excavated area may be increased if more sediment storage is needed. Maintain the sediment trap by removing accumulated sediment when it reaches 50% of the capacity of the control.
Responsible Staff:	The General Contractor / Operator conducting the paving or related construction activity is responsible to maintain the sediment trap from before the paving is installed until back of curb sediment control, such as silt fence is installed.
Location:	Along the perimeter of disturbed soil where there is hardscape, such as a curb, street, alley or roadway and where the drainage area is equal to or smaller than the size of a typical residential lot. All new and existing roadways, curbs, and gutters must be protected from sediment-laden runoff and are considered as perimeters of the site. This control measure should not be used if there is no hardscape near the perimeter of the site, or for large drainage areas.

The following schematic is an example application of the construction control. It is intended to assist in understanding the control's design and function. The schematic is **not for construction**.



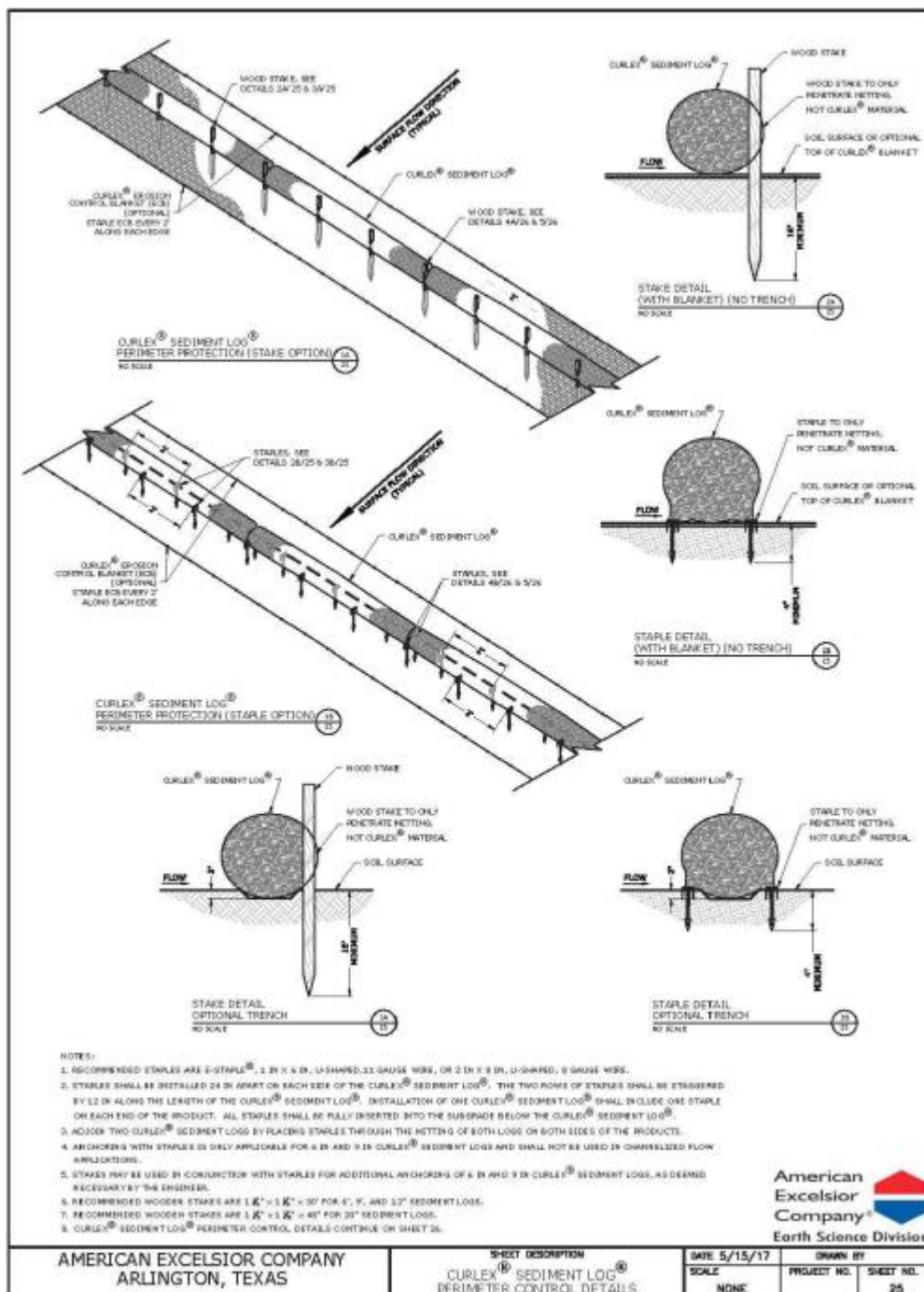
Straw Wattles / Fiber Rolls / Mulch Sock

BMP Description:

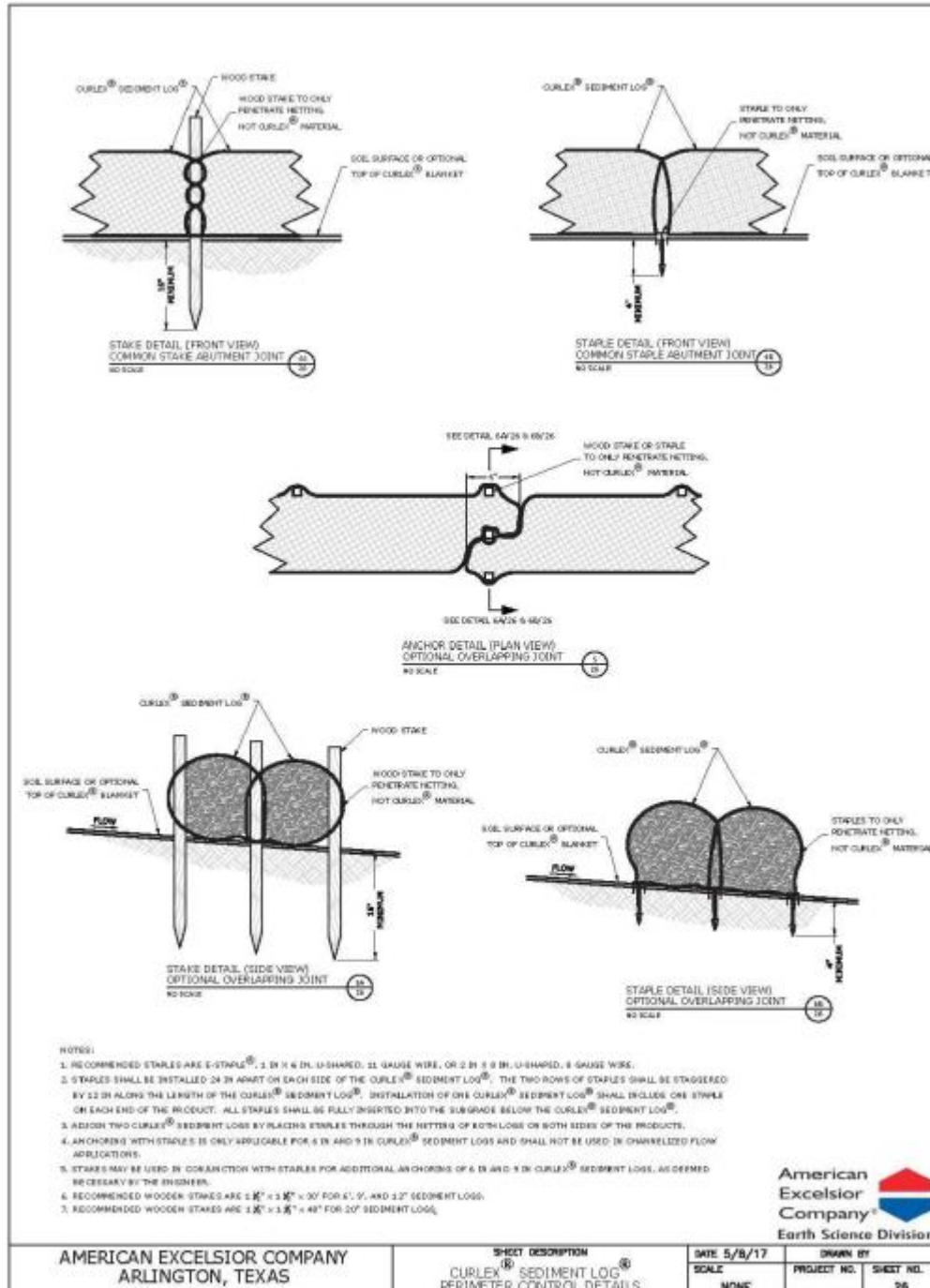
Straw Wattles, fiber rolls, and mulch socks are tubular products consisting of agricultural straw fibers, mulch, or other similar material encased in biodegradable tubular plastic or similar encasing material. When straw wattles are placed at the toe and on the face of slopes, they intercept runoff as sheet flow, and provide removal of sediment from the runoff. Locations of installation shall be indicated on the site map. Typical applications are as follows:

- Downslope of disturbed areas
- Along back-of-curb where stormwater flows into the street
- Along the perimeter of the area of earth disturbance
- Around temporary stockpiles
- On hillslopes to break up slope length and overland flow
- Across channel bottoms to pool water, reduce flow velocities and collect sediment on site.
- May be used in lieu of silt fence in common areas and reserves during installation of landscape and irrigation.

Installation Schedule:	Install prior to upslope soil disturbing activities. Straw wattles shall be placed on the topographical contour to the extent practicable, unless installing across a channel bottom. May be used in lieu of silt fence as a structural erosion / sediment control. See Section 2 for timing of installation for each construction activity.
Installation, Maintenance and Inspection:	Inspect every 7 days to ensure the BMP is in contact with the soil and no "bridging" or undermining is occurring. Straw Wattles are typically installed in a two inch deep trench that is constructed along the contour, perpendicular to the slope or direction of flow. Ends of the wattles shall be turned up the slope, so as to retain water and prevent its release from the end of the wattle. Wattles shall be secured to the subgrade by wooden stakes spaced every four lineal feet across the length of the wattle. Stakes shall be driven through the center of the wattle and into the ground a minimum of 12", with less than two inches projecting above the top of the wattle and spaced every four lineal feet across the length of the wattle, or stakes may be driven into the ground on both the upgradient and downgradient sides of the wattle, with a rope tied between the stakes to secure the wattle in place.. A stake shall be placed within two feet of the end of the wattle. When joining two wattles, overlap the wattles approximately six inches. If wattles are joined together by abutting the ends, tie the ends together using heavy twine or plastic locking ties. Maintain by removing accumulated sediment when deposits exceed 50% of the capacity of the control. Straw Wattles shall remain in place until fully established vegetation and root systems are present and can survive on their own. Wattles that are not removed will degrade in-place.
Responsible Staff:	The operator responsible for installation, maintenance, and removal of wattles will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. If the BMP needs to be moved for construction activity such as landscape or irrigation installation to progress, the General Contractor / Operator is responsible to move and reinstall the control at the end of each work day. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible.
Location:	Along the downslope edge of disturbed areas where erosion is likely to occur in the form of sheet or rill erosion and around or downslope of soil stockpiles. Across channel bottoms to pool water, reduce flow velocities and collect sediment on site. Refer to site map(s) for locations.



AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS	SHEET DESCRIPTION CURLEX® SEDIMENT LOG® PERIMETER CONTROL DETAILS	DATE 5/15/17	DRAWN BY
		SCALE NONE	PROJECT NO. SHEET NO. 25



AMERICAN EXCELSIOR COMPANY
 ARLINGTON, TEXAS

SHEET DESCRIPTION
 CURLEX[®] SEDIMENT LOG[®]
 PERIMETER CONTROL DETAILS

DATE 5/8/17
 SCALE NONE

DRAWN BY
 PROJECT NO.
 SHEET NO. 26

Stormwater Pollution Prevention Plan (SWPPP)
 Lennar Homes of Texas Land and Construction, Ltd.
 Jaro North, LAND DEVELOPMENT

Curlex® Sediment Log® - Features and Spacing in Channelized Flow Applications

Channel Depth (ft)	5 in Curlex Sediment Log	8 in Curlex Sediment Log	12 in Curlex Sediment Log	20 in Curlex Sediment Log
0.5	91.7	120.7	188.3	280.0
1	45.8	60.3	94.2	140.0
1.5	30.5	40.2	61.1	93.3
2	22.9	30.2	45.8	68.0
2.5	18.3	23.7	36.7	50.0
3	15.3	20.2	30.6	41.7
3.5	13.1	17.6	26.2	35.7
4	11.8	15.7	23.4	31.3
4.5	10.8	14.2	21.4	27.8
5	9.8	13.7	19.3	25.0
5.5	8.9	12.4	18.7	22.7
6	7.8	11.9	16.3	20.0
6.5	7.1	10.8	14.5	18.2
7	6.5	9.9	13.1	17.3
7.5	6.1	9.1	12.2	16.7
8	5.7	8.3	11.5	15.8
8.5	5.4	8.0	10.8	14.7
9	5.1	7.6	10.2	13.8
9.5	4.8	7.2	9.5	13.2
10	4.6	6.9	9.2	12.8
11	4.2	6.2	8.3	11.4
12	3.8	5.7	7.6	10.4
13	3.5	5.3	7.0	9.6
14	3.3	5.0	6.5	8.9
15	3.1	4.6	6.0	8.2
16	2.9	4.3	5.7	7.5
17	2.7	4.0	5.4	7.4
18	2.5	3.8	5.0	6.9
19	2.4	3.6	4.8	6.6
20	2.3	3.4	4.6	6.3
25	1.8	2.7	3.7	5.0
30	1.5	2.3	3.0	4.2
35	1.3	2.0	2.6	3.6
40	1.1	1.7	2.3	3.1
45	1.0	1.5	2.0	2.8
50	0.8	1.4	1.8	2.5

Notes:
 1. Spacing of Curlex Sediment Logs is not affected by
 difference between 10% Maximum Permissible Top of Available Curlex Sediment Log and 100% Channelized Sediment Log (see pg. 10)
 2. Spacing between logs shall be determined by top of available Curlex Sediment Log and 100% Channelized Sediment Log (see pg. 10)
 3. Spacing between logs shall be determined by top of available Curlex Sediment Log and 100% Channelized Sediment Log (see pg. 10)

AMERICAN EXCELSIOR COMPANY
 ARLINGTON, TEXAS

SHEET DESCRIPTION
 CURLEX® SEDIMENT LOG®
 DITCH/CHANNEL APPLICATION DETAIL

DATE: 03/01/18
 SCALE: NONE

DRAWN BY:
 PROJECT NO.:
 SHEET NO.: 4

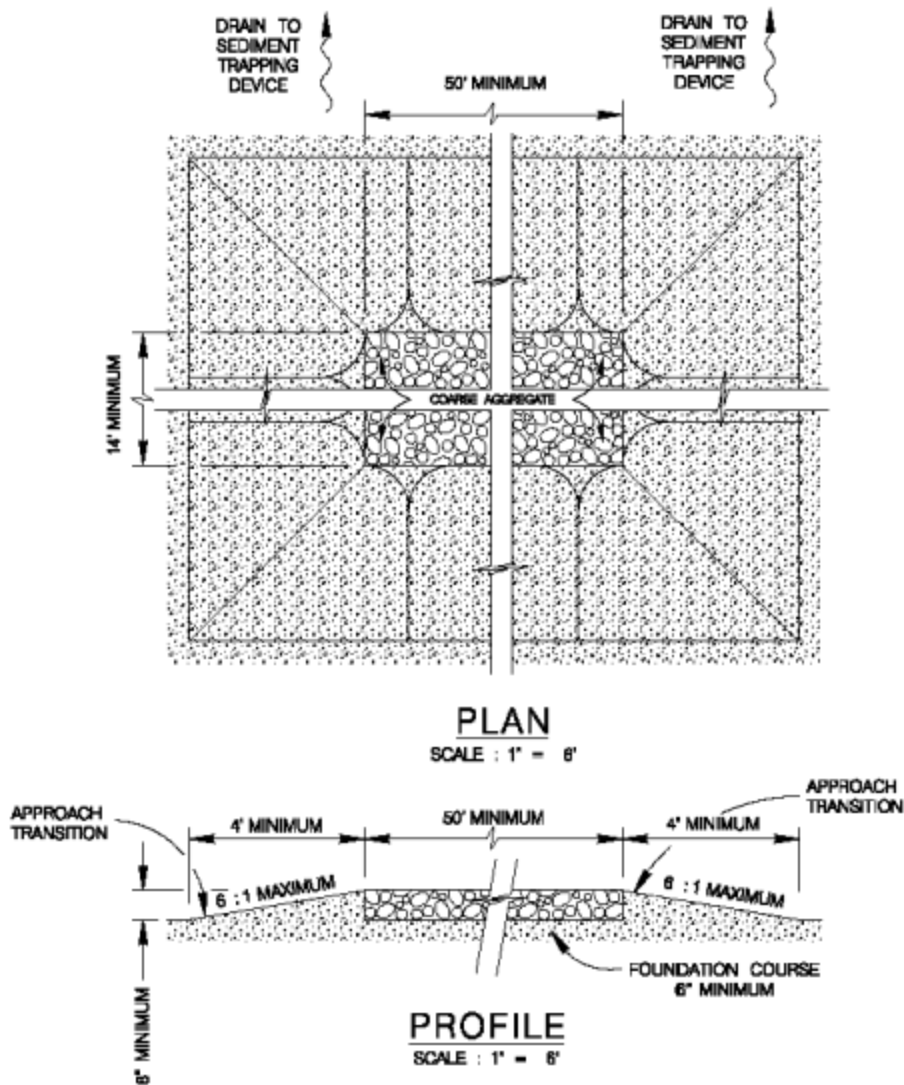
American Excelsior Company
 Earth Science Division

Stabilized Construction Exit

BMP Description:

A Stabilized Construction Exit (SCE) will be installed at each exit from the development to the public road, as identified on the SWP3 site map to provide a stable entrance/exit condition from the construction site and minimize the tracking of mud and sediment onto public roads. A SCE is a stabilized pad of “rock” (coarse aggregate or recycled concrete), located at any point traffic will be leaving the construction site from an unpaved or disturbed area. To minimize the amount of track out, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary.

<i>Installation Schedule:</i>	Install prior to initial mobilization of equipment on the construction site. Maintain throughout duration of construction activity until access to disturbed area is no longer needed or a paved entrance is installed.
<i>Installation, Maintenance and Inspection:</i>	Construct on level ground or properly grade each construction exit to prevent runoff from leaving the construction site. The SCE shall be at least 50 feet in length, and a minimum of 10 feet wide, and shall consist of a 6-inch layer of rock, 3-5” in diameter. Inspect every 7 days for functionality of the SCE. If the SCE has been compacted and is no longer effective, maintain by “stirring” or roughening the compacted rock. If the SCE has accumulated a significant amount of sediment and is causing trackout, maintain the SCE adding clean rock to the SCE.
<i>Responsible Staff:</i>	The operator responsible for installation, maintenance, and removal of each SCE will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. The General Contractor / Operator may be assigned responsibility for installation, maintenance and removal the SCE for his construction activity, however if the SCE will be used by several different General Contractors / Operators, the Owner may be responsible for installation, maintenance, and removal. The SCE may remain in place after demobilization if it is planned for use during subsequent construction activities.
<i>Location:</i>	A SCE should be used at all designated access and exit points.



GENERAL NOTES

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

CONSTRUCTION EXIT – TYPE 1

Diversion Berm / Diversion Dike

BMP Description:

A temporary diversion dike is a barrier created by the placement of an earthen embankment to reroute the flow of runoff to an erosion control device or away from an open, easily erodible area. A diversion dike intercepts runoff from small upland areas and diverts it away from exposed slopes to a stabilized outlet, such as a rock berm, sandbag berm, or stone outlet structure. These controls can be used on the perimeter of the site to prevent runoff from entering the construction area. Dikes are generally used for the duration of construction to intercept and reroute runoff from disturbed areas to prevent excessive erosion until permanent drainage features are installed and/or slopes are stabilized.

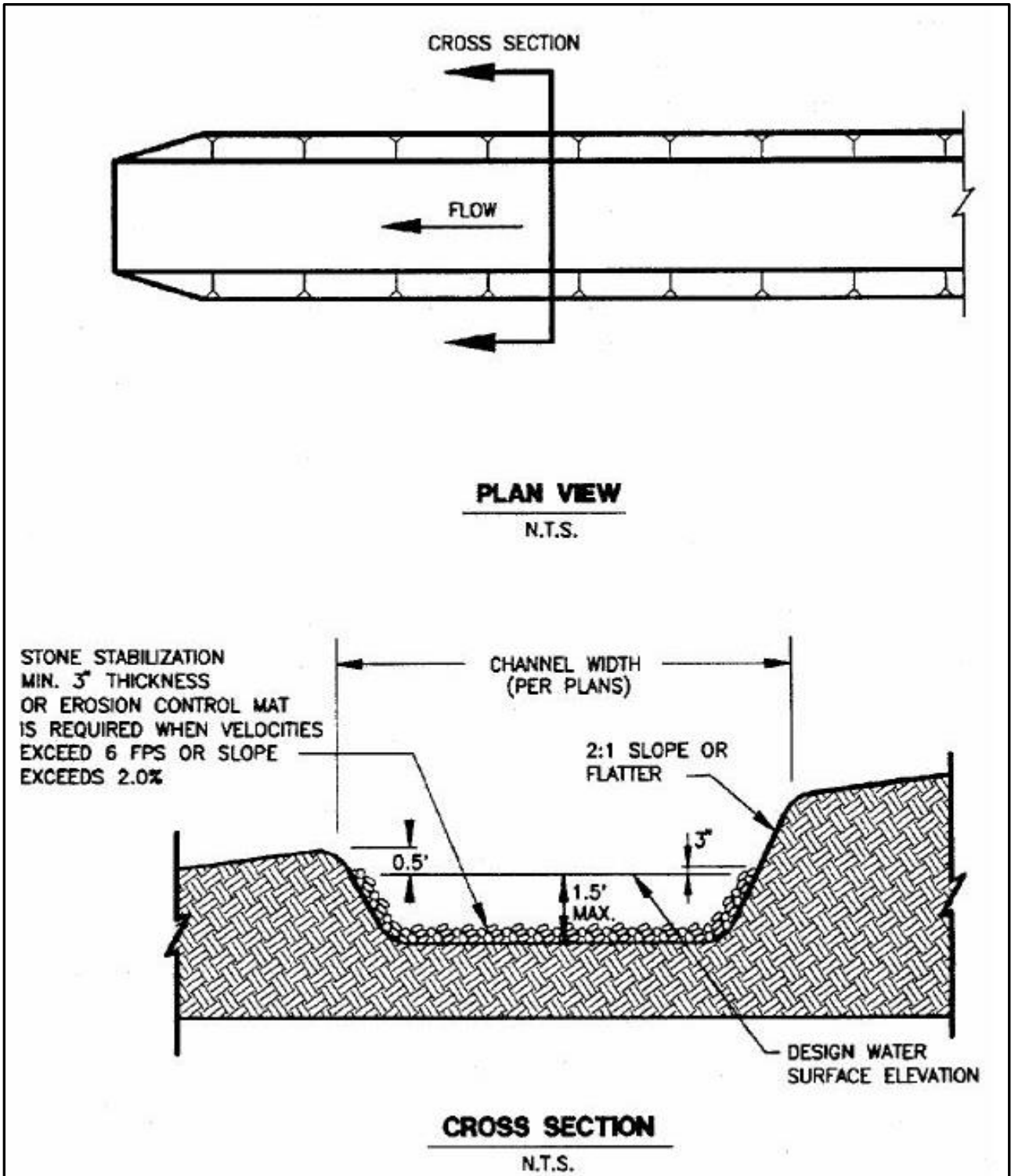
<i>Installation Schedule:</i>	Diversions and outlets shall be constructed prior to earth disturbing activity.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days for proper function, positive grade, evidence of erosion, and if applicable, sufficient vegetative cover.
<i>Responsible Staff:</i>	The General Contractor / Operator for the associated construction activity will be responsible for installation and maintenance of the diversion berm. If the diversion berm is to remain in place after acceptance or completion of the General Contractor / Operator's work, responsibility will transfer to the Owner.
<i>Location:</i>	Upslope of disturbed areas where erosion is likely to occur, upslope of soil stockpiles when diverting water around the stockpile, downslope of disturbed soil when directing runoff from an area to a stabilized outlet, sediment trap, or basin.

Drainage Channels or Swales

BMP Description:

Drainage channels or swales are channels lined with vegetation, riprap, concrete, etc. A diversion or interceptor swale intercepts runoff from small upland areas and diverts it away from slopes to a stabilized outlet, such as a rock berm or stone outlet structure. These controls can be used on the upstream perimeter of the site to prevent runoff from entering the construction area or at the downgradient perimeter to intercept and reroute runoff to prevent excessive erosion until permanent drainage features are installed and/or slopes are stabilized.

<i>Installation Schedule:</i>	Drainage swales and interceptor swales will be constructed prior to earth disturbing activity.
<i>Installation, Maintenance and Inspection:</i>	Inspect every 7 days for proper function, positive grade, evidence of erosion, and if applicable, sufficient vegetative cover.
<i>Responsible Staff:</i>	The General Contractor / Operator for the associated construction activity will be responsible for installation and maintenance of the drainage channel or swale. If the drainage channel or swale is to remain in place after acceptance or completion of the General Contractor / Operator's work, responsibility will transfer to the Owner.
<i>Location:</i>	At the upstream perimeter of the site to prevent runoff from entering the construction area or downslope of disturbed soil when directing runoff from an area to a stabilized outlet, sediment trap, or basin.



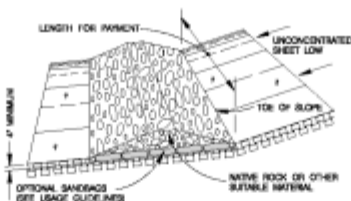
Rock Berms / Check Dams

BMP Description:

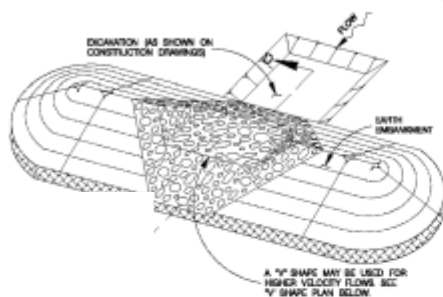
The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, reduce the velocity of water, provide energy dissipation, detain the sediment and release the water. Rock berms consist of various size rock (coarse aggregate or recycled concrete). 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.

<i>Installation Schedule:</i>	Prior to upstream earth disturbing activity. To remain in place until upstream disturbed soil is stabilized.
<i>Installation, Maintenance and Inspection:</i>	Install in areas of concentrated flow, such as channels, swales, or ditches so that the sides of the rock berm extend up the sides of the channel above the lowest point in top of the berm, so that stormwater will overtop the rock berm in the middle, instead of flowing around the sides.
<i>Responsible Staff:</i>	The operator responsible for installation, maintenance, and removal of rock berms / check dams will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity.
<i>Location:</i>	Install in areas of concentrated flow, such as channels, swales, or bayous as indicated on the site map(s).

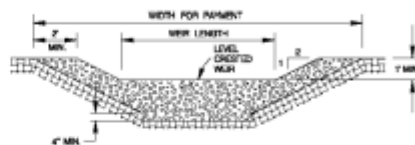
The following schematics are example applications of the construction controls. They are intended to assist in understanding the control's design and function. The schematic is **not for construction**.



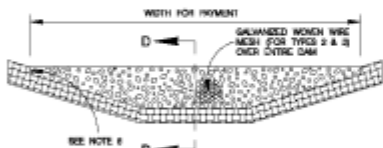
TYPE 1 FILTER DAM AT TOE OF SLOPE
 SCALE: 1" = 10'



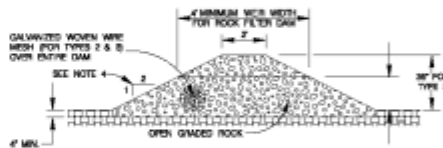
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
 SCALE: 1" = 10'



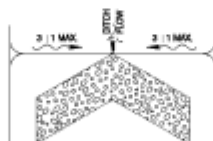
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
 SCALE: 1" = 6'



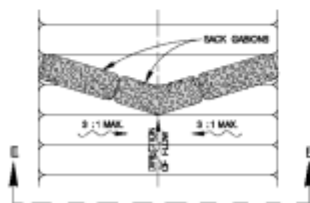
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
 SCALE: 1" = 6'



SECTION D-D
 SCALE: 1" = 6'



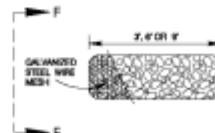
"V" SHAPE PLAN VIEW
 NOT TO SCALE



PLAN VIEW
 SCALE: 1" = 10'



SECTION E-E
 SCALE: 1" = 10'



TYPE 4 SACK GABORION DETAIL
 SCALE: 1" = 6'



SECTION F-F
 SCALE: 1" = 6'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAMS

Inlet Protection

Inlet protection is used to minimize sediment, trash/debris, and other pollutant discharges into the stormwater conveyance systems. All inlets that may receive storm runoff from disturbed areas should be protected. Inlet Protection consists of a series of temporary measures that provide protection against silt transport or accumulation in storm sewer systems by promoting sediment deposition prior to entering the storm sewer system. Inlet protection also provides protection from trash, litter, and debris entering the system.

Inlet Protection for Type “E” Inlets, Area Inlets, Drop Inlets

BMP Description:

Inlet Protection for Type “E” inlets, area inlets, and drop inlets consists of standing silt fence around the inlet on all four sides. The purpose is to minimize sediment discharge into the storm sewer system by temporarily detaining stormwater to promote sediment deposition prior to discharge.

Installation Schedule:

Install prior to upstream earth disturbance. Inlet protection shall remain in place until all upstream areas are stabilized.

Installation, Maintenance and Inspection:

Install silt fence (See BMP S1 for Silt Fence installation details) around the inlet opening with steel t-posts positioned at the corners of the inlet box and properly trench the silt fence 6” into compacted soil. Ensure the silt fence connections are overlapped at least 1 foot to prevent any gaps where water can flow through. Inspect every 7 days to ensure there are no gaps or holes in the silt fence. Maintain by reinstalling the silt fence or by removing accumulated sediment when deposits reach a depth of 6” or 50% of the capacity of the control.

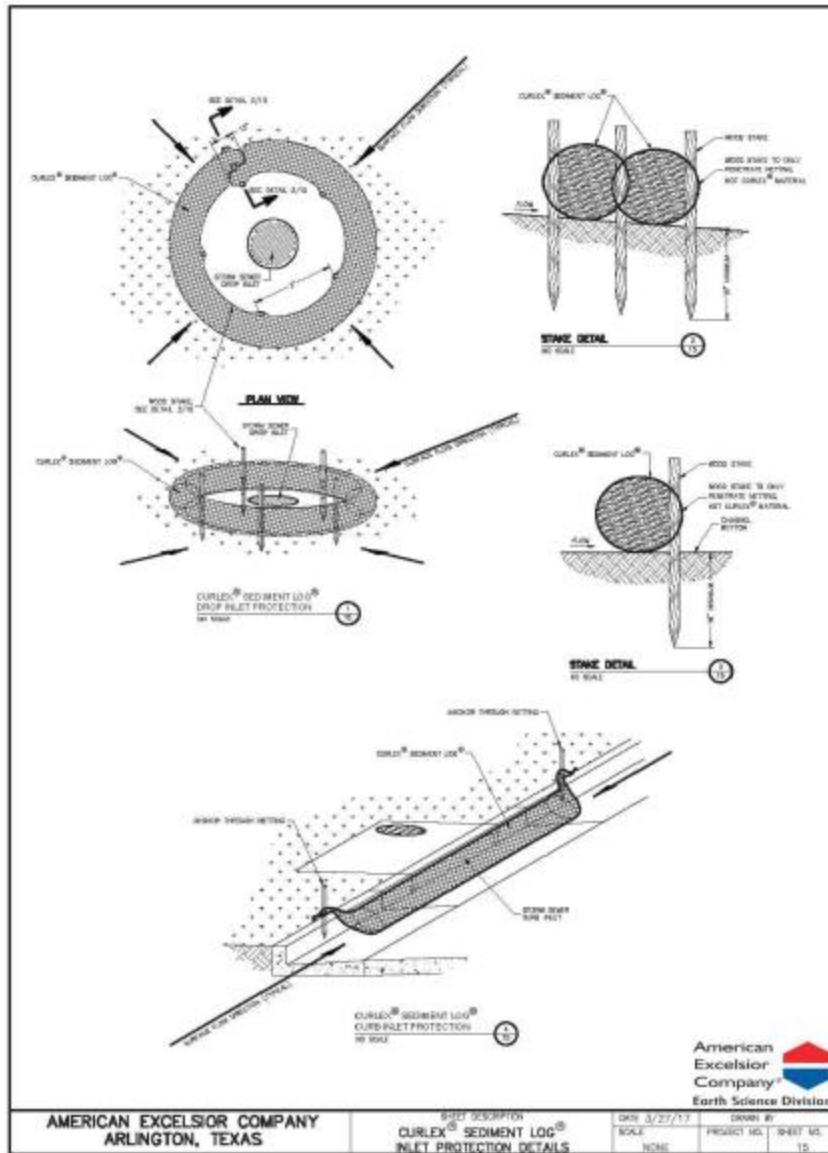
Responsible Staff:

The operator responsible for installation, maintenance, and removal of inlet protection will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator’s work, the Owner will be responsible. As finished lots are transferred to homebuilders, the homebuilders will be responsible for maintenance of inlet protection on inlets that are downgradient of their construction activity.

Location:

At all Type “E” inlets, area inlets, and drop inlets that are downgradient from disturbed areas, as indicated on the site map. Type “E” inlets typically occur in reserves or emergency overflows into detention ponds.

The following schematic is an example application of the construction control. It is intended to assist in understanding the control’s design and function. The schematic is **not for construction**.



Curb Inlet Protection (Wire Fabric Structure)

BMP Description:

The purpose of curb inlet protection is to temporarily detain storm water, promoting sediment deposition, to filter sediment as water flows through the fabric, and to filter trash, litter, and debris as it flows through the wire structure. Curb inlet protection consists of placing a wire fabric structure over the inlet opening. The wire fabric structure must be formed so that it has maximum contact with the concrete around the inlet opening. A slot must be cut in the fabric to allow increased volume of storm water to over flow the structure and enter the inlet during heavy rain events. The bottom of the slot must be at least 4" above the bottom of the inlet opening. The wire fabric structure should be held in place with 20lb gravel bags.

Installation Schedule:

Installed after inlet construction and remain in place until all upstream areas are stabilized.

Installation, Maintenance and Inspection:

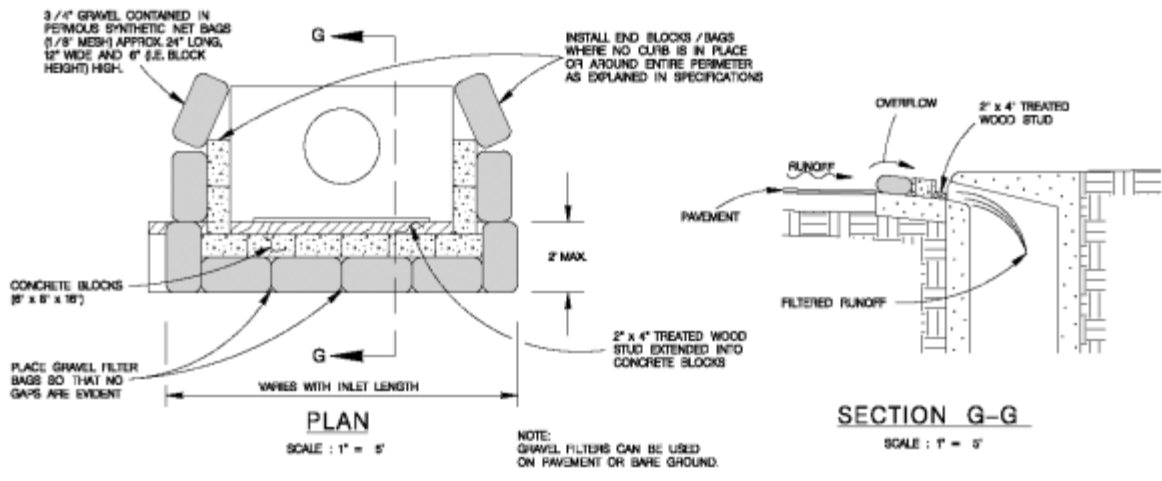
Place the wire fabric structure over the inlet opening making sure the structure is in 100% contact with the curb and gutter with no gaps or "bridging." Place a total of 4 gravel bags on top of the wire fabric structure at each side of the inlet opening, both on the lower portion in contact with the street, and the upper portion in contact with the top of the inlet. Remove sediment accumulations weekly, or as often as necessary to minimize discharge into the storm sewer system. Inspect every 7 days for proper function, for broken gravel bags, and sediment or trash accumulation. Maintain by removing the inlet protection, cleaning any sediment or trash accumulations, and reinstalling over the inlet.

Responsible Staff:

The operator responsible for installation, maintenance, and removal of inlet protection will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible. As finished lots are transferred to homebuilders, the homebuilders will be responsible for maintenance of inlet protection on inlets that are downgradient of their construction activity.

Location:

At all curb inlets downgradient of disturbed soil, as indicated on the site map.



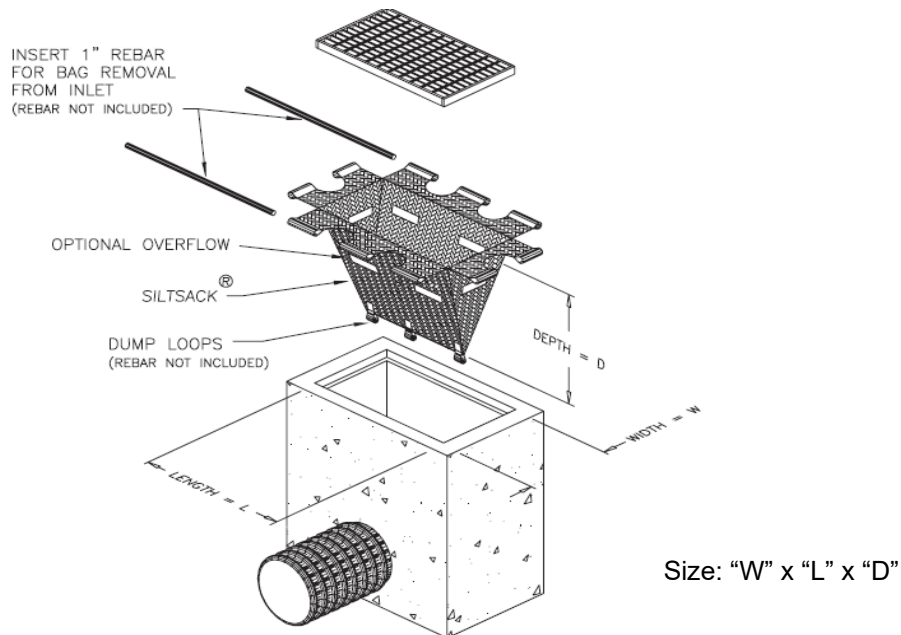
CURB INLET GRAVEL FILTER

Siltsack Drop Inlet Protection

BMP Description: A Siltsack is a sediment control device used to prevent silt and sediment from entering the storm sewer system by catching the silt and sediment while allowing water to pass through freely. Siltsack can be used as a primary or secondary sediment control device to prevent failure of your drainage system due to clogging. It must be maintained on a regular basis to function properly.

Installation Schedule:	Installed prior to earth-disturbing activity upstream of the inlet and shall remain in place until all upstream areas are stabilized.
Installation, Maintenance and Inspection:	Remove the inlet grate and place the Siltsack in the opening. Hold approximately six inches of the sack (the lifting straps) outside the frame.. Replace the grate to hold the sack in place. Inspect every 7 days for the level of collected sediment. When the restraint cord is no longer visible, Siltsack is full and should be emptied. To remove Siltsack, take two pieces of 1" diameter rebar or equivalent and place through the lifting loops on each side of the sack to facilitate the lifting of the sack. To empty the Siltsack, place the unit where the contents will be collected. Place the rebar through the lift straps (connected to the bottom of the sack) and lift. This will lift Siltsack from the bottom and empty the contents. Clean out and rinse. Return Siltsack to its original shape and place back in the basin. Siltsack is reusable.
Responsible Staff:	The operator responsible for installation, maintenance, and removal of inlet protection will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible. As finished lots are transferred to homebuilders, the homebuilders will be responsible for maintenance of inlet protection on inlets that are downgradient of their construction activity.
Location:	At all drop inlets downgradient of disturbed soil, as indicated on the site map.

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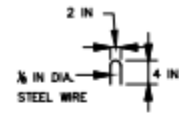
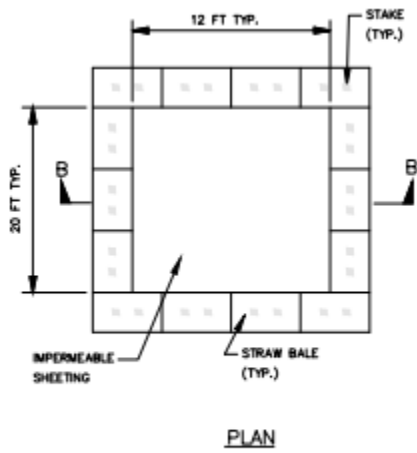


Concrete Washout Area

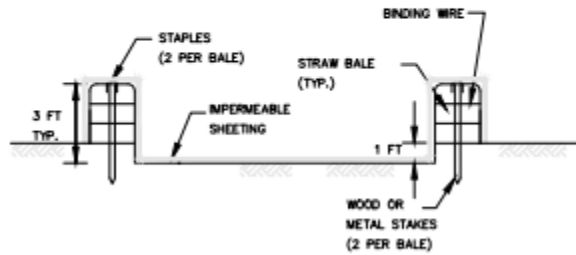
BMP Description:

Discharges from concrete truck wash outs, surplus concrete or drum water, masonry and stucco operations shall be contained. Discharge of concrete truck wash water to any surface water, including discharge to storm sewers is prohibited. Wash water shall be discharged to designated areas at the construction site where controls have been established to prevent discharge to surface waters. Structural controls may consist of temporary berms or temporary shallow pits. 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. Washout of trucks during rainfall events shall be minimized. The discharge of wash out water must not cause or contribute to groundwater contamination.

<i>Installation Schedule:</i>	Install before concrete operations commence onsite, such as pouring streets, sidewalks, driveways and slabs; constructing headwalls and inlets; or installing stucco and masonry. Maintain concrete washouts throughout concrete operations. Concrete washout area may be removed at the cessation of concrete activities onsite.
<i>Installation, Maintenance and Inspection:</i>	<p>Designated concrete washout areas shall be:</p> <ul style="list-style-type: none"> ● at least 15 feet from a curb or paved surface ● at least 50 feet from storm drains, open ditches, or water bodies if feasible ● excavated below grade for the pit area ● lined with a 10-millimeter polyethylene-liner to minimize groundwater impacts ● have a large stabilized entrance to minimize sediment tracking if the washout area is outside of the Stabilized Construction Exit ● have sufficient perimeter BMP's to minimize or prevent concrete wash water from discharging offsite. <p>Concrete washout areas will be maintained by removing the hardened concrete when the capacity of the washout reaches 70%. Alternatively an additional washout area may be constructed to provide additional capacity. Inspect every 7 days for the presence and placement of the concrete washout, available capacity, effective containment measures and structural controls, and offsite sediment tracking from the washout area. Upon completion of concrete pouring operations, the designated concrete washout area(s) will be removed by removing the hardened concrete from the washout area, removing the containment measures and disposing of them at an approved dump site.</p>
<i>Responsible Staff:</i>	The General Contractor / Operator conducting any concrete operations is responsible for installation, maintenance, and removal of the concrete washout area.
<i>Location:</i>	In or adjacent to the Material and Equipment Staging Area, or near the Stabilized Construction Exit, but at least 15 feet away from any paved surface, 50 feet from any storm drains, open ditches, or water bodies if feasible, and on a flat surface with minimal slope. Locations of washout(s) will be indicated on the site map(s).



STAPLE DETAIL



TYPICAL CONCRETE TRUCK WASHOUT PIT

Alternative Concrete Washout System: Portable Concrete Washout Container

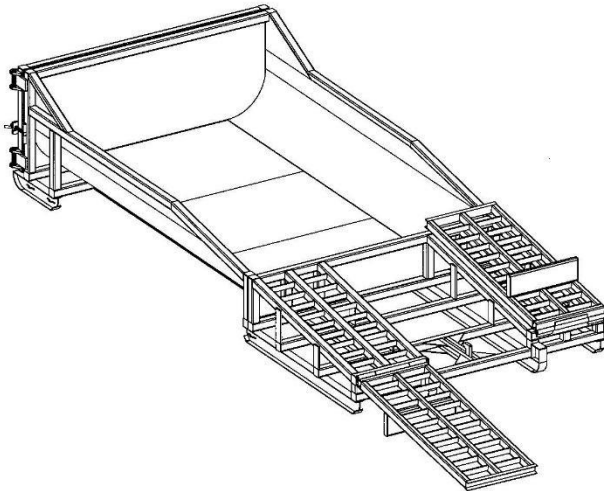
As an alternative to the Concrete Washout Area, Lennar may use portable concrete washout containers. Factors determining which washout design to implement include, feasibility, practicality, jobsite conditions, available locations, community locations, site geography, and any additional unforeseen factors.

BMP Description:

A portable, self-contained and watertight container that controls, captures, and contains caustic concrete wastewater and washout material. The container must be portable and temporary, watertight and have a holding capacity to accept washout from approximately 150-350 yards of poured concrete depending upon the container.

Installation Schedule:	Install before concrete operations commence onsite, such as pouring concrete slab foundations, sidewalks, driveways and air conditioning pads; or installing stucco and masonry. Maintain portable concrete washout containers throughout concrete operations.
Installation, Maintenance and Inspection:	<p>Install in dedicated areas with rock protected entrances of varying sizes predicated by the size of the lot/homesite</p> <p>Maintain portable concrete washout containers by replacing the container when it is three-quarters full; do not allow the container to over flow. The concrete waste material is taken to a licensed concrete recycling facility and is converted to varying types of aggregate.</p> <p>Inspect every 7 calendar days for the presence and placement of the concrete washout, available capacity, and effective containment measures and structural controls. Inspect wastewater level and request a vacuum if needed. The portable concrete washout company provides licensed vacuum, hauling and recycling of concrete wastewater.</p> <p>A rampless container may be used in conjunction with the ramped container by itself if a concrete pump is not needed. A second type of container with lower sides may be utilized to capture concrete waste from a pump truck.</p> <p>The wastewater must be disposed of or treated or recycled in an environmentally safe manner and in accordance with the federal, state, or local regulatory guidelines.</p>
Responsible Staff:	Lennar
Location:	The portable concrete washout container will be placed on a lot or on existing homesites without a rock entrance where the concrete trucks can the reach the container without tracking.

PORTABLE CONCRETE WASHOUT CONTAINER



CONCRETE WASHOUT SYSTEMS

PO Box 2604
Carmichael, CA. 95609
Phone: 1.877.292.7468
Fax: 1.916.244.0403
info@concretewashout.com
www.concretewashout.com
Patent Pending

Representative depiction of unit,
on-site unit(s) may not have ramps
and may include specialty units for
pump trucks

DESCRIPTION

A portable, self-contained and watertight container affixed with ramps that controls, captures and contains caustic concrete wastewater and washout material.

PURPOSE & OBJECTIVE

Allows trade personnel to easily washout concrete trucks, pumps and other equipment associated with cement on site and allows easy off site recycling of the same concrete materials and wastewater.

APPLICATION

Construction projects where concrete, stucco, mortar, grout and cement are used as a construction material or where cementitious wastewater is created.

MAINTENANCE

Inspect and clean out when $\frac{3}{4}$ full, not allowing the container to overflow.

Inspect wastewater level and request a vacuum if needed.

Inspect subcontractors to ensure that proper housekeeping measures are employed when washing out equipment.

SPECIFICATIONS

The container must be portable and temporary, watertight, equipped with ramps and have a holding capacity to accept washout from approximately 350 yards of poured concrete. A vacuum service must accompany washout container and be used by site superintendent as needed. A rampless container may be used in conjunction with a ramped container or by itself if a concrete pump is not needed. The washwater must be disposed of or treated and recycled in an environmentally safe manner and in accordance with federal, state or local regulatory guidelines.

TARGETED POLLUTANTS

Caustic wastewater (high pH level near 12 units)

Suspended solids

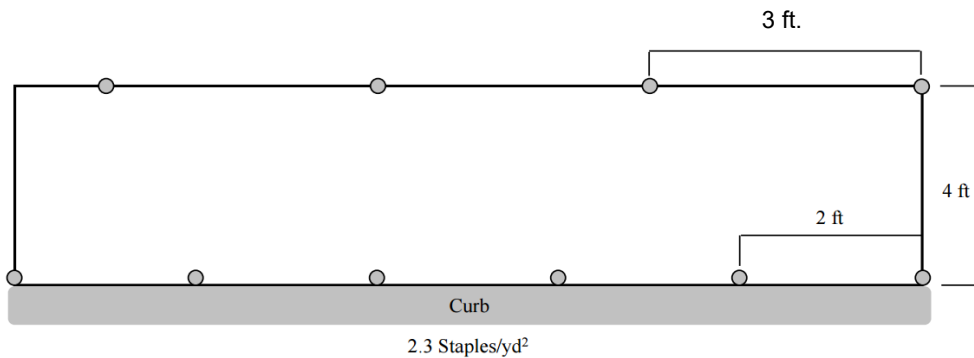
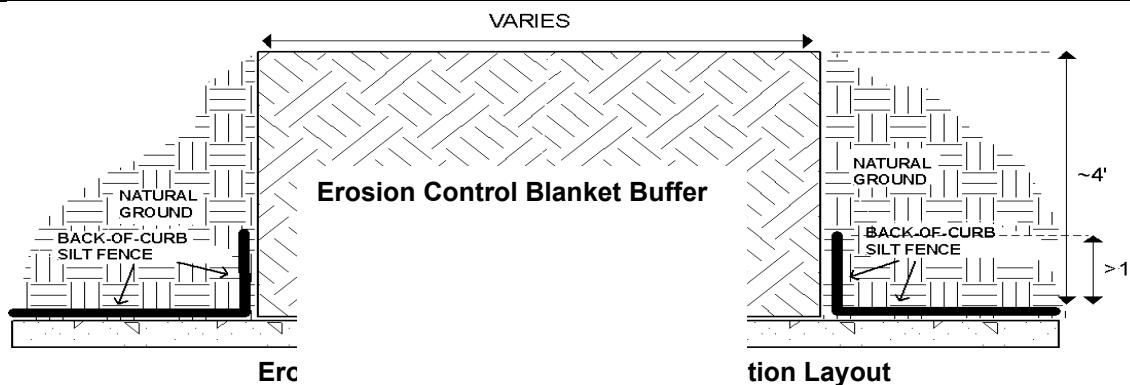
Assorted Metals; Chromium VI, Nickel, Sulfate, Potassium, Magnesium and Calcium Compounds

Erosion Control Blanket Buffer

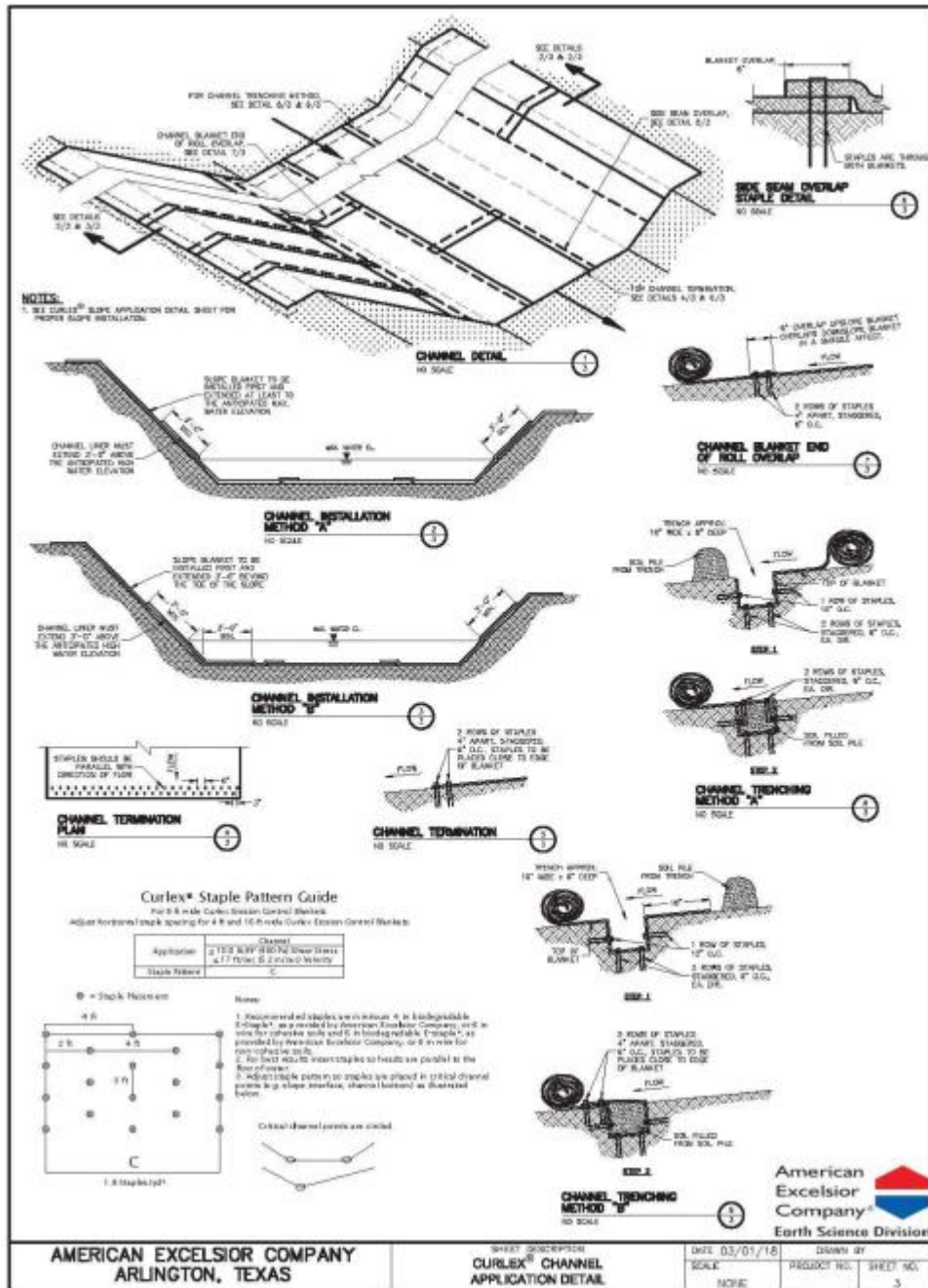
BMP Description:

An erosion control blanket buffer is a temporary sediment control that is traversable by vehicle or foot traffic. It is typically used along the back of curb, or at the end of any hardscape, to minimize sediment discharge into a paved surface, but also to allow short-term access to the finished lots for vehicles and material deliveries. This control measure should not be used as a Stabilized Construction Exit to minimize offsite sediment tracking.

Installation Schedule:	Install after curb or other hardscape installation. Install during installation of back-of-curb sediment control on newly paved streets, curbs, or parking lots where short-term vehicular access to finished lots is needed.
Installation, Maintenance and Inspection:	The erosion control blanket buffer should be installed between sections of back-of-curb sediment control such as silt fence. Maintain and re-install as needed. Inspect every 7 days for function and condition. Areas needing maintenance will be documented in the SWP3 BMP inspection report.
Responsible Staff:	The Owner is responsible for installation and maintenance of the erosion control blanket buffer.
Location:	At areas where vehicles will access the construction areas from the streets; locations to be determined in the field.



Erosion Control Blanket Staple Pattern

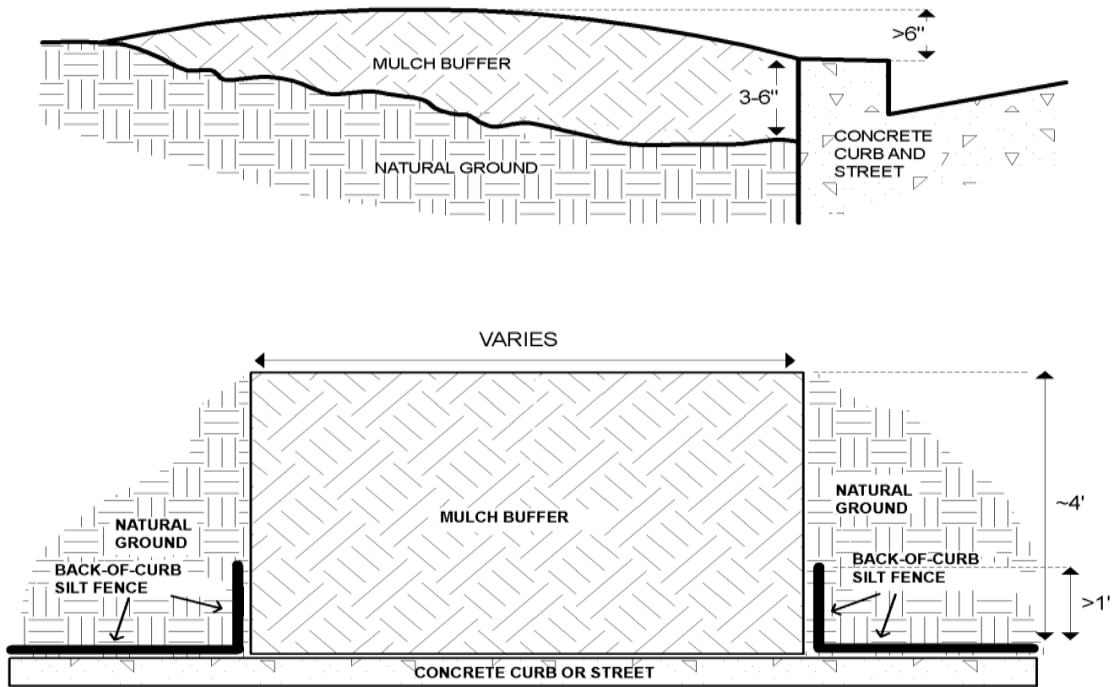


Mulch Buffer

BMP Description:

A Mulch Buffer is a temporary sediment control that is traversable by vehicle or foot traffic. It is typically used along the back of curb, or at the end of any hardscape, to minimize sediment discharge into a paved surface, but also to allow short-term access to the finished lots for vehicles and material deliveries. This control measure should not be used as a Stabilized Construction Exit to minimize offsite sediment tracking.

Installation Schedule:	Install after curb or other hardscape installation. Install during installation of back-of-curb sediment control on newly paved streets, curbs, or parking lots where short-term vehicular access to finished lots is needed.
Installation, Maintenance and Inspection:	The Mulch Buffer should be installed between sections of back-of-curb sediment control such as silt fence. Maintain and re-install as needed. Inspect every 7 days for function and condition. Areas needing maintenance will be documented in the SWP3 BMP inspection report.
Responsible Staff:	The Owner is responsible for installation and maintenance of the mulch buffers.
Location:	At areas where vehicles will access the construction areas from the streets; locations to be determined in the field.



Mulch Buffer

Earthen Berm Check Dam

BMP Description:

An earthen berm serves as a check dam and provides a containment area where sediment-laden runoff is temporarily detained under quiescent conditions, allowing sediment to settle out or before the runoff is discharged. Earthen berms are formed by excavating or constructing an earthen embankment across a waterway or low drainage area.

Design

An earthen berm serves as a check dam for ponding stormwater and is formed by excavation or by construction of an earthen embankment. They are used primarily as temporary measures in long drainage swales, rough graded roadways or ditches in which permanent vegetation may not be established and erosive velocities are present. They are typically used in conjunction with other techniques such as inlet protection, riprap or other sediment reduction techniques. Check dams provide limited treatment. They are more useful in reducing flow to acceptable levels for other techniques.

Suitable Applications

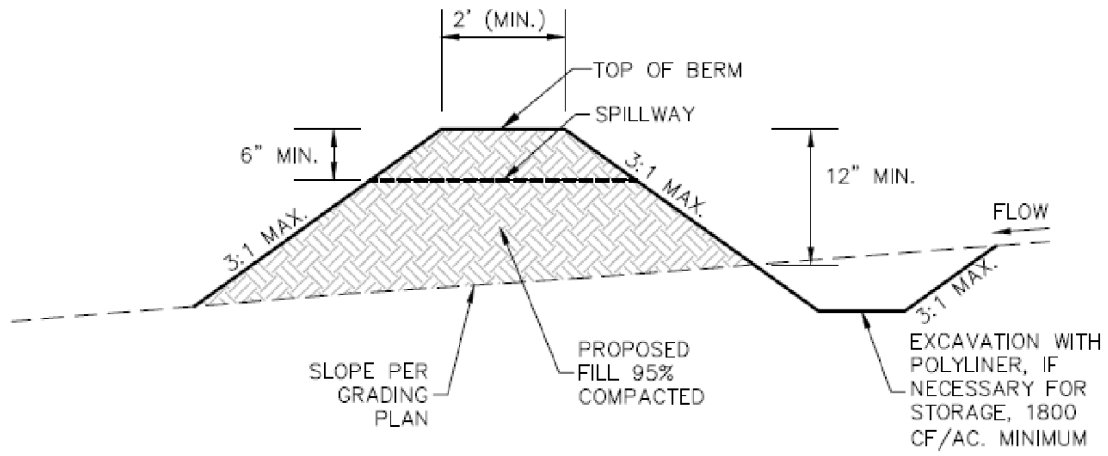
Earthen berms should be considered for use:

- At multiple locations within the project site where sediment control is needed.
- Around or upslope from storm drain inlet protection measures.
- On construction projects where the drainage area is 2-10 acres.
- As a supplemental control, earthen berms provide additional controls for reducing sediment load before it enters a drainage system.

Limitations

- Requires large surface areas to permit infiltration and settling of sediment.
- Only removes large and medium sized particles and requires upstream erosion control.
- Conducive to vector production.
- Should not be located in live streams.

<i>Installation, Maintenance and Inspection:</i>	<ul style="list-style-type: none"> ● The dam height should be between 18 and 36 inches. ● The center of the check dam should be at least 6 inches lower than the outer edges. ● The dam should be designed so that the 2-year, 24-hour storm can pass the dam without causing excessive upstream flooding. ● The fill material for the embankment must be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment may be compacted by traversing with equipment while it is being constructed. ● All cut-and-fill slopes should be 3:1 or flatter. ● Regular inspections should be made to insure that the center of the dam is lower than the edges. Erosion caused by high flows around the edges of the dam should be corrected immediately. ● Sediment should be removed when it reaches one half of the original height of the measure. ● Ponding that requires dewatering measures shall be attended while dewatering takes place.
<i>Responsible Staff:</i>	The General Contractor is responsible for installation and maintenance of Earthen berms.
<i>Location:</i>	Install in areas of concentrated flow, such as rough graded streets, channels or swales at locations indicated on the civil plans.



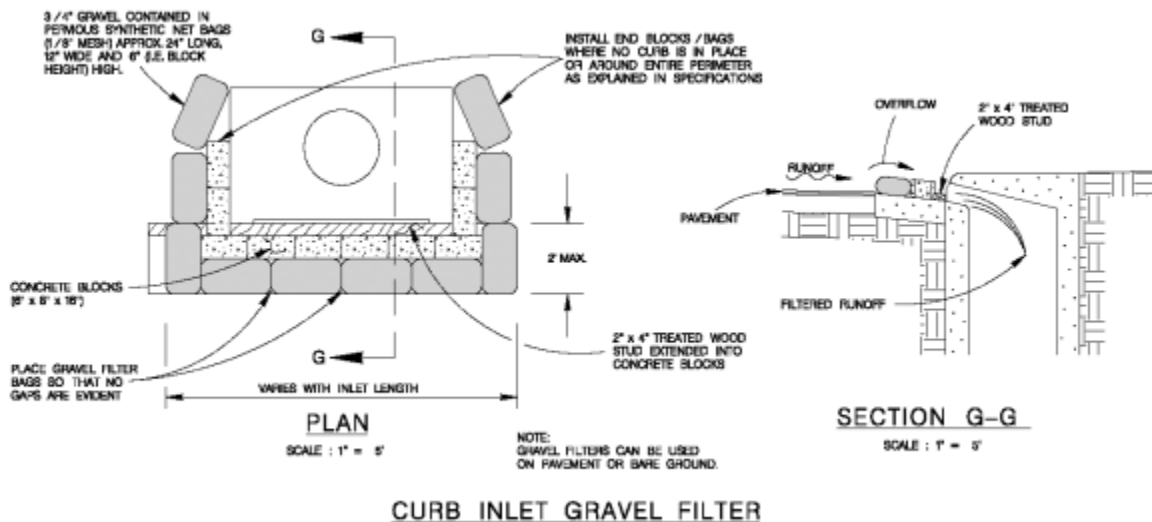
EARTHEN BERM W/ POLYLINER AND SPILLWAY

Gravel Bag Berm

BMP Description:

The purpose of a gravel bag berm is to serve as a temporary check dam in areas of concentrated flow where placement of a rock berm or rock check dam is not feasible, to intercept sediment-laden runoff, reduce the velocity of water, provide energy dissipation, detain the sediment and release the water. Gravel bag berms consist of a various number of gravel bags filled with wash pea gravel or other small aggregate (no sand or dirt) arranged in single or double height stacked arrangements. Gravel bag 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, gravel bag berms are often used in areas of channel flows (ditches, gullies, etc.). Gravel bag 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.

Installation Schedule:	Prior to upstream earth disturbing activity. To remain in place until upstream disturbed soil is stabilized.
Installation, Maintenance and Inspection:	Install in areas of concentrated flow, such as channels, swales, or bayous so that the sides of the gravel bag berm extend up the sides of the channel above the lowest point in top of the berm, so that stormwater will overtop the gravel bag berm in the middle, instead of flowing around the sides.
Responsible Staff:	The General Contractor / Operator will be responsible for installation and maintenance of gravel bag berms. If gravel bag berms are to remain in place after acceptance or completion of the General Contractor / Operator's work, responsibility will transfer to the Owner.
Location:	Install in areas of concentrated flow, such as channels or swales as indicated on the site map(s).



Temporary Sediment Basin

BMP Description:

Description and purpose:

A sediment basin is a sediment control that consists of a temporary basin formed by excavation or by constructing an embankment so that sediment-laden run off is temporarily detained under quiescent conditions, allowing sediment to settle out before the runoff is discharged.

Requirements:

- Sediment basins are required, where feasible, for a common drainage location that serves an area with 10 or more acres disturbed at one time.
- A sediment basin must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained.
- Storage volume does not need to include offsite areas, undisturbed areas, or areas that have undergone permanent stabilization if these flows are diverted around both the disturbed areas and the basin.
- Capacity calculations shall be included in the SWP3.
- If a sediment basin is not feasible, equivalent control measures shall be used until final stabilization of upgradient areas, and the reason that the basins are not feasible shall be documented in the SWP3.
- Construct before clearing and grading work begins when feasible.
- Temporary stabilization measures should be specified for all areas disturbed to create the basin.

Planning Considerations:

- To improve the effectiveness of the basin, it should be located to intercept runoff from the largest possible amount of disturbed area. The best locations are generally low areas.
- Do not locate in a stream. It should be located to trap sediment-laden runoff before it enters the stream. The basin should not be located where its failure would result in the loss of life or interruption of the use or service of public utilities or roads.
- Sediment basins should be designed, constructed, and maintained to minimize mosquito breeding habitats by minimizing the creation of standing water.
- Limit the contributing area to the sediment basin to only the runoff from the disturbed soil areas. Use temporary concentrated flow conveyance controls to divert runoff from undisturbed areas away from the sediment basin if feasible.

Sediment basins should be considered for use:

- Where sediment-laden water may enter the drainage system or watercourses.
- At the outlet of disturbed watersheds between 5 acres and 75 acres and evaluated on a site by site basis
- Where post construction stormwater detention basins are to be installed.
- In association with dikes, temporary channels, and pipes used to convey runoff from disturbed areas.

Limitations

Sediment basins must be installed only within the property limits and where failure of the structure will not result in loss of life, damage to homes or buildings, or interruption of use or service of public roads or utilities. In addition, sediment basins are attractive to children and can be very dangerous. Local ordinances regarding health and safety must be adhered to. If fencing of the basin is required, the type of fence and its location should be shown in the SWP3 and in the construction specifications. Sediment basins have a limited effectiveness in removing fine silt and clays and should be used in conjunction with other erosion and sediment controls.

Design

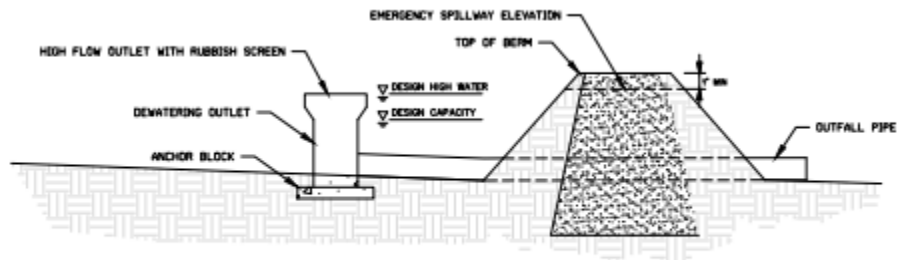
Temporary sediment basins shall be installed in accordance with the approved civil engineering plans and specifications. Comply with local ordinances for sediment basin design and maintenance provided that the design efficiency is as protective as or more protective of water quality than the GCP.

Design Considerations:

- Sediment basins are best used in conjunction with erosion controls.
 - Basins should be designed to drain within 36-96 hours following storm events or as dictated by local regulations.
 - Sediment basins, regardless of size and storage volume, should include features to accommodate overflow or bypass flows that exceed the design storm event.
 - Include an emergency spillway to accommodate flows not carried by the principal spillway. The spillway should consist of an open channel (earthen or vegetated) over undisturbed material (not fill) or constructed of a non-erodible material.
 - The spillway control section, which is a level portion of the spillway channel at the highest elevation in the channel, should be a minimum of 20 ft in length.
 - Rock or vegetation should be used to protect the basin inlet and slopes against erosion.
 - A fore bay, constructed upgradient of the basin may be provided to remove debris and larger particles. The outflow from the sediment basin should be provided with velocity dissipation devices to prevent erosion and scouring of the embankment and channel.
 - Basin inlets should be located to maximize travel distance to the basin outlet.
 - Unless infeasible, the primary outlet structure should withdraw water from the surface of the impounded water. Outlet structures that do this include surface skimmers, solid risers (nonperforated), flashboard risers, and weirs.
 - Surface skimmers use a floating orifice to discharge water from the basin. Skimmers have the advantage of being able to completely drain the detention basin. Skimmers typically result in the greatest sediment removal efficiency for a basin, because they allow for a slower discharge rate than other types of surface outlets. Due to this slower discharge rate, a high flow riser may still be needed to discharge the conveyance storm if a large enough spillway is not feasible due to site constraints.
 - Solid risers should consist of a corrugated metal, high density polyethylene (HDPE), or reinforced concrete riser pipe with dewatering holes and an anti-vortex device and trash rack attached to the top of the riser, to prevent floating debris from flowing out of the basin or obstructing the system. This principal structure should be designed to accommodate the inflow design storm.
 - A rock pile or rock-filled gabions can serve as alternatives to the debris screen; although the designer should be aware of the potential for extra maintenance involved should the pore spaces in the rock pile clog.
 - A perforated riser may be used as an outlet when surface discharge is not feasible. A perforated riser has the advantage of dewatering the basin; however, it also results in the lowest sediment removal efficiency. Perforated risers provide a relatively rapid drawdown of the pool, and they discharge water from the entire water column, resulting in more suspended sediment being discharged than with a surface outlet.
 - Geotextile fabric or gravel (1½ to 3 inches) may be placed around the perforated riser to aid sediment removal, particularly the removal of fine soil particles, and to keep trash from plugging the perforations.
 - The outlet structure should be placed on a firm, smooth foundation with the base securely anchored with concrete or other means to prevent floatation.
 - Attach riser pipe (watertight connection) to a horizontal pipe (barrel). Provide anti-seep collars on the barrel.
 - Cleanout level should be clearly marked on the riser pipe.
 - Proper hydraulic design of the outlet is critical to achieving the desired performance of the basin. The outlet should be designed to drain the basin within a minimum of 36 hours (also referred to as “drawdown time”).
-

Installation Schedule:	Prior to upgradient earth disturbing activity. To remain in place until upgradient disturbed soil is stabilized.
Installation, Maintenance and Inspection:	<ul style="list-style-type: none"> ● Inspect BMPs during weekly inspections and if required, after qualifying rain events. ● Examine basin banks for seepage and structural soundness. ● Check inlet & outlet structures, spillway and surrounding areas for any damage, obstructions or erosion. Repair as needed. ● Check fencing for damage and repair as needed. ● Remove sediment when capacity is reduced by 50% ● Remove standing water from basin within 96 hours after accumulation. ● Implement high flow dewatering outlet with rubbish screen when dewatering basin.
Responsible Staff:	The General Contractor / Operator will be responsible for installation and maintenance of temporary sediment basins.
Location:	Install at areas downgradient of most other construction activity. The exact location will be indicated on other plans as they are designed. The basin should be located: (1) by excavating a suitable area or where a low embankment can be constructed across a swale, (2) where post-construction (permanent) detention basins will be constructed, and (3) where the basins can be maintained on a year-round basis to provide access for maintenance, including sediment removal and sediment stockpiling in a protected area, and to maintain the basin to provide the required capacity.

The following schematic is an example application of the construction control. It is intended to assist in understanding the control's design and function. The schematic is **not for construction**.



TEMPORARY SEDIMENT BASIN OUTFALL DETAIL

Scale: NTS

Post Construction BMPs

The post construction stormwater management measures will be installed during the construction process to control pollutants in stormwater after construction operations have been completed and will be designed and installed in compliance with applicable local requirements for erosion and sediment control and stormwater management.

Review civil drawings and discuss with the design engineer and Lennar Management all applicable post construction BMPs for this site. List and describe each Post Construction BMP in the section below. Modify the post construction BMP section if any of the “Stock” items are not present at the community.

Example Only:

The post construction BMPs include:

- Drainage easements, channels and swales will be used to facilitate stormwater infiltration and minimize runoff.
- Velocity dissipaters are used at all outfall and outlet locations to reduce water flow and prevent scour and undermining at the outlet structure.
- Sequential systems will be used as a system in which stormwater flows through the site and several devices that are used to provide stormwater treatment prior to offsite discharge. Storm sewers drain to drainage channels, sediment basin/detention ponds, and outlet protection to facilitate stormwater treatment prior to offsite discharge.
- All disturbed soil will be stabilized with native perennial grasses and landscaping following the completion of land development, which will minimize or eliminate the potential for erosion.

The post construction BMPs will be installed by a General Contractor / Operator. Before construction of the post construction BMPs begins, this SWP3 will be amended to include the Operator responsible for installation. The General Contractor / Operator will be responsible for the installation and maintenance until the construction of the post construction BMP is complete and the contractor has demobilized. After construction of each post construction BMP is complete, Lennar Homes of Texas Land and Construction, Ltd. will be responsible for maintenance until the Homeowner’s Association, Municipal Utility District, or MS4 becomes responsible for long-term maintenance.

Post Construction Stormwater Detention Structures

BMP Description:

Extended detention basins or sediment basins are normally used to remove particulate pollutants and to reduce maximum runoff rates associated with development to their pre-development levels. The water quality benefits are the removal of sediment and buoyant materials. Furthermore, nutrients, heavy metals, toxic materials, and oxygen-demanding materials associated with the particles also are removed. The control of the maximum runoff rates serves to protect drainage channels below the device from erosion and to reduce downstream flooding. Although detention facilities designed for flood control have different design requirements than those used for water quality enhancement, it is possible to achieve these two objectives in a single facility.

<i>Installation Schedule:</i>	Stormwater detention structures will be constructed as the detention capacity is needed. They will be completed before construction commences on other upstream projects that contribute stormwater to the detention facility. Stormwater detention structures are permanent and will remain in place.
<i>Installation, Maintenance and Inspection:</i>	Installation is performed according to the civil engineering plans. Maintenance is performed by repairing erosion on slopes and re-establishing erosion controls, removing accumulated sediment, and gathering trash and debris. During construction of the stormwater detention structure, alternative BMPs such as silt fences, rock berms, and inlet protection shall be implemented to minimize impacts to stormwater. Unless infeasible, when discharging from sedimentation basins, outlet structures that withdraw water from the surface will be utilized. Inspect every 7 days for accumulations of sediment or trash and erosion at the outfall structures or along banks of the pond. Remove accumulated sediment when deposits reach 50% of the capacity or when deposits negatively affect the structure's ability to properly treat stormwater. Return detention basins that are used for temporary sediment basins during construction to plan design specifications upon completion of work.
<i>Responsible Staff:</i>	The General Contractor / Operator who is constructing the stormwater detention structure is responsible for installation and maintenance until construction is complete and demobilization has occurred. Lennar Homes of Texas Land and Construction, Ltd. will be responsible for long-term maintenance until the Home Owner's Association, Municipal Utility District, or MS4 contractually takes over maintenance.
<i>Location:</i>	Various locations throughout the master-planned community, but typically at areas downgradient of most other construction activity. The exact location will be indicated on other plans as they are designed.

Vegetation

Vegetation, used as an erosion control, is the sowing or sodding of grasses, small grains, or legumes to provide temporary and final vegetative stabilization for disturbed areas.

Exposed soil surfaces should be minimized at all times. Whenever possible, natural vegetation on the site should be preserved. Sediment controls that are in place downgradient of disturbed soil should remain in place until temporary or permanent stabilization is achieved.

Stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. *In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.*

Vegetation is used as a temporary or final stabilization measure for areas disturbed by construction. As a temporary control, vegetation is used to stabilize stockpiles, earthen dikes, and barren areas that are inactive for longer than two weeks. As a final control at the end of construction, grasses and other vegetation provide good protection from erosion along with some filtering for overland runoff. Subjected to acceptable runoff velocities, vegetation can provide a positive method of long-term stormwater management as well as a visual amenity to the site. Other control measures may be required to assist during the establishment of vegetation. These other controls include erosion control blankets, mulching, swales, and dikes to direct flow around newly seeded areas and proper grading to limit runoff velocities during construction.

Vegetation effectively reduces erosion in channels and swales and on stockpiles, dikes, and mild to medium slopes.

Vegetation is a highly effective erosion control when the vegetation is fully established. Until then, additional controls are needed. Sediment controls should not be removed from vegetated areas until the vegetation is established.

To minimize soil compaction of areas to be vegetated, limit vehicle and equipment traffic in these areas to the minimum necessary to accomplish grading.

Install all necessary erosion structures such as dikes, swales, diversions, etc. prior to seeding or sodding.

Stabilization Sodding or seeding may be used to establish vegetation for final stabilization of areas disturbed by construction activity. The vegetation must achieve a cover that is 70 percent of the native background vegetative cover to be considered final stabilization.

Permanent, or Final stabilization for land development activities is achieved when all soil disturbing activities at the site, or in an area, have been completed and a uniform perennial vegetative cover with a density of at least 70% of the native background vegetative cover has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures such as riprap, gabions, or geotextiles, have been employed. Permanent stabilization may include hydromulch, hydroseed, broadcast seed, or sod.

Seeding

BMP Description:

Seed bed should be well pulverized and loosened to a minimum depth of 3 inches and then raked to have a uniform surface. When establishing vegetation from seed, groove or furrow slopes steeper than 3:1 on the contour line before seeding.

Use only high quality, USDA certified seed. Use an appropriate species or species mixture adapted to the local climate, onsite soil conditions and the season as shown below, or consult with the local office of the Natural Resource Conservation Service (NRCS) or Texas AgriLife Extension Service for selection of proper species and application technique in this area.

Chemical fertilization is not recommended at the time of seeding, because it typically stimulates and is consumed by fast growing weeds that out-compete the slower growing grasses and legumes. Evenly apply seed using a seed drill, cultipacker, terraseeding, or hydroseeder. Hydro-seeding should not be used on slopes of 5:1 or steeper unless Bonded Fiber Matrix is used.

Seeded areas shall be thoroughly watered immediately after planting. Water shall be applied at a rate that moistens the top 6 inches of soil without causing runoff. Provide water daily for the first 14 days after seeding and thereafter as needed to aid in establishment of vegetation.

Use appropriate mulching techniques where necessary, especially during cold periods of the year.

The following table lists recommended plant species for the Central Texas region depending on the season for planting.

Recommended Grass Mixture for Temporary Erosion Control		
<i>Season</i>	<i>Common Name</i>	<i>Pure Live Seed Rate (Lbs/Acre)</i>
Sep 1 - Nov 30	Tall Fescue Oats Wheat	4.5 24 34
May 1 - Aug 31	Foxtail Millet	34.0
Feb 15 – May 31 Sep 1 – Dec 31	Annual Rye	20.0

Areas receiving temporary seeding and vegetation shall be landscaped, re-seeded or sodded with perennial species to establish final vegetation at the end of construction. Vegetation for Final Stabilization Sodding or seeding may be used to establish vegetation for final stabilization of areas disturbed by construction activity. The vegetation must achieve a cover that is 70 percent of the native background vegetative cover to be considered final stabilization.

Grass seed for establishing final stabilization can be sown at the same time as seeding for temporary (annual) vegetation. Fertilizers are not normally used to establish native grasses, but mulching is effective in retaining soil moisture for the native plants.

Recommended Grass Mixture for Final Stabilization of Upland in Rural Areas				
Planting Date	Clay Soils		Sandy Soils	
	Species and Pure Live Seed Rate (Lbs/Acre)		Species and Pure Live Seed Rate (Lbs/Acre)	
February 1 – May 15	Green Sprangletop (Van Horn)	1.0	Green Sprangletop (Van Horn)	1.0
	Sideoats Grama (South Texas)	1.0	Slender Grama (Dilley)	2.0
	Texas Grama (Atascosa)	1.0	Hairy Grama (Chaparral)	0.6
	Slender Grama (Dilley)	1.0	Shortspike Windmillgrass (Welder)	0.4
	Shortspike Windmillgrass (Welder)	0.2	Pink Pappusgrass (Maverick)	0.6
	Pink Pappusgrass (Maverick)	0.6	Plains Bristlegrass (Catarina Blend)	0.2
	Halls Panicum (Oso)	0.2	Hooded Windmillgrass (Mariah)	0.3
	Plains Bristlegrass (Catarina Blend)	0.2	Multi-flowered False Rhoades	0.1
	False Rhodes Grass (Kinney)	0.1	Grass (Hidalgo)	
	Hooded Windmillgrass (Mariah)	0.2	Arizona Cottontop (La Salle)	0.2
	Arizona Cottontop (La Salle)	0.2		

(Source: TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, Item 164)

Recommended Grass Mixture for Final Stabilization of Upland in Urban Areas				
Planting Date	Clay Soils		Sandy Soils	
	Species and Pure Live Seed Rate (Lbs/Acre)		Species and Pure Live Seed Rate (Lbs/Acre)	
February 1 – May 15	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	4.8
	Sideoats Grama (South Texas)	3.6	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6		

(Source: TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, Item 164)

Installation Schedule:	Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. <i>In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.</i>
Installation, Maintenance and Inspection:	Protect newly seeded areas from excessive runoff and traffic until vegetation is established. Vegetation for final stabilization must be maintained until the vegetative cover is 70 percent of the native background vegetative cover. Vegetation should be inspected every 7 days to ensure that the plant material is established properly and remains healthy. Bare spots shall be reseeded and/or protected from erosion by mulch or other measures. Accumulated sediment deposited by runoff should be removed to prevent smothering of the vegetation. In addition, determine the source of excess sediment and implement appropriate measures to control the erosion.
Responsible Staff:	The operator responsible for installation and maintenance of stabilization measures will be indicated in Section 1.1 - Contact

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

	Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible.
Location:	On portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. Locations will be indicated on the site map.

Hydromulch / Hydroseed

BMP Description:

Hydraulic mulch (Hydromulch) is the application of an aqueous mixture of seed, water, fertilizer, mulch, and tackifier to the seedbed that can be used for establishment of temporary or permanent vegetation. It temporarily protects exposed soil from erosion by raindrop impact or wind.

Suitable Applications:

- Disturbed areas that will remain inactive for longer than permit required thresholds (e.g., 14 days) or otherwise requiring temporary protection until permanent stabilization is established.
- Soil stockpiles
- Slopes with exposed soil between existing vegetation such as trees or shrubs.
- Slopes planted with live, container-grown vegetation or plugs.

Implementation:

- Apply according to manufacturer specifications located immediately behind this section.
- Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking up and down the slopes.
- To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- May require a second application in order to remain effective for an entire rainy season.
- Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.
- Paper based hydraulic mulches alone shall not be used for erosion control.

Materials:

Hydraulic Mulches

Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources. Wood fiber applied alone is typically applied at the rate of

- 2,000 to 4,000 lb/acre.

Hydraulic Matrices

Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area:

- 2,000 to 4,000 lb/acre wood fiber mulch, and
- 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix

Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective. BFMs are typically applied at rates from

- 3,000 lb/acre to 4,000 lb/acre

<i>Installation Schedule:</i>	Initiate stabilization measures immediately on portions of the site where construction activities have temporarily or permanently ceased and will not resume for a period exceeding 14 calendar days. Do not apply immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.
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Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

<i>Installation, Maintenance and Inspection:</i>	Hydromulch may be applied on any disturbed soil. Interim or final grading must be completed prior to application, minimizing all steep slopes. In addition, all necessary erosion structures such as dikes, swales, diversions, should also be installed. A proper seedbed shall be prepared before seeding. Inspect every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater to ensure mulch doesn't wash away or blow from wind. Inspect for sufficient coverage density according to the manufacturer's recommendations. If application is not adequate, reapplication is needed. Reapply in bare areas or areas of sparse density, or where hydromulch has migrated due to storm events. Application rates for seed and/or hydromulch are to be determined by the respective jurisdictional agency or manufacturer's recommendations, whichever are more stringent.
<i>Responsible Staff:</i>	Each General Contractor / Operator is responsible for implementing temporary stabilization measures in areas of their work where construction temporarily ceases for a period exceeding 14 days, and for permanent stabilization measures at waste water treatment plants, sanitary sewer lift stations, creek crossings, basins, channels, and any water quality features. The Owner is responsible for stabilization measures in landscaped channels and common areas along Mustang Vista Blvd and on finished lots in residential units.
<i>Location:</i>	On disturbed areas and bare soil where construction activities have ceased and will not resume for a period exceeding 14 calendar days. Slopes that are steeper than 3:1 should be covered with appropriate soil stabilization matting as described in the following section to prevent loss of soil and seed. Locations will be indicated on the site map.

Erosion Control Blanket (i.e. "Curlex")

BMP Description:

Geotextile erosion control blankets and matting material can be used as an aid to control erosion on critical sites during establishment period of protective vegetation. Seed will be applied in these areas with the blanket to quickly establish temporary or permanent vegetation. It is used on areas of steep slopes (greater than 4:1) and for areas of concentrated flow (i.e. swales).

Installation Schedule:	Initiate stabilization with geotextiles immediately on portions of the site where construction activities have ceased and will not resume for a period exceeding 14 calendar days.
Installation, Maintenance and Inspection:	Inspect every 7 days to ensure blanket is in good contact with the soil, for adequate stapling of the blanket and for undermining following rain events. Repair or reinstall areas of erosion or where the blanket has been damaged or removed.
Responsible Staff:	The operator responsible for installation and maintenance of erosion control blankets will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible.
Location:	On disturbed areas and bare soil where construction activities have ceased and will not resume for a period exceeding 14 calendar days. The most common uses are in channels, swales, diversion dikes, and on short, steep slopes where erosion hazard is high and planting is likely to be slow to establish adequate protective cover; and on stream banks where moving water is likely to wash out new vegetative plantings. Apply at a rate to sufficiently cover the disturbed soil with wood fiber matrix or equivalent erosion control. Locations will be indicated on the site map.

Sod Stabilization

BMP Description:

Sodding is the application of sod rolls or mats to rapidly establish a permanent grass cover to stabilize disturbed areas. Sodding can be used to prevent channel erosion by protecting soil surfaces and decreasing flows and velocities, through in-channel and upland flow retardance and infiltration. Sodding stabilizes disturbed areas to minimize erosion by decreasing the velocity of sheet flow.

<i>Installation Schedule:</i>	Initiate stabilization with sod immediately on portions of the site where construction activities have ceased and will not resume for a period exceeding 14 calendar days.
<i>Installation, Maintenance and Inspection:</i>	Before laying the sod, clear the soil surface of stones, debris sticks and clods larger than 2 inches in diameter. Grade the surface, filling or leveling to avoid standing water, and to achieve a level final grade. Firm the soil by rolling or cultipacking. Avoid excessive compaction from the use of heavy equipment on the area. Install the sod no later than 7 days after final grading of the channel or area. The sod must be moist, and installation should be completed within 2 days of harvest. Begin placement downslope, and progress upslope. Placement shall be in staggered rows, as in laying bricks, at right angles to the direction of flow. For grassed waterways, edges should butt tightly together. Extend the sod sideward from the channel centerline to a point at least 1 foot in elevation above the flowline elevation. Along the perimeter of the sodded area, one strip of sod should be extended outward a minimum of 30 inches beyond others at 8-foot intervals or closer. On slopes of 3:1 or greater, or wherever erosion may be a problem, secure the sod with stakes or staples. In critical areas, secure sod with netting and staples. Roll newly installed sod to establish firm contact between roots and soil. Irrigate well after rolling. Keep the sodded areas moist until the grass takes root. Inspect every 7 days to ensure adequate coverage of disturbed areas. Reinstall sod in areas that have been damaged or removed.
<i>Responsible Staff:</i>	The General Contractor / Operator installing the water quality pond, landscape or hardscape is responsible for sod installation and maintenance until the sod takes root.
<i>Location:</i>	On disturbed areas and bare soil where construction activities have ceased and will not resume for a period exceeding 14 calendar days. Sodding may be used where initial flow velocity is low to moderate. Sodding can be applied to unstabilized ponds, swales, ditches, or diversions where flow velocities are less than five (5) feet per second. Sodding is also applicable to any disturbed area with overland flow runoff. Sod will be used in professionally landscaped areas such as common areas or near community monuments and recreation centers, areas around drop inlets or in grassed swales, where quick use or aesthetics are factors. See SWP3 site map will identify sod placement locations

Mulching

BMP Description:

Mulching is the application of a uniform layer of organic material over barren areas to reduce the effects of erosion from rainfall. Mulch may be used by itself to temporarily stabilize bare areas or with seed to establish final stabilization of bare areas. Mulch protects the soil from erosion and moisture loss by lessening the effects of wind, water, and sunlight. It also decreases the velocity of sheet flow, thereby reducing the volume of sediment-laden water flow leaving the mulched area.

Types of mulch include compost mixtures, straw, wood chips, bark, or other fibers. Commercialized surface treatments that combine straw or other mulch material with organic or inorganic soil binding systems are also available and are particularly useful on steep slopes.

Mulch is frequently applied with seeding for vegetation. Mulch may also be applied with commercially available polymers for soil surface treatment to bind the mulch with the soil. This method is particularly useful on steep slopes.

<i>Installation Schedule:</i>	Initiate stabilization of disturbed soil with mulch immediately on portions of the site where construction activities have ceased and will not resume for a period exceeding 14 calendar days.
<i>Installation, Maintenance and Inspection:</i>	<p>Mulch should be applied in an even and uniform manner where concentrated water flow is negligible. Do not apply mulch within the ordinary high-water mark of natural surface waters or within the design flow depth of constructed ditches and channels.</p> <p>Mulch may consist of straw mulch, chipped site vegetation, erosion control compost, or other suitable material. Immediately upon completion of planting of seed and fertilizing, spray or hand spread hay mulch uniformly over the area at the rate of 2 tons of hay or hay mulch per acre. When watering seeded areas, use fine spray to prevent erosion of seeds or soil. Reseed any areas damaged by erosion for any reason. Mulching operation to follow seeding and fertilizing immediately in continuous operation. Care must be taken not to drive mulching equipment on seeded/planted areas.</p> <p>Inspect every 7 days for thin or bare spots caused by natural decomposition or weather related events. Mulch in high traffic areas should be replaced on a regular basis to maintain uniform protection. Excess mulch should be brought to the site and stockpiled for use during the maintenance period to dress problem spots.</p>
<i>Responsible Staff:</i>	The operator responsible for installation and maintenance of stabilization measures will be indicated in Section 1.1 - Contact Information & Area of Responsibilities for the associated construction activity. After acceptance or completion of the General Contractor / Operator's work, the Owner will be responsible.
<i>Location:</i>	<p>Mulch may be applied on most areas disturbed by construction that require surface protection including:</p> <ul style="list-style-type: none"> Freshly seeded or planted areas; Disturbed areas at risk of erosion due to the time period being unsuitable for growing vegetation; Disturbed areas that are not conducive to vegetation for temporary stabilization.

SECTION 3: SPILL PREVENTION AND CONTROL

3.1 Spill Prevention and Control Measures

Description and Purpose: Prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. Spill control procedures are implemented anytime chemicals or hazardous substances are stored on the construction site, including the following materials:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals
- Fuels
- Lubricants
- Other petroleum distillates

Implementation

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Place proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample clean supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- If maintenance must be performed onsite, use a designated area and secondary containment, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

Vehicle and Equipment Fueling

- If fueling must be performed onsite, designate areas located away from drainage courses to prevent the run on of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.

3.2 *Spill Response Plan*

Response Action: In the event of a hazardous substance spill or release, immediately take the following measures to keep the spill from entering sewer or storm drains, spreading off-site, or affecting public health. In all cases caution and common sense must be maintained with the primary goal being to prevent and/or limit personal injury.

Stop, contain, and clean up the chemical spill if:

- The spilled chemical and its hazardous properties have been identified;
 - The spill is small and easily contained;
 - Responder is aware of the chemicals' hazardous properties.
- 1) If possible, shut off the source of the spill immediately.
 - 2) Notify spill contact person & other emergency contact(s): immediate supervisor, owner, project manager, onsite representative, etc.
 - 3) Use appropriate personal protective equipment depending on the spilled material.
 - 4) Use absorbent materials, such as absorbent pads, floor sweeping compound or kitty litter to contain spills that are relatively small in nature and where the spilled chemical and its hazardous properties have been properly identified and assessed.
 - 5) Cover/block any drains/catch basins in the spill area to prevent material from entering into the stormwater system, sanitary sewer system or septic system.
 - 6) Collect spent absorbent materials and rags in a leak-proof container or bag and dispose of at an authorized hazardous waste disposal facility.
 - 7) Obtain a waste disposal manifest or receipt from the disposal facility and retain for records retention.
 - 8) Document the following information and include in the SWP3 using a Spill Report form located in Appendix "N":
 - a. The date and time of the spill or release.
 - b. The identity or chemical name of any material released or spilled.
 - c. An estimate of the quantity of material released or spilled and the time or duration of the event.
 - d. The exact location of the spill.
 - e. The extent of actual and potential water pollution.
 - f. The actions that caused the spill and the source of the spilled material.
 - g. The name, address, and phone number of the party in charge of, or responsible for, the spill.
 - h. The steps were taken to clean up the spill and any precautions taken to minimize impacts.
 - i. Possible hazards to the environment (air, soil, water, wildlife, etc.).
 - j. The identities of any representatives responding at the scene.
 - k. The identities of the party responsible for removal and disposal of any cleanup materials.
 - l. Include a disposal manifest or receipt from the disposal facility and retain for records retention.

If a spill or release cannot be controlled or injuries have occurred due to the release, the following procedures should be implemented:

- 1) Evacuate immediate area, and provide care to the injured- Call 911.
- 2) If potential fire or explosion hazards exist initiate evacuation procedures- Call 911;
- 3) Notify spill contact person & other emergency contact(s): your immediate supervisor, owner, project manager, onsite representative, etc...;
- 4) Respond defensively to any uncontrolled spills:
 - Use appropriate personal protective equipment when responding to any spill;
 - Attempt to shut off the source of the release (if safe to do so);
 - Eliminate sources of ignition (if safe to do so);
 - Protect drains by use of adsorbent, booms or drain covers (if safe to do so).
- 5) Notify onsite emergency contact(s);
- 6) Notify other trained staff to assist with the spill response and cleanup activities;
- 7) If necessary, coordinate response activities with local emergency personnel (fire department);
- 8) Be prepared to provide SDS information to fire department, EMT, hospital or physician;
- 9) Notify appropriate agency if a release has entered the environment. Refer to Notification and Reporting section below for reporting thresholds.

Evacuation Procedures:

In the event of a hazardous substance release that has the potential for fire, explosion or other human health hazards the following procedures will be implemented:

- Facility staff will be notified of evacuation by one or more of the following method(s): Verbal, Portable Radio, Alarm, Car Horn;
- Notification to emergency services will be performed- Call 911;
- Facility staff will follow predetermined evacuation routes and assemble at designated areas. Evacuation maps must be displayed throughout the facility;
- Individuals responsible for coordinating evacuations must confirm if the business has been completely evacuated;
- Facility staff will be made familiar with evacuation procedures during new employee orientation, and annual trainings thereafter;
- Designated emergency response contacts will coordinate all activities with outside emergency personnel.

Important Contacts:	
ENTER Lennar Entity Name Division Environmental Manager(s) / Spill Contact Person(s):	Spill Response Companies:
Marcus Walters (830) 388-1002	Alamo Environmental Inc. (Alamo 1): 800-322-5058 www.alamo1.com
Safety Data Sheets (SDS) from Verisk 3E:	800-451-8346

Notification and Reporting

THE LENNAR DIVISION ENVIRONMENTAL MANAGER AND THE LAND DEVELOPMENT MANAGER MUST BE CONTACTED PRIOR TO NOTIFYING A STATE OR FEDERAL AGENCY OF A SPILL AS OUTLINED BELOW. IN THE EVENT OF AN EMERGENCY SITUATION CALL 911 FIRST AND WHEN THE SITUATION IS UNDER CONTROL, CALL YOUR SUPERVISOR.

State Reporting Requirements:

In Texas, upon determining that a reportable discharge or spill has occurred, the responsible person must notify the state. The threshold quantity that triggers the requirement to report a spill is called the reportable quantity (RQ). The reportable quantity depends on the type of substance released and where released (e.g. into water vs. on land); different kinds of spills are subject to different provisions of state and federal rules.

State of Texas Spill Reporting Hotline: **800-832-8224**

Federal Reporting Requirements:

The **National Response Center (NRC)** is the federal government's national communications center, which is staffed 24 hours a day by U.S. Coast Guard officers. The NRC is the sole federal point of contact for reporting all hazardous substances releases and oil spills. The NRC receives all reports of releases involving hazardous substances and oil that trigger federal notification requirements under several laws. The National Response Center requires spills to be reported if the spilled quantity is larger than that found in the typical construction site.

National Response Center Hotline: **800-424-8802**

Reportable Quantities:

Kind of spill	Where discharged	Reportable quantity	Rule, statute, or responsible agency
Hazardous substance	onto land	"Final RQ" in Table 302.4 in 40 CFR 302.4 (PDF)	30 TAC 327
	into water	"Final RQ" or 100 lbs, whichever is less	
Any oil	coastal waters	as required by the Texas General Land Office	Texas General Land Office
Petroleum product, used oil	onto land	25 gallons	30 TAC 327
	directly into water	enough to create a sheen	
Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state	into water	100 lbs	30 TAC 327

Source: TCEQ Table of Reportable Quantities (https://www.tceq.texas.gov/response/spills/spill_rq.html)

When making a telephone report of a spill or pollution complaint, it will be helpful if the following information at hand:

- The date and time of the spill or release.
- The identity or chemical name of any material released or spilled, as well as whether the substance is extremely hazardous.
- An estimate of the quantity of material released or spilled and the time or duration of the event.
- The exact location of the spill, including the name of waters involved or threatened, and any other media affected by the release or spill.
- The extent of actual and potential water pollution.
- The source of the release or spill.
- The name, address, and phone number of the party in charge of, or responsible for, the facility, vessel, or activity associated with the release or spill. If that party is not at the site, also have the name and phone number of the party at the site who is in charge of operations.
- The steps being taken or proposed to contain and clean up the released or spilled material and any precautions taken to minimize impacts, including evacuation.
- The extent of injuries, if any.
- Any known or anticipated health risks associated with the incident and, where appropriate, advice regarding medical attention necessary for persons exposed.
- Possible hazards to the environment (air, soil, water, wildlife, etc.). This assessment may include references to accepted chemical databases, material safety data sheets, and health advisories. The TCEQ may request estimated or measured concentrations of the contaminant for the state's hazard assessment.
- The identities of any government or private-sector representatives responding at the scene.

3.3 SPCC Requirements – Title 40 CFR part 112 (Oil Pollution Prevention)

Introduction:

The Spill Prevention, Control, and Countermeasures rule establishes requirements to prepare and implement SPCC Plans. SPCC Plans complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety, fire prevention, and oil pollution prevention. The purpose of an SPCC Plan is to form a comprehensive oil spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility.

Section 112.1 establishes the general applicability of the SPCC rule.

The SPCC rule applies to facilities that:

- Are non-transportation-related;
- Have an aboveground oil storage capacity of more than 1,320 U.S. gallons or a completely buried oil storage capacity greater than 42,000 U.S.; and
- Could reasonably be expected to discharge oil to navigable waters or adjoining shorelines in quantities that may be harmful.

Defining the “Facility”

A “facility” is defined under federal SPCC requirements to include “any contiguous or non-contiguous building, property, parcel, lease, structure, installation” in which oil is stored or used, and this includes construction sites. The regulations give some discretion in defining the facility, and a single construction site owned by Lennar Homes of Texas Land and Construction, Ltd. may include several distinct facilities. In defining the facility, it is appropriate to consider various factors such as who owns the land, who owns the buildings, structures and equipment, who operates the buildings, structures and equipment, and the type and timing of activity taking place at the site. Lennar Homes of Texas Land and Construction, Ltd. projects typically involve various land development activities, each activity is separate, and each is conducted by a different facility operator. Therefore each construction activity at a single construction site should be defined as a separate “facility” for SPCC purposes. The contact information for the Operator conducting the construction activity at each facility is located in Section 1.1 Contact Information & Areas of Responsibility.

Based on consideration of the relevant regulatory factors, it would be appropriate to define the facility in the following manner: Areas undergoing “major” construction activity such as demolition, earth moving/mass grading, site concrete, underground utilities, and paving activities, or dedicated concrete or asphalt batch plant operations, can each be defined as a separate “facility”.

Each of these activities typically occur during separate stages of land development; they each involve distinct equipment and activities; and, they are each typically under the control and ownership of separate General Contractors who are responsible for making decisions regarding the use and control of oil storage and transfer for their activity. Each facility will be subject to the SPCC Plan requirements only if it independently exceeds the 1,320 gallon oil storage capacity threshold. In that case, the SPCC Plan shall be prepared and implemented by the General Contractor / Operator responsible for the construction activity at the facility.

If applicable, the SPCC plan will be kept onsite.

SECTION 4: INSPECTIONS

4.1 Inspection Schedule and Procedures

The site inspections will be performed by personnel knowledgeable of CGP, familiar with the construction site, knowledgeable of the SWP3 for the site. The contact information of the assigned inspection personnel are listed in the contact list in Section 1.1 and qualifications of the inspector are included in Appendix "H".

Inspection personnel must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, discharge locations, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Documentation of the inspection and actions taken is provided on BMP inspection forms.

A report summarizing the scope of the inspection, the date(s) of the inspection and major observations relating to the implementation of the SWP3 will be made and retained as part of the SWP3. Major observations will include: the locations of discharges of sediment or other pollutants from the site; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed. Actions taken as a result of inspections will be described within and retained as part of the SWP3. Reports will identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report will contain a certification that the facility or site is in compliance with the SWP3 and the Construction General Permit. The report will be signed by a person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports), or by a Duly Authorized Representative (DAR). See Section 4.4 for a list of the delegated Duly Authorized Representatives (DARs) and Appendix "I" for copies of the Letters of Delegation authorizing the DAR to sign reports.

Based on the results of the inspection, the SWP3 shall be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWP3 shall be completed within 7 calendar days following the inspection.

if post-rainfall event BMP inspections are required, the rainfall totals from the triggering rainfall event are obtained from the "Weather Underground" website (www.wunderground.com) and are taken from the Weather Station that is nearest to the site, but within 5 miles whenever possible. The current weather onsite is visually observed and is noted on the current inspection report as well.

Inspection reports will be completed using StormPro Max, a web-based SWP3 inspection and reporting database. After completing the inspection, the inspector will enter the information into the inspection report and save in the database. The completed inspection report will be distributed via email to representatives of each General Contractor / Operator, the Owner, and the Erosion and Sediment Control maintenance contractor. Once all the corrective actions identified in the current report are completed, the corrective action manager will electronically document the inspection report with actions taken as a result of the inspection. A Duly Authorized Representative of Lennar and the BMP inspector will then electronically sign the inspection report.

Inspection Frequency

BMP inspections will be completed according to the following schedule:

- At least once every 7 calendar days.** The inspection schedule of once every 7 calendar days is an alternative to the inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater. This alternative inspection schedule is authorized by Part III. F. 7. a. of the TXR150000 Construction General Permit.
- At least once every 7 calendar days and within 24 hours of the end of a storm event of .5 inches or greater.**

Where the site has been finally or temporarily stabilized, inspections will be conducted at least once every month. Changes to the inspection schedule can only be changed once per month and implemented within the first five business days of a calendar month.

If the inspection frequency changes to once every 14 days and within 24 hours of a storm event of 0.5" or greater or to once every month, the reason for the change and the dates that the change is effective will be listed below.

Alternate Inspection Schedule		Date range of alternate inspection schedule.	Reason for changing inspection schedule:
14 days/ post rain	Monthly	Beginning Date--Ending Date	
<input type="checkbox"/>	<input type="checkbox"/>	--	
<input type="checkbox"/>	<input type="checkbox"/>	--	
<input type="checkbox"/>	<input type="checkbox"/>	--	
<input type="checkbox"/>	<input type="checkbox"/>	--	

Inspect areas during business hours and only if there is safe access. In the event it is unsafe to inspect certain areas, make a notation of the circumstances on the inspection report. In the event none of the BMPs are safely accessible, attempt to inspect the discharge point(s) and downstream of the discharge points to determine the condition and quality of the discharge from the site. Missed inspections will be conducted as soon as the conditions are safe (for example, the next day after the storm or condition that created the unsafe condition).

If the inspector observes or suspects contaminated soil as evidenced by discoloration, odors, oily appearance or buried debris, the inspector shall immediately contact the site supervisor. The site supervisor shall contact the Lennar Division Environmental Manager (DEM) and, as appropriate, implement "Spill Prevention and Control" measures and procedures (Section 3.1). If upon discovery the responsible party is identified by the site supervisor, the responsible party will be directed to take prompt action to respond, clean, and dispose of the suspected contaminated soils. If the responsible party is not identified after the discovery, the DEM will coordinate identification of the potential contamination and proper disposal. The DEM will notify appropriate federal, state, and local agencies as required. Contaminated soil will be disposed of properly in accordance with all applicable regulations.

Adverse Conditions:

Requirements for inspections may be temporarily suspended for adverse conditions. Adverse conditions are conditions that are either dangerous to personnel (e.g., high wind, excessive lightning) or conditions that prohibit access to the site (e.g., flooding, freezing conditions). Adverse conditions that result in the temporary suspension of a permit requirement to inspect must be documented and included as part of the SWP3. If an adverse condition suspends requirements for inspections the date and time of the adverse condition, names of personnel that witnessed the adverse condition, and a narrative for the nature of the adverse condition will be documented on the inspection report, or on the inspection report for the next inspection performed.

In the event of flooding or other adverse conditions which prohibit access to the site, the inspection must be conducted as soon as access is practicable.

Requirements for inspections of all controls:

- Inspect each drainage area indicated on the SWP3 Site Map for the presence of authorized and unauthorized non-stormwater discharges.
- Inspect all stormwater controls (including existing BMPs, areas of disturbance, areas of stabilization, all material and equipment storage, and all outfall/discharge locations including downstream areas if accessible) to ensure that the controls are installed properly, appear to be operational, and minimizing pollutants in discharges, as intended.
- Check for signs of visible erosion and sedimentation that can be attributed to the points of discharge where discharges leave the construction site or discharge into any surface water in the state flowing within or adjacent to the construction site.
- Inspect locations where vehicles enter or exit the site for evidence of off-site sediment tracking.
- Look for any spills, leaks or uncontrolled pollutant sources.
- Note the presence or absence of floating materials, sheen on the surface, discolorations, odors, and/or sources of any observed pollutants.
- If there is a breach or spill, or if there are indications of the presence of visible or non-visible pollutants in the discharges at the outfalls, locate the source(s), follow spill response procedures, where applicable.
- Determine if BMPs have been properly implemented according to the SWP3.
- Determine if additional or upgraded BMPs are necessary.
- Identify locations on the construction site where new or modified stormwater controls are necessary.
- Identify any incidents of noncompliance observed during the inspection.
- Determine if the SWP3 needs to be amended.
- If an inspection is performed when discharges from the construction site are occurring: identify all discharge points at the site, observe and document the visual quality of the discharge (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other such indicators of pollutants in stormwater).
- If it is determined during the inspection that maintenance, repairs, or installation of additional or more appropriate BMPs is needed, begin implementing appropriate corrective actions as soon as practicable and prior to the next rain event if feasible.

Observation and Evaluation of Dewatering Controls:

Personnel provided by the permittee must observe and evaluate dewatering controls at a minimum of once per day on the days where dewatering discharges from the construction site occur. Personnel conducting these evaluations must be knowledgeable of this general permit, the construction activities at the site, and the SWP3 for the site. The names and qualifications of personnel making the evaluations for the permittee may be documented once in the SWP3 rather than being included in each report.

Requirements for Observations and Evaluations:

A report summarizing the scope of any observation and evaluation of dewatering controls must be completed within 24-hours following the evaluation. The report must also include, at a minimum, the following:

- date of the observations and evaluation;
- name(s) and title(s) of personnel making the observations and evaluation;
- approximate times that the dewatering discharge began and ended on the day of evaluation, or if the dewatering discharge is a continuous discharge that continues after normal business hours, indicate that the discharge is continuous (this information can be reported by personnel initiating the dewatering discharge);
- estimates of the rate (in gallons per day) of discharge on the day of evaluation;
- whether or not any indications of pollutant discharge were observed at the point of discharge (e.g., foam, oil sheen, noticeable odor, floating solids, suspended sediments, or other obvious indicators of stormwater pollution); and
- major observations, including: the locations of where erosion and discharges of sediment or other pollutants from the site have occurred; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

Actions taken as a result of evaluations, including the date(s) of actions taken, must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be retained as part of the SWP3 and signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

The observation and evaluation of dewatering controls may be documented in StormPro Max, in a similar manner as the general BMP inspections, or may be documented on paper and retained electronically in StormPro Max or with the SWP3.

4.2 BMP Maintenance

All stormwater best management practices identified in the SWP3 must be maintained in effective operating condition. If, through inspections or other means, it is determined that BMPs are not operating effectively, then maintenance shall be performed as necessary to maintain the continued effectiveness of stormwater controls, and prior to the next rain event if feasible. If maintenance prior to the next anticipated storm event is impracticable, the reason shall be documented in the SWP3 and maintenance must be scheduled and accomplished as soon as practicable.

Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

If periodic inspections or other information indicates a control has been used incorrectly, is performing inadequately, or is damaged, then the operator shall replace or modify the control as soon as practicable after making the discovery.

Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.

If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the accumulations are on property not owned by Lennar Homes of Texas Land and Construction, Ltd., Lennar Homes of Texas Land and Construction, Ltd. will work with the owner or operator of the property to remove the sediment.

4.3 Recordkeeping

- Actions that need to be taken as a result of the inspection or observation and evaluation of dewatering controls are entered into an electronic inspection form on StormPro Max, a web-based SWP3 inspection and reporting database.
- If for any reason the StormPro Max system is not available, inspections or observations and evaluations of dewatering controls will be documented in hard copy format using the forms included in the SWP3.
- Completely fill out the forms to document the conditions found during the inspection.
- Describe any actions needed and the location of the action needed in the log and include a description of any additional BMPs that need to be installed.
- Review previous reports that may have open corrective action items to confirm they have been completed.
- The inspector and the Duly Authorized Representative of the Owner will electronically sign and certify the reports.
- Upon completion of an action item, the corrective action manager will electronically initial and date when corrective actions were completed on the corrective action log.
- Amend the SWP3 within 7 days if the inspection revealed there are SWP3 deficiencies and keep the amendments and an amendment log in the SWP3.
- All documents will be kept for a minimum of 3 years from the acceptance of the NOT.

Updating the site map:

Document and update on the site map as site conditions or locations of BMPs change throughout construction. Create a legend that includes symbols for all the items that will be tracked on the SWP3 site map. Use the symbols to track the locations of the BMPs on the SWP3 site map. The items that will be tracked include the following:

- Property boundaries
- Active areas of construction,
- Current and up to date boundaries of operational control,
- Discharge locations,
- Areas of soil disturbance (cut or fill),
- Locations of sensitive habitats, watercourses, or other features which are not to be disturbed,
- Surface waters (including wetlands) either at, adjacent, or in close proximity to the site, and also indicate whether those waters are impaired. See
- Sediment and erosion controls,
- Temporary and permanent stabilization,
- Waste disposal areas including dumpsters and portable toilets,
- Material storage/staging areas,
- Vehicle/equipment storage areas,
- Stockpiles,
- Stabilized entrances or exits

Track the dates of the following items on the site maps for each construction activity.

- Start of major grading activity;
- Completion of major grading activity;
- Temporary and final stabilization;
- Addition or reduction in acreage

At the completion of land development activity in the various residential sections, Lennar Homes of Texas Land and Construction, Ltd. will transfer ownership of the finished lots to various homebuilders. Residential lots that have been sold to other homebuilders will be identified as “not under SWP3 control,” and the date that ownership transferred will be recorded on the SWP3 site map.

The site map will be kept as a permanent record. If a site map becomes too cluttered with documentation, a new site map will be developed and up dated and the old site map will be kept as a permanent record in the SWP3. The old site map is not to be discarded under any circumstances.

A sample copy of the inspection form is included on the next page.



If this is a post-storm event inspection for a storm .5" or greater, then document the approximate rainfall amount (In inches) that triggered the post storm inspection:

BMP Inspection Report

Community _____

Date: _____

A. Type of Inspection & Schedule

- General Inspection Post-Storm Event
 Inspection Schedule: Every 7 calendar days Every 14 calendar plus post storm event Monthly Other: _____

B. Phase of Construction: (check all that apply)

- Pre-Construction Clearing/Demo/Grading Utilities & Streets Site Concrete Paving/Street Work
 Landscaping Vertical Construction Off-Site Backbone/Public Improvements Site Stabilized

C. Check the response for each question below:

Item #	Questions	Yes	No	N/A
1	Is the inspector qualified to perform this inspection?	<input type="checkbox"/>	<input type="checkbox"/>	--
2	Are the inspector's qualifications documented in this SWP3? (If not, amend and add to the SWP3)	<input type="checkbox"/>	<input type="checkbox"/>	--
3	Were all home sites in our control inspected today? (N/A if land Development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Items 4 through 7 were intentionally deleted

D. Check the observed status of all items. Provide "Action Required" details and dates completed on the back of this page.

Item No.	Inspection Items	Not In Use	In Use & Acceptable	In Use & Action Required
8	Community perimeter controls			
9	Outfalls/Discharge points/Outlet protection			
10	BMPs at streams, rivers, lakes, ponds, 303(d) waters, wetlands, & protected areas			
11	Stabilized exits maintained/functional			
12	Track out in public streets			
13	Onsite streets & gutters free of sediment, silt, mud, & debris			
14	Disturbed areas			
15	Slope stabilization: Erosion control blankets, mulch, vegetation, soil binders etc.			
16	Erosion controls: EC blankets, vegetation, soil binders, mulch, etc.			
17	Wind Erosion Controls: Dust control, wind fence, water, palliatives, soil binders, etc.			
18	Slope drainage structures (engineered structures, ditches, drains, etc.)			
19	Temporary sediment basins/sediment traps			
20	Detention/Retention basins			
21	Turbidity barrier			
22	Drainage swales & channels			
23	Buffer strips			
24	Berms and dikes			
25	Check dams			
26	Gabions			
27	Silt fences			
28	Sand/gravel bags/rock socks			
29	Straw wattles/fiber rolls			
30	Cutback curbs			
31	Catch basins/ Inlet protection			
32	Construction materials properly stored & protected			
33	Stockpile management			
34	Trash/Debris bins used, not overflowing & regularly collected			
35	Proper disposal of litter, construction debris & liquid waste			
36	Sanitary waste facilities properly located and maintained			
37	Concrete wash outs			
38	Paint wash outs			
39	Non-stormwater discharges properly controlled (e.g. wash water, landscape			
40	Dewatering BMPs (e.g. filter bags, removable pump station, sump pit, etc.)			
41	Soil & paving free of stains from leaks from vehicles, power tools and/or equipment			
42	Secondary containment used for portable gas/diesel powered items			
43	Secondary containment used for bulk storage of oils, chemicals, fuels & liquid waste			
44	Material & equipment storage yards clean & maintained			
45	Drip barriers for equipment stored, parked, & under repair			
46	Other			

E. I have inspected all of the following: (All must be inspected)

- | | | | | | | |
|--|------------------------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|-----------------------------|
| All "In place" BMPs | Yes <input type="checkbox"/> | No <input type="checkbox"/> | All material storage areas | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| All construction entrances and exits | Yes <input type="checkbox"/> | No <input type="checkbox"/> | All disturbed soils areas | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| All discharge locations | Yes <input type="checkbox"/> | No <input type="checkbox"/> | All equipment storage areas | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| All areas where stormwater flows within site | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Construction support activity | | | |
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> | | | | |

Was any portion of the site unsafe for access, inaccessible, and not inspected? Yes No If yes, explain: _____

Were there any discharges observed during the inspection? Yes No If yes, identify the discharge points, document the visual quality of any discharges and associated visible erosion and discharges of sediment if applicable. Identify action required in Section "G"

Discharge Point	Document the visual quality of discharges (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other such indicators of pollutants in stormwater below), associated visible erosion and discharges of sediment caused by the discharge if applicable.

F. Since the last inspection has there been:

- a) A change in design, construction, operation, or maintenance that may affect discharges of pollutants from our community? Yes No
- b) Changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs? Yes No
- c) A regulatory agency inspection that caused changes to be made to the SWP3 or additional BMPs added in the community? Yes No
- d) Additional or different BMPs used or needed that are not included in the current list of BMPs in the SWP3? Yes No
- e) Incident(s) of non-compliance observed? Yes No

If "Yes" to any Section "F" question(s), describe the event; when, where, and why it happened; what action was taken & when. Be Specific.

If "YES" to any questions in Section "F", does the SWP3 need to be amended? (If "Yes" contact the DEM) Yes No

General Comments: _____

G. Describe any "Action Required" items checked on Section "D" and the necessary action needed. List the item number from table D. Be specific on location of the work needed. Document, initial, & date when the action item work has been completed on this page.

Item #	Description & Precise Location of Action Required Item(s)	Action Needed	Date Completed & Initials

Certification and Signature by Contractor or Subcontractor (Third Party Inspector):

Check the following box if correct: There were no incidents of non-compliance noted during the inspection. The construction site is in compliance with the SWP3 and the Texas Construction General Permit.

By inserting my electronic signature below, I intend to sign this document and I hereby acknowledge and agree that my signature is being provided electronically and that my electronic signature and/or initials appearing on this report are the same as if I had affixed my original handwritten signature for the purpose of validity, enforceability, and admissibility. I acknowledge that I have access to this report.

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

Inspected By (Print Name): _____

Signature: _____ Date: _____

Company: _____

Certification and Signature by Permittee or "Duly Authorized Representative":

Check the following box if correct: There were no incidents of non-compliance noted during the inspection. The construction site is in compliance with the SWP3 and the Texas Construction General Permit.

By inserting my electronic signature below, I intend to sign this document and I hereby acknowledge and agree that my signature is being provided electronically and that my electronic signature and/or initials appearing on this report are the same as if I had affixed my original handwritten signature for the purpose of validity, enforceability, and admissibility. I acknowledge that I have access to this report.

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

Signature of Permittee or "Duly Authorized Representative":

Signature: _____ Date: _____

Printed Name: _____ Title: _____

Were any incidents of non-compliance observed during this construction dewatering discharge inspection? Yes No
If Yes, describe the incident(s): when, where, and why it happened; what action(s) was taken and when. Be specific.

Certification and Signature by BMP Inspector:

Check the following box if correct: There were no incidents of non-compliance noted during the inspection. The construction site is in compliance with the SWP3 and the Texas Construction General Permit.

By inserting my electronic signature below, I intend to sign this document and I hereby acknowledge and agree that my signature is being provided electronically and that my electronic signature and/or initials appearing on this report are the same as if I had affixed my original handwritten signature for the purpose of validity, enforceability, and admissibility. I acknowledge that I have access to this report.

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

Inspected By (Print Name): _____ Title: _____

Signature: _____ Date: _____

Company: _____

Certification and Signature by Permittee or "Duly Authorized Representative":

Check the following box if correct: There were no incidents of non-compliance noted during the inspection. The construction site is in compliance with the SWP3 and the Texas Construction General Permit.

By inserting my electronic signature below, I intend to sign this document and I hereby acknowledge and agree that my signature is being provided electronically and that my electronic signature and/or initials appearing on this report are the same as if I had affixed my original handwritten signature for the purpose of validity, enforceability, and admissibility. I acknowledge that I have access to this report.

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

Signature of Permittee or
"Duly Authorized Representative":

Print Name: _____ Title: _____

Signature: _____ Date: _____

4.4 Delegation of Authority

As required by 30 TAC §305.128, all SWP3 reports shall be signed by a person described in 30 TAC §305.44(a) or by a duly authorized representative of that person provided that:

1. The authorization is made in writing by a person described in §305.44(a).
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated activity.
3. The written authorization is submitted electronically using the State of Texas Environmental Electronic Reporting System (STEERS), to the Executive Director of the TCEQ. (See Appendix "I" for copies of the Delegation of Signatories form.
- 4.

Listed below is the contact information for the Duly Authorized Representatives or Positions that are authorized to sign SWP3 inspection reports.

Duly Authorized Representative(s) or Position(s):

Lennar Homes of Texas Land and Construction, Ltd

100 NE Loop 410, Suite 1155

San Antonio, TX 78216

Phone: (210) 403-6200

Position:

LAND DEVELOPMENT MANAGER (LDM)

DIVISION ENVIRONMENTAL MANAGER (DEM),

DIRECTOR OF LAND DEVELOPMENT

See Appendix "I" for copies of the Letters of Delegation to the Executive Director.

SECTION 5: SWP3 CERTIFICATIONS

This SWP3 shall signed and certified by the Owner, Lennar Homes of Texas Land and Construction, Ltd., and by all General Contractors / Operators in accordance with 30 TAC §305.128.

Blank SWP3 certification pages are kept in this section.

OWNER'S SWP3 CERTIFICATION

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

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

Sign as required by 30 TAC §305.128(a)

LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD.,
a Texas limited partnership

By: U.S. Home LLC, a Delaware limited liability
company (as successor-in-interest by conversion
to U. S. Home corporation, a Delaware corporation),
its General Partner

DocuSigned by:
By: 
C1AABF3E7777450...

Name: Brian Barron

Title: Division President

Date: 7/11/2024

REPLACE PAGE WITH CPESC SWP3 CERTIFICATION

GENERAL CONTRACTOR / OPERATOR'S SWP3 CERTIFICATION

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

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

Sign as required by 30 TAC §305.128(a)

Signature: _____

Name: _____

Title: _____

Company Name: _____

Date: _____

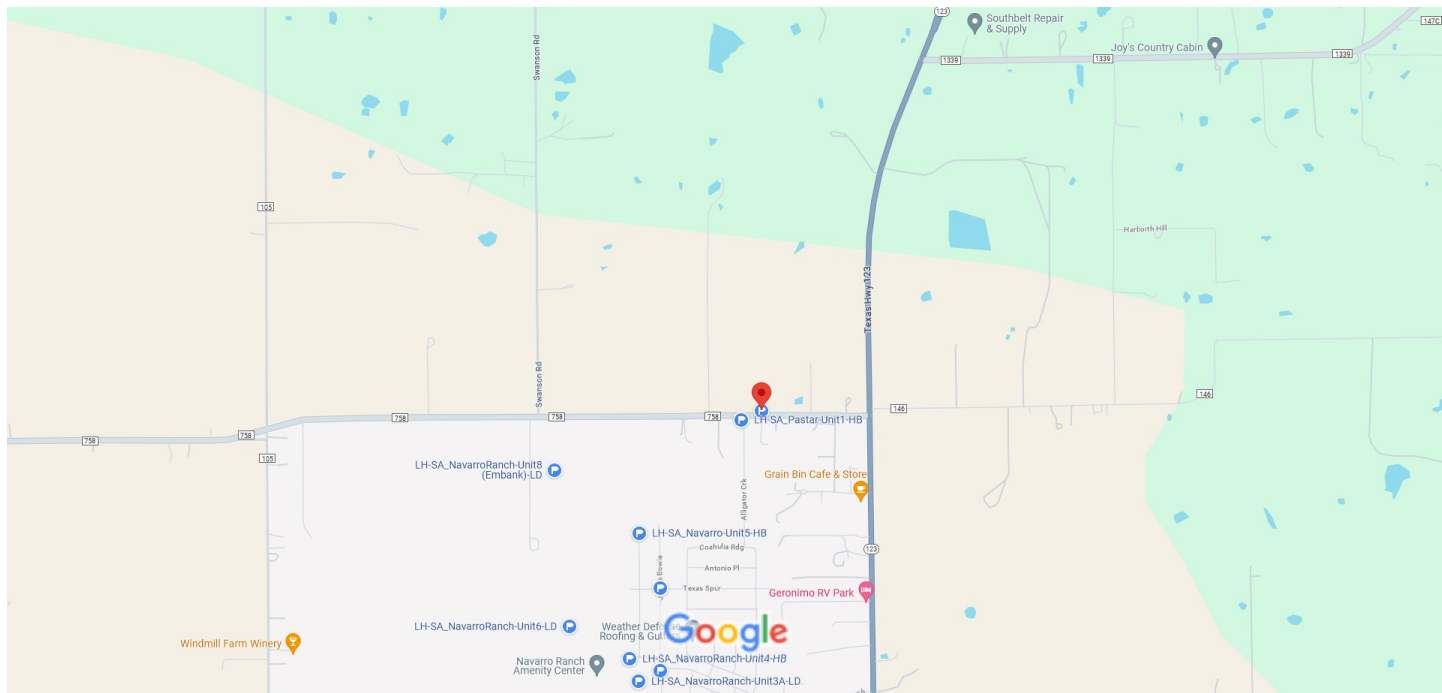
Appendices:

Appendix "A" General Location Map / Topo Map



29°42'09.6"N 97°58'09.1"W

LH-SA_JaroNorth-Unit1-LD



Map data ©2024 1000 ft

LH-SA_JaroNorth-Unit1-LD

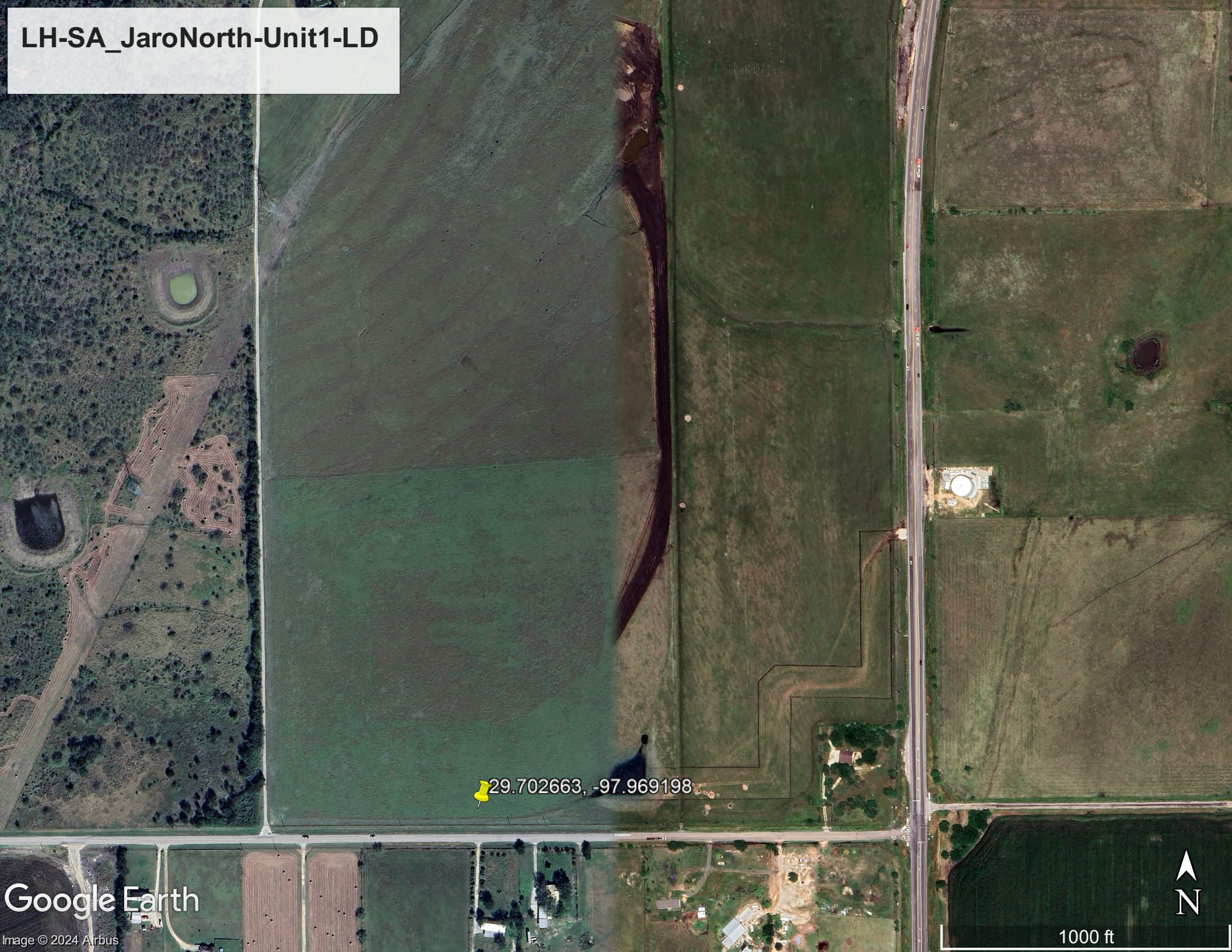
29.702663, -97.969198

Google Earth

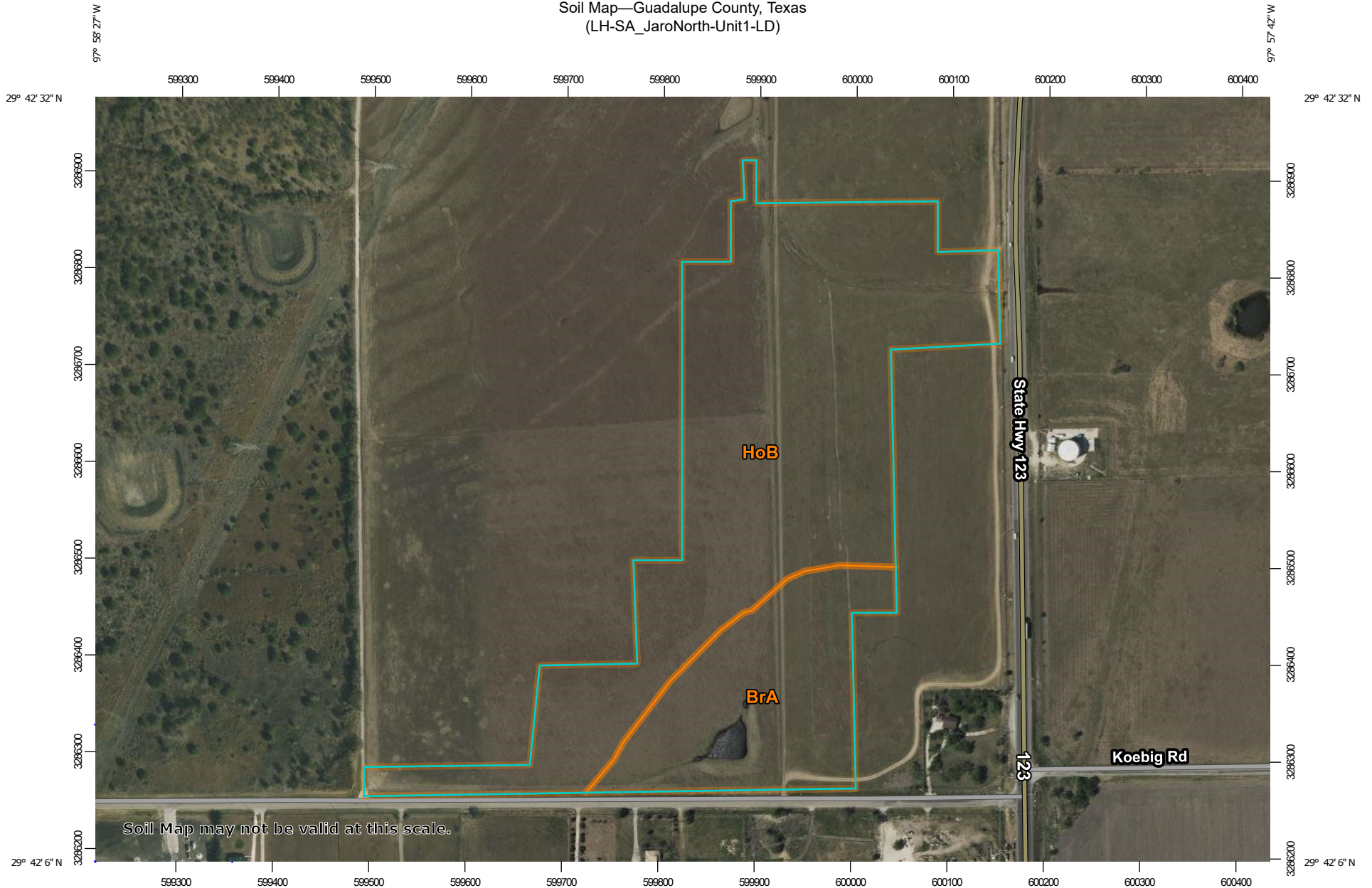
Image © 2024 Airbus



1000 ft



Soil Map—Guadalupe County, Texas
(LH-SA_JarNorth-Unit1-LD)



Map Scale: 1:5,580 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters


0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Guadalupe County, Texas

Survey Area Data: Version 19, Sep 5, 2023

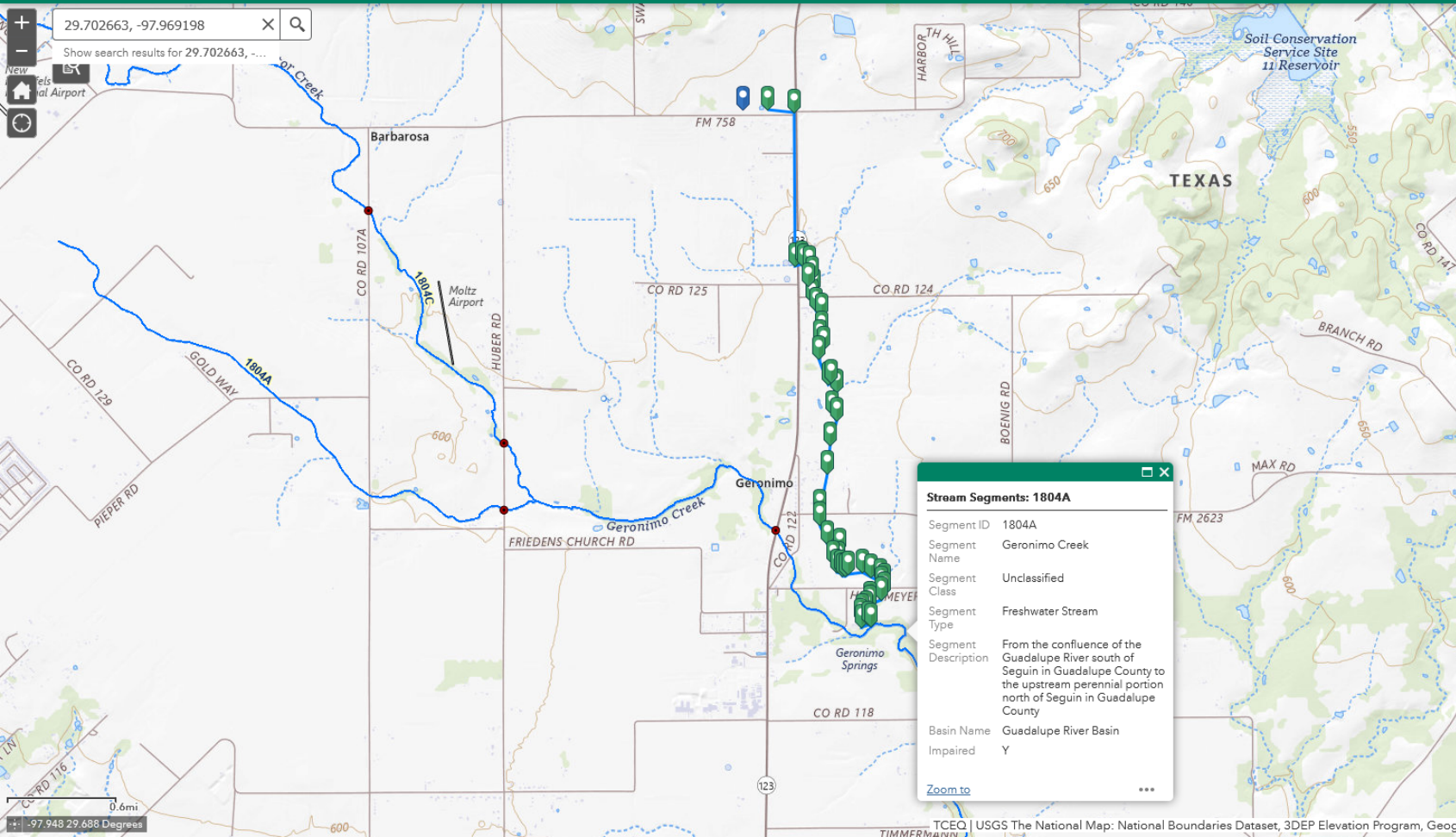
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 15, 2020—Apr 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrA	Branyon clay, 0 to 1 percent slopes	10.7	25.8%
HoB	Houston Black clay, 1 to 3 percent slopes	30.7	74.2%
Totals for Area of Interest		41.4	100.0%



29.702663, -97.969198

Show search results for 29.702663, -97.969198

Stream Segments: 1804A

Segment ID	1804A
Segment Name	Geronimo Creek
Segment Class	Unclassified
Segment Type	Freshwater Stream
Segment Description	From the confluence of the Guadalupe River south of Seguin in Guadalupe County to the upstream perennial portion north of Seguin in Guadalupe County
Basin Name	Guadalupe River Basin
Impaired	Y

[Zoom to](#) ***

Measure

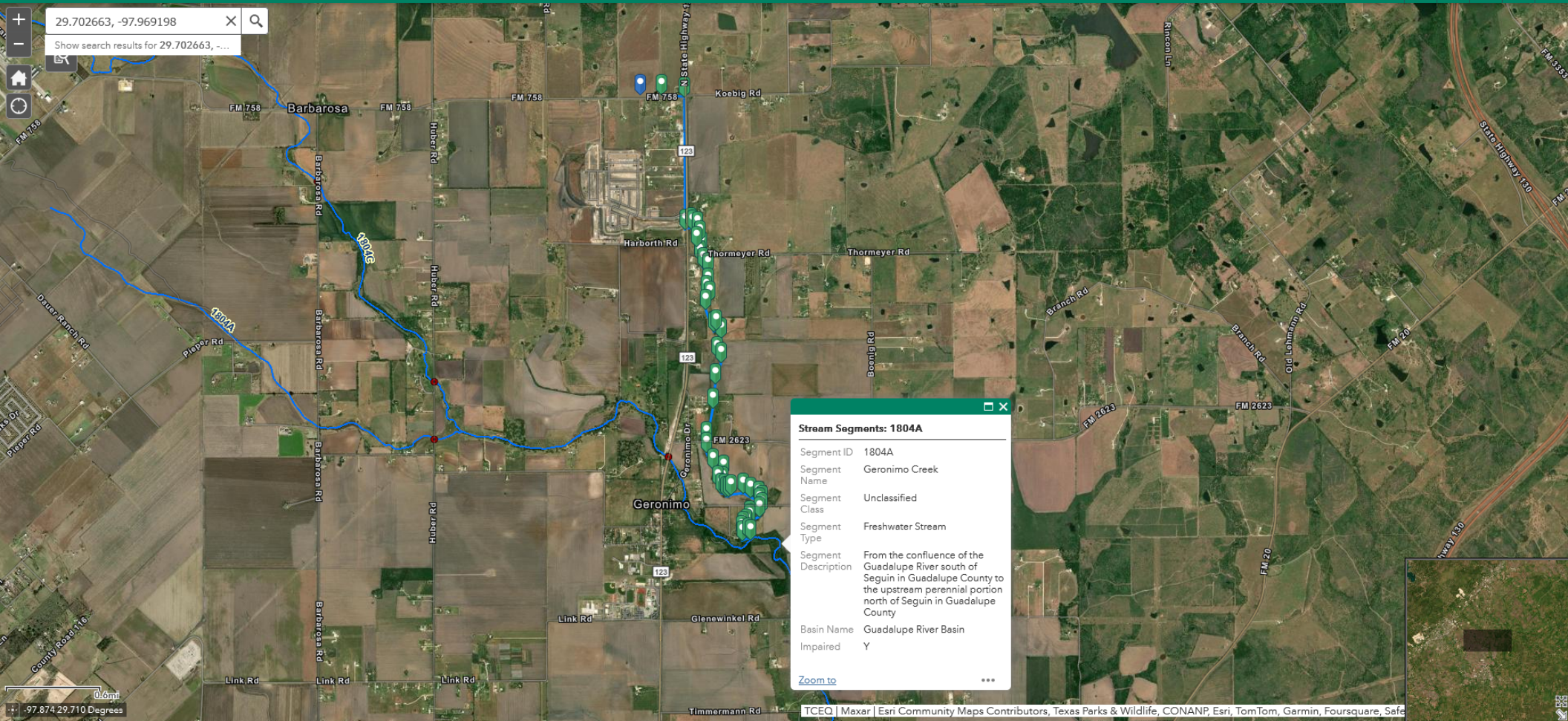
Miles

Measurement Result

3.56 Miles

Clear

Press CTRL to enable snapping



29.702663, -97.969198 X Q
Show search results for 29.702663, -...

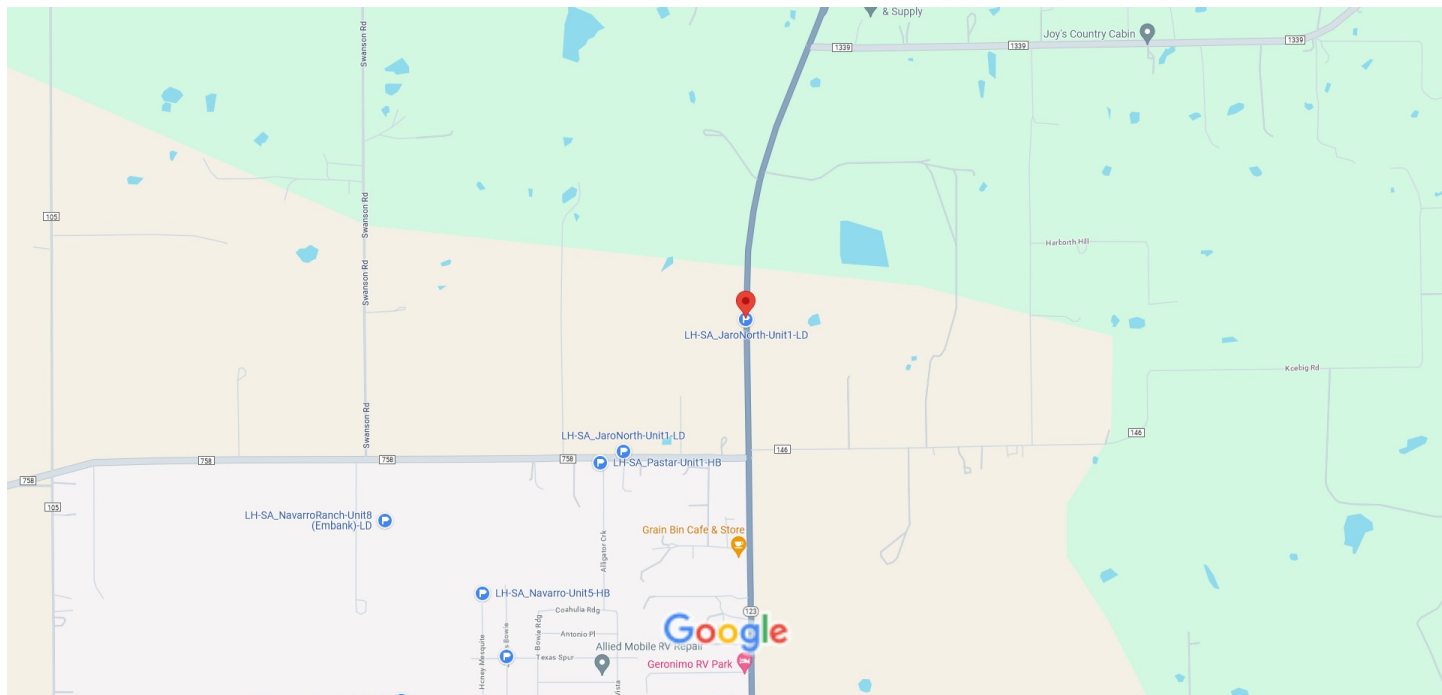
Stream Segments: 1804A

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Impaired	Y

[Zoom to](#) ***



29°42'25.4"N 97°57'52.3"W
LH-SA_JaroNorth-TxDOT-LD



Map data ©2024 1000 ft

LH-SA_JaroNorth-TxDOT-LD

29.707046, -97.964514

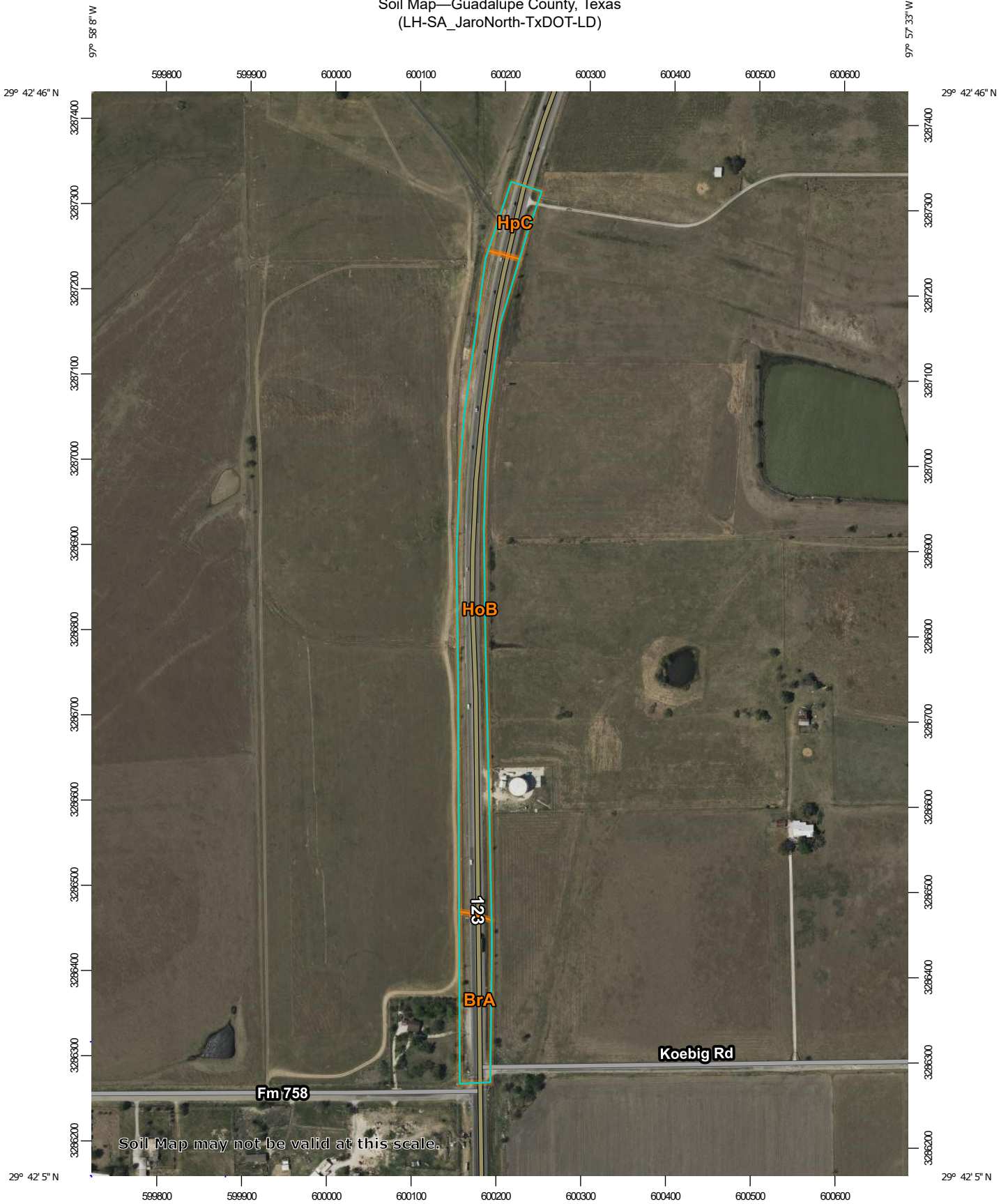
Google Earth

Image © 2024 Airbus

1000 ft



Soil Map—Guadalupe County, Texas
(LH-SA_JaroNorth-TxDOT-LD)



Map Scale: 1:6,210 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters


0 300 600 1200 1800 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84





MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

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The soil surveys that comprise your AOI were mapped at 1:20,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Guadalupe County, Texas

Survey Area Data: Version 19, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 13, 2022—Apr 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrA	Branyon clay, 0 to 1 percent slopes	1.8	20.5%
HoB	Houston Black clay, 1 to 3 percent slopes	6.3	70.7%
HpC	Houston Black gravelly clay, 3 to 5 percent slopes	0.8	8.8%
Totals for Area of Interest		8.9	100.0%

Appendix “B” Site Maps

This appendix contains auxiliary maps and copies of civil engineering plans that were used to develop the SWP3 site map.

The Best Management Practices Tracking Map Legend, Areas Under SWP3 Control Map, Best Management Practices Tracking Map(s), Stabilization Map, and Approved Civil Engineering Plans will be in this appendix.

The location of the proposed controls and buffers is identified on the approved civil engineering erosion and sediment control plans provided in this appendix.

1. Jaro North Subdivision Unit 1 – Erosion Control Plan – Sheet 47 to 49

SEQUENCE OF CONSTRUCTION:

- OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO TCEQ), IF APPLICABLE.
- INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
- BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
- BEGIN SITE CLEARING AND GRADING.
- RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
- COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
- CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% EVENLY ESTABLISHED. RYE IS NOT ACCEPTED.

EROSION CONTROL NOTES:

- LIMITS OF CONSTRUCTION AND OTHER EROSION CONTROL IMPROVEMENTS SHOWN OUTSIDE THE PROPERTY ARE SHOWN FOR GRAPHICAL PURPOSE ONLY. IF NEAR PROPERTY LINE, THE INTENT IS TO BE PLACED NEAR THE PROPERTY LINE, NOT ON THE ADJACENT PROPERTY.
- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED IN THE SWPPP DOCUMENTS AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- 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 VISUAL CLARITY.
- 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.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UP-GRADE AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
- UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
- STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2(N).

HYDRAULIC MULCH

MATERIALS:
 HYDRAULIC MULCHES: WOOD FIBER MULCH CAN BE APPLIED ALONE OR AS A COMPONENT OF HYDRAULIC MATRICES. WOOD FIBER APPLIED ALONE IS TYPICALLY APPLIED AT THE RATE OF 2,000 TO 4,000 LB/ACRE. WOOD FIBER MULCH IS MANUFACTURED FROM WOOD OR WOOD WASTE FROM LUMBER MILLS OR FROM URBAN SOURCES.

HYDRAULIC MATRICES: HYDRAULIC MATRICES INCLUDE A MIXTURE OF WOOD FIBER AND ACRYLIC POLYMER OR OTHER TACKIFIER AS BINDER. APPLY AS A LIQUID SLURRY USING A HYDRAULIC APPLICATION MACHINE (I.E., HYDRO SEEDER) AT THE FOLLOWING MINIMUM RATES, OR AS SPECIFIED BY THE MANUFACTURER TO ACHIEVE COMPLETE COVERAGE OF THE TARGET AREA: 2,000 TO 4,000 LB/ACRE WOOD FIBER MULCH, AND 5 TO 10% (BY WEIGHT) OF TACKIFIER (ACRYLIC COPOLYMER, GUAR, PSLUUM, ETC.)

BONDED FIBER MATRIX: BONDED FIBER MATRIX (BFM) IS A HYDRAULICALLY APPLIED SYSTEM OF FIBERS AND ADHESIVES THAT UPON DRYING FORMS AN EROSION RESISTANT BLANKET THAT PROMOTES VEGETATION, AND PREVENTS SOIL EROSION. BFMS ARE TYPICALLY APPLIED AT RATES FROM 3,000 LB/ACRE TO 4,000 LB/ACRE BASED ON THE MANUFACTURER'S RECOMMENDATION. A BIODEGRADABLE BFM IS COMPOSED OF MATERIALS THAT ARE 100% BIODEGRADABLE. THE BINDER IN THE BFM SHOULD ALSO BE BIODEGRADABLE AND SHOULD NOT DISSOLVE OR DISPERSE UPON RE-WETTING. TYPICALLY, BIODEGRADABLE BFMS SHOULD NOT BE APPLIED IMMEDIATELY BEFORE, DURING OR IMMEDIATELY AFTER RAINFALL IF THE SOIL IS SATURATED. DEPENDING ON THE PRODUCT, BFMS TYPICALLY REQUIRE 12 TO 24 HOURS TO DRY AND BECOME EFFECTIVE.

- INSTALLATION:**
- PRIOR TO APPLICATION, ROUGHEN EMBANKMENT AND FILL AREAS BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
 - TO BE EFFECTIVE, HYDRAULIC MATRICES REQUIRE 24 HOURS TO DRY BEFORE RAINFALL OCCURS.
 - AVOID MULCH OVER SPRAY ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, EXISTING VEGETATION, ETC.
 - 4" OF TOP SOIL SHALL BE PLACED.

- INSPECTION AND MAINTENANCE GUIDELINES:**
- MULCHED AREAS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.
 - AREAS DAMAGED BY STORMS OR NORMAL CONSTRUCTION ACTIVITIES SHOULD BE REGRADED AND HYDRAULIC MULCH REAPPLIED AS SOON AS PRACTICAL.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

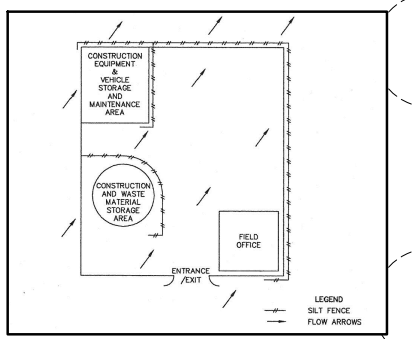
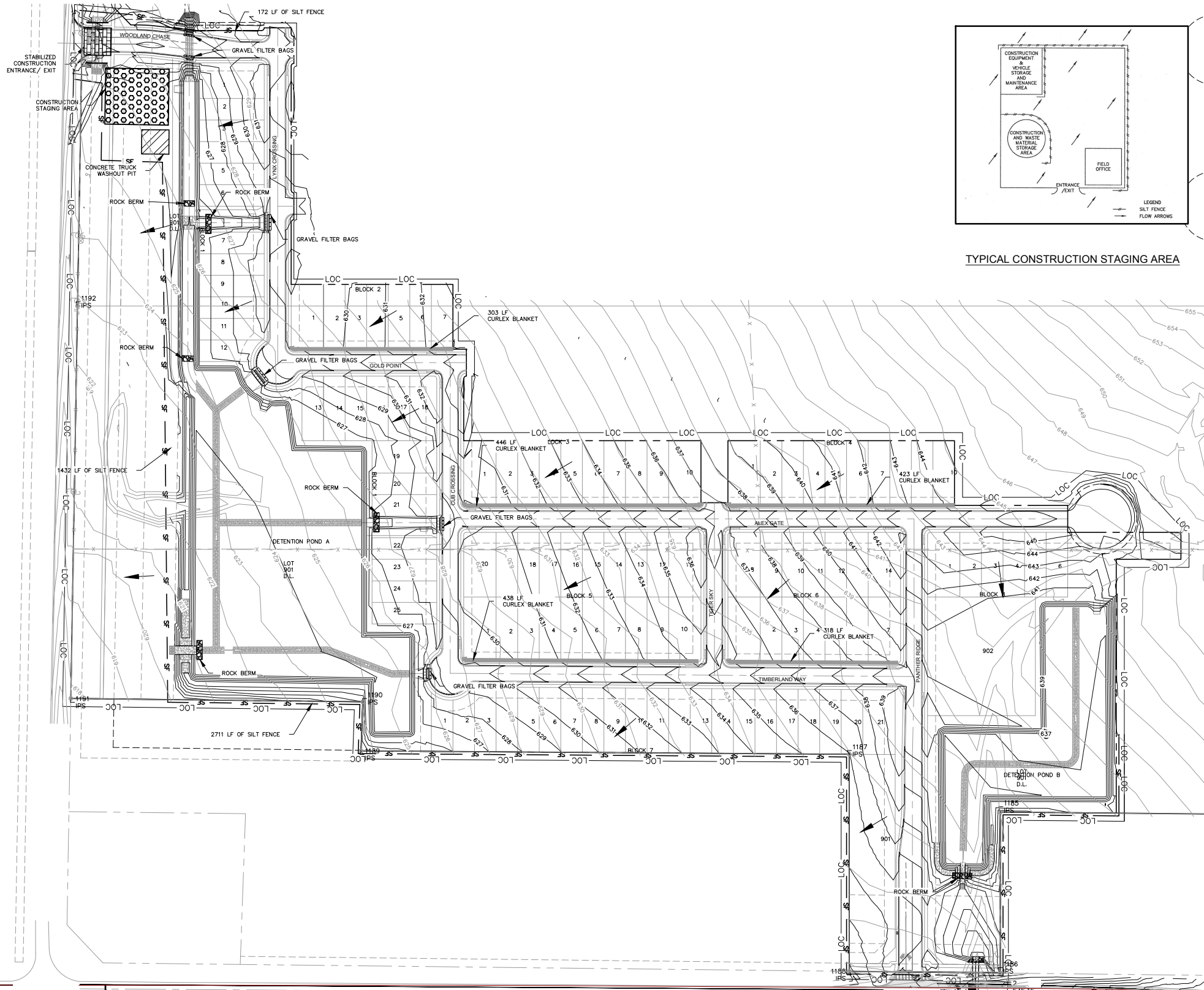
City of Seguin Utilities (Sewer)	830-386-2222
Crystal Clear SUD	830-372-1031
Spectrum Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	898-976-5786
AT&T Telephone	830-303-1333
Erick White PM	210-283-1706
Scott McBrearty (Construction)	210-628-4889
Texas One Call	830-545-6005

C.P.E. LOCATOR
 CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
 THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



LEGEND

- SF SILT FENCE
- LOC LIMITS OF CONSTRUCTION
- 900 EXISTING CONTOURS
- 990 PROPOSED CONTOURS
- EDGE OF PAVEMENT
- FLOW ARROWS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING TREE
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TRUCK WASH OUT PIT
- CONSTRUCTION STAGING AREA
- ROCK BERM
- SOIL RETENTION BLANKET
- GRAVEL FILTER BAGS
- CURLEX BLANKET



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

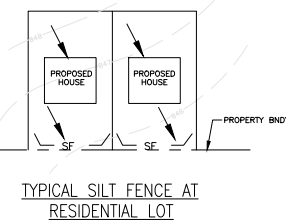
**JARO NORTH SUBDIVISION
 UNIT 1**

EROSION CONTROL PLAN

SHEET **47** OF **49**

NO	DATE	ISSUES AND REVISIONS
1	3/14/22	REMOVED SH 123 CONSTRUCTION ENTRANCE

2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351



TYPICAL SILT FENCE AT RESIDENTIAL LOT

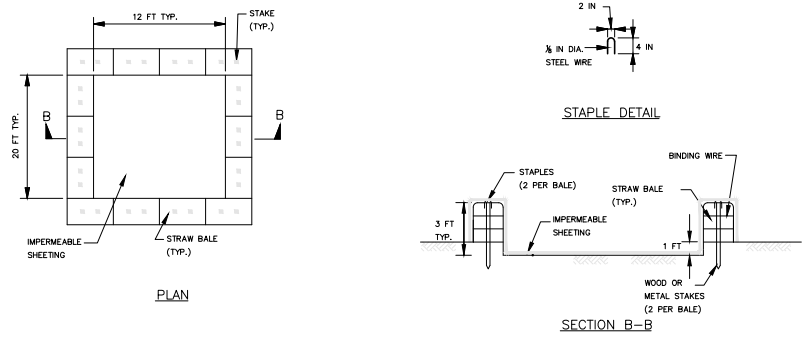
NOTE: RESIDENTIAL LOT CONSTRUCTION MUST MEET THE REQUIREMENTS OF THIS WMP AS WELL AS WITH LOCAL, STATE, AND FEDERAL REGULATIONS. TEMPORARY BMPs MUST BE IN PLACE PRIOR TO ANY RESIDENTIAL LOTS CONSTRUCTION.

- RESIDENTIAL LOT STABILIZATION**
- CURLEX BLANKET (1) (4' MIN WIDTH) OR ENGINEER APPROVED EQUAL
 - CURLEX MUST BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
 - MAX SLOPE FOR CURLEX (1) < 2H : 1V

SOIL STABILIZATION NOTE

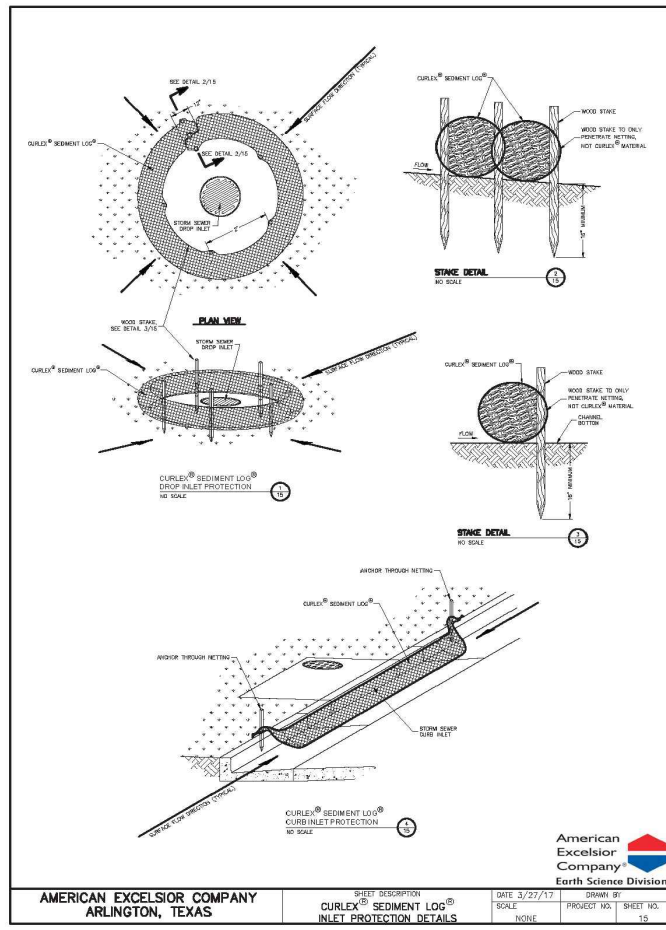
PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

SUBSTANTIAL GRADING IS PROPOSED WITH THIS UNIT. PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 13.2(N), STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE TIME.

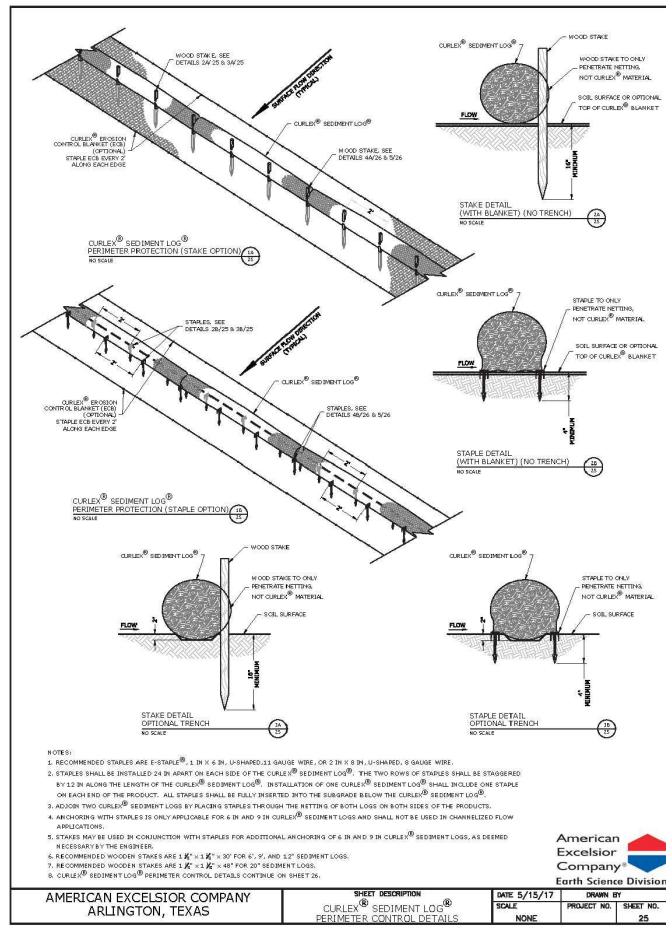


TYPICAL CONCRETE TRUCK WASHOUT PIT

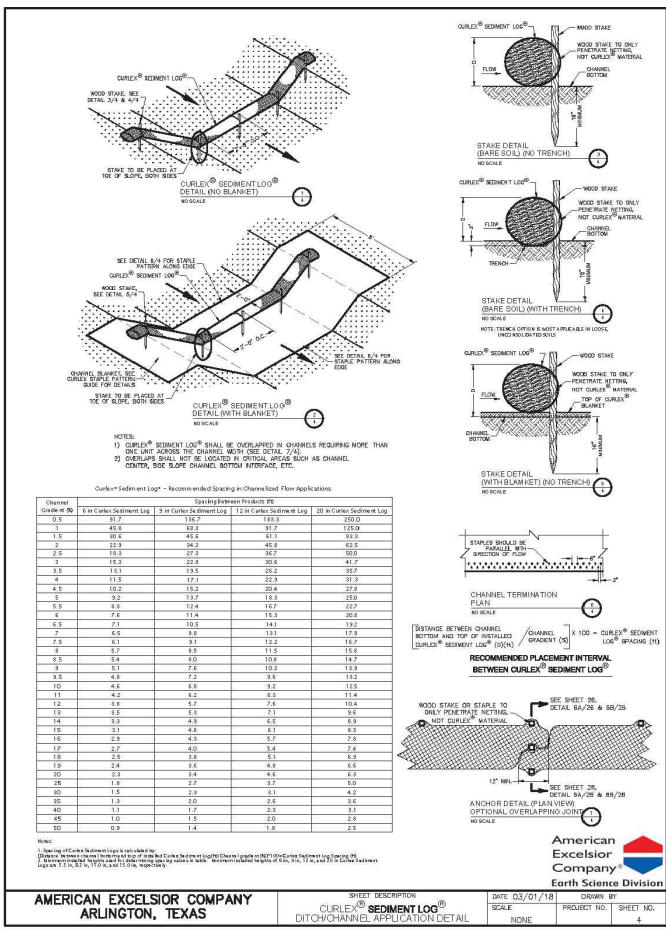
Drawing Name: R:\Projects\050702_Jaro North Subdivision\Construction\Drawings\17 EROSION CONTROL PLAN.dwg User: melindamorris Mar 14, 2022 - 4:49pm



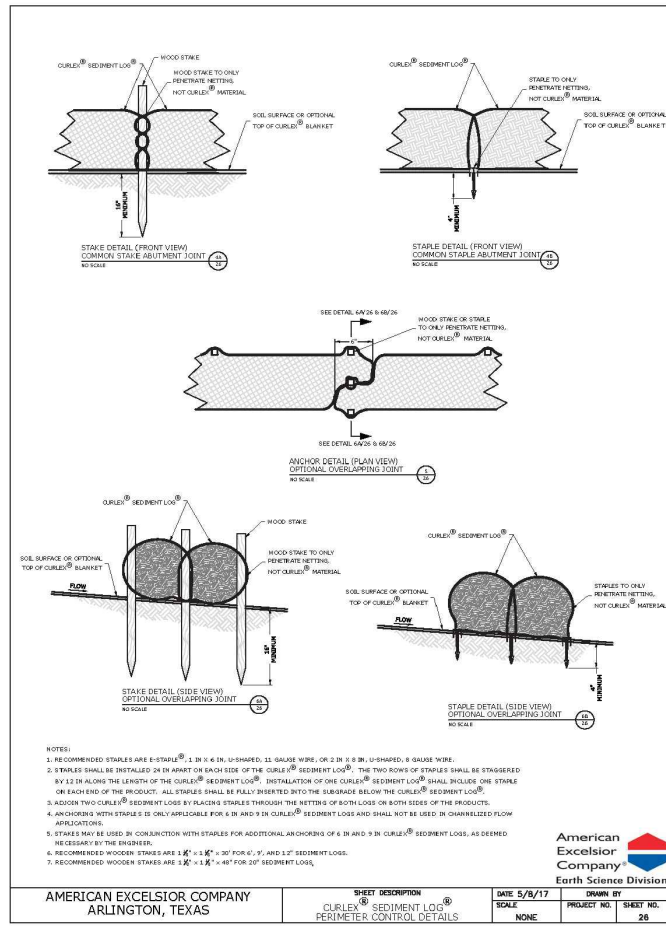
AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS
 SHEET DESCRIPTION: CURLEX SEDIMENT LOG INLET PROTECTION DETAILS
 DATE: 5/27/17
 SCALE: NONE
 PROJECT NO.:
 SHEET NO.: 15



AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS
 SHEET DESCRIPTION: CURLEX SEDIMENT LOG PERIMETER CONTROL DETAILS
 DATE: 5/15/17
 SCALE: NONE
 PROJECT NO.:
 SHEET NO.: 25



AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS
 SHEET DESCRIPTION: CURLEX SEDIMENT LOG DITCH/CHANNEL APPLICATION DETAILS
 DATE: 03/01/18
 SCALE: NONE
 PROJECT NO.:
 SHEET NO.: 4



AMERICAN EXCELSIOR COMPANY ARLINGTON, TEXAS
 SHEET DESCRIPTION: CURLEX SEDIMENT LOG PERIMETER CONTROL DETAILS
 DATE: 5/8/17
 SCALE: NONE
 PROJECT NO.:
 SHEET NO.: 26



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
 UNIT 1

EROSION CONTROL DETAILS II

SHEET 49 OF 49

NO	DATE	ISSUES AND REVISIONS
Δ		

INK CIVIL

2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351

Drawing Name: N:\Projects\BE\0072_Jaro North Subdivision\CHA\Construction Drawings\EROSION CONTROL DETAILS II.dwg User: melissawatts Feb 17, 2022 - 5:06pm

OWNER/DEVELOPER:
NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78132

ENGINEER/SURVEYOR:
INK CIVIL
JAMES INGALLS, P.E. - ENGINEER
2021 SH 46 W, STE 105
NEW BRAUNFELS, TX 78130
(830) 358-7127

D.A. MAWYER LAND SURVEYING, INC.
DREW MAWYER, R.P.L.S. - SURVEYOR
5151 W. SH46
NEW BRAUNFELS, TEXAS 78132
(210) 325-0858

JARO NORTH SUBDIVISION UNIT 1

PI2024-0024
LONE OAK FARM MUD

NEW BRAUNFELS, TEXAS STREETS, DRAINAGE, WATER AND SANITARY SEWER IMPROVEMENT PROJECT

BEING 36.387 ACRE OF LAND SITUATED IN THE W. J. RAGSDALE SURVEY, ABSTRACT NO. 268 AND THE A. M. ESNAURIZAR SURVEY, ABSTRACT NO. 20, IN GUADALUPE COUNTY, TEXAS, BEING A PORTION OF A 40.00 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999028005, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, AND A PORTION OF A CALLED 170.699 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999000803, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

Project Control Points				
Point #	Raw Description	Elevation	Northing	Easting
1	CP IPSC	649.50	13806910.1041'	2297166.1145'
2	CP IPSC	636.16	13806177.9450'	2297174.4322'

DESIGN SPEED = 30 MPH

LONE OAK FARM MUD DISCLAIMER AND NOTES:

- REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

DISTRICT ENGINEER

- THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (KEN HEROY, PH: 512/989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:
 - PRE-CONSTRUCTION MEETINGS;
 - BEGINNING EACH PHASE OF CONSTRUCTION;
 - TESTING; AND,
 - FINAL WALK-THROUGH OF FACILITIES

PLEASE NOTE: CCSUD AND CITY OF SEGUIN REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION.

GPS POINTS SHALL BE REQUIRED FROM THE DEVELOPER CONTRACTOR'S OR ENGINEER. A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE. THE ELECTRIC GPS POINTS SHALL BE TO MAP GRADE.

WATER
VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE) PRIOR TO BACKFILL
HORIZONTAL BENDS PRIOR TO BACKFILL
TEES PRIOR TO BACKFILL
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL
FIRE HYDRANTS (TOP OF FLANGE)
VALVES
METERS (TOP CENTER OF BOX)
BLOW OFF ASSEMBLY
CORNER SLAB OF WATER TANK & GATE VALVE ON WATER TANK

WASTEWATER
MANHOLES
CLEANOUTS CORNER
SLAB OF LIFT STATION

ELECTRIC
POLES TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)
PULL BOXES
STREET LIGHTS

COORDINATE GPS REQUIREMENTS WITH CCSUD AND CITY OF SEGUIN INSPECTOR

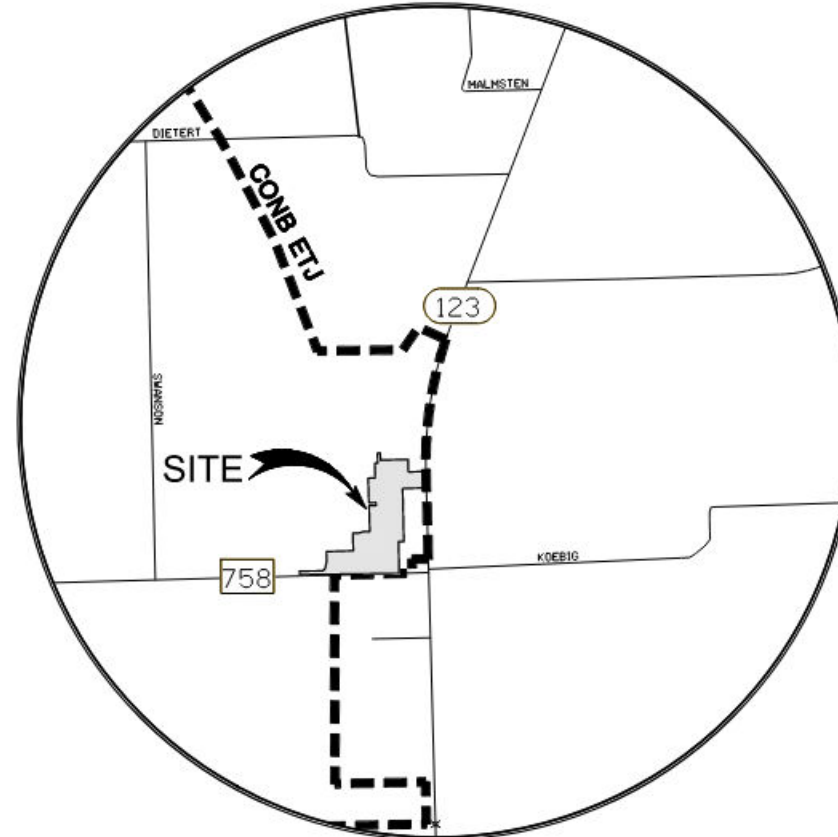
GENERAL NOTES:

- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY OF NEW BRAUNFELS, CITY OF SEGUIN, AND CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- NO PORTION OF THE PROJECT IS LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD ZONE A, 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE COMAL COUNTY, TEXAS MAP NUMBER 4818700130F, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, EFFECTIVE DATE NOVEMBER 2, 2007.
- THIS PROJECT IS NOT LOCATED WITHIN THE EAA JURISDICTIONAL BOUNDARY AND IS NOT LOCATED WITHIN ANY EDWARDS AQUIFER RECHARGE ZONES.
- THIS PROJECT IS A RESIDENTIAL SUBDIVISION, DEVELOPMENT TYPE 3.
- PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS (CONB), CITY OF SEGUIN, AND CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED.
 - ALL CONB INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 (PHONE)
 - FAKED IN AT 830-608-2117 (FAX)
 - EMAILED AT inspections@nbtxas.com (EMAIL).
- THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
- GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY.

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.



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4	SUBDIVISION PLAT II
5	SUBDIVISION PLAT III
6	WOODLAND CHASE PLAN & PROFILE
7	LYNX CROSSING PLAN & PROFILE
8	GOLD POINT AND TIGER SKY PLAN & PROFILE
9	CUB CROSSING PLAN & PROFILE
10	PANTHER RIDGE PLAN & PROFILE
11	ALEX GATE PLAN & PROFILE
12	TIMBERLAND WAY PLAN & PROFILE
13	STREET SECTIONS AND DETAILS I
14	CONB STREET DETAILS
15	TRAFFIC SIGNAGE AND SIDEWALK PLAN I
16	TRAFFIC SIGNAGE AND SIDEWALK PLAN II
17	TRAFFIC SIGNAGE & SIDEWALK DETAILS
18	GRADING PLAN I
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20	DRAINAGE AREA MAP - EXISTING
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23	OVERALL DRAINAGE MAP AND MAINTENANCE ACCESS PLAN
24	DETENTION POND A PLAN & NOTES
25	DETENTION POND B PLAN & NOTES
26	DETENTION POND A CROSS-SECTIONS
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28	DETENTION POND STRUCTURES
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30	CHANNEL A4 AND A6 PLAN & PROFILE
31	DRAINAGE DETAILS I
32	OVERALL SANITARY SEWER PLAN I
33	OVERALL SANITARY SEWER PLAN II
34	SANITARY SEWER LINE A BEGIN TO STA. 22+00
35	SANITARY SEWER LINE A STA. 22+00 TO 34+00
36	SANITARY SEWER LINE A STA. 34+00 TO END
37	SANITARY SEWER LINE B STA. 10+00 TO 22+00
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38	SANITARY SEWER DETAILS I
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42	12in WATER MAIN STA. 10+00 TO 20+00
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JARO NORTH SUBDIVISION UNIT 1
PERMIT SET

PREPARED BY:



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SUBMITTED BY:
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INK CIVIL
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NEW BRAUNFELS, TX 78132



05/31/2024

SUBMITTAL DATE: 5-31-2024

NO	DATE	ISSUES AND REVISIONS
1	3/14/22	TxDOT REVISIONS
2	5/3/2024	REVISED PER CCSUD COMMENTS
3	5/6/2024	UPDATED FLEX BASE THICKNESS
4	5/17/2024	REVISED PER CCSUD COMMENTS
5	5/28/2024	REVISED PER CCSUD COMMENTS
6	5/31/2024	REVISED PER CONB COMMENTS

CITY OF NEW BRAUNFELS - CONSTRUCTION NOTES - REV 3-2020

- 1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THIS CITY OF NEW BRAUNFELS WILL RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
4. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.

FOR PUBLIC INFRASTRUCTURE PERMIT (SO) OR SITE PREP PERMIT (SD) PROJECTS:
4.1 FOR INSPECTIONS, YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.
4.2 EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.
4.3 ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.
FOR COMMERCIAL PERMIT (CF) PROJECTS:
4.4 ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4088 OR
4.5 FAXED IN AT 830-408-2117 OR
4.6 E-MAILED AT INSPECTIONS@NBTEXAS.ORG.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

6. A TYPED TYPE II 8-8 BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS. BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TxDOT MATERIAL, EPoxy AND ADHESIVE SPECIFICATIONS.

GROUNDWATER
7. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEERING PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS
8. AS PER PLANNING ORDINANCE SECTION 118-30M: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF RECORD DRAWING PLANS, AND A DIGITAL COPY OF ALL PLANS (PDF COPY) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTEE OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE
9. ENGINEER OF RECORD IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF-SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE
10. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS
11. THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE SYSTEMS MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS-SLOPE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

SOILS TESTING
12. PROCTORS SHALL BE SAMPLED FROM ON-SITE MATERIAL (ON-SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY
13. ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") THICK. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TxDOT'S SPECIFICATION ITEM 130. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TxDOT'S SPECIFICATION ITEM 247. EACH LAYER OF MATERIAL, INCLUDING OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-C, TEX-114-C, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT. UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

ITEM 340
14. ASPHALTIC CONCRETE PAVEMENT SHALL BE THE TYPE OF HOT MIX ASPHALT AS DEFINED IN TxDOT'S STANDARD SPECIFICATIONS FOR CURRENT TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.
15. THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.

16. THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAD TYPE 'B' MEETING THE SPECIFICATION REQUIREMENTS OF TxDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB-SURFACE COURSES SHALL BE PLANT MIXED, HOT LAD TYPE 'B' MEETING THE SPECIFICATION REQUIREMENTS OF TxDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TxDOT ITEM 340 AND SHALL BE COMPACTED TO DENSIFY 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TxDOT TEST METHOD TEX-227-F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60°F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160°F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).
17. ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SEWER/STORMWATER SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") THICK. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTION OPERATOR AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-C, TEX-114-C, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CURB OUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION
18. CURB CUTS SHALL BE THE FOLLOWING METHODS AND INDICATED ON THE PLANS IN DETAIL WHERE APPLICABLE.
18.1 SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
18.2 SAWCUT EXISTING CURB TO BE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE
19. SAWCUT CURB FOR CONSTRUCTION ENTRANCE.

20. STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3x5 ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

SIGNING AND PAVEMENT MARKING PLAN NOTES

- 21. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
22. THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.
23. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEEDING AND ESTABLISHMENT OF VEGETATION WITHIN EARTHEN CHANNELS, STORMWATER BASINS AND DISTURBED AREAS

- 1. SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL) OF TxDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15) IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30), CORAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.
2. IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/FERTILIZER) INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TxDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.
3. AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TxDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL TESTING PER TEX-128-E WILL BE REQUIRED AT THE CITY'S REQUEST.
4. WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TxDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.
5. IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

TxDOT WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- 1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS TO TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D, WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/AWWA INTERNATIONAL STANDARD #1 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].
3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)]. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].
5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(8)].
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].
7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].
8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 1/2-INCH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].
9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].
10. WHEN WATERLINES ARE LAD UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATER-TIGHT PIPE ENCASUREMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERNEATH PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].
11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
O THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE.
Q = (LD*sqrt(P)) / 148,000
WHERE:
Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR.
L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET.
D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
O THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE.
L = (SD*sqrt(P)) / 148,000
WHERE:
L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR.
S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET.
D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).

13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANSOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE COVERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].

14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].

15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY T.E. OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].

16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].

17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].

18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) WATER MAIN NOTES

- 1. THE CONTRACTOR SHALL COORDINATE PRESSURE TESTING OF NEW WATER MAINS WITH OWNER AND ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR. PRESSURE TESTING REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
2. ALL WATER MAINS SHALL BE DISINFECTED PER AWWA AND TCEQ STANDARDS.
3. THE CONNECTION LOCATIONS LISTED IN THE PLANS ARE BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXISTING WATER MAIN LOCATIONS AT ALL T.E. IN LOCATIONS TO VERIFY SIZE, ELEVATION, AND MATERIAL PRIOR TO ORDERING MATERIALS FOR CONNECTION.
4. THE CONTRACTOR SHALL MAINTAIN MINIMUM SEPARATION BETWEEN UTILITIES PER TCEQ STANDARDS.
5. WATER MAINS SHALL BE RESTRAINED WITH RESTRAINT LENGTHS OF FITNESS SHOWN IN PLANS.
6. UNLESS OTHERWISE SPECIFIED, ALL PVC WATER MAINS SHALL BE C900/C905 OR 15, COLORED BLUE.
7. UNLESS OTHERWISE SPECIFIED, ALL DUCTILE IRON WATER MAINS SHALL BE PRESSURE CLASS 350 CONFORMING TO AWWA C150 AND AWWA C151 AND CEMENT LINED.
8. LOCATIONS OF COMBINATION AIR VALVES SHOWN ARE APPROXIMATE. INSTALL AIR RELEASE VALVES AT THE HIGH POINT IN THE WATER MAIN FOR THE LOCATIONS GIVEN.
9. THRUST BLOCKING IS REQUIRED AT ALL FITTINGS AND BENDS IN ACCORDANCE WITH THE THRUST BLOCKING DETAIL PROVIDED AND SPECIFICATION SECTION 02680 - JOINT RESTRAINTS AND THRUST BLOCKING.
10. CONSTRUCTION OF ALL CCSUD WATER UTILITY INFRASTRUCTURE MUST ADHERE TO CCSUD'S TECHNICAL SPECIFICATIONS, DETAILS AND APPROVED EQUIPMENT LIST.
11. THE OWNER SHALL SUPPLY ALL WATER NEEDED FOR CONSTRUCTION TESTING AND DISINFECTION. THE CONTRACTOR SHALL NOT BE REQUIRED TO PAY FOR THIS WATER.
12. UNLESS NOTED OTHERWISE, ALL WATER MAIN P.A.'S SHALL BE ACHIEVED USING THE WATER MAIN MANUFACTURER'S ALLOWABLE JOINT DEFLECTION.
13. WATER MAINS AND VALVES THAT ARE ABANDONED IN PLACE SHALL BE CUT AND PLUGGED PER SPECIFICATION SECTION 02500 - ABANDONMENT OF WATER INFRASTRUCTURE.
14. REMOVE ONLY VEGETATION, TREES, STUMPS, RUBBISH, AND OTHER MATERIAL NECESSARY FOR CONSTRUCTION AND DISPOSE OF OFF SITE.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO TCEQ), IF APPLICABLE.
2. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
3. BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
4. BEGIN SITE CLEARING AND GRADING.
5. INSTALL SEWER AND WATER IMPROVEMENTS.
6. INSTALL ELECTRIC IMPROVEMENTS.
7. INSTALL ROADWAY IMPROVEMENTS (ASPHALT, CURBS, SIDEWALKS, ETC.)
8. RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
9. COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
10. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% EVENLY ESTABLISHED. RYE IS NOT ACCEPTED.

STANDARD ABBREVIATIONS table with columns for abbreviations and full names. Includes items like AC (ASBESTOS CONCRETE), AN (AHEAD), ASPH (ASPHALT), B-B (BACK TO BACK), BK (BACK OF CURB), BS (BUILDING SETBACK LINE), CI (CAST IRON), CL (CENTERLINE), CONC (CONCRETE), CP (CONTROL PANEL), CSC (CONCRETE STEEL CYLINDER PIPE), CORP (CORPORATION), CMP (CORRUGATED METAL PIPE), CPL (COUPLING), DRWG (DRAWING), D (DUCTILE IRON), E (EAST), ELEV / EL (ELEVATION), EP (EDGE OF PAVEMENT), EX / EXIST (EXISTING), EW (EACH WAY), ENET (EACH WAY EACH FACE), FC (FACE OF CURB), FO (FACE OF PILE), FIBR (FIBER OPTIC), FHY (FIRE HYDRANT), FN (FACE OF FINISH), FL (FLOWLINE), FND (FUND), GA (GAUGE), G (GALVANIZED IRON), GP (GLOBAL POSITION STATION), GRND (GROUND), HDPE (HIGH DENSITY POLYETHYLENE PIPE), HORZ (HORIZONTAL), M (MANHOLE), M (MAXIMUM), M (MINIMUM), N (NORTH), NE (NORTHEAST), NW (NORTHWEST), NA (NOT APPLICABLE), NTS (NOT TO SCALE), OC (ON CENTER), POOP (PRESTRESSED CONCRETE CYLINDER PIPE), PL (PROPERTY LINE), R (RADIUS), RR (RAILROAD), RCP (REINFORCED CONCRETE PIPE), RECON (RECONSTRUCTED), RT (RIGHT), ROW (RIGHT-OF-WAY), RW (RECYCLE WATER LINE), SS (SANITARY SEWER), SE (SOUTHEAST), SW (SOUTHWEST), STA (STATION), STD (STANDARD), SD (STORM SEWER/DRAINAGE), T (TANGENT), T/P (TOP OF PIPE), T/G (TOP OF GROUND), TEL (TELEPHONE), TBM (TEMPORARY BENCHMARK), THD (THESEAS), TYP (TYPICAL), UG (UNDERGROUND), UN (UNLESS NOTED), UNK (UNKNOWN), VERT (VERTICAL), VPI (VERTICAL POINT OF INFLECTION), VPC (VERTICAL POINT OF CURVATURE), VPT (VERTICAL POINT OF TANGENCY), W/F (WELDED WIRE FABRIC), TS (TEST STATION).

NOTE:
CONTRACTOR TO REFERENCE THE UTILITY TRENCH COMPACTION PLAN REF. CONTRACTOR HAS NOT BEEN SELECTED AT THE TIME OF PLAN SUBMITTAL. SINCE THE CONTRACTOR HAS BEEN SELECTED, THE GEOTECHNICAL ENGINEER AND THE CONTRACTOR WILL COORDINATE TO PRODUCE A UTILITY TRENCH COMPACTION PLAN SPECIFIC TO THEIR PROCESSES AND EQUIPMENT. ONCE THIS HAS BEEN COMPLETED, THE PLAN WILL BE SUBMITTED TO THE CITY OF NEW BRAUNFELS ENGINEERING DEPT. AND THIS NOTE WILL BE UPDATED TO REFERENCE THE PLAN.



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1

GENERAL NOTES

SHEET 1 OF 49

Table with columns: NO, DATE, ISSUES AND REVISIONS. Row 1: 1, [blank], [blank].



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink@civil.com
TBPE FIRM F-13351

- NOTES:
- THE PROPOSED USE OF THE SUBDIVISION IS FOR SINGLE FAMILY RESIDENTIAL.
 - THE PROPERTY IS OUTSIDE THE CITY LIMITS OF NEW BRAUNFELS, BUT IS LOCATED WITHIN THE ETJ.
 - THE UNIT NUMBERS SHOWN REPRESENT THE ORDER IN WHICH THE UNITS WILL BE DEVELOPED AND PLATTED. THE ACTUAL AREA OF EACH UNIT AND THE LENGTH OF STREETS MAY VARY. UNITS MAY BE PLATTED AND DEVELOPED OUT OF THE NUMBERED SEQUENCE.
 - 4 FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED FOR THIS DEVELOPMENT AT THE BACK OF CURB ADJACENT TO INTERNAL SUBDIVISION STREETS. THE SIDEWALKS ON RESIDENTIAL LOTS WILL BE CONSTRUCTED BY THE HOME BUILDER AT THE TIME OF HOME CONSTRUCTION. ALL OTHER INTERNAL SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER AT THE TIME OF SUBDIVISION CONSTRUCTION. 5 FOOT SIDEWALKS WILL BE CONSTRUCTED ALONG SH 123 AND FM 759 BY THE DEVELOPER AT THE TIME OF SUBDIVISION CONSTRUCTION. THE SIDEWALK LOCATION WILL BE DETERMINED BY TxDOT PERMITTING PROCESS FOR THAT PARTICULAR UNIT.
 - ALL STREETS WILL BE DEDICATED AS PUBLIC RIGHT OF WAYS.
 - THE LOTS DESIGNATED AS H.O.A., O.S. OR D.L. LOTS WILL NOT BE AVAILABLE FOR RESIDENTIAL DEVELOPMENT. THESE LOTS WILL BE MAINTAINED BY THE PROPERTY OWNER'S ASSOCIATION.
 - NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD ZONE A, 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE GUADALUPE COUNTY COUNTY, TEXAS COMMUNITY PANEL NUMBER 48187001307, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, EFFECTIVE DATE NOVEMBER 2, 2007.
 - THIS PROPERTY IS NOT LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE.
 - ALL LOTS WITHIN THE SUBDIVISION WILL BE SERVED BY THE CITY OF SEGUIN FOR SEWER, CRYSTAL CLEAR FOR WATER, AND CVEC FOR ELECTRIC.
 - ALL DRAINAGE LOTS CAN BE USED FOR DRAINAGE CONVEYANCE.
 - ALL STANDARD CURB AND GUTTER STREET SECTIONS WILL PROVIDE STORM WATER CAPACITY PER CITY OF NEW BRAUNFELS DRAINAGE REQUIREMENTS.
 - THE ENTIRE SUBDIVISION FALLS WITHIN NAVARRO INDEPENDENT SCHOOL DISTRICT.
 - THIS SUBDIVISION IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS PLAN IS APPROVED FOR 1 DWELLING UNIT PER BUILDABLE LOT WITH A TOTAL OF 776 BUILDABLE LOTS AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED; THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
 - 206 RESIDENTIAL UNITS (241 MINUS 85 FROM THE UNIT REMOVED) ARE NESTED UNDER \$1,732 PARK DEVELOPMENT FEES. THE REMAINING 922 LOTS WILL PAY THE \$2,038 PARK DEVELOPMENT FEE.
 - ELECTRIC AND UTILITY EASEMENT LOCATIONS WILL BE DETERMINED DURING THE ENGINEERING DESIGN PHASE OF THE PROJECT. EASEMENTS WILL BE RECORDED WITH THE FINAL PLAN FOR EACH LOT.
 - EXACT DIMENSIONS AND LOCATION OF DRAINAGE EASEMENTS AND DETENTION POND LOCATIONS WILL BE DETERMINED DURING THE ENGINEERING DESIGN PHASE OF THE PROJECT.
 - CONTOURS SHOWN ARE BASED ON THE CITY OF NEW BRAUNFELS LIDAR GIS DATABASE.
 - ALL BEARINGS AND COORDINATES SHOWN HEREON ARE IN GRID BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM 1983. DISTANCES SHOWN HEREON ARE SURFACE USING COMBINED SCALE FACTOR OF 1.00015.
 - FIRE APPARATUS ROADS WILL BE PROVIDED IN ACCORDANCE CITY ORDINANCE SEC. 54-86 TITLED: INTERNATIONAL FIRE CODE, AND AMENDMENTS AS IT PERTAINS TO SINGLE FAMILY DEVELOPMENT.

TxDOT NOTES:

- FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
- THE OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY. OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT AND STRUCTURES FOR REDUCTION OF DISCHARGE VELOCITY WILL NOT ENROACH BY STRUCTURE OR GRADING INTO STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION. NO NEW EASEMENTS OF ANY TYPE SHALL BE LOCATED IN AREAS OF ROW RESERVATION OR DEDICATION.
- MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TxDOT'S "ACCESS MANAGEMENT MANUAL". THE PROPERTY IS ELIGIBLE FOR MAXIMUM COMBINED TOTAL OF 1 (ONE) PUBLIC ACCESS POINT, BASED ON AN OVERALL PLATTED HIGHWAY FRONTAGE OF APPROXIMATELY 930 FEET ON FM 749. THE PROPERTY IS ELIGIBLE FOR MAXIMUM COMBINED TOTAL OF 1 (ONE) PUBLIC ACCESS POINT, BASED ON AN OVERALL PLATTED HIGHWAY FRONTAGE OF APPROXIMATELY 280 FEET ON SH 123. ADDITIONAL ACCESS DEDICATED EXCLUSIVELY TO EMERGENCY SERVICE USE MAY BE GRANTED IF FOUND NECESSARY BY THE EMERGENCY SERVICE OFFICIAL. WHERE TOPOGRAPHY OR OTHER EXISTING CONDITIONS MAKE IT INAPPROPRIATE OR NOT FEASIBLE TO CONFORM TO THE CONNECTION SPACING INTERVALS, THE LOCATION OF REASONABLE ACCESS WILL BE DETERMINED WITH CONSIDERATION GIVEN TO TOPOGRAPHY, ESTABLISHED PROPERTY OWNERSHIPS, UNIQUE PHYSICAL LIMITATIONS, AND/OR PHYSICAL DESIGN CONSTRAINTS. THE SELECTED LOCATION SHOULD SERVE AS MANY PROPERTIES AND INTERESTS AS POSSIBLE TO REDUCE THE NEED FOR ADDITIONAL DIRECT ACCESS TO THE HIGHWAY. IN SELECTING LOCATIONS FOR FULL MOVEMENT INTERSECTIONS, PREFERENCE WILL BE GIVEN TO PUBLIC ROADWAYS THAT ARE OR LOCAL THROUGHFARE PLANS.
- IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TxDOT, PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT OF WAY SHALL BE AS DIRECTED BY TxDOT.
- ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LANE, RIGHT-TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

ACREAGE SUMMARY (APPROX.)

RESIDENTIAL LOTS AND STREETS	112.5 ACRES
RIGHT-OF-WAY DEDICATION	2.6 ACRES
H.O.A. (HOME OWNER'S ASSOCIATION)	3.2 ACRES
O.S. (OPEN SPACE)	20.2 ACRES
TOTAL ACREAGE	140.5 ACRES
RESIDENTIAL LOT DENSITY (776/140.5)	5.5 LOTS/ACRE

ALL LOTS SHALL BE OWNED & MAINTAINED BY THE HOME OWNERS ASSOCIATION.

LOT SUMMARY

UNIT	RESIDENTIAL
UNIT 1	113 LOTS
UNIT 2	72 LOTS
UNIT 3	103 LOTS
UNIT 4	44 LOTS
UNIT 5	99 LOTS
UNIT 6	80 LOTS
UNIT 7	142 LOTS
UNIT 8	116 LOTS
TOTAL	776 LOTS

OWNER/DEVELOPER:
NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

ENGINEER/SURVEYOR:
INK CIVIL
JAMES INGALLS, P.E. - ENGINEER
2021 W SH46, STE 105
NEW BRAUNFELS, TX 78132
(830) 358-7127

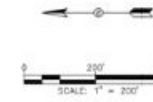
D.A. MAWYER LAND SURVEYING, INC.
DREW MAWYER, R.P.L.S. - SURVEYOR
5151 SH 49W
NEW BRAUNFELS, TEXAS 78132
(210) 325-0668



LOCATION MAP
SCALE 1"=1/4" MI

LEGEND

- UNIT BOUNDARY
- RIGHT-OF-WAY DEDICATION (ROW)
- HOME OWNERS ASSOCIATION PARK (H.O.A.)
- OPEN SPACE (O.S.)
- PROPOSED 6" WATER MAIN
- PROPOSED 12" WATER MAIN
- PROPOSED 8" SANITARY SEWER



CURVE TABLE

LINE	LENGTH	BEARING
L1	8.14'	N89°42'21"W
L2	8.07'	N10°14'30"E
L3	38.20'	S89°07'44"E
L4	113.41'	S2°50'41"E

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1	1039.02'	3917.46'	192°21'10"	330.35'	1069.02'	S07°02'38"W

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NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION

DATE: 10/26/2021

MASTER PLAN

SHEET **MP-1 OF MP-1**

NO	DATE	ISSUES AND REVISIONS

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JARO NORTH SUBDIVISION
UNIT 1

MASTER PLAN

SHEET **2 OF 49**

NO	DATE	ISSUES AND REVISIONS

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CONDITIONALLY APPROVED ON 9/9/21

FINAL PLAT ESTABLISHING
JARO NORTH SUBDIVISION UNIT 1

BEING 36.387 ACRE OF LAND SITUATED IN THE W. J. RAGSDALE SURVEY, ABSTRACT NO. 268 AND THE A. M. ESNAURAZAR SURVEY, ABSTRACT NO. 20, IN GUADALUPE COUNTY, TEXAS, BEING A PORTION OF A 40.00 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, L.P., AND RECORDED IN DOCUMENT NO. 20199902003, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, AND A PORTION OF A CALLED 170.699 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, L.P., AND RECORDED IN DOCUMENT NO. 20199902003, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

TSDOT NOTES:

- FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
- THE OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY. OUTFALLS FOR WATER QUALITY AND/OR RETENTION PONDS TREATING IMPROVED COVER RELATED TO THE DEVELOPMENT AND STRUCTURES FOR REDUCTION OF DISCHARGE VELOCITY WILL NOT ENDOUR BY STRUCTURE OR GRADING INTO STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION. NO NEW EASEMENTS OF ANY TYPE SHOULD BE LOCATED IN AREAS OF ROW RESERVATION OR DEDICATION.
- MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TSDOT'S "ACCESS MANAGEMENT MANUAL". THE PROPERTY IS ELIGIBLE FOR MAXIMUM COMBINED TOTAL OF 1 (ONE) PUBLIC ACCESS POINT, BASED ON AN OVERALL PLATED HIGHWAY FRONTAGE OF APPROXIMATELY 930 FEET ON FM 745. THE PROPERTY IS ELIGIBLE FOR MAXIMUM COMBINED TOTAL OF 1 (ONE) PUBLIC ACCESS POINT, BASED ON AN OVERALL PLATED HIGHWAY FRONTAGE OF APPROXIMATELY 280 FEET ON SH 123. ADDITIONAL ACCESS DEDICATED EXCLUSIVELY TO EMERGENCY SERVICE USE MAY BE GRANTED IF FOUND NECESSARY BY THE EMERGENCY SERVICE OFFICIAL. WHERE TOPOGRAPHY OR OTHER EXISTING CONDITIONS MAKE IT INAPPROPRIATE OR NOT FEASIBLE TO CONFORM TO THE CONNECTION SPACING INTERVALS, THE LOCATION OF REASONABLE ACCESS WILL BE DETERMINED WITH CONSIDERATION GIVEN TO TOPOGRAPHY, ESTABLISHED PROPERTY OWNERSHIPS, UNIQUE PHYSICAL LIMITATIONS, AND/OR PHYSICAL DESIGN CONSTRAINTS. THE SELECTED LOCATION SHOULD SERVE AS MANY PROPERTIES AND INTERESTS AS POSSIBLE TO REDUCE THE NEED FOR ADDITIONAL DIRECT ACCESS TO THE HIGHWAY. IN SELECTING LOCATIONS FOR FULL MOVEMENT INTERSECTIONS, PREFERENCE WILL BE GIVEN TO PUBLIC ROADWAYS THAT ARE ON LOCAL THROUGHFARE PLANS.
- IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK POINT MUST BE APPROVED BY TSDOT, PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT OF WAY SHALL BE AS DIRECTED BY TSDOT.
- ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LANE, RIGHT-TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

NOTES:

- ALL LOTS WITHIN THE SUBDIVISION WILL BE SERVED BY THE CITY OF SEDON FOR SEWER, CRYSTAL CLEAR FOR WATER, AND OVEC FOR ELECTRIC.
- ALL STREETS ARE PROPOSED TO BE OF A LOCAL TYPE FUNCTIONAL CLASSIFICATION WITH 50 FOOT RIGHT-OF-WAYS UNLESS NOTED OTHERWISE. WOODLAND CHASE AND PANTHER RIDGE ARE MAJOR COLLECTORS AND HAVE A 65 FOOT RIGHT-OF-WAY WHERE SHOWN.
- SIDEWALK NOTES:**
 - FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLAT, ALONG:
 - WOODLAND CHASE, LYNN CROSSING, GOLD POINT, CUB CROSSING, PANTHER RIDGE, ALEX GATE, TANKERLAND WAY, TUDOR WAY
 - FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
 - WOODLAND CHASE - LOT 903 BLOCK 1
 - GOLD POINT - LOT 901 BLOCK 1
 - CUB CROSSING - LOT 901 BLOCK 1
 - PANTHER RIDGE - LOT 901 BLOCK 2, LOT 901 BLOCK 3, LOT 902 BLOCK 8
 - SIX (6) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
 - FM 756 - LOT 901 BLOCK 1, PORTION ALONG UNIT BOUNDARY LINE WEST OF WOODLAND CHASE
 - SH 123 - LOT 901 BLOCK 8, LOT 901 BLOCK 7

- NO STRUCTURES IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC WATER AND SEWER SYSTEM WHICH HAS BEEN APPROVED BY CRYSTAL CLEAR AND THE CITY OF SEDON.
- MAINTENANCE OF DRAINAGE EASEMENT DESIGNATED WITHIN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS ASSOCIATION.
- NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD ZONE A, 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS COMMUNITY PANEL NUMBER 481670303F REVISED NOVEMBER 02, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- EACH LOT OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE DEPTH OF THE SEWER SERVICE STUB OUT AND DETERMINING THE MINIMUM SERVICEABLE FRESH FLOOR ELEVATION.
- FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS, AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
- ANY DRIVEWAY CONSTRUCTION ON COUNTY ROADS WITHIN THE UNINCORPORATED AREAS OF GUADALUPE COUNTY MUST BE PERMITTED BY THE GUADALUPE COUNTY ROAD DEPARTMENT.
- NO PORTION OF THIS PROPERTY IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.

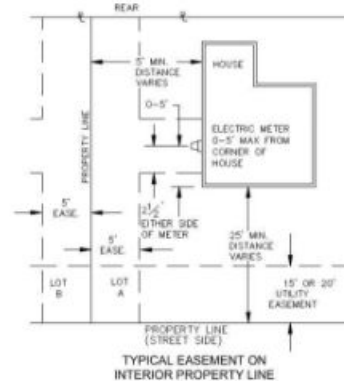
GUADALUPE VALLEY ELECTRIC COOPERATIVE:

- OVEC WILL MAINTAIN A 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING.
- OVEC SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARDS WITH THE METER LOCATIONS NOT BEING LOCATED WITHIN A FENCED AREA.
- OVEC TO HAVE A 5' WIDE ELECTRIC EASEMENT ON ALL ROAD CROSSINGS IN WHICH ELECTRIC LINES ARE PLACED.
- ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES.



LOCATION MAP
SCALE: 1"=4,000'

NOTE: G.V.E.C. WILL MAINTAIN 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING.
G.V.E.C. SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARDS WITH THE METER LOCATIONS NOT BEING LOCATED WITHIN A FENCED AREA.



THE SUBDIVISION PLAT OF JARO NORTH SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

DATE _____ AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

THE SUBDIVISION PLAT OF JARO NORTH SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY CRYSTAL CLEAR SPECIAL UTILITIES DISTRICT FOR EASEMENTS.

DATE _____ AUTHORIZED AGENT, CRYSTAL CLEAR SPECIAL UTILITY DISTRICT.

COMMISSIONERS

GREG SEEDENBERGER, PRECINCT 1 DREW BRIDGEC, PRECINCT 2

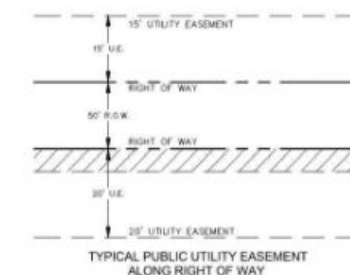
MICHAEL CARPENTER, PRECINCT 3 STEPHEN GERMANN, PRECINCT 4

STATE OF TEXAS
COUNTY OF GUADALUPE

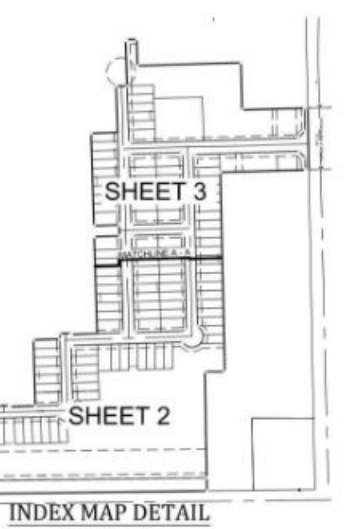
I, _____ COUNTY CLERK OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE, ON THE _____ DAY OF _____ A.D. 20____ AT _____ M AND SAID RECORDS THE _____ DAY OF _____ A.D. 20____ AT _____ M IN THE MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS IN VOLUME _____ PAGE _____ IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS THE _____ DAY OF _____ A.D. 20____

COUNTY CLERK, GUADALUPE COUNTY, TEXAS

DEPUTY



CRYSTAL CLEAR S.U.D. (WATER) IS THE ONLY UTILITY THAT MAY RUN UTILITIES PARALLEL TO THE RIGHT OF WAY WITHIN THE FIRST 5FT OF THE 20FT PUBLIC UTILITY EASEMENT



STATE OF TEXAS
COUNTY OF GUADALUPE

I, THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE JARO NORTH SUBDIVISION UNIT 1 TO THE CITY OF NEW BRAUNFELS, COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME IS SUBSCRIBED HEREIN, DO HEREBY SUBSCRIBE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREIN SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

OWNER:
BENCHMARK ACQUISITIONS, LLC
C/O THE PRUSS
2714 N LOOP 1824 E STE 105
SAN ANTONIO, TX 78232

STATE OF TEXAS
COUNTY OF GUADALUPE

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS _____ DAY OF _____ 20____

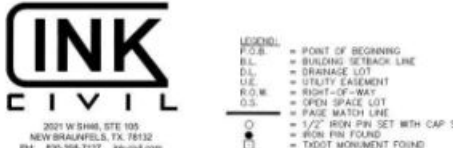
BY _____

NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES _____

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, DREW A. MAWTER, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

DREW A. MAWTER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5348
D.A. MAWTER LAND SURVEYING, INC.
5151 W SH46
NEW BRAUNFELS, TEXAS 78132
FIRM #0101500



PREPARED May 2, 2024

PAGE 1 OF 3



05/03/2024

NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

SUBDIVISION PLAT I

SHEET **3** OF **49**

NO	DATE	ISSUES AND REVISIONS
Δ	5-2-2024	REVISED PER OCCC COMMENTS

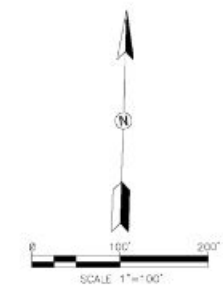
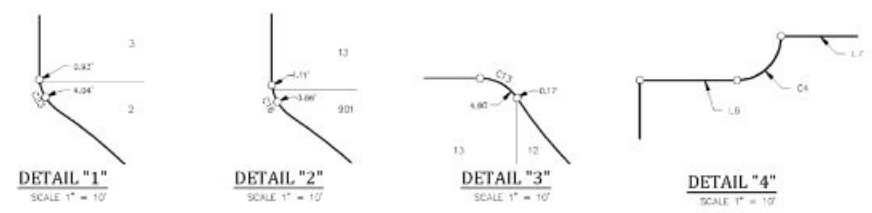


2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

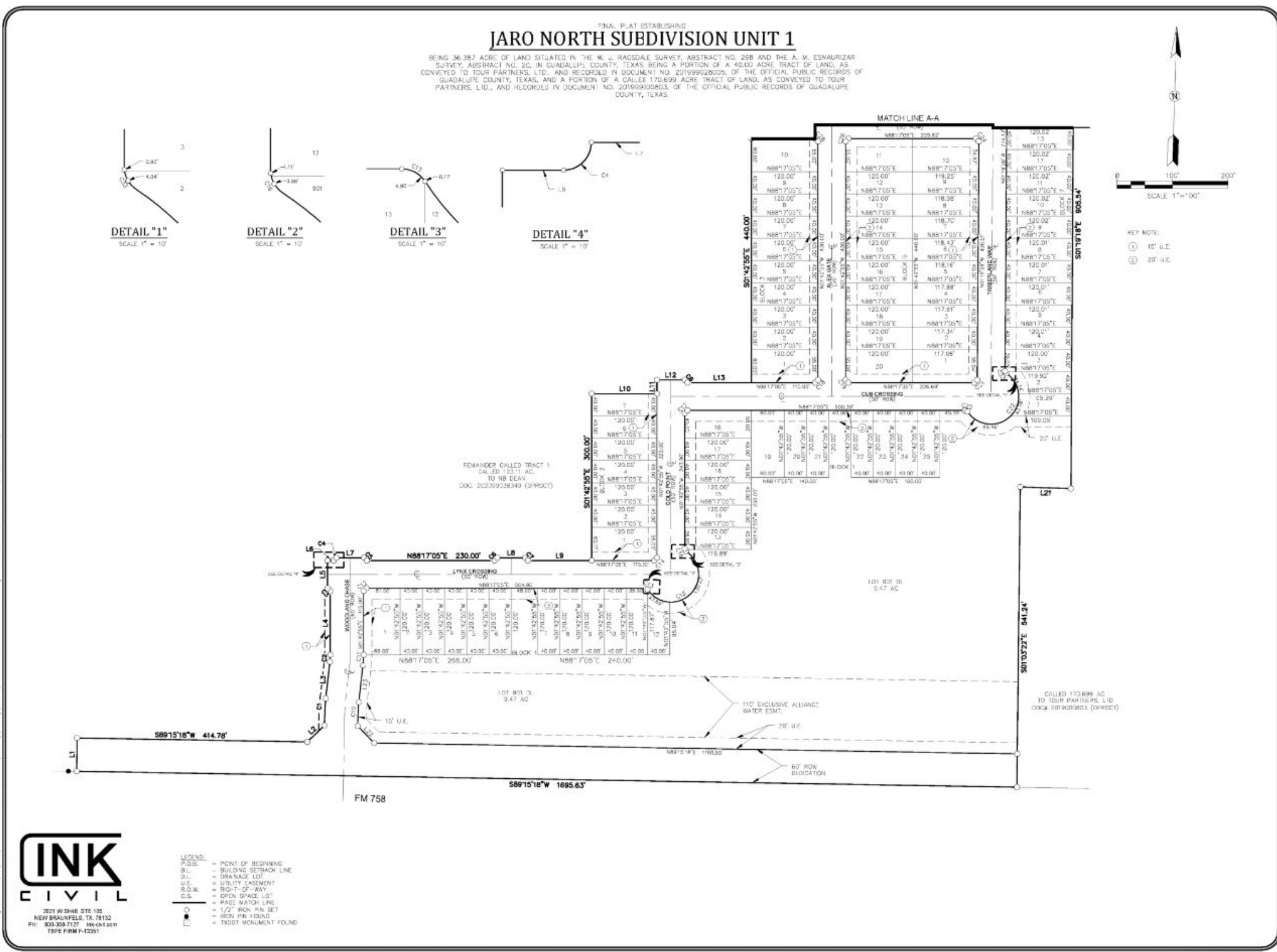
APPROVED, BUT NOT RECORDED

TINAL PLAT ESTABLISHING
JARO NORTH SUBDIVISION UNIT 1

BEING 36.987 ACRES OF LAND SITUATED IN THE W. L. RACSDALE SURVEY, ABSTRACT NO. 288 AND THE A. M. ESNAURZAR SURVEY, ABSTRACT NO. 20, IN GUADALUPE COUNTY, TEXAS, BEING A PORTION OF A 48.00 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999028025, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, AND A PORTION OF A CALLED 170.699 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999030863, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.



KEY NOTE:
 ① 15' U.E.
 ② 20' U.E.



LEGEND:
 P.O.B. = POINT OF BEGINNING
 B.L. = BUILDING SETBACK LINE
 D.L. = DRAINAGE LOT
 U.E. = UTILITY EASEMENT
 R.O.W. = RIGHT-OF-WAY
 C.S. = OPEN SPACE LOT
 P.M.L. = PAGE MATCH LINE
 1/2" IRON PIN SET
 IRON PIN FOUND
 T.M.F. = TRIBUTARY MONUMENT FOUND

PREPARED: February 14, 2022

PAGE 2 OF 3



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
 UNIT 1**

SUBDIVISION PLAT II

SHEET
4 OF 49

NO	DATE	ISSUES AND REVISIONS
Δ		



2021 W SH46, STE 105
 NEW BRAUNFELS, TX, 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351

SUBMITTAL FOR REVIEW

Drawing Name: N:\Projects\2022\22-0013 - Jaro North Subdivision\Drawings\SUBDIVISION PLAT III.dwg User: mshahmshah Date: Feb 17, 2022, 5:08pm

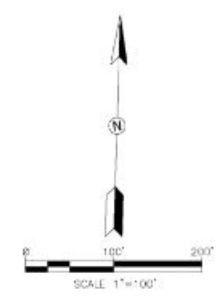
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CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD LENGTH	CHORD BEARING
C1	32.00'	251.92'	8°17'03"	14.03'	32.00'	S0°59'06"W
C2	12.79'	114.00'	8°25'48"	6.40'	12.79'	S0°29'59"W
C3	7.85'	5.00'	90°00'00"	5.00'	7.07'	N45°42'55"W
C4	7.85'	5.00'	90°00'00"	5.00'	7.07'	N43°17'05"E
C5	7.85'	5.00'	90°00'00"	5.00'	7.07'	S46°42'55"E
C6	7.85'	5.00'	90°00'00"	5.00'	7.07'	N43°17'05"E
C7	7.85'	5.00'	90°00'00"	5.00'	7.07'	S46°42'55"E
C8	7.85'	5.00'	90°00'00"	5.00'	7.07'	N45°42'55"W
C9	7.85'	5.00'	90°00'00"	5.00'	7.07'	S43°17'05"W
C10	26.30'	276.00'	5°27'33"	13.16'	26.29'	S0°59'06"W
C11	15.53'	174.00'	8°25'48"	9.77'	15.52'	S0°29'59"W
C12	7.85'	5.00'	90°00'00"	5.00'	7.07'	S43°17'05"W
C13	4.97'	5.00'	56°36'39"	2.71'	4.77'	N63°14'50"W
C14	7.85'	5.00'	90°00'00"	5.00'	7.07'	N43°17'05"E
C15	177.93'	50.00'	203°53'15"	236.38'	97.83'	N43°17'05"E
C16	4.97'	5.00'	56°36'39"	2.71'	4.77'	S30°11'05"E
C17	7.85'	5.00'	90°00'00"	5.00'	7.07'	S43°17'05"W
C18	7.85'	5.00'	90°00'00"	5.00'	7.07'	N43°17'05"E
C19	7.85'	5.00'	90°00'00"	5.00'	7.07'	S46°42'55"E
C20	4.97'	5.00'	56°36'39"	2.71'	4.77'	N63°14'50"W
C21	7.85'	5.00'	89°36'32"	4.97'	7.05'	N43°28'49"E
C22	177.93'	50.00'	203°53'15"	240.41'	97.90'	N43°28'49"E
C23	4.97'	5.00'	56°36'39"	2.71'	4.77'	S29°14'47"E
C24	7.85'	5.00'	90°23'28"	5.03'	7.10'	N49°31'11"W
C25	7.85'	5.00'	89°36'32"	4.97'	7.05'	N43°28'49"E
C26	7.85'	5.00'	90°00'00"	5.00'	7.07'	S43°17'05"W
C27	7.85'	5.00'	90°00'00"	5.00'	7.07'	S46°42'55"E
C28	7.85'	5.00'	90°00'00"	5.00'	7.07'	N45°42'55"W
C29	7.85'	5.00'	90°00'00"	5.00'	7.07'	N43°17'05"E
C30	7.85'	5.00'	89°36'39"	4.97'	7.05'	S43°28'49"W
C31	7.85'	5.00'	90°23'28"	5.03'	7.10'	N49°31'11"W
C32	7.85'	5.00'	90°00'00"	5.00'	7.07'	S43°17'05"W

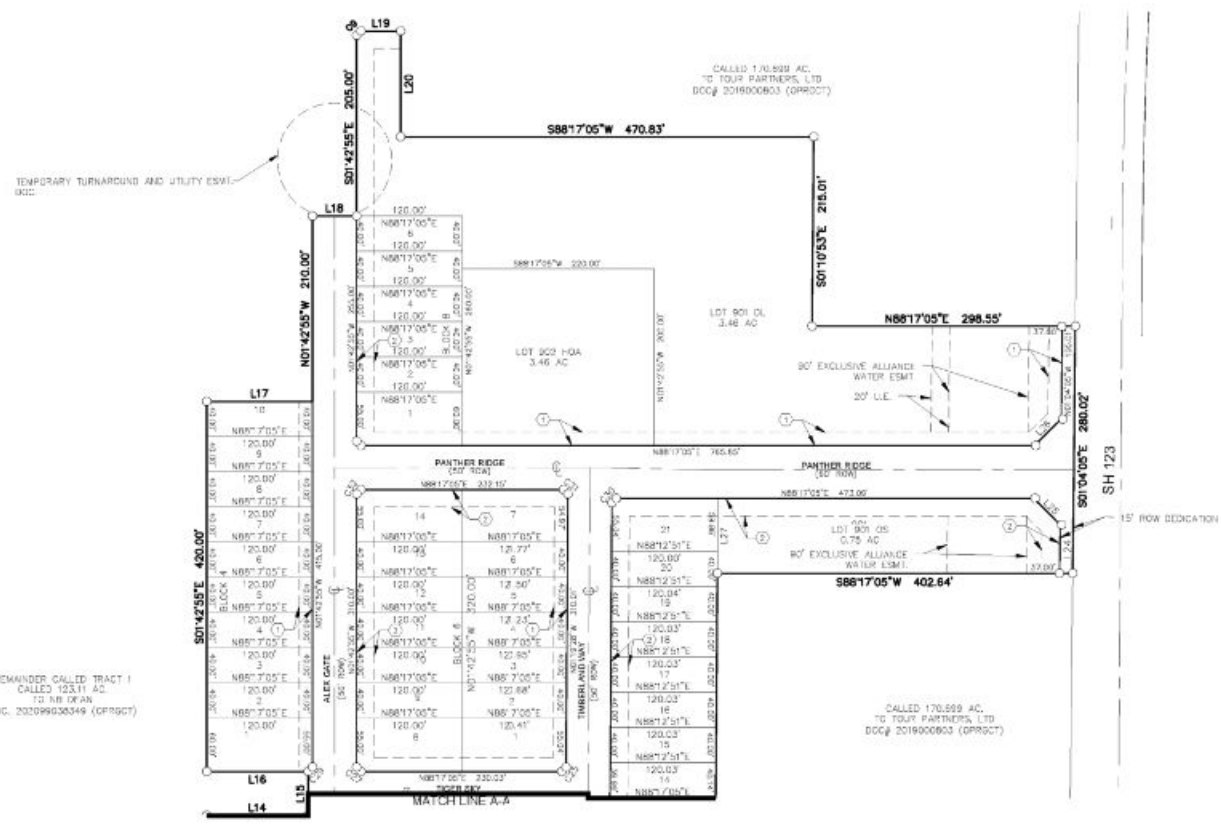
JARO NORTH SUBDIVISION UNIT 1

FINAL PLAT ESTABLISHING
 BEING 36.387 ACRES OF LAND SITUATED IN THE W. J. RAGSDALE SURVEY, ABSTRACT NO. 288 AND THE A. M. ESNAURZAR SURVEY, ABSTRACT NO. 202, IN GUADALUPE COUNTY, TEXAS BEING A PORTION OF A 400.00 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999028005, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, AND A PORTION OF A CALLED 170.699 ACRE TRACT OF LAND, AS CONVEYED TO TOUR PARTNERS, LTD., AND RECORDED IN DOCUMENT NO. 201999028005, OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

KEY NOTE:
 ① 12' L.E.
 ② 20' L.E.



LINE TABLE		
LINE	LENGTH	BEARING
L1	90.00'	N01°06'10"W
L2	42.43'	S44°19'18"W
L3	86.25'	S04°42'52"W
L4	115.00'	S01°42'56"E
L5	90.00'	S01°42'56"E
L6	11.00'	S88°17'05"W
L7	90.00'	N88°17'05"E
L8	90.00'	S88°17'05"W
L9	115.00'	S88°17'05"W
L10	120.00'	S88°17'05"W
L11	25.00'	S01°42'50"E
L12	90.00'	S88°17'05"W
L13	115.00'	S88°17'05"W
L14	115.00'	S88°17'05"W
L15	90.00'	S01°42'56"E
L16	115.00'	N88°17'05"E
L17	120.00'	S88°17'05"W
L18	90.00'	N88°17'05"E
L19	45.00'	S88°17'05"W
L20	120.00'	N01°42'55"W
L21	91.14'	N89°48'17"W
L22	42.43'	S45°44'42"E
L23	86.25'	S04°42'52"W
L24	55.01'	N01°04'05"W
L25	42.19'	S49°23'30"E
L26	42.67'	N43°26'30"E
L27	85.00'	N01°20'47"W



REMAINDER CALLED TRACT 1 CALLED 123.11 AC TO NB DEAN DOC. 202099030549 (OPROCT)

CALLED 170.699 AC TO TOUR PARTNERS, LTD DOC# 2019000603 (OPROCT)



- LEGEND:
- P.O.B. = POINT OF BEGINNING
 - B.L. = BUILDING SETBACK LINE
 - D.L. = DRAINAGE LOT
 - U.E. = UTILITY EASEMENT
 - R.O.W. = RIGHT-OF-WAY
 - O.S. = OPEN SPACE LOT
 - P.M. = PAGE MATCH LINE
 - = 1/2" IRON PIN SET
 - = IRON PIN FOUND
 - ⊙ = TYPED MONUMENT FOUND

PREPARED: February 14, 2022

PAGE 3 OF 3



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
 UNIT 1**

SUBDIVISION PLAT III

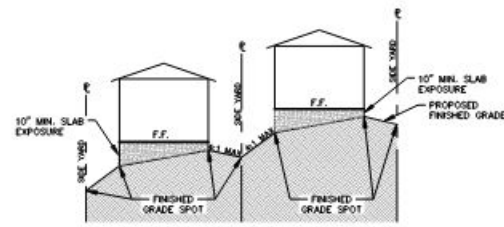
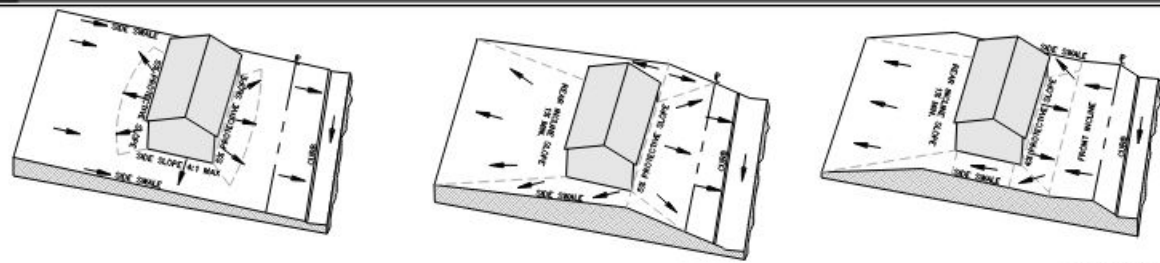
SHEET
5 OF 49

NO	DATE	ISSUES AND REVISIONS
Δ		



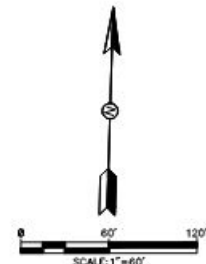
2021 W SH46, STE 105
 NEW BRAUNFELS, TX, 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351

SUBMITTAL FOR REVIEW



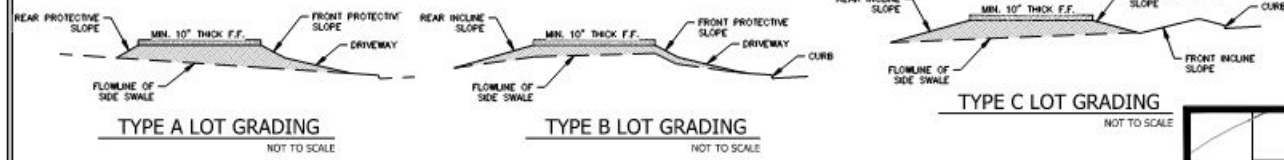
TYPICAL SIDE YARD GRADING
NOT TO SCALE

Project Control Points				
Point #	Row Description	Elevation	Northing	Easting
1	CP IPSC	649.50	13806910.1041'	2297166.1145'
2	CP IPSC	636.16	13806177.9450'	2297174.4322'



LEGEND

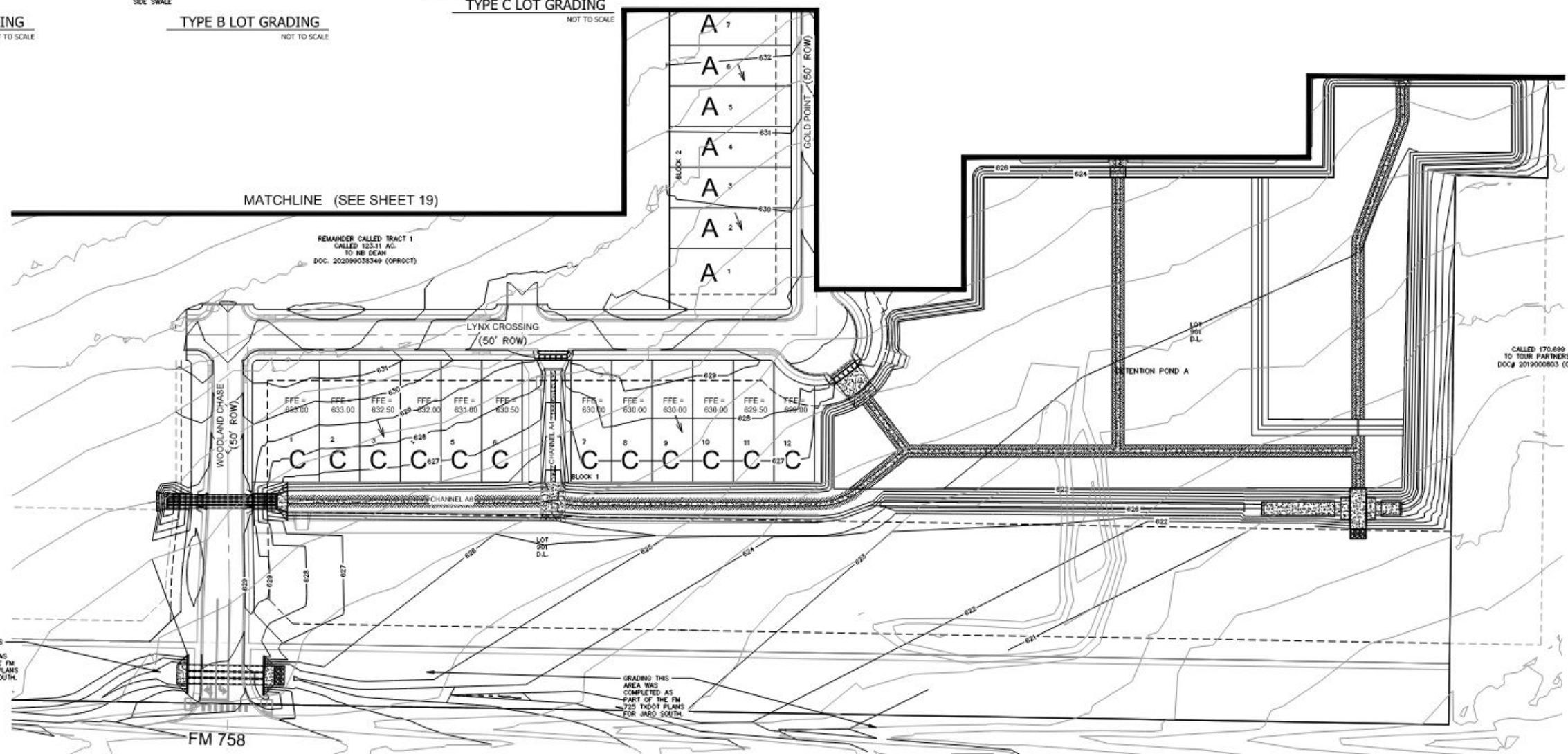
- PROPOSED CONTOUR
- EXISTING CONTOUR
- DRAINAGE FLOW ARROW
- GRADE BREAK/SWALE



TYPE A LOT GRADING
NOT TO SCALE

TYPE B LOT GRADING
NOT TO SCALE

TYPE C LOT GRADING
NOT TO SCALE



MATCHLINE (SEE SHEET 19)

REMAINDER CALLED TRACT 1
CALLED 123.11 AC.
TO NB DEAN
DOC. 202099038349 (OPRGCT)

LYNX CROSSING
(50' ROW)

RETENTION POND A

CALLED 170.689 AC.
TO FOUR PARTNERS, LTD
DOC# 2019000803 (OPRGCT)



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

GRADING PLAN I

SHEET **18** OF **49**

NO	DATE	ISSUES AND REVISIONS
1	9/21/22	UPDATE FM 758 RAMPS PER TxDOT APPROVAL

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

City of Seguin Utilities (Sewer)	830-386-2222
Crystal Clear SUD	830-372-1031
Spectrum Cable	830-625-3409
Centerpoint Gas	830-645-6434
Robert Sanders	830-643-6903
Damaged Line	888-876-2786
AT&T Telephone	830-303-1333
Elin White (FM)	210-283-1706
Scott Midway (Construction)	210-628-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.101, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

GRADING NOTES:

- STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N).
- GRADING SHOWN ON THIS GRADING PLAN IS FOR MASS GRADING PURPOSES ONLY. FINAL GRADING AROUND HOMES, SETTING FINISHED FLOOR ELEVATIONS, ETC. WILL BE DONE AS PART OF EACH BUILDING PERMIT PROCESSED FOR THE INDIVIDUAL HOMES.
- IN ALL FILL AREAS, LOOSE OR ORGANIC MATTER SHALL BE STRIPPED AND REMOVED FROM THE SITE UPON WHICH THE FILL IS TO BE PLACED AND THE AREA SHALL BE BROUGHT TO THE PROPER GRADE GRADE WITH ADEQUATE MOISTURE CONTENT AND COMPACTED TO NOT LESS THAN 90% DENSITY.
- CONTRACTOR TO INSURE THAT ALL LOTS FILLED WILL HAVE POSITIVE DRAINAGE TO PREVENT ANY PONDING OF WATER AND PROVIDE A MINIMUM FINAL GRADE OF 1.2% WITHIN THE LOT.
- CONTRACTOR TO CONTACT OWNER PRIOR TO ANY LOT FILLING TO DETERMINE IF TREES WITHIN THE FILL AREA CAN BE SAVED.
- ALL LARGE ROCKS 10' OR LARGER SHALL BE KEPT OUT OF THE FILL SITE UNLESS INSTRUCTED BY THE OWNER TO PLACE SUCH ROCKS ON THE SITE.
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE FOR ALL GRADING WITHIN LIMITS OF PROJECT.
- FINISHED FLOOR ELEVATION FOR HOMES WILL BE A MINIMUM OF 12" ABOVE THE TOP OF CURB FRONTING THE LOT, AND ON C LOTS' DRIVEWAY SWALE FLOWLINE WILL BE A MINIMUM OF 6" BELOW THE FINISHED FLOOR OF THE HOUSE.

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION:
THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTING TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCAFFOLDING THE AREA TO BE FILLED:
ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL MATERIAL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SOARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"). ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED:
FOLLOWING THE CLEARING AND DISKING OR SOARIFYING OF THE FILL AREA, IT SHALL BE BLENDED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTOR PROCEDURE, OR 90% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE TND-TEX-113-E COMPACTOR PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHWA-HS-608 HANDBOOK 4140.50 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 796.

FILL MATERIALS:
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBER.

DEPTH AND MIXING OF FILL LAYERS:
THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE SPECIFIED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTOR EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK:
WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO REST AND ALL Voids MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTOR OF FILL LAYERS:
COMPACTOR EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTING SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTOR OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTING OF SLOPES:
THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTOR OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3 TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST:
FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL, REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEOTECHNICAL ENGINEER OR STAFF.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8-12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.

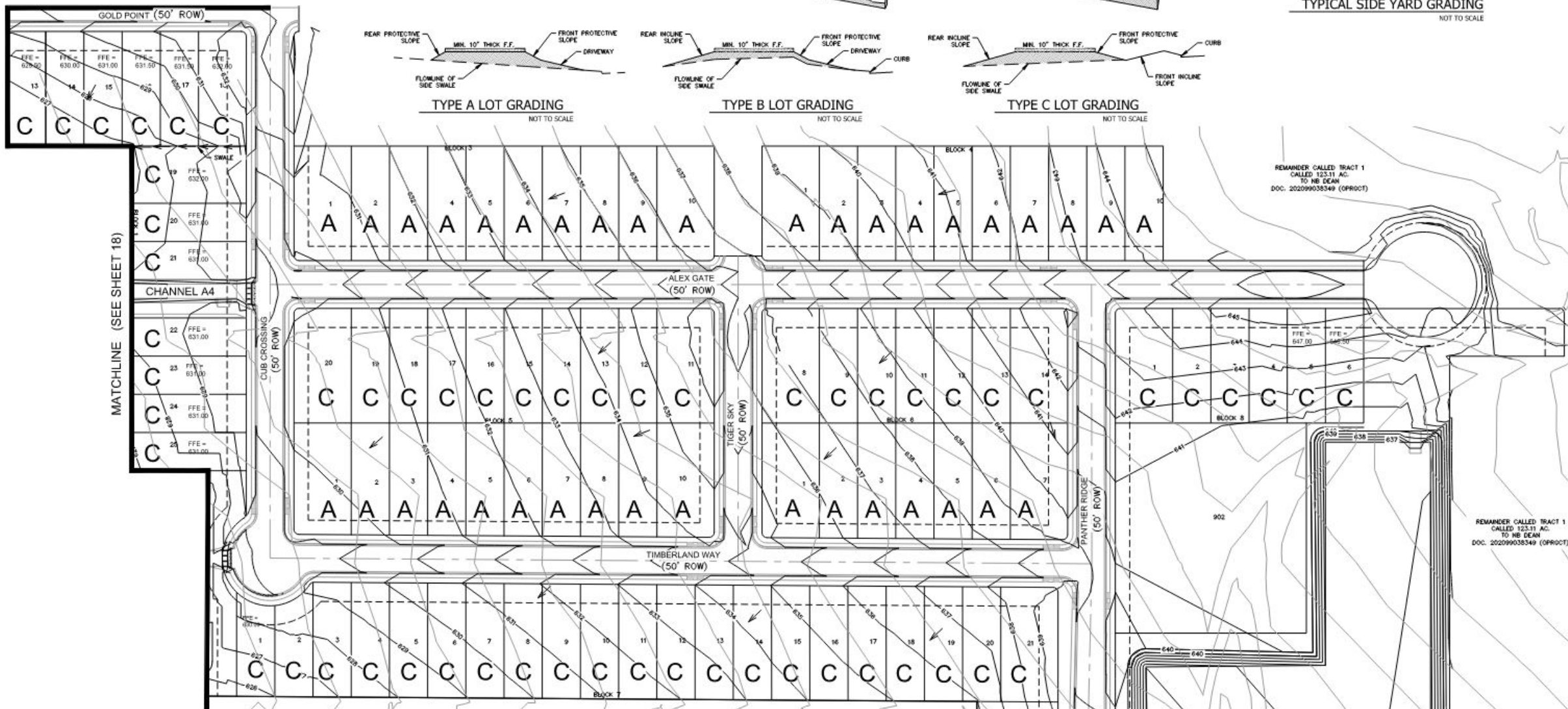
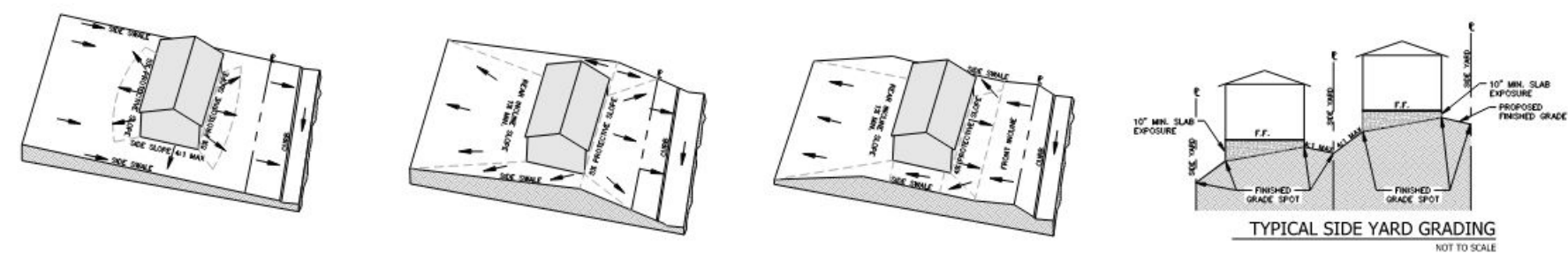
3. FILL AREAS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.

4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

OUTSIDE LOTS:
AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTOR AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

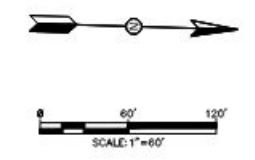
MUD 79-0:
MUD 79-0 REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR MUD 79-0 COMPACTOR TESTING. IN ADDITION, CONTRACTOR MUST RETAIN A GEOTECHNICAL ENGINEER TO PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE MUD 79-0. AFTER SITE GRADING IS COMPLETED, CONTRACTOR TO RETAIN GEOTECHNICAL ENGINEER TO FURNISH THE OWNER A 79-0 LETTER.

Project Control Points				
Point #	Raw Description	Elevation	Northing	Easting
1	OP IPSC	649.50	13806910.1041'	2297166.1145'
2	OP IPSC	636.16	13806177.9450'	2297174.4322'



LEGEND

- 900 — PROPOSED CONTOUR
- 900 — EXISTING CONTOUR
- DRAINAGE FLOW ARROW
- - - GRADE BREAK/SWALE



- GRADING NOTES:**
- STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N).
 - GRADING SHOWN ON THIS GRADING PLAN IS FOR MASS GRADING PURPOSES ONLY. FINAL GRADING AROUND HOMES, SETTING FINISHED FLOOR ELEVATIONS, ETC. WILL BE DONE AS PART OF EACH BUILDING PERMIT PROCESSED FOR THE INDIVIDUAL HOMES.
 - IN ALL FILL AREAS, LOOSE OR ORGANIC MATTER SHALL BE STRIPPED AND REMOVED FROM THE SITE UPON WHICH THE FILL IS TO BE PLACED AND THE AREA SHALL BE BROUGHT TO THE PROPER GRADE GRADE WITH ADEQUATE MOISTURE CONTENT AND COMPACTED TO NOT LESS THAN 90% DENSITY.
 - CONTRACTOR TO INSURE THAT ALL LOTS FILLED WILL HAVE POSITIVE DRAINAGE TO PREVENT ANY FLOODING OF WATER AND PROVIDE A MINIMUM FINAL GRADE OF 1.2% WITHIN THE LOT.
 - CONTRACTOR TO CONTACT OWNER PRIOR TO ANY LOT FILLING TO DETERMINE IF TREES WITHIN THE FILL AREA CAN BE SAVED.
 - ALL LARGE ROCKS 10" OR LARGER SHALL BE KEPT OUT OF THE FILL SITE UNLESS INSTRUCTED BY THE OWNER TO PLACE SUCH ROCKS ON THE SITE.
 - CONTRACTOR TO ENSURE POSITIVE DRAINAGE FOR ALL GRADING WITHIN LIMITS OF PROJECT.
 - FINISHED FLOOR ELEVATION FOR HOMES WILL BE A MINIMUM OF 12" ABOVE THE TOP OF CURB FRONTING THE LOT, AND ON C LOTS DRIVEWAY SWALE FLOWLINE WILL BE A MINIMUM OF 6" BELOW THE FINISHED FLOOR OF THE HOUSE.



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1

GRADING PLAN II

SHEET **19** OF **49**

NO	DATE	ISSUES AND REVISIONS

INK CIVIL

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink=civil.com
TBPE FIRM F-13351

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

City of Seguin Utilities (Sewer)	830-386-2222
Crystal Clear SUD	830-372-1031
Spectrum Cable	830-825-3409
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	888-876-5786
AT&T Telephone	830-303-1333
Elon White P&H	210-283-1706
Scott Midway (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION
THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTING TESTING AND INSPECTION OF THE FILL, AND ALL SUBSEQUENT WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

WARNING: THE AREA TO BE FILLED
ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL MATERIAL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"). ALL SURFACE ROOTS OR OTHER UNWEN FEATURES WILL BE LEVELLED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED
FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTOR PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE 100-TEX-113-E COMPACTOR PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH PHA/MSD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 790.

FILL MATERIALS
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS
THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTOR EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK
WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL ROCK MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTOR OF FILL LAYER
COMPACTOR EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTOR SHALL BE ACCOMPANIED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTOR OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTOR OF SLOPES
THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTOR OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST
FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEOTECHNICAL ENGINEER OR STAFF.

- THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
- THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8-12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
- FILL AREAS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.
- TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

CUT/FILL LOTS
AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTOR AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

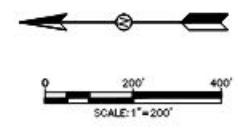
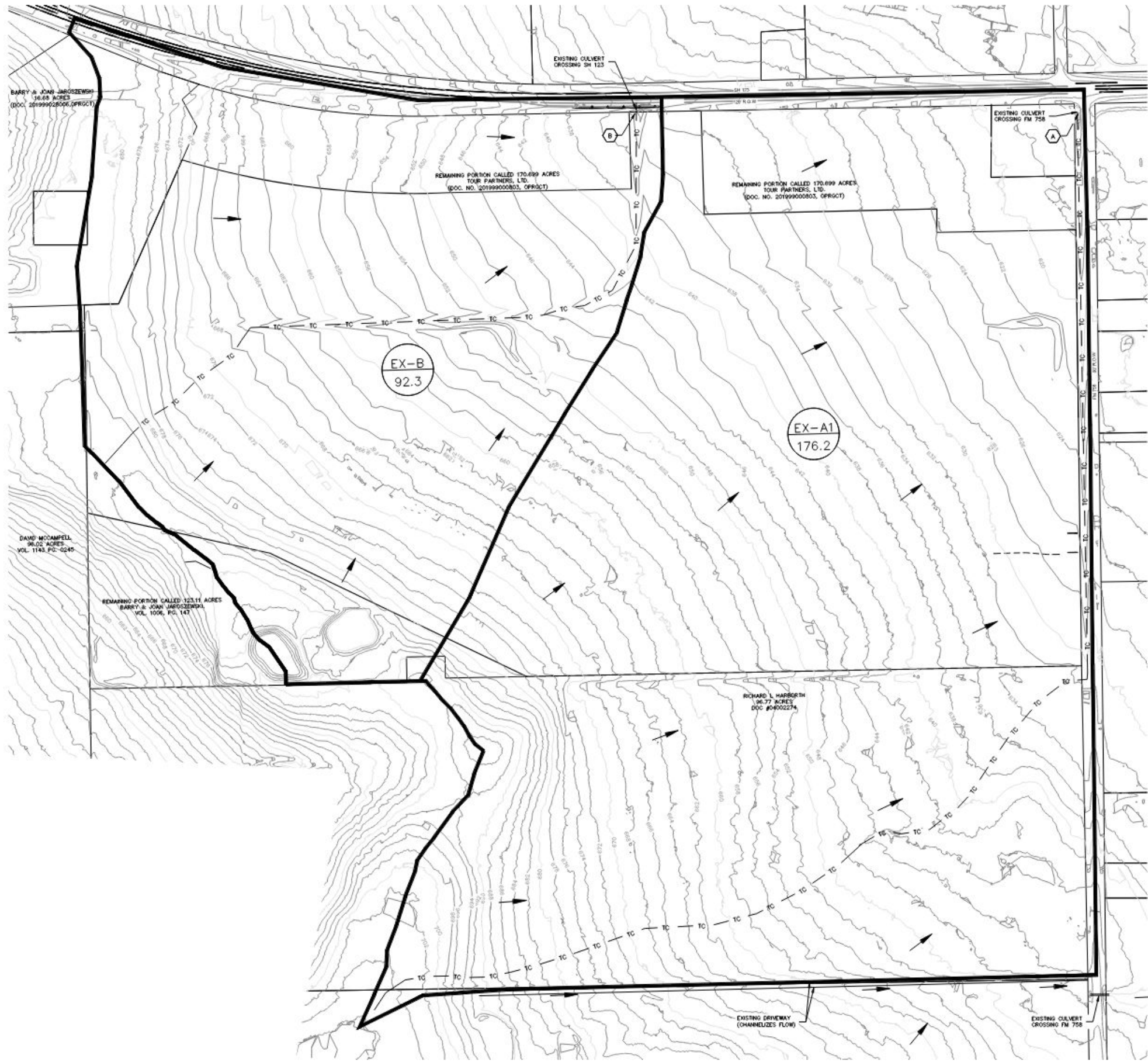
MSD-72-G
MSD-72-G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR MSD-72-G COMPACTOR TESTING. IN ADDITION, CONTRACTOR MUST RETAIN A GEOTECHNICAL ENGINEER TO PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE MSD-72-G. AFTER SITE GRADING IS COMPLETED, CONTRACTOR TO RETAIN GEOTECHNICAL ENGINEER TO PROVIDE THE OWNER A 79-G LETTER.

CALL 170.699 AC. TO FOUR PARTNERS, LTD. DOC# 2019000503 (OPRINT)

CALL 170.699 AC. TO FOUR PARTNERS, LTD. DOC# 2019000503 (OPRINT)

SH 123

Jaro North Subdivision Unit 1 - Existing Conditions Hydrology SCS Calculations									
Point	AREA ID	Area (ac)	CN	T _c (min)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	Location
A	EX-A	176.20	84	41	250.17	508.03	702.74	878.11	Existing culvert at the intersection of FM 758 & SH 123
B	EX-B	92.30	84	23	175.90	353.96	491.44	613.94	Existing culvert at SH 123



LEGEND

- LIMITS OF DRAINAGE AREA
- LIMITS OF SUB-DRAINAGE AREA
- TIME OF CONCENTRATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROWS
- DRAINAGE BASIN LABEL
BASIN AREA (AC)
- SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- INLET LABEL
- ANALYSIS POINT LABEL



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1
DRAINAGE AREA MAP -
EXISTING**

SHEET **20** OF **49**

NO	DATE	ISSUES AND REVISIONS
1		

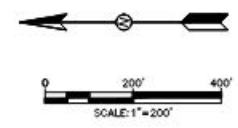
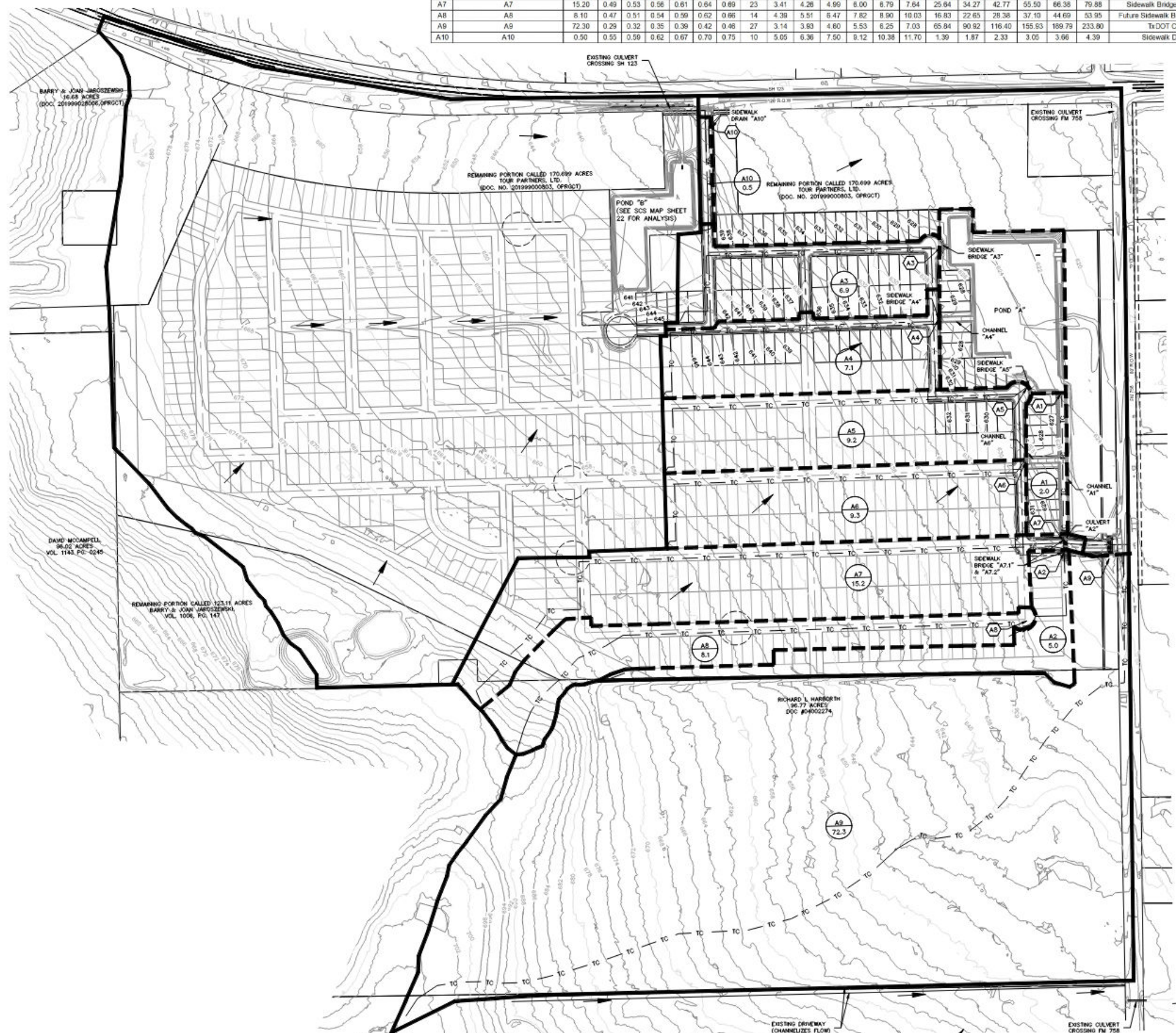


2021 W SH46, STE 105
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PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

EXISTING CONDITIONS
SCALE: 1"=200'

Drawing Name: N:\Projects\Jaro North Subdivision\Drawings\ASD\Drainage\ASD Drainage Area Map - PROPOSED SCS.dwg User: mshankar Date: Feb 17, 2022 11:51 AM

Point	AREA ID	Area (ac)	C ₂	C ₅	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀	T _c (min)	I ₂ (in/hr)	I ₅ (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	I ₅₀ (in/hr)	I ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₅ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	Location
A1	A1+A2+A5+A7+A8	39.60	0.48	0.51	0.55	0.59	0.63	0.67	13	4.54	5.71	6.72	8.13	9.25	10.42	86.19	116.15	145.83	190.69	229.53	276.84	Channel A1
A2	A2+A8	13.10	0.47	0.51	0.54	0.59	0.62	0.66	15	4.24	5.32	6.24	7.52	8.56	9.64	26.29	35.36	44.27	57.70	69.51	83.86	Culvert A2
A3	A3	6.90	0.53	0.56	0.60	0.64	0.68	0.72	13	4.54	5.71	6.72	8.13	9.25	10.42	16.47	22.11	27.66	36.01	43.23	51.96	Sidewalk Bridge A3
A4	A4	7.10	0.55	0.58	0.62	0.66	0.70	0.75	12	4.70	5.92	6.97	8.45	9.61	10.83	16.26	24.50	30.62	39.87	47.79	57.38	Sidewalk Bridge A4 & Channel A4
A5	A5	9.20	0.55	0.58	0.62	0.66	0.70	0.74	13	4.54	5.71	6.72	8.13	9.25	10.42	22.77	30.52	38.13	49.56	59.43	71.34	Sidewalk Bridge A5
A6	A6	9.30	0.54	0.58	0.61	0.66	0.70	0.74	13	4.54	5.71	6.72	8.13	9.25	10.42	22.90	30.70	38.36	49.87	59.62	71.82	Sidewalk Bridge A6 & Channel A6
A7	A7	15.20	0.49	0.53	0.56	0.61	0.64	0.69	23	3.41	4.26	4.99	6.00	6.79	7.64	25.84	34.27	42.77	55.50	66.38	79.88	Sidewalk Bridge A7.1 & A7.2
A8	A8	8.10	0.47	0.51	0.54	0.59	0.62	0.66	14	4.39	5.51	6.47	7.82	8.90	10.03	16.83	22.65	28.38	37.10	44.69	53.95	Future Sidewalk Bridge & Channel
A9	A9	72.30	0.29	0.32	0.35	0.39	0.42	0.46	27	3.14	3.83	4.60	5.53	6.25	7.03	65.84	90.82	116.40	155.93	199.79	233.80	TxDOT Channel
A10	A10	0.50	0.55	0.59	0.62	0.67	0.70	0.75	10	5.05	6.36	7.50	9.12	10.38	11.70	1.39	1.87	2.33	3.05	3.66	4.39	Sidewalk Drain A10



LEGEND

- LIMITS OF DRAINAGE AREA
- LIMITS OF SUB-DRAINAGE AREA
- TIME OF CONCENTRATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROWS
- DRAINAGE BASIN LABEL
- BASIN AREA (AC)
- SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- INLET LABEL
- ANALYSIS POINT LABEL



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1
DRAINAGE AREA MAP -
PROPOSED**

SHEET
21 OF 49

NO	DATE	ISSUES AND REVISIONS

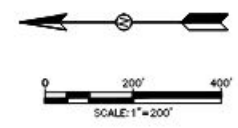


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PROPOSED CONDITIONS - RATIONAL METHOD
SCALE: 1"=200'

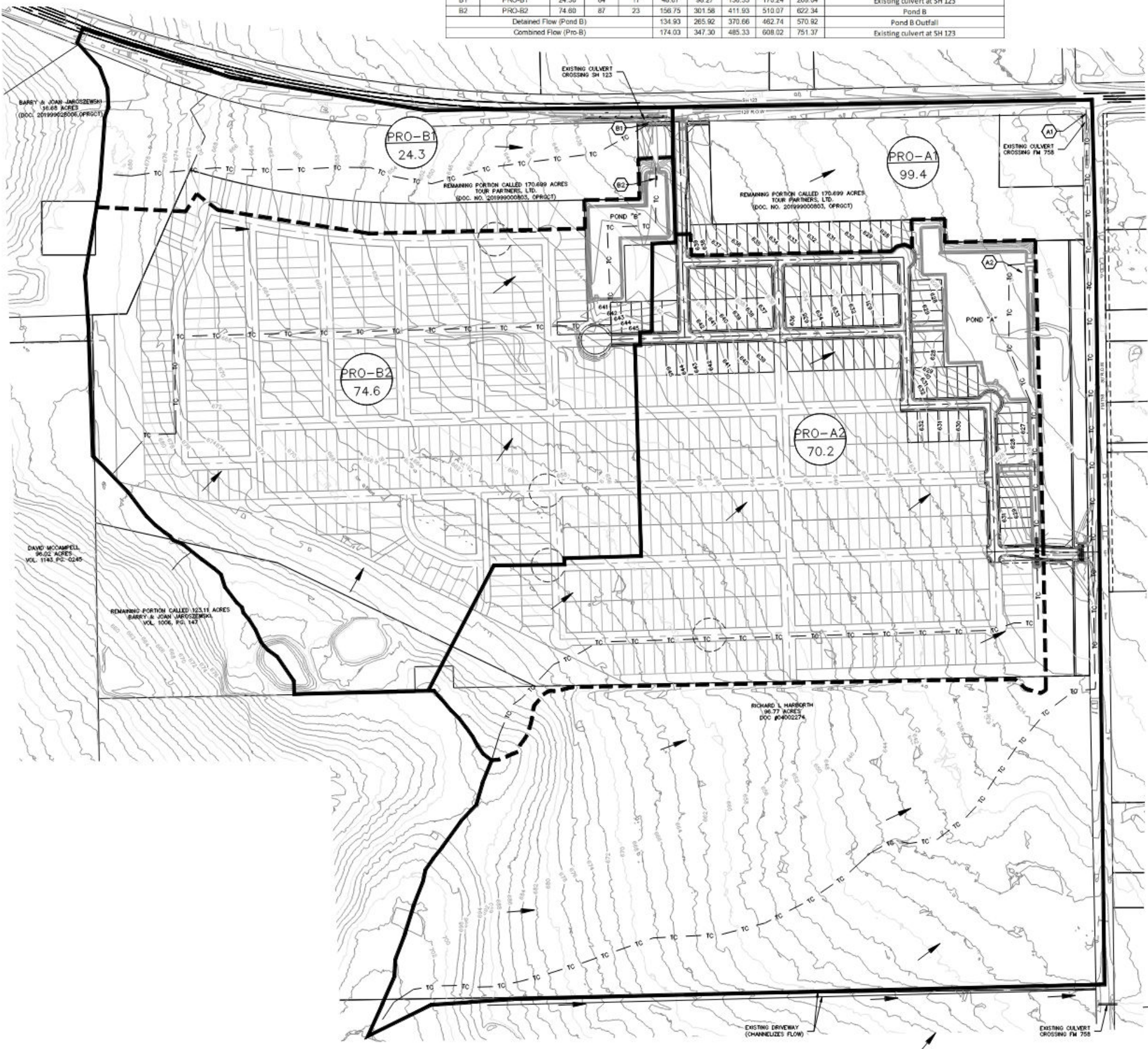
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Jaro North Subdivision Unit 1 - Proposed Conditions Hydrology SCS Calculations										
Point	AREA ID	Area (ac)	CN	T _c (min)	Q ₁ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	Location
A1	PRO-A1	99.40	84	41	141.13	285.47	396.44	495.37	608.59	Existing culvert at the intersection of FM 758 & SH 123
A2	PRO-A2	70.20	87	18	155.36	299.06	408.25	505.34	616.42	Pond A
Detained Flow (Pond A)					109.58	204.42	279.88	362.23	462.04	Pond A Outfall
Combined Flow (Pro-A)					249.59	488.00	674.01	852.48	1080.34	Existing culvert at the intersection of FM 758 & SH 123
B1	PRO-B1	24.30	84	17	48.67	98.27	136.33	170.24	209.04	Existing culvert at SH 123
B2	PRO-B2	74.60	87	23	156.75	301.58	411.93	510.07	622.34	Pond B
Detained Flow (Pond B)					134.93	265.92	370.66	462.74	570.92	Pond B Outfall
Combined Flow (Pro-B)					174.03	347.30	485.33	608.02	751.37	Existing culvert at SH 123



LEGEND

- LIMITS OF DRAINAGE AREA
- LIMITS OF SUB-DRAINAGE AREA
- TIME OF CONCENTRATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROWS
- DRAINAGE BASIN LABEL
BASIN AREA (AC)
- SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- INLET LABEL
- ANALYSIS POINT LABEL



PROPOSED CONDITIONS - SCS METHOD
SCALE: 1"=200'



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1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1
DRAINAGE AREA MAP -
PROPOSED SCS**

SHEET **22** OF **49**

NO	DATE	ISSUES AND REVISIONS
1		



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TBPE FIRM F-13351

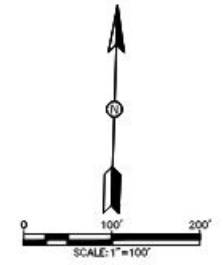
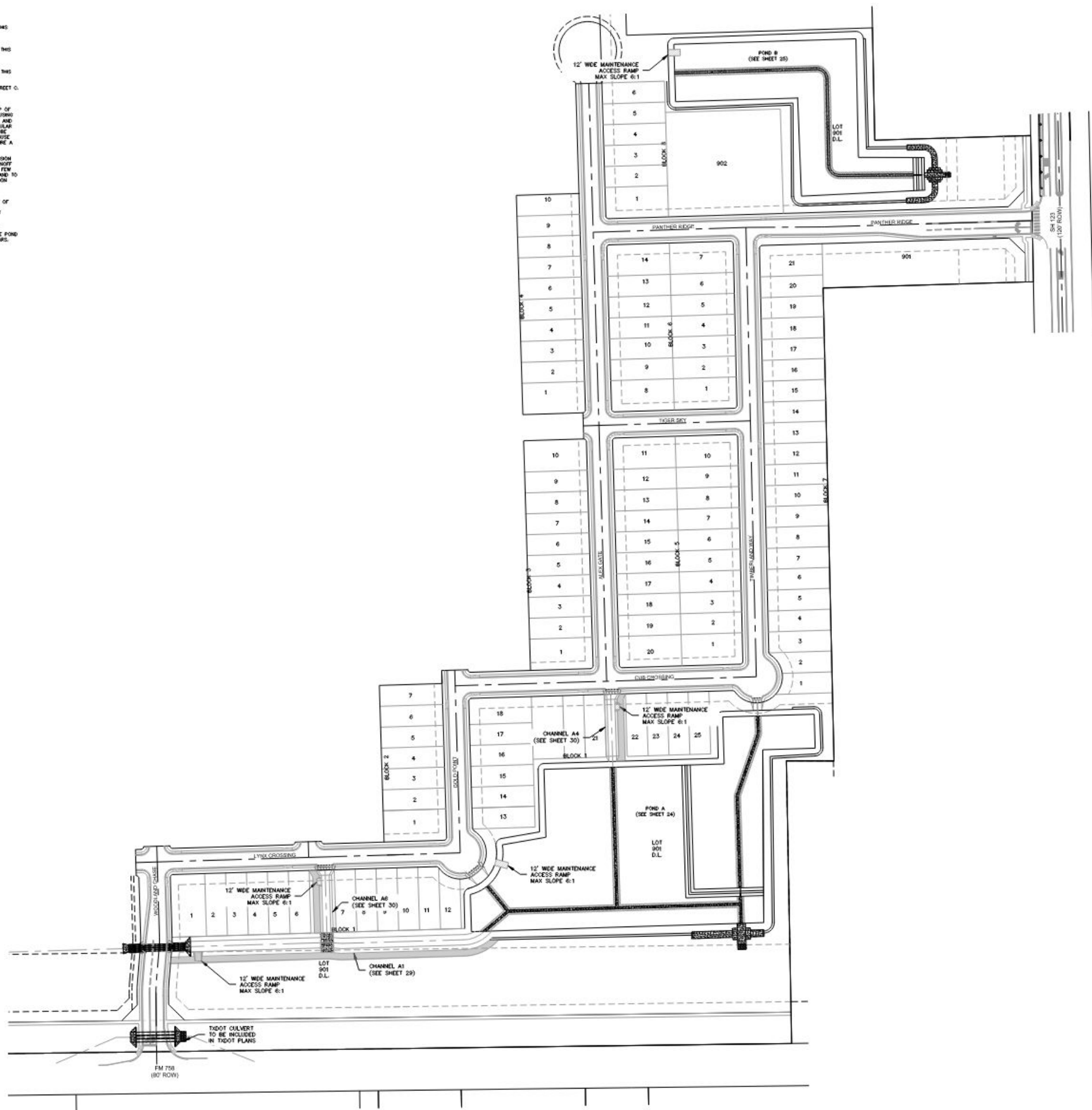
Drawing Name: N:\Projects\Jaro North Subdivision\Draw\Construction\Drainage\SCS\Map - PROPOSED SCS Map - PROPOSED SCS.dwg User: mshankar Date: 2/13/22 File: 17_2022 - 01.dwg

DRAINAGE INFRASTRUCTURE MAINTENANCE AND MONITORING GUIDELINES:

- ACCESS - DRIVE OVER TOP OF CURB FOR MONITORING AND MAINTENANCE OF DETENTION POND.
- CHANNEL A1
12' MAINTENANCE ACCESS PROVIDED ADJACENT TO THE CHANNEL ALONG THE SOUTH SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET A.
- CHANNEL A4
12' MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE EAST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET D.
- CHANNEL A6
12' MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE WEST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET B.
- DETENTION POND A - WILL BE ACCESSED FROM RAMP OFF THE SIDEWALK SAC AT STREET B & STREET C.
- DETENTION POND B - WILL BE ACCESSED FROM STREET F.
- SEASONAL MOWING AND LAWN CARE - IF THE DETENTION POND AND CHANNELS ARE MADE UP OF TURF GRASS, IT SHOULD BE MOWED AS NEEDED TO LIMIT VEGETATION HEIGHT TO 18 INCHES, USING A MOWER NUMBER (OR REMOVAL OF CLIPPINGS). IF NATIVE GRASSES ARE USED, THE POND AND CHANNELS MAY REQUIRE LESS FREQUENT MOWING, BUT A MINIMUM OF TWICE ANNUALLY. REGULAR MOWING SHOULD ALSO INCLUDE WEED CONTROL PRACTICES. HOWEVER, HERBICIDE USE SHOULD BE KEPT TO A MINIMUM. HEALTHY GRASS CAN BE MAINTAINED WITHOUT USING FERTILIZERS BECAUSE BIRNBY USUALLY CONTAINS SUFFICIENT NUTRIENTS. IRRIGATION OF THE SITE CAN HELP ASSURE A DENSE AND HEALTHY VEGETATIVE COVER.
- INSPECTION - INSPECT DETENTION POND AND CHANNELS AT LEAST TWICE ANNUALLY FOR EROSION OR DAMAGE TO VEGETATION. HOWEVER, ADDITIONAL INSPECTION AFTER PERIODS OF HEAVY RAINFALL IS MOST DESIRABLE. MORE FREQUENT INSPECTIONS OF THE GRASS COVER DURING THE FIRST FEW YEARS AFTER ESTABLISHMENT WILL HELP TO DETERMINE IF ANY PROBLEMS ARE DEVELOPING, AND TO PLAN FOR LONG-TERM RESTORATIVE MAINTENANCE MEASURES. SPOTS AND AREAS OF EROSION IDENTIFIED DURING SEMI-ANNUAL INSPECTIONS MUST BE REPLANTED AND RESTORED TO MEET SPECIFICATIONS.
- DEBRIS AND LITTER REMOVAL - THE DETENTION POND AND CHANNELS SHOULD BE KEPT FREE OF OBSTRUCTIONS TO REMOVE FLOATABLES BEING FLOTTED DOWNSTREAM AND FOR AESTHETIC REASONS. THE NEED FOR THIS PRACTICE IS DETERMINED THROUGH PERIODIC INSPECTION, BUT SHOULD BE PERFORMED NO LESS THAN 2 TIMES PER YEAR.
- SEDIMENT REMOVAL - SEDIMENT MAY ACCUMULATE WITHIN THE DETENTION POND, PREVENTING UNIFORM OVERLAND FLOW. SEE ATTACHED EXHIBIT FOR SEDIMENT MARKER LOCATION NEAR THE POND OUTFALL. SEDIMENT IS TO BE REMOVED WHEN THE ACCUMULATED OR AT LEAST EVERY 10 YEARS.

LEGEND

- 12' MAINTENANCE ACCESS (2% MAX)
- 12' MAINTENANCE ACCESS RAMP (6:1 MAX)
- FLOW ARROWS
- D.L. DRAINAGE LOT



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

**OVERALL DRAINAGE MAP AND
MAINTENANCE ACCESS PLAN**

SHEET **23** OF **49**

NO	DATE	ISSUES AND REVISIONS
1		



2021 W SH46, STE 105
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DETENTION POND NOTES

EARTHFILL

1. **SCOPE**
THE WORK CONSISTS OF THE CONSTRUCTION OF EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

EARTHFILL IS COMPOSED OF NATURAL EARTH MATERIALS THAT CAN BE PLACED AND COMPACTED BY CONSTRUCTION EQUIPMENT OPERATED IN A CONVENTIONAL MANNER.

EARTH BACKFILL IS COMPOSED OF NATURAL EARTH MATERIAL PLACED AND COMPACTED IN CONFINED SPACES OR ADJACENT TO STRUCTURES (INCLUDING PIPES) BY HAND TAMPING, MANUALLY OPERATED POWER TAMMERS, OR VIBRATING PLATES, OR THEIR EQUIVALENT.

2. **MATERIAL**
FILL MATERIALS SHALL CONTAIN NO FROZEN SOIL, SOIL BRUSH, ROOTS, OR OTHER PERISHABLE MATERIAL UNLESS OTHERWISE NOTED ON THE PLANS. ROCK PARTICLES LARGER THAN 6" SHALL BE REMOVED PRIOR TO COMPACTION OF THE FILL.

THE TYPES OF MATERIAL USED IN THE VARIOUS FILLS SHALL BE AS LISTED AND DESCRIBED IN THE SPECIFICATIONS AND DRAWINGS.

3. **FOUNDATION PREPARATION**
FOUNDATIONS FOR EARTHFILL SHALL BE STRIPPED TO REMOVE VEGETATION AND OTHER UNSUITABLE MATERIAL OR SHALL BE EXCAVATED AS SPECIFIED.

EXCEPT AS OTHERWISE SPECIFIED, EARTH FOUNDATION SURFACES SHALL BE GRADED TO REMOVE SURFACE IRREGULARITIES AND SHALL BE SCARPED PARALLEL TO THE AXIS OF THE FILL OR OTHERWISE ACCEPTABLY SLOPED AND LOOSESED TO A MINIMUM DEPTH OF 3 INCHES. THE MOISTURE CONTENT OF THE LOOSESED MATERIAL SHALL BE CONTROLLED AS SPECIFIED FOR THE EARTHFILL, AND THE SURFACE MATERIAL OF THE FOUNDATION SHALL BE COMPACTED AND BONDED WITH THE FIRST LAYER OF EARTHFILL AS SPECIFIED OR SUBSEQUENT LAYERS OF EARTHFILL.

EARTH ABUTMENT SURFACES SHALL BE FREE OF LOOSE, UNCOMPACTED EARTH IN EXCESS OF 2 INCHES IN DEPTH NORMAL TO THE SLOPE AND SHALL BE AT SUCH A MOISTURE CONTENT THAT THE EARTHFILL CAN BE COMPACTED AGAINST THEM TO PRODUCE A GOOD BOND BETWEEN THE FILL AND THE ABUTMENT.

ROCK FOUNDATION AND ABUTMENT SURFACES SHALL BE CLEARED OF ALL LOOSE MATERIAL BY HAND OR OTHER EFFECTIVE MEANS AND SHALL BE FREE OF STANDING WATER WHEN FILL IS PLACED UPON THEM. OCCASIONAL ROCK OUTCROPS IN EARTH FOUNDATIONS FOR EARTHFILL, EXCEPT IN DAMS AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER, SHALL NOT REQUIRE SPECIAL TREATMENT IF THEY DO NOT INTERFERE WITH COMPACTION OF THE FOUNDATION AND INITIAL LAYERS OF THE FILL OR THE BOND BETWEEN THE FOUNDATION AND THE FILL.

FOUNDATION AND ABUTMENT SURFACES SHALL BE NO STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL UNLESS OTHERWISE SPECIFIED. TEST PITS OR OTHER CAVITIES SHALL BE FILLED WITH COMPACTED EARTHFILL CONFORMING TO THE SPECIFICATIONS FOR THE EARTHFILL TO BE PLACED UPON THE FOUNDATION.

4. **PLACEMENT**
EARTHFILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. THE THICKNESS OF EACH LAYER BEFORE COMPACTION SHALL NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED AS SHOWN ON THE DRAWINGS. MATERIALS PLACED BY DUMPING IN PILES OR BANKS SHALL BE SPREAD UNIFORMLY TO NOT MORE THAN THE SPECIFIED THICKNESS BEFORE BEING COMPACTIONED.

HAND COMPACTIONED EARTH BACKFILL SHALL BE PLACED IN LAYERS WHOSE THICKNESS BEFORE COMPACTION DOES NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED FOR LAYERS OF EARTH BACKFILL COMPACTIONED BY MANUALLY OPERATED POWER TAMMERS.

EARTH BACKFILL SHALL BE PLACED IN A MANNER THAT PREVENTS DAMAGE TO THE STRUCTURES AND ALONG THE STRUCTURES TO ASSUME THE LOADS FROM THE EARTH BACKFILL GRADUALLY AND UNIFORMLY. THE HEIGHT OF THE EARTH BACKFILL ADJACENT TO A STRUCTURE SHALL BE INCREASED AT APPROXIMATELY THE SAME RATE ON ALL SIDES OF THE STRUCTURE.

CLASS A COMPACTION - EACH LAYER OF EARTHFILL SHALL BE COMPACTED AS NECESSARY TO PROVIDE THE DENSITY OF THE EARTHFILL MATRIX NOT LESS THAN THE MINIMUM DENSITY SPECIFIED ON THE DRAWINGS. THE EARTHFILL MATRIX IS DEFINED AS THE PORTION OF THE EARTHFILL MATERIAL FINER THAN THE MAXIMUM PARTICLE SIZE USED IN THE COMPACTION TEST METHOD SPECIFIED.

7. **REWORKING OR REMOVAL AND REPLACEMENT OF DEFECTIVE EARTHFILL**
EARTHFILL PLACED AT DENSITIES LOWER THAN THE SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REMOVED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE EARTHFILL. THE REPLACEMENT EARTHFILL AND THE FOUNDATION, ABUTMENT, AND EARTHFILL SURFACES UPON WHICH IT IS PLACED SHALL CONFORM TO ALL REQUIREMENTS OF THIS SPECIFICATION FOR FOUNDATION PREPARATION, APPROVAL, PLACEMENT, MOISTURE CONTROL, AND COMPACTION.

8. **TESTING**
DURING THE COURSE OF THE WORK, THE CONTRACTOR WILL PERFORM QUALITY CONTROL TESTS REQUIRED TO IDENTIFY MATERIAL, DETERMINE COMPACTION CHARACTERISTICS, EXTENDING MOISTURE CONTENT, AND DETERMINE DENSITY OF EARTHFILL IN PLACE. TESTS PERFORMED WILL BE SUBMITTED TO THE ENGINEER OF RECORD TO VERIFY THAT THE EARTHFILLS CONFORM TO CONTRACT REQUIREMENTS OF THE SPECIFICATIONS.

DENSITIES OF EARTHFILL REQUIRING CLASS A COMPACTION WILL BE DETERMINED IN ACCORDANCE WITH ASTM D 698, D 1556, D 2922, D 2922, OR D 2937 EXCEPT THAT THE VOLUME AND MOIST WEIGHT OF INCLUDED ROCK PARTICLES LARGER THAN THOSE USED IN THE COMPACTION TEST METHOD SPECIFIED FOR THE TYPE OF FILL WILL BE DETERMINED AND DEDUCTED FROM THE VOLUME AND MOIST WEIGHT OF THE TOTAL SAMPLE BEFORE COMPUTATION OF DENSITY OR, IF USING THE NUCLEAR GAUGE, ADDED TO THE SPECIFIED DENSITY TO BRING IT TO THE MEASURE OF EQUIVALENT COMPOSITION FOR COMPARISON (SEE ASTM D 4753). THE DENSITY SO COMPUTED IS USED TO DETERMINE THE PERCENT COMPACTION OF THE EARTHFILL MATRIX, UNLESS OTHERWISE SPECIFIED. MOISTURE CONTENT IS DETERMINED BY ONE OF THE FOLLOWING METHODS: ASTM D 2216, D 3017, D 4643, D 4944, OR D 4959.

EXTENDED DETENTION POND NOTES

CONSTRUCTION SPECIFICATION - TOP SOIL

1. **VEGETATION OF POND BOTTOM** - THE WORK CONSISTS OF PLACEMENT OF TOP SOIL ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. **MATERIAL** - THE TOPSOIL SHALL BE FERTILE SOIL, CONSISTING PRIMARILY OF CLAY AND CLAYEY MATERIALS, WITH A PLASTICITY INDEX GREATER THAN 15, AND SHALL BE FREE OF LARGE ORGANIC OR ROCK MATERIAL.

3. **APPLICATION** - TOPSOIL SHALL BE PLACED AT GRADES INDICATED ON THE PLANS AND ROLLED TO REDUCE EROSION. FERTILIZER INSPECTIONS ARE REQUIRED AND ADDITIONAL TOPSOIL ADDED AS NEEDED UNTIL VEGETATION HAS ESTABLISHED.

CONSTRUCTION SPECIFICATION - VEGETATION

1. **VEGETATION OF EMBANKMENT** - THE WORK CONSISTS OF ESTABLISHING VEGETATION ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. **MATERIAL** - VEGETATION SHALL CONSIST OF "NATIVE SUN TURT GRASS" AS SUPPLIED BY NATIVE AMERICAN SEED IN ANTIKON, TX, CONSISTING OF SAN BLUE GRAMA AND SAN BUSTARD GRASS, OR ENGINEER APPROVED EQUIV. SEED MIXTURE SHALL CONSIST OF A PURE LIVE SEED OF 90-95%.

3. **APPLICATION** - THE SEED MIXTURE SHALL BE INSTALLED PER DISTRIBUTORS RECOMMENDATIONS AT A RATE OF 1 LB PER 400 SQFT. SEED MIXTURE SHALL BE WATERED AS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

DRAINAGE INFRASTRUCTURE MAINTENANCE AND MONITORING GUIDELINES

- ACCESS - DRIVE OVER TOP OF CURB FOR MONITORING AND MAINTENANCE OF DETENTION POND.

CHANNEL A1
12" MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE SOUTH SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET A.

CHANNEL A4
12" MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE EAST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET B.

CHANNEL A6
12" MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE WEST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET C.

DETENTION POND A - WILL BE ACCESSED FROM RAMP OFF THE HARVARD SAC AT STREET B & STREET C.

DETENTION POND B - WILL BE ACCESSED FROM STREET F.

- SEASONAL MONITORING AND LAWN CARE - IF THE DETENTION POND AND CHANNELS ARE MADE UP OF SOFT GRASS, IT SHOULD BE MONITORED AS NEEDED TO LIMIT VEGETATION HEIGHT TO 18 INCHES, USING A MACHINING MOWER (OR REMOVAL OF CLIPPINGS). IF NATIVE GRASSES ARE USED, THE POND AND CHANNELS MAY REQUIRE LESS FREQUENT MOWING, BUT A MINIMUM OF THREE ANNUALLY. REGULAR MOWING SHOULD ALSO INCLUDE WEED CONTROL PRACTICES. HOWEVER HERBICIDE USE SHOULD BE KEPT TO A MINIMUM. HEALTHY GRASS CAN BE MAINTAINED WITHOUT USING FERTILIZERS BECAUSE RICHLY ORGANIC SOILS CONTAINS SUFFICIENT NUTRIENTS. IRRIGATION OF THE SOIL CAN HELP ASSURE A DENSE AND HEALTHY VEGETATIVE COVER.

- INSPECTION - INSPECT DETENTION POND AND CHANNELS AT LEAST TWICE ANNUALLY FOR EROSION OR DAMAGE TO VEGETATION. HOWEVER, ADDITIONAL INSPECTION AFTER PERIODS OF HEAVY RAIN IS MOST DESIRABLE. MORE FREQUENT INSPECTIONS OF THE GRASS COVER DURING THE FIRST FEW YEARS AFTER ESTABLISHMENT WILL HELP TO DETERMINE IF ANY PROBLEMS ARE DEVELOPING, AND TO PLAN FOR LONG-TERM RESTORATIVE MAINTENANCE NEEDS. BARE SPOTS AND AREAS OF EROSION IDENTIFIED DURING SEMI-ANNUAL INSPECTIONS MUST BE REPLANTED AND RESTORED TO MEET SPECIFICATIONS.

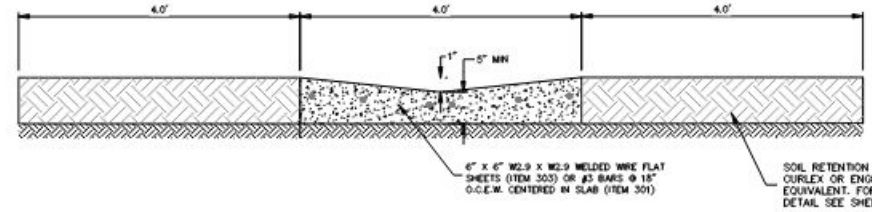
- DEBRIS AND LITTER REMOVAL - THE DETENTION POND AND CHANNELS SHOULD BE KEPT FREE OF OBSTRUCTIONS TO REDUCE FLUTATIONS BEING FLOUSED DOWNSTREAM, AND FOR AESTHETIC REASONS. THE NEED FOR THIS PRACTICE IS DETERMINED THROUGH PERIODIC INSPECTION, BUT SHOULD BE PERFORMED NO LESS THAN 2 TIMES PER YEAR.

- SEDIMENT REMOVAL - SEDIMENT MAY ACCUMULATE WITHIN THE DETENTION POND, PREVENTING UNIFORM OVERLAND FLOW. SEE ATTACHED SHEET FOR SEDIMENT REMOVAL LOCATION NEAR THE POND OUTFALL. SEDIMENT IS TO BE REMOVED WHEN THE ACCUMULATED OR AT LEAST EVERY 10 YEARS.

INTERMEDIATE COMPACTION METHOD
COMPACTED CLAY CORE TO BE PLACED A MINIMUM OF 2' BELOW EXISTING GRADE ALONG THE ENTIRE LENGTH OF THE BERM. MATERIAL TO HAVE A PI OF 30 OR GREATER. MINIMUM COMPACTIONED DRY DENSITY OF 98% AND GROUND CONTENT NO MORE THAN 5% BY WEIGHT LARGER THAN NO.4 SIEVE.

LEGEND

- 900 --- EXISTING CONTOUR
- 900 --- PROPOSED CONTOUR
- ← DRAINAGE FLOW ARROW
- GRADE BREAK/SWALE
- [Pattern] SOIL RETENTION BLANKET
- D.L. DRAINAGE LOT



PILOT CHANNEL DETAIL
NOT TO SCALE

Detention Pond A Hydraulics

Storm Event	Q (CFS)	Water Surface Elevation	V (FT/S)	T (HRS)
2	109.58	622.62	4.23	27.47
10	204.42	623.45	5.30	27.63
25	279.88	624.02	5.83	27.73
50	362.23	624.46	5.04	27.77
100	462.04	624.90	4.87	27.83

Pond A - Water Quality

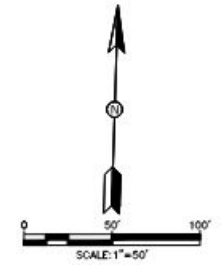
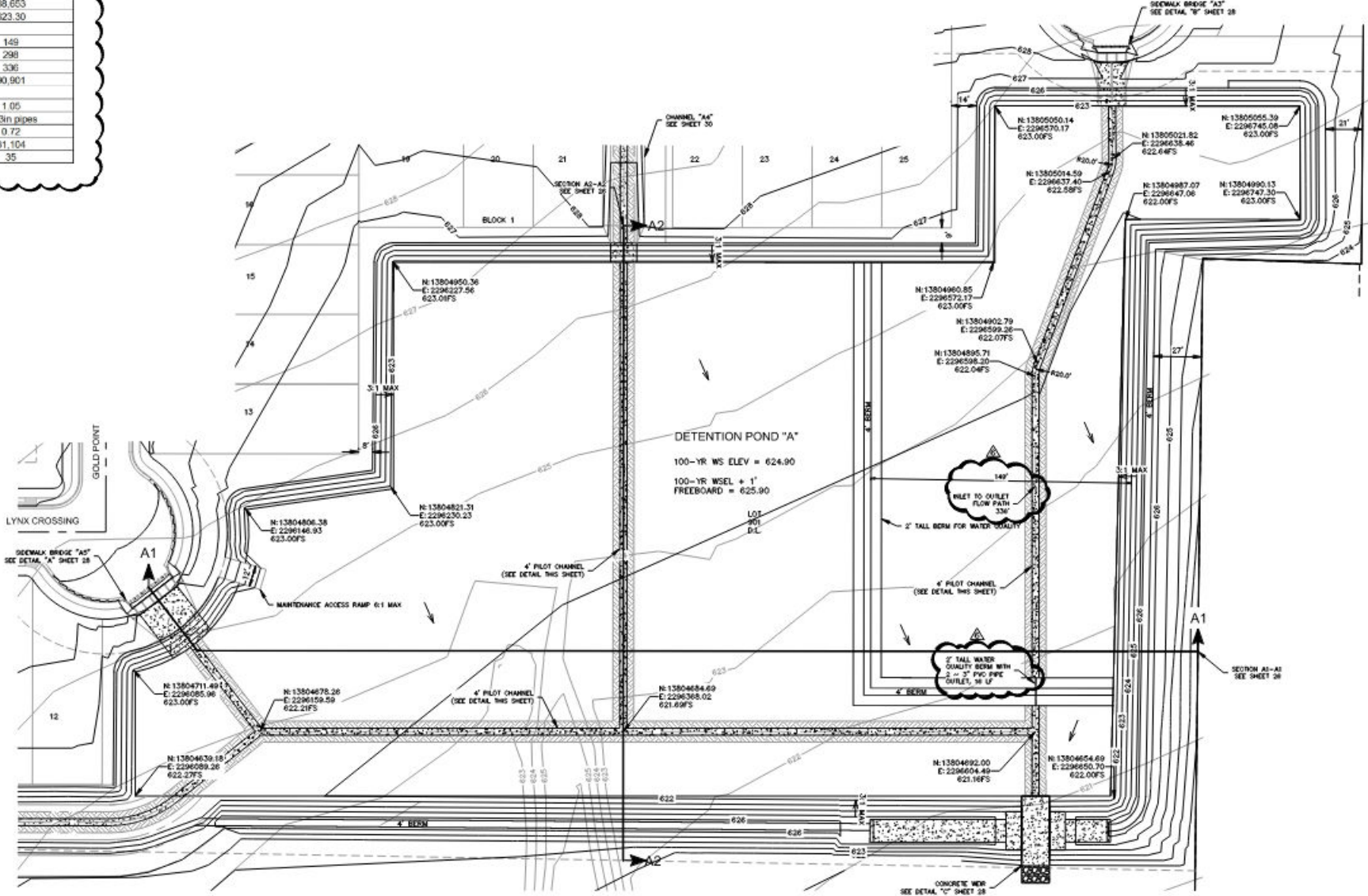
Water Quality Volume %	60%
Water Quality Volume Needed	88,653
Water Quality Elevation	623.30
WQ Basin Width (ft)	149
WQ Basin Length Required (Inlet to Outlet) (ft)	298
WQ Basin Length Provided (Inlet to Outlet) (ft)	336
Water Quality Volume Provided (CF)	90,901
Flow to Empty WQV in 24 hr (cfs)	1.05
Outlet size (in)	2 - 3in pipes
Outlet flow (cfs)	0.72
WQV Drained in 12 hr (cf)	31,104
Time to drain to empty pond (hrs)	35

Detention Pond A Storage Summary

Elev	Stage (ft)	Area (sf)	Incremental Storage	Total Storage
621.0	0.00	0	0	0
622.0	1.00	72,234	36,117	36,117
623.0	2.00	152,235	112,235	148,352
624.0	3.00	157,367	154,801	303,153
625.0	4.00	162,551	159,959	463,112
626.0	5.00	167,789	165,170	628,282
626.5	5.50	170,443	84,558	712,840

Overflow Weir Calculations Pond A

Flow	Q(cfs)
Proposed 25-yr Flow	408.25
Detained Outfall @ 100yr WSEL	462.04
Total Outfall Flow to Top of Berm	870.29
Emergency Overflow Release Above 100yr WSEL	413.48



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JARO NORTH SUBDIVISION
UNIT 1

DETENTION POND A PLAN & NOTES

SHEET **24** OF **49**

NO	DATE	ISSUES AND REVISIONS
Δ	5/31/2024	REVISED PER CONC COMMENTS



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DETENTION POND NOTES

EARTHFILL

1. SCOPE - THE WORK CONSISTS OF THE CONSTRUCTION OF EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

EARTHFILL IS COMPOSED OF NATURAL EARTH MATERIALS THAT CAN BE PLACED AND COMPACTED BY CONSTRUCTION EQUIPMENT OPERATED IN A CONVENTIONAL MANNER.

EARTH BACKFILL IS COMPOSED OF NATURAL EARTH MATERIAL PLACED AND COMPACTED IN CONFINED SPACES OR ADJACENT TO STRUCTURES (INCLUDING PILES) BY HAND TAMPING, MANUALLY DIRECTED POWER TAMBERS OR VIBRATING PLATES, OR THEIR EQUIVALENT.

2. MATERIAL - FILL MATERIALS SHALL CONTAIN NO FROZEN SOIL, SOIL, BRUSH, ROOTS, OR OTHER PERMISSIBLE MATERIALS. UNLESS OTHERWISE NOTED ON THE PLANS, ROCK PARTICLES LARGER THAN 6" SHALL BE REMOVED PRIOR TO COMPACTION OF THE FILL.

THE TYPES OF MATERIAL USED IN THE VARIOUS FILLS SHALL BE AS LISTED AND DESCRIBED IN THE SPECIFICATIONS AND DRAWINGS.

3. FOUNDATION PREPARATION - FOUNDATIONS FOR EARTHFILL SHALL BE STRIPPED TO REMOVE VEGETATION AND OTHER UNSUITABLE MATERIAL OR SHALL BE EXCAVATED AS SPECIFIED.

EXCEPT AS OTHERWISE SPECIFIED, EARTH FOUNDATION SURFACES SHALL BE GRADED TO REMOVE SURFACE IRREGULARITIES AND SHALL BE SCAFFLED PARALLEL TO THE AXIS OF THE FILL OR OTHERWISE ACCEPTABLY SCAFFLED AND LOOSENED TO A MINIMUM DEPTH OF 2 INCHES. THE MOISTURE CONTENT OF THE LOOSENED MATERIAL SHALL BE CONTROLLED AS SPECIFIED FOR THE EARTHFILL, AND THE SURFACE MATERIAL OF THE FOUNDATION SHALL BE COMPACTED AND BONDED WITH THE FIRST LAYER OF EARTHFILL AS SPECIFIED OR SUBSEQUENT LAYERS OF EARTHFILL.

EARTH ADJUTMENT SURFACES SHALL BE FREE OF LOOSE, UNCOMPACTED EARTH IN EXCESS OF 2 INCHES IN DEPTH NORMAL TO THE SLOPE AND SHALL BE AT SUCH A MOISTURE CONTENT THAT THE EARTHFILL CAN BE COMPACTED AGAINST THEM TO PRODUCE A GOOD BOND BETWEEN THE FILL AND THE ADJUTMENTS.

ROCK FOUNDATION AND ADJUTMENT SURFACES SHALL BE CLEARED OF ALL LOOSE MATERIAL BY HAND OR OTHER EFFECTIVE MEANS AND SHALL BE FREE OF STANDING WATER WHEN FILL IS PLACED UPON THEM. OCCASIONAL ROCK OUTCROPS IN EARTH FOUNDATIONS FOR EARTHFILL, EXCEPT IN DAMS AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER, SHALL NOT REQUIRE SPECIAL TREATMENT IF THEY DO NOT INTERFERE WITH COMPACTION OF THE FOUNDATION AND INITIAL LAYERS OF THE FILL OR THE BOND BETWEEN THE FOUNDATION AND THE FILL.

FOUNDATION AND ADJUTMENT SURFACES SHALL BE NO STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL UNLESS OTHERWISE SPECIFIED. TEST PITS OR OTHER CAVITIES SHALL BE FILLED WITH COMPACTED EARTH CONFORMING TO THE SPECIFICATIONS FOR THE EARTHFILL TO BE PLACED UPON THE FOUNDATION.

4. PLACEMENT - EARTHFILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. THE THICKNESS OF EACH LAYER BEFORE COMPACTION SHALL NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED AS SHOWN ON THE DRAWINGS. MATERIALS PLACED BY DAMPING IN PILES OR WINDOWS SHALL BE SPREAD UNIFORMLY TO NOT MORE THAN THE SPECIFIED THICKNESS BEFORE BEING COMPACTED.

HAND COMPACTED EARTH BACKFILL SHALL BE PLACED IN LAYERS WHOSE THICKNESS BEFORE COMPACTION DOES NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED FOR LAYERS OF EARTH BACKFILL PLACED BY MANUALLY DIRECTED POWER TAMBERS.

EARTH BACKFILL SHALL BE PLACED IN A MANNER THAT PREVENTS DAMAGE TO THE STRUCTURES AND ALLOWS THE STRUCTURES TO ASSUME THE LOADS FROM THE EARTH BACKFILL GRADUALLY AND UNIFORMLY. THE HEIGHT OF THE EARTH BACKFILL ADJACENT TO A STRUCTURE SHALL BE INCREASED AT APPROXIMATELY THE SAME RATE ON ALL SIDES OF THE STRUCTURE.

EARTHFILL AND EARTH BACKFILL IN DAMS, LEVEES, AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER SHALL BE PLACED TO MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:

(a) THE DISTRIBUTION OF MATERIALS THROUGHOUT EACH ZONE SHALL BE ESSENTIALLY UNIFORM, AND THE EARTHFILL SHALL BE FREE FROM LENSES, POCKETS, STRAGGLES, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE, MOISTURE CONTENT, OR GRADATION FROM THE SURROUNDING MATERIAL. ZONE EARTHFILLS SHALL BE CONSTRUCTED CONCURRENTLY UNLESS OTHERWISE SPECIFIED.

(b) IF THE SURFACE OF ANY LAYER BECOMES TOO HARD AND SMOOTH FOR PROPER BOND WITH THE SUCCEEDING LAYER, IT SHALL BE SCAFFLED PARALLEL TO THE AXIS OF THE FILL TO A DEPTH OF NOT LESS THAN 2 INCHES BEFORE THE NEXT LAYER IS PLACED.

(c) THE TOP SURFACE OF EMBANKMENTS SHALL BE MAINTAINED APPROXIMATELY LEVEL DURING CONSTRUCTION WITH TWO EXCEPTIONS: A CROWN OR CROSS-SLOPE OF ABOUT 2 PERCENT SHALL BE MAINTAINED TO ENSURE EFFECTIVE DRAINAGE, OR AS OTHERWISE SPECIFIED FOR DRAINAGE OR SECTIONAL ZONES.

(d) DAM EMBANKMENTS SHALL BE CONSTRUCTED IN CONTINUOUS LAYERS FROM ADJUTMENT TO ADJUTMENT EXCEPT WHERE OPENDAMS TO FACILITATE CONSTRUCTION OR TO ALLOW THE PASSAGE OF STREAM FLOW DURING CONSTRUCTION ARE SPECIFICALLY AUTHORIZED IN THE CONTRACT.

(e) EMBANKMENTS BUILT AT DIFFERENT LEVELS AS DESCRIBED UNDER (C) OR (D) ABOVE SHALL BE CONSTRUCTED SO THAT THE SLOPE OF THE BONDING SURFACES BETWEEN EMBANKMENT IN PLACE AND EMBANKMENT TO BE PLACED IS NOT STEEPER THAN 3 FEET HORIZONTAL TO 1 FOOT VERTICAL. THE BONDING SURFACE OF THE EMBANKMENT IN PLACE SHALL BE STRIPPED OF ALL MATERIAL NOT MEETING THE REQUIREMENTS OF THIS SPECIFICATION AND SHALL BE SCAFFLED, MOISTENED, AND RECOMPACTED WHEN THE NEW EARTHFILL IS PLACED AGAINST IT. THIS ENSURES A GOOD BOND WITH THE NEW EARTHFILL AND OBTAINS THE SPECIFIED MOISTURE CONTENT AND DENSITY AT THE CONTACT OF THE INPLACE AND NEW EARTHFILLS.

(f) THE FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER AND OTHER SECTIONABLE MATERIAL. PLACING AND SPREADING OF FILL SHALL BEGIN ON THE LOWEST PART OF THE WORKING AREA AND CONTINUE IN HORIZONTAL LAYERS OF APPROXIMATE UNIFORM THICKNESS, NOT EXCEEDING 9 INCHES BEFORE COMPACTION. WHERE THE BORROW YIELDS MATERIALS OF VARYING TEXTURE AND GRADATION, THE MORE IMPERVIOUS MATERIAL SHALL BE PLACED TOWARD THE WATERSIDE OF THE BERM. THE CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREA OF EACH LAYER IN A MANNER TO BREAK UP LARGE CLODS AND OBTAIN COMPACTION.

5. CONTROL OF MOISTURE CONTENT DURING PLACEMENT AND COMPACTION OF EARTHFILL AND EARTH BACKFILL, THE MOISTURE CONTENT OF THE MATERIAL BEING PLACED SHALL BE MAINTAINED WITHIN THE SPECIFIED RANGE.

THE APPLICATION OF WATER TO THE EARTHFILL MATERIAL SHALL BE ACCOMPLISHED AT THE BORROW AREAS INsofar AS PRACTICABLE. WATER MAY BE APPLIED BY SPRINKLING THE MATERIAL AFTER PLACEMENT ON THE EARTHFILL, IF NECESSARY. UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DOING:

MATERIAL THAT IS TOO WET WHEN DEPOSITED ON THE EARTHFILL SHALL EITHER BE REMOVED OR BE DRED TO THE SPECIFIED MOISTURE CONTENT PRIOR TO COMPACTION.

IF THE TOP SURFACE OF THE PRECEDING LAYER OF COMPACTED EARTHFILL OR A FOUNDATION OR ADJUTMENT SURFACE IN THE ZONE OF CONTACT WITH THE EARTHFILL BECOMES TOO DRY TO PERMIT SUSTAINABLE BOND, IT SHALL EITHER BE REMOVED OR SCAFFLED AND MOISTENED BY SPRINKLING TO AN ACCEPTABLE MOISTURE CONTENT BEFORE COMPACTION OF THE NEXT LAYER OF EARTHFILL.

6. COMPACTION - EARTHFILL SHALL BE COMPACTED ACCORDING TO THE FOLLOWING REQUIREMENTS FOR THE CLASS OF COMPACTION SPECIFIED:

CLASS A COMPACTION - EACH LAYER OF EARTHFILL SHALL BE COMPACTED AS NECESSARY TO PROVIDE THE DENSITY OF THE EARTHFILL MATRIX NOT LESS THAN THE MINIMUM DENSITY SPECIFIED ON THE DRAWINGS. THE EARTHFILL MATRIX IS DEFINED AS THE PORTION OF THE EARTHFILL MATERIAL FINER THAN THE MAXIMUM PARTICLE SIZE USED IN THE COMPACTION TEST METHOD SPECIFIED.

7. REWORKING OR REMOVAL AND REPLACEMENT OF DEFECTIVE EARTHFILL - EARTHFILL PLACED AT DENSITIES LOWER THAN THE SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REMOVED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE EARTHFILL. THE REPLACEMENT EARTHFILL AND THE FOUNDATION ADJUTMENT, AND EARTHFILL SURFACES UPON WHICH IT IS PLACED SHALL CONFORM TO ALL REQUIREMENTS OF THIS SPECIFICATION FOR FOUNDATION PREPARATION, APPROVAL, PLACEMENT, MOISTURE CONTROL, AND COMPACTION.

8. TESTING - DURING THE COURSE OF THE WORK, THE CONTRACTOR WILL PERFORM QUALITY CONTROL TESTS REQUIRED TO IDENTIFY MATERIAL, DETERMINE COMPACTION CHARACTERISTICS, DETERMINE MOISTURE CONTENT, AND DETERMINE DENSITY OF EARTHFILL IN PLACE. TESTS PERFORMED WILL BE SUBMITTED TO THE ENGINEER OF RECORD TO VERIFY THAT THE EARTHFILLS CONFORM TO CONTRACT REQUIREMENTS OF THE SPECIFICATIONS.

DENSITIES OF EARTHFILL REQUIRING CLASS A COMPACTION WILL BE DETERMINED IN ACCORDANCE WITH ASTM D 698, D 1556, D 2922, D 2922, OR D 2927 EXCEPT THAT THE VOLUME AND MOIST WEIGHT OF INCLUDED ROCK PARTICLES LARGER THAN THOSE USED IN THE COMPACTION TEST METHOD SPECIFIED FOR THE TYPE OF FILL WILL BE DETERMINED AND DEDUCTED FROM THE VOLUME AND MOIST WEIGHT OF THE TOTAL SAMPLE BEFORE COMPUTATION OF DENSITY OR, IF USING THE NUCLEAR GAUGE, ADDED TO THE SPECIFIED DENSITY TO BRING IT TO THE MEASURE OF EQUIVALENT COMPOSITION FOR COMPARISON (SEE ASTM D 4753). THE DENSITY SO COMPUTED IS USED TO DETERMINE THE PERCENT COMPACTION OF THE EARTHFILL MATRIX. UNLESS OTHERWISE SPECIFIED, MOISTURE CONTENT IS DETERMINED BY ONE OF THE FOLLOWING METHODS: ASTM D 2216, D 3017, D 4643, D 4944, OR D 4909.

EXTENDED DETENTION POND NOTES

CONSTRUCTION SPECIFICATION - TOP SOIL

1. VEGETATION OF POND BOTTOM - THE WORK CONSISTS OF PLACEMENT OF TOP SOIL ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL - THE TOPSOIL SHALL BE FERTILE SOIL, CONSISTING PRIMARILY OF CLAY AND CLAYEY MATERIALS, WITH A PLASTICITY INDEX GREATER THAN 15, AND SHALL BE FREE OF LARGE ORGANIC OR ROCK MATERIAL.

3. APPLICATION - TOPSOIL SHALL BE PLACED AT GRADES INDICATED ON THE PLANS AND ROLLED TO REDUCE EROSION. FERTILIZER INSPECTION ARE REQUIRED AND ADDITIONAL TOPSOIL ADDED AS NEEDED UNTIL VEGETATION HAS ESTABLISHED.

CONSTRUCTION SPECIFICATION - VEGETATION

1. VEGETATION OF EMBANKMENT - THE WORK CONSISTS OF ESTABLISHING VEGETATION ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL - VEGETATION SHALL CONSIST OF "NATIVE SUN TURF GRASS" AS SUPPLIED BY NATIVE AMERICAN SEED IN JUNCTION, TX, CONSISTING OF SAN BLUE GRAMA AND SAN BUFFALO GRASS, OR ENGINEER APPROVED EQUIV. SEED MIXTURE SHALL CONSIST OF A PURE LIVE SEED OF 90-95%.

3. APPLICATION - THE SEED MIXTURE SHALL BE INSTALLED PER DISTRIBUTORS RECOMMENDATIONS AT A RATE OF 1 LB PER 400 SQFT. SEED MIXTURE SHALL BE WATERED AS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

INTERIUS CORE COMPACTION NOTES

COMPACTED CLAY CORE TO BE PLACED A MINIMUM OF 2' BELOW EXISTING GRADE ALONG THE ENTIRE LENGTH OF THE BERM. MATERIAL TO HAVE A PI OF 30 OR GREATER. MINIMUM COMPACTED DRY DENSITY OF 90% AND GROUND CONTENT NO MORE THAN 5% BY WEIGHT LARGER THAN #4.5 SIEVE.

DETENTION POND NOTES

CONSTRUCTION SPECIFICATION - TOP SOIL

1. VEGETATION OF POND BOTTOM - THE WORK CONSISTS OF PLACEMENT OF TOP SOIL ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL - THE TOPSOIL SHALL BE FERTILE SOIL, CONSISTING PRIMARILY OF CLAY AND CLAYEY MATERIALS, WITH A PLASTICITY INDEX GREATER THAN 15, AND SHALL BE FREE OF LARGE ORGANIC OR ROCK MATERIAL.

3. APPLICATION - TOPSOIL SHALL BE PLACED AT GRADES INDICATED ON THE PLANS AND ROLLED TO REDUCE EROSION. FERTILIZER INSPECTION ARE REQUIRED AND ADDITIONAL TOPSOIL ADDED AS NEEDED UNTIL VEGETATION HAS ESTABLISHED.

CONSTRUCTION SPECIFICATION - VEGETATION

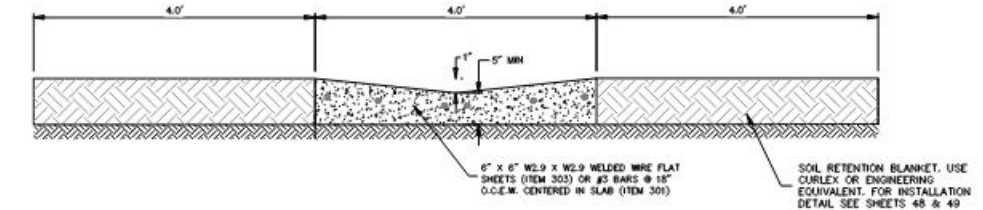
1. VEGETATION OF EMBANKMENT - THE WORK CONSISTS OF ESTABLISHING VEGETATION ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL - VEGETATION SHALL CONSIST OF "NATIVE SUN TURF GRASS" AS SUPPLIED BY NATIVE AMERICAN SEED IN JUNCTION, TX, CONSISTING OF SAN BLUE GRAMA AND SAN BUFFALO GRASS, OR ENGINEER APPROVED EQUIV. SEED MIXTURE SHALL CONSIST OF A PURE LIVE SEED OF 90-95%.

3. APPLICATION - THE SEED MIXTURE SHALL BE INSTALLED PER DISTRIBUTORS RECOMMENDATIONS AT A RATE OF 1 LB PER 400 SQFT. SEED MIXTURE SHALL BE WATERED AS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

DAMAGE INFRASTRUCTURE MAINTENANCE AND MONITORING GUIDELINES

- ACCESS - DRIVE OVER TOP OF CURB FOR MONITORING AND MAINTENANCE OF DETENTION POND.
- CHANNEL A1 - 12" MAINTENANCE ACCESS PROVIDED ADJACENT TO THE CHANNEL ALONG THE SOUTH SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET A.
- CHANNEL A2 - 12" MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE EAST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET D.
- CHANNEL A3 - 12" MAINTENANCE ACCESS IS PROVIDED ADJACENT TO THE CHANNEL ALONG THE WEST SIDE. THIS CHANNEL CAN BE ACCESSED FROM STREET B.
- DETENTION POND A - WILL BE ACCESSED FROM RAMP OFF THE HOV4/5 LANE AT STREET B & STREET C.
- DETENTION POND B - WILL BE ACCESSED FROM STREET F.
- SEASONAL MONITORING AND LAWN CARE - IF THE DETENTION POND IS MADE UP OF TURF GRASS, IT SHOULD BE MONITORED AS NEEDED TO MAINTAIN VEGETATION HEIGHT TO 18 INCHES USING A MOWER (OR REMOVAL OF CLIPPINGS). IF NATIVE GRASSES ARE USED, THE POND MAY REQUIRE LESS FREQUENT MONITORING, BUT A MINIMUM OF THREE ANNUALLY. REGULAR MONITORING SHOULD ALSO INCLUDE WEED CONTROL PRACTICES. HOWEVER HERBICIDE USE SHOULD BE KEPT TO A MINIMUM. HEALTHY GRASS CAN BE MAINTAINED WITHOUT USING FERTILIZERS BECAUSE RUNOFF USUALLY CONTAINS SUFFICIENT NUTRIENTS. IRRIGATION OF THE SITE CAN HELP ASSURE A GOOD AND HEALTHY VEGETATIVE COVER.
- INSPECTION - INSPECT DETENTION POND AT LEAST TWICE ANNUALLY FOR EROSION OR DAMAGE TO VEGETATION. HOWEVER, ADDITIONAL INSPECTION AFTER PERIODS OF HEAVY RAINFALL IS MOST DESIRABLE. MORE FREQUENT INSPECTIONS OF THE GRASS COVER DURING THE FIRST FEW YEARS AFTER ESTABLISHMENT WILL HELP TO DETERMINE IF ANY PROBLEMS ARE DEVELOPING AND TO PLAN FOR LONG-TERM RESTORATIVE MAINTENANCE NEEDS. BARE SPOTS AND AREAS OF EROSION IDENTIFIED DURING SEMI-ANNUAL INSPECTIONS MUST BE REPLANTED AND RESTORED TO MEET SPECIFICATIONS.
- DEBRIS AND LITTER REMOVAL - THE DETENTION POND SHOULD BE KEPT FREE OF OBSTRUCTIONS TO REDUCE FLOATABLES BEING FLUSHED DOWNSTREAM AND FOR AESTHETIC REASONS. THE NEED FOR THIS PRACTICE IS DETERMINED THROUGH PERIODIC INSPECTION, BUT SHOULD BE PERFORMED NO LESS THAN 2 TIMES PER YEAR.
- SEDIMENT REMOVAL - SEDIMENT MAY ACCUMULATE WITHIN THE DETENTION POND, PREVENTING UNIFORM OVERLAND FLOW. SEE ADJACENT SHEET FOR SEDIMENT REMOVAL LOCATION NEAR THE POND OUTFALL. SEDIMENT IS TO BE REMOVED WHEN THE ACCUMULATED OR AT LEAST EVERY 10 YEARS.



Detention Pond B Storage Summary

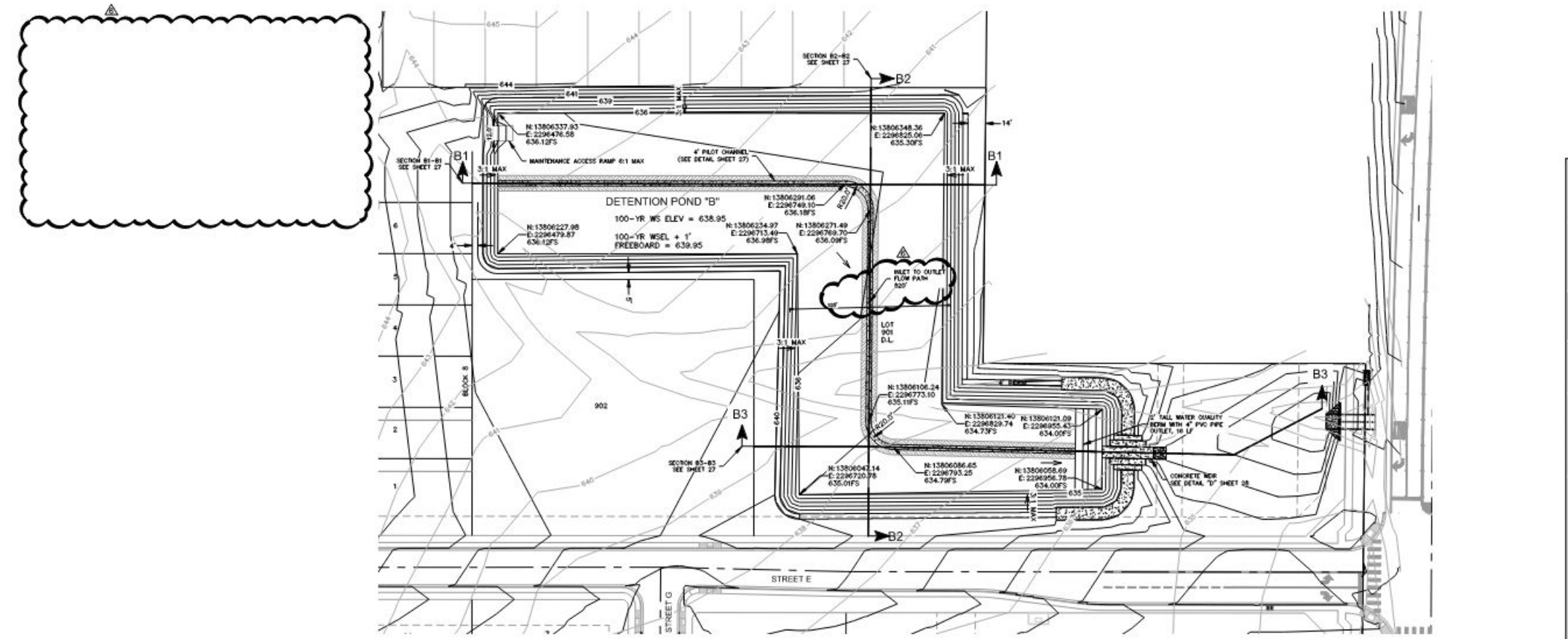
Elev	Stage (ft)	Area (sf)	Incremental Storage	Total Storage
634.0	0.00	0	0	0
635.0	1.00	14,872	7,436	7,436
636.0	2.00	40,808	27,840	35,276
637.0	3.00	74,673	57,741	93,017
638.0	4.00	79,442	77,058	170,074
639.0	5.00	84,232	81,837	251,911
640.0	6.00	89,085	86,659	338,570

Detention Pond B Hydraulics

Storm Event	Q (CFS)	Water Surface Elevation	V (FT/S)	T (HRS)
2	134.93	636.54	3.47	26.27
10	285.92	637.49	4.20	26.37
25	370.66	638.05	4.65	26.40
50	462.74	638.48	4.97	26.43
100	570.92	638.95	5.30	26.47

Overflow Weir Calculations Pond B

	Q(cfs)
Proposed 25-yr Flow	411.93
Detained Outfall @ 100yr WSEL	569.87
Total Outfall Flow to Top of Berm	981.80
Emergency Overflow Release Above 100yr WSEL	426.43



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1

DETENTION POND B
PLAN & NOTES

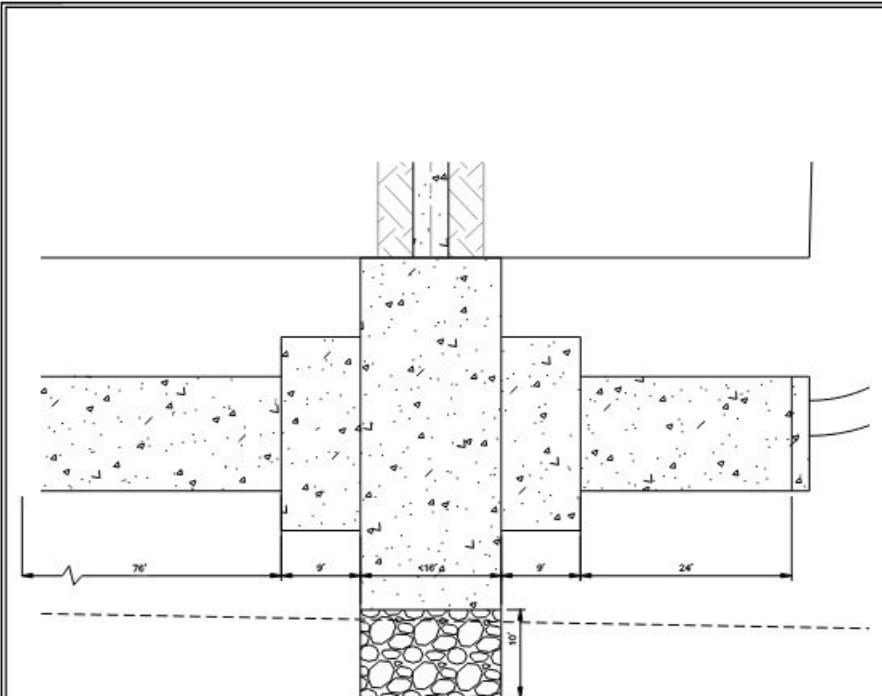
SHEET **25** OF **49**

NO	DATE	ISSUES AND REVISIONS
1	5/31/2024	REVISED PER CONC COMMENTS

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

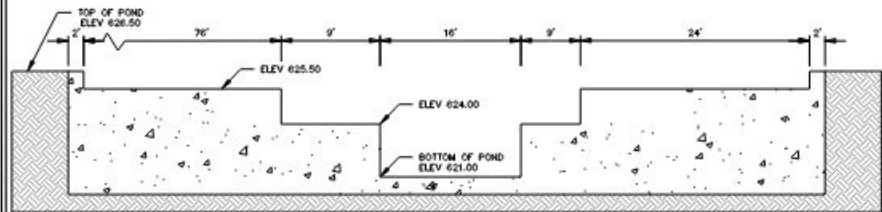
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Drawing Name: N:\Projects\1842022\Jar North Subdivision\Civil\Construction\Drawings\DETENTION POND B - CIVIL\SECTION\SECTION.dwg User: jaramingalls Date: 5/31/2024 4:52pm



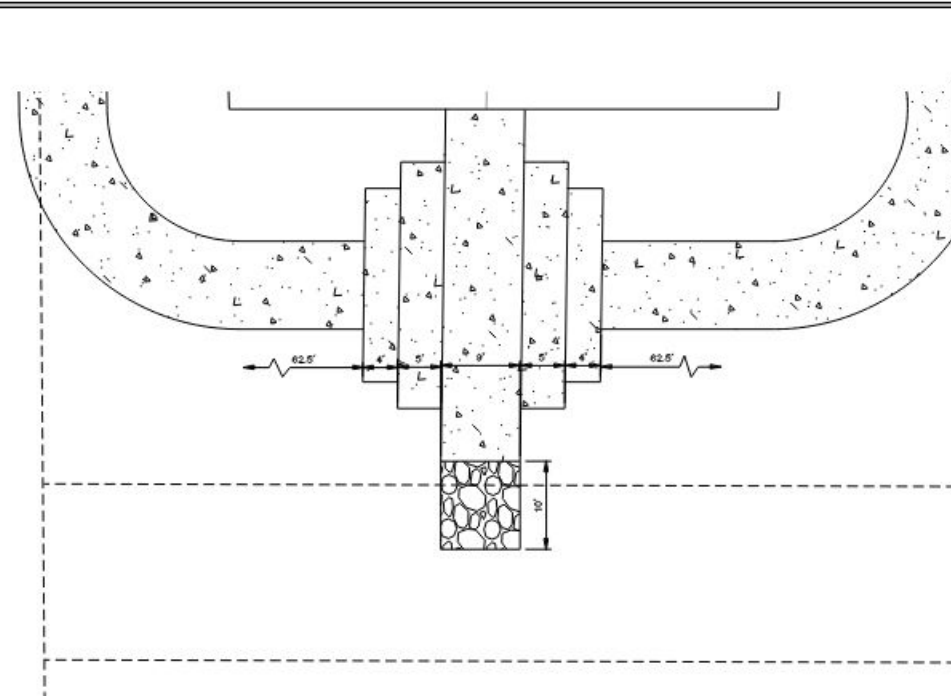
CONCRETE WEIR DETAIL "C"

SCALE: 1" = 10'



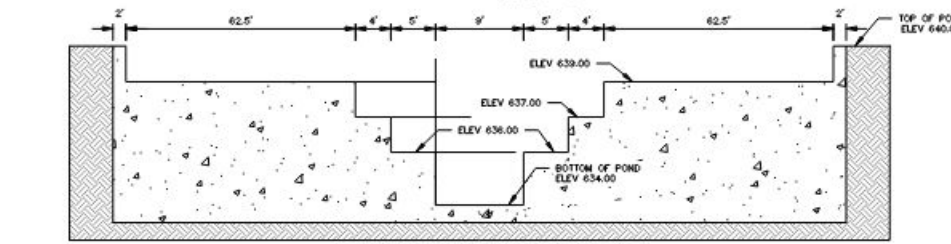
CONCRETE WEIR DETAIL "C"

NOT TO SCALE



CONCRETE WEIR DETAIL "D"

SCALE: 1" = 10'



CONCRETE WEIR DETAIL "D"

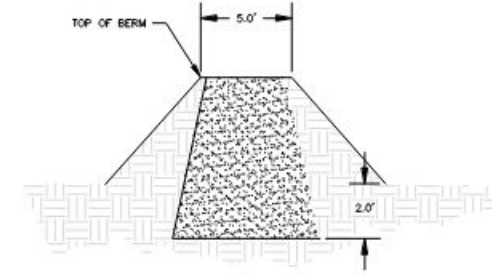
NOT TO SCALE

Overflow Weir Calculations Pond A		Q(cfs)
Proposed 25-yr Flow		408.25
Detained Outfall @ 100yr WSEL		462.04
Total Outfall Flow to Top of Berm		870.29
Emergency Overflow Release Above 100yr WSEL		413.48

Overflow Weir Calculations Pond B		Q(cfs)
Proposed 25-yr Flow		411.93
Detained Outfall @ 100yr WSEL		541.65
Total Outfall Flow to Top of Berm		953.58
Emergency Overflow Release Above 100yr WSEL		426.43

- CONCRETE NOTES:**
- ALL CONCRETE SHALL BE CLASS "A" (3000 PSI).
 - ALL REINFORCING STEEL SHALL BE GRADE 60.
 - ALL REINFORCING SHALL HAVE A MINIMUM COVER OF 2 INCHES.
 - UNLESS OTHERWISE NOTED, ALL BARS SHALL BE CENTERED WITHIN CONCRETE THICKNESS.
 - NON-SHRINKING GROUT OR APPROVED EPOXY SHALL BE USED WITH DOWEL BARS. IN LIEU OF DRILLING AND GROUTING, DOWELS MAY BE PLACED WITH FIRST STRUCTURE OR APRON CONSTRUCTED.

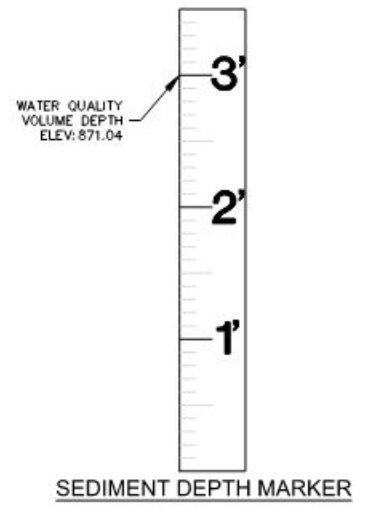
IMPERVIOUS CORE COMPACTION NOTE
 COMPACTED CLAY CORE TO BE PLACED A MINIMUM OF 2' BELOW EXISTING GRADE ALONG THE ENTIRE LENGTH OF THE BERM. MATERIAL TO HAVE A PI OF 30 OR GREATER, MINIMUM COMPACTED DRY DENSITY OF 90% AND GROUND CONTENT NO MORE THAN 5% BY WEIGHT LARGER THAN NO.4 SEIVE.



FILL BERM SECTION (TYP)

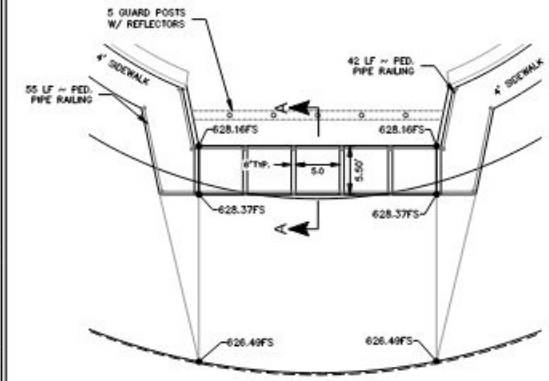
Scale: NTS

NOTE: IMPERVIOUS CLAY BERM CORE AND CLAY LINER SHOWN ARE TO BE CONSIDERED SUBSIDIARY TO POND EXCAVATION. (NO SEPARATE PAY ITEM)



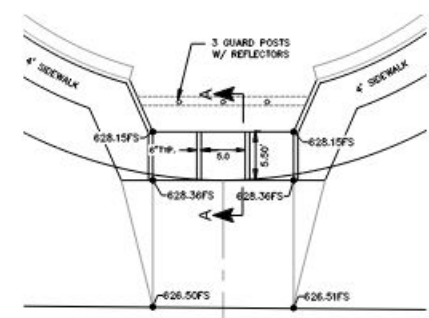
WATER QUALITY VOLUME DEPTH ELEV: 871.04

SEDIMENT DEPTH MARKER



SIDEWALK BRIDGE "A5" DETAIL "A"

SCALE: 1" = 10'



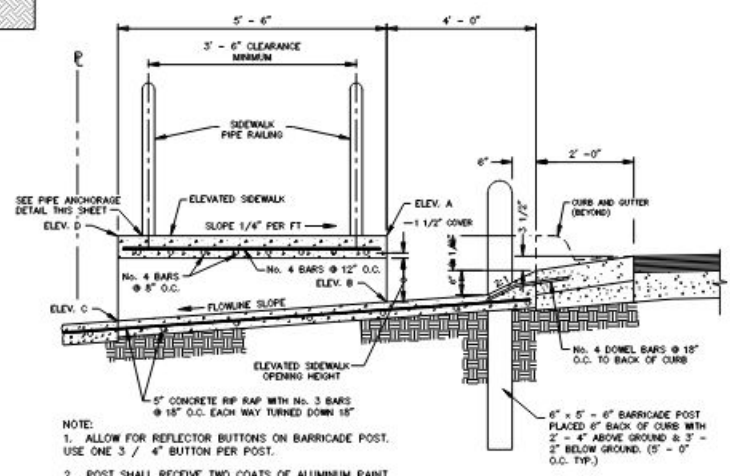
SIDEWALK BRIDGE "A3" DETAIL "B"

SCALE: 1" = 10'

SIDEWALK BRIDGE "A3" SUMMARY						
STORM EVENT	CULVERT SIZE	H.W. ELEV	Q (CFS)	V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	3'-5" X 1'	627.45	27.66	3.90	0.00	27.66
100-YEAR	3'-5" X 1'	627.84	51.98	4.81	0.00	51.98

SIDEWALK BRIDGE "A5" SUMMARY						
STORM EVENT	CULVERT SIZE	H.W. ELEV	Q (CFS)	V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	5'-5" X 1'	627.37	38.13	4.22	0.00	38.13
100-YEAR	5'-5" X 1'	627.72	71.34	5.12	0.00	71.34

SIDEWALK BRIDGE ELEVATION SUMMARY TABLE (SEE DETAIL THIS SHEET)						
SIDEWALK BRIDGE	STREET	OPENING HEIGHT	ELEVATION			
			A	B	C	D
A3	CUL-DE-SAC @ TIMBERLAND WAY & CLUB CROSSING	1-FT	628.15	626.69	626.64	628.36
A4	CLUB CROSSING	1-FT	629.42	627.96	627.90	629.63
A5	CUL-DE-SAC @ GOLD POINT & LYNX CROSSING	1-FT	628.16	626.71	626.66	628.37
A6	LYNX CROSSING	1-FT	628.87	628.00	627.25	629.08
A7.1	WOODLAND CHASE	1-FT	629.17	627.70	627.67	629.38
A7.2	WOODLAND CHASE	1-FT	629.02	627.56	627.54	629.23



SECTION A-A ELEVATED SIDEWALK

NOT TO SCALE

- NOTE:
- ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 3/4" BUTTON PER POST.
 - POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

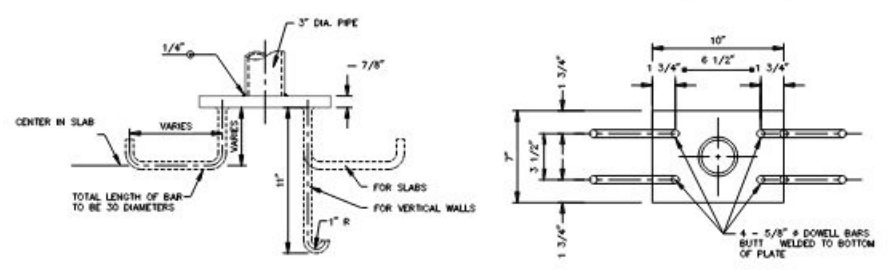
- City of Seguin Utilities (Sewer) 830-386-2222
- Crystal Clear SUD 830-372-1031
- Spectrum Cable 830-625-3408
- Centerpoint Gas 830-643-6434
- Robert Sanders 830-643-6903
- Damaged Line 888-826-5782
- AT&T Telephone 830-303-1333
- Ench Wire FM 210-253-1700
- Scott Midway (Construction) 210-658-6556
- Texas One Call 830-545-6005

C.P.E. LOCATOR
 CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
 THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

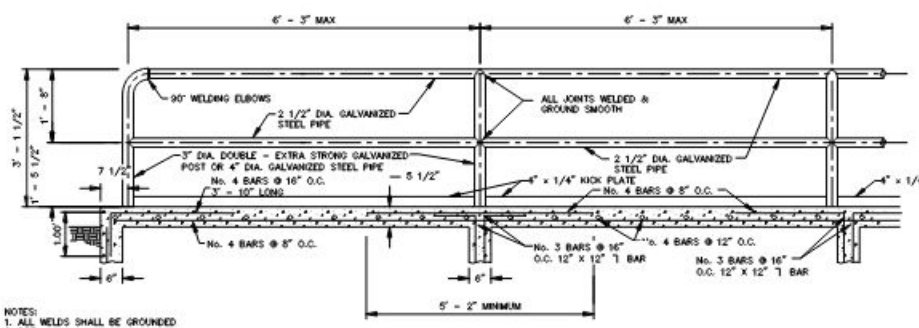
TRENCH EXCAVATION SAFETY PROTECTION
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



PIPE ANCHORAGE DETAILS

NOT TO SCALE



TYPICAL SIDEWALK BRIDGE & SIDEWALK PIPE RAILING SECTION

- NOTES:
- ALL WELDS SHALL BE GROUND SMOOTH.
 - HANDRAIL SHALL BE PRIMED W/RED ONCE AND PAINTED W/2 COATS OF AN EXTERIOR RATED LATEX ENAMEL. COLOR TO BE DETERMINED BY OWNER.
 - ALL EXPOSED CONCRETE EDGES TO BE CHAMFERED 1/4".



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
 UNIT 1

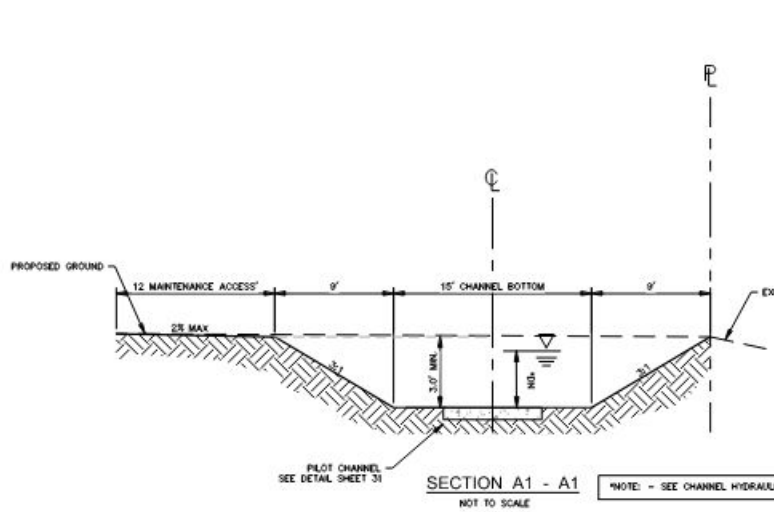
DETENTION POND STRUCTURES

SHEET 28 OF 49

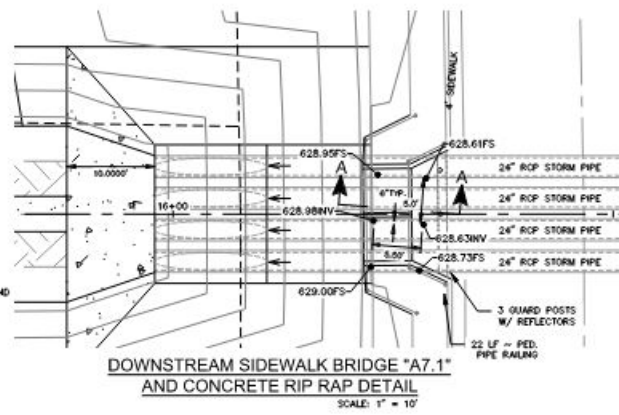
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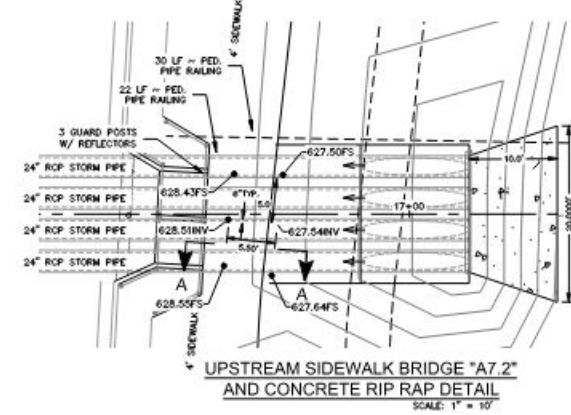
2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351



NOTE - SEE CHANNEL HYDRAULIC TABLE THIS SHEET



DOWNSTREAM SIDEWALK BRIDGE "A7.1" AND CONCRETE RIP RAP DETAIL



UPSTREAM SIDEWALK BRIDGE "A7.2" AND CONCRETE RIP RAP DETAIL

SIDEWALK BRIDGE "A7.1" SUMMARY

STORM EVENT	CULVERT SIZE	H.W. ELEV	CULVERT Q (CFS)	CULVERT V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	2 - 5' X 1'	628.62	21.69	4.36	0.00	21.69
100-YEAR	2 - 5' X 1'	629.1	39.94	5.35	0.00	39.94

SIDEWALK BRIDGE "A7.2" SUMMARY

STORM EVENT	CULVERT SIZE	H.W. ELEV	CULVERT Q (CFS)	CULVERT V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	2 - 5' X 1'	628.40	21.39	4.36	0.00	21.39
100-YEAR	2 - 5' X 1'	628.86	39.94	5.35	0.00	39.94

NOTE: SIDEWALK BRIDGE SECTION A-A SEE SHEET 28

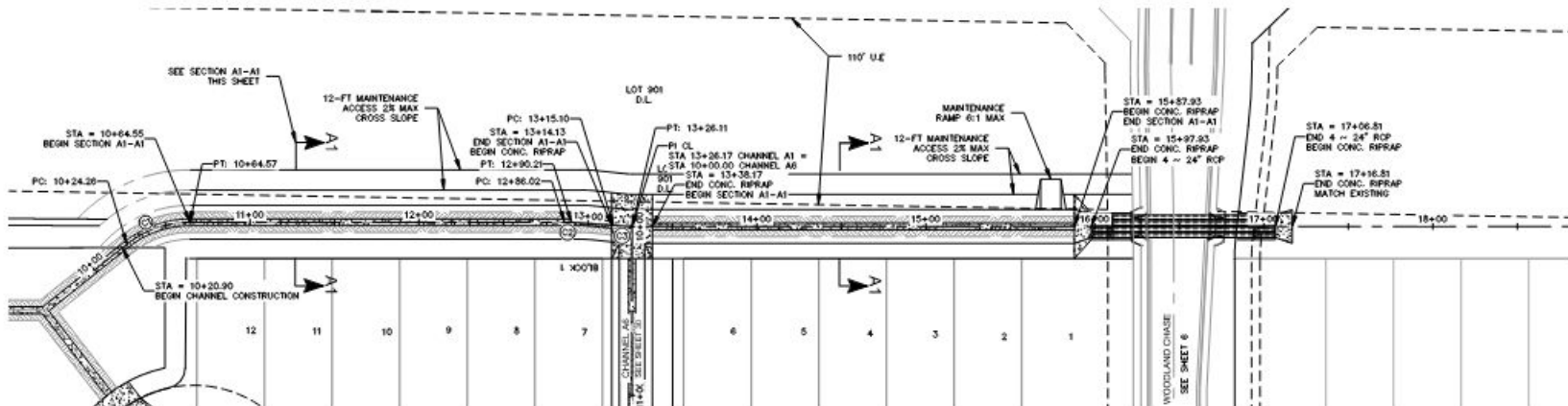
LEGEND

- COMPACTED FILL
- CONCRETE
- ROCK RIP-RAP
- ROAD WIDENING
- CHANNEL CENTERLINE
- D.L. DRAINAGE LOT

PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES AND REPORT ANY DISCREPANCIES TO ENGINEER

Curve Table

Curve #	Radius	Length	Delta	Tangent	Chord Length	Chord Direction
C1	60.00	40.31	38°29'24"	20.85'	39.50'	S69° 02' 22.61"W
C2	60.00	4.18	3°59'45"	2.09'	4.18'	N89° 43' 02.62"W
C3	3089.45	11.01	0°12'15"	5.51'	11.01'	N88° 57' 50.34"W



CHANNEL A1

CHANNEL "A1" HYDRAULICS - SECTION A1-A1

Q ₂ (CFS)	S (%)	n	V ₂ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (ft)	DEPTH PROVIDED (ft)
86.19	0.25	0.038	2.31	1.51	29.08	0.00	n/a	1.51	3.00
Q ₂₅ (CFS)	S (%)	n	V ₂₅ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (ft)	DEPTH PROVIDED (ft)
190.69	0.25	0.038	2.94	2.38	34.27	0.00	0.50	2.88	3.00
Q ₁₀₀ (CFS)	S (%)	n	V ₁₀₀ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (ft)	DEPTH PROVIDED (ft)
276.84	0.25	0.038	3.28	2.92	37.54	0.00	n/a	2.92	3.00

CULVERT A2

STORM EVENT	CULVERT SIZE	H.W. ELEV	T.W. ELEV	CULVERT Q (CFS)	CULVERT V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
2-YEAR	4 - 24" RCP	625.81	624.62	39.1	5.41	0.00	39.10
25-YEAR		627.17	625.17	85.4	7.69	0.00	85.44
50-YEAR		628.02	625.34	102.7	8.70	0.00	102.70
100-YEAR		629.19	625.53	123.8	10.11	0.00	123.81

SCALE:
HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

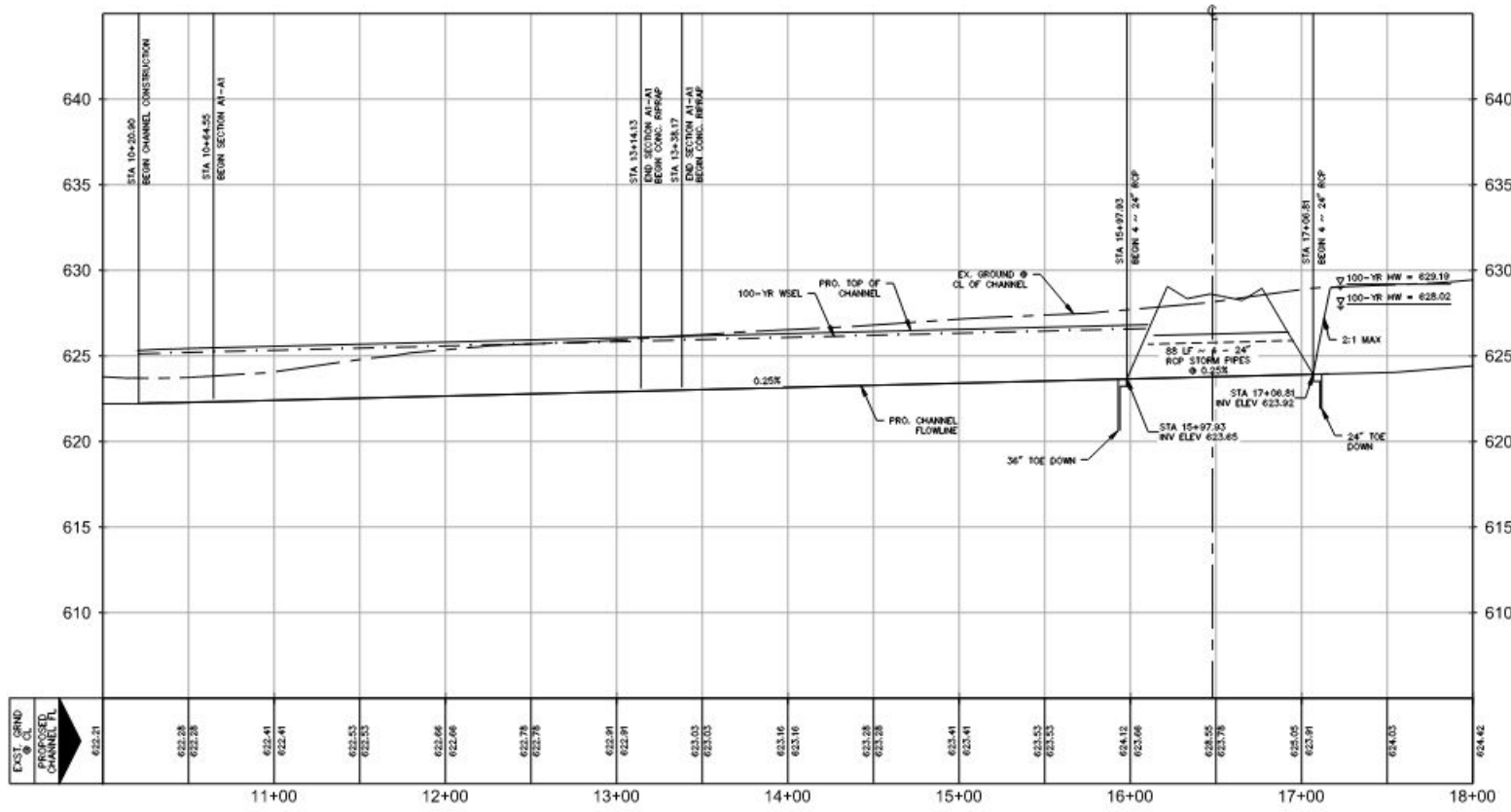
- City of Seguin Utilities (Sewer) 830-386-2222
- Crystal Clear SUD 830-372-1031
- Spectrum Cable 830-625-3409
- Centerpoint Gas 830-643-6434
- Robert Sanders 830-643-6903
- Damaged Line 888-826-5786
- AT&T Telephone 830-303-1333
- Erick Wylie PM 210-283-1706
- Scott McInerney (Construction) 210-658-4886
- Texas One Call 830-545-6005

C.P.E. LOCATOR
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.101, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1

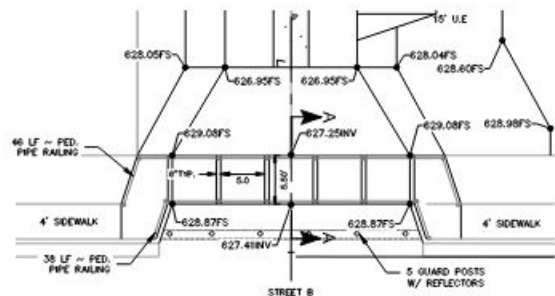
CHANNEL A1 PLAN & PROFILE

SHEET 29 OF 49

NO	DATE	ISSUES AND REVISIONS



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

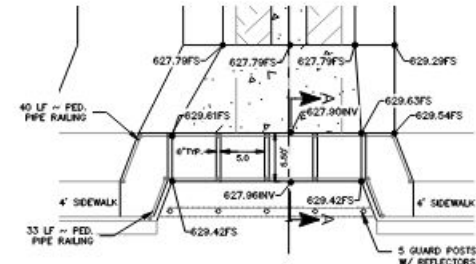


**SIDEWALK BRIDGE "A6" AND
UPSTREAM RIPRAP DETAIL "A"**
SCALE 1" = 10'

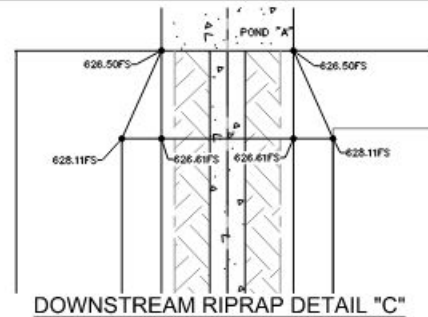
NOTE: SIDEWALK BRIDGE SECTION A-A SEE SHEET 28

SIDEWALK BRIDGE "A6" SUMMARY						
STORM EVENT	CULVERT SIZE	H.W. ELEV	CULVERT Q (CFS)	CULVERT V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	5'-0" X 1'	628.08	38.93	5.40	0.00	38.93
100-YEAR	5'-0" X 1'	628.42	71.34	6.30	0.00	71.34

SIDEWALK BRIDGE "A4" SUMMARY						
STORM EVENT	CULVERT SIZE	H.W. ELEV	CULVERT Q (CFS)	CULVERT V (FT/S)	WEIR Q (CFS)	TOTAL Q (CFS)
10-YEAR	4'-0" X 1'	629.74	30.62	3.49	0.00	30.62
100-YEAR	4'-0" X 1'	630.02	46.69	4.22	10.70	57.39



**SIDEWALK BRIDGE "A4" AND
UPSTREAM RIPRAP DETAIL "B"**
SCALE 1" = 10'



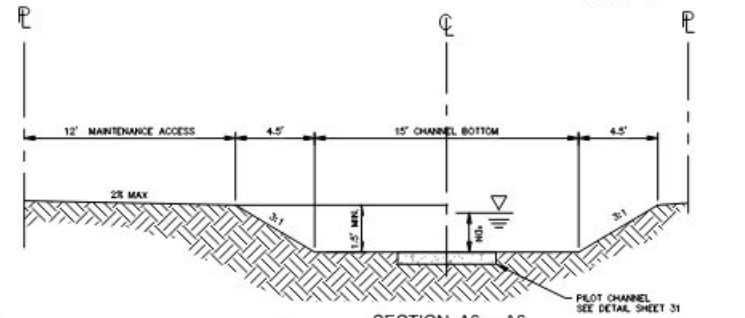
DOWNSTREAM RIPRAP DETAIL "C"
SCALE 1" = 10'

LEGEND

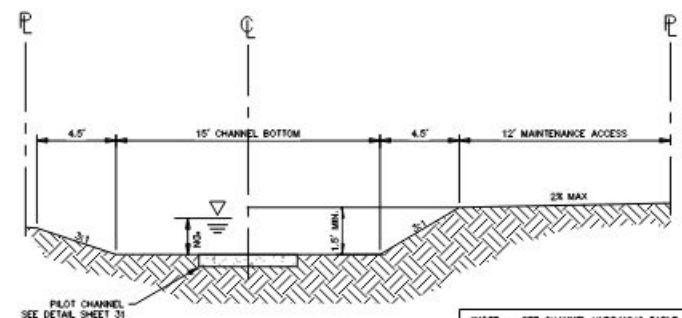
- COMPACTED FILL
- CONCRETE
- ROCK RIP-RAP
- ROAD WIDENING
- CHANNEL CENTERLINE
- D.L. DRAINAGE LOT

PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING 8" SANITARY SEWER MAIN AND REPORT ANY DISCREPANCIES TO ENGINEER

PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES AND REPORT ANY DISCREPANCIES TO ENGINEER



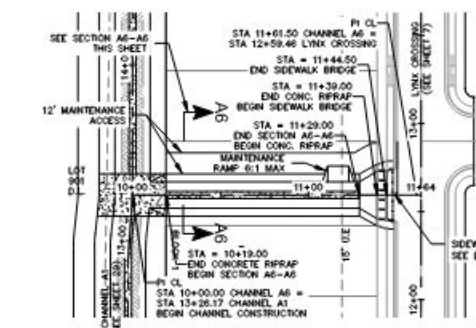
SECTION A6 - A6
NOT TO SCALE



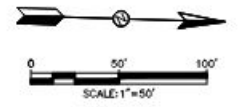
SECTION A4 - A4
NOT TO SCALE

NOTE: - SEE CHANNEL HYDRAULIC TABLE THIS SHEET

NOTE: - SEE CHANNEL HYDRAULIC TABLE THIS SHEET



CHANNEL A6

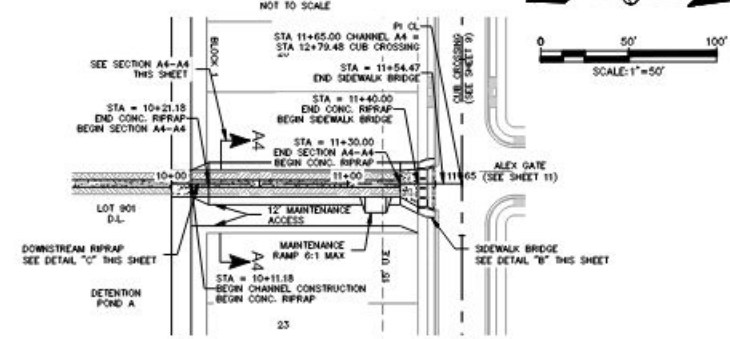


CHANNEL "A6" HYDRAULICS - SECTION A6-A6

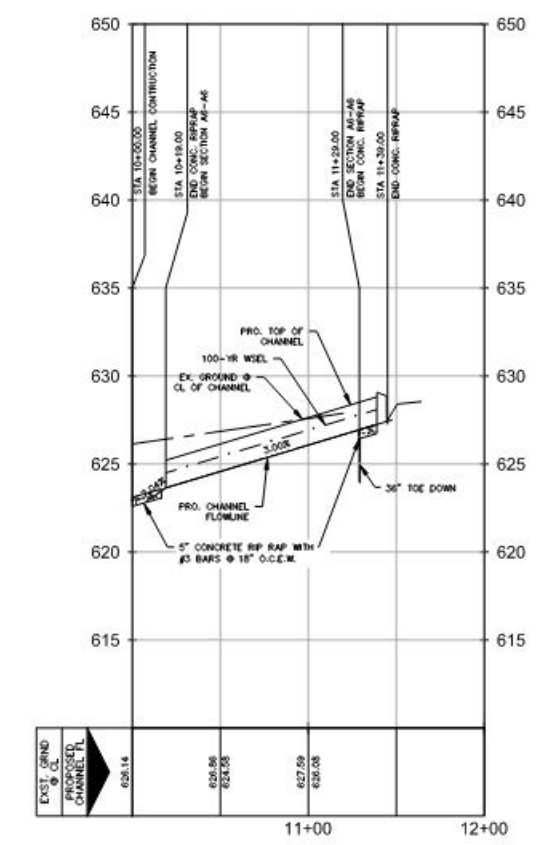
Q ₂ (CFS)	S (%)	n	V ₂ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
22.90	3.00	0.04	3.96	0.42	17.39	0.00	n/a	0.42	1.50
Q ₁₀ (CFS)	S (%)	n	V ₁₀ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
49.87	3.00	0.04	4.46	0.66	18.93	0.00	0.50	1.16	1.50
Q ₁₀₀ (CFS)	S (%)	n	V ₁₀₀ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
71.82	3.00	0.04	5.06	0.81	19.86	0.00	n/a	0.81	1.50

CHANNEL "A4" HYDRAULICS - SECTION A4-A4

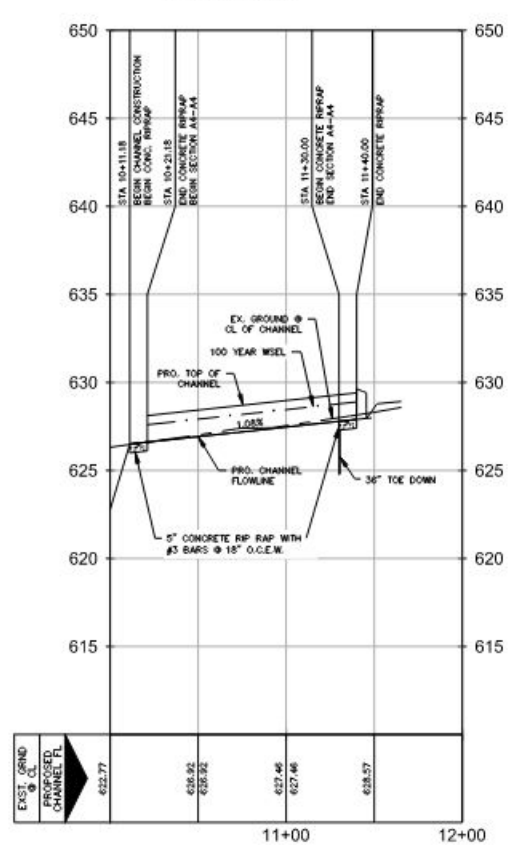
Q ₂ (CFS)	S (%)	n	V ₂ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
18.26	1.00	0.04	2.20	0.50	18.01	0.00	n/a	0.50	1.50
Q ₁₀ (CFS)	S (%)	n	V ₁₀ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
39.87	1.00	0.04	2.90	0.79	19.75	0.00	0.50	1.29	1.50
Q ₁₀₀ (CFS)	S (%)	n	V ₁₀₀ (FT/S)	dn (FT)	Tw (FT)	ΔH (FT)	REQUIRED FREEBOARD	REQUIRED DEPTH (D) (FT)	DEPTH PROVIDED (D) (FT)
57.38	1.00	0.04	3.27	0.98	20.87	0.00	n/a	0.98	1.50



CHANNEL A4



SCALE:
HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



SCALE:
HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

**CHANNEL A4 AND A6
PLAN & PROFILE**

SHEET **30** OF **49**

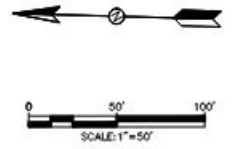
NO	DATE	ISSUES AND REVISIONS

INK CIVIL

2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

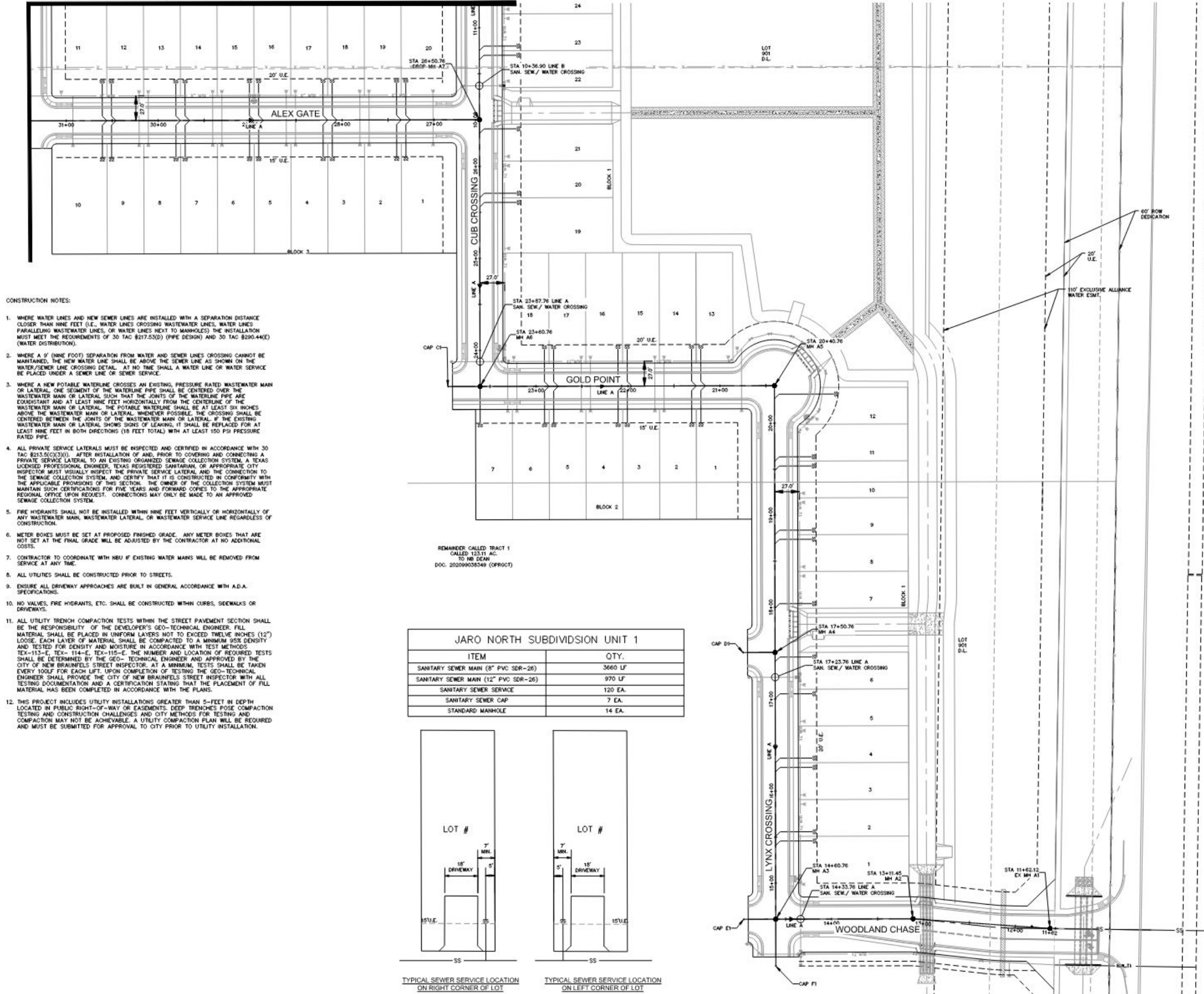
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MATCHLINE A - A
(SEE SHEET 33)



LEGEND

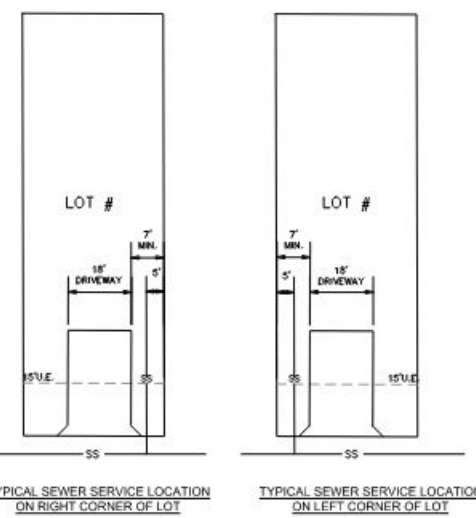
- NEW SANITARY SEWER
- NEW MANHOLE
- NEW SEWER LATERAL
- NEW WATER SERVICE
- NEW SINGLE METERED WATER SERVICE
- NEW FIRE HYDRANT



- CONSTRUCTION NOTES:**
- WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §220.44(E) (WATER DISTRIBUTION).
 - WHERE A 9' (NINE FOOT) SEPARATION FROM WATER AND SEWER LINES CROSSING CANNOT BE MAINTAINED, THE NEW WATER LINE SHALL BE ABOVE THE SEWER LINE AS SHOWN ON THE WATER/SEWER LINE CROSSING DETAIL. AT NO TIME SHALL A WATER LINE OR WATER SERVICE BE PLACED UNDER A SEWER LINE OR SEWER SERVICE.
 - WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING, PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. IF THE EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.
 - ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.55(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.
 - FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
 - METER BOXES MUST BE SET AT PROPOSED FINISHED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COSTS.
 - CONTRACTOR TO COORDINATE WITH NBIF IF EXISTING WATER MAINS WILL BE REMOVED FROM SERVICE AT ANY TIME.
 - ALL UTILITIES SHALL BE CONSTRUCTED PRIOR TO STREETS.
 - ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.
 - NO VALVES, FIRE HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
 - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") THICK. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100' FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
 - THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

REMAINDER CALLED TRACT 1
CALLED 125.11 AC.
TO NB DEAN
DOC. 202099038349 (OPROCT)

JARO NORTH SUBDIVISION UNIT 1	
ITEM	QTY.
SANITARY SEWER MAIN (8" PVC SDR-26)	3660 LF
SANITARY SEWER MAIN (12" PVC SDR-26)	970 LF
SANITARY SEWER SERVICE	120 EA.
SANITARY SEWER CAP	7 EA.
STANDARD MANHOLE	14 EA.



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
UNIT 1**

**OVERALL SANITARY
SEWER PLAN I**

SHEET
32 OF 49

NO	DATE	ISSUES AND REVISIONS
Δ		



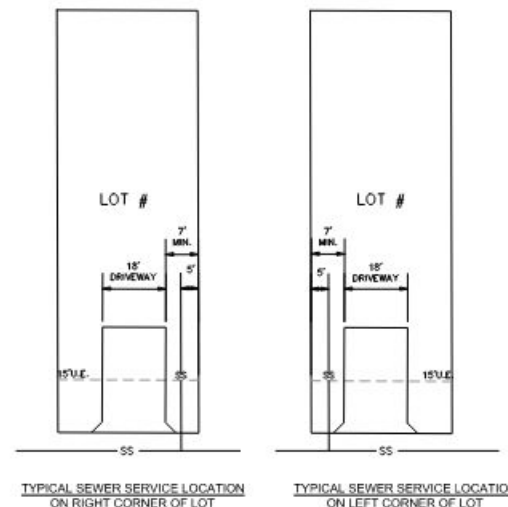
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

NOTE:
JARO SOUTH SUBDIVISION IS CONSTRUCTING
THE SEWER THAT WILL PROVIDE THE
CONNECTION FOR THIS DEVELOPMENT.
CONTRACTOR TO NOTIFY ENGINEER OF ANY
DISCREPANCIES.

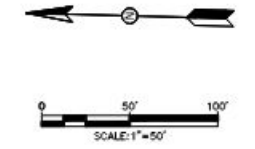
CONSTRUCTION NOTES:

- WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(3) (PIPE DESIGN) AND 30 TAC §200.44(3) (WATER DISTRIBUTION).
- WHERE A 9' (NINE FOOT) SEPARATION FROM WATER AND SEWER LINES CROSSING CANNOT BE MAINTAINED, THE NEW WATER LINE SHALL BE ABOVE THE SEWER LINE AS SHOWN ON THE WATER/SEWER LINE CROSSING DETAIL. AT NO TIME SHALL A WATER LINE OR WATER SERVICE BE PLACED UNDER A SEWER LINE OR SEWER SERVICE.
- WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. IF THE EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.
- ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.50(3)(5). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.
- FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
- METER BOXES MUST BE SET AT PROPOSED FINISHED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COSTS.
- CONTRACTOR TO COORDINATE WITH NEU IF EXISTING WATER MARKS WILL BE REMOVED FROM SERVICE AT ANY TIME.
- ALL UTILITIES SHALL BE CONSTRUCTED PRIOR TO STREETS.
- ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.
- NO VALVES, FIRE HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") THICK. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100' FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
- THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5'-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

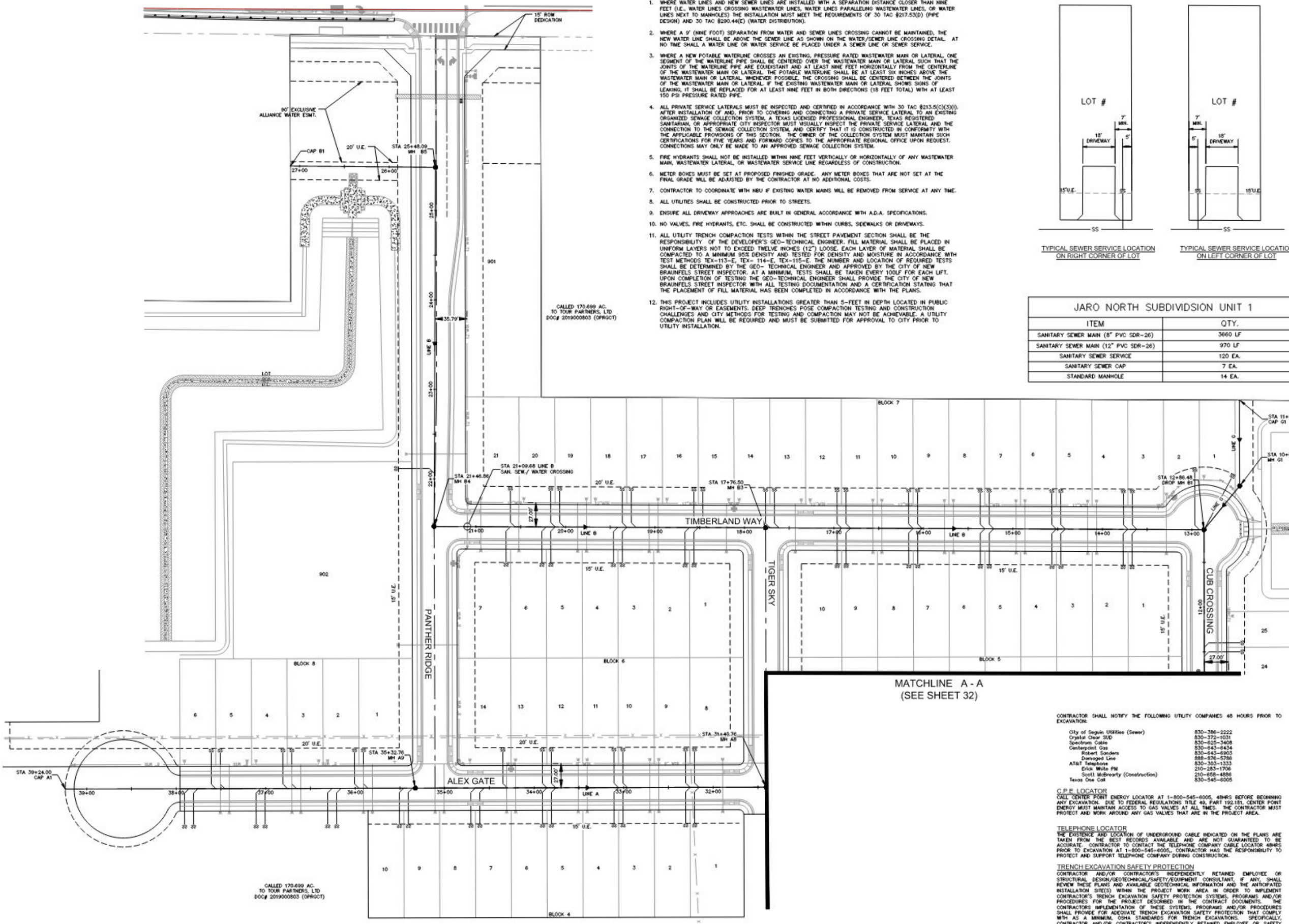
CALL 170.699 AC.
TO TOUR PARTNERS, LTD
DOC# 2019000803 (DPRGCT)



JARO NORTH SUBDIVISION UNIT 1	
ITEM	QTY.
SANITARY SEWER MAIN (8" PVC SDR-26)	3660 LF
SANITARY SEWER MAIN (12" PVC SDR-26)	970 LF
SANITARY SEWER SERVICE	120 EA.
SANITARY SEWER CAP	7 EA.
STANDARD MANHOLE	14 EA.



- LEGEND**
- NEW SANITARY SEWER
 - NEW MANHOLE
 - NEW SEWER LATERAL
 - NEW WATER SERVICE
 - NEW SINGLE METERED WATER SERVICE
 - NEW FIRE HYDRANT



MATCHLINE A - A
(SEE SHEET 32)

- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:
- City of Seguin Utilities (Sewer) 830-386-2222
 - Crystal Clear SUD 830-372-1031
 - Spektron Cable 830-625-3408
 - Centerpoint Gas 830-643-6434
 - Robert Souders 830-643-6903
 - Damaged Line 888-576-0790
 - AT&T Telephone 830-303-1333
 - Eric White FM 210-283-1706
 - Scott McBrearty (Construction) 210-658-4886
 - Texas One Call 830-545-6005

C.P.E. LOCATOR
CALL CENTER/FORT ENERGY LOCATOR AT 1-800-545-6005, 48hrs BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, FACTOR FOR CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES, OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1
OVERALL SANITARY
SEWER PLAN II

SHEET 33 OF 49

NO	DATE	ISSUES AND REVISIONS



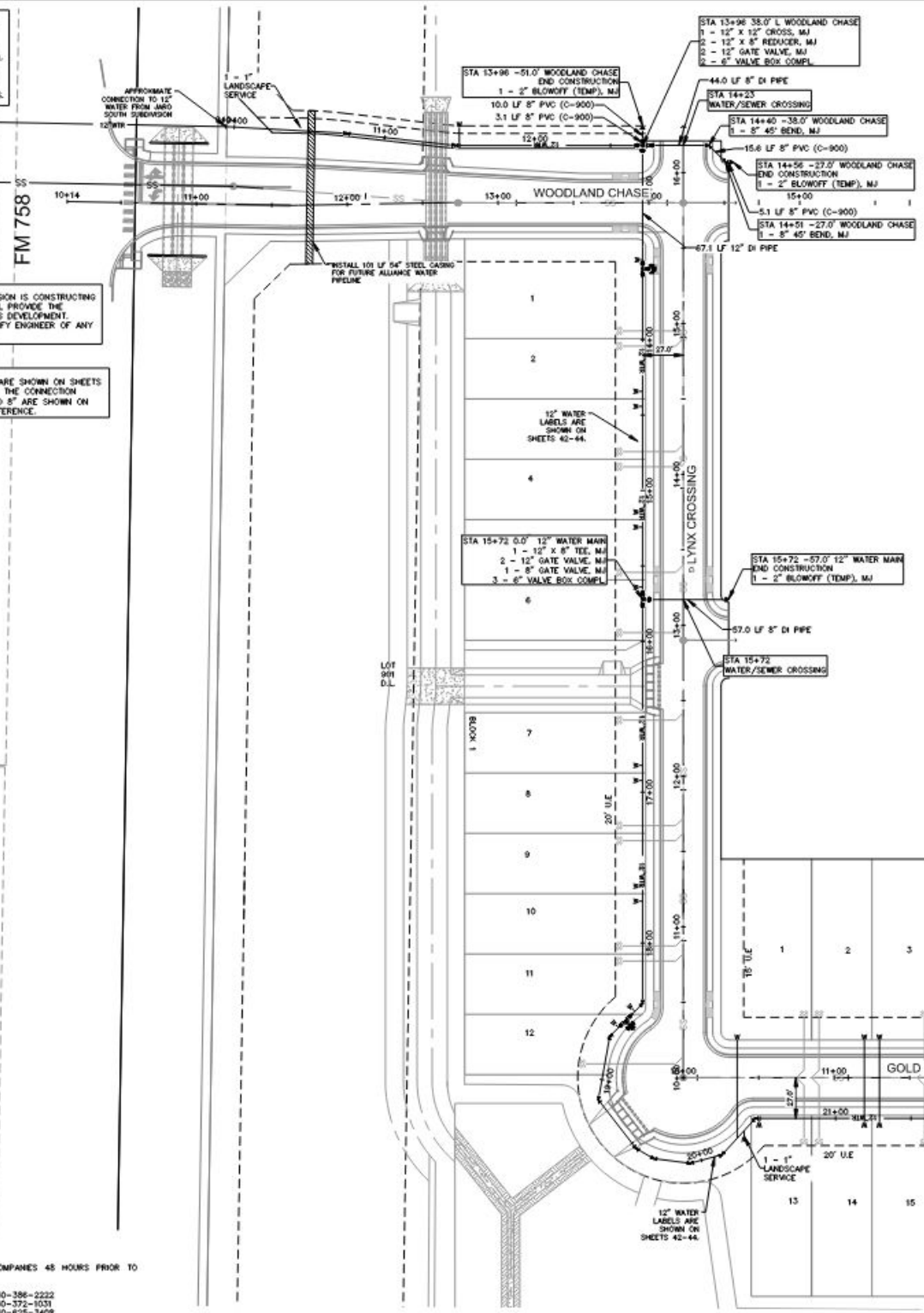
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink@civil.com
TBPE FIRM F-13351

Drawing Name: N:\Projects\JARO\JARO\Overall Sanitary Sewer Plan.dwg User: nmanusmoo Date: 11/17/2023 10:52:28 AM

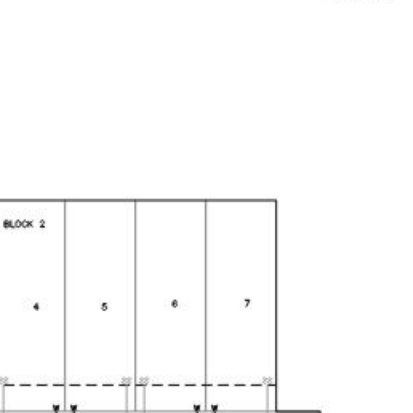
- NOTES:
- STATIONING FOR 8" WATER MAINS ARE BASED ON ROAD ALIGNMENTS. STATIONING FOR 12" WATER MAINS ARE BASED ON AN ALIGNMENT ALONG THE 12" MAIN (SEE SHEET 42-44 FOR PROFILE VIEWS).
 - GATE VALVES ON FIRE HYDRANT LEADS SHALL BE RESTRAINED AT THE TEE. SEE THIS SHEET FOR CALLOUTS FOR ANCHOR TEES FOR FIRE HYDRANTS.

NOTE: JARO NORTH SUBDIVISION IS CONSTRUCTING THE SEWER THAT WILL PROVIDE THE CONNECTION FOR THIS DEVELOPMENT. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.

NOTE: 12" WATER LABELS ARE SHOWN ON SHEETS 42-44. LABELS FOR THE CONNECTION POINTS FROM 12" TO 8" ARE SHOWN ON THIS SHEET FOR REFERENCE.

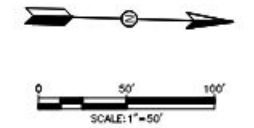


FIRE HYDRANT LOCATION DETAIL
SCALE: NTS



- CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) WATER MAIN NOTES:
- THE CONTRACTOR SHALL COORDINATE PRESSURE TESTING OF NEW WATER MAINS WITH OWNER AND ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR. PRESSURE TESTING REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
 - ALL WATER MAINS SHALL BE DISINFECTED PER AWWA AND 1000 STANDARDS.
 - THE CONNECTION LOCATIONS LISTED IN THE PLANS ARE BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXISTING WATER MAIN LOCATIONS AT ALL TEE LOCATIONS TO VERIFY SIZE, ELEVATION, AND MATERIAL PRIOR TO ORDERING MATERIALS FOR CONNECTION.
 - THE CONTRACTOR SHALL MAINTAIN MINIMUM SEPARATION BETWEEN UTILITIES PER 1000 STANDARDS.
 - WATER MAINS SHALL BE RESTRAINED WITH RESTRAINT LENGTHS OF FITTINGS SHOWN IN PLANS.
 - UNLESS OTHERWISE SPECIFIED, ALL PVC WATER MAINS SHALL BE 0900/0905 DR 15, COLORED BLUE.
 - UNLESS OTHERWISE SPECIFIED, ALL DUCTILE IRON WATER MAINS SHALL BE PRESSURE CLASS 350 CONFORMING TO AWWA C150 AND AWWA C151 AND CEMENT LINING.
 - LOCATIONS OF COMBINATION AIR VALVES SHOWN ARE APPROXIMATE. INSTALL AIR RELEASE VALVES AT THE HIGH POINT IN THE WATER MAIN FOR THE LOCATIONS GIVEN.
 - THRUST BLOCKING IS REQUIRED AT ALL FITTINGS AND BENDS IN ACCORDANCE WITH THE THRUST BLOCKING DETAIL PROVIDED AND SPECIFICATION SECTION 02800 - JOINT RESTRAINTS AND THRUST BLOCKING.
 - THE OWNER SHALL SUPPLY ALL WATER NEEDED FOR CONSTRUCTION TESTING AND DISINFECTION. THE CONTRACTOR SHALL NOT BE REQUIRED TO PAY FOR THIS WATER.
 - UNLESS NOTED OTHERWISE, ALL WATER MAIN P.I.'S SHALL BE ACHIEVED USING THE WATER MAIN MANUFACTURER'S ALLOWABLE JOINT DEFLECTION.
 - WATER MAINS AND VALVES THAT ARE ABANDONED IN PLACE SHALL BE CUT AND PLUGGED PER SPECIFICATION SECTION 02500 - ABANDONMENT OF WATER INFRASTRUCTURE.
 - REMOVE ONLY VEGETATION, TREES, STUMPS, RUBBISH, AND OTHER MATERIAL NECESSARY FOR CONSTRUCTION AND DISPOSE OF OFF SITE.
 - CONSTRUCTION OF ALL CCSUD WATER UTILITY INFRASTRUCTURE MUST ADHERE TO CCSUD'S TECHNICAL SPECIFICATIONS, DETAILS AND APPROVED EQUIPMENT LIST.

- CONSTRUCTION NOTES:
- WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §200.44(E) (WATER DISTRIBUTION).
 - WHERE A 9" (NINE FOOT) SEPARATION FROM WATER AND SEWER LINES CROSSING CANNOT BE MAINTAINED, THE NEW WATER LINE SHALL BE ABOVE THE SEWER LINE AS SHOWN ON THE WATER/SEWER LINE CROSSING DETAIL. AT NO TIME SHALL A WATER LINE OR WATER SERVICE BE PLACED UNDER A SEWER LINE OR SEWER SERVICE.
 - WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING, PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL, WHICHEVER POSSIBLE. THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. IF THE EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.
 - ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(V). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.
 - FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
 - METER BOXES MUST BE SET AT PROPOSED FINISHED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COSTS.
 - CONTRACTOR TO COORDINATE WITH CCSUD IF EXISTING WATER MAINS WILL BE REMOVED FROM SERVICE AT ANY TIME.
 - ALL UTILITIES SHALL BE CONSTRUCTED PRIOR TO STREETS.
 - ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A SPECIFICATIONS.
 - NO VALVES, FIRE HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
 - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") THICK. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-112-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200' FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
 - THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.



LEGEND

- SS NEW SANITARY SEWER
- NEW MANHOLE
- NEW SEWER LATERAL
- NEW WATER SERVICE
- NEW SINGLE METERED WATER SERVICE
- NEW FIRE HYDRANT
- EXISTING OVERHEAD ELECTRIC
- EXISTING 8" SANITARY SEWER
- EXISTING WOOD FENCE
- EXISTING BARB WIRE FENCE
- EXISTING TRAFFIC GUARDRAIL
- EXISTING SIGN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- EXISTING GUY

JARO NORTH SUBDIVISION UNIT 1	
ITEM	QTY.
WATER MAIN (8" PVC C-900)	1312 LF
WATER MAIN (12" PVC C-900)	3365 LF
WATER MAIN (8" DUCTILE IRON)	468 LF
WATER MAIN (12" DUCTILE IRON)	67 LF
WATER SERVICES	119 EA.
IRRIGATION SERVICES	4 EA.
WATER METERS	123 EA.
FIRE HYDRANTS	9 EA.
FIRE LINES	90 LF



05/25/2024
NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION UNIT 1
WATER DISTRIBUTION PLAN I

SHEET **40** OF **49**

NO	DATE	ISSUES AND REVISIONS
Δ	9/21/22	UPDATE FM 758 RAMPS PER TxDOT APPROVAL



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

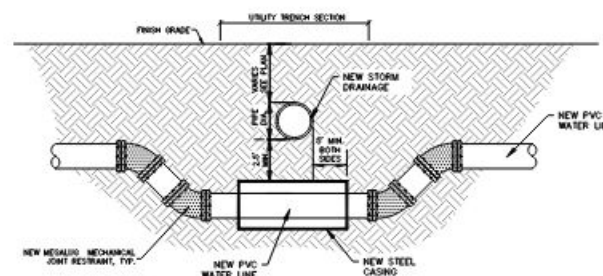
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:
- City of Seguin Utilities (Sewer) 830-386-2222
 - Crystal Clear SUD 830-372-1031
 - Spectrum Cable 830-625-3409
 - Centerpoint Gas 830-643-6434
 - Robert Sanders 830-643-6903
 - Damaged Line 888-826-5788
 - AT&T Telephone 830-303-1333
 - Elgin Waste FM 210-253-1706
 - Scott Midway (Construction) 210-628-4858
 - Texas One Call 830-545-6005

C.P.E. LOCATOR
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



WATER LINE / STORM DRAINAGE CROSSING DETAIL
(NOT TO SCALE)

- NOTES:
- MECHANICAL JOINTS SHALL CONFORM TO THE AWWA C-900 INSTALLATION PROCEDURES.
 - REFERENCE THE SPECIFICATIONS FOR MECHANICALLY RESTRAINED JOINTS FOR ADDITIONAL INFORMATION.
 - RECOMPACT ALL PIPE BEDDING AROUND NEW AND EXISTING PIPES AND REPAIR OR RECONSTRUCT FINISH GRADE MATERIAL.

MATCHLINE A-A
(SEE SHEET 41)

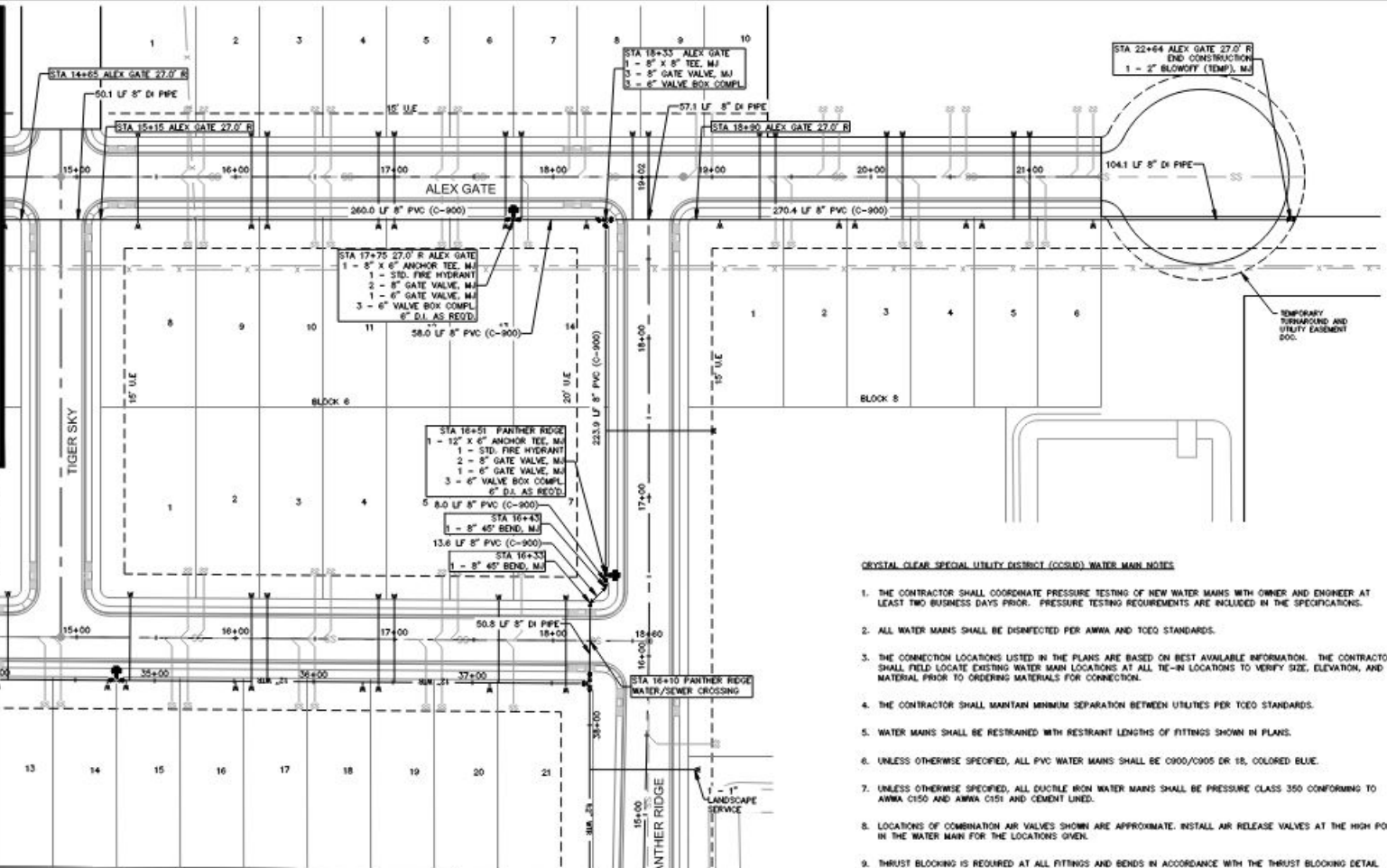
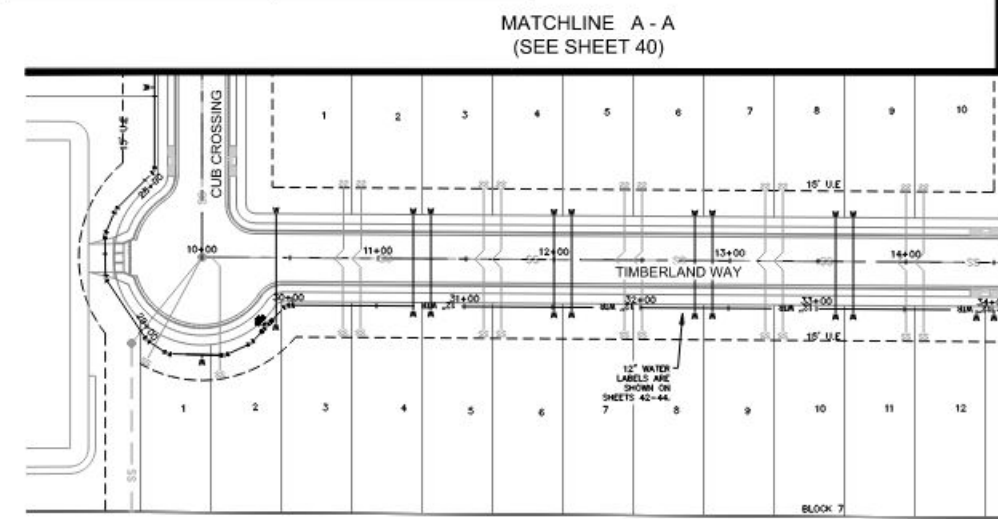
NOTES:
 1. STATIONING FOR 8" WATER MAINS ARE BASED ON ROAD ALIGNMENTS. STATIONING FOR 12" WATER MAINS ARE BASED ON AN ALIGNMENT ALONG THE 12" MAIN (SEE SHEET 42-44 FOR PROFILE VIEWS).
 2. GATE VALVES ON FIRE HYDRANT LEADS SHALL BE RESTRAINED AT THE TEE. SEE THIS SHEET FOR CALLOUTS FOR ANCHOR TEES FOR FIRE HYDRANTS.

JARO NORTH SUBDIVISION UNIT 1	
ITEM	QTY.
WATER MAIN (8" PVC C-900)	1312 LF
WATER MAIN (12" PVC C-900)	3365 LF
WATER MAIN (8" DUCTILE IRON)	468 LF
WATER MAIN (12" DUCTILE IRON)	67 LF
WATER SERVICES	119 EA.
IRRIGATION SERVICES	4 EA.
WATER METERS	123 EA.
FIRE HYDRANTS	9 EA.
FIRE LINES	90 LF

NOTE:
 12" WATER LABELS ARE SHOWN ON SHEETS 42-44. LABELS FOR THE CONNECTION POINTS FROM 12" TO 8" ARE SHOWN ON THIS SHEET FOR REFERENCE.

LEGEND

	NEW SANITARY SEWER
	NEW MANHOLE
	NEW SEWER LATERAL
	NEW WATER SERVICE
	NEW SINGLE METERED WATER SERVICE
	NEW FIRE HYDRANT
	EXISTING OVERHEAD ELECTRIC
	EXISTING 8" SANITARY SEWER
	EXISTING WOOD FENCE
	EXISTING BARBED WIRE FENCE
	EXISTING TRAFFIC GUARDRAIL
	EXISTING SIGN
	EXISTING SANITARY SEWER MANHOLE
	EXISTING UTILITY POLE
	EXISTING GUY



- CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) WATER MAIN NOTES**
- THE CONTRACTOR SHALL COORDINATE PRESSURE TESTING OF NEW WATER MAINS WITH OWNER AND ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR. PRESSURE TESTING REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
 - ALL WATER MAINS SHALL BE DISINFECTED PER AWWA AND TCEQ STANDARDS.
 - THE CONNECTION LOCATIONS LISTED IN THE PLANS ARE BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXISTING WATER MAIN LOCATIONS AT ALL TIE-IN LOCATIONS TO VERIFY SIZE, ELEVATION, AND MATERIAL PRIOR TO ORDERING MATERIALS FOR CONNECTION.
 - THE CONTRACTOR SHALL MAINTAIN MINIMUM SEPARATION BETWEEN UTILITIES PER TCEQ STANDARDS.
 - WATER MAINS SHALL BE RESTRAINED WITH RESTRAINT LENGTHS OF FITTINGS SHOWN IN PLANS.
 - UNLESS OTHERWISE SPECIFIED, ALL PVC WATER MAINS SHALL BE C900/C905 OR 15, COLORED BLUE.
 - UNLESS OTHERWISE SPECIFIED, ALL DUCTILE IRON WATER MAINS SHALL BE PRESSURE CLASS 350 CONFORMING TO AWWA C150 AND AWWA C151 AND CEMENT LINED.
 - LOCATIONS OF COMBINATION AIR VALVES SHOWN ARE APPROXIMATE. INSTALL AIR RELEASE VALVES AT THE HIGH POINT IN THE WATER MAIN FOR THE LOCATIONS GIVEN.
 - THRUST BLOCKING IS REQUIRED AT ALL FITTINGS AND BENDS IN ACCORDANCE WITH THE THRUST BLOCKING DETAIL PROVIDED AND SPECIFICATION SECTION 02580 - JOINT RESTRAINTS AND THRUST BLOCKING.
 - THE OWNER SHALL SUPPLY ALL WATER NEEDED FOR CONSTRUCTION TESTING AND DISINFECTION. THE CONTRACTOR SHALL NOT BE REQUIRED TO PAY FOR THIS WATER.
 - UNLESS NOTED OTHERWISE, ALL WATER MAIN P.I.'S SHALL BE ACHIEVED USING THE WATER MAIN MANUFACTURER'S ALLOWABLE JOINT DEFLECTION.
 - WATER MAINS AND VALVES THAT ARE ABANDONED IN PLACE SHALL BE CUT AND FLUSHED PER SPECIFICATION SECTION 02500 - ABANDONMENT OF WATER INFRASTRUCTURE.
 - REMOVE ONLY VEGETATION, TREES, STUMPS, RUBBISH, AND OTHER MATERIAL NECESSARY FOR CONSTRUCTION AND DISPOSE OF OFF SITE.
 - CONSTRUCTION OF ALL CCSUD WATER UTILITY INFRASTRUCTURE MUST ADHERE TO CCSUD'S TECHNICAL SPECIFICATIONS, DETAILS AND APPROVED EQUIPMENT LIST.

- CONSTRUCTION NOTES:**
- WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
 - WHERE A 9' (NINE FOOT) SEPARATION FROM WATER AND SEWER LINES CROSSING CANNOT BE MAINTAINED, THE NEW WATER LINE SHALL BE ABOVE THE SEWER LINE AS SHOWN ON THE WATER/SEWER LINE CROSSING DETAIL. AT NO TIME SHALL A WATER LINE OR WATER SERVICE BE PLACED UNDER A SEWER LINE OR SEWER SERVICE.
 - WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING, PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL, SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL, WHENEVER POSSIBLE. THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL, IF THE EXISTING WASTEWATER MAIN OR LATERAL SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.
 - ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(D). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.
 - FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
 - METER BOXES MUST BE SET AT PROPOSED FINISHED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COSTS.
 - CONTRACTOR TO COORDINATE WITH NEU IF EXISTING WATER MAINS WILL BE REMOVED FROM SERVICE AT ANY TIME.
 - ALL UTILITIES SHALL BE CONSTRUCTED PRIOR TO STREETS.
 - ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.
 - NO VALVES, FIRE HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
 - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX- 114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO- TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
 - THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
 UNIT 1**

WATER DISTRIBUTION PLAN II

SHEET
41 of 49

NO	DATE	ISSUES AND REVISIONS
1	5-28-2024	REVISED PER CCSUD COMMENTS

2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351

© COPYRIGHT 2021

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

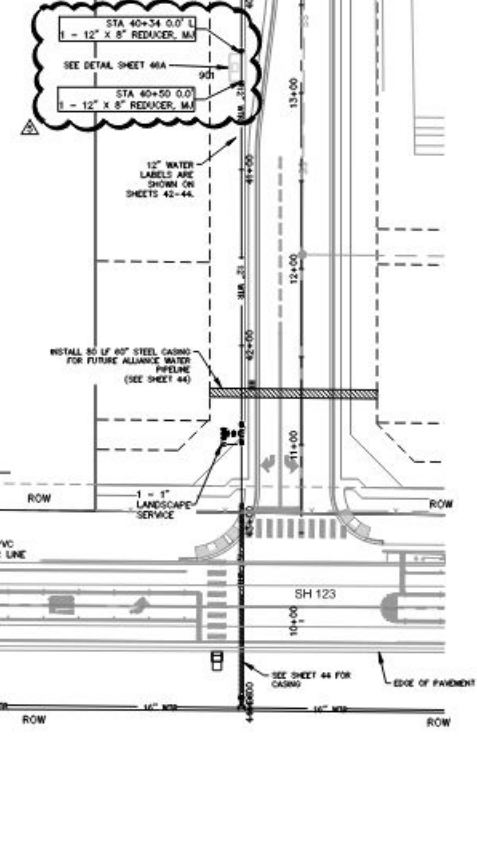
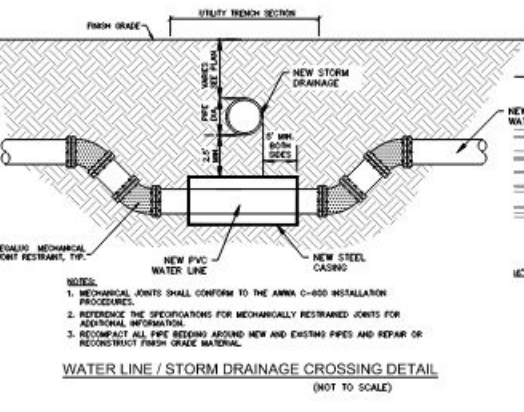
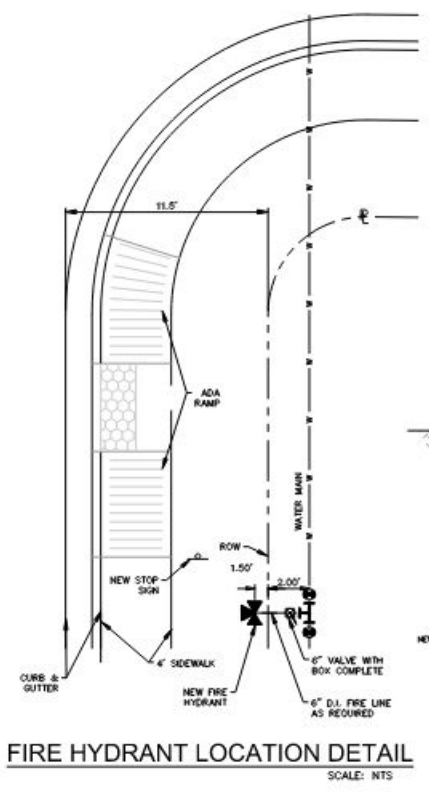
City of Seguin Utilities (Sewer)	830-386-2222
Crystal Clear SUD	830-372-1031
Spectrum Cable	830-625-3409
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	888-806-5786
AT&T Telephone	830-303-1333
Ench Wire FM	210-283-1706
Scott Midway (Construction)	210-658-4856
Texas One Call	830-545-6005

C.P.E. LOCATOR
 CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR
 THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



SEQUENCE OF CONSTRUCTION:

- OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO CDD), IF APPLICABLE.
- INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
- BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
- BEGIN SITE CLEARING AND GRADING.
- RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
- COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
- CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% EVENLY ESTABLISHED. RYE IS NOT ACCEPTED.

- EROSION CONTROL NOTES:**
- LIMITS OF CONSTRUCTION AND OTHER EROSION CONTROL IMPROVEMENTS SHOWN OUTSIDE THE PROPERTY ARE SHOWN FOR GRAPHICAL PURPOSE ONLY. IF NEAR PROPERTY LINE, THE INTENT IS TO BE PLACED NEAR THE PROPERTY LINE, NOT ON THE ADJACENT PROPERTY.
 - DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
 - CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
 - STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED IN THE SWPPP DOCUMENTS AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
 - RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
 - ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
 - 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 VISUAL CLARITY.
 - 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.
 - BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UP-GRADED AREAS.
 - BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
 - UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
 - STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2(N).

HYDRAULIC MULCH

MATERIALS:
 HYDRAULIC MULCHES: WOOD FIBER MULCH CAN BE APPLIED ALONE OR AS A COMPONENT OF HYDRAULIC MATRICES. WOOD FIBER APPLIED ALONE IS TYPICALLY APPLIED AT THE RATE OF 2,000 TO 4,000 LB/ACRE. WOOD FIBER MULCH IS MANUFACTURED FROM WOOD OR WOOD WASTE FROM LUMBER MILLS OR FROM URBAN SOURCES.
 HYDRAULIC MATRICES: HYDRAULIC MATRICES INCLUDE A MIXTURE OF WOOD FIBER AND ACRYLIC POLYMER OR OTHER TACKIFIER AS BINDER. APPLY AS A LIQUID SLURRY USING A HYDRAULIC APPLICATION MACHINE (I.E., HYDRO SEEDER) AT THE FOLLOWING MINIMUM RATES, OR AS SPECIFIED BY THE MANUFACTURER TO ACHIEVE COMPLETE COVERAGE OF THE TARGET AREA: 2,000 TO 4,000 LB/ACRE WOOD FIBER MULCH, AND 5 TO 10% (BY WEIGHT) OF TACKIFIER (ACRYLIC COPOLYMER, GUAR, PSYLLUM, ETC.)
 BONDED FIBER MATRIX: BONDED FIBER MATRIX (BFM) IS A HYDRAULICALLY APPLIED SYSTEM OF FIBERS AND ADHESIVES THAT UPON DRYING FORMS AN EROSION RESISTANT BLANKET THAT PROMOTES VEGETATION, AND PREVENTS SOIL EROSION. BFMS ARE TYPICALLY APPLIED AT RATES FROM 3,000 LB/ACRE TO 4,000 LB/ACRE BASED ON THE MANUFACTURER'S RECOMMENDATION. A BIODEGRADABLE BFM IS COMPOSED OF MATERIALS THAT ARE 100% BIODEGRADABLE. THE BINDER IN THE BFM SHOULD ALSO BE BIODEGRADABLE AND SHOULD NOT DISSOLVE OR DISPERSE UPON HEATING. TYPICALLY BIODEGRADABLE BFMS SHOULD NOT BE APPLIED IMMEDIATELY BEFORE, DURING OR IMMEDIATELY AFTER RAINFALL IF THE SOIL IS SATURATED. DEPENDING ON THE PRODUCT, BFMS TYPICALLY REQUIRE 12 TO 24 HOURS TO DRY AND BECOME EFFECTIVE.

- INSTALLATION:**
- PRIOR TO APPLICATION, ROUGHEN EMBANKMENT AND FILL AREAS BY ROLLING WITH A CRIMPING OR PUNCHING TIRE ROLLER OR BY TRACK WALKING. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
 - TO BE EFFECTIVE, HYDRAULIC MATRICES REQUIRE 24 HOURS TO DRY BEFORE RAINFALL OCCURS.
 - AVOID MULCH OVER SPRAY ON TO ROADS, SIDEWALKS, DRAINAGE CHANNELS, EXISTING VEGETATION, ETC.
 - 4" OF TOP SOIL SHALL BE PLACED.
- INSPECTION AND MAINTENANCE GUIDELINES:**
- MULCHED AREAS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.
 - AREAS DAMAGED BY STORMS OR NORMAL CONSTRUCTION ACTIVITIES SHOULD BE REGRADED AND HYDRAULIC MULCH REAPPLIED AS SOON AS PRACTICAL.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

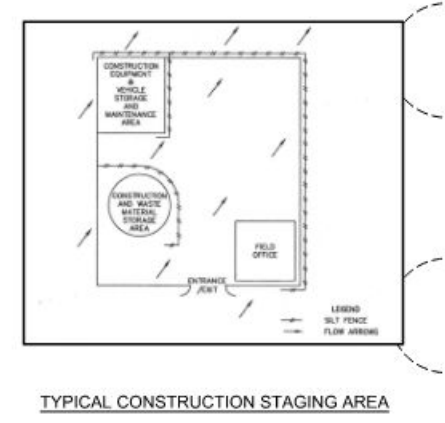
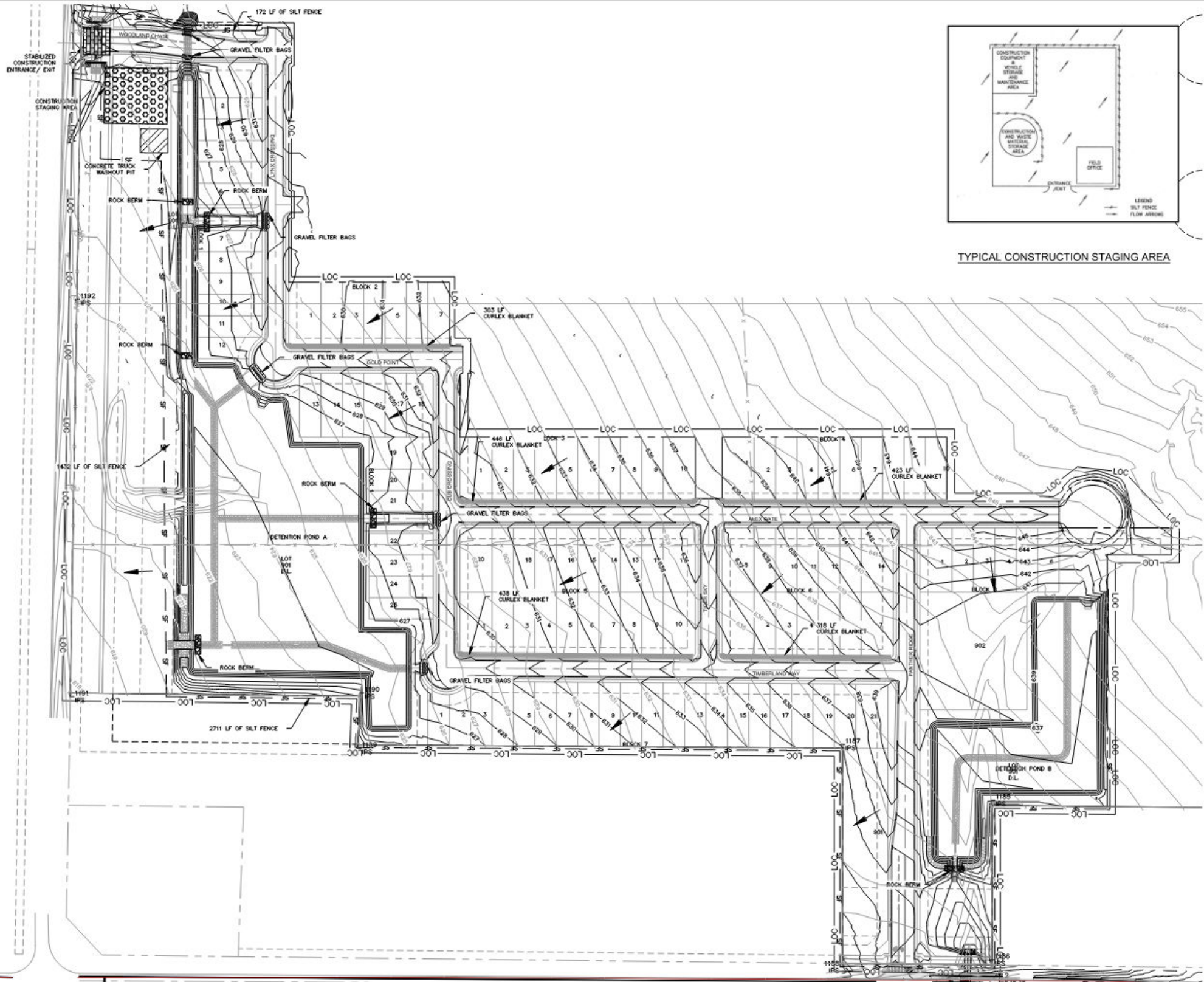
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Robert Sanders	830-643-6903
Damaged Line	888-792-5786
AT&T Telephone	830-303-1333
Ekon White FM	210-283-1706
Scott Midway (Construction)	210-628-4836
Texas One Call	830-545-6005

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LEGEND

- SF SILT FENCE
- LOC LIMITS OF CONSTRUCTION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EDGE OF PAVEMENT
- FLOW ARROWS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING WATER METER
- EXISTING FIRE VALVE
- EXISTING TREE
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TRUCK WASH OUT PIT
- CONSTRUCTION STAGING AREA
- ROCK BERM
- SOIL RETENTION BLANKET
- GRAVEL FILTER BAGS
- CURLEX BLANKET



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

**JARO NORTH SUBDIVISION
 UNIT 1**

EROSION CONTROL PLAN

SHEET **47** OF **49**

NO	DATE	ISSUES AND REVISIONS
Δ	3/14/22	REMOVED SH 123 CONSTRUCTION ENTRANCE



2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351

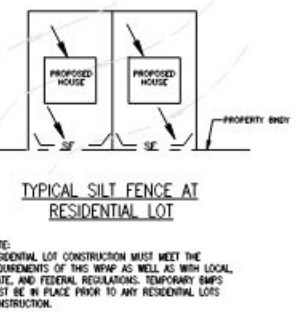
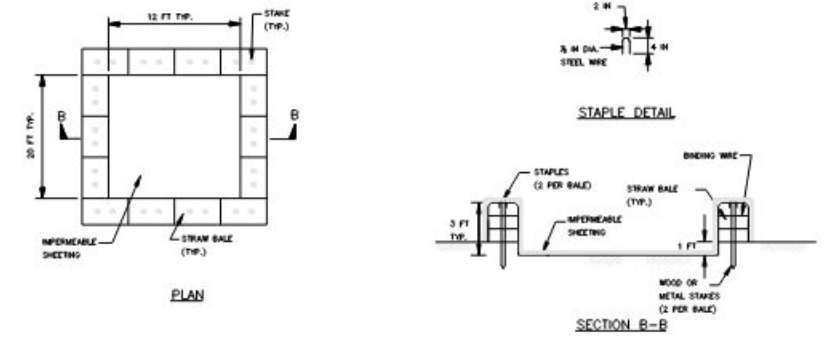
RESIDENTIAL LOT STABILIZATION

- CURLEX BLANKET (4" MIN WIDTH) OR ENGINEER APPROVED EQUAL.
- CURLEX MUST BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
- MAX SLOPE FOR CURLEX (i) < 2H : 1V

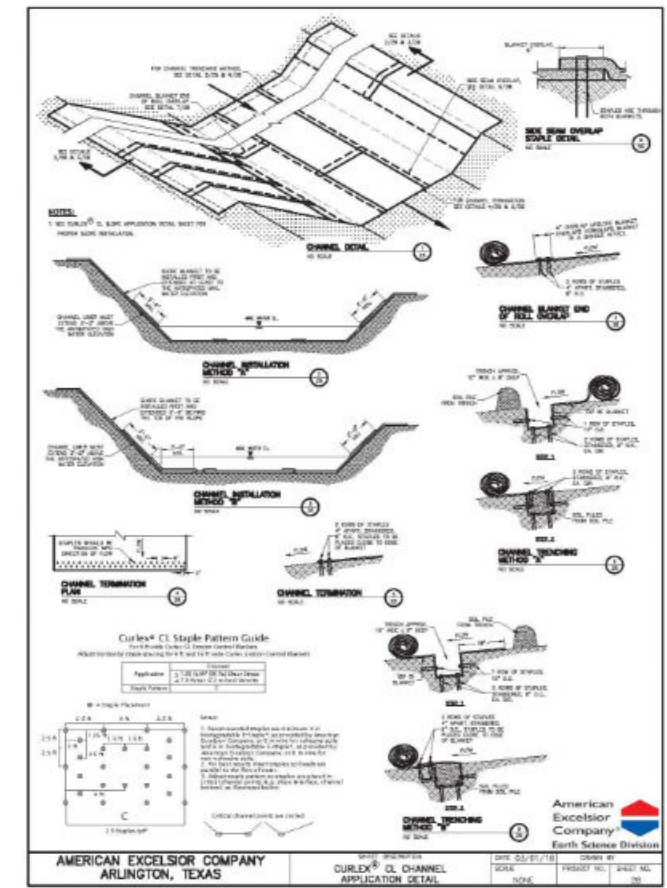
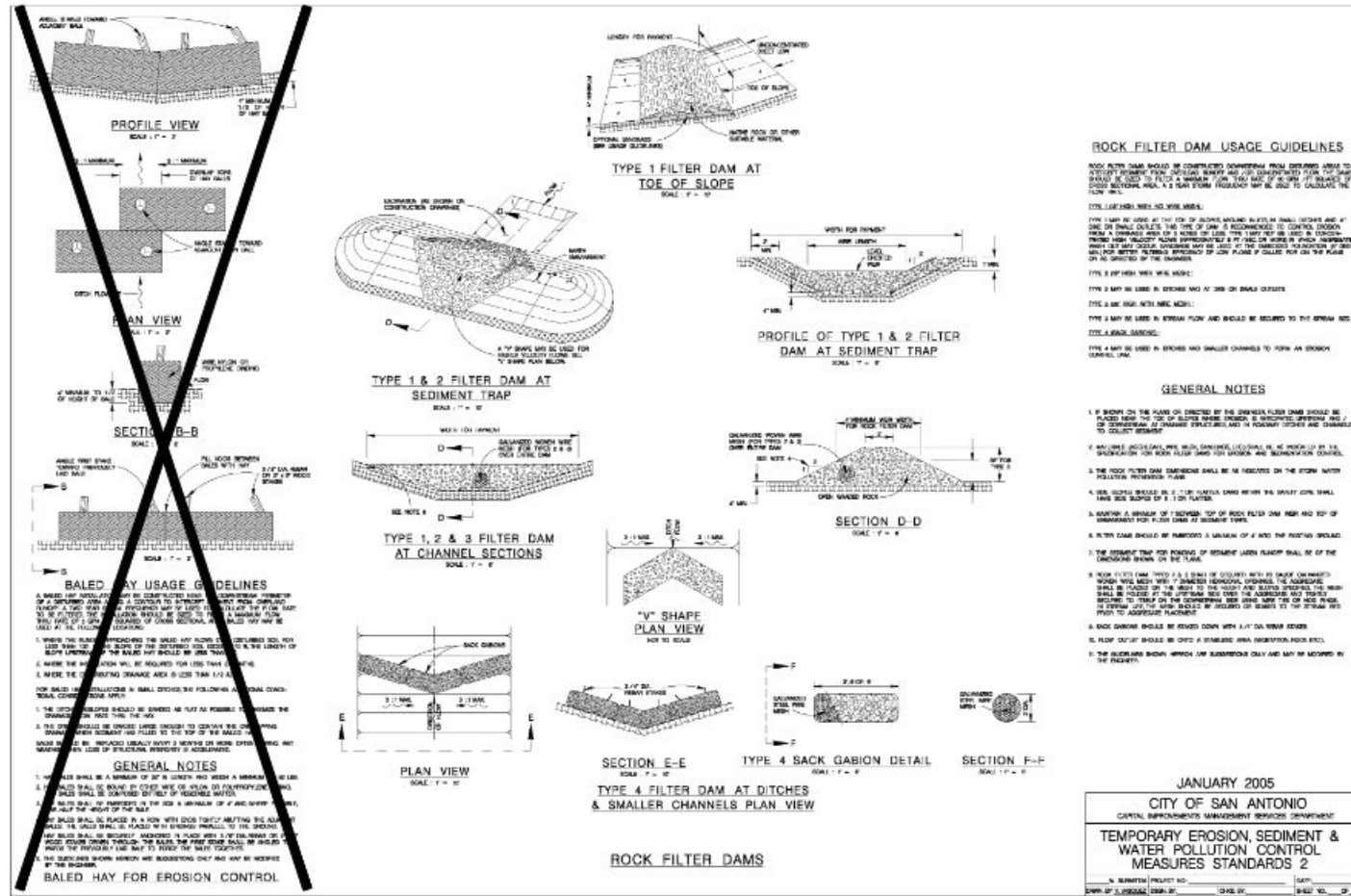
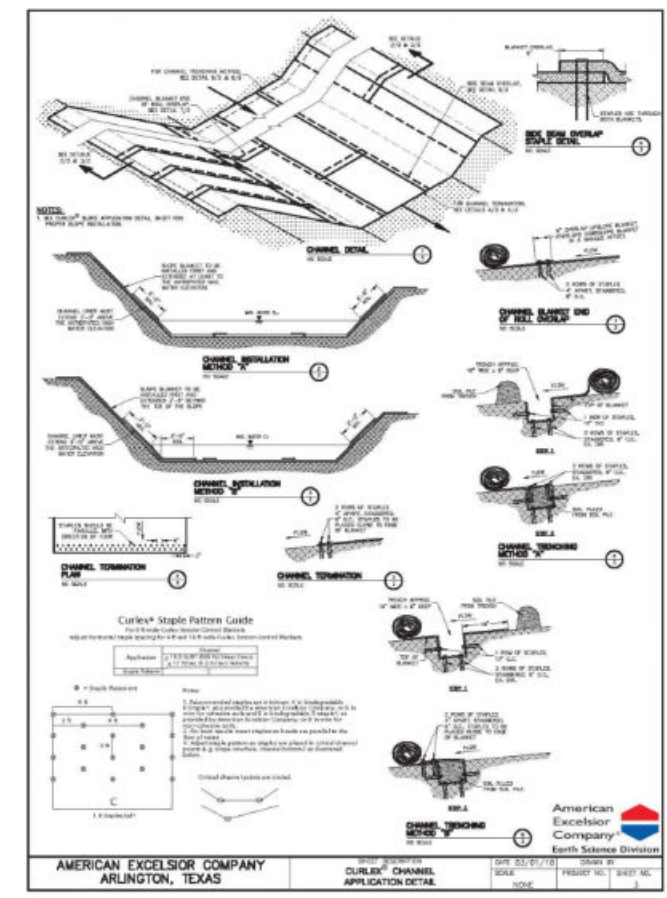
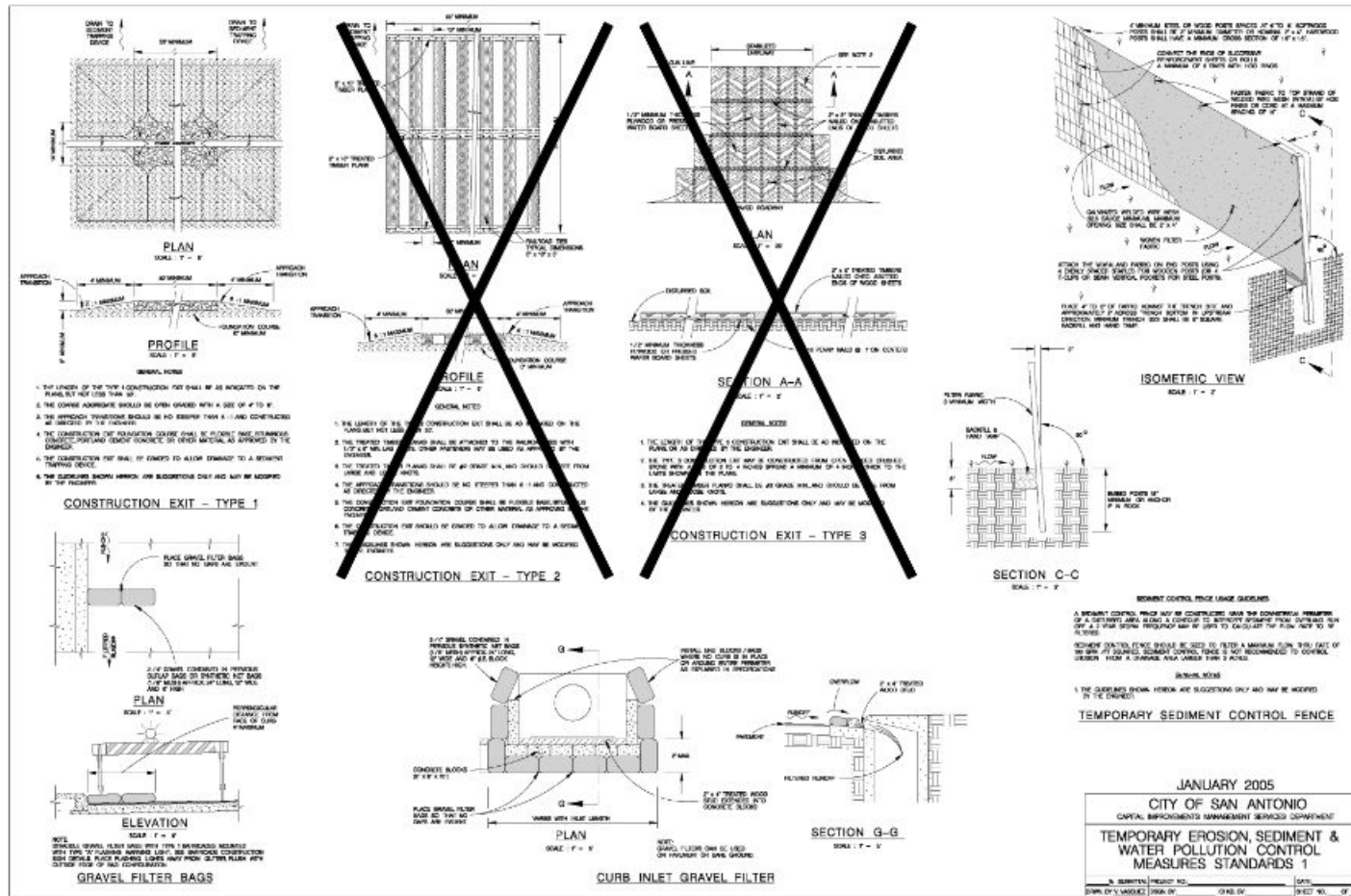
SOIL STABILIZATION NOTE

PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

SUBSTANTIAL GRADING IS PROPOSED WITH THIS UNIT, PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 13.2(N), STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE TIME.



Drawn: James Incalls, V:\Projects\1802022_Jaro North Subdivision\Construction\Engineering\EROSION CONTROL_PLAN.dwg User: jincalls Date: 3/14/22



NB DEAN, LLC
 1286 RIVER RD
 NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
 UNIT 1

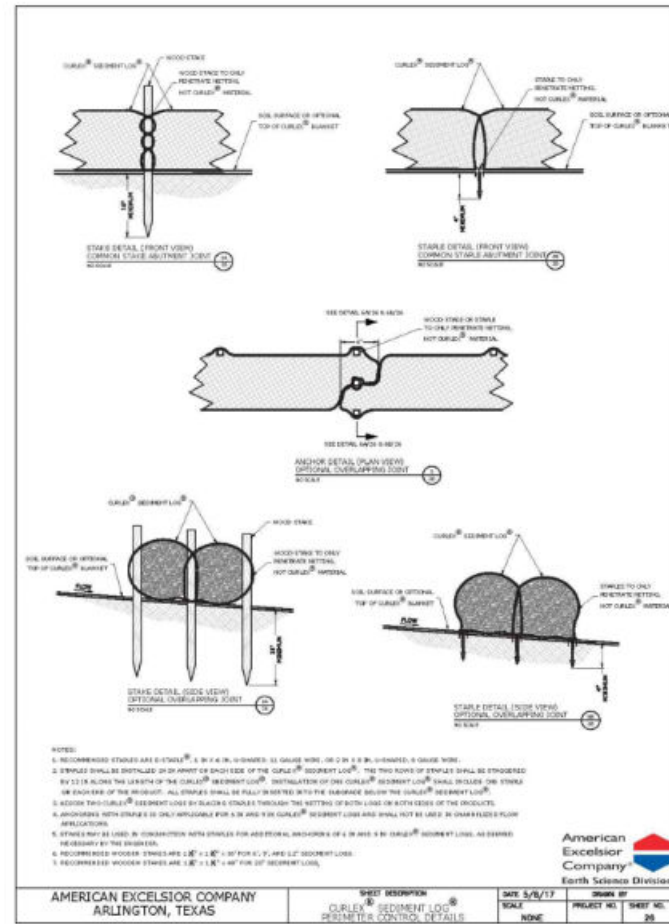
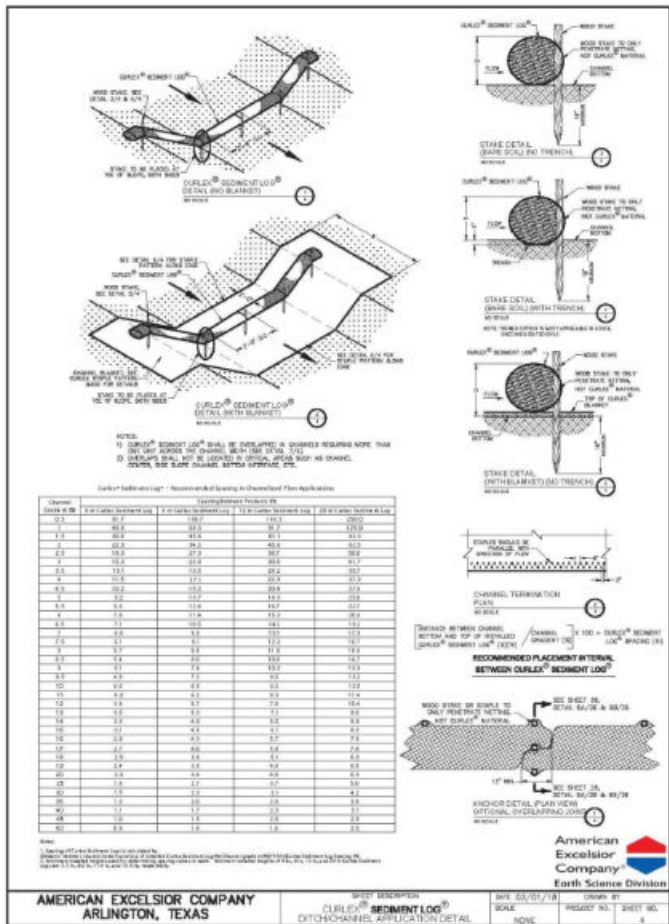
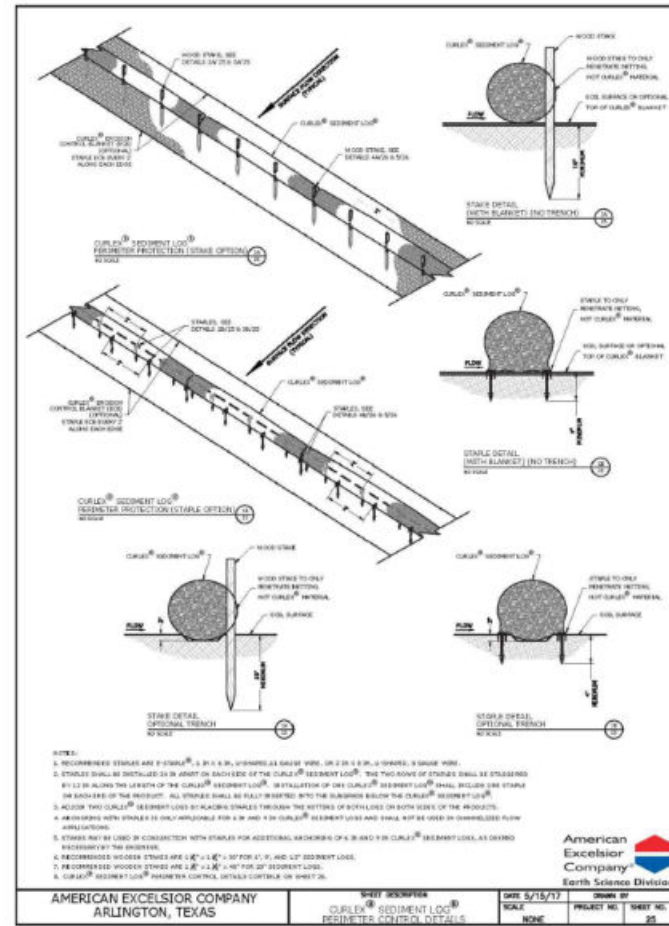
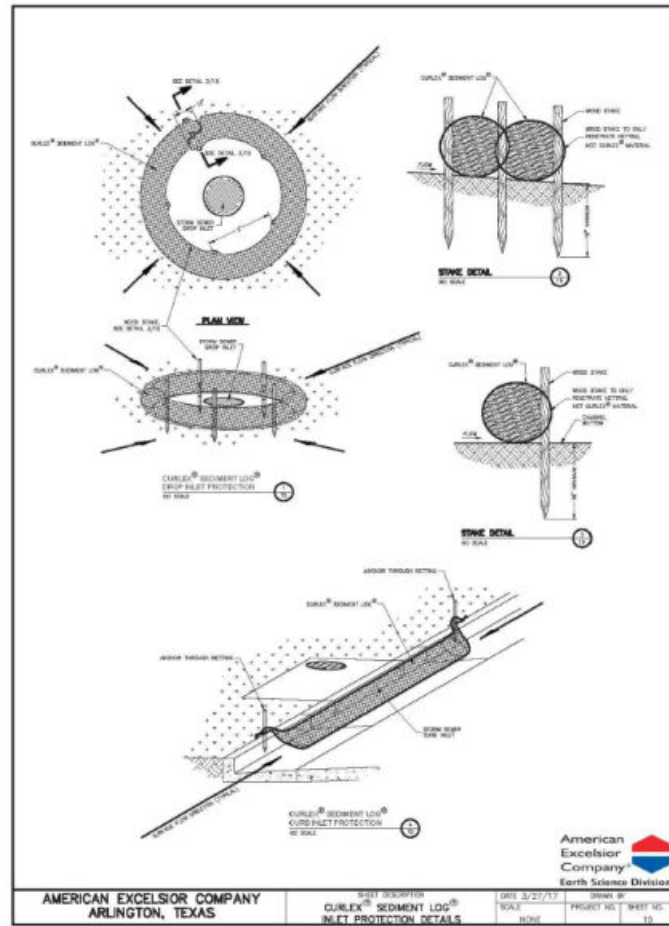
EROSION CONTROL DETAILS I

SHEET **48** OF **49**

NO	DATE	ISSUES AND REVISIONS



2021 W SH46, STE 105
 NEW BRAUNFELS, TX. 78132
 PH: 830-358-7127 ink-civil.com
 TBPE FIRM F-13351



NB DEAN, LLC
1286 RIVER RD
NEW BRAUNFELS, TX 78130

JARO NORTH SUBDIVISION
UNIT 1

EROSION CONTROL DETAILS II

SHEET 49 OF 49

NO	DATE	ISSUES AND REVISIONS
Δ		



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

Appendix “C” Construction General Permit

A current link to the TPDES General Permit No. TXR150000 is included as required by Part III. F. j. of the CGP.

<https://www.tceq.texas.gov/downloads/permitting/stormwater/general/construction/2023-cgp-txr150000.pdf>



Appendix “D” NOI, NOC, NOT, Acknowledgement Letter, Permit Certificate, and CSN

This section includes documentation for the Owner only.

Owner’s Document included in this section:

- **Notice of Termination** - *Submitted on and printed from STEERS*
- **Notice(s) of Change** - *Submitted on and printed from STEERS*
- **Construction Site Notice – A copy of the Construction Site Notice must be posted near the entrance of the construction site and must be readily available for viewing by the general public; local, state, and federal authorities; and contain the following information:**
 - a) *the site-specific TPDES authorization number for the project if assigned;*
 - b) *the operator name, contact name, and contact phone number;*
 - c) *a brief description of the project; and*
 - d) *the location of the SWP3*
- **Cover letter or printed email, acknowledging submittal of the Notices to the MS4.**
- **Permit Certification including TPDES Authorization Number** - *Received and printed from STEERS*
- **Acknowledgement Letter** - *Received and printed from STEERS*
- **Notice of Intent** - *The NOI shall be submitted using the State of Texas Environmental Electronic Report System (STEERS). (<https://www3.tceq.texas.gov/steers/>)*

General Contractor / Operator documentation will be kept in Appendix “G”

NOTE: Records will be retained for a minimum period of at least 3 years after the permit is terminated.



TCEQ Large Construction Site Notice

Primary Operator

Large construction sites disturb more than five acres or are part of a larger common plan of development that disturbs more than five acres. Primary operators of large construction sites will fill out this notice. Primary operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

Note: You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction.

Site-Specific TPDES Authorization Number: TXR1529RL

Primary Operator Name: Lennar Homes of Texas Land and Construction, Ltd.

**Contact Name and Phone Number:
Division Environmental Manager (210) 403-6226**

Project Description: Jaro North - Unit 1

Physical

Location/Description: NWC of HWY 123 & FM 758, New Braunfels, TX 78155
Land Development

Estimated Start Date: July 10, 2024

Projected End Date or Date Disturbed Soils Will Be Stabilized: July 31, 2026

Location of Stormwater Pollution Prevention Plan (SWP3): "In accordance with Section D.1 of the CGP, the SWP3 is kept electronically and can be made available upon request. To request access, scan the QR Code below:"





TCEQ Large Construction Site Notice

Primary Operator

Large construction sites disturb more than five acres or are part of a larger common plan of development that disturbs more than five acres. Primary operators of large construction sites will fill out this notice. Primary operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

Note: You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction.

Site-Specific TPDES Authorization Number: TXR1529RL

Primary Operator Name: Lennar Homes of Texas Land and Construction, Ltd.

**Contact Name and Phone Number:
Division Environmental Manager (210) 403-6226**

Project Description: Jaro North - TxDOT

Physical

Location/Description: NWC of HWY 123 & FM 758, New Braunfels, TX 78155
Land Development

Estimated Start Date: July 10, 2024

Projected End Date or Date Disturbed Soils Will Be Stabilized: July 31, 2026

Location of Stormwater Pollution Prevention Plan (SWP3): "In accordance with Section D.1 of the CGP, the SWP3 is kept electronically and can be made available upon request. To request access, scan the QR Code below:"





Ms Kyle Sykes <ksykes@emg-llc.net>

24.7.12_LH-SA_JaroNorth-LD_NOI-MS4Notification

1 message

Ms Kyle Sykes <KSykes@emg-llc.net>

Fri, Jul 12, 2024 at 11:13 AM

To: permits@seguintexas.gov

Cc: Matt Martin <mmartin@emg-llc.net>, Zach Zembraski <zzembraski@emg-llc.net>, Marcus Walters <marcus.walters@lennar.com>, Jimena Koszuta <jimena.koszuta@lennar.com>, Irene Rocha <irene.rocha@lennar.com>, Matt Cardenas <matt.cardenas@lennar.com>, Ryan Dorth <ryan.dorth@lennar.com>, Jonathan Huston <jonathan.huston@lennar.com>

Bcc: ksykes@emg-llc.net

Hello,

Attached is a TXR150000 Notification for the above referenced project. This email serves as a notification to the MS4 that a Small Construction Site Notice, Notice of Intent, Notice of Change, or a Notice of Termination has been filed with the TCEQ for the above referenced project. A copy of this email will be kept with the SWP3 to document this notification. Please contact EMG, LLC if you have any questions.

*****PLEASE REPLY TO THIS EMAIL CONFIRMING YOU RECEIVED THIS NOTICE*******KYLE SYKES**

SWP3 PRODUCTION MANAGER

ENVIRONMENTAL MANAGEMENT GROUP, LLC

COST EFFECTIVE SWP3 COMPLIANCE CONSULTANTS

SWP3 | PERMITTING | SWP3 INSPECTION

AUSTIN | CORPUS CHRISTI | DFW | HOUSTON | SAN ANTONIO | OKLAHOMA

2260 HIGHLAND VILLAGE ROAD, SUITE 400

HIGHLAND VILLAGE, TX 75077

www.EMG-LLC.net

3 attachments **24.7.12_LH-SA_JaroNorth-LD_NOI-LTR.pdf**
167K **24.7.12_LH-SA_JaroNorth-LD_NOI-TXR1529RL.pdf**
85K **24.7.12_LH-SA_JaroNorth-LD_NOI.pdf**
1062K



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Texas Pollutant Discharge Elimination System
Stormwater Construction General Permit

The Notice of Intent (NOI) for the facility listed below was received on July 12, 2024. The intent to discharge stormwater associated with construction activity under the terms and conditions imposed by the Texas Pollutant Discharge Elimination System (TPDES) stormwater Construction General Permit (CGP) TXR150000 is acknowledged. Your facility's unique TPDES CGP stormwater authorization number is:

TXR1529RL

Coverage Effective: July 12, 2024

The TCEQ's stormwater CGP requires certain stormwater pollution prevention and control measures, possible monitoring and reporting, and periodic inspections. Among the conditions and requirements of this permit, you must have prepared and implemented a stormwater pollution prevention plan (SWP3) that is tailored to your construction site. As a facility authorized to discharge under the stormwater CGP, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

Project/Site Information:

RN112007166
Jaro North - Land Development
Nwc of Hwy 123 & FM 758
Seguin, TX 78155
Guadalupe County

Operator:

CN602412207
Lennar Homes of Texas Land And Construction, Ltd.
100 Ne Loop 410 Ste 1155
San Antonio, TX 78216

This CGP and all authorizations expire on March 5, 2028, unless otherwise amended. If you have any questions related to processing of your application, you may contact the Stormwater Processing Center by **email at SWPERMIT@tceq.texas.gov or by telephone at (512) 239-3700**. For technical issues, you may contact the stormwater technical staff by **email at SWGPA@tceq.texas.gov or by telephone at (512) 239-4671**. Also, you may obtain information on the TCEQ web site at <https://www.tceq.texas.gov/goto/wq-dpa>. A copy of this document should be kept with your SWP3.

A handwritten signature in black ink, appearing to read "K. Keel".

Issued Date: July 12, 2024

FOR THE COMMISSION

Jon Niermann, *Chairman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 12, 2024

Dear Applicant:

Re: TPDES General Permit for Construction Stormwater Runoff (TXR150000)
Notice of Intent Authorization

Your Notice of Intent (NOI) application for authorization under the general permit for discharge of stormwater associated with construction activities has been received. Pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality, the Division Deputy Director of the Water Quality Division has issued the enclosed Certificate.

Please refer to the attached certificate for the authorization number that was assigned to your project/site and the effective date. Please use this number to reference this project/site for future communications with the Texas Commission on Environmental Quality (TCEQ).

Authorization under the Edwards Aquifer Protection Program is required before construction can begin where the site is located within the Edwards Aquifer Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone. See <https://www.tceq.texas.gov/permitting/eapp/viewer.html> for additional information.

It is the responsibility of the Operator to notify the TCEQ Stormwater Processing Center of any change in address supplied on the original Notice of Intent by submitting a Notice of Change.

A Notice of Termination must be submitted when permit coverage is no longer needed.

For questions related to processing of your application you may contact the Stormwater Processing Center by email at SWPERMIT@tceq.texas.gov or by telephone at (512) 239-3700. If you have any technical questions regarding the general permit, you may contact the stormwater technical staff by email at SWGPA@tceq.texas.gov or by telephone at (512) 239-4671. Also, you may obtain information on the stormwater web site at <https://www.tceq.texas.gov/permitting/stormwater>.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Sadlier".

Robert Sadlier, Deputy Director
Water Quality Division

Texas Commission on Environmental Quality

Construction Notice of Intent

Site Information (Regulated Entity)

What is the name of the site to be authorized?	JARO NORTH - LAND DEVELOPMENT
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	NWC of HWY 123 & FM 758
City	SEGUIN
State	TX
ZIP	78155
County	GUADALUPE
Latitude (N) (##.#####)	29.702663
Longitude (W) (-###.#####)	-97.969198
Primary SIC Code	6552
Secondary SIC Code	1521
Primary NAICS Code	
Secondary NAICS Code	

Regulated Entity Site Information

What is the Regulated Entity's Number (RN)?	
What is the name of the Regulated Entity (RE)?	JARO NORTH - LAND DEVELOPMENT
Does the RE site have a physical address?	No
Because there is no physical address, describe how to locate this site:	NWC of HWY 123 & FM 758
City	SEGUIN
State	TX
ZIP	78155
County	GUADALUPE
Latitude (N) (##.#####)	29.702663
Longitude (W) (-###.#####)	-97.969198
Facility NAICS Code	
What is the primary business of this entity?	LAND DEVELOPMENT, SINGLE FAMILY RESIDENTIAL

Customer (Applicant) Information

How is this applicant associated with this site?	Operator
What is the applicant's Customer Number (CN)?	CN602412207
Type of Customer	Corporation

Full legal name of the applicant:

Legal Name	Lennar Homes of Texas Land and Construction, Ltd.
Texas SOS Filing Number	11452910
Federal Tax ID	752792018
State Franchise Tax ID	17527920189
State Sales Tax ID	
Local Tax ID	
DUNS Number	
Number of Employees	
Independently Owned and Operated?	No
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes

Responsible Authority Contact

Organization Name	Lennar Homes of Texas Land and Construction, Ltd.
Prefix	
First	Brian
Middle	
Last	Barron
Suffix	
Credentials	
Title	Division President

Responsible Authority Mailing Address

Enter new address or copy one from list:

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	100 NE LOOP 410 STE 1155
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN ANTONIO
State	TX
ZIP	78216
Phone (###-###-####)	2104036200
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	Brian.Barron@Lennar.com

Application Contact**Person TCEQ should contact for questions about this application:**

Same as another contact?

Organization Name	EMG LLC
Prefix	

First Zachary
 Middle
 Last Zembraski
 Suffix
 Credentials
 Title Client Manager

Enter new address or copy one from list:

Mailing Address

Address Type Domestic
 Mailing Address (include Suite or Bldg. here, if applicable) 2260 HIGHLAND VILLAGE RD STE 400
 Routing (such as Mail Code, Dept., or Attn:)
 City HIGHLAND VILLAGE
 State TX
 ZIP 75077
 Phone (###-###-####) 2149232086
 Extension
 Alternate Phone (###-###-####)
 Fax (###-###-####)
 E-mail info@emg-llc.net

CNOI General Characteristics

- 1 Is the project or site located on Indian Country Lands? No
- 2 Is the project or site associated to a facility that is licensed for the storage of high-level radioactive waste by the United States Nuclear Regulatory Commission under 10 CFR Part 72? No
- 3 Is your construction activity associated with an oil and gas exploration, production, processing, or treatment, or transmission facility? No
- 4 What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? 6552
- 5 If applicable, what is the Secondary SIC Code(s)? 1521
- 6 What is the total number of acres that the construction project or site will disturb under the control of the primary operator? 42.44
- 7 What is the construction project or site type? Other|Single-family residential
- 8 Is the project part of a larger common plan of development or sale? Yes
- 9 What is the estimated start date of the project? 07/10/2024
- 10 What is the estimated end date of the project? 07/10/2024
- 11 Will concrete truck washout be performed at the site? Yes
- 12 What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site? GERONIMO CREEK
- 13 What is the segment number(s) of the classified water body(s) that the discharge will eventually reach? 1804

14 Is the discharge into a Municipal Separate Storm Sewer System (MS4)?	Yes
14.1 What is the name of the MS4 Operator?	City of Seguin
15 Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?	No
16 I certify that a stormwater pollution prevention plan (SWP3) has been developed, will be implemented prior to construction, and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the general permit TXR150000. Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator.	Yes
17 I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000).	Yes
18 I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed.	Yes

Certification

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

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

1. I am Brian Barron, the owner of the STEERS account ER051116.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Construction Notice of Intent.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OPERATOR Signature: Brian Barron OPERATOR

Customer Number:	CN602412207
Legal Name:	Lennar Homes of Texas Land and Construction, Ltd.
Account Number:	ER051116
Signature IP Address:	204.109.18.254

Signature Date: 2024-07-11
Signature Hash: 89946215E1E35781DB5EC64FE199584FDE0BF99E46248C206413BFEBD7D626EA
Form Hash Code at time of Signature: 7333D8CBA6EB84860603B796323054ADA65BF21B6784444DD1C7549F34A26FDB

Fee Payment

Transaction by: The application fee payment transaction was made by ER075896/Kyle Sykes
Paid by: The application fee was paid by MATTHEW MARTIN
Fee Amount: \$225.00
Paid Date: The application fee was paid on 2024-07-12
Transaction/Voucher number: The transaction number is 582EA000617280 and the voucher number is 712780

Submission

Reference Number: The application reference number is 666550
Submitted by: The application was submitted by ER075896/Kyle Sykes
Submitted Timestamp: The application was submitted on 2024-07-12 at 09:44:40 CDT
Submitted From: The application was submitted from IP address 35.149.97.198
Confirmation Number: The confirmation number is 550621
Steers Version: The STEERS version is 6.79

Additional Information

Application Creator: This account was created by Zachary S Zembraski

Appendix "E" SWP3 Amendment Log

LENNAR SWP3 AMENDMENT FORM

Name of Project:

Date of Amendment: [Click or tap to enter a date.](#)

Date Amendment Implemented: [Click or tap to enter a date.](#)

Amendment Number: _____

This SWP3 Amendment is made by the responsible corporate officer or the authorized representative; a copy of the delegation letter is attached to this section of the SWP3.

Reason for this SWP3 amendment: _____

SWP3 amendment modifies the SWP3 by:

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

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

Signature:

Date:

Print Name/Title: Marcus Walters / Division Environmental Manager

Appendix "F" Support Facility Permits

Appendix “G” Additional Operator Information & Responsibilities

As land development activity progresses, additional construction activities will begin, and the associated Operators will be added to the SWP3. The information in this section will include the Additional Operator(s):

- Large Construction Site Notice
- MS4 NOI / NOC Notification
- TCEQ NOI / NOC Certificate
- TCEQ NOI Approval Letter
- TCEQ Notice of Intent (NOI)
- SWP3 Certification

Below is a table of the Additional Operator(s) Construction Activities and the associated Sections:

Section & Construction Activity:	General Contractor (GC) / Operator Name
Unit 1	V.K. Knowlton Construction and Utilities, Inc.
TxDOT	V.K. Knowlton Construction and Utilities, Inc.



TCEQ Large Construction Site Notice

Primary Operator

Large construction sites disturb more than five acres or are part of a larger common plan of development that disturbs more than five acres. Primary operators of large construction sites will fill out this notice. Primary operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

Note: You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction.

Site-Specific TPDES Authorization Number: TXR1531RL

Primary Operator Name: V.K. Knowlton Construction and Utilities, Inc.

**Contact Name and Phone Number:
Shakotah Keefe Knowlton (210) 651-6860**

Project Description: Jaro North - Unit 1

Physical

Location/Description: NWC of HWY 123 & FM 758, New Braunfels, TX 78155

Land Development

Estimated Start Date: July 10, 2024

Projected End Date or Date Disturbed Soils Will Be Stabilized: July 31, 2026

Location of Stormwater Pollution Prevention Plan (SWP3): "In accordance with Section D.1 of the CGP, the SWP3 is kept electronically and can be made available upon request. To request access, scan the QR Code below:"





TCEQ Large Construction Site Notice

Primary Operator

Large construction sites disturb more than five acres or are part of a larger common plan of development that disturbs more than five acres. Primary operators of large construction sites will fill out this notice. Primary operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

Note: You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction.

Site-Specific TPDES Authorization Number: TXR1531RL

Primary Operator Name: V.K. Knowlton Construction and Utilities, Inc.

**Contact Name and Phone Number:
Shakotah Keefe Knowlton (210) 651-6860**

Project Description: Jaro North - TxDOT

Physical

Location/Description: NWC of HWY 123 & FM 758, New Braunfels, TX 78155

Land Development

Estimated Start Date: July 10, 2024

Projected End Date or Date Disturbed Soils Will Be Stabilized: July 31, 2026

Location of Stormwater Pollution Prevention Plan (SWP3): "In accordance with Section D.1 of the CGP, the SWP3 is kept electronically and can be made available upon request. To request access, scan the QR Code below:"





Ms Kyle Sykes <ksykes@emg-llc.net>

24.7.12_VKK-SA_JaroNorth-LD_NOI-MS4Notification

1 message

Ms Kyle Sykes <KSykes@emg-llc.net>

Fri, Jul 12, 2024 at 11:31 AM

To: permits@seguintexas.gov

Cc: Matt Martin <mmartin@emg-llc.net>, Zach Zembraski <zzembraski@emg-llc.net>, Marcus Walters <marcus.walters@lennar.com>, Jimena Koszuta <jimena.koszuta@lennar.com>, Matt Cardenas <matt.cardenas@lennar.com>, Irene Rocha <irene.rocha@lennar.com>, Jonathan Huston <jonathan.huston@lennar.com>, Ryan Dorth <ryan.dorth@lennar.com>
Bcc: ksykes@emg-llc.net

Hello,

Attached is a TXR150000 Notification for the above referenced project. This email serves as a notification to the MS4 that a Small Construction Site Notice, Notice of Intent, Notice of Change, or a Notice of Termination has been filed with the TCEQ for the above referenced project. A copy of this email will be kept with the SWP3 to document this notification. Please contact EMG, LLC if you have any questions.

*****PLEASE REPLY TO THIS EMAIL CONFIRMING YOU RECEIVED THIS NOTICE*******KYLE SYKES**

SWP3 PRODUCTION MANAGER

ENVIRONMENTAL MANAGEMENT GROUP, LLC

COST EFFECTIVE SWP3 COMPLIANCE CONSULTANTS


SWP3 | PERMITTING | SWP3 INSPECTION

AUSTIN | CORPUS CHRISTI | DFW | HOUSTON | SAN ANTONIO | OKLAHOMA

2260 HIGHLAND VILLAGE ROAD, SUITE 400

HIGHLAND VILLAGE, TX 75077

www.EMG-LLC.net

3 attachments **24.7.12_VKK-SA_JaroNorth-LD_NOI-TXR1531RL.pdf**
85K **24.7.12_VKK-SA_JaroNorth-LD_NOI-LTR.pdf**
167K **24.7.12_VKK-SA_JaroNorth-LD_NOI.pdf**
1051K



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Texas Pollutant Discharge Elimination System
Stormwater Construction General Permit

The Notice of Intent (NOI) for the facility listed below was received on July 12, 2024. The intent to discharge stormwater associated with construction activity under the terms and conditions imposed by the Texas Pollutant Discharge Elimination System (TPDES) stormwater Construction General Permit (CGP) TXR150000 is acknowledged. Your facility's unique TPDES CGP stormwater authorization number is:

TXR1531RL

Coverage Effective: July 12, 2024

The TCEQ's stormwater CGP requires certain stormwater pollution prevention and control measures, possible monitoring and reporting, and periodic inspections. Among the conditions and requirements of this permit, you must have prepared and implemented a stormwater pollution prevention plan (SWP3) that is tailored to your construction site. As a facility authorized to discharge under the stormwater CGP, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

Project/Site Information:

RN112007190
Jaro North - Land Development
Nwc of Hwy 123 & FM 758
Seguin, TX 78155
Guadalupe County

Operator:

CN600525653
V. K. Knowlton Construction And Utilities, Inc.
18225 FM 2252
San Antonio, TX 78266

This CGP and all authorizations expire on March 5, 2028, unless otherwise amended. If you have any questions related to processing of your application, you may contact the Stormwater Processing Center by **email at SWPERMIT@tceq.texas.gov or by telephone at (512) 239-3700**. For technical issues, you may contact the stormwater technical staff by **email at SWGPA@tceq.texas.gov or by telephone at (512) 239-4671**. Also, you may obtain information on the TCEQ web site at <https://www.tceq.texas.gov/goto/wq-dpa>. A copy of this document should be kept with your SWP3.

A handwritten signature in black ink, appearing to read "K. Keel".

Issued Date: July 12, 2024

FOR THE COMMISSION

Jon Niermann, *Chairman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 12, 2024

Dear Applicant:

Re: TPDES General Permit for Construction Stormwater Runoff (TXR150000)
Notice of Intent Authorization

Your Notice of Intent (NOI) application for authorization under the general permit for discharge of stormwater associated with construction activities has been received. Pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality, the Division Deputy Director of the Water Quality Division has issued the enclosed Certificate.

Please refer to the attached certificate for the authorization number that was assigned to your project/site and the effective date. Please use this number to reference this project/site for future communications with the Texas Commission on Environmental Quality (TCEQ).

Authorization under the Edwards Aquifer Protection Program is required before construction can begin where the site is located within the Edwards Aquifer Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone. See <https://www.tceq.texas.gov/permitting/eapp/viewer.html> for additional information.

It is the responsibility of the Operator to notify the TCEQ Stormwater Processing Center of any change in address supplied on the original Notice of Intent by submitting a Notice of Change.

A Notice of Termination must be submitted when permit coverage is no longer needed.

For questions related to processing of your application you may contact the Stormwater Processing Center by email at SWPERMIT@tceq.texas.gov or by telephone at (512) 239-3700. If you have any technical questions regarding the general permit, you may contact the stormwater technical staff by email at SWGPA@tceq.texas.gov or by telephone at (512) 239-4671. Also, you may obtain information on the stormwater web site at <https://www.tceq.texas.gov/permitting/stormwater>.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Sadlier".

Robert Sadlier, Deputy Director
Water Quality Division

Texas Commission on Environmental Quality

Construction Notice of Intent

Site Information (Regulated Entity)

What is the name of the site to be authorized?	Jaro North - Land Development
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	NWC of HWY 123 & FM 758
City	Seguin
State	TX
ZIP	78155
County	GUADALUPE
Latitude (N) (##.#####)	29.702663
Longitude (W) (-###.#####)	-97.969198
Primary SIC Code	1794
Secondary SIC Code	1611
Primary NAICS Code	
Secondary NAICS Code	

Regulated Entity Site Information

What is the Regulated Entity's Number (RN)?	
What is the name of the Regulated Entity (RE)?	Jaro North - Land Development
Does the RE site have a physical address?	No
Because there is no physical address, describe how to locate this site:	NWC of HWY 123 & FM 758
City	Seguin
State	TX
ZIP	78155
County	GUADALUPE
Latitude (N) (##.#####)	29.702663
Longitude (W) (-###.#####)	-97.969198
Facility NAICS Code	
What is the primary business of this entity?	Grading, Utilities, Paving

Customer (Applicant) Information

How is this applicant associated with this site?	Operator
What is the applicant's Customer Number (CN)?	CN600525653
Type of Customer	Corporation
Full legal name of the applicant:	
Legal Name	V. K. Knowlton Construction and Utilities, Inc.
Texas SOS Filing Number	28796800

Federal Tax ID	741716421
State Franchise Tax ID	17417164211
State Sales Tax ID	
Local Tax ID	
DUNS Number	
Number of Employees	
Independently Owned and Operated?	No
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes

Responsible Authority Contact

Organization Name	V. K. Knowlton Construction and Utilities, Inc.
Prefix	
First	Shakotah
Middle	Keefe
Last	kn
Suffix	
Credentials	
Title	Vice President

Responsible Authority Mailing Address

Enter new address or copy one from list:

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	18225 FM 2252
Routing (such as Mail Code, Dept., or Attn:)	
City	SAN ANTONIO
State	TX
ZIP	78266
Phone (###-###-####)	2106516860
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	shakotah@vkk.com

Application Contact**Person TCEQ should contact for questions about this application:**

Same as another contact?	
Organization Name	EMG LLC
Prefix	
First	Zachary
Middle	

Last	Zembraski
Suffix	
Credentials	
Title	Client Manager
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	2260 HIGHLAND VILLAGE RD STE 400
Routing (such as Mail Code, Dept., or Attn:)	
City	HIGHLAND VILLAGE
State	TX
ZIP	75077
Phone (###-###-####)	2149232086
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	info@emg-llc.net

CNOI General Characteristics

1 Is the project or site located on Indian Country Lands?	No
2 Is the project or site associated to a facility that is licensed for the storage of high-level radioactive waste by the United States Nuclear Regulatory Commission under 10 CFR Part 72?	No
3 Is your construction activity associated with an oil and gas exploration, production, processing, or treatment, or transmission facility?	No
4 What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site?	1794
5 If applicable, what is the Secondary SIC Code(s)?	1611 1623
6 What is the total number of acres that the construction project or site will disturb under the control of the primary operator?	42.44
7 What is the construction project or site type?	Highway or Road Other Utility
8 Is the project part of a larger common plan of development or sale?	Yes
9 What is the estimated start date of the project?	07/10/2024
10 What is the estimated end date of the project?	07/31/2026
11 Will concrete truck washout be performed at the site?	Yes
12 What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site?	Geronimo Creek
13 What is the segment number(s) of the classified water body(s) that the discharge will eventually reach?	1804
14 Is the discharge into a Municipal Separate Storm Sewer System (MS4)?	Yes

14.1 What is the name of the MS4 Operator?	City of Seguin
15 Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?	No
16 I certify that a stormwater pollution prevention plan (SWP3) has been developed, will be implemented prior to construction, and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the general permit TXR150000. Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator.	Yes
17 I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000).	Yes
18 I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed.	Yes

Certification

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

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

1. I am Shakotah K Knowlton, the owner of the STEERS account ER083128.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Construction Notice of Intent.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OPERATOR Signature: Shakotah K Knowlton OPERATOR

Customer Number:	CN600525653
Legal Name:	V. K. Knowlton Construction and Utilities, Inc.
Account Number:	ER083128
Signature IP Address:	76.255.10.57
Signature Date:	2024-07-11
Signature Hash:	A74BB3DE3CD90418E822E803F604BBA299F1DD7C0CCC2035E99278B57DEDA04E

Form Hash Code at time of
Signature:

F80F4EB289802A04CC9C1EE8247667D2DF9B0CE2192F5CA4E53641A8D853C5B6

Fee Payment

Transaction by:

The application fee payment transaction was made by ER083128/Shakotah K Knowlton

Paid by:

The application fee was paid by VIRGIL KNOWLTON

Fee Amount:

\$225.00

Paid Date:

The application fee was paid on 2024-07-11

Transaction/Voucher number:

The transaction number is 582EA000617131 and the voucher number is 712618

Submission

Reference Number:

The application reference number is 666559

Submitted by:

The application was submitted by ER075896/Kyle Sykes

Submitted Timestamp:

The application was submitted on 2024-07-12 at 10:25:26 CDT

Submitted From:

The application was submitted from IP address 35.149.97.198

Confirmation Number:

The confirmation number is 550634

Steers Version:

The STEERS version is 6.79

Additional Information

Application Creator: This account was created by Zachary S Zembraski

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

GENERAL CONTRACTOR / OPERATOR'S SWP3 CERTIFICATION

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

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

Sign as required by 30 TAC §305.128(a)

Signature: 
47ECB62FB37D45C...

Name: Shakotah Keefe Knowlton

Title: Vice President

Company Name: V.K. Knowlton Construction and Utilities, Inc.

Date: 7/15/2024

Appendix "H" Training Log and Qualifications

This section includes qualifications of the following individuals:

- Owner's Representative, the Land Development Manager
- SWP3 Preparer
- SWP3 BMP Inspector

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Current/A Employee Last Name?	Last Name	First Name	Prior 6 HR Training	LSU Completion Status	LSU Completion Date	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training	Refresher & Live Training
LD	Bare	John		Complete	11/6/2023	1/9/2024							
LD	Cortez	Tristan		Complete	2/16/2024	3/7/2024							
LD	Johnson	Ryan		Complete	6/10/2016	5/3/2016	6/7/2017	12/5/2018	2/12/2020	7/14/2021	1/25/2023	1/9/2024	
LD	Mott	Richard		Complete	6/9/2016	5/3/2016	6/7/2017	1/9/2024					
LD	Olivarez Jr	Rogelio		Complete	10/19/2018	4/11/2018	2/12/2020	7/14/2021	1/25/2023	1/9/2024			
LD	Ortiz	John		Complete	7/11/2023	10/11/2023	1/9/2024						
LD	Rowe	Chandler		Complete	2/9/2024	3/7/2024							
LD	Stavinoha	Derrick		Complete	2/7/2022	2/11/2022	1/25/2023	1/9/2024					
LD	Todsen	Adrian		Complete	8/3/2023	10/11/2023	1/9/2024						
LD	Zamora	Lorenzo		Complete	5/2/2023	5/22/2023	1/9/2024						

LENNAR'S ONSITE REPRESENTATIVE TRAINING SUMMARY AND TRAINING LOG

LENNAR ENVIRONMENTAL MANAGEMENT SYSTEM (LEMS) – TRAINING SUMMARY

Lennar Homes of Texas Land and Construction, LTD provides on-boarding stormwater and environmental training to all new construction associates. Training is provided through blended training utilizing both on-line and live training modules.

LEMS training covers at a minimum of the following topics:

1. Overview of the National LEMS program
 - a. Storm Water Module
 - b. Air Quality Module
 - c. Environmental Due Diligence Module
 - d. Spill Prevention, Control and Countermeasure Module
2. Introduction to the Clean Water Act
3. Introduction to the Federal Construction General Permit and the Environmental Protection Agency (EPA)
4. Introduction to the State of Texas Construction General Permit - TXR150000 and Texas Commission on Environmental Quality (TCEQ)
5. Understanding the Storm Water Pollution Prevention (SWPPP)
 - a. Specific to each community and SWPPP permit
 - b. Inspections requirements and documentation
 - c. Site Maps
 - d. Best Management Practices (BMPs)
 - e. Enforcement Inspections
6. Training for utilizing the current Inspection Management System/Program
 - a. Responsibility of construction associates
 - b. Certification of Inspections
 - c. Completion of inspection items

LENNAR ENVIRONMENTAL MANAGEMENT SYSTEM (LEMS) – REFRESHER TRAINING SUMMARY

Lennar Homes of Texas Land and Construction, LTD provides routine stormwater and environmental training to all construction associates. Training is provided through live training modules.

Associates receive routine refresher training every twelve to eighteen months.

LEMS routine training covers the following topics:

1. Refresher to General LEMS program including any updates or changes
2. General review of Federal and State Construction General Permit
3. Review of SWPPP, Inspections and BMPs
4. SWPPP and environmental Q/A session regarding active communities or projects

TRAINING LOG

The Training Log following this page documents the LEMS Training received by our Lennar associates.



EnviroCert International, Inc.®



certifies that

Eric Jon Teague

Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CPESC® Program as a

**Certified Professional in Erosion and
Sediment Control®**

CPESC® Number: **8754**

Certificate Date: **June 5, 2017**

Alan Black, Director, Technical Committee Chair

Robert Anderson, EnviroCert Board President



CISEC, Inc.

Board of Directors

certifies that

Marcus Walters

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 20th day of December, 2016

Lina R. Evans

CISEC, Inc. President

Marcus Walters

CISEC, Inc. Board of Director

1997

Certification Number

EnviroCert International, Inc.®

certifies that


Matthew Scott Cardenas

Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CESSWI™ Program as a

**Certified Erosion, Sediment and
Storm Water Inspector™**

CESSWI™ Number: 3969

Certificate Date: January 31, 2017


Alan Black, Director, Technical Committee Chair


Robert Anderson, EnviroCert Board President



The CESSWI™ Certification was established in 2007



EnviroCert International, Inc.
3054 Fite Circle, Suite 108, Sacramento, CA 95827
(279) 888-6911 | www.envirocert.org

Jimena Giuliana Koszuta
CESSWI

Certified Erosion, Sediment and Storm
Water Inspector

4624

7/31/2023

CERTIFICATION NO.

EXPIRES



NOTICE:

All certified professionals are required to adhere strictly to the Code of Conduct and Ethics and are responsible for maintaining their active status with ECI to exercise the rights and privileges under this certification.



EnviroCert International, Inc.®



certifies that

Irene García Rocha

Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CESSWI™ Program as a

Certified Erosion, Sediment and Storm Water Inspector™

CESSWI Number: 11232

Certificate Date: 26-Sep-2023

Robert Anderson, EnviroCert Board President

Jim O'Rourke, EnviroCert Technical Advisory Council





CERTIFICATE OF COMPLETION

presented to

Ryan Dorth

who has successfully completed EPA's Construction General Permit (CGP) Site Inspector Training Course
and passed the final exam

Chris Kloss, Water Permits Division Director



Date Certified: 5/28/2024

Expiration Date: May 17, 2027

By completing this course and passing the final exam, Ryan Dorth has complied with the CGP Part 6.3.a training requirements
for conducting construction inspections under the 2022 CGP.





Green and Sustainable Services, LLC

Designing Programs for a Better Future – Developing Processes for Tomorrow & Building Projects for Today!

Thomas Lee Smith, M.B.A., Ph.D., P.E.

Chief Technical Officer

Certifications: BCEE, D.WRE, LEED AP, ENV SP, CPESC, CPSWQ

tsmith@grnserv.com

(940) 597-3723



Professional Experience

Thomas Smith has over 25 plus years of experience including: water treatment, wastewater treatment, water conservation, water efficiency, water resources planning and water reuse; environmental sustainability, regulatory permitting, green building programs, practices, inspections and verifications; smart grown initiatives; low impact development; energy efficiency and conservation measures; air quality and emissions reduction; onsite renewable energy generation; and storm water management. Prior to his duties at Green and Sustainable Services, Dr. Smith served in various executive management roles within the private sector and as a municipal planner in the public sector, and is skilled in working with public and community leaders.

Education

- Doctor of Philosophy in Environmental Science & Engineering – San Francisco Institute of Architecture – January 2014
- Master of Business Administration - Our Lady of the Lake University - May 1999.
- Bachelor of Science in Engineering - Louisiana State University - May 1985.

Professional Licenses and Certifications

- Licensed as a Professional Engineer in the State of Texas, Arizona and Washington
- Board Certified Environmental Engineer (specialties: water/wastewater & environmental sustainability)
- Diplomate, Water Resources Engineer Certification
- Leadership in Energy and Environmental Design Accredited Professional (LEED AP)
- Envision Sustainability Professional
- Certified Professional in Erosion and Sediment Control
- Certified Professional in Storm Water Quality

Professional Affiliations (Present and Past)

- Member and Former President of the North Texas Ground Water Conservation District Board of Directors
- Former member of the Denton County Transportation Authority Board of Directors

Technical Reports and Publications

- Published 13 times in Industry Publications from 1998 to 2016

Papers and Presentations

- 15 Technical Papers and Presentations from 1998 to 2016



Acknowledges that

Matthew Martin

has successfully completed the
Stormwater Management Training Program to become a
**Qualified Preparer of
Storm Water Pollution Prevention Plans
Texas**

0.2 CEUs | 2 PDHs

Courses Completed:

- Texas Construction General Permit
- Principles and Practices of:
 - Erosion Control
 - Sediment Control
 - Pollution Prevention
- On-Site Construction Inspections
- Preparation of a Construction SWPPP

Completion Date: 11/09/2019

Expiration Date: 11/08/2021

Certificate Number: 95b87f32



Andrew Demers

Andrew Demers, President



Acknowledges that

Matthew Martin

has successfully completed the
Stormwater Management Training Program to become a

**Qualified Compliance Inspector of Stormwater
Texas**

0.9 CEUs | 9 PDHs

Courses Completed:

- Texas Construction General Permit
- Principles and Practices of:
 - Erosion Control
 - Sediment Control
 - Pollution Prevention
- On-Site Construction Inspections

Completion Date: 11/09/2019

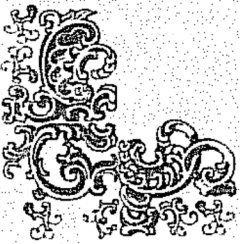
Expiration Date: 11/08/2021

Certificate Number: 95b87f32



Andrew Demers

Andrew Demers, President



The CESSWI™ Application Review Committee
certifies that



Matthew Daniel Martin

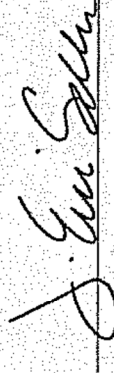
Subscribes to the Code of Ethics and has met the requirements
established by the CESSWI Council as a

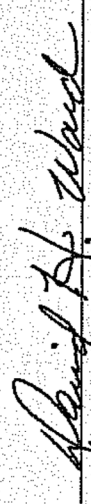
**Certified Erosion, Sediment and
Storm Water Inspector™**

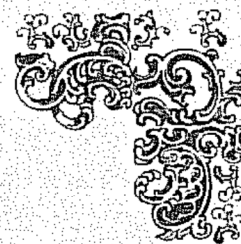
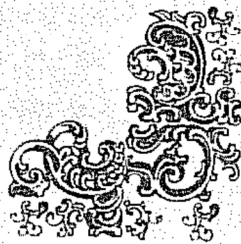
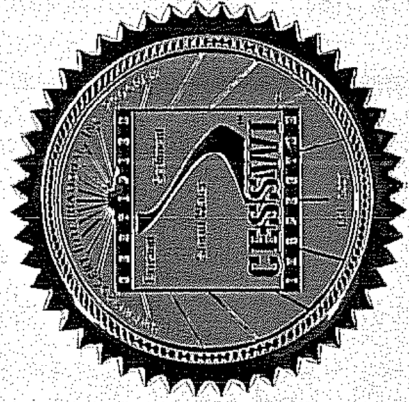
An EnviroCert International, Inc. Program

Certification Number: 0410

Certification Date: December 12, 2008


Chair, CESSWI Council


Executive Director, EnviroCert International, Inc.



StormwaterONE

Acknowledges that

Caleb Miles

has successfully completed the
Stormwater Management Training Program to become a

Qualified Compliance Inspector of Stormwater Texas

1.6 CEUs | 16 PDHs

Courses Completed:

- Texas Construction General Permit
- Principles and Practices of:
 - Erosion Control
 - Sediment Control
 - Pollution Prevention
- On-Site Construction Inspections



Completion Date: 09/16/2021

Expiration Date: 09/16/2023

Certificate Number: 6844635C

A handwritten signature in black ink that reads "Andrew Demers".

Andrew Demers, President

StormwaterONE

Acknowledges that

David Becker

has successfully completed the
Stormwater Management Training Program to become a

Qualified Compliance Inspector of Stormwater Texas

1.6 CEUs | 16 PDHs

Courses Completed:

- Intro to the TPDES General Permit Program
- Principles and Practices of:
 - Erosion Control
 - Sediment Control
 - Pollution Prevention
- On-Site Construction Inspections



Completion Date: 7/14/2017

Expiration Date: 7/14/2019

Certificate Number: 4435522

A handwritten signature in black ink that reads "Andrew Demers".

Andrew Demers, President



EnviroCert International, Inc.[®]

certifies that


Ethan Schexmayer

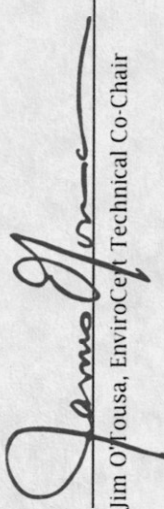
Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CESSWI™ Program as a

Certified Erosion, Sediment and Storm Water Inspector™

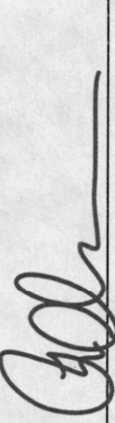
CESSWI™ Number: 5549

Certificate Date: July 16, 2020




Jim O'Tousa, EnviroCert Technical Co-Chair


Michael R. Chase, EnviroCert Technical Co-Chair


Robert Anderson, EnviroCert Board President





EnviroCert International, Inc.®

certifies that

Joseph D. Safer

Subscribes to the Code of Ethics and Professional Conduct and has met the requirements established for the CESSWI™ Program as a

Certified Erosion, Sediment and Storm Water Inspector™

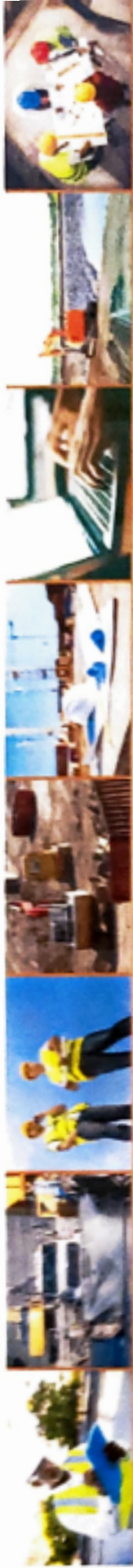
CESSWI Number: 5577

Certificate Date: 5/24/2022 9:53

Robert Anderson, EnviroCert Board President

Jim O'Tousa, EnviroCert Technical Advisory Council





CERTIFICATE OF COMPLETION

presented to

Joseph Safer

who has successfully completed EPA's Construction General Permit (CGP) Site Inspector Training Course
and passed the final exam

Chris Kloss, Water Permits Division Director



Date Certified: 10/4/2022

Expiration Date: May 17, 2027

By completing this course and passing the final exam, Joseph Safer has complied with the CGP Part 6.3.a training requirements for conducting construction inspections under the 2022 CGP.



EnviroCert International, Inc.

3054 Fite Circle, Suite 108, Sacramento, CA 95827
(279) 888-6911 | www.envirocert.org

Joseph D. Safer

CESSWI

Certified Erosion, Sediment and StormWater
Inspector

5577

7-Jun-2024

CERTIFICATION NO.

EXPIRES



NOTICE:

All certified professionals are required to adhere strictly to the Code of Conduct and Ethics and are responsible for maintaining their active status with ECI to exercise the rights and privileges under this certification.



CISEC, Inc.
P.O. Box 188
Parker, CO 80134
Ph: (720) 235-2783
Fax: 720-600-2658
E-mail: contactus@cisecinc.org




CISEC, Inc. Wallet Card

Name: Henry Wesolowski

Order Date: March 2022

Below is your wallet card.

Please print this card and keep it in your wallet or your files.

 <p>CISEC, Inc. Board of Directors certifies that Henry Wesolowski has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of Certified Inspector of Sediment and Erosion Control 3341  March 31, 2023</p>	<p><i>As a CISEC Registrant, I agree to the following:</i></p> <ul style="list-style-type: none">At all times, strictly abide by the CISEC, Inc. Code of Ethics.Perform all services in a professional manner and uphold professional standards in relating to the public, to other CISEC, Inc. registrants and to other professionals within the industry.Earn at least 12 CDH's each year after becoming a CISEC registrant andPay CISEC, Inc. annual renewal fees.  <p>CISEC, Inc. P.O. Box 188 Parker, CO 80134 720-235-2783 www.cisecinc.org</p>
<p>CISEC # CISEC, Inc. Expiration Date President</p>	<p>Signature (required)</p>



CERTIFICATE OF COMPLETION

presented to

Henry Lee Wesolowski

who has successfully completed EPA's Construction General Permit (CGP) Site Inspector Training Course
and passed the final exam

Chris Kloss, Water Permits Division Director



Date Certified: 10/8/2022

Expiration Date: May 17, 2027

By completing this course and passing the final exam, Henry Lee Wesolowski has complied with the CGP Part 6.3.a training requirements for conducting construction inspections under the 2022 CGP.



CERTIFICATE OF COMPLETION

presented to

Marco Aguero

who has successfully completed EPA's Construction General Permit (CGP) Site Inspector Training Course and passed the final exam

Chris Kloss, Water Permits Division Director



Date Certified: 11/4/2022

Expiration Date: May 17, 2027

By completing this course and passing the final exam, Marco Aguero has complied with the CGP Part 6.3.a training requirements for conducting construction inspections under the 2022 CGP.





CISEC, Inc.
P.O. Box 188
Parker, CO 80134
Ph: (720) 235-2783
Fax: 303-841-6383
E-mail: contactus@cisecinc.org



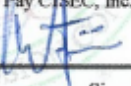

CISEC, Inc. Wallet Card

Name: Marco Agüero

Order Date January 2023

Below is your wallet card.

Please print this card and keep it in your wallet or your files.

 <p>CISEC, Inc. Board of Directors certifies that Marco Agüero has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of <i>Certified Inspector of Sediment and Erosion Control</i> 3518  January 31, 2024</p>	<p><i>As a CISEC Registrant, I agree to the following:</i></p> <ul style="list-style-type: none">At all times, strictly abide by the CISEC, Inc. Code of Ethics,Perform all services in a professional manner and uphold professional standards in relating to the public, to other CISEC, Inc. registrants and to other professionals within the industry.Earn at least 12 CDH's each year after becoming a CISEC registrant andPay CISEC, Inc. annual renewal fees. <p> Signature (required)</p>	 <p>CISEC, Inc. P.O. Box 188 Parker, CO 80134 720-235-2783 www.cisecinc.org</p>	
CISEC #	CISEC, Inc. President	Expiration Date	

Storm Water Inspector Qualifications

Inspector's Name	
Training Received	Environmental Management Group, LLC 40 Hour SWP3 and Erosion & Sediment Control
Training Covered	TCEQ TXR150000 Construction General Permit ISWM Design Specification for Construction Controls
Education	
Storm Water Inspection Experience	



EcoplantSM
ENVIRONMENTAL

The First Choice of Environmental Professionals

Ecoplant Environmental Board of Directors
certifies that

Zachary Shaw

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by Ecoplant Environmental, is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 29th day of May 2024.

Ecoplant Environmental President

CISEC 3929

Certification Number

Ecoplant Environmental Vice President





Ecopliant Environmental, Inc.

P.O. Box 188
Parker, CO 80134
Ph: (720) 235-2783
Fax: 720-600-2658
E-mail: contactus@ecopliant.org




Ecopliant Environmental, Inc. Ecopliant CISEC-IT Wallet Card

Name: Zachary Shaw

Order Date: April 2023

Below is your wallet card.

Please print this card and keep it in your wallet or your files.

 <p>Ecopliant Environmental, Inc. Board of Directors certifies that Zachary Shaw</p> <p><i>has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by Ecopliant Environmental, Inc. is authorized to use the title of</i></p> <p>Certified Inspector of Sediment and Erosion Control In-Training</p> <p>0655-IT  April 30, 2024</p> <table border="1"> <tr> <td>CISEC-IT #</td> <td>Ecopliant Environmental</td> <td>Expire Date</td> </tr> <tr> <td></td> <td>President</td> <td></td> </tr> </table>	CISEC-IT #	Ecopliant Environmental	Expire Date		President		<p>As a CISEC-IT Registrant, I agree to the following:</p> <ul style="list-style-type: none"> At all times, strictly abide by the Ecopliant CISEC Code of Ethics, Perform all services in a professional manner and uphold professional standards in relating to the public, to other Ecopliant CISEC registrants and to other professionals within the industry, and Pay the annual renewal fees.  <p>P.O. Box 188 Parker, CO 80134 720-235-2783 www.ecopliant.org</p> <hr/> <p>Signature (required)</p>
CISEC-IT #	Ecopliant Environmental	Expire Date					
	President						

Storm Water Inspector Qualifications

Inspector's Name	
Training Received	Environmental Management Group, LLC 40 Hour SWP3 and Erosion & Sediment Control
Training Covered	TCEQ TXR150000 Construction General Permit ISWM Design Specification for Construction Controls
Education	
Storm Water Inspection Experience	



Ecopliant Environmental, Inc.

P.O. Box 188
Parker, CO 80134
Ph: (720) 235-2783
Fax: 720-600-2658
E-mail: contactus@ecopliant.org




Ecopliant Environmental, Inc. Ecopliant CISEC Wallet Card

Name: Mark Wilson

Order Date: February 2024

Below is your wallet card.

Please print this card and keep it in your wallet or your files.

 <p>Ecopliant Environmental, Inc. Board of Directors certifies that Mark Wilson</p> <p><i>has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by Ecopliant Environmental, Inc. is authorized to use the title of</i></p> <p>Certified Inspector of Sediment and Erosion Control</p> <p>3852  February 28, 2025</p>	<p>As a CISEC Registrant, I agree to the following:</p> <ul style="list-style-type: none"> At all times, strictly abide by the Ecopliant CISEC Code of Ethics, Perform all services in a professional manner and uphold professional standards in relating to the public, to other Ecopliant CISEC registrants and to other professionals within the industry, Earn at least 12 PDHs each year after becoming a CISEC registrant, and Pay the annual renewal fees.  <p>Ecopliant ENVIRONMENTAL P.O. Box 188 Parker, CO 80134 720-235-2783 www.ecopliant.org</p>						
<table border="1"> <tr> <td>CISEC #</td> <td>Ecopliant Environmental</td> <td>Expire Date</td> </tr> <tr> <td></td> <td>President</td> <td></td> </tr> </table>	CISEC #	Ecopliant Environmental	Expire Date		President		<p>Signature (required)</p>
CISEC #	Ecopliant Environmental	Expire Date					
	President						



EcopliantSM
ENVIRONMENTAL

The First Choice of Environmental Professionals

Ecopliant Environmental Board of Directors
certifies that

Mark Wilson

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by Ecopliant Environmental, is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given the 8th day of February 2024.

Ecopliant Environmental President

Ecopliant Environmental Vice President

CISEC-3852

Certification Number

Storm Water Inspector Qualifications

Inspector's Name	
Training Received	Environmental Management Group, LLC 40 Hour SWP3 and Erosion & Sediment Control
Training Covered	TCEQ TXR150000 Construction General Permit ISWM Design Specification for Construction Controls
Education	
Storm Water Inspection Experience	

Appendix "I" Delegation of Authority

A new Delegation of Signatory form must be submitted if the delegation changes to another individual or position.

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Jon Niermann, *Chairman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 17, 2024

Re: Confirmation of the Submission of the Construction Delegation of Signatories to Report

Dear Permittee,

This is an acknowledgement that you have successfully completed the application of Construction Delegation of Signatories to Report.

ER Account Number: ER075896

Application Reference Number: 666958

Delegation Application Contact: Matthew Martin

TPDES Permit(s) Number: TXR1529RL

Please be aware that TCEQ staff may contact your designated contact for any additional information.

If you have any questions, you may contact the Stormwater Processing Center by email at SWPERMIT@tceq.texas.gov or by telephone at (512) 239-3700.

Sincerely,
Stormwater Program
Water Quality Division

Texas Commission on Environmental Quality

Delegation of Signatories - CGP multiple

Section 1# Site Information

Site Info#: 1

Authorization Number, Site Name, Regulated Entity Number, Regulated Entity Name, Physical Location

TXR1529RL|JARO NORTH - LAND DEVELOPMENT|RN112007166|JARO NORTH - LAND DEVELOPMENT|NWC OF HWY 123 & FM 758, SEGUIN, TX, 78155

Customer (Applicant) Information

How is this applicant associated with this site?

Operator

What is the applicant's Customer Number (CN)?

CN602412207

Type of Customer

Corporation

Full legal name of the applicant:

Legal Name

Lennar Homes of Texas Land and Construction, Ltd.

Texas SOS Filing Number

11452910

Federal Tax ID

752792018

State Franchise Tax ID

17527920189

State Sales Tax ID

Local Tax ID

DUNS Number

Number of Employees

21-100

Independently Owned and Operated?

No

Section 1# Delegated Information

Delegation#: 1

1 Position

LAND DEVELOPMENT MANAGER

2 Name

3 I certify that the person/title above is a duly authorized representative described in 30 TAC 305.128.

Yes

Delegation#: 2

1 Position

DIVISION ENVIRONMENTAL MANAGER

2 Name

3 I certify that the person/title above is a duly authorized representative described in 30 TAC 305.128.

Yes

Delegation#: 3

1 Position	DIRECTOR OF LAND DEVELOPMENT
2 Name	
3 I certify that the person/title above is a duly authorized representative described in 30 TAC 305.128.	Yes

Certification

1 I understand that this authorization does not extend to the signing of a Notice of Intent, Notice of Change, or Notice of Termination for obtaining coverage under a stormwater general permit.	Yes
---	-----

Delegation Application Contact**Person TCEQ should contact for questions about this application:**

1 Organization Name	EMG LLC
2 Prefix	
3 First	MATTHEW
4 Middle	
5 Last	MARTIN
6 Suffix	
7 Credentials	
8 Title	Owner

Mailing Address

9 Address Type	Domestic
9.1 Mailing Address (include Suite or Bldg. here, if applicable)	2260 HIGHLAND VILLAGE STE 400
9.2 Routing (such as Mail Code, Dept., or Attn:)	
9.3 City	HIGHLAND VILLAGE
9.4 State	TX
9.5 ZIP	75077
10 Phone (###-###-####)	2149232086
11 Extension	
12 Alternate Phone (###-###-####)	
13 Fax (###-###-####)	
14 Email	INFO@EMG-LLC.NET

Certification

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

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

1. I am Brian Barron, the owner of the STEERS account ER051116.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Delegation of Signatories - CGP multiple.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OPERATOR Signature: Brian Barron OPERATOR

Customer Number:	CN602412207
Legal Name:	Lennar Homes of Texas Land and Construction, Ltd.
Account Number:	ER051116
Signature IP Address:	204.109.18.254
Signature Date:	2024-07-17
Signature Hash:	89946215E1E35781DB5EC64FE199584FDE0BF99E46248C206413BFEBD7D626EA
Form Hash Code at time of Signature:	661B2C113D589C1F51FD09EFE41C51A99E998A22121B6EF17A37D7A877C5FB6F

Submission

Reference Number:	The application reference number is 666958
Submitted by:	The application was submitted by ER075896/Kyle Sykes
Submitted Timestamp:	The application was submitted on 2024-07-17 at 09:34:58 CDT
Submitted From:	The application was submitted from IP address 35.149.97.198
Confirmation Number:	The confirmation number is 551458
Steers Version:	The STEERS version is 6.79

Additional Information

Application Creator: This account was created by Kyle Sykes

Appendix "J" Additional Information

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Appendix "K" Correspondence

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Appendix "L" Local Approval Letters / MS4 Stormwater Permits

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Appendix “M” Local Regulations / MS4 Construction Stormwater Discharge Regulations

The following local regulations, ordinances and requirements have been included for reference and are not intended to be enforceable by federal governments but may be enforceable by state governments. (Local Qualified or State Delegated Programs). The local requirements are provided herein to assist in maintaining the SWP3s consistency with local requirements for soil and erosion control and stormwater management. These local requirements will be updated to include changes or additional requirements during the period of coverage under the CGP.

Stormwater Pollution Prevention Plan (SWPPP)
Lennar Homes of Texas Land and Construction, Ltd.
Jaro North, LAND DEVELOPMENT

Sec. 2.9. - Subdivision development.

2.9.0. [In general.]

A. *Application of Requirements.* This section applies in the following areas:

Property within City of Seguin City Limits	Property within City of Seguin ETJ
YES	YES

- B. *General.* The provisions of Chapter 4 apply to any non-exempt division of land within the corporate boundaries of the City and within its extraterritorial jurisdiction. The procedures of this section are authorized under the authority of Tex. Loc. Gov't. Code ch. 212. A subdivision plat inside the City or within the extraterritorial jurisdiction (ETJ) of the City of Seguin a plat shall first be submitted to the Director of Planning for review and approved by the identified decider before being recorded with the County Clerk. No building permit shall be issued for any building or structure on a property until a subdivision or a development plat has been approved and filed for record.
- C. *Intent.* It is the purpose of this Article to promote sound planning in the subdivision of land, and to provide consistent rules, which protect the public health, safety, and welfare while allowing the legal platting of land.
- D. *Types of Subdivision Plats.* Each type of subdivision plat has its own requirements and applicable decision makers. The type of subdivision plat required to be submitted is dependent on the following:
1. Size of Subdivision (both in acreage and number of lots);
 2. Required public improvements to service the subdivision; and
 3. Access to the lots.
- E. *Exceptions.* A plat is required for any tract of land divided into two or more parts, except as provided in the Texas Local Government Code or for the following:
1. Sale, inheritance, or gift of land by metes and bounds of tracts upon which no improvements, development, subdivision or alteration is intended;
 2. A division of land created by order of a court of competent jurisdiction;
 3. A division of land that results in the creation of two or more parcels, each of which is greater than five acres inside the City limits, or each of which is greater than ten acres within the City's extraterritorial jurisdiction, when each parcel has direct access to an existing public street, and no dedication of public facilities is required under this Unified Development Code in connection with the division;
 4. Creation of a remainder tract over 5 acres in size;
 5. Acquisition of land for governmental purposes by dedication, condemnation, or easement;
 6. Requests for building permits for unplatted properties located within the city limits for the following:
 - Accessory buildings (as otherwise permitted in accordance with this Code);

- The construction or repair of a fence;
 - Remodeling or repairs which involve no expansion of square footage; or
 - Building additions on a lot with existing structures which increases the total combined square footage of all existing buildings on the lot by no more than 30 percent and no more than 10,000 square feet (over a five-year time period) and does not exceed the maximum impervious cover in accordance with Section 3.6 and does not adversely impact surrounding properties;
7. Requests for building permits for new construction and/or building additions on unplatted properties or properties within the city limits that are zoned for single-family residential development if the following criteria are met:
- The property has legal access to a public street; and
 - The property has access to utilities; and
 - The property in its current configuration was created by a metes and bounds legal description recorded in a deed of transfer or sale at the office of the Guadalupe County Clerk prior to June 26, 1987 or prior to being subject to the City of Seguin's subdivision regulations. Please refer to the table below to determine if the property is eligible for a plat exception under this section.

	Property was located within the Seguin City Limits at the time of creation	Property was located within the Seguin ETJ at the time of creation	Property was located outside both the Seguin City Limits and Seguin ETJ at the time of creation
Property was created prior to June 26, 1987	Platting not required	Platting not required	Platting not required
Property was created between June 26, 1987 and April 1, 2002	Platting required	Platting not required	Platting not required
Property was created after April 1, 2002	Platting required	Platting required	Platting not required

In order to determine the exception for single-family residential in Section 2.9.0.E.7, an application, fee, and documentation shall be required as outlined in the technical manual.

F. *Time for Decision and General Process.*

Completeness Reviews: All subdivision development studies, concept plans, and plats are subject to a completeness review in which City staff will verify that all required documents and information have been submitted in order to confirm that the application is ready to be filed for review by the City. Completeness reviews will be completed within 5 business days of receipt.

The official filing date of the application is the date the completeness review is approved and the application is accepted for review by the City of Seguin.

Development Studies: Development studies are reviewed by staff and are administratively approved by the City Engineer and Planning Director. These reviews must be approved prior to submitting subdivision concept plans or subdivision plats. (*Development studies are not subject to V.T.C.A., Local Government Code § 212.009.*)

Subdivision Concept Plans: Concept Plans are required to be submitted, reviewed, and approved prior to submitting Subdivision Construction Plans. Subdivision Concept Plans are reviewed by staff and are administratively approved by the Planning Director and the City Engineer. Applicants can choose one of two submittal options:

- Submit in writing a waiver to V.T.C.A., Local Government Code § 212.009 to allow for time to address any outstanding issues that are not in compliance with the applicable regulations and development requirements. Multiple reviews will be allowed without disapproval and the applicant can re-submit without additional review fees.
- Forego a waiver to V.T.C.A., Local Government Code § 212.009 and staff will complete a 30-day review of the original filing. If the Concept Plan does not meet all applicable regulations and development requirements, the plan will be disapproved with written comments addressing specific reasons for disapproval. The applicant will be given one opportunity to address the comments by submitting a written response that remedies all comments on the disapproved plan. City staff will complete the review of the applicant's written response within 15 days. If the applicant's written response does not adequately address all comments, the Concept Plan will be disapproved and the process will start over with a new application and new review fees.

Subdivision Construction Plans: Construction Plans are required to be submitted, reviewed, and approved prior to submitting Final Plats. Subdivision Construction Plans are reviewed by staff and are administratively approved by the City Engineer. Applicants can choose one of two submittal options:

- Submit in writing a waiver to V.T.C.A., Local Government Code § 212.009 to allow for time to address any outstanding issues that are not in compliance with the applicable regulations and development requirements. Multiple reviews will be allowed without disapproval and the applicant can re-submit without additional review fees.
- Forego a waiver to V.T.C.A., Local Government Code § 212.009 and staff will complete a 30-day review of the original filing. If the Construction Plans do not meet all applicable regulations and development requirements, the plan will be disapproved with written comments addressing specific reasons for disapproval. The applicant will be given one opportunity to address the comments by submitting a written response that remedies all comments on the disapproved plan. City staff will complete the review of the applicant's written response within 15 days. If the applicant's written response does not adequately address all comments, the Construction Plans will be disapproved and the process will start over with a new application and new review fees.

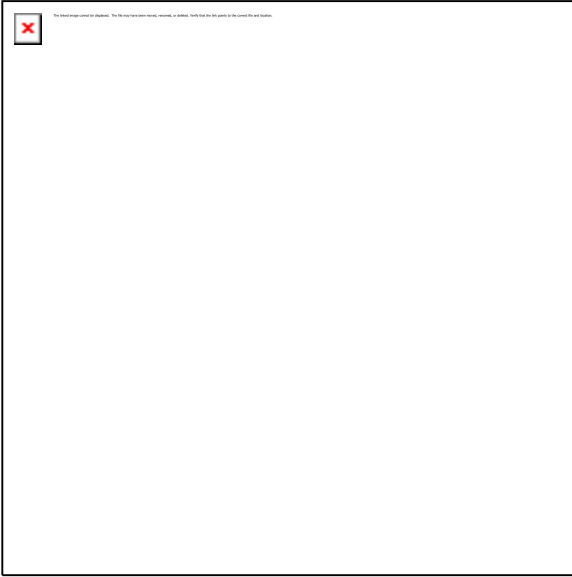
Administrative Plats (minor plats, minor re-plats, amending plats, and vacating plats): Administrative plats are reviewed by staff and are administratively approved by the Planning Director and the City Engineer. Following the completeness review, staff will conduct a 30-day review of the plat. If the plat does not meet all applicable regulations and development requirements, it will be disapproved with written comments addressing specific reasons for disapproval. The applicant will be given one opportunity to address the comments by submitting a written response that remedies all comments on the disapproved plan. City staff will complete the review of the applicant's written response within 15 days. If the applicant's written response

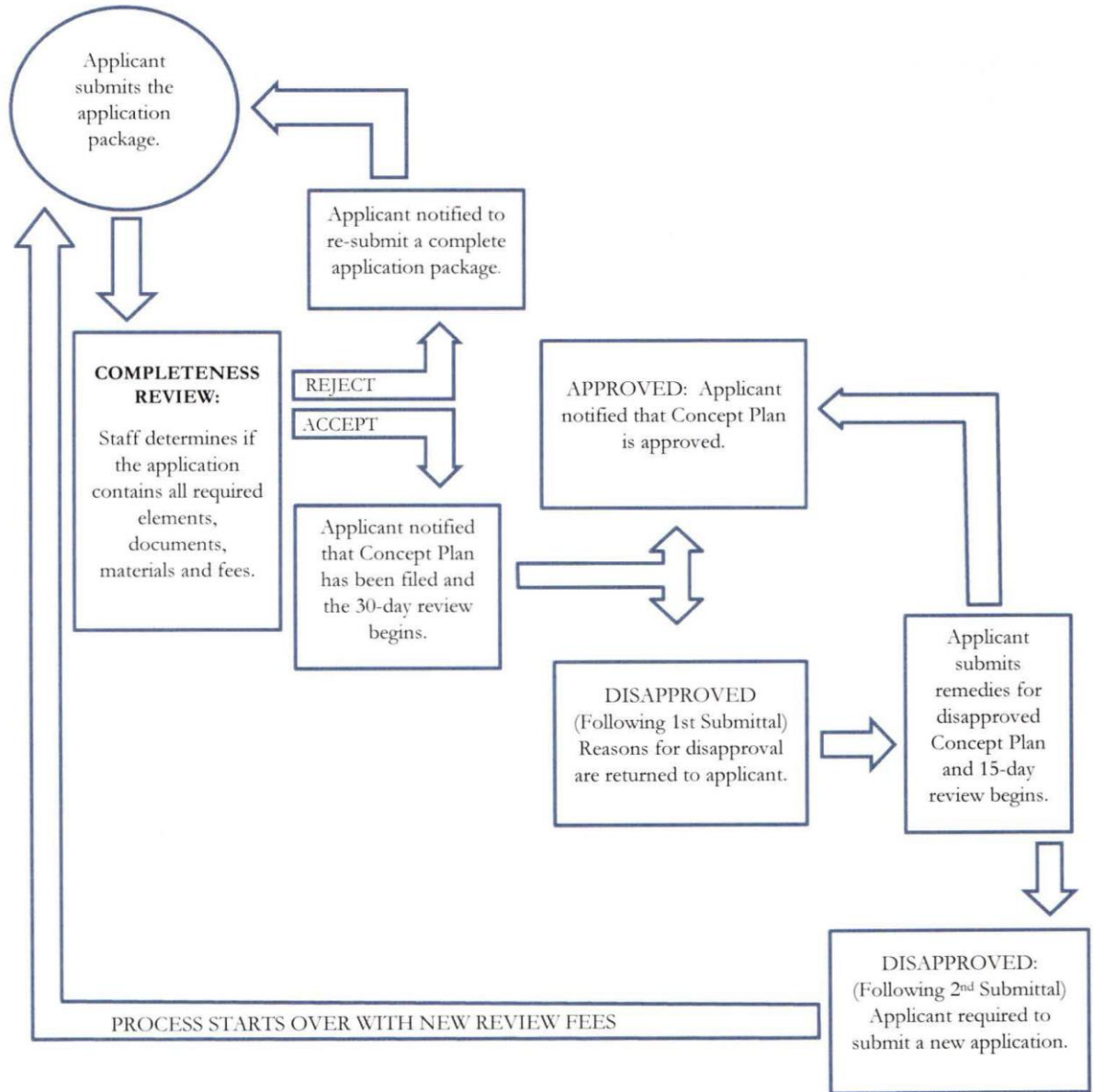
does not adequately address all comments, the plat will be disapproved and the process will start over with a new application and new review fees.

Final Plats (including replats with more than four buildable lots): Final plats are reviewed by staff for compliance but require approval from the Planning Commission within 30 days of the plat filing. Submittal dates in which the City will accept applications for Final Plats will be established no more than 30 days prior to the monthly Planning Commission meetings. Following the required completeness review, staff will conduct a review of the plat. If the plat does not meet all applicable regulations and development requirements, staff will recommend to the Planning Commission that the plat be disapproved with written comments addressing specific reasons for disapproval. The applicant will be given one opportunity to address the comments by submitting a written response that remedies all comments on the disapproved plan. Re-submittal dates in which the City will accept written responses for disapproved Final Plats will be established no more than 15 days prior to the monthly Planning Commission meetings. If the applicant's written response does not adequately address all comments, staff will recommend that the plat be disapproved and the process will start over with a new application and new review fees.

Subdivision Concept Plan: General Process

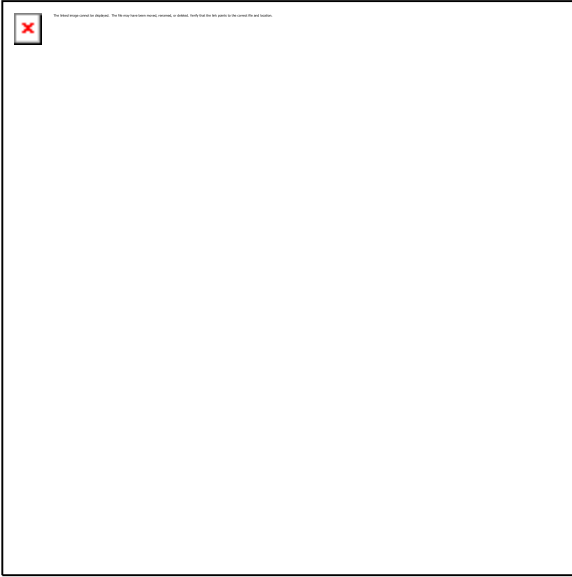
* If a waiver is signed, the documents can be resubmitted for review without disapproval until all comments are addressed and the Concept plat is approved.

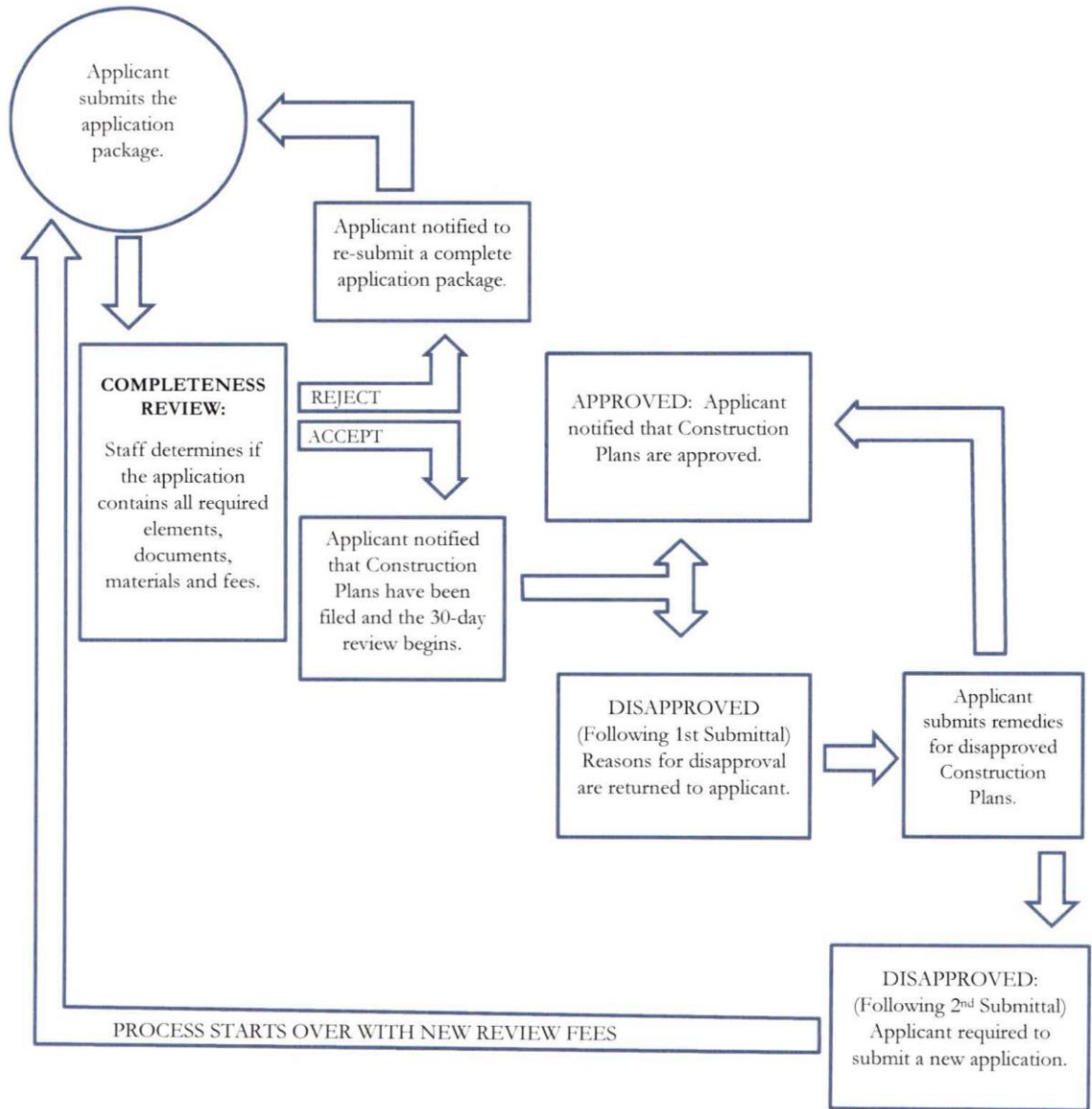




Subdivision Construction Plans: General Process

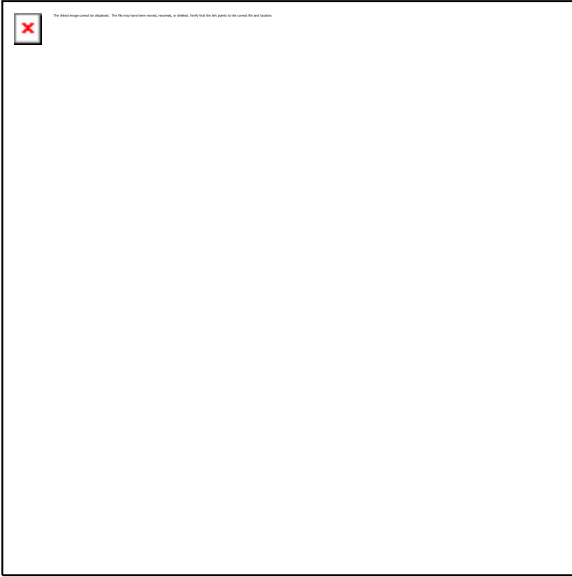
* If a waiver is signed, the documents can be resubmitted for review without disapproval until all comments are addressed and the Constructions Plans are approved.

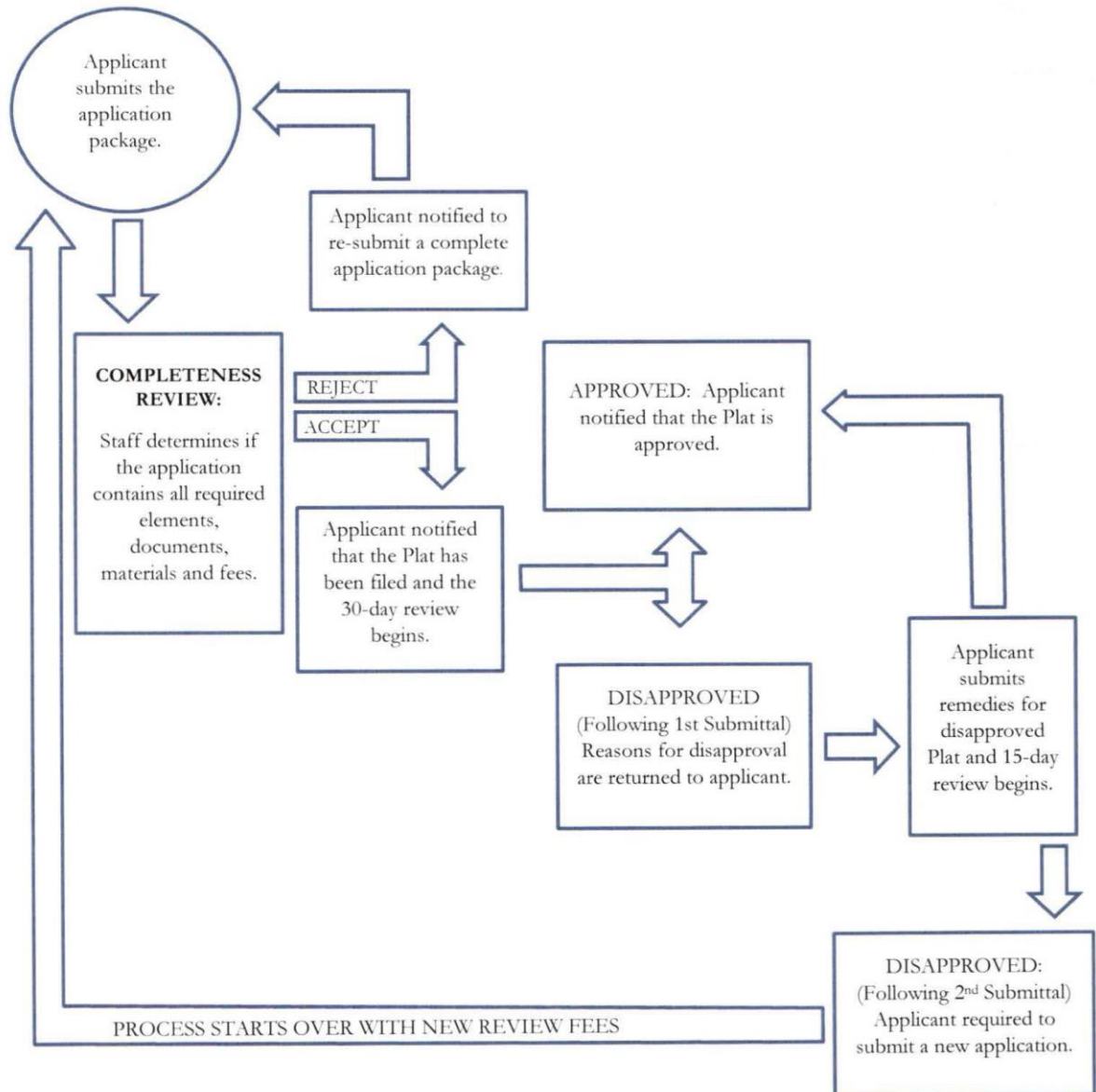




Administrative Plat: General Process

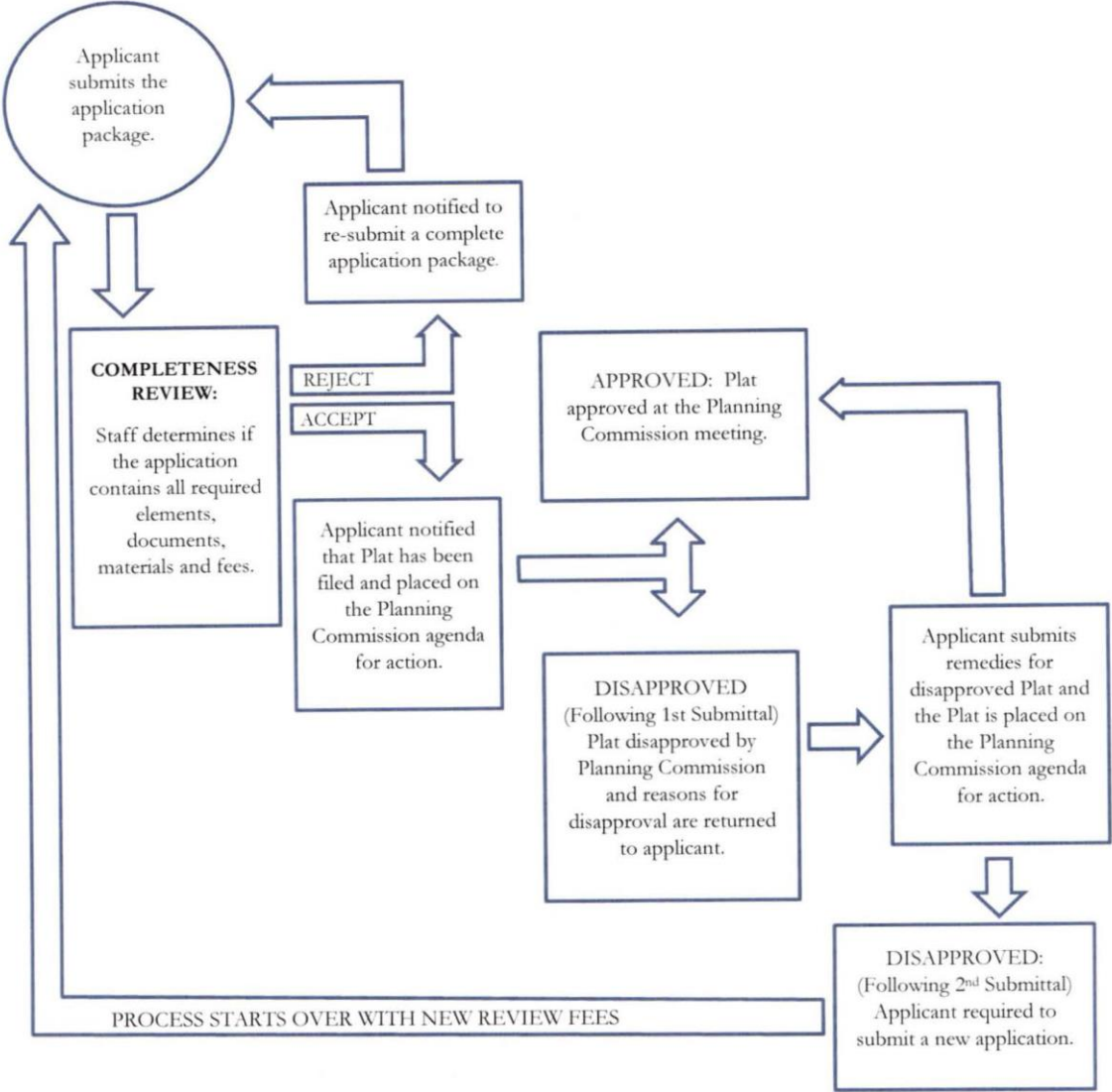
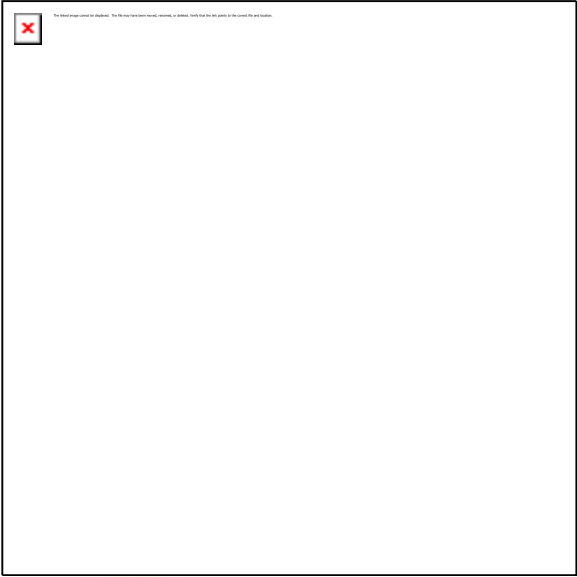
* Waiver prohibited by V.T.C.A., Local Government Code § 212.0097.





Final Plat: General Process

* Waiver prohibited by V.T.C.A., Local Government Code § 212.0097.



2.9.1. *Subdivision Concept Plan.*

- A. *Intent.* Subdivision Concept Plans shall be used to determine the general layout of the subdivision, the adequacy of public facilities needed to serve the intended development and the overall compliance of the land division with applicable requirements of this Unified Development Code. Approval of a concept plan establishes a mutual commitment on behalf of the City and the applicant to the subdivision layout for purposes of final plat approval, including the location of proposed parks, open space lots, drainage lots, the location and width of proposed streets, and that utilities are available to serve the subdivided land to the extent shown on the concept plan and referenced documents.
- B. *Applicability.* A Subdivision Concept Plan is required for all subdivisions that require a Final Plat. Replats that qualify as final plats will follow the same review and approval process as final plats and will therefore require a concept plan. Administrative plats do not require the submittal of a concept plan.
- C. *Criteria for Approval.* Subdivision standards are detailed in Chapter 4. Concept Plans are evaluated using the following criteria:
 1. If the property is located inside the City limits, the plat is consistent with all zoning requirements for the property;
 2. If located in the ETJ, the plat meets any county standards to be applied under an interlocal agreement between the City and Guadalupe County;
 3. The proposed configuration of roads, water, wastewater, drainage and park facilities conform to the stated requirements of this Unified Development Code;
 4. The appropriate right-of-way dedications have been identified on the plat;
 5. The proposed plat is consistent with the stated goals of the comprehensive master plan;
 6. If the property is proposed to be platted in phases the following requirements shall apply:
 - The schedule of development is feasible and prudent, and assures that the proposed development will progress to completion within the time limits proposed.
 - The location, size and sequence of the phases of development proposed assure orderly and efficient development of the land subject to the plat.
- D. *Process.* Applications for a concept plan shall be made on forms provided by the City and must contain legal authorization by the property owner for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application.
- E. *Action.* If the concept plan meets the requirements of this UDC and any applicable agreements (interlocal agreement applicable to ETJ properties and/or any development agreements applicable to the property), the Planning Director and City Engineer shall approve the plat request for a period of three years from the date of the final approval.
- F. *Extension.* The approval of a Subdivision Concept Plan application shall remain in effect for a period of three years from the date the application was approved by the Planning Director and City Engineer, during which period the applicant shall make progress towards completion of a Final Subdivision Plat for the land subject to the Subdivision Concept Plan (as defined in V.T.C.A., Local Government Code § 245.005(c) as amended). If no progress is made towards completion of a Final Subdivision Plat for the land subject to the Subdivision Concept Plan (as defined in V.T.C.A., Local Government Code § 245.005(c) as amended) within the three year period, the Subdivision Concept Plan approval shall expire and the concept plan shall be null and void, unless extended by the Planning Director and City Engineer.
- G. *Amendments.* Minor changes to the Concept Plan may be approved by the Planning Director and City Engineer without the necessity of filing a new application for an amended Concept Plan. Minor changes shall include minor adjustments in street alignments, block lengths, street

names, phase boundaries, and other changes that do not significantly alter the design of the subdivision, provided that such changes are consistent with any approved development studies or other development applications. Major amendments shall require submittal and approval of a new application for a Concept Plan.

2.9.2. *Final Subdivision Plat.*

- A. *Intent.* A Final Plat is required to assure that the division or development of the land subject to the plat is consistent with all standards of this UDC, including, but not limited to, the following:
 1. Adequacy of public facilities;
 2. All other requirements and conditions have been satisfied or provided for to allow the plat to be recorded, and to assure that the subdivision meets all other standards of this UDC to enable initiation of site preparation activities for any lot or tract subject to the plat.
- B. *Applicability.* Approval of a Final Plat shall be required prior to any non-exempt division of land and prior to any site development permit or building permit being issued for a development. Replats that qualify as final plats will follow the same review and approval process as final plats.
- C. *Criteria for Approval.* The Planning and Zoning Commission, in considering final action on a Final Plat, should consider the following criteria:
 1. The final plat shall conform to the approved Concept Plan as approved by the Planning Director and City Engineer; and
 2. The final plat shall conform to all of the requirements outlined in the UDC and the technical manual.
 3. The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this UDC and the construction plans required for the proposed subdivision plat have been approved by the City Engineer.
- D. *Process.*
 1. *Application.* Applications for a final plat shall be made on forms provided by the City and must contain legal authorization by the property owner for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application.
 2. *Staff Review.* The plat shall be reviewed by staff to identify deficiencies that do not meet the regulations adopted for subdivision development. Within 30 days of the plat filing date, a letter recommending disapproval or approval will be submitted to the Planning and Zoning Commission for formal action on the plat. If staff presents the Commission with a letter recommending disapproval, the letter shall articulate the specific reasons and deficiencies for which a disapproval is necessary.
 3. *Action.* If the subdivision plat meets the requirements of this UDC and any applicable agreements (interlocal agreement applicable to ETJ properties and/or any development agreements applicable to the property), the Planning and Zoning Commission shall approve the plat request for a period of two years from the date of the final approval.
 4. *Subdivision Improvements.* Prior to recordation of a plat all subdivision improvements must be either constructed, accepted by the City Engineer and the appropriate maintenance bonds must be in place or fiscal posted for the required improvements. Please see section on subdivision construction plans.
 5. *Extension.* The approval of a Final Subdivision Plat application shall remain in effect for a period of two years from the date the application was approved by the Planning and Zoning Commission, during which period the applicant shall submit any required revisions for approval and make all other changes needed to record the plat. If the final Subdivision Plat has not been recorded within the two-year period, the final plat unless extended by the

Planning and Zoning Commission, shall expire and the applicable plat shall be deemed null and void.

2.9.3. *Minor Plat.*

- A. *Intent.* The purpose of a Minor Subdivision Plat is to allow for the administrative approval of plat in which number of lots is limited and the extension of public infrastructure is not needed.
- B. *Applicability.* The Planning Director is authorized to approve minor plats involving four or fewer lots fronting on an existing street and not requiring the creation of any new street or the extension of municipal facilities. Replats that qualify as minor plats will follow the same review and approval process as minor plats.
- C. *Criteria for Approval.* Subdivision standards are detailed in Chapter 4. Minor Plats are evaluated using the following criteria:
 - 1. If located within the City limits, the minor subdivision plat is consistent with all zoning requirements for the property and all other requirements of this Unified Development Code that apply to the plat.
 - 2. If located in the ETJ, the plat meets any county standards to be applied under an interlocal agreement between the City and Guadalupe County.
 - 3. All lots to be created by the plat are adequately served by all required City utilities and services, and do not require the extension of any municipal facilities to serve any lot within the subdivision.
- D. *Process.*
 - 1. *Application.* Applications for a minor plat shall be made on forms provided by the City and must contain legal authorization by the property owner for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application.
 - 2. *Staff Review and Action.* The plat shall be reviewed by staff to identify deficiencies that do not meet the regulations adopted for subdivision development. Within 30 days of the plat filing date, staff will approve the plat or issue a letter of disapproval articulating the specific reasons and deficiencies for which a disapproval is necessary. All comments must be addressed prior to the Planning Director and City Engineer approving the request. The approval of a Minor Subdivision Plat application shall remain in effect for a period of two years from the date that the application was approved by the Director or the Planning. The applicant may request an extension of 1 year.

2.9.4. *Amending Plat.*

- A. *Intent.* An amended plat is required for error correction on a recorded plat, boundary changes between adjacent lots where no new lots would be created, and lot consolidation between two or more lots where an entire plat will not be vacated.
- B. *Applicability.* The provisions of this section are authorized under Local Government Code Chapter 212 and shall be applicable to all areas within the City's limits and throughout the City's ETJ. An amending plat may be filed in accordance with the procedures and requirements set forth in the Local Government Code section 212.016 and may be used in the following situations:
 - 1. To correct an error in a course or distance shown on the preceding plat;
 - 2. To add a course or distance that was omitted on the preceding plat;
 - 3. To correct an error in a real property description shown on the preceding plat;
 - 4. To indicate monuments set after the death, disability, or retirement from practice of the engineer or surveyor responsible for setting monuments;

5. To show the location or character of a monument that has been changed in location or character or that is shown incorrectly as to location or character on the preceding plat;
 6. To correct any other type of scrivener or clerical error or omission previously approved, including lot numbers, acreage, street names, and identification of adjacent recorded plats;
 7. To correct an error in courses and distances of lot lines between two adjacent lots if:
 - a. Both lot owners join in the application for amending the plat and neither lot is abolished;
 - b. The amendment does not attempt to remove recorded covenants; or
 - c. The amendment does not have a material adverse effect on the property rights of the other owners in the plat;
 8. To relocate a lot line to eliminate an inadvertent encroachment of a building or other improvement on a lot line or easement;
 9. To relocate one or more lot lines between one or more adjacent lots if:
 - a. The owners of all those lots join in the application for amending the plat; and
 - b. The amendment does not attempt to remove recorded covenants or restrictions; and
 - c. The amendment does not increase the number of lots;
 10. To make necessary changes to the preceding plat to create six or fewer lots in the subdivision or a part of the subdivision covered by the preceding plat if:
 - a. The changes do not affect applicable zoning and other regulations of the municipality;
 - b. The changes do not attempt to amend or remove any covenants or restrictions; or
 - c. The area covered by the changes is located in an area that the municipal planning commission or other appropriate governing body of the municipality has approved, after a public hearing, as a residential improvement area; or
 11. To replat one or more lots fronting on an existing street if:
 - a. The owners of all those lots join in the application for amending the plat;
 - b. The amendment does not attempt to remove recorded covenants or restrictions;
 - c. The amendment does not increase the number of lots; and
 - d. The amendment does not create or require the creation of a new street or make necessary the extension of municipal facilities.
- C. *Criteria for Approval.* Subdivision standards are detailed in Chapter 4. Amending plats are evaluated using the following criteria:
1. New lots will not be created;
 2. If located within the City limits, the subdivision plat is consistent with all zoning requirements for the property and all other requirements of this Unified Development Code that apply to the plat;
 3. If located in the ETJ, the plat meets any county standards to be applied under an interlocal agreement between the City and Guadalupe County;
 4. All lots to be created by the plat are adequately served by all required City utilities and services, and do not require the extension of any municipal facilities to serve any lot within the subdivision.
- D. *Process.* Applications for an amending plat shall be made on forms provided by the City and must contain legal authorization by all property owners for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the

application. All comments must be addressed prior to the Planning Director approving the request. The approval of an Amending Subdivision Plat application shall remain in effect for a period of two years from the date that the application was approved by the Director or the Planning. The applicant may request an extension of 1 year.

2.9.5. *Replatting without Vacating Previous Plat.*

- A. *Intent.* A replat is required when a property owner is seeking to change the number or configuration of current lots within a subdivision.
- B. *Applicability.* The provisions of this section are authorized under Local Government Code Chapter 212 and shall be applicable to all areas within the City's limits and throughout the City's ETJ. A replat is any plat that complies with Local Government Code sections 212.014, 212.0145, and 212.015, as amended.
 1. *Replat.* A new plat of all or a portion of a previously approved plat. Replats eliminate the prior plats as to the area replatted.
 2. *Residential Replat.* A replat where either:
 - (i) During the preceding 5 years, part was zoned for residential use by not more than 2 units per lot, or
 - (ii) Any lot is restricted to residential use by not more than 2 units.
- C. *Criteria for Approval.* Subdivision standards are detailed in Chapter 4. Replats are evaluated using the following criteria:
 1. Requirements of the Texas Local Government Code are met.
 2. The plat does not attempt to amend or remove any covenants or restrictions.
 3. If located within the City limits, the subdivision plat is consistent with all zoning requirements for the property and all other requirements of this Unified Development Code that apply to the plat.
 4. If located in the ETJ, the plat meets any county standards to be applied under an interlocal agreement between the City and Guadalupe County.
 5. The final layout of the subdivision meets all standards for adequacy of public facilities contained in this UDC and the public improvement construction plans required for the proposed subdivision plat have been approved by the City Engineer and Utilities Directors.
- D. *Process.*
 1. *Applications.* Applications for a replat shall be made on forms provided by the City and must contain legal authorization by all property owners for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application. A replat is reviewed as a Minor Plat or a Final Plat and follows the review and approval process for minor and final plats as identified in this code.
 2. *Notice.* In accordance with LGC Section 212.015 for a residential replat, written notice of the approval of a replat shall be given not later than the 15th day after the date the replat is approved to all property owners within the original subdivision that are within 200 feet of the lots to be replatted.
 3. *Variance.* If the proposed replat requires a variance, a public hearing shall be held by the Planning Commission, and notice shall be provided before the 15th day before the hearing by publication in an official newspaper and by written notice to all property owners within the original subdivision that are within 200 feet of the lots to be replatted. If the variance is protested in accordance with V.T.C.A., Local Government Code § 212, the proposed replat must receive, in order to be approved, the affirmative vote of at least three-fourths of the members present of the municipal planning commission or governing body, or both. For a legal protest, written instruments signed by the owners of at least 20 percent of the area of

the lots or land immediately adjoining the area covered by the proposed replat and extending 200 feet from that area, but within the original subdivision, must be filed with the Planning Director prior to the close of the public hearing.

2.9.6. *Vacating Plat.*

- A. *Intent.* A vacating plat allows for vacation of an entire subdivision plat if development will not occur consistent with the recorded plat.
- B. *Applicability.* The owner of all contiguous lots shown on a plat of record in the City or its extraterritorial jurisdiction may request the lots be vacated resulting in a single, unplatted parcel. When no lots on a subdivision plat have been sold, the developer may request the vacation of the plat prior to the installation of public improvements. If any lot in a subdivision has been sold, the recorded subdivision plat or any portion thereof may be vacated only upon application of all lot owners in the subdivision.
- C. *Criteria for Approval.* Subdivision standards are detailed in Chapter 4. Plat Vacations are evaluated using the following criteria:
 - 1. Requirements of the Texas Local Government Code are met;
 - 2. It will not leave any lots without adequate utility or drainage easements;
 - 3. It will not create a landlocked parcel, or vacate street rights-of-way or access easements needed to access other property;
 - 4. The plat vacation is requested before improvements covered by guarantees are installed;
 - 5. It will not inhibit the provision of adequate public facilities or services to other property.
- D. *Process.* Applications for a plat vacation shall be made on forms provided by the City and must contain legal authorization by the property owner for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application. The plat is vacated when a signed, acknowledged instrument declaring the plat vacated is approved and recorded in the manner prescribed for the original plat. On the execution and recording of the vacating instrument, the vacated plat shall have no further effect.

2.9.7. *Unity of Title Agreement.*

- A. *Intent.* A unity of title agreement is to provide an expeditious means of developing two (or more) adjacent residential lots under the same ownership as a single lot. The agreement is transferable with all properties and runs with the land rather than the ownership.
- B. *Applicability.* The procedures for an agreement shall apply only for the purpose of constructing structures or buildings allowed in residential districts.
- C. *Criteria for Approval.* The Director of Planning shall decide whether to approve, conditionally approve, or deny the unity of title agreement based on the following criteria:
 - 1. The combined area and dimensions of the contiguous lots shall meet all dimensional standards for a single lot in accordance with the applicable zoning district under the City's Unified Development Code.
 - 2. All lots must be under the same ownership.
 - 3. All lots must be zoned for one-family or two-family residential uses.
 - 4. A unity of title agreement shall not attempt to remove or modify recorded covenants or restrictions or easements.
 - 5. A unity of title agreement shall not require the dedication of any additional right-of-way or easements.
- D. *Process.*

1. *Application.* An application for approval of an agreement for a unity of title agreement shall be prepared in accordance with the Technical Manual.
2. *Approval.* Upon approval by the Director of Planning, an agreement for unity of title shall be recorded and is controlling over the recorded plat until such time as the structures or buildings requiring the unity of title are removed, demolished, or brought into conformance with the regulations of the applicable zoning district.
3. *Recording.* The Unity of Title agreement shall be signed by all interested parties (including property owners and City of Seguin representatives), and recorded in the official records of Guadalupe County.
4. *Release of Agreement.* A release of the Unity of Title bearing all necessary signatures (as described above) shall only be recorded by the City of Seguin following review and approval by the Planning Director.

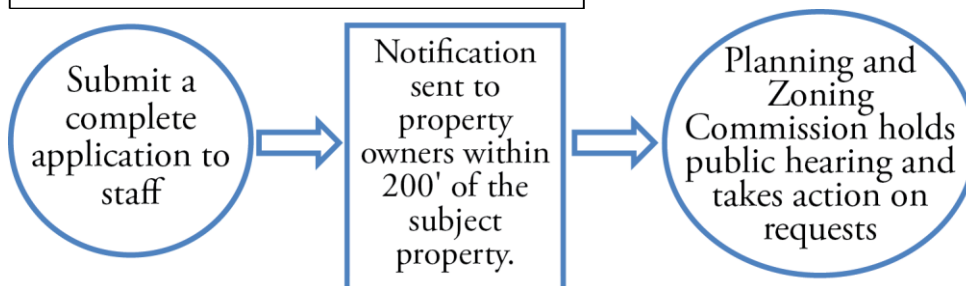
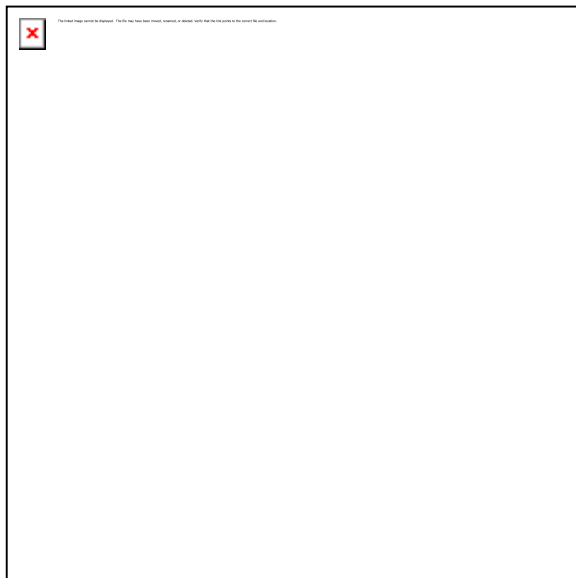
2.9.8. *Subdivision Variance Request.*

A. *Application of Requirements.* This section applies in the following areas:

Property within City of Seguin City Limits	Property within City of Seguin ETJ
YES	YES

- B. *Intent.* The purpose of a subdivision variance process is to allow a property owner to deviate from the set of development regulations when a request arises from such a condition which is unique to the property in question and which is not ordinarily shared by others in the same district and is not create by an action of the property owners or applicant.
- C. *Applicability.* The following variances may be granted by the Planning and Zoning Commission when the request is applicable to an undeveloped and unplatted property seeking to subdivide the property:
 - To vary the applicable lot area, lot width or frontage, lot depth or impervious cover;
 - To vary the applicable minimum building setback requirements, lot coverage, and maximum building height;
 - Subdivision regulations contained in Chapter 4 of the UDC.
- D. *Criteria for Approval.* The Planning Commission may authorize a variance when, in its opinion, undue hardship will result from requiring strict compliance. In granting a variance, the Planning Commission shall prescribe only conditions that it deems necessary or desirable to the public interest; in making the findings, the Planning Commission shall take into account the character of the proposed use of the land involved and existing uses of land in the vicinity, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such variances upon traffic conditions and upon the public health, safety, convenience, and welfare in the vicinity. No variance shall be granted unless the planning commission finds:
 1. That there are special or unique circumstances or conditions affecting the land involved such that the strict application of this ordinance would deprive the applicant of the reasonable use of his land.

2. That the granting of the variance will not be detrimental to the public health, safety, welfare, or injurious to other property in the area.
 3. That the granting of the variance will not have the effect of preventing the orderly subdivision of other land in the area in accordance with the provisions of this ordinance. Such findings of the Planning Commission, together with the specified facts upon which such findings are based, shall be incorporated into the official minutes of the Planning Commission meeting at which such variance is granted. Pecuniary hardship to the subdivider, standing alone, shall not be deemed to constitute hardship.
 4. No variance shall be granted to the required subdivision improvements set out in Chapter 4.
 5. Authorization for a variance under the conditions set forth herein shall require an affirmative vote by two-thirds of the planning commission members.
- E. *General Process.* An application for a variance shall be submitted to the Planning Director for review. The applicant shall submit written findings of fact supporting the request for a variance. Staff shall review all variance requests and provide the Planning and Zoning Commission with a staff analysis of the request. Written notice of all Planning and Zoning Commission hearings on proposed variances shall be sent to all owners of property located within two hundred (200) feet of the subject property seeking a variance. All notices shall be mailed via the U.S. Post Office within not less than ten (10) days before any such hearing is held. Property owner information based on County Appraisal District records.



2.9.10. *Subdivision Construction Plans—Submittal of plans through city acceptance of improvements.*

- A. *Application of Requirements.* This section applies in the following areas:

Property within City of Seguin City Limits	Property within City of Seguin ETJ
YES	YES

- B. *General.* Subdivision Construction Plans, commonly called "Construction Plans", are complete and detailed construction plans and written specifications indicating the method of construction and the materials to be used for the installation of subdivision improvements (including, but not limited to, water distribution system, sanitary sewer system, stormwater drainage system, proposed bridges or culverts, existing and proposed streets, alleys, sidewalks, trails electrical distribution system, and street lighting system).
- C. *Intent.* The purpose of construction plans is to assure that subdivision improvements required to be installed in order to serve a subdivision or a development are constructed in accordance with all standards of this Unified Development Code and the accompanying technical manual.
- D. *Criteria for Approval.* The City Engineer shall render a decision on the construction plans in accordance with the following criteria:
- The plans are consistent with the approved Subdivision Concept Plan;
 - The plans conform to the standards of this Unified Development Code, City Standards, Technical Criteria, and other Federal and State criteria.
- E. *Process.*
1. *Application.* Applications for subdivision construction plans shall be made on forms provided by the City and must contain legal authorization by the property owner for the City to proceed with the request. Requirements for a complete application can be found in the technical manual and on the application.
 2. *Processing and Decision.* All construction plans must be approved prior to the submittal of a final plat. Construction plans are approved for a period of 2 years unless fiscal surety has been posted for the improvements. The applicant may request an extension to the approval should the construction of the improvements take longer than the 2 year time period to start.
 3. *Post Plan Approval.* If the applicant chooses to construct the required improvements prior to recordation of the final plat, all such construction shall be inspected while in progress by the appropriate City department and must be approved upon completion by the City Engineer, City Staff, and any other public utility if that utility provides service to the development. Written notification by such officials stating that the construction conforms to the specifications and standards contained in or referred to in this chapter must be presented to the Planning Director prior to recordation of the final plat. If the applicant chooses to file security in lieu of completing construction prior to the recording of the plat the applicant may provide a:
 - Performance bond or surety bond;
 - Letter of credit; or
 - Escrow funds equal to the total installation cost of the required improvements.

Security shall be in an amount equal to 115 percent of the estimated cost of completion of the required subdivision improvements. The issuer of any surety bond or letter of credit shall be

licensed and approved to conduct business in the State of Texas and subject to the approval of the City Engineer and the City Attorney.

Performance bonds.

- a. All performance bonds must be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", as published in Circular 570, as may be amended by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury.
- b. All performance bonds must be signed by an agent and must be accompanied by a certified copy of the authority for him or her to act.
- c. All performance bonds shall be obtained from surety or insurance companies that are duly licensed or authorized to conduct business in Texas to issue performance bonds for limits and coverage required.
- d. In cases of dispute, the Court of Jurisdiction shall be located in Guadalupe County, Texas.

Letter of credit.

- a. All letters of credit shall be irrevocable and renewable for the life of the project.
- b. Be for a term sufficient to cover the completion of the required subdivision improvements; and
- c. Require only that the City present the issuer with a sight draft and a certificate by the issuer of the letter of credit.
- d. The issuer shall be licensed to conduct business in Texas and be approved by both the State of Texas and the City of Seguin.
- e. In case of dispute, the Court of Jurisdiction shall be located in Guadalupe County, Texas.

Escrow account.

- a. The subdivider shall deposit cash or other instrument readily convertible into cash at face value either with the City or in escrow with a bank or savings and loan institution.
- b. The use of any instrument other than cash shall be subject to the approval of the City. The amount of the deposit shall equal 115 percent of the estimated construction costs for all remaining required improvements.
- c. In the case of any escrow account, the developer shall file with the City an agreement between the financial institution and the developer guaranteeing the following:
 - That the funds of said escrow account shall be held in trust until released by the City and may not be used or pledged by the developer as security in any other matter during that period.
 - That in the case of a failure on the part of the developer to complete said improvements, the financial institution shall immediately make the funds in said account available to the City for use in the completion of those improvements.

- F. *Partial Completion.* As portions of the subdivision improvements are completed in accordance with the approved engineering plans, the applicant may make written application with the City Engineer to reduce the amount of the original security. If the City Engineer is satisfied that such portion of the improvements has been completed in accordance with City standards, the City may, but is not required to, cause the amount of the security to be reduced by such amounts that it deems to be appropriate. Letters of credit may not be reduced more frequently than

quarterly, so that the remaining amount of the security adequately ensures the completion of the remaining subdivision improvements.

G. *Guarantee of Materials and Workmanship.*

1. The applicant or developer shall require of the construction contractors with whom he contracts and shall himself be responsible for guaranteeing that all materials required under this code and workmanship in connection with such improvements are free of defects for a period of one year after acceptance of the improvements by the City Engineer and any other utility provider.
2. Prior to the acceptance of subdivision improvements or approval of private improvements for each phase a maintenance bond or other surety instrument shall be accepted by the City in compliance with the following:
 - a. Shall be in an amount equal to fifteen percent of the cost of improvements for the first calendar years following acceptance of said improvements.
 - b. Shall cover all street, drainage and utility improvements. The construction value or final pay estimate shall be provided to the City Engineer to support said warranty and maintenance bonds amounts.
 - c. Shall be satisfactory to the City Attorney as to form, sufficiency and manner of execution.
 - d. In an instance where a maintenance bond or other surety instrument has been posted and defect or failure of any required improvement occurs within the period of coverage, the City may declare said bond or surety instrument to be in default and require that the improvements be repaired and replaced.
 - e. Whenever a defect or failure of any required improvement occurs within the period of coverage, the City shall require that a new maintenance bond or surety instrument be posted for a period of one full calendar year sufficient to cover the corrected defect or failure.
 - f. In case of dispute, the Court of record shall be in Guadalupe County, Texas.
3. The City shall inspect all required improvements to ensure that construction is being accomplished in accordance with the plans and specifications approved by the City. The City shall have the right to inspect any construction work being performed to ensure that it is proceeding in accordance with the intent of the provisions of this chapter. Any change in design that is required during construction should be made by the licensed professional engineer whose seal and signature are shown on the plans. Another engineer may make revisions to the original engineering plans if so authorized by the owner of the plans, and if those revisions are noted on the plans or documents. All revisions shall be approved by the City Engineer. If the City Engineer finds, upon inspection, that any of the required subdivision improvements have not been constructed in accordance with the plans and specifications approved by the City, then the developer shall be responsible for completing and correcting the deficiencies at the developer's expense.
4. The developer/applicant shall pay for testing services that verify conformance with the approved plans and specifications. All expenses for tests that fail to meet these specifications shall also be paid for by the developer.
5. Upon completion, inspection, and acceptance of the required utility improvements, utility provider(s) shall submit a letter to the City Engineer and the developer/applicant stating that all required utility improvements have been satisfactorily completed and accepted by the utility provider.
6. The City may withhold all City services and improvements of whatsoever nature, including the maintenance of streets and the furnishing of all other City services from any subdivision or property until all of the street, utility, storm drainage and other subdivision improvements

are properly constructed according to the approved construction plans, and until such subdivision improvements are dedicated to and accepted by the City.

7. If the surety on any performance bond furnished by the applicant is declared bankrupt or becomes insolvent, its right to do business is terminated in the state, or the surety ceases to meet the requirements listed in Circular 570, the developer shall, within 20 business days thereafter, substitute another performance bond and surety, both of which must be acceptable to the City.
8. When all of the improvements are found to be constructed and completed in accordance with the approved plans and specifications and with the City's standards, and upon receipt of one set of "record drawing" plans, and a digital copy of all plans (in a format as determined by the City Engineer) the City Engineer shall accept such improvements for the City, subject to the guaranty of material and workmanship provisions in this section. The City Engineer may withhold approval for reasonable cause to include failure to construct subdivision improvements to code or City specifications, for violations of this Code, for failure to provide accurate or complete data as required by the City Engineer, or for failure to correct subdivision subdivision improvements which fail within a year of their acceptance in accordance with this chapter.

H. *Temporary Improvements.*

1. The applicant shall build and pay for all costs of temporary improvements required by the City, and shall maintain those temporary improvements for the period specified by the City.
2. Any temporary subdivision improvement (e.g., a temporary cul-de-sac, alley turnout, drainage swale, erosion control device, etc.) shall be placed within an easement established specifically for that purpose. The recording information of the instrument establishing the temporary easement shall be by instrument and approved by the City Engineer. A temporary easement for a required subdivision improvement shall not be abandoned without the City Engineer's approval and without written consent by the City.

I. *Government Units.* Governmental units to which these contract and security provisions apply may file, in lieu of the contract and security, a certified resolution or ordinance from officers or agents authorized to act in their behalf, agreeing to comply with the provisions of this chapter.

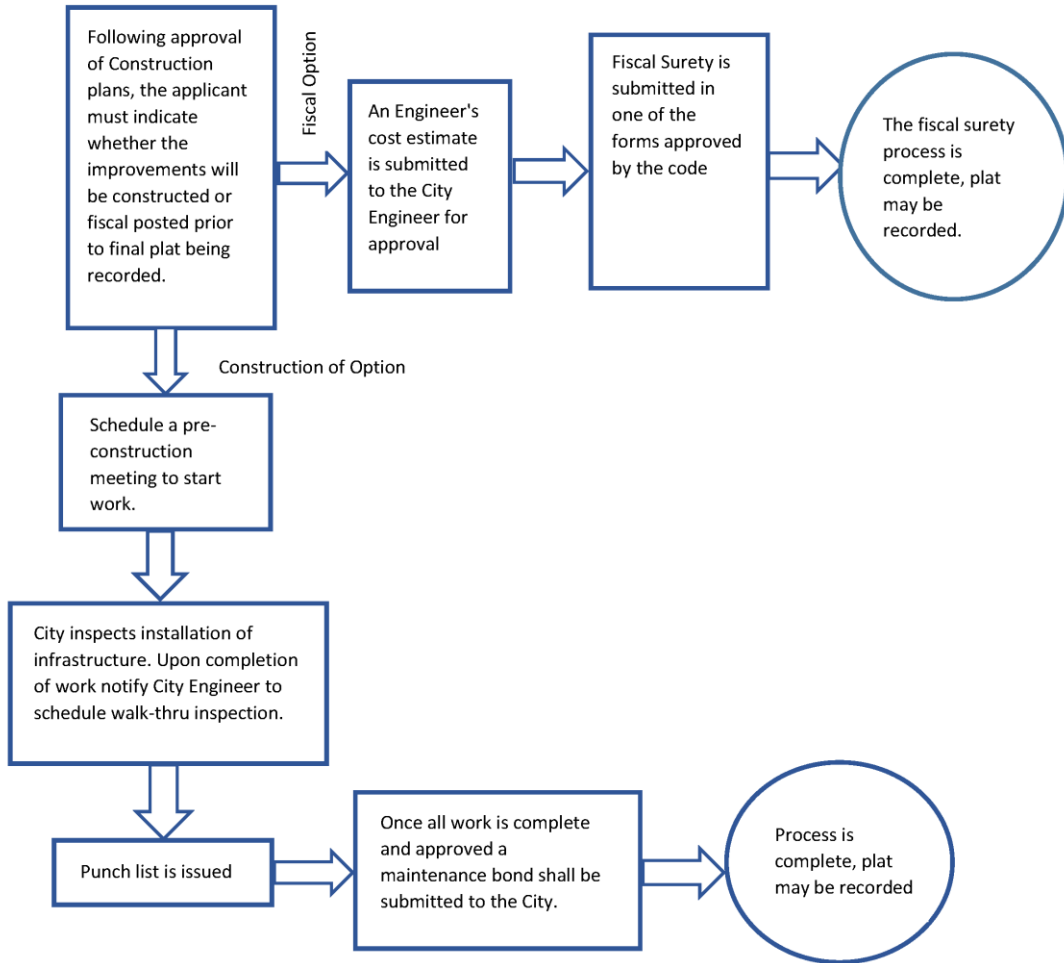
J. *Acceptance.*

1. Acceptance of dedication offers. Acceptance of formal offers for the dedication of streets, public areas, easements, or parks shall be by authorization of the City Engineer. The approval by the planning commission of a final plat shall not, in and of itself, be deemed to constitute or imply the acceptance by the City of any subdivision improvements required by the plat. The City may require the plat to be endorsed with appropriate notes to this effect.
2. No applicant or contractor shall begin construction of subdivision improvements, including grading, within a subdivision until the construction plans are approved by the City Engineer. The developer/applicant shall notify the City Engineer prior to commencement of construction. This notice shall give the location and date of the start of construction.
3. Acceptance of the development shall mean that the developer has transferred all rights to all the subdivision improvements to the City for use and maintenance. The City Engineer may, at his option, accept dedication of a portion of the required improvements if the remaining subdivision improvements are not immediately required for health and safety reasons; and if the property owner has posted a performance bond, letter of credit or cash bond in the amount of 115 percent of the estimated cost of those remaining improvements for a length of time to be determined by the City Engineer.
4. Upon acceptance of the required subdivision improvements, the City Engineer (or designee) shall issue a letter of acceptance (LOA) to the developer/applicant stating that all required subdivision improvements have been satisfactorily completed and accepted by the City.

K. *Deferral of Required Improvements.*

1. The Planning Commission may upon petition of the property owner and favorable recommendation of the City Engineer defer at the time of plat approval, subject to appropriate conditions, the provision of any or all subdivision improvements as in its judgment, are not required in the immediate interests of the public health, safety and general welfare.
2. Whenever a petition to defer the construction of any subdivision improvements required under this chapter is granted by the Planning and Zoning Commission, the property owner shall deposit in escrow with the City their share of the costs of the future subdivision improvements as approved by the City Engineer prior to filing of the plat, or the property owner may execute a separate improvement agreement secured by a cash escrow or, where authorized, a letter of credit, including a contingency of 15 percent guaranteeing completion of the deferred subdivision improvements upon demand of the City.

L. *General Process.* Below is a description of the general subdivision improvement construction process.



([Ord. No. 2016-68, § 2, 10-18-16](#) ; [Ord. No. 2016-70, § 1, 11-1-16](#) ; [Ord. No. 2017-45](#) , pt. 1, 9-12-17; [Ord. No. 2019-054](#) , §§ 4—6, 9-17-19)

[Sec. 7.1.] - [Definitions.]

1. *Acceptable outfall.* The point, as determined by a registered professional engineer, where stormwater can be released to a channel without causing erosion, or resulting sedimentation to the receiving channel or its floodplain. Where necessary, the outfall shall include structural and vegetative measures to assure nonerosive velocities.
2. *Accessory building.* In a residential district, a subordinate building, attached to or detached from the main building, without separate utilities, and not used for commercial purpose or rented. It may be used as a guest house, a washroom, and storage room for domestic storage belonging to the owner or tenant only, or a space for one or more automobiles owned by the owner, tenant or guests. In districts other than residential, an accessory building is a subordinate building the use of which is incidental to and used only in conjunction with the main building. Accessory building shall not be used in conjunction with home occupations for storage of products intended for retail sale.
3. *Accessory use.* A use customarily incidental and subordinate to the main use; provided further, that a use is an accessory use in a "residential" district only if the use is located on the same lot as the main use.
4. *Adopted policies.* A written administrative directive discussed at a public meeting and officially adopted by a majority vote of the council.
5. *Alley.* A minor public right-of-way, not intended to provide the primary means of access abutting lots, which is used primarily for vehicular service access to the back or sides of properties otherwise abutting on a street.
6. *Alteration.* Any construction or change of the exterior of a building, object, site or structure. For buildings, objects, sites or structures, alteration shall, but is not limited to, the changing of roofing or siding materials; changing, eliminating, or adding doors, door frames, windows, window frames, shutters, fences, railings, porches, balconies, signs, or other ornamentation. Alteration shall not include ordinary repair and maintenance.
7. *Amusement, Commercial (Indoor).* Any amusement enterprise wholly enclosed in a building which is treated acoustically so that no noise of the enterprise is perceptible at the bounding property line and including, but not limited to, a movie theater, bowling alley, billiard parlor or video arcade.
8. *Amusement, Commercial (Outdoor).* Any amusement enterprise offering entertainment or games of skill to the general public for a fee or charge wherein any portion of the activity takes place in the open, including, but not limited to, a golf driving range, amusement park, archery range, miniature golf course or other similar activity.
9. *Apartment.* A room in an apartment house or a suite of rooms arranged, designed or occupied as a residence by a single family, individual, or groups of individuals. See "Dwelling unit, multiple."
10. *Apartment house.* A building designed, built, rented, leased, let or hired out, which is occupied as the home or residence of three (3) or more families or individuals, living independently of each other. See "Dwelling unit, multiple."
11. *Assisted Living.* An establishment, including personal care and board and care facilities, that furnishes, in one or more facilities, food and shelter to more than six individuals who are unrelated to the owner of the establishment; and provides personal care services; and in addition, provides minor treatment or services which meet some need beyond the provision of food, shelter, and laundry.
12. *Authorized agent.* An architect, builder, developer or other person or persons empowered to act on behalf of other persons.
13. *Bar, cocktail lounge, tavern saloon.* An establishment where the primary business is the sale of alcoholic beverages for on-premises consumption.
14. *Bed and Breakfast.* An owner occupied private home of historic interest, which offers lodging for paying guests, which may serve meals to these guests, and which allows for limited social functions as regulated by a Specific Use Permit, Limited Use Permit, or otherwise required by this code.

15. *Block*. An area enclosed by streets and occupied by or intended for buildings; or, if said word is used as a term of measurement, it shall mean the distance along a side of street between the nearest two (2) streets which intersect said street.
16. *Building*. Any structure built for the support, shelter and/or enclosure of persons, chattels or moveable property of any kind.
17. *Building development/development*. The term "building development or development" shall be construed to include any construction, reconstruction, conversion, structural alternation, relocation, or enlargement of buildings or structures; use or change in use of buildings or land; and/or extension of use of land or clearing, grading, excavation or other movement of land, for which permission may be required under this code. Includes reconstruction, alteration of the size, or material change in the external appearance of a structure; changes in intensity of land use; and excavation for construction, moving, alteration, or repair, except ordinary repairs, of any building or other structure.
18. *Building setback line*. A line defining an area on the building lot between the property line and the building line within which no building shall be constructed, encroach or project except as specifically authorized in an adopted ordinance of the City of Seguin; also called "building line" or "setback line".
 - a. *Front building setback line*. A line parallel to the street right-of-way line which the building faces, and takes its primary access from. On corner lots the front building setback line shall be considered as parallel to the street upon which the lot has its least dimension except where corner lots may be square in dimension and/or have double frontage, at which time the front yard shall correspond to the lot's side adjacent to the longest block face in which it occurs and to which the majority of the existing structures front.
 - b. *Side building setback line*. A line parallel to an adjacent lot or street right-of-way on a corner lot, which the building sides up to.
 - c. *Rear building setback line*. A line parallel to an adjacent lot, alley, or street in the case of double-frontage lots, which the building backs up to and has its rear or secondary access from.
19. *Carport*. A roofed structure open on two (2) sides when attached to a dwelling and open on three (3) sides when detached from a dwelling, covered with a roof supported by structural steel or wood columns or masonry piers of minimum size for structural safety.
20. *City*. The City of Seguin, Guadalupe County, Texas.
21. *City attorney*. A licensed attorney employed or designated by the City of Seguin to provide legal services for and in behalf of the City.
22. *City Council/Council*. The words "City Council" or "Council" shall refer to the City Council of the City of Seguin, Texas.
23. *City Engineer*. A registered professional engineer employed or designated by the City of Seguin to provide professional engineering services for and in behalf of the City.
24. *City standards*. As referred to in this ordinance, shall mean the City's standards and specifications, together with all tables, drawings and other attachments hereinafter approved by the Council.
25. *Clinic*. An institution or station for the examination and treatment of ill and afflicted outpatients by a physician or group of physicians.
26. *Cluster development*. See "Subdivision, cluster."
27. *Columbarium*. A structure of vaults lined with recesses for cinerary urns operated as part of a cemetery, funeral home, or church.
28. *Commission*. The Planning and Zoning Commission of the City of Seguin, Guadalupe County, Texas.
29. *Community Center*. A central social and recreational building as part of a housing project, subdivision or planned unit development.

30. *Communication Tower.* A device fixed and free-standing or guyed, which may include an uninhabitable structure, not designed as a shelter or to be occupied for any use. This definition includes, but is not limited to, any such structure supporting antennae that transmit or receive any portion of the electromagnetic spectrum of radio waves. The following are examples, but are not limited to: freestanding monopole structures, lattice or open framed structure and other similar self-supporting, trussed, or open framed structures, and guyed structures. For communication tower purposes a monopole is a single, slender and typically cylindrical, vertical structure to which antennae are affixed.
31. *Commercial trimming/cutting.* Any individual or business that practices tree trimming, cutting or removal, for hire, within the City limits of the City of Seguin, Texas.
32. *Comprehensive plan.* The comprehensive plan of the City of Seguin and includes any unit or a part of such unit separately adopted and any amendment to such plan or parts thereof. Also Comprehensive Master Plan, Master Plan.
33. *Concept plan, subdivision.* A plan depicting the layout of a proposed subdivision that identifies the location of proposed parks, open space lots, drainageways and drainage lots, streets and street alignments, and utilities that will serve the development.
34. *Condominium.* A multifamily dwelling unit, within which designated units or apartments are conveyed, [in] fee simple title, with an undivided interest in the building's common elements, to include, but not be limited to, halls, stairs, elevators, roof parking space, and the land when the building is not constructed on leased land.
35. *Construction plans (Subdivision construction plans).* The drawings and technical specifications, including bid documents and contract conditions, where applicable, providing a graphic and written description of the character and scope of the work to be performed in construction of a subdivision. Detailed specifications for requirements can be found in the UDC Technical Manual.
36. *Crematory.* A furnace for cremating deceased humans or an establishment containing such a furnace operated as part of a funeral home.
37. *Crosswalk way.* A public right-of-way, six feet or more in width between property lines, which provides pedestrian circulation.
38. *Custom slaughter facility.* A building where animals are killed and butchered for human consumption. The term "animals" shall include only those animals used for human consumption, including, sheep/goat, bovine, fowl, swine, or other animals used for human consumption. This definition excludes rendering operations.
39. *Day care nursery.* A place designed for the care of children for less than 24 hours a day.
40. *Decorative street light.* Shall include any light standard or fixture which is not of a type normally stocked by the City electric department.
41. *Density.* The number of dwelling units per gross acre of subdivision, excluding any areas that are nonresidential in use.
42. *Detached garage.* A garage wholly separated from and independent of the principal building on a lot; or connected to a principal building by an unenclosed or latticed passageway, arbor or covered walk.
43. *Developer.* An individual, partnership, corporation or governmental entity undertaking the subdivision or improvement of land and other activities covered by these regulations, including the preparation of a subdivision plat showing the layout of the land and the public improvements involved therein. The term "developer" is intended to include the term "subdivider" even though personnel in successive stages of a project may vary.
44. *Director of Planning.* The duly authorized employee or representative of the City in charge of the planning function for the City and charged with implementation and enforcement of the subdivision, zoning and other growth-related ordinances. Also called the Director of Planning & Codes.

45. *Director of Public Works.* The duly authorized employee or representative of the City in charge of the street department, water department, sewer department, or a combination of such departments of the City.
46. *District/Zoning District.* A section of the City of Seguin for which the regulations governing the areas, heights or uses of buildings are uniform.
47. *Dormitory.* A building, other than a hotel or motel, containing rooming units with or without individual kitchen facilities to be used for residential purposes. Rentals of each unit shall be on a weekly basis or longer. A dormitory may contain common food preparation and eating facilities primarily for the use of the occupants of the building.
48. *Drainage facilities.* Storm drainage facilities are hereby defined as being all parts of a drainage system, consisting of streets, alleys, storm sewers, channels, culverts, bridges, swales, detention or retention facilities, and any other feature which stormwater flows over or through.
49. *Drip Line Area.* The area immediately below the tree's canopy.
50. *Dwelling unit.* A room or suite or set of rooms occupied or suitable for occupancy as a family residence and having kitchen, bath and sanitary facilities, together with appropriate appurtenances to such occupancy.
 - a. *Single-family detached dwelling unit:* A building designed for and occupied exclusively by one family as a separate dwelling unit and not meeting the requirements of a townhouse or row house. Occupancy shall be limited to no more than four (4) individuals who are unrelated by blood, legal adoption, or marriage. The owner and any agent of the owner shall be legally responsible for any dwelling unit use.
 - b. *Single-family attached dwelling unit:* A building designed or occupied exclusively by one family as a separate dwelling unit, and meeting the requirements of a townhouse or row house. Occupancy shall be limited to no more than four (4) individuals who are unrelated by blood, legal adoption, or marriage. The owner and any agent of the owner shall be legally responsible for any dwelling unit use.
 - c. *Duplex:* A building designed for or occupied exclusively by two (2) families living independently of each other. A duplex sharing a lot with other residentially used structures shall fall under the definition of a multiple dwelling unit and shall not be considered a duplex for the purposes of this ordinance.
 - d. *Multiple:* A building designed for and/or occupied exclusively by three (3) or more dwelling units. (Also known as multifamily dwelling unit.)
 - e. *Accessory:* A secondary separate dwelling unit such as a garage apartment no larger than 50% of the square footage of the primary structure. The determination of whether one family is living independently of another is based on one or more of the following criteria: separate sanitary facilities, separate kitchen facilities, separate entrances, and separate utilities.
51. *Easement.* An interest in land granted to the City, to the public generally, and/or to a private utility corporation.
52. *Efficiency apartment.* An apartment having a combination living and bedroom (no separate bedroom), cooking facilities and bath.
53. *Engineer.* A person duly authorized under the provisions of the Texas Engineering Registration Act, as heretofore or hereafter amended, to practice the profession of engineering.
54. *Extraterritorial jurisdiction.* The unincorporated area, not a part of any other City, which is contiguous to the corporate limits of the City of Seguin, the outer limits of which are measured from the extremities of the corporate limits of the City outward for such distances as may be stipulated in the Texas Municipal Annexation Act in accordance with the total population of the incorporated City, and in which area, within the terms of the act, the City may enjoin the violation of its subdivision ordinance.

55. *Family Home for Handicapped.* A community based residential home established to care for persons that have a physical or mental impairment and have trouble performing certain life activities. The purpose for a family home is to assist these persons with a physical or mental impairment in order to help them develop certain life skills. A family home may not have more than six disabled persons and two supervisory personnel residing at the home at any one time.
56. *Farm.* An area of two (2) acres or more which is used for the growing of the usual farm products such as vegetables, fruits, trees and grain and their storage on the area and/or the raising thereon of the usual farm poultry and farm animals such as horses, cattle, sheep and swine, and including dairy farms with the necessary accessory uses for treating and storing the produce; provided, however, that the operation of such accessory use shall be secondary to that of the normal activities; and provided further, that it does not include the commercial feeding of offal or garbage to swine or other animals.
57. *Farmers/Artisans Market.* A market at a designated outdoor location for the distribution and sale (directly to consumers) of products and goods that are locally grown by farmers/gardeners or hand-crafted by artisans. Products and goods are not mass produced and no other retail or any resale is permitted.
58. *Fence.* Means any wall or structure more than 18 inches in height erected or maintained for the purposes of enclosing, screening, restricting access to or decorating a lot, parcel, building or structure. Fence does not include dog runs, arbors or other incidental decorative barriers located within perimeter fencing.
59. *Finish side, Fence.* Means that side of the fence that forms the barrier, where the support elements, including posts and rails of the fence, are not visible from outside the property.
60. *Floodplain.* Any and all land area adjoining the channel of a river, stream, lake, watercourse, marshy area or other drainage element, which has been or may be inundated by stormwater runoff. The extent of the floodplain shall be determined by the crest of a flood having an average frequency of occurrence of once in 100 years, as established by the Federal Insurance Administration.
61. *Floodway.* The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
62. *Fraternity or sorority.* A social club or an association having meeting facilities for the members. A fraternity or sorority house may have dormitory facilities for its members. Any such fraternity or sorority house shall be deemed a rooming house, boarding house, or group home, depending upon the circumstances in each instance. The office or headquarters of a professional, business or other fraternal organization shall be considered as an office for the purposes of this chapter.
63. *Garbage Container.* A large receptacle, usually exceeding 90 gallons, used for the storage and disposal of trash, garbage, refuse and grease rendering. This definition does not include the following: temporary dumpsters used in construction, temporary dumpster for special events, recycling dumpsters, residential garbage containers, usually 90 gallons or less, provided by the City's franchise holder.
64. *General plan.* See "Comprehensive Plan".
65. *General Land Use Plan.* A plan, including all site details and functions, required for development of any tract zoned Planned Unit Development.
66. *Guest house.* An accessory building designed for the temporary occupancy of guests of the primary dwelling for which there is no remuneration.
67. *Height, Structure.* The height of a building or portion of a building shall be the vertical distance from grade to the highest point of the coping of a flat roof, the deck line of a mansard roof, and the mean height level between eaves and ridge for hip, gable or gambrel roofs. In measuring the height of a building, the following structures shall be excluded: Chimneys, cooling towers, elevator bulkheads, mechanical rooms, tanks, water towers, radio tower, television antennas, ornamental cupolas, domes or spires, and parapet walls not exceeding four (4) feet in height.

68. *Height, Communications Tower.* The vertical distance between the finished grade at the base of the tower or the lowest point of contact with the building, and the highest point of the tower structure.
69. *Height, Freestanding Sign.* The measurement shall be from the grade to the highest point of the sign, including the sign face structure, pole and any projection, decoration or trim of the sign face structure or pole.
70. *Height, Small Wind Energy Systems.* The height above natural grade of the fixed portion of the tower, excluding the wind turbine.
71. *Historical tree.* See "Protected Tree".
72. *Home occupations.* A home occupation is an occupation customarily carried on in the home by a member of the occupant's family without structural alterations in the building or any of its rooms, without the installation of machinery other than that customary to normal household operation or additional equipment, without the employment of additional persons, and which does not cause the generation of additional traffic in the street and which does not require the display of a sign.
73. *Hospital.* An institution or place where sick or injured patients are given medical or surgical care either at public (charity) or private expense.
74. *Hotel and motel.* A building or arrangement of buildings designed and occupied as a temporary abiding place of individuals who are lodged with or without meals, in which the rooms are usually occupied singularly for hire, and in which there are more than eight (8) sleeping rooms, and which may have a public dining room accommodating more than eight (8) guests, and a central kitchen.
75. *Industrialized housing.* A residential structure that is designed for the occupancy of single-family or duplex use; which bears an approved decal or insignia, clearly visible, under rules promulgated by the State of Texas signifying the dwelling as "industrialized"; that is intended to be installed on a permanent foundation system approved by the locally adopted building codes; that meet all other locally adopted building codes; and that meet all other State and local requirements for industrialized housing.
76. *Industry, light.* Establishments engaged in the manufacturing of finished or semi-finished products or parts, including fabrication, assembly, and packaging of such products; includes warehousing, wholesaling, distribution of products, research and development activities, and high technology use, but excluding basic industrial processing. Such activities shall not emit detectable particulates, odor, smoke, gas fumes, light, vibrations or noise beyond the property lines.
77. *Industry, heavy.* Establishments engaged in the manufacturing or transformation of materials into new products. These establishments are usually described as plants and factories, and characteristically use power driven machines and materials handling equipment. Manufacturing production is usually carried on for the wholesale market, rather than for direct sale to the domestic consumer.
78. *Kindergarten.* A school for children of pre-public school age.
79. *Landscape Area.* An area devoted to plant materials adaptable to this region, including, but not limited to, trees, shrubs, grasses, ground covers, mulch and other landscape features, i.e. berm.
80. *Limited Use Permit.* An administrative use permit granted by the Director of Planning after specified conditions have been met.
81. *Live Entertainment.* A use which includes any or all of the following activities: Performances by musicians or dancers; live bands or musical acts; or the amplification of recorded music/entertainment by disc jockeys, in conjunction with a tavern or night club operation.
82. *Lot of record.* A parcel of land which is part of a subdivision, the map or plat of which has been recorded in the office of the county clerk of "the appropriate county;" a parcel which existed in its current configuration and was created by a metes and bounds legal description recorded in a deed of transfer or sale at the office of the Guadalupe County Clerk prior to June 26, 1987; excluding those tax parcels which are identified as being created for tax purposes or deed of trust for borrowing money against a tract of parcel;

- a. *Lot area.* The area of the lot shall be the net area of the lot and shall not include portions of streets and alleys. Utility easements are to be considered part of the net lot area.
 - b. *Lot depth.* The length of a line connecting the midpoints of the front and rear lot lines.
 - c. *Lot, double-frontage.* Any lot, not a corner lot, with frontage on two streets which are parallel to each other or within 45 degrees of being parallel to each other.
 - d. *Lot frontage.* The length of street frontage between property lines.
 - e. *Lot, irregular.* Any lot not having equal front and rear lot lines, or equal side lot lines; a lot, the opposite lot lines of which vary in dimension and the corners of which have an angle of either more or less than 90 degrees.
 - f. *Lot width.* That distance measured along a line connecting two (2) side lot lines along the front building line.
 - g. *Lot, corner.* A lot situated at the junction of two (2) or more streets.
 - h. *Lot, Interior.* A lot other than a corner lot.
 - i. *Lot lines.* The lines bounding a lot as defined herein:
 - i. *Front lot line:* The property line between the front yard and the contiguous street right-of-way boundary.
 - ii. *Rear lot line:* The property line between the rear yard and the adjacent property or right-of-way, and contiguous with the legal boundary of such use.
 - iii. *Side lot line:* The property line between two (2) adjacent lots or between the side yard and the contiguous street right-of-way boundary on corner lots.
83. *Maneuvering space.* The space entirely on private property required for maneuvering vehicles in such a manner as to preclude the backing of any vehicle into any street right-of-way.
84. *Manufactured home.* A single-family dwelling unit fabricated in an off-site manufacturing facility; is transportable in one or more sections, is attached to a permanent chassis but is not equipped with a permanent hitch, axle, wheels or other device allowing for transport other than to a permanent site. All manufactured homes bear a label certifying that it is built in compliance with the Federal Manufactured Housing Construction and Safety Standards.
85. *Manufactured home park.* A unified development of a minimum of three (3) acres and ten (10) approved manufactured home spaces for rent or lease, arranged on a tract of land, in which the tenant of the manufactured home are not the owners of the land.
86. *Manufactured home space.* An area within a Manufactured Home Park which is designed for and designated as the location for a single manufactured home and the exclusive use of its occupants. Also may be referred to as a manufactured home lot in a manufactured home park.
87. *Manufactured home subdivision.* The division of land as the term "subdivision" is defined in this ordinance for the purpose of manufactured home occupancy. A manufactured home subdivision shall consist of not less than three (3) acres and ten (10) approved manufactured home sites.
88. *Microbrewery/brewpub.* A facility for the production and package of malt beverages of low alcoholic content for distribution, retail or wholesale, on or off premises, with a typical capacity of not more than 15,000 barrels per year. Other uses such as a restaurant or bar are allowed on-site when permitted within the zoning district and TABC regulations.
89. *Mobile Food Vendor.* A vehicle mounted, self or otherwise propelled and designed for public roads, that is readily mobile with no permanent fixed location, the vendor of which prepares all or most of its food on board the vehicle to serve or distribute to customers in a form suitable for immediate ingestion or consumption (to include food trucks and food trailers).
90. *Mobile Food Vendor Park.* An area on private property designated to accommodate three or more mobile food vendors.

91. *Mobile home.* A structure that was constructed prior to June 15, 1976, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in width or 40 body feet or more in length, or, when erected on site, is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling unit with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning and electrical systems. The following shall not be included in this definition: travel trailers, pickup coaches, motor homes, camping trailers, or other recreational vehicles, Manufactured modular housing which is designed to set on a permanent foundation, and which uses standard sheathing, roofing, siding, and electrical, plumbing and heating systems which comply with the adopted building code.
92. *Mobile home subdivision.* The division of land as the term "subdivision" is defined in this ordinance for the purpose of mobile home occupancy. A mobile home subdivision shall consist of not less than three acres and 20 approved mobile home lots.
93. *Nightclub or dance hall.* An establishment whose primary activity is the provision of facilities for dancing, including a dance floor and live entertainment or amplified music. Such establishment may or may not provide on-premises consumption of alcoholic beverages. Schools of dance are exempted from this definition.
94. *Nonconforming use (legal).* A building, structure or use of land lawfully occupied at the time of the effective date of this ordinance or amendments thereto, and which does not conform to the use regulations of the district in which it is situated.
95. *Nursing Home or Long Term Care Facility.* Any structure or collection of structures located on one site used or occupied by persons recovering from illness or suffering from infirmities of old age.
96. *Oak Wilt.* A disease caused by the fungus *Ophiostoma fagacearum* or *ceratocystis fagacearum*.
97. *Office.* A room, studio, suite, or building or any part thereof in which a person transacts his business or carries on his stated occupation. For the purposes of the ordinance, an office shall not involve manufacturing, fabrication, production, processing, assembling, cleaning, testing, repair or storage of materials, goods and products, or the sale and delivery of any materials, goods or products which are physically located on the premises. An office shall not be deemed to include a veterinary clinic.
98. *Open space.* Private property under common ownership designated for recreational area, private park (for use of property owners, within the subdivision), play lot area, plaza area, building setbacks (other than those normally required), and ornamental areas open to the general view within the subdivision. Open space does not include streets, alleys, utility easements, public parks or required setbacks.
99. *Park/Parkland.* Land dedicated to, or purchased by, the City for the purpose of providing public recreational and/or open areas. This may include land designated for golf courses, parks, approved greenbelts and nature preserves, which are readily accessible to the intended users. Land designated for parkland shall not include streets, alleys, drainageways not improved for recreational or other approved uses, parking lots, or storage areas.
100. *Parkland, Private.* Parkland or open space not dedicated to the City, but designated as an easement or reserve for private open space or private recreational use.
101. *Parks and Recreation Advisory Board (AKA Parks Board).* The parks and recreation board of the City of Seguin, a citizens advisory board appointed by the Seguin City Council.
102. *Parking Area.* A paved or improved surface designed and ordinarily used for the parking of motorized and non-motorized vehicles and other equipment on wheels, including but not limited to automobiles, recreational vehicles, trailers, and boats.
103. *Pavement width.* The portion of a street available for vehicular traffic; where curbs are laid, it is the portion between the face of curbs.
104. *Person.* Any individual, association, firm, corporation, governmental agency or political subdivision.

105. *Planned unit development.* A subdivision that consists of a variety of land use types, incorporating a single or a variety of types of residential dwelling units, and/or compatible commercial and industrial land uses, public land uses, and common open space and recreational areas, adequate to service the needs of the tract when fully developed and populated, and which is to be developed as a single entity, under unified control. The development is guided by a general land use plan where certain zoning or subdivision regulations, other than use regulations, may be waived or varied to allow flexibility and creativity in site and building design and location, in conformance to general guidelines.
106. *Planning Commission.* The city Planning and Zoning Commission of the City of Seguin, Texas.
107. *Planting Material.* Means trees, shrubs, grasses, ground covers and other landscape features specifically designed and installed as site improvements and approved by City of Seguin staff and in accordance with this code ordinance.
108. *Plat.* A map of a subdivision showing the exact layout and proposed development of a proposed subdivision into lots, blocks, streets, parks, school sites, commercial or industrial sites, drainageways, easements, alleys and/or any other elements as required by this ordinance, and which a subdivider shall submit for approval in accordance with this ordinance. A plat is prepared in a form suitable to be filed of record in the plat records of Guadalupe County with the necessary affidavits, dedications and acceptances, and with complete bearings and dimensions of all lines defining lots and blocks, streets, alleys, public areas and other dimensions of land. Specifically, the term "plat" refers to administrative plats, final plats, minor plats, amending plats, replats, and vacating plats.
109. *Plat, administrative.* A plat that is approved through an administrative action as allowed by the Texas Local Government Code without the approval of the Planning and Zoning Commission. Minor plats, amending plats, certain replats and certain vacating plats are administrative plats that the Planning Director has the authority to take administrative action on.
110. *Plat, final.* A plat submitted for final approval to the Planning and Zoning Commission, and which shall be prepared and submitted in accordance with this code.
111. *Plat, minor.* A plat involving four or fewer lots fronting on an existing street and not requiring the creation of any new streets or the extension of municipal facilities. A minor plat is an administrative plat.
112. *Plat amendment (amending plat).* A minor change of an existing subdivision to a lot line or setback contained within. No new lots are created, existing lots are combined or the size of any one lot substantially increased. An amending plat is an administrative plat.
113. *Plat revision, replat, resubdivide.* A plat vacating an existing subdivision in lieu of a new pattern of development; the subdivision of an existing or duly recorded lot or lots, the combining of two or more lots to create one lot, or the subdividing of an existing platted but undeveloped subdivision into a new pattern of lots and blocks.
114. *Portable building.* A temporary building that does not have a foundation and is transportable.
115. *Porte cochere.* A roofed space, open on two (2) or three (3) sides, covered with a flat or hipped roof and ordinarily used as a shelter under which vehicles are driven or temporarily parked.
116. *Private sewage facilities.* Septic tanks, pit privies, cesspools, sewage holding tanks, injection wells used to dispose of sewage, chemical toilets, treatment tanks and all other facilities, systems and methods used for the disposal of sewage other than disposal systems operated under a waste discharge permit issued by the State of Texas.
117. *Private, parochial or charter school.* An institution of learning having a curriculum equivalent to public schools, providing care, training, education, custody or supervision for four (4) or more children who are not related by blood, marriage or adoption to the owner or operator of the facility, for all or part of the twenty-four-hour day, whether or not the facility makes a charge for the service offered by it; provided however, that this does not include specialty schools, such as dancing, music, beauty, mechanical, trade, swimming, or commercial schools

118. *Protected Tree.* Any tree not classified as "not protected", listed in the Unified Development Code Technical Manual, and meeting the following criteria:
- a. 6" diameter or larger for canopy or large maturing trees measured 4.5 feet above natural grade.
 - b. 4" diameter or larger for small maturing trees measured 4.5 feet above natural grade.
 - c. 4" for multi-trunk trees, calculated by measuring the largest trunk and ½ the diameter of the sum of all other trunks.
 - d. A tree having a diameter greater than 24", measured 4.5 feet above natural grade.
 - e. Historical tree: Any tree recognized as historically significant by a bona fide local, state, or national organization is considered a protected tree.
119. *Public right-of-way.* A strip of land used or intended to be used, wholly or in part, as a public street, alley, crosswalk way, sidewalk or drainageway.
120. *Public stable.* A stable with a capacity for more than four (4) horses or mules.
121. *Public Utility.* Any person, company, corporation, cooperative, cooperative corporation, partnership, or any combination thereof, that is subject to both a municipal franchise agreement and the comprehensive regulatory system established by and defined in the Texas Public Utility Regulatory Act, that owns or operates for compensation equipment or facilities for: producing, generating, transmitting, distributing, selling, or furnishing electricity; or the conveyance, transmission, or reception of communications over a telephone system as a dominant carrier. The term "public utility" shall not include, as is defined in the Public Utility Regulatory Act, telegraph services, television services, television stations, radio stations, community antenna television services, general radio-telephone services, or radio-telephone services authorized under the Public Mobile Radio Services rules of the Federal Communications Commission or private water companies.
122. *Recreational vehicle park.* Any lot, tract or parcel of land upon which accommodation is provided for two or more recreational vehicles used as living or sleeping quarters by the day, week or month where a charge is or is not made.
123. *Recreational vehicle or travel trailer.* A vehicular, portable structure built on a chassis, designed to be used as a temporary dwelling for travel, recreational and vacation uses, permanently identified as a travel trailer or recreational vehicle by the manufacturer of the trailer and, when factory-equipped for the road, it shall have a body width not exceeding eight (8) feet and a body length not exceeding state maximums.
124. *Recycling centers.*
- a. Recycling center (inside): A collection operation for reusable materials including, but not limited to, aluminum cans, glass bottles and office paper goods. All storage must be located inside of a building.
 - b. Recycling center (outside): A collection operation for reusable materials including, but not limited to, aluminum cans, glass bottles, and office paper goods; which are broken, separated and/or compressed and may be stored within shipping containers and/or transportation vehicles on site.
 - c. Recycling scrap processing: A collection operation for reusable materials including, but not limited to, glass, aluminum cans, paper, including the storage and separation of various recyclable materials such as residential scrap metals, scrap appliances and other scrap; but not including scrap automobiles.
125. *Residential use.* The term "residential use" shall be construed to include single-family residential uses, two-family uses, and multifamily (apartment, townhouse or condominium) uses.
126. *Restaurant.* A building or portion of a building, where the primary business is the on-premises sale of prepared food in full compliance with all state and City health and sanitary laws and regulations, with adequate kitchen facilities for the preparation of the food to be sold, the adequacy of said

kitchen facilities to be based upon the seating capacity of the restaurant and the type of menu offered, and where alcoholic beverages may be sold.

127. *Retail*. The sale of goods directly to a consumer; engaged in, pertaining to, or relating to the sale of merchandise at retail; to sell individual items or by the piece, directly to a consumer.
128. *Salvage yard*. A tract of land used for the purpose of dismantling, disassembling or otherwise destroying automobiles or other vehicles in accordance with all state and local laws, for the purpose of dealing in said parts so dismantled. All such operations shall be completely enclosed by a fence meeting the requirements set forth in this Code.
129. *Shall/may*. The word "shall" is always mandatory, while the word "may" is merely permissive.
130. *Shopping center*. A group of architecturally unified commercial establishments built on a site which is planned, developed, owned and managed as an operating unit related in its location, size and type of shops to the trade area that the unit serves. The unit provides on-site parking in definite relationship to the types and total size of the stores.
131. *Sidewalk*. A paved pedestrian way generally located within public street right-of-way, but outside the roadway, and built in accordance with City specifications.
132. *Sign*. A name, identification, image, description, display or illustration which is affixed to, painted or represented directly or indirectly upon a building, structure or piece of land, and which directs attention to an object, product, place, activity, facility, service, event, attraction, person, institution, organization or business and which is visible from any street, right-of-way, sidewalk, alley, park or other public property.
133. *Sign Measurement*. The area of a wall sign or other sign with only one face shall be computed by means of the smallest square or rectangle that will encompass the extreme limits of the writing, representation, emblem, or other display, together with any material or color forming an integral section of the background of the display or used to differentiate the sign from the backdrop or structure against which it is placed. The cumulative area of all sign elements of a sign structure shall constitute the total square footage. Attachments on the sign structure shall be measured by using the smallest rectangle encompassing the sign. The cumulative total of individual sign faces or elements shall constitute the square footage of the sign structure.
134. *Small Wind Energy System*. A wind energy conversion system consisting of a wind turbine, a tower and associated control or conversion electronics, which has a rated capacity that does not exceed 10 kw, and is installed to reduce the on-site energy consumption.
135. *Specific use*. A use which may be suitable in certain locations in a zoning district if developed and operated under specific conditions and/or for a limited period of time.
136. *Steep slope*. Areas that contain slopes over 15 percent grade and are characterized by increased runoff, erosion and sediment hazards.
137. *Storage building*. Any building either portable or constructed on-site, utilized for storage purposes, and not requiring plumbing and electrical wiring, and not used for residential purposes.
138. *Story*. The vertical distance between the floor and ceiling not to exceed fifteen (15) feet.
139. *Story, half*. A story under a gable, hip, gambrel roof, the floor area of which does not exceed more than seventy-five (75) percent of the area of the floor immediately below the half story.
140. *Street*. A public right-of-way which provides primary vehicular access to adjacent land, whether designated as a street, highway, thoroughfare, parkway, throughway, avenue, lane, boulevard, road, place, drive or however otherwise designated.
 - a. *Street, arterial*. A thoroughfare designated as a freeway, expressway, major arterial or minor arterial in the most recently adopted City thoroughfare plan. The primary function of an arterial is to carry traffic through the City, and (an arterial) is designed for as high a speed as possible, to carry as much traffic as possible. Also known as a major thoroughfare.

- b. *Street, collector.* A street that primarily carries traffic from local or residential streets to major thoroughfares and highways, including the principal entrance streets for circulation to schools, parks and other community facilities within such a development, and also including all streets which carry traffic through or adjacent to commercial or industrial areas.
 - c. *Street, local or residential.* A street that is used primarily for access to abutting residential property and circulation of traffic within residential neighborhoods. It is of a width and design to discourage through traffic, thereby protecting the residential area. A local street serves the same purpose in a commercial or industrial district.
 - d. *Street, frontage.* A local street lying parallel to and adjoining a major street right-of-way, which provides access to abutting properties.
 - e. *Street, marginal access.* A street which is parallel and adjacent to an arterial street and which primarily provides vehicular access to abutting properties and protection from through traffic.
 - f. *Street, private or service drive.* A vehicular accessway under private ownership and maintenance that has not been dedicated to the City and accepted by the City.
 - g. *Cul-de-sac.* A short public street having but one opening or access to another public street and which is terminated by a permanent vehicular turnaround.
 - h. *Dead-end.* That portion of a public street that initially has only one opening or access to another public street, and which will be extended at a later date.
141. *Structure.* That which is built or constructed, an edifice or building of any kind or any piece of work built up or composed of parts joined together in some definite manner.
142. *Structural alterations.* Any change in supporting members of a building such as load-bearing walls, columns, girders, beams or the entire roof.
143. *Subdivider.* Any person or any agent thereof dividing or proposing to divide land so as to constitute a subdivision as that term is defined herein. In any event, the term "subdivider" shall be restricted to include only the owner, equitable owner, or authorized agent of such owner or equitable owner, of land to be subdivided.
144. *Subdivision.* The division of any tract or parcel of land into two or more parcels or lots, and the assembly of parcels or lots into one parcel or lot for the purpose, whether immediate or future, of sale or building development, expressly excluding parcels or lots divided or combined for the production of agricultural products not to be produced within a building. "Subdivision" shall also mean resubdivision and any change of lot size or lot lines or the relocation of any street.
145. *Subdivision, cluster.* A subdivision in which a portion of the land is set aside for one or more permanent usable open space tracts through reductions in lot sizes, as may be allowed by the provisions of the adopted ordinances of the City of Seguin.
146. *Surveyor.* A licensed state land surveyor or a registered public surveyor, as authorized by the state statutes to practice the profession of surveying.
147. *Tattoo studio.* A facility for the act or practice of marking the skin, with indelible patterns, pictures, legends or words, by making punctures in the skin and inserting pigments.
148. *Thoroughfare plan.* Street plan which is part of the comprehensive plan of the City of Seguin.
149. *Townhouse or row house.* One of a group of no less than three nor more than eight adjoining single-family dwelling units sharing a common wall with one or more of said adjoining dwelling units, each dwelling unit located on a separate lot.
150. *Trailer.* See "Mobile home, Recreational vehicle or travel trailer."
151. *Trailer park.* See "Manufactured home park."

152. *Used car lot.* A lot or portion thereof to be used only for the display and sale of automobiles that are in condition to be driven on or off the lot. A used car lot shall not be used for the storage of wrecked automobiles, or the dismantling of automobiles, or the storage of automobile parts.
153. *Wastewater service.* The collection of waste-bearing water that requires treatment prior to its return to nature and the system of pipes and equipment used to collect and transmit this water to treatment facilities; also called sanitary sewer service.
- a. *Sewerage system, public.* A system designed for the wastewater collection, treatment and disposal that is wholly owned and operated by the City of Seguin or any other legally incorporated town or City.
 - b. *Sewerage disposal system, individual private.* Any system designed to provide onsite treatment and disposal of sewage flows from individual residences, duplexes, businesses or any other buildings. The system may be anaerobic, e.g., a septic transpiration bed, or other. The system must not require a permit from the Texas Department of Water Resources.
154. *Yard.* An open space between a building and the adjoining lot lines, unoccupied and unobstructed by any portion of a structure from the ground upward, except as otherwise herein provided. In measuring a yard for the purpose of determining the width of a side yard, the depth of a front yard, or the depth of a rear yard, the minimum horizontal distance between the lot line and the main building shall be used. The minimum size of the yard shall be determined by the location of the Building Setback Line.
155. *Winery.* A business required to hold a winery permit under the Texas Alcohol Beverage Commission's Alcoholic Beverage Code Chapter 16. Such businesses may engage in activities outlined in Section 16.01 of the above-mentioned state code that include the manufacturing, bottling, labeling and packaging of wine that contains not more than 24 percent alcohol by volume; selling wine in this state or buying wine from permit holders authorized to purchase and sell wine. A business holding a state Winery Permit may also conduct wine samplings and tastings as regulated by Chapter 16 of the State Alcoholic Beverage Code. Such business must also comply with all local, state and federal regulations guiding the manufacturing, bottling and selling of wine and similar beverages. For wineries that open within the Downtown Historic District (DHD), businesses must include a tasting and/or retail component to their operations.

([Ord. No. 2015-33, § 1, 6-16-15](#) ; [Ord. No. 2015-44, § 2, 7-21-15](#) ; [Ord. No. 2016-11, § 2, 1-19-16](#) ; [Ord. No. 2016-25, § 3, 4-5-16](#) ; [Ord. No. 2016-70, § 4, 11-1-16](#) ; [Ord. No. 2017-19](#) , § 3, 4-18-17; [Ord. No. 2017-75](#) , § 3, 12-19-17; [Ord. No. 2018-048](#) , pt. 2, 8-14-18; [Ord. No. 2019-039](#) , § 3, 7-16-19; [Ord. No. 2019-054](#) , § 8, 9-17-19)

Appendix “N” Spill Reporting Forms

In the event of a hazardous substance spill or release, immediately take the measures listed in **Section 3** to keep the spill from entering sewer or storm drains, spreading off-site, or affecting public health. In all cases caution and common sense must be maintained with the primary goal being to prevent and/or limit personal injury.

Spill Report:

Blank Spill Report Forms are located behind this page. Document the following information and include in the SWP3 using a Spill Report Form.

- a. The date and time of the spill or release.
- b. The identity or chemical name of any material released or spilled.
- c. An estimate of the quantity of material released or spilled and the time or duration of the event.
- d. The exact location of the spill.
- e. The extent of actual and potential water pollution.
- f. The actions that caused the spill and the source of the spilled material.
- g. The name, address, and phone number of the party in charge of, or responsible for, the spill.
- h. The steps were taken to clean up the spill and any precautions taken to minimize impacts.
- i. Possible hazards to the environment (air, soil, water, wildlife, etc.).
- j. The identities of any representatives responding at the scene.
- k. The identities of the party responsible for removal and disposal of any cleanup materials.
- l. Include a disposal manifest or receipt from the disposal facility and retain for records retention.

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SPILL REPORT FORM

Project Name: _____ Location: _____

Date and time of spill: _____

Time incident was contained: _____

Spill location and events leading up to the spill: _____

Material spilled: _____

Source of spill: _____

Approximate amount spilled: _____

Approximate amount spilled to a waterway: _____

Surface area impacted in Sq Ft: _____

Type of media (soil or pavement): _____

Corrective action taken: _____

Action taken to prevent future spills: _____

Agencies notified (if any): _____

Modifications to SWP3: _____

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

Signature of Reporter: _____ Date: _____

Print Name/Title: _____

SPILL REPORT FORM

Project Name: _____ Location: _____

Date and time of spill: _____

Time incident was contained: _____

Spill location and events leading up to the spill: _____

Material spilled: _____

Source of spill: _____

Approximate amount spilled: _____

Approximate amount spilled to a waterway: _____

Surface area impacted in Sq Ft: _____

Type of media (soil or pavement): _____

Corrective action taken: _____

Action taken to prevent future spills: _____

Agencies notified (if any): _____

Modifications to SWP3: _____

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Appendix "O" Pages Removed by SWP3 Amendment

This section contains pages of the SWP3 that have been updated or replaced through amendments.
These pages are not current and are included for reference only.

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