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TCEQ CZP MODIFICATION REQUEST

RN110929809-PAG LEANDER H1
CN605738327-PAG WEST LLC

9550 183A Toll Road
Leander, TX 78641

PEA Group Project No. 2022-1089
16060 Dillard Dr., Suite 250,
Houston, Texas, 77040

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited.**
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: PAG LEANDER H1				2. Regulated Entity No.: RN110929809					
3. Customer Name: PAG WEST LLC				5. Customer No.: CN605738327					
5. Project Type: (Please circle/check one)	New	Modification		Extension	Exception				
6. Plan Type: (Please circle/check one)	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential	Non-residential			8. Site (acres):		15.84 ac.		
9. Application Fee:	\$6,500	10. Permanent BMP(s):			Existing Batch Detention Basin (11001871)				
11. SCS (Linear Ft.):	N/A	12. AST/UST (No. Tanks):			1				
13. County:	Williamson	14. Watershed:			Brushy Creek				

Application Distribution


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

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

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

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.	
Jonathan Puffer, P.E.	
Print Name of Customer/Authorized Agent	05.16.2023
	Date
Signature of Customer/Authorized Agent	Date

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

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Jonathan Puffer, P.E

Date: 5/16/2023

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: PAG LEANDER H1
Original Regulated Entity Name: PAG LEANDER H1
Assigned Regulated Entity Number(s) (RN): 110929809
Edwards Aquifer Protection Program ID Number(s): 11001871, 11002876
 The applicant has not changed and the Customer Number (CN) is: 605738327
 The applicant or Regulated Entity has changed. A new Core Data Form has been provided.
2. **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.
3. A modification of a previously approved plan is requested for (check all that apply):

- Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
- Any change in the nature or character of the regulated activity from that which was originally approved;
- A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
- Any development of land previously identified in a contributing zone plan as undeveloped.

4. Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

<i>CZP Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Acres	<u>15.84</u>	<u>15.84</u>
Type of Development	<u>Commercial</u>	<u>Commercial</u>
Number of Residential Lots	<u>0</u>	<u>0</u>
Impervious Cover (acres)	<u>7.40</u>	<u>12.04</u>
Impervious Cover (%)	<u>46.71</u>	<u>76.01</u>
Permanent BMPs	<u>1</u>	<u>3</u>
Other	_____	_____

<i>AST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of ASTs	<u>0</u>	<u>0</u>
Other	_____	_____

<i>UST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of USTs	<u>0</u>	<u>0</u>
Other	_____	_____

5. **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
- The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
 - The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
 - The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.
7. Acreage has not been added to or removed from the approved plan.
- Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.
8. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 11, 2022

Mr. George J. Raysik
PAG West, LLC
7015 E. Chauncey Lane
Phoenix, Arizona 85054-6143

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: PAG Leander H1; Located at 9550 183A Toll Road; Leander, Texas

TYPE OF PLAN: Request for Modification of an Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN110929809; Additional ID No. 11002876

Dear Mr. Raysik:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the Austin Regional Office by Doucet & Associates, Inc. on behalf of PAG West, LLC on January 11, 2022. Final review of the CZP Modification was completed after additional material was received on March 1, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The PAG Leander H1 CZP was approved by letter dated March 16, 2020, for a 15.84-acre site with 7.40 acres (46.71 percent) impervious cover. The project proposed the construction of a car dealership with associated parking, drives, and sidewalks along with a portion of Autopark Drive. The proposed permanent BMP was a batch detention basin.

PROJECT DESCRIPTION

This modification proposes the addition of a 10,000-gallon double-wall, steel, aboveground storage tank (AST) for the storage of unleaded gasoline on the Contributing Zone. The proposed AST is UL-2085 listed with 330-inch length x 105-inch diameter outer tank dimensions. The tank consists of a primary tank within a sealed secondary tank. The interstitial area between the two tanks will contain any product leaks from the primary tank. The interstitial space between the primary and secondary tank will be continuously monitored by a Veeder Root TLS4 system. Tank piping will be aboveground and within a spill containment structure.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one (1) existing batch detention basin (11001871), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 6,438 pounds of TSS generated from 7.40 acres of impervious cover. The approved measure meets the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated March 16, 2020.
- II. All sediment and/or media removed from the batch detention basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

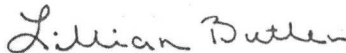
14. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The

certification letter must be submitted to the Austin Regional Office within 30 days of site completion.

15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. A Contributing Zone Plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact the Edwards Aquifer Protection Program Austin Regional Office at (512) 339-2929.

Sincerely,



Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/dpm

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Joe Grasso, P.E., Doucet & Associates, Inc.

MODIFICATION



Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 16, 2020

Mr. George J. Raysik
PAG West, LLC
7015 E. Chauncey Ln
Phoenix, Arizona 85054-8143

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: PAG Leander H1; Located 0.1 miles northeast of Hero Way and US 183A Toll Rd; Leander, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN110929809; Additional ID No. 11001871

Dear Mr. Raysik:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the Austin Regional Office by Doucet & Associates, Inc. on behalf of PAG West, LLC on January 6, 2020. Final review of the CZP was completed after additional material was received on February 24, 2020 and March 13, 2020. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 15.84 acres. It will include the construction of a car dealership with associated parking, drives, and sidewalks, and a portion of new Autopark Drive. The impervious cover will be 7.40 acres (46.72 percent). Project wastewater will be disposed of by conveyance to the existing City of Leander Water Recycling Center owned by the City of Leander.

MODIFICATION

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one batch detention basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 6,438 pounds of TSS generated from the 7.40 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

- I. The permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges

MODIFICATION

Mr. George J. Raysik
Page 3
March 16, 2020

from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

14. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new

MODIFICATION

Mr. George J. Raysik

Page 4

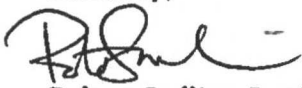
March 16, 2020

regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,



Robert Sadlier, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/jv

Enclosures: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Joe Grasso, P.E., CPESC, Doucet & Associates, Inc.



NARRATIVE OF PROPOSED MODIFICATION – ATTACHMENT B

To: Texas Commission on Environmental Quality – Edward’s Aquifer Program

From: PEA GROUP - Jonathan Puffer, P.E.

Date: April 21, 2023

Re: **Narrative of Proposed Modification PAG Leander H1, Phase 2 Redevelopment**

This memo is to provide a narrative of proposed modifications to the site located at 9550 183A Toll Road, Leander, TX 78641 (RN110929809). The approved letters include EAPP AI 11001871 for the approval of a CZP for the proposed Car Dealership facility, and EAPP AI 11002876 for the request of an amendment to the CZP for modifying the sedimentation/filtration facility that was proposed.

The total site acreage is approximately 15.83 acres. The existing site consists of a car dealership facility with associated parking, drives and sidewalks. PEA Group is preparing the civil site work modifications to the existing site to include the construction of an additional car dealership with a proposed building, pavement, site utilities, and landscape areas. There will be a 29.12% increase to the impervious cover of the site, and the existing drainage patterns will be modified to ensure no adverse drainage impacts to the properties downstream.

The current BMP consists of a water quality batch detention basin located on the south side of the property which can filtrate majority of pollutants with the use of proper maintenance. To treat stormwater runoff originating on-site or upgradient of the site and prevent potential pollutants flowing across and off the site after construction, two batch detention basins, designed using the TECQ technical guidance document will be constructed. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project. Project wastewater will be disposed of by conveyance to the existing City of Leander Water Recycling Center owned by the City of Leander.

SITE NOTES

1. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF LEANDER.
2. THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING CLEARANCES REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF LEANDER RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. PEG WILL NOT RENDER ELECTRIC SERVICES UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.
3. WATER, WASTEWATER, DRAINAGE AND ANY OTHER UTILITY IMPROVEMENTS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. REFER TO SPECIFIC PLAN SHEETS FOR CONSTRUCTION.
4. EVERY ACCESSIBLE PARKING SPACE MUST BE IDENTIFIED BY A SIGN, CENTERED AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED OR EQUIVALENT LANGUAGE. CHARACTERS AND SYMBOLS ON SUCH SIGNS MUST BE LOCATED 84" MINIMUM ABOVE THE GROUND SO THAT THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
5. CONTRACTOR IS RESPONSIBLE FOR REPAIRS AND DAMAGE TO ANY EXISTING IMPROVEMENT DURING CONSTRUCTION SUCH AS, BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STOPPING CURBS, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
6. ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT THE REMAINING PAVEMENT IS LEFT WITH A CLEAN SMOOTH SAWCUT STRAIGHT EDGE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS.
8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
9. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
10. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE CITY OF LEANDER.
11. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
12. APPROVAL OF THESE PLANS BY THE CITY OF LEANDER INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. COMPLIANCE WITH ACCESSIBILITY STANDARDS SUCH AS THE 2010 STANDARDS FOR ACCESSIBLE DESIGN OR THE 2012 TEXAS ACCESSIBILITY STANDARDS WAS NOT VERIFIED. THE APPLICANT IS RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY STANDARDS.
13. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
14. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.
15. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.

CITY NOTES:

1. ALL UTILITY LINES ARE PROPOSED TO BE LOCATED UNDERGROUND.
2. EXTERIOR LIGHTING SHALL BE SHIELDED SUCH THAT THE LIGHT SOURCE IS NOT DIRECTLY VISIBLE FROM THE PUBLIC R.O.W. OR ADJACENT RESIDENTIAL DISTRICTS OR USES AT THE PROPERTY LINE. UNSHIELDED "WALL PACK" LIGHTING IS NOT PROPOSED.
3. AL CLAWSON DISPOSAL, INC. SHALL BE THE SOLE PROVIDER OF WASTE HAULING FOR THIS SITE BOTH DURING AND AFTER CONSTRUCTION.
4. AIR CONDITIONING UNITS ARE NOT PROPOSED FORWARD THE FRONT WALL OF THE BUILDING.
5. GARBAGE DUMPSTERS ARE LOCATED NO CLOSER TO A ROADWAY THAN THE FRONT WALL OF THE PRINCIPLE STRUCTURE LOCATED CLOSEST TO THE ROADWAY. GARBAGE DUMPSTERS ARE SCREENED BY A WALL (COMPRISED OF MASONRY COMPATIBLE WITH THE STRUCTURE OR WOODCRETE) AT LEAST AS HIGH AS THE CONTAINER. THE OPEN SIDE TO THE DUMPSTER OR OTHER TRASH RECEPTACLE IS A GATE CONSTRUCTED OF SOLID WOOD OR METAL. THE DUMPSTER IS ORIENTED FOR PICKUP BY A FRONT LOAD GARBAGE TRUCK.
6. ALL EASEMENTS OF RECORD AS INDICATED ON THE MOST RECENT TITLE RUN DATED: 01/01/2019, CONDUCTED BY DOUCET & ASSOCIATES, INC. FOR THIS PROPERTY ARE SHOWN ON THIS SITE PLAN.

!!!LANDSCAPE NOTES!!!

1. SEE LANDSCAPE PLANS FOR EXACT LOCATIONS AND TYPES OF TREES TO BE PLANTED FOR THIS PROJECT.
2. SEE LANDSCAPE PLANS AND DETAILS FOR PLANTER BEDS, TREE GRATES AND ASSOCIATED DETAILS.
3. SEE LANDSCAPE PLANS FOR STREET TREE LIGHTING SYSTEM AND IRRIGATION SYSTEM.

FIRE DEPARTMENT GATE NOTES:

- ALL GATES ALONG THE FIRE DEPARTMENT ACCESS ROAD SHALL COMPLY WITH THE FOLLOWING:
 - a. 506.1.2 ELECTRONIC GATES. EMERGENCY ACCESS OF LIMITED ACCESS GATES AT APARTMENTS AND GATE COMMUNITIES, OR ANY OTHER OCCUPANCY DEEMED AS HIGH RISK BY THE FIRE CODE OFFICIAL, SHALL BE EQUIPPED WITH KNOX KEY SWITCH OPENING SYSTEM. THE KEY SWITCH SHALL BE LOCATED ON A KEYPAD PEDESTAL OR AS APPROVED BY THE FIRE CODE OFFICIAL.
 - b. 506.1.3 ELECTRICAL DISCONNECT/CHAIN ACCESS. IN THE EVENT OF A POWER FAILURE, THE GATE SHALL OPEN BY MEANS OF AN ELECTRICAL POWER DISCONNECT SWITCH IN A WEATHERPROOF BOX. THE GATE SHALL BE CAPABLE OF BEING PHYSICALLY DISCONNECTED FROM THE OPERATOR MECHANISM FROM EITHER SIDE. SWING GATES SHALL HAVE A PIN IN THE SWING ARM MECHANISM SECURED BY A KNOX PADLOCK. THE PADLOCK SHALL BE ACCESSIBLE FROM EITHER SIDE OF THE GATE. GATES THAT ARE NOT IN PROPER OPERATING CONDITION SHALL BE CHAINED AND LOCKED IN AN OPEN POSITION.
- I. ELECTRIC GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 925.
- II. GATES INTENDED FOR AUTOMATIC OPERATION SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200.

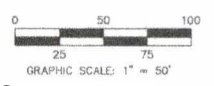
SITE LEGEND

- A ROLLED CURB. SEE DETAIL SHEET.
- B HANDICAP SYMBOL AND SIGN. SEE DETAIL SHEET.
- C MINIMUM 5' WIDE CONCRETE SIDEWALK. SEE DETAIL SHEET.
- D STOP SIGN. SEE DETAIL SHEET.
- E STOP BAR. SEE DETAIL SHEET.
- F PEDESTRIAN RAMP. SEE DETAIL SHEET.
- H INSTALL METAL BEAM GUARD FENCE. SEE DETAIL SHEET.
- I STANDARD STREET END MARKERS. SEE DETAIL SHEET.
- J 5' WIDE MIN. PEDESTRIAN CROSSWALK. SEE DETAIL SHEET.
- K 4' HIGH WROUGHT IRON FENCE. SEE DETAIL SHEET.
- L BRICK PAVEMENT INSTALLATION (SEE DETAIL SHEET). MATCH TYPE AND COLORS. ALL PAVERS ON-SITE SHALL BE DARK GRAY UNLESS OTHERWISE NOTED ON THE PLANS.
- M 2" CONCRETE PAVEMENT STRIP. RE: CONCRETE PAVEMENT SECTIONS FOR DETAIL.
- N INSTALL CONCRETE BOLLARD. SEE DETAIL SHEET.
- O INSTALL 60 FEET OF PEDESTRIAN HANDRAILS ON SOUTH SIDE OF SIDEWALK. SEE DETAIL SHEET FOR PEDESTRIAN RAIL.
- P 10" WIDE CONCRETE SIDEWALK/TRAIL. TO BE BUILT DURING CONSTRUCTION PLAN IMPROVEMENTS. CITY OF LEANDER CASE #19-TOD-PCP-033 PAG LEANDER HI.
- Q OVERHEAD DOOR. SEE ARCHITECTURAL PLANS.

ATTACHMENT C: CURRENT SITE PLAN OF THE APPROVED PROJECT

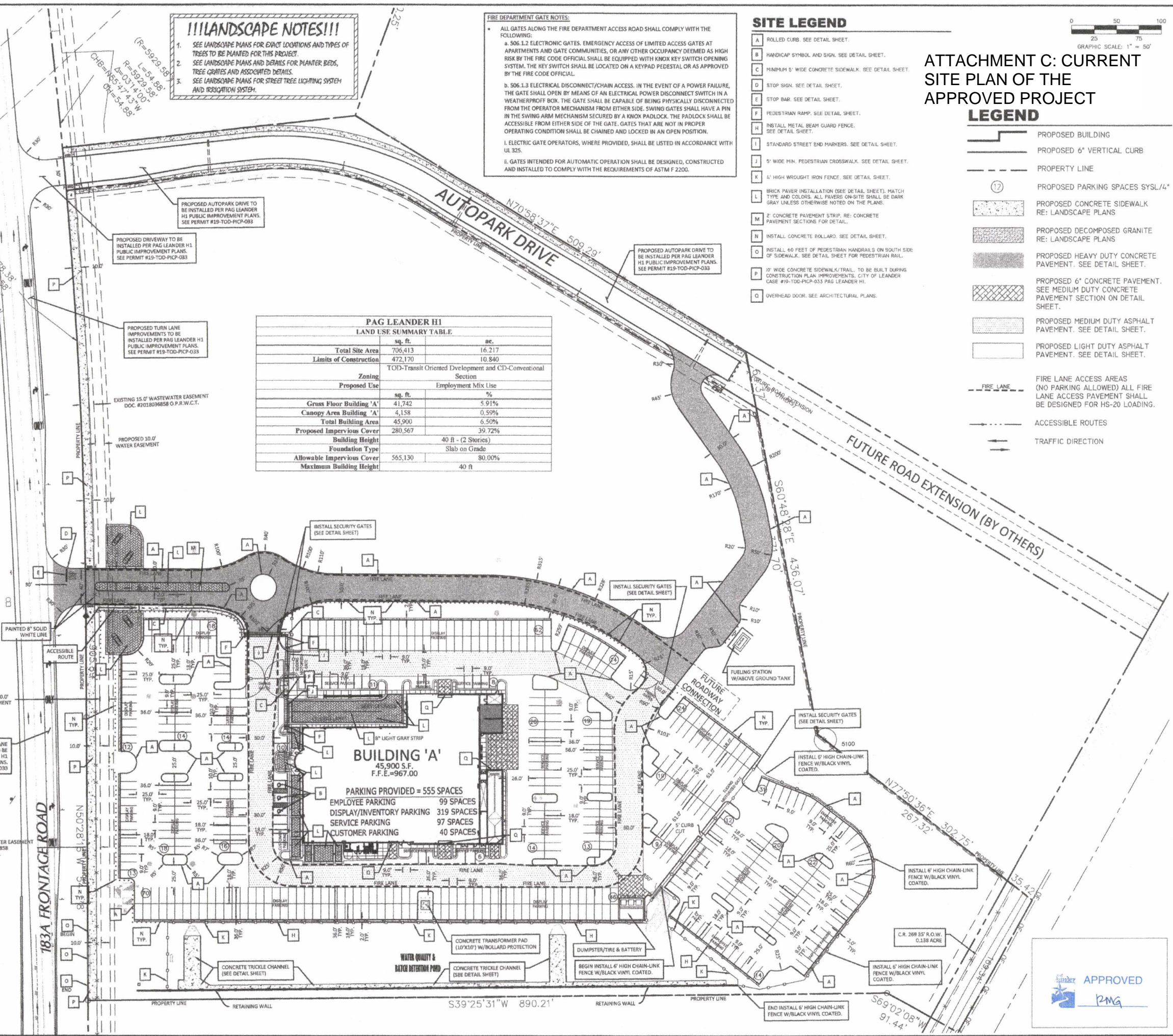
LEGEND

- PROPOSED BUILDING
- PROPOSED 6" VERTICAL CURB
- PROPERTY LINE
- PROPOSED PARKING SPACES SYS/4"
- PROPOSED CONCRETE SIDEWALK RE: LANDSCAPE PLANS
- PROPOSED DECOMPOSED GRANITE RE: LANDSCAPE PLANS
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT. SEE DETAIL SHEET.
- PROPOSED 6" CONCRETE PAVEMENT. SEE MEDIUM DUTY CONCRETE PAVEMENT SECTION ON DETAIL SHEET.
- PROPOSED MEDIUM DUTY ASPHALT PAVEMENT. SEE DETAIL SHEET.
- PROPOSED LIGHT DUTY ASPHALT PAVEMENT. SEE DETAIL SHEET.
- FIRE LANE ACCESS AREAS (NO PARKING ALLOWED) ALL FIRE LANE ACCESS PAVEMENT SHALL BE DESIGNED FOR HS-20 LOADING.
- ACCESSIBLE ROUTES
- TRAFFIC DIRECTION



PAG LEANDER HI LAND USE SUMMARY TABLE

	sq. ft.	ac.
Total Site Area	706,413	16.217
Limits of Construction	472,170	10.840
TOD-Transit Oriented Development and CD-Conventional Section		
Zoning		Employment Mix Use
Proposed Use	sq. ft.	%
Gross Floor Building 'A'	41,742	5.91%
Canopy Area Building 'A'	4,158	0.59%
Total Building Area	45,900	6.50%
Proposed Impervious Cover	280,567	39.72%
Building Height	40 ft - (2 Stories)	
Foundation Type	Slab on Grade	
Allowable Impervious Cover	565,130	80.00%
Maximum Building Height	40 ft	



DA DOUCET & ASSOCIATES
 Civil Engineering - Planning - Surveying/Mapping
 7401 B. Highway 71 W. Suite 160
 Austin, Texas 78735. Phone: (512)-583-2600
 www.doucetandassociates.com
 Firm Registration Number: 3537

SITE AND PAVING PLAN

PAG LEANDER HI
 9550 183A TOLL ROAD
 WILLIAMSON COUNTY, LEANDER, TEXAS 78641



Designed: JG/BP
 Drawn: BP
 Reviewed: JG/BP
 Date: 08/03/2020

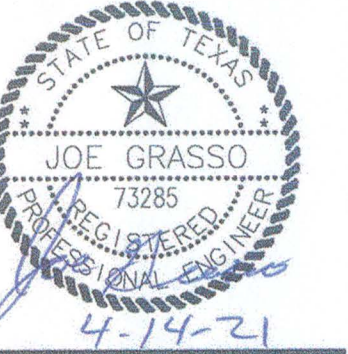


SHEET 9 OF 42
 Project No.: 1685-002

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 User: jg
 Last Modified: Aug 23, 2020 - 11:54
 Plot Date/Time: Aug 03, 2020 - 08:01:18

**WATER QUALITY
 POND PLAN**

PAG LEANDER H1
 9550 183A TOLL ROAD
 WILLIAMSON COUNTY, LEANDER, TEXAS 78641

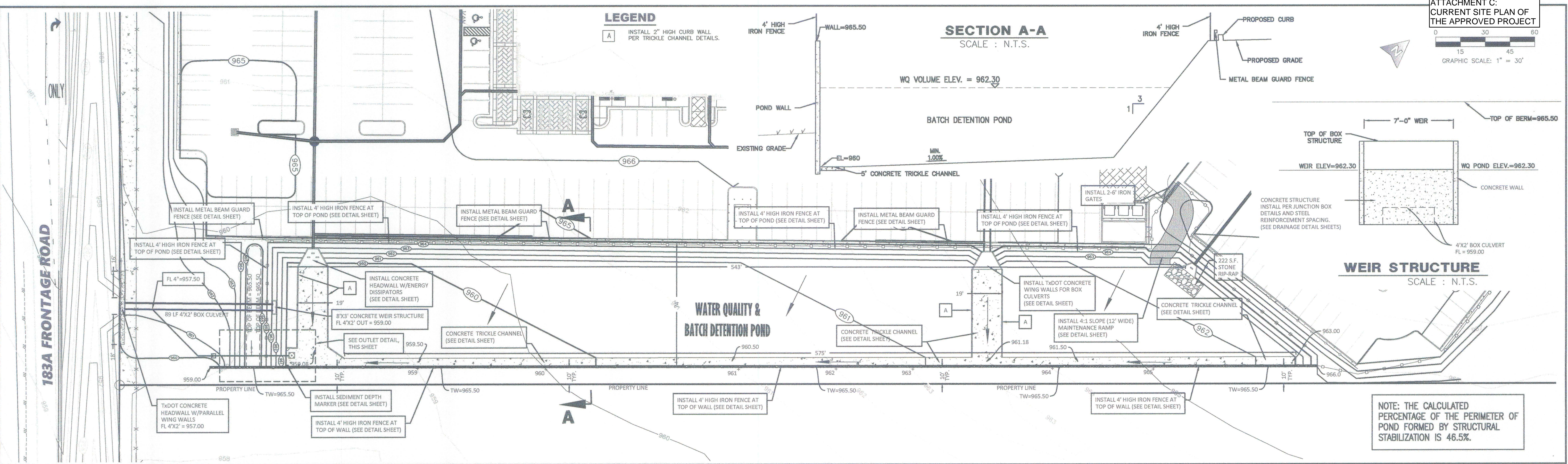
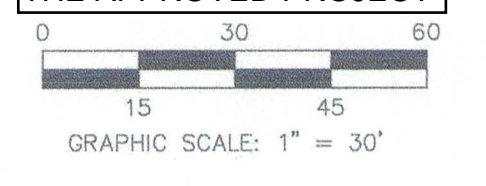


Designed: JG/BP
 Drawn: BP
 Reviewed: JG/BP
 Date: 04/14/2021

SHEET
13
 OF 42

Project No.: 1685-002

ATTACHMENT C:
 CURRENT SITE PLAN OF
 THE APPROVED PROJECT

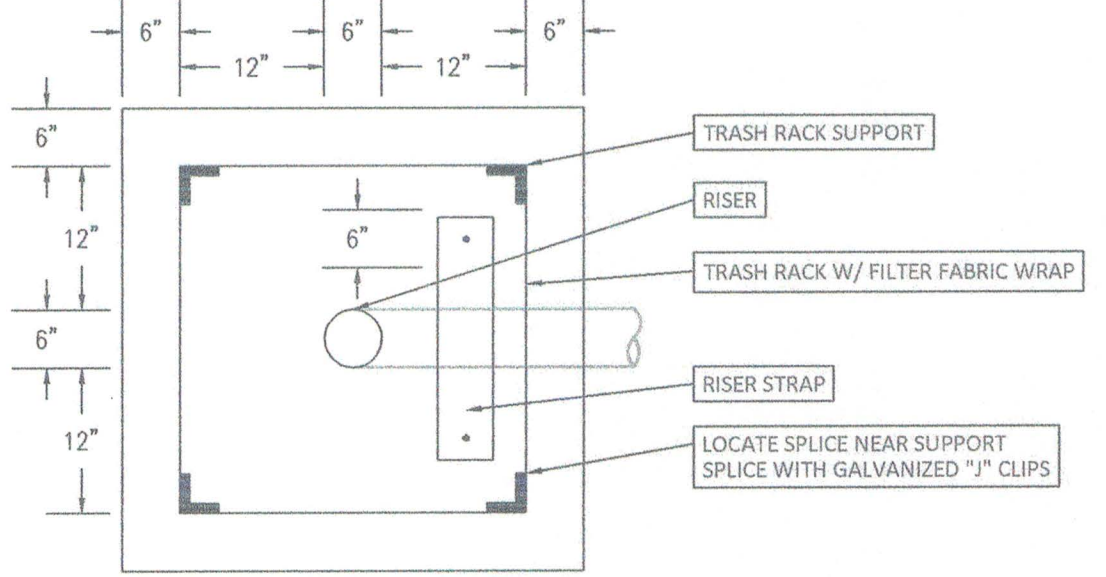


NOTE: THE CALCULATED PERCENTAGE OF THE PERIMETER OF POND FORMED BY STRUCTURAL STABILIZATION IS 46.5%.

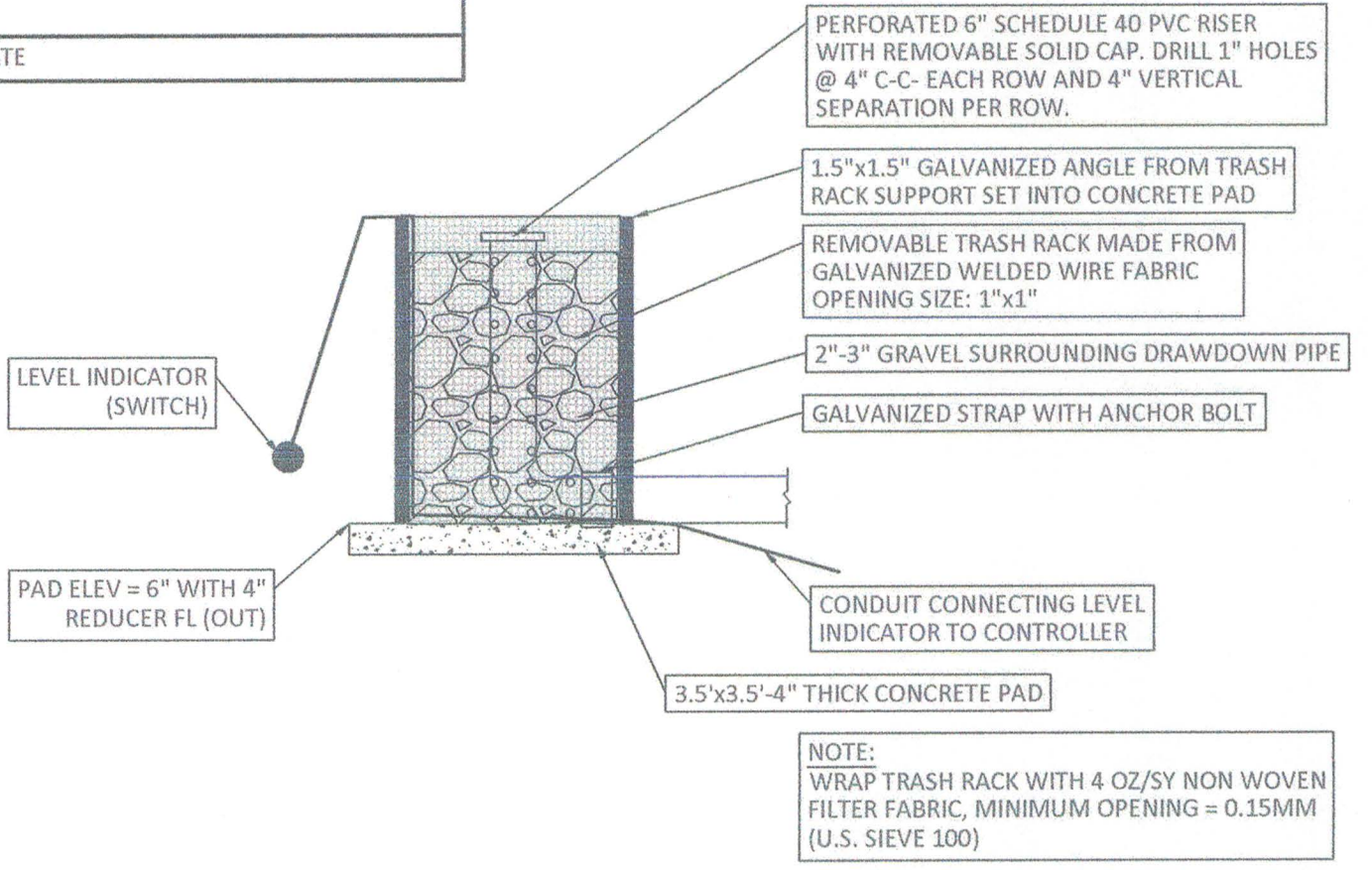
CONCRETE NOTE: ALL EXPOSED CONCRETE SHALL BE INTEGRALLY TINTED IN AN EARTHEN TONE AND TEXTURED TO APPEAR AS IF CONSTRUCTED OF STONE OR BRICK, OR CLAD IN STONE.

NOTES:

- NO BASIN LINER DUE TO LOCATION OF THE POND IN THE CONTRIBUTING ZONE.
- POST THE FOLLOWING SIGN UNDER THE VISIBLE ALARM FOR EMERGENCY CONTACT:
 EMERGENCY CONTACT: TCEQ
 OWNER: PAG WEST, LLC
 TCEQ: 512-339-2929
- POND BOTTOM SHALL BE VEGETATED PER THE LANDSCAPE PLANS.



REV. #1	DESCRIPTION
13	BACKGROUND UPDATE



**BATCH DETENTION POND
 RISER PIPE**

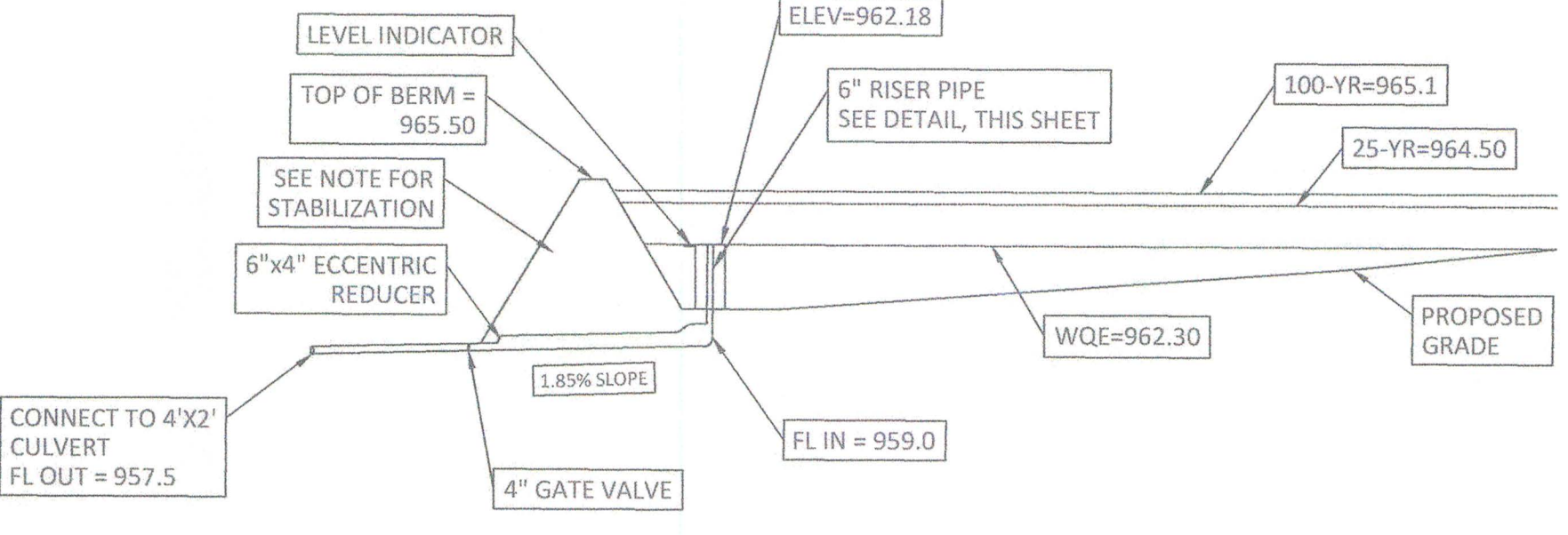
SCALE : N.T.S.

NOTE: FUTURE DEVELOPMENT OF LOT 1 BLOCK B WILL HAVE TO DESIGN ITS OWN WATER QUALITY POND. FOR 4.60 AC. OF IMPERVIOUS COVER IN THE FUTURE DEVELOPMENT, A REQUIRED WATER QUALITY VOLUME OF 15,782 CUBIC FOOT IS RECOMMENDED.



BERM STABILIZATION NOTE

GENERAL FILL:
 On-Site excavated soils free of organics and deleterious materials, or imported off-site soils, with a range plasticity index of 20-35, can be used to raise the site grades as necessary. The General Fill soils should be placed in no greater than 8-inch thick loose lifts. Each lift should be compacted to at least 92-percent of the maximum dry density as determined by the modified Proctor test (ASTM D1557). The moisture content of the soils should be maintained between the optimum moisture content to 4-percent above the optimum moisture content.

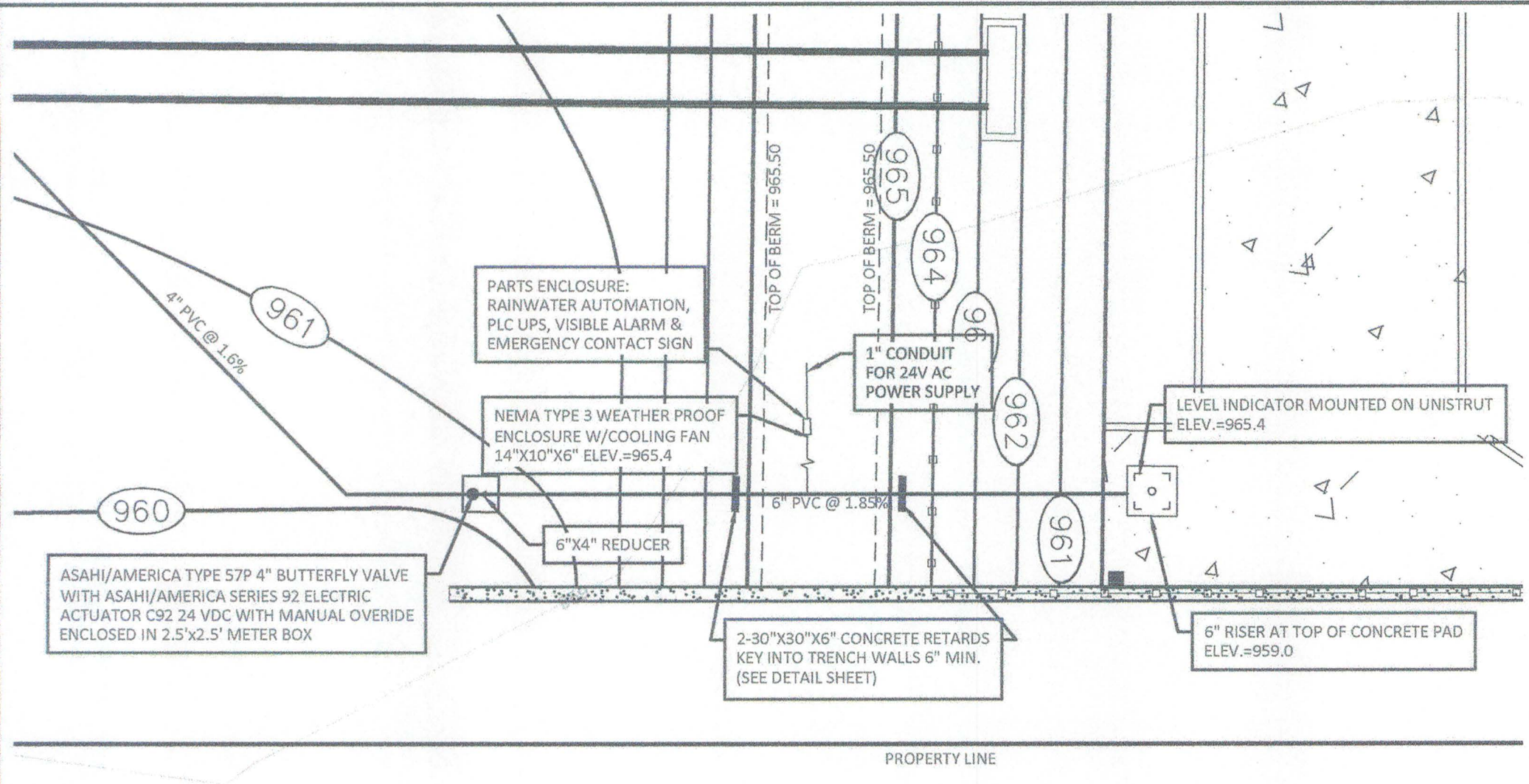


OUTLET CROSS SECTION

SCALE : N.T.S.

OUTLET DETAIL

SCALE : 1"=10'



Batch Detention Pond	
Contributing Drainage Area =	PR-1
Total Drainage Area =	15.84 acre
Pre-Development I.C. =	0.00 acre
Post-Development I.C. =	7.40 acre
Post-Development I.C. Fraction =	0.47
L _W TOTAL PROJECT =	6,438 lbs
A _c =	14.60 acre
A ₁ =	6.57 acre
A _p =	8.03 acre
L ₁ =	6,746 lbs
Fraction of Annual Runoff (F _r) =	0.95
Rainfall Depth =	2.60 inch
Post Development Runoff Coefficient =	0.33
On-site Water Quality Volume =	45,853 cubic ft
Off-site area draining to BMP =	0.85 acre
Off-site impervious cover draining to BMP =	0.00 acre
Impervious fraction of off-site area =	0.00
Off-site Runoff Coefficient =	0.00
Off-site Water Quality Volume =	160 cubic ft
Storage for Sediment =	9,163 cubic ft
Total Capture Volume Required =	54,976 cubic ft
Total Capture Volume Provided =	57,908 cubic ft

PAG LEANDER H-1 WATER QUALITY POND DRAWDOWN CALCULATIONS				
Stage Storage Table				
Stage	Area (Square Feet)	Incr. Volume (Cubic Feet)	Storage (Cubic Feet)	
959.00	0	0	0	
960.00	8,384	4,192	4,192	
961.00	21,382	14,883	19,075	
962.00	35,056	28,219	47,294	
962.30	35,705	10,614	57,908	
963.00	39,539	26,335	84,244	
964.00	41,755	40,847	124,891	
965.00	43,962	64,288	189,178	
Circular Diameter (in) = 4.00				
Orifice FL = 959.00				
Draw time req. (hr) = 48.00				
Area (ft ²) = 0.087				
Outflow Coefficient = 0.60				
Critical Elevation = 959.17				
Outlet Rating Curve				
WSEL	Flowrate	Avg. Flowrate	Incr. Draw time	Cum. Draw time
959.00	0.00	0.00	0.00	0.00
960.00	0.38	0.10	12.14	12.14
961.00	0.57	0.33	12.44	24.58
962.00	0.71	0.52	15.08	39.66
962.30	0.74	0.63	4.67	44.33

PAG LEANDER H1 DETENTION POND STAGE-STORAGE					
Stage (ft msl)	Area (sf)	Area (acres)	Storage Incremental (cf)	Storage Cumulative (cf)	Storage Cumulative (ac-ft)
959.00	0	0.00	0	0	0
960.00	8,384	0.19	4,192	4,192	0.10
961.00	21,382	0.49	14,883	19,075	0.44
962.00	35,056	0.80	28,219	47,294	1.09
962.30 WQE	35,705	0.82	10,614	57,908	1.33
963.00	39,539	0.91	37,297	84,592	1.94
964.00	41,755	0.96	40,647	125,239	2.88
965.00	43,962	1.01	64,288	189,526	4.35

PAG LEANDER H1 DETENTION POND ELEVATION-VOLUME-FLOW				
Storm Event	WSEL (ft msl)	Volume (cf)	Inflow (cfs)	Flow (cfs)
2-year	963.10	88,321	44.9	15.3
10-year	964.10	129,303	88.0	50.4
25-year	964.50	146,668	113.5	68.5
100-year	965.10	172,383	156.0	99.2

Drawing: P:\1685-002\dwg\working\drawings\submitted\1685002_WQ_POND.dwg
 User: jg/bp
 Apr. 14, 21 - 16:05
 Print Date/Time: Apr. 14, 21 - 16:23:12

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

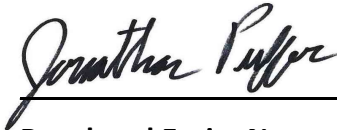
Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Jonathan Puffer

Date: 05/16/2023

Signature of Customer/Agent:



Regulated Entity Name: PAG LEANDER H1

Project Information

1. County: Williamson
2. Stream Basin: Brushy Creek
3. Groundwater Conservation District (if applicable): _____
4. Customer (Applicant):

Contact Person: George Raysik

Entity: Classic Special Automotive Ltd.

Mailing Address: 7015 E. Chauncey Lane

City, State: Phoenix, AZ

Telephone: 480-538-6811

Email Address: graysik@penskeautomotive.com

Zip: 85054

FAX: _____

5. Agent/Representative (If any):

Contact Person: Jonathan Puffer

Entity: PEA Group

Mailing Address: 16060 Dillard Dr., Suite 250

City, State: Houston, TX

Zip: 92029

Telephone: 713-688-3530

Fax: _____

Email Address: JPUFFER@PEAGROUP.COM

6. Project Location:

- The project site is located inside the city limits of LEANDER.
- The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
- The project site is not located within any city's limits or ETJ.

7. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

9550 183A Toll Road, Leander, Texas. 78641

8. **Attachment A - Road Map.** A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

9. **Attachment B - USGS Quadrangle Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000") is attached. The map(s) clearly show:

- Project site boundaries.
- USGS Quadrangle Name(s).

10. **Attachment C - Project Narrative.** A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

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

11. Existing project site conditions are noted below:

- Existing commercial site
- Existing industrial site
- Existing residential site

- Existing paved and/or unpaved roads
- Undeveloped (Cleared)
- Undeveloped (Undisturbed/Not cleared)
- Other: _____

12. The type of project is:

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

13. Total project area (size of site): 15.84 Acres

Total disturbed area: 12.04 Acres (PREVIOUS APPROVED DISTURBED AREA: 7.40 ACRES)

14. Estimated projected population: 0

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

<i>Impervious Cover of Proposed Project</i>	<i>Sq. Ft.</i>	<i>Sq. Ft./Acre</i>	<i>Acres</i>
Structures/Rooftops	45,900 (Previous) 45,899 (Proposed)	÷ 43,560 =	1.05 (Previous)+ 1.05 (Proposed)
Parking	240,464 (Previous) +155,204 (Proposed)	÷ 43,560 =	5.52 (Previous)+ 3.56 (Proposed)
Other paved surfaces	35,980 (Previous) + 1,599 (Proposed)	÷ 43,560 =	0.82 (Previous)+ 0.04 (Proposed)
Total Impervious Cover	524,462	÷ 43,560 =	12.04

Total Impervious Cover $\frac{12.04}{15.84} \times 100 = 76.01\%$ Impervious Cover

- 16. **Attachment D - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.
- 17. Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

N/A

18. Type of project:

- TXDOT road project.
- County road or roads built to county specifications.
- City thoroughfare or roads to be dedicated to a municipality.
- Street or road providing access to private driveways.

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

- Concrete
- Asphaltic concrete pavement
- Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.

Width of R.O.W.: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

21. Pavement Area:

Length of pavement area: _____ feet.

Width of pavement area: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

Pavement area _____ acres \div R.O.W. area _____ acres $\times 100 = \text{_____}\%$ impervious cover.

22. A rest stop will be included in this project.

A rest stop will not be included in this project.

23. Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

24. **Attachment E - Volume and Character of Stormwater.** A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

25. Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

N/A

26. Wastewater will be disposed of by:

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

Attachment F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

Sewage Collection System (Sewer Lines):

The sewage collection system will convey the wastewater to the City of Leander (name) Treatment Plant. The treatment facility is:

Existing.

Proposed.

N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
1			
2			
3			

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
4			
5			

Total x 1.5 = _____ Gallons

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

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

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

Table 3 - Secondary Containment

<i>Length (L)(Ft.)</i>	<i>Width(W)(Ft.)</i>	<i>Height (H)(Ft.)</i>	<i>L x W x H = (Ft3)</i>	<i>Gallons</i>
N/A	N/A	N/A	N/A	N/A

Total: N/A Gallons

30. Piping:

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

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

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

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

- Dispenser clearly labeled
33. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.
- In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
- In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

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

34. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 60'.
35. 100-year floodplain boundaries:
- Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
- No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FIRM No. 48491C0455F, dated December 20, 2019.
36. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
- The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
37. A drainage plan showing all paths of drainage from the site to surface streams.
38. The drainage patterns and approximate slopes anticipated after major grading activities.
39. Areas of soil disturbance and areas which will not be disturbed.
40. Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
41. Locations where soil stabilization practices are expected to occur.
42. Surface waters (including wetlands).
 N/A

43. Locations where stormwater discharges to surface water.
 There will be no discharges to surface water.
44. Temporary aboveground storage tank facilities.
 Temporary aboveground storage tank facilities will not be located on this site.
45. Permanent aboveground storage tank facilities.
 Permanent aboveground storage tank facilities will not be located on this site.
46. Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

47. Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
 N/A
48. These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.
 The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
 A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____.
 N/A
49. Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
 N/A
50. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

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

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

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

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

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

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

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

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

N/A

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

N/A

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

Prepared and certified by the engineer designing the permanent BMPs and measures

Signed by the owner or responsible party

Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.

Contains a discussion of record keeping procedures

N/A

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

N/A

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

N/A

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

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

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

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

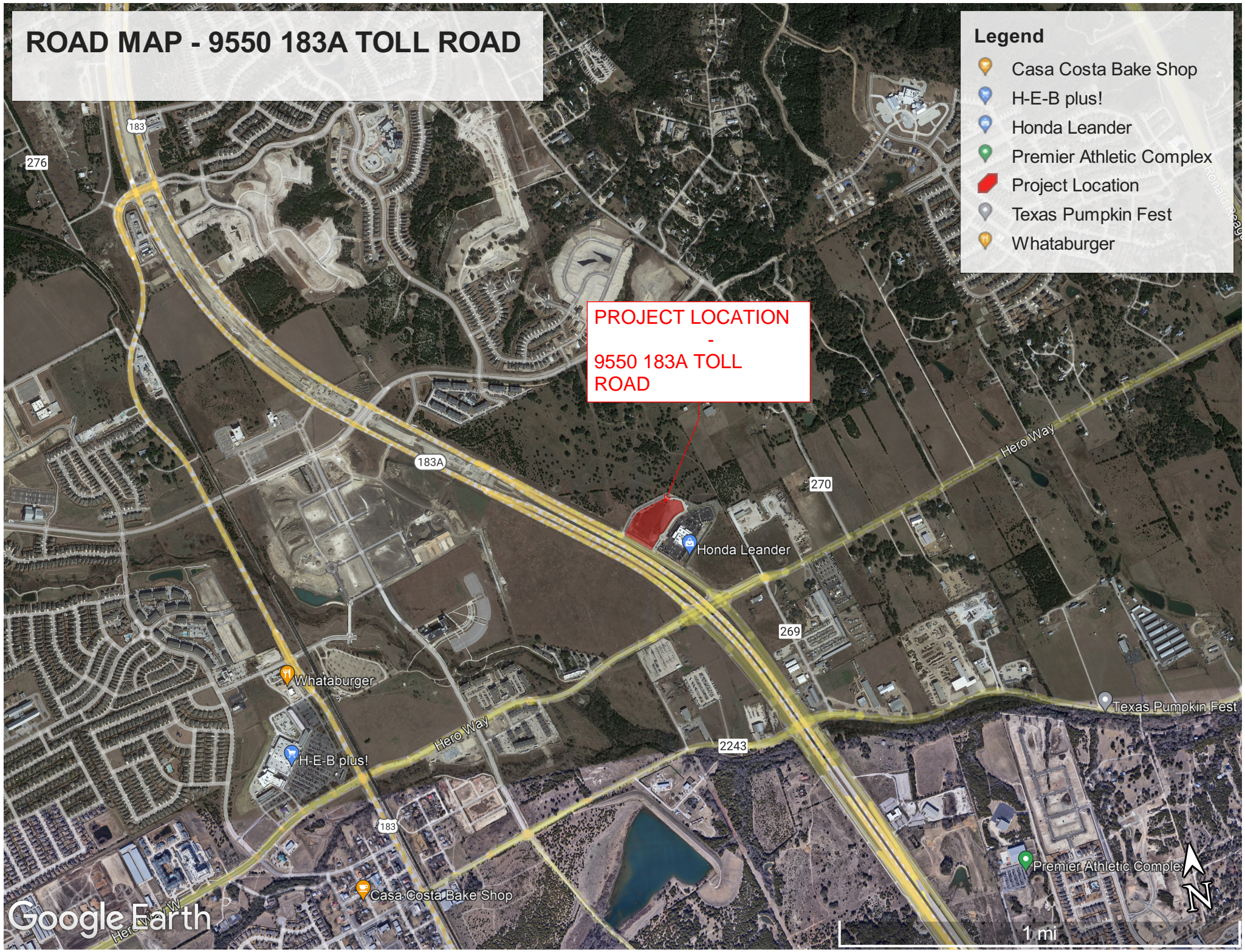
Administrative Information

61. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.
62. Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.
63. The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.
- The Temporary Stormwater Section (TCEQ-0602) is included with the application.

ROAD MAP - 9550 183A TOLL ROAD

- Legend**
- Casa Costa Bake Shop
 - H-E-B plus!
 - Honda Leander
 - Premier Athletic Complex
 - Project Location
 - Texas Pumpkin Fest
 - Whataburger

PROJECT LOCATION
-
9550 183A TOLL ROAD





PROJECT NARRATIVE— ATTACHMENT C

To: Texas Commission on Environmental Quality – Edward’s Aquifer Program

From: PEA GROUP - Jonathan Puffer, P.E.

Date: April 14, 2023

Re: **Project Narrative for PAG Leander H1, Phase 2 Redevelopment**

PAG Leander H1 is located at 9550 183A Toll Road, just north of Hero Way, in Leander (Williamson County), TX. PAG Leander H1 is part of a 37.25-acre PUD (Planned Unit Development) of the same name in the City of Leander. Being developed at this time will be a new Car dealership in the undeveloped area of the current site. The total area of the development is 15.84 ac and its going to be added a total of 4.64 ac of Impervious cover. Right turn lanes and sidewalks have been proposed adjacent to 183-A.

The entire site is located within Zone "X" (outside of the 0.2%o annual chance or 100-year floodplain) as identified by Federal Emergency management Agency (FEMA) F.I.R.M. (Flood Insurance Rate Map) Panel No. 48491C0455F, Williamson County, Texas, dated December 20, 2019. The site is within the Brushy Creek watershed.

Proposed impervious cover will be captured in a storm system leading to a batch detention facility. This BMP will provide treatment in accordance with TCEQ guidelines. The propose turn lanes and sidewalks are also accounted for in the water quality volume calculations, therefore the BMP has been oversized to accommodate these improvements as well. Since detention has been accounted for the future development of the lot in the previous application, then this development will only have to design its own water quality pond.



FACTORS AFFECTING SURFACE WATER QUALITY – ATTACHMENT D

To: Texas Commission on Environmental Quality – Edward’s Aquifer Program

From: PEA GROUP - Jonathan Puffer, P.E.

Date: April 14, 2023

Re: **Factors Affecting Surface Water Quality PAG Leander H1, Phase 2
Redevelopment**

This memo is to provide a site-specific description of the factors affecting surface water quality on the site located at 9550 183A Toll Road. Leander. Texas, 78641.

Based on our assessment, the construction activities that could affect surface water quality on the site, include site preparation, demolition and construction of pavement, structures utility installation, in-site gasoline storage, construction of a new building, and landscaping. We recognize that these factors have the potential to cause adverse impacts on water quality and the environment, and we are committed to taking proactive measures to address them.

To mitigate these impacts, temporary erosion controls such as reinforced filter fabric fence, stabilized construction access, inlet protection barriers and rock filter dams will be installed and maintained during construction. There is an existing sedimentation basin on site that will be utilized to handle the stormwater runoff and pollutants generated from the site.

PRE-DEVELOPMENT CONDITIONS (2-yrs)

Q = C x i x A

SITE AREA 6.190 ACRES
 IMPERVIOUS AREA 0.001 ACRES

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.35^*6.19 + 0.75^*0.01 + 0.73^*0/6.19 = 0.357$ UNITLESS

Time of Concentration (Tc) 5.00 MINUTES

INTENSITY, i (2yr) = $i = a/(t+b)^c$

2-YR STORM	
a	58.00
b	11.27
c	0.81

$i_{(2yr)} = 58/(11.27+5)^{0.805} = 6.14$ INCH/HOUR

2yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.351 x 6.142 = Q_{(2yr)} = 13.34$ cfs

POST-DEVELOPMENT CONDITIONS (2-yrs)

Q = C x i x A

SITE AREA 6.190 Acres
 IMPERVIOUS AREA 4.740 Acres

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.35^*1.45 + 0.75^*1.31 + 0.73^*3.44/6.19 = 0.646$ UNITLESS

Time of Concentration (Tc) 5.00 MINUTES

INTENSITY, i (2yr) = $i = a/(t+b)^c$

2-YR STORM	
a	58.00
b	11.27
c	0.81

$i_{(2yr)} = 58/(11.27+5)^{0.805} = 6.14$ INCH/HOUR

2yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.646 x 6.142 = Q_{(2yr)} = 24.56$ cfs

PRE-DEVELOPMENT CONDITIONS (10-yr)

Q = C x i x A

SITE AREA 6.190 ACRES
 IMPERVIOUS AREA 0.004 ACRES

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.83^*6.19 + 0.81^*0.01 + 0/6.19 = 0.417$ UNITLESS

Time of Concentration (Tc) 5.000 MINUTES

INTENSITY, i (10yr) = $i = a/(t+b)^c$

10-YR STORM	
a	77.00
b	10.53
c	0.78

$i_{(10yr)} = 77/(10.53+5)^{0.775} = 9.19$ INCH/HOUR

10yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.411 x 9.191 = Q_{(10yr)} = 23.38$ cfs

POST-DEVELOPMENT CONDITIONS (10-yr)

Q = C x i x A

SITE AREA 6.190 Acres
 IMPERVIOUS AREA 4.740 Acres

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.83^*1.45 + 0.81^*1.31 + 0.73^*3.44/6.19 = 0.721$ UNITLESS

Time of Concentration (Tc) 5.00 MINUTES

INTENSITY, i (10yr) = $i = a/(t+b)^c$

10-YR STORM	
a	77.00
b	10.53
c	0.78

$i_{(10yr)} = 77/(10.53+5)^{0.775} = 9.19$ INCH/HOUR

10yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.721 x 9.191 = Q_{(10yr)} = 41.02$ cfs

PRE-DEVELOPMENT CONDITIONS (25-yr)

Q = C x i x A

SITE AREA 6.190 ACRES
 IMPERVIOUS AREA 0.004 ACRES

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.88^*6.19 + 0.86^*0.01 + 0/6.19 = 0.447$ UNITLESS

Time of Concentration (Tc) 5.000 MINUTES

INTENSITY, i (25yr) = $i = a/(t+b)^c$

25-YR STORM	
a	89.00
b	10.16
c	0.76

$i_{(25yr)} = 89/(10.16+5)^{0.759} = 11.31$ INCH/HOUR

25yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.441 x 11.305 = Q_{(25yr)} = 30.86$ cfs

POST-DEVELOPMENT CONDITIONS (25-yr)

Q = C x i x A

SITE AREA 6.190 Acres
 IMPERVIOUS AREA 4.740 Acres

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.88^*1.45 + 0.86^*1.31 + 0.73^*3.44/6.19 = 0.766$ UNITLESS

Time of Concentration (Tc) 5.00 MINUTES

INTENSITY, i (25yr) = $i = a/(t+b)^c$

25-YR STORM	
a	89.00
b	10.16
c	0.76

$i_{(25yr)} = 89/(10.16+5)^{0.759} = 11.31$ INCH/HOUR

25yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.766 x 11.305 = Q_{(25yr)} = 53.60$ cfs

PRE-DEVELOPMENT CONDITIONS (100-yr)

Q = C x i x A

SITE AREA 6.190 ACRES
 IMPERVIOUS AREA 0.004 ACRES

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.97^*6.19 + 0.95^*0.01 + 0/6.19 = 0.517$ UNITLESS

Time of Concentration (Tc) 5.000 MINUTES

INTENSITY, i (100yr) = $i = a/(t+b)^c$

100-YR STORM	
a	106.00
b	9.46
c	0.73

$i_{(100yr)} = 106/(9.46+5)^{0.732} = 15.00$ INCH/HOUR

100yr PEAK FLOW
 $Q = C x i x A x 6.19 x 0.511 x 15 = Q_{(100yr)} = 47.45$ cfs

POST-DEVELOPMENT CONDITIONS (100-yr)

Q = C x i x A

SITE AREA 6.190 Acres
 IMPERVIOUS AREA 4.740 Acres

RUNOFF COEFFICIENT, C $C_w = C^*(A(PERVIOUS) + C^*(A(IMPERVIOUS)/A)$ (TOTAL)
 $C_w = 0.97^*1.45 + 0.95^*1.31 + 0.73^*3.44/6.19 = 0.852$ UNITLESS

Time of Concentration (Tc) 5.00 MINUTES

INTENSITY, i (100yr) = $i = a/(t+b)^c$

100-YR STORM	
a	106.00
b	9.46
c	0.73

$i_{(100yr)} = 106/(9.46+5)^{0.732} = 15.00$ INCH/HOUR

PEAK FLOW
 $Q = C x i x A x 6.19 x 0.852 x 15 = Q_{(100yr)} = 79.11$ cfs

PROJECT: HYUNDAI LEANDER

RUNOFF COEFFICIENT, C	2-YEAR	10-YEAR	25-YEAR	100-YEAR
C PERVIOUS (GRASS 2%-7%)	0.35	0.41	0.44	0.51
C IMPERVIOUS, CONCRETE	0.75	0.83	0.88	0.97
C IMPERVIOUS, ASPHALT	0.73	0.81	0.86	0.95

INTENSITY COEFFICIENTS PER YEAR EVENT

a	b	c
2	58	11.27
10	77	10.53
25	89	10.16
100	106	9.46

HYDROLOGIC CALCULATIONS-RATIONAL METHOD

DRAINAGE AREA NUMBER	AREA A ACRES	WEIGHTED RUNOFF COEFFICIENT, Cw				TIME OF CONCENTRATION, t MINUTES	RAINFALL INTENSITY, i (IN/HR)				PEAK FLOW, Q (CFS)					
		IMPERVIOUS COVER CONCRETE ACRES	IMPERVIOUS COVER ASPHALT ACRES	Cw			2-YEAR	10-YEAR	25-YEAR	100-YEAR	Q	Q	Q	Q		
				2-YEAR	10-YEAR										25-YEAR	100-YEAR
A-1	0.71	0.53	0.18	0.74	0.82	0.87	0.96	5.00	6.14	9.19	11.30	15.00	3.25	5.38	7.02	10.28
A-2	0.62	0.30	0.32	0.74	0.82	0.87	0.96	5.00	6.14	9.19	11.30	15.00	2.82	4.67	6.10	8.92
A-3	0.46	0.24	0.20	0.72	0.80	0.85	0.94	5.00	6.14	9.19	11.30	15.00	2.05	3.39	4.43	6.49
A-4	0.28	0.02	0.26	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.26	2.09	2.73	4.00
B-1	0.42	0.01	0.41	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.78	4.62	6.03	8.84
B-2	0.47	0.03	0.42	0.72	0.79	0.84	0.93	5.00	6.14	9.19	11.30	15.00	2.02	3.36	4.39	6.43
B-3	0.25	0.00	0.24	0.71	0.79	0.84	0.93	5.00	6.14	9.19	11.30	15.00	1.23	2.04	2.67	3.92
B-4	0.17	0.00	0.17	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	3.18	5.29	6.90	10.12
C-1	0.36	0.02	0.34	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.78	4.62	6.04	8.84
C-2	0.21	0.00	0.20	0.71	0.79	0.84	0.93	5.00	6.14	9.19	11.30	15.00	2.01	3.34	4.37	6.41
C-3	0.35	0.02	0.33	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.26	2.09	2.73	3.99
C-3.1	0.28	0.00	0.26	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.33	2.34	3.08	4.74
D-1	0.23	0.07	0.04	0.54	0.61	0.65	0.73	5.00	6.14	9.19	11.30	15.00	1.52	2.57	3.36	5.01
D-2	0.15	0.00	0.15	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.26	2.08	2.72	3.99
D-3	0.19	0.00	0.19	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.26	2.08	2.72	3.99
POND 1	0.40	0.03	0.00	0.38	0.44	0.47	0.54	5.00	6.14	9.19	11.30	15.00	1.07	1.87	2.46	3.76
POND 2	0.24	0.02	0.00	0.38	0.45	0.48	0.55	5.00	6.14	9.19	11.30	15.00	0.66	1.15	1.51	2.30
OUT	0.40	0.00	0.00	0.35	0.41	0.44	0.51	5.00	6.14	9.19	11.30	15.00	1.53	2.68	3.53	5.43

HYDRAULIC CALCULATIONS-MANNINGS EQUATION

DRAINAGE AREA NUMBER	REACH LENGTH FEET	PIPE DIAMETER INCHES	CROSS SECTIONAL AREA SQUARE FEET	HYDRAULIC RADIUS FEET	LONGITUDINAL SLOPE %	MANNINGS n"	CAPACITY CFS	VELOCITY FPS	HYDRAULIC GRADE LINE									
									ACTUAL VELOCITY FPS	HYDRAULIC GRADIENT %	CHANGE IN HEAD FEET	HGL UPSTREAM	HGL DOWNSTREAM	GUTTER ELEVATION UPSTREAM	GUTTER ELEVATION DOWNSTREAM	FLOWLINE UPSTREAM	FLOWLINE DOWNSTREAM	CROWN/TOP OF PIPE
									FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET
A-1	155	18	1.77	0.4	0.22	0.012	5.35	3.03	5.82	0.815	1.284	969.12	967.88	970.00	969.00	968.33	965.99	967.49
A-2	72	18	1.77	0.4	0.22	0.012	5.35	3.03	5.05	0.615	0.443	967.86	967.41	969.00	969.40	965.99	965.83	967.33
A-3	80	18	1.77	0.4	0.22	0.012	5.35	3.03	3.68	0.326	0.261	967.41	967.15	969.40	969.60	965.83	965.65	967.15
A-4	69	18	1.77	0.4	0.22	0.012	5.35	3.03	3.31	0.123	0.085	967.09	967.00	969.60	971.75	965.65	965.50	967.00
B-1	111	18	1.77	0.4	0.22	0.012	5.35	3.03	5.00	0.603	0.670	968.66	967.99	968.25	968.25	966.29	966.05	967.55
B-2	116	18	1.77	0.4	0.22	0.012	5.35	3.03	3.64	0.320	0.371	967.99	967.62	968.25	968.50	966.05	965.79	967.29
B-3	63	18	1.77	0.4	0.22	0.012	5.35	3.03	3.30	0.119	0.075	967.62	967.55	968.50	969.00	965.79	965.65	967.15
B-4	69	18	1.77	0.4	0.22	0.012	5.35	3.03	5.73	0.790	0.545	967.55	967.00	969.00	970.00	965.65	965.50	967.00
C-1	97	18	1.77	0.4	0.22	0.012	5.35	3.03	5.01	0.604	0.586	967.45	966.87	970.00	970.05	965.24	965.03	966.53
C-2	78	18	1.77	0.4	0.22	0.012	5.35	3.03	3.63	0.317	0.247	966.87	966.62	970.05	969.65	965.03	964.86	966.36
C-3.1	135	18	1.77	0.4	0.22	0.012	5.35	3.03	3.42	0.174	0.234	966.59	966.36	967.00	969.65	965.15	964.86	966.36
C-3	25	18	1.77	0.4	0.22	0.012	5.35	3.03	3.31	0.123	0.031	966.62	966.59	969.65	969.00	964.86	964.80	966.30
D-1	71	18	1.77	0.4	0.22	0.012	5.35	3.03	3.42	0.174	0.123	966.95	966.83	966.85	967.80	965.49	965.33	966.83
D-2	185	18	1.77	0.4	0.22	0.012	5.35	3.03	3.44	0.194	0.359	966.78	966.42	967.80	968.60	965.33	964.92	966.42
D-3	56	18	1.77	0.4	0.22	0.012	5.35	3.03	3.31	0.123	0.069	966.37	966.30	968.60	969.00	964.92	964.80	966.30
P-1	416	12	0.79	0.3	1.00	0.012	3.87	4.93	5.61	0.947	3.940	968.38	964.44	969.00	967.52	966.52	962.36	963.36
P-2	22	12	0.79	0.3	1.00	0.012	3.87	4.93	5.12	0.356	0.078	964.44	964.36	969.00	968.15	963.58	963.36	964.36

GRATE INLETS IN SUMP-25YR

Square Inlet Size	Area (SF)	Perimeter (ft)
2.5x2.5'	6.25	10
3x3'	9	12
4x4'	16	16

Capacity Equations: (smaller value controls capacity for a given head over the grate)
 Effective A is assuming 50% of inlet area is clogged
 Effective P is assuming 25% of inlet perimeter is clogged
 Orifice Flow: $Q_o = C_o A (2gh)^{0.5} = 67A(2gh)^{0.5}$
 Weir Flow: $Q_w = C_w P h^{3/2} = 3Ph^{3/2}$
 $h_{max} = 6"$
 $Q_{inlet} = CIA$ (utilizing maximum intensity at inlet)

Inlet Structure	Inlet Size	Effective Area	Effective Perimeter	Q_{inlet} (cfs)	h_{max} (ft)	Q_o (cfs)	Q_w (cfs)	Q_{cap} (cfs)	$Q_{cap} > Q_{inlet}$ (?)
A-2	3x3'	4.5	9	6.10	0.5	17.11	9.55	9.55	Y
A-3	3x3'	4.5	9	4.43	0.5	17.11	9.55	9.55	Y
A-4	3x3'	4.5	9	2.73	0.5	17.11	9.55	9.55	Y
B-1	3x3'	4.5	9	6.03	0.5	17.11	9.55	9.55	Y
B-2	3x3'	4.5	9	4.39	0.5	17.11	9.55	9.55	Y
B-3	3x3'	4.5	9	2.67	0.5	17.11	9.55	9.55	Y
B-4	4x4'	8	12	6.90	0.5	30.42	12.73	12.73	Y
C-3.1	3x3'	4.5	9	3.08	0.5	17.11	9.55	9.55	Y
D-1	3x3'	4.5	9	3.36	0.5	17.11	9.55	9.55	Y

GRATE INLETS IN SUMP-100YR

Square Inlet Size	Area (SF)	Perimeter (ft)
2.5x2.5'	6.25	10
3x3'	9	12
4x4'	16	16

Capacity Equations: (smaller value controls capacity for a given head over the grate)
 Effective A is assuming 50% of inlet area is clogged
 Effective P is assuming 25% of inlet perimeter is clogged
 Orifice Flow: $Q_o = C_o A (2gh)^{0.5} = 67A(2$



BMPs FOR UPGRADIENT STORMWATER – ATTACHMENT J

Date: April 14, 2023

Re: **Best Management Practices (BMPs) for PAG Leander H1, Phase 2 Redevelopment**

This memo is to provide a description of any and all Best Management Practices (BMPs) for upgradient stormwater for the project site located at 9550 183A Toll Road, Leander, TX, 78641.

All surface water, groundwater, and stormwater originate only on the project site.

- The properties located around the perimeter of the project site drain away from the site and have water captured in separate detention/retention systems.



BMPs FOR ON-SITE STORMWATER – ATTACHMENT K

Date: April 14, 2023

Re: **Best Management Practices (BMPs) for PAG Leander H1, Phase 2 Redevelopment.**

This memo is to provide a description of any and all Best Management Practices (BMPs) for on-site stormwater for the project site located at 9550 183A Toll Road, Leander, TX, 78641. Permanent BMPs are already approved for this site on a previous submission on March of 2022, stating the followings BMPs:

- BMPs for On-site Stormwater: The construction documents found in attachment M of this section provide the parameters, details, and calculations for the existing sedimentation & filtration basin. The updated TSS removal calculations have been attached with this memo and show the existing basin parameters that will handle and treat the on-site stormwater volume.

PROGRAMMABLE LOGIC FLOW CHART

TRASH CAGE WITH PERFORATED RISER PIPE

Parts List

Item	smartPOND Valve Component
1	30" DIAMETER CAGE WITH 1/2" GALVANIZED MESH SCREEN
2	8" SQUARE PERFORATED TUBING WITH 1" PERFORATION, WITH 4" VERTICAL SPACING ON CENTERS WITH WATER DEPTH MARKER
3	3 1/2" X 3 1/2" X 4" CONCRETE PAD (BY OTHERS)
4	6" PVC OUTFALL PIPE (BY OTHERS)
5	WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX
7	PEDESTAL
8	ACTUATOR
9	MOTOR
10	6" VALVE
11	LEVEL TRANSDUCER
12	SOLAR PANEL
13	OUTLET PIPE (BY OTHERS)
14	30" DRAIN BASIN
15	VALVE STEM
16	QUICK DISCONNECT VALVE STEM

PERFORATED RISER PIPE

smartPOND Valve with Control Structure

CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

CONVERGENT WATER TECHNOLOGIES

FOR ADDITIONAL INFORMATION PLEASE CONTACT: CONSTRUCTION ECO SERVICES, 832-456-1000, www.ecosvs.com

smartPOND Valve SPECIFICATION

Continuously Monitored Automated Stormwater System with Valve

1. Introduction
The following specifications describe the components, general functions, and applications of a smartPOND Continuously Monitored Automated Stormwater System (IC-MASS) with Valve. The system functions as an electrically controlled, valve-powered stormwater management device, providing precision management capabilities and real-time data. Using sensors, solar power, an electronic actuator, and an internet-based control interface, the smartPOND valve connects to a specialized perforated riser made the stormwater management team's managers to precisely control water retention and diversion automatically in real time.

2. smartPOND Valve Applications in Stormwater Management
The smartPOND valve is a device for active stormwater management. An approved to passive devices such as floating dams or stationary weirs, active water management dramatically increases the efficiency and effectiveness of a detention or retention pond. When a passive stormwater detention system allows water to leave immediately upon collection, the smartPOND valve can detain newly caught stormwater and allow it to settle for a programmed period before automatically discharging the impoundment completely. For stormwater retention systems, it is possible to maintain the treatment volume while maintaining a specified amount of capacity for flood storage or other use.

2.1 Pre-programmed Control
Many functions can be pre-programmed without any human interaction, leaving the valve to automatically receive commands based on environmental conditions and respond as programmed.

2.1.1 Batch Detention Function for Stormwater Quality
The smartPOND valve meets TCEQ batch retention specifications for a 93% Total Suspended Solids removal rate. The function proceeds as follows. With the valve in the closed position and the impoundment dry, the system will stand by and wait for a water collection event. As the first sign of water collection, the unit will begin a 12-hour detention timer. At the end of the 12-hour detention period, the valve will open and release all of the water that has been collected. After the water level drops to 0", the valve will remain open for an additional 2 hours to facilitate final drainage, then return to the closed position to stand by for the next water collection event.

2.1.2 Predevelopment Hydrograph Function for Flood Control
The smartPOND valve provides predevelopment hydrograph function tables to site specific variables to determine a maximum release rate based on predevelopment conditions. The valve needs water depth in the pond every 15 minutes to determine the maximum release rate desirable to ensure the impoundment neither overtops, nor exceeds its maximum release based on predevelopment flows.

2.1.3 Real-time Monitoring
smartPOND when specified for remote gate containment can be equipped with pollutant specific sensors that when triggered automatically close the valve until the command is overridden.

2.2 Real Time Monitoring
smartPOND comes standard with telemetry available on each unit and access to the user app available at no additional cost for 1 year. This option allows for real time monitoring of the unit and the data that comes along with it. From the real time monitoring app, a user can:
- Control the valve, either open or close.
- See the water level.
- See if trash or debris is accumulating in the unit.
- Get maintenance alerts (Low Batteries, Valve Failure, Etc.)
- Maintain specified water level.

3. Components
The smartPOND valve may be implemented either above or below ground, and is comprised of the following components:

3.1 Hardware and Configuration
The standard smartPOND valve features a cast 6" valve. An extended spool and mounting flange on each side of the valve allows it to be attached to the outfall pipe in various configurations. The valve is fabricated with an electric motor connected to an extendable drive shaft for underground applications.
For above ground applications, the entire system including all necessary components for operation assemble into one kit and are housed under a single lockable steel enclosure with the solar panel mounted on top. In this configuration, the unit can be installed on a stable, level pad and be bolted onto the back of the outfall pipe with six 1/2" bolts and then switched to the "ON" position.
For underground applications, the valve is installed in a vault or concrete encasement as needed. An extended drive shaft connects between the underground valve and the rest of the components, including the motor and all electronics, which are housed in the lockable steel enclosure directly above ground.

3.2 Electronics and Software Specifications
- Main board: The main board of the smartPOND valve's electronics box serves as the main connection terminal for all sensors and additional control boards.
- Motor Controller Board: The motor controller board of the smartPOND valve regulates the connection between the battery and the motor and receives signals from the main board to control motor direction. It also powers the main board.
- Motor: The smartPOND valve's motor operates on 12 volts and has two wires connecting to the motor controller board. It is mounted on a bracket and connects to the drive shaft to the valve with a drive shaft.
- Battery: The smartPOND valve is powered by a 12-volt, 30-amp-hour battery. Located at the top of the enclosure, the power wires to the motor controller board and the solar charge controller to the battery.
- Solar Panel: The solar panel of the smartPOND valve is 12 volts with 25 watt charging capability. It connects to a solar charge controller which regulates the voltage and current before connecting with two wires to the positive and negative battery terminals.
- Sensors:
- Pressure Transducer: The water level sensor is a pressure transducer sensor capable of staying submerged in water indefinitely. It mounts on the side of the smartPOND valve's center shaft.
- Water position sensor: A proximity sensor senses the position of the valve's drive shaft in order to control and determine the position of the valve.
- (Optional)
- Cell data modem: A cellular data modem will be required for real time control and alert options as well as predevelopment hydrograph functions.
- Hydrocarbon sensor: This optional sensor may be fitted to the smartPOND valve to perform specific functions based on the presence of hydrocarbon contamination.

4. Real Time Monitoring Interface (optional)
If the real time monitoring option is selected, the smartPOND valve may be monitored in real time through the Autolife app. Live and historical data from each unit may be viewed in the app, as well as alerts (detailed in section 5).

4.1 Accessing unit data
To access live and historical data in the Autolife app, select the unit of interest on the home page by clicking on the unit's name. From there, select the "Data" button, and the data page for that unit will be displayed.

4.2 Sending a command
To send a remote control command to the smartPOND valve, click the "Send New Command" button on the unit's home page. The unit's current position will be displayed at the top. To change the unit's position, simply select "ON" or "CLOSE". Within 2-5 seconds, the unit will move to the new position and update its status in the app.

5. Alerts
The smartPOND valve will indicate the following alerts by illuminating an externally visible red LED light:
- Low battery
- Valve malfunction
- Motor malfunction
- Hydrocarbon contamination (optional)

If the telemetry option is selected, the unit will upload the above alerts to the Autolife app and notify the operator via text or email.

6. In Case of Failure
To bypass the smartPOND valve's normal automated functions and control the valve position in case of failure:
6.1 Removal of motor and manual direct control
In case of total electronic or motor failure, the motor and motor bracket can be unscrewed together by removing the two bolts at the bottom of the motor bracket. With the motor and motor bracket removed, the output shaft on the butterfly valve can be manually controlled with a socket wrench, or any other tool that can grip the output shaft.
7. Additional Components List

7.1 Perforated Riser
The smartPOND valve system includes a lockable perforated riser which includes the inlet side of the outfall pipe within the impoundment area. The perforated riser features an 8-inch steel perforated square tube with a 24" round steel mesh tube. At the bottom of the 8-inch square tube, there is a female threaded fitting for a 1/2 inch PVC outfall pipe to connect. The steel tube is perforated with 1-inch holes every 4" on center to the height of the impoundment.

7.2 Trash Cage
The trash cage attaches to the perforated riser with a coupling and collar pin. The trash cage will be comprised of steel banding and a 1.5" x 1.5" mesh to prevent floatables and other contents from entering and clogging the perforated riser. The trash cage will sit 0.5" above the bottom of the impoundment to allow the last 0.5" out of the impoundment.

7.3 Valve Stem Extension
The drive shaft valve stem of the smartPOND system may be extended to any length necessary for instances where the valve will be in an underground vault or manhole. The valve stem will connect the valve to the above ground controls.

8. Maintenance

8.1 Grease
The smartPOND valve includes a grease fitting on the valve stem which should be greased twice per year. It is also recommended that a thick, mild heat-resistant grease be used to avoid grease melting out of the grooves in winter temperatures.

8.2 Flange Bolts
There are 6 bolts connecting the smartPOND valve's flange to the outfall pipe or flange. During routine maintenance intervals, these bolts should be checked for tightness. All bolts should be tightened evenly.

8.3 Perforated Riser
Silt, sediment, and debris can build up around the perforated riser with time. An annual inspection of the unit is necessary to ensure that excess debris or sediment has not limited the drainage capacity of the perforated riser. To access the perforated riser for maintenance, lift the trash cage off of the riser, dig out any accumulated sediment, and clear all perforations.

8.4 Trash Cage
As part of routine maintenance, it is advisable to remove trash and debris that has accumulated on the trash cage and properly dispose.

8.5 Solar Panel
On all inspection visits, it is necessary to confirm that the solar panel is facing south and is well secured. The solar panel is commonly utilized by birds and insects. It is important to keep the surface clean of bird litter, insect nests and debris in order to maintain optimal performance.

8.6 Battery
Over time, battery terminals may corrode. Check annually for corrosion and clean as needed. The battery should be replaced every 4 to 5 years.

8.7 Storage
The smartPOND valve is shipped in a near fully assembled configuration and should be stored likewise. The systems are transported and stored on pallets and must remain secured with straps or steel bands to avoid pallet or unit tilting. For below ground installations, the unit is ready to begin operation. The battery may be stored inside the electronics box and if removed, should never be buried under a concrete vault.

9. Installation
The smartPOND valve can be installed in a near completely assembled configuration. Only the solar panel should be removed during the installation process. There are several ways to install the smartPOND valve with the key being structural support.

9.1 Structural Support
If the smartPOND valve is installed in an above ground, fully assembled configuration, the weight of the unit may be supported by the riser pipe. For plastic or concrete pipes, it is recommended that the weight of the unit be supported by either a concrete pad or steel frame. For below ground installations, the upper unit electronics and actuator should be fastened to the surface of the concrete vault. For vault installations, see design details for standard vault design.

10. Important Safety Information and Warnings:
- Always keep hands clear of the space and motor when unit is in operation.
- Turn the power switch off when doing any electrical work.
- Do not enter the water when the device is actively draining water.
- Always use proper PPE and confined space protocol when servicing a valve beneath ground.

11. PRODUCTS
Manufacturer/Supplier/Installer shall be an established stormwater company that has at least 5 installations of automated stormwater management devices that have been in use and functional for the past 5 or more years.

A. Acceptable smartPOND Valve
"Antenna (NOT DISPLAYED)"
"Antenna (NOT DISPLAYED)"
"Camera (NOT DISPLAYED)"
"Cell Data Modem (NOT DISPLAYED)"
"Lockable Weatherproof Electronic Box"
"Control Box w/ Locking Latches"
"Pedestal"
"Remote Grease Manifold"
"Grease Tubes"
"Grease Fittings"
"Extended Drive Shaft"
"24" Rotary Valve"
"24" Drum (30"-TOP TALL)"
"Outlet Pipe (Size TBD By Engineer, Max 24")"
"Inclinometer"
"Level Transducer"
"6" Concrete Pad (By Others, Size Varies)"
"ON/OFF SWITCH"
"TRASH RACK"

B. Acceptable System Supplier
Convergent Water Technologies, Inc.
800/712-5248
www.convergentwater.com

C. Authorized Valve Added Reseller
Construction Eco Services
800/456-1000
www.ecosvs.com

12. Quality Assurance and Performance Specifications
The quality of all system components and all other opportunities and their assembly process shall be subject to inspection upon delivery of the system to the work site installation. It is to be performed only by skilled work people with satisfactory record of performance on manholes, pipes, wetting chamber, or pond/basins construction projects of comparable size and quality.

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NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

smartPOND Automated Stormwater Control

smartPOND Valve Specifications

0
DATE: 12/27/2021

PEA GROUP

16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237-#B194679

STATE OF TEXAS
JONATHAN A. PUFFER
43907
8/4/2023

PROGRAMMABLE LOGIC FLOW CHART

FRONT VIEW

SIDE VIEW

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DATE OF ISSUE: 7/27/22

TOP VIEW

FRONT VIEW

SIDE VIEW

BACK VIEW

Parts List

Item	smartPOND Components
1	12 V SOLAR PANEL WITH 30 WATT CHARGING CAPACITY
2	ANTENNA (NOT DISPLAYED)
3	CELL DATA MODEM (NOT DISPLAYED)
4	CAMERA
5	LOCKABLE WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX W/ LOCKING LATCHES
7	PEDESTAL
8	REMOTE GREASE MANIFOLD
9	GREASE TUBES
10	GREASE FITTINGS
11	EXTENDED DRIVE SHAFT
12	24" Rotary Valve
13	24" Drum (30"-TOP TALL)
14	Outlet Pipe (Size TBD By Engineer, Max 24")
15	Inclinometer
16	Level Transducer
17	6" Concrete Pad (By Others, Size Varies)
18	ON/OFF SWITCH
19	TRASH RACK

NOTES:
FOR ABOVE GROUND APPLICATIONS, THE ENTIRE SYSTEM INCLUDING ALL NECESSARY COMPONENTS FOR OPERATION ASSEMBLE INTO ONE KIT AND ARE HOUSED UNDER A SINGLE LOCKABLE STEEL ENCLOSURE WITH THE SOLAR PANEL MOUNTED ON TOP. IN THIS CONFIGURATION, THE UNIT CAN BE INSTALLED ON A STABLE, LEVEL PAD AND BE BOLTED ONTO THE BACK OF THE OUTFALL PIPE WITH SIX 1/2" BOLTS AND THEN SWITCHED TO THE "ON" POSITION.
FOR UNDERGROUND APPLICATIONS, THE VALVE IS INSTALLED IN A VAULT OR CONCRETE ENCASMENT AS NEEDED. AN EXTENDED DRIVE SHAFT CONNECTS BETWEEN THE UNDERGROUND VALVE AND THE REST OF THE COMPONENTS, INCLUDING THE MOTOR AND ALL ELECTRONICS, WHICH ARE HOUSED IN THE LOCKABLE STEEL ENCLOSURE DIRECTLY ABOVE GROUND.

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CONVERGENT WATER TECHNOLOGIES

DATE OF ISSUE: 7/27/22

PENSKE AUTOMOTIVE GROUP

1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
BATCH DETENTION POND DETAILS

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
17 OF 36

PLOTTED: 8/17/2023 5:35 PM
BY: PRODCR/STACY



INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN – ATTACHMENT N

Date: April 14, 2023

Re: **Inspection, Maintenance, Repair and Retrofit Plan for PAG Leander H1, Phase 2 Redevelopment**

This memo is to provide a description of the Inspection, Maintenance, Repair and Retrofit (IMRR) Plan for the existing sedimentation basin that services the project site located at 9550 183A Toll Road, Leander, Texas 78641. The following can be found in the TCEQ's "Complying with the Edwards Rules: Technical Guidance Manual on Best Management Practices", Section 3.5.9.

Maintenance Guidelines for Sand Filter Systems

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young et al., 1996). Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to stormwater runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any unstabilized construction areas should be treated via a separate sediment system that bypasses the filter media.

Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

- *Inspections.* BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent

additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

- *Sediment Removal.* Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.
- *Media Replacement.* Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.
- *Debris and Litter Removal.* Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.
- *Filter Underdrain.* Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.
- *Mowing.* Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

The Owner or Responsible Party shall adhere to the requirements of this IMRR plan unless property ownership is transferred to another responsible party.

Signature of Owner/Responsible Party: _____





MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION – ATTACHMENT P

Date: April 14, 2023

Re: **Measures for minimizing surface stream contamination for PAG Leander H1, Phase 2 Redevelopment**

During construction, standard erosion measures will be used as shown in the construction plans. The entire construction site will be contained by a silt fence until construction is complete. Entry and exit from the site will be through a stabilized construction entrance. The batch detention pond will be rough cut as soon as possible, so this excavation can be used as a sediment trap until the ponds and other construction are completed.

After completion of the project, temporary erosion and sedimentation measures (silt fence and rock berm) will remain in place until vegetative cover is established. Details concerning the erosion/sedimentation protection plan can be found on the Erosion & Sedimentation Control Plans of the construction drawings.

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Jonathan Puffer, P.E

Date: 5/16/2023

Signature of Customer/Agent:



Regulated Entity Name: PAG LEANDER H1

Project Information

Potential Sources of Contamination

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

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

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

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

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

- Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- Fuels and hazardous substances will not be stored on the site.
- 2. **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

- 5. **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: _____

Temporary Best Management Practices (TBMPs)

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

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

- A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
 - There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- N/A
12. **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21. If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22. Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

SPILL RESPONSE ACTIONS – ATTACHMENT A

Date: April 14, 2023

Re: **Spill Response Actions for PAG LEANDER H1, PHASE 2 (RN 110929809)**

This memo is to provide a site-specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances for the Modification Request for the site located at 9550 183A Toll Road, Leander, Texas. 78641 (RN 110929809).

The first step to a spill response involves safety measures that prevent spills to begin with. Education of the employees and subcontractors will be established prior to beginning construction. Superintendents will be required to regularly reinforce and monitor spill prevention measures throughout the duration of construction. General measures as listed in the Edwards Aquifer Guidance Manual, Chapter 1 will be implemented, including but not limited to:

- Storing hazardous materials in proper covered containers and protecting from vandalism.
- Training employees in spill prevention and cleanup.
- Installing the Storm Water Pollution Prevention Plan infrastructure properly, and ensuring they are monitored regularly.
- Containing water overflow and minor water spillage to prevent discharge into drainage watercourse.
- Utilizing applicable Material Safety Data Sheets and spill reporting instructions for hazardous materials.

Significant/Hazardous spills will be reported to the Texas Spill Reporting Hotline from TCEQ by phone as soon as possible and within 24 hours at 1-800-832-8224 between the hours of 8am and 5pm. To report all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories, contact the National Response Center (NRC) at 1-800-424-8802.

1.4.16 Spill Prevention and Control

The objective of this section is to describe measures to 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.

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a “significant spill” is for each material they use, and what is the appropriate response for “significant” and “insignificant” spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor’s superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.
- (6) Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn’t compromise clean up activities.
- (7) Do not bury or wash spills with water.

- (8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- (9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- (10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- (11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- (12) Keep waste storage areas clean, well organized, and equipped with ample cleanup 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.

Cleanup

- (1) Clean up leaks and spills immediately.
- (2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- (3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- (1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- (2) Use absorbent materials on small spills rather than hosing down or burying the spill.
- (3) Absorbent materials should be promptly removed and disposed of properly.
- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

More information on spill rules and appropriate responses is available on the TCEQ website at https://www.tceq.texas.gov/response/spills/spill_rq.html

Vehicle and Equipment Maintenance

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

Vehicle and Equipment Fueling

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



POTENTIAL SOURCES OF CONTAMINATION – ATTACHMENT B

Date: April 21, 2023

Re: **Potential Sources of Contamination for PAG LEANDER H1, PHASE 2 (RN 110929809)**

This memo is to provide a description of any activities/processes which may be a potential source of contamination affecting surface water quality for the parking expansion to occur at 9550 183A Toll Road, Leander, Texas. 78641 (RN 110929809):

Potential sources include:

- Temporary fuel tank onsite for construction equipment and activities,
- Paving sediments during the construction of the parking lot, and
- Sediment/soils from excavation and rough grading activities

Proper stormwater pollution prevention measures as shown on the Erosion Control plan for this project have been implemented.



SEQUENCE OF MAJOR ACTIVITIES – ATTACHMENT C

Date: April 14, 2023

Re: **Sequence of Major Activities for PAG LEANDER H1, PHASE 2 (RN 110929809)**

This memo is to provide a sequence of major activities/processes that will disturb soils for major portions of the site at 9550 183A Toll Road, Leander, Texas. 78641 (RN 110929809):

1. Clearing and grubbing to remove topsoil layer and foliage that is to be removed.
2. Excavation to remove existing pavement and excavate to depth of proposed pavement depth.
3. Utility construction includes addition/extension of water, wastewater, and other utility lines.
4. Grading activities to bring site to rough and final grades.
5. Pavement and building construction.

All activities will occur over the full site area of 15.84 acres. The temporary control measures for the above listed activities will be implemented prior to the start of construction and include Filter Fabric Fence along the entire perimeter of the site, Stone Filter Dam at the existing drainage outfall, Stabilized Construction entrance, and a Concrete Truck Wash area. Refer to the Stormwater Pollution Prevention Plan for locations and site layout.

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES – ATTACHMENT D

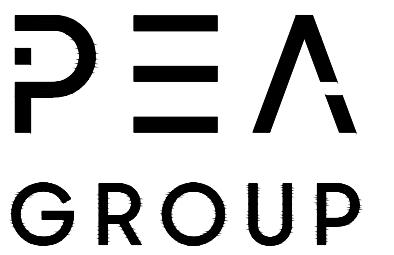
Date: April 14, 2023

Re: **Temporary Best Management Practices and Measures for PAG LEANDER H1, PHASE 2 (RN 110929809)**

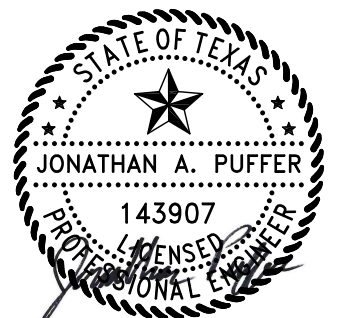
This memo is to provide a description of the temporary Best Management Practices (BMPs) and Measures to be used during construction at 9550 183A Toll Road, Leander, Texas. 78641:

- Interceptor swales to be used around the perimeter of the site to ensure upgradient runoff is routed around the construction zone and into the existing swales that route to the existing sedimentation basin.
- Stone Filter Dams will be utilized at the downstream ends of the existing concrete lined channel to assist with reducing the velocity of flow that results from re-routing the existing sheet flow across the site to concentrated flow in the temporary interceptor swales.
- Stage 1 and/or Stage 2 Inlet protection barriers to prevent disturbed sediment from entering the existing storm drain system along Lamar Drive and the northeast side of the site during the initial excavation/grading phases of construction. The type will be selected on site and changed as needed, and as construction progresses.
- Stabilized Construction Access that minimizes sediment in the public roadway as construction equipment enters and leaves the site.
- A designated Concrete Washout Area to allow the cleaning of wet concrete from equipment, thereby reducing the amount of concrete residue that may fall onto the public roadway as the equipment leaves the site. Once the excess concrete has cured, it will be broken up and disposed of properly.
- Filter Fabric Fencing will be utilized around the exterior of the property to assist with retaining the disturbed sediment and controlling erosion as construction activities progressed.

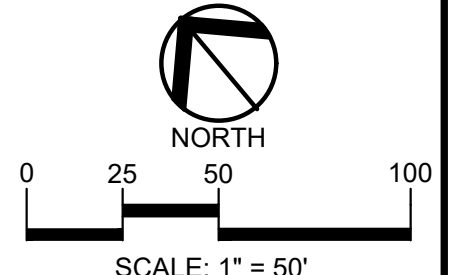
All temporary erosion and sediment controls will be inspected daily and immediately replaced if damaged.



16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 & #10194679



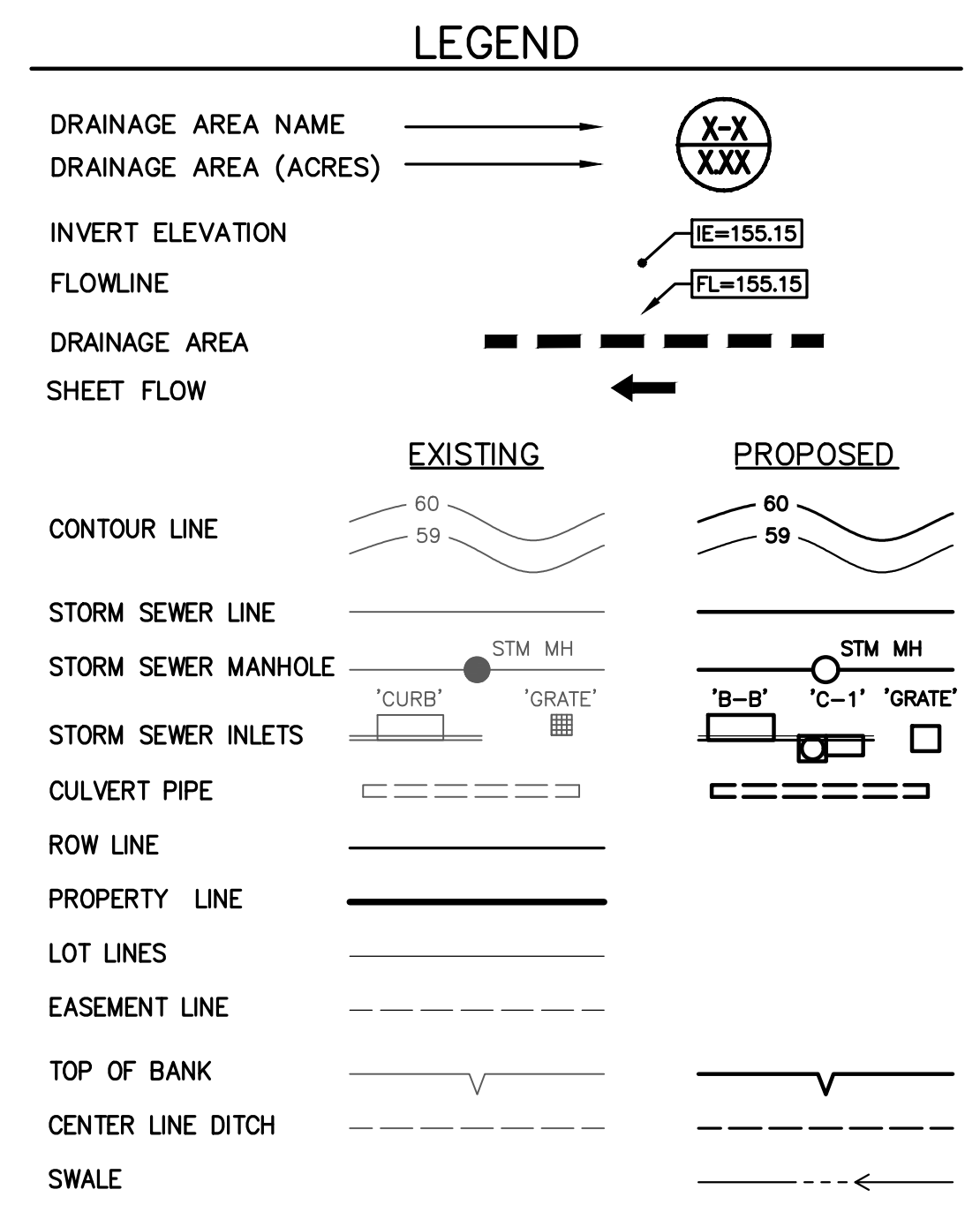
8/4/2023



CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

- NOTES:**
1. FIELD VERIFY INVERT ELEVATIONS OF EXISTING STORM SEWER STRUCTURES. NOTIFY ENGINEER IMMEDIATELY IF THERE ARE ANY DISCREPANCIES.
 2. IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN THE SUBSURFACE DETENTION FACILITY.
 3. REFER TO CITY OF LEANDER STANDARD DETAIL SHEETS FOR ALL STORM SEWER STRUCTURES AND DETAILS.
 4. MAINTAIN MINIMUM 6-INCH VERTICAL CLEARANCE BETWEEN WATER LINE AND STORM SEWER.

- ROOF DRAIN NOTES:**
1. ALL ROOF DRAINS SHALL BE CONNECTED DIRECTLY TO SUBSURFACE DRAINAGE SYSTEM, UNLESS OTHERWISE NOTED.
 2. ROOF DRAIN CONNECTION LEADS SHALL MATCH SUBSURFACE PIPE MATERIAL AND SHALL BE SIZED ACCORDINGLY (SEE MEP PLANS)
 3. PROVIDE ADEQUATE TRANSITION BOOTS/ELEMENTS AND MATERIALS FROM ROOF DRAINS TO LEADS. (SEE MEP & ARCH PLANS)



CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

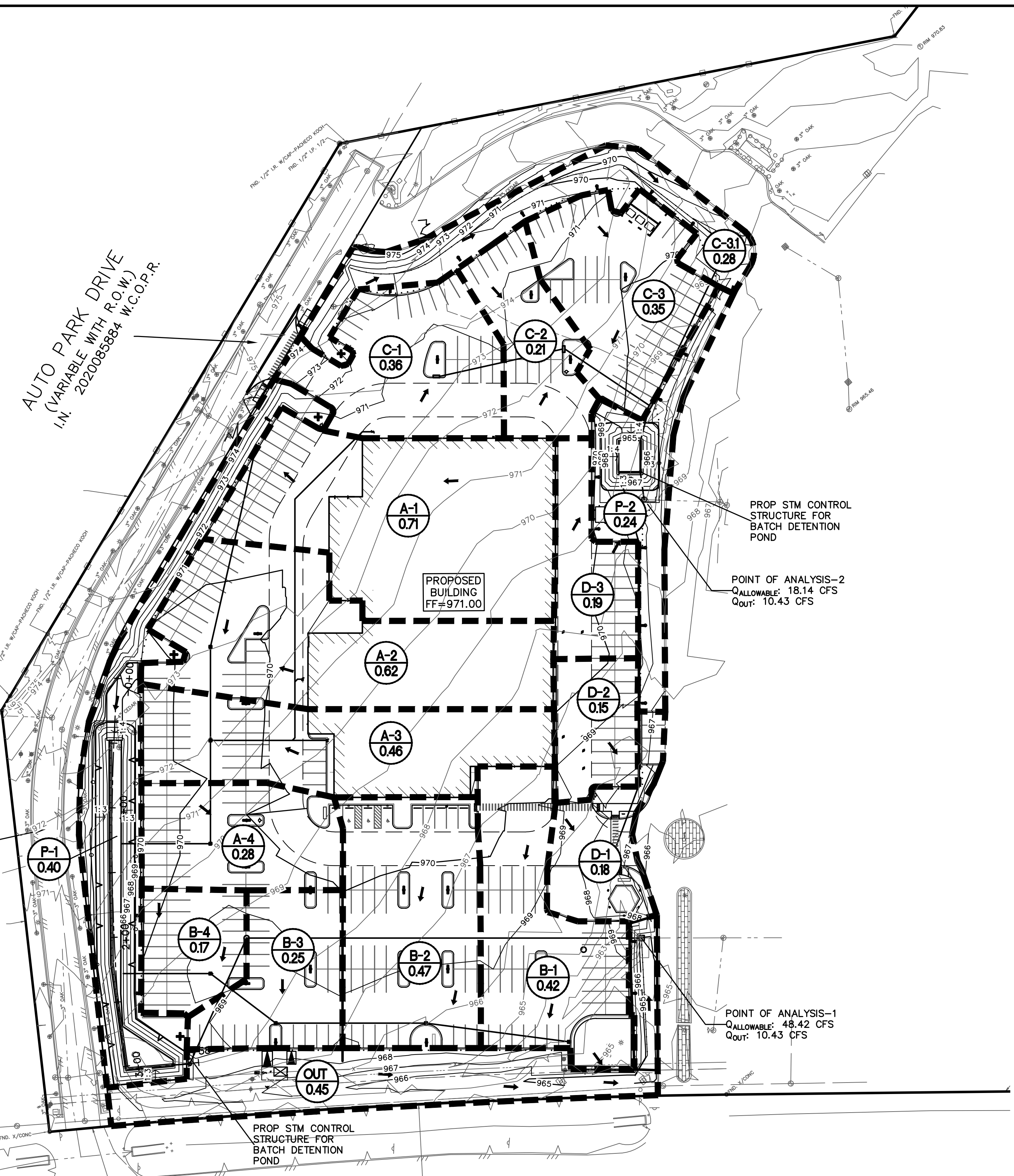
REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
DRAINAGE AREA MAP

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
11 OF 36



AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.

AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.

183-A TOLL ROAD
(VARIABLE WITH R.O.W.)
DOC. NO. 2004033731 O.P.R.W.C.T.

BENCHMARKS
ELEVATIONS DERIVED FROM TRIMBLE VRS NETWORK, GEOD 1B(CONUS) NAVD88

FND. DISK/MONUMENT STAMPED CTRMA 251
X: 3,080,213.77
Y: 10,187,315.90
ELEV. - 969.00'

SITE TBM
SET CUT "X" ON SW CORNER OF CONC. CURB INLET ON SOUTH SIDE OF AUTO PARK DRIVE LOCATED 600 FEET NORTHEAST OF THE INTERSECTION OF AUTO PARK DRIVE AND 183-A TOLL ROAD FEEDER ROAD.
ELEV. - 974.96'

FLOODPLAIN NOTE:
ACCORDING TO MAP No. 48491C0455F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) FOR WILLIAMSON COUNTY AND INCORPORATED AREAS DATED 12/20/2019, THE SUBJECT TRACT IS SITUATED WITHIN FLOOD HAZARD ZONE 'X', DESIGNATED AS AN AREA OF MINIMAL FLOOD HAZARD.

PLOT DATE: 8/2/2023 11:29 AM
PROJECT: 2022-1089-0002 - LEANDER HYUNDAI VARS CONSTRUCTION (C-31) DRAWING: DRAINAGE AREA MAP (C-31) 22-1089-0002



SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES – ATTACHMENT J

Date: April 14, 2023

Re: **Schedule of Interim and Permanent Soil Stabilization Practices for PAG LEANDER
H1, PHASE 2 (RN 110929809)**

This memo and the following landscape plan, details and specifications provide a schedule of interim and permanent soil stabilization practices for the project site located at 9550 183A Toll Road, Leander, Texas. 78641 (RN 110929809).

In addition to the landscape information, it shall be noted that bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

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

I George Raysik
Print Name
CFO - Western Region
Title - Owner/President/Other
of PAG WEST LLC
Corporation/Partnership/Entity Name
have authorized JONATHAN PUFFER, P.E.
Print Name of Agent/Engineer
of PEA GROUP
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

[Signature]
Applicant's Signature

6-5-23
Date

THE STATE OF AZ §

County of Maricopa §

BEFORE ME, the undersigned authority, on this day personally appeared George Rawsik known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 5 day of June, 2023.



[Signature]
NOTARY PUBLIC

MJ Howard
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9/30/25

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: PAG LEANDER H1

Regulated Entity Location: 9550 183A Toll Road, Leander, TX

Name of Customer: PAG WEST LLC

Contact Person: Geoff Burns

Phone: 760-521-6478

Customer Reference Number (if issued): CN 605738327

Regulated Entity Reference Number (if issued): RN 110929809

Austin Regional Office (3373)

Hays

Travis

Williamson

San Antonio Regional Office (3362)

Bexar

Medina

Uvalde

Comal

Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	15.84 Acres	\$ 6,500
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: 

Date: 4/21/2023

Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	Fee
Exception Request	\$500

Extension of Time Requests

<i>Project</i>	<i>Fee</i>
Extension of Time Request	\$150



TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input checked="" type="checkbox"/> Other MODIFICATION REQUEST
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 605738327		RN 110929809

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input type="checkbox"/> New Customer		<input checked="" type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>			
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)		<i>If new Customer, enter previous Customer below:</i>	
PAG WEST LLC			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0803212688	32069476300	13-3914611	
11. Type of Customer:	<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:			
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant			
15. Mailing Address:	7015 E Chauncey Lane		
City	Phoenix	State	AZ
ZIP	85054	ZIP + 4	6143
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	

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SECTION III: Regulated Entity Information

21. General Regulated Entity Information <i>(If 'New Regulated Entity' is selected, a new permit application is also required.)</i>								
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input checked="" type="checkbox"/> Update to Regulated Entity Information								
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>								
22. Regulated Entity Name <i>(Enter name of the site where the regulated action is taking place.)</i>								
PAG Leander H1								
23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>	9550 183A Toll Road							
	City	Leander	State	TX	ZIP	78641	ZIP + 4	5319
24. County	Williamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	0.1 MI NE OF HERO WAY AND US 183A TOLL ROAD							
26. Nearest City					State	Nearest ZIP Code		
Leander					TX	78641		
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>								
27. Latitude (N) In Decimal:		30.5895			28. Longitude (W) In Decimal:		-97.8390	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	35	22.2	-97	50	20.3994			
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)			
5511			441110					
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>								
Car Dealership								
34. Mailing Address:	9550 183A Toll Road							
	City	Leander	State	TX	ZIP	78641	ZIP + 4	5319
35. E-Mail Address:	GBURNS@PENSKEAUTOMOTIVE.COM							
36. Telephone Number			37. Extension or Code			38. Fax Number <i>(if applicable)</i>		
(760) 521-6478						() -		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.


<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
		#11001871		
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Jonathan Puffer			41. Title:	Professional Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(713) 688-3530		() -	jpuffer@peagroup.com		

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	PEA GROUP		Job Title:	Professional Engineer	
Name (In Print):	Jonathan Puffer			Phone:	(713) 688- 3530
Signature:				Date:	5/16/2023

SITE DEVELOPMENT PLANS

PAG LEANDER H1, PHASE 2 B

9550 183A TOLL ROAD
 LEANDER, WILLIAMSON, TEXAS 78641
 PUD: 18-TOD-Z-011
 PERMIT: SD-23-0093

LAND USE SUMMARY:

LEGAL DESCRIPTION: S12374 - PAG LEANDER H1 PH2, BLOCK B, LOT 1

CURRENT ZONING: PAG LEANDER H1 PUD-GC

PROPOSED USE: NEW AUTOMOTIVE DEALERSHIP

TOTAL ACREAGE: 6.190 OF 16.2169 ACRES (HYUNDAI DEALERSHIP)

IMPERVIOUS COVER: 206,492 SQUARE FEET (4.74 ACRES)

BUILDING IMPERVIOUS COVER: 45,957 SQUARE FEET (1.055 ACRES)

FUTURE LAND USE CATEGORY: EMPLOYMENT CENTER

PRESSURE PLANE: LEANDER WATER CCN

FLOODPLAIN NOTE:

ACCORDING TO MAP No. 48491C0455F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) FOR HARRIS COUNTY AND INCORPORATED AREAS DATED 12/20/2019, THE SUBJECT TRACT IS SITUATED WITHIN FLOOD HAZARD UNSHADED ZONE 'X', DESIGNATED AS AN AREA OF MINIMAL FLOOD HAZARD.

WATERSHED:

THIS SITE IS LOCATED IN THE BRUSHY CREEK WATERSHED. THIS SITE IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE AS DEFINED BY TCEQ.

RESPONSIBILITIES AND ADEQUACY NOTE:

THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE, AND ADEQUACY OF THESE PLANS AND/OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).

GOVERNANCE AND MAINTENANCE OF FACILITIES:

ALL BUILDINGS, PARKING LOTS, DRIVES, SIDEWALKS, AND SITE UTILITIES (i.e. WATER SUPPLY, STORM DRAINAGE, SEWAGE, ELECTRIC POWER, GAS, AND COMMUNICATIONS) WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER EXCEPT FOR UTILITIES LOCATED WITHIN A UTILITY EASEMENT.

PROJECTS ASSOCIATED WITH THIS DEVELOPMENT:

- PAG LEANDER H1 SITE DEVELOPMENT PLANS (PROJECT #19-TOD-SD-027)
- PAG LEANDER H1 PUBLIC IMPROVEMENT CONSTRUCTION PLANS (PROJECT #19-TOD-PICP-033)
- PAG LEANDER H1, PHASE 1 FINAL PLAT (DOCUMENT #2020085884)
- 18-TOD-Z-011 PAG LEANDER PUD (ORDINANCE # 18-082-00)



16060 DILLARD DRIVE, SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
 #F-21237 & #10194679

INDEX OF DRAWINGS	
NUMBER	TITLE
1	COVER SHEET
2	PEA STANDARD & TCEQ NOTES
3	CITY OF LEANDER NOTES 1 OF 2
4	CITY OF LEANDER NOTES 2 OF 2
5	FINAL PLAT 1 OF 2
6	FINAL PLAT 2 OF 2
7	EXISTING CONDITIONS & DEMOLITION PLAN
8	EROSION & SEDIMENT CONTROL PLAN
9	EROSION & SEDIMENT CONTROL PLAN DETAILS
10	GRADING PLAN
11	DRAINAGE AREA MAP
12	DRAINAGE CALCULATIONS
13	STORM SEWER PLAN
14	STORM SEWER PROFILES 1 OF 2
15	STORM SEWER PROFILES 2 OF 2
16	POND PROFILES
17	BATCH DETENTION POND DETAILS
18	SITE & PAVING PLAN
19	ROAD & SIDEWALK CLOSURE PLAN
20	UTILITY PLAN
21	STANDARD DETAILS 1 OF 8
22	STANDARD DETAILS 2 OF 8
23	STANDARD DETAILS 3 OF 8
24	STANDARD DETAILS 4 OF 8
25	STANDARD DETAILS 5 OF 8
26	STANDARD DETAILS 6 OF 8
27	STANDARD DETAILS 7 OF 8
28	STANDARD DETAILS 8 OF 8
29	LANDSCAPE PLAN 1 OF 3
30	LANDSCAPE PLAN 2 OF 3
31	LANDSCAPE PLAN 3 OF 3
32	LANDSCAPE DETAILS 1 OF 2
33	LANDSCAPE DETAILS 2 OF 2
34	STREETSCAPE PLAN
35	LANDSCAPE SPECIFICATIONS 1 OF 2
36	LANDSCAPE SPECIFICATIONS 2 OF 2

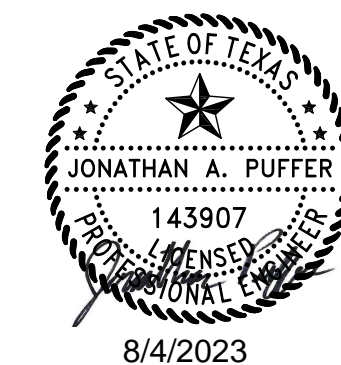


THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

DESIGN TEAM

OWNER/APPLICANT/DEVELOPER	CIVIL ENGINEER
PAG WEST, LLC 183A TOLL ROAD NORTH LEANDER, TEXAS 78641 CONTACT: GEOFF BURNS PHONE: 760.737.3299	PEA GROUP 16060 DILLARD DR., SUITE 250 HOUSTON, TEXAS 77040 CONTACT: JONATHAN A. PUFFER, PE PHONE: 832.615.0330
ARCHITECT	LANDSCAPE ARCHITECT
GOREE ARCHITECTURE 5151 SAN FELIPE ST., SUITE 1700 HOUSTON, TX 77056 CONTACT: GERARDO RAMOS PHONE: 832.460.6262	PEA GROUP 16060 DILLARD DR., SUITE 250 HOUSTON, TEXAS 77040 CONTACT: ELIZABETH "VIOLET" MAK PHONE: 832.615.0304

REVISIONS #	DESCRIPTION	APPROVAL

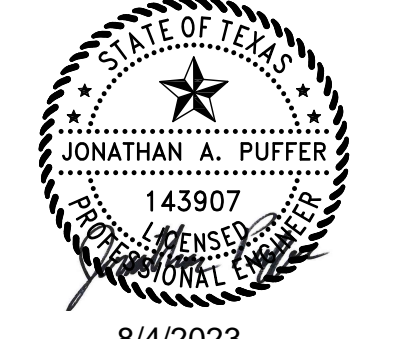


CITY OF LEANDER DEVELOPMENT PERMIT #SD-23-0093
 FILING DATE: 5/16/23

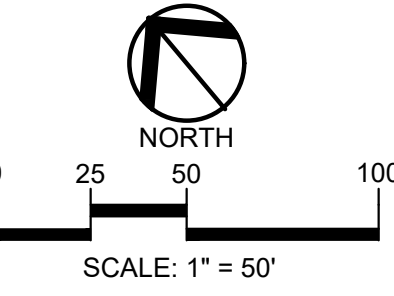
APPROVED BY:

ROBIN M. GRIFFIN, AICP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICE	DATE
EMILY TRUMAN, P.E., CFM, CITY ENGINEER	DATE
MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION	DATE
CHIEF JOSHUA DAVIS, FIRE MARSHAL	DATE





8/4/2023



CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

NO.	REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
EXISTING CONDITIONS & DEMOLITION PLAN

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
7 OF 36

DEMOLITION NOTES

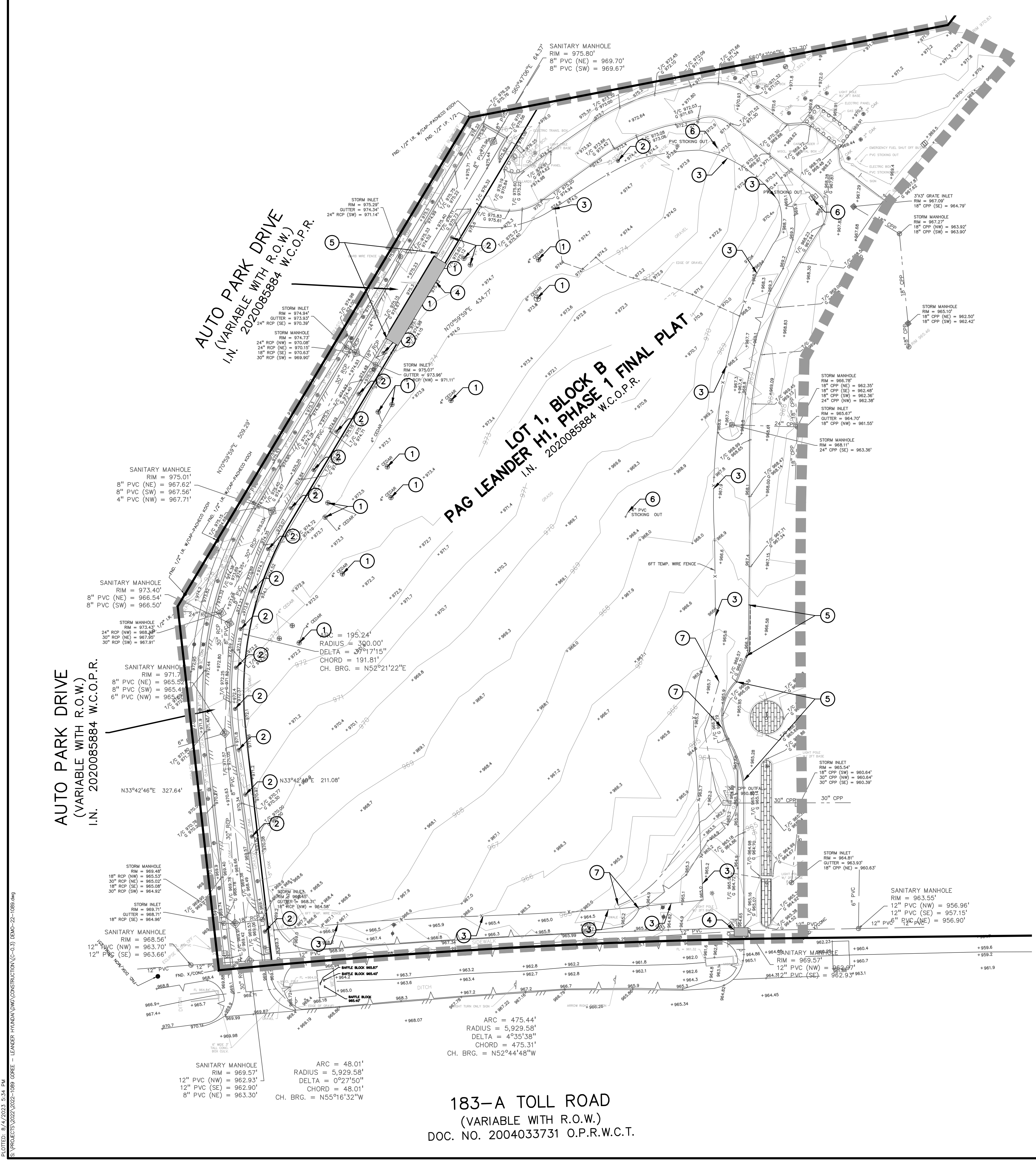
- PROTECTION OF EXISTING FACILITIES
 - PROTECT EXISTING UTILITIES AND IMPROVEMENTS NOT DESIGNATED FOR REMOVAL AND RESTORE DAMAGED OR TEMPORARILY RELOCATED UTILITIES AND IMPROVEMENTS.
 - VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES SHOWN AND MAKE EXPLORATORY EXCAVATIONS OF UTILITIES THAT MAY INTERFERE WITH THE WORK.
 - PERFORM EXPLORATORY EXCAVATIONS AS SOON AS PRACTICABLE AFTER AWARD OF CONTRACT AND A SUFFICIENT TIME IN ADVANCE OF CONSTRUCTION TO AVOID DELAYS TO THE WORK.
 - WHEN EXPLORATORY EXCAVATIONS SHOW UTILITY LOCATION AS SHOWN TO BE IN ERROR, NOTIFY ENGINEER.
 - PERFORM EXPLORATORY EXCAVATIONS REQUIRED TO SUFFICIENTLY DETERMINE ALIGNMENT AND GRADE OF EXISTING UTILITIES.
 - DO NOT ENTER OR OCCUPY WITH MEN, EQUIPMENT, OR MATERIALS, ANY LANDS OUTSIDE THE REFERENCED SITE.
 - TAKE ALL NECESSARY PRECAUTIONS TO PRESERVE PRIVATE AND PUBLIC PROPERTY IN THE IMMEDIATE AREA OF WORK SITES.
 - ASSUME TOTAL LIABILITY FOR DAMAGE TO PRIVATE AND/OR PUBLIC PROPERTY DURING THE PROSECUTION OF THE WORK.
- PROTECTION OF SURVEY MARKERS
 - DO NOT DESTROY, REMOVE, OR OTHERWISE DISTURB EXISTING SURVEY MARKERS OR OTHER EXISTING STREET OR ROADWAY MARKERS WITHOUT PROPER AUTHORIZATION.
 - NO WORK SHALL BE STARTED UNTIL ALL SURVEY OR OTHER PERMANENT MARKER POINTS THAT WILL BE DISTURBED BY THE CONSTRUCTION OPERATIONS HAVE BEEN PROPERLY REFERENCED FOR EASY AND ACCURATE RESTORATION.
 - ACCURATELY RESTORE SURVEY MARKERS OR POINTS DISTURBED BY CONTRACTOR AT CONTRACTOR'S EXPENSE AFTER WORK HAS BEEN COMPLETED.
- PAVEMENT
 - PAVEMENTS SUBJECT TO PARTIAL REMOVAL SHALL BE NEATLY SAW CUT IN STRAIGHT LINES UNLESS OTHERWISE NOTED.
- DEMOLITION
 - DEMOLITION SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF DESIGNATED STRUCTURES WITHIN THE LIMITS OF DEMOLITION SHOWN ON THE DRAWINGS, AND SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING WORK:
 - REMOVAL OF ALL STRUCTURES AND FOUNDATIONS TO A MINIMUM OF TWO (2) FEET BELOW FUTURE FINISHED GRADE, AND REMOVAL OF ALL ASSOCIATED PIPING, WIRING, DUCTWORK, AND EQUIPMENT.
 - BREAK-UP AND REMOVAL OF SLABS-ON-GRADE. SLABS SHALL BE COMPLETELY REMOVED.
 - FILLING OF ALL SUBGRADE CAVITIES WITH ON-SITE SOIL COMPACTED TO 95 PERCENT DENSITY (ASTM D698), OR AS INSTRUCTED BY THE GEOTECH ENGINEER, WHICHEVER IS MORE STRINGENT.
 - PROVISIONS FOR TEMPORARY BRACING AND SHORING AS REQUIRED UNTIL DEMOLITION AND BACKFILLING WORK IS COMPLETE.
 - UNIFORM GRADING OF DEMOLITION AREA TO MATCH EXISTING GRADE OF PERIMETER, ROUGH GRADE AND COMPACT AREAS AFFECTED BY DEMOLITION TO MAINTAIN SITE GRADES AND CONTOURS. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AWAY FROM FACILITIES TO REMAIN IN OPERATION DURING DEMOLITION PHASING.
 - RESTORATION OF SIDEWALKS, BITUMINOUS AND CONCRETE PAVEMENTS, AND ANY OTHER IMPROVEMENTS OR PROPERTY DAMAGED BY DEMOLITION OPERATIONS.
 - CLEANING OF ADJACENT STRUCTURES, IMPROVEMENTS, STREETS, SIDEWALKS, AND PROPERTY OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS.
 - DEMOLITION SHALL BE BY CONVENTIONAL DEMOLITION METHODS USING HEAVY TO LIGHT MECHANICAL MEANS AS HAND DEMOLITION METHODS. USE OF EXPLOSIVES SHALL NOT BE PERMITTED. BURNING AND BURIAL OF MATERIAL ON SITE SHALL NOT BE PERMITTED.
 - THE CONTRACTOR SHALL LIMIT DUST AND DIRT CAUSED BY DEMOLITION OPERATIONS SO AS TO COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
 - DEMOLITION OPERATIONS SHALL NOT INTERRUPT EXISTING UTILITIES SERVING NEIGHBORING PROPERTIES AND/OR BUILDING TO REMAIN OPERATIONAL DURING PHASES OF DEMOLITION, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS DIRECTED BY GOVERNING AUTHORITIES.
 - CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT STRUCTURES.
 - CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER. NOTIFY OWNER. DO NOT RESUME OPERATIONS UNTIL DIRECTED BY OWNER.
 - CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESS AND COMMERCIAL USES. MAINTAIN PROTECTED EGRESS AND ACCESS AT ALL TIMES.
- DEMOLITION REQUIREMENTS
 - REMOVE FOUNDATION WALLS AND FOOTINGS TO A MINIMUM OF TWO FEET BELOW FINISHED GRADE BEYOND AREA OF NEW CONSTRUCTION.
 - REMOVE CONCRETE SLABS ON GRADE.
 - BACKFILL OPEN PITS AND HOLES CAUSED AS A RESULT OF DEMOLITION PER GEOTECH REPORT.
 - ROUGH GRADE AND COMPACT AREAS AFFECTED BY DEMOLITION TO MAINTAIN SITE GRADES AND CONTOURS.
 - REMOVE DEMOLISHED MATERIALS FROM SITE.
 - DO NOT BURN OR BURY MATERIALS ON SITE. LEAVE SITE IN CLEAN CONDITION.
 - CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING DEMOLITION PHASING.
- REGULATORY REQUIREMENTS
 - CONFORM TO APPLICABLE CODE FOR DEMOLITION OF STRUCTURES, SAFETY OF ADJACENT STRUCTURES, DUST CONTROL, RUNOFF CONTROL, AND DISPOSAL.
 - RETAIN REGULAR PERMITS FROM AUTHORITIES.
 - NOTIFY AFFECTED UTILITY COMPANIES BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS.
 - DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, OR HYDRANTS WITHOUT PERMITS.
- PREPARATION
 - PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES PRIOR TO WORK.
 - PROTECT EXISTING APPURTENANCES AND STRUCTURES WHICH ARE NOT TO BE DEMOLISHED.
 - PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES. PROVIDE BRACING AND SHORING.
 - MARK LOCATION OF UTILITIES.
- PROTECTION OF EXISTING UTILITIES AND IMPROVEMENTS
 - PROTECT OVERHEAD AND UNDERGROUND UTILITIES AND OTHER IMPROVEMENTS WHICH MAY BE IMPAIRED DURING CONSTRUCTION OPERATIONS.
 - DETERMINE ACTUAL LOCATION OF EXISTING UTILITIES AND OTHER IMPROVEMENTS THAT WILL BE ENCOUNTED DURING CONSTRUCTION OPERATIONS.
 - ADEQUATELY PROTECT UTILITIES AND OTHER IMPROVEMENTS FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS.
 - TAKE ALL POSSIBLE PRECAUTIONS FOR PROTECTING UNFORESEEN UTILITY LINES TO PROVIDE FOR UNINTERRUPTED SERVICE AND TO PROVIDE NECESSARY SPECIAL PROTECTION.
 - OWNER'S RIGHT OF ACCESS: OWNER AND OWNERS OF PUBLIC UTILITIES RESERVE THE RIGHT TO ENTER AT ANY TIME UPON ANY PUBLIC STREET, ALLEY, RIGHT-OF-WAY, OR EASEMENT FOR THE PURPOSE OF MAKING CHANGES IN THEIR PROPERTY.
 - UNDERGROUND UTILITIES INDICATED:
 - EXISTING UTILITY LINES TO BE RETAINED, THAT ARE INDICATED OR LOCATIONS OF WHICH ARE MADE KNOWN TO CONTRACTOR PRIOR TO EXCAVATION, AND UTILITY LINES CONSTRUCTED DURING EXCAVATION OPERATIONS SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND BACKFILLING.
 - IF DAMAGED, CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE.
 - UNDERGROUND UTILITIES NOT INDICATED: IF CONTRACTOR DAMAGES EXISTING UTILITY LINES THAT ARE NOT INDICATED OR THE LOCATIONS OF WHICH ARE NOT MADE KNOWN TO CONTRACTOR PRIOR TO EXCAVATION, IMMEDIATELY MAKE A WRITTEN REPORT TO ENGINEER.
 - APPROVAL OF REPAIRS: REPAIRS TO A DAMAGED UTILITY OR IMPROVEMENT SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AN AUTHORIZED REPRESENTATIVE OF THE UTILITY OR IMPROVEMENT OWNER BEFORE BEING CONCEALED BY BACKFILL OR OTHER WORK.
 - MAINTAINING IN SERVICE:
 - DURING CONSTRUCTION, CONTINUOUSLY MAINTAIN OIL AND GASOLINE PIPELINES; POWER, TELEPHONE, AND COMMUNICATION CABLE DUCTS; GAS AND WATER MAINS; IRRIGATION LINES; SEWER LINES; STORM DRAIN LINES; POLES, OVERHEAD POWER, AND COMMUNICATION WIRES AND CABLE ENCOUNTERED ALONG THE LINE OF THE WORK IN SERVICE UNLESS OTHER ARRANGEMENTS APPROVED BY ENGINEER ARE MADE WITH THE OWNERS OF THE FACILITIES.
 - BE RESPONSIBLE FOR AND REPAIR DAMAGE DUE TO CONSTRUCTION OPERATIONS, EVEN IF DAMAGE OCCURS AFTER BACKFILLING OR IS NOT DISCOVERED UNTIL AFTER COMPLETION OF BACKFILLING.
- NOTIFICATION BY CONTRACTOR
 - PRIOR TO EXCAVATION IN VICINITY OF EXISTING UNDERGROUND FACILITIES (INCLUDING WATER, SEWER, STORM DRAIN, GAS, PETROLEUM PRODUCTS, OR OTHER PIPELINES; BURIED ELECTRIC POWER, COMMUNICATIONS, OR TELEVISION CABLES; TRAFFIC SIGNAL AND STREET LIGHTING FACILITIES; AND ROADWAY AND STATE HIGHWAY RIGHTS-OF-WAY) NOTIFY THE RESPECTIVE AUTHORITIES REPRESENTING THE OWNERS OR AGENCIES RESPONSIBLE FOR THE FACILITIES NOT LESS THAN 3 DAYS NOR MORE THAN 7 DAYS PRIOR TO EXCAVATION SO THAT A REPRESENTATIVE OF OWNERS OR AGENCIES CAN BE PRESENT DURING SUCH WORK IF THEY SO DESIRE.
 - NOTIFY THE UNDERGROUND SERVICE ALERT UTILITY COORDINATION COMMITTEE AT AT LEAST 2 DAYS, BUT NO MORE THAN 14 DAYS, PRIOR TO EXCAVATION.
 - CONTRACTOR SHALL PROVIDE SEEDING FOR ALL PAVEMENT REMOVAL WITHIN RIGHT OF WAY.

KEY NOTES:

- REMOVE TREES (13 TREES)
- PROTECT TREES (18 TREES)
- FENCE TO BE REMOVED
- PORTION OF SIDEWALK TO BE REMOVED
- CURB TO BE REMOVED
- 4" PVC PIPE TO BE REMOVED
- SWALE/DITCH TO BE REMOVED

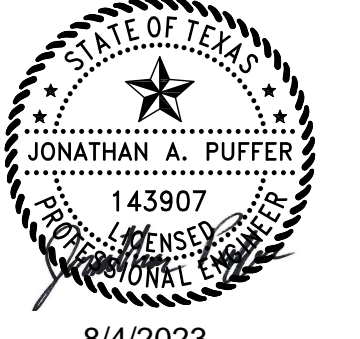
LEGEND

LIMITS OF DEMOLITION	▬▬▬▬▬▬
ROW LINE	▬▬▬▬▬▬
PROPERTY LINE	▬▬▬▬▬▬
LOT LINES	▬▬▬▬▬▬
EASEMENT LINE	▬▬▬▬▬▬
AERIAL POWER LINE, POLE & GUY	— P —
CENTER LINE OF ROW	▬▬▬▬▬▬
TOP OF BANK	▬▬▬▬▬▬
CENTER LINE DITCH	▬▬▬▬▬▬
FENCE, WOOD	▬▬▬▬▬▬
FENCE, CHAIN LINK	▬▬▬▬▬▬
FENCE, BARBED WIRE	▬▬▬▬▬▬
CURB LINE	▬▬▬▬▬▬
EDGE OF ASPHALT	▬▬▬▬▬▬
EDGE OF GRAVEL	▬▬▬▬▬▬
CONTOUR LINE	▬▬▬▬▬▬
GAS LINE	▬▬▬▬▬▬
CABLE TV - UG	▬▬▬▬▬▬
GAS METER	●
GAS VALVE	●
AT&T CONDUIT	●
WATER METER	●
WATER VALVE	●
FIRE HYDRANT/FLUSHING VALVE	●
TAPPING SLEEVE & VALVE	●
SAN SEWER CLEANOUT & MANHOLE	●
WATER LINE	▬▬▬▬▬▬
SANITARY SEWER LINE	▬▬▬▬▬▬
STORM SEWER LINE	▬▬▬▬▬▬
STORM SEWER MANHOLE	●
STORM SEWER INLETS	▬▬▬▬▬▬
CULVERT PIPE	▬▬▬▬▬▬
IRRIGATION VONTROL VALVE	□
LIGHT POLE	⊛
STREET/TRAFFIC SIGN	▬▬▬▬▬▬
FIRE DEPARTMENT CONNECTION	▬▬▬▬▬▬
ELECTRIC METER/BOX	▬▬▬▬▬▬

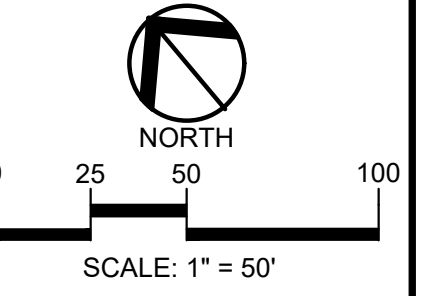


183-A TOLL ROAD
(VARIABLE WITH R.O.W.)
DOC. NO. 2004033731 O.P.R.W.C.T.

PLOTTED: 8/2/2023 5:34 PM
PROJECT: 2022-1089 PENSE - LEANDER HYUNDAI CONSTRUCTION (C-03) (REV: 02) (1089.DWG)



8/4/2023



CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

- GENERAL NOTES:**
1. THE CITY OF LEANER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENT CONTROLS ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
 2. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY VEGETATION, MULCH, TAPR, OR REVEGETATIVE MATTING. (ECM, 1.4.4.B.3, SECTION 5, 1).
 3. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5 (A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
 4. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. (ECM 1.4.4.D.4).
 5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED OR RESTORED TO ORIGINAL CONDITION.
 6. AN EROSION/SEDIMENT CONTROL INSPECTION IS REQUIRED PRIOR TO SCHEDULING A PRECONSTRUCTION MEETING WITH THE CITY.
 7. THERE ARE NO TREES WITH A DIAMETER OF 8 INCHES OR MORE LOCATED WITHIN OR IMMEDIATELY ADJACENT TO THE LIMITS OF CONSTRUCTION.
 8. ALL ROCK BERMS SHALL BE REMOVED BY THE CONTRACTOR.
 9. PROVIDE STAGE I INLETS PROTECTION BARRIERS FOR EXISTING INLETS & UNPAVED, NEWLY INSTALLED INLETS DURING CONSTRUCTION PROVIDE STAGE II INLET PROTECTION BARRIERS FOR INLETS IN PAVEMENT.

LEGEND

LIMITS OF CONSTRUCTION	
REINFORCED SILT FENCE	
INLET PROTECTION BARRIER STAGE I AND/OR II (REFER TO DETAILS ON SHT 9)	
STABILIZED CONSTRUCTION ACCESS	
CONCRETE TRUCK WASH OUT	
ROCK BERM	
EXISTING BAFFLE BLOCK	
EXISTING BRICK PAVERS	
PROPERTY LINE	
FENCE, TREE PROTECTION	
STORM SEWER MANHOLE	
STORM SEWER INLETS	
CULVERT PIPE	

BENCHMARKS
ELEVATIONS DERIVED FROM TRIMBLE VRS NETWORK, GEOD 18(CONUS) NAVD88

FND. DISK/MONUMENT STAMPED CTRMA 251
X: 3,080,213.77
Y: 10,187,315.90
ELEV. - 969.00'

SITE TBM
SET CUT "X" ON SW CORNER OF CONC. CURB INLET ON SOUTH SIDE OF AUTO PARK DRIVE LOCATED 600 FEET NORTHEAST OF THE INTERSECTION OF AUTO PARK DRIVE AND 183-A TOLL ROAD FEEDER ROAD.
ELEV. - 974.96'

FLOODPLAIN NOTE:
ACCORDING TO MAP No. 48491C0455F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) FOR WILLIAMSON COUNTY AND INCORPORATED AREAS DATED 12/20/2019, THE SUBJECT TRACT IS SITUATED WITHIN FLOOD HAZARD ZONE 'X', DESIGNATED AS AN AREA OF MINIMAL FLOOD HAZARD.

183-A TOLL ROAD
(VARIABLE WITH R.O.W.)
DOC. NO. 2004033731 O.P.R.W.C.T.

AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.

AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.

PROPOSED WATER QUALITY & BATCH DETENTION POND
(SEE DETAIL ON SHT 6.3)

PROPOSED WATER QUALITY & BATCH DETENTION POND
(SEE DETAIL ON SHT 6.3)

PROPOSED BUILDING
FF=971.00

STAGING & STORAGE AREA

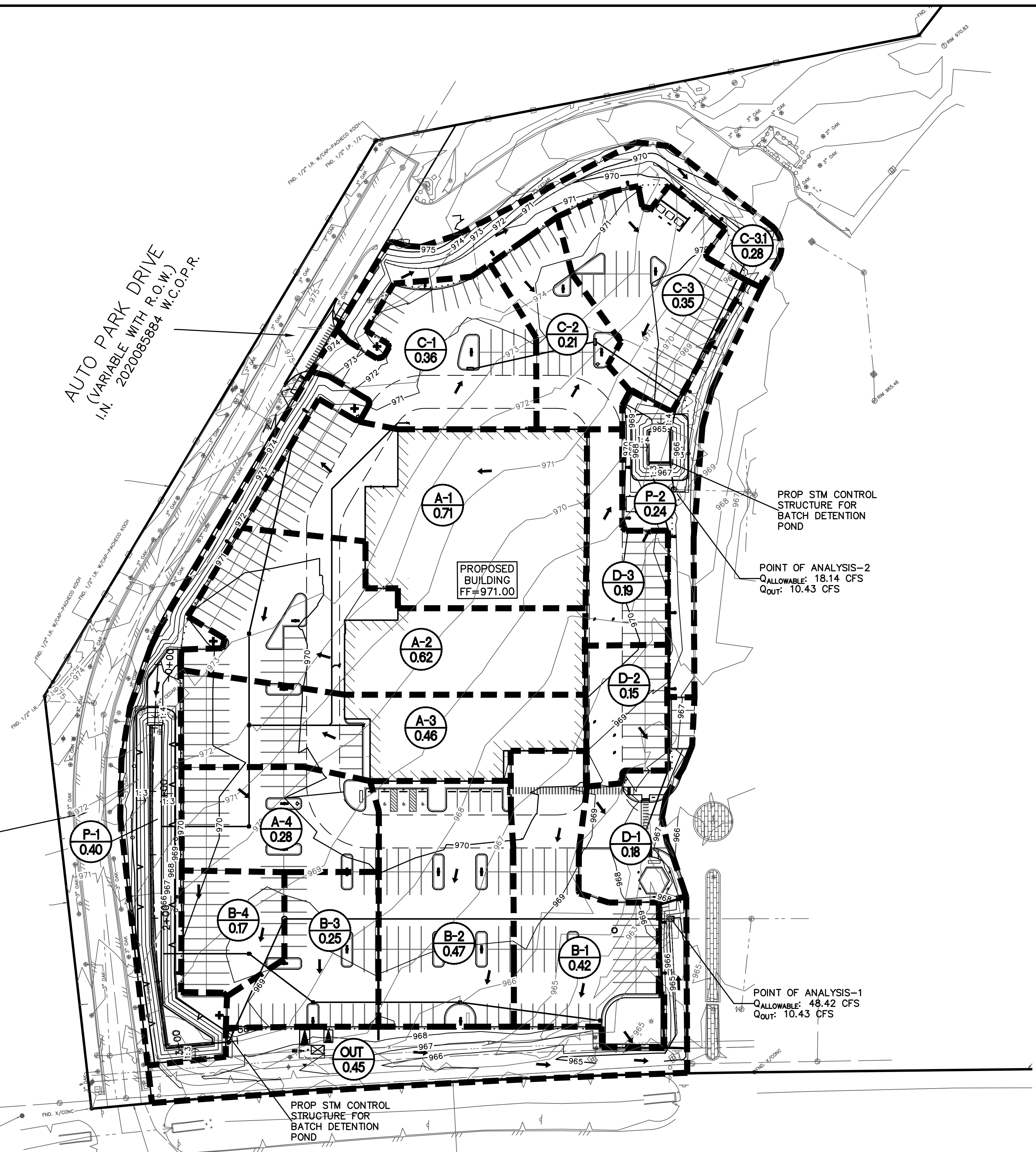
TEMPORARY SPOILS AREA

PLOTTED: 8/14/2023 5:34 PM
 PROJECT: 2022-1089 EROSION - LEANER HYUNDAI VANS CONSTRUCTION (C-03)RFP-22-1089.dwg

PEA JOB NO.	2022-1089
P.M.	JP
DN.	AC
DES.	AC
DRAWING NUMBER:	
8	OF 36

AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.

AUTO PARK DRIVE
(VARIABLE WITH R.O.W.)
I.N. 2020085884 W.C.O.P.R.



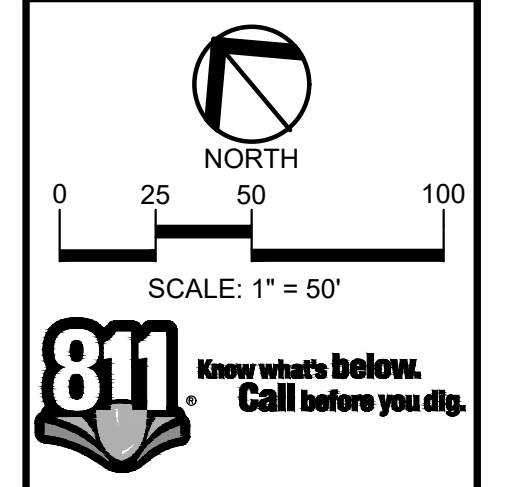
- NOTES:**
1. FIELD VERIFY INVERT ELEVATIONS OF EXISTING STORM SEWER STRUCTURES. NOTIFY ENGINEER IMMEDIATELY IF THERE ARE ANY DISCREPANCIES.
 2. IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN THE SUBSURFACE DETENTION FACILITY.
 3. REFER TO CITY OF LEANDER STANDARD DETAIL SHEETS FOR ALL STORM SEWER STRUCTURES AND DETAILS.
 4. MAINTAIN MINIMUM 6-INCH VERTICAL CLEARANCE BETWEEN WATER LINE AND STORM SEWER.

- ROOF DRAIN NOTES:**
1. ALL ROOF DRAINS SHALL BE CONNECTED DIRECTLY TO SUBSURFACE DRAINAGE SYSTEM, UNLESS OTHERWISE NOTED.
 2. ROOF DRAIN CONNECTION LEADS SHALL MATCH SUBSURFACE PIPE MATERIAL AND SHALL BE SIZED ACCORDINGLY (SEE MEP PLANS)
 3. PROVIDE ADEQUATE TRANSITION BOOTS/ELEMENTS AND MATERIALS FROM ROOF DRAINS TO LEADS. (SEE MEP & ARCH PLANS)

PEA GROUP
16060 DILLARD DR. SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 & #10194679

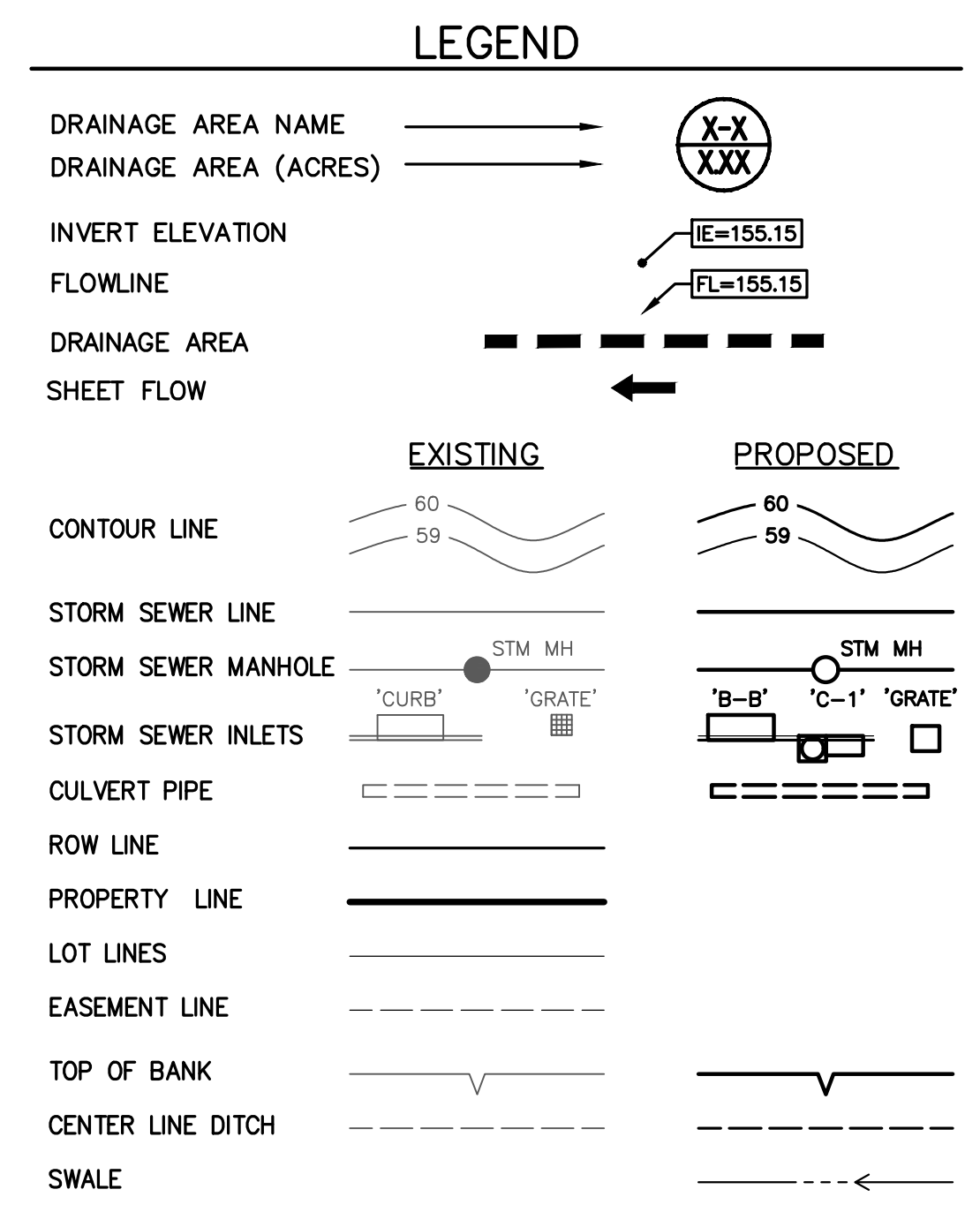
STATE OF TEXAS
JONATHAN A. PUFFER
143907
LICENSED PROFESSIONAL ENGINEER

8/4/2023



811 Know what's below. Call before you dig.

CAUTION!!
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BENCHMARKS
ELEVATIONS DERIVED FROM TRIMBLE VRS NETWORK, GEOD 1B(CONUS) NAVD88

FND. DISK/MONUMENT STAMPED CTRMA 251
X: 3,080,213.77
Y: 10,187,315.90
ELEV. = 969.00'

SITE TBM
SET CUT "X" ON SW CORNER OF CONC. CURB INLET ON SOUTH SIDE OF AUTO PARK DRIVE LOCATED 600 FEET NORTHEAST OF THE INTERSECTION OF AUTO PARK DRIVE AND 183-A TOLL ROAD FEEDER ROAD.
ELEV. = 974.96'

FLOODPLAIN NOTE:
ACCORDING TO MAP No. 48491C0455F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) FOR WILLIAMSON COUNTY AND INCORPORATED AREAS DATED 12/20/2019, THE SUBJECT TRACT IS SITUATED WITHIN FLOOD HAZARD ZONE 'X', DESIGNATED AS AN AREA OF MINIMAL FLOOD HAZARD.

183-A TOLL ROAD
(VARIABLE WITH R.O.W.)
DOC. NO. 2004033731 O.P.R.W.C.T.

CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

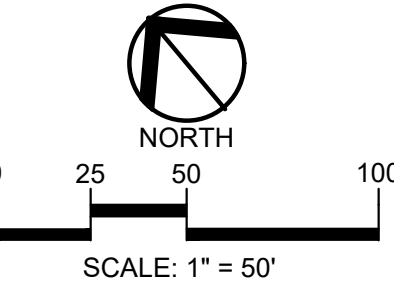
ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
DRAINAGE AREA MAP

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
11 OF 36

PLOT DATE: 8/2/2023 11:29 AM
PROJECT: 2022-1089-0002 - LEANDER HYUNDAI VARS CONSTRUCTION (C-31) DRAWN: JEN-CALUS-22-1089.dwg



CAUTION!!
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CLIENT
PENSKE AUTOMOTIVE GROUP
 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

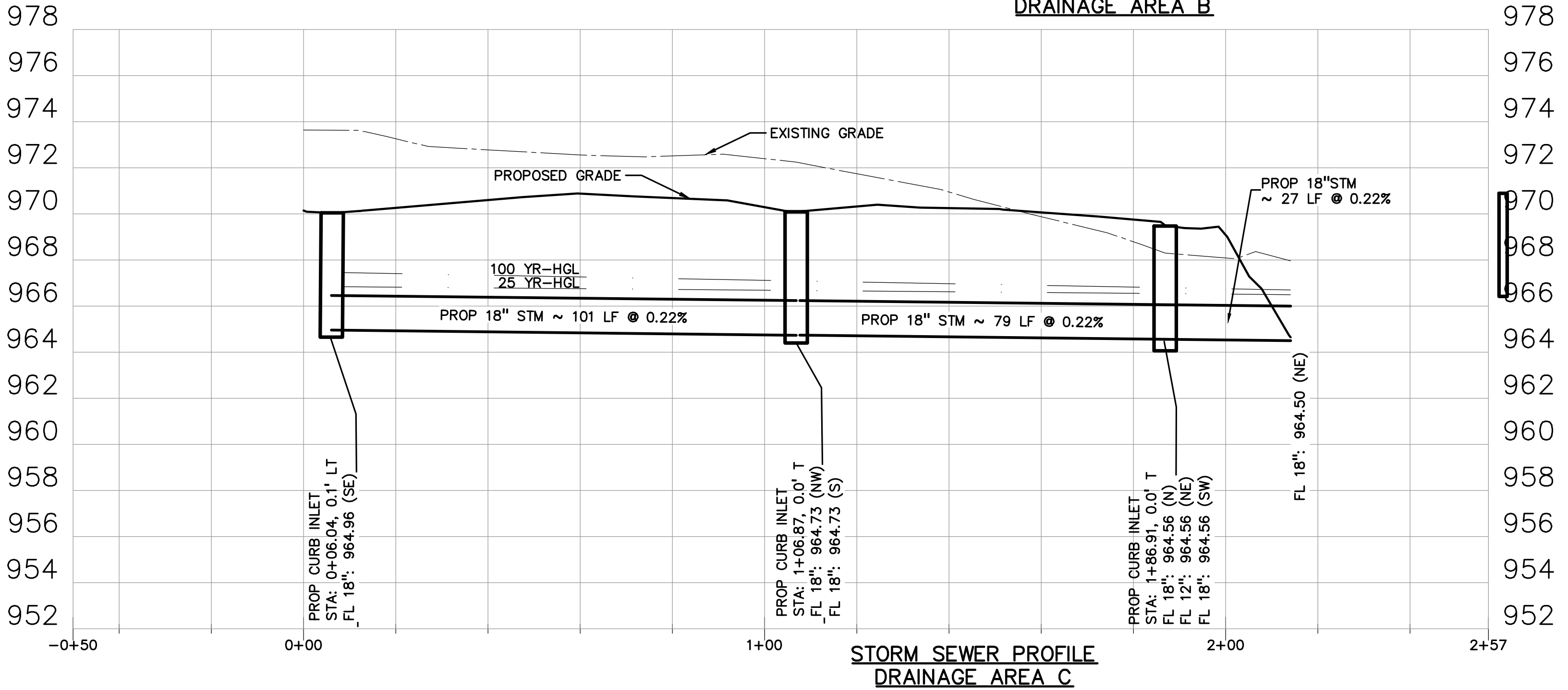
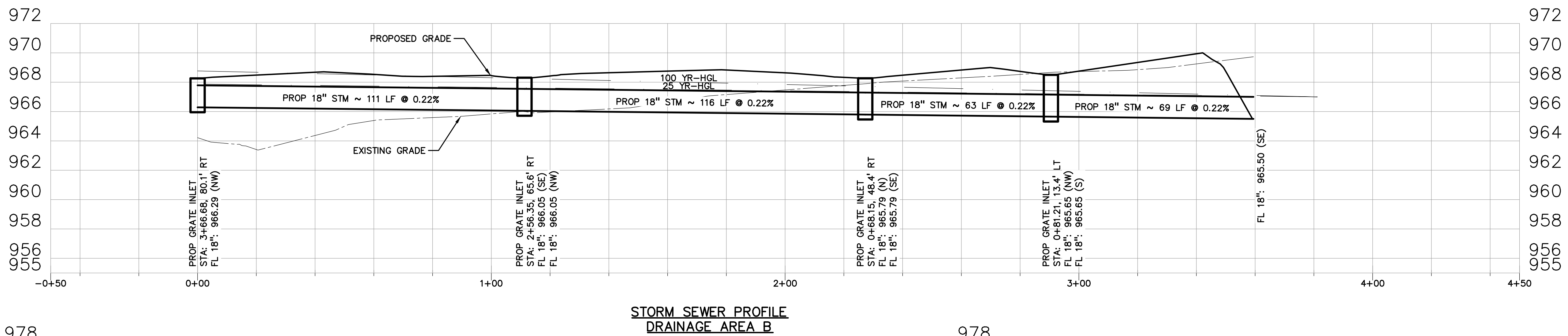
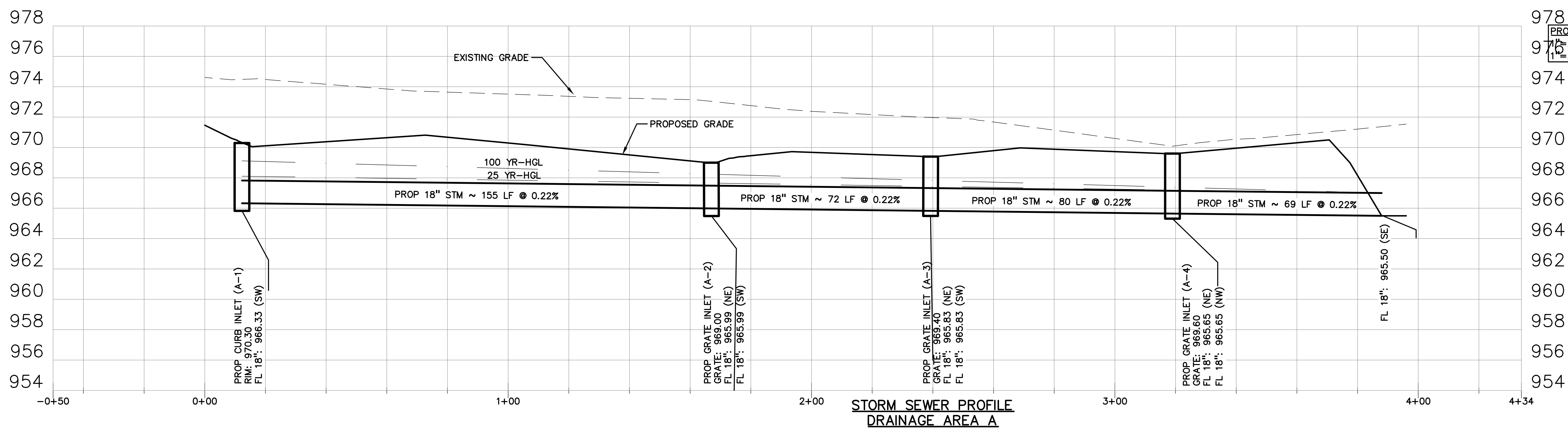
NO.	REVISIONS

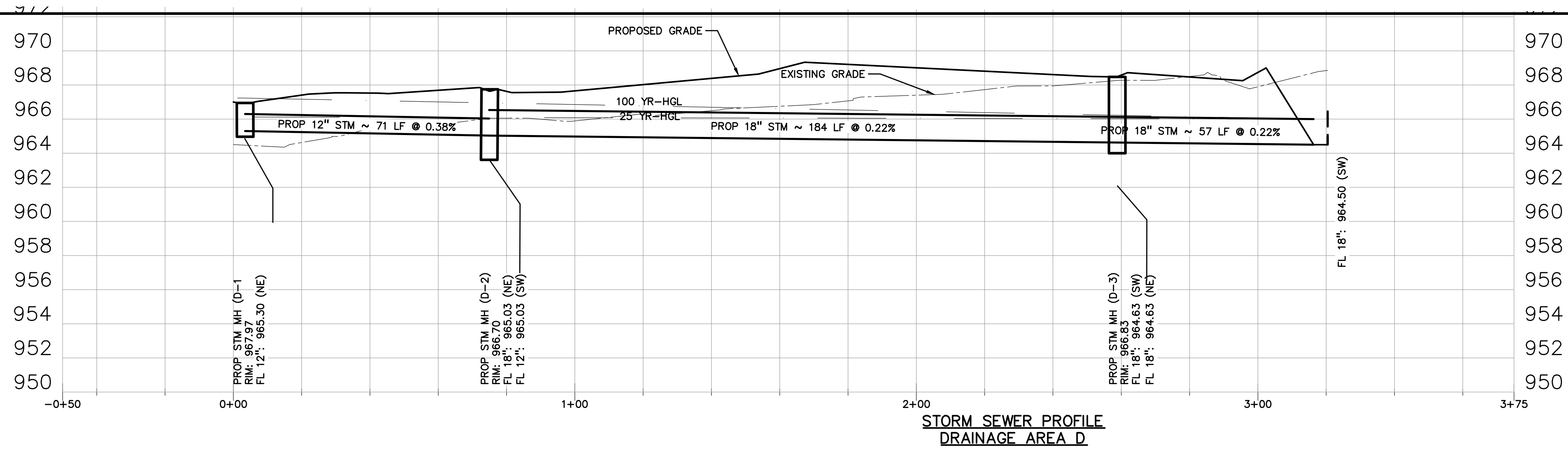
ORIGINAL ISSUE DATE:
 FEBRUARY 15, 2023

DRAWING TITLE
STORM SEWER PROFILES 1 OF 2

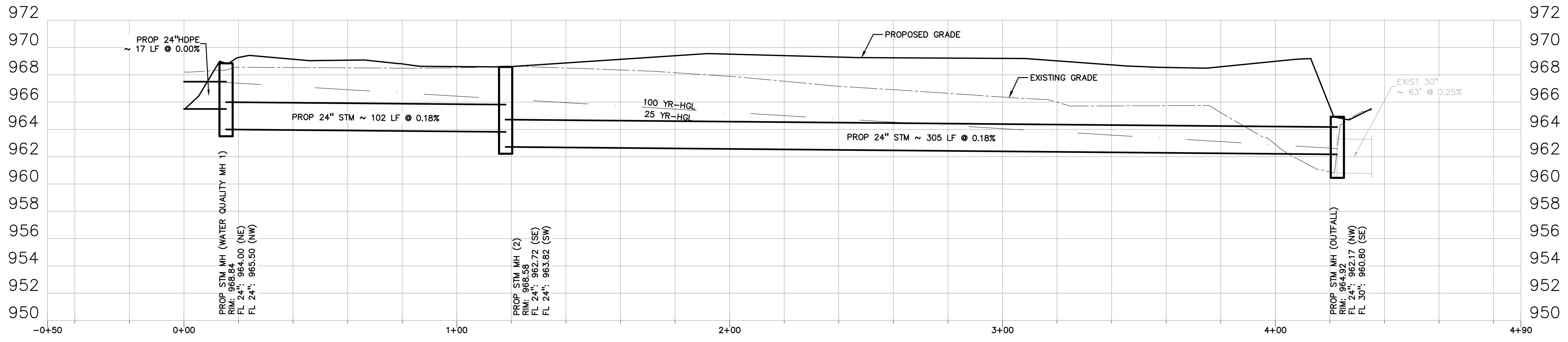
PEA JOB NO. 2022-1089
 P.M. JP
 DN. AC
 DES. AC

DRAWING NUMBER:
14 OF 36

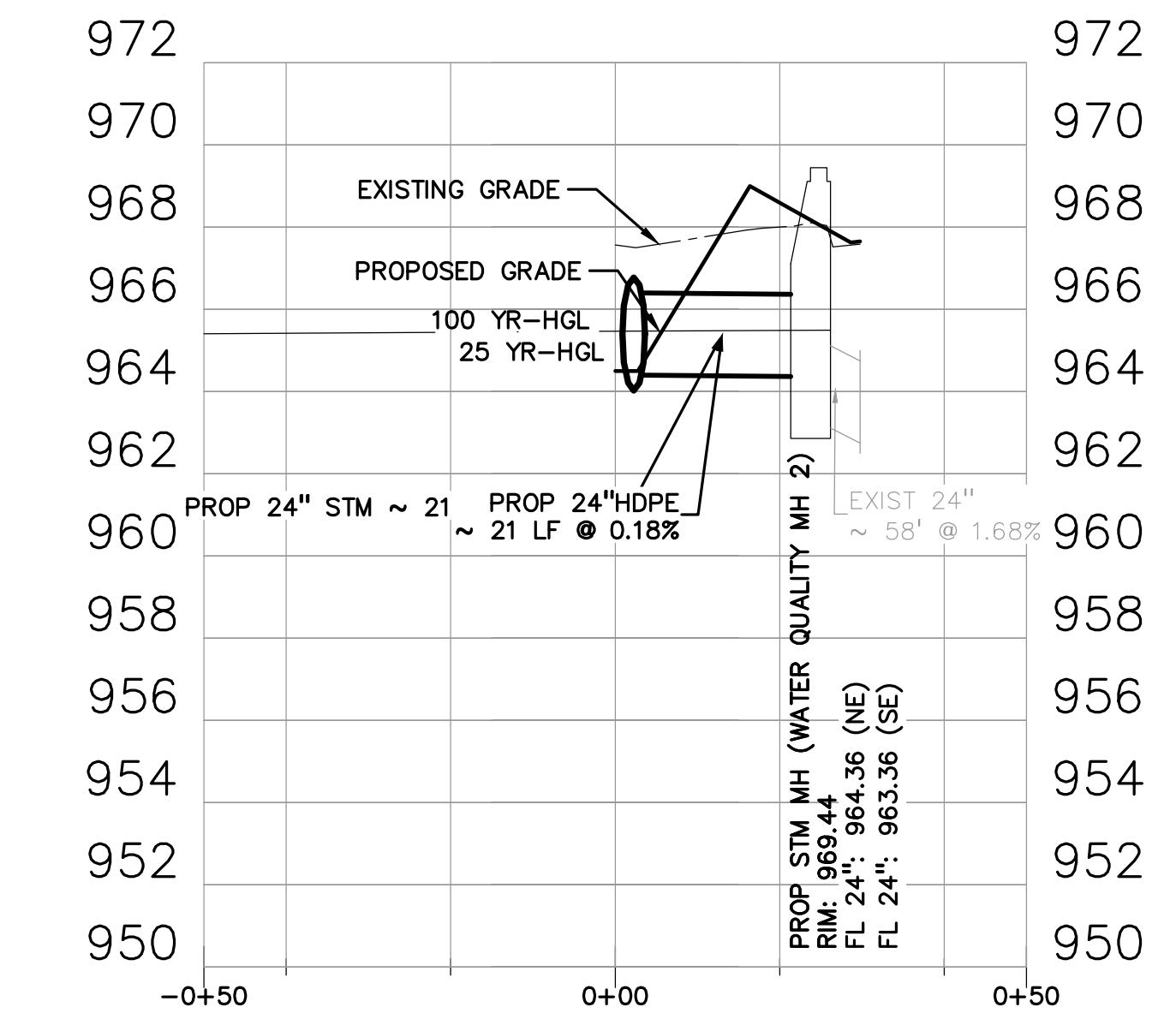




STORM SEWER PROFILE
DRAINAGE AREA D

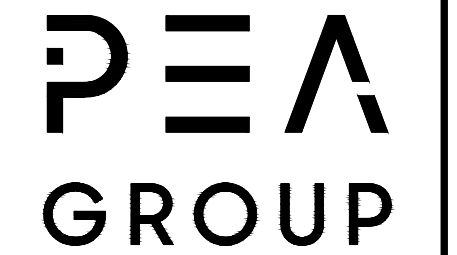


STORM SEWER PROFILE
POND 1 OUTFALL

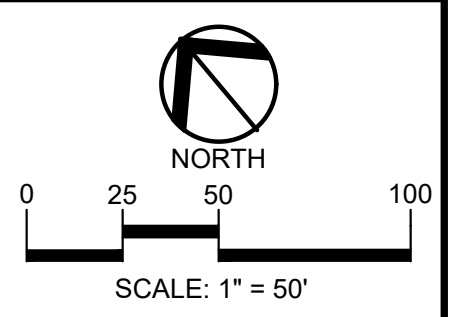


STORM SEWER PROFILE
POND 2 OUTFALL

PROFILE SCALE
1"=20' HORIZONTAL
1"=2' VERTICAL



16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 & #10134679



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CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS	

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
STORM SEWER PROFILES 2 OF 2

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
15 OF 36

- NOTES:
- UTILITIES SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY CONFLICT OR DISCREPANCIES.
 - SEE PROJECT MEP PLANS FOR WATER, SANITARY, GAS, AND ELECTRICAL CONDUIT CONTINUATIONS INTO BUILDING.
 - SEE UTILITY DETAILS ON SHEET 22 THRU 25.

PLOT DATE: 8/2/2023 11:02 AM
 PROJECT: 2022-1089 P002 - LEANDER HYUNDAI CONSTRUCTION (C-03) 22-1089.dwg

PROGRAMMABLE LOGIC FLOW CHART

TRASH CAGE WITH PERFORATED RISER PIPE

Parts List

Item	smartPOND Valve Component
1	30" DIAMETER CAGE WITH 1/2" GALVANIZED MESH SCREEN
2	8" SQUARE PERFORATED TUBING WITH 1" PERFORATION, WITH 4" VERTICAL SPACING ON CENTERS WITH WATER DEPTH MARKER
3	3 1/2" X 3 1/2" X 4" CONCRETE PAD (BY OTHERS)
4	6" PVC OUTFALL PIPE (BY OTHERS)
5	WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX
7	PEDESTAL
8	ACTUATOR
9	MOTOR
10	6" VALVE
11	LEVEL TRANSDUCER
12	SOLAR PANEL
13	OUTLET PIPE (BY OTHERS)
14	30" DRAIN BASIN
15	VALVE STEM
16	QUICK DISCONNECT VALVE STEM

PERFORATED RISER PIPE

smartPOND Valve with Control Structure

CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

CONVERGENT WATER TECHNOLOGIES

FOR ADDITIONAL INFORMATION PLEASE CONTACT: CONSTRUCTION ECO SERVICES, 832-456-1000, www.ecosvs.com

smartPOND Valve SPECIFICATION

Continuously Monitored Automated Stormwater System with Valve

1. Introduction
The following specifications describe the components, general functions, and applications of a smartPOND Continuously Monitored Automated Stormwater System (IC-MASS) with Valve. The system functions as an electrically controlled, valve-powered stormwater management device, providing precision management capabilities and real-time data. Using sensors, solar power, an electronic actuator, and an internet-based control interface, the smartPOND valve connects to a specialized perforated riser inside the stormwater impoundment to enable managers to precisely control water retention and diversion automatically in real time.

2. smartPOND Valve Applications in Stormwater Management
The smartPOND valve is a device for active stormwater management. An approved to passive devices such as floating weirs or stationary weirs, active water management dramatically increases the efficiency and effectiveness of a detention or retention pond. Where a passive stormwater detention system allows water to leave immediately upon collection, the smartPOND valve can detain newly caught stormwater and allow it to settle for a programmed period before automatically discharging the impoundment completely. For stormwater retention systems, it is possible to maintain the treatment volume while maintaining a specified amount of capacity for flood storage or other use.

2.1 Pre-programmed Control
Many functions can be pre-programmed without any human interaction, leaving the valve to automatically receive commands based on environmental conditions and respond as programmed.

2.1.1 Batch Detention Function for Stormwater Quality
The smartPOND valve meets TCEQ batch retention specifications for a 93% Total Suspended Solids removal rate. The function proceeds as follows. With the valve in the closed position and the impoundment dry, the system will stand by and wait for a water collection event. As the first sign of water collection, the unit will begin a 12-hour detention timer. At the end of the 12-hour detention period, the valve will open and release all of the water that has been collected. After the water level drops to 0", the valve will remain open for an additional 2 hours to facilitate final drainage, then return to the closed position to stand by for the next water collection event.

2.1.2 Predevelopment Hydrograph Function for Flood Control
The smartPOND valve provides predevelopment hydrograph function tables to site specific variables to determine a maximum release rate based on predevelopment conditions. The valve needs water depth in the pond every 15 minutes to determine the maximum release rate desirable to ensure the impoundment neither overtops, nor exceeds its maximum release based on predevelopment flows.

2.1.3 Real-time Monitoring
smartPOND when specified for remote gate containment can be equipped with pollutant specific sensors that when triggered automatically close the valve until the command is overridden.

2.2 Real Time Monitoring
smartPOND comes standard with telemetry available on each unit and access to the user app available at no additional cost for 1 year. This option allows for real time monitoring of the unit and the data that comes along with it. From the real time monitoring app, a user can:
- Control the valve, either open or close.
- See the water level.
- See if trash or debris is accumulating in the unit.
- Get maintenance alerts (Low Battery, Valve Failure, etc.)
- Maintain specified water level.

3. Components
The smartPOND valve may be implemented either above or below ground, and is comprised of the following components:

3.1 Hardware and Configuration
The standard smartPOND valve features a cast 6" valve. An extended spool and mounting flange on each side of the valve allows it to be attached to the outfall pipe in various configurations. The valve is fabricated with an electric motor connected to an extendable drive shaft for underground applications.
For above ground installations, the entire system including all necessary components for operation assemble into one kit and are housed under a single lockable steel enclosure with the solar panel mounted on top. In this configuration, the unit can be installed on a stable, level pad and be bolted onto the back of the outfall pipe with six 1/2" bolts and then switched to the "ON" position.
For underground applications, the valve is installed in a vault or concrete encasement as needed. An extended drive shaft connects between the underground valve and the rest of the components, including the motor and all electronics, which are housed in the lockable steel enclosure directly above ground.

3.2 Electronics and Software Specifications
- Main board: The main board of the smartPOND valve's electronics box serves as the main connection terminal for all sensors and additional control boards.
- Motor Controller Board: The motor controller board of the smartPOND valve regulates the connection between the battery and the motor and receives signals from the main board to control motor direction. It also powers the main board.
- Motor: The smartPOND valve's motor operates on 12 volts and has two wires connecting to the motor controller board. It is mounted on a bracket and connects to the drive shaft of the valve with a drive shaft.
- Battery: The smartPOND valve is powered by a 12-volt, 30-amp-hour battery. Located at the top of the unit, the power wires to the motor controller board and the solar charge controller to the battery.
- Solar Panel: The solar panel of the smartPOND valve is 12 volts with 25 watt charging capability. It connects to a solar charge controller which regulates the voltage and current before connecting with two wires to the positive and negative battery terminals.
- Sensors:
- Pressure Transducer: The water level sensor is a pressure transducer sensor capable of staying submerged in water indefinitely. It mounts on the side of the smartPOND valve's center shaft.
- Water position sensor: A proximity sensor senses the position of the valve's drive shaft in order to control and determine the position of the valve.
- (Optional)
- Cell data modem: A cellular data modem will be required for real time control and alert options as well as predevelopment hydrograph functions.
- Hydrocarbon sensor: This optional sensor may be fitted to the smartPOND valve to perform specific functions based on the presence of hydrocarbon contamination.

4. Real Time Monitoring Interface (optional)
If the real time monitoring option is selected, the smartPOND valve may be monitored in real time through the Autoflow app. Live and historical data from each unit may be viewed in the app, as well as alerts (detailed in section 5).

4.1 Accessing unit data
To access live and historical data in the Autoflow app, select the unit of interest on the home page by clicking on the unit's name. From there, select the "Data" button, and the data page for that unit will be displayed.

4.2 Sending a command
To send a remote control command to the smartPOND valve, click the "Send New Command" button on the unit's home page. The unit's current position will be displayed at the top. To change the unit's position, simply select "ON" or "CLOSED". Within 2-5 minutes, the unit will move to the new position and update its status in the app.

5. Alerts
The smartPOND valve will indicate the following alerts by illuminating an externally visible red LED light:
- Low battery
- Valve malfunction
- Motor malfunction
- Hydrocarbon contamination (optional)

If the telemetry option is selected, the unit will upload the above alerts to the Autoflow app and notify the operator via text or email.

6. In Case of Failure
To bypass the smartPOND valve's normal automated functions and control the valve position in case of failure:
6.1 Removal of motor and manual direct control
In case of total electronic or motor failure, the motor and motor bracket can be unscrewed together by removing the two bolts at the bottom of the motor bracket. With the motor and motor bracket removed, the output shaft on the butterfly valve can be manually controlled with a socket wrench, or any other tool that can grip the output shaft.
7. Additional Components List

7.1 Perforated Riser
The smartPOND valve system includes a lockable perforated riser which includes the inlet side of the outfall pipe within the impoundment area. The perforated riser features an 8-inch steel perforated square tube with a 24" round steel mesh tube. At the bottom of the 8-inch square tube, there is a female threaded fitting for a 3/4 inch PVC outfall pipe to connect. The steel tube is perforated with 1/2 inch holes every 4" on center to the height of the impoundment.

7.2 Trash Cage
The trash cage attaches to the perforated riser with a coupling and collar pin. The trash cage will be comprised of steel banding and a 1.5" x 1.5" mesh to prevent floatables and other contents from entering and clogging the perforated riser. The trash cage will sit 0.5" above the bottom of the impoundment to allow the last 0.5" out of the impoundment.

7.3 Valve Stem Extension
The drive shaft valve stem of the smartPOND system may be extended to any length necessary for instances where the valve will be in an underground vault or manhole. The valve stem will connect the valve to the above ground controls.

8. Maintenance

8.1 Grease
The smartPOND valve includes a grease fitting on the valve stem which should be greased twice per year. It is also recommended that a thick, mild heat-resistant grease be used to avoid grease melting out of the grooves in winter temperatures.

8.2 Flange Bolts
There are 6 bolts connecting the smartPOND valve's flange to the outfall pipe or flange. During routine maintenance intervals, these bolts should be checked for tightness. All bolts should be tightened evenly.

8.3 Perforated Riser
Silt, sediment, and debris can build up around the perforated riser with time. An annual inspection of the unit is necessary to ensure that excess debris or sediment has not limited the drainage capacity of the perforated riser. To access the perforated riser for maintenance, lift the trash cage off of the riser, dig out any accumulated sediment, and clear all perforations.

8.4 Trash Cage
As part of routine maintenance, it is advisable to remove trash and debris that has accumulated on the trash cage and properly dispose.

8.5 Solar Panel
On all inspection visits, it is necessary to confirm that the solar panel is facing south and is well secured. The solar panel is commonly utilized by birds and insects. It is important to keep the surface clean of bird litter, insect nests and debris in order to maintain optimal performance.

8.6 Battery
Over time, battery terminals may corrode. Check annually for corrosion and clean as needed. The battery should be replaced every 4 to 5 years.

8.7 Storage
The smartPOND valve is shipped in a near fully assembled configuration and should be stored likewise. The systems are transported and stored on pallets and must remain secured with straps or steel bands to avoid pallet or unit tilting. For below ground installations, the unit is ready to begin operation. The battery may be stored inside the electronics box and if removed, should never be stored inside a concrete vault. For vault installations, see design details for standard vault design.

9. Installation
The smartPOND valve can be installed in a near completely assembled configuration. Only the solar panel should be removed during the installation process. There are several ways to install the smartPOND valve with the key base structural support.

9.1 Structural Support
If the smartPOND valve is installed in an above ground, fully assembled configuration, the weight of the unit may be supported by the riser pipe. For plants or concrete vaults, it is recommended that the weight of the unit be supported by either a concrete pad or steel frame. For below ground installations, the upper unit electronics and actuator should be fastened to the surface of the concrete vault. For vault installations, see design details for standard vault design.

10. Important Safety Information and Warnings:
- Always keep hands clear of the valve and motor when unit is in operation.
- Turn the power switch off when doing any electrical work.
- Do not enter the water when the device is actively draining water.
- Always use proper PPE and confined space protocol when servicing a valve beneath ground.

11. PRODUCTS
Manufacturer/Supplier/Installer shall be an established stormwater company that has at least 5 installations of automated stormwater management devices that have been in use and functional for the past 5 or more years.

A. Acceptable smartPOND Valve
"Antenna (NOT DISPLAYED)"
"Cell Data Modem (NOT DISPLAYED)"
"Camera"
"Lockable Weatherproof Electronic Box"
"Control Box w/ Locking Latches"
"Pedestal"
"Remote Grease Manifold"
"Grease Tubes"
"Grease Fittings"
"Extended Drive Shaft"
"24" Rotary Valve"
"24" Drum (30"-TOP TALL)"
"Outlet Pipe (Size TBD By Engineer, Max 24")"
"Inclinometer"
"Level Transducer"
"6" Concrete Pad (By Others, Size Varies)"
"ON/OFF SWITCH"
"TRASH RACK"

B. Acceptable System Supplier
Convergent Water Technologies, Inc.
800/712-5248
www.convergentwater.com

C. Authorized Valve Added Reseller
Construction Eco Services
800/456-1000
www.ecosvs.com

12. Quality Assurance and Performance Specifications
The quality of all system components and all other opportunities and their assembly process shall be subject to inspection upon delivery of the system to the work site installation. It is to be performed only by skilled work people with satisfactory record of performance on manholes, pipes, wetting chamber, or pond/basins construction projects of comparable size and quality.

CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

CONVERGENT WATER TECHNOLOGIES

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

smartPOND Automated Stormwater Control

smartPOND Valve Specifications

0
DATE: 12/27/2021

PEA GROUP

16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 #B-194679

STATE OF TEXAS
JONATHAN A. PUFFER
43907
8/4/2023

PROGRAMMABLE LOGIC FLOW CHART

FRONT VIEW

SIDE VIEW

CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

CONVERGENT WATER TECHNOLOGIES

DATE OF ISSUE: 7/27/22

TOP VIEW

FRONT VIEW

SIDE VIEW

BACK VIEW

Parts List

Item	smartPOND Components
1	12 V SOLAR PANEL WITH 30 WATT CHARGING CAPACITY
2	ANTENNA (NOT DISPLAYED)
3	CELL DATA MODEM (NOT DISPLAYED)
4	CAMERA
5	LOCKABLE WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX W/ LOCKING LATCHES
7	PEDESTAL
8	REMOTE GREASE MANIFOLD
9	GREASE TUBES
10	GREASE FITTINGS
11	EXTENDED DRIVE SHAFT
12	24" Rotary Valve
13	24" Drum (30"-TOP TALL)
14	Outlet Pipe (Size TBD By Engineer, Max 24")
15	Inclinometer
16	Level Transducer
17	6" Concrete Pad (By Others, Size Varies)
18	ON/OFF SWITCH
19	TRASH RACK

NOTES:
FOR ABOVE GROUND APPLICATIONS, THE ENTIRE SYSTEM INCLUDING ALL NECESSARY COMPONENTS FOR OPERATION ASSEMBLE INTO ONE KIT AND ARE HOUSED UNDER A SINGLE LOCKABLE STEEL ENCLOSURE WITH THE SOLAR PANEL MOUNTED ON TOP. IN THIS CONFIGURATION, THE UNIT CAN BE INSTALLED ON A STABLE, LEVEL PAD AND BE BOLTED ONTO THE BACK OF THE OUTFALL PIPE WITH SIX 1/2" BOLTS AND THEN SWITCHED TO THE "ON" POSITION.
FOR UNDERGROUND APPLICATIONS, THE VALVE IS INSTALLED IN A VAULT OR CONCRETE ENCASMENT AS NEEDED. AN EXTENDED DRIVE SHAFT CONNECTS BETWEEN THE UNDERGROUND VALVE AND THE REST OF THE COMPONENTS, INCLUDING THE MOTOR AND ALL ELECTRONICS, WHICH ARE HOUSED IN THE LOCKABLE STEEL ENCLOSURE DIRECTLY ABOVE GROUND.

CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

CONVERGENT WATER TECHNOLOGIES

DATE OF ISSUE: 7/27/22

PENSKE AUTOMOTIVE GROUP

1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
BATCH DETENTION POND DETAILS

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
17 OF 36

PLOTTER: 8/17/2023 5:35 PM
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KEY NOTES:

- 1 CONSTRUCT 5' WIDE CONCRETE SIDEWALK
- 2 CONSTRUCT 3" ROLLOVER CURB
- 3 ADA RAMP (SEE SIDEWALK/RAMP DETAILS)
- 4 PEDESTRIAN CROSSWALK
- 5 HANDICAP PARKING SPACE WITH HANDICAP SYMBOL & WHEEL STOPS
- 6 BICYCLE PARKING
- 7 DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS)
- 8 FIRE LANE STRIPING
- 9 STORM INLET (SEE DRAINAGE & DETENTION PLANS)
- 10 STORM MANHOLE (SEE DRAINAGE & DETENTION PLANS)
- 11 CONCRETE BOLLARDS SPACED 4' O-C (SEE DETAIL ON SHT 18)
- 12 PROPOSED CAR DISPLAY (REFER TO ARCHITECT PLANS FOR DETAILS)
- 13 PROPOSED TRANSFORMER PAD (REFER TO ARCHITECT PLANS FOR DETAILS)
- 14 PROPOSED SWING GATE (MANUAL) INCLUDE KNOX PADLOCK FOR FIRE DEPT.
- 15 PROPOSED 0" RIBBON CURB
- 16 EXISTING ROUNDABOUT (BRICK PAVERS)
- 17 SIGNAGE (FOR REFERENCE ONLY)
- 18 PROPOSED FENCE FOR WATER QUALITY PONDS
- 19 PROPOSED OVERHEAD DOORS FOR BUILDING

GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS.
3. REFER TO NOTES & DETAILS SHEET FOR PAVING, SIDEWALK & RAMP DETAILS.
4. ALL RADII DIMENSIONS SHALL BE 3' UNLESS OTHERWISE NOTED.
5. FIRE LANE PAVEMENT SHALL MEET THE BASE AND SUBGRADE THICKNESSES FOR "HEAVY DUTY" VEHICLES. REFER TO THE PAVEMENT SECTION DETAILS ON SHEET 20.

FIRE DEPARTMENT NOTES:

ALL GATES ALONG THE ACCESS ROAD SHALL COMPLY WITH THE FOLLOWING:

1. 506.1.2 ELECTRONIC GATES, EMERGENCY ACCESS OF LIMITED ACCESS GATES AT APARTMENTS AND GATED COMMUNITIES, OR ANY OTHER OCCUPANCY DEEMED AS HIGH RISK BY THE FIRE CODE OFFICIAL SHALL BE EQUIPPED WITH KNOX KEY SWITCH® OPENING SYSTEM. THE KEY SWITCH SHALL BE LOCATED ON A KEYPAD PEDESTAL OR AS APPROVED BY THE FIRE CODE OFFICIAL.
2. 506.1.3 ELECTRICAL DISCONNECT/CHAIN ACCESS. IN THE EVENT OF A POWER FAILURE, THE GATE SHALL OPEN BY MEANS OF AN ELECTRICAL POWER DISCONNECT SWITCH IN A WEATHERPROOF BOX. THE GATE SHALL BE CAPABLE OF BEING PHYSICALLY DISCONNECTED FROM THE OPERATOR MECHANISM FROM EITHER SIDE OF THE GATE. SLIDER GATE CHAINS SHALL BE ACCESSIBLE TO BE CUT AND RELEASE THE GATE FROM THE OPERATOR MECHANISM FROM EITHER SIDE. SWING GATES SHALL HAVE A PIN IN THE SWING ARM MECHANISM SECURED BY A KNOX PADLOCK. THE PADLOCK SHALL BE ACCESSIBLE FROM EITHER SIDE OF THE GATE. GATES THAT ARE NOT IN PROPER OPERATING CONDITION SHALL BE CHAINED AND LOCKED IN AN OPEN POSITION.
- 2.1. ELECTRIC GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325.
- 2.2. GATES INTENDED FOR AUTOMATIC OPERATION SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200
3. IF THE GATE IS MANUALLY OPERATED, A KNOX PADLOCK WILL BE REQUIRED AND INSTALLED UPON FINAL INSPECTION FROM FIRE DEPARTMENT. CORRECTIVE ACTION: (COL ORDINANCE SEC. 5.03 (2015 IFC CHAPTER 506.1))

BENCHMARKS

ELEVATIONS DERIVED FROM TRIMBLE VRS NETWORK, GEOD 18(CONUS) NAVD88

FND. DISK/MONUMENT STAMPED CTRMA 251
 X: 3,080,213.77
 Y: 10,187,315.90
 ELEV. - 969.00'

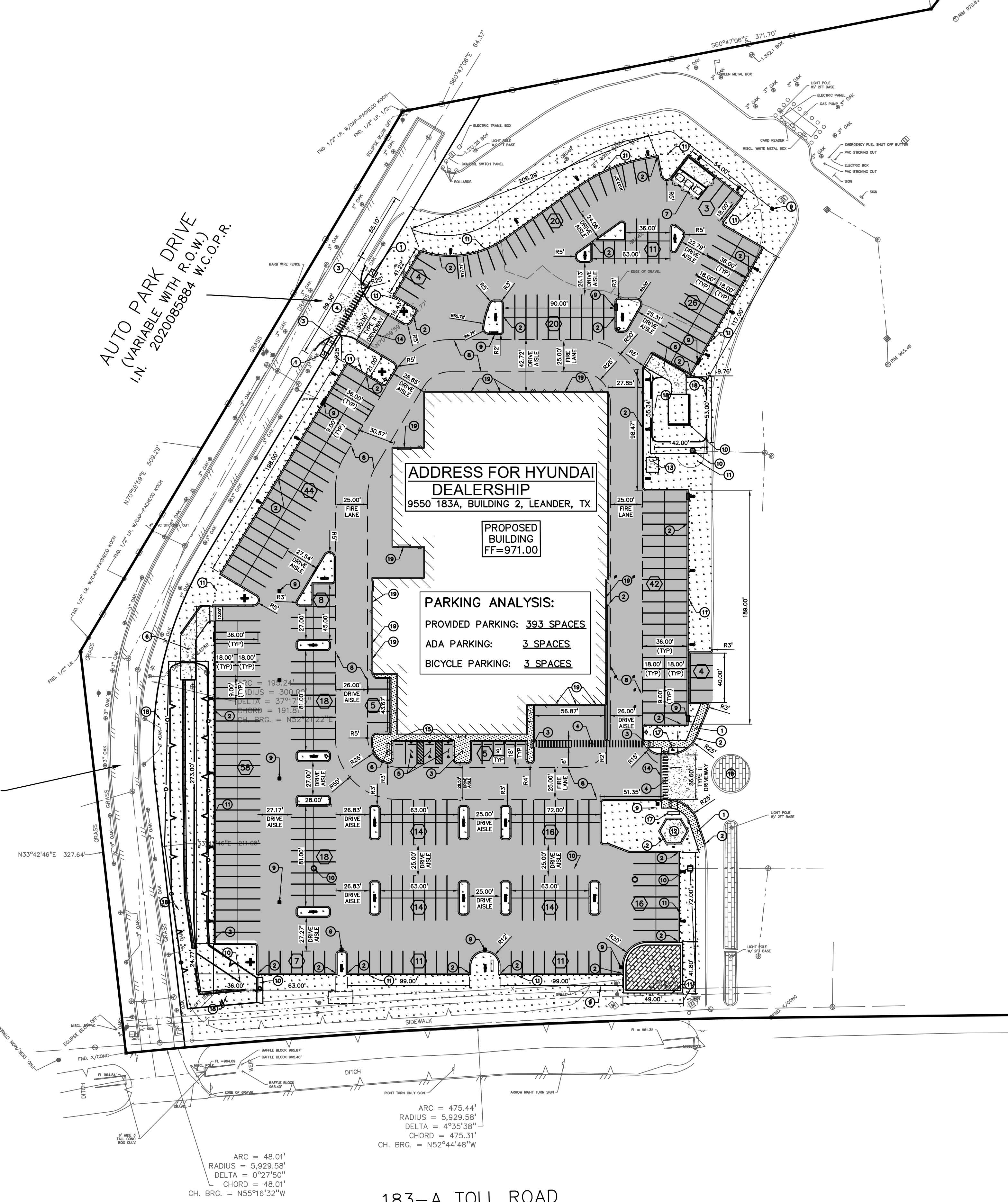
SITE TBM
 SET CUT "X" ON SW CORNER OF CONC. CURB INLET ON SOUTH SIDE OF AUTO PARK DRIVE LOCATED 600 FEET NORTHEAST OF THE INTERSECTION OF AUTO PARK DRIVE AND 183-A TOLL ROAD FEEDER ROAD.
 ELEV. - 974.96'

FLOODPLAIN NOTE:

ACCORDING TO MAP No. 48491C0455F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) FOR WILLIAMSON COUNTY AND INCORPORATED AREAS DATED 12/20/2019, THE SUBJECT TRACT IS SITUATED WITHIN FLOOD HAZARD ZONE 'X', DESIGNATED AS AN AREA OF MINIMAL FLOOD HAZARD.

AUTO PARK DRIVE
 (VARIABLE WITH R.O.W.)
 I.N. 2020085884 W.C.O.P.R.

AUTO PARK DRIVE
 (VARIABLE WITH R.O.W.)
 I.N. 2020085884 W.C.O.P.R.



ADDRESS FOR HYUNDAI DEALERSHIP
 9550 183A, BUILDING 2, LEANDER, TX

PROPOSED BUILDING
 FF=971.00

PARKING ANALYSIS:
 PROVIDED PARKING: 393 SPACES
 ADA PARKING: 3 SPACES
 BICYCLE PARKING: 3 SPACES

183-A TOLL ROAD
 (VARIABLE WITH R.O.W.)
 DOC. NO. 2004033731 O.P.R.W.C.T.

CITY OF LEANDER NOTES:

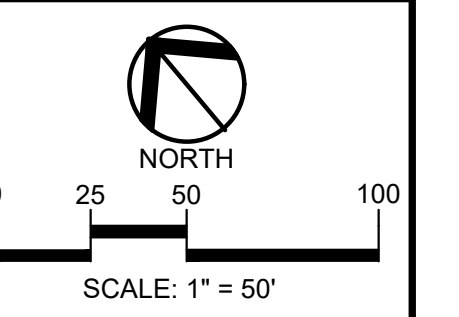
1. ALL SITE UTILITY LINES ARE PROPOSED TO BE LOCATED UNDERGROUND.
2. EXTERIOR LIGHTING SHALL BE SHIELDED SUCH THAT THE LIGHT SOURCE IS NOT DIRECTLY VISIBLE FROM THE PUBLIC ROW OR ADJACENT RESIDENTIAL DISTRICTS OR USES AT THE PROPERTY LINE. UNSHIELDED "WALL PACK" LIGHTING IS NOT PROPOSED.
3. AL CLAWSON DISPOSAL, INC. SHALL BE THE SOLE PROVIDER OF WASTE HAULING FOR THIS SITE AFTER CONSTRUCTION.
4. AIR CONDITIONING UNITS ARE NOT PROPOSED FORWARD THE FRONT WALL OF THE BUILDING.
5. GARBAGE DUMPSTERS ARE LOCATED NO CLOSER TO A ROADWAY THAN THE FRONT WALL OF THE PRINCIPAL STRUCTURE LOCATED CLOSEST TO THE ROADWAY. GARBAGE DUMPSTERS ARE SCREENED BY A WALL (COMPRISED OF MASONRY COMPATIBLE WITH THE STRUCTURE OR WOODCRETE) AT LEAST AS HIGH AS THE CONTAINER. THE OPEN SIDE TO THE DUMPSTER OR OTHER TRASH RECEPTACLE IS A GATE CONSTRUCTED OF SOLID WOOD OR METAL. THE DUMPSTER IS ORIENTED FOR PICKUP BY A FRONT LOAD GARBAGE TRUCK.
6. FOR 90 GALLON ROLL OUT CONTAINER STORED OUTSIDE, IT IS REQUIRED TO BE ENCLOSED BY PRIVACY FENCE.
7. ALL EASEMENTS OF RECORD AS INDICATED ON THE MOST RECENT TITLE RUN DATED 1/1/2019 CONDUCTED BY DOUCET & ASSOCIATES INC. FOR THIS PROPERTY AS SHOWN ON THIS SITE PLAN.

LEGEND

- CONSTRUCT ASPHALT PAVEMENT FOR PARKING AND DRIVE AISLE (SEE DETAILS FOR PAVEMENT SECTIONS)
- CONSTRUCT CONCRETE PAVEMENT FOR DRIVEWAYS, MAINTENANCE RAMPS, DUMPSTER PAD, DISPLAY PAD & TRANSFORMER PAD (SEE DETAILS)
- CONSTRUCT CONCRETE SIDEWALK (SEE DETAILS)
- LANDSCAPE AREA (REFER TO LANDSCAPE PLANS FOR DETAILS)
- PROPOSED BRICK PAVERS FOR DISPLAY AREA
- EXISTING BRICK PAVERS

	EXISTING	PROPOSED
PARKING SPACES		#
OVERHANG LIGHTING		☐
ROW LINE	—	—
PROPERTY LINE	—	—
LOT LINES	—	—
PROPOSED SAWCUT	—	—
EASEMENT LINE	- - -	- - -
CENTER LINE OF ROW	—	—
TOP OF BANK	—	—
CENTER LINE OF DITCHES	—	—
FENCE LINE, CHAIN LINK	—	—
CURB LINE	—	—
EDGE OF ASPHALT	///	///
EDGE OF SHELL OR GRAVEL	- - -	- - -
FIRE ACCESS LANE		
FIRE HYDRANT/ FLUSHING VALVE	FH WV	FH WV
STORM SEWER MANHOLE	STM MH	STM MH
STORM SEWER INLETS	'CURB' 'GRATE'	'CURB' 'GRATE'

PEA GROUP
 16060 DILLARD DR., SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
 #F-21237 & #10194679



CAUTION!!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
PENSKE AUTOMOTIVE GROUP
 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
 FEBRUARY 15, 2023

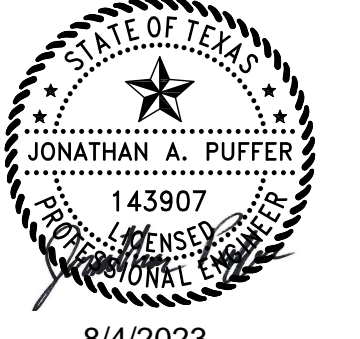
DRAWING TITLE
SITE & PAVING PLAN

PEA JOB NO. 2022-1089

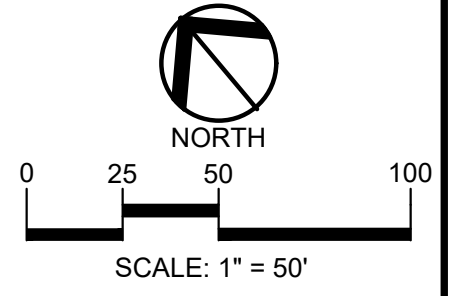
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DN. AC
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18 OF 36

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8/4/2023



CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
ROAD & SIDEWALK CLOSURE PLAN

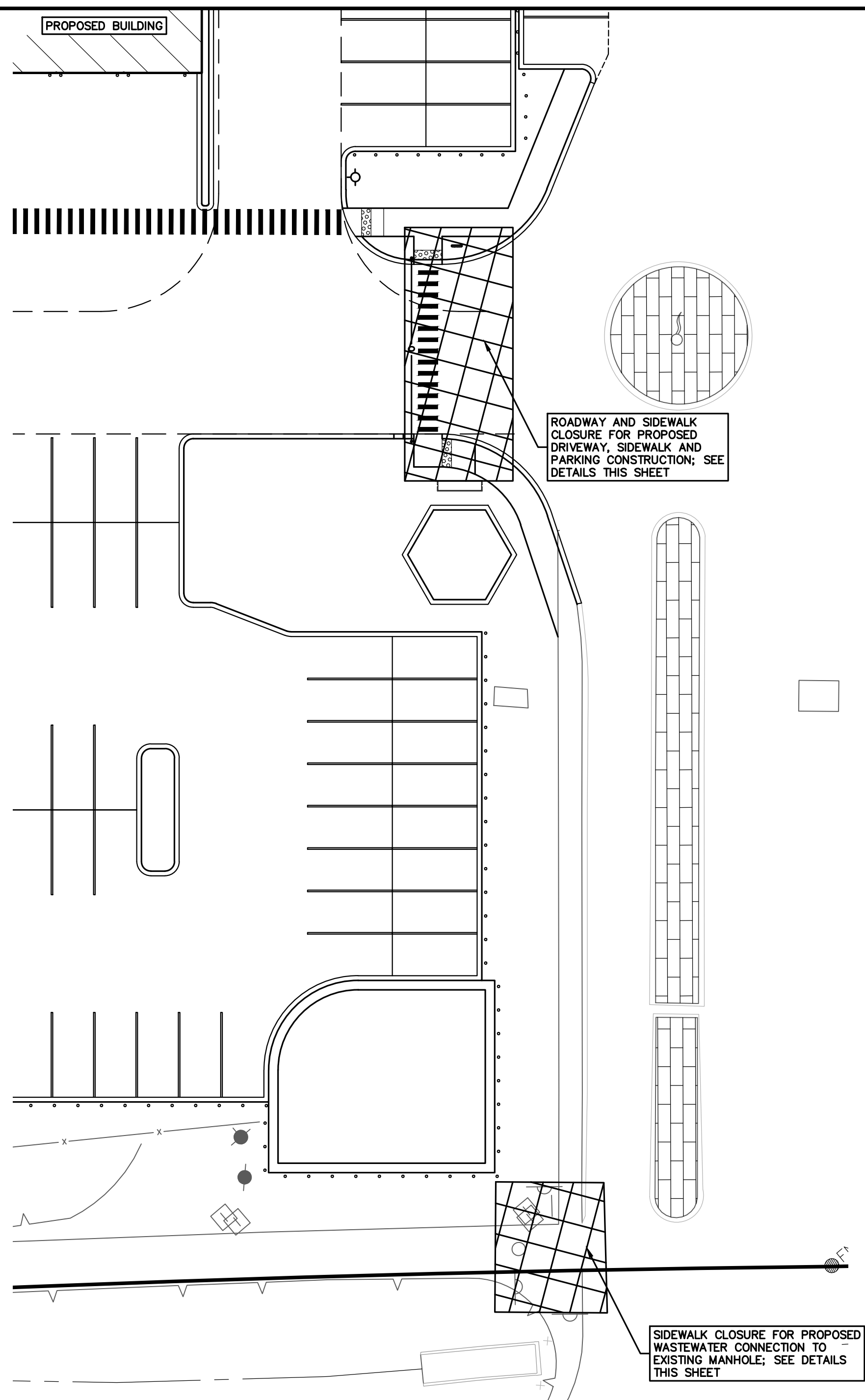
PEA JOB NO. 2022-1089

P.M. JP

DN. AC

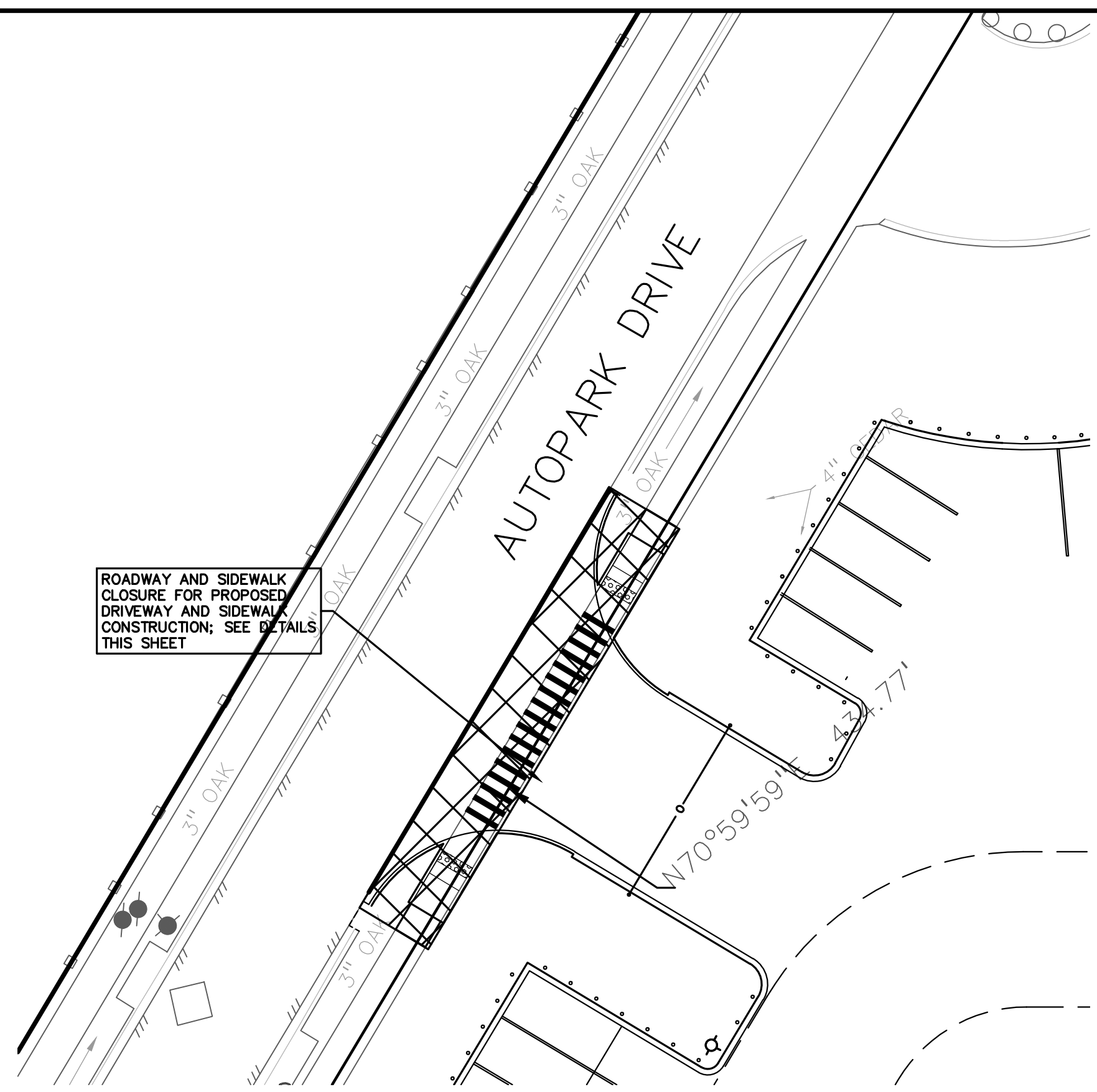
DES. AC

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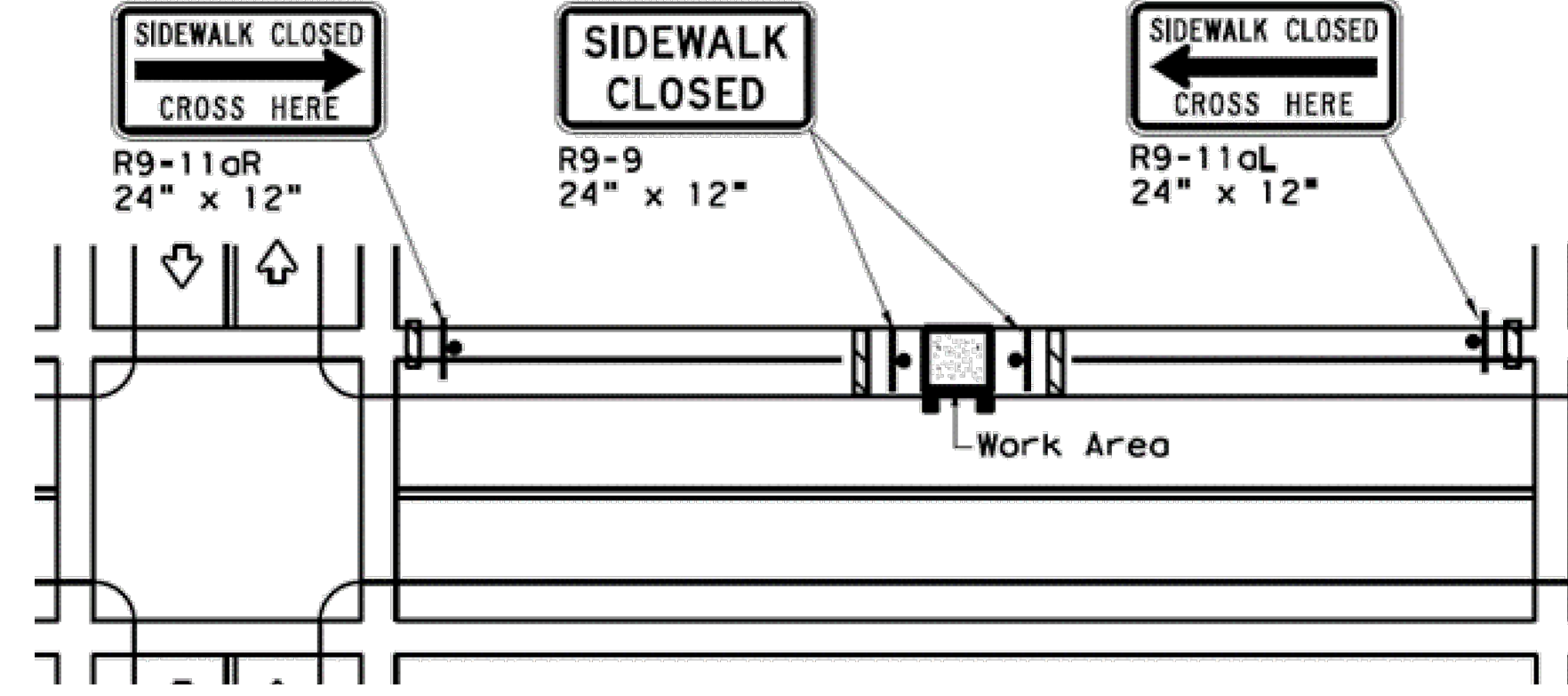


CLOSURE PLAN FOR DRIVEWAY, SIDEWALK AND WASTEWATER UTILITY CONSTRUCTION
SCALE 1:10

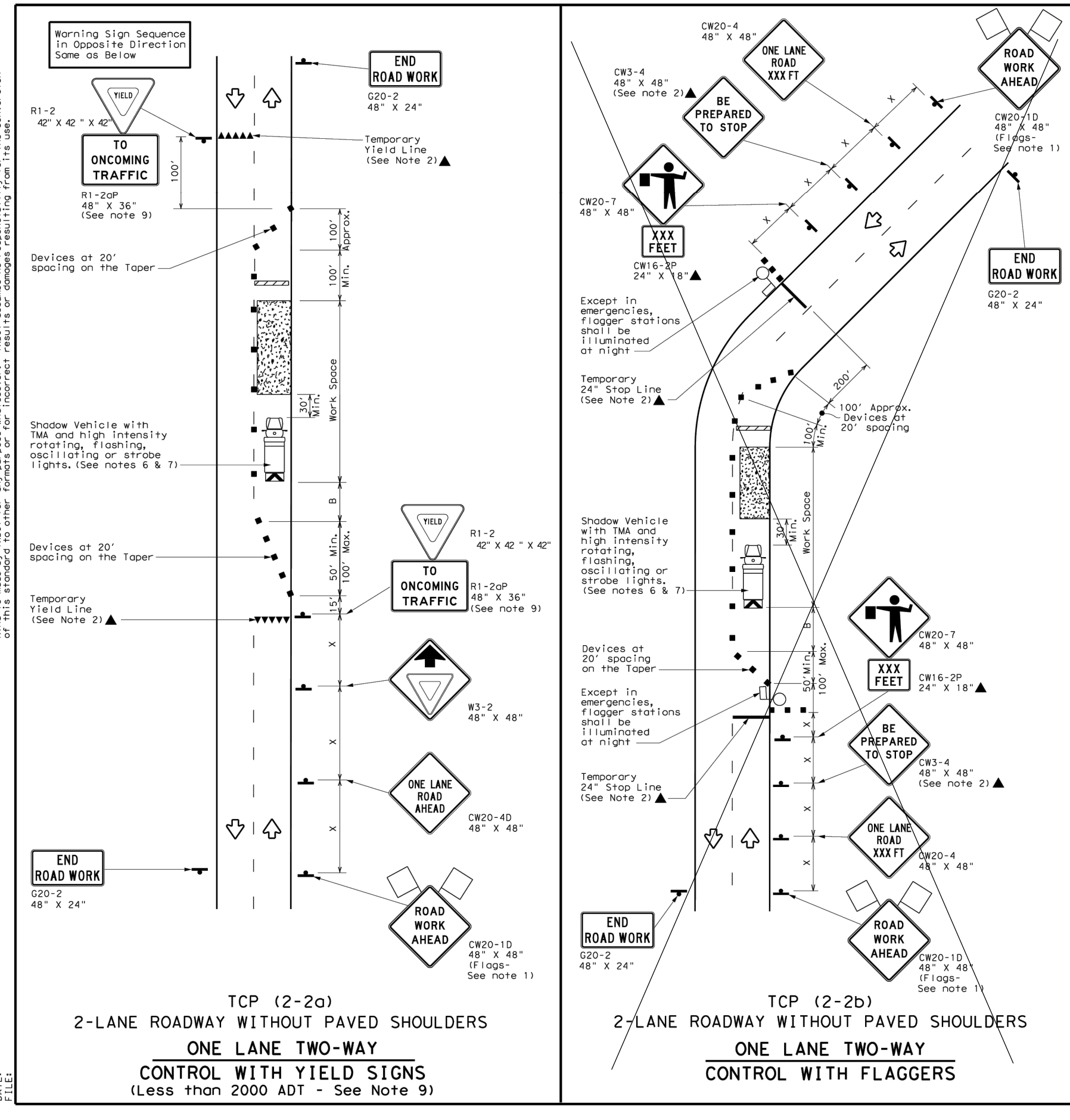
SIDEWALK CLOSURE FOR PROPOSED WASTEWATER CONNECTION TO EXISTING MANHOLE; SEE DETAILS THIS SHEET



CLOSURE PLAN FOR DRIVEWAY AND SIDEWALK CONSTRUCTION
SCALE 1:10



SIDEWALK CLOSURE DETAIL



ONE-LANE CLOSURE DETAIL (TXDOT TCP(2-2)-18)

Posted Speed		Formula	Minimum Taper Lengths	Suggested Maximum Spacing of Channelizing Devices	Minimum Sign Spacing	Suggested Stopping Distance	Stopping Distance
30	WS	150'	165'	180'	30'	60'	120'
35	L+WS	205'	225'	245'	35'	70'	160'
40		265'	295'	320'	40'	80'	240'
45		350'	400'	440'	45'	90'	320'
50		450'	520'	560'	50'	100'	400'
55	L+WS	550'	605'	660'	55'	110'	500'
60		650'	725'	780'	60'	120'	600'
65		750'	835'	890'	65'	130'	700'
70		850'	945'	1000'	70'	140'	800'
75		950'	1055'	1110'	75'	150'	900'

MOBILE		SHORT DURATION STATIONARY		SHORT TERM STATIONARY		INTERMEDIATE TERM STATIONARY		LONG TERM STATIONARY	
1	1	1	1	1	1	1	1	1	1

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol which may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- A Show Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Show Vehicle and TMA.
- Additional Show Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

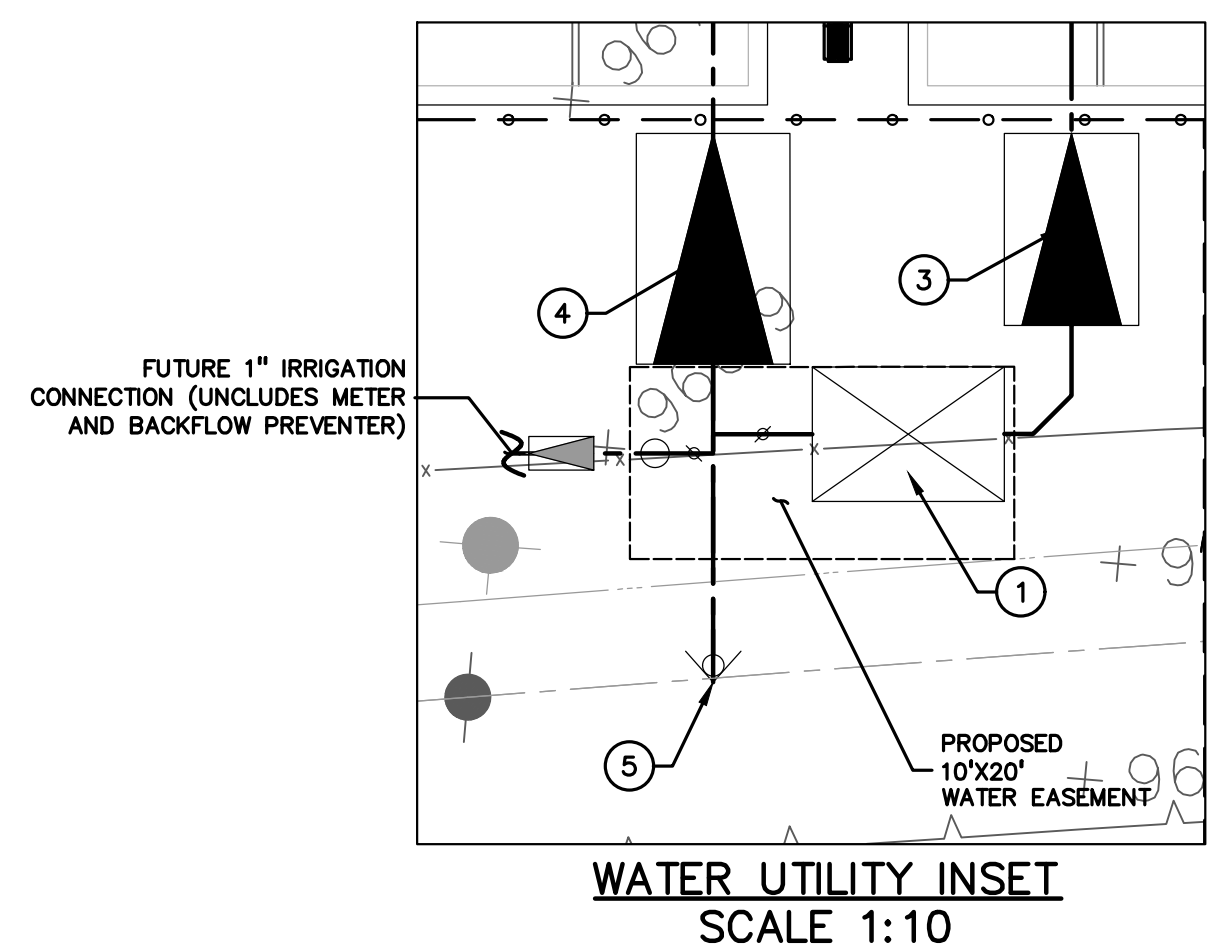
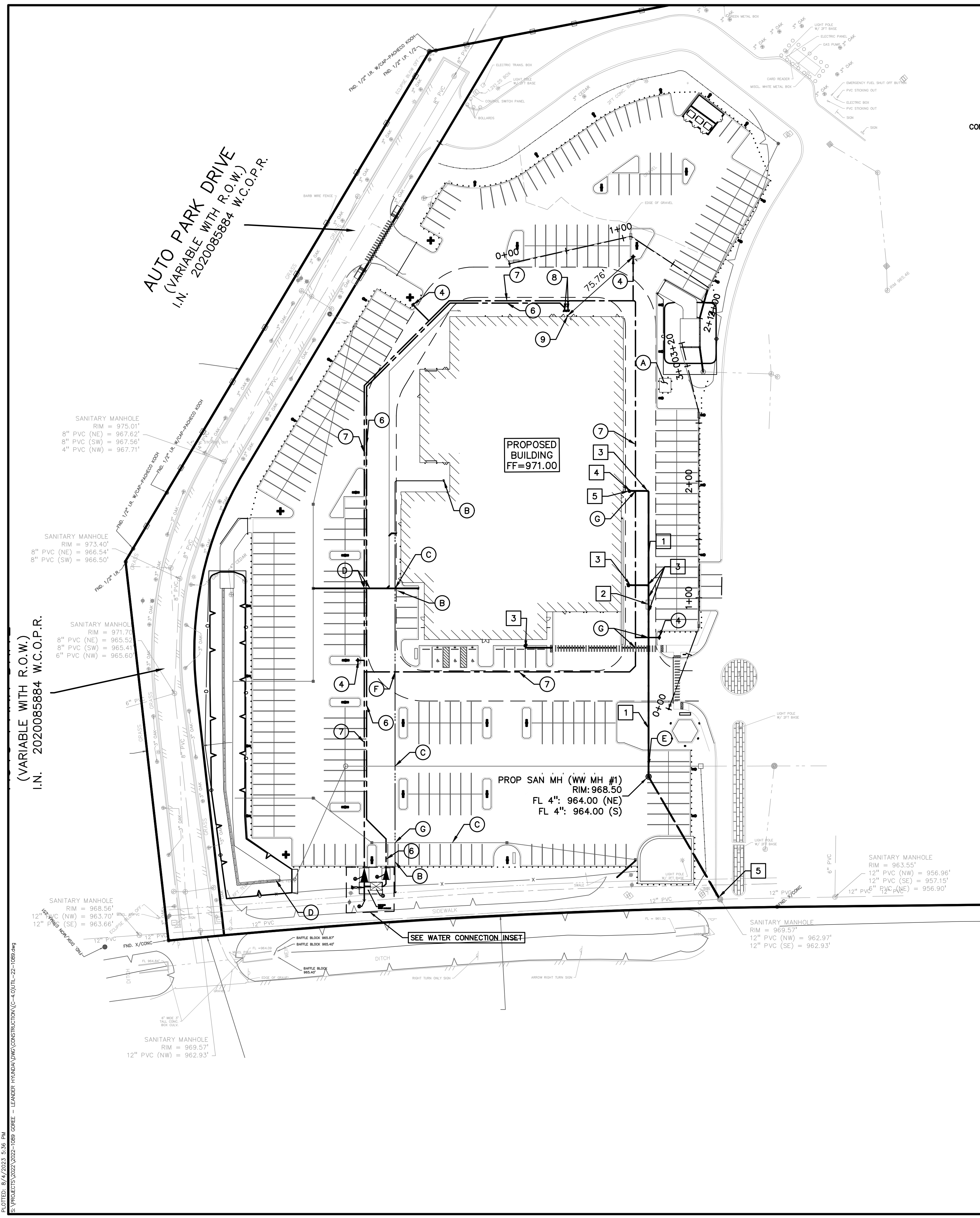
- The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 450 feet.
- The R1-20P "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

TCP (2-2b)

- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- If the work space is located near a horizontal or vertical curve, the buffer distance should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation
Traffic Operations Division
TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL
TCP (2-2) - 18

FILES	10/2-18.dgn	DATE	NOV	BY	JPM	CHECKED	
DESIGNED	10/11/2018	DATE	NOV	BY	JPM	CHECKED	
8-95	1-11-18	DIST	COUNTY	SHEET NO.			
1-97	2-12-18						



- NOTES:**
- UTILITIES SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY CONFLICT OR DISCREPANCIES.
 - SEE PROJECT MEP PLANS FOR WATER, SANITARY, GAS, AND ELECTRICAL CONDUIT CONTINUATIONS INTO BUILDING.
 - SEE UTILITY DETAILS ON SHEET 22 THRU 25.
 - ALL WATER LINE BENDS ARE 45° UNLESS OTHERWISE NOTED.
 - ALL WATER LINES AND WASTEWATER LINES SHALL MAINTAIN A MINIMUM 9" HORIZONTAL CLEARANCE WHEN RUNNING PARALLEL AND A 18" VERTICAL CLEARANCE WHEN CROSSING. WHERE A DOMESTIC WATERLINE CROSSES A WASTEWATER SEWER, INSTALL ONE JOINT (MINIMUM 18 FEET IN LENGTH) OF WATERLINE PIPE CENTERED ON THE SEWER.

- WATER KEY NOTES:**
- ① 3" WATER METER INSIDE 10'X7' PRE-CAST CONCRETE VAULT
 - ② FIRE HYDRANT ASSEMBLY
 - ③ 3" DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY INSIDE 10'X7' PRE-CAST CONCRETE VAULT
 - ④ 6" DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY INSIDE 12' X 8' PRE-CAST CONCRETE VAULT
 - ⑤ 12" X 6" TAPPING SLEEVE & VALVE(SMITH BLAIR 663 STAINLESS STEEL TS OR JCM 439 STAINLESS STEEL)
 - ⑥ 3" PVC WATER LINE (DOMESTIC)
 - ⑦ 6" PVC WATER LINE (FIRE)
 - ⑧ REFER TO ARCHITECT'S PLANS FOR CONTINUATION INTO BUILDING

- WASTEWATER KEY NOTES:**
- ① 4" SDR-26 PVC WASTEWATER LINE @ 1.0% SLOPE
 - ② 1,500 GALLON SAND-OIL SEPARATOR
 - ③ 4" DOUBLE CLEANOUT
 - ④ CONNECT TO EXISTING MANHOLE (SEAL AND RECOAT THE EXISTING MANHOLE)
 - ⑤ REFER TO ARCHITECT'S PLANS FOR CONTINUATION INTO BUILDING
 - ⑥ PROPOSED WASTEWATER MANHOLE

- MISCELLANEOUS KEY NOTES:**
- Ⓐ PROPOSED TRANSFORMER PAD (REFER TO ARCHITECT PLANS FOR DETAILS AND ELECTRICAL UTILITY CONNECTIONS)
 - Ⓑ 2" GAS LINE SERVICE
 - Ⓒ WARNING!!! STORM/GAS LINE CROSSING
 - Ⓓ WARNING!!! STORM/WATER LINE CROSSING
 - Ⓔ WARNING!!! WATER/GAS LINE CROSSING
 - Ⓕ WARNING!!! WATER/SANITARY SEWER LINE CROSSING

LEGEND

	EXISTING	PROPOSED
OVERHANG LIGHTING		☐
WATER METER	WM	WM
WATER VALVE	WV	WV
BACKFLOW PREVENTER		☐
FIRE HYDRANT/FLUSHING VALVE	FH WV	FH WV
TAPPING SLEEVE & VALVE	TS&V	TS&V
SAN SEWER CLEANOUT & MANHOLE	CO SAN MH	CO SAN MH
WATER LINE	---	---
SANITARY SEWER LINE	---	---
STORM SEWER LINE	---	---
STORM SEWER MANHOLE	STM MH	STM MH
STORM SEWER INLETS	'CURB' 'GRATE'	'CURB' 'GRATE'
EASEMENT LINE	---	---
ROW LINE	---	---
PROPERTY LINE	---	---
LOT LINES	---	---

PEA GROUP
16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. #10194679
#F-21237 & #10194679

STATE OF TEXAS
JONATHAN A. PUFFER
143907
LICENSED PROFESSIONAL ENGINEER
8/4/2023

NORTH
0 25 50 100
SCALE: 1" = 50'

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

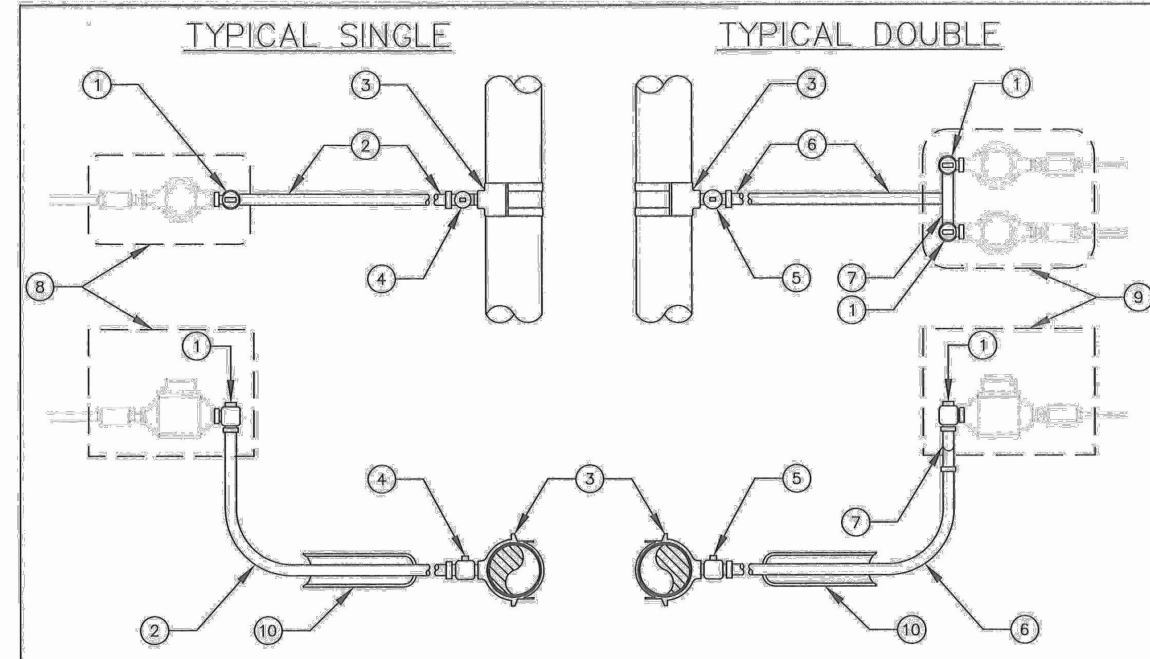
ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
UTILITY PLAN

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
20 OF 36

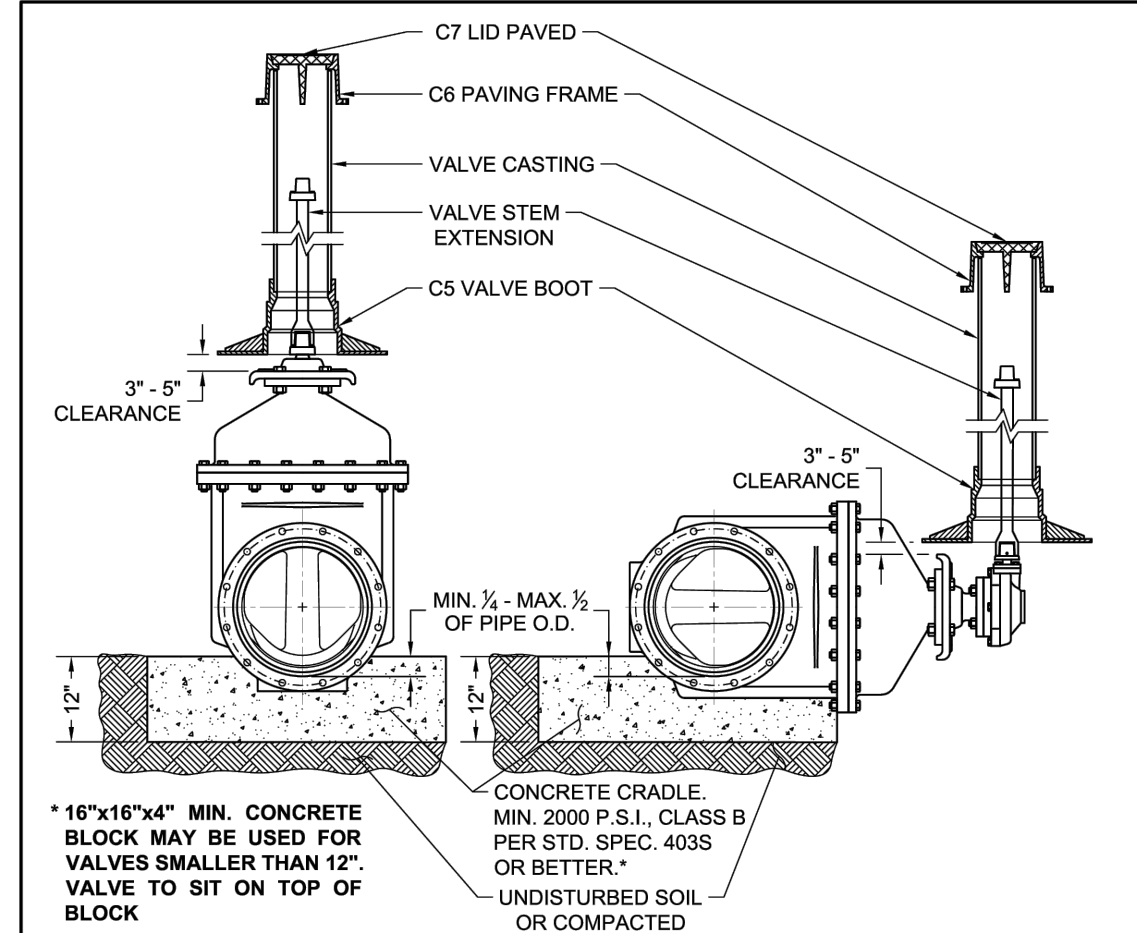
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ITEM	SIZE & DESCRIPTION	SPEC. OR EQUAL
1	1" x 1" ANGLE METER STOP, LOCKING	AS APPROVED
2	1" SDR9 POLYETHYLENE TUBING	CLASS 250
3	EPOXY COATED DUCTILE IRON TAPPING SADDLE	AS APPROVED
4	1" CORPORATION STOP	AS APPROVED
5	1 1/2" CORPORATION STOP	AS APPROVED
6	1 1/2" SDR9 POLYETHYLENE TUBING	CLASS 250
7	BRASS U-BRANCH, 1 1/2" x 1"	FORD, OR EQUAL
8	METER BOX, SINGLE	DFW37F-12-10A, OR EQUAL
9	METER BOX, DOUBLE	DFW39F-12-10A, OR EQUAL
10	3" SCH. 40 PVC SLEEVE FOR LONG SIDE SERVICES (TYP.)	

- NOTES:
- SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
 - PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS.
 - BRANCH CONNECTION AND BOTH ANGLE METER STOPS SHALL BE INSTALLED PRIOR TO FIRST METER INSTALLATION.
 - SLEEVES FOR LONG-SIDE SERVICE TO BEGIN AND TERMINATE 6" BEHIND BACK OF CURB.
 - TOP OF METER BOXES SHOULD BE 1" ABOVE GROUND.
 - METER BOX SHALL BE BEHIND CURB AT ROW/PROPERTY LINE OR EASEMENT. METER BOX SHALL NOT BE INSTALLED IN SIDEWALK, DRIVEWAY OR VEHICULAR TRAVEL AREA.
 - 1" x 3/4" BRASS METER BUSHING REQUIRED FOR 5/8" AND 3/4" METERS.
 - AXIS OF METER ASSEMBLY (LINE THROUGH METER STOP, METER, CHECK VALVE, PIPING AND OWNER'S CUTOFF) SHALL BE 1" BELOW TOP OF BOX. METER BOXES ARE SIZED TO ACCOMMODATE METER STOP, WATER METER AND CHECK VALVE.

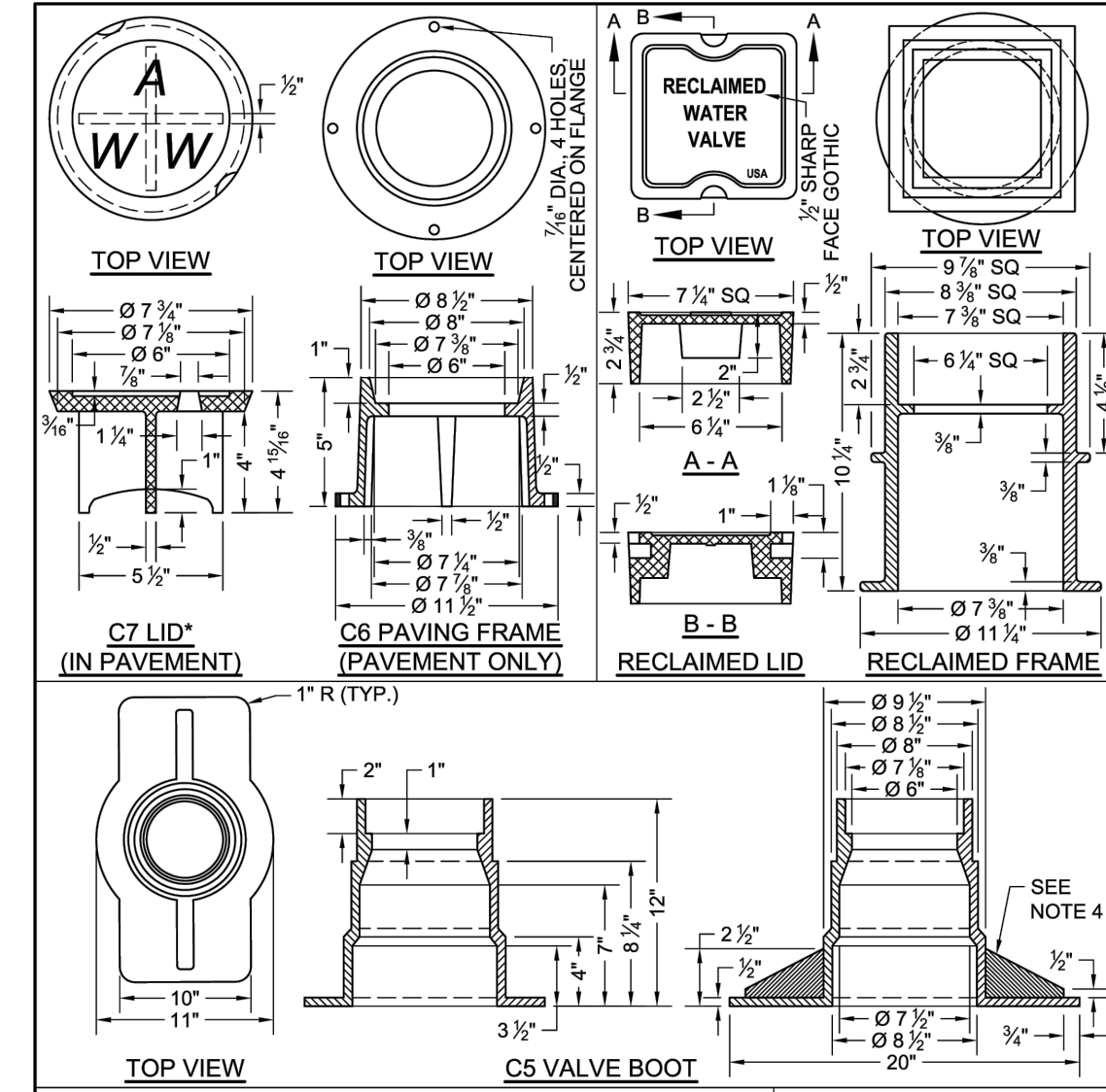
City of Leander, Texas
 DETAIL #01-4
 WATER SERVICE CONNECTIONS



- NOTES:
- WELD SOCKET 2 1/2" x 2" DEEP TO 1" SCH. 40 CARBON STEEL STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10']
 - VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT
 - NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD
 - VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

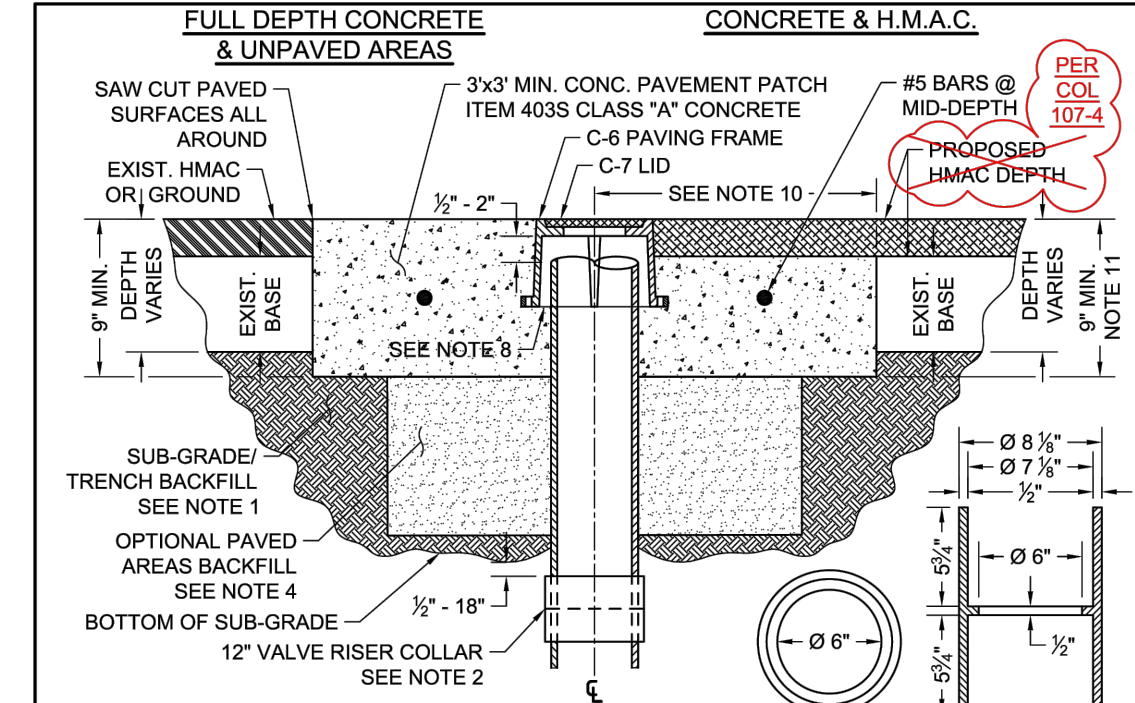
- RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 1 OF 4
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	05/18/2016 ADOPTED



- NOTES:
- MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
 - THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
 - DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
 - CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINIS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

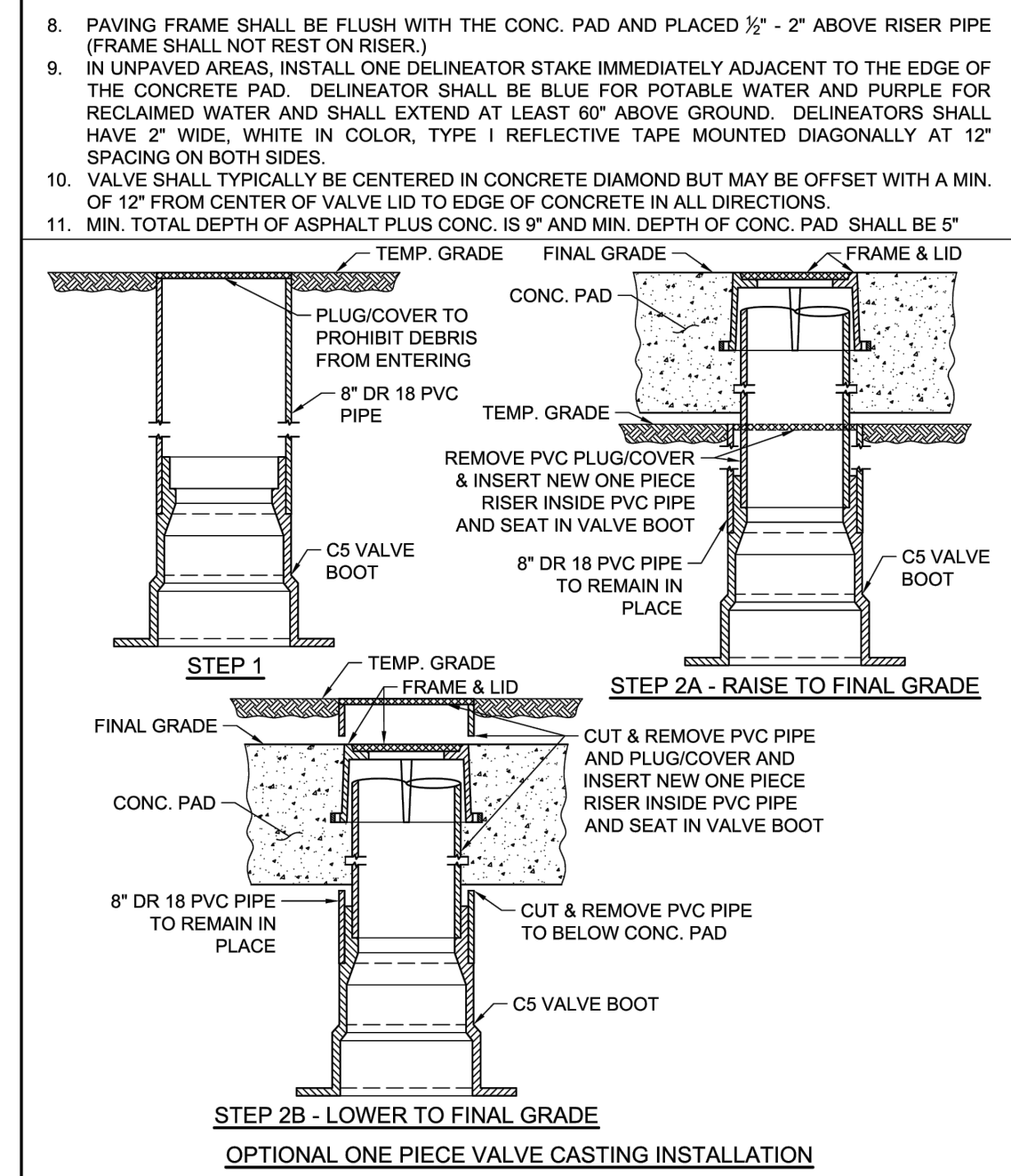
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 2 OF 4
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	05/18/2016 ADOPTED



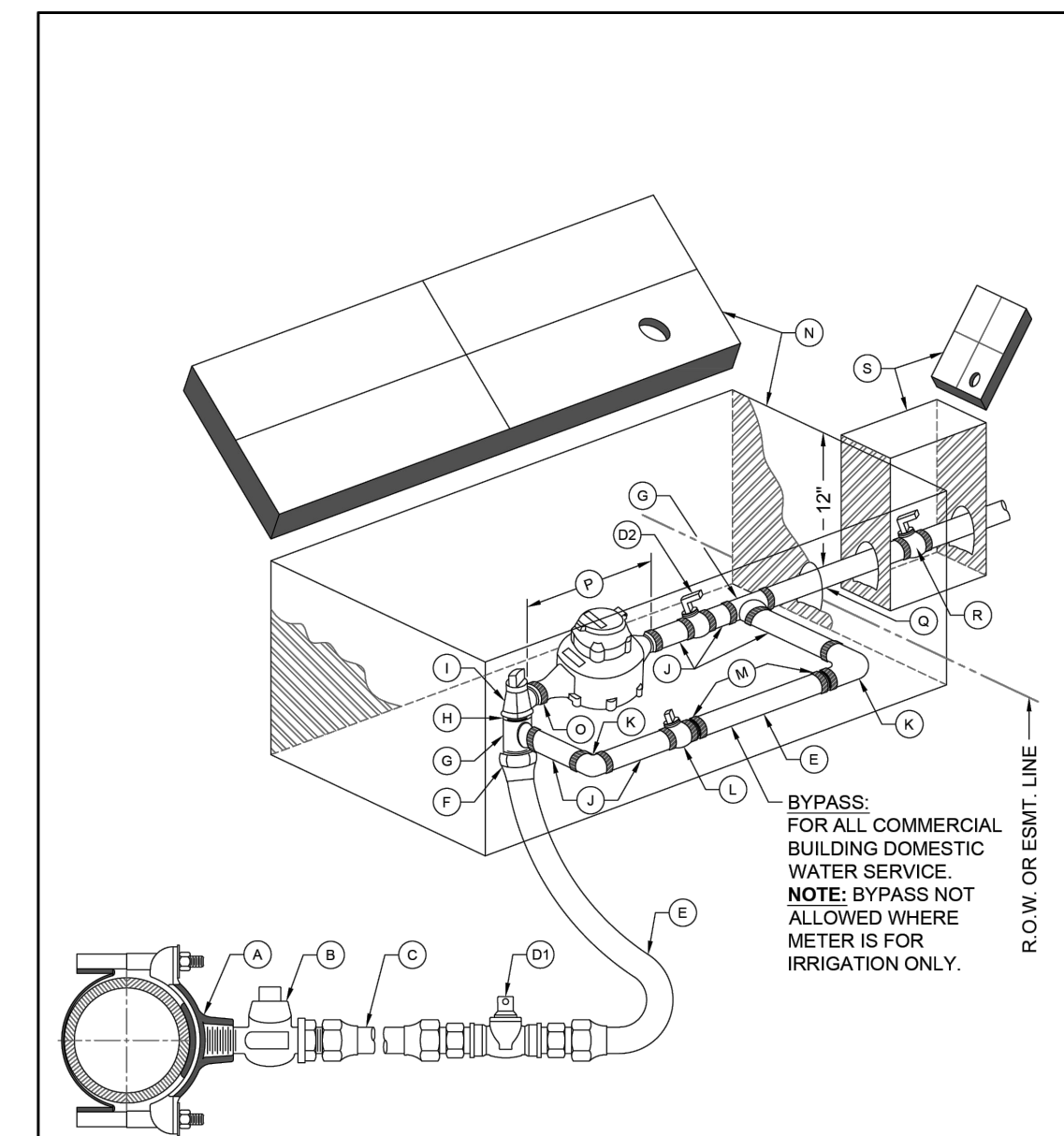
- NOTES:
- SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 2015, SUB-GRADE PREPARATION.
 - TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED 1/2" - 18" BELOW SUB-GRADE. THE INSIDE LIP OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
 - CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
 - WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 4025) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
 - REINFORCING STEEL SHALL MEET SPEC. ITEM 4065.7.
 - NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
 - BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18".

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 3 OF 4
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	05/18/2016 ADOPTED

- NOTES (CONT):
- PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED 1/2" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER).
 - IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
 - VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
 - MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	STANDARD NO. 511-AW-01 4 OF 4
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	05/18/2016 ADOPTED



CITY OF AUSTIN AUSTIN WATER	1 1/2" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	STANDARD NO. 520-AW-04 1 OF 2
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	05/18/2016 ADOPTED

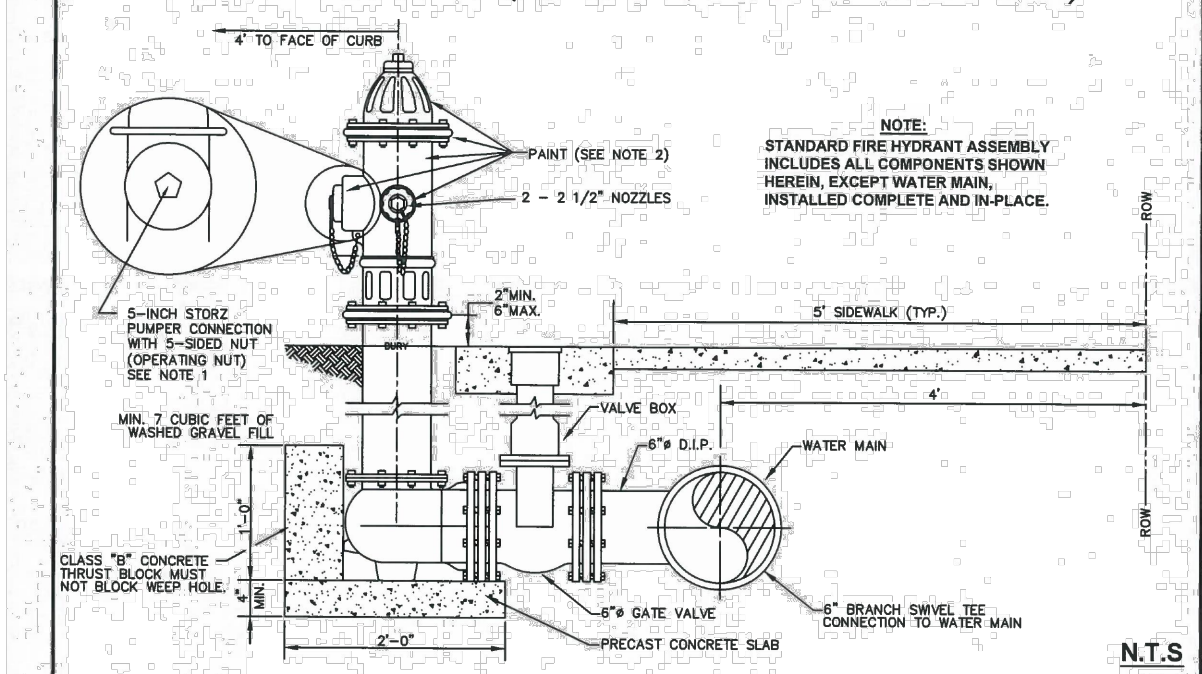
- MATERIALS LIST:
- A. 2" SERVICE CLAMP
 - B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
 - C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
 - D. 2" BALL VALVE, SPL WW-275
 - E. 2" BALL VALVE, SPL WW-275
 - F. 2" COPPER SERVICE TUBING
 - G. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
 - H. 2" BRASS CLOSE NIPPLE
 - I. 2" ANGLE METER STOP, SERVICE TUBING INLET X FLANGED OUTLET
 - J. 2" BRASS NIPPLE
 - K. 2" BRASS ELBOW
 - L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
 - M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
 - N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
 - O. BRASS ADAPTER (2" x 1 1/2") FOR 1 1/2" METER ONLY
 - P. WATER METER, LENGTH 13", (PURCHASED FROM AUSTIN WATER)
 - Q. 2" COPPER SERVICE TUBING (PRIVATE PLUMBING PER CODE)
 - R. CUSTOMER CUT-OFF VALVE
 - S. CUSTOMER VALVE BOX AND LID

- NOTES:
- SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
 - BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
 - TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
 - PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDINGS AS REQUIRED BY SECTION 510.3 (25).
 - BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
 - BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
 - COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

- RECLAIMED WATER:
- FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	1 1/2" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	STANDARD NO. 520-AW-04 2 OF 2
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	05/18/2016 ADOPTED

FIRE HYDRANTS LACKING INTEGRAL STORZ CONNECTOR SHALL BE REJECTED (NO STORZ ADAPTERS ALLOWED)



- NOTES:
- FIRE HYDRANT SHALL BE CLOW MEDALLION F2545, AMERICAN DARLING B-84-B-5, MUELLER SUPER CENTURION, EJ SCD250 WATERMASTER, KENNEDY K8ID GUARDIAN, AWK 2780, OR APPROVED EQUAL VIA SUBMITTAL PROCESS. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5-INCH STORZ PUMPER NOZZLE; 1.5-INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
 - HYDRANTS SHALL BE FACTORY PAINTED WITH FLUOR ALUMINUM SILVER PAINT OR SHERWIN WILLIAMS SILVER 895951. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY OR IF PAINT IS FLAKY IN APPEARANCE.
 - ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
 - ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUT" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
 - BLUE, BI-DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6" (SIX INCHES) FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT INTERSECTIONS, MARKERS SHALL BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

- LOCATION:
- SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE)
 - F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF TEN FEET (10') FROM RADIUS TANGENT POINT.
 - NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN THREE FEET (3') IN ALL DIRECTIONS FROM F.H.
 - 5-INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED.

CITY OF AUSTIN AUSTIN WATER	STANDARD FIRE HYDRANT ASSEMBLY	STANDARD NO. 520-AW-04 2 OF 2
RECORD COPY SIGNED BY KATHI L FLOWERS	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	05/18/2016 ADOPTED

PEA GROUP
 16060 DILLARD DR., SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
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STATE OF TEXAS
 JONATHAN A. PUFFER
 LICENSE NO. 143907
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CLIENT
 PENSKE AUTOMOTIVE GROUP
 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
 PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
 FEBRUARY 15, 2023

DRAWING TITLE
 STANDARD
 DETAILS 3 OF 8

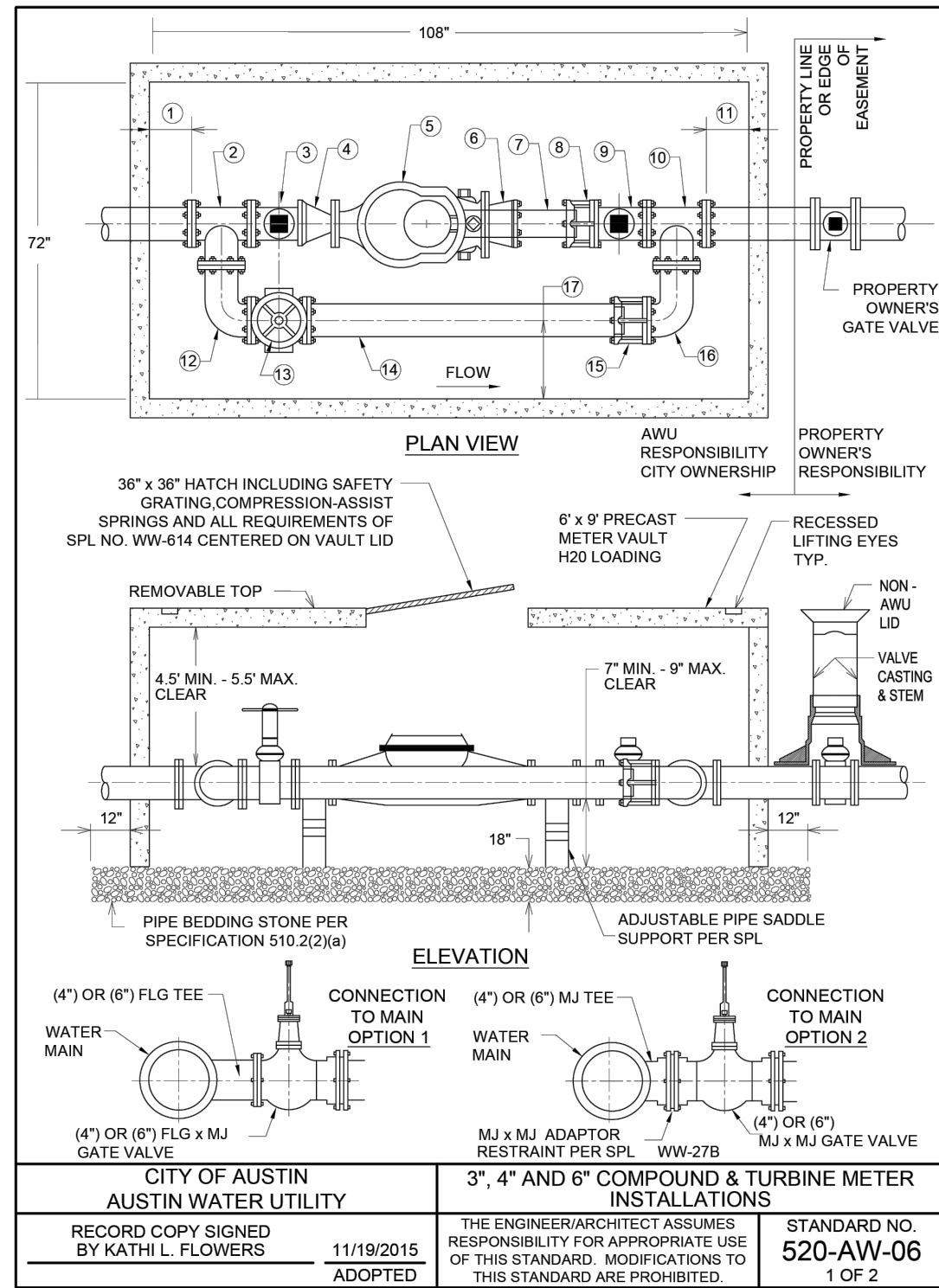
PEA JOB NO. 2022-1089

P.M. JP

DN. AC

DES. AC

DRAWING NUMBER:
 23 OF 36



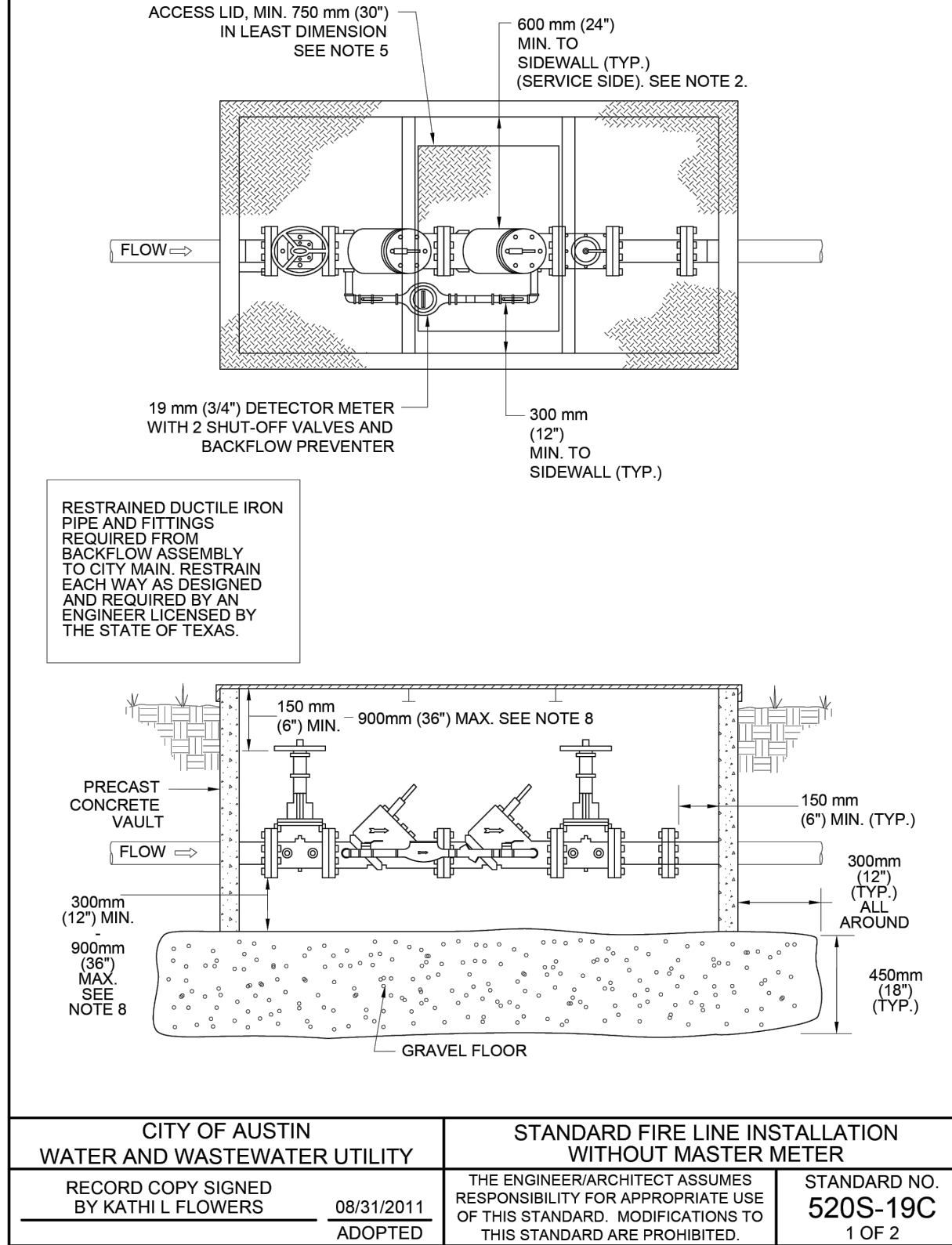
LARGE METER INSTALLATIONS

No.	METER LINE	3" TURBINE		4" COMPOUND		6" TURBINE		6" COMPOUND	
		F BRSS	F BRSS	F BRSS	F BRSS	F BRSS	F BRSS	F BRSS	F BRSS
1	CLEARANCE FROM VALVE WALL TO TEE	8"	8"	12"	12"	6"	6"		
2	FLANGED TEE	13"	13"	13"	13"	16"	16"		
3	COA GATE VALVE SQUARE NUT	9"	9"	9"	9"	10 1/2"	10 1/2"		
4	3" X 4" FLANGED REDUCER (3" METER ONLY)	7"	7"						
5	METER	17"	19"	20"	23"	24"	27"		
6	3" X 4" FLANGED REDUCER (3" METER ONLY)	7"	7"						
7+8	(7) FLANGED X PLAIN END DI PIPE + (8) RESTRAINED FLANGE COUPLING ADAPTER (RFCA) OR (8) FLANGE X DI PIPE + (5) DISMANTLING JOINT (DJ)	17"	15"	20"	17"	19"	16"		
9	COA GATE VALVE SQUARE NUT	9"	9"	9"	9"	10 1/2"	10 1/2"		
10	FLANGED TEE	13"	13"	13"	13"	16"	16"		
11	CLEARANCE FROM INSIDE WALL TO TEE	8"	8"	12"	12"	6"	6"		
	TOTAL (INCHES)	108.0"	108.0"	108.0"	108.0"	108.0"	108.0"		
BYPASS LINE									
1	CLEARANCE FROM INSIDE WALL TO TEE	8"	8"	12"	12"	6"	6"		
1/2	TEE	6 1/2"	6 1/2"	6 1/2"	6 1/2"	8"	8"		
12	FLANGED 90° ELBOW	6 1/2"	6 1/2"	6 1/2"	6 1/2"	8"	8"		
13	BYPASS GATE VALVE WITH HAND WHEEL	9"	9"	9"	9"	10 1/2"	10 1/2"		
14+15	(13) FLANGED X PLAIN END DI PIPE + (3) RESTRAINED FLANGE COUPLING ADAPTER (RFCA) OR (3) FLANGE X DI PIPE + (5) DISMANTLING JOINT (DJ)	57"	57"	49"	49"	53 1/2"	53 1/2"		
16	FLANGED 90° ELBOW	6 1/2"	6 1/2"	6 1/2"	6 1/2"	8"	8"		
1/2	TEE	6 1/2"	6 1/2"	6 1/2"	6 1/2"	8"	8"		
11	CLEARANCE FROM VALVE WALL TO TEE	8"	8"	12"	12"	6"	6"		
	TOTAL (INCHES)	108.0"	108.0"	108.0"	108.0"	108.0"	108.0"		
17	CLEARANCE FROM INSIDE WALL TO CENTER OF BYPASS LINE	23"	23"	23"	23"	20"	20"		

NOTES:
1. METER VAULT MUST BE PLACED AT THE PROPERTY LINE WITHIN PUBLIC RIGHT-OF-WAY OR WITHIN A DEDICATED WATER METER EASEMENT. METERS SHALL NOT BE PLACED IN THE PATH OF VEHICULAR TRAFFIC INCLUDING ROADWAYS, DRIVEWAYS AND PARKING LOTS. METERS MAY NOT BE PLACED IN SIDEWALKS UNLESS SPECIFICALLY APPROVED BY AUSTIN WATER. METERS MUST BE ACCESSIBLE TO SERVICE VEHICLES AND SHALL NOT BE ENCLOSED WITHIN PROPERTY FENCES.
2. ALL PIPE AND FITTINGS FROM MAIN TO CUSTOMER VALVE SHALL BE RESTRAINED.
3. FACTORY NOTCHES WHERE PIPING GOES THROUGH VAULT WALL SHALL BE FILLED WITH NON-SHRINK GROUT PER SPL NO. WW-704A.

CITY OF AUSTIN
AUSTIN WATER UTILITY
RECORD COPY SIGNED BY KATHI L. FLOWERS 11/19/2015 ADOPTED

3", 4" AND 6" COMPOUND & TURBINE METER INSTALLATIONS
THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.
STANDARD NO. 520-AW-06 2 OF 2

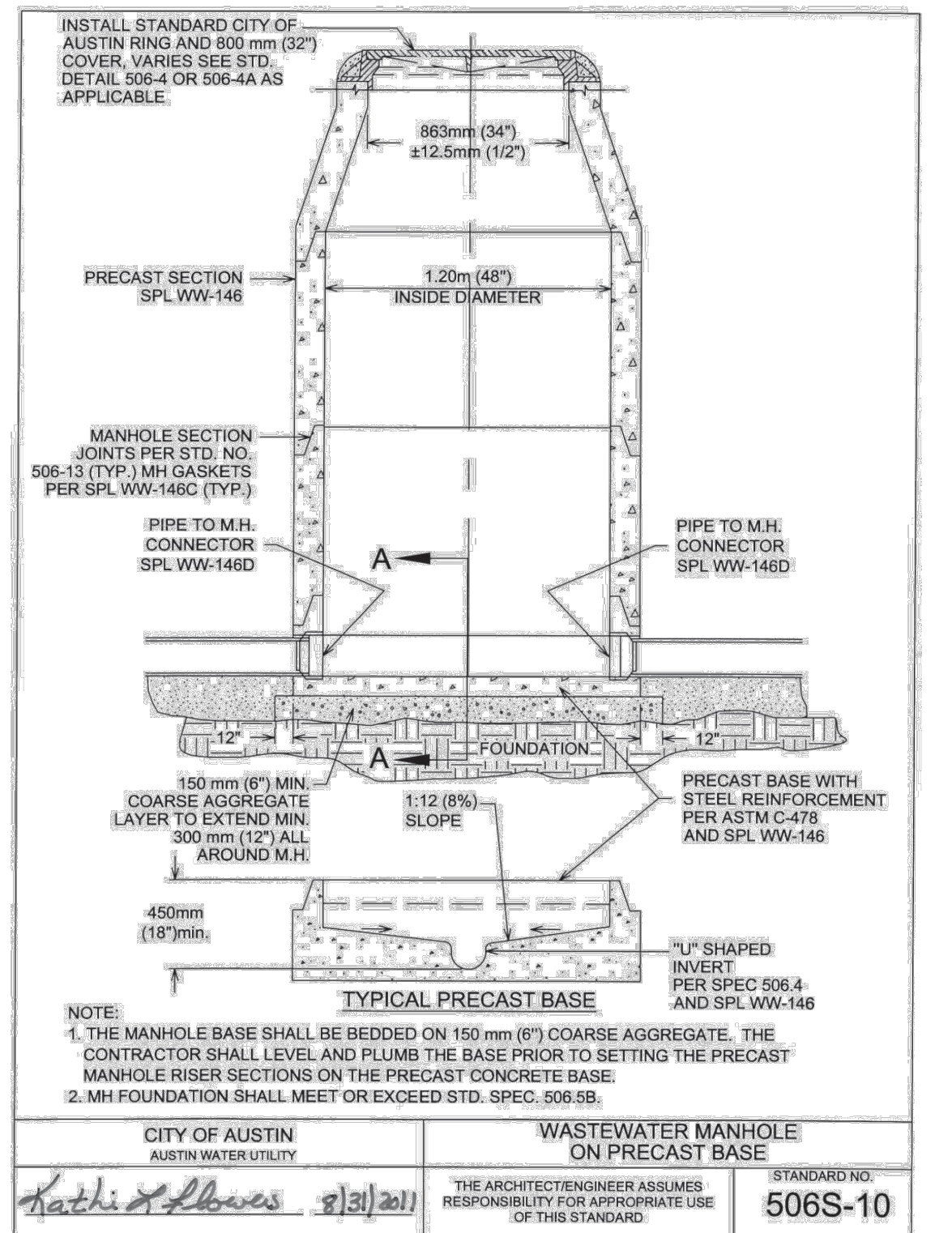
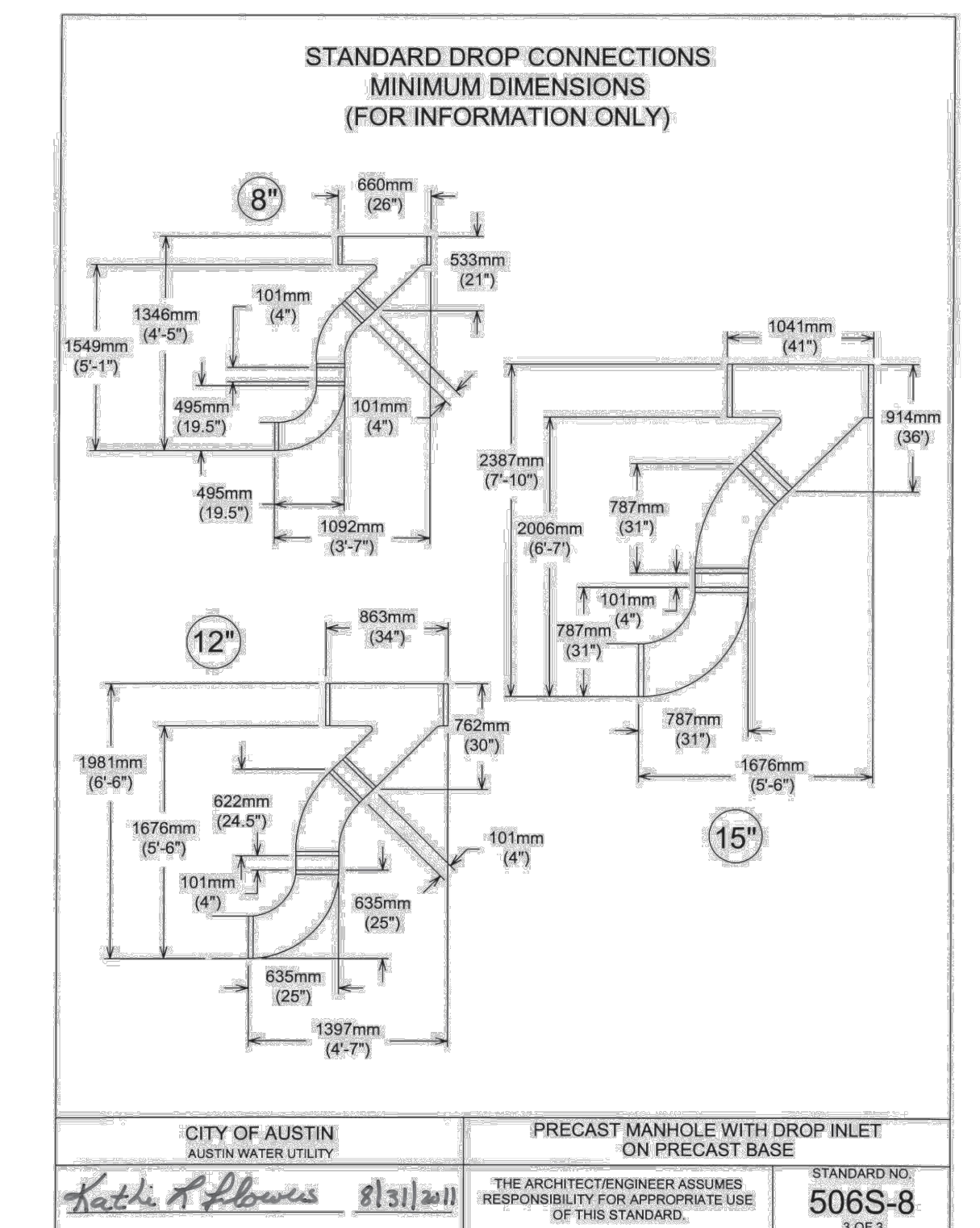
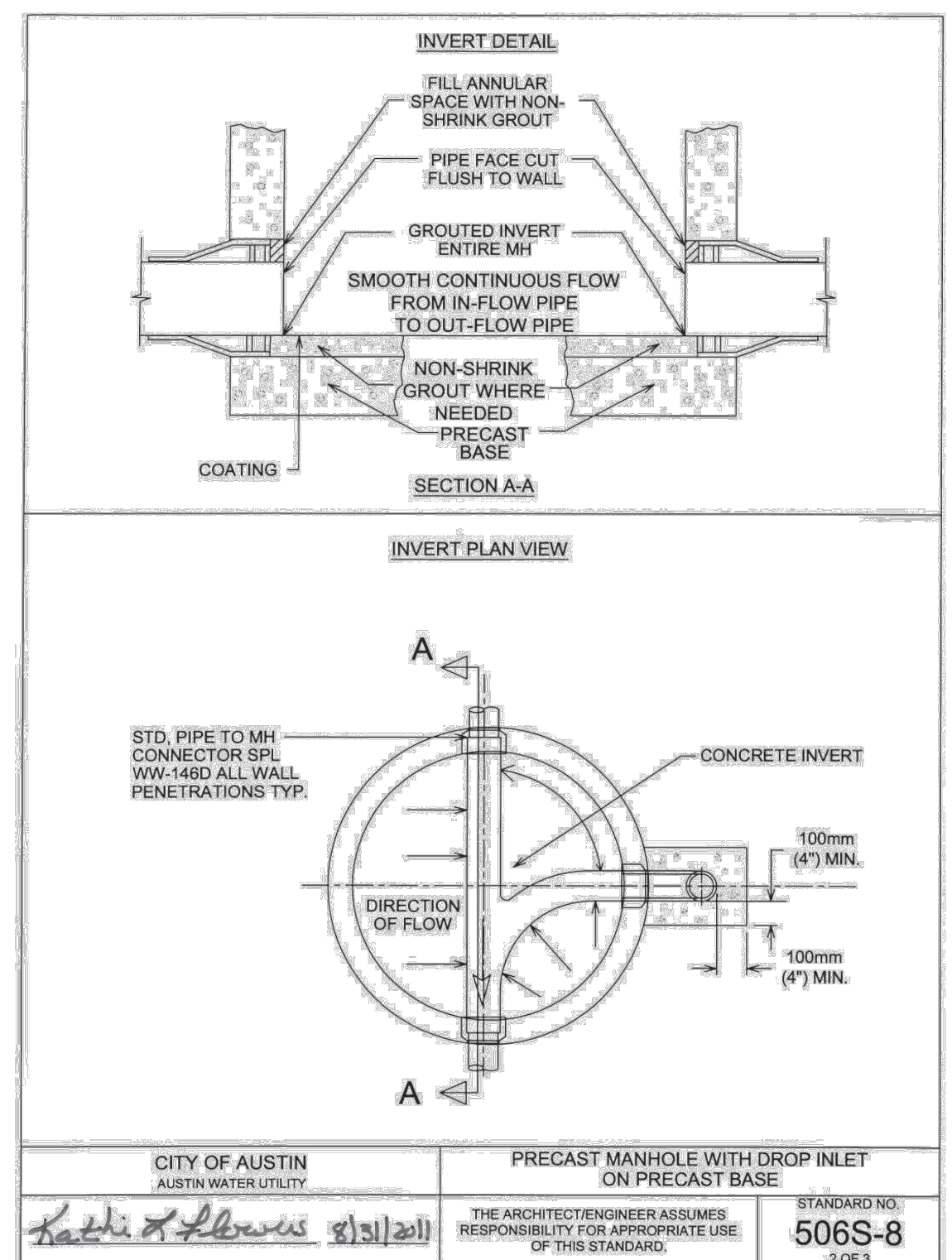
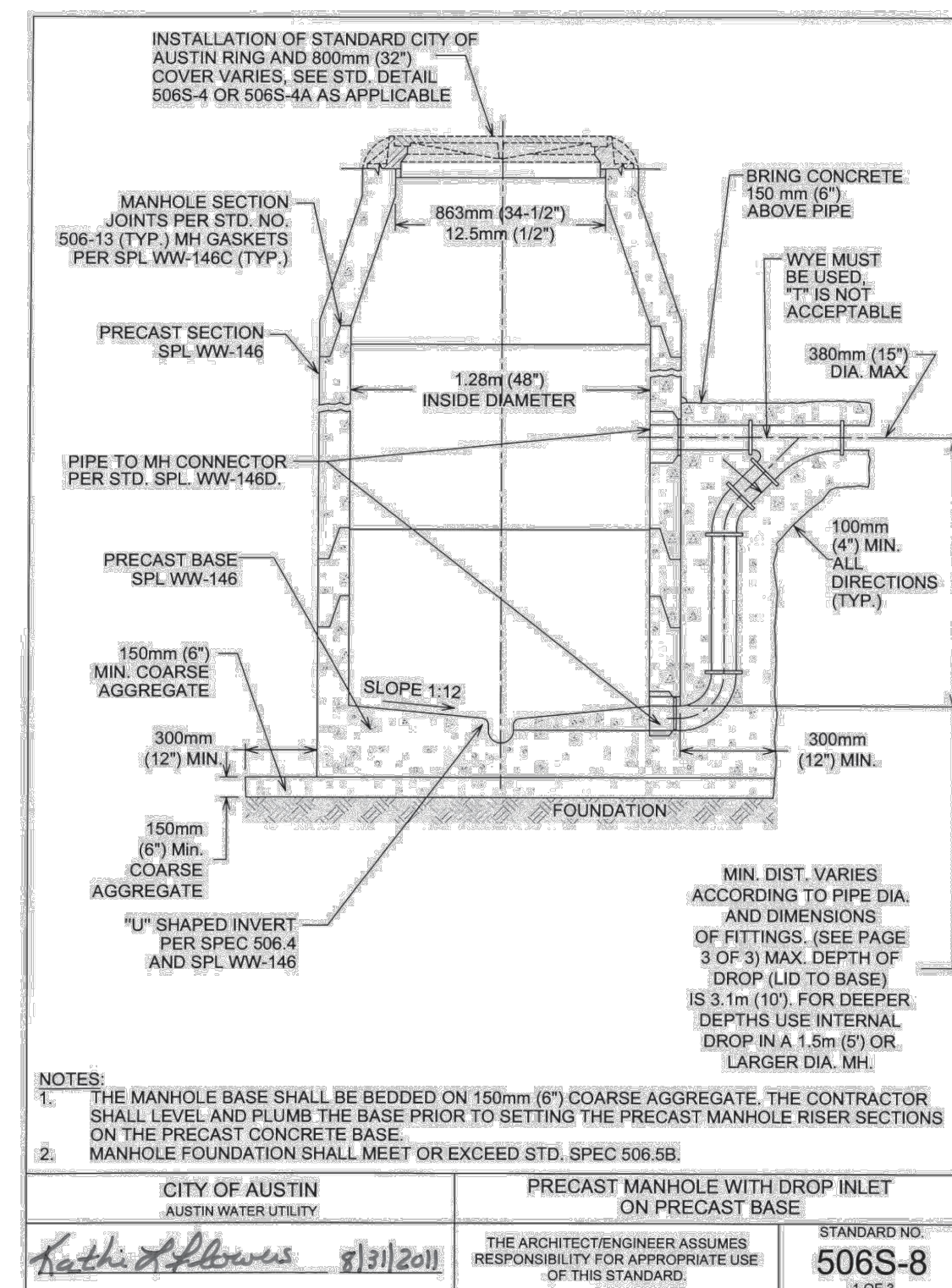


NOTES:

- ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
- ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.
- BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.
- CLEARANCE SHALL BE AS INDICATED AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.
- TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.
- VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.
- VAULT DEPTH MAY NOT EXCEED 1.8m (72"). BOTTOM OF LID TO TOP OF FLOOR.
- HAND WHEELS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.
- FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H2O LOADING REQUIRED).
- FOR VAULT SEE SPL WW-298 OR APPROVED EQUAL (H2O LOADING REQUIRED).
- VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.
- THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.

CITY OF AUSTIN
WATER AND WASTEWATER UTILITY
RECORD COPY SIGNED BY KATHI L. FLOWERS 08/31/2011 ADOPTED

STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER
THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.
STANDARD NO. 520S-19C 2 OF 2



PEA GROUP
1606 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
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STATE OF TEXAS
JONATHAN A. PUFFER
143907
8/4/2023

811 Know what's below. Call before you dig.

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CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

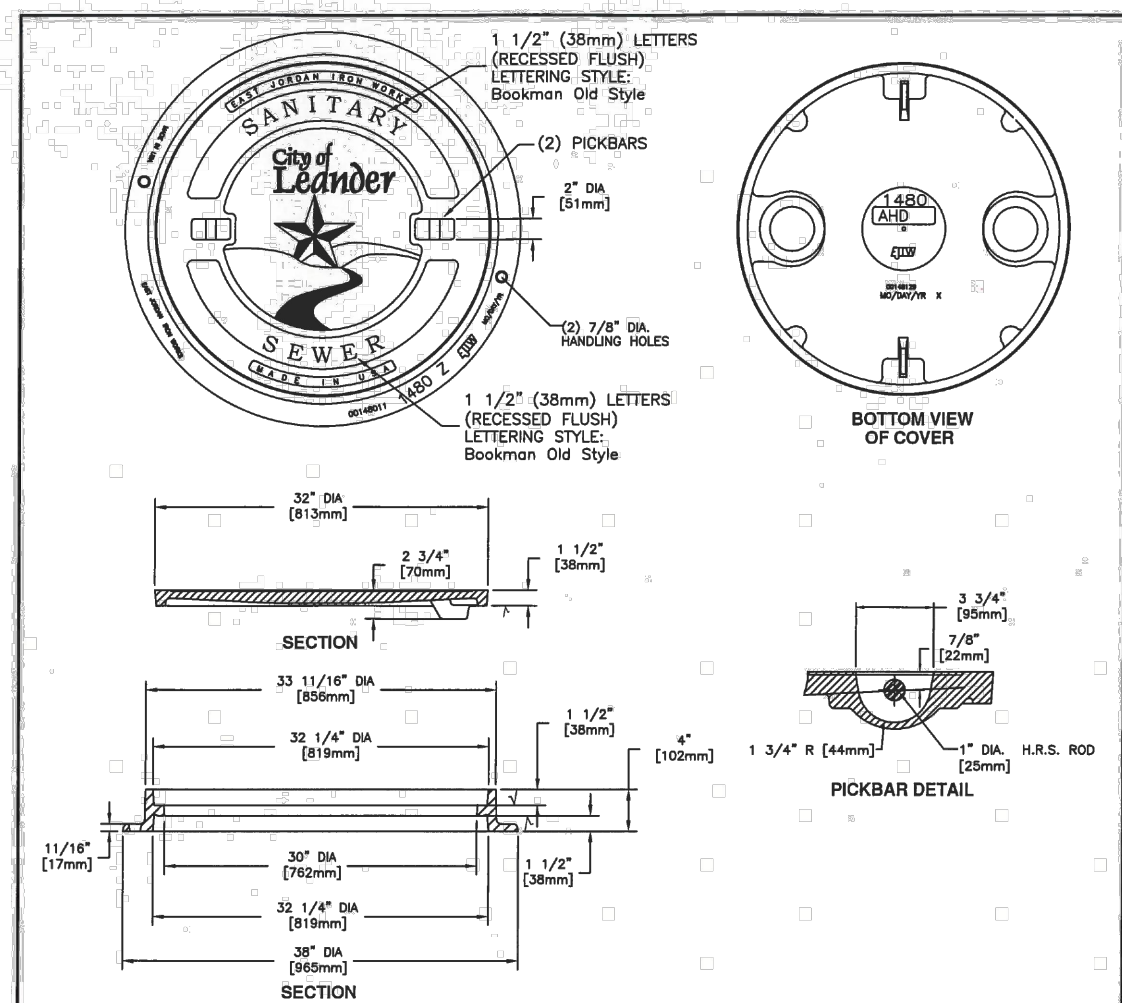
PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

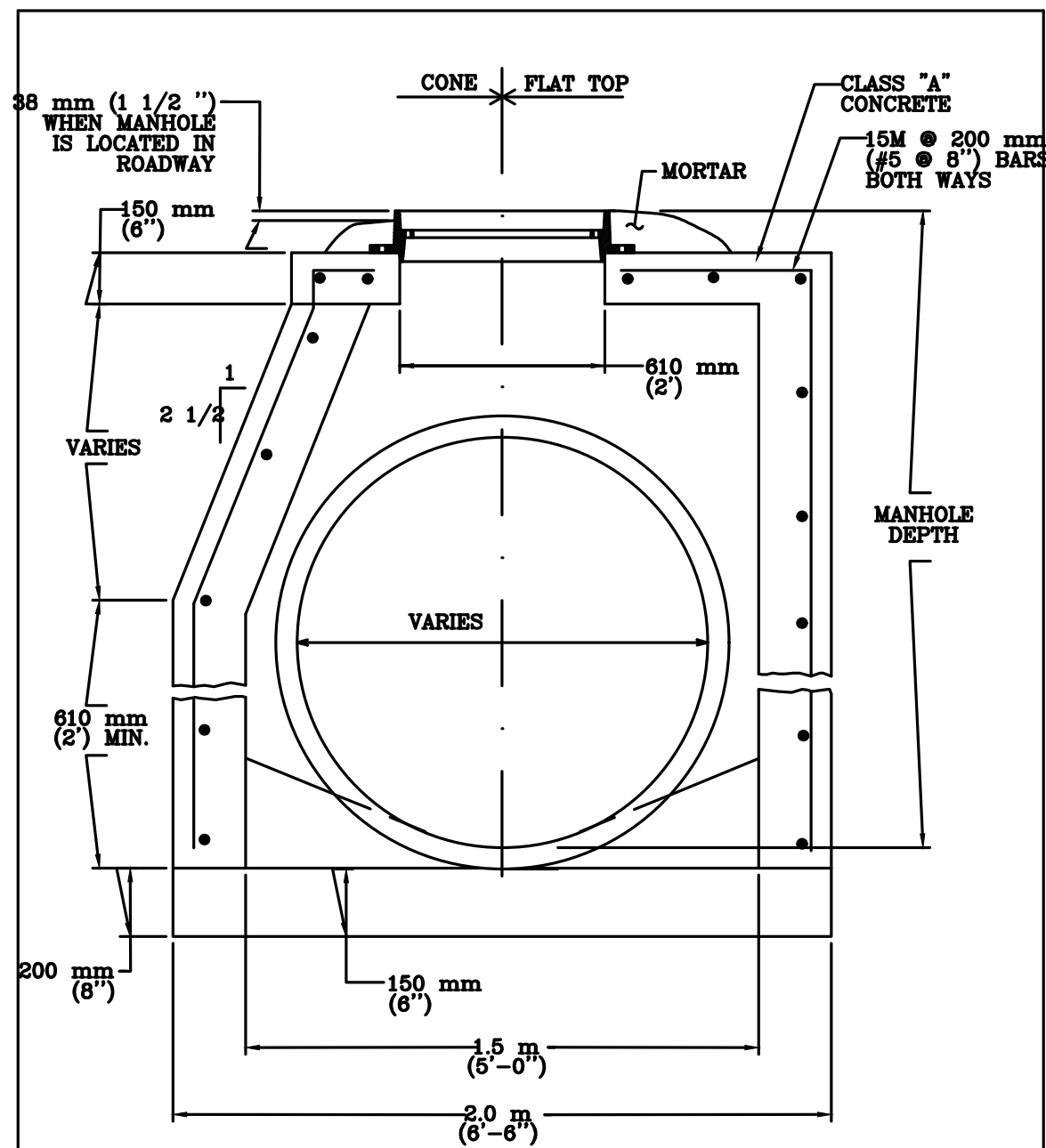
DRAWING TITLE
STANDARD DETAILS 4 OF 8

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC
DRAWING NUMBER:
24 OF 36



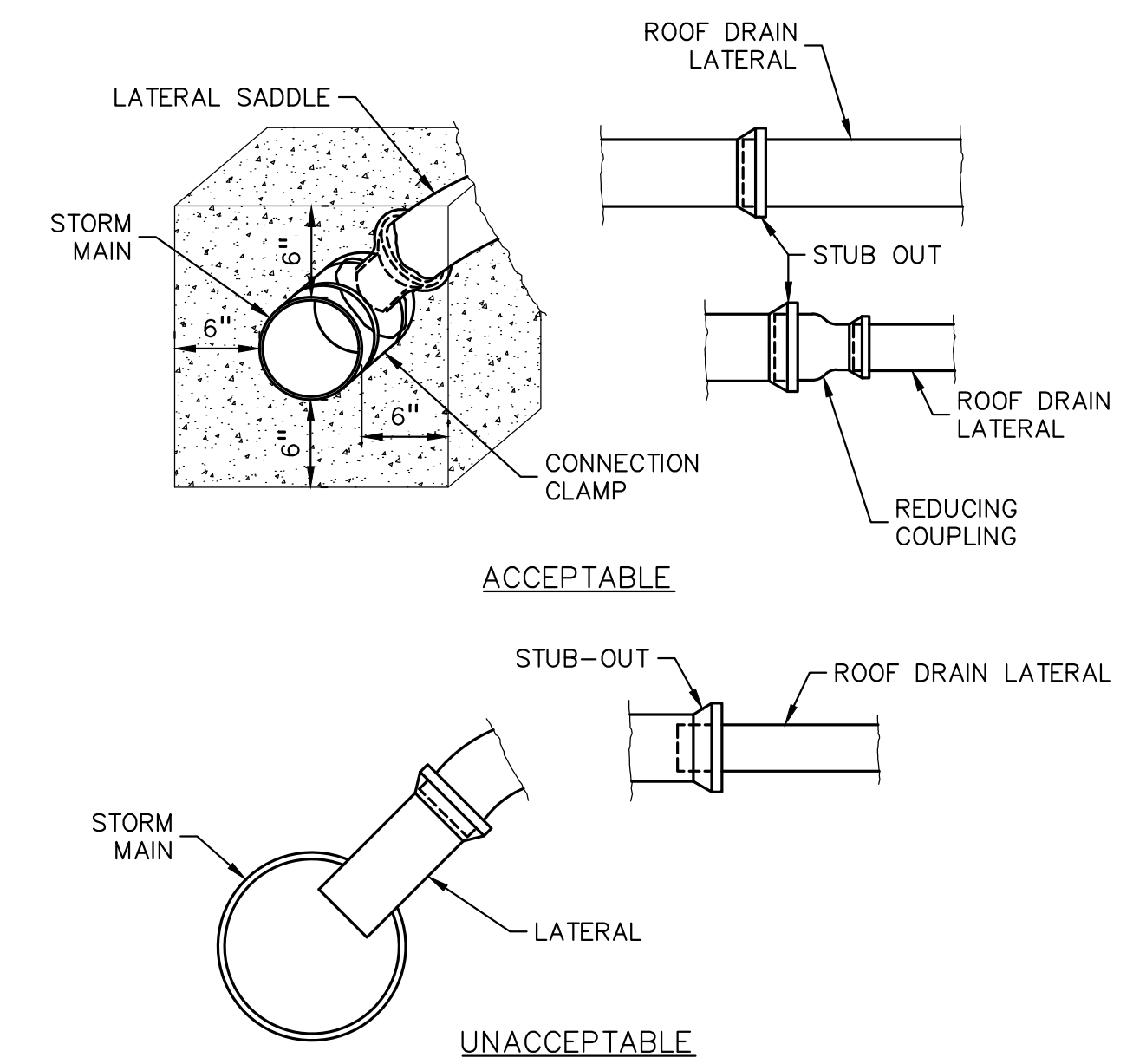
MANHOLE ASSEMBLY	EST. WT. 91kg COVER: 200 LBS FRAME: 155 LBS UNIT: 355 LBS	91kg 70kg 161kg
EAST JORDAN IRON WORKS	OPEN AREA	N/A
PRODUCT NO. 00148107 OR NEENAH FOUNDRY DF-1274 LEANDER SANITARY	COVER MAT'L SPEC. - GRAY IRON ASTM A48 CL35B FRAME - GRAY IRON ASTM A48 CL35B	LOAD RATING HEAVY DUTY (H20)

City of Leander, Texas
 DETAIL #107-1
 SANITARY SEWER MANHOLE COVER



MANHOLE ASSEMBLY	EST. WT. 91kg COVER: 200 LBS FRAME: 155 LBS UNIT: 355 LBS	91kg 70kg 161kg
EAST JORDAN IRON WORKS	OPEN AREA	N/A
PRODUCT NO. 00148105 OR NEENAH FOUNDRY DF-1274 LEANDER STORM	COVER MAT'L SPEC. - GRAY IRON ASTM A48 CL35B FRAME - GRAY IRON ASTM A48 CL35B	LOAD RATING HEAVY DUTY (H20)

City of Leander, Texas
 DETAIL #107-3
 STORM SEWER MANHOLE COVER (HEAVY DUTY)



NOTE: THE SADDLE SHALL BE PERMANENTLY BONDED TO THE EXISTING MAIN BY THE USE OF COMPOUNDS OR CLAMPS AS RECOMMENDED BY THE MANUFACTURER.

ROOF DRAIN LATERAL CONNECTION TO STORM
 SCALE: NO SCALE

PEA GROUP
 1606 DILLARD DR., SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
 #F-21237 & #10194679

STATE OF TEXAS
 JONATHAN A. PUFFER
 143907
 8/4/2023

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CLIENT
PENSKE AUTOMOTIVE GROUP
 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
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DRAWING TITLE
STANDARD DETAILS 5 OF 8

PEA JOB NO. 2022-1089

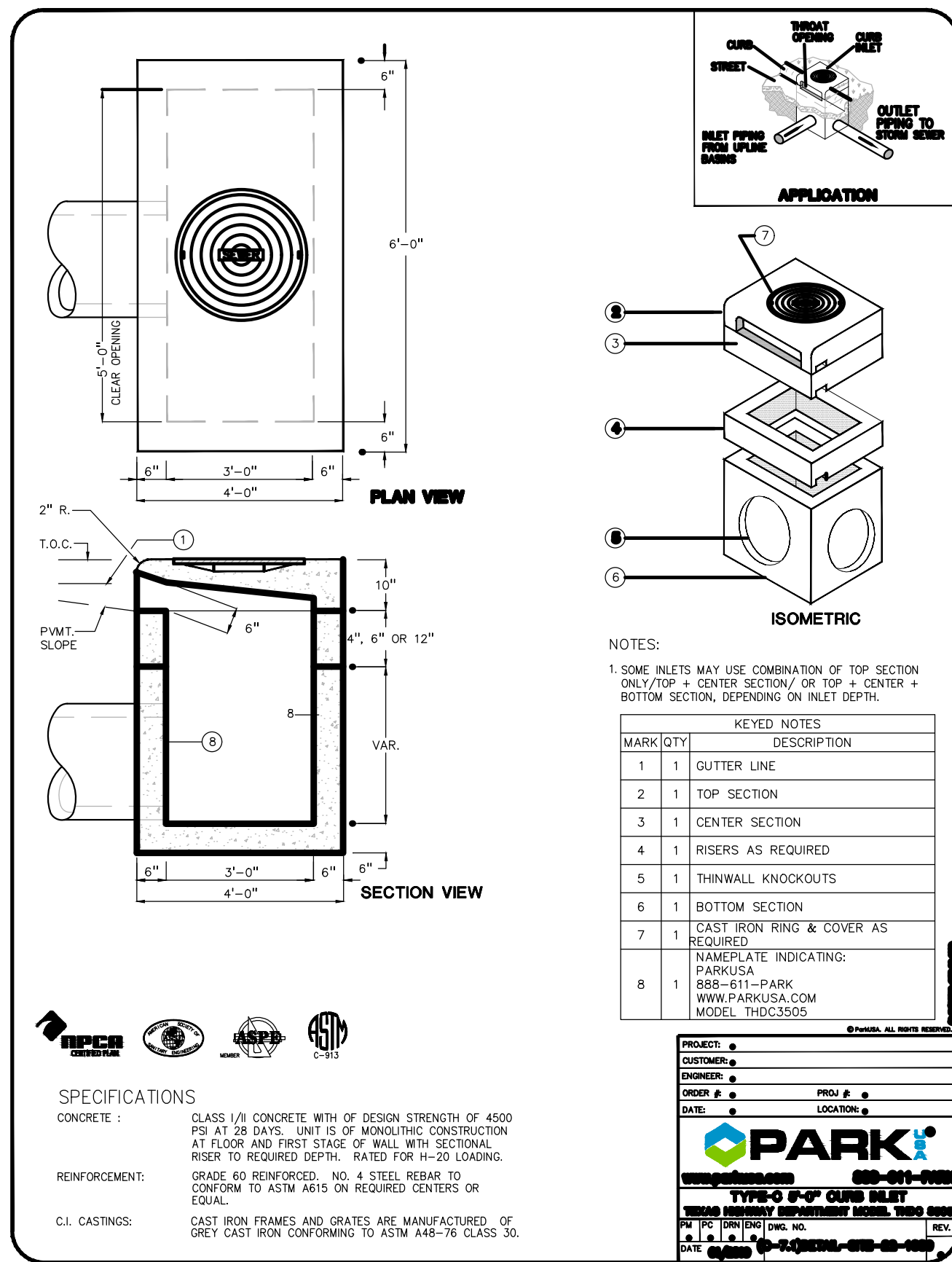
P.M. JP

DN. AC

DES. AC

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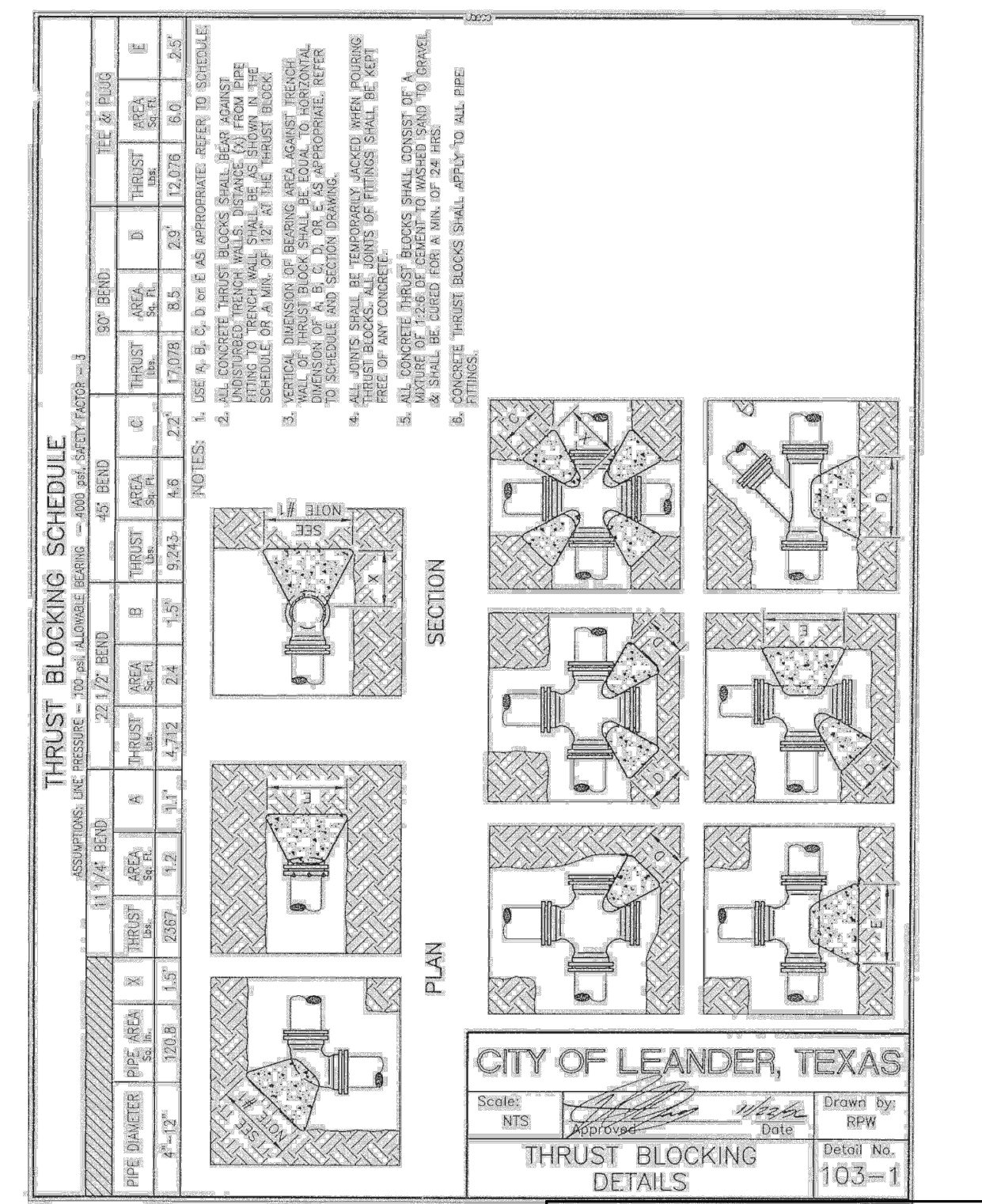
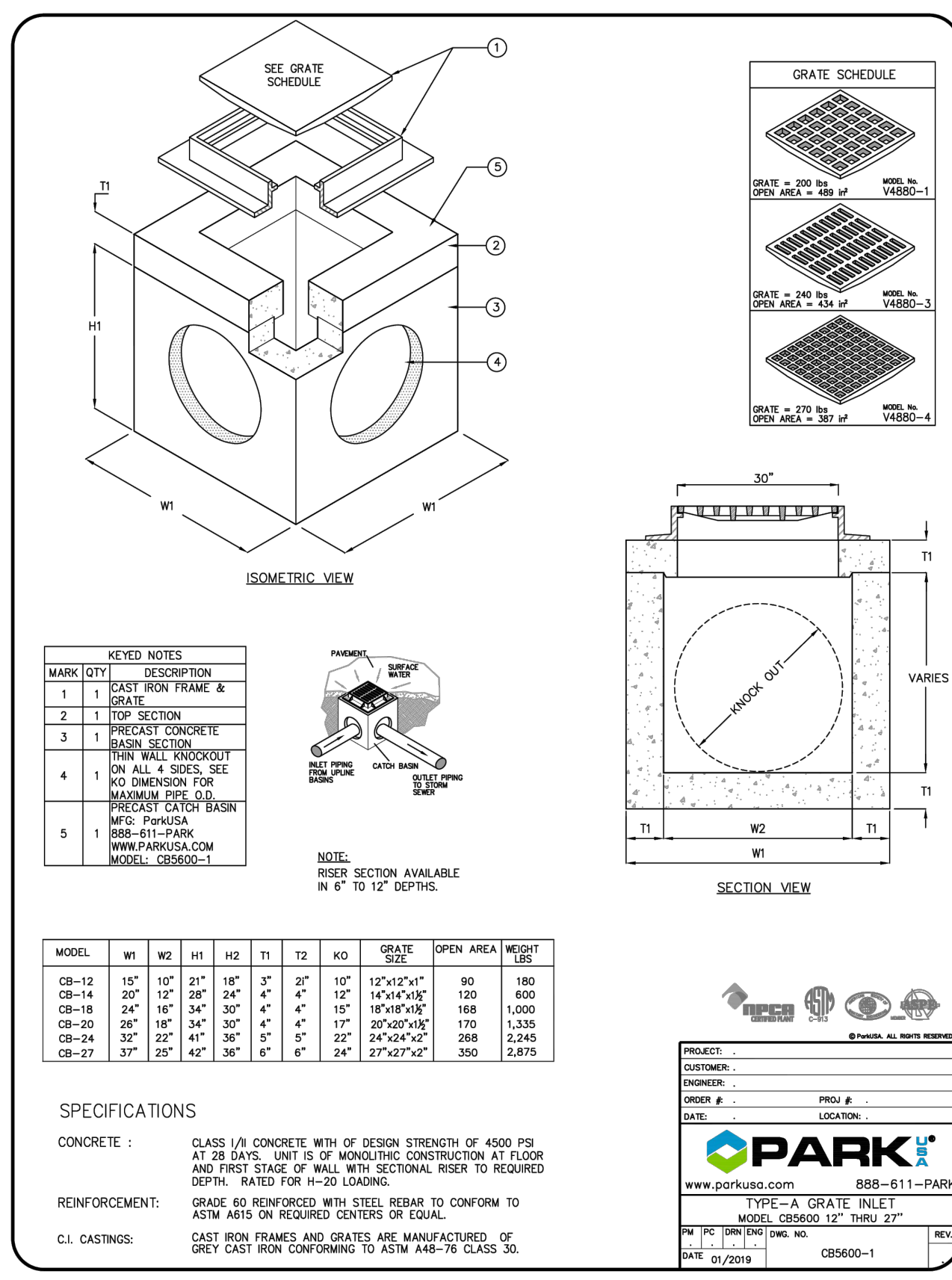
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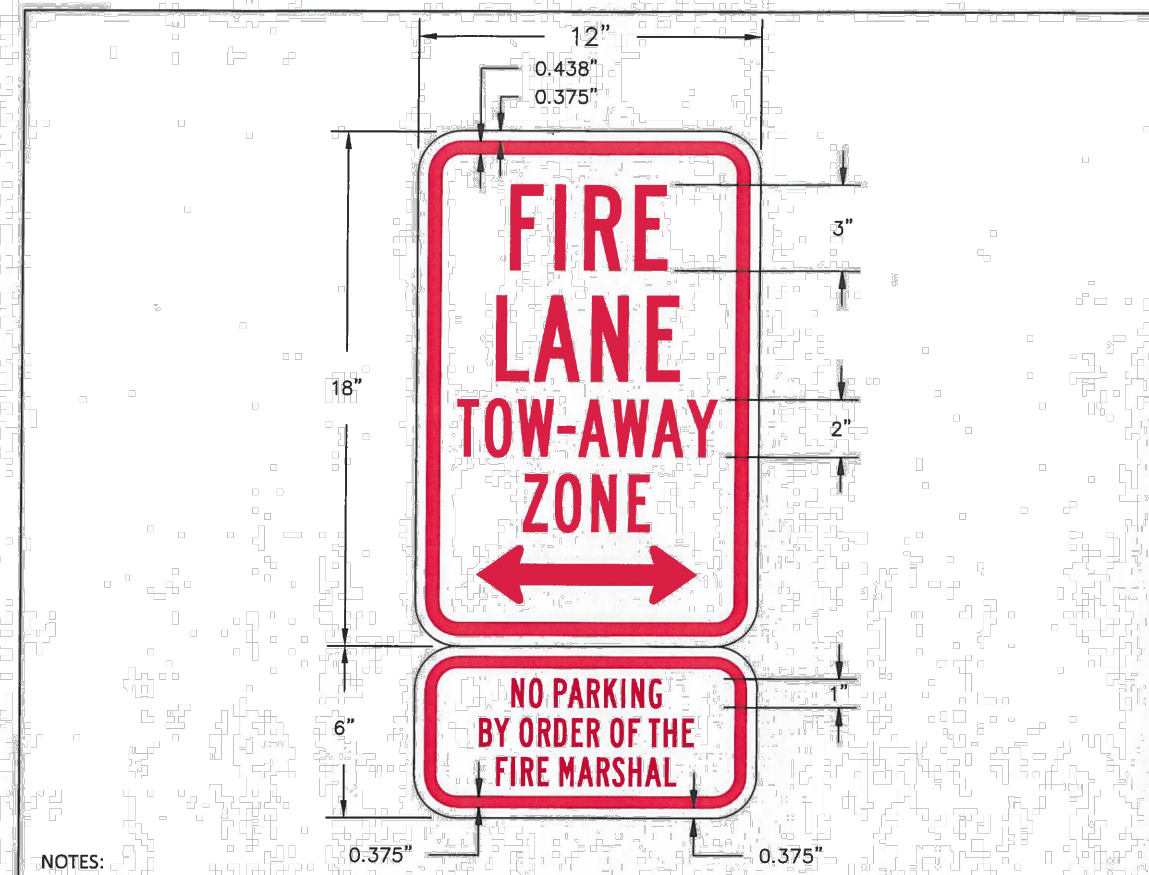
**NO DUMPING
 DRAINS TO CREEK**

NOTES:
 1. INSTALL 4" DIAMETER STAINLESS STEEL "NO DUMPING - DRAINS TO CREEK" MARKER, FACTORY PAINTED BLUE AS SHOWN, 2" ABOVE VERTICAL FACE OF INLET AT MIDPOINT OF ALL INLETS.
 2. MARKER SHALL BE AFFIXED TO SURFACE WITH ADHESIVE PER MANUFACTURER'S RECOMMENDATIONS.
 3. MARKER SHALL BE MANUFACTURED BY ALMATEK INDUSTRIES OR APPROVED EQUAL: ALMATEK INDUSTRIES, INC. 2 JOY DRIVE HACKETTSTOWN, NJ 07840 (800) 248-2080 WWW.ALMATEK.COM

City of Leander, Texas
 DETAIL #303-3
 STORM DRAIN MARKERS



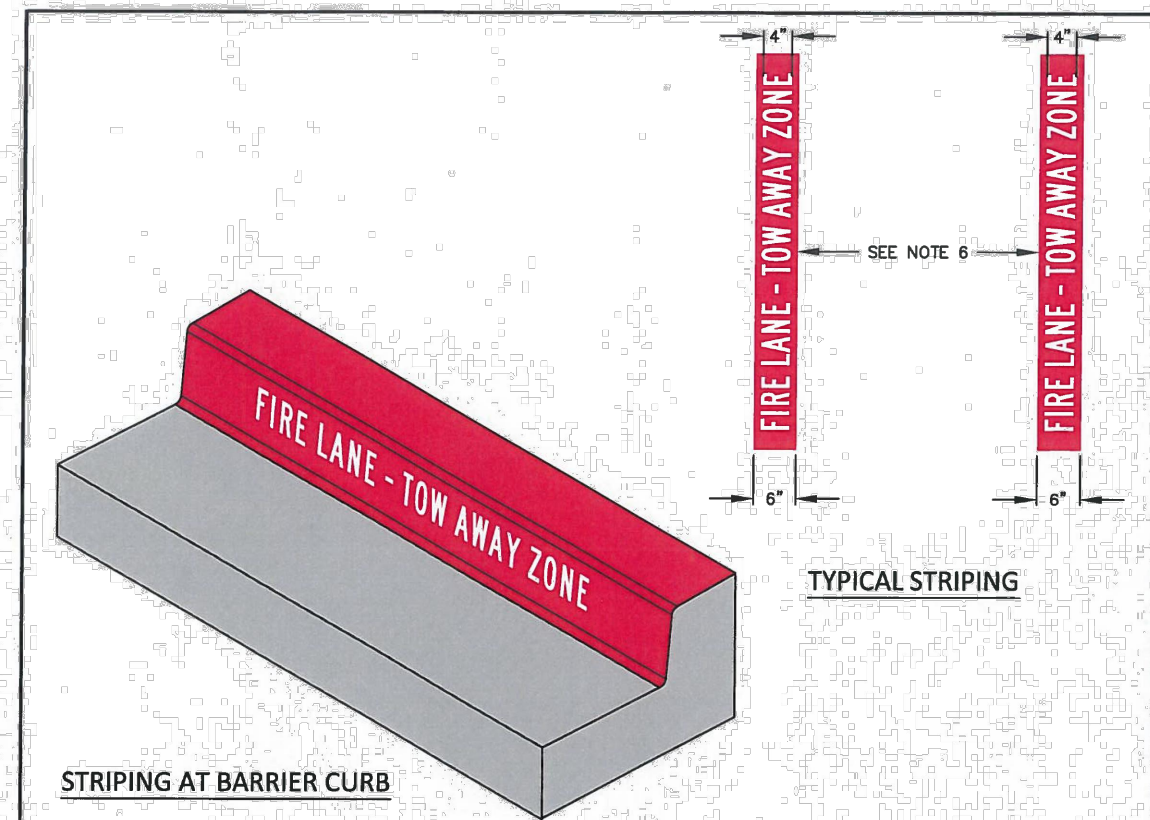
PLOTTED: 8/2/2023 5:35 PM
 PROJECT: LEANDER HYUNDAI PARK CONSTRUCTION (C-7) (SCALE: 1/2" = 1'-0")



- NOTES:
- 12-INCH BY 18-INCH AND 12-INCH BY 6-INCH, 0.080 INCH THICK ALUMINUM BLANKS. COVERED WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING. BORDER AND LETTERING SHALL BE CUT FROM RED 3M ELECTRO CUT FILM.
 - ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES B.
 - SIGNS SHALL BE PERMANENTLY AFFIXED TO A STATIONARY POST AND THE BOTTOM OF THE SIGN ASSEMBLY SHALL BE SIX FEET, SIX INCHES (6'-6") ABOVE FINISHED GRADE.
 - SIGNS SHALL BE SPACED NOT MORE THAN 35' APART.
 - SIGNS MAY BE INSTALLED ON PERMANENT BUILDINGS OR WALLS AS APPROVED BY THE FIRE CODE OFFICIAL.
 - IF THE SIGN IS AT THE END OF A FIRE ZONE, THE SIGN SHALL HAVE A SINGLE-HEADED ARROW POINTING IN THE DIRECTION OF THE ZONE. IF THE SIGN IS AT AN INTERMEDIATE POINT IN THE ZONE, THE SIGN SHALL HAVE A DOUBLE-HEADED ARROW POINTING IN BOTH DIRECTIONS.
 - FIRE LANE SIGNS SHALL BE POSTED ON BOTH SIDES OF FIRE APPARATUS ACCESS ROADS THAT ARE TWENTY FEET (20') TO TWENTY-SIX FEET (26') WIDE.
 - FIRE LANE SIGNS SHALL BE POSTED ON ONE SIDE OF FIRE APPARATUS ACCESS ROADS MORE THAN TWENTY-SIX FEET (26') WIDE AND LESS THAN THIRTY-TWO FEET (32') WIDE.

*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

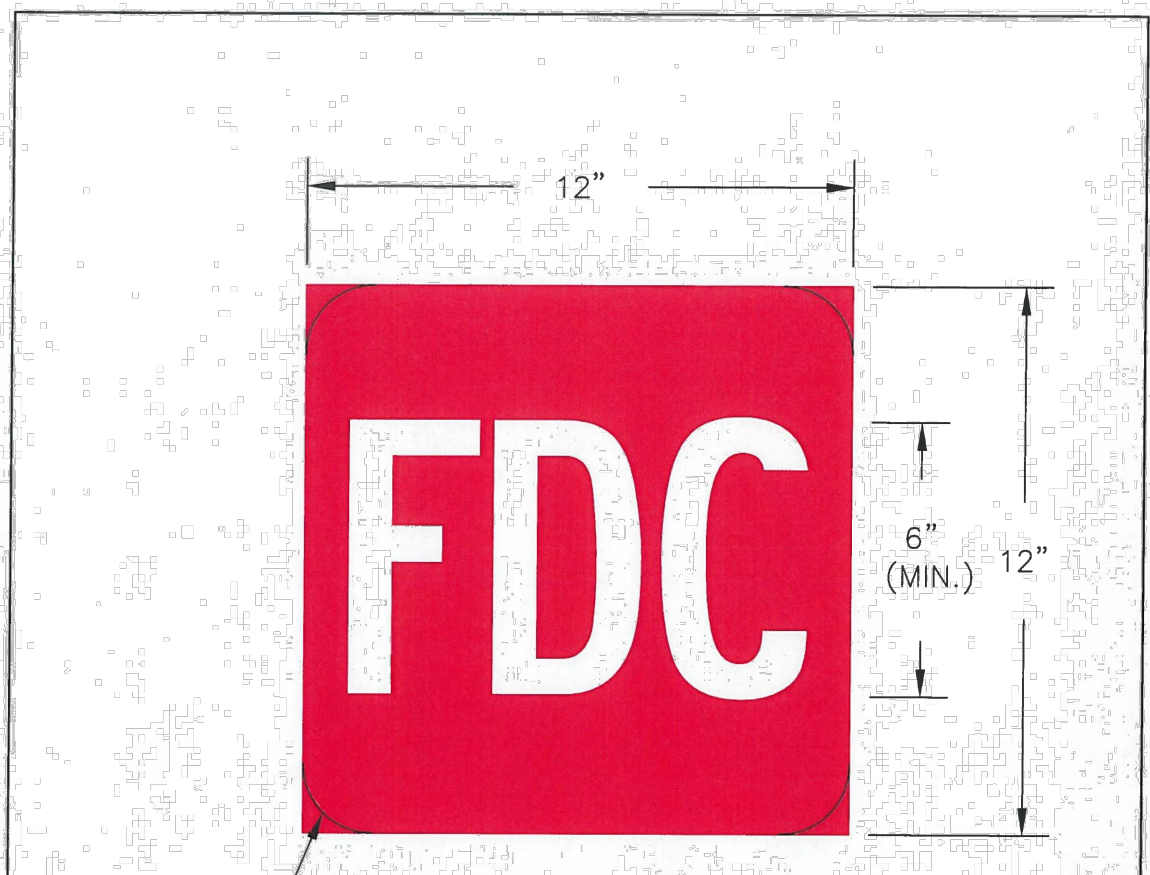
CITY OF LEANDER, TEXAS
 DETAIL #501-1
 FIRE LANE SIGN ASSEMBLY
 2017-01-28
 FIRE MARSHAL



- STRIPING AT BARRIER CURB
- NOTES:
- ALL FIRE LANE STRIPING SHALL COMPLY WITH THE CURRENT INTERNATIONAL FIRE CODE, AS ADOPTED BY THE CITY OF LEANDER, AND CITY OF LEANDER CODE OF ORDINANCES.
 - FIRE LANES SHALL BE CONTINUOUSLY MARKED BY RED TRAFFIC PAINT THAT IS MINIMUM SIX INCHES (6") IN WIDTH TO SHOW THE BOUNDARIES OF THE LANE.
 - "FIRE LANE - TOW AWAY ZONE" SHALL APPEAR IN FOUR INCH (4") TYPE D WHITE BLOCK LETTERS AT TWENTY-FIVE FOOT (25') INTERVALS, OR LESS, ON THE RED BORDER MARKINGS ALONG BOTH SIDES OF THE FIRE LANE.
 - WHERE A 6" BARRIER CURB EXISTS, THE FIRE LANE STRIPING SHALL BE ON BOTH THE VERTICAL FACE OF THE CURB AND TOP OF CURB. "FIRE LANE - TOW AWAY ZONE" SHALL BE MARKED IN 4" WHITE BLOCK LETTERS ON FACE OF CURB ONLY.
 - WHERE A FIRE LANE IS ADJACENT TO PARKING SPACES THE FIRE LANE STRIPING SHALL BE AN 8" RED STRIPE PAINTED ON THE DRIVE SURFACE WITH 4" WHITE LETTERS STATING "FIRE LANE NO PARKING TOW-AWAY ZONE." FIRE LANE STRIPING SHALL EXTEND BEHIND ALL PARKING SPACES.
 - WHERE A FIRE HYDRANT, FIRE DEPARTMENT CONNECTION, OR OTHER FIRE PROTECTION EQUIPMENT IS LOCATED ON A FIRE LANE, THE FIRE LANE SHALL BE A MINIMUM OF TWENTY-SIX FEET (26') IN WIDTH, EXCLUSIVE OF SHOULDER.

*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

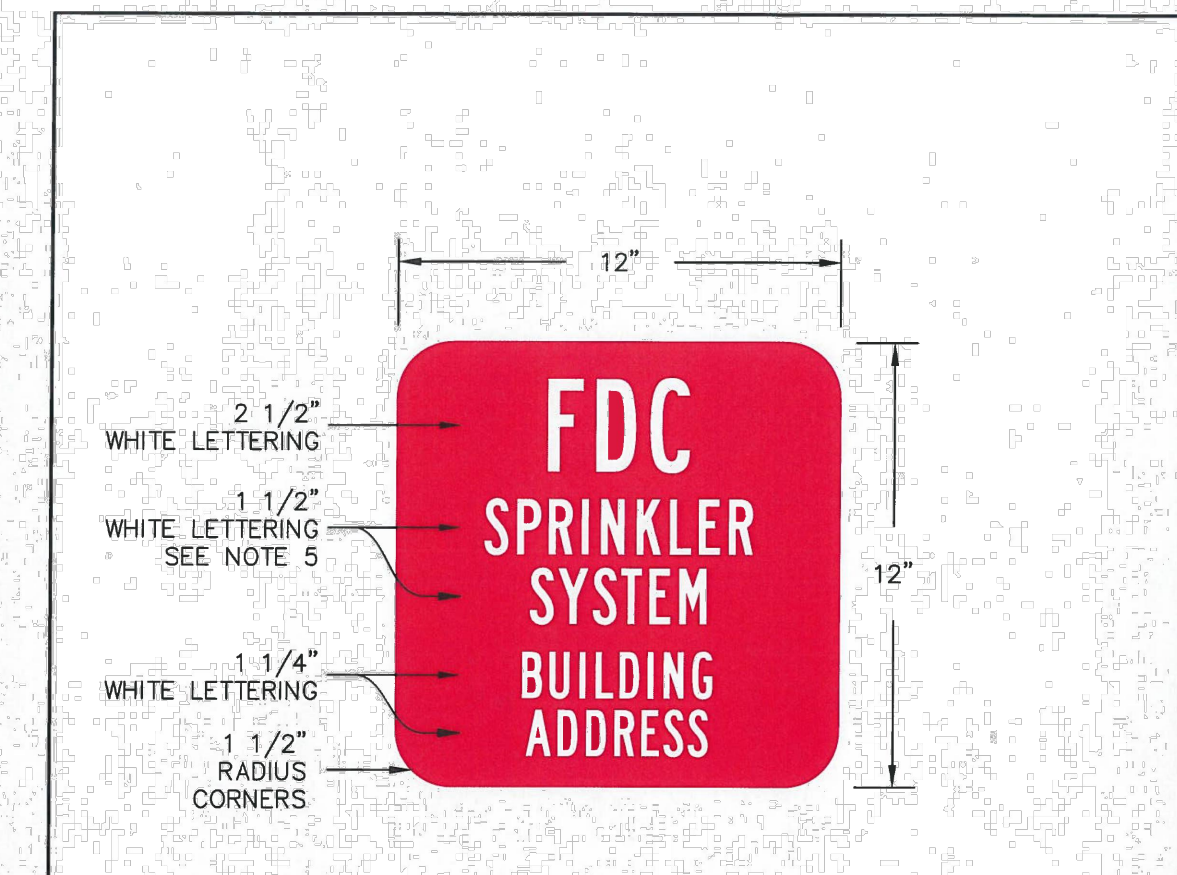
CITY OF LEANDER, TEXAS
 DETAIL #501-2
 FIRE LANE STRIPING
 2017-01-28
 FIRE MARSHAL



- NOTES:
- 12-INCH BY 12-INCH, 0.080 INCH THICK ALUMINUM BLANKS. COVERED WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING. LETTERING SHALL BE UPPER CASE, MINIMUM OF 6" IN HEIGHT WITH 1-1/4" LETTER STROKE, AND CUT FROM RED 3M ELECTRO CUT FILM.
 - ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES B.
 - ON BUILDINGS: WHERE THE FIRE DEPARTMENT CONNECTION (FDC) IS NOT VISIBLE FROM THE FIRE LANE, THE FDC SHALL BE INDICATED BY AN APPROVED SIGN MOUNTED AS DIRECTED BY THE FIRE MARSHAL.
 - SIGN SHALL BE INSTALLED WITH ITS HORIZONTAL CENTERLINE A MINIMUM OF FOUR FEET (4') ABOVE THE FIRE DEPARTMENT CONNECTION AND PROVIDING AN UNOBSTRUCTED VIEW FROM THE FIRE DEPARTMENT ACCESS ROAD, TO INCLUDE CONSIDERATION FOR FUTURE VEGETATIVE GROWTH.
 - NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF THE SIGN.

*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

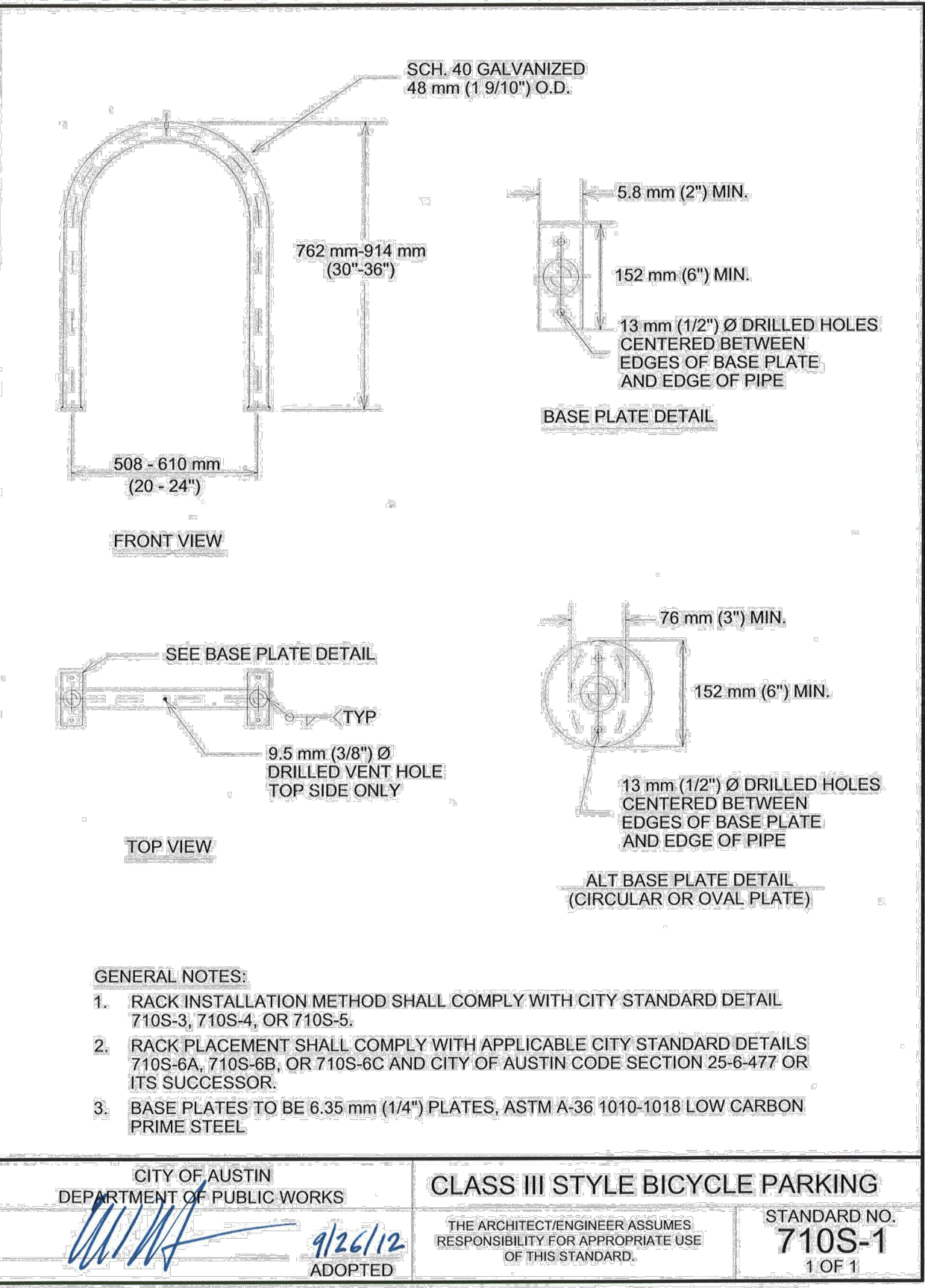
CITY OF LEANDER, TEXAS
 DETAIL #501-4
 FIRE DEPARTMENT CONNECTION SIGN
 2017-01-28
 FIRE MARSHAL



- NOTES:
- 12-INCH BY 12-INCH, 0.080 INCH THICK ALUMINUM BLANKS. COVERED WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING. LETTERING SHALL BE UPPER CASE AND CUT FROM RED 3M ELECTRO CUT FILM.
 - ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES B.
 - SIGN SHALL BE MOUNTED TO THE REMOTE FIRE DEPARTMENT CONNECTION (FDC) WITH THE FACE OF THE SIGN PERPENDICULAR TO THE FIRE LANE USING TWO MOUNTING STRAPS WITH NUT AND BOLT FASTENERS. FASTENERS SHALL NOT OBSTRUCT TEXT ON THE REMOTE FDC SIGN.
 - NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF THE SIGN.
 - "SPRINKLER SYSTEM" SHALL BE REPLACED WITH BUILDING NUMBER OR LETTER (E.G. BLDG A) WHEN THERE ARE MULTIPLE REMOTE FIRE DEPARTMENT CONNECTIONS WITHIN A DEVELOPMENT.

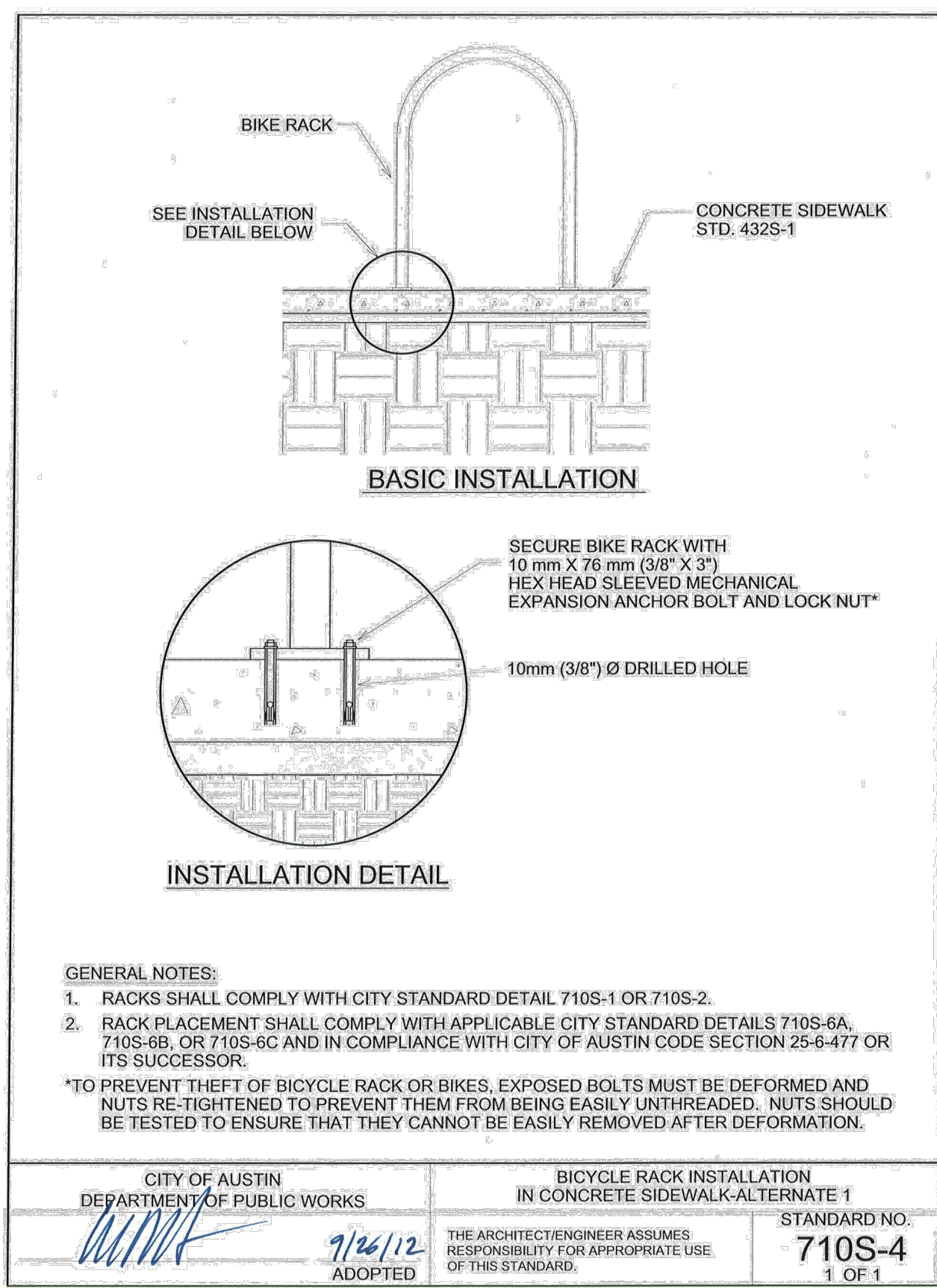
*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

CITY OF LEANDER, TEXAS
 DETAIL #501-5
 REMOTE FDC SIGN
 2017-01-28
 FIRE MARSHAL



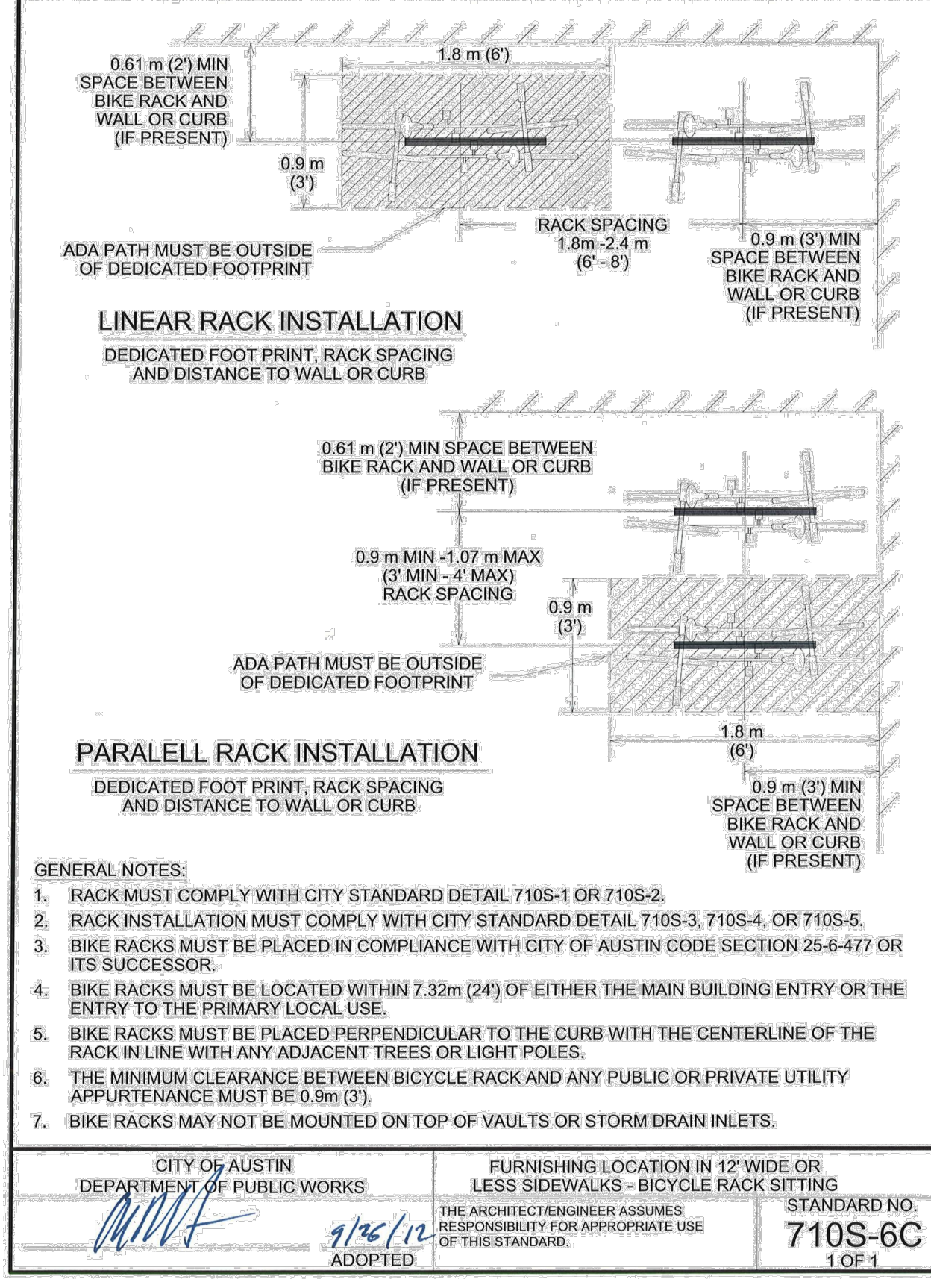
- GENERAL NOTES:
- RACK INSTALLATION METHOD SHALL COMPLY WITH CITY STANDARD DETAIL 710S-3, 710S-4, OR 710S-5.
 - RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
 - BASE PLATES TO BE 6.35 mm (1/4") PLATES, ASTM A-36 1010-1018 LOW CARBON PRIME STEEL.

CITY OF AUSTIN
 DEPARTMENT OF PUBLIC WORKS
 CLASS III STYLE BICYCLE PARKING
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
 STANDARD NO. 710S-1
 1 OF 1
 9/26/12
 ADOPTED



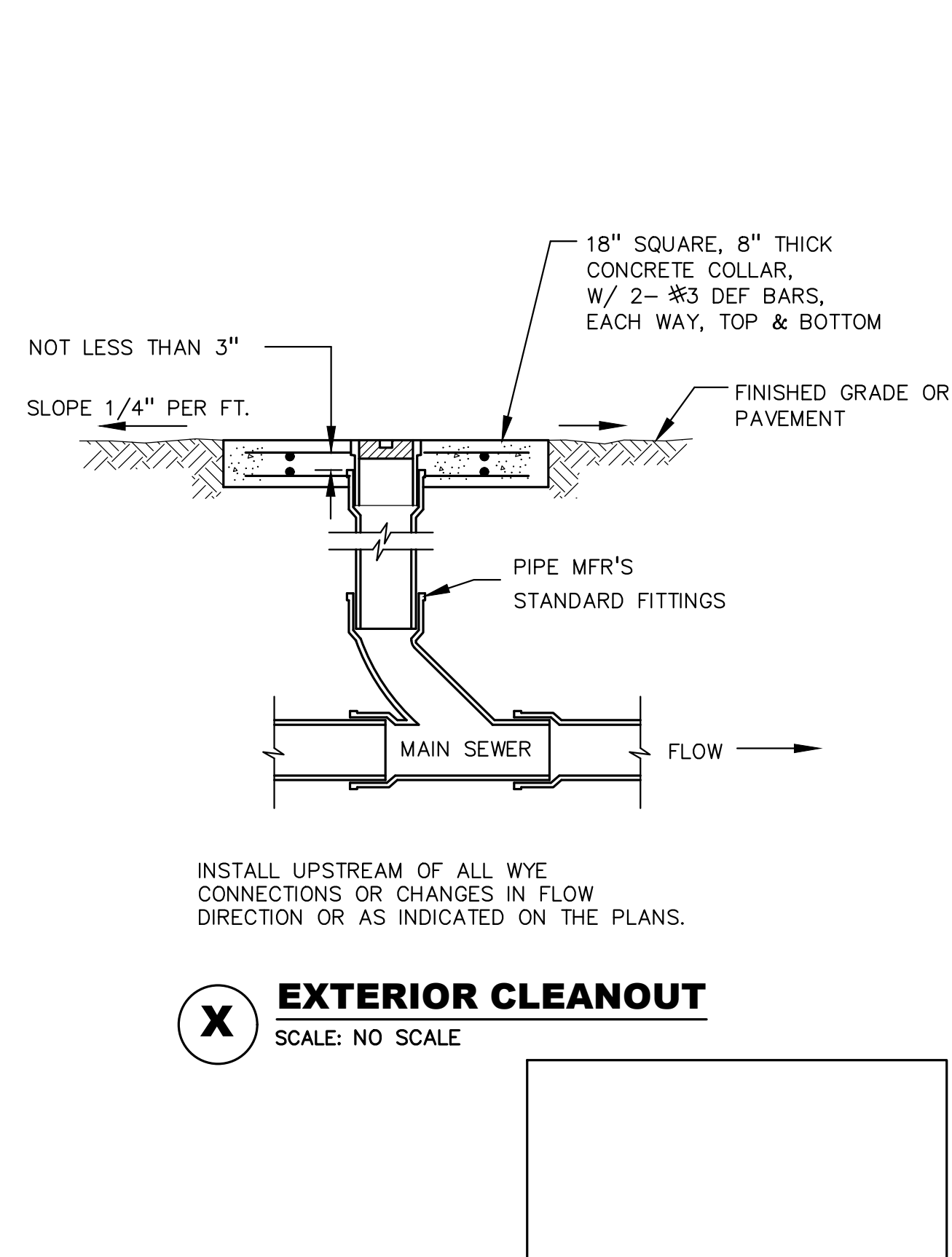
- GENERAL NOTES:
- RACKS SHALL COMPLY WITH CITY STANDARD DETAIL 710S-1 OR 710S-2.
 - RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND IN COMPLIANCE WITH CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
- *TO PREVENT THEFT OF BICYCLE RACK OR BIKES, EXPOSED BOLTS MUST BE DEFORMED AND NUTS RE-TIGHTENED TO PREVENT THEM FROM BEING EASILY UNTHREADED. NUTS SHOULD BE TESTED TO ENSURE THAT THEY CANNOT BE EASILY REMOVED AFTER DEFORMATION.

CITY OF AUSTIN
 DEPARTMENT OF PUBLIC WORKS
 BICYCLE RACK INSTALLATION IN CONCRETE SIDEWALK-ALTERNATE 1
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
 STANDARD NO. 710S-4
 1 OF 1
 9/26/12
 ADOPTED



- GENERAL NOTES:
- RACK MUST COMPLY WITH CITY STANDARD DETAIL 710S-1 OR 710S-2.
 - RACK INSTALLATION MUST COMPLY WITH CITY STANDARD DETAIL 710S-3, 710S-4, OR 710S-5.
 - BIKE RACKS MUST BE PLACED IN COMPLIANCE WITH CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
 - BIKE RACKS MUST BE LOCATED WITHIN 7.32m (24') OF EITHER THE MAIN BUILDING ENTRY OR THE ENTRY TO THE PRIMARY LOCAL USE.
 - BIKE RACKS MUST BE PLACED PERPENDICULAR TO THE CURB WITH THE CENTERLINE OF THE RACK IN LINE WITH ANY ADJACENT TREES OR LIGHT POLES.
 - THE MINIMUM CLEARANCE BETWEEN BICYCLE RACK AND ANY PUBLIC OR PRIVATE UTILITY APPURTENANCE MUST BE 0.9m (3').
 - BIKE RACKS MAY NOT BE MOUNTED ON TOP OF VAULTS OR STORM DRAIN INLETS.

CITY OF AUSTIN
 DEPARTMENT OF PUBLIC WORKS
 FURNISHING LOCATION IN 12' WIDE OR LESS SIDEWALKS - BICYCLE RACK SITTING
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
 STANDARD NO. 710S-6C
 1 OF 1
 9/26/12
 ADOPTED



X EXTERIOR CLEANOUT
 SCALE: NO SCALE

CITY OF AUSTIN
 DEPARTMENT OF PUBLIC WORKS
 STANDARD NO. 710S-6C
 1 OF 1
 9/26/12
 ADOPTED

PEA GROUP
 16060 DILLARD DR., SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
 #F-21237 & #10194679
 STATE OF TEXAS
 JONATHAN A. PUFFER
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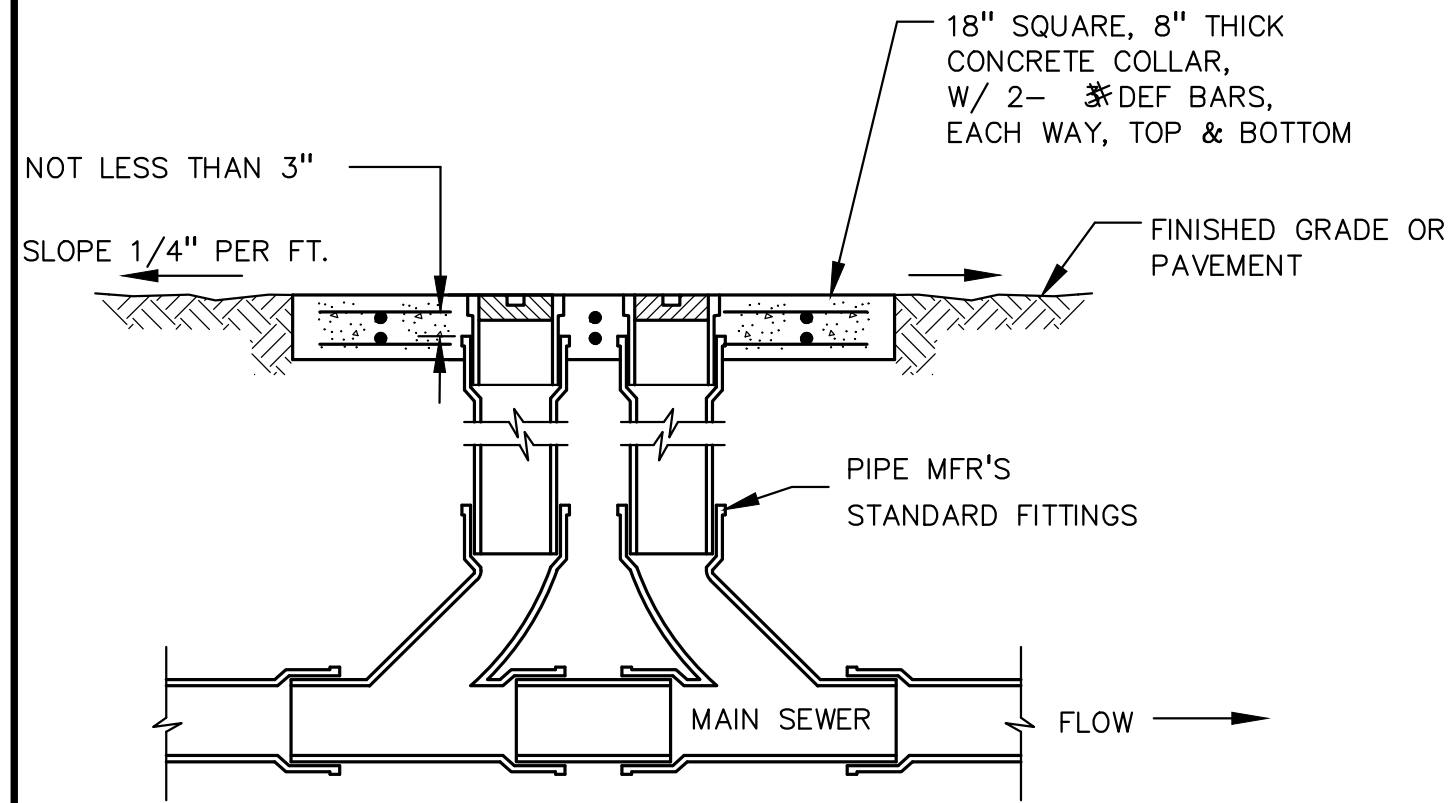
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PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

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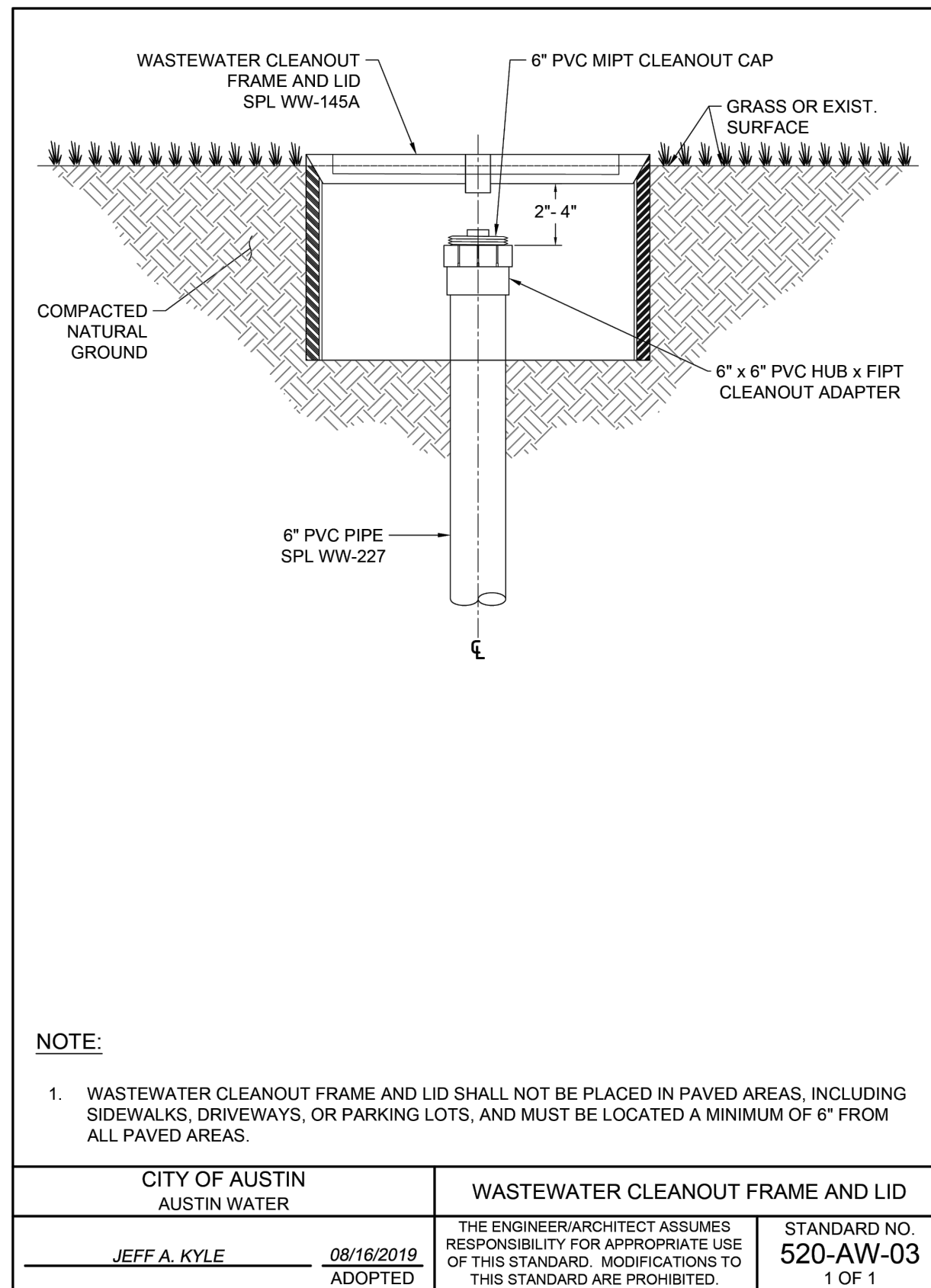
DRAWING TITLE
STANDARD DETAILS 6 OF 8

PEA JOB NO.	2022-1089
P.M.	JP
DN.	AC
DES.	AC
DRAWING NUMBER:	



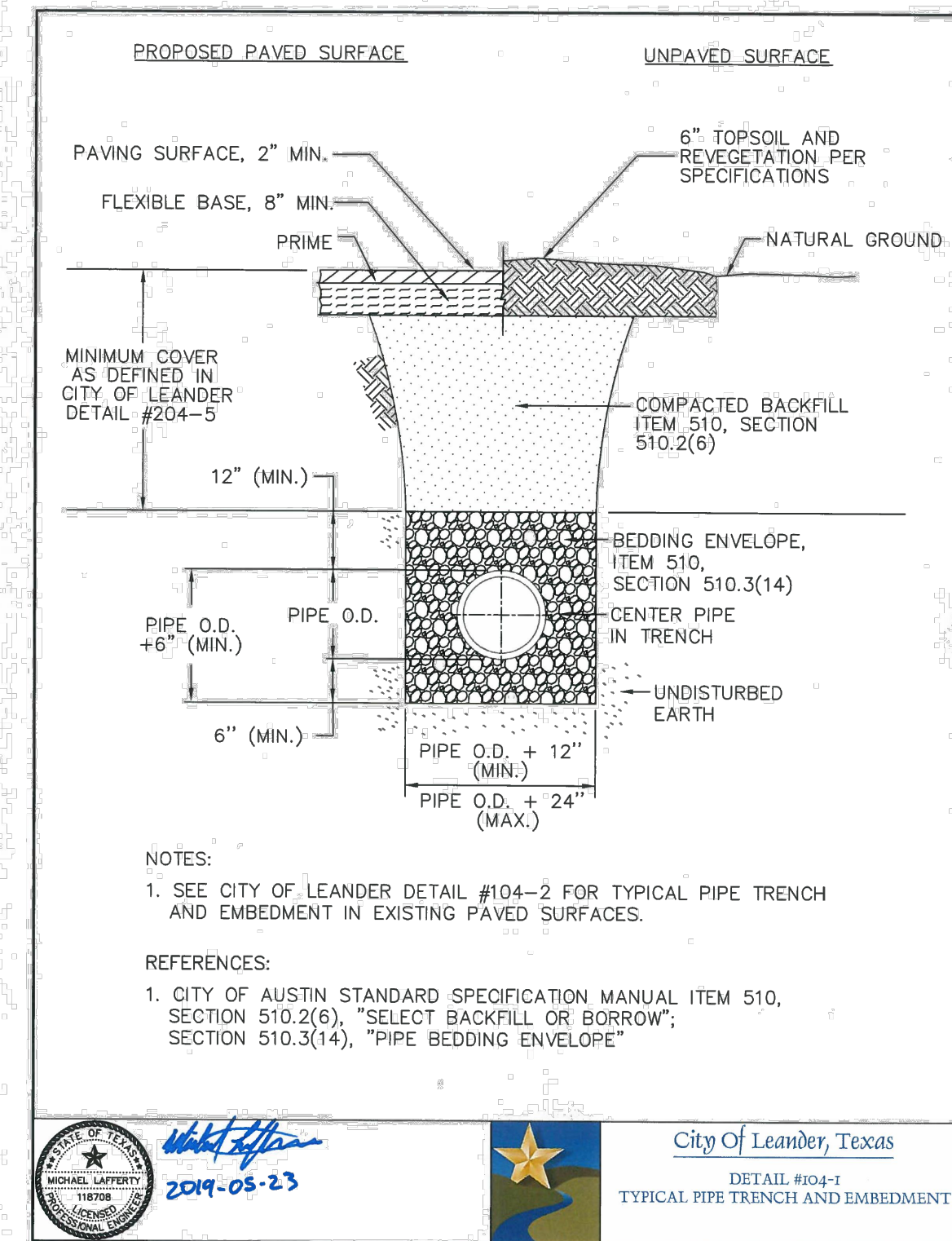
INSTALL UPSTREAM OF ALL WYE CONNECTIONS OR CHANGES IN FLOW DIRECTION OR AS INDICATED ON THE PLANS.

1 DOUBLE CLEANOUT
SCALE: NO SCALE



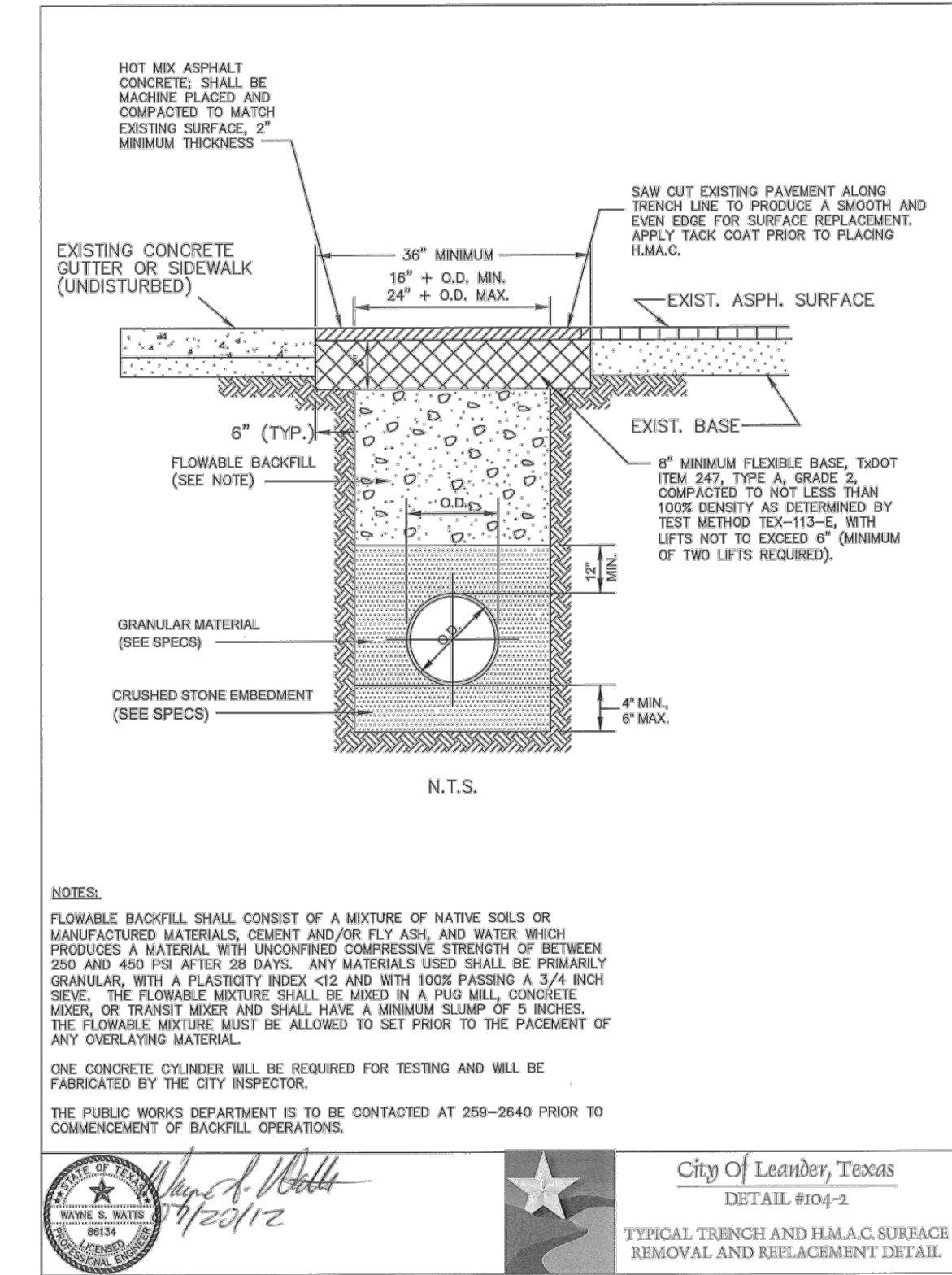
NOTE:
1. WASTEWATER CLEANOUT FRAME AND LID SHALL NOT BE PLACED IN PAVED AREAS, INCLUDING SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6\"/>

CITY OF AUSTIN AUSTIN WATER	WASTEWATER CLEANOUT FRAME AND LID	STANDARD NO. 520-AW-03
JEFF A. KYLE	08/16/2019 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.
		1 OF 1



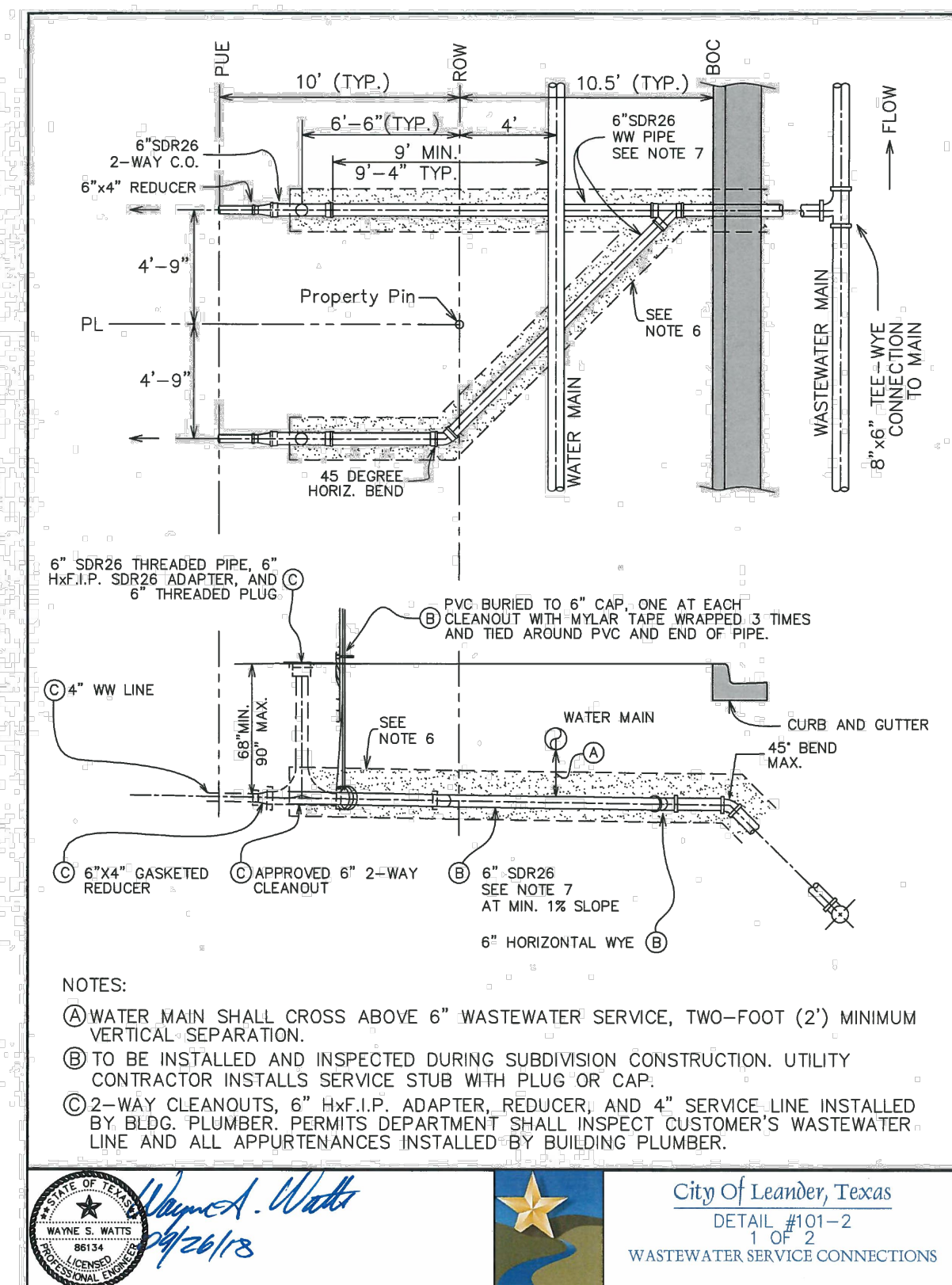
NOTES:
1. SEE CITY OF LEANDER DETAIL #104-2 FOR TYPICAL PIPE TRENCH AND EMBEDMENT IN EXISTING PAVED SURFACES.
REFERENCES:
1. CITY OF AUSTIN STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), \"SELECT BACKFILL OR BORROW\"; SECTION 510.3(14), \"PIPE BEDDING ENVELOPE\"

CITY OF LEANDER, TEXAS	DETAIL #104-1	TYPICAL PIPE TRENCH AND EMBEDMENT
W. J. WATTS	2019-05-23	



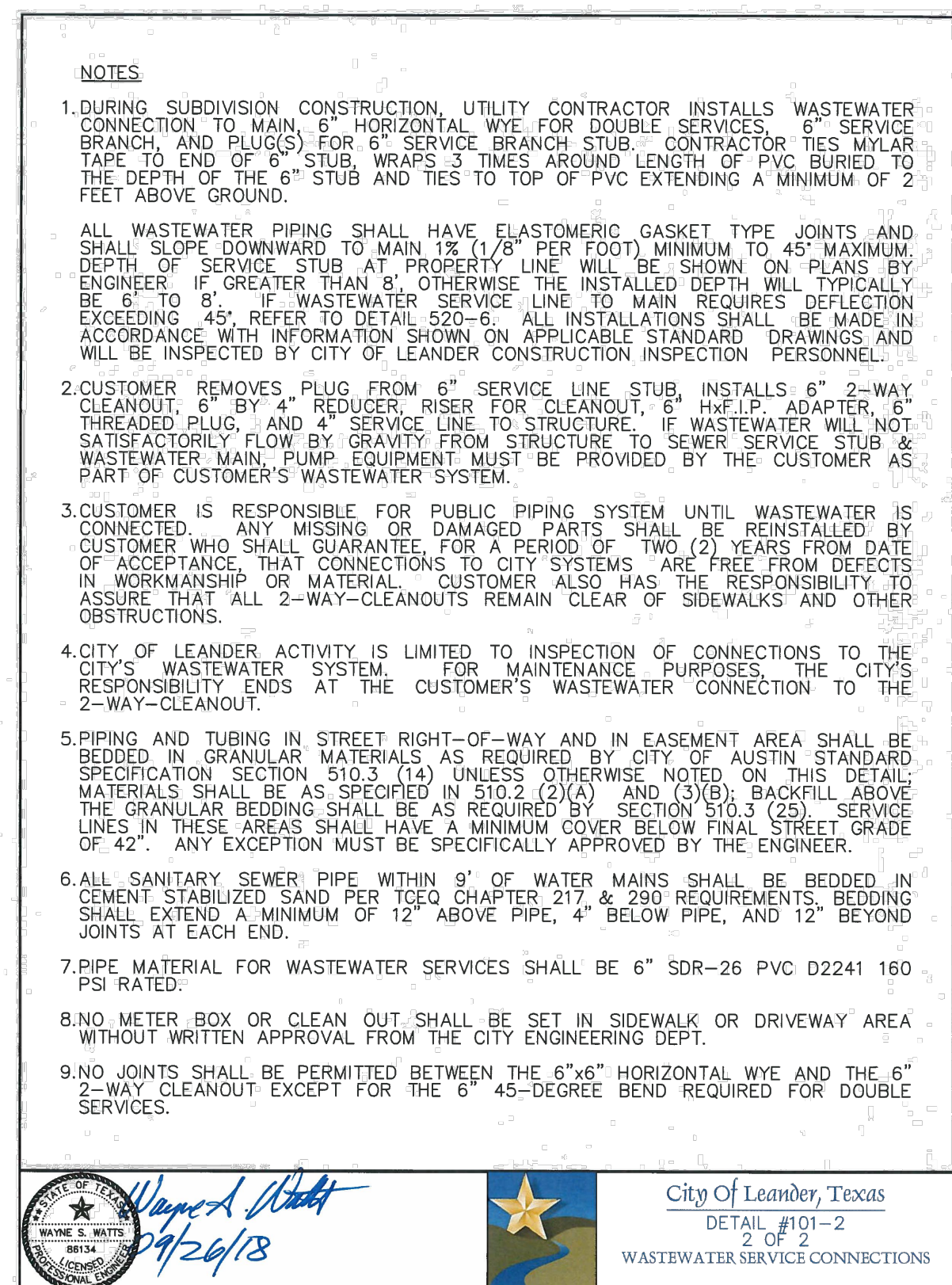
NOTES:
FLOWABLE BACKFILL SHALL CONSIST OF A MIXTURE OF NATIVE SOILS OR MANUFACTURED MATERIALS, CEMENT AND/OR FLY ASH AND WATER WHICH PRODUCES A MATERIAL WITH UNCOMPACTED COMPRESSIVE STRENGTH OF BETWEEN 250 AND 450 PSI AFTER 28 DAYS. ANY MATERIALS USED SHALL BE PRIMARILY GRANULAR, WITH A PLASTICITY INDEX <math>PI < 20</math> AND WITH 100% PASSING A 3/4 INCH SIEVE. THE FLOWABLE MIXTURE SHALL BE MIXED IN A PUG MILL, CONCRETE MIXER, OR TRANSIT MIXER AND SHALL HAVE A MINIMUM SLUMP OF 9 INCHES. THE FLOWABLE MIXTURE MUST BE ALLOWED TO SET PRIOR TO THE PLACEMENT OF ANY OVERLAYING MATERIAL.
ONE CONCRETE CYLINDER WILL BE REQUIRED FOR TESTING AND WILL BE FABRICATED BY THE CITY INSPECTOR.
THE PUBLIC WORKS DEPARTMENT IS TO BE CONTACTED AT 259-2840 PRIOR TO COMMENCEMENT OF BACKFILL OPERATIONS.

CITY OF LEANDER, TEXAS	DETAIL #104-2	TYPICAL TRENCH AND HMA.C SURFACE REMOVAL AND REPLACEMENT DETAIL
W. J. WATTS	2/20/12	



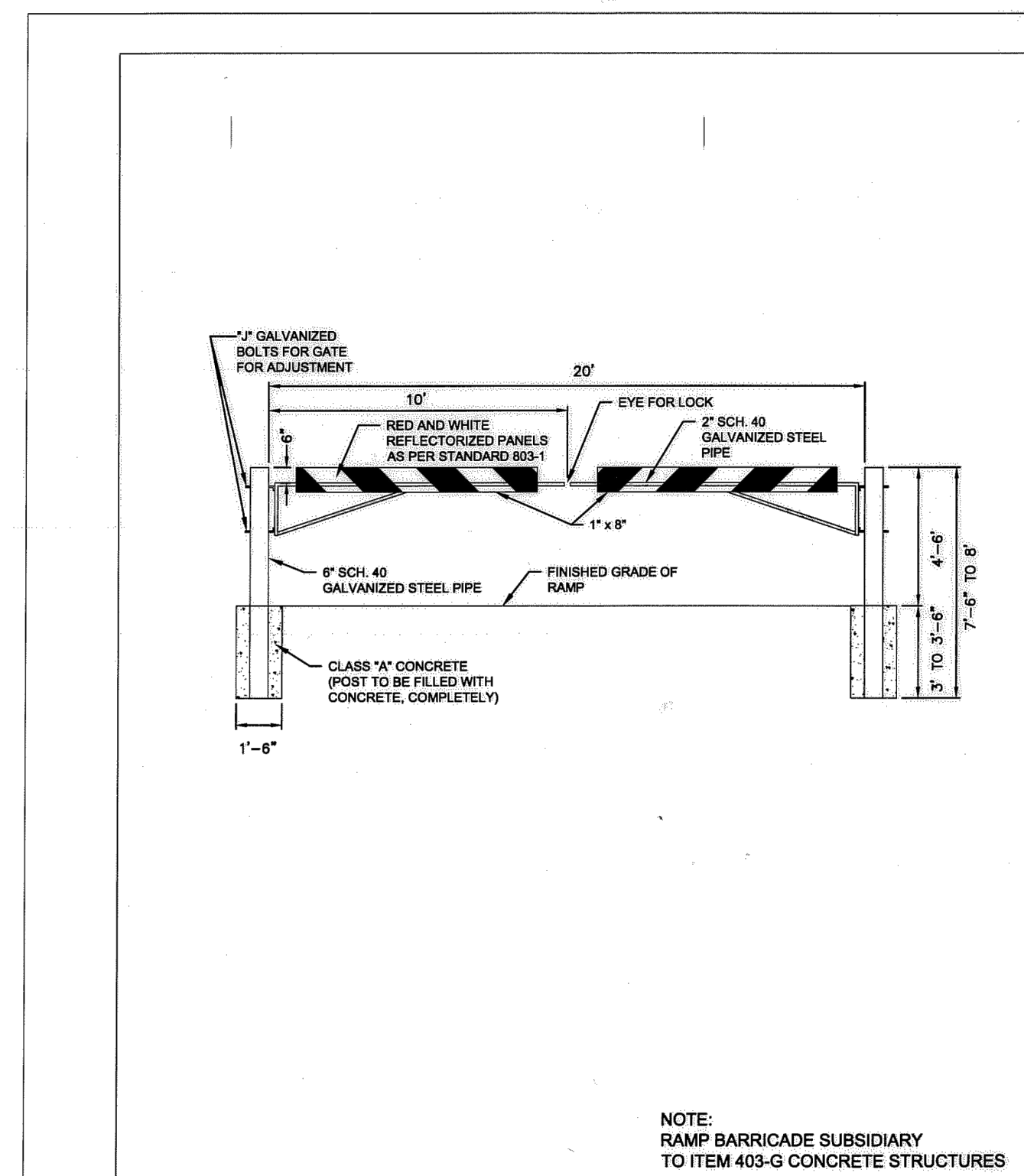
NOTES:
A WATER MAIN SHALL CROSS ABOVE 6\"/>

CITY OF LEANDER, TEXAS	DETAIL #101-2	WASTEWATER SERVICE CONNECTIONS
W. J. WATTS	2/26/13	



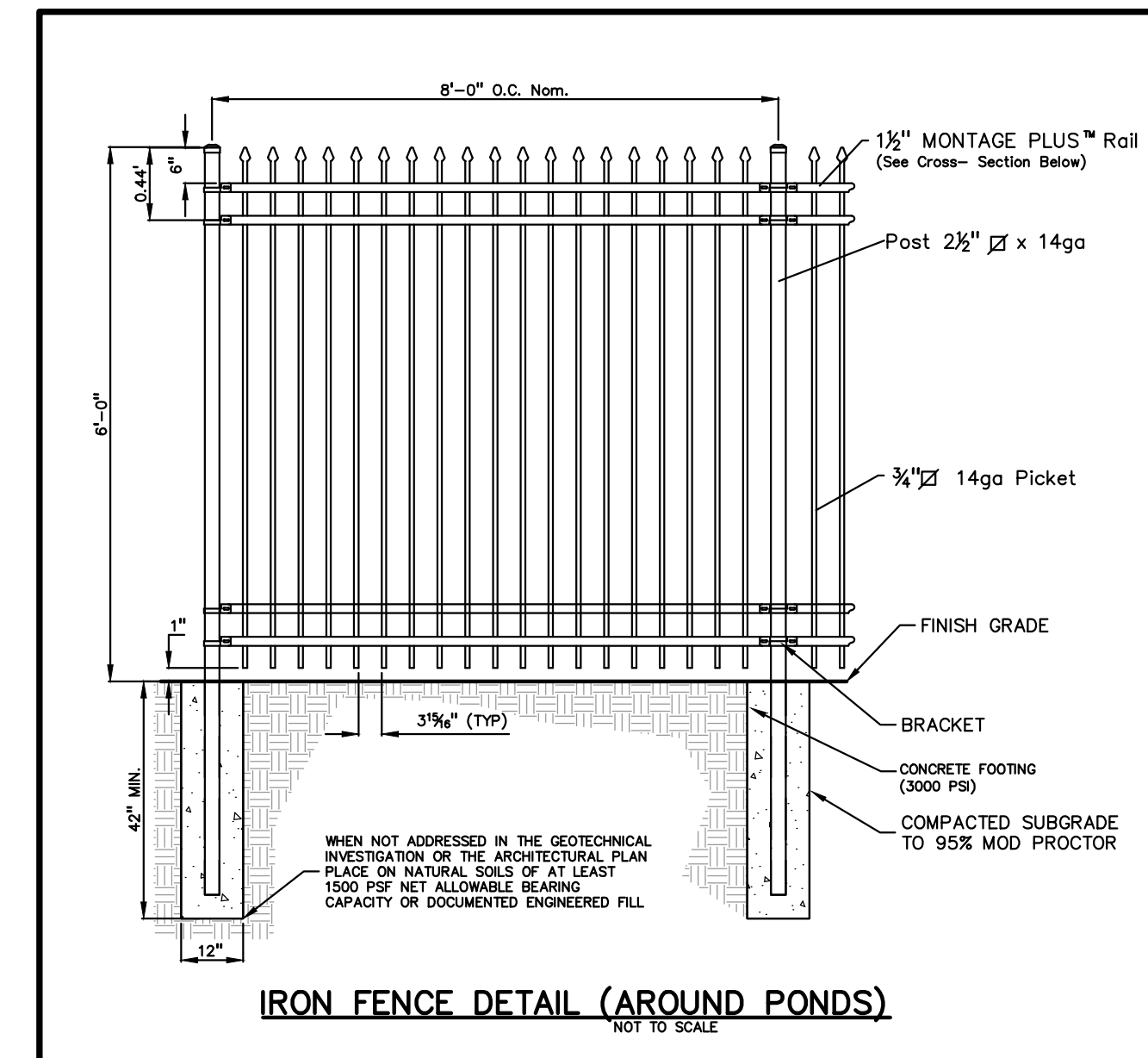
NOTES:
1. DURING SUBDIVISION CONSTRUCTION, UTILITY CONTRACTOR INSTALLS WASTEWATER CONNECTION TO MAIN 6\"/>

CITY OF LEANDER, TEXAS	DETAIL #101-2	WASTEWATER SERVICE CONNECTIONS
W. J. WATTS	2/26/13	



NOTE:
RAMP BARRICADE SUBSIDIARY TO ITEM 403-G CONCRETE STRUCTURES

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	POND PIPE GATE AT RAMP DETAIL	STANDARD NO. 662S-1
E. D. BARKER, P.E.	1/14/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



IRON FENCE DETAIL (AROUND PONDS)
NOT TO SCALE

CITY OF LEANDER, TEXAS	DETAIL #101-2	WASTEWATER SERVICE CONNECTIONS
W. J. WATTS	2/26/13	



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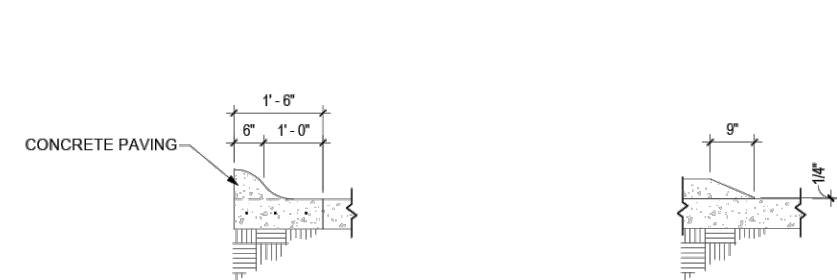
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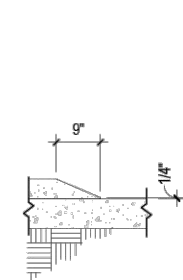
DRAWING TITLE
STANDARD DETAILS 7 OF 8

PEA JOB NO.	2022-1089
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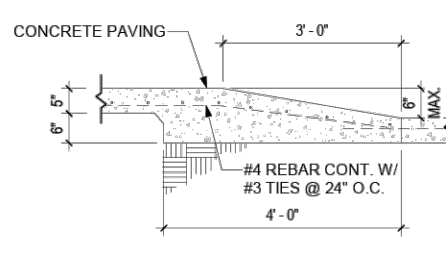
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27 OF 36



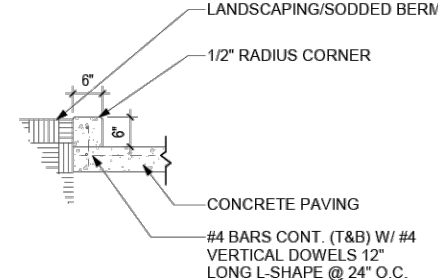
15 CURB & GUTTER DETAIL
1/2" = 1'-0"



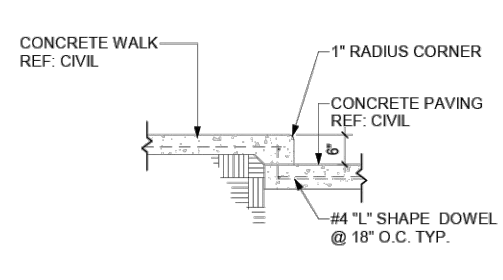
14 ZERO CURB DETAIL
1/2" = 1'-0"



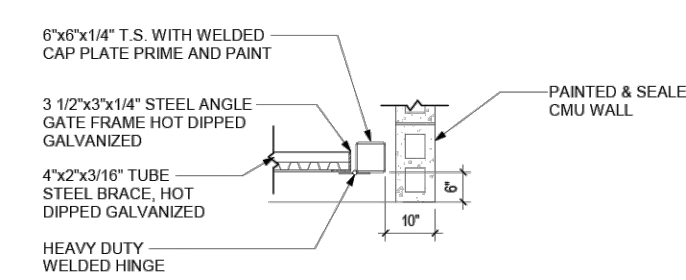
13 ROLLOVER CURB DETAIL
1/2" = 1'-0"



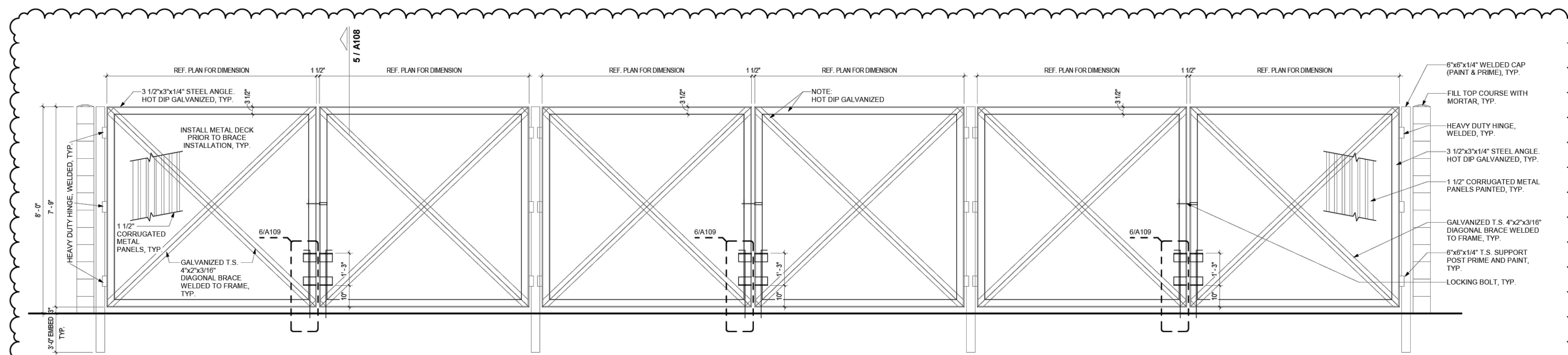
12 CONCRETE CURB DETAIL
1/2" = 1'-0"



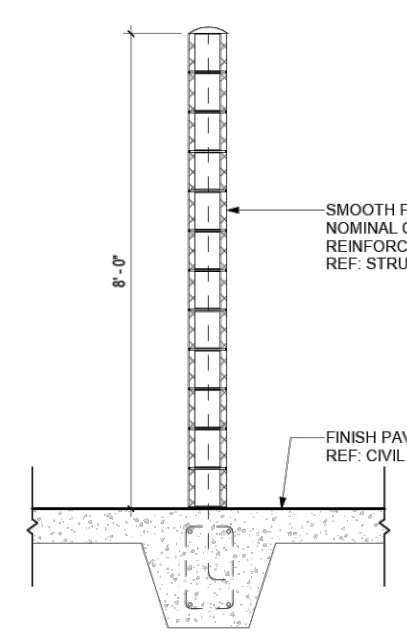
11 CONCRETE WALK DETAIL
1/2" = 1'-0"



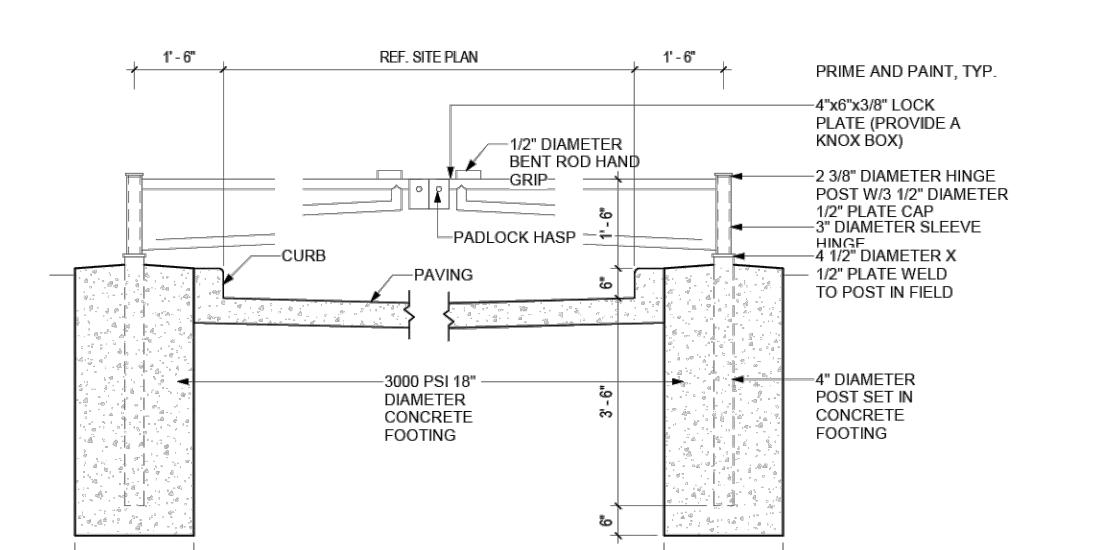
16 GATE DETAILS 2
1/2" = 1'-0"



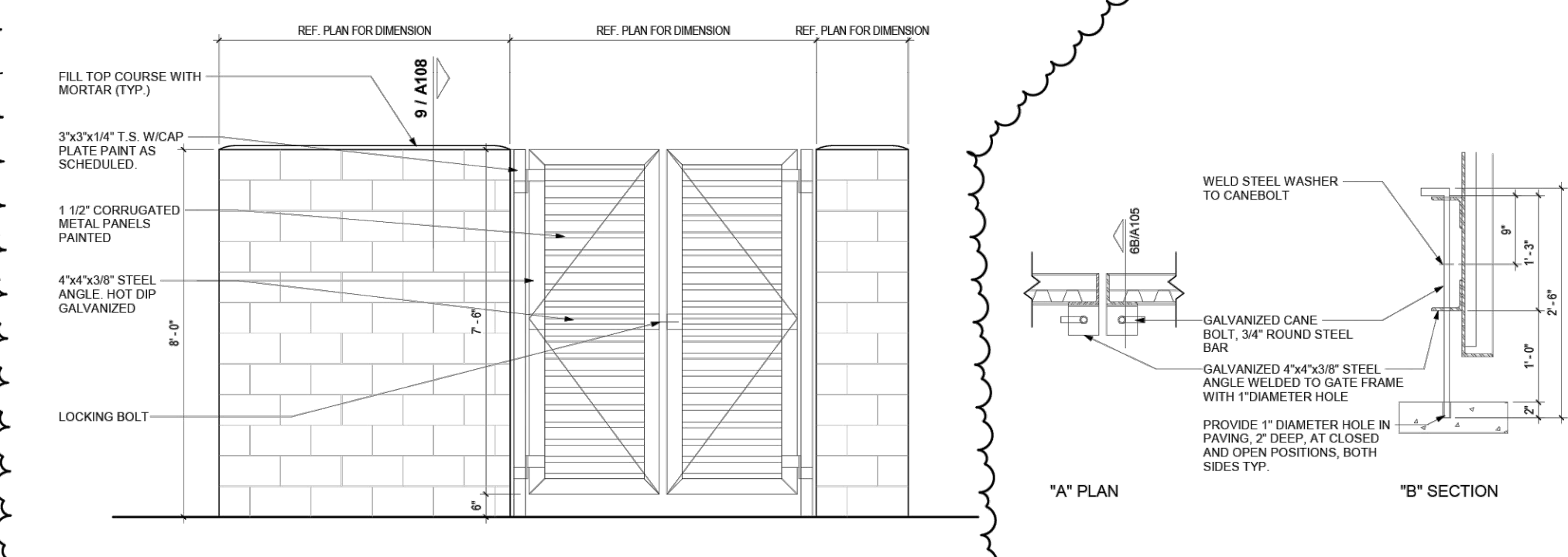
8 DUMPSTER GATE ELEVATION
1/2" = 1'-0"



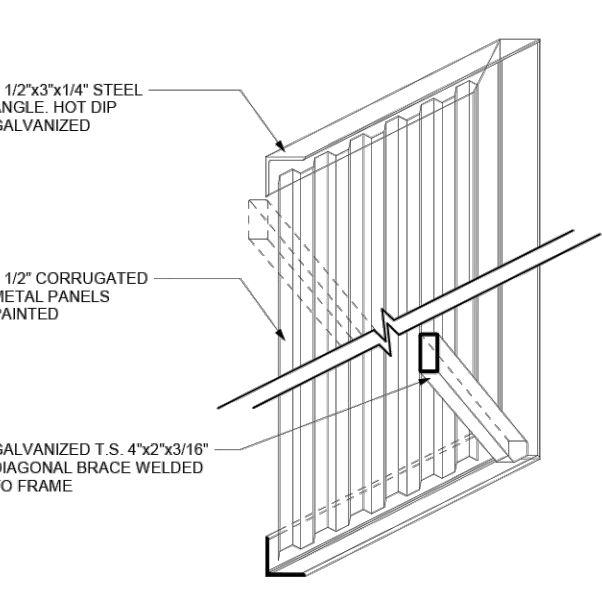
9 DUMPSTER ENCLOSURE WALL SECTION
1/2" = 1'-0"



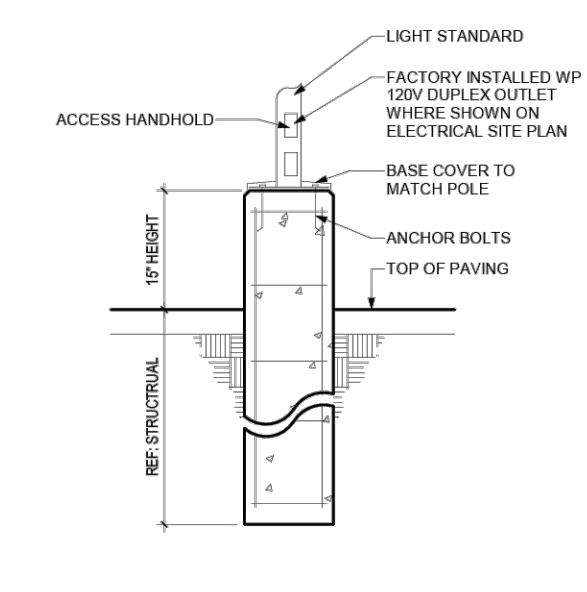
10 SWING GATE DETAIL OVER 20'
1/2" = 1'-0"



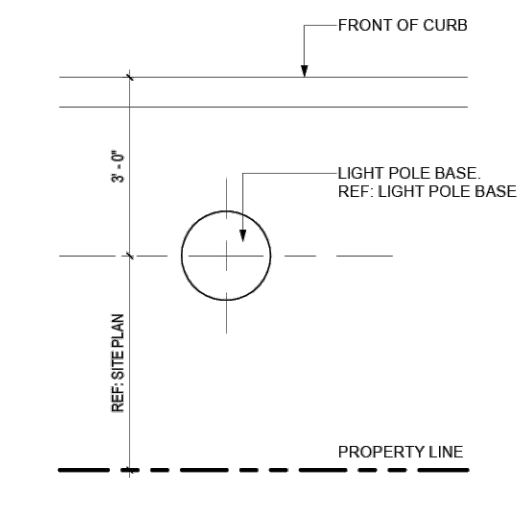
7 DUMPSTER MAN GATE ELEVATION
1/2" = 1'-0"



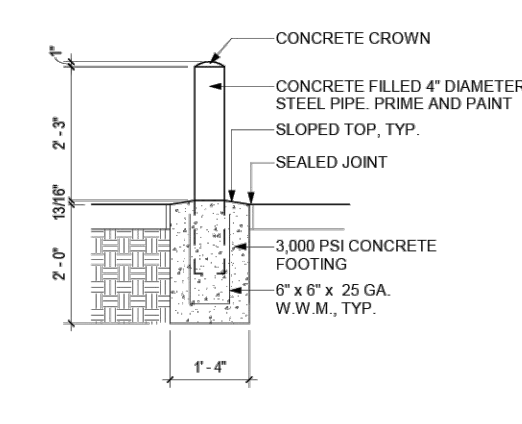
5 DUMPSTER GATE ISOMETRIC
1 1/2" = 1'-0"



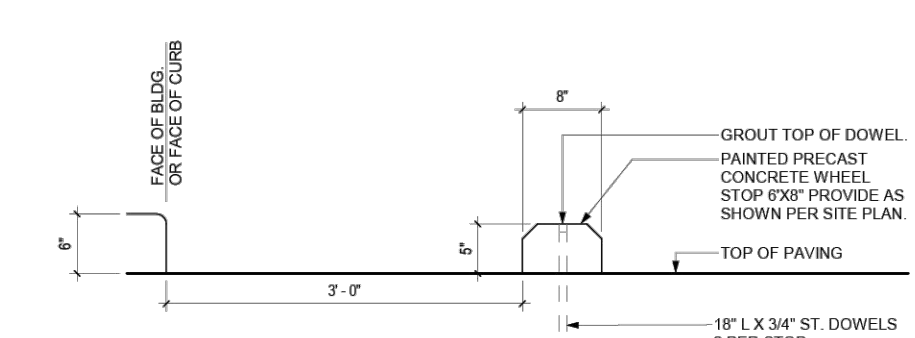
4 LIGHT POLE BASE
1/2" = 1'-0"



3 LIGHT BASE AT FRONT ROW
1/2" = 1'-0"



2 BOLLARD DETAIL
1/2" = 1'-0"



1 WHEEL STOP
1" = 1'-0"

DUMPSTER ENCLOSURE DETAILS (FROM ARCHITECT'S PLANS)

Goree
Interiors | Architecture | Brand
5151 San Felipe Street, Suite 1700
Houston, Texas 77056
713-680-6102
www.goreearchitects.com

CONSULTANTS
PEA GROUP
15430 NORTHWEST Fwy #350
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9002 RICHMOND AVE. SUITE 400
HOUSTON, TEXAS 77042
713.337.8881
MEP ENGINEER
JJA INC.
8100 N. CENTRAL EXPWY. SUITE M-2100
DALLAS, TEXAS 75208
214.750.8800
GEOTECH ENGINEER
ROCK ENGINEERING
7 ROUNDVILLE LANE
ROUND ROCK, TEXAS 78664
512.284.8022

PROJECT NAME
LEANDER HYUNDAI
PROJECT DESCRIPTION
NEW HYUNDAI AUTOMOBILE SALES & SERVICE FACILITY
PROJECT ADDRESS
9550 183A TOLL RD. BLDG 2, LEANDER, TX 78641
OWNER INFORMATION
PENSKO AUTOMOTIVE GROUP

GOREE PROJECT NUMBER
A22055
STAMP / SIGNATURE

ISSUE DATE
07/07/2023
ISSUE HISTORY

DATE	BY	DESCRIPTION
06/09/2023	1	PERMIT ISSUE
07/07/2023	3	REV ISSUE
08/11/2023	4	PERMIT RESPONSE 2

REVISIONS
-

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023
DRAWING TITLE
STANDARD DETAILS 8 OF 8
SHEET NAME
SITE DETAILS
SHEET NUMBER

A108

PEA GROUP
16060 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 & #10194679

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Call before you dig.

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CLIENT
PENSKO AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKO LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS
-

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023
DRAWING TITLE
STANDARD DETAILS 8 OF 8
SHEET NAME
SITE DETAILS
SHEET NUMBER

PEA JOB NO. 2022-1089
P.M. JP
DN. AC
DES. AC

DRAWING NUMBER:
28 OF 36

FOR REFERENCE ONLY

LANDSCAPING NOTES OF CITY OF LEANDER

- THE DEVELOPER AND SUBSEQUENT OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS. SAID AREAS SHALL BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE AT ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. ALL PLANTED AREAS SHALL BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM AND WATERED AS NECESSARY TO ENSURE CONTINUOUS HEALTHY GROWTH AND DEVELOPMENT. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE LANDSCAPE ORDINANCE.
- TREE CALIPER IS THE TRUNK DIAMETER OF A TREE AT TWELVE (12") INCHES ABOVE NATURAL GRADE PER THE COMPOSITE ZONING ORDINANCE.
- ALL NEW LANDSCAPES (NON-RESIDENTIAL AND RESIDENTIAL) ARE REQUIRED TO HAVE A MINIMUM OF SIX INCHES (6") OF SOIL DEPTH IN AREAS PLANTED WITH TURFGRASS. THIS SIX-INCH (6") MINIMUM SOIL DEPTH WILL CONSIST OF 75 PERCENT SOIL BLENDED WITH 25 PERCENT COMPOST. THE SOIL/COMPOST BLEND SHALL BE INCORPORATED INTO THE TOP TWO INCHES OF THE NATIVE SOIL. THE SIX-INCH (6") DEPTH REQUIREMENT DOES NOT APPLY TO THE AREA BETWEEN THE DRIP LINE AND TRUNK OF EXISTING TREES, SHRUB BEDS OR WILDSCAPE AREAS. AREAS WITH EXISTING NATIVE VEGETATION THAT REMAIN UNDISTURBED SHALL BE EXEMPT FROM THE SOIL DEPTH PROVISION. PROVIDED THAT NATIVE SOIL AND VEGETATION IN SUCH AREA IS FENCED DURING CONSTRUCTION AND PROTECTED FROM DISTURBANCE AND COMPACTION DURING THE CONSTRUCTION PROCESS.
- ALL DISTURBED AREAS AND ROW WILL BE RE-VEGETATED BY THE DEVELOPER.
- ALL INVASIVE SPECIES SHALL BE REMOVED FROM THE PROPERTY.
- NO MORE THAN 50% OF THE SAME SPECIES MAY BE PLANTED TO MEET THE TREE PLANTING REQUIREMENTS.
- MECHANICAL EQUIPMENT SHALL BE SCREENED FROM VIEW OF AT LEAST SIXTY (60%) PERCENT OF ANY STREET OR PUBLIC RIGHT-OF-WAY.
- A MINIMUM 6-INCH TOPSOIL DEPTH WILL BE PROVIDED IN ALL LANDSCAPE AREAS AND MULCH WILL BE PROVIDED AROUND PLANTINGS.
- ALL TURF IS REQUIRED TO COMPLY WITH THE 6" TOPSOIL NOTE ABOVE (NOTE 3)

GENERAL PLANTING NOTES:

- LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING 811. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
- ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE SOUTHERN GROWN, NO. 1, GRADE.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
- THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
- ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
- ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
- ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
- ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
- ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
- NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
- ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
- IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
- ALL LANDSCAPED AREAS SHALL RECEIVE 3" ENRICHED TOPSOIL.
- SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
- FOR NON-LAWN SEED MIX AREAS, AS NOTED ON PLAN, BRUSH MOW ONCE SEASONALLY FOR INVASIVE SPECIES CONTROL.
- CONTRACTOR SHALL NOT INSTALL PLANTS UNDER BUILDING OVERHANG AND SHALL NOTIFY LANDSCAPE ARCHITECT IF DRAWINGS CONFLICT WITH BUILDING OVERHANGS.
- CONTRACTOR SHALL REPAIR ALL AREAS DISTURBED BY CONSTRUCTION PRIOR TO FINAL ACCEPTANCE BY OWNER.

KEY:

- = PROPOSED SHADE TREES
- = REPLACEMENT TREES
- = EXISTING TREES TO BE PRESERVED
- = EXISTING TREES TO BE REMOVED
- = TREE PROTECTION FENCE

REFERENCE NOTES SCHEDULE OVERALL LANDSCAPE PLAN

SYMBOL	DESCRIPTION	QTY
	STEEL EDGING	453 LF

SYMBOL	DESCRIPTION	QTY
	BOULDER	7

SYMBOL	DESCRIPTION	QTY
	TAN/CREAM RIVER COBBLE	118 SF

SYMBOL	DESCRIPTION	QTY
	DECOMPOSED GRANITE	477 SF

SYMBOL	DESCRIPTION	QTY
	RIPARIAN RECOVERY MIX #4506 NATIVE AMERICAN SEED CO.	9,356 SF

SYMBOL	DESCRIPTION	QTY
	MIDWAY MIX #2804 NATIVE AMERICAN SEED CO.	35,986 SF

LANDSCAPE CALCULATIONS:

PUBLIC UTILITY DISTRICT, CITY OF LEANDER, TEXAS

LANDSCAPE AREA
REQUIRED: 6.19 AC. X 15% = 40,510.8 SF
PROVIDED: 64,376 SF

TURF AREA NOT GREATER THAN 50% OF REQUIRED LANDSCAPE AREA
REQUIRED: LESS THAN 50% X 40,510.8 SF = 20,255.4 SF

PROVIDED:
8,374 SF BERMUUDA TIF 419
8,374 SF / 64,376 SF = 13%

STREET TREES ALONG US 813

REQUIRED:
TREES 30 FT O.C. WITH GROUND COVER AND HARDSCAPE AREA
770 LF / 30FT = 26 TREES

PROVIDED:
26 TREES AT 30' O.C.

GENERAL SITE TREES - SEC1(B)(12)(II)

REQUIRED:
FOR EVERY 600SF OF LANDSCAPE AREA AND SETBACK AREA REQUIRES:

- 2 SHADE TREES (2" CAL. OR LARGER)
- 4 SHRUBS (5 GAL. OR LARGER)

40,510.8 SF / 600 SF = 68

68 X 2 = 136 SHADE TREES

107 X 4 = 272 SHRUBS

PROVIDED:

4 EXISTING OAK TREES ON SITE

16 EXISTING TEXAS ASH ALONG THE SOUTH SIDE OF THE AUTOPARK DRIVE

55 PROPOSED SHADE TREES

12 REPLACEMENT TREES

=87 SHADE TREES

44 ORNAMENTAL TREES

111 TOTAL PLANTED TREES

= 55 PROPOSED SHADE TREES + 12 REPLACEMENT TREES + 44 ORNAMENTAL TREES

AS 87 / 111 = 78%, SO 44 ORNAMENTAL TREES / 2 = 22 SHADE TREES

WE PROVIDED 87 +22 = 109 SHADE TREES

335 SHRUBS

PAY INTO THE CITY TREE FUND:
136 REQUIRED SHADE TREES - 109 PROVIDED SHADE TREES = 27 TREES x 2.5" CAL. = 67.5" CAL.

67.5 x \$150 = \$10,125

LANDSCAPE MATERIAL REQUIREMENTS - SEC1(B)(11)(II)

REQUIRED:
SHADE TREES / TOTAL PLANTED TREES = 75%

PROVIDED:
87 SHADE TREES / 111 TOTAL PLANTED TREES = 78.4%

TREE REPLACEMENT

REMOVED 12 CEDAR ELMS AT 4 CAL. INCHES.

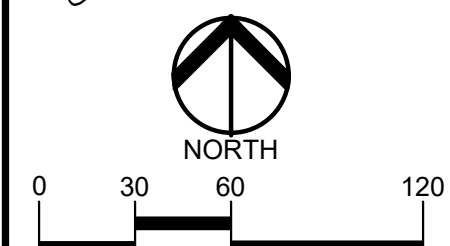
PROVIDED:
12 CEDAR ELMS AT 4 CAL. INCHES.



1606 DILLARD DR., SUITE 250
HOUSTON, TEXAS 77040
713-688-3530
T.B.P.E.L.S. FIRM
#F-21237 & #10194679



Elizabeth Mak 7-31-23



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CLIENT
PENSKE AUTOMOTIVE GROUP
1700 AUTO PARK WAY
ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
9550 183A
LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
FEBRUARY 15, 2023

DRAWING TITLE
LANDSCAPE PLAN 1 OF 3

PEA JOB NO. 2022-1089

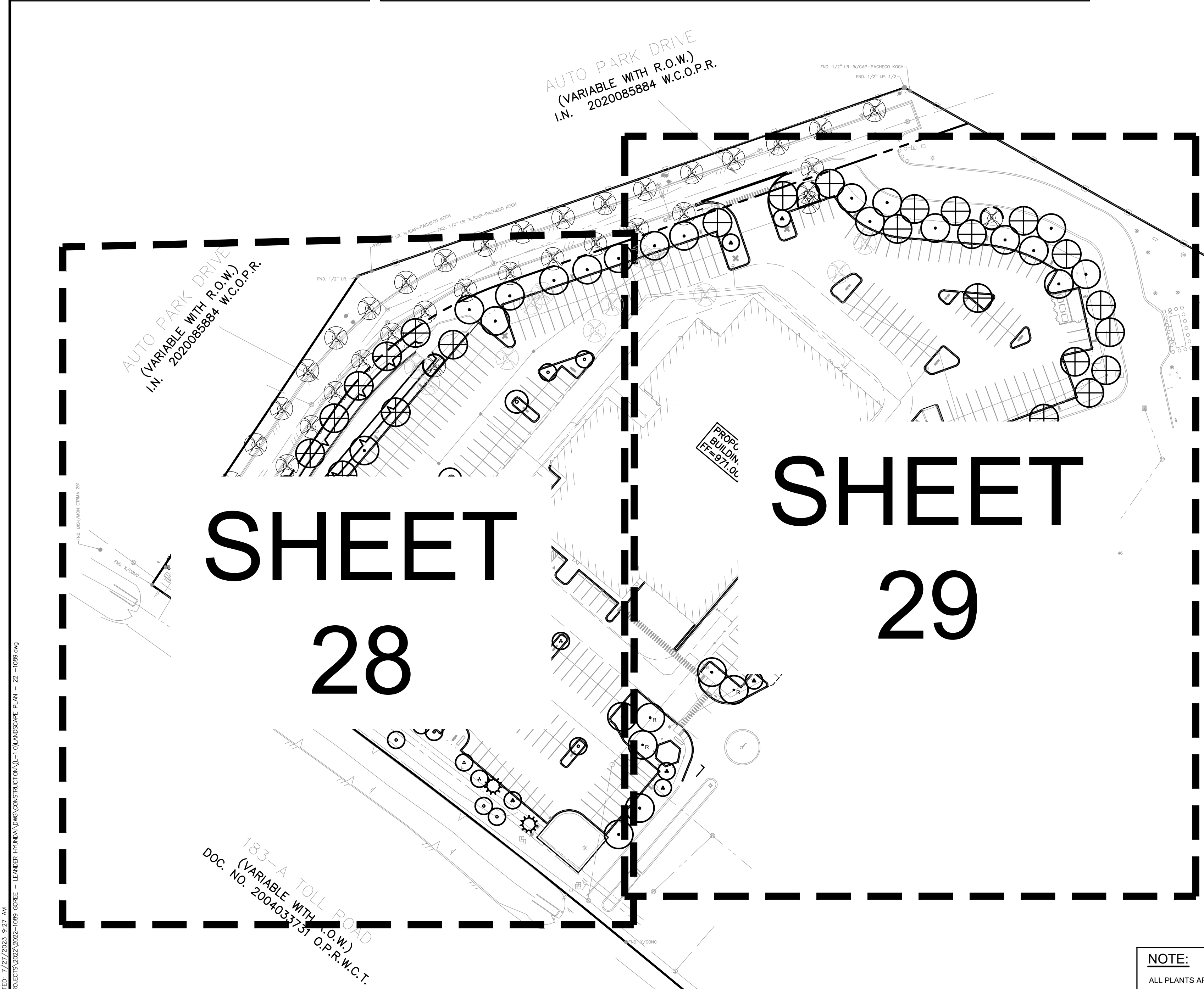
P.M. EM

DN. JZ

DES. JZ

DRAWING NUMBER:

29 OF 36

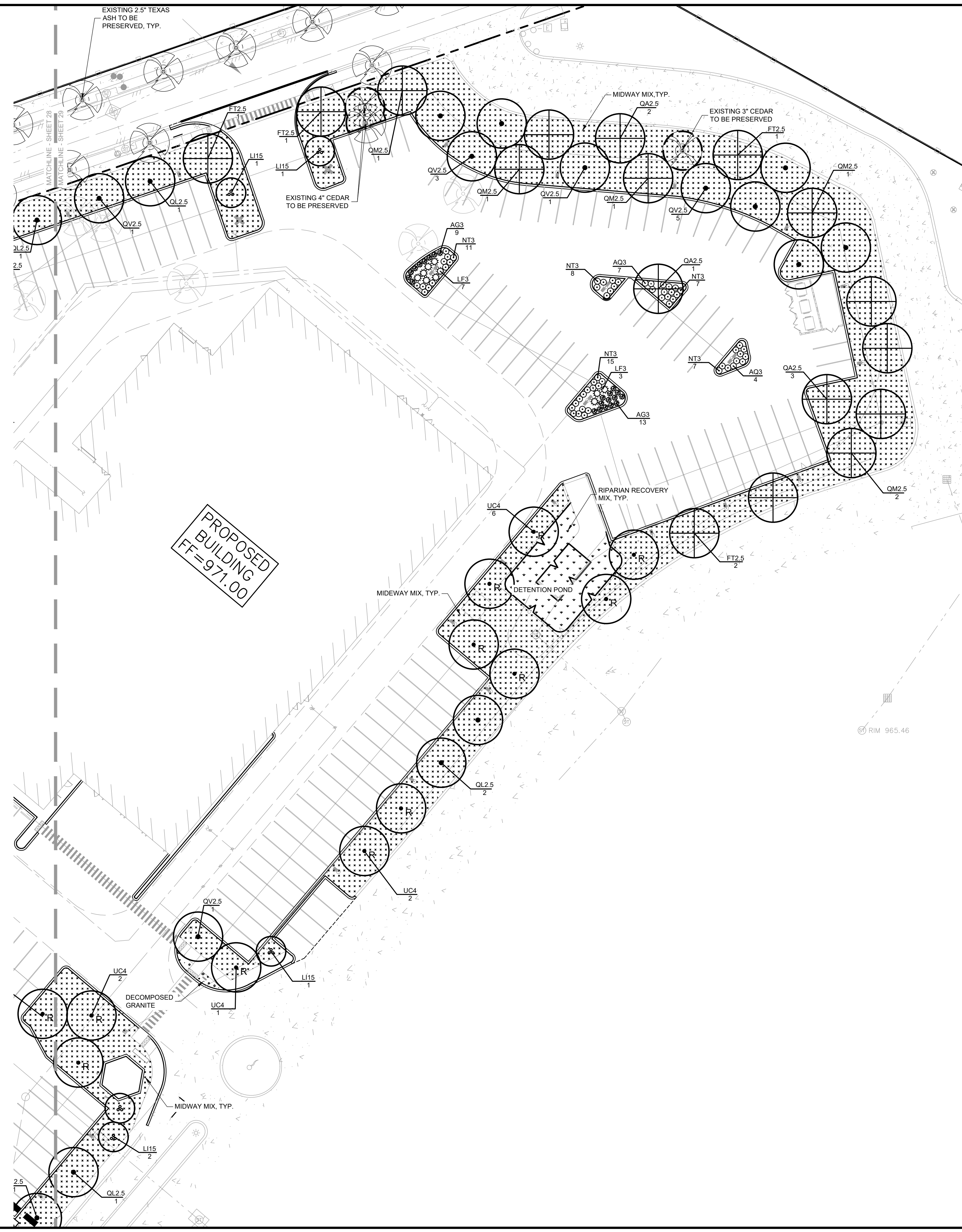


PLANT SCHEDULE OVERALL LANDSCAPE PLAN

CANOPY TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	FT2.5	FRAXINUS TEXENSIS / TEXAS ASH	2.5" CAL.	POT	PER PLAN	9
	QL2.5	QUERCUS LACEYI / LACEY OAK	2.5" CAL.	POT	PER PLAN	7
	QM2.5	QUERCUS MACROCARPA / BURR OAK	2.5" CAL.	POT	PER PLAN	10
	QA2.5	QUERCUS MUHLENBERGII / CHINQUAPIN OAK	2.5" CAL.	POT	PER PLAN	10
	QV2.5	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK	2.5" CAL.	POT	PER PLAN	19
	UC4	ULMUS CRASSIFOLIA / CEDAR ELM	4" CAL.	POT	PER PLAN	12
ORNAMENTAL TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	CL15	CHILOPSIS LINEARIS / DESERT WILLOW	15 GAL.	POT	PER PLAN	5
	IV15	ILEX VOMITORIA / YAUPON HOLLY	15 GAL.	POT	PER PLAN	9
	LI15	LAGERSTROEMIA INDICA / CRAPE MYRTLE	15 GAL.	POT	PER PLAN	7
	MC15	MORELLA CERIFERA / WAX MYRTLE	15 GAL.	POT	PER PLAN	12
	SS15	SOPHORA SECUNDIFLORA / TEXAS MOUNTAIN LAUREL	15 GAL.	POT	PER PLAN	11
SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	AG3	ABELIA X GRANDIFLORA 'ED. GOUCHER' / DWARF ABELIA	3 GAL.	POT	36" O.C.	22
	AQ3	ANISACANTHUS QUADRIFIDUS 'WRIGHTII' / FLAME ACANTHUS	3 GAL.	POT	36" O.C.	123
	DB3	DALEA FRUTESCENS / BLACK DALEA	3 GAL.	POT	36" O.C.	87
	IV3	ILEX VOMITORIA 'NANA' / DWARF YAUPON HOLLY	3 GAL.	POT	36" O.C.	21
	LF3	LEUCOPHYLLUM FRUTESCENS / TEXAS SAGE	3 GAL.	POT	48" O.C.	72
	RO3	ROSMARINUS OFFICINALIS / ROSEMARY	3 GAL.	POT	48" O.C.	10
PERENNIAL & GRASS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	HP3	HESPERALOE PARVIFLORA / RED YUCCA	3 GAL.	POT	36" O.C.	18
	ML3	MUHLENBERGIA LINDHEIMERI / LINDHEIMER'S MUHLY	3 GAL.	POT	36" O.C.	48
	MR3	MUHLENBERGIA RIGENS / DEER GRASS	3 GAL.	POT	36" O.C.	53
	NT3	NASSELLA TENUISSIMA / MEXICAN FEATHER GRASS	3 GAL.	POT	36" O.C.	97
	SS1	SCUTELLARIA SUFFRUTESCENS / PINK SKULLCAP	1 GAL.	POT	36" O.C.	40
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER TYPE	SPACING	QTY
	CD	CYNODON DACTYLON 'TIF 419' / TIF 419 BERMUDAGRASS	SOD			8,374 SF

NOTE:
ALL PLANTS ARE DEFINED BY THE GROW GREEN GUIDE.

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PLANT SCHEDULE LANDSCAPE PLAN 3 OF 3

CANOPY TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	FT2.5	FRAXINUS TEXENSIS / TEXAS ASH	2.5" CAL.	POT	PER PLAN	5
	QL2.5	QUERCUS LACEYI / LACEY OAK	2.5" CAL.	POT	PER PLAN	4
	QM2.5	QUERCUS MACROCARPA / BURR OAK	2.5" CAL.	POT	PER PLAN	6
	QA2.5	QUERCUS MUHLENBERGII / CHINQUAPIN OAK	2.5" CAL.	POT	PER PLAN	6
	QV2.5	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK	2.5" CAL.	POT	PER PLAN	11
	UC4	ULMUS CRASSIFOLIA / CEDAR ELM	4" CAL.	POT	PER PLAN	11
ORNAMENTAL TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	LI15	LAGERSTROEMIA INDICA / CRAPE MYRTLE	15 GAL.	POT	PER PLAN	5
SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	AG3	ABELIA X GRANDIFLORA 'ED. GOUCHER' / DWARF ABELIA	3 GAL.	POT	36" O.C.	22
	AQ3	ANISACANTHUS QUADRIFIDUS 'WRIGHTII' / FLAME ACANTHUS	3 GAL.	POT	36" O.C.	11
	LF3	LEUCOPHYLLUM FRUTESCENS / TEXAS SAGE	3 GAL.	POT	48" O.C.	10
PERENNIAL & GRASS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	NT3	NASSELLA TENUISSIMA / MEXICAN FEATHER GRASS	3 GAL.	POT	36" O.C.	48

REFERENCE NOTES SCHEDULE OVERALL LANDSCAPE PLAN

SYMBOL	DESCRIPTION	QTY
	STEEL EDGING	453 LF
	BOULDER	7
SYMBOL	DESCRIPTION	QTY
	TAN/CREAM RIVER COBBLE	118 SF
	DECOMPOSED GRANITE	477 SF
	RIPARIAN RECOVERY MIX #4506 NATIVE AMERICAN SEED CO.	9,356 SF
	MIDWAY MIX #2804 NATIVE AMERICAN SEED CO.	35,986 SF

KEY:

- = PROPOSED SHADE TREES
- = REPLACEMENT TREES
- = EXISTING TREES TO BE PRESERVED
- = EXISTING TREES TO BE REMOVED
- = TREE PROTECTION FENCE

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 #F-21237 & #10194679

Elizabeth Mak 7-31-23

0 15 30 60
 SCALE: 1" = 30'

811 Know what's below. Call before you dig.

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 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

REVISIONS

NO.	DESCRIPTION

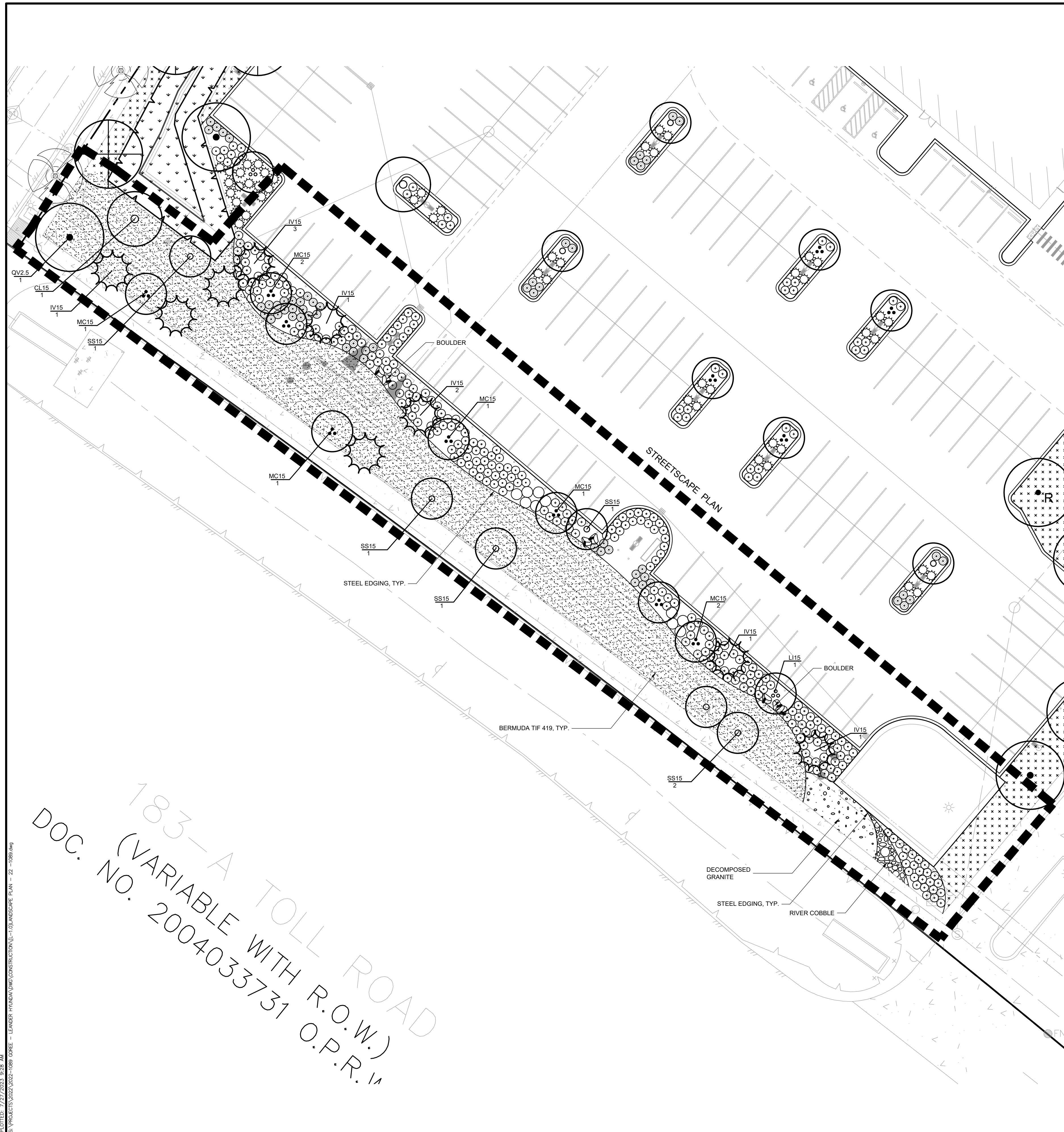
ORIGINAL ISSUE DATE:
 FEBRUARY 15, 2023

DRAWING TITLE
LANDSCAPE PLAN 3 OF 3

PEA JOB NO. 2022-1089

P.M.	EM
DN.	JZ
DES.	JZ

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PLANT SCHEDULE GREEN

CANOPY TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	QV2.5	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK	2.5" CAL.	POT	PER PLAN	1
ORNAMENTAL TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	CL15	CHILOPSIS LINEARIS / DESERT WILLOW	15 GAL.	POT	PER PLAN	1
	IV15	ILEX VOMITORIA / YAUPON HOLLY	15 GAL.	POT	PER PLAN	9
	LI15	LAGERSTROEMIA INDICA / CRAPE MYRTLE	15 GAL.	POT	PER PLAN	1
	MC15	MORELLA CERIFERA / WAX MYRTLE	15 GAL.	POT	PER PLAN	8
	SS15	SOPHORA SECUNDFLORA / TEXAS MOUNTAIN LAUREL	15 GAL.	POT	PER PLAN	6
SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	AQ3	ANISACANTHUS QUADRIFIDUS 'WRIGHTII' / FLAME ACANTHUS	3 GAL.	POT	36" O.C.	103
	DB3	DALEA FRUTESCENS / BLACK DALEA	3 GAL.	POT	36" O.C.	40
	RO3	ROSMARINUS OFFICINALIS / ROSEMARY	3 GAL.	POT	48" O.C.	10
PERENNIAL & GRASS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
	ML3	MUHLENBERGIA LINDHEIMERI / LINDHEIMER'S MUHLY	3 GAL.	POT	36" O.C.	48
	MR3	MUHLENBERGIA RIGENS / DEER GRASS	3 GAL.	POT	36" O.C.	53
	NT3	NASSELLA TENUISSIMA / MEXICAN FEATHER GRASS	3 GAL.	POT	36" O.C.	33
	SS1	SCUTELLARIA SUFFRUTESCENS / PINK SKULLCAP	1 GAL.	POT	36" O.C.	35
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER TYPE	SPACING	QTY
	CD	CYNODON DACTYLON 'TIF 419' / TIF 419 BERMUDAGRASS	SOD			8,374 SF

LANDSCAPE CALCULATION:
PUBLIC UTILITY DISTRICT, CITY OF LEANDER, TEXAS

STREET TREES ALONG US 813
 REQUIRED:
 TREES 30 FT O.C. WITH GROUND COVER AND HARDSCAPE AREA
 770 LF / 30FT = 26 TREES
 PROVIDED:
 26 TREES



PEA GROUP
 16066 DILLARD DR., SUITE 250
 HOUSTON, TEXAS 77040
 713-688-3530
 T.B.P.E.L.S. FIRM
 #F-21237 & #10194679

REGISTERED LANDSCAPE ARCHITECT
 ELIZABETH MAK
 STATE OF TEXAS
 2682

Elizabeth Mak 7-31-23

NORTH
 0 10 20 40
 SCALE: 1" = 20'

811 Know what's below.
 Call before you dig.

CAUTION!!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
PENSKE AUTOMOTIVE GROUP
 1700 AUTO PARK WAY
 ESCONDIDO, CA 92029

PROJECT TITLE
PENSKE LEANDER HYUNDAI
 9550 183A
 LEANDER, TX 78641

REVISIONS

ORIGINAL ISSUE DATE:
 FEBRUARY 15, 2023

DRAWING TITLE
STREETSCAPE PLAN

PEA JOB NO.	2022-1089
P.M.	EM
DN.	JZ
DES.	JZ

DRAWING NUMBER:
34 OF 36

183-A TOLL ROAD
 (VARIABLE WITH R.O.W.)
 DOC. NO. 2004033731 O.P.R. 14

PLOTTED: 7/27/2023 8:28 AM
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GENERAL LANDSCAPING REQUIREMENTS

- 1.0 GENERAL
1.1 SUMMARY
1.1.1 Includes But Not Limited To
1. General procedures and requirements for Site Work.
2.0 PRODUCTS - Not Used
3.0 EXECUTION
3.1 PREPARATION
3.1.1 Protection
1. Spillage:
A. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
B. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
2. Erosion Control:
A. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on-site or off-site drainage systems.
B. Develop, install, and maintain an erosion control plan if required by law.
C. Repair and correct damage caused by erosion.
3. Existing Plants And Features:
A. Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain.
B. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Landscape Architect.
C. Do not damage other plants and features which are to remain.
3.1.2 If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.

LANDSCAPING PREPARATION

- 1.0 GENERAL
1.1 SUMMARY
1.1.1 Includes But Not Limited To
1. General landscape work requirements.
1.2 QUALITY ASSURANCE
1.2.1 Comply with all applicable local, state and federal requirements, regarding materials, methods of work, and disposal of excess and waste materials.
1.2.2 Obtain and pay for all required inspections, permits, and fees.
1.2.3 Provide notices required by governmental authorities.
1.3 PROJECT CONDITIONS
1.3.1 Locate and identify existing underground and overhead services and utilities within contract limit work areas. (Call Dig Alert: 811 in Texas).
1.3.2 Provide adequate means to protect utilities and services designated to remain.
1.3.3 Repair utilities damaged during site work operations at Subcontractor's expense.
1.3.4 When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.
1.3.5 Locate, protect, and maintain benchmarks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Subcontractor's expense.
1.3.6 Perform landscape work operations and the removal of debris and materials to assure minimum interference with streets, walks, and other adjacent facilities.
1.3.7 Obtain governing authorities' written permission when required to close or obstruct streets, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.
1.3.8 Protect and maintain street lights, utility poles and services, traffic signal control boxes, curb boxes, valves and other services, except items designated for removal.
1.3.9 The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.
1.3.10 Perform landscape preparation work before commencing landscape construction.
1.3.11 Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain.
1.3.12 Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.
2.0 PRODUCTS
2.1 MATERIALS/EQUIPMENT
2.1.1 As selected by the General Contractor, except as indicated.
1. Tree protection:
A. Wood fencing - Snow fencing 4' height.
B. Posts - Steel fence post.
C. Herbicide for lawn restoration - "Round-up" by Monsanto.
3.0 EXECUTION
3.1 EXISTING UTILITIES
3.1.1 Call "TEXAS 811" before construction begins. Information on the drawings related to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.
3.2 CLEARING
3.2.1 Locate and suitably identify trees and improvements indicated to remain.
3.2.2 Fencing/soil erosion fence is to be installed.
3.2.3 Any equipment that compact the soil in the areas of existing trees is not allowed.
3.2.4 Protect trees scheduled to remain with 4' high snow fence per plans.
3.2.5 No vehicular traffic is permitted beneath drip line at any time. All lawn

- areas are to be worked by hand.
3.2.6 Clear and grub areas within contract limits as required for site access and excavation of the work.
3.2.7 Remove trees, plants, undergrowth, other vegetation and debris, except items indicated to remain.
3.2.8 Treat planting and lawn areas as required with herbicide per manufacturer recommendations to kill existing vegetation prior to planting, seeding and sodding.
3.2.9 Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 5'0" of underground structures, utility lines, footings, and paved areas.
3.3 DISPOSAL OF WASTE MATERIALS
3.3.1 Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.
3.3.2 Maintain disposal routes, clear, clean and free of debris.
3.3.3 On site burning of combustible cleared materials is not permitted.
3.3.4 Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean and free of materials and debris and suitable for site work operations.
3.3.5 Materials, items and equipment not scheduled for reinstallation or salvaged for the General Contractor are the property of the Landscape Architect. Remove cleared materials from the site as the work progresses. Storage and sale of Landscape Contractors salvage items on site is not permitted.
END OF SECTION
FINISH GRADING AND TOPSOIL PLACEMENT
1.0 GENERAL
1.1 SUMMARY
1.1.1 Includes But Not Limited To
1. Perform finish grading and topsoil placement required to prepare site for installation of landscaping as described in Contract Documents.
1.2 SUBMITTALS
1.2.1 Quality Assurance
1. Submit test on imported topsoil and on site stockpiled topsoil by independent licensed testing laboratory prior to use. Imported topsoil shall meet minimum specified requirements and be approved by Landscape Architect prior to use.
2. Provide and pay for testing and inspection during topsoil operations. Laboratory, inspection services, and Soils Engineer shall be acceptable to the Landscape Architect.
3. Submit report stating location of source of imported topsoil and account of recent use.
4. Test for pH factor, mechanical analysis, and percentage of organic content.
5. Submit test reports to General Contractor.
6. Sub-Contractor, or testing agency to make recommendations on type of quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.
1.3 QUALITY ASSURANCE
1.3.1 Participate in pre-installation meeting with Landscape Architect.
1.4 PROJECT CONDITIONS
1.4.1 Also see Landscape Preparation Section.
1.4.2 Protect existing trees, plants, lawns, and other features designated to remain as part of the landscaping work.
1.4.3 Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Subcontractor's expense.
1.4.4 Promptly notify the General Contractor and Landscape Architect of unexpected subsurface conditions.
2.0 PRODUCTS
2.1 MATERIALS
Topsoil: supplied and stockpiled topsoil proposed for use must meet the testing criteria results specified. Topsoil must conform to adjustments and recommendations from the soil test and by the Landscape Architect.
2.1.2 Existing topsoil: existing topsoil from on-site stockpile shall be utilized. All processing, cleaning, and preparation of this stored topsoil to render it acceptable for use is the responsibility of the Subcontractor.
2.1.3 Provide additional topsoil as required to complete the job. Topsoil must meet testing criteria results specified.
2.1.4 All processing, cleaning, and preparation of this supplied topsoil to render it acceptable for use is the responsibility of the Subcontractor.
2.1.5 Supplied and stockpiled topsoil, shall be fertile, friable, dark in color and representative of local productive soil, capable of sustaining vigorous plant growth and free of clay lumps, subsoil, noxious weeds or other foreign matter such as stones of 1" in any dimension, roots, sticks, and other extraneous material: not frozen or muddy. PH of soil range between 5.0 and 7.5
2.1.6 Soil shall not contain more than 2 percent of particles measuring over 2.0 mm in largest size
2.1.7 Prepared topsoil shall be used in planting mixtures as specified in Trees, Plants, and Ground Cover; all beds prepared as specified.
3.0 EXECUTION
3.1 EXAMINATION
3.1.1 Do not commence work of this Section until grading tolerances specified are met.
3.2 PREPARATION
3.2.1 Prior to grading, dig out weeds from planting areas by their roots and remove from site. Before placing top soil in landscape areas, remove rocks larger than 1 inch in any dimension and foreign matter such as building rubble, wire, cans, sticks, concrete, etc.
3.2.2 Prior to placing topsoil, remove any imported base material present in planting areas down to natural subgrade or other material acceptable to Landscape Architect.
3.3 PERFORMANCE
3.3.1 Site Tolerances
1. Total Topsoil Depth -
A. Lawn And Groundcover Planting Areas - 3 inches minimum compacted.
B. Shrub Planting Areas - 12 inches minimum throughout entire shrub bed area.
2. Elevation of topsoil relative to walks or curbs -
A. Seeded Lawn Areas - 1/4 inch below
B. Sodded Lawn Areas - 1 1/2 inches below
C. Shrub And Ground Cover Areas - 3 inches below
3.3.2 Do not expose or compact areas existing shrub or tree roots.
3.3.3 Redistribute approved existing top soil stored on site as a result of rough grading. Remove organic material, rocks and clods greater than 1 inch in any dimension, and other objectionable materials. Provide additional approved imported topsoil required for specified topsoil depth and bring surface to specified elevation relative to walk or curb.
3.3.4 For trees, shrubs, ground cover beds and plant mix for beds see Exterior

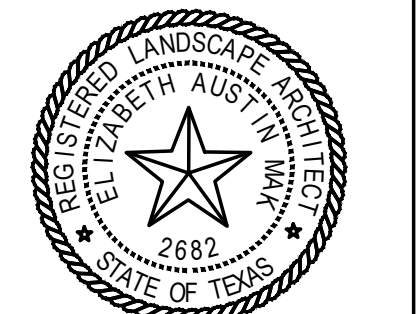
- Plants section.
3.3.5 Provide earth berming where indicated on Plans.
3.3.6 Berming to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that the toe of slope is not readily visible. Landscape Architect or General Contractor's representative to verify final contouring before planting.
3.3.7 Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water away from buildings will occur and that no low areas are created to allow ponding. Subcontractor to consult the General Contractor and Landscape Architect regarding variations in grade elevations before rough grading is completed.
3.3.8 Slope grade away from building for 12 feet minimum from walls at slope of 1/2 inch per ft minimum unless otherwise noted. High point of finish grade of building foundation shall be 6 inches minimum below finish floor level. Direct surface drainage in manner indicated on Drawings by molding surface to facilitate natural run-off of water. Fill low spots and pockets with top soil and grade to drain properly.
3.3.9 Rake all topsoil to remove clods, rocks, weeds, and debris.
3.3.10 Grade and shape area to bring surface to true uniform planes free from irregularities and to provide proper drainage and slopes per plans.
3.4 CLEANING
3.4.1 Upon completion of topsoil operations, clean areas within contract limits, remove tools, equipment, and haul all excess topsoil off-site. Site shall be clear, clean, free of debris, and suitable for site work operations.
END OF SECTION
LAWN SEEDING
1.0 GENERAL
1.1 SUMMARY
1.1.1 Includes But Not Limited To
1. Furnish and install seeded lawn as described in Contract Documents.
1.2 SUBMITTALS
1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.
1.3 DELIVERY AND STORAGE
1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.
1.4 PROJECT CONDITIONS
1.4.1 See landscape preparation section.
1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.
1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.
1.4.4 Perform seeding work only after planting and other work affecting ground surface has been completed.
1.4.5 Provide hose and lawn watering equipment as required.
1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Sub-Contractor's expense.
1.5 WARRANTY
1.5.1 See Landscape Maintenance and Warranty Section
2.0 PRODUCTS
2.1 MATERIALS
2.1.1 Topsoil for Seeded Areas: See Topsoil Placement and Drawings.
2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.
2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.
2.1.4 Summer Lawn Seed Mixture proportioned by volume as indicated below:
SEED TYPE MIN. % PURE LIVE SEED REQUIRED POUNDS PURE LIVE SEED REQUIRED PER ACRE
Common Bermuda (Hulled) 85 65
Apply between September-November and/or March-May
2.1.5 Winter Lawn Seed Mixture proportioned by volume as indicated below:
SEED TYPE MIN. % PURE LIVE SEED REQUIRED POUNDS PURE LIVE SEED REQUIRED PER ACRE
Common Bermuda (Un-Hulled) 85 65
Winter Rye 90 200
Apply between October-December only.
Note: % Pure Live Seed=% Purity x % Germination=100
2.1.6 Fertilizer: granular, non burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.
2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.
2.1.8 Straw Mulch: Used in crimping process only. Clean oat or wheat straw well seasoned before baling, free from mature seed-bearing status, or roots of prohibited or noxious weeds.
2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transportation furnished by Sub Contractor.
3.0 EXECUTION
3.1 INSPECTION
3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start seeding work until unsatisfactory conditions are corrected.
3.2 PREPARATION
3.2.1 SURFACE PREPARATION
1. Seven days maximum prior to seeding, -
A. Treat Lawn areas if required with "Round-Up" by Monsanto, per label direction to kill existing vegetation prior to seeding.
B. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.
C. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.
D. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.
E. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.
F. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of

- actual nitrogen 1,000 sq. ft. (43 lbs / acre).
G. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.
H. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.
I. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type.
J. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.
K. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to seeding.
3.3 INSTALLATION
3.3.1 SEEDING
1. Seed lawns only between March-May, and/or September-November, winter seeding between October-December, or at such other times acceptable to Landscape Architect.
2. Seed immediately after preparation of bed. Seed indicated areas within contract Limits and areas adjoining contract limits disturbed as a result of construction operations.
3. Perform seeding operations when the soil is dry and when the winds do not exceed five(5) miles per hour velocity.
4. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two (2) directions, at right angles to each other.
5. Sow seed at a rate of 300 lbs./acre.
6. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.
7. Provide soil erosion planting mat where grade conditions required to stabilize the planting area.
3.3.2 HYDRO-SEEDING
1. Hydro-seeding: The application of grass seed and a wood cellulose fiber mulch tinted green shall be accomplished in one operation by use of an approved spraying machine.
A. Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce a homogeneous slurry. Add wood cellulose fiber after seed, water, and fertilizer have been thoroughly mixed and apply at the rate of 200 pounds per acre dry weight.
B. For hydro-seeding, wood cellulose fiber shall be used. Silva-Fiber Mulch by Weyerhaeuser Company, Tacoma, WA (800-443-9179).
C. Hydraulically spray material on ground to form a uniform cover impregnated with grass seed.
D. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 1,000 pounds, dry weight, per acre.
E. Apply cover so that rainfall or applied water will percolate to underlying soil.
3.3.3 MULCHING
1. Place straw mulch on seeded areas within 24-hours after seeding.
2. Place straw mulch uniformly in a continuous blanket at a rate of 2-1/2 tons per acre, or two (2) 50 lb. bales per 1,000 sq. ft. of area. A mechanical blower may be used for straw mulch application when acceptable to the Landscape Architect.
3. Crimp straw into soil by use of a "crimper". Two passes in alternate direction required. Alternative methods on areas too small for crimping must be approved by the Landscape Architect or Owner's Representative.
3.3.3 ESTABLISH LAWN
1. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be reseeded, continue until dense lawn established.
2. Damage to seeded area resulting from erosion to be repaired by Sub Contractor.
3. In event Sub Contractor does not establish dense lawn during first germination period, return to project to re-fertilize and reseed to establish dense lawn.
4. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and reseed the proposed lawn areas to produce a dense turf, as specified.
3.4 CLEANING
3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.
3.5 MAINTENANCE
3.5.1 See Landscape Maintenance and Warranty Section.
3.6 ACCEPTANCE
3.6.1 See Landscape Maintenance and Warranty Section.
END OF SECTION
LAWN SODDING
1.0 GENERAL
1.1 SUMMARY
1.1.1 Includes But Not Limited To
1. Furnish and install sodded lawn as described in Contract Documents.
1.2 QUALITY ASSURANCE
1.2.1 Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.
1.3 SUBMITTALS
1.3.1 Submit sod growers certification of grass species. Identify source location.
1.3.2 Submit manufacturer's certification of fertilizer.
1.4 DELIVERY, STORAGE, AND HANDLING
1.4.1 Cut, deliver, and install sod within 24 hour period.
1.4.2 Do not harvest or transport sod when moisture content may adversely affect sod survival.
1.4.3 Protect sod from sun, wind, and dehydration prior to installation. Do not tear, stretch, or drop sod during handling and installation.
1.4.4 Sod which dries out before installation will be rejected.
1.5 PROJECT CONDITIONS
1.5.1 See Landscape Preparation section.
1.5.2 Work notification: Notify Landscape Architect or General Contractor's representative at least seven (7) working days prior to start of sodding operation.
1.5.3 Protect existing utilities, paving, and other facilities from damage caused by

- sodding operations.
1.5.4 Perform sodding work only after planting and other work affecting ground surface has been completed.
1.5.5 Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.
1.5.6 Provide hose and lawn watering equipment as required.
1.5.7 The irrigation system will be installed prior to sodding. Locate, protect, and maintain the irrigation system during sodding operations. Repair irrigation system components damaged during sodding operations at the Subcontractor's expense.
1.6 WARRANTY
1.6.1 See Landscape Maintenance and Warranty Section.
2.0 PRODUCTS
2.1 MATERIALS
2.1.1 Sod: An "approved" nursery grown variety of Common Bermuda, St. Augustine, or Zoysia, as specified by Landscape Architect.
2.1.2 Sod containing Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Timothy, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel, or Brønnegrass weeds will not be acceptable.
2.1.3 Provide well rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; viable and capable of growth and development when planted.
2.1.4 Furnish sod, machine stripped in square pads or strips not more than 3'-0" long; uniformly 1" to 1-1/2" thick with clean cut edges. Mow sod before stripping.
2.1.5 Fertilizer: granular, non burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.
2.1.6 Type A: starter fertilizer containing 20% nitrogen, 12% phosphoric acid, and 8% potash by weight or similar approved composition.
2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.
2.1.8 Stokes: softwood, 3/4" x 8" long.
2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transportation furnished by Sub Contractor.
2.1.10 Topsoil: see Topsoil Placement section.
3.0 EXECUTION
3.1 INSPECTION
3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start sodding work until unsatisfactory conditions are corrected.
3.2 PREPARATION
3.2.1 Surface Preparation:
1. Seven days maximum prior to sodding, -
a. Treat Lawn areas if required with herbicide per manufacturer recommendations to kill existing vegetation prior to sodding.
b. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.
c. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.
d. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.
e. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.
f. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).
g. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.
h. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.
i. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs.
j. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.
k. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to sodding.
l. Dampen dry soil prior to sodding.
3.3 INSTALLATION
3.3.1 Sodding:
1. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent course. Remove excess sod to avoid othring of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.
2. Do not lay dormant sod or install sod on saturated, frozen soil.
3. Install initial row of sod in a straight line, beginning at the bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.
4. Peg sod on slopes greater than 3 to 1 or in centerline of swales to prevent slippage at a rate of 2 stakes per yard of sod.
5. Water sod thoroughly with a fine spray immediately after laying to obtain moisture penetration through sod into top 4 inches of topsoil.
6. Roll with light lawn roller in two directions perpendicular to each other to ensure contact with sub grade.
7. Install sod at indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.
8. Damage to sodded area resulting from erosion to be repaired by Subcontractor.
3.4 CLEANING
3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operations.
3.5 MAINTENANCE
3.5.1 See Landscape Maintenance and Warranty Section.
3.6 ACCEPTANCE
3.6.1 See Landscape Maintenance and Warranty Section.
END OF SECTION



16066 DILLARD DR., SUITE 250 HOUSTON, TEXAS 77040 713-688-3530 T.B.P.E.L.S. #10194679 #F-21237 & #10194679



Elizabeth Mack -31-23



CAUTION!! THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT

PENSKE AUTOMOTIVE GROUP 1700 AUTO PARK WAY ESCONDIDO, CA 92029

PROJECT TITLE

PENSKE LEANDER HYUNDAI 9550 183A LEANDER, TX 78641

REVISIONS

Table with 2 columns: Description, Date. Contains one revision entry.

ORIGINAL ISSUE DATE:

FEBRUARY 15, 2023

DRAWING TITLE

LANDSCAPE SPECIFICATIONS 1 OF 2

PEA JOB NO. 2022-1089

P.M. EM

DN. JZ

DES. JZ

DRAWING NUMBER:

35 OF 36

EXTERIOR PLANTS		2.1.1	Plants: Provide plants typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.	2.2.1	Measure height and spread of specimen plant materials with branches in their normal positions as indicated on Drawings or Plant List.	3.3.6	After balled and burlapped plants are set, tamp planting mixture around of balls and fill all voids and remove air pockets.	acceptance of the project installation by the Landscape Architect and General Contractor's representative.		
1.0	GENERAL									
1.1	SUMMARY									
1.1.1	Includes But Not Limited To			2.2.2	The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.	3.3.7	Remove all burlap, ropes, and wires from top 1/3 of balls.	2. The Landscape Subcontractor shall guarantee trees, shrubs, ground cover beds and seeded or sodded areas through construction and for a period of one (1) year after date of Acceptance of installation against defects including death and unsatisfactory growth, except for defects resulting from neglect, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Subcontractor's control.		
1.2	QUALITY ASSURANCE		1. Furnish and install landscaping plants as described in Contract Documents.	2.2.3	Measurement should be average of plant, not greatest diameter. For example, plant measuring 15 inches in widest direction and 9 inches in narrowest direction would be classified as 12 inch stock.	3.3.8	Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of trunks and shrubs and to within 6" of planting bed.			
1.2.1	Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.		1.2.1	Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.	2.2.4	Plants properly trimmed and transplanted should measure same in every direction.	3.3.9	Spread and arrange roots of bare rooted plants in their natural position. Work in planting mixture. Do not mat roots together. Cut all broken and frayed roots before installing planting mixture.	3.1.3	Maintenance During One (1) Year Project Warranty
1.2.2	Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.		1.2.2	Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.	2.2.5	Measure caliper of trees 6 inches above surface of ground.	3.3.10	Water immediately after planting.	1. To insure guarantee standards, the following maintenance procedures for trees, shrubs, and ground covers shall be executed during construction and for the full Project Warranty Period.	
1.2.3	All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.		1.2.3	All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.	2.2.6	Where caliper or other dimensions of plant materials are omitted from Plant List, plant materials shall be normal stock for type listed.	3.3.11	Apply pre-emergent herbicide to bed areas per manufacturer's recommendations before mulching.	a. Landscape Subcontractor shall be responsible for only one (1) replacement of any plant materials during the one (1) year Project Warranty Period. These include those which are dead or in the opinion of the Landscape Architect are in an unhealthy or unsightly condition, or having lost natural shape, resulting from dieback, excessive pruning, or inadequate or improper maintenance as part of the guarantee.	
1.2.4	Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional charge. Larger plants shall not be cut back to size indicated.		1.2.4	Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional charge. Larger plants shall not be cut back to size indicated.	2.2.7	Plant materials larger than those specified may be supplied, with prior written approval of Landscape Architect, and:	3.4	MULCHING	b. Prior to any replacements, Landscape Subcontractor shall review individual plants in question with Landscape Architect to determine reason for plant demise.	
1.2.5	Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor is to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall inspect all plant material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.		1.2.5	Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor is to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall inspect all plant material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.	2.2.8	The height of the trees, specified by height, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated on the drawings.	3.4.1	Mulch trees and shrub planting pits and shrub beds with shredded hardwood bark mulch 3" deep to dripline immediately after planting. Leave 3" circle of bare soil around tree trunk. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.	2. Replacements must meet the standards specified on the Landscape plans and in the specifications, i.e. quality, species of plant material and planting procedures to receive approval of replacement materials by Landscape Architect.	
1.2.6	Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size, and variety.		1.2.6	Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size, and variety.	3.0	EXECUTION	3.4.2	Mulch shall not be placed in contact with trunks or stems.	3. Costs for replacements are assumed part of bid quotations and therefore will not result in an additional cost to General Contractor or Landscape Architect.	
1.2.7	Approval of plant selection at the place of growth shall not impair the right of inspection and rejection upon delivery at the site or during progress of the work.		1.2.7	Approval of plant selection at the place of growth shall not impair the right of inspection and rejection upon delivery at the site or during progress of the work.	3.1	INSPECTION	3.4.3	Mulch ground cover beds with shredded bark mulch 2" to 3" deep prior to planting.	4. Areas damaged as a result of replacement operation are to be restored by Landscape Subcontractor at no cost to the General Contractor or Landscape Architect.	
1.2.8	Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.		1.2.8	Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.	3.1.1	Landscape Architect or General Contractor's representative must approve proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.	3.4.4	Plant ground cover through mulch.	5. The Landscape Subcontractor shall be responsible for watering all plantings through the warranty period and shall keep guy wires taut, raise tree balls which settle, furnish and apply sprays as necessary to keep the plantings free of disease and insects until the end of the warranty period.	
1.2.9	Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and site to Landscape Architect before proceeding with work of this section.		1.2.9	Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and site to Landscape Architect before proceeding with work of this section.	3.1.2	Individual plant locations shall be staked on the project site by the Landscape Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the General Contractor / Owner.	3.5	WRAPPING, GUYING, AND STAKING	6. The Landscape Subcontractor shall remove and replace trees, shrubs or other plants found to be dead or in unhealthy condition.	
1.2.10	Plant totals are for convenience only and are not guaranteed. Verify amounts shown on Drawings and site. Drawings indicated on Drawings are required unless indicated otherwise.		1.2.10	Plant totals are for convenience only and are not guaranteed. Verify amounts shown on Drawings and site. Drawings indicated on Drawings are required unless indicated otherwise.	3.1.3	Accurately stake plant material according to the Drawings. Stakes shall be above grade, painted a bright color, and labeled with the name of the plant material to be installed at that location.	3.5.1	Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.	a. Rejected plants and materials shall be removed promptly.	
1.3	SUBMITTALS		1.3	SUBMITTALS	3.2	PREPARATION	3.5.2	Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.	b. Replacements shall be made during the following normal planting schedule.	
1.3.1	Provide and pay for material testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following data:		1.3.1	Provide and pay for material testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following data:	3.2.1	General: See Landscape Preparation Section	3.5.3	Stake deciduous trees under 4" caliper. Stake evergreen trees under 6"-0" tall and over with metal fence post, three (3) per tree.	c. Trees and shrubs which are in doubt shall be replaced, unless, in the opinion of the Landscape Architect, it is advisable to extend Project Warranty Period for full growing Season.	
1.3.2	Submit the following material samples to Landscape Architect:		1.3.2	Submit the following material samples to Landscape Architect:	3.2.2	Vegetation Removal	3.5.4	Stake/guy all trees immediately after installation. When high winds or other conditions which may effect tree survival or appearance occur during the warranty period, the Sub-Contractor shall immediately repair the staking/guying.	7. The first spring after plant installation the contractor shall check all trees to insure twine has rotted from around the trunk. If twine is still present, it shall be removed and disposed of off-site.	
1.3.3	Submit the following materials certification to Landscape Architect:		1.3.3	Submit the following materials certification to Landscape Architect:	3.2.3	Ground Cover Beds, Perennial Flower Beds, and Ericaceous Plant Beds	3.5.5	Guy deciduous trees 4" caliper and over. Stake evergreen trees 6"-0" tall and over with metal fence post, three (3) per tree.	8. All stakes, guy wires, tree wrap paper, dead twigs and branches shall be removed from tree and plant materials at the end of this warranty period.	
1.4	DELIVERY, STORAGE, AND HANDLING		1.4	DELIVERY, STORAGE, AND HANDLING	3.2.4	Mass Shrub Beds / Hedge Beds:	3.6	PRUNING	3.1.4	Maintenance of Seeded Lawn Areas
1.4.1	Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.		1.4.1	Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.6.1	Remove or cut back broken, damaged, and unsymmetrical growth of new wood.	1. The Landscape Subcontractor shall maintain seeded lawn areas.	
1.4.2	Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.		1.4.2	Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.	3.2.4	1. Excavate existing soil to 18" depth over entire bed area and remove soil from site. Scarify bottom of the bed to a 4" depth. Set plants according to drawings and Specifications. Backfill entire bed with (premixed) specified planting mixture Type "A".	3.6.2	Multiple leader plants: preserve the leader which will best promote the symmetry of the plant. Do not prune terminal leader. Cut branches flush with the trunk of the main branch, at a point beyond a lateral shoot or bud a distance of not less than ½ the diameter of the supporting branch. Make cut on an angle.	a. Water, fertilize, weed, and apply chemicals until a dense lawn of permanent grasses, free from lumps and depressions or any bare spots, none of which is larger than one (1) foot of area up to a maximum of 3% of the total seeded lawn area is established.	
1.4.3	Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.		1.4.3	Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.6.3	Prune evergreens only to remove broken or damaged branches.	b. Seeded lawn that fails to show a uniform growth and/or germination shall be reseeded until a dense cover is established, regardless of what season the seed was installed.	
1.4.4	Dig, pack, transport, and handle plants with care to ensure protection against injury.		1.4.4	Dig, pack, transport, and handle plants with care to ensure protection against injury.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.7	MAINTENANCE	2. The Landscape Subcontractor shall maintain and mow all lawn areas until acceptance of installation (typically 3 mows). When lawn reaches 3" in height it shall be cut to 2" in height.	
1.4.5	Inspection certificates required by law shall accompany each shipment invoice or order to stock on arrival. The certificate shall be filed with the General Contractor's representative.		1.4.5	Inspection certificates required by law shall accompany each shipment invoice or order to stock on arrival. The certificate shall be filed with the General Contractor's representative.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.7.1	See Landscape Maintenance and Warranty Standards.	3. The Owner assumes cutting responsibilities following the Acceptance of installation of the seeded lawn.	
1.4.6	Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, shredded hardwood bark mulch, or in a manner acceptable to the General Contractor's representative.		1.4.6	Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, shredded hardwood bark mulch, or in a manner acceptable to the General Contractor's representative.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.8	CLEANING	4. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all seeded lawn maintenance responsibilities.	
1.4.7	Water heeled in plantings daily.		1.4.7	Water heeled in plantings daily.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.8.1	Perform cleaning during installation of the work and upon completion of the work. Remove from all site excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.		
1.4.8	No plant shall be bound with rope or wire in a manner that could damage or break the branches.		1.4.8	No plant shall be bound with rope or wire in a manner that could damage or break the branches.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	END OF SECTION			
1.4.9	Cover plants transported on open vehicles with a protective covering to prevent wind burn.		1.4.9	Cover plants transported on open vehicles with a protective covering to prevent wind burn.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	LANDSCAPE MAINTENANCE AND WARRANTY STANDARDS			
1.4.10	Frozen or muddy topsoil is not acceptable.		1.4.10	Frozen or muddy topsoil is not acceptable.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1.0	GENERAL		
1.5	PROJECT CONDITIONS		1.5	PROJECT CONDITIONS	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1.1	SUMMARY		
1.5.1	See Landscape Preparation Section.		1.5.1	See Landscape Preparation Section.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1.1.1	Includes But Not Limited To		
1.5.2	Work notification: notify Landscape Architect at least seven working days prior to installation of plant material.		1.5.2	Work notification: notify Landscape Architect at least seven working days prior to installation of plant material.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1. Provide maintenance for new landscaping as described in Contract Documents.			
1.5.3	Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.		1.5.3	Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	2. The requirements of the Section include a one (1) year warranty period from date of acceptance of installation performed by the General Contractor's Representative and Landscape Architect.			
1.5.4	A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Subcontractor shall notify the Landscape Architect during the proposal bidding process.		1.5.4	A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Subcontractor shall notify the Landscape Architect during the proposal bidding process.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	2. PRODUCTS - Not Used			
1.5.5	An irrigation system will be installed prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at the Landscape Subcontractor's expense.		1.5.5	An irrigation system will be installed prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at the Landscape Subcontractor's expense.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.0	EXECUTION		
1.5.6	The Landscape Subcontractor shall inspect existing soil conditions in all areas of the site where his operations will take place, prior to the beginning of work. It is the responsibility of the Landscape Subcontractor to notify the General Contractor's representative and the Landscape Architect in writing of any conditions which could affect the survivability of plant material to be installed.		1.5.6	The Landscape Subcontractor shall inspect existing soil conditions in all areas of the site where his operations will take place, prior to the beginning of work. It is the responsibility of the Landscape Subcontractor to notify the General Contractor's representative and the Landscape Architect in writing of any conditions which could affect the survivability of plant material to be installed.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.1	PERFORMANCE		
1.6	WARRANTY		1.6	WARRANTY	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.1.1	Acceptance of Installation		
1.6.1	See Landscape Maintenance and Warranty Standards.		1.6.1	See Landscape Maintenance and Warranty Standards.	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1. At the completion of all landscape installation, or pre-approved portions thereof, the Landscape Subcontractor shall request in writing an inspection for Acceptance of Installation in which the Landscape Subcontractor, Landscape Architect, and General Contractor's Representative shall be present.			
2.0	PRODUCTS		2.0	PRODUCTS	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	a. Following the acceptance inspection a punch list will be issued by the Landscape Architect.			
2.1	MATERIALS		2.1	MATERIALS	3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	b. Upon completion of all punch list items, the Landscape Architect and/or General Contractor's Representative shall reinspect the project and issue a written statement of Acceptance of Installation and establish the beginning of the Project Warranty Period.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	c. At the time of acceptance all plant material shall be of vigorous health.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	d. It is the responsibility of the Landscape Subcontractor to make the written request for inspection of installation in a timely fashion.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	e. If there is plant material loss prior to the Landscape Subcontractor's written request for inspection of installation, the Landscape Contractor shall make all replacements of this dead material at no additional cost. These replacements are not considered to be the required one (1) replacement of dead plant material by the Landscape Subcontractor during the one (1) year project warranty period, as outlined below.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1. At the completion of all landscape installation, or pre-approved portions thereof, the Landscape Subcontractor shall request in writing an inspection for Acceptance of Installation in which the Landscape Subcontractor, Landscape Architect, and General Contractor's Representative shall be present.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	2. Water sod thoroughly, as required to establish proper rooting.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	4. Mow lawn areas once as soon as sod has rooted sufficiently and knitted to the topsoil. Cut back to 2" height. Not more than 40% of grass leaf shall be removed at any single mowing. Excess clipping to be removed by the Landscape Subcontractor. The Landscape Subcontractor shall be responsible for lawn mowing until acceptance of installation (typically 3-mows).			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	5. The Owner assumes mowing responsibilities following the Acceptance of Installation of the sodded lawn.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	6. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all sodded lawn maintenance responsibilities.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.1.5	Maintenance of Sodded Lawn Areas		
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1. The Landscape Subcontractor shall maintain sodded lawn areas.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	a. Water, fertilize, spot weed, apply herbicides, fungicides, insecticides and resod until a full uniform, smooth stand of sod is knitted to topsoil, and accepted by the Landscape Architect or his or her representative.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	2. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	4. Mow lawn areas once as soon as sod has rooted sufficiently and knitted to the topsoil. Cut back to 2" height. Not more than 40% of grass leaf shall be removed at any single mowing. Excess clipping to be removed by the Landscape Subcontractor. The Landscape Subcontractor shall be responsible for lawn mowing until acceptance of installation (typically 3-mows).			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	5. The Owner assumes mowing responsibilities following the Acceptance of Installation of the sodded lawn.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	6. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all sodded lawn maintenance responsibilities.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	3.1.6	Final Acceptance Upon Conclusion of the Warranty Period		
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Planting ground cover through mulch and into plant mix.	1. At the conclusion of the Project Warranty Period the Landscape Subcontractor shall request a project inspection for final acceptance in which the Landscape Architect and the Owner's Representative shall reinspect the project and issue a Written Statement of Final Acceptance.			
					3.2.4	1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been				