

# Edwards Aquifer Application Cover Page

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## 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: LHTX RV Resort					2. Regulated Entity No.: Not Available				
3. Customer Name: Dilley Development, LLC					4. Customer No.: Not Available				
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):		19.69	
9. Application Fee:	\$6,500		10. Permanent BMP(s):			Wet Pond			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):			N/A			
13. County:	Williamson		14. Watershed:			South Fork San Gabriel River			

# Application Distribution

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

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf)

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	1
Region (1 req.)	—	—	1
County(ies)	—	—	1
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 type="checkbox"/> Leander <input checked="" 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.

Candace Craig

Print Name of Customer/Authorized Agent

*Candace Craig*

04/18/2023

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):

# 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: Candace Craig, PE

Date: 04/18/2023

Signature of Customer/Agent:



Regulated Entity Name: LHTX RV Resort

### Project Information

1. County: Williamson
2. Stream Basin: South Fork San Gabriel
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

Contact Person: Clint Stephenson

Entity: LHTX RV Resort, LLC

Mailing Address: 800 County Road 257

City, State: Liberty Hill, TX

Telephone: (512) 845-4140

Email Address: clint@clsexcavation.com

Zip: 78642

Fax: \_\_\_\_\_

5. Agent/Representative (If any):

Contact Person: Candace Craig, PE

Entity: Nora Engineering & Planning LLC

Mailing Address: 5114 Balcones Woods Dr., Ste. 307-122

City, State: Austin, TX

Zip: 78759

Telephone: (737) 264-3081

Fax: \_\_\_\_\_

Email Address: ccraig@noraeng.com

6. Project Location:

- The project site is located inside the city limits of Liberty Hill.
- 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.

2224 RR 1869, Liberty Hill, TX 78642

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: 2.8
- Commercial
- Industrial
- Other: \_\_\_\_\_

13. Total project area (size of site): 19.69 Acres

Total disturbed area: 19.85 Acres

14. Estimated projected population: 219

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

Table 1 - Impervious Cover

<b><i>Impervious Cover of Proposed Project</i></b>	<b><i>Sq. Ft.</i></b>	<b><i>Sq. Ft./Acre</i></b>	<b><i>Acres</i></b>
Structures/Rooftops	11,350	÷ 43,560 =	0.26
Parking	153,560	÷ 43,560 =	3.53
Other paved surfaces	229,138	÷ 43,560 =	5.26
Total Impervious Cover	394,048	÷ 43,560 =	9.05

**Total Impervious Cover 9.05 ÷ Total Acreage 19.69 X 100 = 45.94% 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 Liberty Hill (name) Treatment Plant. The treatment facility is:

Existing.

Proposed.

N/A

**Permanent Aboveground Storage Tanks (ASTs)  $\geq$  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			
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>

**Total: \_\_\_\_\_ Gallons**

30. Piping:

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

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

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

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

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

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

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

### *Site Plan Requirements*

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

34.  The Site Plan must have a minimum scale of 1" = 400'.  
Site Plan Scale: 1" = 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 Panel No. 48491C0245F, Dated 12/20/2019.
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,

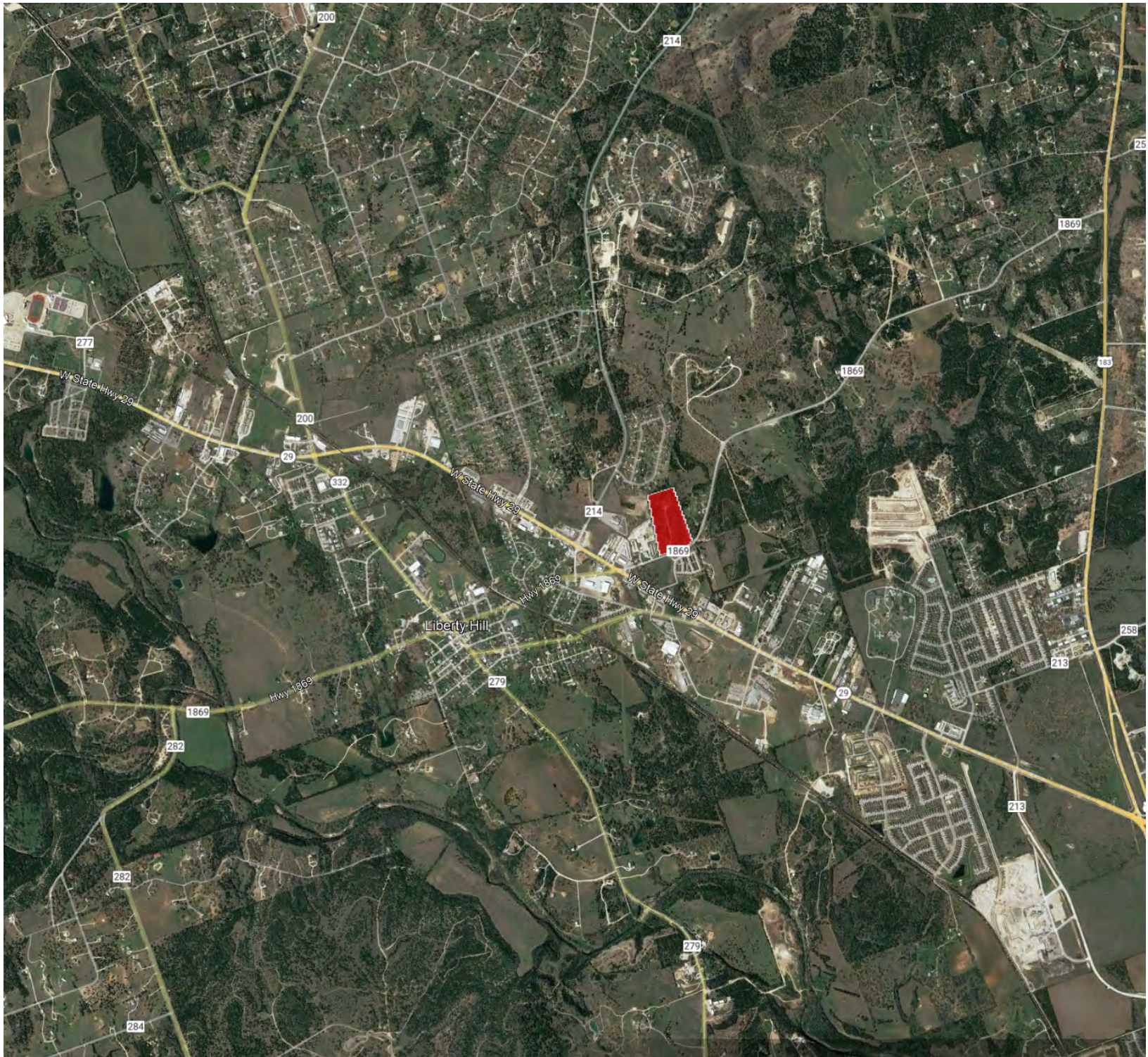
or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

### *Administrative Information*

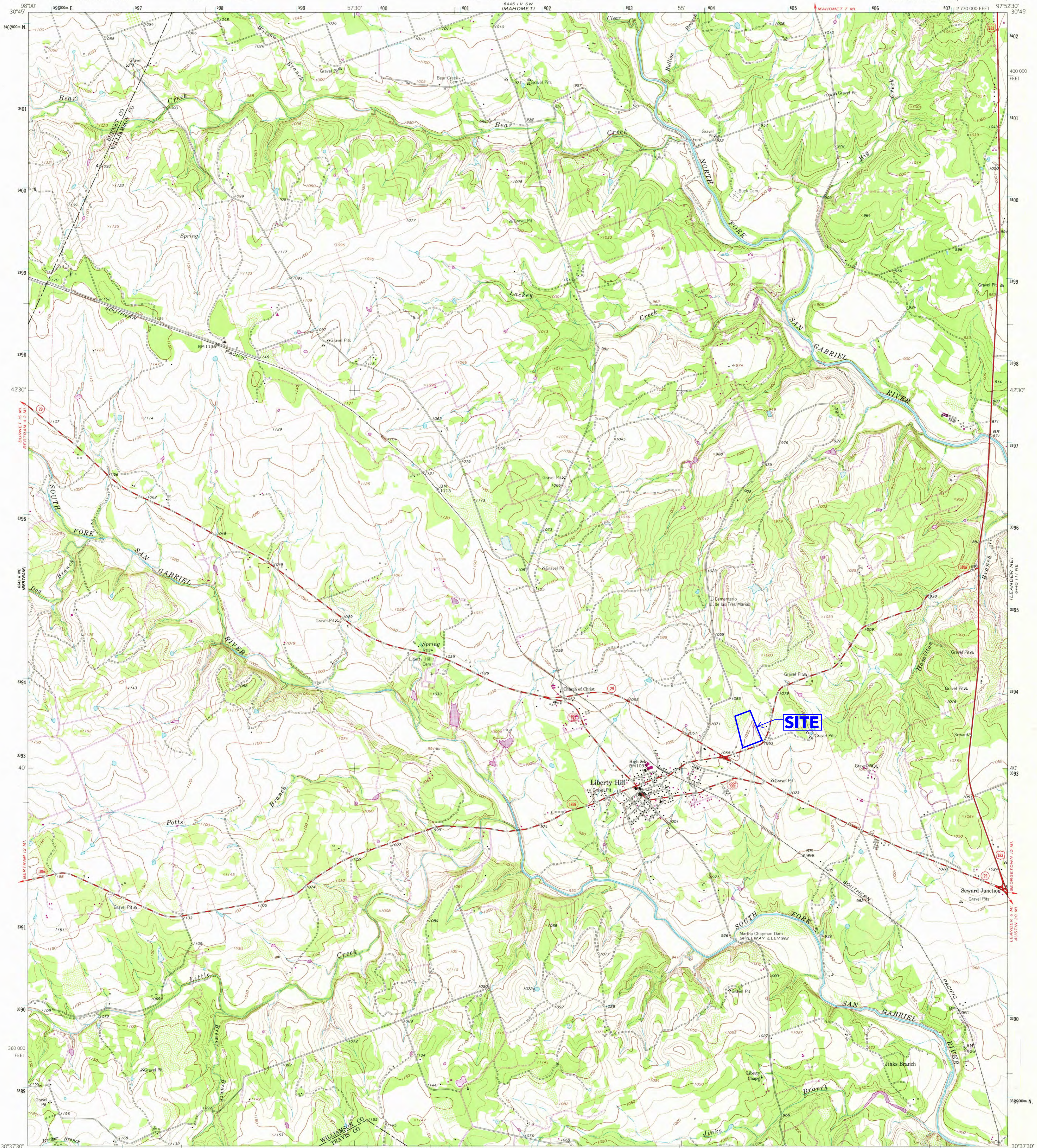
61.  Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.
  62.  Any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

# EXHIBIT A

## SITE LOCATION







Mapped, edited, and published by the Geological Survey

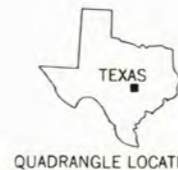
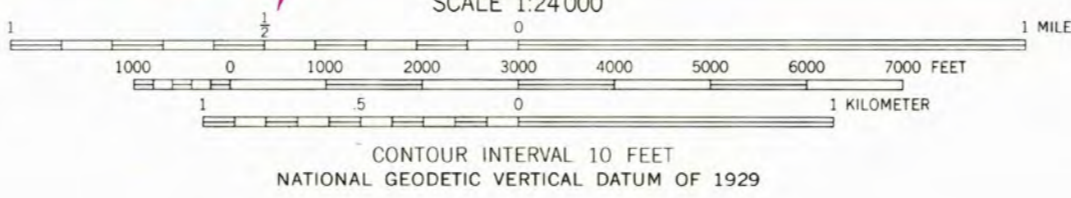
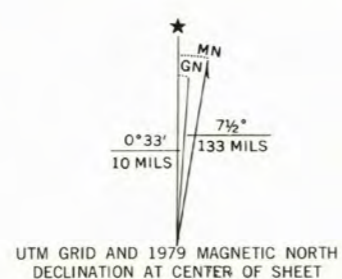
Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1962

Polyconic projection. 1927 North American datum. 10,000-foot grid based on Texas coordinate system, central zone. 1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue.

Fine red dashed lines indicate selected fence lines.

Revisions shown in purple and woodland compiled from aerial photographs taken 1976 and other source data. This information not field checked. Map edited 1979.



ROAD CLASSIFICATION	
Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U.S. Route	State Route

SEP 20 1979

LIBERTY HILL, TEX.  
N3037.5-W9752.5/7.5

USGS  
Historical File  
Topographic Division

1962  
PHOTOREVISED 1979  
AMS 6445 111 NW-SERIES V882

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

3097-323

## **CONTRIBUTING ZONE PLAN APPLICATION ATTACHMENTS C - P**

### **ATTACHMENT C - PROJECT DESCRIPTION**

LHTX RV Park is a proposed RV park project on a 19.69-acre tract of land. The site is currently minimally developed with a 4,000-square-foot four-plex residential building and a gravel driveway. The proposed impervious coverage is 9.18 Acres (46.6%). The property is bounded by Ranch Road 1869 on the south, a commercial site to the west, residential site to the north, and an undeveloped site to the east. The Permanent BMP for the site is a proposed wet pond.

### **ATTACHMENT D - FACTORS AFFECTING SURFACE WATER QUALITY**

During construction, factors that can affect water quality include potential spill discharge from fuels chemicals and other construction materials, equipment and site facilities, and concrete washout. In addition, uncontrolled sediment-loaded runoff over eroded or unvegetated areas can significantly degrade water quality downstream from the site. The pollutants during construction must be managed by addressing spills and maintaining effective temporary erosion and sedimentation control BMPs

After construction, factors that can affect water quality primarily include fuel and other pollutants left by motor vehicles on paved areas and fertilizers and pesticides used in landscape areas. These pollutants are managed by the proposed wet pond.

### **ATTACHMENT E - VOLUME AND CHARACTER OF STORMWATER**

The stormwater from this site will be collected by swales and storm sewers and routed to the proposed wet pond. The volume of stormwater for the 2, 10, 25, and 100-year storm events are provided on Sheet 15: Drainage Area Map. The stormwater in developed areas is typically affected by fuel and other pollutants left by motor vehicles on paved areas and fertilizers and pesticides used in landscape areas. These pollutants will be treated by the proposed wet pond designed in accordance with TCEQ regulations.

### **ATTACHMENT F - SUITABILITY LETTER FROM AUTHORIZED AGENT**

Not Applicable

### **ATTACHMENT G - ALTERNATIVE SECONDARY CONTAINMENT METHODS**

Not Applicable

### **ATTACHMENT H - AST CONTAINMENT STRUCTURE DRAWINGS (IF AST IS PROPOSED)**

Not Applicable

### **ATTACHMENT I - 20% OR LESS IMPERVIOUS COVER WAIVER**

Not Applicable

CZP02\_f-10257\_contributing\_zone\_plan\_application\_Attachment C-P.docx

## **ATTACHMENT J - BMPS FOR UPGRADE STORMWATER**

A 76.79-acre off-site drainage area flows from the north side of the site, is collected in a swale along the property line is conveyed to the wet pond as shown on the drainage plans.

## **ATTACHMENT K - BMPS FOR ON-SITE STORMWATER**

The stormwater from this site will be collected by swales and storm sewers and routed to the proposed wet pond.

The pond is located on the south side of the park as shown on sheet 11. Overall calculations show that 80% of the TSS increase due to the new facilities will be removed through the BMP. The TCEQ "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" and the WPAP calculation template excel worksheet were used to computer TSS removal. The calculations are provided on Sheet 16 of the attached plans.

## **ATTACHMENT L - BMPS FOR SURFACE STREAMS**

Not Applicable

## **ATTACHMENT M - CONSTRUCTION PLANS**

Construction plans are attached.

## **ATTACHMENT N - INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN**

See attached.

## **ATTACHMENT O - PILOT-SCALE FIELD TESTING PLAN**

Not Applicable

# TCEQ-10257 CONTRIBUTING ZONE PLAN APPLICATION

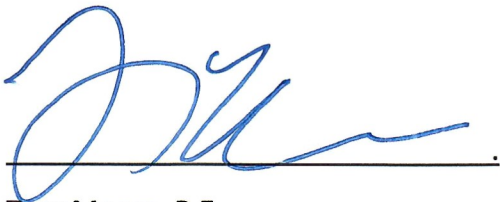
## ATTACHMENT N -Inspection, Maintenance, Repair, and Retrofit Plan

LHTX RV Park

A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

The batch detention pond and the engineered vegetative strips will receive regular maintenance in accordance with the attached and following "Inspection and Maintenance Plan for Batch Detention Ponds and Engineered Vegetative Strips."

As the design engineer responsible for design of the permanent BMPs and measures I hereby certify that to the best of my knowledge the plans and design have been accomplished in a manner to meet all TCEQ guidelines and requirements regarding to the Inspection and Maintenance Plan requirements.



Troy Moore, P.E.

PE# 119326

# INSPECTION AND MAINTENANCE PLAN FOR WET BASINS, ENGINEERED VEGETATIVE STRIPS, GRASSY SWALES, AND BATCH DETENTION PONDS

PROJECT NAME: LHTX RV Park

ADDRESS: 2224 Ranch Road 1869

CITY, STATE, ZIP: Liberty Hill, Texas 78642

## WET BASIN

The water quality benefits of a wet basin increase by extending the detention time.

Substantial removal of TSS is possible if stormwater is retained for more than 24 hours.

## ROUTINE MAINTENANCE

If regular maintenance and inspections are not undertaken, the basin will not achieve its intended purposes. Therefore, close, and regular consideration must be given to the following items.

There are many factors that may affect the basin's operation and that should be periodically checked. These factors can include mowing, control of pond vegetation, removal of accumulated bottom sediments, removal of debris from all inflow and outflow structures, unclogging of orifice perforations, and the upkeep of all physical structures that are within the detention pond area. One should conduct periodic inspections and after each significant storm. Remove floatables and correct erosion problems in the pond slopes and bottom. Pay particular attention to the outlet control for signs of clogging. If the orifices/pipes are clogged, remove sediment and other debris. The following includes some basic elements of the inspection plan.

- Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 24 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. After each inspection, repair/re-vegetate immediately as required.
- Mowing. The upper stage, side slopes, embankment, and emergency spillway of a batch detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins should 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. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- Debris and Litter Removal. Debris and litter will accumulate near the batch detention control 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, riser, or weir. The outlet should be checked for possible clogging or obstruction and any debris removed.
- Nuisance Control. Standing water (not desired in a batch detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby

residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device). Some standing water may occur after a storm event since the valve may close with 2 or 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.)

## NON-ROUTINE MAINTENANCE

There are maintenance items that are non-routine. These include the following.

- Erosion Control. The pond side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems. Similarly, the channel connecting an upper stage with a lower stage may periodically need to be replaced or repaired.
- Structural Repairs and Replacement. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, whereas reinforced concrete pipe and risers may last from 50 to 75 yr.
- Sediment Removal. When properly designed, batch detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in batch detention ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity within the basin. Second, unlike wet basins (which have a permanent pool to conceal deposited sediments), sediment accumulation can make batch detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition can interfere with the operation of the level control sensor and increases the risk that the drain pipe will become clogged, as well as gradually reducing storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.
- Logic Controller. The logic controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level I sensor in the basin. The valve should be manually opened and dosed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected for signs of corrosion, damage from insects, water leaks, or other I damage. At the end of the inspection, the controller should be reset

Water can be pumped into the storm drain conveyance system downstream of the BMP as long as it has been at least 48 hours since the last rain event. This delay usually provides sufficient time for most of the pollutants to settle out of the standing water; however, the discharge of sediment laden water is not allowed at any time. Maintenance of BMPs frequently requires disposal of accumulated sediment and other material. These materials are normally classified as special wastes when disposed of in municipal landfills. The Owner should check with TCEQ or other local authorities regarding the classification of the sediment and follow all local and state regulations regarding its disposal

DOCUMENTATION:

An amended copy of this document will be provided to the TCEQ within thirty days of any changes in the following information.

Responsible Party: Clint Stephenson  
Mailing Address: 800 County Road 257  
City, State, Zip: Liberty Hill, Texas 78641  
Phone: 512-845-4140

Applicant's Signature:



Date: 5-16-23

## **ATTACHMENT P - MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION**

The stormwater from this site will be collected by swales and storm sewers and routed to the proposed wet pond. Stormwater pollutants will be treated by the proposed wet pond designed in accordance with TCEQ regulations before being released downstream.

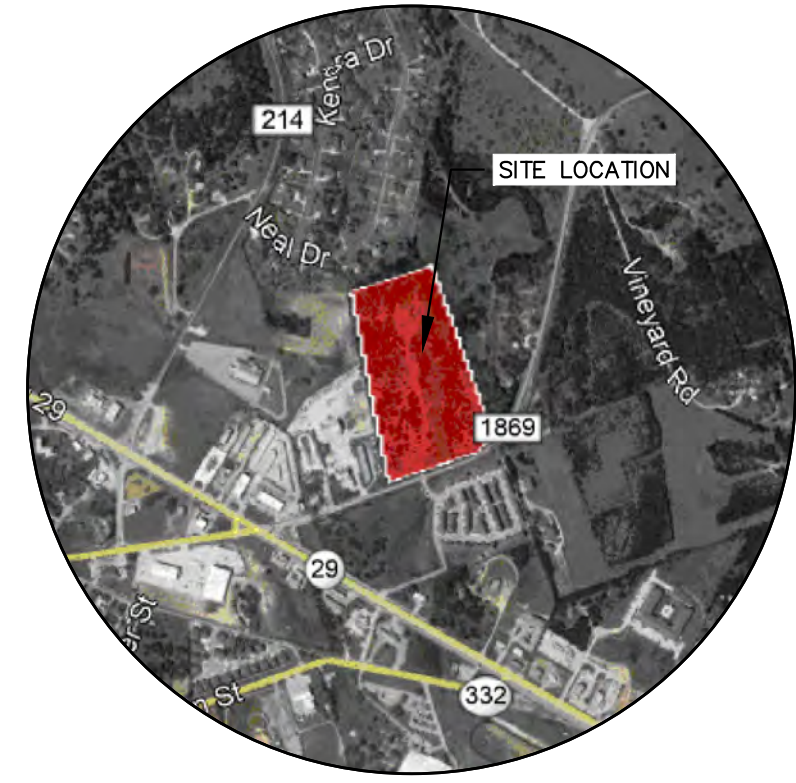




THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

# SITE DEVELOPMENT PLANS FOR LIBERTY HILL RV PARK

## 2224 RR 1869 LIBERTY HILL, TEXAS



VICINITY MAP

GPS: 30°40'15.85"N 97°54'34.13"W  
SCALE: 1" = 4,000'



2900 S. CONGRESS AVE  
SUITE 203  
AUSTIN, TEXAS 78704  
PH: 512.820.3265  
FIRM #18863  
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WWW.M3ENGINEERING.COM

SHEET INDEX

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL CONSTRUCTION NOTES
3	GENERAL CONSTRUCTION NOTES
4	FINAL PLAT
5	EROSION CONTROL NOTES
6	EROSION CONTROL PLAN INITIAL CLEARING
7	EROSION CONTROL PLAN MID CONSTRUCTION
8	EROSION CONTROL PLAN INITIAL FINAL STABILIZATION
9	EROSION CONTROL DETAILS
10	SITE PLAN & DIMENSION CONTROL PLAN
11	OVERALL GRADING PLAN
12	GRADING PLAN SHEET A
13	GRADING PLAN SHEET B
14	EXISTING DRAINAGE AREA MAP
15	PROPOSED DRAINAGE AREA MAP
16	POND PLAN CROSS SECTION
17	STORM SEWER PLAN
18	STORM SEWER PROFILE
19	PRIVATE UTILITY DISTRIBUTION PLAN
20	WATER METER LAYOUT AND DETAILS
23	PRIVATE SANITARY SEWER PROFILE
24	PRIVATE SANITARY SEWER PROFILE
25	PRIVATE SANITARY SEWER PROFILE
26	PRIVATE SANITARY SEWER PROFILE
27	FIRE TANK SYSTEM DETAILS
28	LIFT STATION PLAN
29	PUBLIC SANITARY SEWER LINE
30	PUBLIC WATERMAIN EXTENSION
31	PUBLIC WATERMAIN EXTENSION
32	SITE POWER DISTRIBUTION LAYOUT
33	POWER DISTRIBUTION RISER DIAGRAMS
34	POWER DISTRIBUTION RISER DIAGRAMS (2)
35	SITE CONSTRUCTION DETAILS 1
36	SITE CONSTRUCTION DETAILS 2
37	STORM SEWER DETAILS
38	WASTEWATER DETAILS
39	WASTEWATER DETAILS
40	WATER SYSTEM DETAILS
41	WATER SYSTEM DETAILS
42	WATER SYSTEM DETAILS

ZONING NOTES

ZONING: **ETJ LIBERTY HILL**  
EXISTING USE: **VACANT LAND**  
PROPOSED USE: **RV PARK**  
OVERLAYS: **NONE**

WATERSHED NOTE

- THIS PROJECT IS LOCATED IN THE **SOUTH FORK SAN GABRIEL RIVER** WATERSHED.
- THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE AS DEFINED BY THE TCEQ.
- THIS PROJECT **DOES NOT** CONTAIN ANY ENVIRONMENTAL FEATURES.

FLOODPLAIN NOTES

NO PORTIONS OF THE PROPERTY CONTAIN FLOODPLAIN AS INDICATED BY FEMA MAP NUMBER 48491C0245F DATED 12/20/2019, THE PROPERTY LIES WITHIN ZONE(S) X.

LEGAL DESCRIPTION

LOT 1, STEPHENSON SUBDIVISION, 19.961 acres  
DOC. NO. 2022105336

RELATED CASES

	FILE NUMBERS
ZONING CASE	None
RESTRICTIVE COVENANT	None
SUBDIVISION	22-005FPL
LAND STATUS REPORT	None
EXISTING SITE PLAN	None

CITY OF LIBERTY HILL GENERAL NOTES

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

APPROVAL OF THESE PLANS BY THE CITY OF LIBERTY HILL INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.

THERE **ARE NO** KNOWN CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAIN WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS THE CITY OF LIBERTY HILL MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

THE PRINCIPAL ROADWAY AND ACCESS POINT IS HIGHWAY 1869 (TXDOT)

SURVEY DISCLAIMER

THIS SET OF CONSTRUCTION DOCUMENTS WAS PREPARED USING AN EXISTING TITLE SURVEY PERFORMED AND SUPPLIED BY JAMES MCANN DATED 7/2/2021. M3 ENGINEERING, LLC HAS NOT FIELD VERIFIED THE ACCURACY OF THE INFORMATION PROVIDED NOR DOES M3 ENGINEERING, LLC PROVIDE VERIFICATION OF THE FIELD WORK. FOR THE DEVELOPMENT OF THESE CONSTRUCTION DRAWINGS, M3 ENGINEERING, LLC, RELIES UPON THE INFORMATION PROVIDED BY THE RPLS UNDER WHOSE SUPERVISION THE SURVEY WAS ISSUED TO THE CLIENT CLINT STEPHENSON. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND DURING THE FIELD VERIFICATION OF CONSTRUCTION STAKING PRIOR TO THE START OF CONSTRUCTION.

ADDITIONAL NOTES

LOTS WITH 65 PSI OR GREATER REQUIRE A PRV, SET AT 65 PSI, TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.

UTILITY CONTACTS

**PLANNING AND DEVELOPMENT REVIEW:**  
CITY OF LIBERTY HILL - PLANNING DEPT.  
926 LOOP 332  
LIBERTY HILL, TEXAS 78642

**WASTEWATER SERVICE:**  
CITY OF LIBERTY HILL - LIBERTY HILL PUBLIC WORKS  
926 LOOP 332  
LIBERTY HILL, TEXAS 78642  
CONTACT: JAY HOLMES  
JHOLMES@LIBERTYHILLTX.GOV

**WATER SERVICE:**  
CITY OF GEORGETOWN - GEORGETOWN UTILITY SYSTEMS  
300-1 INDUSTRIAL AVENUE  
GEORGETOWN, TX 78629  
512-930-3555

**ELECTRIC SERVICE:**  
PEC - LIBERTY HILL OFFICE  
10625 WEST HIGHWAY 29  
LIBERTY HILL, TX 78642  
512-779-5470

**TELEPHONE SERVICE:**  
AT&T  
809 COLORADO STREET, 8TH FLOOR,  
ROOM 610  
AUSTIN, TEXAS 78701  
CONTACT: PAUL HILT  
512.870.2737

**TV CABLE SERVICE:**  
SPECTRUM - LIBERTY HILL

**FIRE DEPARTMENT:**  
CITY OF LIBERTY HILL FIRE DEPARTMENT  
301 LOOP 332  
LIBERTY HILL, TX 78642  
512-515-5165

APPROVALS

CURTIS STEGER, CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

JERRY MILLARD, DIRECTOR OF PLANNING \_\_\_\_\_ DATE \_\_\_\_\_

LIZ BRANIGAN, MAYOR \_\_\_\_\_ DATE \_\_\_\_\_

SUBMITTED BY



M3 ENGINEERING  
FIRM# F-18863

## ZONING NOTES

ZONING: **ETJ ETJ LIBERTY HILL**

EXISTING USE: **VACANT LAND**

PROPOSED USE: **RV PARK**

OVERLAYS: **NONE**

## WATERSHED NOTE

- THIS PROJECT IS LOCATED IN THE **SOUTH FORK SAN GABRIEL RIVER CREEK** WATERSHED.
- THIS PROJECT IS LOCATED IN A **TBD** WATERSHED.
- THIS PROJECT **IS** LOCATED WITHIN THE EDWARDS AQUIFER **CONTRIBUTING ZONE** AS DEFINED BY THE CITY OF AUSTIN.
- THIS PROJECT CONTAINS A CRITICAL WATER ZONE BUFFER.

## FLOODPLAIN NOTES

PORTIONS OF THE PROPERTY CONTAIN FLOODPLAIN AS INDICATED BY FEMA MAP NUMBER 48491C0245F DATED 12/20/2019. THE PROPERTY LIES WITHIN ZONE(S) X.

## LEGAL DESCRIPTION

(LEGAL DESCRIPTION)

## GENERAL CONSTRUCTION NOTES

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF LIBERTY HILL MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
- CONTRACTOR SHALL NOTIFY THE CITY'S SITE AND SUBDIVISION INSPECTION DIVISION AT 512-548-5519 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
- FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, A NOTE MUST BE ADDED STATING THAT CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS. MAY BE PURCHASED FROM OSHA, 611 E. 6TH STREET, AUSTIN, TEXAS.
- ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
- CONTRACTOR INFORMATION

CONTRACTOR: **UNKNOWN AT TIME OF SUBMITTAL**  
CONTRACTOR ADDRESS: **N/A** **PHONE #** **N/A**

DEVELOPER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:  
**M3 ENGINEERING** **PHONE# 512.820.3265**

PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:  
**UNKNOWN AT TIME OF SUBMITTAL** **PHONE#** **N/A**

PERSON OF FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:  
**UNKNOWN AT TIME OF SUBMITTAL** **PHONE#** **N/A**

- TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A 7/2/2021 GROUND SURVEY PERFORMED BY TBD ONLY VISIBLE ABOVE GROUND EVIDENCE OF IMPROVEMENTS UTILITIES IS SHOWN HEREON.
- IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHOULD CONTACT THE ENGINEER/SURVEYOR IMMEDIATELY.
- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.
- ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OF OFFSITE.
- ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER'S PROPERTY PRIOR TO ACCEPTANCE OF THE PROJECT.
- CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODES AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
- CONTRACTOR WILL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FOR THE PROPOSED CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
- CONTRACTOR MUST COORDINATE ALL WORK THROUGH THE OWNER, ENGINEER, AND WITH ALL OTHER TRADE CONTRACTORS WHO MAY BE WORKING ON-SITE SIMULTANEOUSLY.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITH FACILITIES ADJACENT TO OR IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND HAVE EACH FACILITY LOCATED PRIOR TO BEGINNING CONSTRUCTION.
- LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- CONTRACTOR TO PROTECT EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO UTILITIES, STREETS, CURBS, SIDEWALKS, LANDSCAPING, SPRINKLER SYSTEMS, FENCES, ETC. ADJACENT TO WORK AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION. EXISTING FACILITIES DAMAGED BY CONTRACTOR. (NO SEPARATE PAY ITEM)
- CONSTRUCTION AREAS SHOULD BE STRIPPED OF ALL VEGETATION, LOOSE TOPSOIL, AND DEBRIS, EXCEPT AS SHOWN ON THE PLANS. THE EXPOSED SUBGRADE SHOULD BE CLEANED OF DEBRIS AND ORGANICS AND THEN PROOF-ROLLED WITH AT LEAST A 20 TON PNEUMATIC ROLLER TO DETECT WEAK AREAS. SUCH AREAS SHOULD BE REMOVED AND REPLACED WITH SOILS EXHIBITING SIMILAR CLASSIFICATION, MOISTURE CONTENT, AND DENSITY AS THE ADJACENT IN-PLACE SOILS.
- CONTRACTOR SHALL MAINTAIN UNRESTRICTED DRAINAGE OF THE PROJECT SITE AND ADJACENT AREAS DURING CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL CONTRACTOR ALLOW STORM WATER TO POND AND SATURATE ANY PREPARED SUBGRADE. EXCAVATION OR EMBANKMENT SOILS. CONTRACTOR SHALL IMMEDIATELY PUMP ALL WATER OUT OF AREAS WHICH CANNOT DRAIN BY GRAVITY FLOW WITH SPECIAL ATTENTION REQUIRED TO THE BUILDING PAD AND PAVEMENT SUBGRADE AREAS. ANY LAYER DETERMINED TO BE SATURATED MUST BE DRIED OUT, RE-COMPACTED OR REMOVED AND REPLACED PRIOR TO CONTINUING CONSTRUCTION OF NEXT EMBANKMENT LAYER.
- ALL EMBANKMENT, BASES AND SUBGRADES SHOULD BE PROPERLY PLACED WITH COMPACTION TO BE OBTAINED UTILIZING THE "DENSITY CONTROL" METHOD. (ASTM D 698).

EMBANKMENT/FILL	95% MAXIMUM DRY DENSITY
PAVEMENT SUB-GRADE	95% MAXIMUM DRY DENSITY

## ADA NOTES

- THE CITY OF LIBERTY HILL HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH THE CITY'S DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.
- THE MINIMUM CLEAR WIDTH OF AN ACCESSIBLE ROUTE IS 36 IN. IF THE ACCESSIBLE ROUTE IS LESS THAN 60 IN. WIDE AND LONGER THAN 200 FT., PASSING SPACES AT LEAST 60 IN. BY 60 IN. MUST BE LOCATED EVERY 200 FT.
- SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 (5.0%) UNLESS DESIGNED AS A RAMP.
- ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50 (2.0%) IN ALL DIRECTIONS.
- ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50 (2.0%).

## SPECIAL NOTES

- FOR LIMITATIONS OF WORKING HOURS, CONTRACTOR SHALL REFER TO THE CITY OF LIBERTY HILL'S CODE OF ORDINANCES, TITLE X CHAPTER 10-5.
- ALL SPOILS MATERIAL MUST BE KEPT ON-SITE UNLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE DEVELOPER.
- IF WATER FLOW FEATURES ARE ENCOUNTERED DURING TRENCHING, IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE ENVIRONMENTAL INSPECTOR FOR FURTHER ACTION.

## SITE CLEARING

- CONTRACTOR SHALL CONDUCT SITE CLEARING OPERATIONS TO THE EXTENT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: REMOVAL OF TREES AND OTHER VEGETATION, TOPSOIL STRIPPING, CLEARING AND GRUBBING, AND REMOVAL ALL IMPROVEMENTS ABOVE OR BELOW GRADE, INCLUDING FOUNDATIONS UNLESS OTHERWISE NOTED. REFER TO THE GEOTECHNICAL REPORT FOR THIS PROJECT FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.
- SITE CLEARING OPERATIONS SHALL NOT DAMAGE OR INTERFERE WITH THE PUBLIC USE OF ROADS, WALKS, ADJACENT LAND OR FACILITIES AND EXISTING IMPROVEMENTS INTENDED TO REMAIN.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED IN COMPLIANCE WITH - LANDSCAPE PLANS.
- CONTRACTOR SHALL REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH THE INSTALLATION OF NEW CONSTRUCTION OR AS SHOWN ON PLANS. CLEARING OPERATIONS SHALL INCLUDE REMOVAL OF STUMPS AND ROOTS.
- CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS.
- CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS.
- SPOIL SHALL BE STORED ONLY IN AREAS SHOWN ON THE PLANS AND SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE POLLUTION PREVENTION PLANS OR PERMITS.
- WASTE MATERIAL OR EXCESS TOPSOIL GENERATED AS A RESULT OF CLEARING AND GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF ALL SPOIL MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE. BURNING ON THE OWNER'S PROPERTY IS NOT PERMITTED.

## PAVEMENT MARKINGS

FURNISH AND INSTALL PAVEMENT MARKINGS OF THE TYPE AND SIZE SHOWN ON THE PLANS AND AS REQUIRED FOR COMPLIANCE WITH GOVERNING CODES. IF NO GOVERNING CODES APPLY, THEN USE TxDOT STANDARDS.

### EXECUTION:

- CONTRACTOR SHALL CLEAN PAVEMENT OF GREASE, DIRT, OIL, SAND, GRAVEL OR OTHER FOREIGN MATERIALS PRIOR TO APPLYING MARKINGS AS RECOMMENDED BY PAINT MANUFACTURER.
- PAVEMENT MARKINGS SHALL BE APPLIED BY MACHINE AT A RATE OF ONE (1) GALLON/100 SQUARE FEET, OR AS REQUIRED TO PROVIDE A MINIMUM WET FILM THICKNESS OF 15 MILS AND A DRY FILM THICKNESS OF 7.5 MILS PER COAT.
- A MINIMUM OF TWO COATS SHALL BE REQUIRED. PAINT SHALL BE APPLIED FOR A TOTAL THICKNESS OF 15 MILS. WAIT 30 DAYS AFTER PAVEMENT INSTALLATION BEFORE APPLYING THE SECOND COAT OF PAVEMENT MARKINGS.
- PAVEMENT MARKINGS SHALL NOT BE APPLIED DURING PERIODS OF EXCESS HUMIDITY OR PAVEMENT TEMPERATURES BELOW 50 DEGREES F.
- MINIMUM LINE WIDTH IS 4 INCHES. PAVEMENT MARKINGS MUST COMPLY WITH LOCAL FIRE STANDARDS AND CURRENT ACCESSIBILITY CODE.
- CLOSE AREAS TO TRAFFIC FOR DURATION OF DRYING TIME, WHICH SHALL BE NO LESS THAN THE MINIMUM RECOMMENDED BY THE PAINT MANUFACTURER.
- TRAFFIC PAINT SHALL BE SHERWIN WILLIAMS PRO-MAR TRAFFIC PAINT FOR FIRST COAT AND GORILLA TRAFFIC PAINT FOR SECOND COAT - COLOR AS SPECIFIED ON PLANS.
  - WHITE = PRODUCT CODE 22W-E008
  - YELLOW = PRODUCT CODE 22Y-E006
  - BLACK = PRODUCT CODE 22A-E001
  - RED = PRODUCT CODE 22R-E007
- CONTRACTOR SHALL INSTALL 4" X 4" REFLECTIVE MARKERS, TRAFFIC YELLOW IN COLOR, AROUND THE PERIMETER OF THE CONCRETE LIGHT STANDARD BASES, 12 TXDOT OM-2, OR EQUAL. REFLECTIVE MARKERS ARE REQUIRED PER EACH LIGHT STANDARD BASE.

## PAVING NOTES

- CERTAIN ASPECTS OF THE PAVING PLAN HAS BEEN PREPARED ACCORDING TO THE RECOMMENDATIONS IN THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY [REDACTED]. PLEASE REFERENCE REPORT FOR PAVEMENT DESIGN SPECIFICATIONS AND REQUIRED SITE PREPARATION.
- PLEASE TAKE NOTE SHOULD THERE BE ANY DISCREPANCIES BETWEEN THE PAVING PLAN DETAILS AND SAID GEOTECHNICAL ENGINEERING STUDY, THE GEOTECHNICAL ENGINEERING STUDY SHALL PREVAIL.
- DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW BY THE GEOTECHNICAL ENGINEER AT LEAST 14 DAYS PRIOR TO PLACEMENT.
- DO NOT UNLOAD OR USE ANY HEAVY CONSTRUCTION EQUIPMENT ON NEW CONCRETE FOR AT LEAST 7 DAYS AFTER CONCRETE IS POURED.
- DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW AT LEAST 14 DAYS PRIOR TO PLACEMENT.
- JOINTS SHALL BE PLACED IN ANY PROPOSED CONCRETE PAVEMENT AND CURBING AS RECOMMENDED IN THE GEOTECHNICAL STUDY FOR THIS SITE. IF GEOTECHNICAL STUDY DOES NOT REFER A LAYOUT DESIGN, THE JOINT LAYOUT & DESIGN SHALL CONFORM TO THE AMERICAN CONCRETE PAVEMENT ASSOCIATION (ACPA) TECHNICAL PUBLICATION 150 61.01P, TABLE Z AND FIGURE 13. RE: B6.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK SUCH THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT BASE BEING INSTALLED OR ELSE LOCATE AND PLACE LINES FOR PROPOSED UNDERGROUND UTILITIES.
- ALL CONCRETE WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 330. FLY ASH CAN BE USED IN MIX DESIGNS WHERE SUITABLE.
- ALL CONCRETE PAVING AND FLATWORK SHALL BE CURED IN CONFORMANCE WITH AMERICAN CONCRETE PAVEMENT ASSOCIATION GUIDELINES.
- ALL CONCRETE PAVING MUST HAVE EXPANSION JOINTS 3 FEET ON EITHER SIDE OF THE WATER LINES.

## DRIVEWAY NOTES

- ANY DROP OFF TWO INCHES OR GREATER ADJACENT TO A ROADWAY UNDER TRAFFIC SHALL HAVE A 3:1 SAFETY SLOPE CONSTRUCTED AT THE END OF EACH WORK DAY.
- THE PRIMARY CONTRACTOR IS RESPONSIBLE FOR KEEPING THE STATE ROADWAY FREE OF MUD, ROCKS, AND OTHER DEBRIS. IF THE HIGHWAY BECOMES UNSAFE FOR TRAFFIC BECAUSE OF DEBRIS FROM THE CONSTRUCTION SITE, THE CONTRACTOR MUST CLEAN THE ROADWAY IMMEDIATELY AND SUSPEND WORK IF NECESSARY.
- ALL TIES INTO PAVEMENT SHALL BE SAW CUT AT THE EDGE OF PAVEMENT.
- GENERAL CONTRACTOR MUST PROVIDE ON-SITE PARKING DURING ALL PHASES OF CONSTRUCTION. PARKING WILL NOT BE ALLOWED WITHIN THE RIGHT OF WAY OF STATE MAINTAINED ROADWAYS.

## SITE NOTES

- ALL DIMENSIONS TO CURBS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.
- ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED.
- CONTRACTOR TO ADJUST CASTINGS, MANHOLE LIDS, AND OTHER APPLICABLE APPURTENANCES ON EXISTING UTILITIES WITHIN THE PROPOSED DRIVEWAY AND SIDEWALK RECONSTRUCTION LIMITS.
- SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.
- EACH PARKING SPACE MUST HAVE A VERTICAL CLEARANCE AS SPECIFIED IN THE BUILDING CODE (MINIMUM 7.0 FEET).
- A MINIMUM VERTICAL CLEARANCE OF 11'4" MUST BE PROVIDED AT ACCESSIBLE PASSENGER LOADING ZONES ALONG VEHICLE ACCESS ROUTES TO SUCH AREAS FROM SITE ENTRANCES. A MINIMUM VERTICAL CLEARANCE OF 9'0" MUST BE PROVIDED FOR VAN-ACCESSIBLE PARKING SPACES AND ALONG THE VEHICULAR ROUTE THERETO.
- WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF LIBERTY HILL.
- EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF LIBERTY HILL PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.
- ALL SITE DRIVEWAYS SHALL MAINTAIN A VERTICAL CLEARANCE OF 14'-0" FOR FIRE DEPARTMENT ACCESS. TREES SHALL BE PRUNED APPROPRIATELY PER STANDARDS SET BY THE CITY OF LIBERTY HILL ENVIRONMENTAL CRITERIA MANUAL.
- APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
- ALL SIGNS MUST COMPLY WITH REQUIREMENTS OF THE LAND DEVELOPMENT CODE (CHAPTER 25-10).
- ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
- WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF LIBERTY HILL.
- A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR PLANNING COMMISSION APPROVED SITE PLANS.
- FOR DRIVEWAY CONSTRUCTION, THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
- FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.

DESIGN PROFESSIONAL



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**CIVIL ENGINEERING | BUILDING DESIGN**  
**CONSTRUCTION MANAGEMENT**

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## ISSUE/REVISION RECORD

**C1 - LOOP WATERLINE SYSTEM**

**C2 - CHANGE PAD SIZES**

**C3 - UPDATE POWER POLE LOCATIONS**

## PROJECT NAME

**LIBERTY HILL RV PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

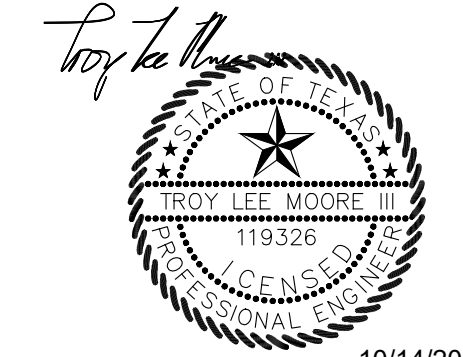
## PROJECT NUMBER

**21007**

DRAWING FILE  
**21007-COVR.DWG**

## SCALE

## PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

## SHEET TITLE

**GENERAL CONSTRUCTION NOTES**

## SHEET NUMBER

**2 of 42**

TBD

## STORM SEWER NOTES

1. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE COVER SHEET FOR UTILITY CONTACTS).
2. VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
3. EXISTING DRAINAGE STRUCTURES ARE TO BE INSPECTED AND REPAIRED AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR CLEARING DEBRIS FROM EXISTING PIPES AND SHALL BE INCLUDED IN BASE BID.
4. COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
5. ANY WORK DONE IN THE PUBLIC RIGHT OF WAY WILL BE COMPLETED ACCORDING TO GOVERNING SPECIFICATIONS AND REGULATIONS.
6. INSTALLATION OF THE STORM SEWER SYSTEM SHALL BEGIN AT THE OUTFALL AND PROGRESS UPSTREAM.
7. ALL STORM SEWER INLETS/STRUCTURES SHALL BE PRE-CAST UNLESS OTHERWISE NOTED.
8. ALL PIPE LENGTHS ARE MEASURED TO THE CENTER OF THE STRUCTURE.
9. CONCRETE RISERS ARE TO BE USED IN PAVED AREAS UNLESS OTHERWISE SPECIFIED.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RAISE AND LOWER ALL INLETS AND TOPS TO MATCH FINAL GRADES AND TO ENSURE THAT ALL INLETS FUNCTION PROPERLY WITH NO PONDING IN THE DRAINAGE AREA. ANY DRAINAGE AREAS THAT DO NOT FUNCTION PROPERLY SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
11. ALL STORMWATER MANHOLES IN PAVED AREAS SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE GRADE AND LIDS SHALL BE LABELED "STORM SEWER".
12. ALL MATERIALS AND INSTALLATION OF STORM SEWER PIPING SHALL COMPLY WITH THE FOLLOWING TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES:
13. STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

- HDPE PIPE (12"-36"):**
- HDPE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-294 AND AASHTO MP7, TYPE S & D. WATER TIGHT CONNECTIONS SHALL USED WITH RUBBER GASKETS, WHICH CONFORMS TO ASTM F-477. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-2321, AASHTO SECTION 30, OR

- PVC PIPE (4"-10"):**
- PVC PIPE SHALL CONFORM AND BE INSTALLED TO THE REQUIREMENTS ITEM 481 OF TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES. PVC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D 1785, SCHEDULE 40. PVC FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM D 2466.

- RCP PIPE (12"-60"):**
- RCP PIPE SHALL CONFORM AND BE INSTALLED TO THE REQUIREMENTS ITEM 464 OF TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES. PRECAST CONCRETE PIPE THAT CONFORMS TO THE DESIGN SHOWN ON THE PLANS AND TO THE FOLLOWING:
- ASTM C 76 OR ASTM C 665 UNLESS OTHERWISE SHOWN ON THE PLANS FOR CIRCULAR PIPE, OR
  - ASTM C 506 FOR ARCH PIPE, OR
  - ASTM C 507 FOR HORIZONTAL ELLIPTICAL PIPE.

8. ALL STORMWATER PIPE ENTERING STORMWATER STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT THE STRUCTURE IS WATERTIGHT AND SHALL HAVE A SMOOTH UNIFORM PAVED MORTAR INVERT FROM INVERT-TO INVERT OUT.
9. ALL STORM SEWER TRENCHING SHALL BE BACKFILLED PER THE PROJECT SITE WORK SPECIFICATIONS AND/OR DETAILS.
10. THE CONTRACTOR SHALL COORDINATE ALL UTILITY INSTALLATIONS.
11. TRENCH EXCAVATION SHALL BE PERFORMED AND BACKFILL MATERIAL AND PROCEDURES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2004 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES. ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
12. DETENTION FACILITIES AND EROSION & SEDIMENT CONTROL MEASURES SHALL BE ESTABLISHED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITIES ON SITE. ALL EROSION & SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
13. AN AS-BUILT SURVEY OF THE COMPLETE STORM SEWER AND STORMWATER MANAGEMENT SYSTEM, DEMONSTRATING IT WAS BUILT AND WILL FUNCTION ACCORDING TO DESIGN, AND CERTIFIED BY A PROFESSIONAL ENGINEER, IS REQUIRED PRIOR TO THE RELEASE OF ANY CERTIFICATE OF OCCUPANCY.

## FLOWABLE FILL

1. CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT DESIGN DETAILS FOR ADDITIONAL INFORMATION.
  2. FLOWABLE BACKFILL SHALL SET AND DEVELOP SUFFICIENT STRENGTH TO SUPPORT PASSENGER CAR TRAFFIC WITHIN 24 HOURS AFTER PLACEMENT.
  3. EIGHT WEEKS AFTER PLACEMENT, HARDENED FLOWABLE FILL SHALL BE READILY REMOVABLE TO DEPTHS OF ABOUT 2 INCHES USING BACKHOE BUCKET TEETH.
  4. DESIGN THE MIX TO BE PLACED WITHOUT CONSOLIDATION AND TO FILL ALL INTENDED VOIDS. FILL AN OPEN-ENDED, 3-IN. DIAMETER-BY-6-IN. HIGH CYLINDER TO THE TOP TO TEST THE CONSISTENCY. IMMEDIATELY PULL THE CYLINDER STRAIGHT UP. THE CORRECT CONSISTENCY OF THE MIX MUST PRODUCE A MINIMUM 8-IN. DIAMETER CIRCULAR SPREAD WITH NO SEGREGATION.
  5. PLACEMENT SHALL BE DONE IN 12" LIFTS.
- MIX DESIGN
6. PROPOSED MIX DESIGN SHALL BE SUBMITTED FOR REVIEW AT LEAST TWO WEEKS PRIOR TO USE.
  7. MIX PROPERTIES MAY BE ADJUSTED BASED ON SITE AND SPECIFIC CONDITIONS AND PERFORMANCE. IF ACCELERATORS ARE USED, THEY SHALL BE NON CORROSIVE AND SHALL NOT CONTAIN CHLORIDES.
  8. FIELD ADJUSTMENTS OF THE MIX SHALL BE COORDINATED WITH REPRESENTATIVES OF OWNER, THE GENERAL CONTRACTOR AND THE MATERIAL SUPPLIER.

## PRIVATE UTILITY NOTES

- THE FOLLOWING NOTES ARE FOR FIRE LINES, DOMESTIC WATER LINES, WASTEWATER COLLECTION LINES, AND ALL RELATED APPURTENANCES FROM THE ROW OF WAY, OR DESIGNATED PUBLIC MAIN TO THE BUILDING PAD(S) AS SHOWN ON THE PLANS.
1. INSTALLATION OF WASTEWATER & WATER MAINS SHALL BEGIN AT THE TAP TO THE PUBLIC WASTEWATER SYSTEM AND PROGRESS UPSTREAM. WATER AND WASTEWATER LINES SHALL BE EXTENDED TO SERVICE ENTRANCE INTO BUILDING(S). CONTRACTOR SHALL PROVIDE A WATERTIGHT SLEEVE IN FOUNDATION FOR WATER LINE.
  2. CONTRACTOR IS RESPONSIBLE FOR TAP AT PUBLIC MAIN AND ALL LINES, FITTINGS AND APPURTENANCES SHOWN ON PLANS OR REQUIRED BY THE LOCAL UTILITY COMPANY.
  3. ALL MATERIALS, INSTALLATION, INSPECTION AND TESTING OF WATER METER AND RELATED PIPING AND APPURTENANCES SHALL CONFORM TO UPC STANDARDS, AWWA STANDARDS, TCEQ STANDARDS, AND THE APPLICABLE LOCAL UTILITY COMPANY REGULATIONS. ALL MATERIALS AND INSTALLATIONS REQUIRED FOR FIRE PROTECTION SHALL MEET FACTORY MUTUAL GLOBAL STANDARDS.
  4. TRENCH EXCAVATION SHALL BE PERFORMED AND BACKFILL MATERIAL AND PROCEDURES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
  5. ALL PRIVATE WATER AND WASTEWATER LINES WILL COMPLY WITH THE 2012 UNIFORM PLUMBING CODE.
  6. SEE MECHANICAL PLANS FOR EXACT LOCATION OF WATER AND WASTEWATER CONNECTIONS TO BUILDINGS.
  7. PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
  8. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

WATER (4"-7"):

ALL WATER PIPE 4" AND LARGER SHALL BE CLASS 200, PVC C900 DR14 OR DUCTILE IRON (D.I.) CLASS 150

WATER (8"-36"):

ALL WATER PIPE LESS THEN 4" SHALL BE COPPER OR SCH. 40 PVC. IRRIGATION LINES AND DOMESTIC SERVICE LINES SHOULD BE SDR-21 RATED PIPE.

WASTEWATER:

ALL WASTEWATER PIPE SHALL BE SDR-26, PVC SDR SERIES PIPE SHALL BE MANUFACTURED IN STRICT ACCORDANCE TO THE REQUIREMENTS OF ASTM D2241 FOR PHYSICAL DIMENSIONS AND TOLERANCES. EACH PRODUCTION RUN OF PIPE MANUFACTURED IN COMPLIANCE TO THIS STANDARD, SHALL ALSO MEET OR EXCEED THE TEST REQUIREMENTS FOR MATERIALS WORKMANSHIP, BURST PRESSURE, IMPACT RESISTANCE, FLATTENING, AND EXTRUSION QUALITY AS DEFINED IN ASTM D2241.

9. ALL BACKFLOW DEVICES WILL BE PER LIBERTY HILL WATER UTILITY SPECIFICATIONS.
10. PRESSURE TAPS WILL BE PERFORMED PER LIBERTY HILL WATER UTILITY SPECIFICATIONS.
11. ALL THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH LIBERTY HILL WATER UTILITY SPECIFICATIONS
12. EXTEND ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
13. INSTALL MECHANICAL JOINT (M.J.) FITTINGS ON ALL DUCTILE IRON (D.I.) PIPE OR PVC C900 DR14 PIPE.
14. ALL WATER MAINS SHALL BE BURIED A MINIMUM 4 FT.
15. ALL WASTEWATER MUST BE 2 FT UNDER THE WATER LINES WHEN CROSSING.
16. PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
17. EXTEND ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
18. ALL MAINS SHALL BE TESTED BY THE CONTRACTOR AS REQUIRED BY AUTHORITIES. THE ENGINEER OR INSPECTOR SHALL BE PRESENT DURING THE TEST.
19. ALL WATER MAINS SHALL BE CHLORINATED AS REQUIRED BY AUTHORITIES.

## TRENCH SAFETY

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL, SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR.
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF LIBERTY HILL.

## ASBUILT NOTES

1. CONTRACTOR IS EXPECTED KEEP & MAINTAIN ASBUILT INFORMATION, INCLUDING MINOR FIELD CHANGES. FAILURE TO KEEP AS-BUILT RECORDS MAY DELAY FINAL CERTIFICATE OF OCCUPANCY.
2. CONTRACTOR SHALL PROVIDE AND PAY FOR ALL AS-BUILT INFORMATION AS REQUIRED BY LOCAL ISSUING AUTHORITY.
3. CONTRACTOR SHALL VERIFY AND INCLUDE PRICING FOR REQUIRED ASBUILT INFORMATION DURING BIDDING PROCESS. AS-BUILT INFORMATION MAY INCLUDE, BUT NOT LIMITED TO: SANITARY SEWER, DOMESTIC WATER, FIRE LINES, FORCE MAINS, OVERHEAD AND UNDERGROUND POWER, PHONE, GAS, CABLE, STORM AND ALL DETENTION & WATER QUALITY FACILITIES.
4. REQUIRED ASBUILT INFORMATION SHALL BE PROVIDED AT LEAST THREE WEEKS PRIOR TO APPLICATION FOR FINAL CERTIFICATE OF OCCUPANCY TO THE ENGINEER OF RECORD.

## EARTHWORK NOTES

1. ALL EXCAVATION, BACKFILL AND COMPACTION SHALL BE PERFORMED AS SHOWN IN THE PLANS AND GEOTECHNICAL REPORT FOR THE SITE.
2. EXCESS MATERIAL RESULTING FROM EXCAVATION OPERATIONS IS THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL SHALL BE AT THE CONTRACTOR'S EXPENSE. ALL EXCAVATION SHALL BE PERFORMED AS DIRECTED IN THE PLANS AND IN COMPLIANCE WITH OSHA STANDARDS.
3. OWNER WILL ENGAGE AT THE OWNER'S COST SOIL TESTING AND INSPECTION SERVICE IN ACCORDANCE WITH MATERIAL TESTING SPECIFICATION TO VERIFY COMPLIANCE WITH THE PLANS & SPECIFICATIONS.
4. REPLACEMENT AND RETESTING OF DEFICIENT WORK SHALL BE DONE BY CONTRACTOR AT NO ADDITIONAL COMPENSATION. DATA ON SUBSURFACE CONDITIONS IS AVAILABLE TO THE CONTRACTOR. THE OWNER MAKES NO WARRANTY AS TO THE CORRECTNESS OF THESE REPORTS.
5. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, PERFORM ADDITIONAL TEST BORINGS.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL AFFECTED UTILITY COMPANIES. THIS SHALL INCLUDE LOCATION OF FACILITIES, PROTECTION DURING CONSTRUCTION, DAMAGE REPAIRS AND DISRUPTION OF SERVICE. THE EXCAVATION IS UNCLASSIFIED, AND CONTRACTOR SHALL PERFORM EXCAVATION TO THE ELEVATIONS INDICATED IN THE PLANS, REGARDLESS OF CHARACTER OF MATERIAL, WITH NO ADDITIONAL COMPENSATION FROM THE OWNER.
7. USE OF EXPLOSIVES IS PROHIBITED.
8. CONTRACTOR IS RESPONSIBLE FOR PROVIDING BARRICADES REQUIRED TO WARN AND/OR PREVENT ACCESS TO CONSTRUCTION AREA. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT FACILITIES FROM DAMAGE.
9. EARTHWORK SHALL BE PERFORMED IN COMPLIANCE WITH LANDSCAPE ARCHITECT'S PLANS FOR LANDSCAPE PROTECTION REVEGETATION, ETC. OVER-EXCAVATION IS NONCOMPENSABLE, AND SHALL BE BACKFILLED AND COMPACTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
10. CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY TO PROPERLY DEWATER EXCAVATION AREAS - AS REQUIRED. EXCAVATED MATERIAL SHALL BE STOCKPILED WHERE DIRECTED IN THE PLANS.
11. STOCKPILE SHALL BE MAINTAINED IN COMPLIANCE WITH ALL RELEVANT POLLUTION PREVENTION PLANS. EARTHWORK SHALL BE PERFORMED TO THE TOLERANCES SHOWN IN THE PLANS AND/OR SPECIFIED IN THE GEOTECHNICAL REPORT FOR THE PROJECT. TRENCHES SHALL BE BACKFILLED ONLY AFTER INSPECTION AND APPROVAL OF THE TESTING LAB.

## COMPACTION NOTES

1. BACKFILL MATERIAL AND PROCEDURES FOR TRENCHES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2004 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
2. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
3. PLACE BACKFILL AND FILL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS. PLACE BACKFILL AND FILL UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.
4. PERCENTAGE OF MAXIMUM DRY DENSITY REQUIREMENTS: COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 1557:
  - A. UNDER STRUCTURES, BUILDING SLABS, STEPS, AND IMPERVIOUS PAVEMENTS, COMPACT THE TOP 12 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY.
  - B. UNDER WALKWAYS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY.
  - C. UNDER LAWN OR UNPAVED AREAS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 90 PERCENT MAXIMUM DRY DENSITY.
5. MATERIAL IN CONFORMANCE TO PARAGRAPH 2.01 HEREIN WHICH ARE PLACED AND COMPACTED TO LESS THAN THE SPECIFIED DENSITY SHALL BE:
  - A. RE-COMPACTED AS REQUIRED TO ACHIEVE SPECIFIED DENSITY.
  - B. REMOVED AND REPLACED WITH PROPERLY PLACED AND ACCEPTABLY COMPACTED MATERIAL
  - C. COMPACTION BY PUDDING IS PROHIBITED.

## TCEQ: CONTRIBUTING ZONE NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY GROUND DISTURBANCE OR CONSTRUCTION ACTIVITIES. THIS NOTICE MUST INCLUDE:
  - THE NAME OF THE APPROVED PROJECT;
  - THE ACTIVITY START DATE AND
  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVED LETTER ON-SITE.
3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
5. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
6. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.
9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
  - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
  - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
  - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
  - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES (BMPs) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;
  - B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;
  - C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; OR
  - D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE APPROVED CONTRIBUTING ZONE PLAN.

AUSTIN REGIONAL OFFICE 12100 PARK 35 CIRCLE, BUILDING A AUSTIN, TEXAS 78753-1808 PHONE (512) 339-2929 FAX (512) 339-3795	SAN ANTONIO REGIONAL OFFICE 14250 JUDSON ROAD SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096 FAX (210) 545-4329
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**THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**

## TCEQ: WATER DISTRIBUTION

### TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES REVISED MARCH 4, 2015

THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.

1. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).
  2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).
  3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).
  4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).
  5. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4).
  6. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULA FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. (S) IS REQUIRED IN 30 TAC §290.44(A)(6). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE.
- WHERE:  $Q = LD \cdot P \cdot S$
- 148,000
- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR.
  - L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET.
  - D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
  - P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
8. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.
9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(F).
10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).
11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.
12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.
13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(4) OF THE CURRENT RULES.
15. PURSUANT TO 30 TAC §290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET, WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS.
19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.
21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

## DESIGN PROFESSIONAL



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**CIVIL ENGINEERING | BUILDING DESIGN  
CONSTRUCTION MANAGEMENT**

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## ISSUE/REVISION RECORD

C1 - LOOP WATERLINE SYSTEM

C2 - CHANGE PAD SIZES

C3 - UPDATE POWER POLE LOCATIONS

## PROJECT NAME

**LIBERTY HILL RV  
PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

## PROJECT NUMBER

**21007**

DRAWING FILE  
21007-COVR.DWG

## SCALE

## PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

SHEET TITLE  
**GENERAL  
CONSTRUCTION  
NOTES**

SHEET NUMBER

**3 of 42**

TBD



## EROSION CONTROL NOTES

- CONTRACTOR SHALL REFER TO CONSTRUCTION NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
- ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON-SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF LIBERTY HILL RULES AND REGULATIONS.
- CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING, OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING.
- PRIOR TO EXCAVATION WITHIN TREE DRIPLINES, OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING, AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH FOUR (4) INCHES OF ORGANIC MULCH TO BE PRODUCED ON SITE, TO MINIMIZE SOIL CONSUMPTION.
- PERFORM ALL GRADING VIA THIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
- SILT FENCE SHALL BE PLACED OUTSIDE (AWAY FROM THE TRUNK) OF THE TREE PROTECTION FENCING.
- CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS AT A MINIMUM OF ONCE DAILY.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTRACT FOR PARKING OFF-SITE FOR THE WORKERS DURING CONSTRUCTION.
- ALL SPOILS ARE TO BE PLACED BACK IN TRENCH EVERY NIGHT; OR IF, SPOILS PILES ARE TO REMAIN OVERNIGHT, SPOILS MUST BE PLACED ON THE UPHILL SIDE OF TRENCH WITHIN THE LOC.

## SPECIAL CONSTRUCTION TECHNIQUES

- PRIOR TO EXCAVATION WITHIN TREE DRIPLINES OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 6205, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS FLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
- PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

## SEQUENCE OF CONSTRUCTION

THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE USED FOR ALL DEVELOPMENT. THE APPLICANT IS ENCOURAGED TO PROVIDE ANY ADDITIONAL DETAILS APPROPRIATE FOR THE PARTICULAR DEVELOPMENT.

- TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION, INITIATE TREE MITIGATION MEASURES AND CONDUCT "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE).
- THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR MUST CONTACT THE DEVELOPMENT SERVICES DEPARTMENT, ENVIRONMENTAL INSPECTION, AT 512-974-2278, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.
- THE ENVIRONMENTAL PROJECT MANAGER, AND/OR SITE SUPERVISOR, AND/OR DESIGNATED RESPONSIBLE PARTY, AND THE GENERAL CONTRACTOR WILL FOLLOW THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.
- ROUGH GRADE THE POND(S) AT 100% PROPOSED CAPACITY. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A PUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL AND/OR THE ENVIRONMENTAL CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S).
- TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.
- BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.
- IN THE BARTON SPRINGS ZONE, THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR WILL SCHEDULE A MID-CONSTRUCTION CONFERENCE TO COORDINATE CHANGES IN THE CONSTRUCTION SCHEDULE AND EVALUATE EFFECTIVENESS OF THE EROSION CONTROL PLAN AFTER POSSIBLE CONSTRUCTION ALTERATIONS TO THE SITE. PARTICIPANTS SHALL INCLUDE THE CITY INSPECTOR, PROJECT ENGINEER, GENERAL CONTRACTOR AND ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR. THE ANTICIPATED COMPLETION DATE AND FINAL CONSTRUCTION SEQUENCE AND INSPECTION SCHEDULE WILL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR.
- PERMANENT WATER QUALITY PONDS OR CONTROLS WILL BE CLEANED OUT AND FILTER MEDIA WILL BE INSTALLED PRIOR TO CONCURRENTLY WITH REVEGETATION OF SITE.
- COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.
- UPON COMPLETION OF THE SITE CONSTRUCTION AND REVEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE BEARING THE ENGINEER'S SEAL, SIGNATURE, AND DATE TO THE DEVELOPMENT SERVICES DEPARTMENT INDICATING THAT CONSTRUCTION, INCLUDING REVEGETATION, IS COMPLETE AND IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
- UPON COMPLETION OF LANDSCAPE INSTALLATION OF A PROJECT SITE, THE LANDSCAPE ARCHITECT SHALL SUBMIT A LETTER OF CONCURRENCE TO THE DEVELOPMENT SERVICES DEPARTMENT INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
- AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

## STABILIZATION NOTES

### TEMPORARY VEGETATIVE STABILIZATION:

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP ( WESTERN WHEATGRASS ( PASCOPYRUM SMITHII ) AT 5.6 POUNDS PER ACRE, OATS ( AVENA SATIVA ) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAIN ( SECALE CEREALE ) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS ( LOLIUM MULTIFLORUM ) OR PERENNIAL RYEGRASS ( LOLIUM PERENNE ) . COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMDUA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
  - FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST AND SHALL CONFORM TO ITEM NO. 606S, FERTILIZER. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.
  - HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.
  - TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
  - WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF LIBERTY HILL ENVIRONMENTAL CRITERIA MANUAL, AND STANDARD SPECIFICATION 604S OR 609S.

**TABLE 1: HYDRO MULCHING FOR TEMP. VEGETATIVE STABILIZATION**

MATERIAL	DESCRIPTION	LONGEVITY TYP.	APPLICATIONS	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL EXCEPT FIBER MESH SHALL EXCEED 30% PAPER)	70% OR GREATER WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBER	0-3 MONTHS	MODERATE SLOPES: FROM FLAT TO 3:1	1,500 TO 2,000 LBS PER ACRE

### PERMANENT VEGETATIVE STABILIZATION:

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOVED TO A HEIGHT OF LESS THAN ONE-HALF (1/2) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH TABLE 2 BELOW. ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUADGRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMDUA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMDUA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL. PERMANENT VEGETATIVE STABILIZATION CAN ALSO BE ACCOMPLISHED WITH A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
  - FERTILIZER USE SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. SEE ITEM 606S, FERTILIZER. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF LIBERTY HILL'S IPM COORDINATOR.
  - HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
  - WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDBED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE BRYAN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.
  - PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH A MINIMUM OF 95 PERCENT FOR THE NON-NATIVE MIX, AND 95 PERCENT COVERAGE FOR THE NATIVE MIX SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR STABILITY MUST BE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
  - WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF LIBERTY HILL ENVIRONMENTAL CRITERIA MANUAL, ITEMS 604S AND 609S.

**TABLE 2: HYDRO MULCHING FOR PERM. VEGETATIVE STABILIZATION**

MATERIAL	DESCRIPTION	LONGEVITY TYP.	APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS			
10% TACKIFIER		ON SLOPES UP TO 2:1 AND EROSIIVE SOIL CONDITIONS	2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)	
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEFIBRATED FIBERS 25% REINFORCING FIBER OR LESS 10% TACKIFIER	UP TO 12 MONTHS	ON SLOPES UP TO 1:1 AND EROSIIVE SOIL CONDITIONS	3,000 TO 4,500 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)

- DEVELOPER INFORMATION
  - OWNER:  
CLINT  
2224 RR 1869  
LIBERTY HILL, TEXAS 78641
  - OWNERS REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:  
ENGINEER: M3 ENGINEERING - TROY MOORE, PE  
PHONE # 512.920.3295
  - PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:  
CONTRACTOR \_\_\_\_\_  
PHONE # \_\_\_\_\_
  - PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL PROTECTION AREA CONTROL:  
CONTRACTOR \_\_\_\_\_  
PHONE # \_\_\_\_\_
- THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE DEVELOPMENT SERVICES DEPARTMENT AT 512-974-2278 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

## TREE PROTECTION NOTES

ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.

- PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF LIBERTY HILL STANDARDS FOR TREE PROTECTION.
- PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
- EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
- PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE). FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
- SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
- ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARBORIST;
- WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
- OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
- EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
- WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
- WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
- WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
- WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE CITY ARBORIST AT 974-1876 TO DISCUSS ALTERNATIVES
- SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
- WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT. (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
- TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
- ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- ANY TRENCING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
- NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
- PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
- ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE CITY ARBORIST).
- DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

## DESIGN PROFESSIONAL



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PH: 512.920.3265  
FIRM # 18863

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CONSTRUCTION MANAGEMENT**

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## ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

## PROJECT NAME

**LIBERTY HILL RV  
PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

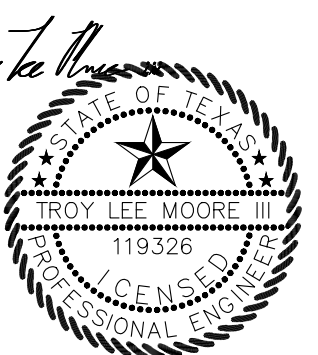
## PROJECT NUMBER

**21007**

DRAWING FILE  
21007-DETL.DWG

SCALE N.T.S.

## PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

SHEET TITLE  
**EROSION CONTROL  
NOTES**

SHEET NUMBER

**5** of 42

TBD



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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
C2 - CHANGE PAD SIZES
C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV PARK

2224 RR 1869
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD
MAPSCO # TBD

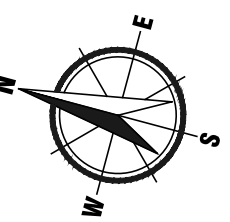
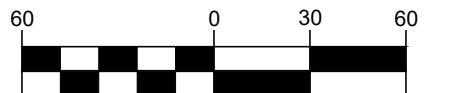
PROJECT NUMBER

21007

DRAWING FILE

21007-ESCP.DWG

SCALE 1" = 60'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS

1ST SUBMITTAL

SHEET TITLE

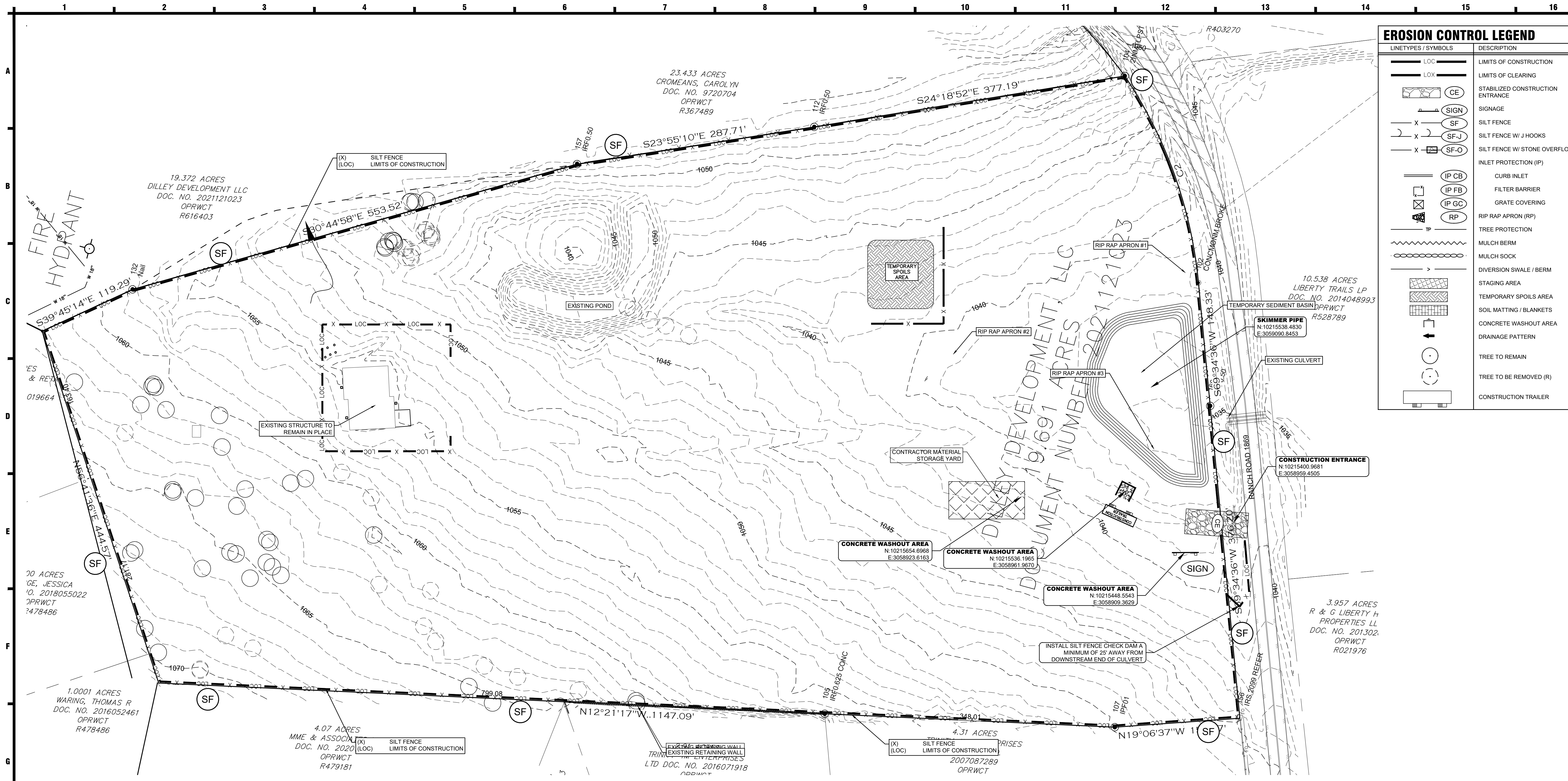
EROSION CONTROL
PLAN INITIAL
CLEARING

SHEET NUMBER

6 of 42

TBD

EROSION CONTROL LEGEND table with columns for LINETYPES / SYMBOLS and DESCRIPTION. Includes symbols for limits of construction, silting, rip rap aprons, and various erosion control measures.



EROSION CONTROL NOTES

- 1. CONTRACTOR SHALL REFER TO GENERAL NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
2. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD/REMOVE EROSION/SEDIMENTATION CONTROLS ON-SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS.
3. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER SPECIFICATIONS, OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
4. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING.
5. PRIOR TO EXCAVATION WITHIN TREE DRILINES, OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
6. IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 6205, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
7. PERFORM ALL GRADING VIA THIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
8. WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
9. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
10. SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH DETAILS AND/OR SPECIFICATIONS.
11. SILT FENCE SHALL BE PLACED OUTSIDE (AWAY FROM THE TRUNK) OF THE TREE PROTECTION FENCING.
12. CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS AT A MINIMUM OF ONCE DAILY.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTRACT FOR PARKING OFF-SITE FOR THE WORKERS DURING CONSTRUCTION.
14. ALL SPOILS ARE TO BE PLACED BACK IN TRENCH EVERY NIGHT, OR IF SPOILS PILES ARE TO REMAIN OVERNIGHT, SPOILS MUST BE PLACED ON THE UPHILL SIDE OF TRENCH WITHIN THE LOC.
15. NO DEMOLITION ACTIVITIES WILL OCCUR PRIOR TO THE PRE-CONSTRUCTION MEETING.



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**ISSUE/REVISION RECORD**  
 C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV PARK**

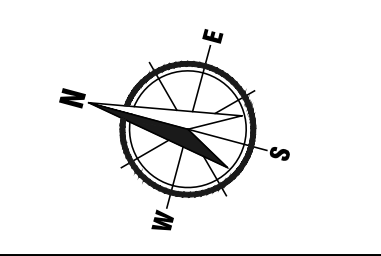
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 MAPSCO # TBD

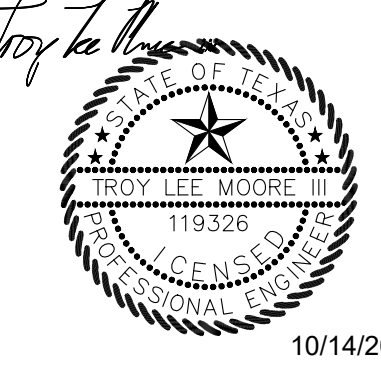
**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
 21007-ESCP.DWG

**SCALE 1" = 60'**



**PROFESSIONAL SEAL**



10/14/2022

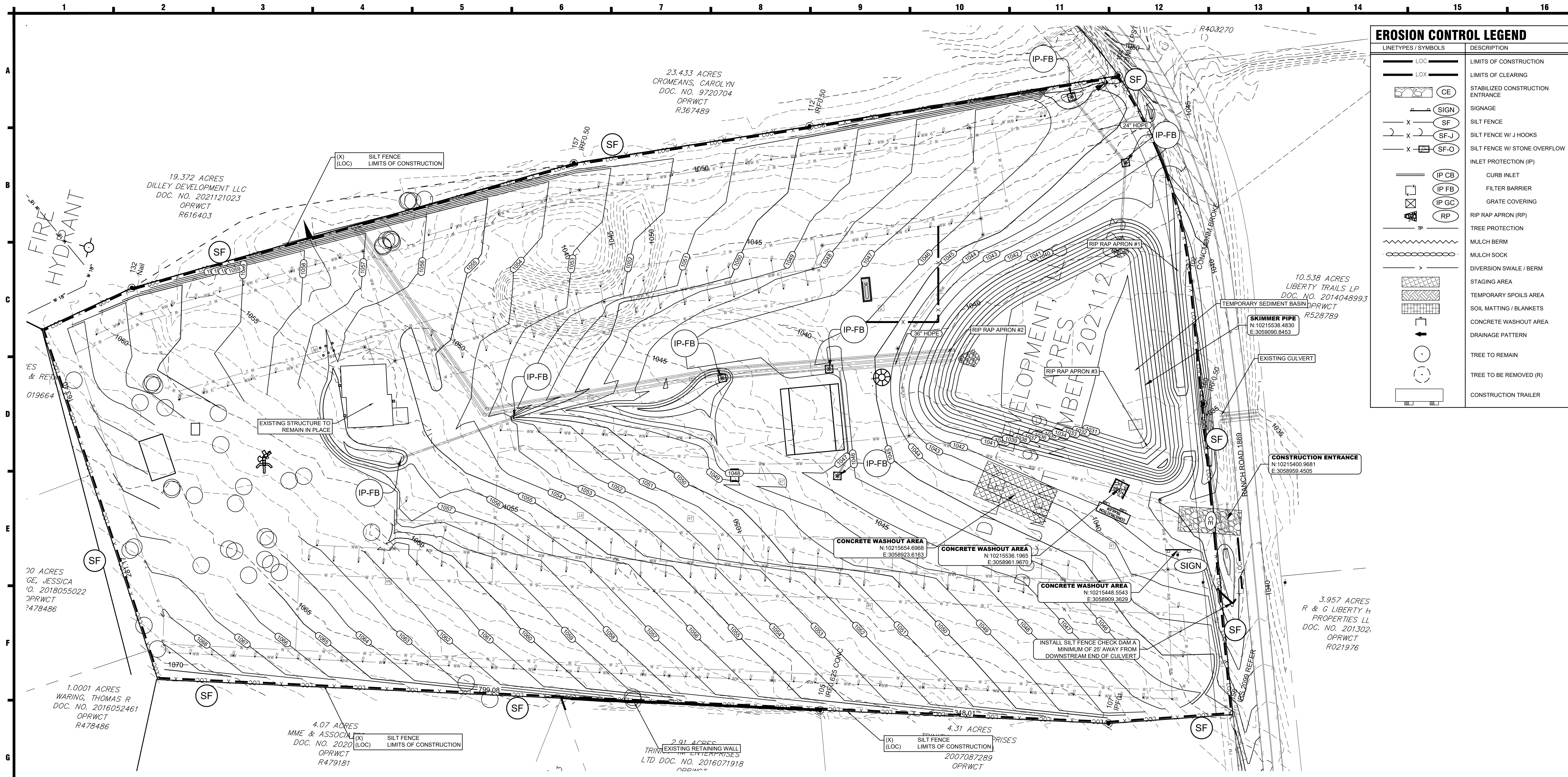
**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**EROSION CONTROL  
 PLAN MID  
 CONSTRUCTION**

**SHEET NUMBER**  
**7 of 42**

TBD

EROSION CONTROL LEGEND	
LINETYPES / SYMBOLS	DESCRIPTION
LOC	LIMITS OF CONSTRUCTION
LOX	LIMITS OF CLEARING
CE	STABILIZED CONSTRUCTION ENTRANCE
SIGN	SIGNAGE
SF	SILT FENCE
SF-J	SILT FENCE W/ J HOOKS
SF-O	SILT FENCE W/ STONE OVERFLOW
IP	INLET PROTECTION (IP)
IP CB	CURB INLET
IP FB	FILTER BARRIER
IP GC	GRATE COVERING
RP	RIP RAP APRON (RP)
TP	TREE PROTECTION
MULCH BERM	MULCH BERM
MULCH SOCK	MULCH SOCK
DIVERSION SWALE / BERM	DIVERSION SWALE / BERM
STAGING AREA	STAGING AREA
TEMPORARY SPOILS AREA	TEMPORARY SPOILS AREA
SOIL MATTING / BLANKETS	SOIL MATTING / BLANKETS
CONCRETE WASHOUT AREA	CONCRETE WASHOUT AREA
DRAINAGE PATTERN	DRAINAGE PATTERN
TREE TO REMAIN	TREE TO REMAIN
TREE TO BE REMOVED (R)	TREE TO BE REMOVED (R)
CONSTRUCTION TRAILER	CONSTRUCTION TRAILER



**EROSION CONTROL NOTES**

- CONTRACTOR SHALL REFER TO GENERAL NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
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- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC PER STANDARD SPECIFICATION F005, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
- PERFORM ALL GRADING VIA THIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
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- NO DEMOLITION ACTIVITIES WILL OCCUR PRIOR TO THE PRE-CONSTRUCTION MEETING.

**RIP-RAP CALCULATIONS**

RIP-RAP APRON	Incoming Pipe Dia (in)	V100 (cfs)	Slope of RipRap (ft/ft)	Depth (ft)	Min D <sub>50</sub> (in)	Provided D <sub>50</sub> (in)	Min W <sub>50</sub> (lbs)	L (ft)	W (ft)	DEPTH (in)	FILTER	SHEAR STRESS (psf)	MAX SHEAR STRESS (psf)	CLASS
APRON #1	24	8	0.250	2.00	9.37	12	1370	15	6.00000000	24	YES	31.200	4.841	II
APRON #2	36	6	0.020	2.00	5.23	9	1028	15	9.00000000	24	YES	2.496	3.631	II
APRON #3	24	7	0.200	3.00	7.14	10	1142	16	6.00000000	25	YES	37.440	4.034	II

\* D<sub>50</sub> = 0.0105V<sup>0.56</sup> W<sub>50</sub> = 47.54D<sub>50</sub><sup>0.86</sup>  
 THE ROCK RIPRAP LAYER DEPTH SHALL BE NO LESS THAN THE MAXIMUM STONE SIZE (D100) OR 1.5 TIMES THE D50, WHICHEVER PRODUCES THE GREATER THICKNESS.  
 MIN WIDTH FOR PIPES IS 3 \* PIPE SIZE / 12  
 SHEAR STRESS = 62.4 LB/FT<sup>3</sup> x Depth x Slope (ft/ft)  
 MAX SHEAR STRESS = 0.047 \* (165 LB/FT<sup>3</sup> - 62.4 LB/FT<sup>3</sup>) x D<sub>50</sub> (FT) (HEC 15 method)



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**ISSUE/REVISION RECORD**  
 C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

**LIBERTY HILL RV  
 PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

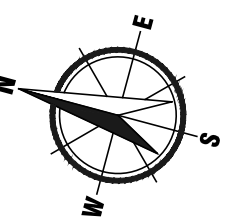
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 MAPSCO # TBD

PROJECT NUMBER

**21007**

DRAWING FILE  
 21007-ESCP.DWG

SCALE 1" = 60'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

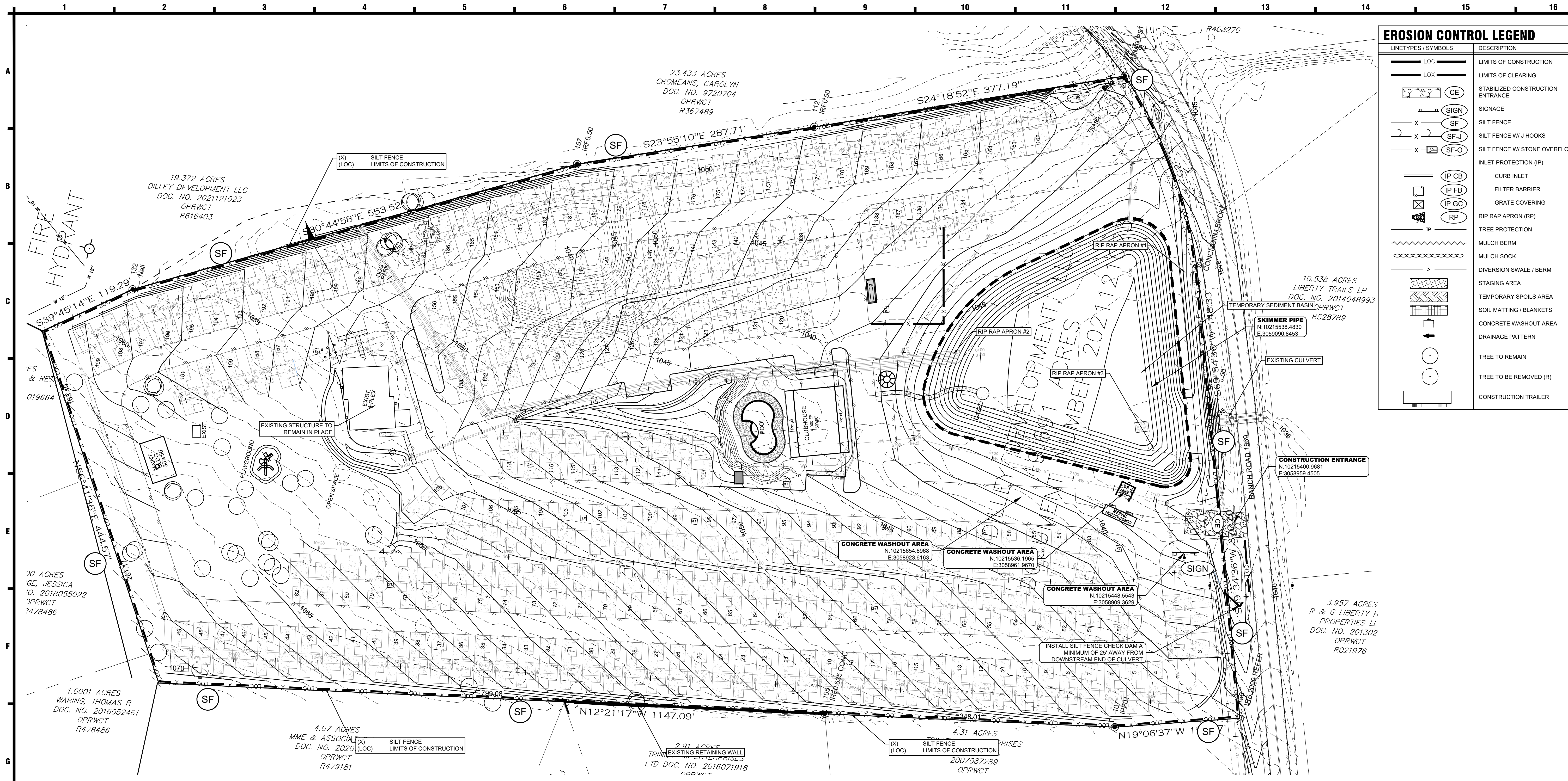
SHEET TITLE  
**EROSION CONTROL  
 PLAN INITIAL FINAL  
 STABILIZATION**

SHEET NUMBER

**8 of 42**

TBD

EROSION CONTROL LEGEND	
LINETYPES / SYMBOLS	DESCRIPTION
LOC	LIMITS OF CONSTRUCTION
LOX	LIMITS OF CLEARING
CE	STABILIZED CONSTRUCTION ENTRANCE
SIGN	SIGNAGE
SF	SILT FENCE
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SF-O	SILT FENCE W/ STONE OVERFLOW
IP	INLET PROTECTION (IP)
IP CB	CURB INLET
IP FB	FILTER BARRIER
IP GC	GRATE COVERING
RP	RIP RAP APRON (RP)
TP	TREE PROTECTION
MULCH BERM	MULCH BERM
MULCH SOCK	MULCH SOCK
DIVERSION SWALE / BERM	DIVERSION SWALE / BERM
STAGING AREA	STAGING AREA
TEMPORARY SPOILS AREA	TEMPORARY SPOILS AREA
SOIL MATTING / BLANKETS	SOIL MATTING / BLANKETS
CONCRETE WASHOUT AREA	CONCRETE WASHOUT AREA
DRAINAGE PATTERN	DRAINAGE PATTERN
TREE TO REMAIN	TREE TO REMAIN
TREE TO BE REMOVED (R)	TREE TO BE REMOVED (R)
CONSTRUCTION TRAILER	CONSTRUCTION TRAILER



**EROSION CONTROL NOTES**

- PHASE 3 - REVEGETATION PHASE
- CONTRACTOR SHALL REFER TO GENERAL NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
  - IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 620S, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.

**REVEGETATION SCHEDULE**

- NOTE:
- TOTAL AREA TO BE REVEGETATION: 8,381 ACRES - 40565 SQ. YD. S
  - METHOD UTILIZED SHALL BE LISTED IN CONTRACTOR'S BID AND SUBMITTALS MADE FOR ENGINEER'S APPROVAL.
  - ALL DISTURBED AREAS NOT COVERED BY IMPERVIOUS COVER SHALL BE REVEGETATED.
  - ACCEPTABLE STAND OF GRASS COMPLETE IN PLACE, SHALL HAVE A MINIMUM OF 95% COVERAGE, A HEIGHT OF 1 1/2" AND NO BARE AREAS EXCEEDING 16 SQ. FT. BARE AREAS SHALL BE PREPARED AND RESEEDED AS REQUIRED TO DEVELOP AN ACCEPTABLE STAND OF GRASS.
- METHOD A: BROADCAST SEEDING**
- NON-NATIVE GRASS SEEDING AT THE RATES FOR EACH TYPE OF MULCHING REQUIRED IN THE SPECIFICATION. MINIMUM PURE LIVE SEED (PLS) OF 0.83 REQUIRED FOR THE FOLLOWING:
- MARCH 1 - SEPTEMBER 15**
- |                           |                    |
|---------------------------|--------------------|
| 1.1. HULLED BERMUDA GRASS | 2 LBS./1000 SQ.FT. |
|---------------------------|--------------------|
- SEPTEMBER 15 - MARCH 1**
- |                             |                    |
|-----------------------------|--------------------|
| 1.2. UNHULLED BERMUDA GRASS | 2 LBS./1000 SQ.FT. |
| 1.3. WINTER RYE             | 7 LBS./1000 SQ.FT. |
- FERTILIZER SHALL HAVE AN ANALYSIS OF 15-15-15 AND SHALL BE APPLIED AT THE RATE OF 400 POUNDS PER ACRES.

**METHOD B: HYDROSEEDING**

	FIBER MULCH		BIODEGRADABLE TACKIFIER
	CELLULOSE	WOOD	
MARCH 1 - SEPTEMBER 15			
HULLED BERMUDA GRASS (PLS=0.83)	45.9 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.
1 lbs./1000 sq. ft.	57.4 lbs. / 1000 sq. ft.	1.5 lbs. / 1000 sq. ft.	1.5 lbs. / 1000 sq. ft.
SEPTEMBER 15 - MARCH 1			
HULLED BERMUDA GRASS (PLS=0.83)	45.9 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.
AND WINTER RYE (PLS=0.83)	45.9 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.	1.4 lbs. / 1000 sq. ft.
7 lbs./1000 sq. ft.	57.4 lbs. / 1000 sq. ft.	1.5 lbs. / 1000 sq. ft.	1.5 lbs. / 1000 sq. ft.

2. FERTILIZER SHALL HAVE AN ANALYSIS OF 15-15-15 AND SHALL BE APPLIED AT THE RATE OF 9.2 LBS./1000 SQ.FT. (400 LBS. PER ACRE)





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 CONSTRUCTION MANAGEMENT

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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-DETL.DWG

SCALE N.T.S.

**PROFESSIONAL SEAL**



10/14/2022

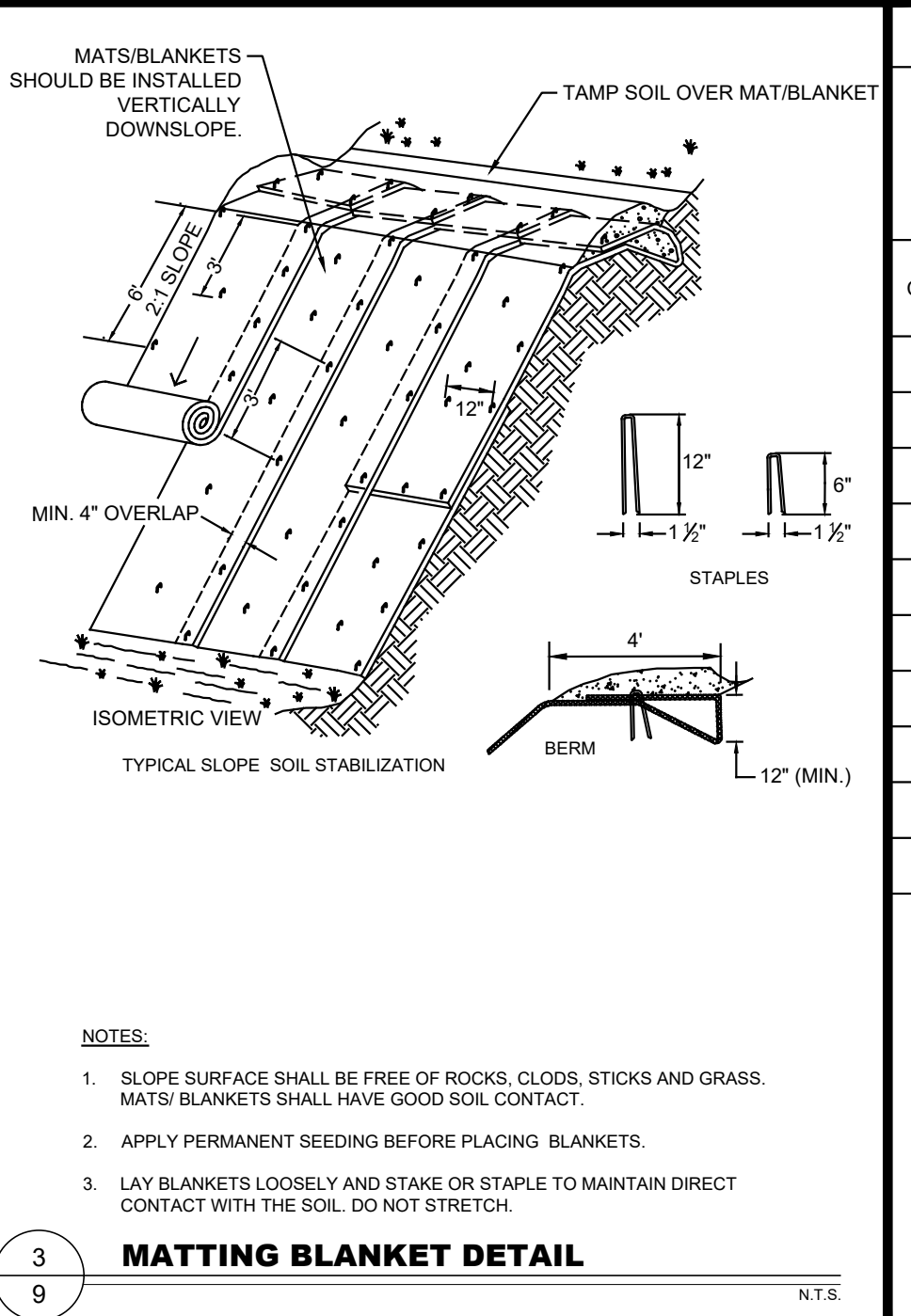
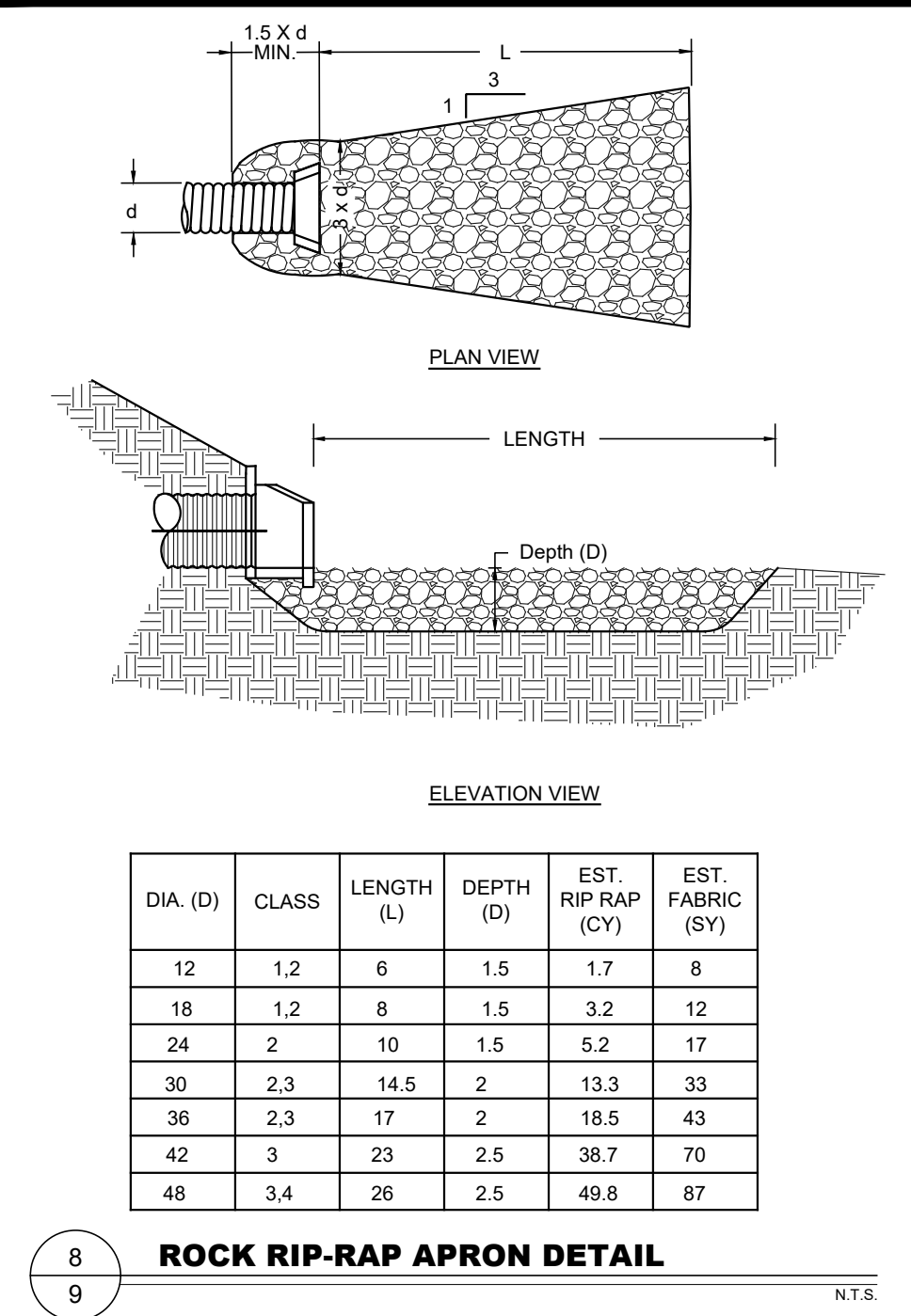
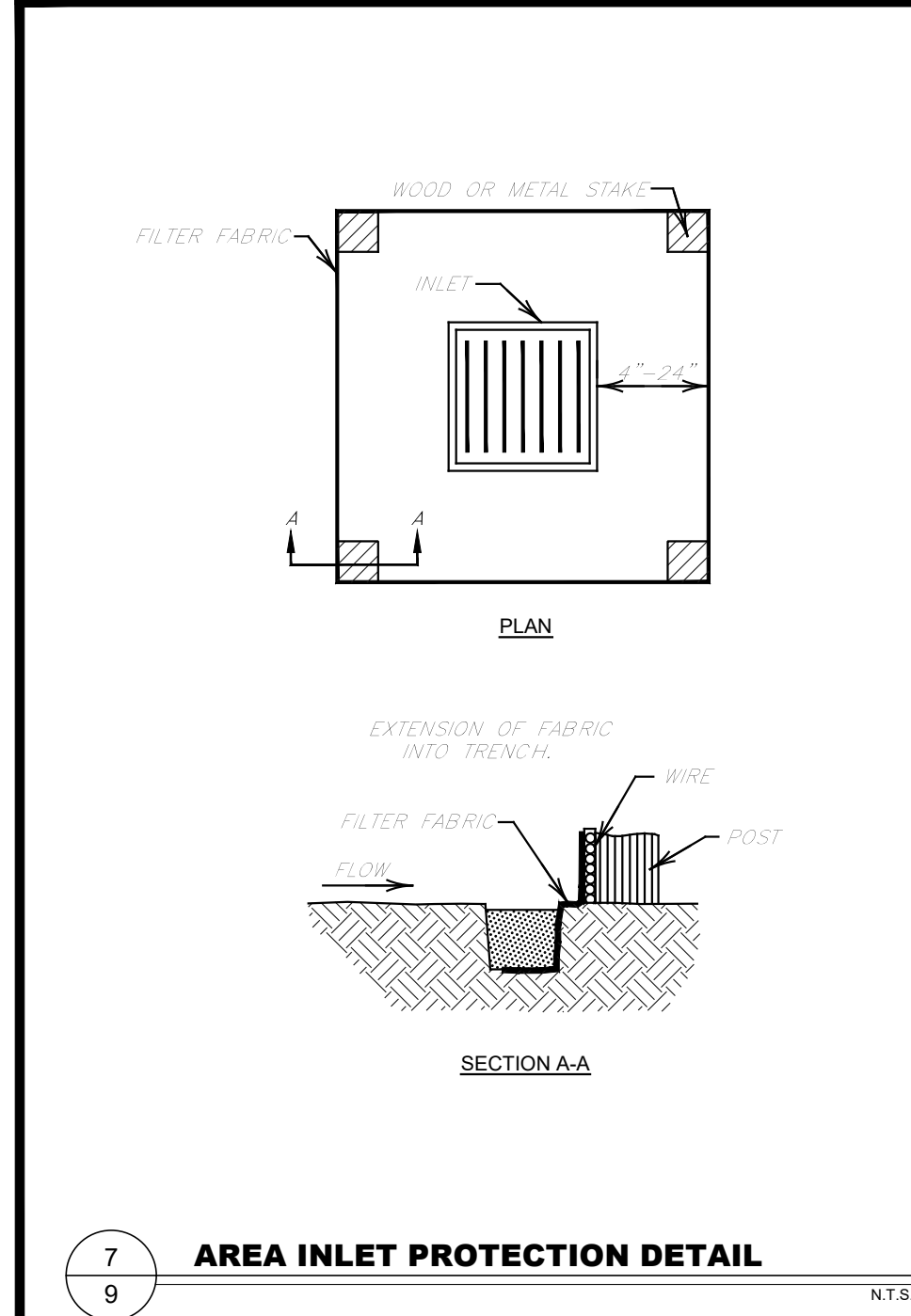
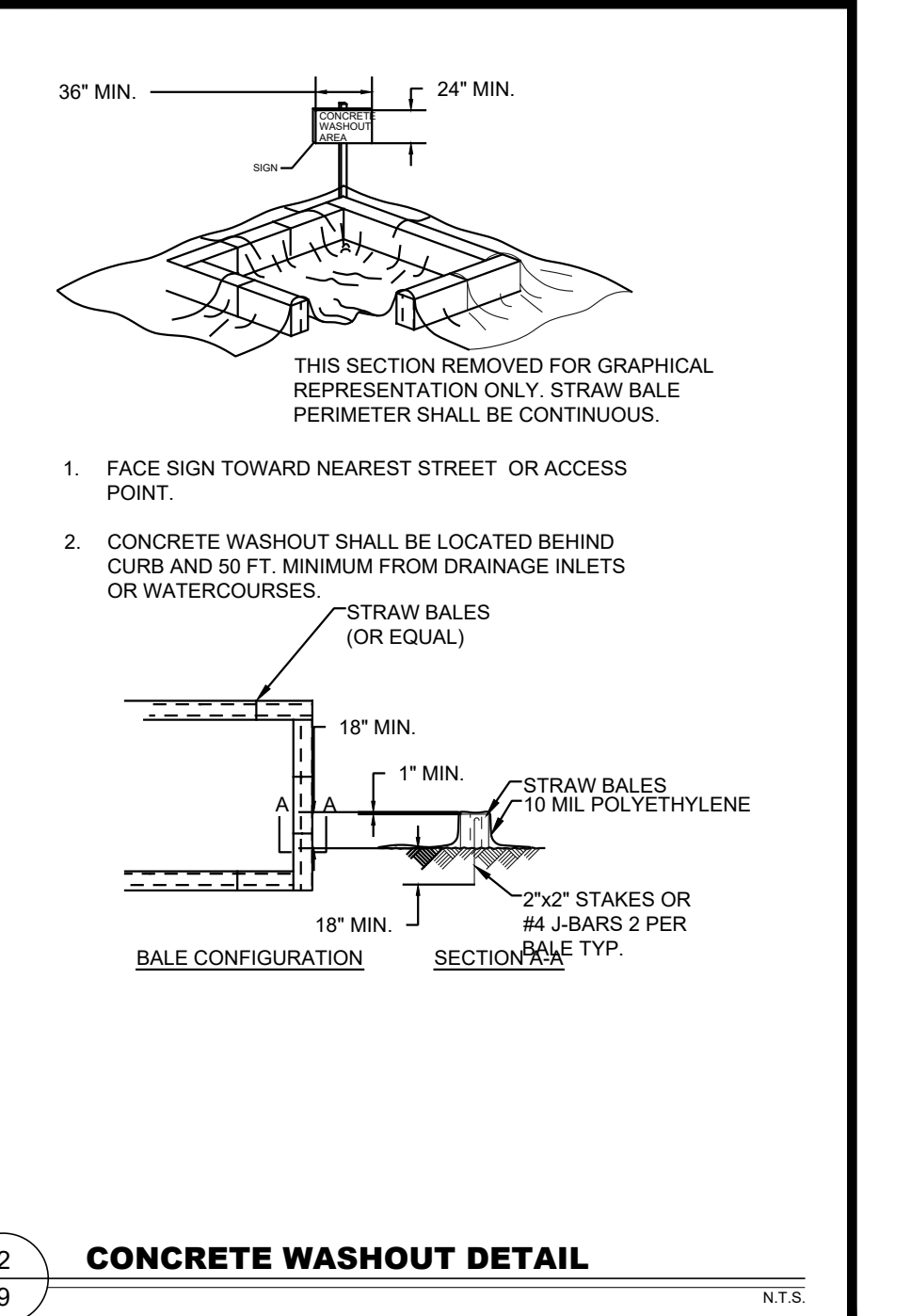
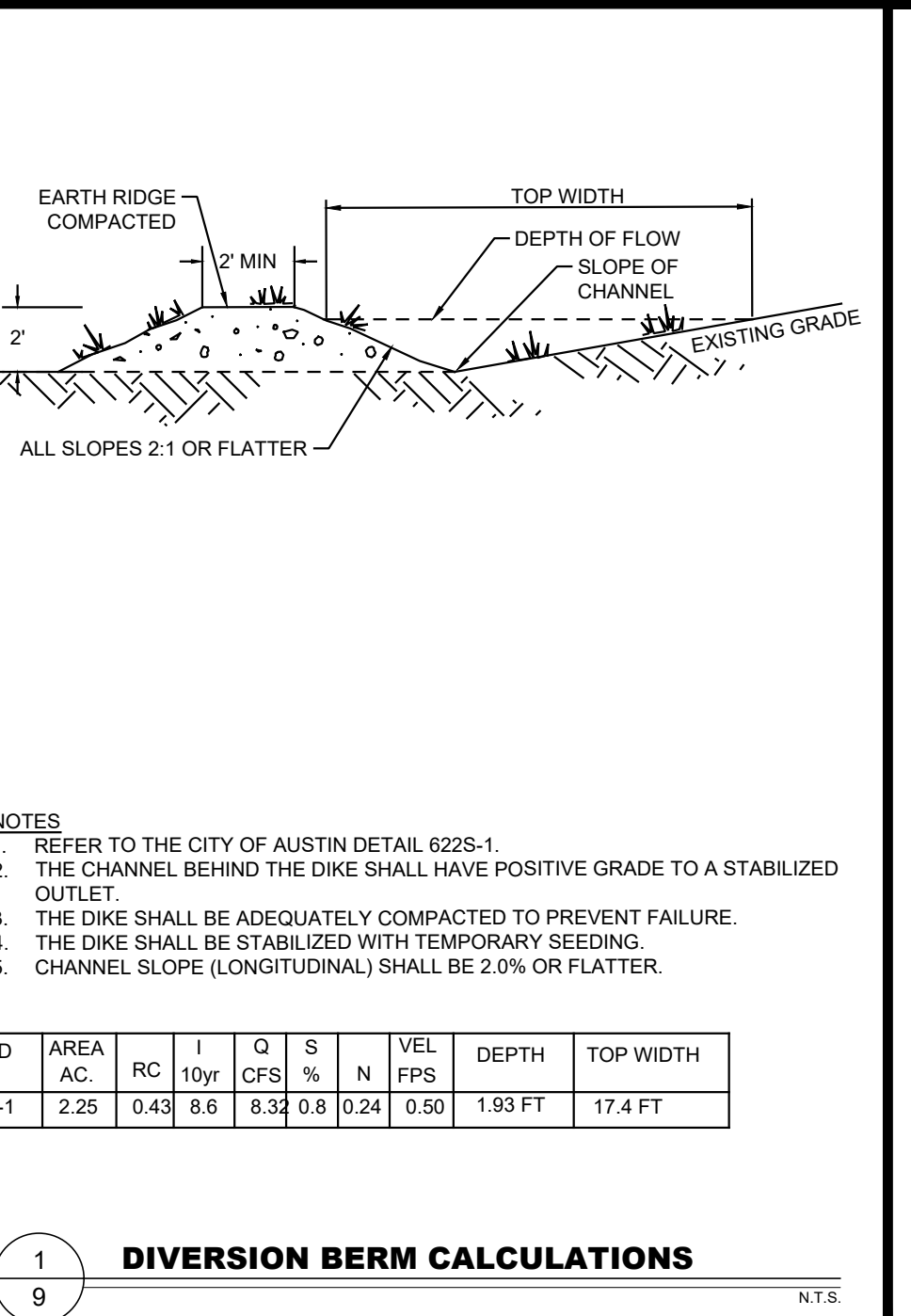
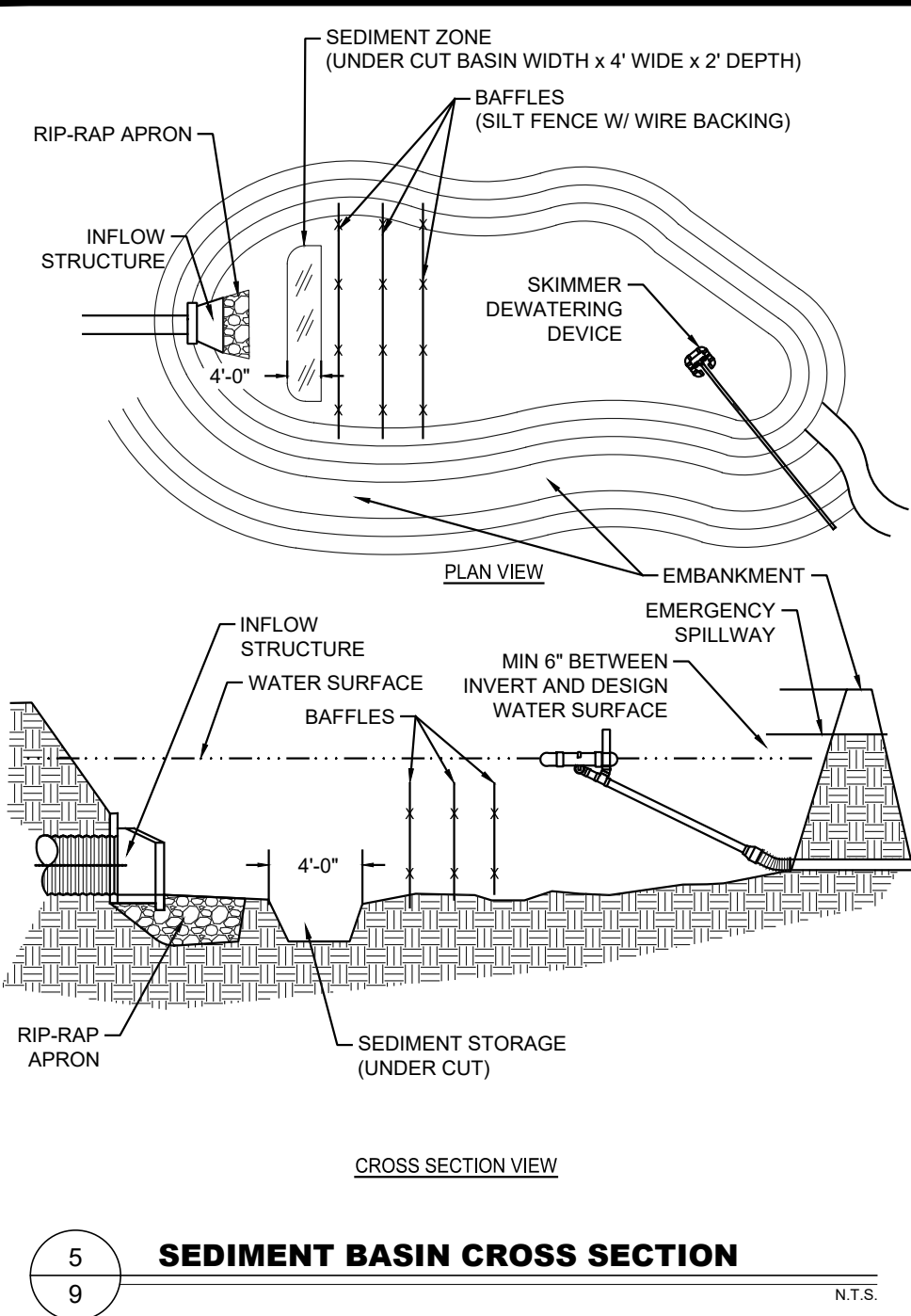
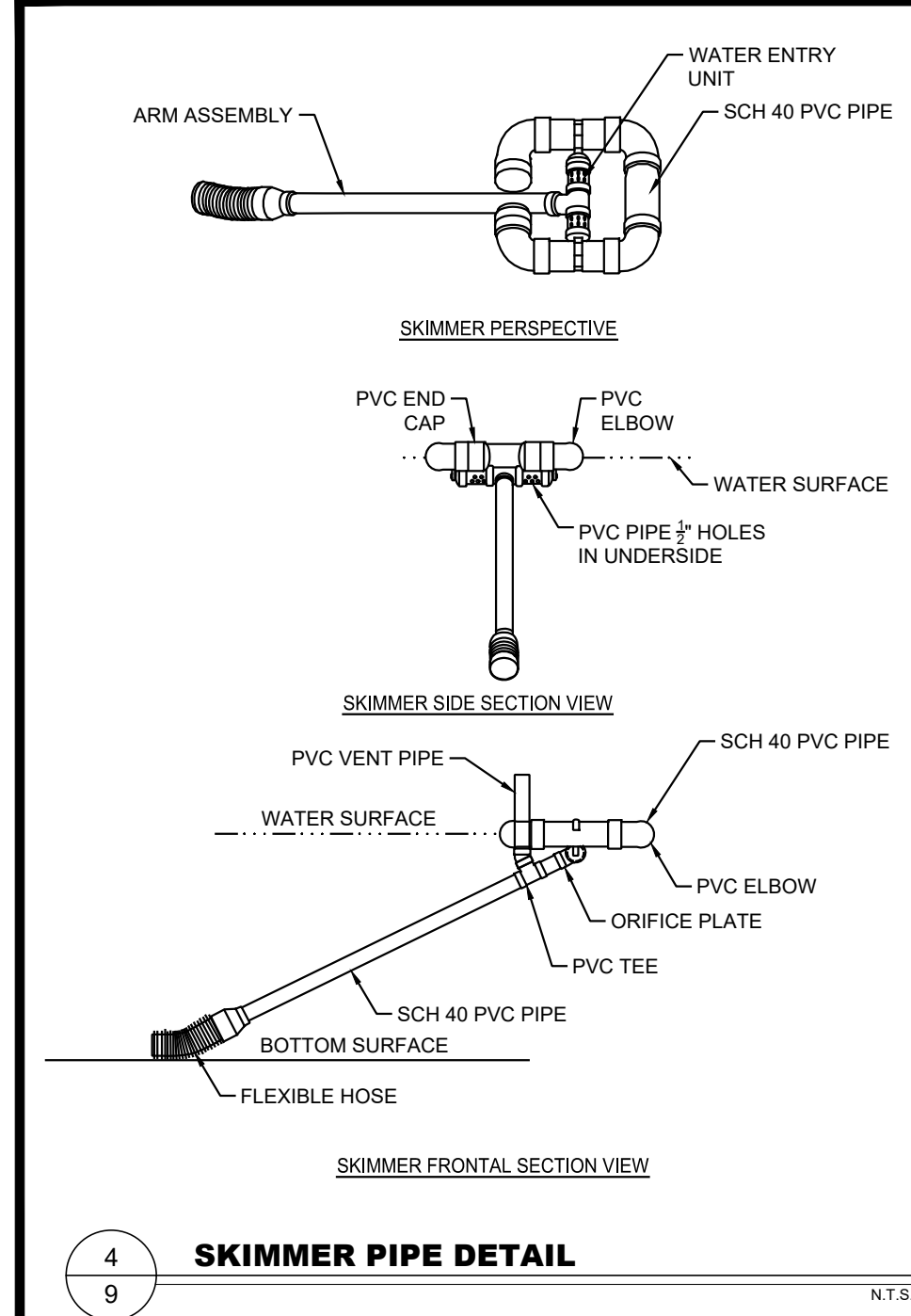
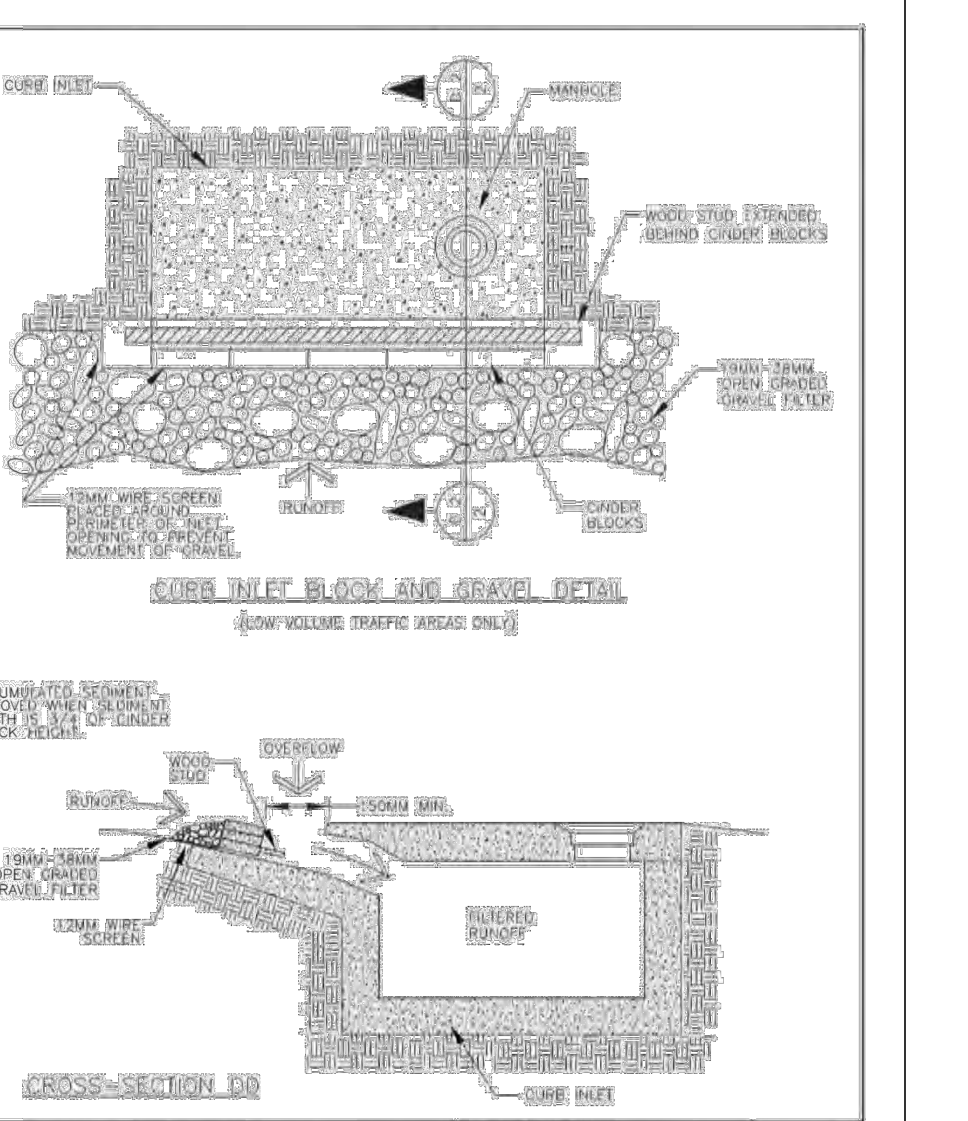
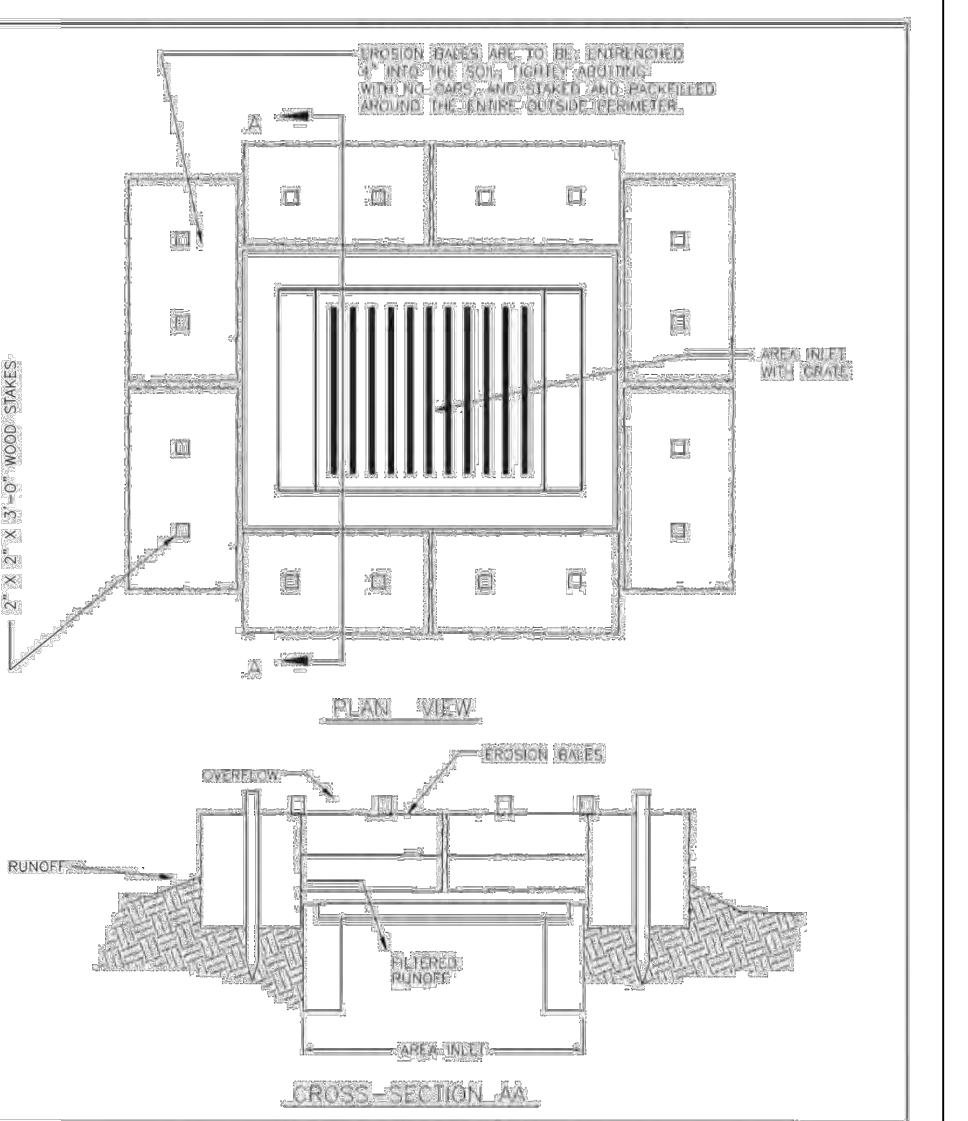
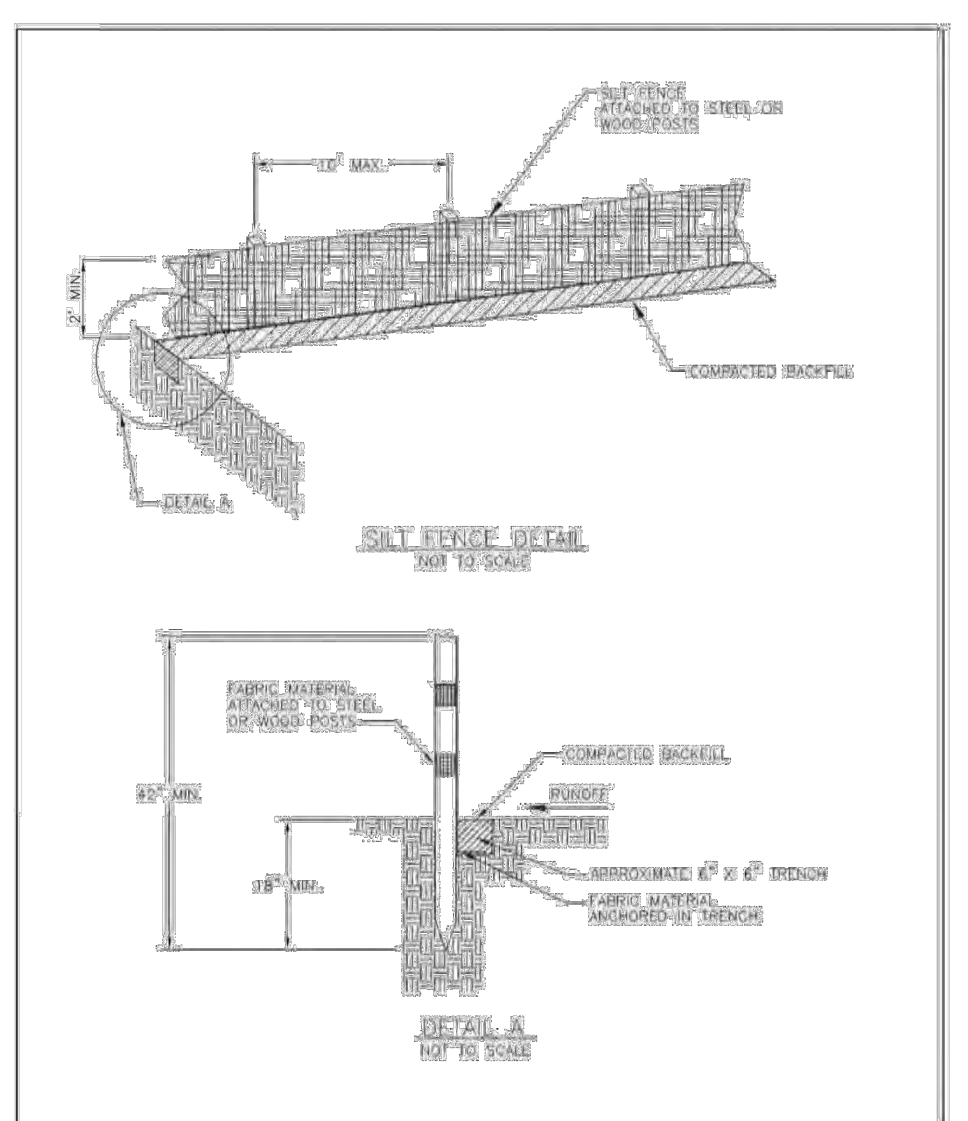
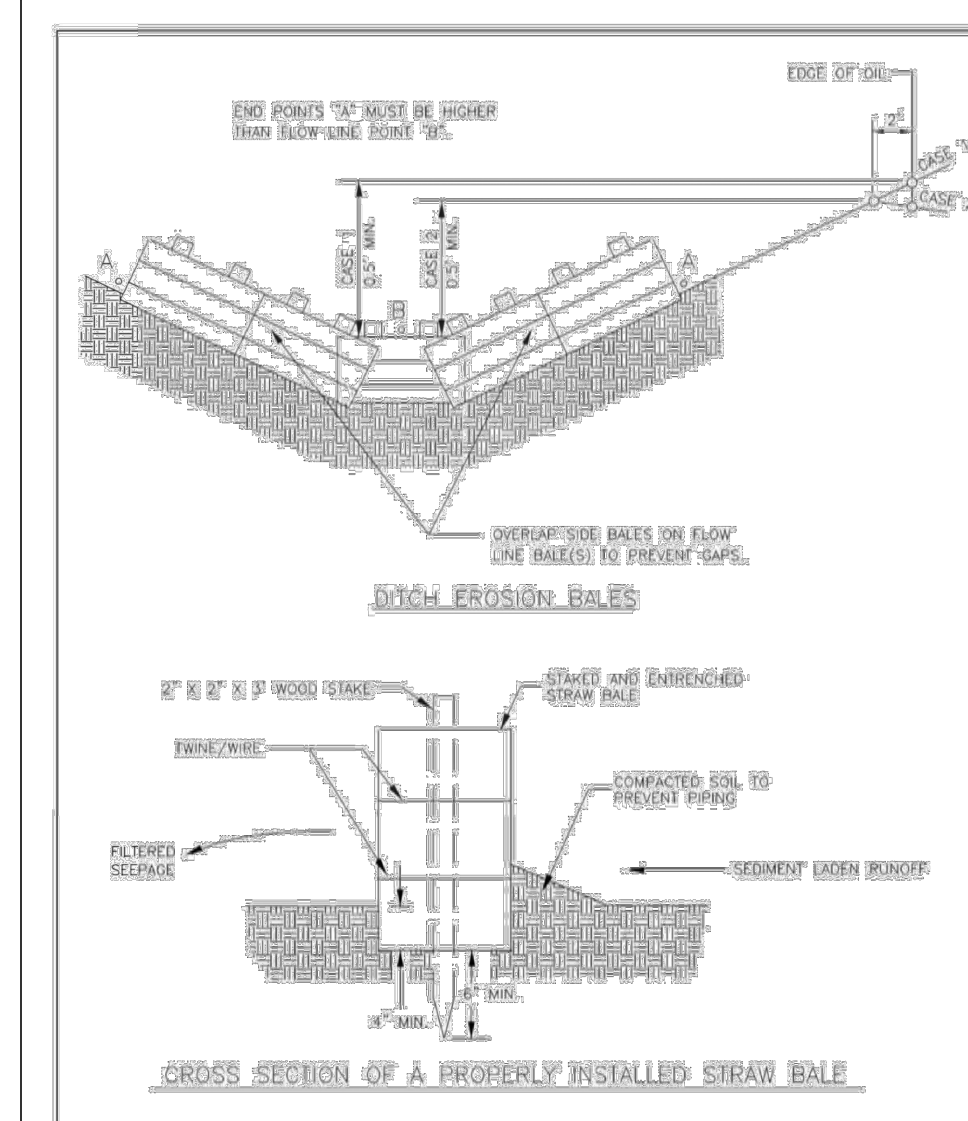
**PROJECT STATUS**  
 1ST SUBMITTAL

**SHEET TITLE**  
 EROSION CONTROL  
 DETAILS

**SHEET NUMBER**

**9 of 42**

TBD



**ROCK RIPRAP GRADATION TABLE**

CLASS	D <sub>50</sub> (in)	D <sub>15</sub> (in)		D <sub>30</sub> (in)		D <sub>60</sub> (in)		D <sub>100</sub> (in)
		MIN	MAX	MIN	MAX	MIN	MAX	
I	6.0	3.7	5.2	5.7	6.9	7.8	9.2	12.0
II	9.0	5.5	7.8	8.5	10.5	11.5	14.0	18.0
III	12.0	7.3	10.5	11.5	14.0	15.5	18.5	24.0
IV	15.0	9.2	13.0	14.5	17.5	19.5	23.0	30.0
V	18.0	11.0	15.5	17.0	20.5	23.5	27.5	36.0
VI	21.0	13.0	18.5	20.0	24.0	27.5	32.5	42.0
VII	24.0	14.5	21.0	23.0	27.5	31.0	37.0	48.0
VIII	30.0	18.5	26.0	28.5	34.5	39.0	46.0	60.0
IX	36.0	22.0	31.5	34.0	41.5	47.0	55.5	72.0
X	42.0	25.5	36.5	40.0	48.5	54.5	64.5	84.0



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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV PARK**

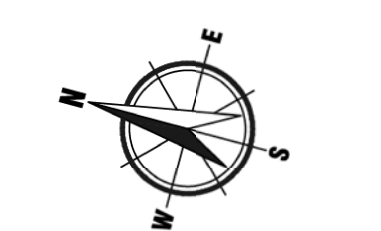
2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
 21007-SITE.DWG

**SCALE 1" = 60'**



**PROFESSIONAL SEAL**

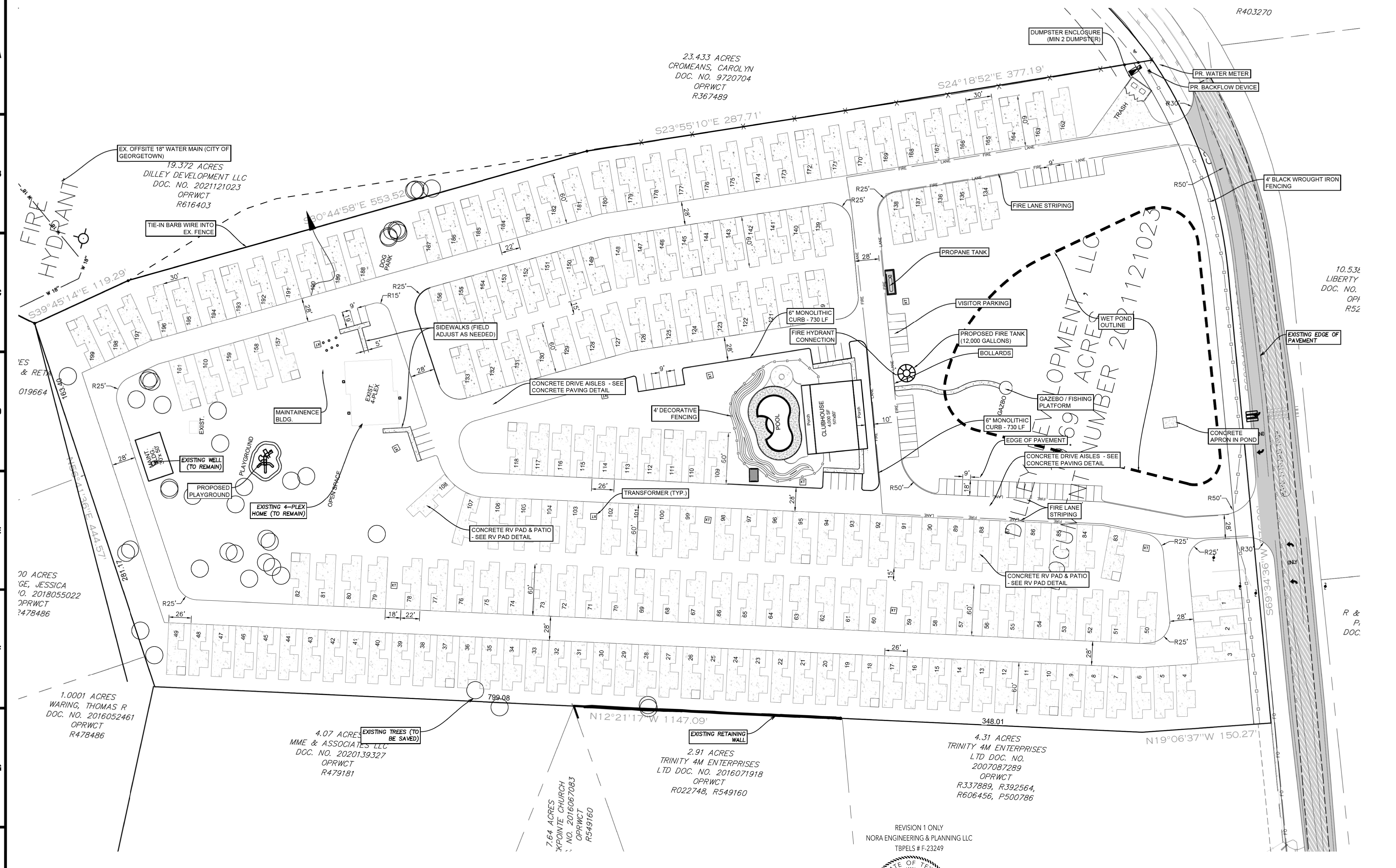


**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**SITE PLAN &  
 DIMENSION CONTROL  
 PLAN**

**SHEET NUMBER**  
**10 of 42**  
 TBD

GENERAL LEGEND		
EXISTING	PROPOSED	DESCRIPTION
● IPS	●	<b>SURVEY FEATURES</b>
● IPF	●	IRON PIN SET
▲ TP	▲	IRON PIN FOUND
▲ BM	▲	CONTROL POINT
⊠ ROM	⊠	BENCHMARK
		RIGHT OF WAY MARKER
		BEARING & DISTANCE
		<b>SITE</b>
		CURB & GUTTER
		EDGE OF PAVEMENT
		SIDEWALK
		CENTERLINE
		FIRE LANE
		TREELINE
		SIGN
		PRKG. COUNT-REGULAR
		PRKG. COUNT - HC
		PRKG. COUNT- LARGE
		TRAFFIC FLOW ARROWS
		HC SYMBOL
		ADA RAMP
		ADA ROUTE
		BICYCLE PARKING
		BOLLARDS
		WHEEL STOPS
		LIGHT POLE
		RETAINING WALL
		FENCE W/ TYPE
		<b>STORM</b>
		STORM PIPE
		GRATE INLET
		CURB INLET
		<b>SANITARY SEWER</b>
		WASTEWATER & MANHOLE
		CLEAN-OUT
		FORCE MAIN
		<b>WATER DISTRIBUTION</b>
		WATER MAIN
		IRRIGATION LINE
		FIRE HYDRANT
		FIRE DEPT. CONNECTION
		METER BOX
		WATER FITTINGS & BENDS
		GATE VALVE & REDUCER
		<b>POWER, GAS, TV</b>
		ELECTRIC
		ELEC. MANHOLE & METER
		TELEPHONE
		TELEPHONE RISER
		CABLE
		CABLE TV RISER
		FIBER OPTIC
		UTILITY POLE & GUY WIRE
		LIGHT POLE
		GAS LINE
		GAS VALVE & METER
		<b>TREE</b>
		TREE TO BE REMOVED
		TREE TO BE SAVED



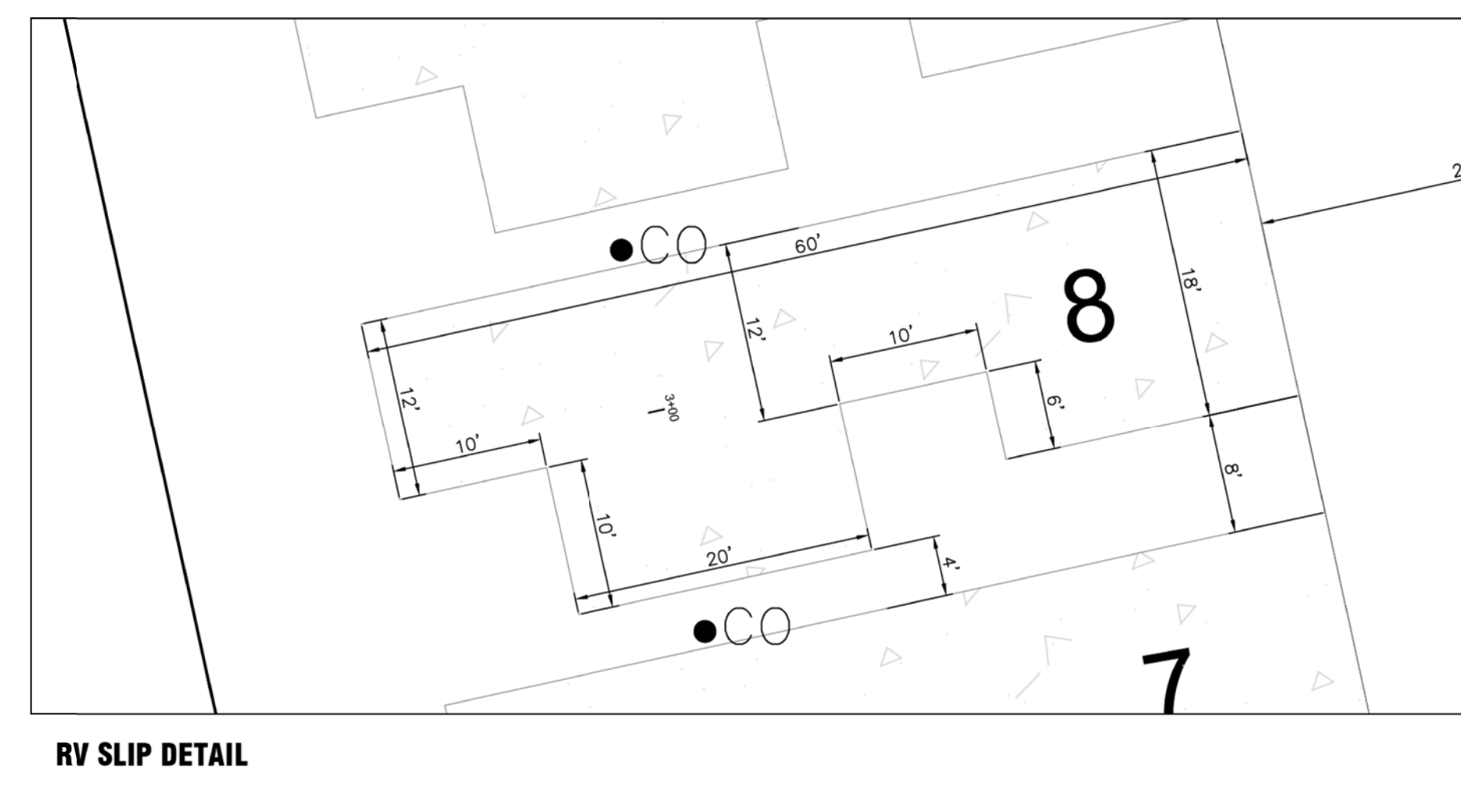
- SITE PLAN NOTES**
- APPROVAL OF THESE PLANS BY THE CITY OF LIBERTY HILL INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
  - APPROVAL OF THESE PLANS BY THE CITY OF LIBERTY HILL 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.
  - ALL MEASUREMENTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
  - FOR DRIVEWAY CONSTRUCTION, THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
  - FOR CONSTRUCTION WITHIN THE ROW, A ROW EXCAVATION PERMIT IS REQUIRED.
  - ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED.
  - ALL STRIPING AND SIGNAGE MUST FOLLOW TMUTCD.
  - ANY RELOCATION OF ELECTRIC FACILITIES SHALL BE AT LANDOWNER'S/DEVELOPER'S EXPENSE.
  - POWER OPERATED GATES ACROSS FIRE ACCESS ROADS MUST BE EQUIPPED WITH GATE OPERATORS LISTED IN ACCORDANCE WITH UL 325. GATES INTENDED FOR AUTOMATIC OPERATION MUST BE DESIGNED, CONSTRUCTED AND INSTALLED PER ASTM F2200. A MANUAL MEANS OF OPENING THE GATE IN THE EVENT OF POWER LOSS IS REQUIRED.
  - GATES ACROSS FIRE ACCESS ROADS MUST HAVE THE APPROPRIATE WIDTH AND ELECTRIC GATES MUST BE PROVIDED WITH A KNOX KEY SWITCH. GATES FOR TWO WAY FIRE LANES SHOULD BE 26 FT OR AT LEAST FULL WIDTH OF THE FIRE LANE. GATES FOR ONE WAY FIRE LANES SHOULD BE AT LEAST 15 FT.
  - A 7' VERTICAL CLEARANCE, INCLUDING TREE LIMBS, FOR ALL DRIVEWAYS AND INTERNAL CIRCULATION AREAS ON SITE IS REQUIRED. WHERE FIRE DEPARTMENT ACCESS IS REQUIRED, THE MINIMUM CLEARANCE IS 14'.
  - FIRE LANES MUST BE MARKED ALONG THE EDGES OF THE FIRE DEPARTMENT ACCESS ROADS. REFER TO DETAILS PAGE FOR FIRE LANE STRIPING.

**IMPROVEMENT SUMMARY**

PHASE	BLDG. NUMBER	BLDG. USE	BLDG. DESCRIPTION	AREA (SF)	STORY / HEIGHT
1	1-199	RV Pads	22x48'	234024	-
1	200	Rec Building	50x80'	4000	10'-0"
				TOTAL BLDG. AREA	238024
				TOTAL SITE AREA, AC	19.69
				FAR	0.28

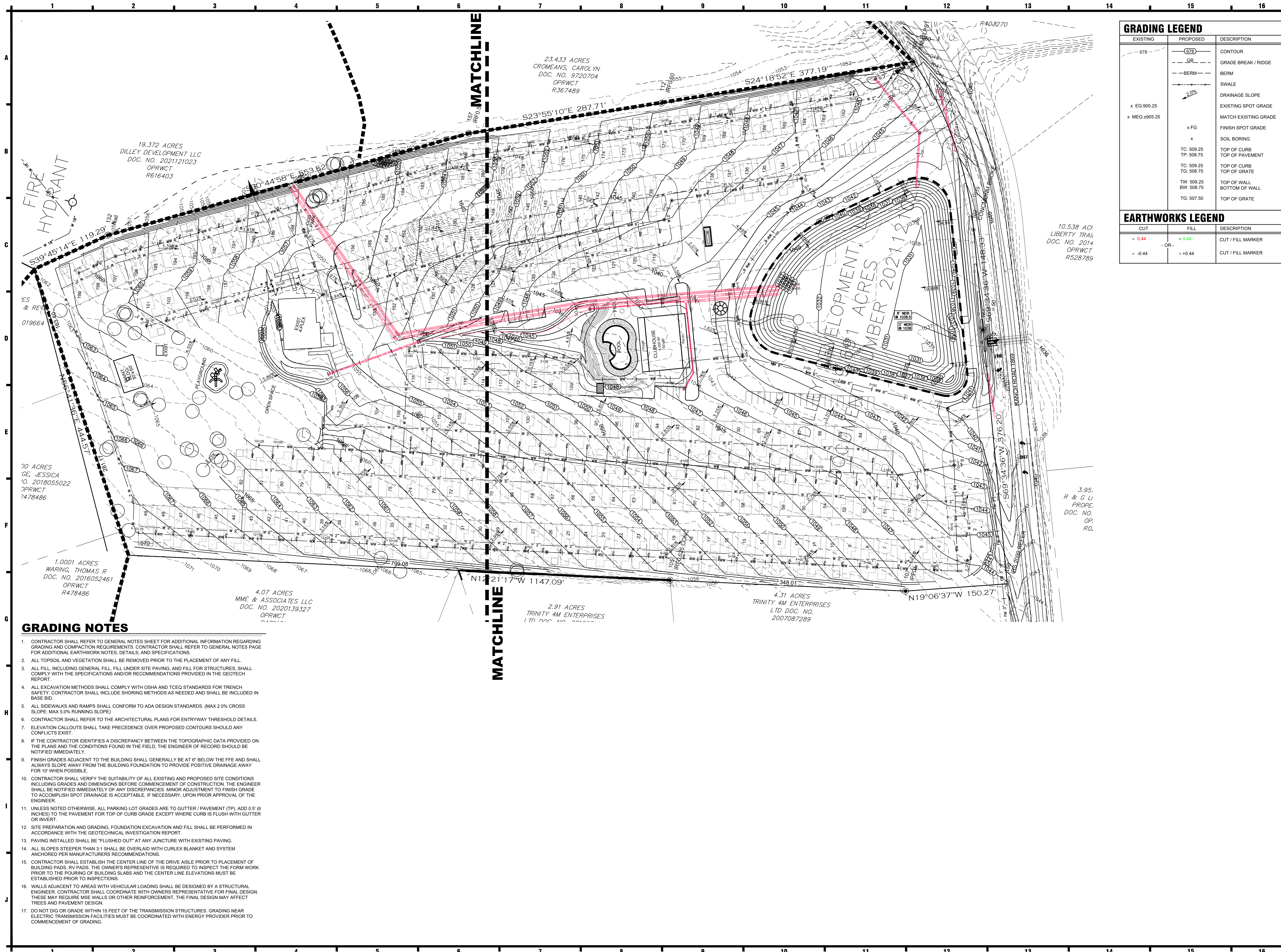
**IMPERVIOUS SUMMARY**

PHASE	PHASE 1
BUILDINGS (FOOTPRINT)	7,250
EX BUILDINGS	4,100
CONCRETE PAVEMENT	153,560
SIDEWALK (EST)	6,165
RV PADS	206,973
RETAINING WALLS	1,000
CONTINGENCY	15,000
TOTAL CUMULATIVE	394,048
% IMPERVIOUS CUMULATIVE	45.94



REVISION 1 ONLY  
 NORA ENGINEERING & PLANNING LLC  
 TBPELS # F-23249  

 Candace Craig  
 05/15/2023



GRADING LEGEND		
EXISTING	PROPOSED	DESCRIPTION
-678-	-G78-	CONTOUR
	-GB-	GRADE BREAK / RIDGE
	-BERM-	BERM
		SWALE
	2.0%	DRAINAGE SLOPE
x EG:905.25		EXISTING SPOT GRADE
x MEG:905.25		MATCH EXISTING GRADE
	x FG	FINISH SPOT GRADE
	x	SOIL BORING
	TC: 509.25	TOP OF CURB
	TP: 508.75	TOP OF PAVEMENT
	TC: 509.25	TOP OF CURB
	TG: 508.75	TOP OF GRATE
	TW: 509.25	TOP OF WALL
	BW: 508.75	BOTTOM OF WALL
	TG: 507.50	TOP OF GRATE

EARTHWORKS LEGEND		
CUT	FILL	DESCRIPTION
x 0.44	x 0.44	CUT / FILL MARKER
-OR-		CUT / FILL MARKER
x -0.44	x +0.44	CUT / FILL MARKER

**GRADING NOTES**

- CONTRACTOR SHALL REFER TO GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION REGARDING GRADING AND COMPACTION REQUIREMENTS. CONTRACTOR SHALL REFER TO GENERAL NOTES PAGE FOR ADDITIONAL EARTHWORK NOTES, DETAILS, AND SPECIFICATIONS.
- ALL TOPSOIL AND VEGETATION SHALL BE REMOVED PRIOR TO THE PLACEMENT OF ANY FILL.
- ALL FILL, INCLUDING GENERAL FILL, FILL UNDER SITE PAVING, AND FILL FOR STRUCTURES, SHALL COMPLY WITH THE SPECIFICATIONS AND/OR RECOMMENDATIONS PROVIDED IN THE GEOTECH REPORT.
- ALL EXCAVATION METHODS SHALL COMPLY WITH OSHA AND TCEQ STANDARDS FOR TRENCH SAFETY. CONTRACTOR SHALL INCLUDE SHORING METHODS AS NEEDED AND SHALL BE INCLUDED IN BASE BID.
- ALL SIDEWALKS AND RAMPS SHALL CONFORM TO ADA DESIGN STANDARDS. (MAX 2.0% CROSS SLOPE; MAX 5.0% RUNNING SLOPE)
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR ENTRYWAY THRESHOLD DETAILS.
- ELEVATION CALLOUTS SHALL TAKE PRECEDENCE OVER PROPOSED CONTOURS SHOULD ANY CONFLICTS EXIST.
- IF THE CONTRACTOR IDENTIFIES A DISCREPANCY BETWEEN THE TOPOGRAPHIC DATA PROVIDED ON THE PLANS AND THE CONDITIONS FOUND IN THE FIELD, THE ENGINEER OF RECORD SHOULD BE NOTIFIED IMMEDIATELY.
- FINISH GRADES ADJACENT TO THE BUILDING SHALL GENERALLY BE AT 6" BELOW THE FFE AND SHALL ALWAYS SLOPE AWAY FROM THE BUILDING FOUNDATION TO PROVIDE POSITIVE DRAINAGE AWAY FOR 10' WHEN POSSIBLE.
- CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE, IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER.
- UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO GUTTER / PAVEMENT (TP), ADD 0.5" (6 INCHES) TO THE PAVEMENT FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH GUTTER OR INVERT.
- SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
- PAVING INSTALLED SHALL BE "FLUSHED OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
- ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLAID WITH CURLEX BLANKET AND SYSTEM ANCHORED PER MANUFACTURERS RECOMMENDATIONS.
- CONTRACTOR SHALL ESTABLISH THE CENTER LINE OF THE DRIVE AISLE PRIOR TO PLACEMENT OF BUILDING PADS, RV PADS. THE OWNER'S REPRESENTATIVE IS REQUIRED TO INSPECT THE FORM WORK PRIOR TO THE POURING OF BUILDING SLABS AND THE CENTER LINE ELEVATIONS MUST BE ESTABLISHED PRIOR TO INSPECTIONS.
- WALLS ADJACENT TO AREAS WITH VEHICULAR LOADING SHALL BE DESIGNED BY A STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE WITH OWNERS REPRESENTATIVE FOR FINAL DESIGN. THESE MAY REQUIRE MSE WALLS OR OTHER REINFORCEMENT. THE FINAL DESIGN MAY AFFECT TREES AND PAVEMENT DESIGN.
- DO NOT DIG OR GRADE WITHIN 15 FEET OF THE TRANSMISSION STRUCTURES. GRADING NEAR ELECTRIC TRANSMISSION FACILITIES MUST BE COORDINATED WITH ENERGY PROVIDER PRIOR TO COMMENCEMENT OF GRADING.

DESIGN PROFESSIONAL



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 CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**  
 C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV  
 PARK**

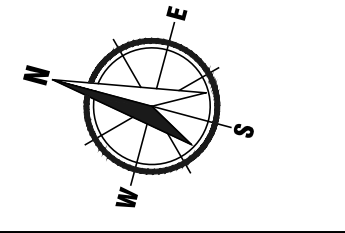
2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

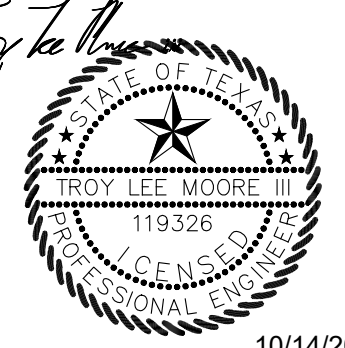
**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
**21007-GRAD.DWG**

**SCALE 1" = 60'**



PROFESSIONAL SEAL



10/14/2022  
**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**OVERALL GRADING  
 PLAN**

**SHEET NUMBER**  
**11 of 42**  
 TBD



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2224 RR 1869
LIBERTY HILL, TEXAS 78642

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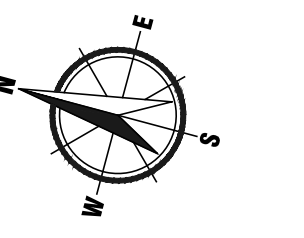
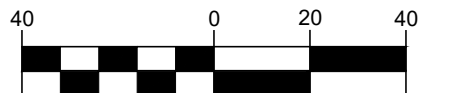
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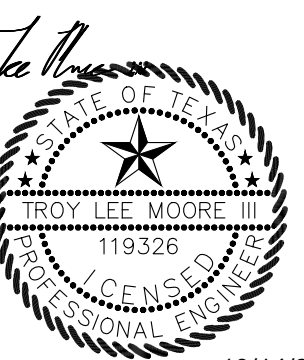
DRAWING FILE

21007-GRAD.DWG

SCALE 1" = 40'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS
1ST SUBMITTAL

SHEET TITLE
GRADING PLAN
SHEET A

SHEET NUMBER

12 of 42

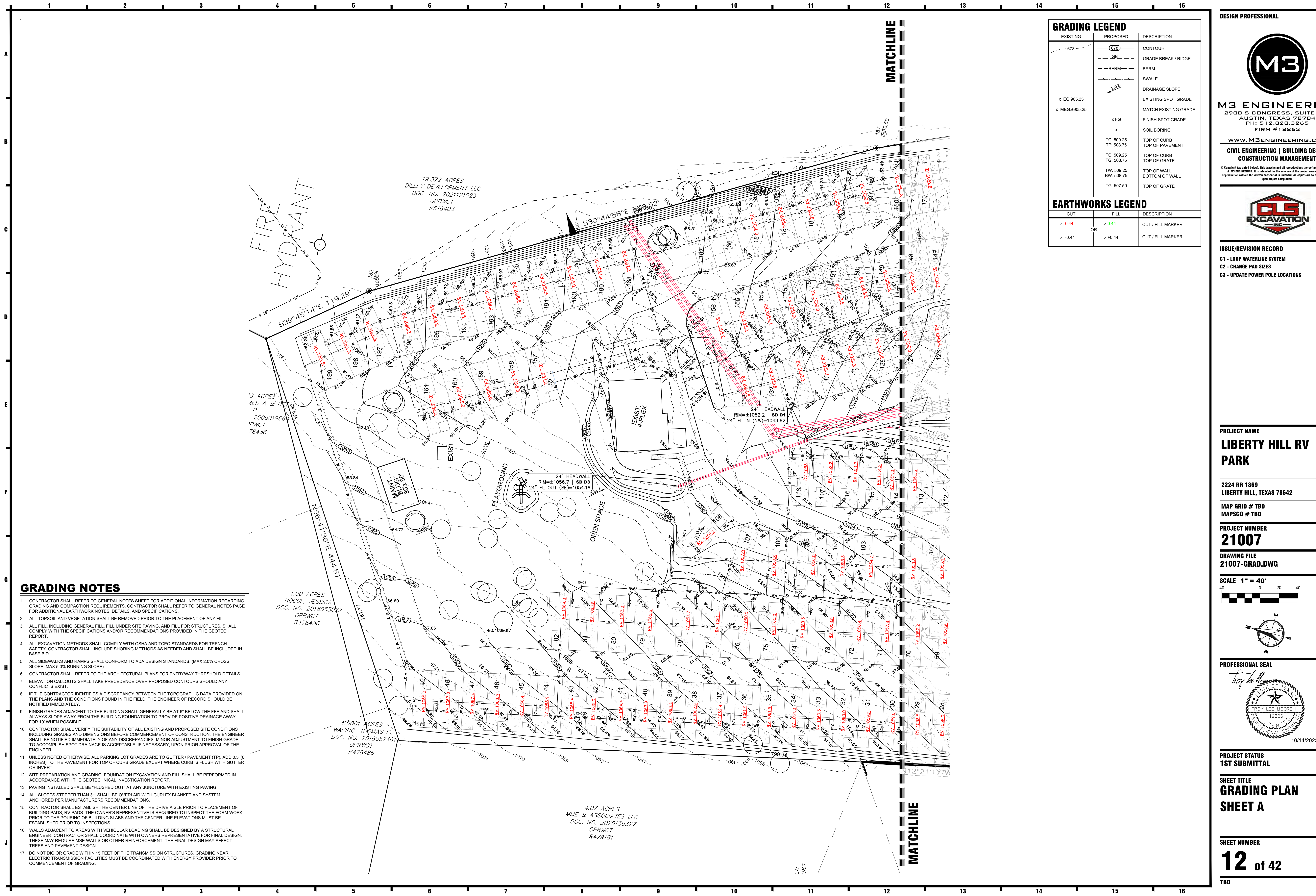
TBD

GRADING LEGEND

Table with 3 columns: EXISTING, PROPOSED, DESCRIPTION. Includes symbols for contour, grade break, berm, swale, drainage slope, existing spot grade, match existing grade, finish spot grade, soil boring, top of curb, top of pavement, top of wall, bottom of wall, top of grate.

EARTHWORKS LEGEND

Table with 3 columns: CUT, FILL, DESCRIPTION. Includes symbols for cut/fill marker and cut/fill marker.



GRADING NOTES

- 1. CONTRACTOR SHALL REFER TO GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION REGARDING GRADING AND COMPACTION REQUIREMENTS. CONTRACTOR SHALL REFER TO GENERAL NOTES PAGE FOR ADDITIONAL EARTHWORK NOTES, DETAILS, AND SPECIFICATIONS.
2. ALL TOPSOIL AND VEGETATION SHALL BE REMOVED PRIOR TO THE PLACEMENT OF ANY FILL.
3. ALL FILL, INCLUDING GENERAL FILL, FILL UNDER SITE PAVING, AND FILL FOR STRUCTURES, SHALL COMPLY WITH THE SPECIFICATIONS AND/OR RECOMMENDATIONS PROVIDED IN THE GEOTECH REPORT.
4. ALL EXCAVATION METHODS SHALL COMPLY WITH OSHA AND TCEQ STANDARDS FOR TRENCH SAFETY. CONTRACTOR SHALL INCLUDE SHORING METHODS AS NEEDED AND SHALL BE INCLUDED IN BASE BID.
5. ALL SIDEWALKS AND RAMPS SHALL CONFORM TO ADA DESIGN STANDARDS. (MAX 2.0% CROSS SLOPE; MAX 5.0% RUNNING SLOPE)
6. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR ENTRYWAY THRESHOLD DETAILS.
7. ELEVATION CALLOUTS SHALL TAKE PRECEDENCE OVER PROPOSED CONTOURS SHOULD ANY CONFLICTS EXIST.
8. IF THE CONTRACTOR IDENTIFIES A DISCREPANCY BETWEEN THE TOPOGRAPHIC DATA PROVIDED ON THE PLANS AND THE CONDITIONS FOUND IN THE FIELD, THE ENGINEER OF RECORD SHOULD BE NOTIFIED IMMEDIATELY.
9. FINISH GRADES ADJACENT TO THE BUILDING SHALL GENERALLY BE AT 6" BELOW THE FFE AND SHALL ALWAYS SLOPE AWAY FROM THE BUILDING FOUNDATION TO PROVIDE POSITIVE DRAINAGE AWAY FOR 10' WHEN POSSIBLE.
10. CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE, IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER.
11. UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO GUTTER / PAVEMENT (TP), ADD 0.5" (6 INCHES) TO THE PAVEMENT FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH GUTTER OR INVERT.
12. SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
13. PAVING INSTALLED SHALL BE "FLUSHED OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
14. ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLAID WITH CURLEX BLANKET AND SYSTEM ANCHORED PER MANUFACTURERS RECOMMENDATIONS.
15. CONTRACTOR SHALL ESTABLISH THE CENTER LINE OF THE DRIVE AISLE PRIOR TO PLACEMENT OF BUILDING PADS, RV PADS. THE OWNER'S REPRESENTATIVE IS REQUIRED TO INSPECT THE FORM WORK PRIOR TO THE POURING OF BUILDING SLABS AND THE CENTER LINE ELEVATIONS MUST BE ESTABLISHED PRIOR TO INSPECTIONS.
16. WALLS ADJACENT TO AREAS WITH VEHICULAR LOADING SHALL BE DESIGNED BY A STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE WITH OWNERS REPRESENTATIVE FOR FINAL DESIGN. THESE MAY REQUIRE MSE WALLS OR OTHER REINFORCEMENT. THE FINAL DESIGN MAY AFFECT TREES AND PAVEMENT DESIGN.
17. DO NOT DIG OR GRADE WITHIN 15 FEET OF THE TRANSMISSION STRUCTURES. GRADING NEAR ELECTRIC TRANSMISSION FACILITIES MUST BE COORDINATED WITH ENERGY PROVIDER PRIOR TO COMMENCEMENT OF GRADING.

FIRE HYDRANT

19.372 ACRES
DILLEY DEVELOPMENT LLC
DOC. NO. 2021121023
OPRWCT
R616403

0.9 ACRES
MES A & R
P
200901966
OPRWCT
78486

1.00 ACRES
HOGGE, JESSICA
DOC. NO. 2018055022
OPRWCT
R478486

1.0001 ACRES
WARING, THOMAS R.
DOC. NO. 2016052461
OPRWCT
R478486

4.07 ACRES
MME & ASSOCIATES LLC
DOC. NO. 2020139327
OPRWCT
R479181

MATCHLINE

MATCHLINE

CH 203

MATCHLINE

MATCHLINE

23.433 ACRES  
CROMEANS, CAROLYN  
DOC. NO. 9720704  
OPRWCT  
R367489

S23°55'10"E 287.71'

2' X 2' GRATE INLET  
RIM=±1044.7 | SD C3  
24" FL OUT (SW)=1041.14

2' X 2' GRATE INLET  
RIM=±1043.8 | SD C2  
24" FL IN (NE)=1039.09  
24" FL OUT (W)=1039.09

4" DIA WWH  
RIM=±1048.0 | WW C7  
6" FL IN (NW)=1042.69  
6" FL OUT (E)=1042.58

2' X 2' GRATE INLET  
RIM=±1046.7 | SD B3  
18" FL IN (N)=1041.25  
18" FL OUT (S)=1041.25

4" DIA WWH  
RIM=±1044.1 | WW C3  
6" FL IN (E)=1038.50  
6" FL OUT (W)=1038.49

2' X 2' GRATE INLET  
RIM=±1045.8 | SD B4  
18" FL OUT (S)=1041.90

4" DIA SSMH  
RIM=±1046.3 | SD B2  
18" FL IN (N)=1041.09  
18" FL IN (W)=1041.12  
36" FL OUT (S)=1039.19

36" HEADWALL  
RIM=±1036.9 | SD B1  
36" FL IN (N)=1033.26

NULL STRUCTURE  
RIM=±1043.8 | SD B6  
18" FL IN (W)=1042.18  
18" FL OUT (E)=1042.18

8" WEIR  
@ 1038.5

3" WEIR  
@ 1038

GRADING LEGEND		
EXISTING	PROPOSED	DESCRIPTION
-678-	-C78-	CONTOUR
-GB-	-GB-	GRADE BREAK / RIDGE
-BERM-	-BERM-	BERM
-SWALE-	-SWALE-	SWALE
-DRAINAGE SLOPE-	-DRAINAGE SLOPE-	DRAINAGE SLOPE
x EG:905.25		EXISTING SPOT GRADE
x MEG:905.25		MATCH EXISTING GRADE
x FG		FINISH SPOT GRADE
x		SOIL BORING
TC: 509.25		TOP OF CURB
TP: 508.75		TOP OF PAVEMENT
TC: 509.25		TOP OF CURB
TG: 508.75		TOP OF GRATE
TW: 509.25		TOP OF WALL
BW: 508.75		BOTTOM OF WALL
TG: 507.50		TOP OF GRATE

EARTHWORKS LEGEND		
CUT	FILL	DESCRIPTION
x 0.44	x 0.44	CUT / FILL MARKER
-OR-	-OR-	CUT / FILL MARKER
x -0.44	x +0.44	CUT / FILL MARKER

10.538 ACRES  
LIBERTY TRAILS LP  
DOC. NO. 2014048993  
OPRWCT  
R528789

3.957 ACRES  
R & G LIBERTY HILLS  
PROPERTIES LLC  
DOC. NO. 2013026849  
OPRWCT  
R021976

2.91 ACRES  
TRINITY 4M ENTERPRISES  
LTD DOC. NO. 2016071918  
OPRWCT  
R022748, R549160

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DESIGN PROFESSIONAL



**M3 ENGINEERING**  
2900 S CONGRESS, SUITE 203  
AUSTIN, TEXAS 78704  
PH: 512.820.3265  
FIRM # 18863

WWW.M3ENGINEERING.COM

**CIVIL ENGINEERING | BUILDING DESIGN  
CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV  
PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

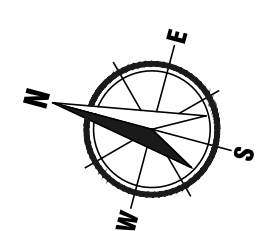
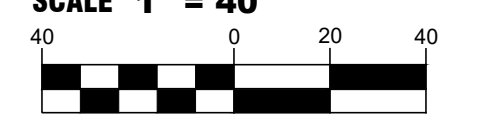
MAP GRID # TBD  
MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
21007-GRAD.DWG

**SCALE 1" = 40'**



**PROFESSIONAL SEAL**



10/14/2022

**PROJECT STATUS**

**1ST SUBMITTAL**

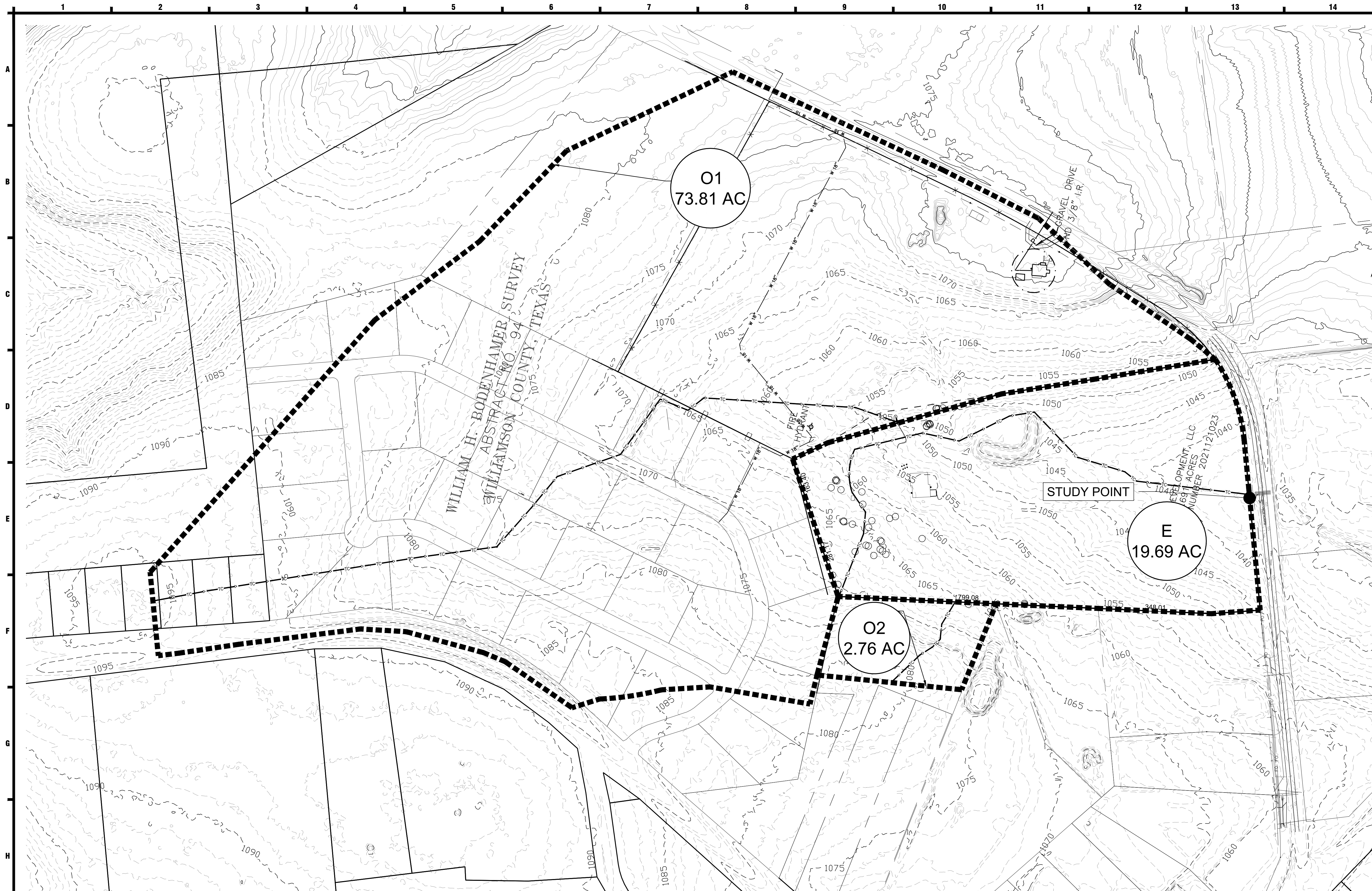
**SHEET TITLE**

**GRADING PLAN  
SHEET B**

**SHEET NUMBER**

**13 of 42**

TBD



**TIME OF CONCENTRATION**

BASIN	SHEET FLOW (L<100) <sup>(1)</sup>					SHALLOW CONCENTRATED FLOW <sup>(2)</sup> (300' < L < 100')					CHANNEL OR PIPE FLOW <sup>(3)</sup>			CHANNEL OR PIPE FLOW			TOTAL **	TOTAL
	L (ft)	N	S (ft/ft)	P2	Tt (min)	PAVED / UNPAVED	C*	L (ft)	S (ft/ft)	Tt (min)	L (ft)	Average V (ft/sec)	Tt (min)	L (ft)	Average V (ft/sec)	Tt (min)		
O1	300	0.240	0.010	3.94	40.87	UNPAVED	16.1345	150	0.0180	1.15	898	3.32	4.51	971.00	5.97	2.71	46.5	27.9
O2	300	0.240	0.020	3.94	30.97	UNPAVED	16.1345	0	1	0.00	0	1.00	0.00	###			31.0	18.6
E	201	0.240	0.020	3.94	22.48	UNPAVED	16.1345	147	0.0103	1.50	1,452	3.95	6.13				30.1	18.1

\* C=20.3282 FOR PAVED CONDITIONS / C=16.1345 FOR UNPAVED AREAS

\*\* MINIMUM TIME OF CONCENTRATION IS 5.0 MIN.

**EXISTING DRAINAGE / DISCHARGE TABLE**

BASIN	AREA (ACRES)	AREA (MI <sup>2</sup> )	CURVE NUMBER	2-YR (CFS)	10-YR (CFS)	25-YR (CFS)	100-YR (CFS)
O1	73.81	0.11533	76	84.9	172.7	229.6	328.2
O2	2.76	0.00431	84	3.9	8.0	10.3	15.0
E	19.69	0.03077	84	28.3	57.7	74.4	108.5
STUDY POINT				112.9	230.2	303.3	433.8

\* RUNOFF CURVE NUMBER BASED ON HYDROLOGIC SOIL GROUP OPEN SPACE (FAIR CONDITION)

DESIGN PROFESSIONAL



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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV PARK**

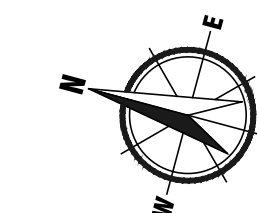
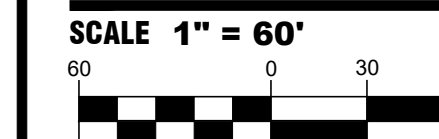
2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-DAM.DWG



**PROFESSIONAL SEAL**



10/14/2022

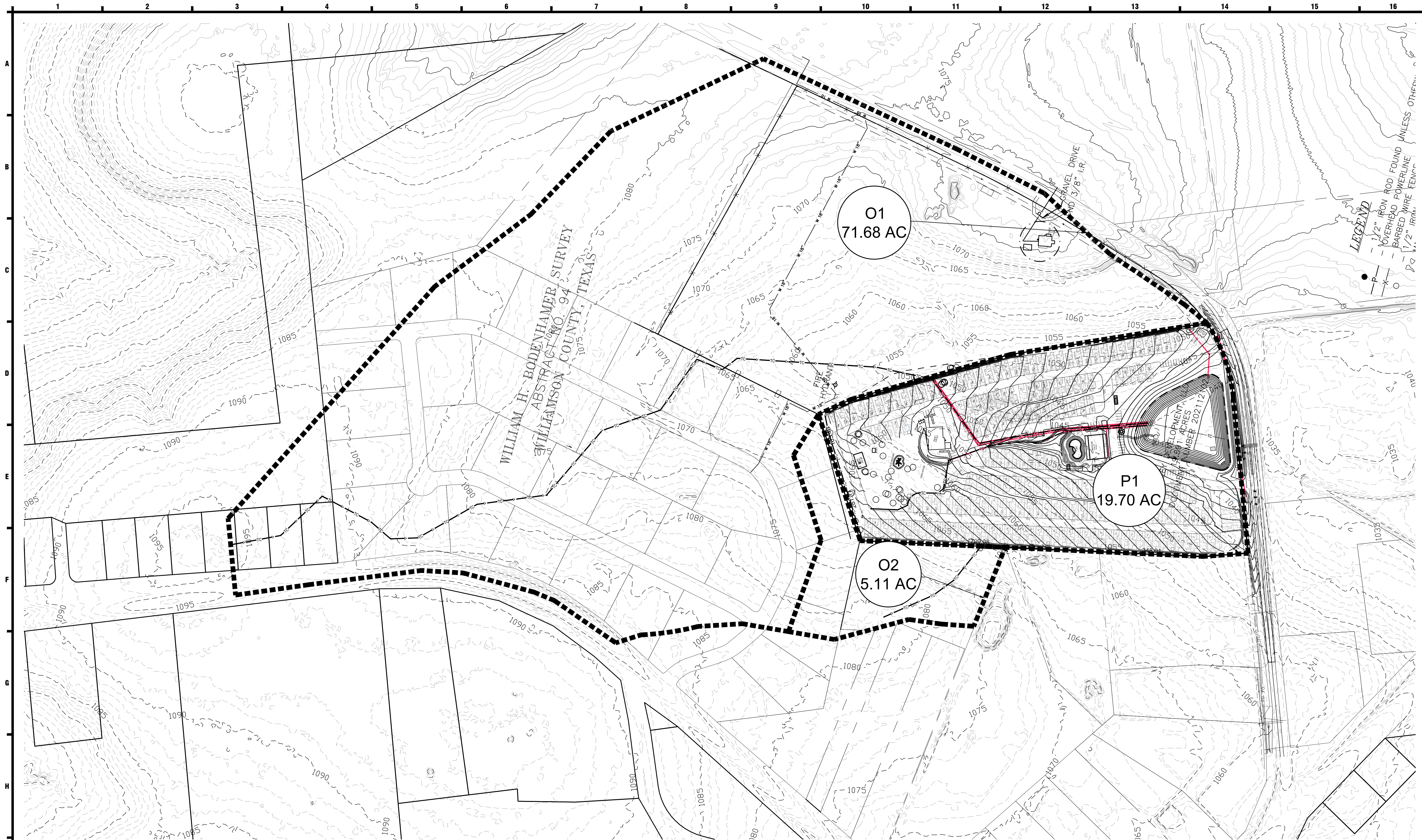
**PROJECT STATUS**  
 1ST SUBMITTAL

**SHEET TITLE**  
 EXISTING DRAINAGE  
 AREA MAP

**SHEET NUMBER**

**14** of 42

TBD



DESIGN PROFESSIONAL

**M3**

**M3 ENGINEERING**  
 2900 S CONGRESS, SUITE 203  
 AUSTIN, TEXAS 78704  
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ISSUE/REVISION RECORD

C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

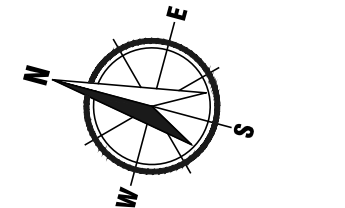
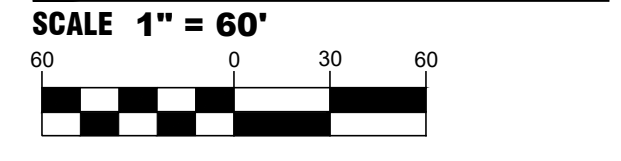
PROJECT NAME  
**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

PROJECT NUMBER  
**21007**

DRAWING FILE  
 21007-DAM.DWG



PROFESSIONAL SEAL

*Troy Lee Moore III*

10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

SHEET TITLE  
**DRAINAGE AREA MAP**

SHEET NUMBER  
**15** of 42  
 TBD

**TIME OF CONCENTRATION**

BASIN	SHEET FLOW (L<100) <sup>(1)</sup>				SHALLOW CONCENTRATED FLOW <sup>(2)</sup> (300' < L > 100')			CHANNEL OR PIPE FLOW <sup>(3)</sup>			CHANNEL OR PIPE FLOW <sup>(3)</sup>			TOTAL **	TOTAL			
	L (ft)	N	S (ft/ft)	P2	Tt (min)	PAVED / UNPAVED	C*	L (ft)	S (ft/ft)	Tt (min)	L (ft)	Average V (ft/sec)	Tt (min)	L (ft)	Average V (ft/sec)	Tt (min)	Tc (min)	Lag (min)
O1	300	0.240	0.017	3.94	33.31	UNPAVED	16.1345	150	0.0180	1.15	898	3.32	4.51	971.00	5.97	2.71	39.0	23.4
O2	300	0.240	0.050	3.94	21.47	UNPAVED	16.1345	0	1	0.00	0	1.00	0.00				21.5	12.9
P1	193	0.240	0.021	3.94	21.34	PAVED	19.4890	107	0.0460	0.43	946	4.42	3.57				25.3	15.2
P2	0	0.011	0.030	3.94	0.00	UNPAVED	18.1320	0	0.0340	0.00	1.576	9.74	2.70				5.0	3.0

\* C=20.3282 FOR PAVED CONDITIONS / C=16.1345 FOR UNPAVED AREAS

\*\* MINIMUM TIME OF CONCENTRATION IS 5.0 MIN.

**PROPOSED DRAINAGE/ EXISTING DRAINAGE / DISCHARGE TABLE**

BASIN	AREA (ACRES)	AREA (MI <sup>2</sup> )	CURVE NUMBER	2-YR (CFS)	10-YR (CFS)	25-YR (CFS)	100-YR (CFS)
O1	71.68	0.11200	76	84.9	172.7	229.6	328.2
O2	5.11	0.00798	84	3.9	8.0	10.3	15.0
P1	19.06	0.02978	84.0	51.7	81.9	94.1	130.5
P2	0.64	0.00100	84.0	2.3	4.0	5.2	6.7
POND				43.3	75.0	92.2	127.6
E STUDY POINT				218.7	366.4	439.2	602.4
P STUDY POINT				209.9	350.9	423.7	582.8

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

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

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

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

Site Data: Determine Required Load Removal Based on the Entire Project  
County = **Williamson**  
Total project area included in plan = **19.69** acres  
Predevelopment impervious area within the limits of the plan = **0.09** acres  
Total post-development impervious area within the limits of the plan = **9.18** acres  
Total post-development impervious cover fraction = **0.47** inches  
 $P$  = **32** inches

$L_M$  TOTAL PROJECT = **7912** lbs.

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

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

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

Drainage Basin/Outfall Area No. = **1**  
Total drainage basin/outfall area = **19.69** acres  
Predevelopment impervious area within drainage basin/outfall area = **0.09** acres  
Post-development impervious area within drainage basin/outfall area = **9.18** acres  
Post-development impervious fraction within drainage basin/outfall area = **0.47**  
 $L_M$  THIS BASIN = **7912** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Wet Basin**  
Removal efficiency = **93** percent

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

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

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

9.845  
 $A_C$  = **19.69** acres  
 $A_i$  = **9.18** acres  
 $A_p$  = **10.51** acres  
 $L_R$  = **9622** lbs

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

Desired  $L_M$  THIS BASIN = **9622** lbs.  
 $F$  = **1.000**

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

Rainfall Depth = **4.00** inches  
Post Development Runoff Coefficient = **0.34**  
On-site Water Quality Volume = **97078** cubic feet

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

Off-site area draining to BMP = **76.79** acres  
Off-site impervious cover draining to BMP = **4.61** acres  
Impervious fraction of off-site area = **0.06**  
Off-site Runoff Coefficient = **0.09**  
Off-site Water Quality Volume = **97093** cubic feet

Storage for Sediment = **38834** cubic feet  
Total Capture Volume (required water quality volume(s) x 1.20) = **233005** cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP. The values for BMP Types not selected in cell C45 will show NA.

19. BMPs Installed in a Series Designed as Required in RG-348 Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for  $E_2$  be changed from 0.5 to 0.65 on May 3, 2006

$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2) \times (1 - 0.25E_3))] \times 100 = 93.00$  percent NET EFFICIENCY OF THE BMPs IN THE SERIES

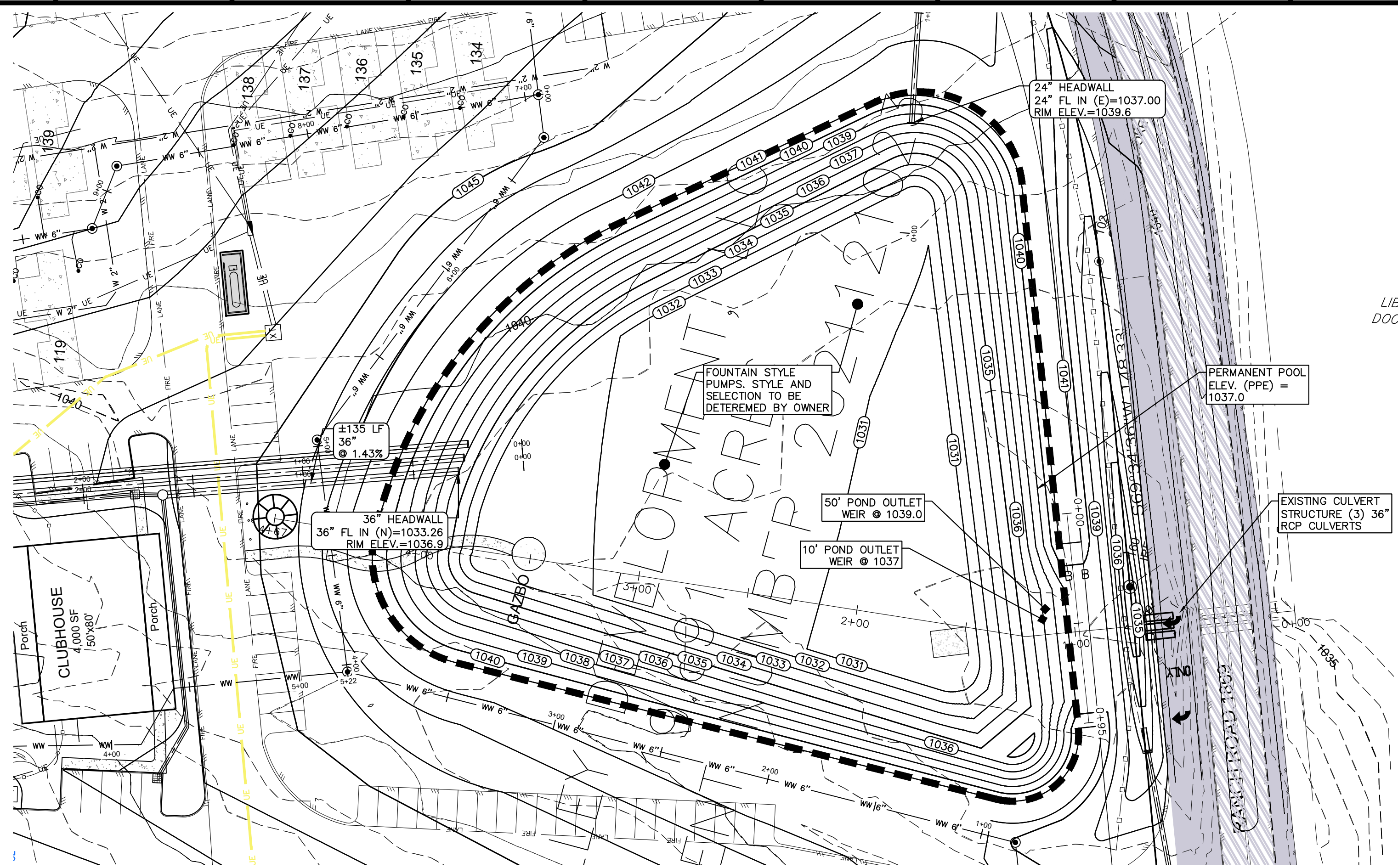
EFFICIENCY OF FIRST BMP IN THE SERIES =  $E_1 = 93.00$  percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES =  $E_2 = 0.00$  percent

EFFICIENCY OF THE THIRD BMP IN THE SERIES =  $E_3 = 0.00$  percent

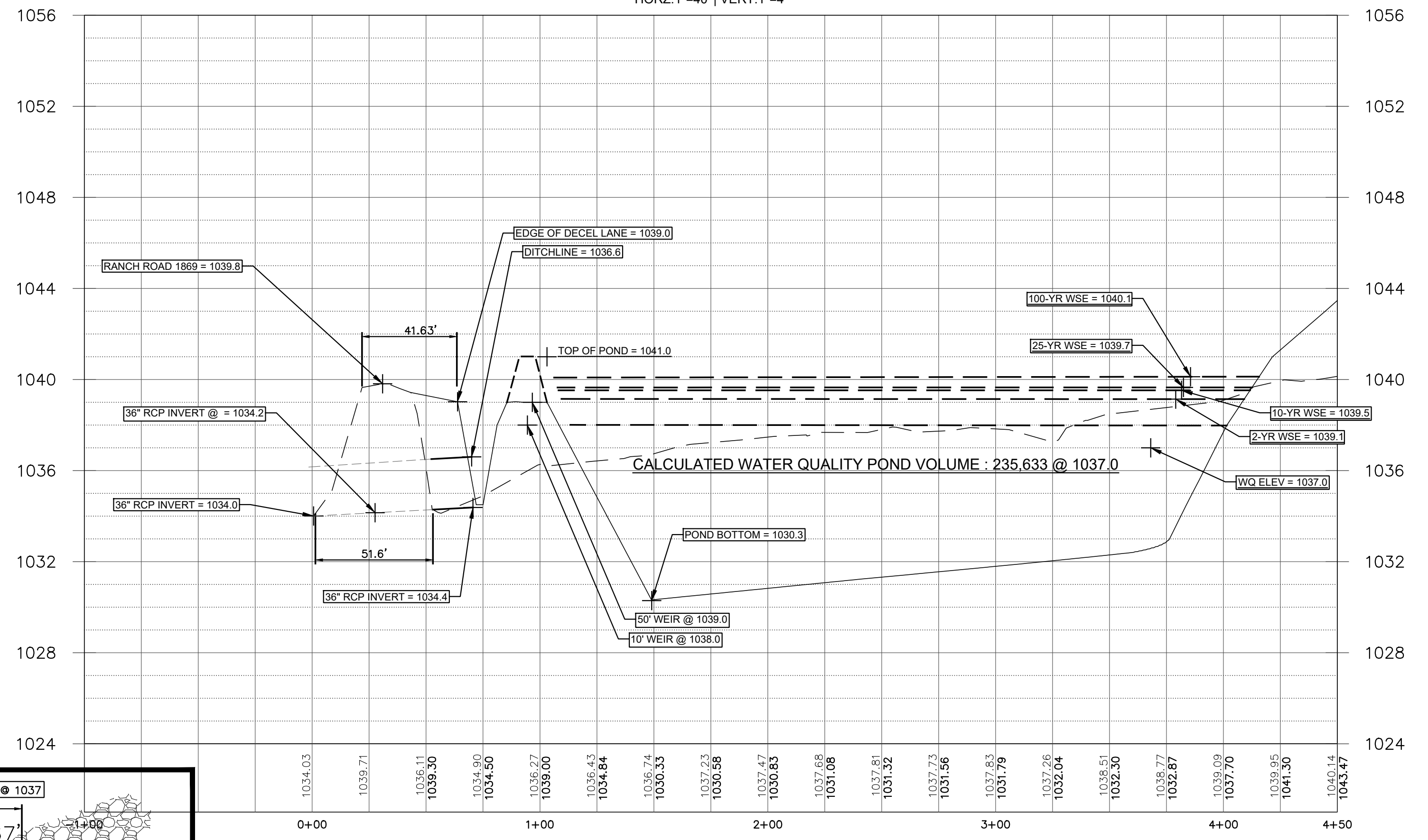
THEREFORE, THE NET LOAD REMOVAL WOULD BE:  
( $A_i$  AND  $A_p$  VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT} \times P \times (A_i \times 34.6 + A_p \times 0.54) = 9621.51$  lbs

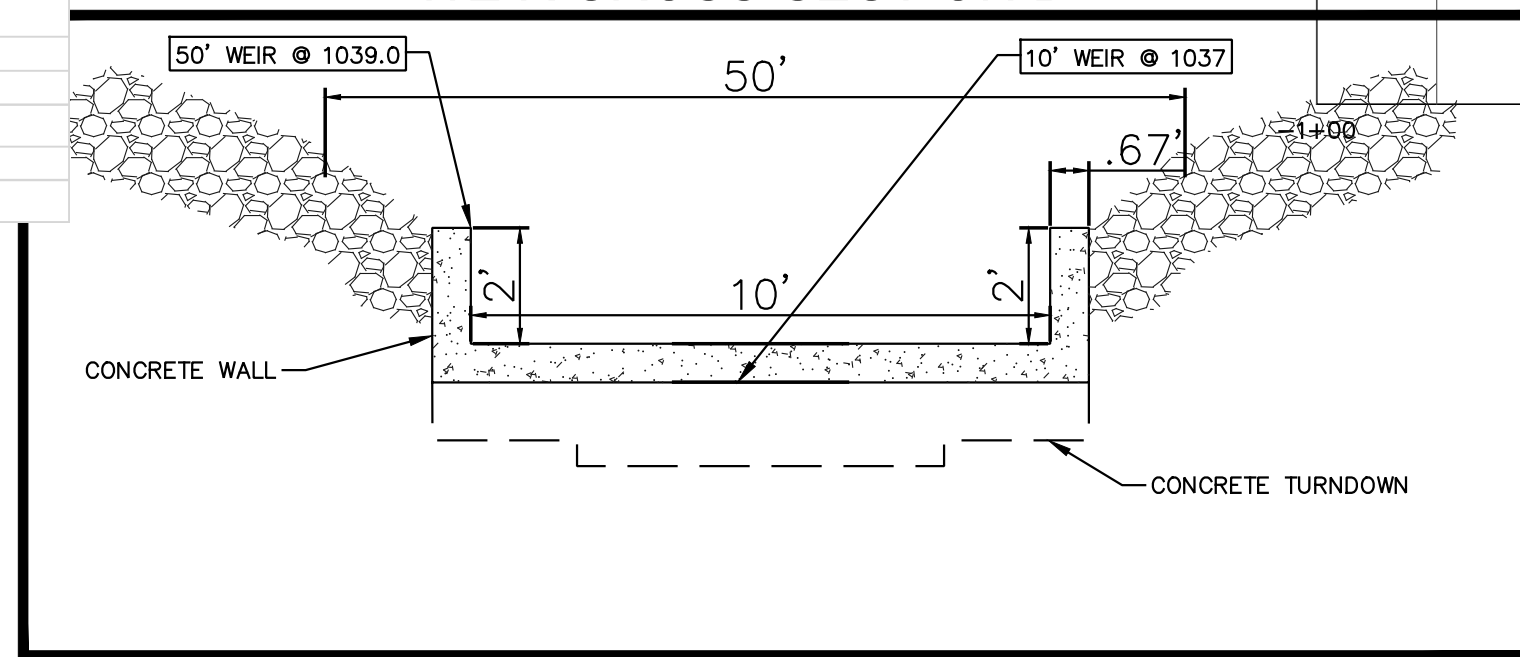


CROSS SECTION A

START: -1+00 | END: 4+50  
HORZ: 1"=40' | VERT: 1"=4'



WEIR CROSS-SECTION B



POND FLOW	2-YR ATLAS	10-YR ATLAS	25-YR ATLAS	100-YR ATLAS
PEAK INFLOW	65.2	103.7	115.7	165.1
PEAK DISCHARGE	43.3	75	92.2	127.6
INFLOW VOLUME	3.12	5.64	7.58	11.25
DISCHARGE VOLUME	3.05	5.55	7.47	11.1
PEAK STORAGE	1.5	2	2.3	2.9
PEAK ELEVATION	1039.1	1039.5	1039.7	1040.1



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AUSTIN, TEXAS 78704  
PH: 512.820.3265  
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CIVIL ENGINEERING | BUILDING DESIGN  
CONSTRUCTION MANAGEMENT

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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

**LIBERTY HILL RV PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

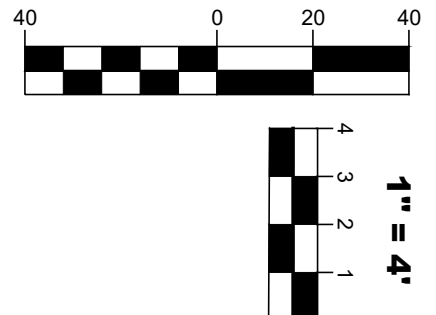
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MAPSCO # TBD

PROJECT NUMBER

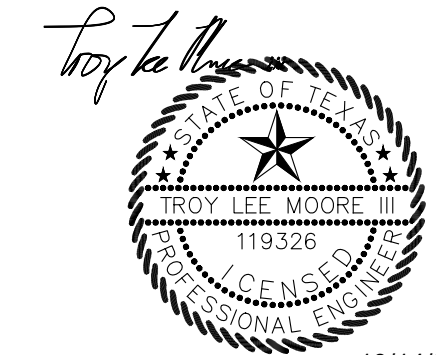
**21007**

DRAWING FILE  
21007-POND.DWG

SCALE 1" = 40'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

SHEET TITLE  
**POND PLAN CROSS SECTION**

SHEET NUMBER

**16** of 42

TBD





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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV  
PARK

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

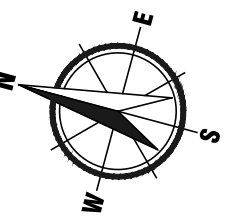
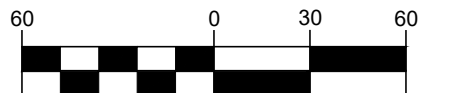
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PROJECT NUMBER

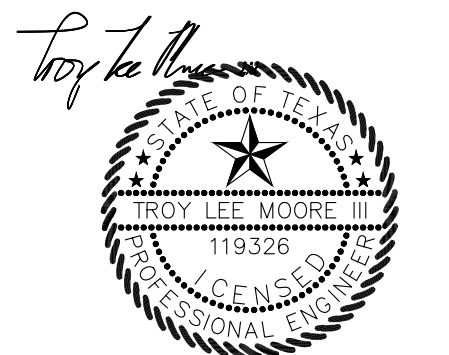
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DRAWING FILE  
21007-STRM.DWG

SCALE 1" = 60'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
1ST SUBMITTAL

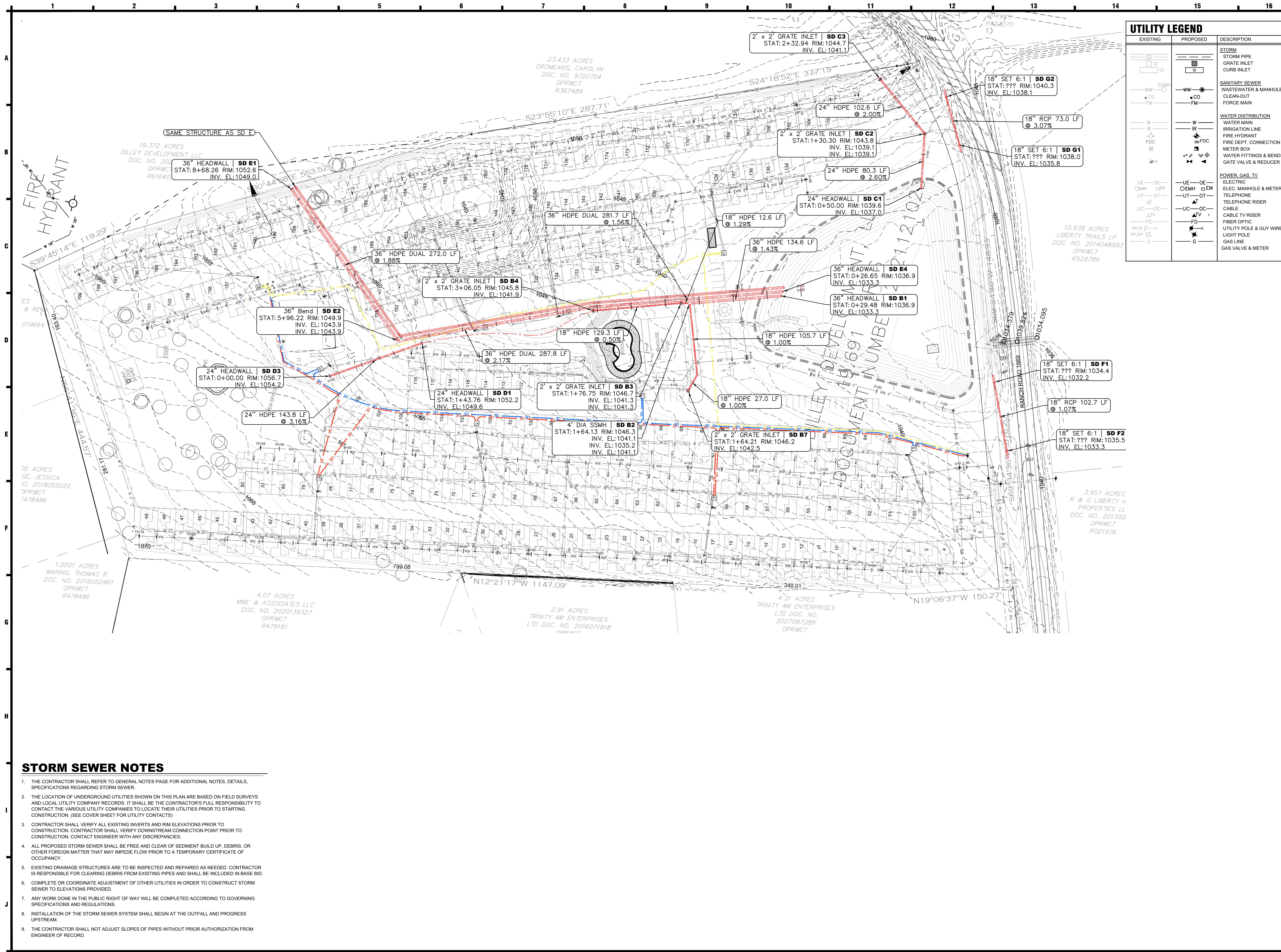
SHEET TITLE  
STORM SEWER PLAN

SHEET NUMBER

17 of 42

TBD

UTILITY LEGEND		DESCRIPTION
EXISTING	PROPOSED	
SD	SD	STORM
GI	GI	STORM PIPE
CI	CI	GRATE INLET
SSMH	SSMH	CURB INLET
CO	CO	SANITARY SEWER
FM	FM	WASTEWATER & MANHOLE
		CLEAN-OUT
		FORCE MAIN
		WATER DISTRIBUTION
		WATER MAIN
		IRRIGATION LINE
		FIRE HYDRANT
FDC	FDC	FIRE DEPT. CONNECTION
		METER BOX
		WATER FITTINGS & BENDS
		GATE VALVE & REDUCER
		POWER, GAS, TV
UE	UE	ELECTRIC
OEMH	OEMH	ELEC. MANHOLE & METER
UT	UT	TELEPHONE
		TELEPHONE RISER
UC	UC	CABLE
		CABLE TV RISER
FO	FO	FIBER OPTIC
PP/AP	PP/AP	UTILITY POLE & GUY WIRE
		LIGHT POLE
		GAS LINE
		GAS VALVE & METER



STORM SEWER NOTES

- THE CONTRACTOR SHALL REFER TO GENERAL NOTES PAGE FOR ADDITIONAL NOTES, DETAILS, SPECIFICATIONS REGARDING STORM SEWER.
- THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE COVER SHEET FOR UTILITY CONTACTS)
- CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY DOWNSTREAM CONNECTION POINT PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
- ALL PROPOSED STORM SEWER SHALL BE FREE AND CLEAR OF SEDIMENT BUILD UP, DEBRIS, OR OTHER FOREIGN MATTER THAT MAY IMPEDE FLOW PRIOR TO A TEMPORARY CERTIFICATE OF OCCUPANCY.
- EXISTING DRAINAGE STRUCTURES ARE TO BE INSPECTED AND REPAIRED AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR CLEARING DEBRIS FROM EXISTING PIPES AND SHALL BE INCLUDED IN BASE BID.
- COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
- ANY WORK DONE IN THE PUBLIC RIGHT OF WAY WILL BE COMPLETED ACCORDING TO GOVERNING SPECIFICATIONS AND REGULATIONS.
- INSTALLATION OF THE STORM SEWER SYSTEM SHALL BEGIN AT THE OUTFALL AND PROGRESS UPSTREAM.
- THE CONTRACTOR SHALL NOT ADJUST SLOPES OF PIPES WITHOUT PRIOR AUTHORIZATION FROM ENGINEER OF RECORD.



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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV PARK

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

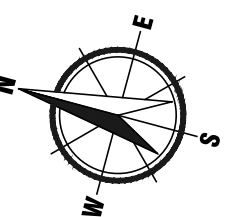
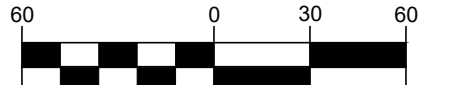
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MAPSCO # TBD

PROJECT NUMBER

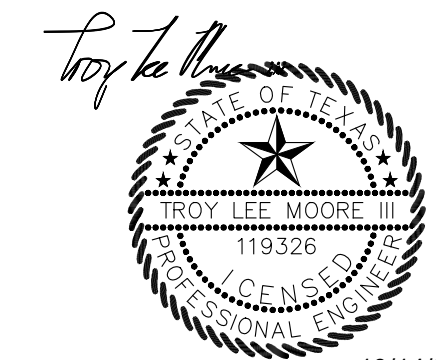
21007

DRAWING FILE  
21007-STRM.DWG

SCALE 1" = 60'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
1ST SUBMITTAL

SHEET TITLE  
STORM SEWER  
PROFILE

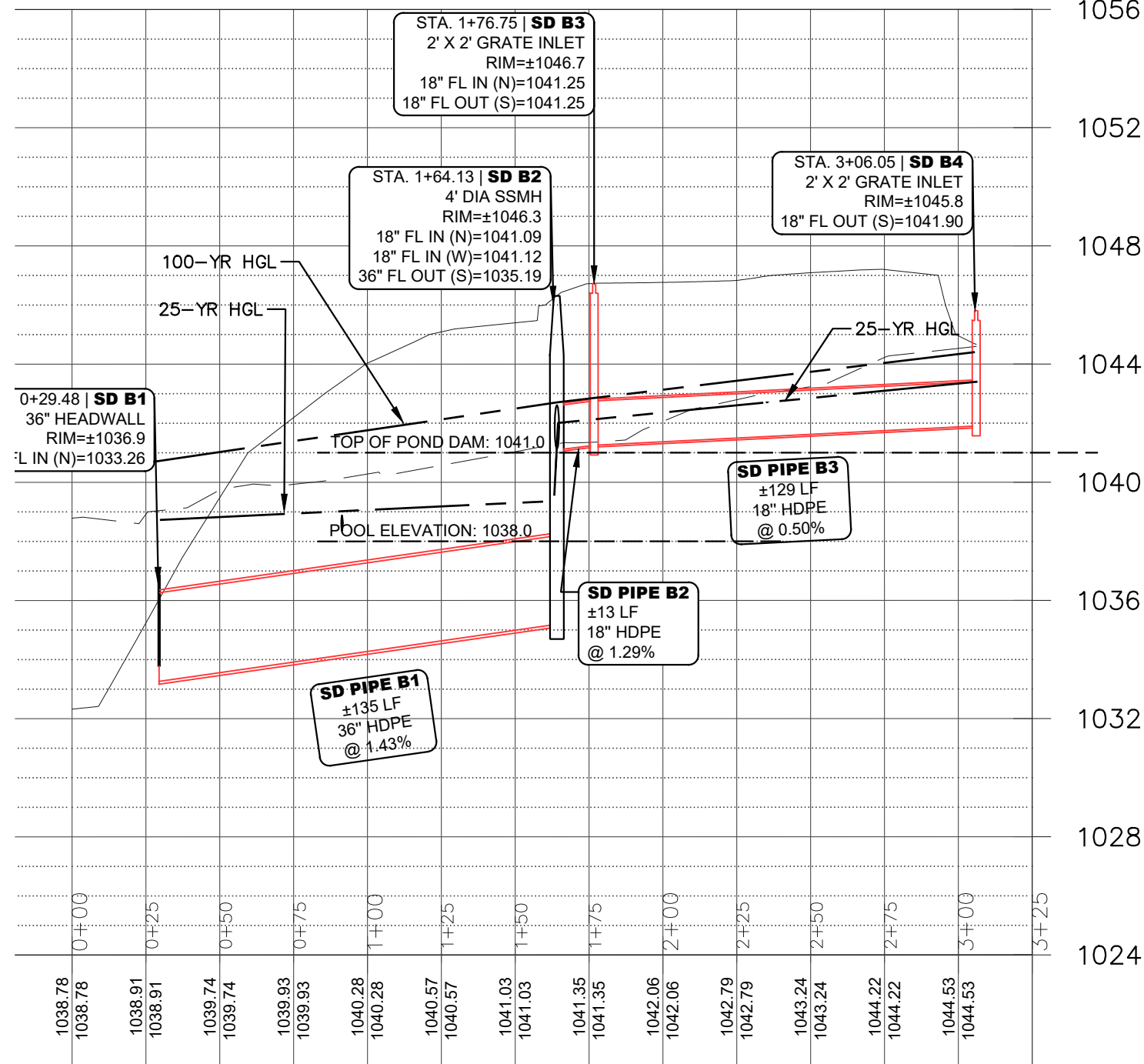
SHEET NUMBER

18 of 42

TBD

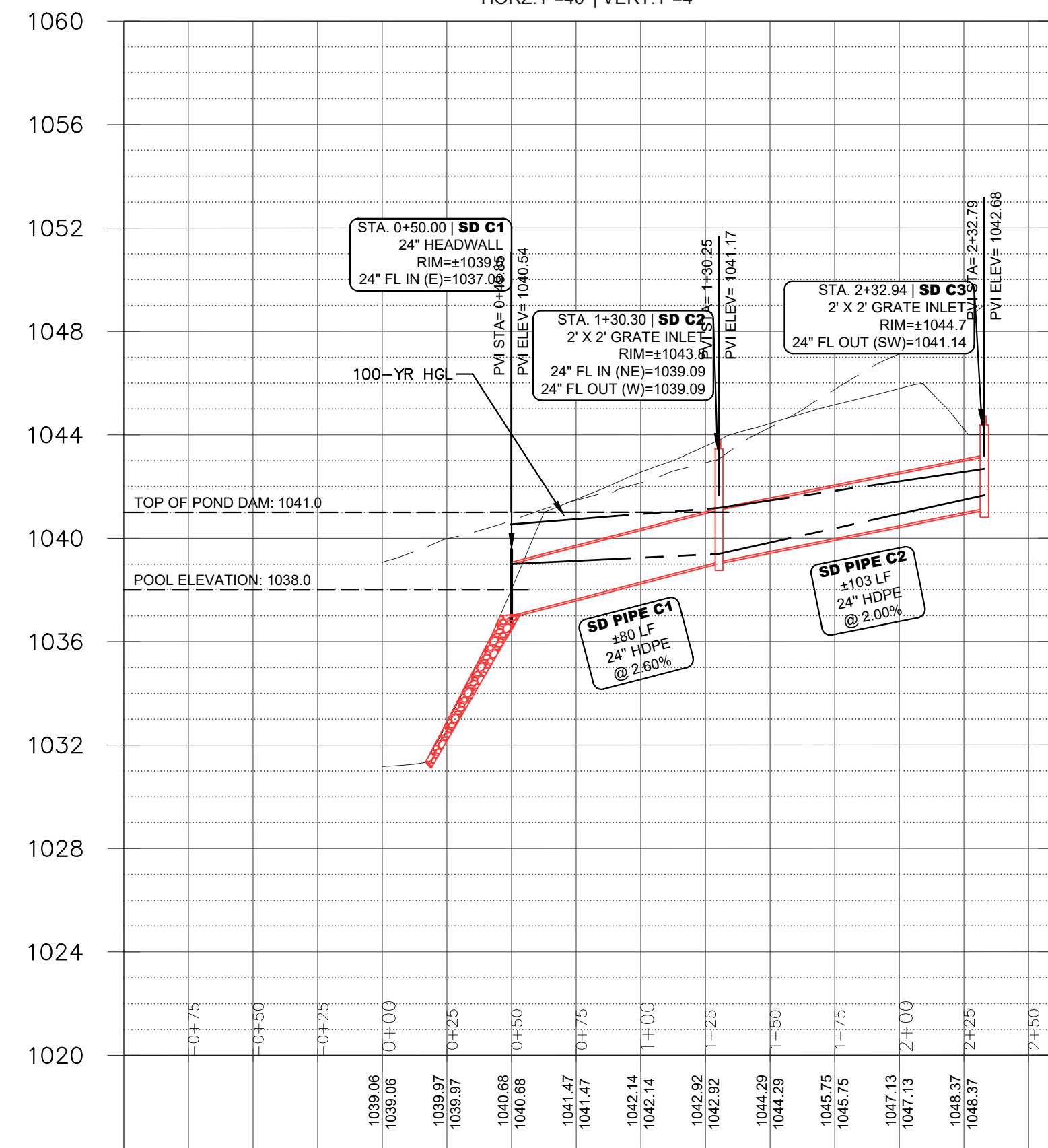
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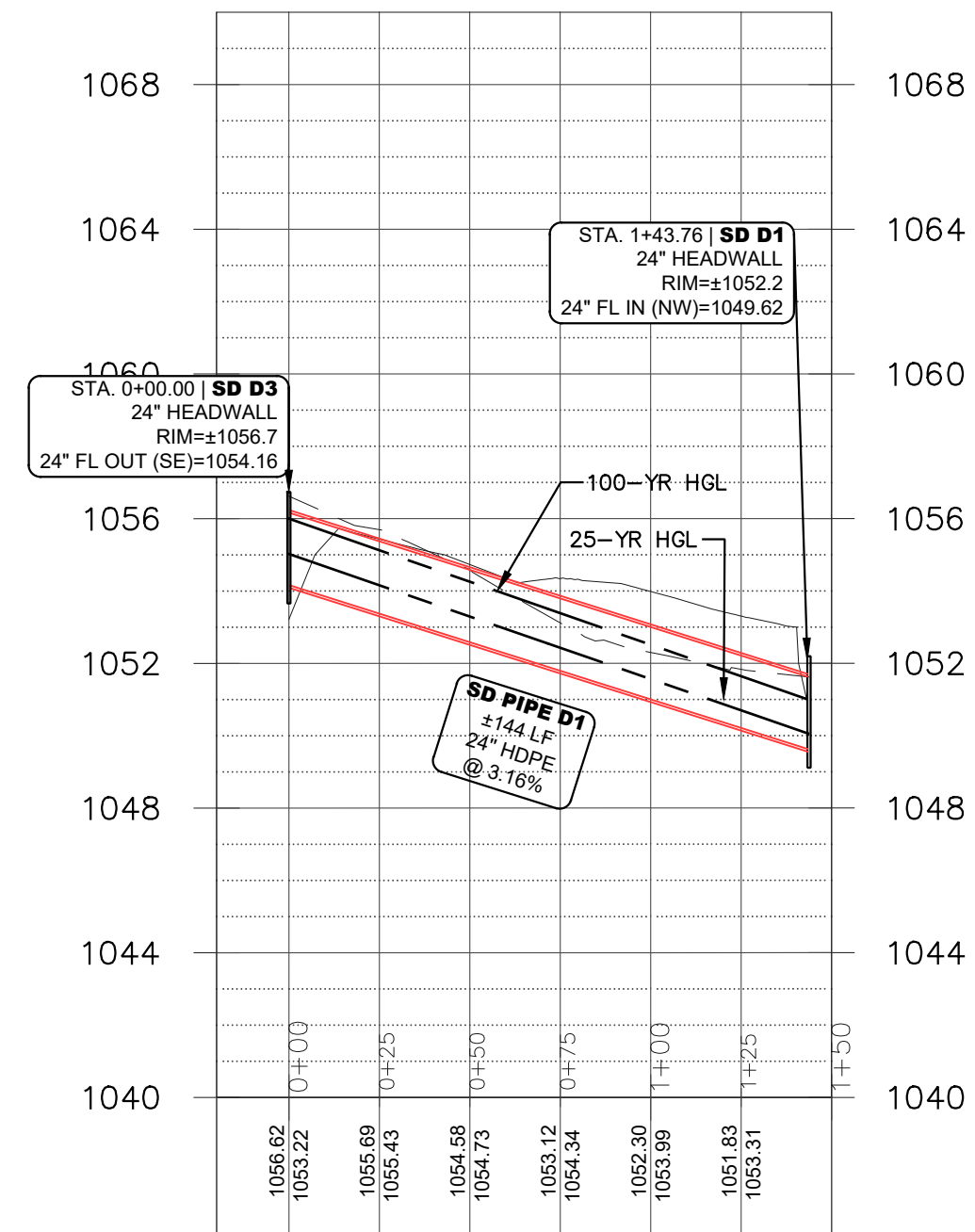
SD C

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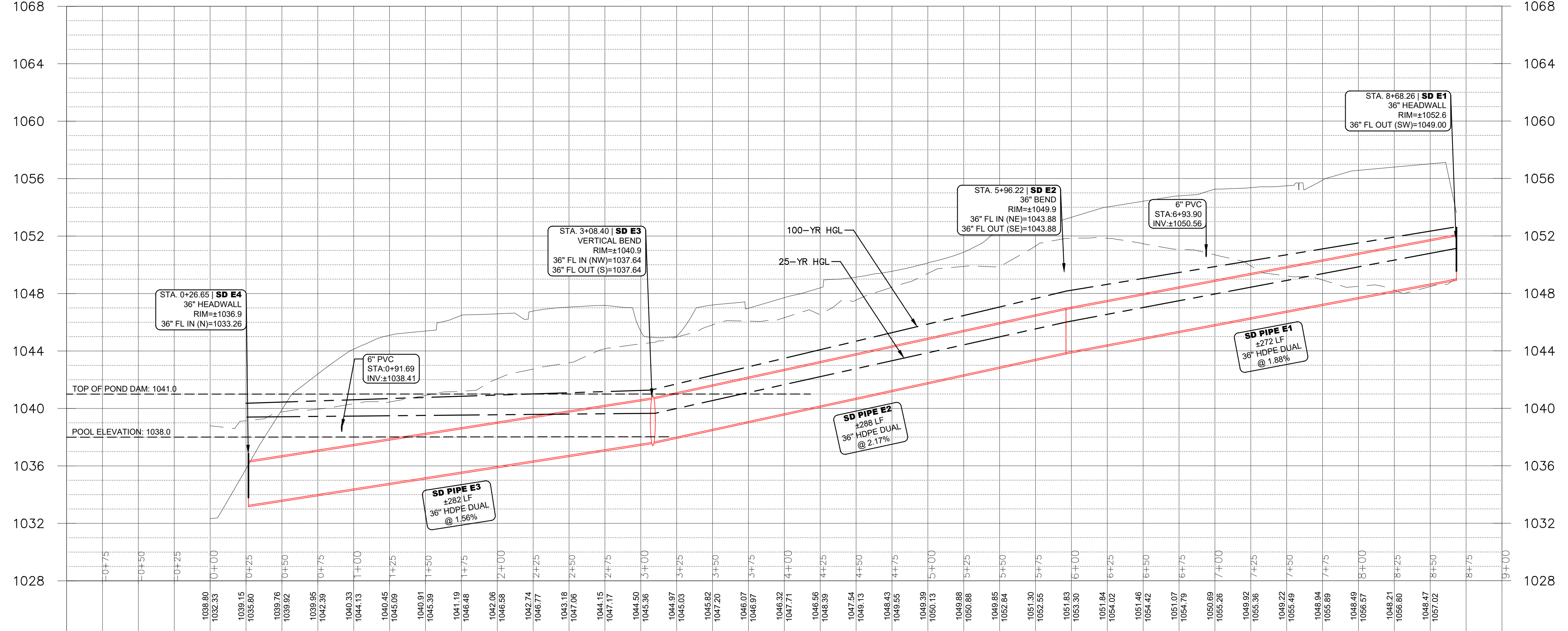
SS D

START:0+20 | END:1+50  
HORZ:1"=40' | VERT:1"=4'



SDE

START:-1+00 | END:9+00  
HORZ:1"=40' | VERT:1"=4'





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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
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C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV
PARK

2224 RR 1869
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD
MAPSCO # TBD

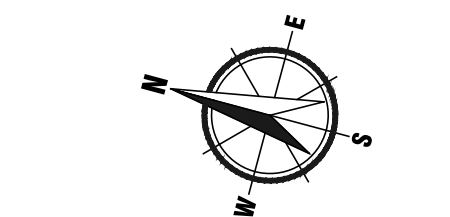
PROJECT NUMBER

21007

DRAWING FILE

21007-UTIL.DWG

SCALE 1" = 60'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS

1ST SUBMITTAL

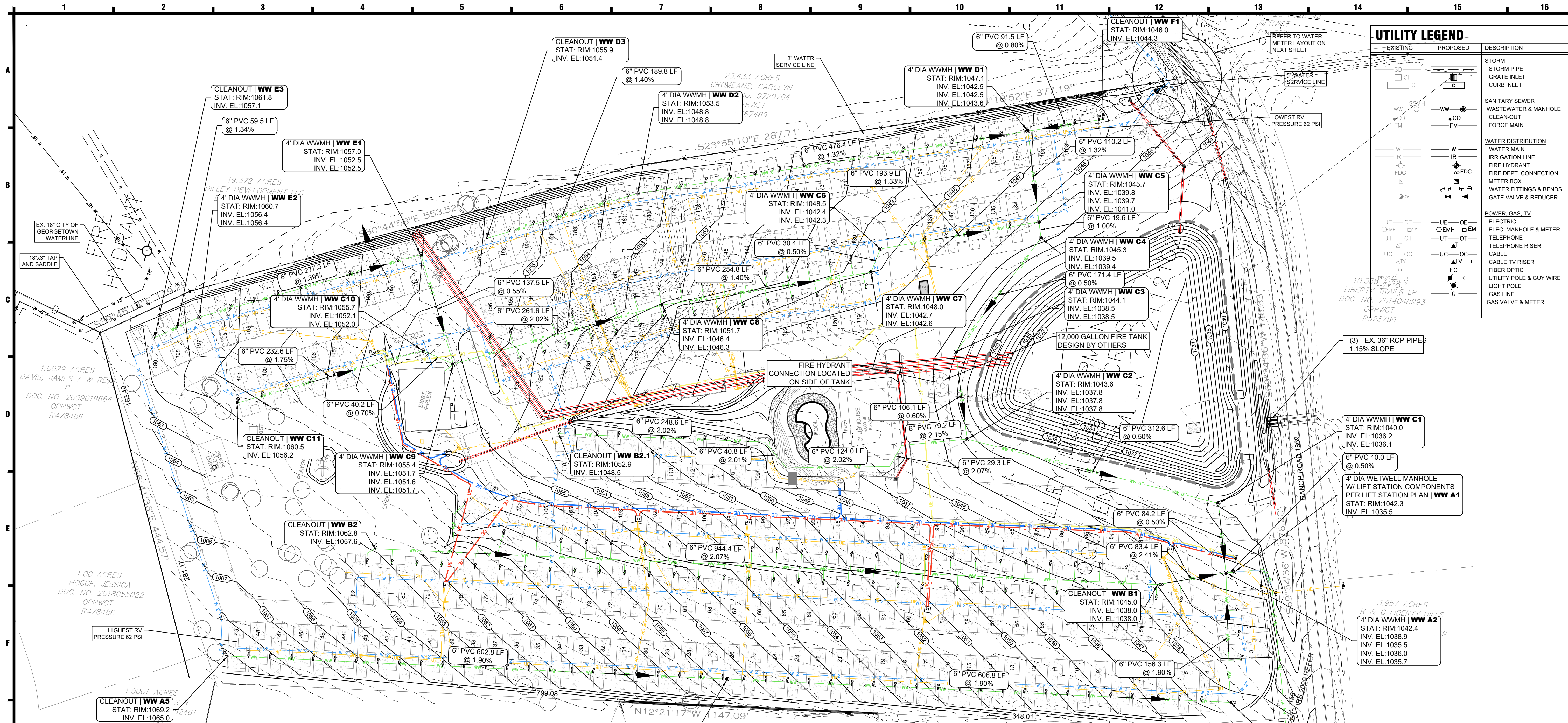
SHEET TITLE

PRIVATE UTILITY
DISTRIBUTION PLAN

SHEET NUMBER

19 of 42

TBD



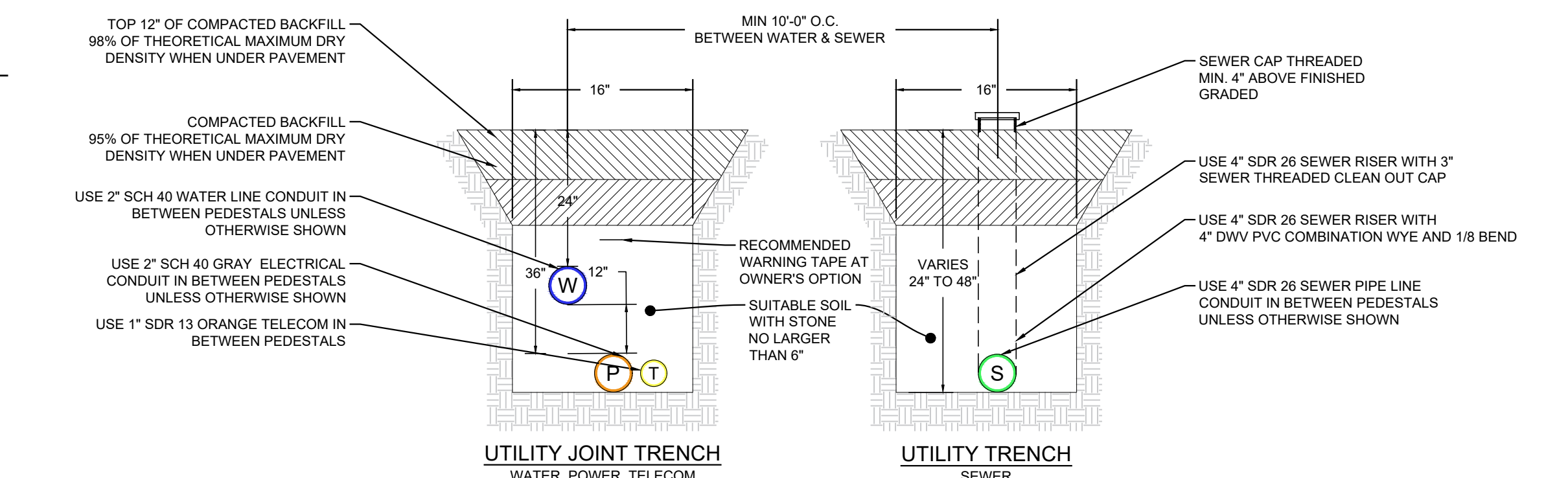
UTILITY LEGEND table with columns for EXISTING, PROPOSED, and DESCRIPTION. Includes symbols for storm pipes, sanitary sewers, water distribution, and power/gas lines.

WASTEWATER SYSTEM NOTES

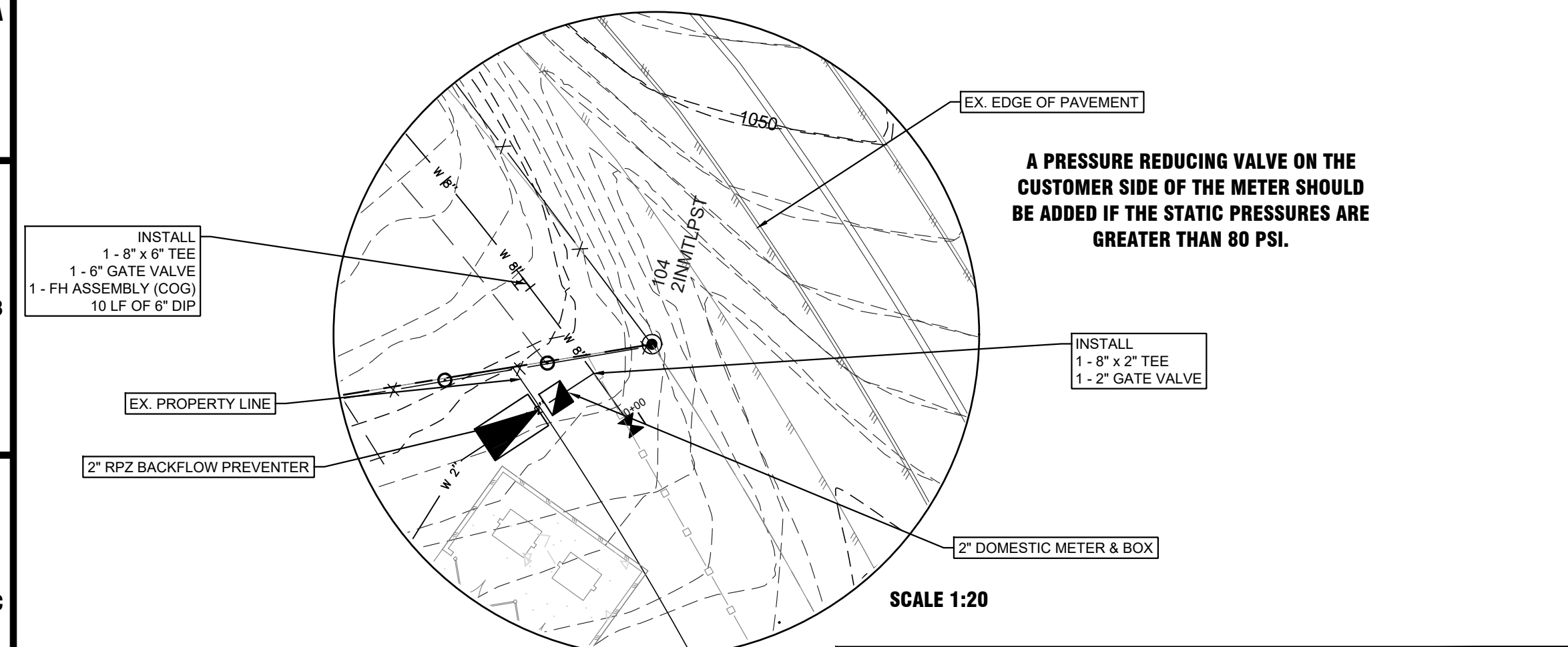
- 1. CONTRACTOR SHALL REFER TO THE GENERAL NOTES PAGE AND CITY OF LIBERTY HILL WASTEWATER NOTES, DETAILS, & SPECIFICATIONS FOR MORE INFORMATION.
2. CONTRACTOR TO FIELD VERIFY FLOW LINE OF THE EXISTING WASTEWATER MAIN AND CONTACT ENGINEER IF IT IS NOT ACCURATE.
3. CONTRACTOR TO MAINTAIN A MINIMUM VERTICAL AND HORIZONTAL SEPARATION DISTANCES IN ACCORDANCE WITH SPECIFICATIONS.
4. THE PRIVATE WASTEWATER PIPING SLOPE SHALL BE DESIGNED IN ACCORDANCE WITH THE 2017 UNIFORM PLUMBING CODE - TABLE 717.1.

WATER SYSTEM NOTES

- 1. CONTRACTOR SHALL REFER TO GENERAL NOTES AND THE CITY OF GEORGETOWN FOR WATER DISTRIBUTION AND UTILITY NOTES, DETAILS, SPECIFICATIONS.
2. UNDERGROUND MAINS SUPPLYING NFPA 13 AUTOMATIC FIRE SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, NFPA 24 AND THE FIRE CODE BY A LICENSED SPRINKLER CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
3. CONTRACTOR TO FIELD VERIFY FLOW LINE OF THE EXISTING WASTEWATER MAIN AND CONTACT ENGINEER IF IT IS NOT ACCURATE.
4. FIRE DEPARTMENT CONNECTION SHALL BE PRIVATE ACCESS ROAD.
5. CONTRACTOR TO MAINTAIN MINIMUM 2' VERTICAL AND 5' HORIZONTAL SEPARATION DISTANCE FROM EXISTING GAS LINES.
6. THE PRIVATE WASTEWATER PIPING SHALL BE DESIGNED IN ACCORDANCE WITH THE 2015 UNIFORM PLUMBING CODE - TABLE 717.1.
7. IF PROJECT CONTAINS AN ELEVATOR, CONTRACTOR SHALL TIE IN ELEVATOR SUMP TO THE STORM DRAIN SYSTEM.
8. ALL WATERLINE PIPING 6" AND LARGER MATERIAL: PVC DR 14, C900 UNLESS OTHERWISE SPECIFIED. ALL WATERLINE IN RIGHT OF WAY SHALL BE DUCTILE IRON CL 350 PIPE. ALL WATERLINE PIPING 6" SHALL BE DUCTILE IRON CL 350 PIPE.
9. ALL DRY AND WET UTILITIES HAVE BEEN SHOWN ON THE PLANS.
10. CONNECT FIRE LINE TO BUILDING STUB-OUT. POST INDICATOR VALVE LOCATED ON OUTSIDE OF RISER ROOM (SEE MEP PLANS FOR EXACT DEPTH & LOCATION).
11. ADDITIONAL TEES & VALVES ARE NOTED BELOW. (THIS ITEMS ARE NOT SHOWN IN THE DRAWING FOR LINENWORK CLARITY PURPOSES):
11.1. ALL PRIVATE WATERLINE PIPING 1" AND LARGER INTERSECTING WITH 4" AND LARGER WATERLINE PIPING SHALL RECEIVE A CORRESPONDING TEE AND PVC GATE VALVE LOCATED OUTSIDE OF ANY IMPERVIOUS PAVEMENT. CONTRACTOR MAKE ELECT TO USE DOUBLE STRAP SADDLE TEE IN LIEU OF TEE ACCORDING TO DETAILS.
11.2. ALL PRIVATE WATERLINE 3/4" AND SMALLER INTERSECTING WITH 4" AND LARGER WATERLINE PIPING SHALL RECEIVE A CORRESPONDING SADDLE TEE AND CORPORATION STOP.
11.3. ALL PRIVATE WATERLINE 1" AND SMALLER INTERSECTING WITH 2" AND SMALLER WATERLINE PIPING SHALL RECEIVE A CORRESPONDING PVC TEE ONLY.

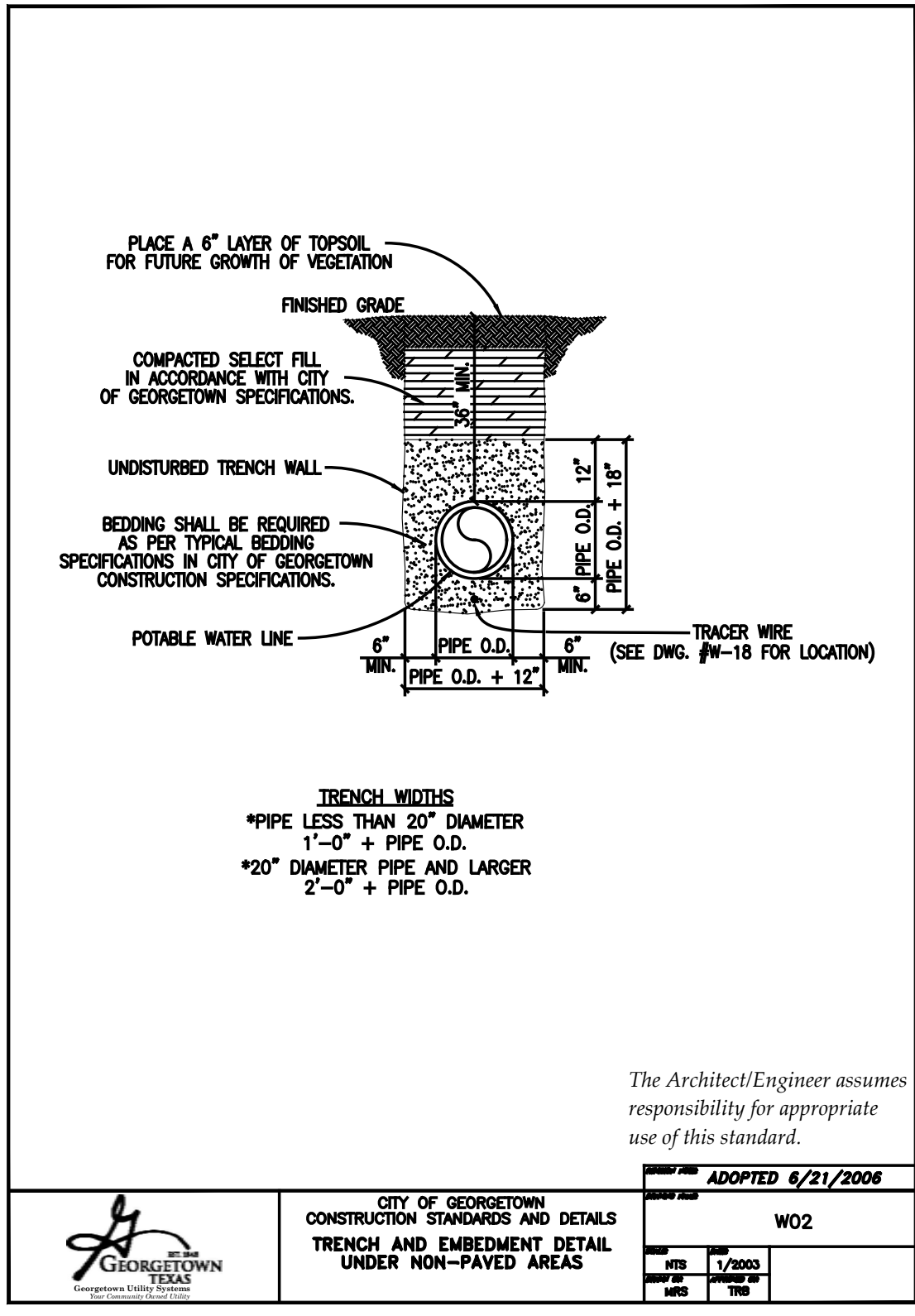
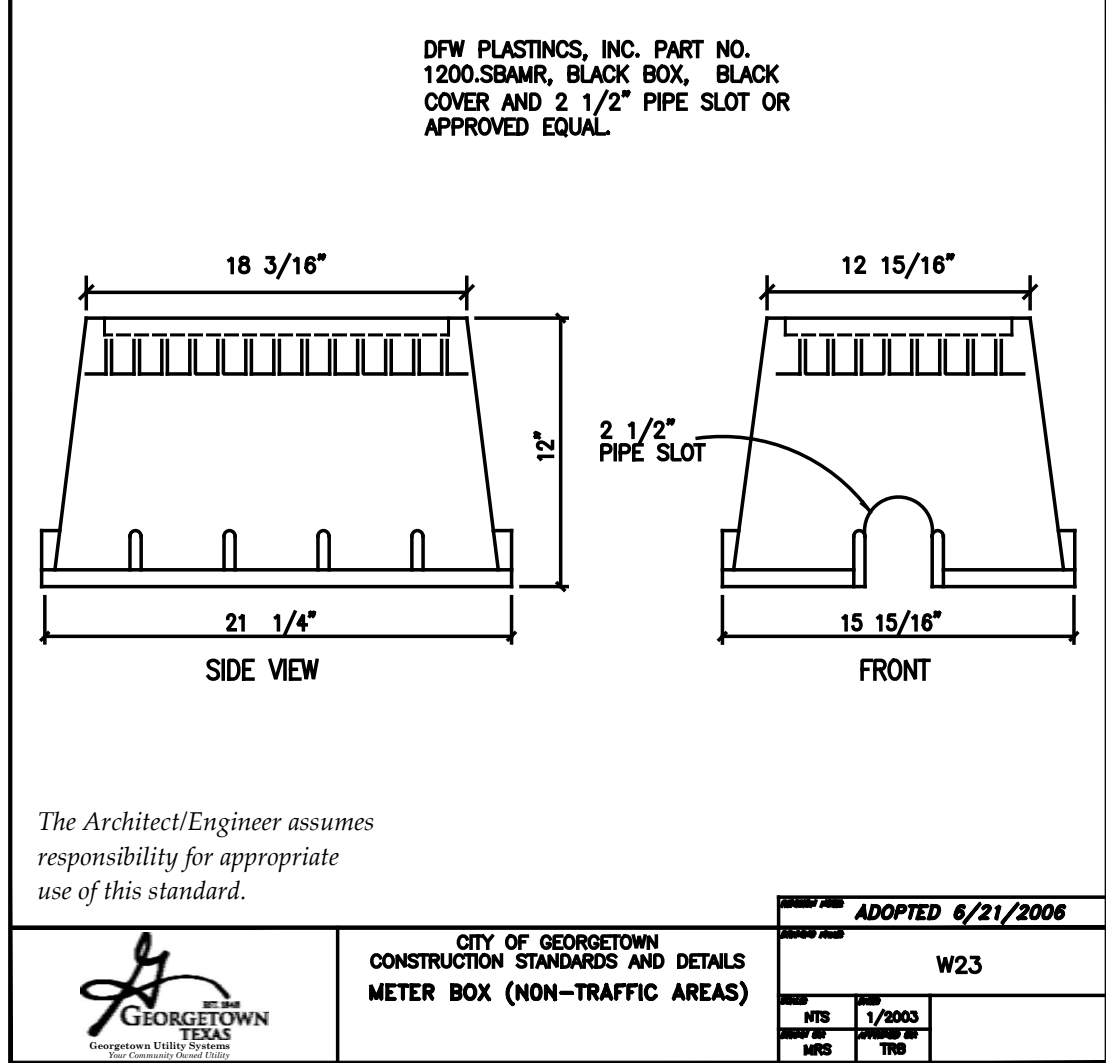
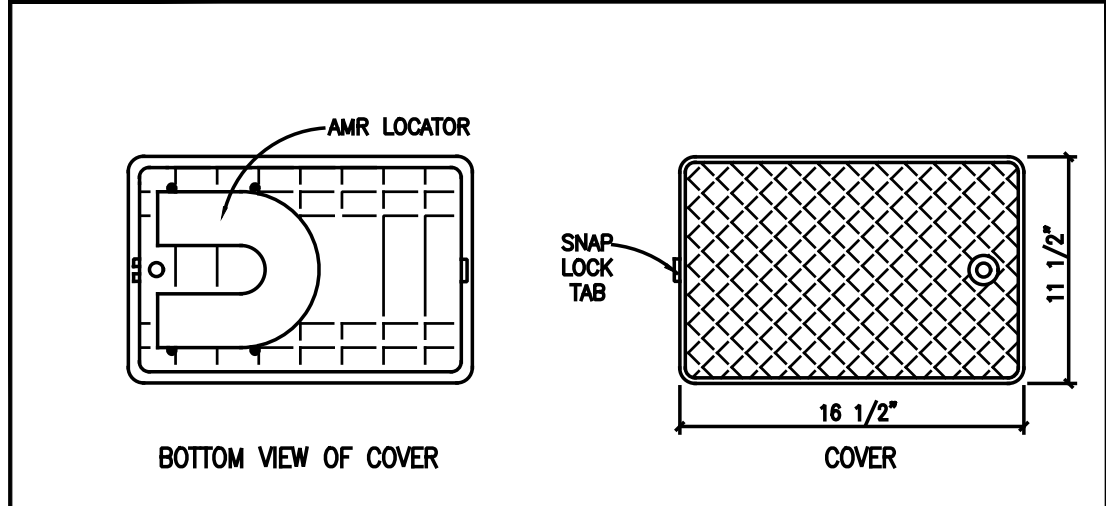


# WATER METER LAYOUT



## GEORGETOWN GENERAL NOTES

- THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENT COMPLIANCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
- THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
- THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
- WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
- WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
- MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
- WASTEWATER MAINS SHALL BE CAMERA TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
- WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
- WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
- PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
- PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
- PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 2 HOURS.
- ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
- LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
- ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
- WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
- FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TxDOT TYPE A GRADE 1.
- HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
- ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
- A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
- RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE RECORD DRAWINGS SHALL BE EMAILED TO THE CITY OF GEORGETOWN.
- A PRV ON THE CUSTOMER SIDE OF THE METER SHOULD BE ADDED IF THE STATIC PRESSURES ARE GREATER THAN 80 PSI.
- 2 INCH METER MUST BE OBTAINED AT THE CITY WHEN PERMITTING AND IMPACT FEES ARE PAID.



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**ROMAC INDUSTRIES, INC.**

**FTS420T FABRICATED STEEL TAPPING SADDLE**

**MATERIAL SPECIFICATIONS**

**BODY:** Carbon steel, A53 or equal.

**OUTLET:** NPT (IP) or AWMA (CG) Female Threads

**BOLTS AND NUTS:** Trackhead bolts, heavy hex nuts, 3/4" UNC rolled thread, high strength, low alloy, steel per AWMA C111. Optional stainless steel, type 304.

**GASKETS:** SBR per ASTM D 2000 MBA 710, compounded for water and sewer service use. Other compounds available on request.

**COATING:** Romac shopcoat for corrosion protection in transit. Optional fusion epoxy 8-12 mil. lined and coated. Other coatings available. Romac packages sleeves to protect any special coatings.

**(Contact Factory for IPS size PVC pipe)**

**USE**

The FTS420T Fabricated Tapping Saddle is used to make a branch outlet from a main supply line on most types of pipe except reinforced concrete cylinder pipe.

Romac's unique sealing gasket is reinforced with a stainless steel ring, molded into the gasket in our own rubber facility. This eliminates the need for a groove in the sleeve, making the gasket "full strength".

MAIN PIPE SIZE	OUTLET SIZE	A	B	BOLTS
6" - 32"	1/2" - 2 1/2"	8"	1.7	4-1/2" x 9-9"
6" - 20"	3"	8"	2.0	4-1/2" x 9-9"
24" - 32"	3"	12"	2.0	6-1/2" x 9-9"
6" - 32"	4"	12"	2.2	6-1/2" x 9-9"

**\*Bolts are 8" long up through 12".**

**Overall Dimension**  
Pipe OD plus 6.00"

**NO CANCER, NO RETURN ITEM.**

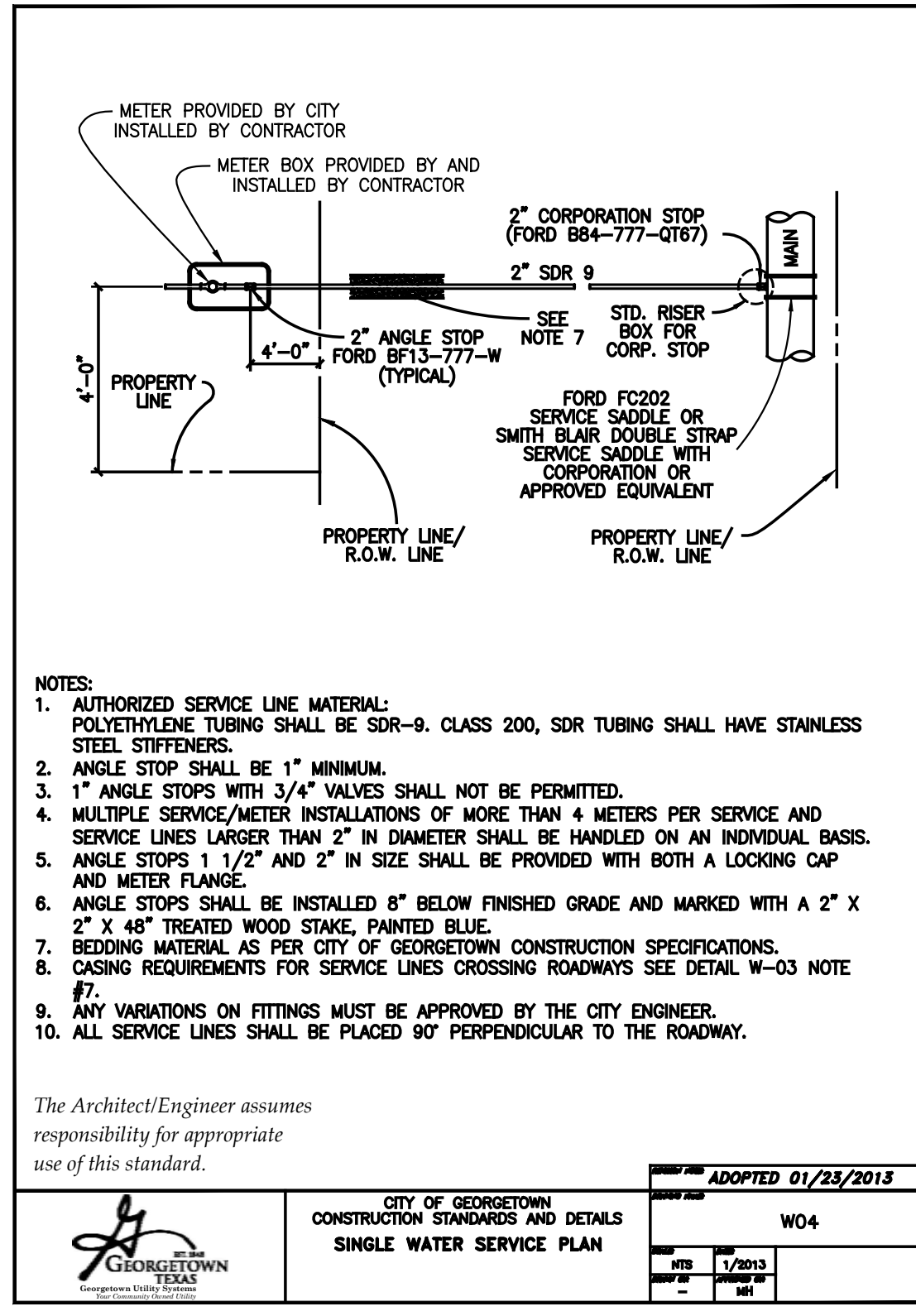
**TO ORDER:** Specify catalog number by the desired O.D. range and outlet size. Add S.S. for optional 304 stainless steel bolts & nuts, and F.E. for optional 8 to 12 mils of fusion bonded epoxy.

**EXAMPLE:** FTS420T-12.87 x 2 1/2" IP - S5PE

**5-12**

**ADOPTED 6/21/2006**

**CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SINGLE WATER SERVICE PLAN W04**



**www.romac.com • 1-800-426-9341**

**ROMAC INDUSTRIES, INC.**

**FTS420T FABRICATED STEEL TAPPING SADDLE**

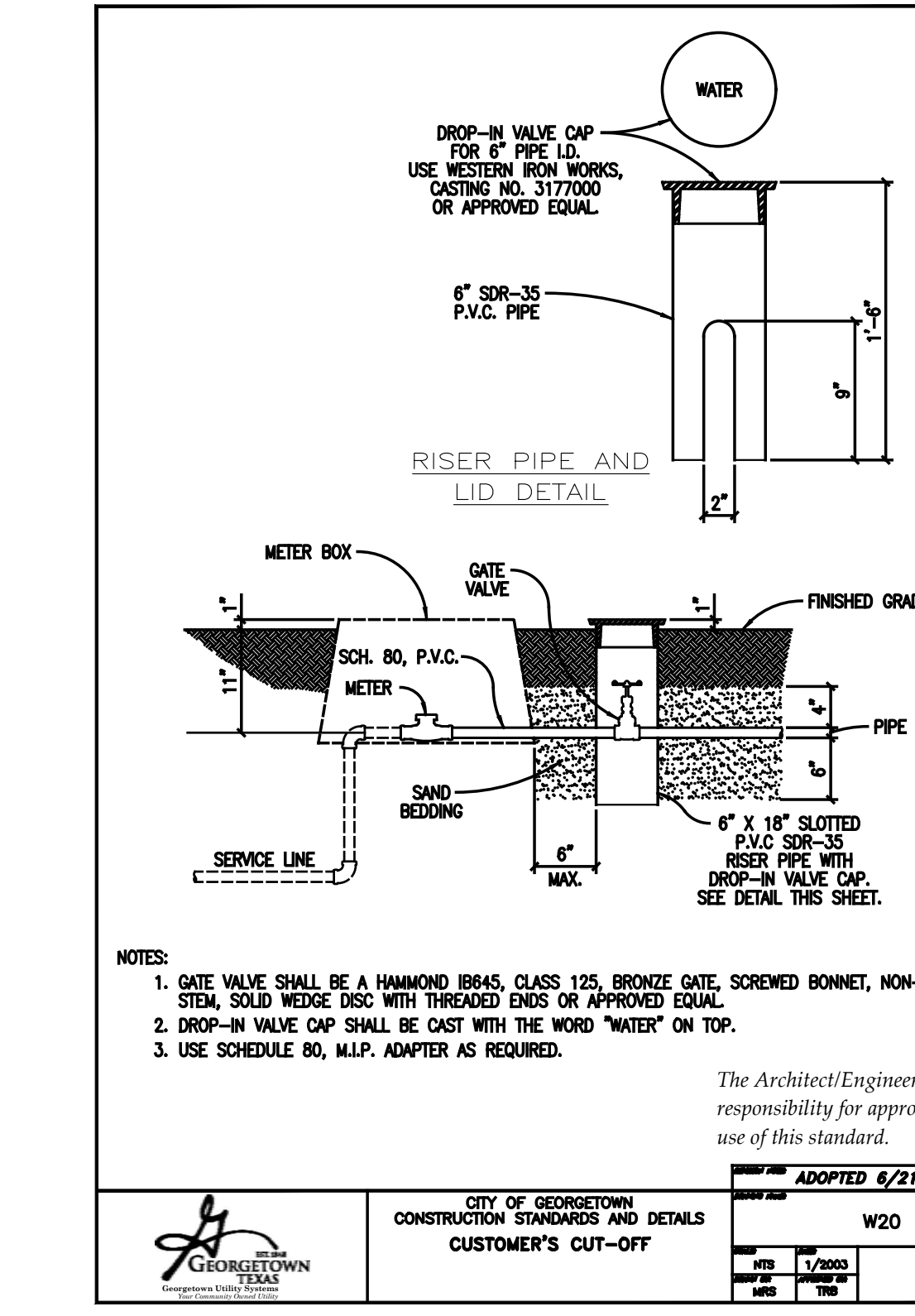
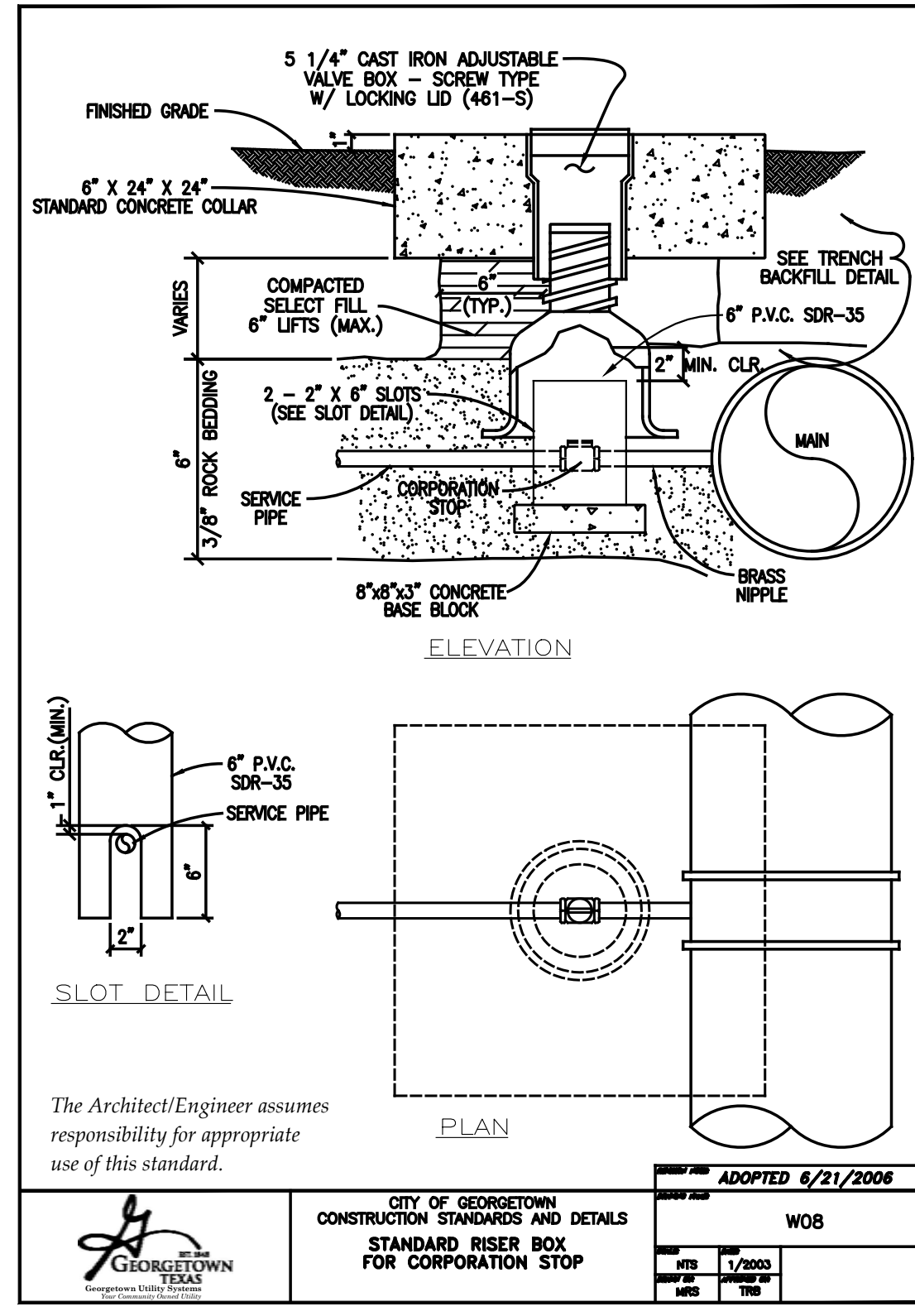
NOM. PIPE SIZE	SLEEVE O.D. RANGE	SLEEVE #	BY	OUTLET SIZE	LIST PRICE EACH				APPROX. WEIGHT (lbs.)
					SHOP-CUT	FUSION EPOXY	W/STIFFENERS	W/STIFFENERS	
6"	6.83 - 7.16	FTS420T-7.16	X	1/2"	436.77	526.36	526.36	606.96	292
	7.05 - 7.40	FTS420T-7.40		3/4"	542.29	632.79	632.79	713.28	325
	7.40 - 7.73	FTS420T-7.73		4"	617.90	743.10	743.10	823.53	350
8"	8.24 - 8.56	FTS420T-8.24	X	1/2"	463.29	553.29	553.29	633.73	304
	8.36 - 8.75	FTS420T-8.75		3/4"	557.23	647.23	647.23	727.66	339
	8.66 - 9.27	FTS420T-9.27		4"	633.90	764.10	764.10	844.53	364
10"	10.84 - 10.96	FTS420T-10.84		1/2"	584.70	674.70	674.70	755.13	399
	10.87 - 11.02	FTS420T-11.02	X	3/4"	688.20	778.20	778.20	858.63	434
	11.36 - 11.80	FTS420T-11.80		4"	750.03	840.03	840.03	920.46	469
12"	12.25 - 12.61	FTS420T-12.61	X	1/2"	607.30	697.30	697.30	777.73	444
	12.62 - 12.88	FTS420T-12.88		3/4"	709.29	799.29	799.29	879.72	479
	13.22 - 14.00	FTS420T-14.00		4"	768.20	858.20	858.20	938.63	514
14"	14.59 - 15.08	FTS420T-15.08	X	1/2"	628.53	718.53	718.53	798.96	479
	15.25 - 15.80	FTS420T-15.80		3/4"	732.00	822.00	822.00	902.43	514
	16.73 - 18.22	FTS420T-18.22		4"	788.13	878.13	878.13	958.56	549
16"	16.74 - 17.26	FTS420T-17.26	X	1/2"	650.48	740.48	740.48	820.91	504
	17.33 - 17.87	FTS420T-17.87		3/4"	754.44	844.44	844.44	924.87	539
	18.88 - 19.43	FTS420T-19.43		4"	810.32	900.32	900.32	980.75	574
18"	18.87 - 19.45	FTS420T-19.45	X	1/2"	672.53	762.53	762.53	842.96	529
	20.00 - 20.60	FTS420T-20.60		3/4"	776.53	866.53	866.53	946.96	564
	20.92 - 21.57	FTS420T-21.57		4"	832.44	922.44	922.44	1002.87	600
20"	21.51 - 22.19	FTS420T-22.19	X	1/2"	713.03	803.03	803.03	883.46	574
	22.78 - 23.45	FTS420T-23.45		3/4"	817.03	907.03	907.03	987.46	609
	24.15 - 24.85	FTS420T-24.85		4"	873.00	963.00	963.00	1043.43	644
24"	24.82 - 25.52	FTS420T-25.52	X	1/2"	742.61	832.61	832.61	913.04	619
	26.55 - 27.25	FTS420T-27.25		3/4"	846.61	936.61	936.61	1017.04	654
	27.76 - 28.18	FTS420T-28.18		4"	902.54	992.54	992.54	1076.57	689
30"	29.78 - 30.48	FTS420T-30.48	X	1/2"	807.42	897.42	897.42	977.85	644
	30.48 - 31.08	FTS420T-31.08		3/4"	911.42	1001.42	1001.42	1081.85	679
	31.52 - 32.22	FTS420T-32.22		4"	967.35	1057.35	1057.35	1137.78	714

**Other sizes, ranges and outlets available. Price on application.**

**NO CANCER, NO RETURN ITEM.**

**ADOPTED 6/21/2006**

**CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS CUSTOMER'S CUT-OFF W20**



**UTILITY LEGEND**

EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM
GI	GI	STORM PIPE
CI	CI	GRATE INLET
		CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
		WATER DISTRIBUTION
W	W	WATER MAIN
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
oFDC	oFDC	FIRE DEPT. CONNECTION
MB	MB	METER BOX
		WATER FITTINGS & BENDS
		GATE VALVE & REDUCER
		POWER, GAS, TV
UE-CE	UE-CE	ELECTRIC
OEMH-CEM	OEMH-CEM	ELEC. MANHOLE & METER
UT-OT	UT-OT	TELEPHONE
		TELEPHONE RISER
UC-OC	UC-OC	CABLE
		CABLE TV RISER
FO	FO	FIBER OPTIC
PP/AP	PP/AP	UTILITY POLE & GUY WIRE
		LIGHT POLE
G	G	GAS LINE
		GAS VALVE & METER



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CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**

C1 - LOOP WATERLINE SYSTEM  
C2 - CHANGE PAD SIZES  
C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV PARK**

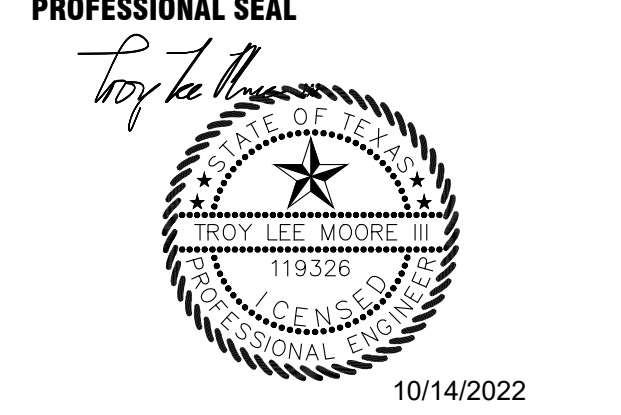
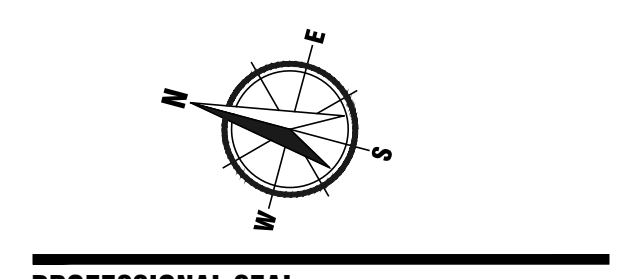
2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
21007-UTIL.DWG

**SCALE 1" = 20'**



**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**WATER METER LAYOUT AND DETAILS**

**SHEET NUMBER**  
**20 of 42**

TBD



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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD

MAPSCO # TBD

**PROJECT NUMBER**

**21007**

**DRAWING FILE**

21007-UTIL.DWG

**SCALE 1" = 50'**



**PROFESSIONAL SEAL**



**PROJECT STATUS**

1ST SUBMITTAL

**SHEET TITLE**

**PRIVATE SANITARY SEWER PROFILE**

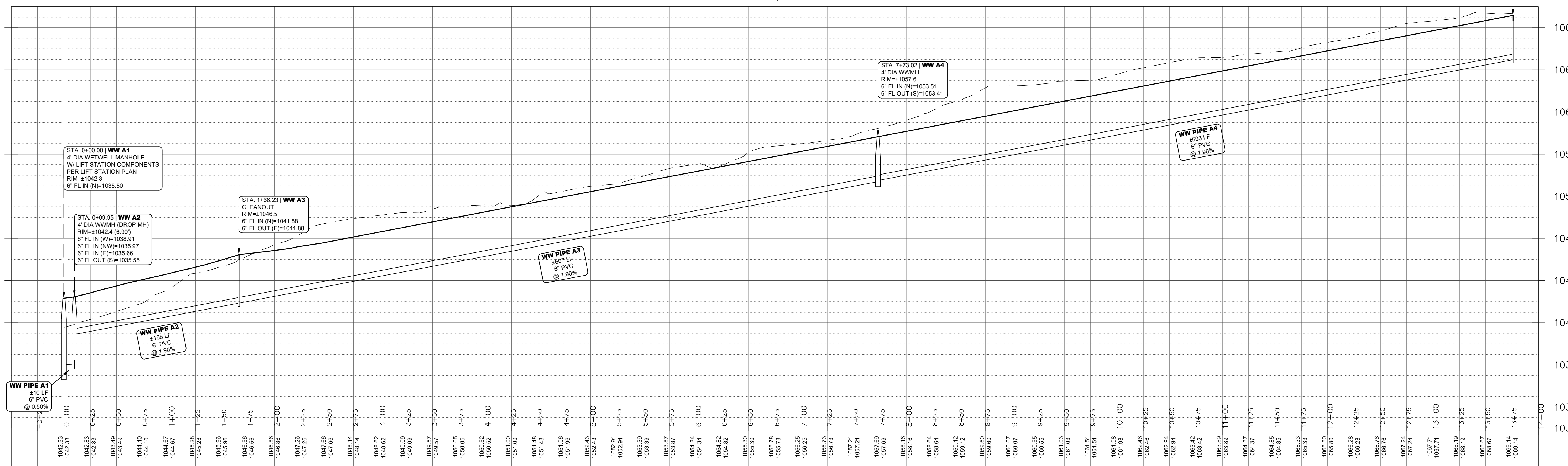
**SHEET NUMBER**

**23 of 42**

TBD

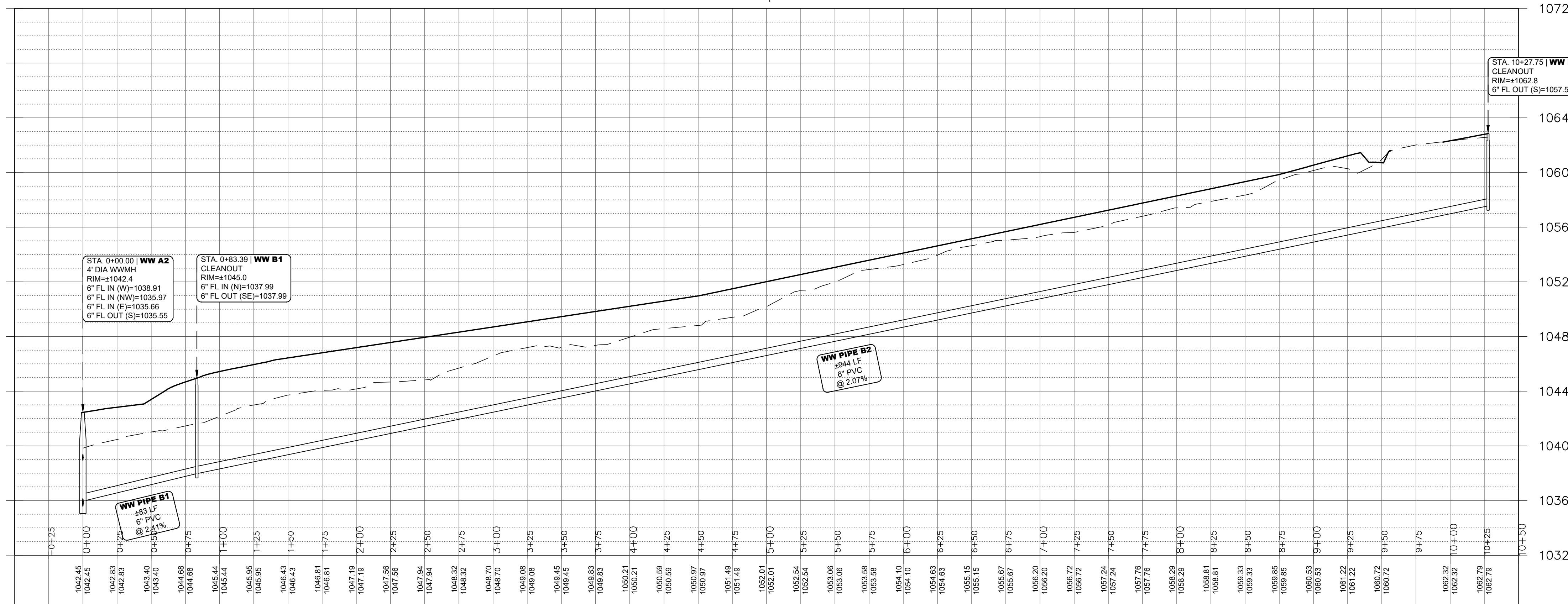
**WW A**

START: 0+50 | END: 14+00  
 HORZ: 1"=40' | VERT: 1"=4'



**WW B**

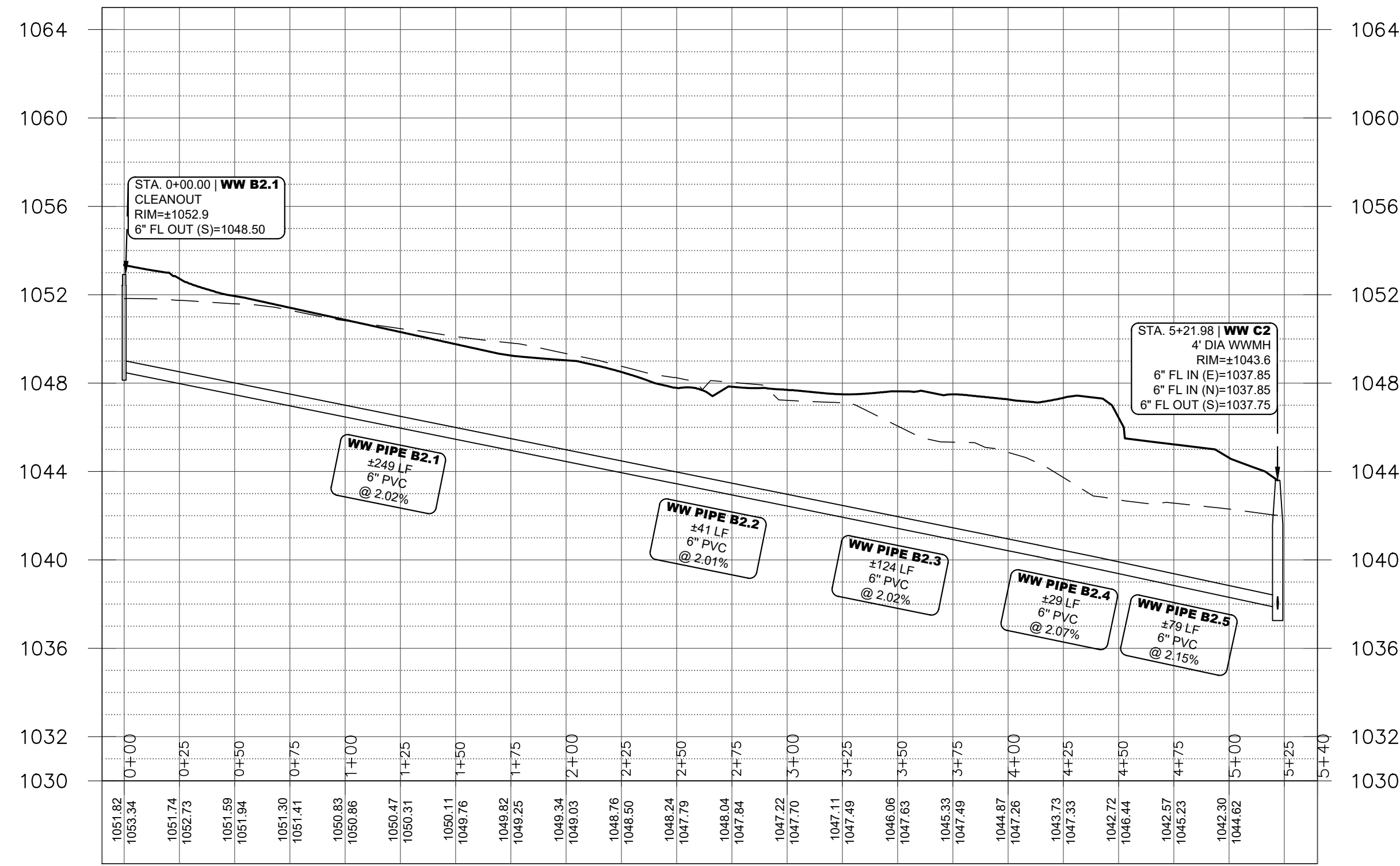
START: 0+50 | END: 10+50  
 HORZ: 1"=40' | VERT: 1"=4'



GENERAL PROFILE LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		PROFILE GRADE LINE
		HYDRAULIC GRADE LINE
		PIPE
		MANHOLE / STRUCTURE
PROFILE DATA BAND		
EXISTING GROUND ELEVATION	1141.0	PROPOSED GROUND ELEVATION

# WW B.2

START: 0+10 | END: 5+40  
 HORZ: 1"=40' | VERT: 1"=4'



## GENERAL PROFILE LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROFILE GRADE LINE
		HYDRAULIC GRADE LINE
		PIPE
		MANHOLE / STRUCTURE

PROFILE DATA BAND	
EXISTING GROUND ELEVATION	PROPOSED GROUND ELEVATION

DESIGN PROFESSIONAL



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### ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

### PROJECT NAME

**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

### PROJECT NUMBER

**21007**

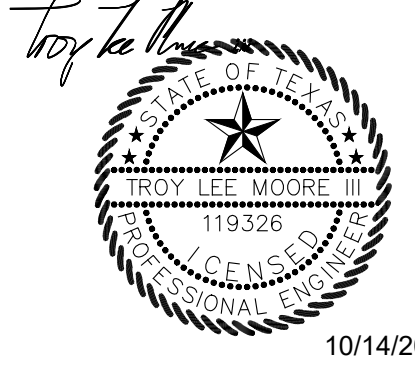
### DRAWING FILE

21007-UTIL.DWG

SCALE 1" = 50'



### PROFESSIONAL SEAL



### PROJECT STATUS

**1ST SUBMITTAL**

### SHEET TITLE

**PRIVATE SANITARY SEWER PROFILE**

### SHEET NUMBER

**24** of 42

TBD



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ISSUE/REVISION RECORD  
C1 - LOOP WATERLINE SYSTEM  
C2 - CHANGE PAD SIZES  
C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

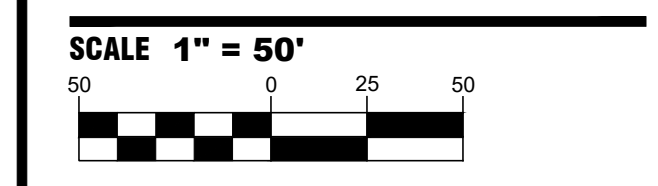
LIBERTY HILL RV PARK

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

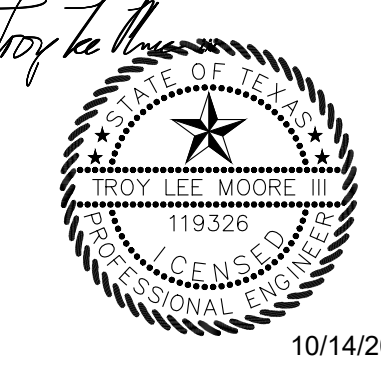
MAP GRID # TBD  
MAPSCO # TBD

PROJECT NUMBER  
21007

DRAWING FILE  
21007-UTIL.DWG



PROFESSIONAL SEAL



PROJECT STATUS  
1ST SUBMITTAL

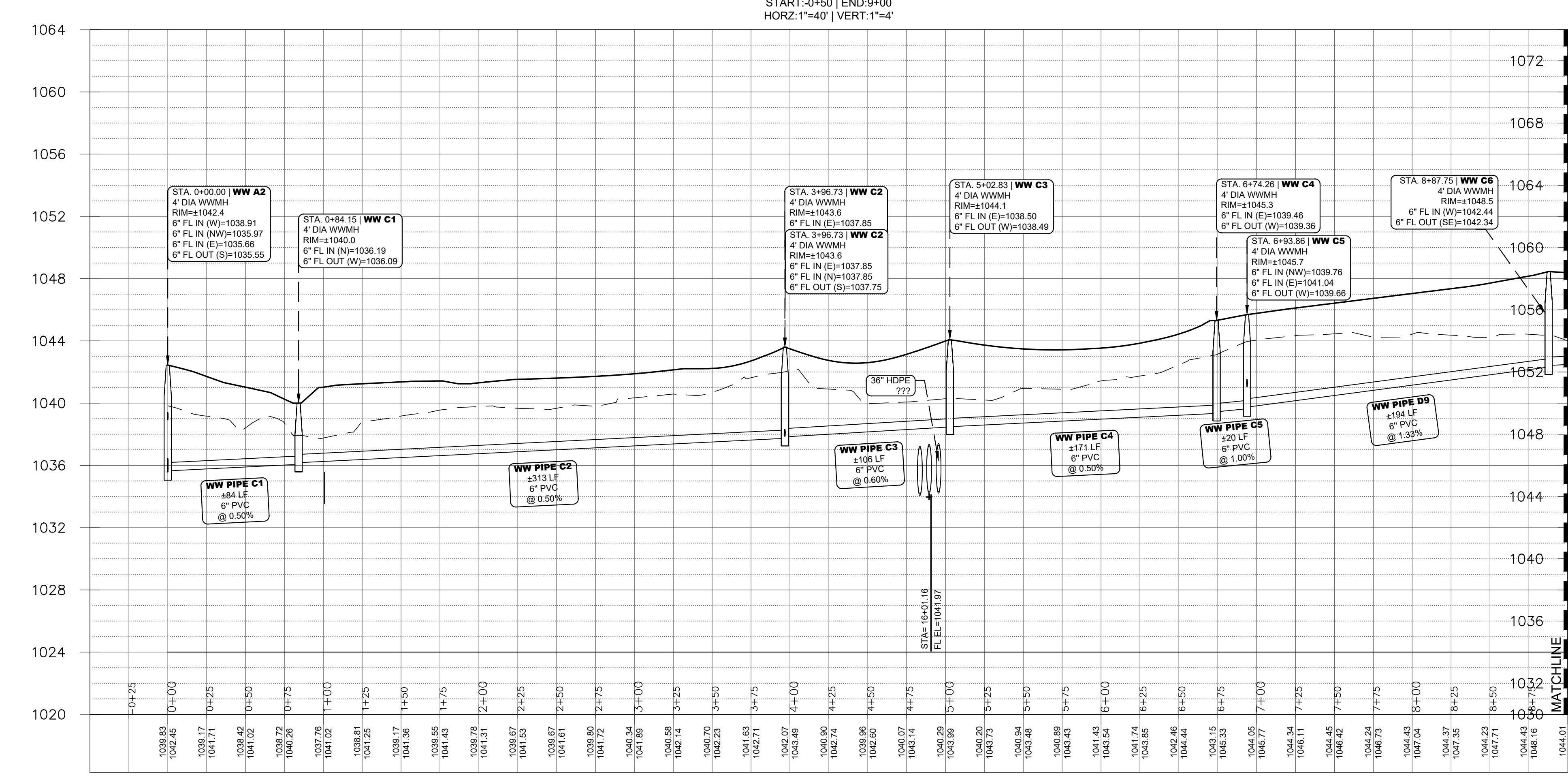
SHEET TITLE  
PRIVATE SANITARY  
SEWER PROFILE

SHEET NUMBER

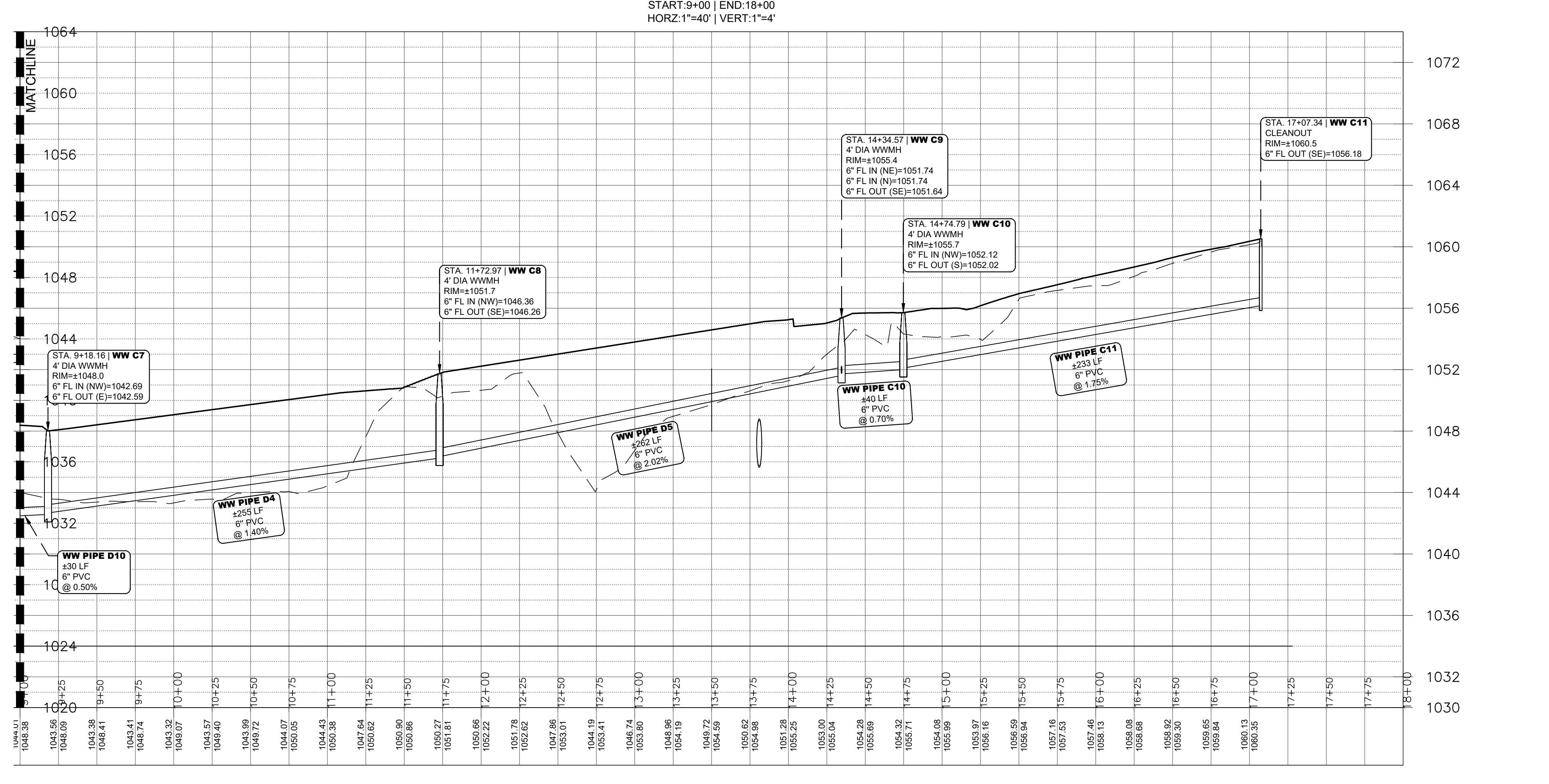
25 of 42

TBD

WW C1  
START: 0+50 | END: 9+00  
HORZ: 1"=40' | VERT: 1"=4'



WW C1  
START: 9+00 | END: 18+00  
HORZ: 1"=40' | VERT: 1"=4'





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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV  
 PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

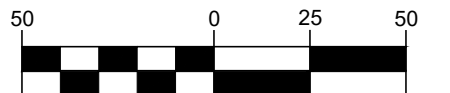
MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-UTIL.DWG

**SCALE 1" = 50'**



**PROFESSIONAL SEAL**



10/14/2022

**PROJECT STATUS**  
 1ST SUBMITTAL

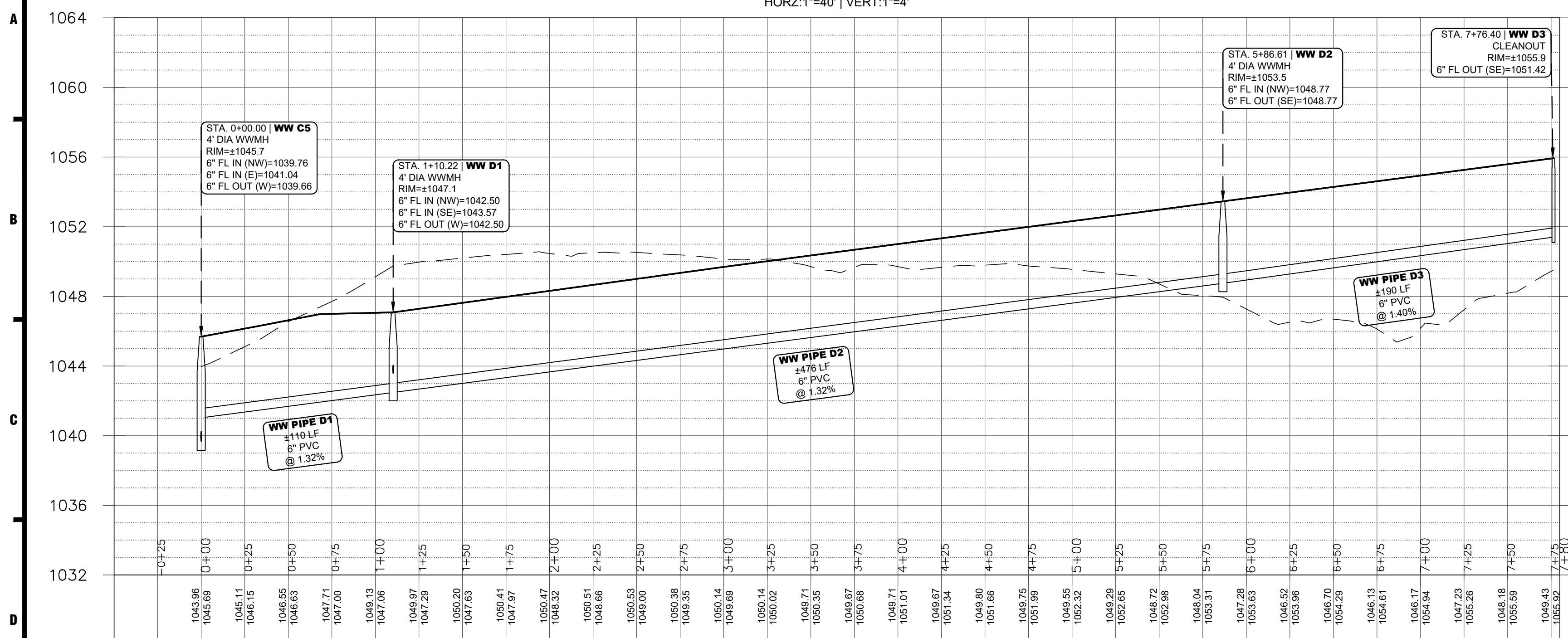
**SHEET TITLE**  
 PRIVATE SANITARY  
 SEWER PROFILE

**SHEET NUMBER**

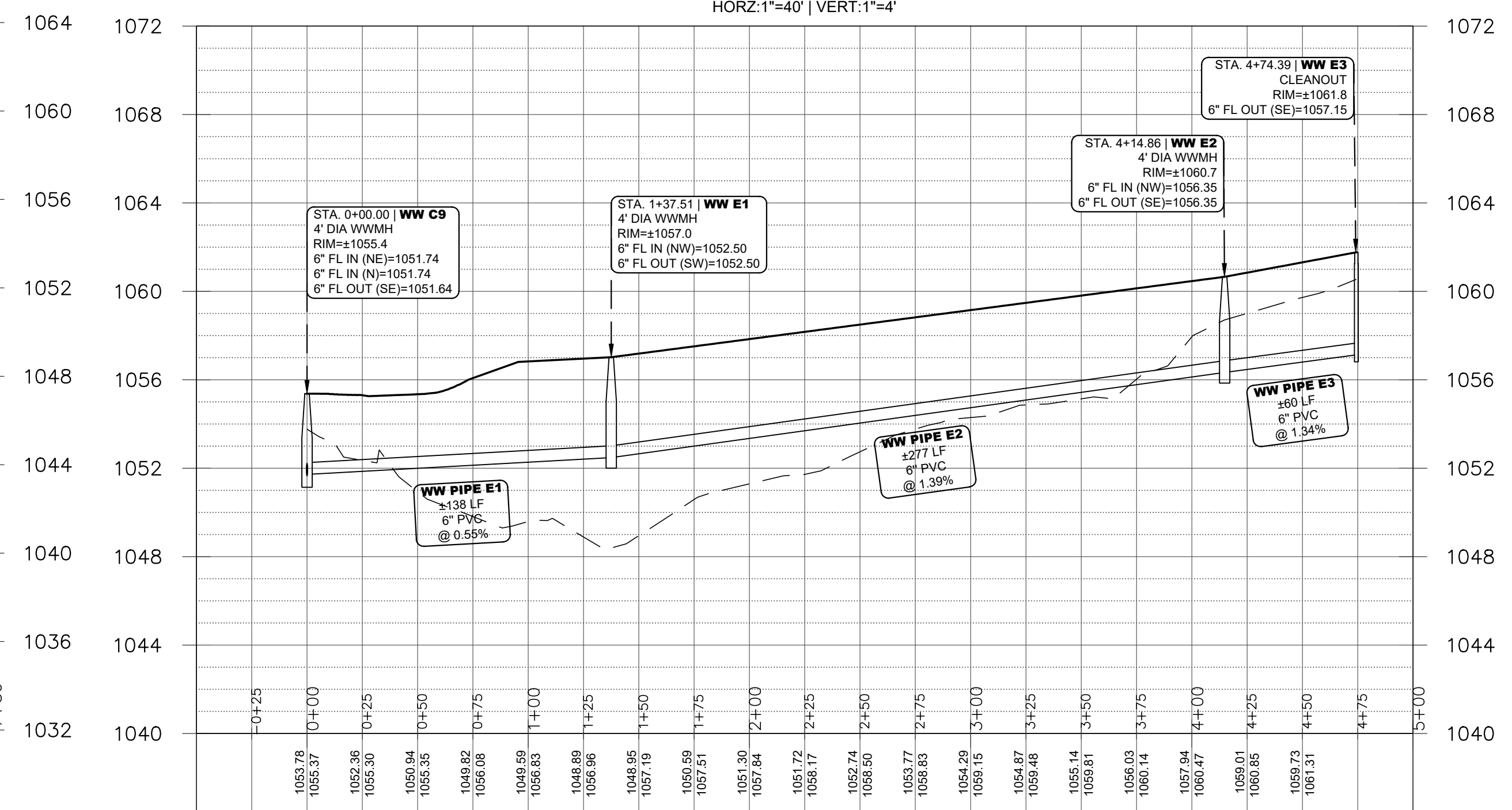
**26 of 42**

TBD

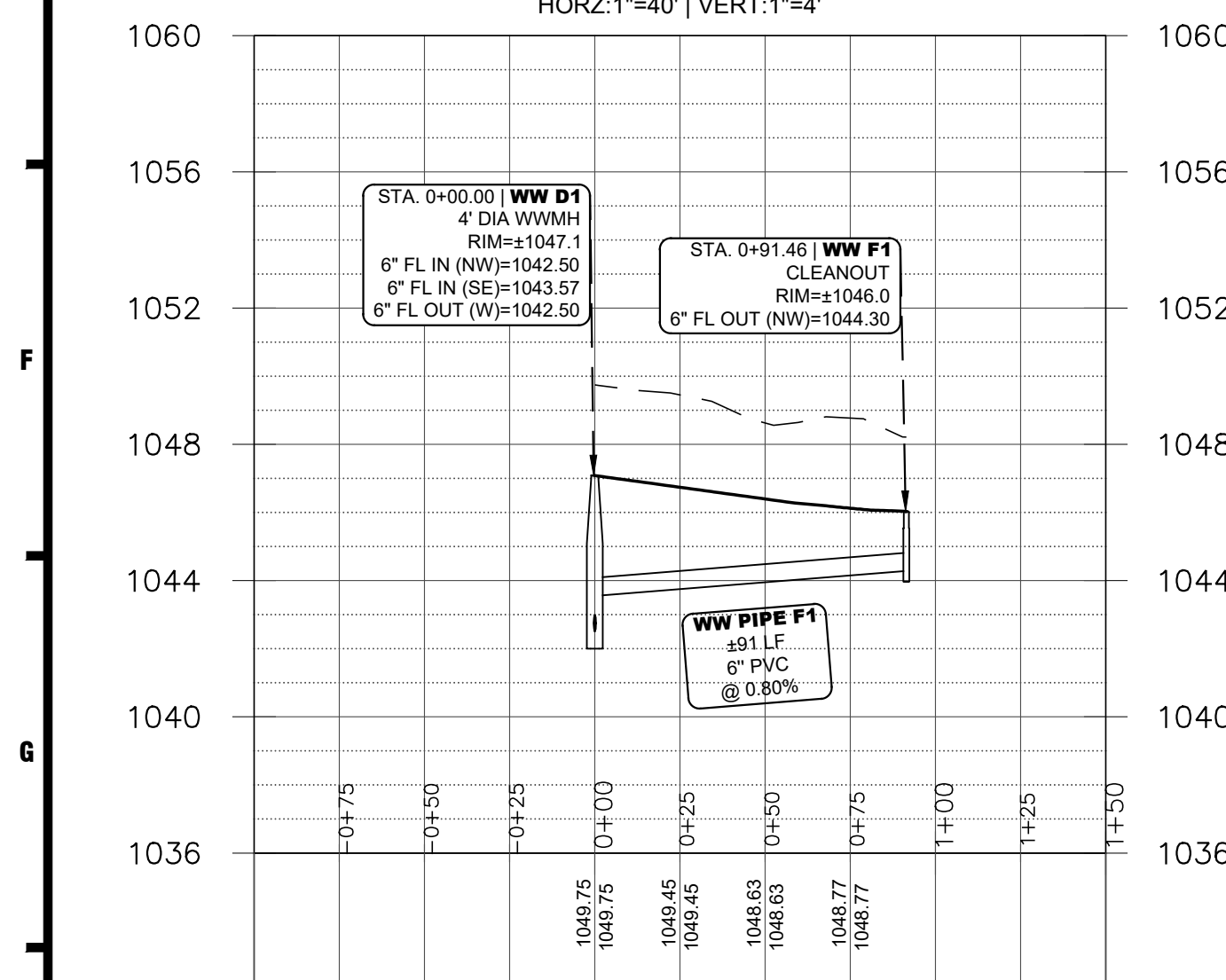
**WW D**  
 START: 0+50 | END: 7+80  
 HORZ: 1"=40' | VERT: 1"=4'



**WW E**  
 START: 0+50 | END: 5+00  
 HORZ: 1"=40' | VERT: 1"=4'



**WW F**  
 START: 1+00 | END: 1+50  
 HORZ: 1"=40' | VERT: 1"=4'



STRUCTURE DATA	
STRUCTURE NAME	STRUCTURE DETAILS
Structure - (348)	RIM=1044.03 INV IN=1043.49 (WW PIPE B2.1) INV OUT=1043.49 (WW PIPE B2.2)
Structure - (349)	RIM=1043.21 INV IN=1042.67 (WW PIPE B2.2) INV OUT=1042.67 (WW PIPE B2.3)
Structure - (350)	RIM=1040.70 INV IN=1040.16 (WW PIPE B2.3) INV OUT=1040.16 (WW PIPE B2.4)
Structure - (351)	RIM=1040.10 INV IN=1039.55 (WW PIPE B2.4) INV OUT=1039.55 (WW PIPE B2.5)
WW A1	RIM=1042.33 INV IN=1035.50 (WW PIPE A1)
WW A2	RIM=1042.45 INV IN=1038.91 (WW PIPE A2) INV IN=1035.97 (WW PIPE B1) INV IN=1035.66 (WW PIPE C1) INV OUT=1035.55 (WW PIPE A1)
WW A3	RIM=1046.46 INV IN=1041.88 (WW PIPE A3) INV OUT=1041.88 (WW PIPE A2)
WW A4	RIM=1057.65 INV IN=1053.51 (WW PIPE A4) INV OUT=1053.41 (WW PIPE A3)
WW A5	RIM=1069.16 INV OUT=1064.97 (WW PIPE A4)
WW B1	RIM=1044.96 INV IN=1037.99 (WW PIPE B2) INV OUT=1037.99 (WW PIPE B1)
WW B2	RIM=1062.85 INV OUT=1057.57 (WW PIPE B2)
WW B2.1	RIM=1052.92 INV OUT=1048.50 (WW PIPE B2.1)

STRUCTURE DATA	
STRUCTURE NAME	STRUCTURE DETAILS
WW C1	RIM=1040.00 INV IN=1036.19 (WW PIPE C2) INV OUT=1036.09 (WW PIPE C1)
WW C2	RIM=1043.60 INV IN=1037.85 (WW PIPE C3) INV IN=1037.85 (WW PIPE B2.5) INV OUT=1037.75 (WW PIPE C2)
WW C3	RIM=1044.07 INV IN=1038.50 (WW PIPE C4) INV OUT=1038.49 (WW PIPE C3)
WW C4	RIM=1045.31 INV IN=1039.46 (WW PIPE C5) INV OUT=1039.36 (WW PIPE C4)
WW C5	RIM=1045.69 INV IN=1042.45 (WW PIPE D9) INV IN=1041.04 (WW PIPE D1) INV OUT=1039.66 (WW PIPE C5)
WW C6	RIM=1048.45 INV IN=1042.44 (WW PIPE D10) INV OUT=1042.34 (WW PIPE D9)
WW C7	RIM=1048.01 INV IN=1042.69 (WW PIPE D4) INV OUT=1042.59 (WW PIPE D10)
WW C8	RIM=1051.74 INV IN=1046.36 (WW PIPE D5) INV OUT=1046.26 (WW PIPE D4)
WW C9	RIM=1055.37 INV IN=1051.74 (WW PIPE E1) INV IN=1051.74 (WW PIPE C10) INV OUT=1051.64 (WW PIPE D5)
WW C10	RIM=1055.71 INV IN=1052.12 (WW PIPE C11) INV OUT=1052.02 (WW PIPE C10)
WW C11	RIM=1060.52 INV OUT=1056.18 (WW PIPE C11)
WW D1	RIM=1047.08 INV IN=1042.50 (WW PIPE D2) INV IN=1043.57 (WW PIPE F1) INV OUT=1042.50 (WW PIPE D1)

STRUCTURE DATA	
STRUCTURE NAME	STRUCTURE DETAILS
WW D2	RIM=1053.46 INV IN=1048.77 (WW PIPE D3) INV OUT=1048.77 (WW PIPE D2)
WW D3	RIM=1055.93 INV OUT=1051.42 (WW PIPE D3)
WW E1	RIM=1057.02 INV IN=1052.50 (WW PIPE E2) INV OUT=1052.50 (WW PIPE E1)
WW E2	RIM=1060.66 INV IN=1056.35 (WW PIPE E3) INV OUT=1056.35 (WW PIPE E2)
WW E3	RIM=1061.77 INV OUT=1057.15 (WW PIPE E3)
WW F1	RIM=1046.03 INV OUT=1044.30 (WW PIPE F1)

PIPE DATA			
PIPE NAME	SIZE	LENGTH	SLOPE
WW PIPE A1	6	10	0.50%
WW PIPE A2	6	156	1.90%
WW PIPE A3	6	607	1.90%
WW PIPE A4	6	603	1.90%
WW PIPE B1	6	83	2.41%
WW PIPE B2	6	944	2.07%
WW PIPE B2.1	6	249	2.02%
WW PIPE B2.2	6	41	2.01%
WW PIPE B2.3	6	124	2.02%
WW PIPE B2.4	6	29	2.07%
WW PIPE B2.5	6	79	2.15%
WW PIPE C1	6	84	0.50%
WW PIPE C2	6	313	0.50%
WW PIPE C3	6	106	0.60%
WW PIPE C4	6	171	0.50%
WW PIPE C5	6	20	1.00%
WW PIPE C10	6	40	0.70%
WW PIPE C11	6	233	1.75%
WW PIPE D1	6	110	1.32%
WW PIPE D2	6	476	1.32%

PIPE DATA			
PIPE NAME	SIZE	LENGTH	SLOPE
WW PIPE D3	6	190	1.40%
WW PIPE D4	6	255	1.40%
WW PIPE D5	6	262	2.02%
WW PIPE D9	6	194	1.33%
WW PIPE D10	6	30	0.50%
WW PIPE E1	6	138	0.55%
WW PIPE E2	6	277	1.39%
WW PIPE E3	6	60	1.34%
WW PIPE F1	6	91	0.80%

**GENERAL PROFILE LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		PROFILE GRADE LINE
		HYDRAULIC GRADE LINE
		PIPE
		MANHOLE / STRUCTURE
<b>PROFILE DATA BAND</b>		
		EXISTING GROUND ELEVATION
		PROPOSED GROUND ELEVATION





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 CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV  
 PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-FIRE.DWG

SCALE N.T.S.

**PROFESSIONAL SEAL**



**PROJECT STATUS**  
 1ST SUBMITTAL

**SHEET TITLE**  
 FIRE TANK SYSTEM  
 DETAILS

**SHEET NUMBER**

**27** of 42

TBD

**CODES & STANDARDS**

1. THE FOLLOWING CODES, STANDARDS, AND GUIDELINES ARE TO BE USED IN THE DEVELOPMENT OF THIS PROJECT FOR ABOVE GROUND WATER STORAGE TANKS FOR RURAL FIRE PROTECTION.

- INTERNATIONAL CODE COUNCIL (ICC):
- 1.1. INTERNATIONAL FIRE CODE (IFC), 2015 EDITION 1
  - 1.2. INTERNATIONAL BUILDING CODE (IBC), 2012 EDITION
  - 1.3. INTERNATIONAL PLUMBING CODE (IPC), 2012 EDITION

- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): CURRENT EDITIONS
- 1.4. NFPA 1142, STANDARD ON WATER SUPPLIES FIRE FIGHTING
  - 1.5. NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
  - 1.6. NFPA 20, STANDARD FOR THE INSTALLATION OF FIRE PROTECTION
  - 1.7. NFPA 22, WATER TANKS
  - 1.8. NFPA 24, INSTALLATION OF PRIVATE FIRE SERVICE APPURTENANCES
  - 1.9. NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE
  - 1.10. NFPA 70, NATIONAL ELECTRICAL CODE

**NFPA 1142 CODE SUMMARY**

ONE NEW WATER TANK SHALL PROVIDE THE REQUIRED SITE FIRE WATER SUPPLY. THE SITE FIRE PROTECTION SYSTEM SHALL BE SUPPLIED FROM A FIRE PUMP WHICH DRAWS FROM THE NEW WATER TANK. THE TANK SHALL BE FILLED FROM PERIODIC WATER DELIVERIES AS NEEDED TO MAINTAIN THE MINIMUM REQUIRED WATER SUPPLY.

PER NFPA 1142, A MINIMUM WATER SUPPLY OF 7,650 GALLONS SHALL BE PROVIDED FOR SHALL PROVIDE THE FIRE PROTECTION OF THE SITE. THE NEW DEDICATED FIRE WATER TANK MINIMUM WATER NECESSARY TO SUPPLY THE SITE FIRE PROTECTION FOR THE MINIMUM REQUIRED DURATION BASED ON THE HIGHEST HAZARDANT.

**TANK MANUFACTURER**

1. TANK MANUFACTURER: CONTAIN WATER SYSTEMS, INC., CORGAL OR APPROVED EQUIVALENT. CONTRACTOR SHALL USE A CORRUGATED STEEL FIRE PROTECTION TANK WITH LOW PROFILE ROOF, WALL, FLOOR AND ROOF STRUCTURAL COMPONENTS TO MEET NFPA 22 STANDARDS.
- 2.1. MINIMUM 25 MIL PVC LINER OR EQUIVALENT.
- 2.2. MAN-WAY ACCESS FROM ROOF WITH 24" I.D. MINIMUM ENTRY.
- 2.3. INTERIOR TANK LADDER AND EXTERIOR LADDER IS REQUIRED.
- 2.4. ANTI-VORTEX PLATE ASSEMBLY AT SUCTION OUTLET PER NFPA 22 FOR SUCTION TANKS.
- 2.5. MINIMUM 3" DIAMETER TANK VENT DESIGNED TO COMPLY WITH NFPA 22, SECTION 4.15.
- 2.6. MINIMUM 2" OVERFLOW OUTLET DESIGNED TO COMPLY WITH NFPA 22, SECTION 4.16.
- 2.7. ALL EXPOSED STEEL PIPING AND VALVES SHALL BE FACTORY COATED OR FIELD PAINTED WITH HIGH-GLOSS EPOXY PAINT FOR CORROSION RESISTANCE.
- 2.9. EXTERIOR WATER LEVEL INDICATOR
- 2.10. TANK FOUNDATION SHALL MEET THE PROVISIONS OF NFPA 22. SUPPLIER TO PROVIDE ENGINEERED FOUNDATION DESIGN.
- 2.11. PROVIDE APPROVED SIGNAGE FOR FIRE WATER TANK.
- 2.12. PROVIDE THE FOLLOWING PRODUCT SUBMITTALS FOR REVIEW AND ACCEPTANCE PRIOR TO PURCHASE:
  - 2.12.1. ALL COMPONENTS NOTED ABOVE.
  - 2.12.2. STRUCTURAL DESIGN DRAWINGS AND CALCULATIONS FOR THE TANK AND FOUNDATION.

**TANK REFILL REQUIREMENTS**

1. MINIMUM 1 1/2" FILL PIPE CONNECTION WITH 1" AIR GAP AS BACK FLOW PREVENTION.
2. ALL NORMALLY WET ABOVE GROUND PIPE AND PIPE ASSEMBLIES SHALL BE INSULATED FROM FREEZING TEMPERATURES AND PROVIDED WITH A PROTECTIVE OUTER SLEEVE.
3. ALL ABOVE GRADE PIPE SHOULD BE STEEL FOR IMPACT PROTECTION AND UV RESISTANCE AND SHALL BE PROTECTED FROM FREEZING.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEYING EXISTING CONDITIONS AND CONNECTING TO THE 1 1/2" FILL PIPE AT 1'-0" AFF WHICH WILL BE BY OTHERS.

**OWNER PROVIDED ITEMS**

1. THE OWNER SHALL MAINTAIN ALL FIRE HYDRANTS TO THE REQUIREMENTS OF THE WILLIAMSON COUNTY FIRE MARSHAL.

**TESTING**

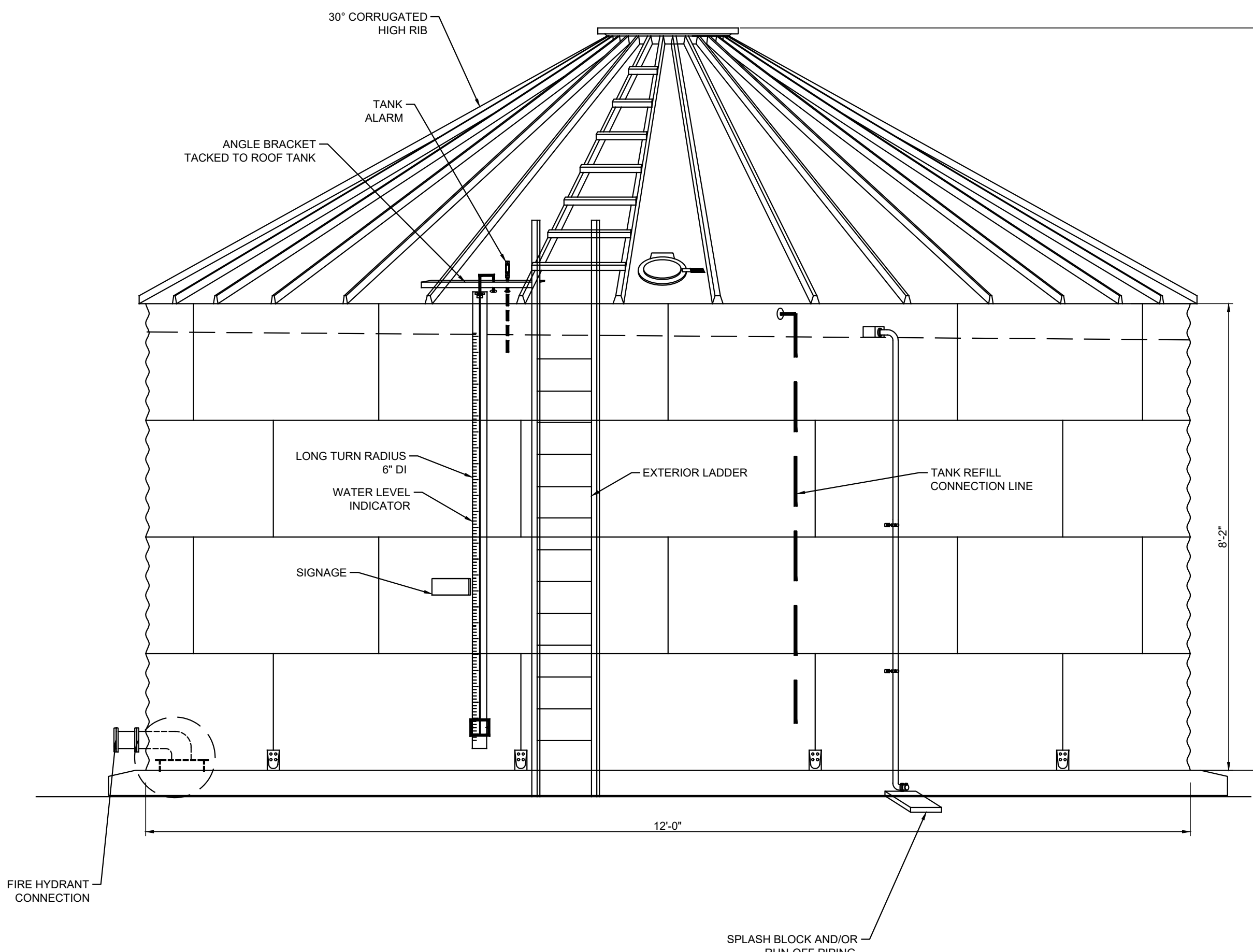
1. TANKS SHALL BE LEAK TESTED FOR 72 HOURS AT DESIGN CAPACITY AND SHALL SHOW NO SIGNS OF LEAKAGE FOR ACCEPTANCE.
2. PIPING AND APPURTENANCES SHALL BE PRESSURE TESTED TO 200 PSI AND SHALL NOT SHOW A DROP IN PRESSURE AFTER A MINIMUM OF 2 HOURS FOR ACCEPTANCE.
3. ALL NEW HYDRANTS SHALL BE FLOW TESTED TO ENSURE OPERATION AND TO ENSURE A MINIMUM 1000 GPM IS AVAILABLE AT EACH NEW HYDRANT.

**MINIMUM WATER SUPPLY CALCS**

1. THE FOLLOWING WORKSHEET IS BASED ON NFPA 1142 - CHAPTER 4
2. CONSTRUCTION CLASSIFICATION IS BASED ON NFPA 1142 - TABLE 6.2.1
3. EXPOSURE HAZARDS ARE DEFINED AS A STRUCTURE WITH 50 FT OF ANOTHER BUILDING AND 100 FT<sup>2</sup> OR LARGER IN AREA USING THE FOLLOWING FORMULAS:
  - 3.1.  $WS_{min} = VS_{TOT} (CC) / OHC \times 1.0$  (Structure w/ no Exposure) or
  - 3.2.  $WS_{min} = VS_{TOT} (CC) / OHC \times 1.5$  (Structure w/ Exposure)

**NFPA WORKSHEET - CHAPTER 4**

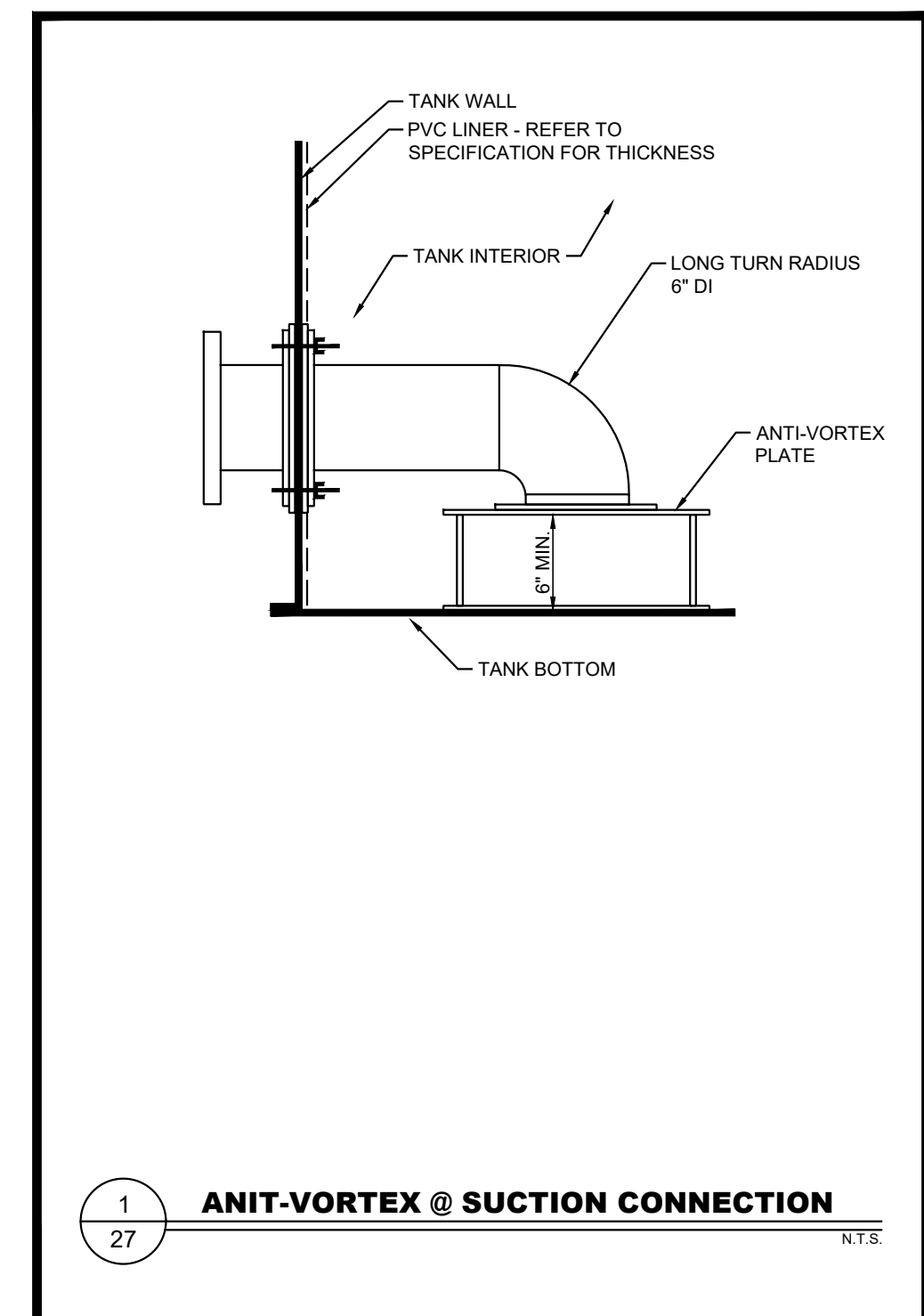
	#	NOTES
AREA OF BUILDING, FT <sup>2</sup>	4000	
HEIGHT OF BUILDING, FT	14	
VOLUME OF BUILDING, FT <sup>3</sup> - VS <sub>TOT</sub>	56000	
EXPOSURE HAZARDS COEFF.	1.0	
OCCUPANCY HAZARD CLASSIFICATION (OHC)	7.0	OFFICES
CONSTRUCTION CLASSIFICATION (CC)	0.75	TYPE V
MINIMUM WATER SUPPLY REQD, GALLONS	6,000	
FIRE TANK VOLUME PROVIDED	7,650	



**1 FIRE TANKS ELEVATION DETAIL**

**NOTES:**

1. COORDINATE FINAL LOCATION OF PUMP HOUSE, WATER STORAGE TANK, AND CONNECTION FROM PUMP DISCHARGE INTO HYDRANT SYSTEM WITH CIVIL ENGINEER.
2. CONCRETE SLAB OR RING WALL FOUNDATION ENGINEERED TO SUPPORT THE WATER FILLED WEIGHT OF FIRE PROTECTION TANK BY LICENSED STRUCTURAL ENGINEER.
3. SPLASH BLOCK AND/OR RUN-OFF PIPING.
4. EXTERIOR LADDER. CONTRACTOR SHALL SUBMIT FOR APPROVAL.
5. APPROVED SIGNAGE STATING "FIRE DEPT USE ONLY - 90,000 GALLONS".
6. DISTURBED CONDITIONED SOIL OR COMPACTED GRADE WATER LEVEL INDICATOR TARGET BOARD
7. ANGLE BRACKET TACKED TO TANK ROOF FOR FLAT SURFACE MOUNT OF ALARM AND PIPE PROBE
8. GIZMO ENGINEERING TANK LEVEL ALARM MODEL TL-PP. POLYPROPYLENE FLOAT AND PIPE. PIPE PROBE TO EXTEND TO 6 INCHES BELOW SURFACE OF TANK WATER AT FULL CAPACITY. MOUNT WITHIN SAFE WORKING DISTANCE OF THE TANK LADDER FOR BATTERY REPLACEMENT AND DEVICE RESET. USE MANUFACTURER'S RECOMMENDED BATTERIES ONLY.
9. TANK REFILL CONNECTION LINE.



**1 ANTI-VORTEX @ SUCTION CONNECTION**



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 CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV  
 PARK**

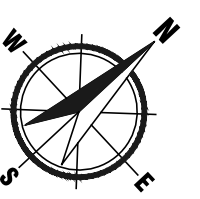
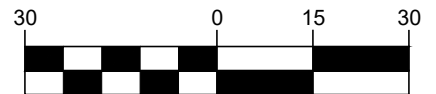
2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

**PROJECT NUMBER**

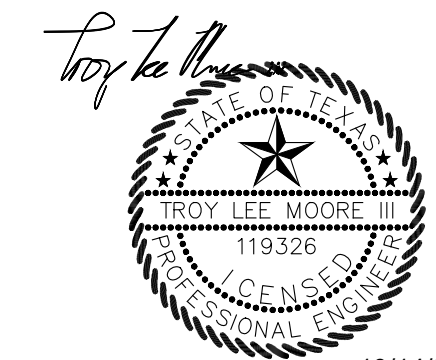
**21007**

**DRAWING FILE  
 21007-LFST.DWG**

**SCALE 1" = 30'**



**PROFESSIONAL SEAL**



**PROJECT STATUS  
 1ST SUBMITTAL**

**SHEET TITLE  
 LIFT STATION PLAN**

**SHEET NUMBER**

**28 of 42**

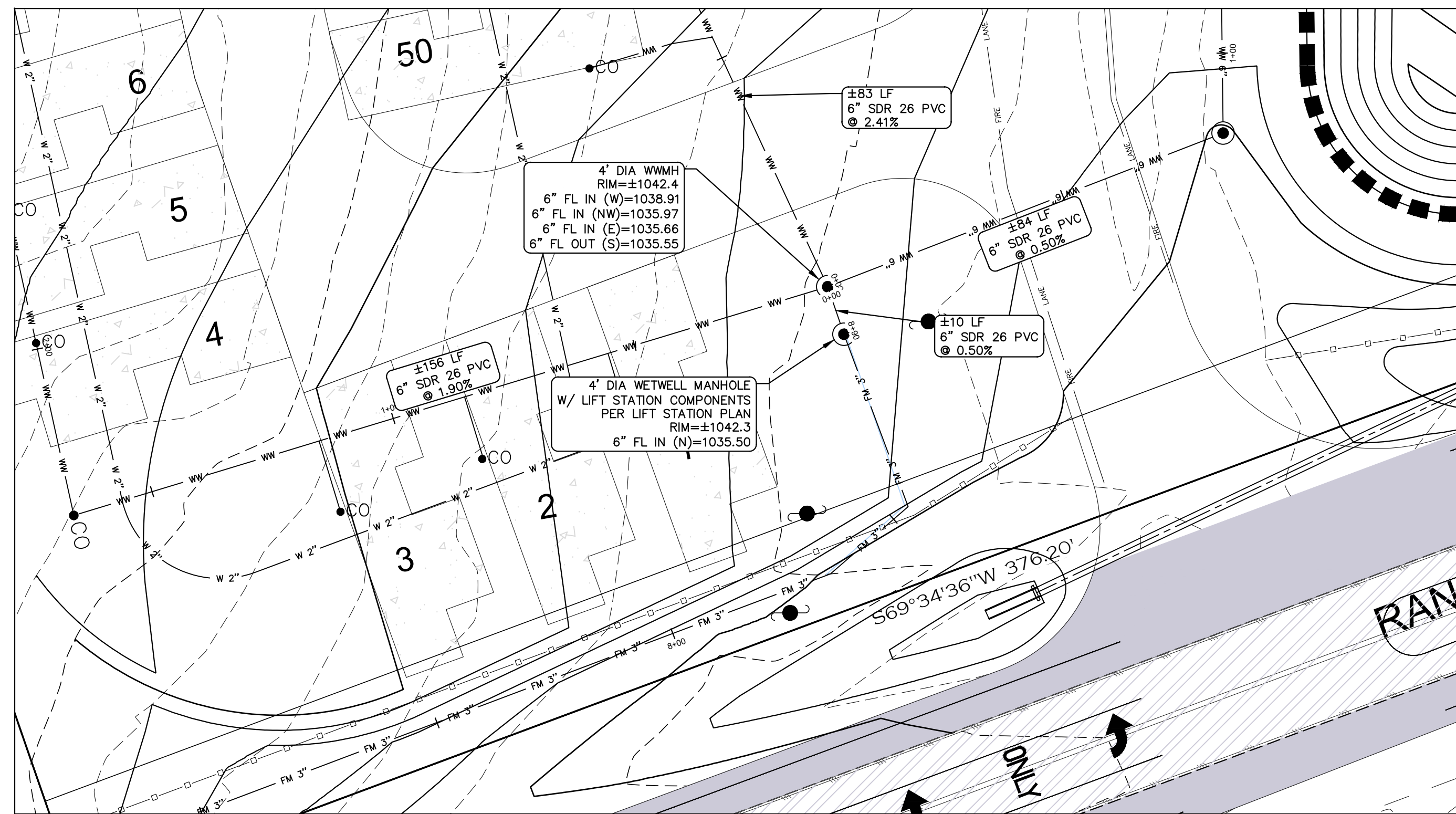
**LIFT STATION NOTES**

1. ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF Fc = 4,000 PSI (28 DAY STRENGTH) EXCEPT AS NOTED.
2. REINFORCING STEEL SHALL CONFORM TO A.S.T.M. 615-80, GRADE 60. MINIMUM CLEAR COVER SHALL BE 2" UNLESS OTHERWISE NOTED.
3. DIMENSIONS FROM FACE OF CONCRETE TO REINFORCING BARS ARE CLEAR DISTANCES.
4. DIMENSIONS FOR BAR SPACING ARE CENTER TO CENTER.
5. ALL LAPS SHALL BE 30 BAR DIAMETERS UNLESS OTHERWISE NOTED.
6. THROUGH WALL CONNECTIONS SHALL BE MADE WITH PRESS-SEAL OR KOR-N-SEAL GASKETS WITH STAINLESS STEEL STRAPS TO PERMIT LIMITED DIFFERENTIAL SETTLEMENT.
7. ALL WET WELL JOINTS SHALL BE WATERTIGHT, O-RING/FORSHEDA AND MASTIC BUTYL WRAP SEALS. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304L WITH STAINLESS STEEL HARDWARE.
8. ALL TAPS INTO FITTINGS SHALL BE MADE INTO A BOSS. EDGE OF VALVE VAULT SHALL BE LOCATED FIVE (5) FEET FROM THE WET WELL.
9. IF VALVE VAULT IS PLACED ON EXCAVATED MATERIALS, BACKFILL SHALL BE COMPACTED IN 8" LOOSE LIFTS TO 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF VALVE VAULT. BACKFILL SHALL BE DONE IN ACCORDANCE WITH MSD'S STANDARD SPECIFICATIONS.
10. WET WELLS 20 FEET OR DEEPER OR PUMPS WEIGHING 2000 POUNDS OR MORE SHALL REQUIRE PERMANENT JIB CRANE AND HOIST TO BE INSTALLED WITH NICKEL ALLOY CHAIN CONNECTOR LINK AND CONNECTOR LINK. JIB CRANE TO BE POSITIONED TO PULL PUMPS, VALVES, ECT. AND BE ABLE TO LOWER INTO BACK OF VEHICLE 48" OFF GROUND.
11. REFER TO SEPARATE DETAILS CONTAINED WITHIN THIS CONSTRUCTION SET FOR PUMP STATION ACCESS ROADS.
12. TRACE WIRE SHALL TERMINATE AT TERMINAL CONNECTOR.
13. IF PUMPS ARE MORE THAN 30' DEEP THEN THERE MUST BE AN AIR RELEASE VALVE BETWEEN PUMP AND CHECK VALVE.
14. MUST HAVE A GENERATOR AND BELLY TANK WITH A RAISED WALKWAY AROUND TANK WHERE IF CENTER OF CONTROL PANEL IS GREATER THAN 48" FROM GROUND. TANK MUST HAVE 24 HOUR RUN CAPACITY.

**LIFT STATION DESIGN SUMMARY**

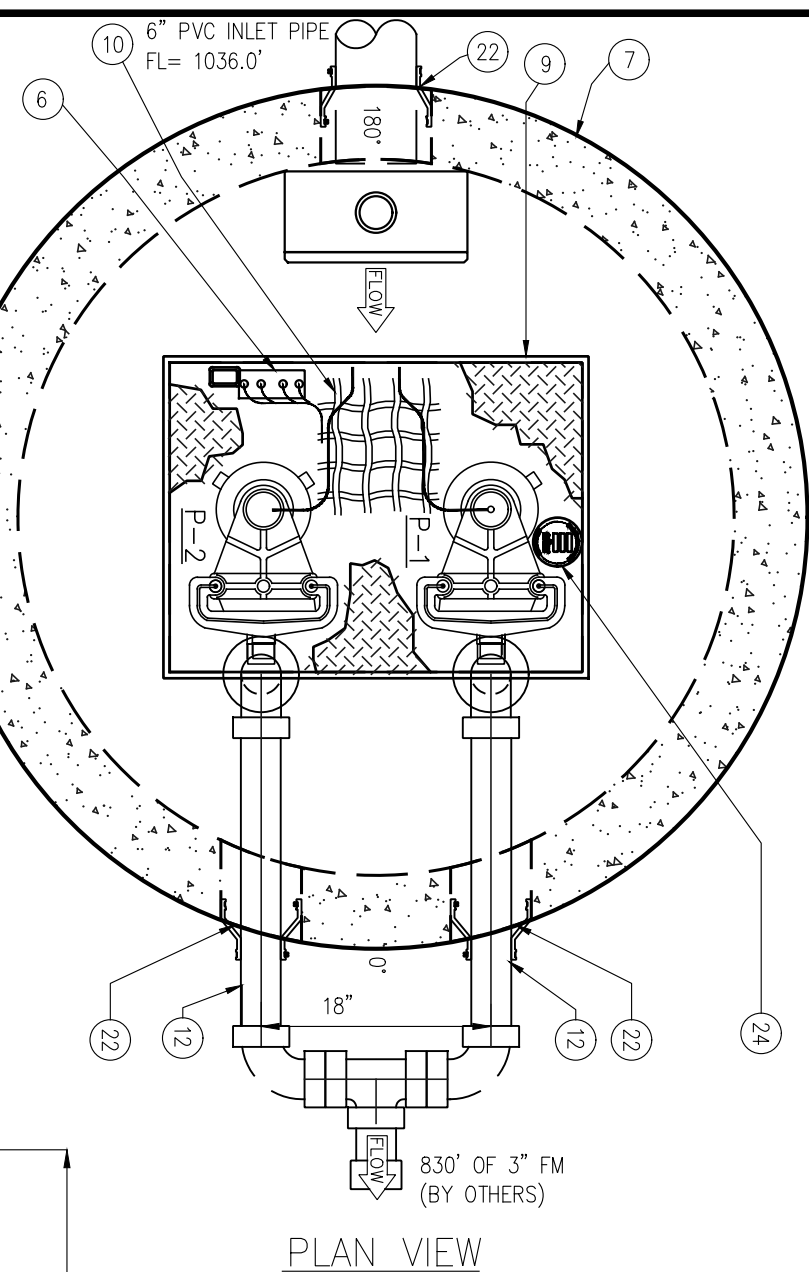
**FLOW DATA**

AVERAGE DAILY SEWAGE FLOW:	11,550 GPD
AVERAGE DAILY SEWAGE FLOW:	8 GPM
PEAK FACTOR:	4
PEAK DAILY SEWAGE FLOW:	46,200 GPD
PEAK DAILY SEWAGE FLOW:	32 GPM

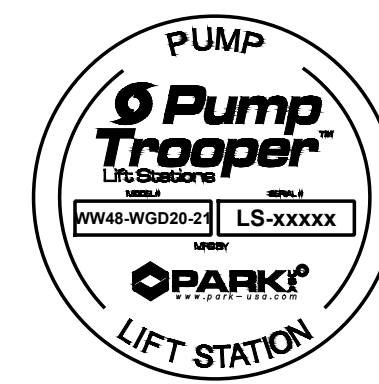


**SITE PLAN VIEW**  
 SCALE: 1"=30'

STATION OPERATION LEVELS		
RISING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMPS IN OPERATION
1034.00'	LEAD PUMP TURNS "ON", FS-2	LEAD PUMP "ON"
1035.00'	LAG PUMP TURNS "ON", FS-3	LEAD & LAG PUMPS "ON"
1036.00'	HIGH WATER "ALARM" LEVEL, FS-4	HIGH LEVEL ALARM "ON"
FALLING LEVEL CYCLE		
1036.00'	HIGH WATER ALARM, FS-4	HIGH LEVEL ALARM "OFF"
1032.00'	PUMPS "OFF" LEVEL, FS-1	ALL PUMPS "OFF" LAG PUMP SWITCHES TO LEAD PUMP



**PLAN VIEW**



**NOTE:**  
 ALL DASHED PIPING TO BE FURNISHED BY CONTRACTOR

**NOTE:**  
 VERIFY ALL ELEVATIONS PRIOR TO FABRICATION

**NOTE:**  
 VERIFY ALL INLET/OUTLET ORIENTATIONS PRIOR TO FABRICATION

KEYED NOTES		
MARK	QTY	DESCRIPTION
1	2	1 1/2" SUBMERSIBLE PUMP
2	2	1 1/2"x2" BASE ELBOW
3	2	STAINLESS STEEL CHAINS
4	1	DUPLEX CONTROL PANEL NEMA 4X FRP (MOUNTED & WIRED BY CONTRACTOR)
5	1	VENTED ALUMINUM PEDESTAL
6	1	SS CABLE BRACKET
7	1	48" DIA x 9'-6" CONCRETE WET WELL
8	1	8" THK FLAT CONCRETE TOP
9	1	30"x36" SINGLE LEAF ALUMINUM HATCHWAY
10	1	SAFETY NET
11	1	NOT USED
12	2	2" SCH 80 PVC DISCHARGE PIPE
13	2	2" SCH 80 PVC 90° ELL
14	2	SS UPPER GUIDE BRACKETS
15	2	2" PVC BALL CHECK VALVE
16	2	2" PVC BALL VALVE w/ UNIONS
17	4	SS GUIDE RAILS
18	1	3" ELECTRICAL COUPLING
19	4	FLOAT SWITCH
20	-	REBAR AS REQ'D
21	2	LIFT-OUT ASSEMBLY
22	3	RESILIENT RUBBER BOOT
23	-	ALL JOINTS MADE WATER-TIGHT w/ PLASTIC FLEXIBLE GASKET (RAM-NEK)
24	1	NAMEPLATE INDICATING: MFG: PARKUSA 888-611-PARK WWW.PARKUSA.COM MODEL: WW48-WGD20-31-20-21-21 DATE MANUFACTURED

**SPECIFICATION**  
 CONCRETE:  
 CLASS I/II CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR, FIRST STAGE OF WALL, AND BAFFLE WITH SECTIONAL RISER TO REQUIRED DEPTH.

**REINFORCEMENT:**  
 GRADE 60 REINFORCED WITH STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

**ALUMINUM HATCH:**  
 300 PSF RATED, 1/4" ALUMINUM SKID-RESISTANT FLOOR PLATE, STAINLESS STEEL TAMPERPROOF BOLTING, HINGES & SLAMLOCK. (H-20 RATING OPTIONAL)

**PUMPS:**  
 PUMPS SHALL BE CENTRIFUGAL TYPE WITH INTEGRAL GRINDER UNIT AND SUBMERSIBLE TYPE MOTOR. PUMPS SHALL HAVE A CAPACITY AS FOLLOWS:

PUMP No.	TYPE	GPM	TDH	RPM	HP	ELECTRICAL PH	Hz
P-1	GRINDER	36	50	?	?	208	3 60
P-2	GRINDER	36	50	?	?	208	3 60

**CONTROLS:**  
 PUMP CONTROLS SHALL BE MOUNTED INSIDE A UL LISTED NEMA-4X ENCLOSURE AND INCLUDE CIRCUIT BREAKERS, ALARM CIRCUIT FUSE, IEC RATED MOTOR STARTER, PUMP HOA, AND ALTERNATOR RELAY. PANEL SHALL HAVE A VISUAL ALARM BEACON. PANEL IS DESIGNED FOR REMOTE MOUNTING.

**ENGINEERING DATA**  
 FIELD EXCAVATION AND PREPARATION SHALL BE COMPLETED PRIOR TO DELIVERY OF ASSEMBLY. USE DIMENSIONAL DATA AS SHOWN. ALL PIPE, VALVES AND FITTINGS OF THE ASSEMBLY ARE APPROVED BY ONE OF THE FOLLOWING ASSOCIATIONS:



MODEL NUMBER: ParkUSA  
 888-611-PARK, WWW.PARKUSA.COM  
 WW48-WGD33-037-30-50-03

**WET WELL SIZE (ID)**  
 48 - 48" DIA  
 60 - 60" DIA  
 72 - 72" DIA  
 96 - 96" DIA

**PUMP CONFIGURATION**  
 S - SIMPLEX  
 D - DUPLEX

**PUMP DISCHARGE SIZE**  
 20 - 2"  
 33 - 3"  
 40 - 4"  
 60 - 6"

**FLOW RATE CAPACITY (GPM)**  
 100 - 100 GPM  
 200 - 200 GPM  
 ETC...

**POWER CHARACTERISTICS**  
 43 - 460V/3PH/60Hz  
 23 - 230V/3PH/60Hz  
 21 - 230V/1PH/60Hz  
 03 - 208V/3PH/60Hz  
 01 - 208V/1PH/60Hz

**PUMP HEAD CAPACITY (TDH)**  
 10 - 10' TDH  
 20 - 20' TDH  
 ETC...

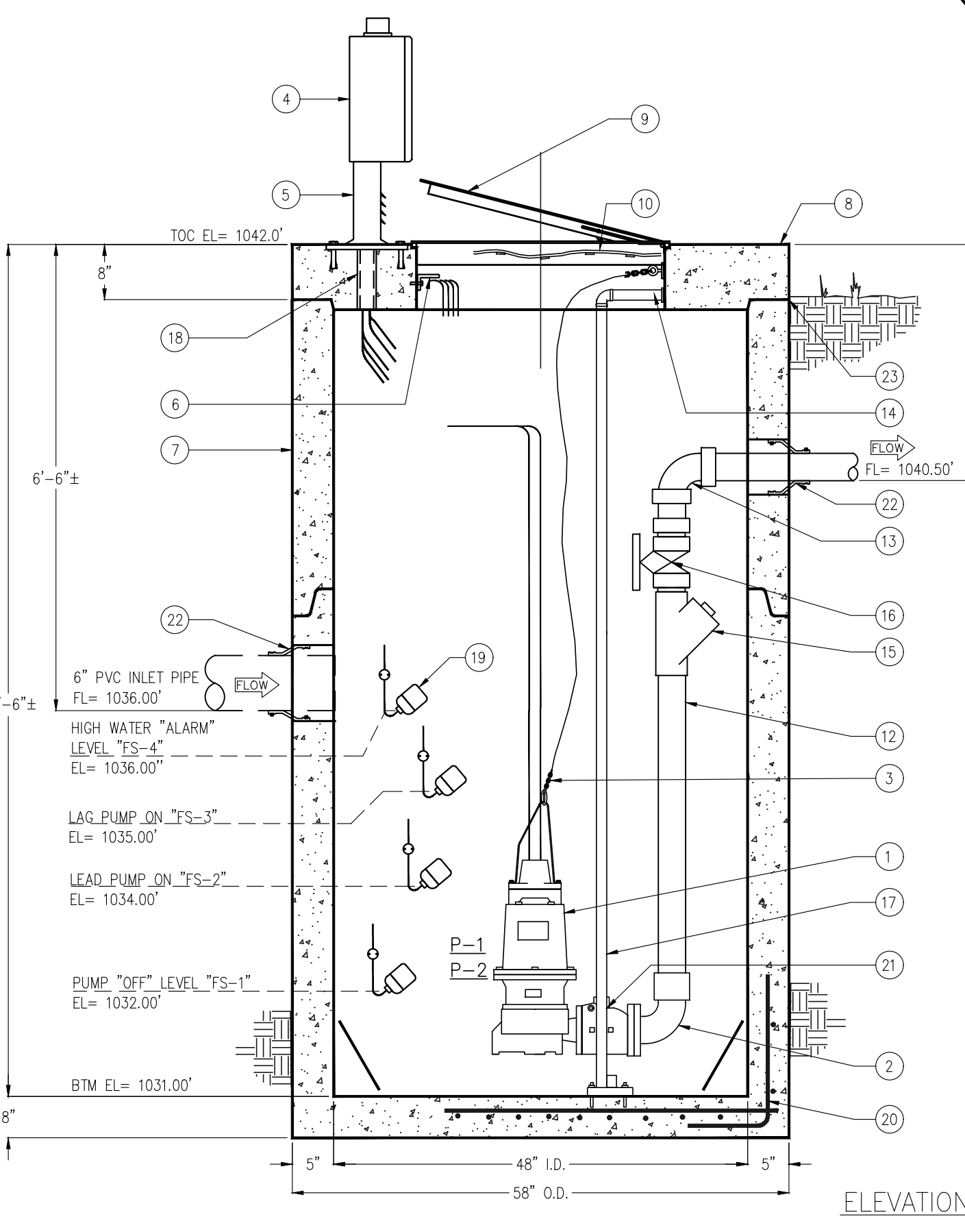
**GRINDER PUMP SIZE**  
 10 - 1.0 HP  
 20 - 2.0 HP  
 30 - 3.0 HP  
 50 - 5.0 HP

DATE: 08/09/21  
 PROJECT: CLS RV PARK  
 ENGINEER: M3 ENGINEERING  
 ORDER #: . . . . . PROJ #: . . . . .  
 DATE: 08/09/2021 LOCATION: LIBERTY HILL, TEXAS

**PARK USA**  
 www.parkusa.com 888-611-PARK

SANITARY SEWER LIFT STATION  
 SUBMERSIBLE GRINDER PUMP STATION

DATE	06/21	REV.	A
------	-------	------	---



**ELEVATION**



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 AUSTIN, TEXAS 78704  
 PH: 512.820.3265  
 FIRM # 18863

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CIVIL ENGINEERING | BUILDING DESIGN  
 CONSTRUCTION MANAGEMENT

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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

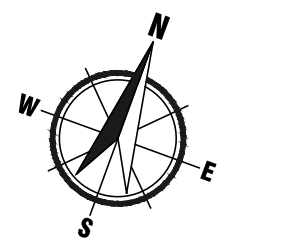
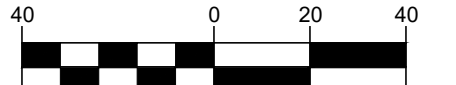
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 MAPSCO # TBD

**PROJECT NUMBER**

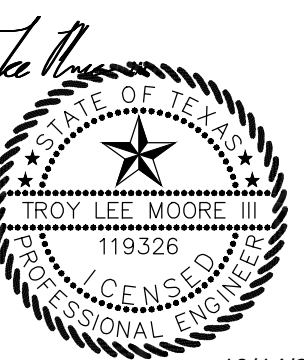
**21007**

DRAWING FILE  
 21007-UTIL-OFF.DWG

**SCALE 1" = 40'**



**PROFESSIONAL SEAL**



10/14/2022

**PROJECT STATUS**  
 1ST SUBMITTAL

**SHEET TITLE**  
 PUBLIC SANITARY  
 SEWER LINE

**SHEET NUMBER**

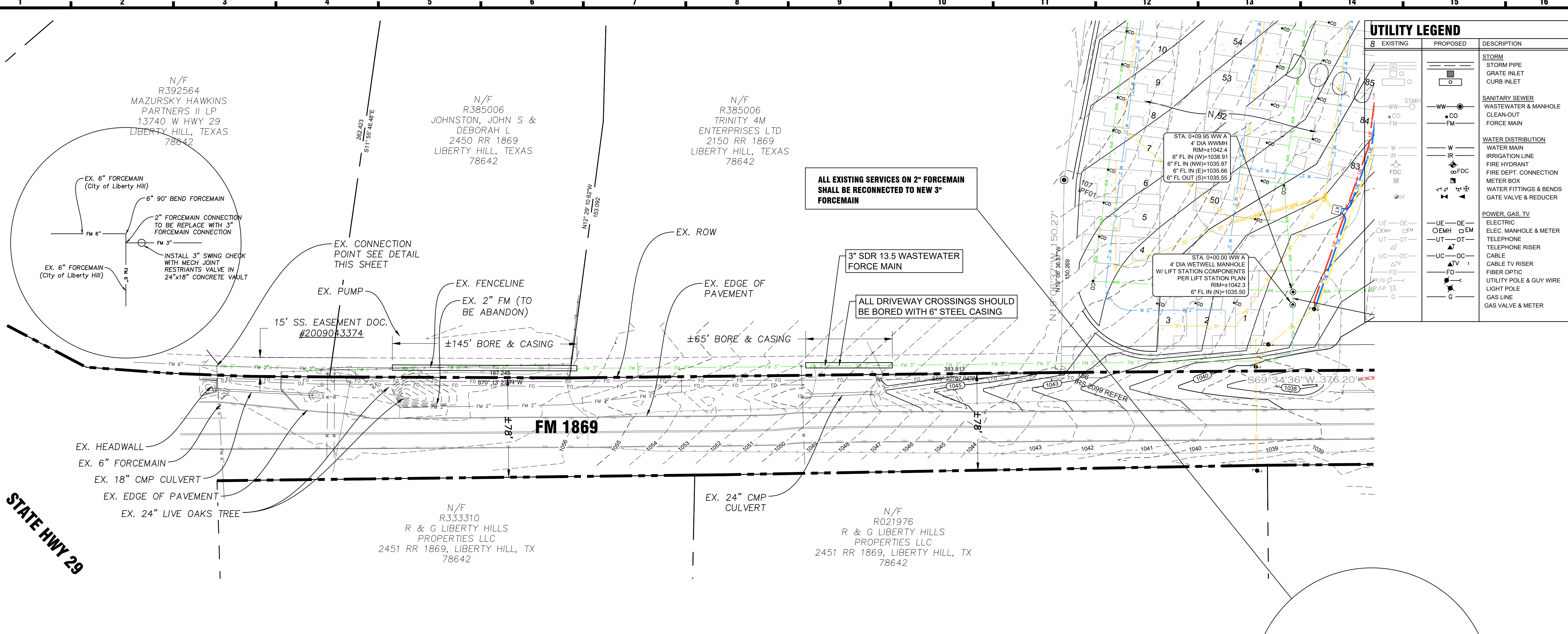
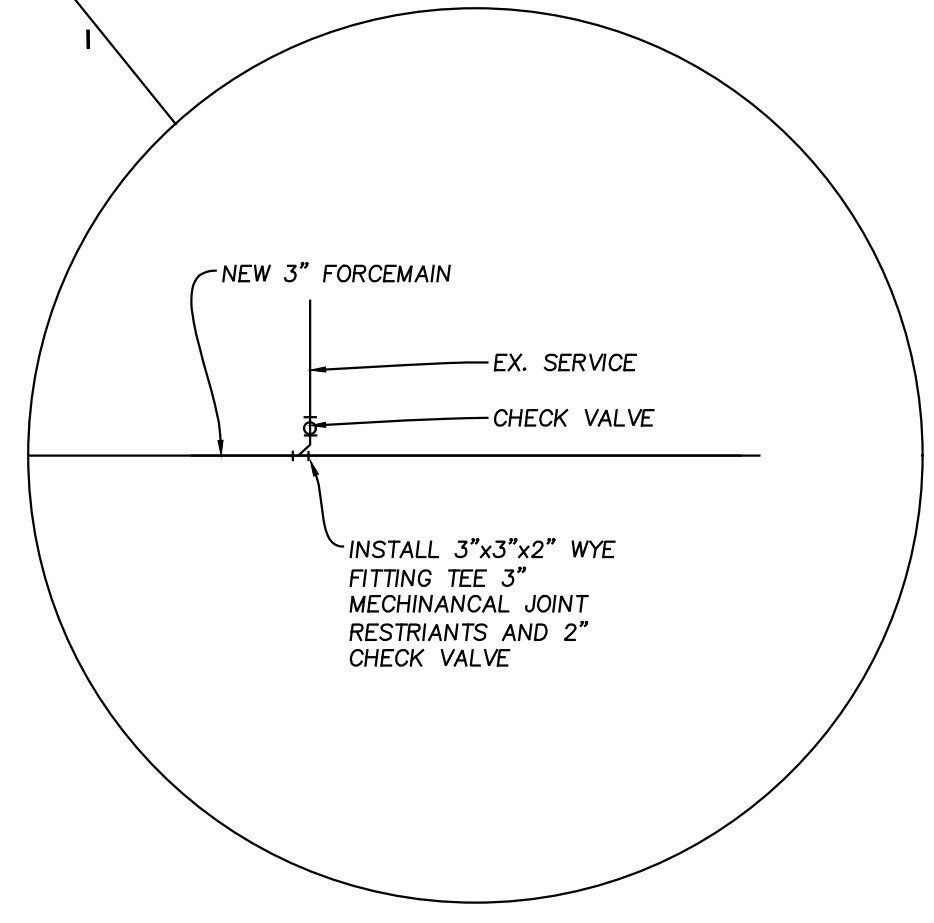
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TBD

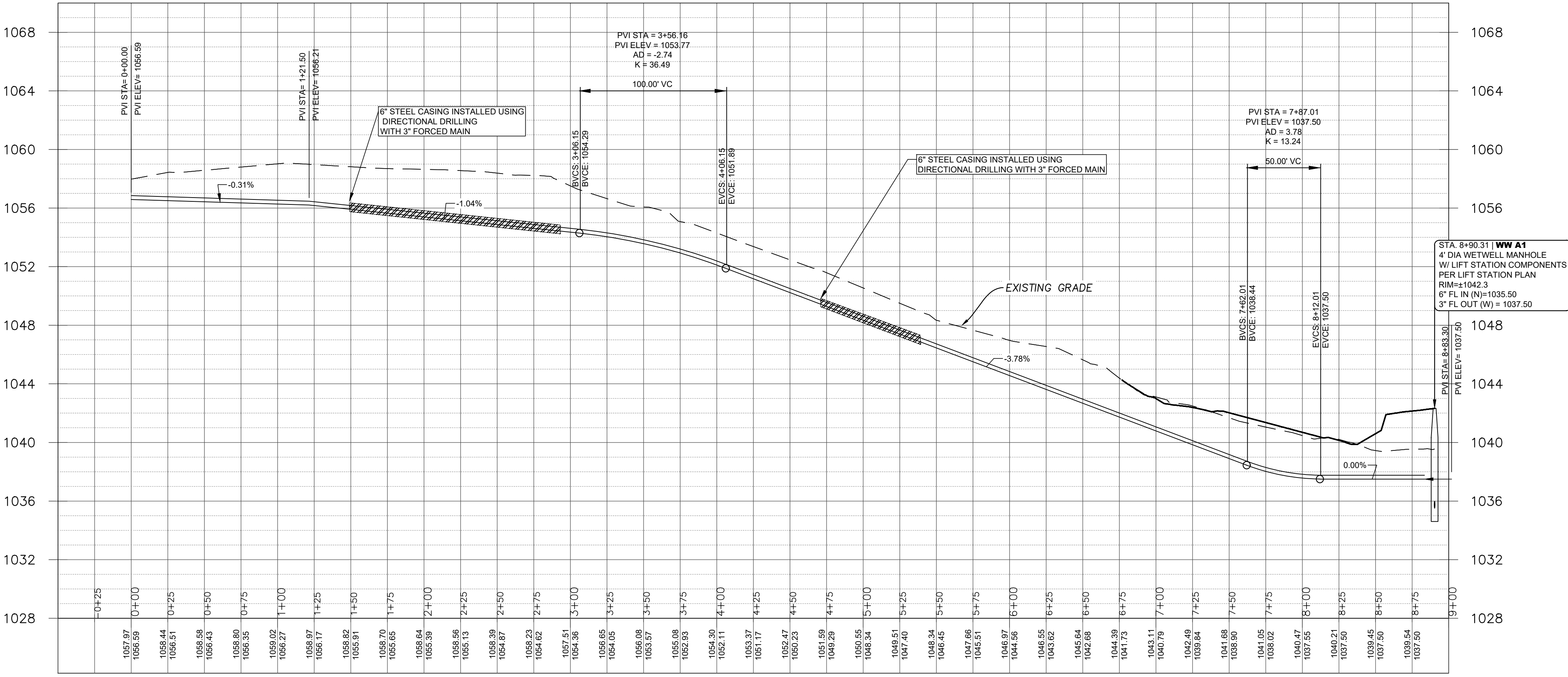
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM
GI	GI	STORM PIPE
CI	CI	GRATE INLET
	CI	CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER MAIN
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
FDC	FDC	FIRE DEPT. CONNECTION
M	M	METER BOX
W	W	WATER FITTINGS & BENDS
G	G	GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OE	OE	ELECTRIC
OEMH	OEMH	ELEC. MANHOLE & METER
UT	UT	TELEPHONE
OT	OT	TELEPHONE RISER
UC	UC	CABLE
OC	OC	CABLE TV RISER
TV	TV	FIBER OPTIC
FO	FO	UTILITY POLE & GUY WIRE
LP	LP	LIGHT POLE
AP	AP	GAS LINE
G	G	GAS VALVE & METER

ALL EXISTING SERVICES ON 2" FORCEMAIN SHALL BE RECONNECTED TO NEW 3" FORCEMAIN

ALL DRIVEWAY CROSSINGS SHOULD BE BORED WITH 6" STEEL CASING



**FM**  
 START: 0+50 | END: 9+00  
 HORZ: 1"=40' | VERT: 1"=4'





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CONSTRUCTION MANAGEMENT

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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
C2 - CHANGE PAD SIZES
C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV PARK

2224 RR 1869
LIBERTY HILL, TEXAS 78642

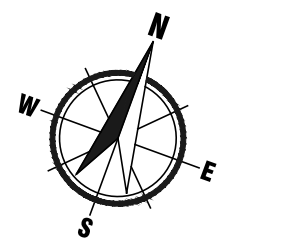
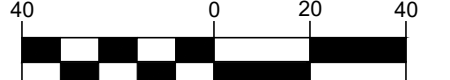
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MAPSCO # TBD

PROJECT NUMBER

21007

DRAWING FILE
21007-UTIL-OFF.DWG

SCALE 1" = 40'



PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS
1ST SUBMITTAL

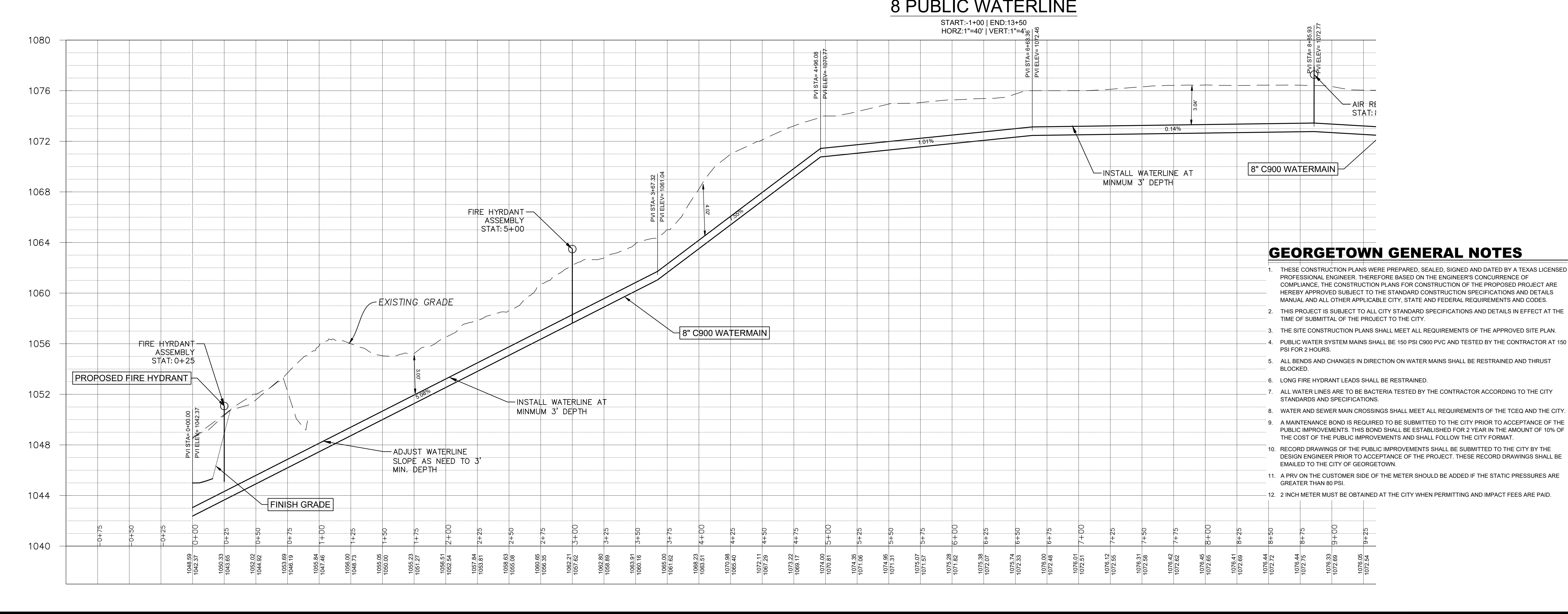
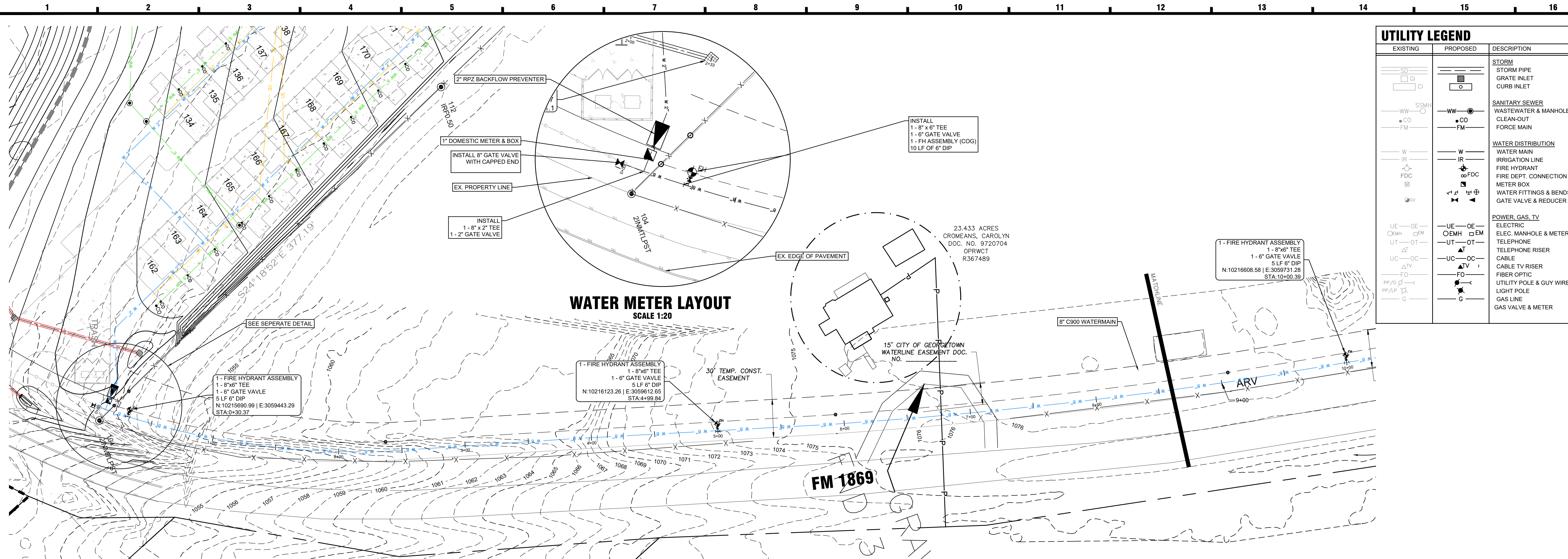
SHEET TITLE
PUBLIC WATERMAIN
EXTENSION

SHEET NUMBER

30 of 42

TBD

UTILITY LEGEND table with columns: EXISTING, PROPOSED, DESCRIPTION. Includes symbols for storm, sanitary sewer, water distribution, power, gas, and TV lines.



GEORGETOWN GENERAL NOTES

- 1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER...
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL...
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN...
4. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 2 HOURS...
5. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED...
6. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED...
7. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS...
8. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY...
9. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS...
10. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER...
11. A PRV ON THE CUSTOMER SIDE OF THE METER SHOULD BE ADDED IF THE STATIC PRESSURES ARE GREATER THAN 80 PSI...
12. 2 INCH METER MUST BE OBTAINED AT THE CITY WHEN PERMITTING AND IMPACT FEES ARE PAID.



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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
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**PROJECT NAME**

**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

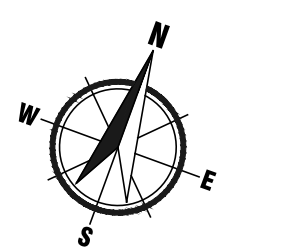
**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-UTIL-OFF.DWG

**SCALE**

1" = 40'



**PROFESSIONAL SEAL**



**PROJECT STATUS**  
 1ST SUBMITTAL

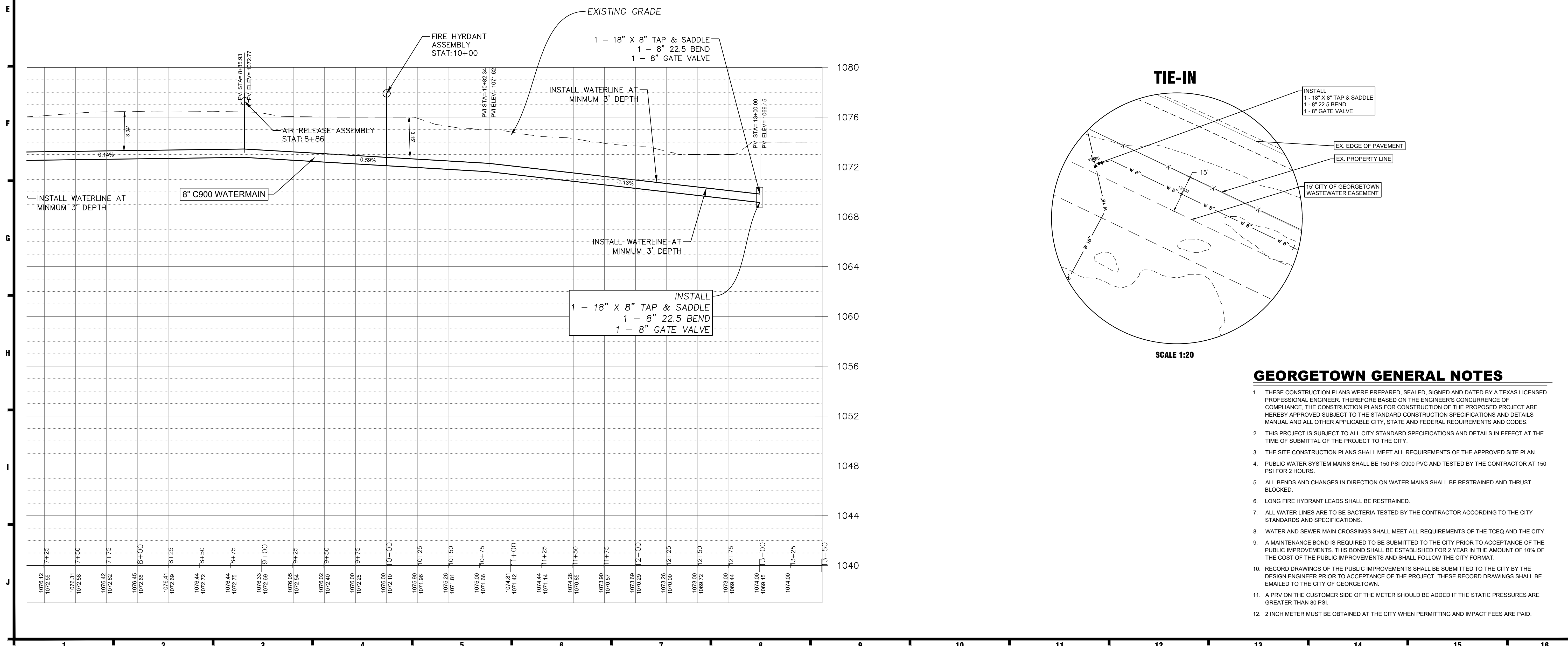
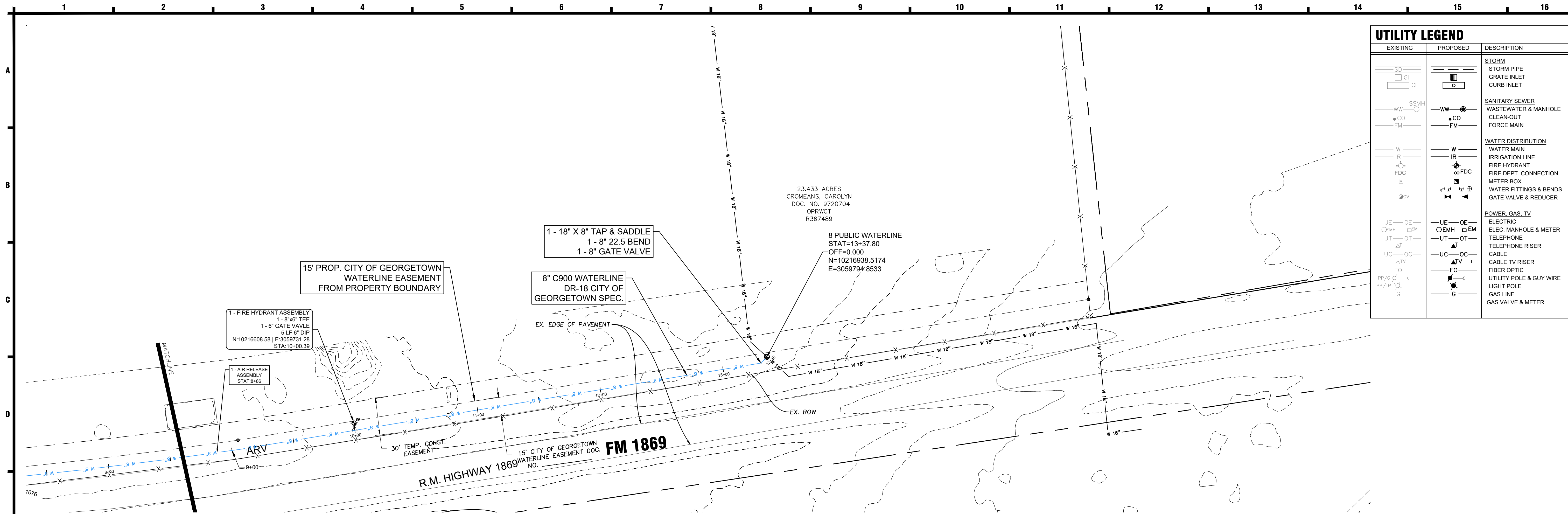
**SHEET TITLE**  
**PUBLIC WATERMAIN  
 EXTENSION**

**SHEET NUMBER**

**31** of 42

TBD

UTILITY LEGEND		
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM
GI	GI	STORM PIPE
CI	CI	GRATE INLET
		CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER DISTRIBUTION
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
		FIRE DEPT. CONNECTION
		METER BOX
		WATER FITTINGS & BENDS
		GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OE	OE	ELECTRIC
CEM	CEM	ELEC. MANHOLE & METER
UT	UT	TELEPHONE
OT	OT	TELEPHONE RISER
UC	UC	CABLE
OC	OC	CABLE TV RISER
FO	FO	FIBER OPTIC
PP/AP	PP/AP	UTILITY POLE & GUY WIRE
		LIGHT POLE
		GAS LINE
		GAS VALVE & METER



**GEORGETOWN GENERAL NOTES**

- THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
- THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
- THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
- PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 2 HOURS.
- ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
- LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
- ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
- WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEO AND THE CITY.
- A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
- RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE RECORD DRAWINGS SHALL BE EMAILED TO THE CITY OF GEORGETOWN.
- A PRV ON THE CUSTOMER SIDE OF THE METER SHOULD BE ADDED IF THE STATIC PRESSURES ARE GREATER THAN 80 PSI.
- 2 INCH METER MUST BE OBTAINED AT THE CITY WHEN PERMITTING AND IMPACT FEES ARE PAID.



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CONSTRUCTION MANAGEMENT

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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME

LIBERTY HILL RV PARK

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

PROJECT NUMBER

21007

DRAWING FILE  
21007-DRYU.DWG

SCALE

PROFESSIONAL SEAL



10/14/2022

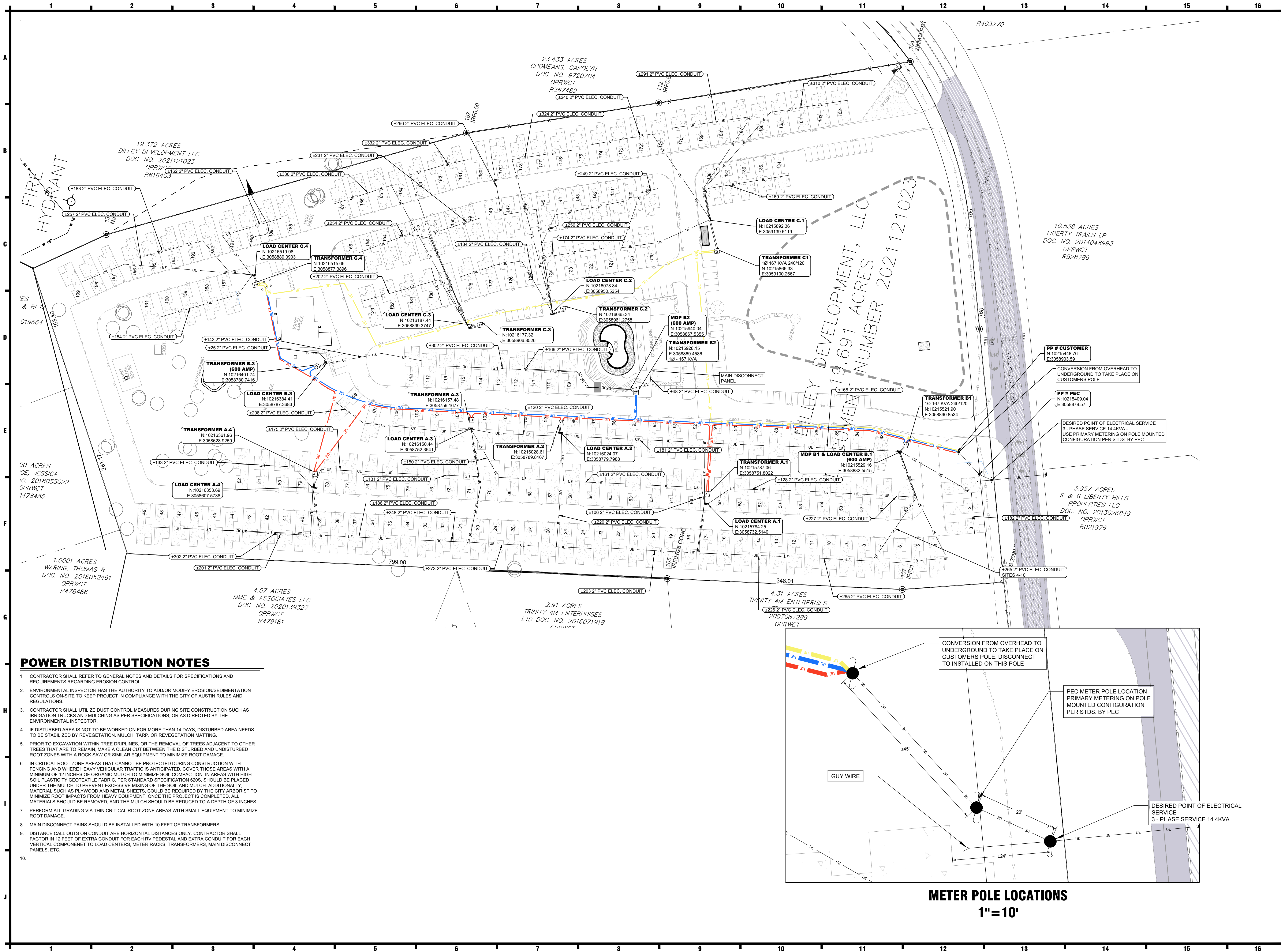
PROJECT STATUS  
1ST SUBMITTAL

SHEET TITLE  
SITE POWER  
DISTRIBUTION  
LAYOUT

SHEET NUMBER

32 of 42

TBD





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ISSUE/REVISION RECORD

- C1 - LOOP WATERLINE SYSTEM
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PROJECT NAME

LIBERTY HILL RV PARK

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

PROJECT NUMBER

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DRAWING FILE  
21007-DRYU.DWG

SCALE

PROFESSIONAL SEAL



10/14/2022

PROJECT STATUS  
1ST SUBMITTAL

SHEET TITLE  
**POWER  
DISTRIBUTION RISER  
DIAGRAMS**

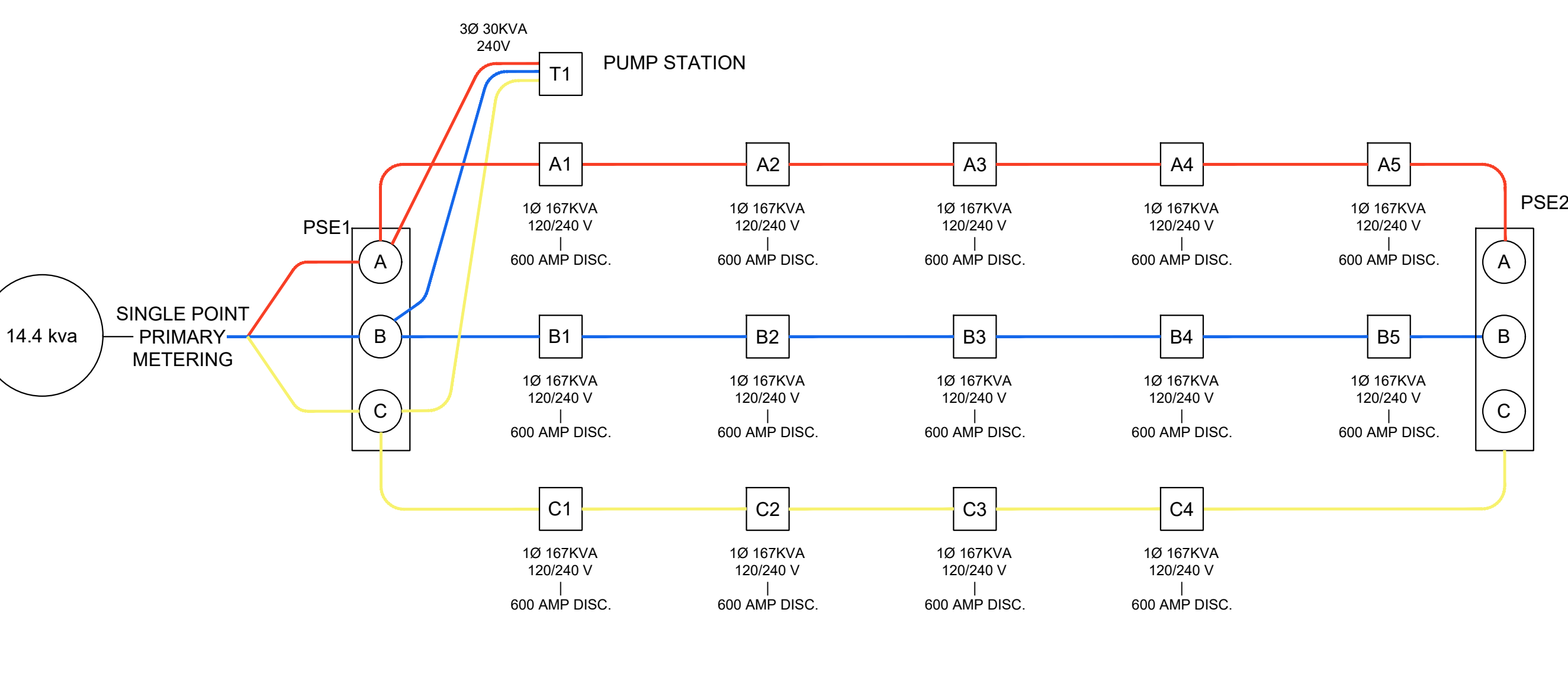
SHEET NUMBER

**33** of 42

TBD

1 TYPICAL TRANSFORMER RISER DIAGRAM (MAIN DISCONNECT + PANELBOARD)

FOR USE \_\_\_\_\_ N.T.S.

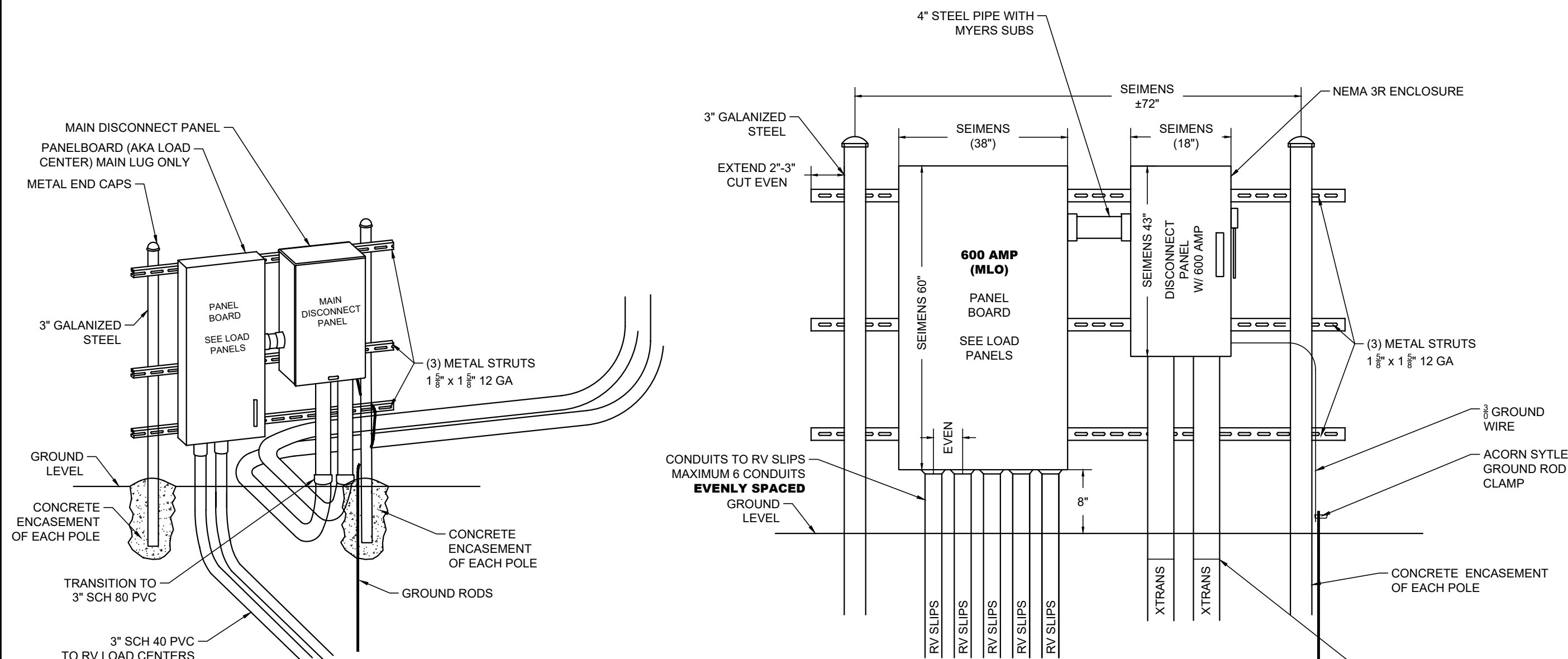


2 ONE-LINE DIAGRAM TRANSFORMER LAYOUT

FOR USE \_\_\_\_\_ N.T.S.

2 TYPICAL TRANSFORMER RISER DIAGRAM (DISCONNECT + PANELBOARD)

FOR USE \_\_\_\_\_ N.T.S.

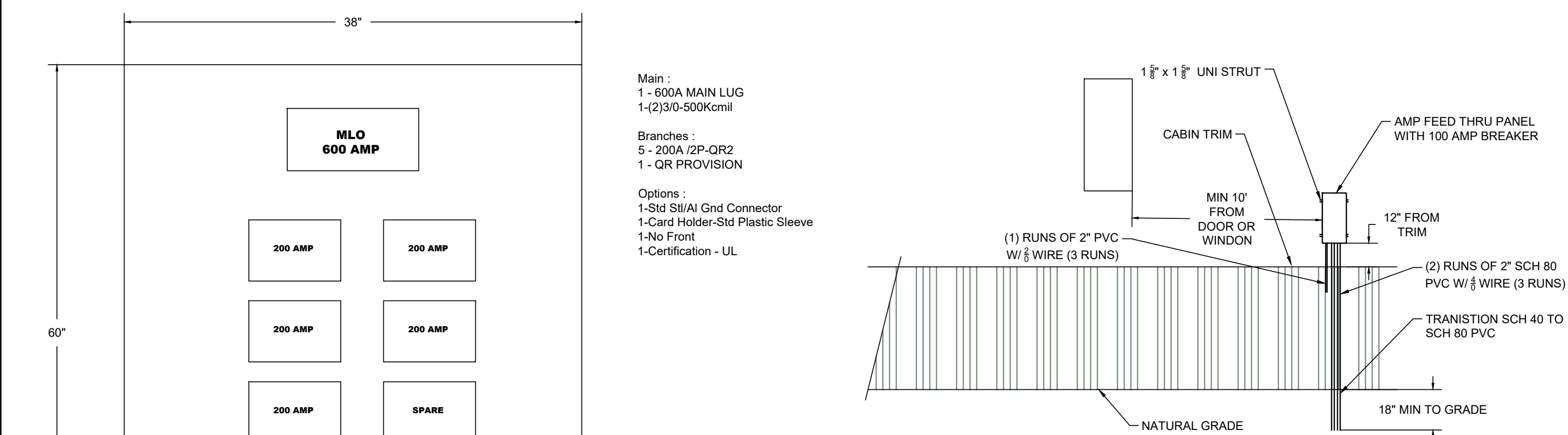


2 RACK DETAIL (DISCONNECT + PANELBOARD)

FOR USE \_\_\_\_\_ N.T.S.

2 TYPICAL TRANSFORMER RISER DIAGRAM (MAIN DISCONNECT + PANELBOARD)

FOR USE \_\_\_\_\_ N.T.S.



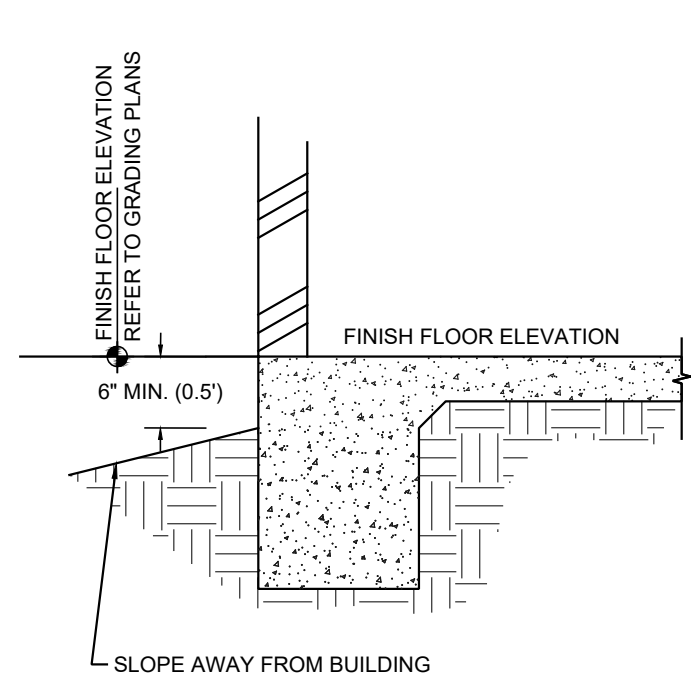
2 TYPICAL TRANSFORMER RISER DIAGRAM (MAIN DISCONNECT + PANELBOARD)

FOR USE \_\_\_\_\_ N.T.S.



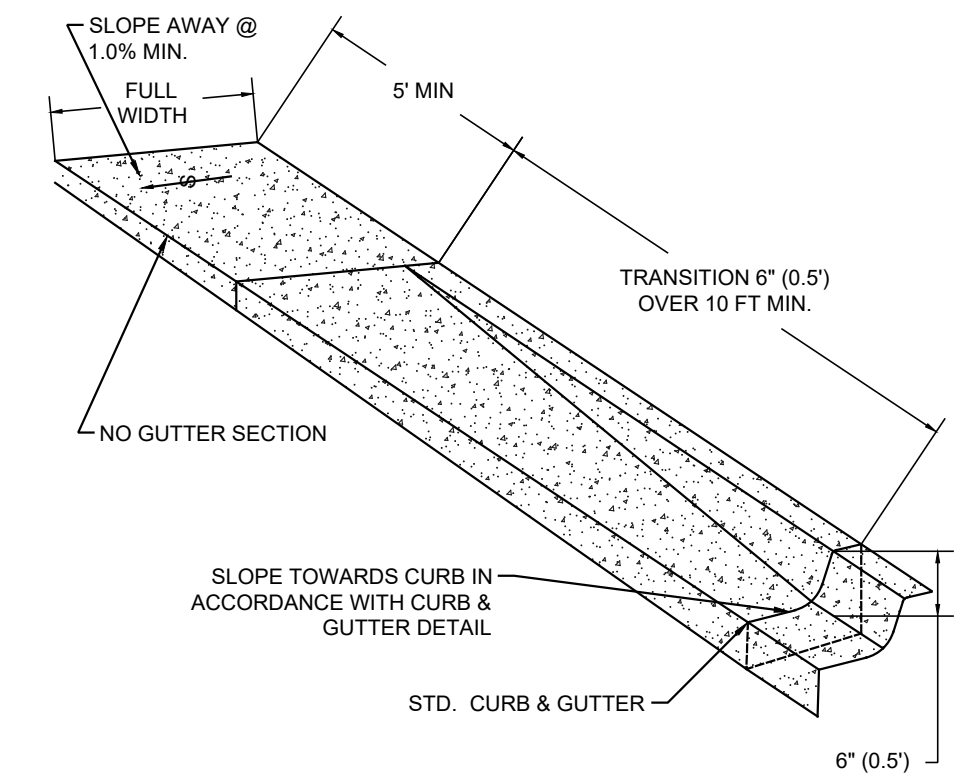






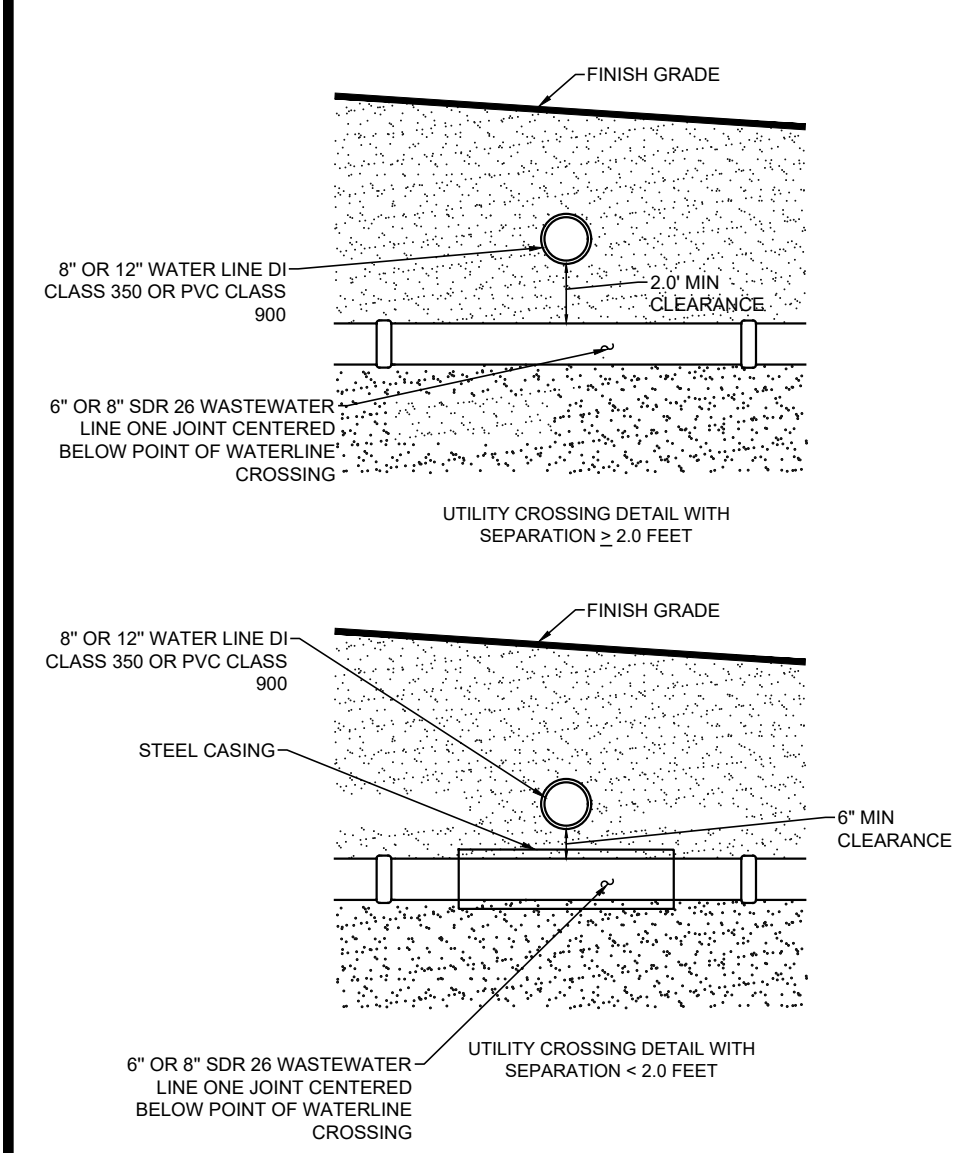
- NOTES**
1. DETAIL IS INTENDED TO SHOW ONLY THE SEPARATION FROM FFE TO OUTSIDE GRADE. CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS REGARDING FOOTING THICKNESS AND FOUNDATION SYSTEM TO BE USED.
  2. SLOPE AWAY FROM BUILDING IN ACCORDANCE WITH THE IBC 2012 SECTION 5.0% ON LANDSCAPE SURFACES FOR 10 FT / 2.0% ON HARDSCAPE SURFACES (IE. SIDEWALK PAVEMENT)

**1 ADJACENT GRADES TO BUILDINGS** N.T.S.

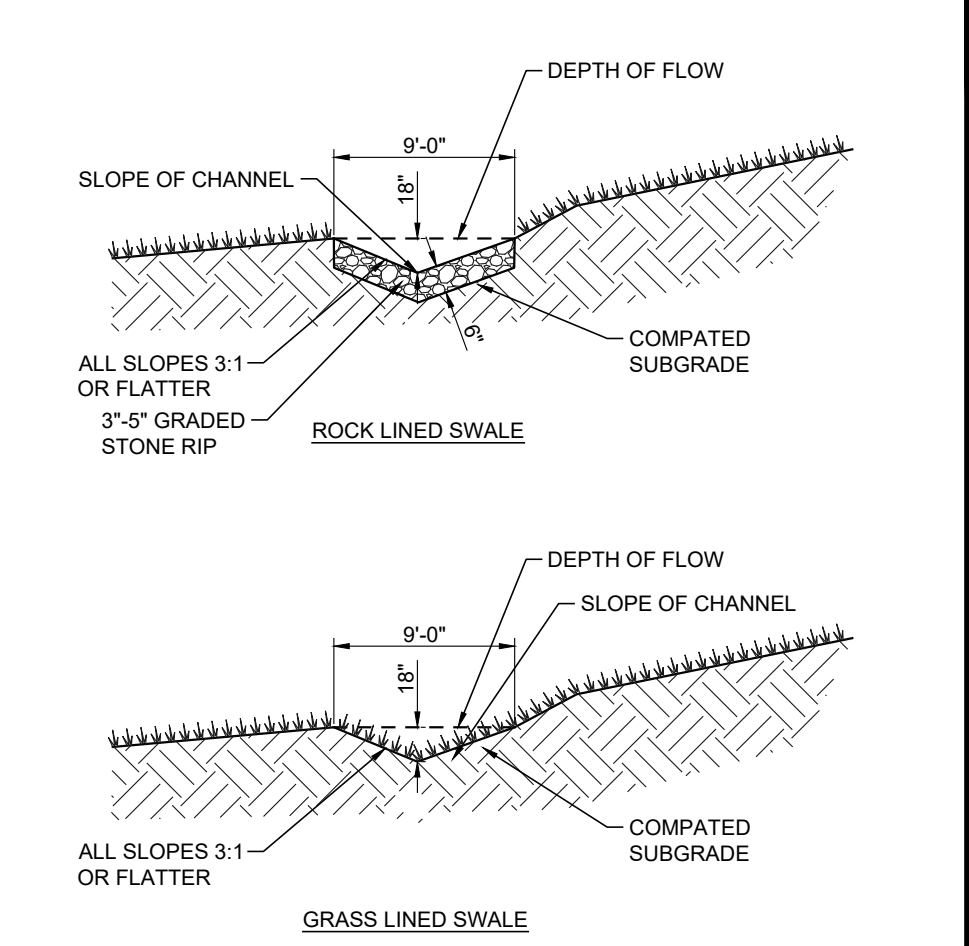


- NOTES**
1. DETAIL IS INTENDED TO SHOW THE TRANSITION FROM A FLUSH CURB TO A STD. CURB AND GUTTER.
  2. NO GUTTER SECTION SHALL SLOPE AS SHOWN ON THE GRADING PLAN.

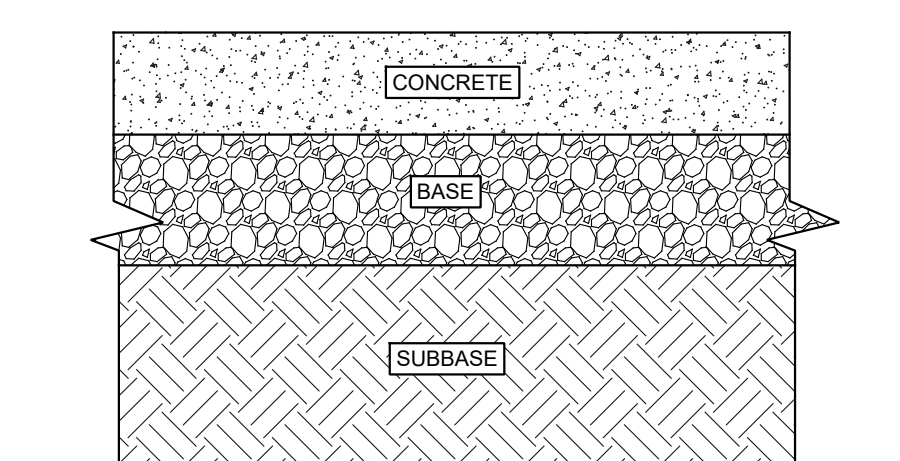
**2 TAPER CURBLINE - STRAIGHT RUN** N.T.S.



**5 WATER & SEWER PIPE SEPERATION** N.T.S.



- NOTES**
1. THE SWALE SHALL BE ADEQUATELY COMPACTED TO STANDARDS PROVIDE IN THE GEOTECH REPORT OR COMPACTION NOTES, WHICHEVER IS GREATER, TO PREVENT EROSION AND SHALL BE STABILIZED WITH PERMANENT SEEDING IN ACCORDANCE WITH EROSION CONTROL SPECIFICATIONS.
  2. SLOPE (LONGITUDINAL) SHALL BE 4.0% OR FLATTER.
  3. SWALE SHALL CONTAIN RIP-RAP CHECK DAMS EVERY TWO HUNDRED FEET FOR SLOPES OVER 4.0%.

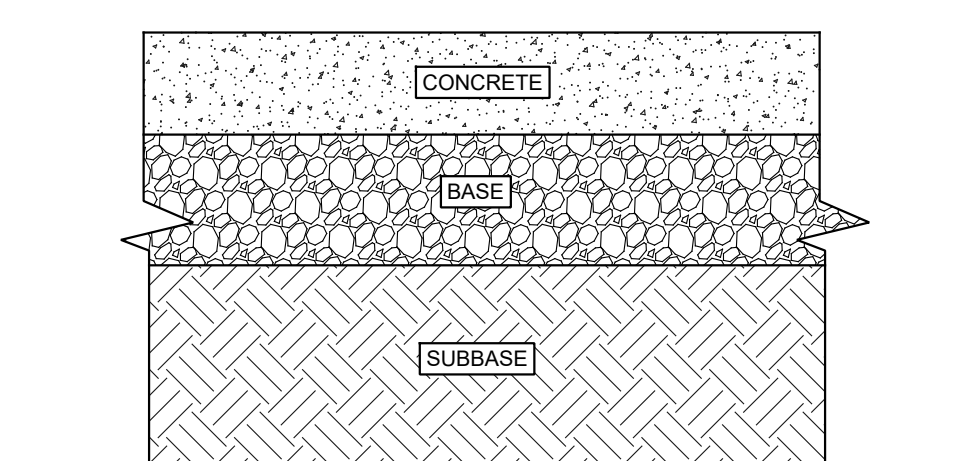


**THICKNESS**

TYPE	USE	CONCRETE	BASE	LIME SUBGRADE	COMPACTED SUBGRADE
<b>OPTION #1 (WITH LOW PI)</b>					
LIGHT	DRIVE AISLES	5"	6"	-	8"
HEAVY	INSIDE FIRE LANE	7"	6"	-	8"
<b>OPTION #2</b>					
LIGHT	DRIVE AISLES	5"	-	8"	
HEAVY	INSIDE FIRE LANE	7"	-	8"	

- NOTE:**
1. DETAIL REFLECTS CONCRETE PAVING SECTION RECOMMENDED BY PROJECT GEOTECHNICAL ENGINEER. CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT PRIOR TO BIDDING.
  2. CONCRETE EXPANSION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' O.C. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN".
  3. REFER TO GEOTECH REPORT FOR REINFORCEMENT LAYOUT.

**8 CONCRETE PAVEMENT DETAIL** N.T.S.



**THICKNESS**

TYPE	USE	CONCRETE	BASE	LIME SUBGRADE	COMPACTED SUBGRADE
STD.	RV PADS	6"	6"		

- NOTE:**
1. DETAIL REFLECTS CONCRETE PAVING SECTION RECOMMENDED BY PROJECT GEOTECHNICAL ENGINEER. CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT PRIOR TO BIDDING.
  2. CONCRETE EXPANSION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' O.C. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN".
  3. REFER TO GEOTECH REPORT FOR REINFORCEMENT LAYOUT.

**11 RV PAVEMENT DETAIL** N.T.S.

DESIGN PROFESSIONAL



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**ISSUE/REVISION RECORD**

- C1 - LOOP WATERLINE SYSTEM
- C2 - CHANGE PAD SIZES
- C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**

**LIBERTY HILL RV PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

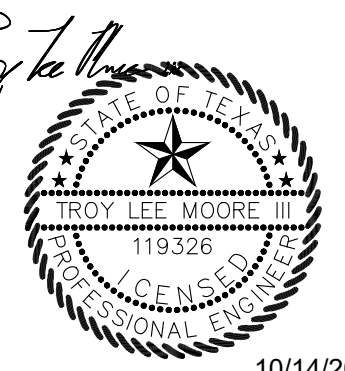
**PROJECT NUMBER**

**21007**

**DRAWING FILE**  
21007-DETL.DWG

**SCALE** N.T.S.

**PROFESSIONAL SEAL**



**PROJECT STATUS**  
1ST SUBMITTAL

**SHEET TITLE**  
SITE CONSTRUCTION  
DETAILS 2

**SHEET NUMBER**

**36** of 42

TBD

**KEYED NOTES**

MARK	QTY	DESCRIPTION
1	1	CAST IRON MANHOLE FRAME & COVER
2	1	3" THICK ADJUSTMENT RINGS AS REQUIRED. FLAT TOPS ARE AVAILABLE.
3	1	CONCENTRIC CONE
4	1	RISE R SECTIONS AVAILABLE IN VARYING HEIGHTS.
5	1	48" USES O'RING, OTHER SIZES USE RAMMEK JOINT SEALANT
6	1	BASE SECTION, KNOCKOUTS AS REQUIRED.
7	1	HOLES AS REQUIRED
8	1	NAMEPLATE INDICATING PRECAST CONCRETE MANHOLE

**CONCRETE:** CLASS 1/1 CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATED FOR H-20 LOADING.

**REINFORCEMENT:** STRUCTURAL REINFORCEMENT CONFORMING TO ASTM A615.

**C.I. CASTINGS:** CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

**MANUFACTURER:** MFG: PARKUSA 888-611-PARK WWW.PARKUSA.COM MODEL: PCMHST

**PROJECT:** STORM SEWER-MODEL PC MHST - 48" THRU 120" PRECAST CONCRETE MANHOLE

**DATE:** 05/2019 **DWG. NO.:** 21007-DETL

**ADDITIONAL OPTIONS**

REMOVEABLE DEBRIS SCREEN w/ (2) LEFT HANDLES, 20# STAINLESS STEEL, 1/2" HOLES & 1/4" G.C. (USE FREE OPEN AREA)

**COVER OPTIONS**

ADD RESISTANT FRP GRATING, 1/2" STAINLESS STEEL FRAME, (FEEDBACK ONLY)

GRATING: GRATING SHALL BE ADD-RESISTANT FIBERGLASS GRATING w/ STAINLESS STEEL ANGLE FRAME

900-RESISTANT STEEL PEDESTAL OUTLET STD.

TRAFFIC DUTY CAST IRON GRATE

STAINLESS STEEL/FIBERGLASS GRATE, ADA APPROVED

CAST IRON FRAME & GRATE WOOD-GRASS

**KEYED NOTES**

MARK	QTY	DESCRIPTION
1	1	GRATE OR COVER AS REQUESTED, SEE OPTIONS
2	1	CAST-IN STEEL FRAME
3	1	OPTIONAL TOP/EXTENSION 6" TO 18"
4	1	PRECAST CONCRETE BASIN SECTION
5	4	KNOCKOUTS (STD) AND PENETRATIONS (OPT) AS REQUIRED, SEE NO DIMENSION FOR MAXIMUM PIPE O.D.
6	1	NAMEPLATE INDICATING: MFG: PARKUSA 888-611-PARK WWW.PARKUSA.COM MODEL: CS-01 DATE MANUFACTURED

**CONCRETE:** CLASS 1/1 CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

**REINFORCEMENT:** GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

**C.I. CASTINGS:** CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

**PROJECT:** CATCH BASIN MODEL CS - 12" THRU 84"

**DATE:** 01/2019 **DWG. NO.:** 21007-DETL

**KEYED NOTES**

MARK	QTY	DESCRIPTION
1	1	CAST IRON MANHOLE FRAME & COVER
2	1	3" THICK ADJUSTMENT RINGS AS REQUIRED. FLAT TOPS ARE AVAILABLE.
3	1	CONCENTRIC CONE
4	1	RISE R SECTIONS AVAILABLE IN VARYING HEIGHTS.
5	1	48" USES O'RING, OTHER SIZES USE RAMMEK JOINT SEALANT
6	1	BASE SECTION, KNOCKOUTS AS REQUIRED.
7	1	HOLES AS REQUIRED
8	1	NAMEPLATE INDICATING PRECAST CONCRETE MANHOLE

**CONCRETE:** CLASS II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION INCLUDING WALLS AND FLOOR.

**REINFORCEMENT:** GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL. BAR BENDING AND PLACEMENT SHALL WITH THE LATEST ACI STANDARDS.

**PROJECT:** HEADWALL FOR STORMWATER PIPING MODEL HW 12" THRU 48"

**DATE:** 05/2019 **DWG. NO.:** 21007-DETL

**MANHOLE COVER PLAN VIEW**

**MANHOLE FRAME PLAN VIEW**

**MANHOLE COVER SECTION VIEW**

**MANHOLE FRAME SECTION VIEW**

**PICKBAR DETAIL**

**STAR SECTION VIEW**

**NOTES:**

- COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04
- MANHOLE COVER SHALL BE MODEL NUMBER: V-1432-3 (PRODUCT NUMBER: 41432056), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432080), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
- MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
- MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
- MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
- FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
- MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
- COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
- MANUFACTURER SHALL DRILL 2-3/16"x1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

**CITY OF ROUND ROCK** DRAWING NO: DR-06

**NON-BOLTED STORMSEWER MANHOLE COVER AND FRAME DETAIL**

**INLET COVER PLAN VIEW**

**INLET COVER BOTTOM VIEW**

**INLET COVER SECTION VIEW**

**INLET FRAME SECTION VIEW**

**NOTES:**

- COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04
- INLET COVER SHALL BE MODEL NUMBER: 106L LK (PRODUCT NUMBER: 35106204), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- INLET FRAME SHALL BE MODEL NUMBER: 106L LK (PRODUCT NUMBER: 35206004), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- INLET COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: 106L-4L LK (PRODUCT NUMBER: 35506204), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
- ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
- INLET COVER WEIGHT SHALL BE 88 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
- FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
- MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
- INLET COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.

**CITY OF ROUND ROCK** DRAWING NO: DR-07

**STORM SEWER INLET COVER AND FRAME DETAIL**

**EXISTING BASE MATERIAL**

**EXISTING ASPHALT**

**PRIME COAT**

**RECOMPACTED FLEXIBLE BASE MATERIAL @ 95% MATCHING EXISTING BASE MATERIAL**

**BED TO TOP OF PIPE**

**PIPE BEDDING STONE SHALL BE TEXAS CRUSHED STONE 3/8" F OR 1/2" D ROCK**

**CENTER PIPE IN TRENCH**

**PIPE O.D. +24" MIN.**

**NOTES:**

- H.M.A.C. SHOWN IN THIS DETAIL IS SEPARATE FROM ANY ADDITIONAL THICKNESS CREATED BY ANY OVERLAY ITEM IN CONTRACT.
- THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE STORM SEWER TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER.
- INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT AND SURFACE PATCH, SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BIDS FOR STORM SEWER PIPE.
- THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BIDS FOR STORM SEWER PIPE.
- ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

**CITY OF ROUND ROCK** DRAWING NO: DR-01

**STORM SEWER LINE BEDDING DETAIL (EXISTING PAVED SURFACE)**

**FINISHED GROUND OR SUBGRADE**

**COMPACTED BACKFILL IN SITU TRENCH MATERIAL FREE OF ROCK AND CLODS GREATER THAN 4" TO 85% (SEE SPEC. ITEM 510)**

**UNDISTURBED EARTH**

**BED TO TOP OF PIPE**

**PIPE BEDDING STONE SHALL BE TEXAS CRUSHED STONE 3/8" F OR 1/2" D ROCK**

**CENTER PIPE IN TRENCH**

**PIPE O.D. +24" MIN.**

**NOTES:**

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

**CITY OF ROUND ROCK** DRAWING NO: DR-02

**STORM SEWER LINE BEDDING DETAIL (NON-PAVED SURFACE)**

**DESIGN PROFESSIONAL**

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CONSTRUCTION MANAGEMENT**

**EXCAVATION INC.**

**ISSUE/REVISION RECORD**

C1 - LOOP WATERLINE SYSTEM  
C2 - CHANGE PAD SIZES  
C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV PARK**

2224 RR 1869  
LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
MAPSCO # TBD

**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
**21007-DETL.DWG**

**SCALE** N.T.S.

**PROFESSIONAL SEAL**

Troy Lee Moore III  
119326  
10/14/2022

**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**STORM SEWER DETAILS**

**SHEET NUMBER**  
**37 of 42**

TBD

KEYED NOTES	
MARK	DESCRIPTION
1	CAST IRON MANHOLE FRAME & COVER
2	3" THICK ADJUSTMENT RINGS AS REQUIRED. FLAT TOPS ARE AVAILABLE.
3	CONCENTRIC CONE
4	RISER SECTIONS AVAILABLE IN VARYING HEIGHTS.
5	48" USES O'RING, OTHER SIZES USE RAMNEK JOINT SEALANT
6	BASE SECTION, KNOCKOUTS AS REQUIRED.
7	HOLES AS REQUIRED
8	NAMEPLATE INDICATING: PRECAST CONCRETE MANHOLE MFG: PARKUSA 888-611-PARK WWW.PARKUSA.COM MODEL PCMHST

DIMENSIONS AND WEIGHTS			
LD. SIZE (in)	W (in)	B (in)	RISER H (ft)
48"	5"	6"	868
60"	6"	6"	1300
72"	6"	6"	1811
84"	6"	6"	2350
96"	6"	6"	3090
120"	8"	6"	3500

\* MIN. THICKNESS BELOW INSERT

1. LIFTING INSERTS AS REQUIRED.

2. ALL JOINTS SHALL BE SEALED w/ RAM-NEK JOINT SEALANT

3. STRUCTURE TO BE PLACED ON MIN. 6" STABILIZED BASE.

OPTIONS:

- STEPS
- EXTENDED LIP BASE
- COATINGS
- BOTTOM

**SPECIFICATIONS**

CONCRETE : CLASS 1/II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATED FOR H-20 LOADING.

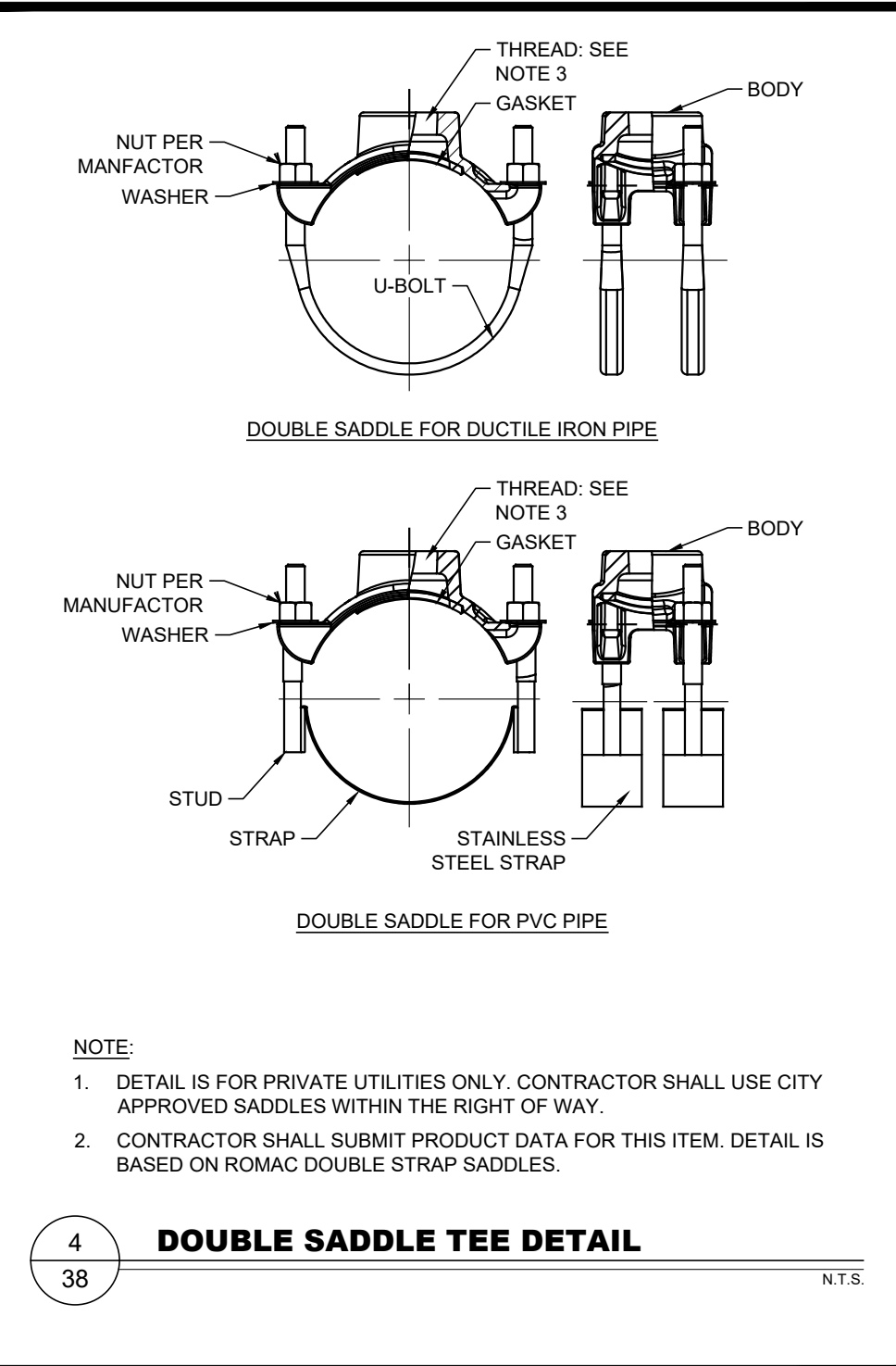
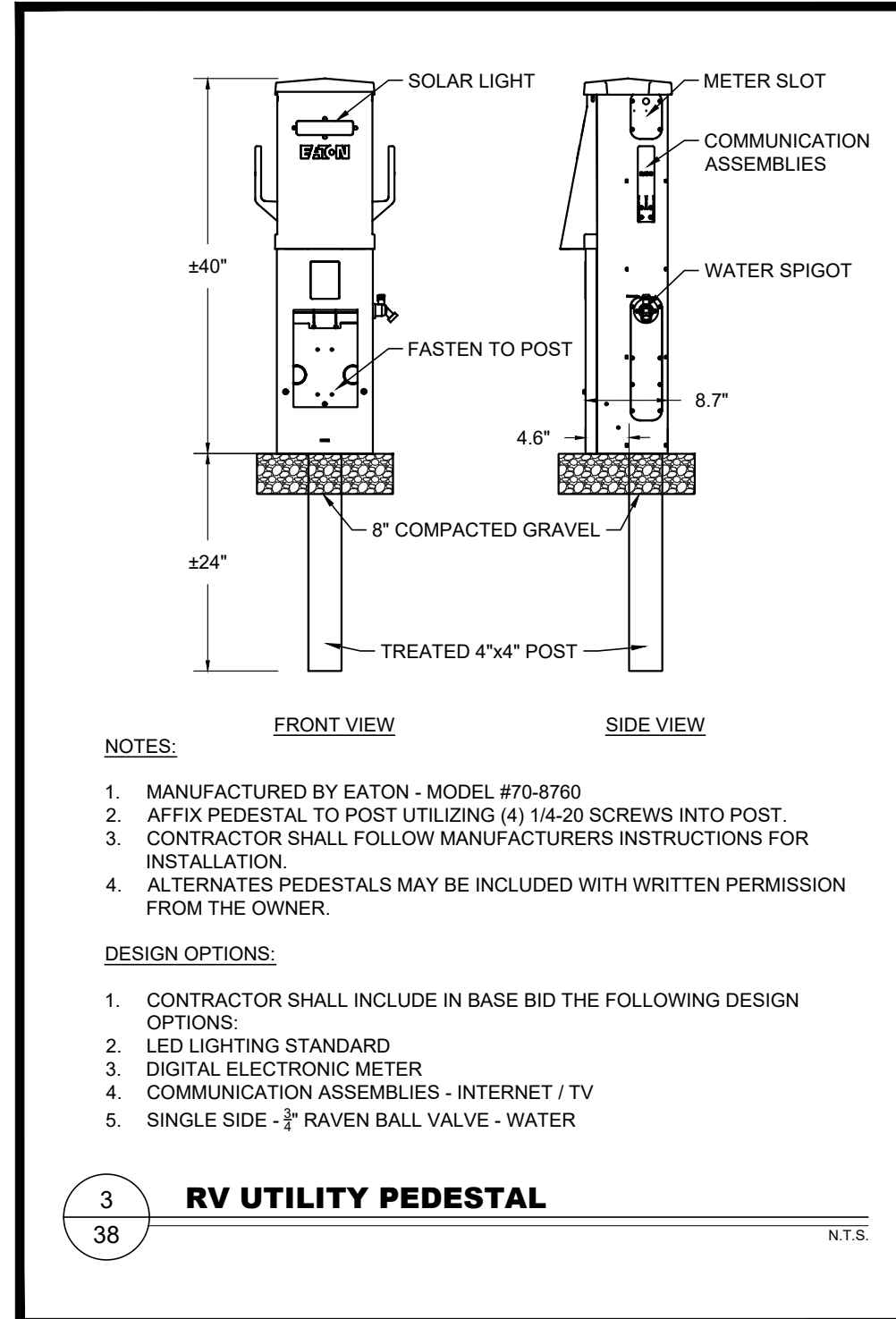
REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-78 CLASS 30.

PROJECT: \_\_\_\_\_  
 CUSTOMER: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_  
 ORDER #: \_\_\_\_\_ PROJ #: \_\_\_\_\_  
 DATE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

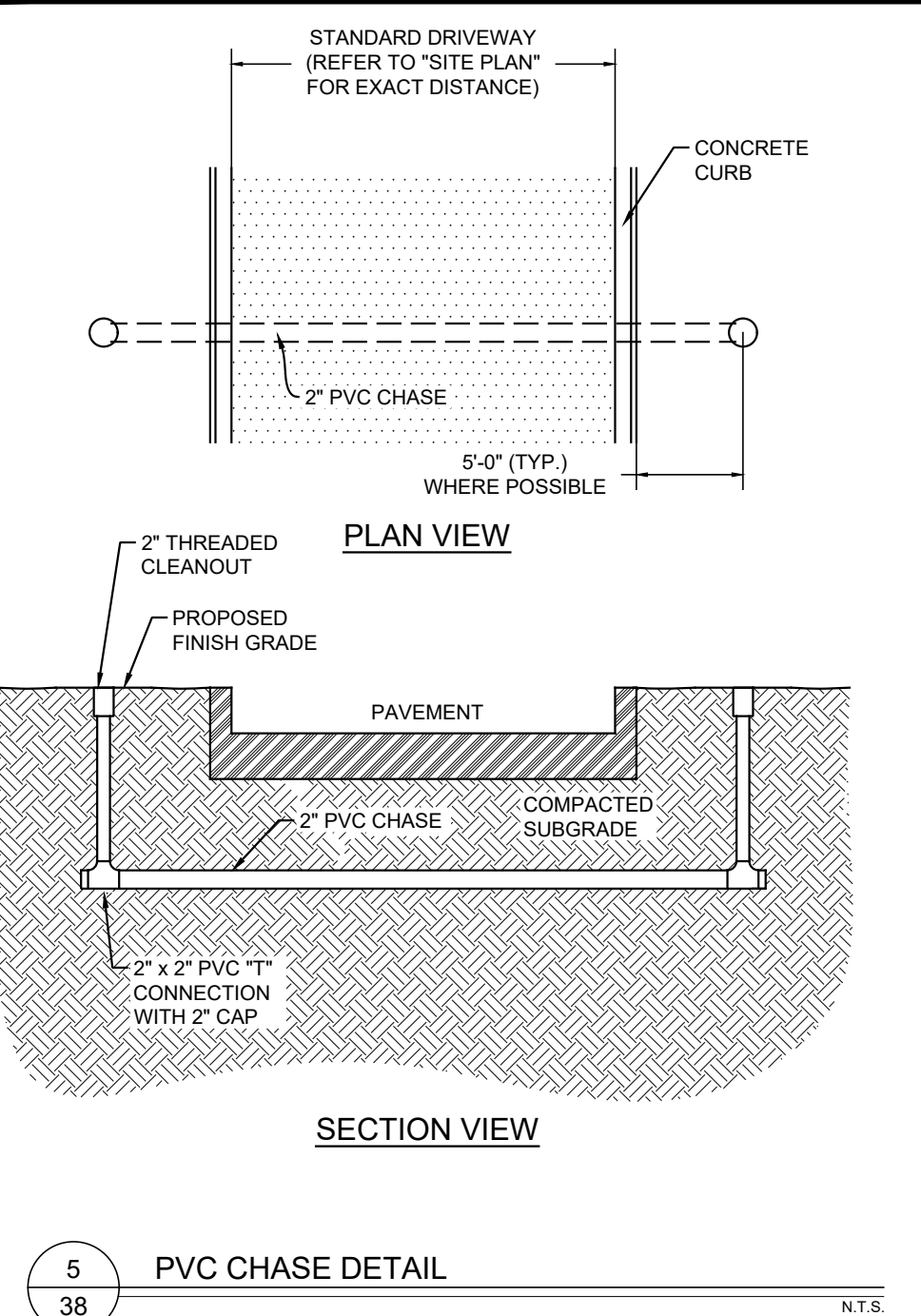
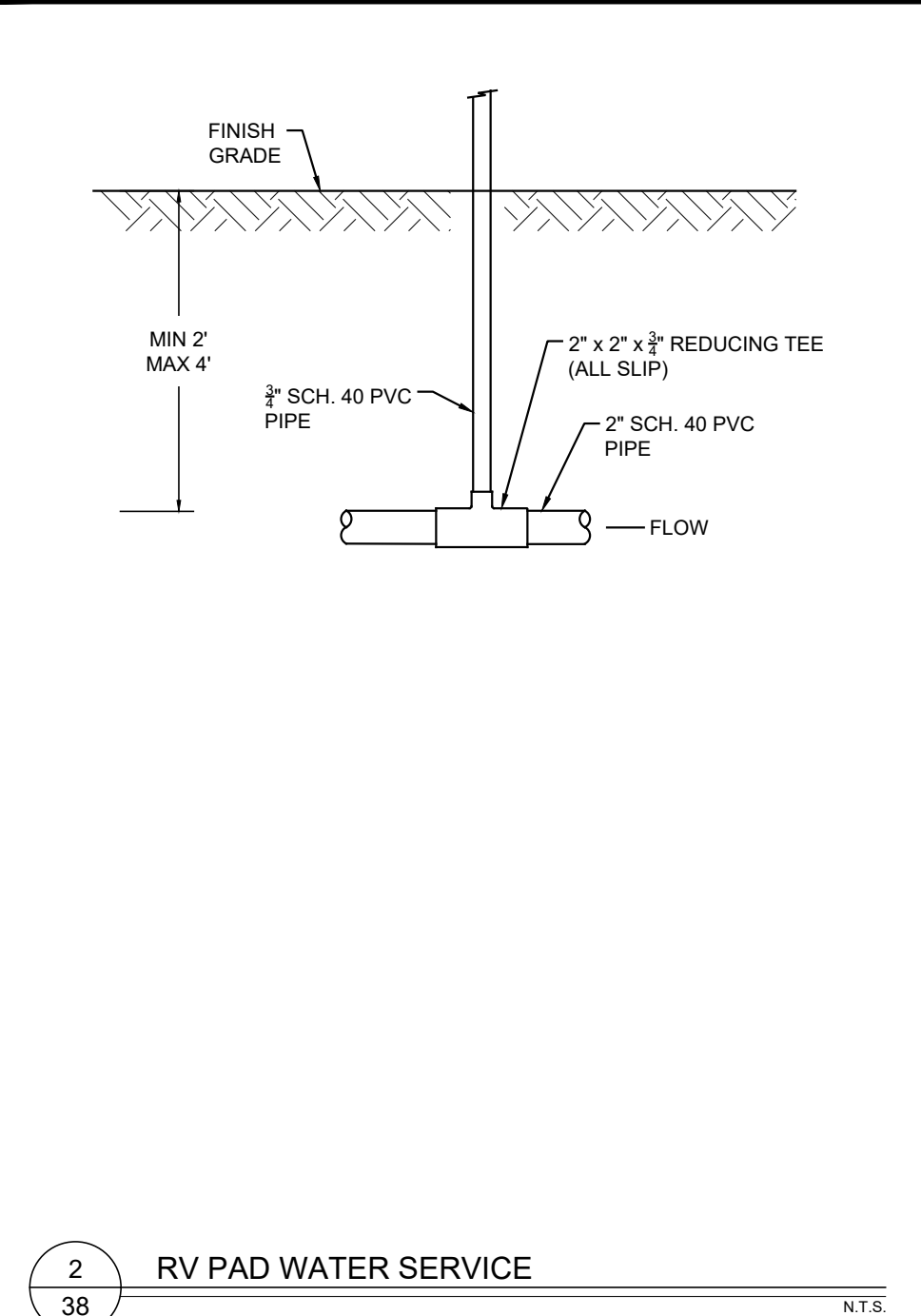
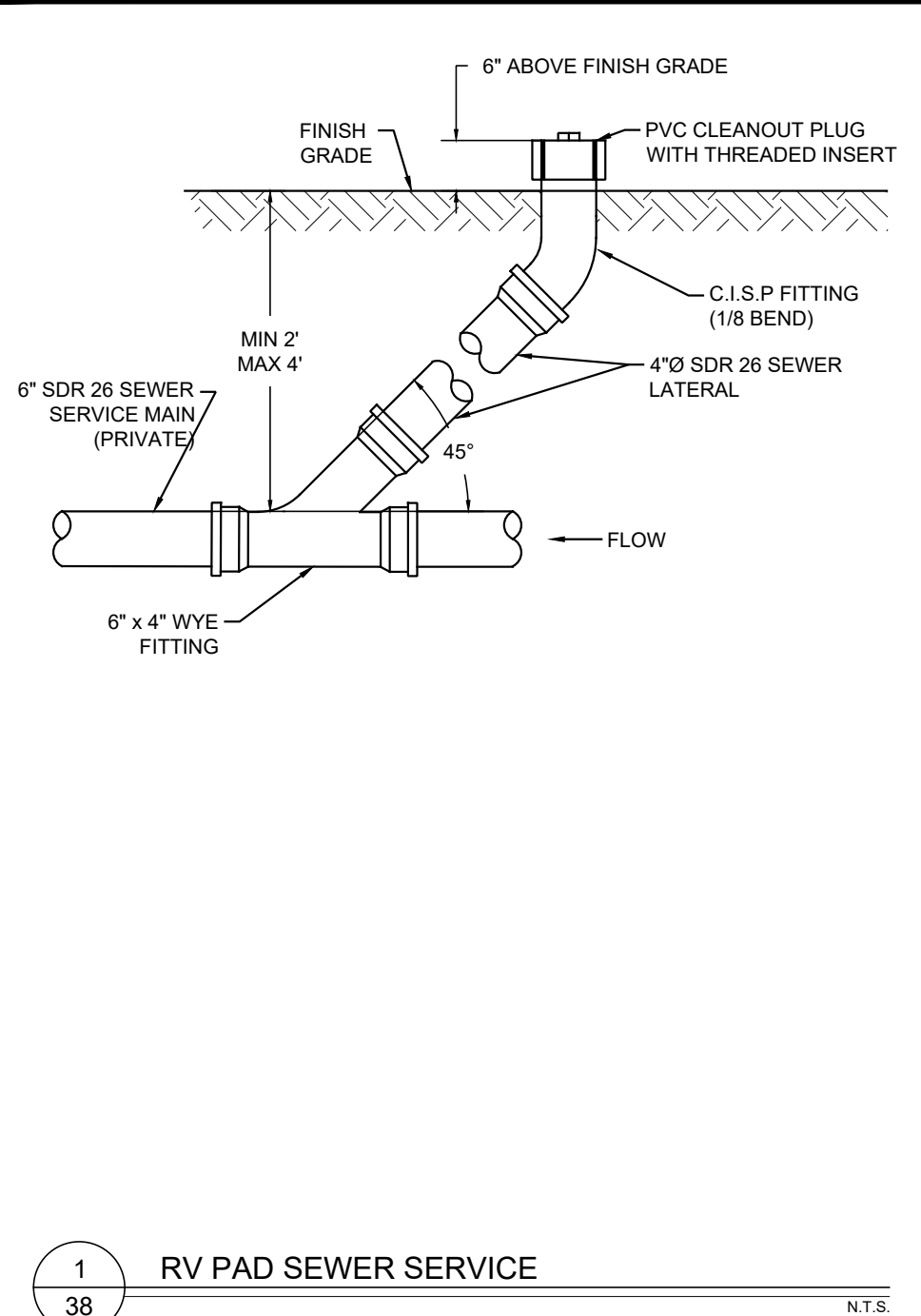
**PARK**  
 www.parkusa.com 888-611-PARK  
 PRECAST CONCRETE MANHOLE  
 STORM SEWER-MODEL PC MHST - 48" THRU 120"

DATE 05/2019 21007-DETL



**3 RV UTILITY PEDESTAL**      N.T.S.

**4 DOUBLE SADDLE TEE DETAIL**      N.T.S.



DESIGN PROFESSIONAL



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 AUSTIN, TEXAS 78704  
 PH: 512.820.3265  
 FIRM # 18863  
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**CIVIL ENGINEERING | BUILDING DESIGN**  
**CONSTRUCTION MANAGEMENT**

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**ISSUE/REVISION RECORD**

C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

**PROJECT NAME**  
**LIBERTY HILL RV PARK**

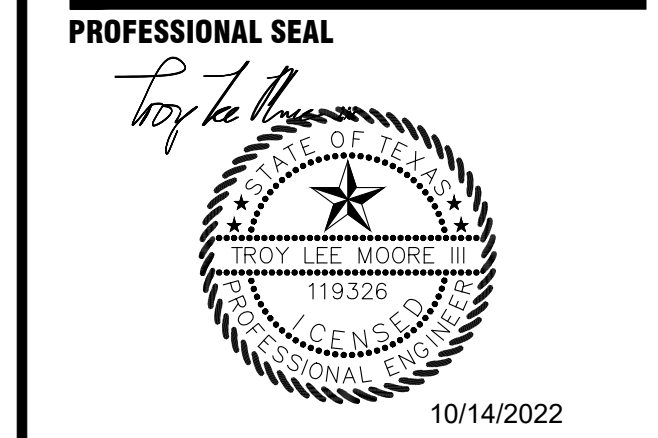
2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**  
**21007**

**DRAWING FILE**  
 21007-DETL.DWG

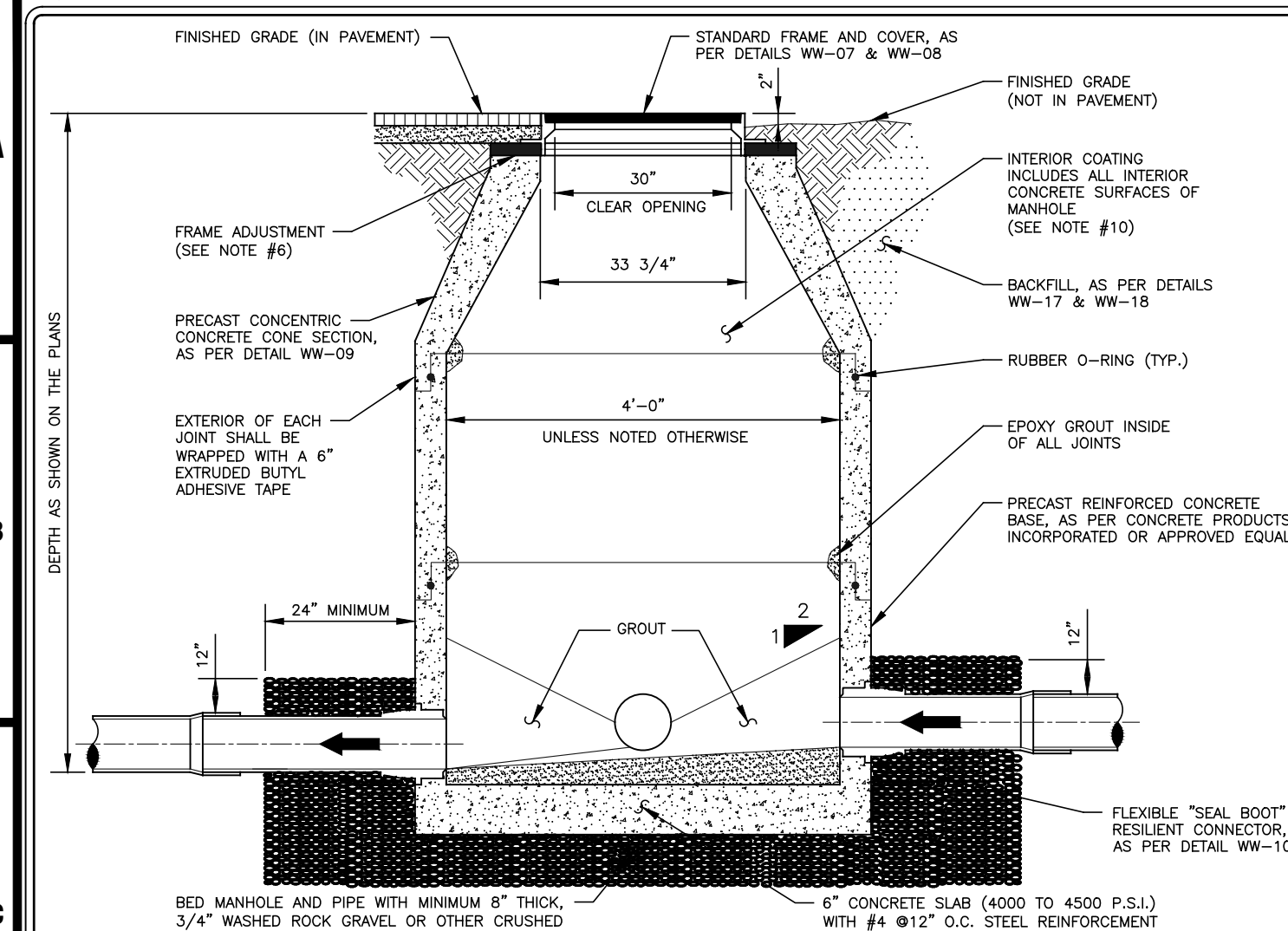
**SCALE**    N.T.S.



**PROJECT STATUS**  
**1ST SUBMITTAL**

**SHEET TITLE**  
**WASTEWATER DETAILS**

**SHEET NUMBER**  
**38 of 42**  
 TBD

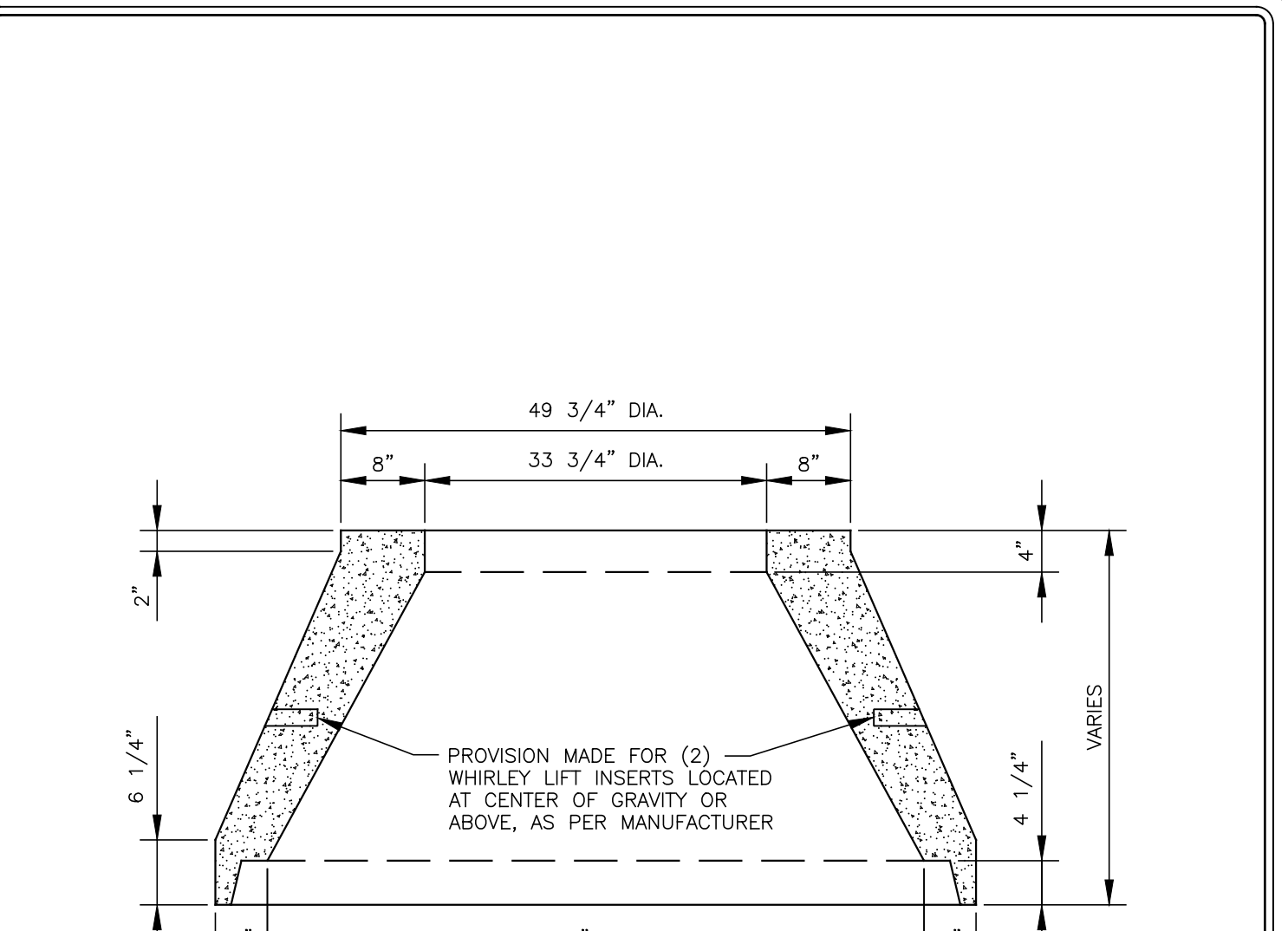


- NOTES:**
- IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
  - SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
  - MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
  - MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
  - ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
  - FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
  - FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
  - A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
  - BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
  - EXISTING INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 10 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**PRECAST CONCRETE WASTEWATER MANHOLE DETAIL**

DRAWING NO: WW-01

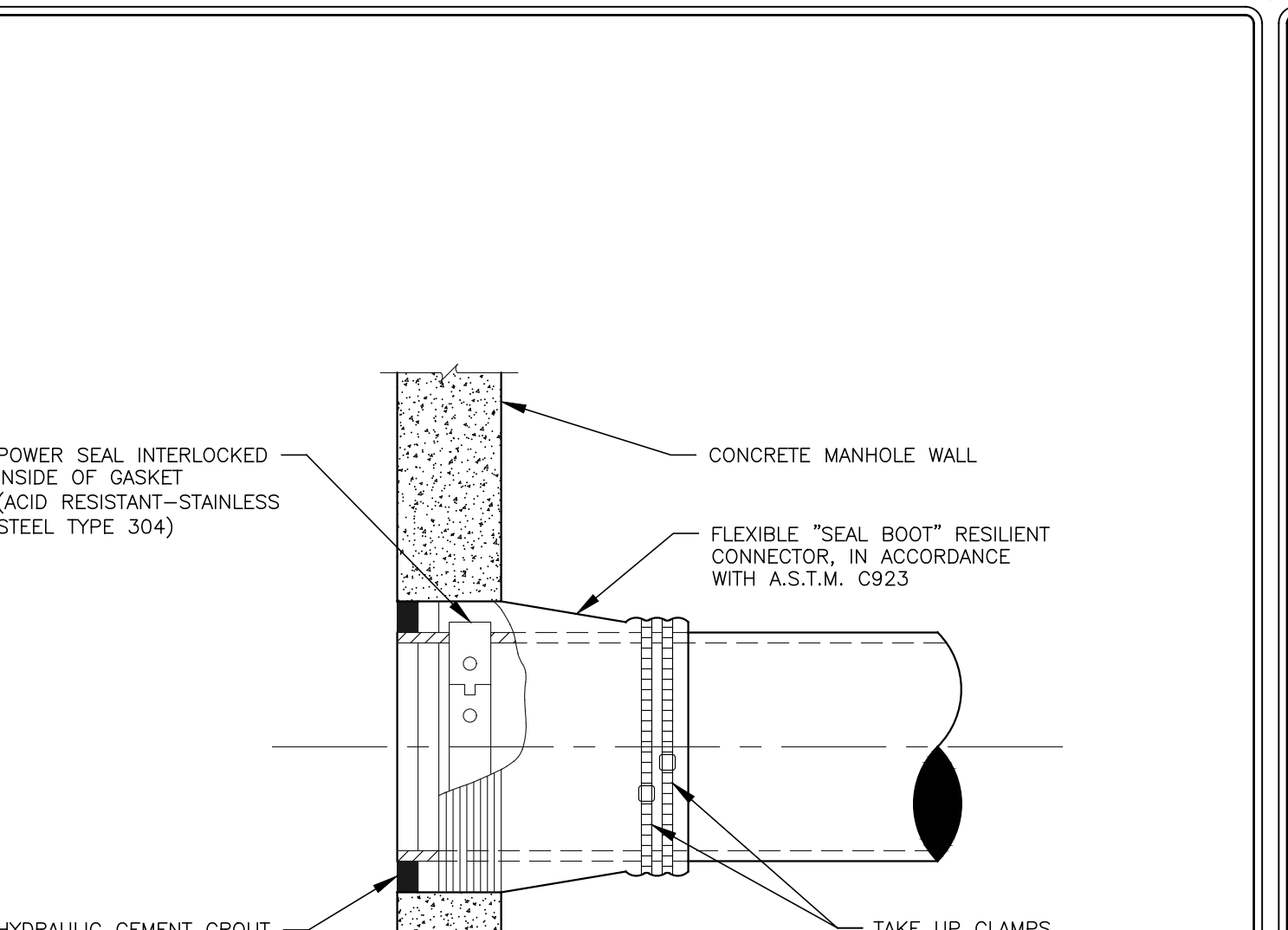


- NOTE:**
- CONCENTRIC CONCRETE CONE SECTION SHALL BE MANUFACTURED USING 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH AND IN ACCORDANCE WITH A.S.T.M. C478, AS MANUFACTURED BY CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL.

RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**PRECAST 48" CONCENTRIC CONCRETE CONE SECTION DETAIL**

DRAWING NO: WW-09

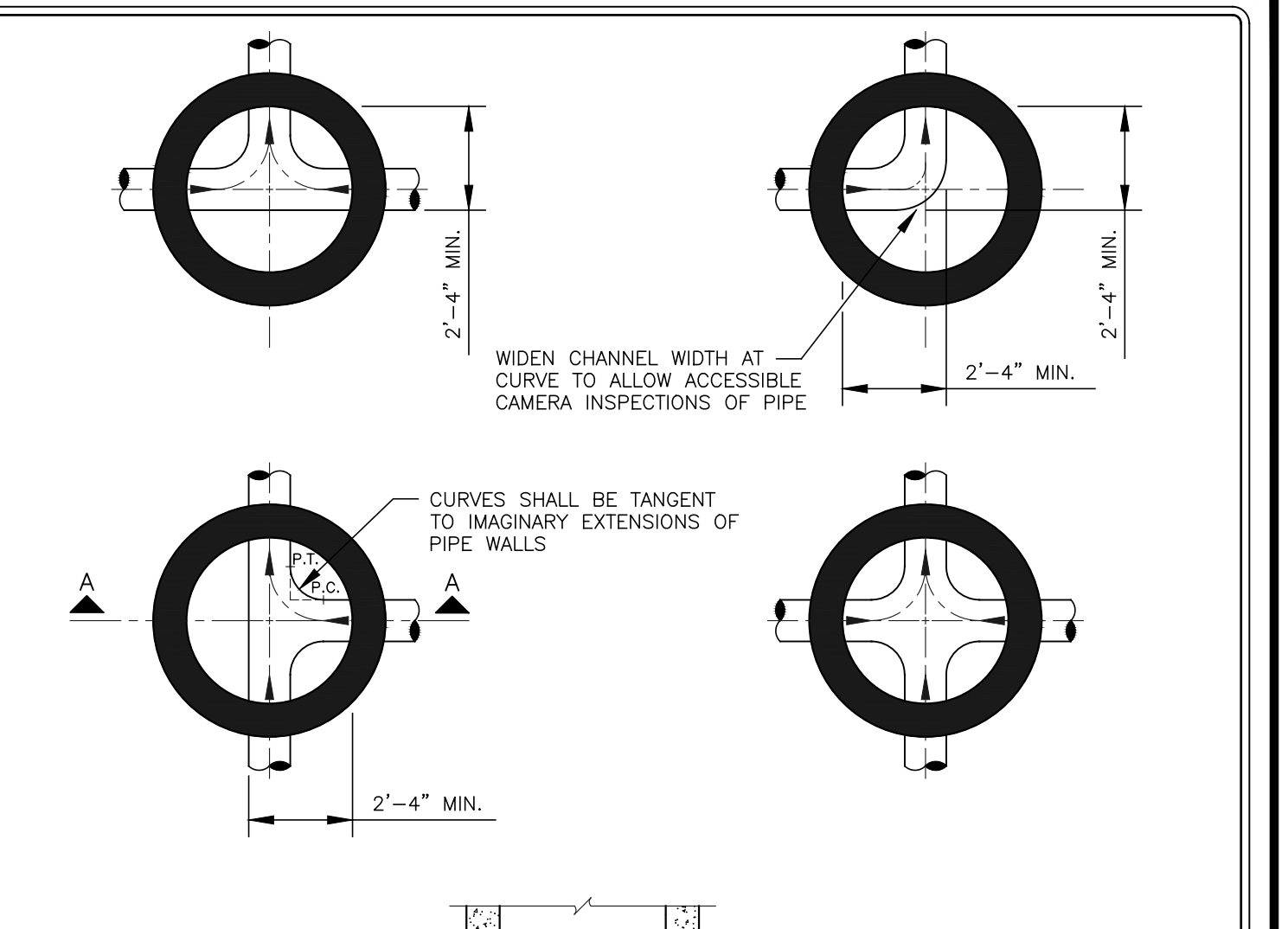


- NOTE:**
- FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM A MANHOLE JOINT.

RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL**

DRAWING NO: WW-10

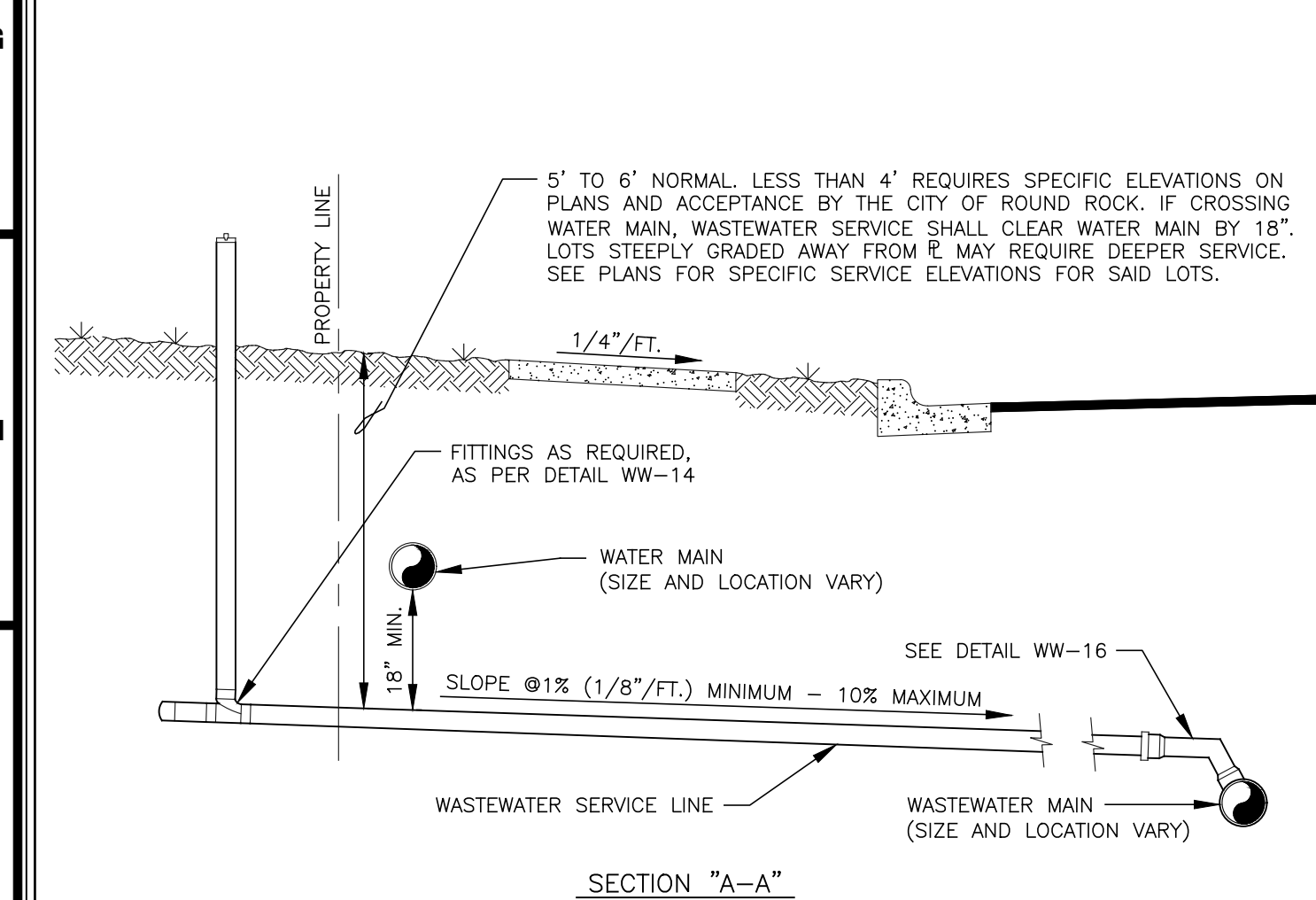
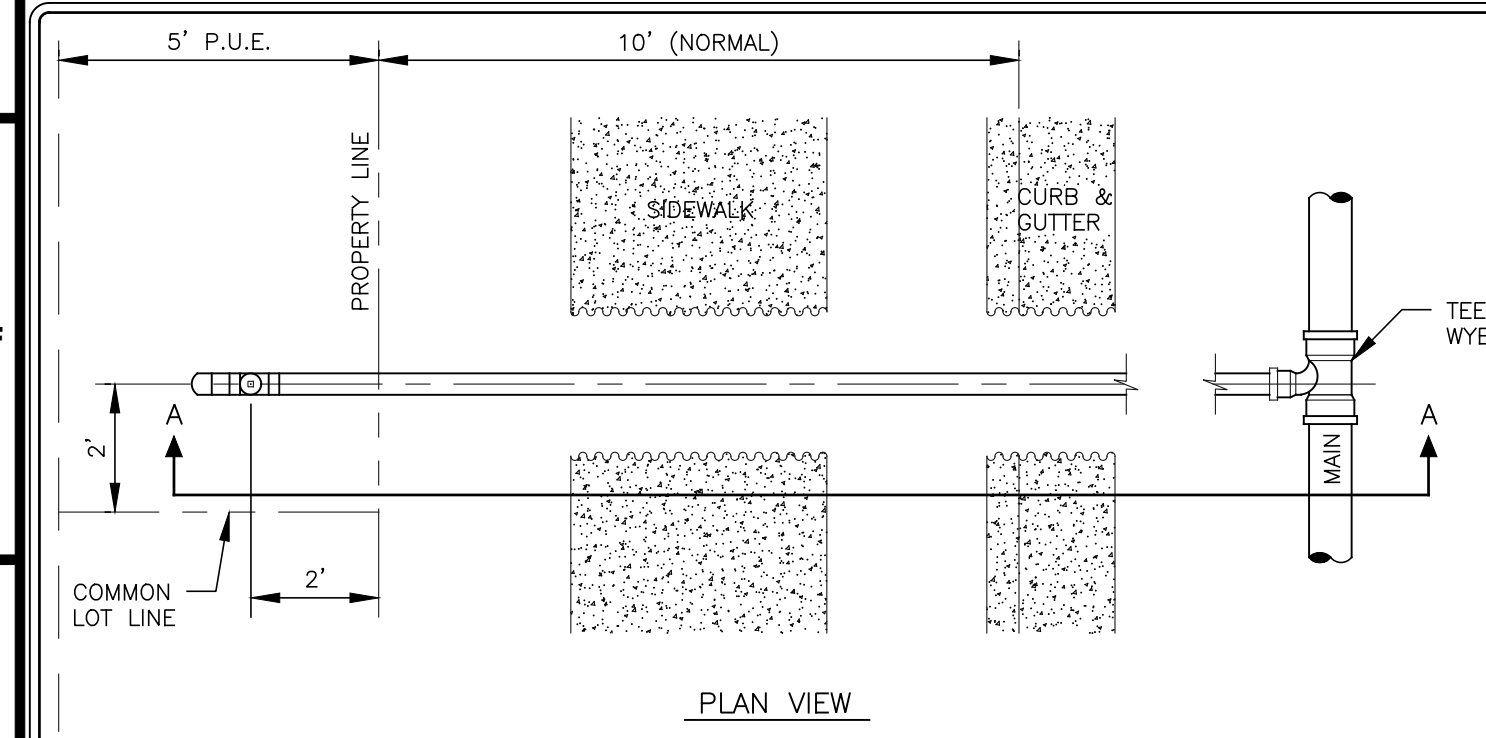


- NOTES:**
- MINIMUM DROP FROM INLET TO OUTLET OF MANHOLE IS 0.1 FEET AND MAXIMUM DROP IS 2 FEET, UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE CITY OF ROUND ROCK.
  - INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
  - SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
  - CHANNELS FOR FUTURE CONSTRUCTIONS, SHALL BE CONSTRUCTED WITH PIPE EXTENDING 3' BEYOND EXTERIOR OF MANHOLE WALL, WITH GLUED PLUG.
  - SLOPE MANHOLE BENCH AT 2:1 SLOPE FROM MANHOLE WALL TO CHANNEL.
  - INVERT CHANNEL SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR FOUR INCHES (4") DEEP.

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 03-01-18 DATE  
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**CITY OF ROUND ROCK**  
**WASTEWATER FLOW PATTERNS FOR INVERT CHANNELS DETAIL**

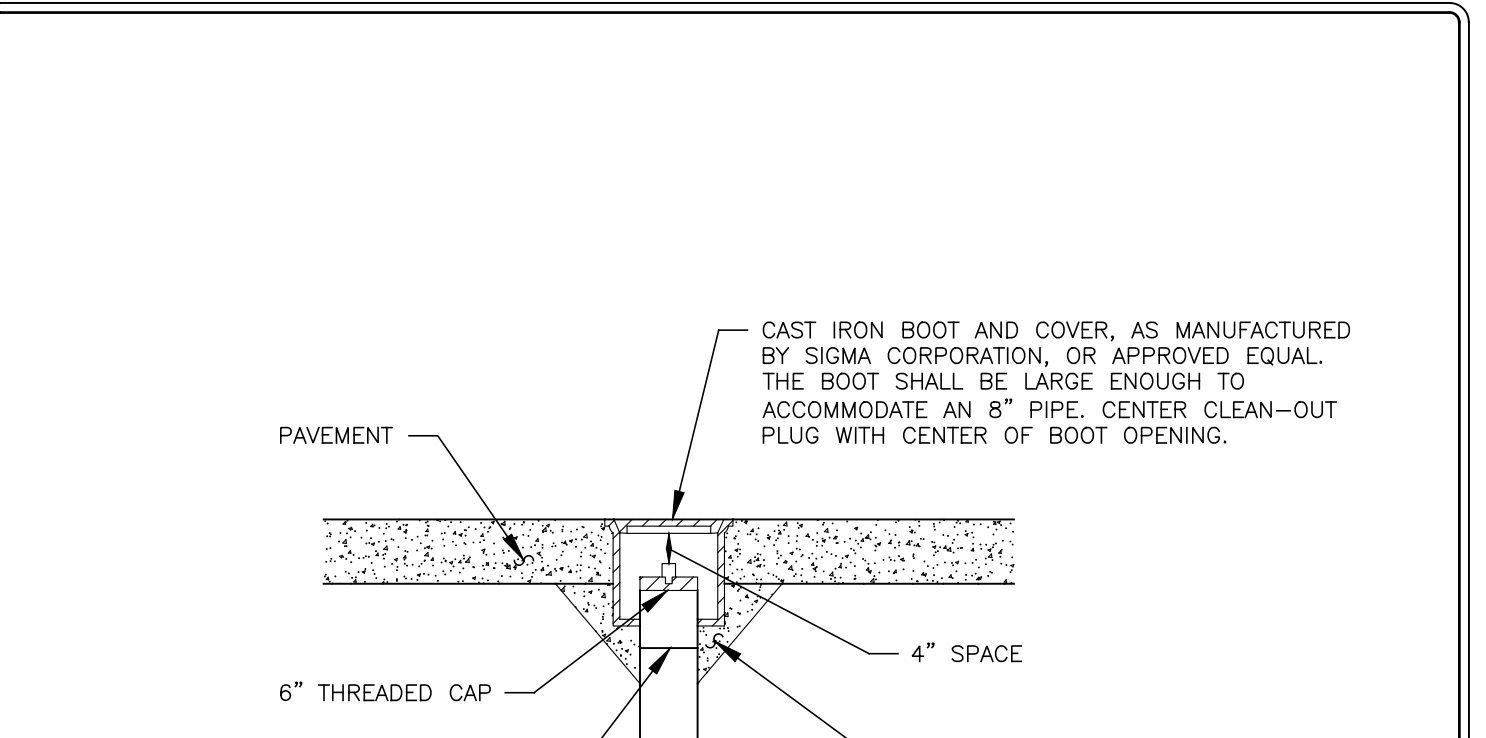
DRAWING NO: WW-11



RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**WASTEWATER SERVICE DETAIL**

DRAWING NO: WW-12

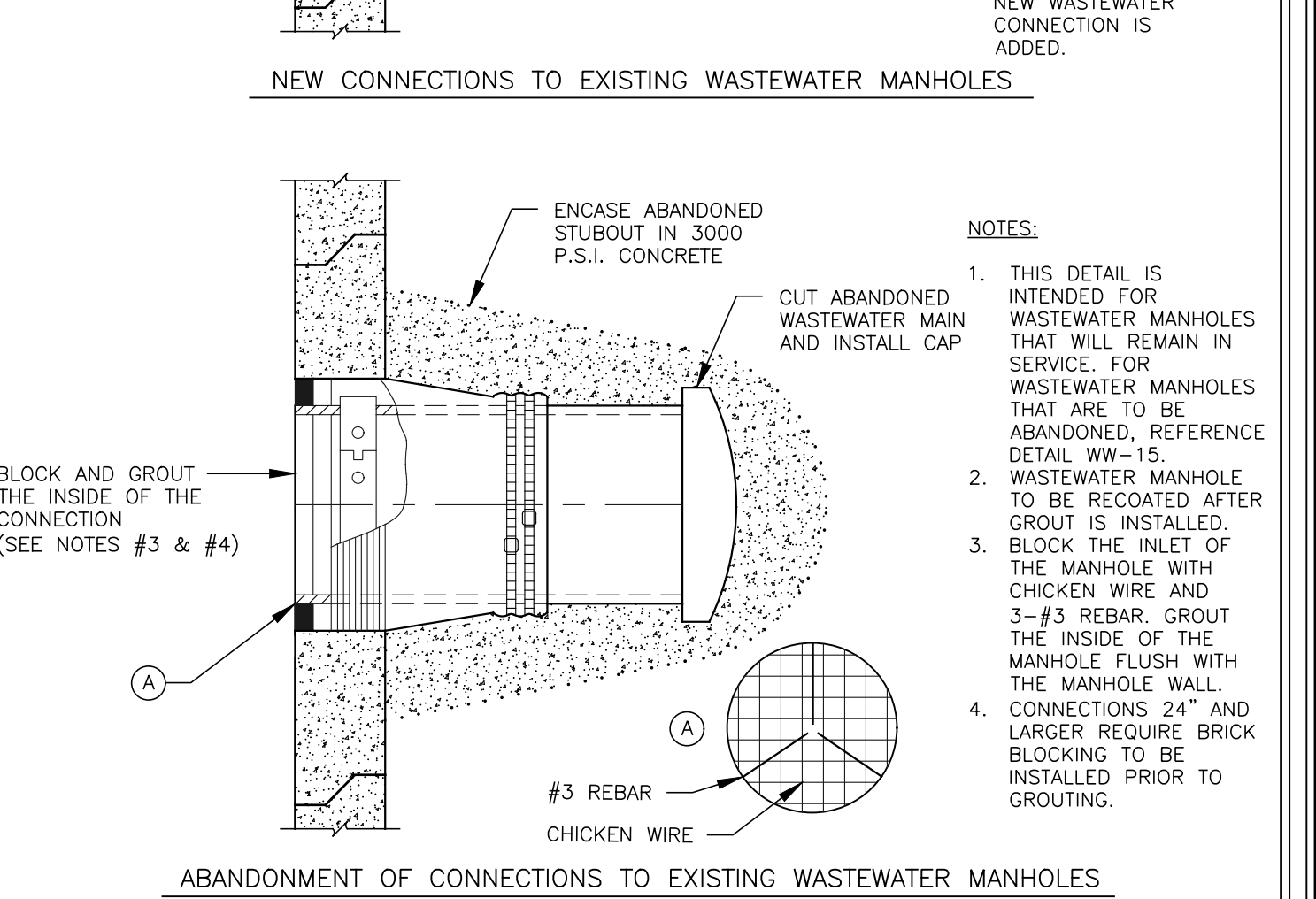
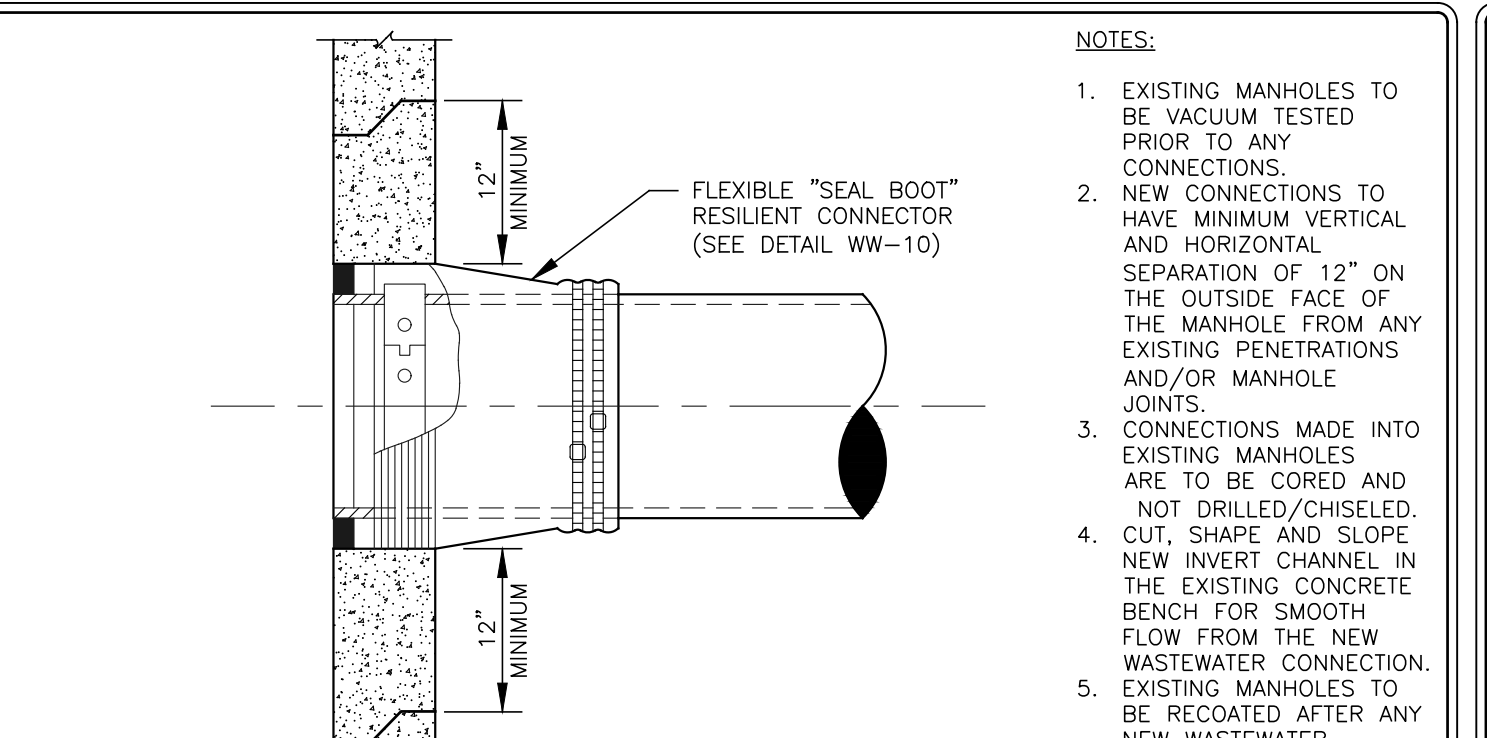


- NOTES:**
- ALL PIPE TO BE SDR 26.
  - ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**WASTEWATER SERVICE CLEAN-OUT DETAIL (PAVED SURFACE)**

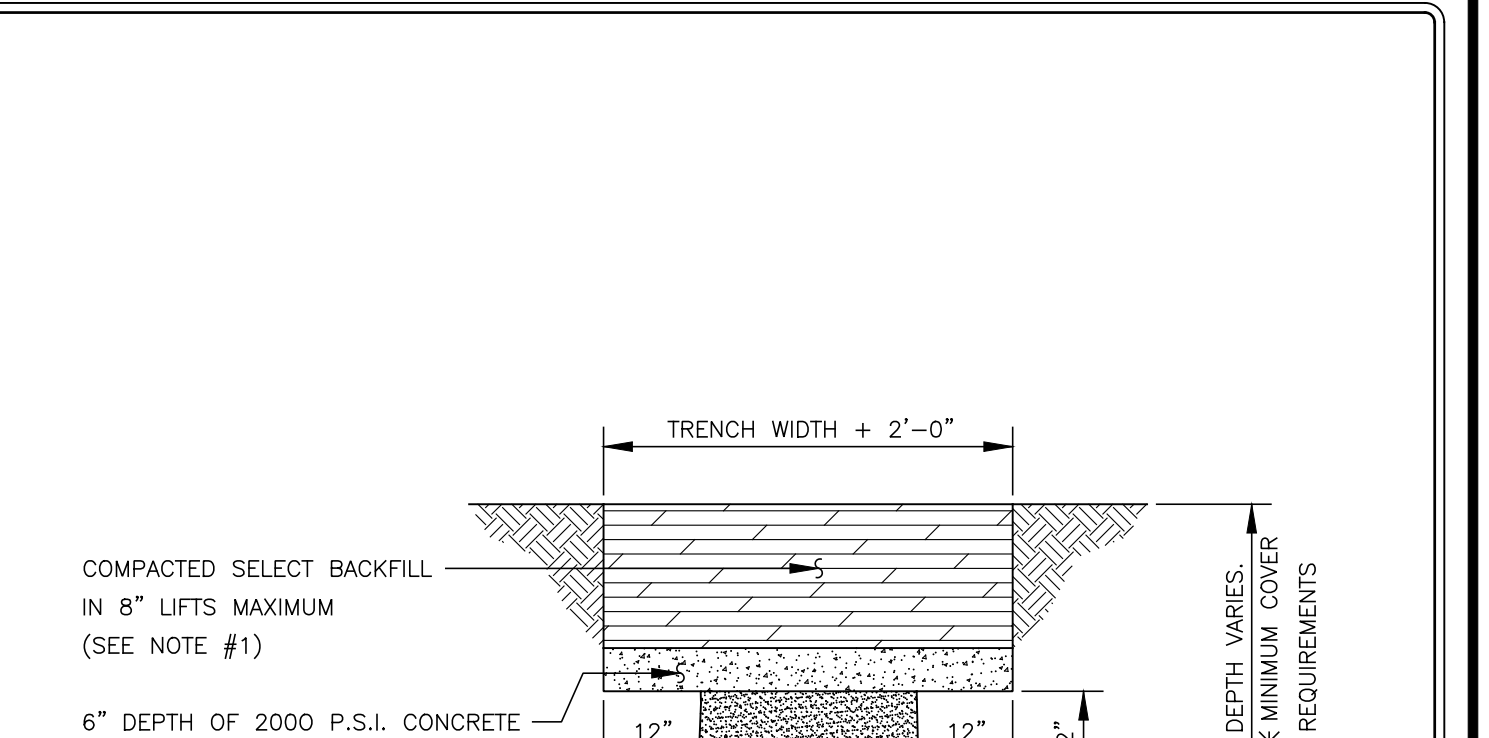
DRAWING NO: WW-13



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 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**EXISTING WASTEWATER MANHOLE CONNECTION DETAIL**

DRAWING NO: WW-21



- NOTES:**
- REFERENCE WATERLINE BEDDING AND SURFACE REPAIR DETAIL WT-08 & WASTEWATER LINE AND SURFACE REPAIR DETAIL WW-18 FOR PIPE BEDDING/BACKFILL REQUIREMENTS AND MINIMUM COVER REQUIREMENTS.
  - REQUIREMENTS FOR CONCRETE TRENCH CAPS IN WATERWAYS AND DRAINAGE AREAS NEED TO BE REVIEWED ON A CASE BY CASE BASIS AND APPROVED BY THE CITY ENGINEER AND INSPECTOR.

RECORD SIGNED COPY ON FILE AT U&S DEPARTMENT APPROVED  
 03-01-18 DATE  
 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

**CITY OF ROUND ROCK**  
**CONCRETE TRENCH CAP DETAIL**

DRAWING NO: WW-20

DESIGN PROFESSIONAL

**M3 ENGINEERING**  
 2900 S CONGRESS, SUITE 203  
 AUSTIN, TEXAS 78704  
 PH: 512.820.3265  
 FIRM # 18863

WWW.M3ENGINEERING.COM

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 CONSTRUCTION MANAGEMENT

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**CLS EXCAVATION INC.**

ISSUE/REVISION RECORD

C1 - LOOP WATERLINE SYSTEM  
 C2 - CHANGE PAD SIZES  
 C3 - UPDATE POWER POLE LOCATIONS

PROJECT NAME  
**LIBERTY HILL RV PARK**

2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

PROJECT NUMBER  
**21007**

DRAWING FILE  
 21007-DETL.DWG

SCALE N.T.S.

PROFESSIONAL SEAL

Troy Lee Moore III  
 LICENSE NO. 119326  
 EXPIRES 10/14/2022

PROJECT STATUS  
**1ST SUBMITTAL**

SHEET TITLE  
**WASTEWATER DETAILS**

SHEET NUMBER  
**39** of 42

TBD



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- C1 - LOOP WATERLINE SYSTEM
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2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

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SCALE

N.T.S.

PROFESSIONAL SEAL



PROJECT STATUS

1ST SUBMITTAL

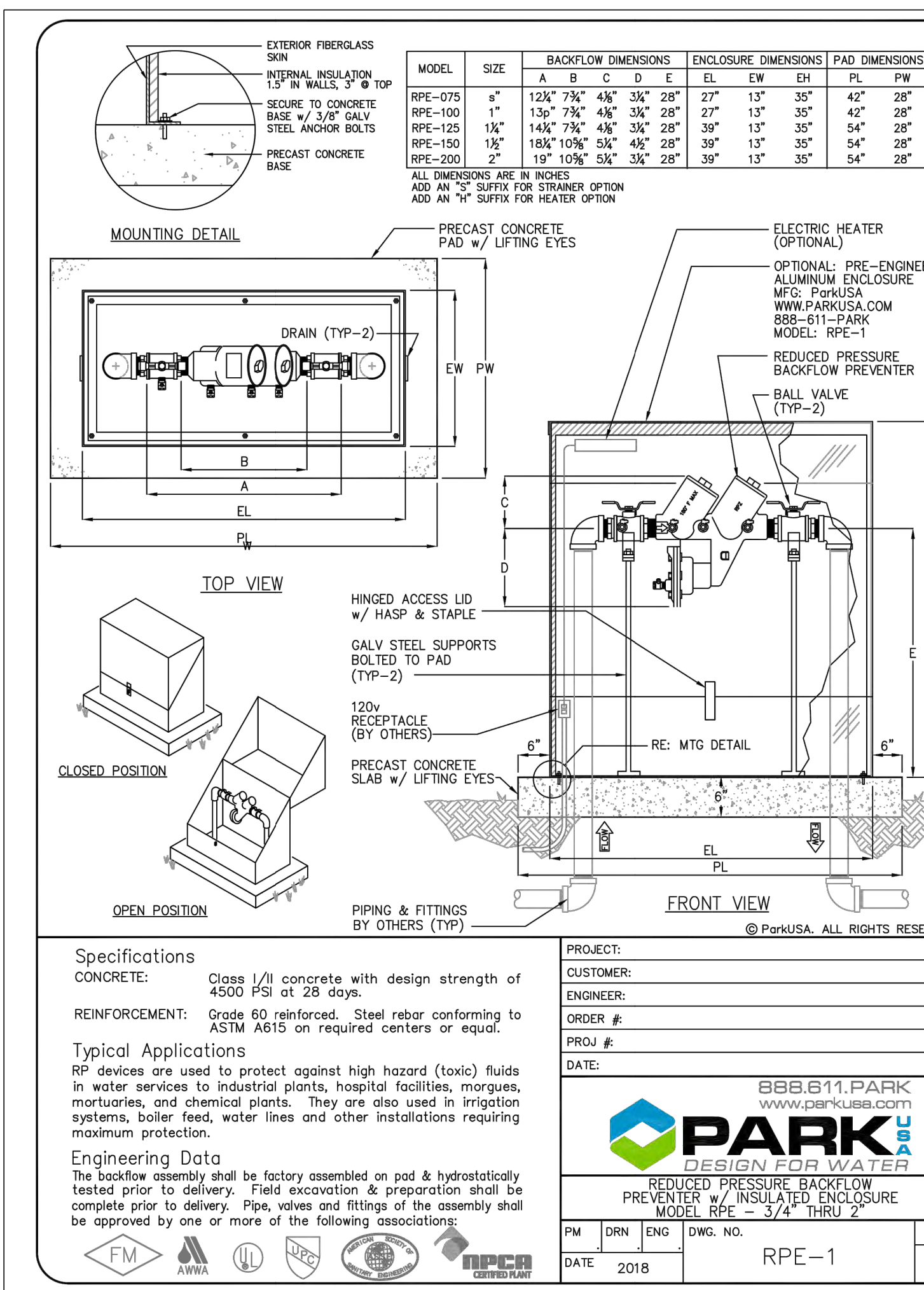
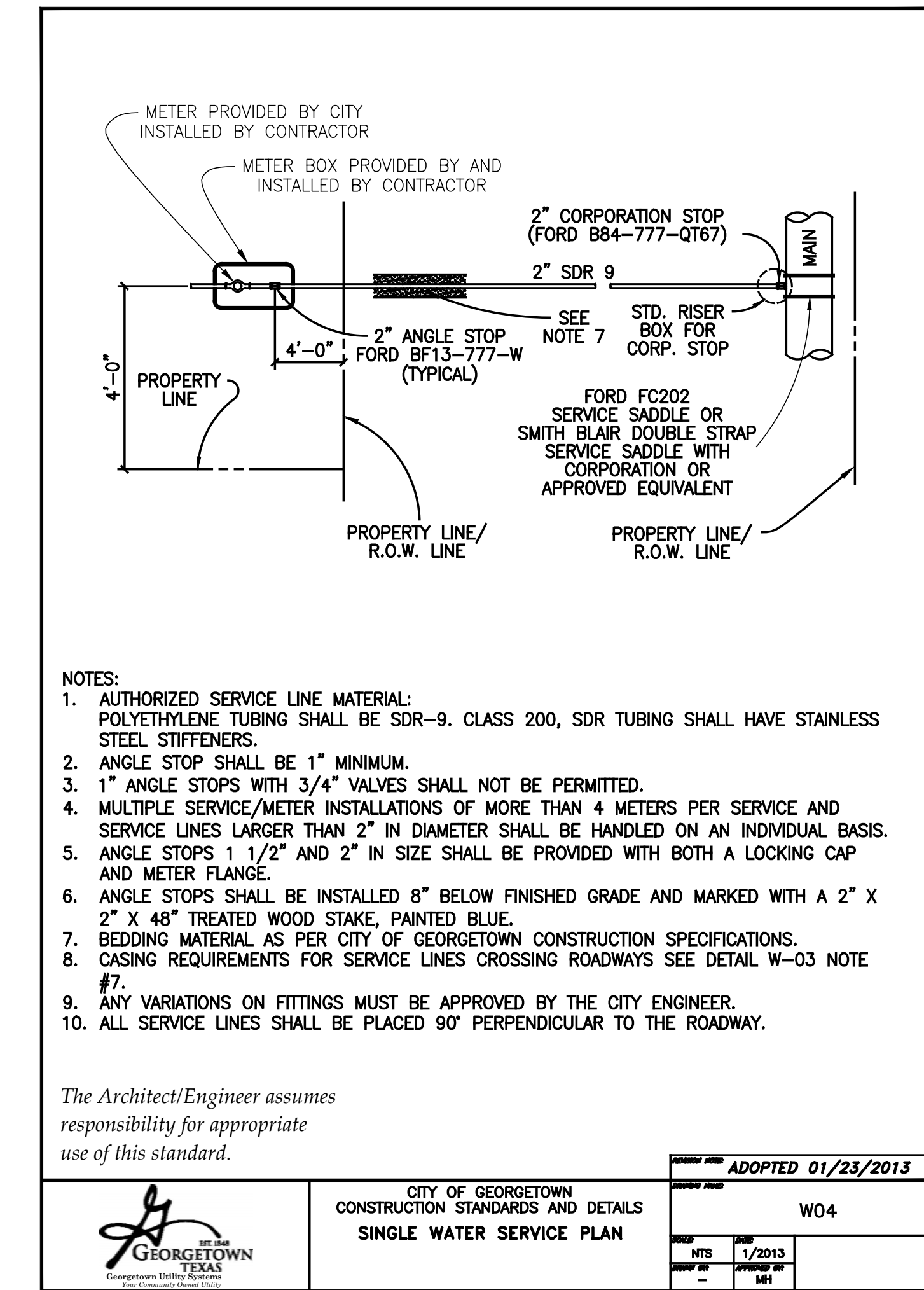
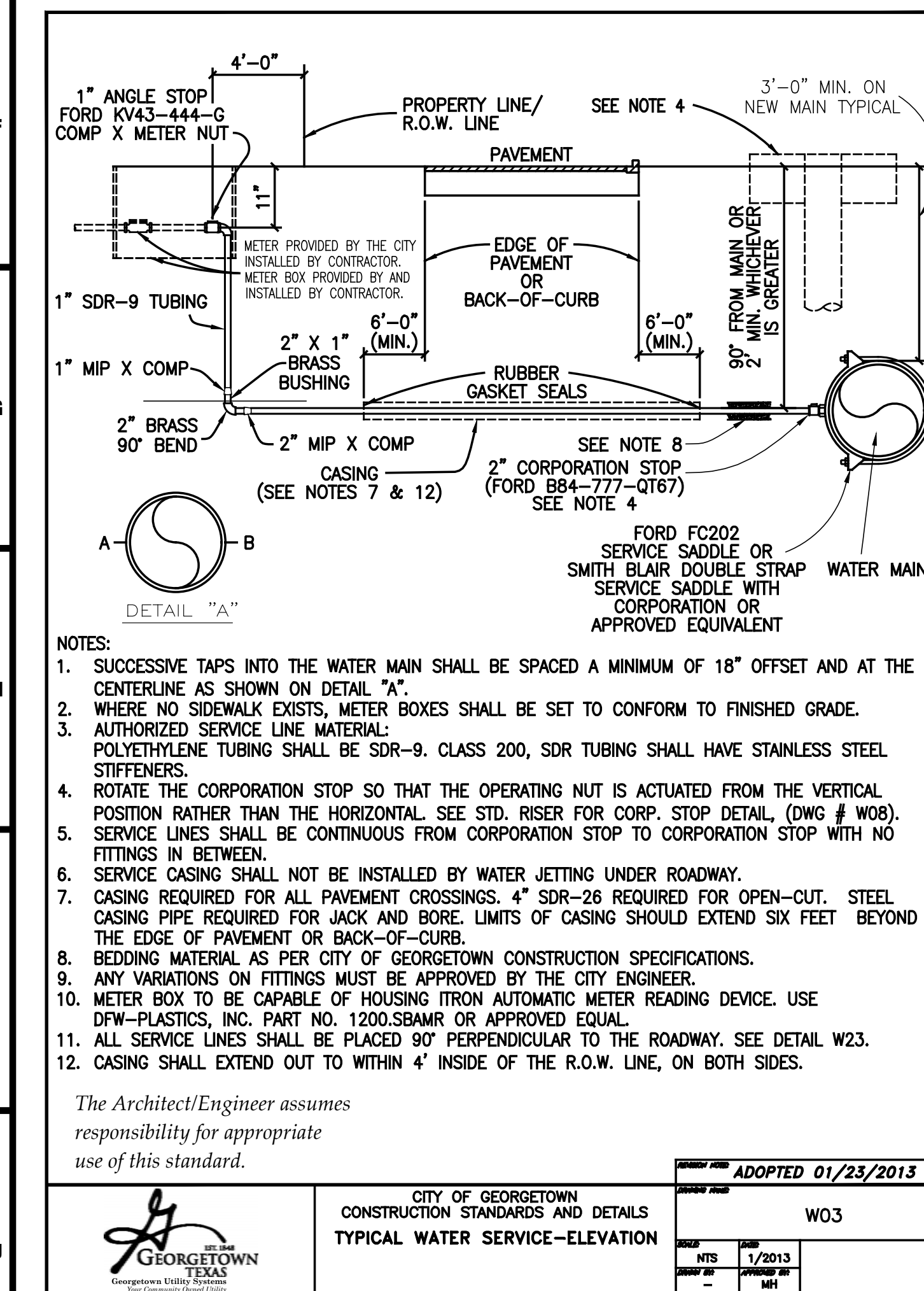
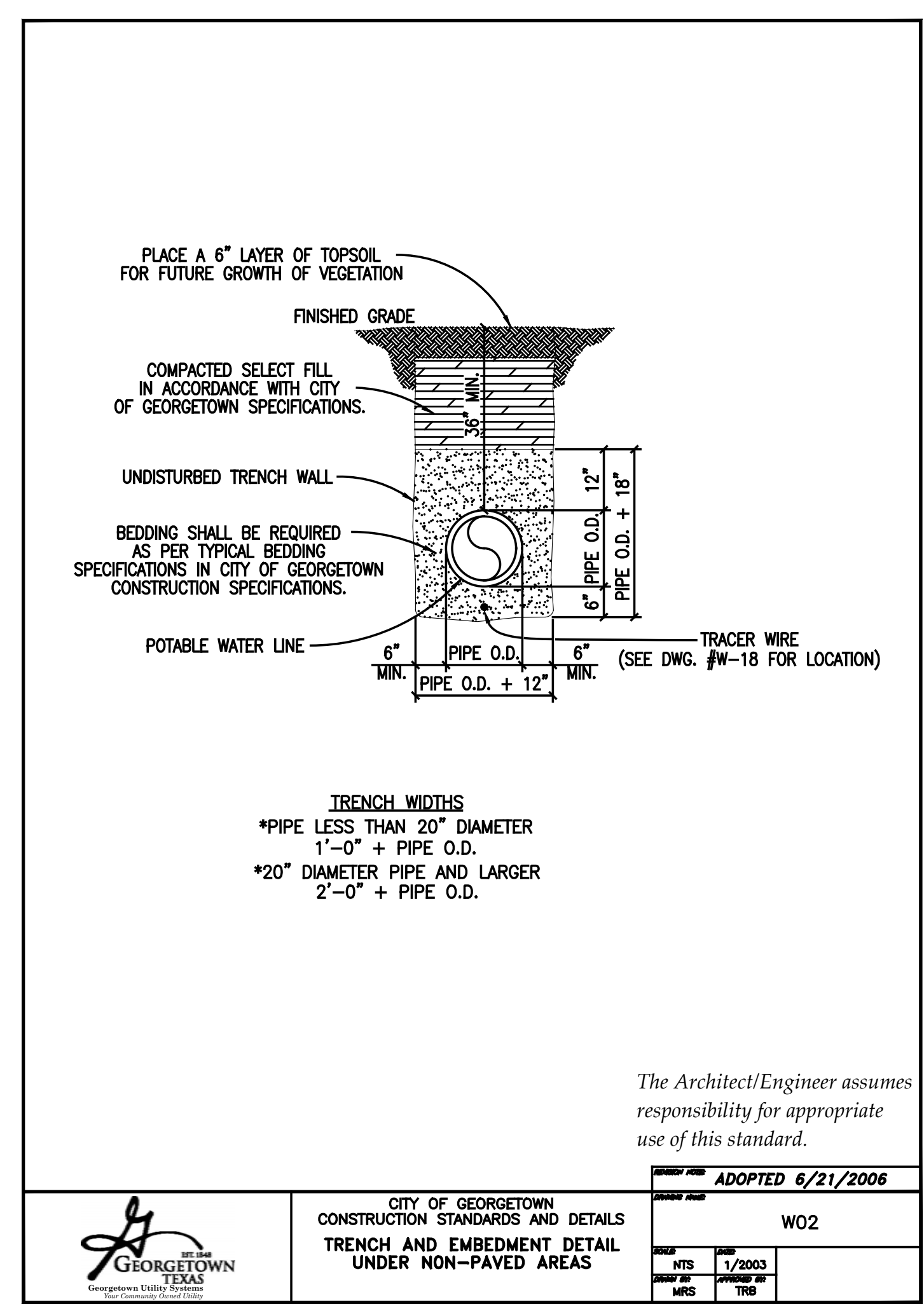
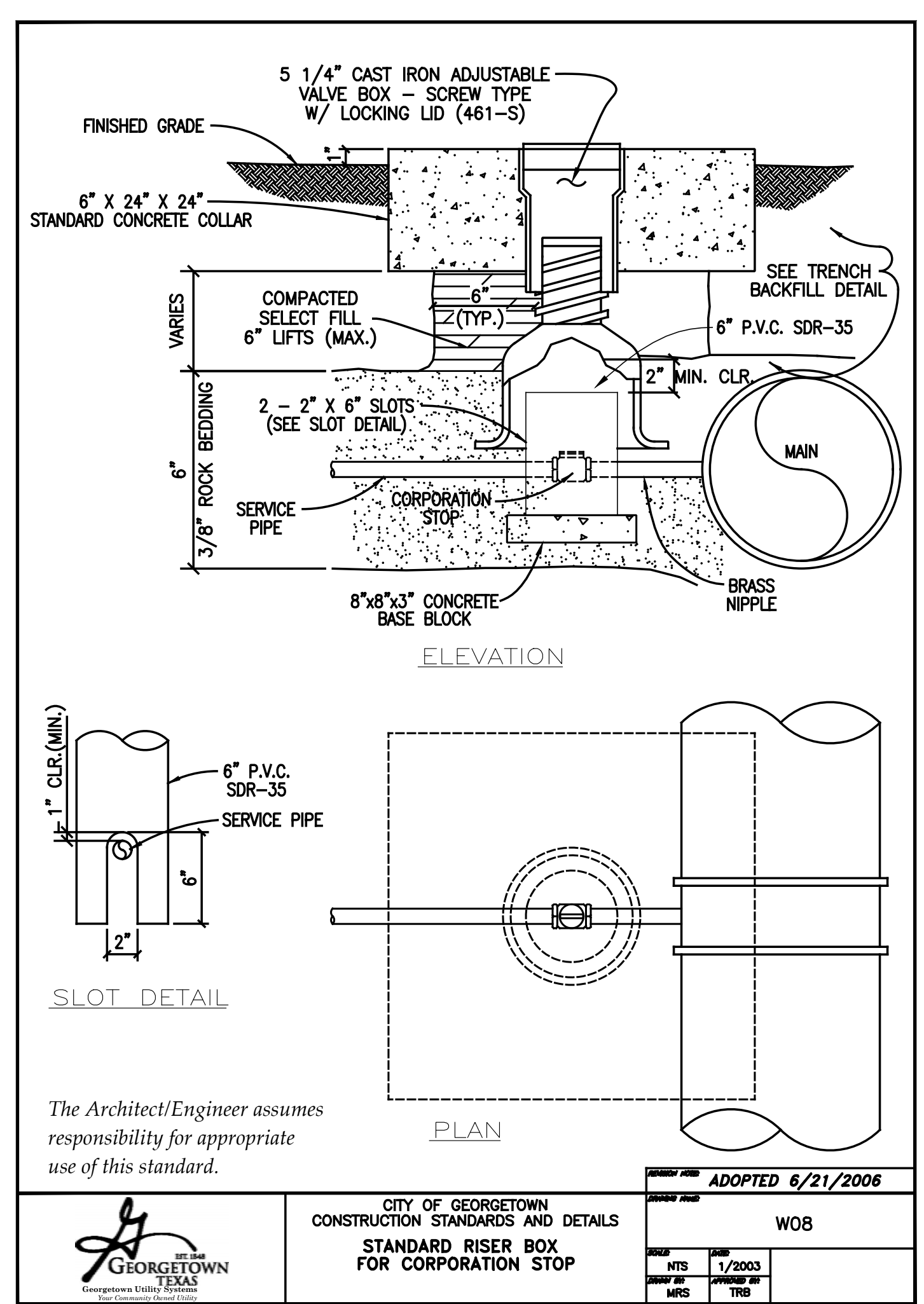
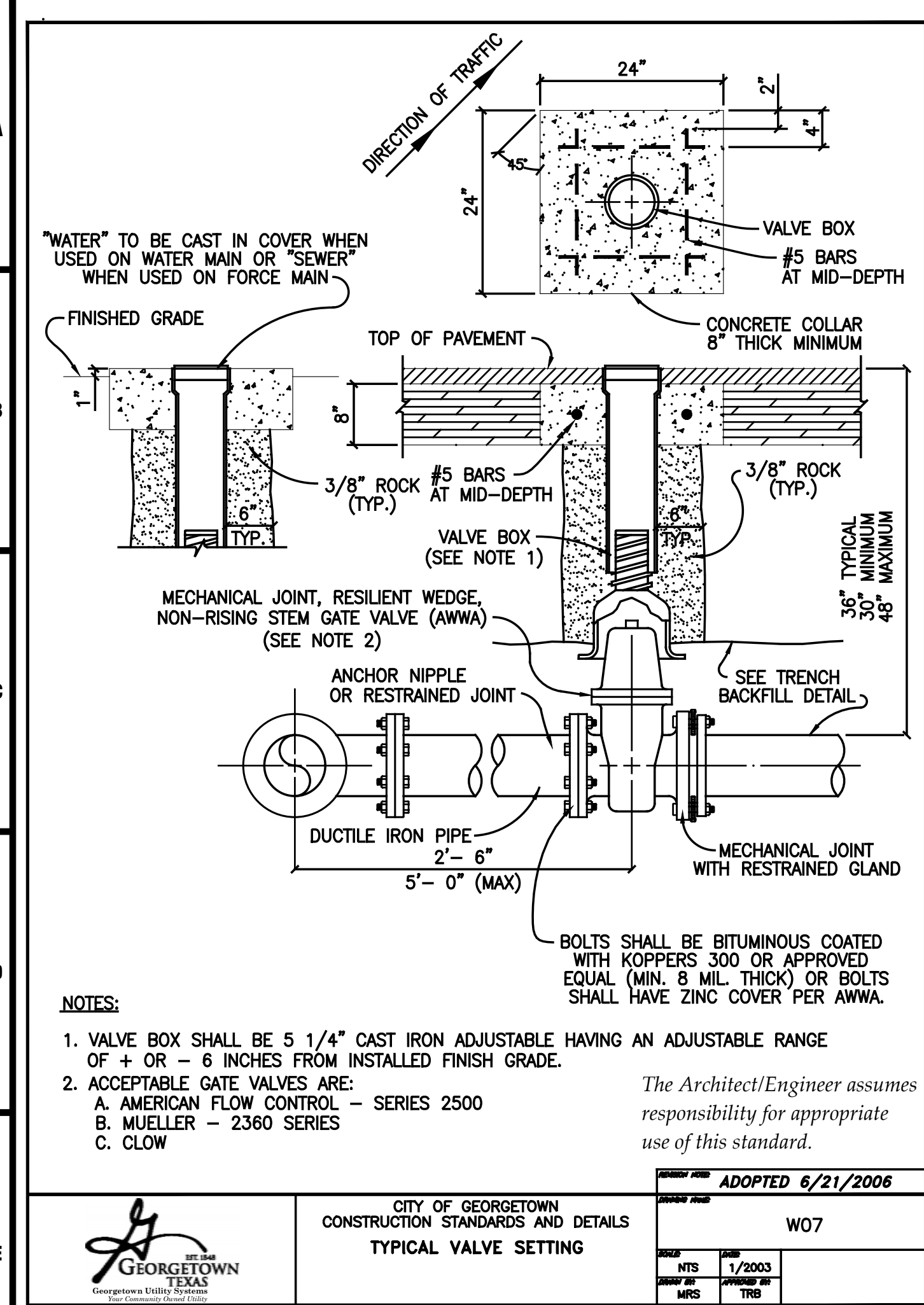
SHEET TITLE

**WATER SYSTEM  
 DETAILS**

SHEET NUMBER

**40** of 42

TBD







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**ISSUE/REVISION RECORD**

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- C3 - UPDATE POWER POLE LOCATIONS

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2224 RR 1869  
 LIBERTY HILL, TEXAS 78642

MAP GRID # TBD  
 MAPSCO # TBD

**PROJECT NUMBER**

**21007**

DRAWING FILE  
 21007-DETL.DWG

SCALE N.T.S.

**PROFESSIONAL SEAL**



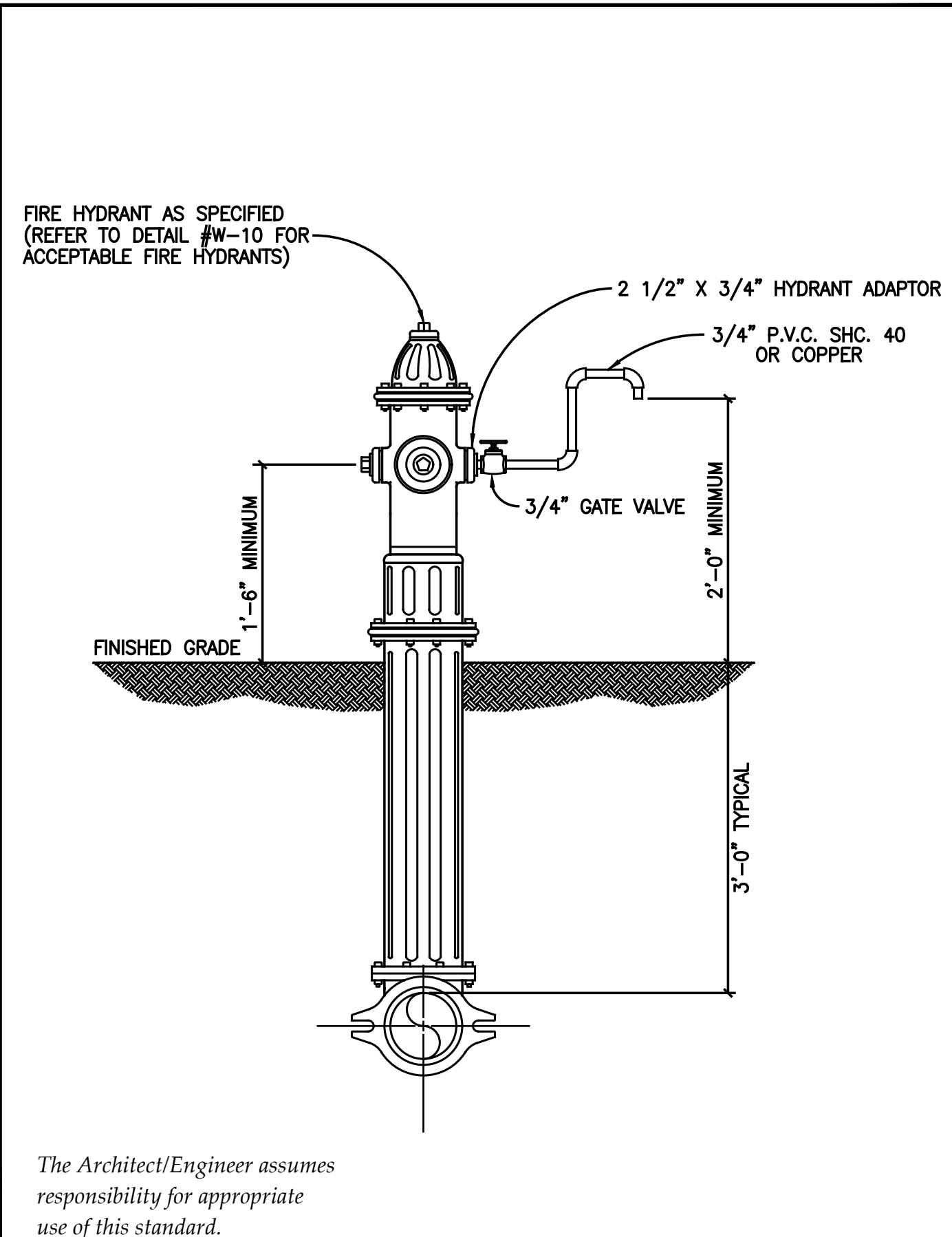
**PROJECT STATUS**  
 1ST SUBMITTAL

**SHEET TITLE**  
 WATER SYSTEM  
 DETAILS

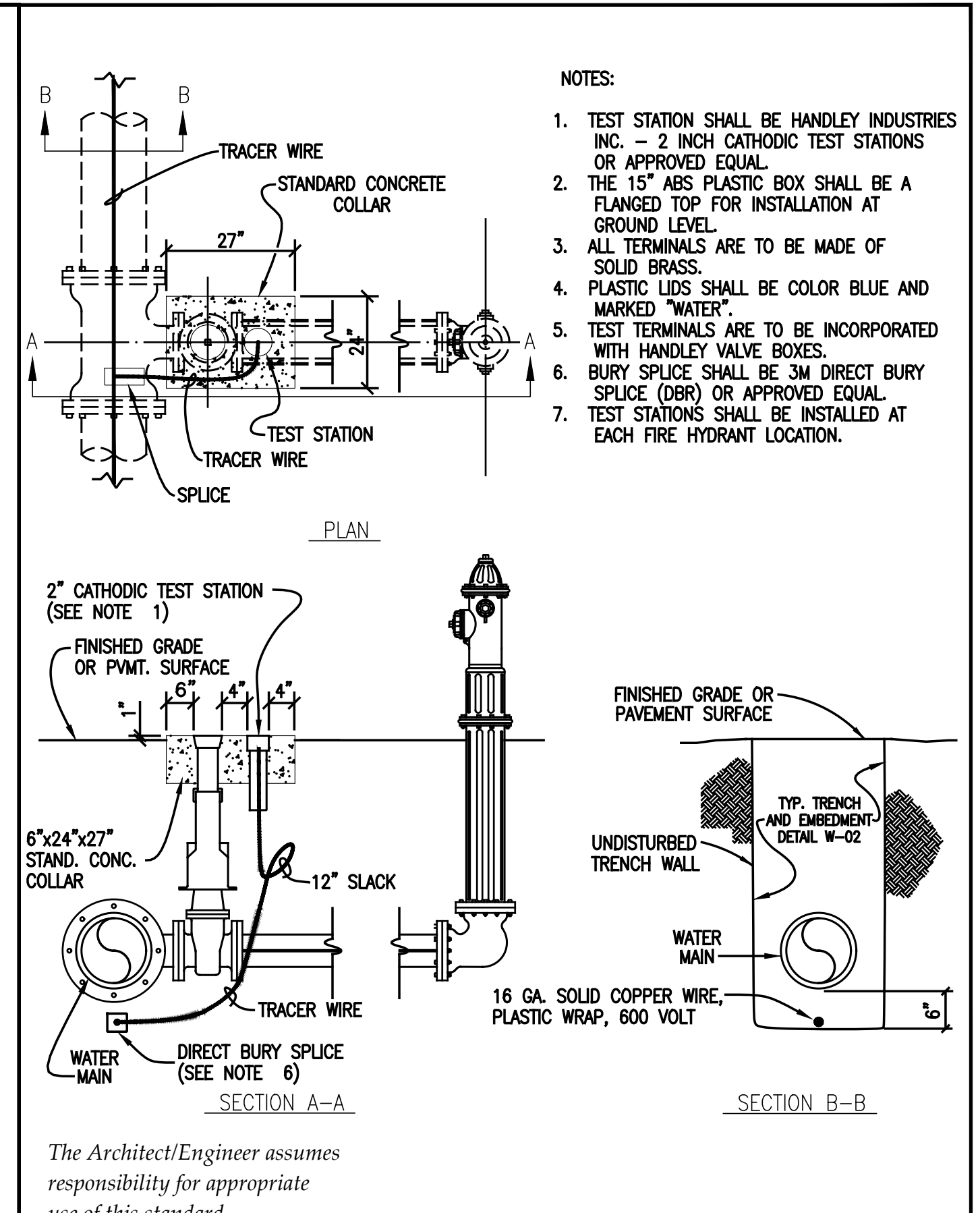
**SHEET NUMBER**

**42** of 42

TBD



The Architect/Engineer assumes responsibility for appropriate use of this standard.



The Architect/Engineer assumes responsibility for appropriate use of this standard.

- NOTES:
1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. - 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
  2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
  3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
  4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
  5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
  6. BURY SPICE SHALL BE 3M DIRECT BURY SPICE (DBR) OR APPROVED EQUAL.
  7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS FIRE HYDRANT SAMPLING POINT		ADOPTED 6/21/2006	W19
	NTS	1/2003		
	MPS	TRE		

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TRACER WIRE INSTALLATION AND TEST STATION LOCATION		ADOPTED 6/21/2006	W18
	NTS	1/2003		
	MPS	TRE		





**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**Texas Pollutant Discharge Elimination System**  
**Stormwater Construction General Permit**

The Notice of Intent (NOI) for the facility listed below was received on April 7, 2023. The intent to discharge stormwater associated with construction activity under the terms and conditions imposed by the Texas Pollutant Discharge Elimination System (TPDES) stormwater Construction General Permit TXR150000 is acknowledged. Your facility's unique TPDES CGP stormwater authorization number is:

**TXR1553JF**

Coverage Effective: May 20, 2022

The TCEQ's stormwater CGP requires certain stormwater pollution prevention and control measures, possible monitoring and reporting, and periodic inspections. Among the conditions and requirements of this permit, you must have prepared and implemented a stormwater pollution prevention plan (SWP3) that is tailored to your construction site. As a facility authorized to discharge under the stormwater CGP, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

**Project/Site Information:**

RN111504502  
Lhtx Rv Resort  
2224 Rr 1869  
Liberty Hill, TX 78642  
Williamson County

**Operator:**

CN606020600  
Lhtx Rv Resort, LLC  
800 County Road 257  
Liberty Hill, TX 78642

**This CGP and all authorizations expire on March 5, 2028, unless otherwise amended.** If you have any questions related to processing of your application, you may contact the Stormwater Processing Center by **email at [SWPERMIT@tceq.texas.gov](mailto:SWPERMIT@tceq.texas.gov) or by telephone at (512) 239-3700**. For technical issues, you may contact the stormwater technical staff by **email at [SWGPA@tceq.texas.gov](mailto:SWGPA@tceq.texas.gov) or by telephone at (512) 239-4671**. Also, you may obtain information on the TCEQ web site at <https://www.tceq.texas.gov/goto/wq-dpa>. A copy of this document should be kept with your SWP3.

A handwritten signature in black ink that reads "Erin E. Chamallo".

---

FOR THE COMMISSION

Issued Date: April 07, 2023

AUGUST 2021

STORMWATER POLLUTION PREVENTION PLAN

CLS RV RESORT

Liberty Hill, Texas

Owners:

Dilley Development, LLC

PREPARED BY:

**M3 Engineering, LLC**

2539 S. Gessner, Suite13

Houston, Texas 77063

Tel: 512.820.32

## TABLE OF CONTENTS

**INSTRUCTIONS TO OPERATOR** ..... - 1 -

**INTRODUCTION** ..... - 3 -

**SITE DESCRIPTION** ..... - 3 -

POTENTIAL POLLUTANT SOURCES ..... - 4 -

MAJOR CONSTRUCTION ACTIVITIES AND SEQUENCING ..... - 4 -

SCS CURVE NUMBER..... - 5 -

EXISTING SOILS DATA..... - 5 -

WATER QUALITY DATA ..... - 5 -

SITE PLAN..... - 5 -

RECEIVING WATERS..... - 5 -

**STORMWATER POLLUTION MEASURES AND CONTROLS**..... - 5 -

EROSION CONTROL SEQUENCING ..... - 6 -

EROSION CONTROL DEVICES AND STABILIZATION MEASURES ..... - 7 -

OTHER CONTROLS ..... - 8 -

STORMWATER MANAGEMENT ..... - 10 -

BATCH PLANTS ..... - 10 -

**MAINTENANCE AND PROCEDURES** ..... - 11 -

MAINTENANCE ..... - 11 -

PROCEDURAL REQUIREMENTS ..... - 12 -

**PROFESSIONAL ENGINEER CERTIFICATION** ..... - 14 -

## APPENDICES

TCEQ - TPDES PERMIT TXR#150000 ..... APPENDIX A

GENERAL LOCATION MAP ..... APPENDIX B

CONSTRUCTION SITE NOTICE ..... APPENDIX C

AUTHORIZED SIGNATORY ..... APPENDIX D

OFFSITE AREAS USED FOR THIS PROJECT..... APPENDIX E

SUBCONTRACTOR CERTIFICATION ..... APPENDIX F

INSPECTOR OUALIFICATIONS & CERTIFICATION ..... APPENDIX G

RECORD OF CHANGES TO THE EROSION CONTROL PLAN AND SWPPP ..... APPENDIX H

NOTICE OF CHANGE LETTER ..... APPENDIX I

RECORD OF TEMPORARY AND PERMANENT CEASING OF CONSTRUCTION..... APPENDIX J

RECORD OF INSPECTIONS..... APPENDIX K

RECORD OF MAINTENANCE PROCEDURES..... APPENDIX L

EXHIBITS AND SITE PLAN ..... APPENDIX M

**INSTRUCTIONS TO OPERATOR**

Upon receipt of this Stormwater Pollution Prevention Plan (SWPPP), Operator shall:

- A. Read this Stormwater Pollution Prevention Plan (SWPPP). Begin initial prevention control procedures and install initial phase Best Management Practices (BMPs).
- B. Place one copy of this SWPPP on site if a construction trailer is provided on site. This is the official copy that any inspector may ask to see. Place a copy at the nearest construction trailer or most adjacent public building if a construction trailer is not available at the site.
- C. A Notice of Intent (N.O.I) will be needed for this site.
- D. Make duplicate copies of blank forms and records to use during the project.
- E. Authorize a representative who may certify this SWPPP and all reports required by this SWPPP using the forms provided. Re-authorize representatives and De-authorize representatives as necessary. Keep all records of such authorization at in Appendix D.
- F. Using Appendix E, provide a site map, location of BMPs and give a description of any offsite areas that are used exclusively for this project for stockpiling overburden, borrow areas, staging areas, and equipment storage yards. If offsite areas are used by other operators, and thus, the discharge from offsite sites is covered by a separate active SWPPP, or other TCEO permit, simply state so in Appendix E. For Example, 10,000 cubic yards of excess material from Subdivision Phase A that will be used in Subdivision Phase B must be covered by this SWPPP if Phase B has not started. However, if the SWPPP for Phase B has been implemented, then a simple note stating such shall be included in Appendix E. List any batch plants that that may be covered by separate SWPPPs.
- G. Using the form provided in Appendix F, list names of subcontractors and duties of subcontractors. Have subcontractors sign certification statement.
- H. Certify and state the qualifications of the individual or company that will be used for inspection. Begin routine inspection. See Appendix G.
- I. Post a Construction Site Notice at the site. No copy of N.O.I. with Texas Permit number will be posted at the site. See Appendix C.
- J. Upon receiving permit number from TCEQ, write permit number on site notice, and on the front cover of this SWPPP.
- K. Begin construction activities. Begin inspections.
- L. Record all changes to the erosion control plan on the plan by marking the individual location of changes, the date of change for each change instituted and measure used for each change. Record these changes in File SWPPP Record of Revision log provided in the Appendices. Attach receipts as necessary. See Appendix H.

- M. Record the date of major grading activities on the Erosion Control Plan using a highlighter. Record dates of installation of erosion control devices on the erosion control plan. Record dates of final stabilization on the erosion control plan. This erosion control plan is initially provided in a pocket of this book but may be removed and posted on a wall.
- N. Record all temporary and permanent Ceasing of Construction in the Ceasing of Construction log provided in the Appendices. Keep in mind that construction ceased for twenty-one days or longer requires stabilization. See Appendix J.
- O. Record all inspection on the inspection forms provided. Sign and attach each form to SWPPP kept on site. See Appendix K.
- P. Send notice of change Letters to the TCEQ concerning substantial changes to the Construction Site notice including the number of acres that are in the operator's control. Attach to Appendix L.
- Q. Record all maintenance procedures and routine site cleanings. Attach receipts as necessary. See Appendix L.
- R. Upon completion of permanent stabilization, or upon transfer of "Operator" status to another entity, no N.O.T. (Notice of Termination) will be required to be filed with TCEQ.

Definitions are in Permit TXR#150000 located in Appendix A.

- A. Changes from NPDES: to TPDES
- B. One N.O.T. may only be filed for each N.O.I. submitted. However, a Notice of Change letter may be submitted to the TCEQ describing changes to the original N.O.I. Such changes may include a change in acreage where such acreage has been transferred to a new operator.
- C. There are now two inspection options. One must be chosen and followed for the duration of the project. Option One is inspection every 14 days and once after each rain event of one-half inch or greater. Option Two is inspection every seven days without regard to any rainfall event.
- D. Operator Certification. Under TPDES Construction general permit TXR:/t1f5000U. the certification on the N.O.I. form is considered the certification.
- E. A \$325 registration fee is required if submitted by paper or a \$225 registration fee is required if submitted electronically for each N.O.I. submitted. No annual Water Quality Fee will be required for each ongoing construction activity. The N.O.T. is used to remove active construction sites from the database.
- F. Construction sites that are between one and five acres, that are not part of a larger planned development, must now have a SWPPP. A notice must be sent to the MS4 operator.

## INTRODUCTION

This SWPPP has been prepared for small construction activities within the project known as CLS RV Resort, a development in Liberty Hill, Texas. The Plan includes elements necessary for compliance with the state's general permit for construction activities administered by the Texas Commission on Environmental Quality (TCEQ) through the Texas Pollution Discharge Elimination System (TPDES) Program, Construction General Permit TXR#150000. This plan shall comply with all federal, state, and local rules and regulations governing stormwater pollution prevention.

The purpose of this Plan is to provide guidelines for preventing soil and pollutants that originate on the site from flowing into natural surface water bodies. This Plan shall terminate as soon as the construction site is stabilized, or ownership is transferred.

The Texas Construction General Permit provides for each of the following types of non-stormwater discharges, which are anticipated at this project:

1. Discharges from firefighting activities.
2. Fire hydrant flushing.
3. A vehicle, external building, and pavement wash water where detergents and soaps are not used.
4. Water used to wash vehicles or control dust.
5. Air conditioning condensate.
6. Uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents.

A Stormwater Pollution Prevention Plan must be implemented. This Plan accommodates the different stages of development within the sections listed above, and complies with all known local and state sanitary, septic, and erosion/sedimentation requirements.

The stormwater management controls included in this plan focus on providing control of pollutant discharges with practical approaches that utilize readily available techniques, expertise, materials, and equipment. This stormwater pollution prevention plan shall follow any federal, state and local laws, ordinances and plans. Any changes to modify such plan shall be recorded in Appendix H.

## SITE DESCRIPTION

The proposed site consists of 19.69 acres and is located at 2224 RR 1869 in Liberty Hill, Texas. The site is located approximately 1000 feet east of the intersection of US 29 and RR 1869. The proposed development will consist of approximately (200) RV slips and (1) 4,000 square foot clubhouse that will be built in 1 phase.

The site is in the Lower South Fork San Gabriel River watershed, as defined by the USGS map, and lies within the Edwards Aquifer Contributing Zone. The existing topography of the subject tract consists of natural slopes ranging from 2% - 50%. There are natural slopes greater than 15% on the site.

No portion of this development is within the 100-yr flood limits as defined by FIRM Panel No. 4891C0245F date 12/20/2019. There are no known underground storage tanks within the project boundary.

To comply with the current water quality requirements of TCEQ one stormwater pond with a wet detention basin feature has been designed to account for the pollutant loads.

Water distribution will be provided by tapping into an existing 8" DI water distribution pipes running along RR 1869. A proposed 1" water service line will provide the domestic demand. For wastewater, the proposed development will extend a 3" FM from the project running due west from the project to US 29 and extending wastewater service to the existing site.

Additional areas may be used as part of the construction boundaries for staging, material storage, overburden, stockpiles of dirt, and borrow areas. Those areas not covered by a separate SWPPP shall be included in Appendix E. A site map shall be provided showing BMPs used, and a brief description of the activities taking place at the offsite site. If offsite areas are being used and those areas are covered by another operation's SWPPP, this shall be noted in Appendix E.

### **Potential Pollutant Sources**

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

- Soil erosion due to clearing of site.
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
- Hydrocarbon from asphalt paving.
- Trash and litter from construction worker and material wrappings.
- Tar, fertilizers, cleaning solvents, detergent, and petroleum-based products.

Potential source of pollution that may be expected to affect the quality of storm water

- Discharges from the site after development include:
- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings.
- Dirt and dust from vehicles.
- Trash and litter.

### **Major Construction Activities and Sequencing**

The major construction activities for this project will include and be sequenced as follows:

1. Establish Best Management Practices shall consist of the following: silt fencing, a construction staging area, a concrete truck washout pit, and a temporary construction entrance.
2. Initial clearing and demolition of the site.

3. Preliminary grading of the lot and building pads.
4. Installation of underground water, sanitary sewer, and utilities.
5. Building Construction.
6. Final grading/landscaping of lot.

The Operator will hire contractors to perform all the activities listed above. Project improvements will be constructed to City standards under the inspection of City and Operator personnel.

### SCS Curve Number

The existing curve number for this site corresponds to 89. The proposed curve number after development is expected to be 92.

### Existing Soils Data

The Williamson County Soil Survey, published by the United States Department of Agriculture, indicates the soil classifications found within the subject tract consist of:

Symbol	Map Unit Name	Hydraulic Soil Classification
DnB	Denton silty clay, 1 to 3 percent slopes	D
DoC	Doss silty clay, moist 1 to 5 percent slopes	D
EaD	Eckrant cobbly clay, 1 to 8 percent slopes	D

### Water Quality Data

Data describing the quality of storm discharges from the site is not available.

### Site Plan

A site plan for the project with the required components for the Stormwater Pollution Prevention Plan is attached. Site plans are enclosed for the referenced area.

### Receiving Waters

The project discharges into a roadside ditch that leads to an unnamed tributary that leads to the Lower South Fork San Gabriel River waters.

## STORMWATER POLLUTION MEASURES AND CONTROLS

The first step in beginning construction of a new section is to build a construction entrance. Once a major construction activity begins, an erosion control device (ECO) intended to contain sediment onsite must be constructed, inspected and repaired as necessary. Such controls must be functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions will be seeded and mulched within 14 days after they are formed. The ECDs will be installed as shown on the enclosed



plans. They must be supplemented as on-site experience proves necessary to control sediment, pollutant discharge, and ensure public safety.

### **Erosion Control Sequencing**

#### **1. Clearing & Vegetation**

Prior to clearing the site, ECDs such as silt fences, hay bales or vegetated swales will be installed to prevent sediment from leaving the disturbed areas. The locations of these controls are shown on the construction drawing.

#### **2. Initial Pond Construction**

Prior to mass grading, a temporary sediment basin will be installed to allow sediment and particles to settle out prior to leaving the disturbed areas. The location of these pond is shown on the constructions drawing.

#### **3. Mass Grading**

Once the Detention / Sedimentation Basin has been constructed, the contractor may begin mass grading. Following grading, the disturbed areas shall be stabilized within 14 days of last disturbance, if earth disturbing activity will not resume within 21 days. All perimeter erosion control devices and the construction entrance shall be in place and functional during and following the grading operations.

#### **4. Underground Utilities**

In addition to maintaining the devices installed during initial grading, supplemental ECDs should be installed. These devices will include devices shown on the plan such as storm drain inlet protection. Inlet protection will consist of ECDs surrounding the structure that will prevent sedimentation from entering the inlet and, subsequently, the storm sewer system and the receiving water body. Other devices may be required as shown on the plan. All ECDs installed during utility construction and grading shall be functional before paving can take place.

#### **5. Building Construction**

In addition to maintaining previously installed ECDs, a strict policy will be enacted which minimized vehicle traffic from entering non-paved areas. Construction materials will be unloaded from existing paved surfaces. This will prevent disturbance of ECDs already in place and reducing sediment tracking into paved areas. Following building construction, a vegetative stabilization will be immediately established.

#### **6. Street Pavement**

In addition to maintaining the devices installed during initial grading and underground utility phases, supplemental ECDs should be installed. Upon completion of paving and curb backfill operations, ECDs should be installed behind curbs, at handicap ramps, and along parkways where sediment could

enter paved areas. These devices shall remain in place through final grading and site construction.

7. Final Site Grading

Additional ECDs are not required during final site grading. However, maintenance of existing devices installed during previous phases will continue.

8. WQ & Detention Facilities

Once all major earth disturbing activities have ceased and the pavement has been installed, the contractor may install the earthen berm and splitter box that separates the detention and water quality basins. Any silt or muck that has accumulated during construction must be removed. Following grading of the berm, the disturbed areas shall be stabilized within 14 days of last disturbance. All sediment producing activities must cease and be stabilized prior to allowing stormwater to enter the reirrigation basin, wet well, and pumping system for the reirrigation.

**Erosion Control Devices and Stabilization Measures**

An erosion control device (ECD) may consist one or more of the following:

1. Vegetative Buffer Strips

Vegetative buffer strips will consist of a section of vegetative material placed perpendicular to the direction of flow. These strips will filter sediment out as runoff passes through the vegetation. Care should be taken to place the vegetation on slopes that are not too steep in order to accomplish desired filtering affect. Sod, hydro mulch, seeding or existing vegetation may be used to establish the desired filtration.

If seeding is used, seeds shall be per North Central Texas Council of Governments specification 3.10.

Seeding shall consist of preparing the ground, providing and planting seed or a mixture of seed of the kind specified along and across such areas as designated on the and in accordance with specifications.

**For Planting Between March and September**

<u>Common Name</u>	<u>Pounds Per Acre</u>
Hulled Bermuda	8

**For Planting Between September and February**

<u>Common Name</u>	<u>Pounds Per Acre</u>
Rye Grass	35

**For Planting Between September and February**

<u>Common Name</u>	<u>Pounds</u>	<u>Per Acre</u>
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Unhulled Bermuda Grass		12
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Established vegetation such as sod may be used to control erosion on disturbed areas during constructions.

Seeding and hydro mulching is used only to stabilize disturbed areas following construction.

2. Silt Fences

Silt fences will be installed per manufacturer's recommendations and as shown in the details of this plan.

3. Hay Bales

Hay bales will be installed as shown in the details of this plan. Hay bales will be maintained as described in other sections of this plan.

4. Diversion Swales

Diversion swales may be installed as shown in the details of this plan. The purpose of these swales is to prevent runoff from entering paved areas except at controlled locations. They also allow greater time for runoff absorption in the soil. Longer flow routing time will also provide additional erosion control through detention. Diversion swales will be maintained as described in other sections of this plan. Flow from these swales will be filtered through structural controls such as hay bales, silt fences, etc. prior to being released into paved areas or storm sewer systems.

5. Temporary Sediment Basins

One temporary sediment basin is used for this project. Sediment basins are designed to provide an area for runoff to pool and settle out a portion of the sediment carried downgradient. This project uses a skimmer pipe which dewater the basin from the top of the surface water where the water is cleanest. The temporary sediment basin is located where the future detention pond will be located once all construction is complete. The contractor shall grade the detention pond as he or she normally would. However, the proposed outlet control will be modified with the skimmer pipe design for the duration of the project. The contractor shall remove the skimmer pipe design once all construction activity has ceased.

**Other Controls**

1. Waste Disposal

All solid waste materials, including disposable materials incidental to the major construction activities, will be collected in containers. The containers will be emptied periodically and trucked away from the site.

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

2. Hazardous Waste

Hazardous waste should be minimized, if possible. All hazardous waste shall be disposed in a manner as specified by federal, state, and local regulations, and in compliance with the manufacturer's recommendations. Hazardous waste shall be stored in containers that may be sealed such that stormwater may not enter and leave the container. Containers shall be stored in a location so that they shall not be damaged, or permitted to leak on soil.

3. Dust Control

During construction, water trucks will be used to reduce dust as needed. After construction, the site will be stabilized as described elsewhere to reduce dust.

4. Concrete Washout

Concrete washout areas should be designated and clearly marked. Concrete washout areas shall be designed such that washout water cannot leave the location, nor shall stormwater runoff wash concrete from the locations. The site should be readily available to concrete trucks, and not located in such an area where soil will be tracked offsite or out of the boundary of the erosion control devices.

5. Water Source

Water used to establish and maintain grass, for dust control, and for other purposes during the construction phase must originate from a public water supply or private well approved by the Texas State Department of Health.

6. Construction Phase "Best Management Practices" (BMPs)

During the construction phase, the Operator and Contractor(s) will implement the following measures:

- a. The Operator will designate areas for equipment cleaning, maintenance and repair. Such areas shall be utilized for those purposes by all contractors and subcontractors. This area will be located such that harmful substances will not be allowed to leach or run off the site.

- b. Equipment washdown (except for wheel washes) shall take place within an earth berm. Use of detergents is discouraged. If utilized, they shall be readily biodegradable.
- c. Chemicals, paints, solvents, fertilizers and other toxic materials shall be stored in waterproof containers. Except during application, the containers shall be kept in trucks or within storage facilities. Runoff containing such materials shall be collected, removed from the site and disposed of at an approved solid waste or chemical disposal facility.

#### 7. Sanitary Facilities

Sanitary facilities shall be provided at the site throughout construction activities. They shall be utilized by construction personnel and serviced regularly by a commercial operator.

#### 8. Construction Entrance

A construction entrance shall be installed at the location(s) chosen by the operator on the Plan in accordance with the information shown on the detail sheet Sediment traps and diversion dikes, as necessary, will be placed at the perimeter to contain any sediment leaving the construction entrance area.

#### 9. Spill Control and Prevention

All fueling, vehicle maintenance, and other transfers of chemicals, fuels, and lubricants from one container to another, or from a container to a vehicle shall be done in designated protected areas. Chemicals, fuels, and lubricants shall not be discharged onto soils where they may contain stormwater. Soil that has been contacted by a small spill shall be removed and placed in a container and hauled off site. Equipment shall be checked for leaks on a regular basis and be repaired or removed in a timely manner. All containers used to store chemicals, fuels, or lubricants, shall be leakproof, and be stored in a barreled area, a storage building, or within a vehicle to act as secondary containment. All lids, caps, spigots, dip sticks, and other devices on any container or vehicle that may permit fluids from escaping shall be closed always except during the transfer of such fluid.

Soil containment from a large spill shall be placed within sealed containers and removed from site, the spill shall be reported to the local stormwater administrator.

### **Stormwater Management**

The operator shall maintain logs of erosion control maintenance activities as shown in the appendices.

### **Batch Plants**

This Stormwater Pollution Prevention Plan and attached Erosion Control Plan do not address a Batch Plant being placed on this site. If the operator desires coverage for a Batch Plant, some modifications are necessary to this plan. A separate Batch Plant

Stormwater Pollution Prevention Plan and Erosion Control Plan may be obtained by the Batch Plant owner.

**DUE TO THE SIZE OF THIS PROJECT, AN NOI AND CONSTRUCTION SITE NOTICE WILL BE POSTED. A COPY OF THE NOI IS LOCATED IN APPENDIX C.**

## **MAINTENANCE AND PROCEDURES**

### **Maintenance**

1. Erosion and sediment control measures determined, upon inspection, to be in need of repair shall be maintained before the next anticipated storm event or as necessary to maintain continued effectiveness of erosion and sediment control measures. If it is impractical to maintain erosion and sediment control measures before the next storm event, maintenance should be accomplished as soon as practical. An Inspection Report Form is included in the Forms Section for this purpose. The form should be duplicated as needed.
2. Locations, where vehicles enter or exit the site, shall be inspected for evidence of sediment being tracked off-site by construction traffic. Such sediment shall be removed before it can be conveyed to receiving storm drains or as.
3. Rock at inlet protection will be checked regularly for sediment buildup which will prevent drainage. If the rock is clogged with silt, it will be removed and cleaned or replaced.
4. Seeded areas will be checked to see that grass coverage is maintained. Areas will be watered, fertilized and reseeded as needed.
5. Sediment traps will be checked regularly for sediment cleanout. When the sediment trap design capacity has been reduced by 50%, the sediment trap should be excavated. The excavated material can be stockpiled on-site in a location that is upslope of the sediment trap.
6. Based on the Inspection Report results, any necessary modification to the pollutant discharge control techniques and this Plan will be implemented within seven (7) calendar days. The Inspection Reports shall be kept on file as part of the Stormwater Pollution Prevention Plan for at least three years from the date that the site is finally stabilized. The Inspection Report will state whether the site was in compliance or identify any incidents of non-compliance. Each report shall be signed, dated, and be placed within the appropriate appendix attached to this report.
7. It is the responsibility of the Operator to maintain effective pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more controls that are shown on the Plan. For example, localized concentrations of surface runoff or unusually steep areas could require additional silt fence, or other structural controls. Assessing the need for and implementing additional controls will be a continuing aspect of the Plan until a section has achieved final stabilization. This Plan intends to control water-borne

and liquid pollutant discharges by some combination of interception, filtration and containment. Parties implementing this plan must remain alert to the need to periodically refine and update the plan in order to accomplish the intended goals.

8. Sediment that has escaped the construction site must be removed at a frequency sufficient to minimize off-site impacts.
9. This Stormwater Pollution Prevention Plan assumes no excess excavated material will be placed outside the limits of this site. If any borrow is brought onto site, or any excess earth is removed from the site, AND the other site is not covered by its own SWPPP, then this SWPPP shall be modified to include the affected site. BMPs shall be used at these sites.

### Procedural Requirements

In association with construction, the Operator will comply with the following requirements of the TPDES General Permit:

1. A current version of this plan must be kept on the site (during active construction).
2. A Construction Site Notice (See Appendix C) must be completed, signed and mailed forty-eight (48) hours prior to construction.
3. A copy of the current Construction Site Notice shall be kept preferably at or near the construction entrance. One copy of this SWPPP shall be kept on site, if feasible. If it is not feasible, the location of the Stormwater Pollution Prevention Plan shall be kept at a nearby location, and the location shall be noted on the Site Notice.
4. Discharge of a hazardous substance or oil into stormwater is subject to reporting requirements. Refer to 30 TAC Sections 327.1-327.5. Reportable spills, as defined by federal regulations (40 Code of Federal Regulations [CFR] 302.6), must be immediately reported by the responsible person to the National Response Center (NRC) duty officer in Washington D.C. The toll-free number for the NRC is 1-800-424-8802. Also, contact the Environmental Release Hotline or the Texas Commission on Environmental Quality (TCEQ) **1-800-832-8224**.
5. The Operator must conduct inspections of the project to assure compliance with this Plan. Inspections must be made by qualified personnel. An inspection schedule shall be determined prior to commencement and followed for the duration of the project: Inspections may occur at least once every fourteen (14) calendar days, and within twenty-four (24) hours of a one-half inch or greater rainfall, or once every seven (7) days without regard to rain events.
6. An Inspection Report form is included in the Forms Section and should be duplicated as needed. Inspections must evaluate disturbed areas of the construction site where final stabilization has not been achieved, areas used for storage of materials that are exposed to precipitation, structural control measures and site entrance/exit locations. Based on inspection results, the Plan and pollution prevention control techniques must be modified if necessary in order to assure that non-polluted stormwater is the only discharge leaving the site (in

accordance with Section F.8 Inspection of Controls of TXR#150000.) All inspection reports shall be kept in Appendix K.

7. This Plan and all inspection Reports must be retained for at least three (3) years from the date that the site achieves final stabilization.
8. This Plan must identify each Contractor and Subcontractor engaged in major construction activities. A Contractor/Subcontractor Certification form is included in the Forms Section for this purpose.
9. The Operator and each Contractor and Subcontractor (involved with a major construction activity) must sign the appropriate certification statements in this Plan. The Certification Statements are included in the Forms Section.
10. Plan updates are required within seven (7) days of a change in construction activities affecting soil disturbance, or a change in Contractor or Subcontractor. Records for changes to the erosion control plans and SWPPP shall be kept in Appendix H. Notice of Change Letters shall be kept in Appendix I.
11. All maintenance and good housekeeping records shall be kept in Appendix L.
12. A Notice of Termination Form will not need to be completed, signed and mailed within 30 days after one of the following conditions has been met:
  - a. Final stabilization of the site has been achieved
  - b. Another Owner / Operator assumes control (i.e. when a site is sold, etc.)
  - c. For commercial construction, temporary stabilization has been transferred to the Owner.



**PROFESSIONAL ENGINEER CERTIFICATION**

I, Troy Moore, Licensed Professional Engineer, employed by M3 Engineering (Firm No. 18836), certify that this Stormwater Pollution Prevention Plan was prepared under my supervision. This Certification does not extend to supervision of any maintenance or inspection reporting required by the plan and the General Permit.

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**Troy Moore, PE**

**APPENDIX A**  
**TCEQ - TPDES PERMIT TXR#150000**

# APPENDIX B GENERAL LOCATION MAP



# **APPENDIX C CONSTRUCTION SITE NOTICE**

# **APPENDIX D**

## **AUTHORIZED SIGNATORY**

**AUTHORIZED SIGNATORY**

Stormwater Pollution Prevention Plan  
For Stormwater Discharges Associated with Construction Activity

CLS RV Resort

Property Owners: \_\_\_\_\_

Property Owners Address: \_\_\_\_\_

Property Owners Address: \_\_\_\_\_

In accordance with TPDES Program General Permit TXR # 150000 and 30 TAC 305.44:

A. All applicants shall be signed as follows:

1. For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing productions, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.
2. For a partnership or sole proprietorship, the application shall be signed by a general partner, or proprietor, respectively.
3. For a municipality, state, federal, or other public agency, the application shall be signed by either a principle executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrator of the EPA.)

B. A person signing an application shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering

the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation."

All reports, inspections, and records required by the permit or other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person, described and included in this appendix.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

The following authorized representative position responsible for signing the following reports and records:

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related to the TPDES General Permit for the construction activity located at the at the above referenced project is:

\_\_\_\_\_ (Name - Printed)

\_\_\_\_\_ (Title - Printed)

I certify that I meet the requirements

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Date)

Transfer of duties from the above to another individual or position shall be done by filling in the Termination date below, and by assigning the same duties, using a copy of this form to another person. The copy of this form shall be attached behind this form.

\_\_\_\_\_ (Termination Date)



## **APPENDIX E**

### **OFFSITE AREAS USED FOR THIS PROJECT**

Name, describe and provide a site map with drainage patterns and erosion control devices for any offsite areas used for borrow, spoil, stockpiling, staging, or storing where those sites are used exclusively for this project and are not covered by any other SWPPP, or other TCEQ permit. Name areas, where used for any offsite areas used for borrow, spoil, stockpiling, staging, or storing where those areas are covered by a separate operator's SWPPP. List asphalt and concrete batch plans covered by Separate SWPPPs .



# **APPENDIX F**

## **SUBCONTRACTOR CERTIFICATION**

**CONTRACTOR / SUBCONTRACTOR CERTIFICATION**  
**CLS RV Resort**

Name of Contractor or Subcontractor: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of Construction Service to be Provided: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Certification Statement:**

*"I certify under penalty of law that I understand the terms and conditions of the general Texas Pollutant Discharge Elimination System (TPDES) permit that authorized the storm water discharges associated with industrial activity from the construction site identified as part of this certification."*

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_

# **APPENDIX G**

## **INSPECTOR OUALIFICATIONS & CERTIFICATION**

**INSPECTOR QUALIFICATIONS AND CERTIFICATION**

INSPECTOR QUALIFICATIONS AND CERTIFICATIONS

Stormwater Pollutions Prevention Plan

For Stormwater Discharge Associated with Construction Activity

**CLS RV Resort**

The following (circle one): individual and/or subcontractor is designated as the official inspector of this site.

\_\_\_\_\_ (Name)  
 \_\_\_\_\_ (Position)  
 \_\_\_\_\_ (Company)  
 \_\_\_\_\_ (Address)  
 \_\_\_\_\_ (City / State / Zip)  
 \_\_\_\_\_ (Direct Phone No.)

This (circle one): individual and/or subcontractor has the following qualifications.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Date)

**APPENDIX H**  
**RECORD OF CHANGES TO THE EROSION**  
**CONTROL PLAN AND SWPPP**

**RECORD OF CHANGES TO THE EROSION CONTROL PLAN & SWPPP**

CLS RV Resort

DATE	DESCRIPTION OF MODIFICATION	SIGNATURE



## **APPENDIX I**

### **NOTICE OF CHANGE LETTER**

Attach all Notice of Change Letters to this Section. Notice of Change Letters are required to be sent to the TCEQ within 14 days of any substantial change that affects the Construction Site Notice. A Notice of Change Letter cannot be used to change operators. A Notice of Change Letter may be used to reduce acreage.

Date: \_\_\_\_\_  
Executive Director  
Texas Commission on Environmental Quality  
PO. Box 13087  
Austin, Texas 78711-3087

Dear Executive Director:

This letter shall serve as a Notice of Change relating to the Construction Site Notice originally submitted for a project named CLS RV Resort. This project is located in the City of Liberty Hill, Williamson County, Texas. The permit number for this project is

\_\_\_\_\_

The following information shall be changed to the Construction Site Notice:

<b>Section (A,B,C,.....)</b>	<b>Title (Name, Address,.....)</b>	<b>Change &amp; Reason for Change</b>

Sincerely,

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

cc. MS4 Operator

**APPENDIX J**  
**RECORD OF TEMPORARY AND PERMANENT**  
**CEASING OF CONSTRUCTION**

Include all permanent transfers of operational control from this operator to another operator in this section. List if necessary.



# **APPENDIX K RECORD OF INSPECTIONS**

**CLS RV Resort**

**INSPECTION REPORT**

Date: \_\_\_\_\_ Project File No. \_\_\_\_\_  
 Inspector: \_\_\_\_\_ Title: \_\_\_\_\_

REASON FOR INSPECTION: 14 day period ½" Rain (circle one)  
 7-day period

SITE CONDITIONS:

<b>EROSION &amp; SEDIMENTATION CONTROL</b>	<b>IN CONFORMANCE</b>	<b>EFFECTIVE</b>
Construction Entrance	Yes / No / NA	Yes / No
Sedimentation Trap	Yes / No / NA	Yes / No
Inlet Protection	Yes / No / NA	Yes / No
Stabilization	Yes / No / NA	Yes / No
Silt Fence	Yes / No / NA	Yes / No
Straw / Hay Bale	Yes / No / NA	Yes / No
Vegetative Buffer Strips	Yes / No / NA	Yes / No
Other	Yes / No / NA	Yes / No

VIOLATIONS NOTED:

\_\_\_\_\_

RECOMMENDED REMEDIAL ACTIONS:

\_\_\_\_\_

COMMENTS:

\_\_\_\_\_

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

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

Signature: \_\_\_\_\_

## **APPENDIX L**

### **RECORD OF MAINTENANCE PROCEDURES**

Include all maintenance procedures and good housekeeping measures. Receipts, invoices, or additional reports may be attached in this appendix.

**RECORD OF MAINTENANCE PROCEDURES**

CLS RV Resort

Date	Activity Performed	Routine or Due to Inspection or Other	Additional Attachments (yes / no)	Signature



# **APPENDIX M**

## **EXHIBITS AND SITE PLAN**

TCEQ-TX150000  
NOTICE OF INTENT



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

## IMPORTANT:

- Use the [INSTRUCTIONS](#) to fill out each question in this form.
- Use the [CHECKLIST](#) to make certain you filled out all required information. Incomplete applications **WILL** delay approval or result in denial.
- Once processed your permit can be viewed at: <http://www.tceq.texas.gov/goto/wq-dpa>

**ePERMITS:** Sign up now for online NOI: <https://www3.tceq.texas.gov/steers/>  
 Pay a \$225 reduced application fee by using ePermits.

## APPLICATION FEE:

- You must pay the **\$325** Application Fee to TCEQ for the paper application to be complete.
- Payment and NOI must be mailed to separate addresses.
- Did you know you can pay on line?
  - Go to <http://www.tceq.texas.gov/goto/epay>
  - Select Fee Type: GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION

• **Provide your payment information below, for verification of payment:**

Mailed      Check/Money Order Number: \_\_\_\_\_  
                  Name Printed on Check: \_\_\_\_\_  
                  Copy of check enclosed?      Yes

EPAY      Voucher Number: \_\_\_\_\_  
                  Is the Payment Voucher copy attached?      Yes

## RENEWAL: Is this NOI a Renewal of an existing General Permit Authorization? (Note: A permit cannot be renewed after June 3, 2013.)

Yes      The Permit number is: TXR15\_\_\_\_\_

**(If a permit number is not provided, a new number will be assigned.)**

No

## 1) OPERATOR (Applicant)

- a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? You may search for your CN at:  
<http://www.tceq.texas.gov/goto/cr-customer>

CN\_\_\_\_\_

**b) What is the Legal Name of the entity (applicant) applying for this permit?**

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

**c) What is the contact information for the Operator (Responsible Authority)? The mailing address must be recognized by the US Postal Service (USPS). You may verify the address at: <https://tools.usps.com/go/ZipLookupAction!input.action>**

Prefix (Mr. Ms. Miss): \_\_\_\_\_  
First/Last Name: \_\_\_\_\_ Suffix: \_\_\_\_\_  
Title: \_\_\_\_\_ Credential: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Ext: \_\_\_\_\_ Fax Number: \_\_\_\_\_  
E-mail: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_  
If outside USA:  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_

**d) Indicate the type of Customer (The instructions will help determine your customer type):**

Individual	Limited Partnership	Sole Proprietorship-DBA
Joint Venture	General Partnership	Corporation
Trust	Estate	Federal Government
State Government	County Government	City Government
Other Government		

**e) Independent Operator? (If governmental entity, subsidiary, or part of a larger corporation, check "No".)**

Yes                  No

**f) Number of Employees:**

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

**g) Customer Business Tax and Filing Numbers:**

(REQUIRED for Corporations and Limited Partnerships. Not Required for Individuals, Government, or Sole Proprietors)

State Franchise Tax ID Number: \_\_\_\_\_

Federal Tax ID: \_\_\_\_\_

Texas Secretary of State Charter (filing) Number: \_\_\_\_\_

DUNS Number (if known): \_\_\_\_\_

## **2) APPLICATION CONTACT**

If TCEQ needs additional information regarding this application, who should be contacted?

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

Yes, go to Section 3).

No, complete section below

Prefix (Mr. Ms. Miss): \_\_\_\_\_  
 First/Last Name: \_\_\_\_\_ Suffix: \_\_\_\_\_  
 Title: \_\_\_\_\_ Credential: \_\_\_\_\_  
 Organization Name: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_ Ext: \_\_\_\_\_ Fax Number: \_\_\_\_\_  
 E-mail: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_  
 Mailing Information if outside USA:  
 Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_

**3) REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE**

If the site of your business is part of a larger business site or if other businesses were located at this site before yours, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at:

<http://www.tceq.texas.gov/goto/cr-searchrn>

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

a) TCEQ issued RE Reference Number (RN): RN \_\_\_\_\_

b) Name of project or site (the name known by the community where located):  
 \_\_\_\_\_

c) In your own words, briefly describe the primary business of the Regulated Entity: (Do not repeat the SIC and NAICS code):

d) County (or counties if > 1)

e) Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

f) Does the site have a physical address?

Yes, complete Section A for a physical address.

No, complete section B for site location information.

**Section A:** Enter the physical address for the site.

Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergency or other online map tools to confirm an address.

Physical Address of Project or Site:

Street Number: \_\_\_\_\_ Street Name: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

**Section B:** Enter the site location information.

If no physical address (Street Number & Street Name), provide a written location access description to the site. (Example: located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

City where the site is located or, if not in a city, what is the nearest city:

State: \_\_\_\_\_ ZIP Code where the site is located: \_\_\_\_\_

**4) GENERAL CHARACTERISTICS**

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

Yes - If the answer is Yes, you must obtain authorization through EPA, Region 6.

No

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

Yes - If the answer is Yes, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA, Region 6.

No

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

Primary SIC Code: \_\_\_\_\_

**d)** If applicable, what is the Secondary SIC Code(s): \_\_\_\_\_

**e)** What is the total number of acres disturbed? \_\_\_\_\_

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

Yes - If the answer is Yes, the total number of acres disturbed can be less than 5 acres.

No - If the answer is No, the total number of acres disturbed must be 5 or more. If the total number of acres disturbed is less than 5 then the project site does not qualify for coverage through this Notice of Intent. Coverage will be denied. See the requirements in the general permit for small construction sites.

**g)** What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site?

**h)** What is the segment number(s) of the classified water body(s) that the discharge will eventually reach?

**i) Is the discharge into an MS4?**

Yes - If the answer is Yes, provide the name of the MS4 operator below.

---

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

No

**j) Are any of the surface water bodies receiving discharges from the construction site on the latest EPA-approved CWA 303(d) List of impaired waters?**

Yes - If the answer is Yes, provide the name(s) of the impaired water body(s) below.

---

No

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

Yes - If the answer is Yes, complete certification below by checking "Yes."

No

I certify that a copy of the TCEQ approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) is either included or referenced in the Stormwater Pollution Prevention Plan.

Yes





## NOTICE OF INTENT CHECKLIST (TXR150000)

- Did you complete everything? Use this checklist to be sure!
- Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

This checklist is for use by the operator to ensure a complete application. Missing information may result in denial of coverage under the general permit. (See NOI process description in the Instructions)

### Application Fee:

If paying by Check:

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

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

If using ePay:

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

### PERMIT NUMBER:

Permit number provided – if this application is for renewal of an existing authorization.

### OPERATOR INFORMATION - Confirm each item is complete:

Customer Number (CN) issued by TCEQ Central Registry

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

Name and title of responsible authority signing the application

Mailing address is complete & verifiable with USPS. [www.usps.com](http://www.usps.com)

Phone numbers/e-mail address

Type of operator (entity type)

Independent operator

Number of employees

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

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

### REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE - Confirm each item is complete:

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

Site/project name/regulated entity

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

County

Site/project physical address. Do not use a rural route or post office box.

Business description

### GENERAL CHARACTERISTICS - Confirm each item is complete:

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

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

Standard Industrial Classification (SIC) Code [www.osha.gov/oshstats/sicser.html](http://www.osha.gov/oshstats/sicser.html)

Acres disturbed is provided and qualifies for coverage through a NOI

Common plan of development or sale

Receiving water body(s)

Segment number(s)

Impaired water body(s)

MS4 operator

Edwards Aquifer rule

### CERTIFICATION

Certification statements have been checked indicating "Yes"

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

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

## General Information and Instructions

### GENERAL INFORMATION

#### Where to Send the Notice of Intent (NOI):

##### BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality  
Stormwater Processing Center (MC-228)  
P.O. Box 13087  
Austin, Texas 78711-3087

##### BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality  
Stormwater Processing Center (MC-228)  
12100 Park 35 Circle  
Austin, TX 78753

#### TCEQ Contact List:

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

#### Notice of Intent Process:

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

- 1) Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(s) on the form must be verified with the US Postal service as receiving regular mail delivery. Never give an overnight/express mailing address.
- 2) Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.
- 3) Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.  
-or-  
**Denial of Coverage:** If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

#### General Permit (Your Permit)

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

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

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

### **General Permit Forms**

The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) (including instructions) are available in Adobe Acrobat PDF format on the TCEQ web site <http://www.tceq.texas.gov>.

### **Change in Operator**

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

### **TCEQ Central Registry Core Data Form**

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

You can find the information on the Central Registry web site at <http://www15.tceq.texas.gov/crpub/>. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Program ID". Capitalize all letters in the permit number.

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

### **Fees associated with a General Permit**

Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

**Application Fee:** This fee is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit.

#### **Mailed Payments:**

Payment must be mailed under separate cover at one of the addresses below using the attached Application Fee submittal form. (DO NOT SEND A COPY OF THE NOI WITH THE APPLICATION FEE SUBMITTAL FORM)

BY REGULAR U.S. MAIL  
Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
P.O. Box 13088  
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL  
Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
12100 Park 35 Circle  
Austin, TX 78753

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

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

## INSTRUCTIONS FOR FILLING OUT THE NOI FORM

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

### 1. Operator (Applicant)

#### a) Enter assigned Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.** If this customer has not been assigned a CN, leave the space for the CN blank. If this customer has already been assigned this number, enter the permittee's CN.

#### b) Legal Name

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

#### c) Operator Contact's (Responsible Authority) Contact Information and Mailing Address

Provide the first and last name, and the title of the person signing the Certification section of the application. This person must be an individual having signatory authority in accordance with 30 TAC Chapter §305.44. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service at <https://tools.usps.com/go/ZipLookupAction!input.action> for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

The area code and phone number should provide contact to the operator. Leave Extension blank if not applicable.

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

#### d) Type of Customer (Entity Type)

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

##### **Sole Proprietorship – DBA**

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

- be under the person's name
- have its own name (doing business as or d.b.a.)
- have any number of employees

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

## **Individual**

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

## **Partnership**

- A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). A Limited Partnership or Limited Liability Partnership (Partnership) is required to file with the Texas Secretary of State. A General Partnership or Joint Venture is not required to register with the state.
- **Partnership (Limited Partnership or Limited Liability Partnership):** A limited partnership is defined in the Act as a partnership formed by two or more persons under the provisions of Section 3 of the Uniform Limited Partnership Act (Art. 6132a, Revised Civil Statutes of Texas) and having as members one or more general partners and one or more limited partners. The limited partners as such are not bound by the obligations of the partnership. Limited partners may not take part in the day-to-day operations of the business. A Limited Partnership must file with the Texas Secretary of State. A registered limited liability partnership is a general or limited partnership that is registered with the Texas Secretary of State. The partnership's name must contain the words "Registered Limited Liability Partnership" or the abbreviation "L.L.P." as the last words or letters of its name.
- **General Partnership:** A general partner may or may not invest, participates in running the partnership and is liable for all acts and debts of the partnership and any member of it. A General Partnership does not have limited partners. For a General Partnership, there is no registration with the state or even written agreement necessary for a general partnership to be formed. The legal definition of a partnership is generally stated as "an association of two or more persons to carry on as co-owners a business for profit" (Revised Uniform Partnership Act § 101 [1994]).
- **Joint Venture:** A joint venture is but another name for a special partnership. It might be distinguished from a general partnership in that the latter is formed for the transaction of a general business, while a joint venture is usually limited to a single transaction. That is, a joint venture is a special combination of persons in the nature of a partnership engaged in the joint prosecution of a particular transaction for mutual benefit or profit.

## **Corporation**

A customer meets all of these conditions:

- is a legally incorporated entity under the laws of any state or country
- is recognized as a corporation by the Texas Secretary of State
- has proper operating authority to operate in Texas.
- The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

## **Government**

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

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the

applicant. A department name or other description of the organization should not be included as a part of the 'legal name' as applicant.

**Trust or Estate**

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

**Other Government**

A utility district, water district, tribal government, college district, council of governments, or river authority. Write in the specific type of government.

**e) Independent Entity**

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

**f) Number of Employees**

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

**g) Customer Business Tax and Filing Numbers**

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

**State Franchise Tax ID Number**

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

**Federal Tax ID**

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

**TX SOS Charter (filing) Number**

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

**DUNS Number**

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

**2. APPLICATION CONTACT**

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

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

**a) Regulated Entity Reference Number (RN)**

A number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at: <http://www.tceq.texas.gov/goto/cr-searchrn>

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

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

**b) Site/Project Name/Regulated Entity**

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

**c) Description of Activity Regulated**

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

**d) County**

Identify the county or counties in which the regulated entity is located.

**e) Latitude and Longitude**

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to:

<http://www.tceq.texas.gov/gis/sqmapview.html> or <http://nationalmap.gov/ustopo>

**f) Site/Project (RE) Physical Address/Location Information**

Enter the complete address for the site in Section A if the address can be validated through the US Postal Service. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street (or house) number and street name, enter NO ADDRESS for the street name in Section A. In Section B provide a complete written location description. For example: "The site is located 2 miles west from intersection of Hwy 290 & IH35, located on the southwest corner of the Hwy 290 South bound lane."

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

**4. GENERAL CHARACTERISTICS**

**a) Indian Country Lands**

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

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

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

[http://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&ti=16&pt=1&ch=3&rl=30](http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30)

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

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

**c) Primary Standard Industrial Classification (SIC) Code**

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

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Bldgs. Other than Single Family Homes
- 1541 - Construction of Industrial Bldgs. and Warehouses



- 1542 - Construction of Non-residential Bldgs, other than Industrial Bldgs. and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, go to:

<http://www.osha.gov/pls/imis/sicsearch.html>

**d) Secondary SIC Code**

Secondary SIC Code(s) may be provided. Leave blank if not applicable. For help with SIC Codes, go to: <http://www.osha.gov/pls/imis/sicsearch.html>

**e) Total Number of Acres Disturbed**

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

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

**f) Common Plan of Development**

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

For more information on "What is a common plan of development?" go to:

[www.tceq.texas.gov/permitting/stormwater/common\\_plan\\_of\\_development\\_steps.html](http://www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html)

For further information, go to the TCEQ stormwater construction webpage at:

[www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction) and search for "Additional Guidance and Quick Links". If you have any further questions about this item, please call the stormwater technical staff at (512)239-4671.

**g) Identify the water body(s) receiving stormwater runoff**

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

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

**h) Identify the segment number(s) of the classified water body(s)**

Identify the classified segment number(s) receiving a discharge directly or indirectly. Go to the following link to find the segment number of the classified water body where stormwater will flow from the site: [www.tceq.texas.gov/waterquality/monitoring/viewer.html](http://www.tceq.texas.gov/waterquality/monitoring/viewer.html)

You may also find the segment number in TCEQ publication GI-316:

[www.tceq.texas.gov/publications/gi/gi-316](http://www.tceq.texas.gov/publications/gi/gi-316)

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

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

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

**i) Discharge into MS4 – Identify the MS4 Operator**

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

**j) Surface Water bodies on list of impaired waters – Identify the impaired water body(s)**

Indicate Yes or No if any surface water bodies receiving discharges from the construction site are on the latest EPA-approved CWA 303(d) List of impaired waters. Provide the name(s) of surface water bodies receiving discharges or potential discharges from the construction site that are on the latest EPA-approved CWA 303(d) List of impaired waters. The EPA-approved CWA 303(d) List of impaired waters in Texas can be found at:

[www.tceq.texas.gov/waterquality/assessment/305\\_303.html](http://www.tceq.texas.gov/waterquality/assessment/305_303.html)

NOTE: Do not use any "draft" documents.

**k) Discharges to the Edwards Aquifer Recharge Zone and Certification**

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer at: [www.tceq.texas.gov/field/eapp/viewer.html](http://www.tceq.texas.gov/field/eapp/viewer.html)

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin. The certification must be answered "Yes" for coverage under the Construction General Permit. The TCEQ approved plan must be readily available for TCEQ staff to review at the time that the NOI is submitted.

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

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

## **5. CERTIFICATIONS**

Failure to indicate **Yes** to ALL of the certification items may result in denial of coverage under the general permit.

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

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. (Electronic applications submitted through ePermits have immediate provisional coverage). You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site: [www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction)

### **b) Certification of Legal Name**

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at (512)463 5555, for more information related to filing in Texas.

### **c) Understanding of Notice of Termination**

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

### **d) Certification of Stormwater Pollution Prevention Plan**

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

### **Operator Certification:**

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

### **IF YOU ARE A CORPORATION:**

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

### **IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:**

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

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

### **30 Texas Administrative Code**

#### **§305.44. Signatories to Applications**

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

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

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

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

I \_\_\_\_\_ Clint Stephenson \_\_\_\_\_  
Print Name  
Owner \_\_\_\_\_  
Title - Owner/President/Other  
of \_\_\_\_\_ Dilley Development, LLC \_\_\_\_\_  
Corporation/Partnership/Entity Name  
have authorized \_\_\_\_\_ Candace Craig, PE \_\_\_\_\_  
Print Name of Agent/Engineer  
of \_\_\_\_\_ Nora Engineer & Planning LLC \_\_\_\_\_  
Print Name of Firm

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

I also understand that:

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

SIGNATURE PAGE:

Clint Stephenson  
Applicant's Signature

April 19, 2023  
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Clint Stephenson 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 19th day of April, 2023.

[Signature]  
NOTARY PUBLIC



Carol Parker  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: October 29, 2024

# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: LHTX RV Resort

Regulated Entity Location: 2224 RR 1869

Name of Customer: Dilley Development, LLC

Contact Person: Candace Craig, PE

Phone: (737) 264-3081

Customer Reference Number (if issued):CN \_\_\_\_\_

Regulated Entity Reference Number (if issued):RN \_\_\_\_\_

### 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	19.6 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: 04/18/2023

# 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*

<b>Project</b>	<b>Project Area in Acres</b>	<b>Fee</b>
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*

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

*Underground and Aboveground Storage Tank System Facility Plans and Modifications*

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

*Exception Requests*

<b>Project</b>	<b>Fee</b>
Exception Request	\$500

*Extension of Time Requests*

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





TCEQ Use Only

# TCEQ Core Data Form

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

## SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input checked="" 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 type="checkbox"/> Other	
2. Customer Reference Number (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	3. Regulated Entity Reference Number (if issued)
CN		RN <b>111504502</b>

## SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	02/16/2011	
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)			
<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>	
Dilley Development, 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)
801385256	32043621955	45-2755702	N/A
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"/> 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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
15. Mailing Address:	800 CR 257		
	City	Liberty Hill	State TX ZIP 78642 ZIP + 4
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
N/A		clint@clsexcavation.com	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	
( 512 ) 820-3265	N/A	( ) -	

## SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
<i>The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
LHTX RV Resort	

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>	2224 RR 1869							
	City	Liberty Hill	State	TX	ZIP	78642	ZIP + 4	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	N/A								
26. Nearest City				State		Nearest ZIP Code			
Liberty Hill				TX		78642			
27. Latitude (N) In Decimal:		30.672050			28. Longitude (W) In Decimal:		-97.908410		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds				
30	40	19	-97	54	30				
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)			
7033		N/A		721211		N/A			
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>									
Recreational vehicle park site									
34. Mailing Address:		2224 RR 1869							
		City	Liberty Hill	State	TX	ZIP	78642	ZIP + 4	
35. E-Mail Address:		clint@clsexcavation.com							
36. Telephone Number			37. Extension or Code			38. Fax Number <i>(if applicable)</i>			
( 512 ) 845-4140			N/A			( ) -			

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.

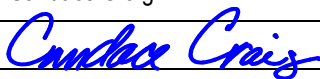
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source 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"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

#### SECTION IV: Preparer Information

40. Name:	Candace Craig			41. Title:	President		
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address				
( 737 ) 264-3081	N/A	( ) -N/A	ccraig@noraeng.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:	Nora Engineering & Planning LLC		Job Title:	President			
Name <i>(In Print)</i> :	Candace Craig			Phone:	( 737 ) 264- 3081		
Signature:				Date:	5/15/2023		