WATER POLLUTION ABATEMENT PLAN WITH SEWAGE COLLECTION SYSTEM APPLICATION

FOR

SAN GABRIEL ICE HOUSE

900 Lakeway Drive
Georgetown, Texas 78628

Prepared For:

MICHAEL JONES
JONES FAMILY INVESTMENTS, LLC
4819 WILLIAMS DRIVE
GEORGETOWN, TEXAS 78633

Prepared By:

Sandlin Services, LLC
TBPELS Firm # 21356
P: (806) 679-7303

August 23, 2023

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

<table>
<tr><td colspan="5">1. Regulated Entity Name: San Gabriel Ice House</td><td colspan="4">2. Regulated Entity No.:</td></tr>
<tr><td colspan="5">3. Customer Name:
Jones Family Investments LLC</td><td colspan="4">4. Customer No.:</td></tr>
<tr><td>5. Project Type:
(Please circle/check one)</td><td>New</td><td colspan="2">Modification</td><td>Extension</td><td colspan="2">Exception</td><td></td></tr>
<tr><td>6. Plan Type:
(Please circle/check one)</td><td>WPAP</td><td>CZP</td><td>SCS</td><td>UST</td><td>AST</td><td>EXP</td><td>EXT</td><td>Technical Clarification</td><td>Optional Enhanced Measures</td></tr>
<tr><td>7. Land Use:
(Please circle/check one)</td><td>Residential</td><td colspan="3">Non-residential</td><td colspan="2">8. Site (acres):</td><td>4.76 AC</td></tr>
<tr><td>9. Application Fee:</td><td>$4,138.50</td><td colspan="3">10. Permanent BMP(s):</td><td colspan="3">Batch Detention Pond</td></tr>
<tr><td>11. SCS (Linear Ft.):</td><td>277</td><td colspan="3">12. AST/UST (No. Tanks):</td><td colspan="3"></td></tr>
<tr><td>13. County:</td><td>Williamson</td><td colspan="3">14. Watershed:</td><td colspan="3">Granger Lake-San Gabriel</td></tr>
</table>

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_x_
Region (1 req.)	___	___	_x_
County(ies)	___	___	_x_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence _x_Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. NICK SANDLIN, PE (SANDLIN SERVICES, LLC)
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 8/23/23

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

General Information Form
(TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: NICK SANDLIN, PE (SANDLIN SERVICES, LLC)

Date: 8/23/23

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: SAN GABRIEL ICE HOUSE
2. County: WILLIAMSON COUNTY
3. Stream Basin: BRAZOS RIVER
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:
   - ☒ Recharge Zone
   - ☐ Transition Zone
6. Plan Type:
   - ☒ WPAP
   - ☒ SCS
   - ☐ Modification
   - ☐ AST
   - ☐ UST
   - ☐ Exception Request

7. Customer (Applicant):

   Contact Person: ROY S JONES
   Entity: JONES FAMILY INVESTMENTS, LLC
   Mailing Address: 4819 Williams Drive
   City, State: Georgetown, TX Zip: 78633
   Telephone: 512-943-6106 FAX: _____
   Email Address: michael@jonesfi.com

8. Agent/Representative (If any):

   Contact Person: NICK SANDLIN, P.E.
   Entity: SANDLIN SERVICES LLC
   Mailing Address: 8500 N. Mopac Expy Suite 820
   City, State: Austin, TX Zip: 78759
   Telephone: 806-679-7303 FAX: _____
   Email Address: nick@sandlinservices.com

9. Project Location:

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

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

    900 Lakeway Dr. , Georgetown, TX 78628

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

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

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

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

    ☒ Survey staking will be completed by this date: 3/10/21

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

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

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

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

Administrative Information

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

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

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

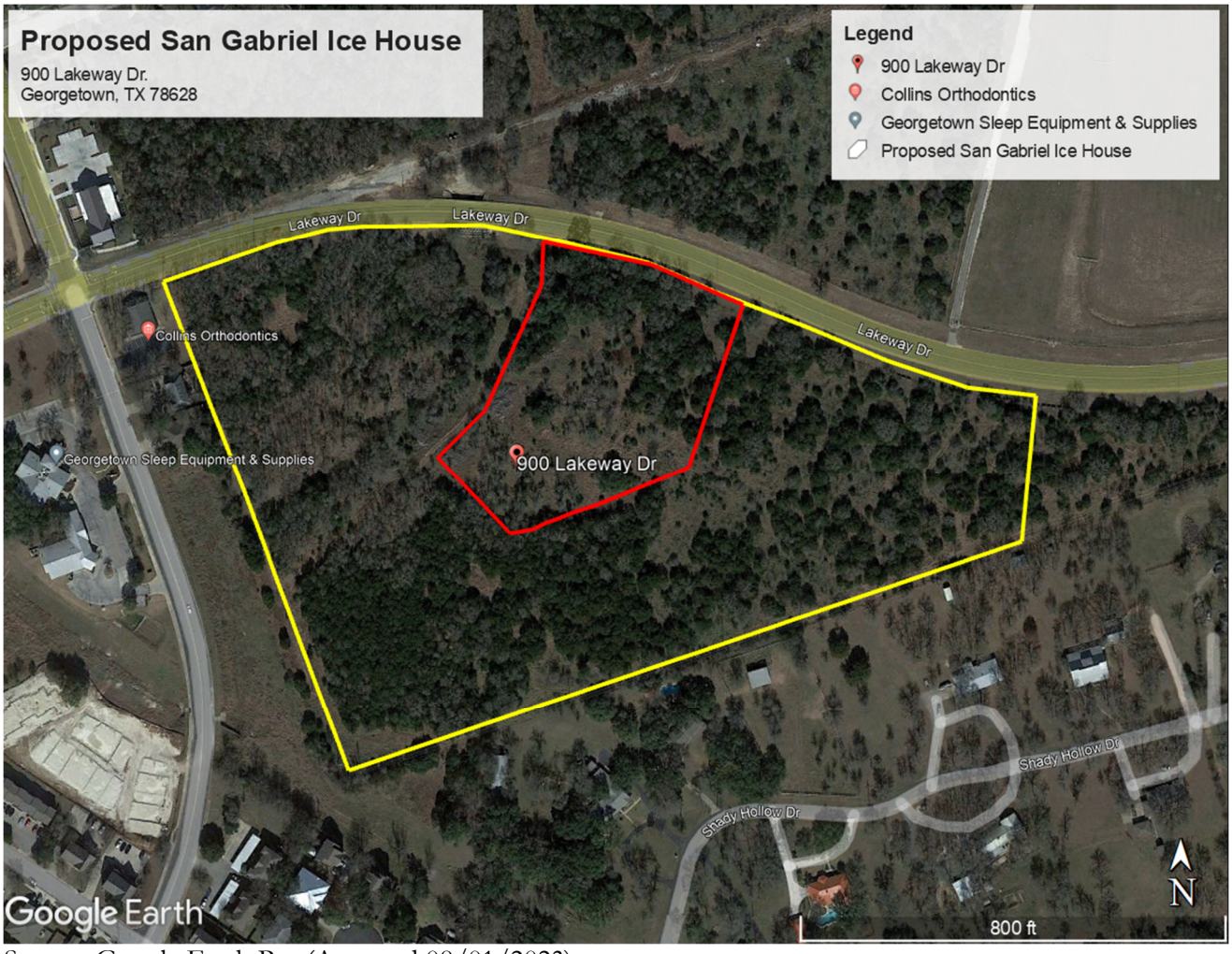
- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

General Information Form
(TCEQ-0587)

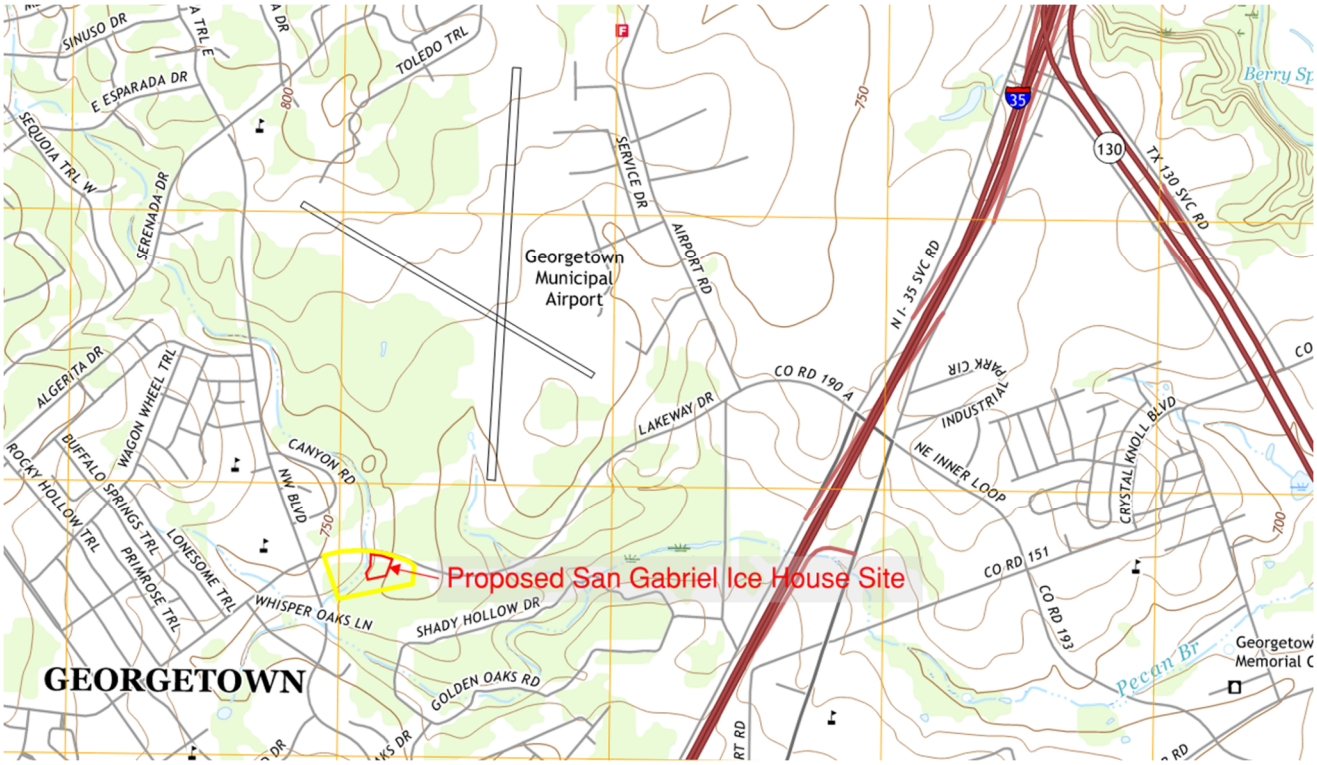
Attachment A:
Road Map



Source: Google Earth Pro (Accessed 08/01/2023)

General Information Form
(TCEQ-0587)

Attachment B:
USGS Quadrangle Map
Edwards Aquifer Recharge Zone Map
FEMA FIRM Map



Source: Portion of USGS Quadrangle Map (TX_Georgetown_20220811_TM_geo)

EDWARDS AQUIFER ZONE MAP
San Gabriel Ice House
Lakeway Drive
Georgetown, Texas 78628
Source: TCEQ Edwards Aquifer Viewer
Prepared: August 21, 2023

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W E
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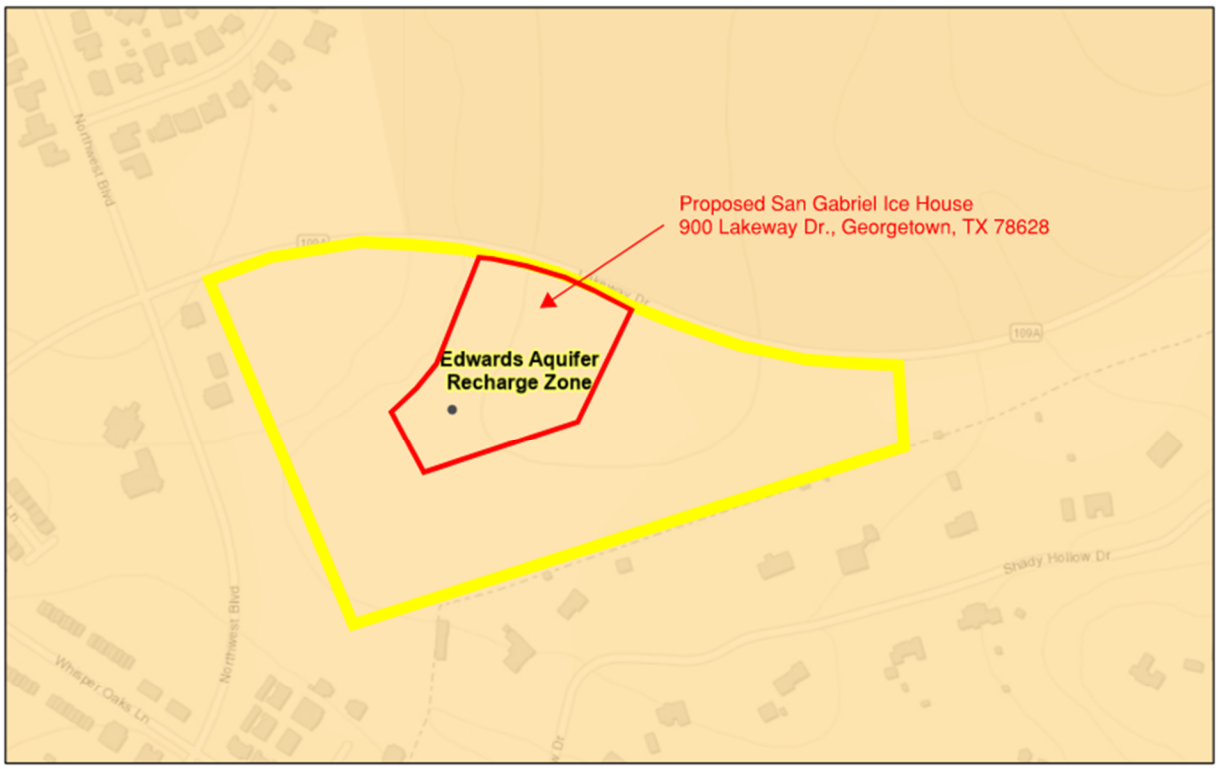
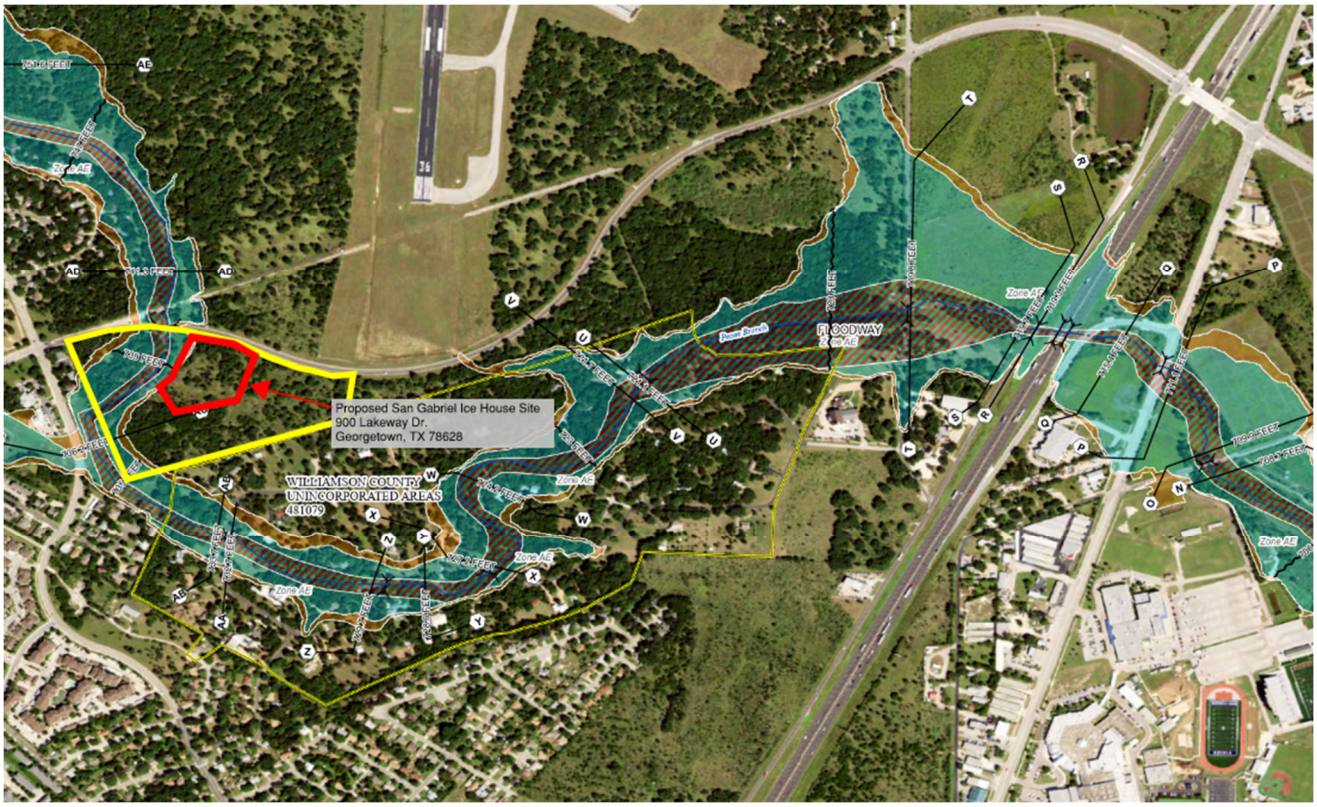
900 Lakeway Dr., Georgetown, TX 78628



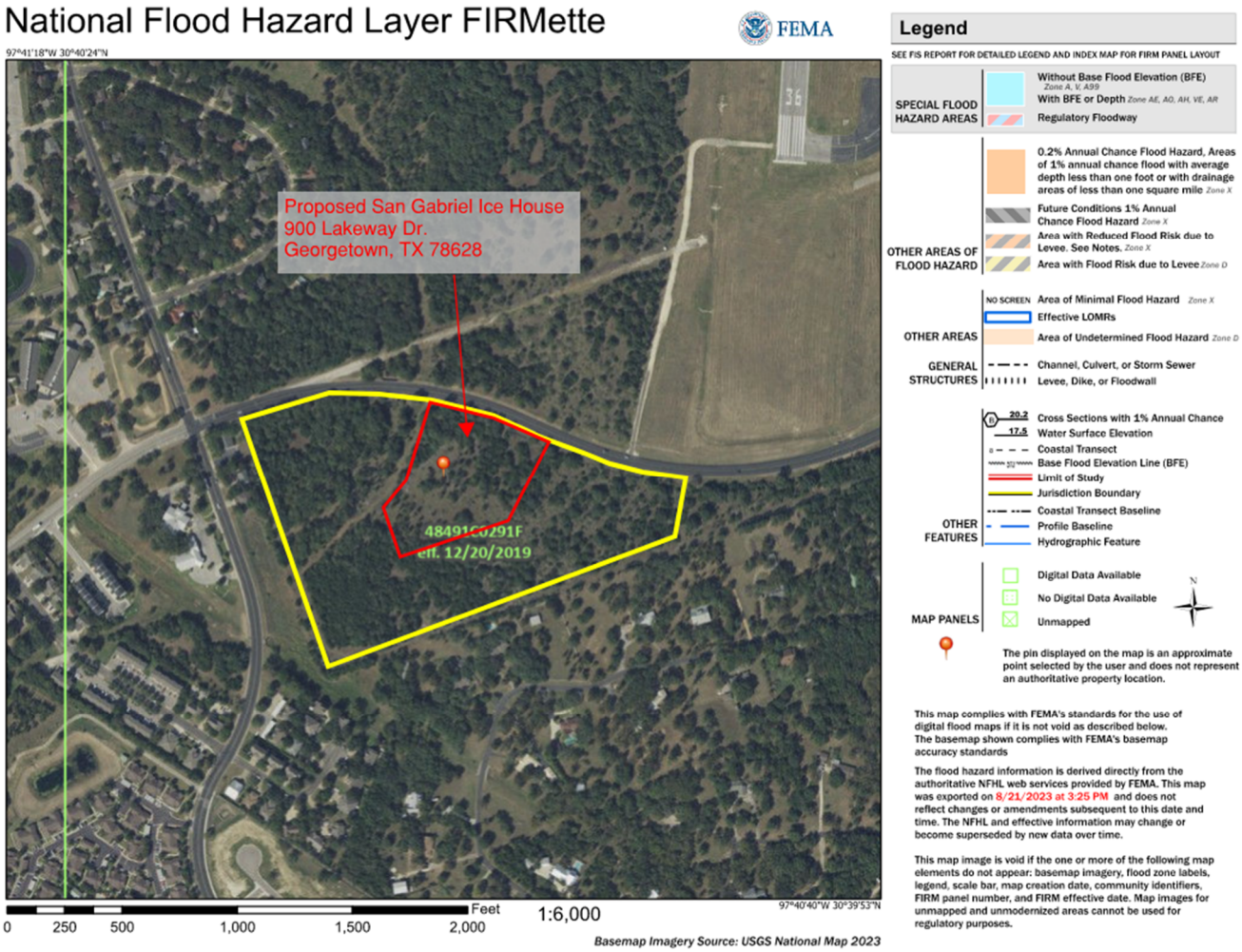
8/21/2023, 4:40:38 PM
Edwards Aquifer Label
City/Place
TX Counties
7.5 Minute Quad Grid
TCEQ_EDWARDS_OFFICIAL_MAPS

1:4,514
0 0.03 0.07 0.13 mi
0 0.05 0.1 0.2 km
County of Williamson, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, TCEQ
Web AppBuilder for ArcGIS
County of Williamson, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA | TCEQ |

FEMA FIRM MAP PANEL



Source: Portion of FEMA FIRM Map Panel 48491C0291F (effective 12/20/2019)



FEMA FIRMette Map Panel 48491C0291F (effective 12/20/2019)

General Information Form (TCEQ-0587)

Attachment C: Project Description

Proposed Development

The 4.76 AC proposed project site is at 900 Lakeway Drive, Georgetown, Texas 78633 and within the 23.779 AC parcel (WCAD #R583645). Legal description of the parcel is S11956 – HAVINS AIRPORT COMMERCIAL SUB, BLOCK D, LOT 1, ACRES 23.779. The property is located inside the City of Georgetown limits in Williamson County. The project site is currently undeveloped land and zoned C-1 Local Commercial. The proposed development for a restaurant and outdoor entertainment venue, including one 5,000 SF restaurant, a 1,940 SF beer garden, a playground, and an outdoor stage area, with associated paving, drainage, utility, and water quality infrastructure is on 4.76 AC called out of a 23.779 AC parcel. The property is within the Edwards Aquifer Recharge Zone and will therefore need a Water Pollution Abatement Plan (WPAP) and Organized Sewage Collection System (SCS) Plan. The WPAP proposes a Batch Detention Pond BMP for permanent stormwater quality control.

Site Description and History

The proposed 4.76 AC project site located at 900 Lakeway Drive in Georgetown, Texas, is currently owned by Jones Family Investments, LLC (Document #2021094960, dated 06/23/2021). Survey of the project site is Lot 1-A, Block D 4.765 AC called out in the REPLAT of LOT 1, BLOCK D HAVINS AIRPORT COMMERCIAL SUBDIVISION, City of Georgetown, Williamson County, Official Public Records Document # 2019011029 (TRIAD Surveying, Inc., dated 08/09/2023).

Total land area consists of 0% - 15% slopes. The Elevation is between 740 FT and 750 FT. Vegetation at the undeveloped site is primarily cedar and natural vegetation.

Access

The proposed access to the site is at 900 Lakeway Drive, Georgetown, Texas.

Impervious Cover (IC)

The Limits of Construction (LOC) is 4.42 AC.

Total existing area of impervious cover (IC) at the 4.76 AC project site is 0.0 acres or 0.0%.

After the proposed construction, developed IC within the 4.76 AC project site will be approximately 1.49 AC, or 31.3%.

Existing impervious cover (IC) within WQ-DA-1 is 0.0 AC or 0%. After the proposed project and construction of the batch detention pond BMP, the IC within WQ-DA-1 will be 1.3 AC. Existing and proposed areas of impervious cover will be treated as shown in the permanent stormwater section.

Watershed and FEMA Floodplain Information

The project site is within the Granger Lake-San Gabriel Watershed, which drains to the Brazos River Basin. Pecan Branch crosses the northwest corner of the total 23.779 AC lot. The 4.76 AC project area's west boundary borders the FEMA designated 100-year floodplain area along Pecan Branch of the San Gabriel River, according to FEMA FIRM Panel #48491C0291F (Effective date:12/20/2019). The undeveloped 4.76 AC project site generally slopes west toward Pecan Branch which then flows southeast to the confluence of the San Gabriel River segment 1248. The confluence with the San Gabriel River is approximately 4.5 miles east of the project site.

A Batch Detention Pond BMP is proposed for water quality within WQ-DA-1 at the developed project site. Developed stormwater flows are diverted to the Batch Detention Pond BMP. See Construction Plan Sheet 9: Site Plan and Sheet 13: Water Quality Drainage Area Map for details.

Temporary Best Management Practices (BMPs)

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site.

Prior to soil disturbing construction activity, temporary BMPs will be installed. Silt fencing will be installed along the down-gradient sides of the property to intercept and detain waterborne sediment from unprotected areas. The silt fence shall remain in place until the disturbed area is permanently stabilized.

Permanent Best Management Practices (BMPs)

A Batch Detention Pond permanent BMP is proposed for stormwater drainage and water quality at the developed project site area. The batch detention pond BMP has a capture depth of 3.9 FT. The drainage area in WQ-DA-1 to control is 2.27 AC.

After construction activities are complete, the Batch Detention Pond permanent BMP will be maintained as described in Attachment G of the Permanent Stormwater Section. Permanent seeding, sodding or mulching will be utilized as described in Attachment J of the Temporary Stormwater Section. Permanent BMPs for trash, herbicide/pesticide use, and general maintenance for the batch detention pond BMP are also described in Attachment G of the Permanent Stormwater Section.

Offsite Areas

No offsite areas are anticipated to be affected by pre and post construction activities at the site. Temporary BMPs will minimize any anticipated effects of the proposed construction activities. Permanent BMPs will address any anticipated stormwater issues at the developed site.

Narrative Description of Site-Specific Geology for the Approximately 30-acre Tract Located on Lakeway Drive, Georgetown, Williamson County, Texas

Prepared for:

Jones Family Investments, LLC

Prepared by:

Cambrian Environmental

September 7, 2022

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR THE APPROXIMATELY 30-ACRE TRACT LOCATED ON LAKEWAY DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS

Prepared for:

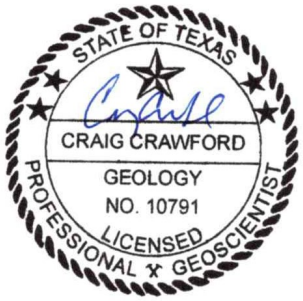
Jones Family Investments, LLC
4819 Williams Drive
Georgetown, Texas 78633

Prepared by:

Craig Crawford, P.G.

Cambrian Environmental
4422 Pack Saddle Pass, Suite 204
Austin, Texas 78745

TX Geoscience Firm Registration #50484



As a licensed professional geoscientist I attest that the contents of this report are complete and accurate to the best of my knowledge.

September 7, 2022

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

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

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

Signature

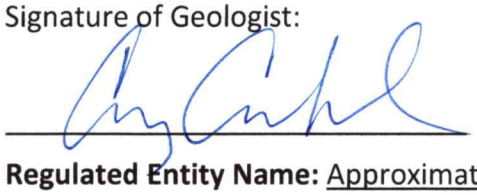
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Craig Crawford, PG Telephone: 512.705.5541

Date: 7 September 2022 Fax: _____

Representing: Cambrian Environmental (TBPG # 50484) (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Approximately 30-acre tract on Lakeway Drive

Project Information

1. Date(s) Geologic Assessment was performed: 4 August 2022
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford (CfB)	D	< 4
Eckrant (EeB)	D	< 2
Georgetown (GsB)	D	< 4

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = _____'
   Site Geologic Map Scale: 1" = 150'
   Site Soils Map Scale (if more than 1 soil type): 1" = 279'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR THE APPROXIMATELY 30-ACRE TRACT LOCATED ON LAKEWAY DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS

INTRODUCTION

This narrative Geologic Assessment accompanies the Texas Commission on Environmental Quality (TCEQ) Geologic Assessment Form TCEQ-0585 completed for the approximately 30-acre tract located on Lakeway Drive in Georgetown, Williamson County, Texas (Figure 1). The site is located on the south side of Lakeway Drive, near the intersection with Northwest Boulevard, and is also positioned immediately south of the Georgetown Airport. The tract is currently undeveloped, although there is one existing wastewater utility line that crosses through the property.

METHODOLOGY

Two Cambrian Environmental Registered Professional Geoscientists (License #'s 10791 and 1350) and two karst technicians conducted a field survey for a Geologic Assessment on the 4th of August 2022. The pedestrian survey was completed by walking parallel transects spaced approximately 50 feet apart as directed by the TCEQ in the *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (Rev. 10-01-04). Closer spacing was used where vegetation inhibited clear observation. All potential karst features, including depressions, holes, and animal burrows, were carefully examined for evidence of subsurface extent. A number of techniques were used for this effort, including probing with a digging implement to determine the thickness and consistency of fill material and feeling for the presence of air flow, which may indicate the presence of a sub-surface void space. Other techniques included making observations of any notable characteristics of the feature site such as the presence of various types of vegetation or a semi-circular burrow mound produced by the activities of small mammals. The locations of any discovered features were recorded with a handheld GPS unit. We also conducted due diligence activities as called for under the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance ("the Ordinance").

RESULTS

Soils

Soils mapped within the project area consist of the Crawford clay (CfB), Eckrant extremely stony clay (EeB), and Georgetown stony clay loam (GsB) series soils[1]. (Figure 2). The Crawford, Eckrant, and Georgetown series soils are all within the "D" classification of the hydrologic soil

[1] United States Department of Agriculture, Natural Resource Conservation Service. Online Web Soil Survey, Williamson County, Texas. http://websoilsurvey.sc.egov.usda.gov/

groups. The "D" soils have a very slow infiltration rate (very high runoff potential) when thoroughly wet.

The Crawford consists of moderately deep, well drained, clayey soils on uplands. The soils formed in clayey sediment on strongly and weakly cemented limestone. Typically, the surface layer is neutral clay about 27 inches thick. The top 6 inches are brown, and then transitions into reddish brown below that. The underlying material is whitish, fractured hard limestone.

The Eckrant consists chiefly of clays that have a high shrink-swell potential, soils that have a permanent high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious cover. These soils have a very slow rate of water transmission. Typically, the soil is very dark gray with a surface layer about 11 inches thick. The underlying material is an indurated limestone.

The Georgetown stony clay loam is nearly level to gently sloping and occurs on uplands. Typically, this soil has a slightly acid, brown stony clay loam surface layer about 7 inches thick. The subsoil is neutral to slightly acid, reddish-brown cobbly clay that extends to about 35 inches. The underlying material is indurated fractured limestone that has clay loam in crevices and fractures.

Geology

The mapped bedrock lithology underlying the site consists of the Edwards Limestone, and the site is also located entirely within the Edwards Aquifer Recharge Zone (Figure 3). The Edwards Limestone is a massive to thinly bedded limestone unit and one of the lithologies that comprise the Edwards Aquifer. The geology of the site has been mapped most recently at a useful scale by Collins (2005) and we find this interpretation of the geology to be generally accurate.[2] This site appears to have relatively thick soil cover, and there may be a thin remnant of Georgetown Limestone underlying the tract (i.e. overlying and covering the upper surface of the Edwards). Areas such as this site that have thick soil cover, lack much outcropping bedrock, and contain mesquite trees are common where the Georgetown is present.

Recharge into the aquifer primarily occurs in areas where the Edwards and Georgetown Limestones are exposed at the surface. Most recharge is from direct infiltration via precipitation and streamflow loss. Recharge occurs predominantly along secondary porosity features such as faults, fractures, and karst features (caves, solution cavities, sinkholes, etc.). Karst features are commonly formed along joints, fractures, and bedding plane surfaces in the Edwards Limestone. One recharge feature was identified during the pedestrian survey which is described below and on the attached Geologic Assessment Table (Photos 1 & 2). No faults are mapped within the project area, and none were directly observed during the pedestrian survey. Geologic maps of the area do not identify any nearby faults.

[2] Collins, E.W., 2005, Geologic Map of the West Half of the Taylor 30x60 Quadrangle: Central Texas Urban Corridor, Encompassing Round Rock, Georgetown, Salado, Briggs, Liberty Hill, and Leander. Bureau of Economic Geology, The University of Texas at Austin. Austin, Texas 78713-8924.

Feature Descriptions

F-1 **Sinkhole/Cave.** The feature consists of a sinkhole that measures approximately 12 feet by 17 feet and is at least 15 feet deep. There is a cedar elm tree on the north side of the feature, and its roots spread across the opening and also penetrate down into the deep parts of the feature. This feature is located within the 100-year floodplain, and about the top 8 feet of material observed in the walls of the pit appear to be alluvial deposits. Flagstones can be seen in the lower parts of the walls. The collapse of this feature appears to have been relatively recent. Due to the size of this collapse, there is likely cave passage present in the subsurface, however the feature would need to be excavated to allow for human entry, and the extent of any subsurface void space is unknown. The area immediately surrounding the feature is relatively flat, however since this feature is within the floodplain, the potential for this feature to contribute recharge during significant precipitation events is high.

Site Hydrogeologic Assessment

A review of the Texas Water Development Board's groundwater data base revealed no wells within the project site. One feature (F-1) was identified, and due to its size and location within the floodplain it is ranked as sensitive. No other geologic or man-made features were identified on the site during the pedestrian survey. The highest potential for this property to contribute recharge to the aquifer is concentrated around feature F-1. In the absence of discrete recharge features on the remainder of the property, the likelihood of recharge occurring within these areas of the site and contributing to the main body of the aquifer is thought to be low. Should any additional sensitive karst features be discovered during the construction phase of the project, they should be reported to TCEQ, and a qualified professional geoscientist should evaluate the features to determine if a mitigation void closure report is necessary.

City of Georgetown Salamander Ordinance

No springs were identified on the property during the pedestrian survey, and therefore no occupied site protection, or spring buffer protection measures will be required for the property. One stream channel is present in the northwest corner of the property. This channel was dry at the time of the pedestrian survey, however it is located within the 100-year floodplain. The stream buffer for this channel will need to be either the limits of the 100-year floodplain (FEMA 1% floodplain), or a calculated 1% floodplain.

All regulated activities within the recharge zone must follow water quality best management practices, and development of the property will need to comply with the water quality protection measures as outlined in Section 8 of the Ordinance.

Bedrock Stratigraphic Column

*Shaded areas represent lithologies underlying the project area

30-acre Tract on Lakeway Drive

Period	Symbol	Map Unit	
Upper Cretaceous	Kbu	Buda Limestone ~ 15 feet	
	Kdr	Del Rio Clay ~ 70 feet	
Lower Cretaceous	Kgt	Georgetown Limestone ~ 100 feet	Edwards Aquifer
	Ked	Edwards Limestone ~ 115 feet	
	Kcp	Comanche Peak Limestone ~ 50 feet	
	Kwa	Walnut Formation ~ 135 feet	

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Approximately 30-acre Lakeway Drive Tract

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-1	30.669566	-97.684151	SH/C	30	Ked	12	17	15+					C,O,V	35	65		X		X	Floodplain

* DATUM: WGS84

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 7 September 2022

Sheet 1 of 1

STATE OF TEXAS
CRAIG CRAWFORD
GEOLOGY
NO. 10791
LICENSED
PROFESSIONAL GEOSCIENTIST

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

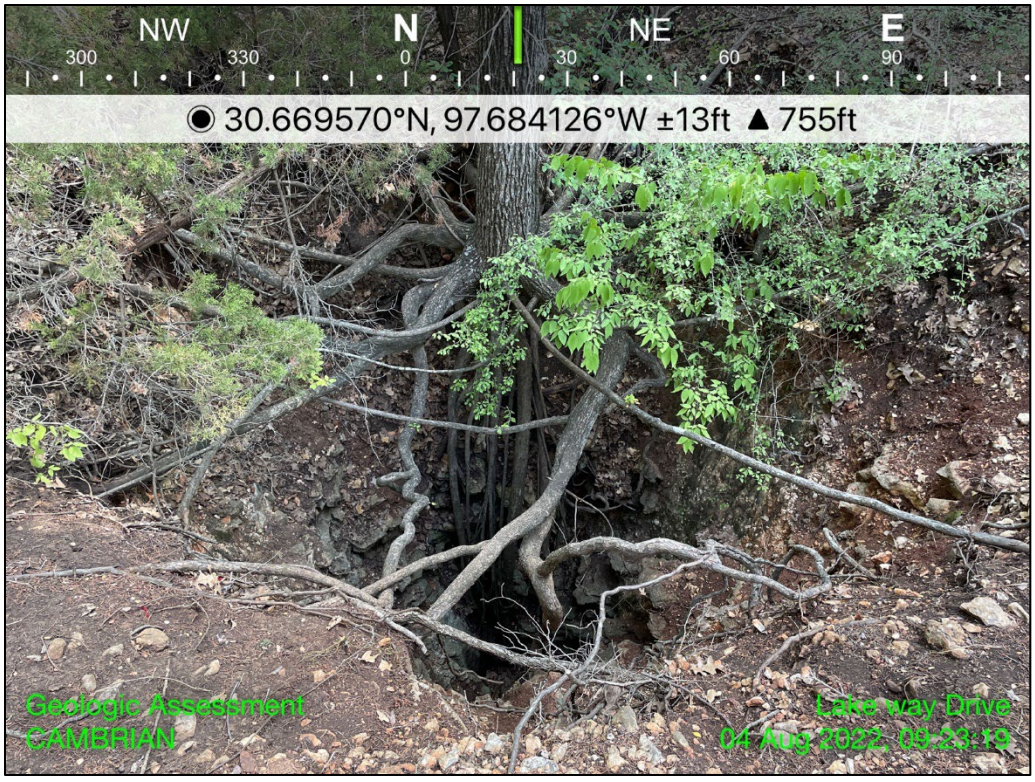


Photo 1. View of feature F-1.

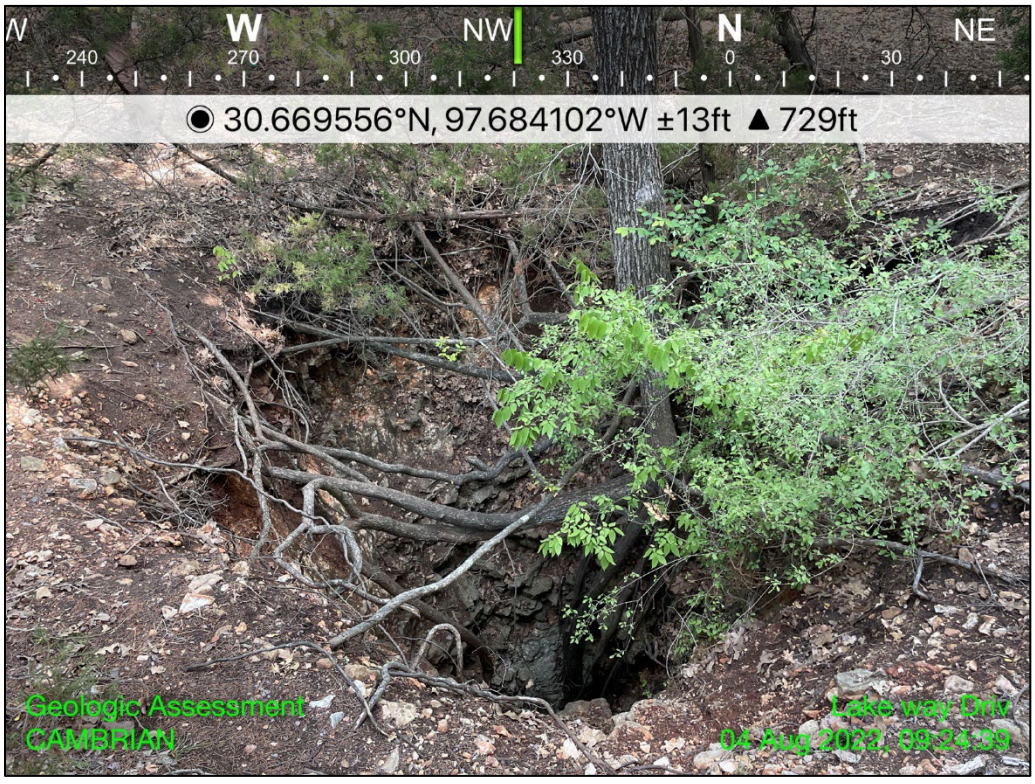


Photo 2. View of feature F-1.

Photo 3. View of the project site.

Photo 4. View of the project site.

Photo 5. View of the project site.

Photo 6. View of the project site.

Photo 7. View of the project site.

Photo 8. View of the existing wastewater utility on the property.

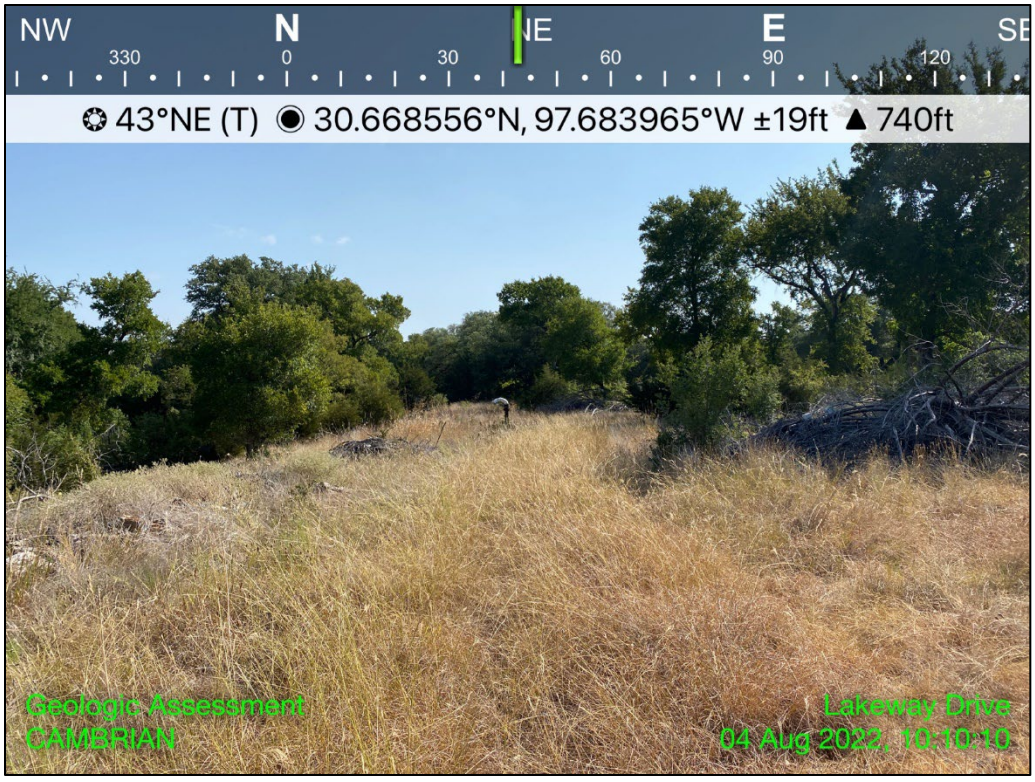


Photo 9. View of the project site.

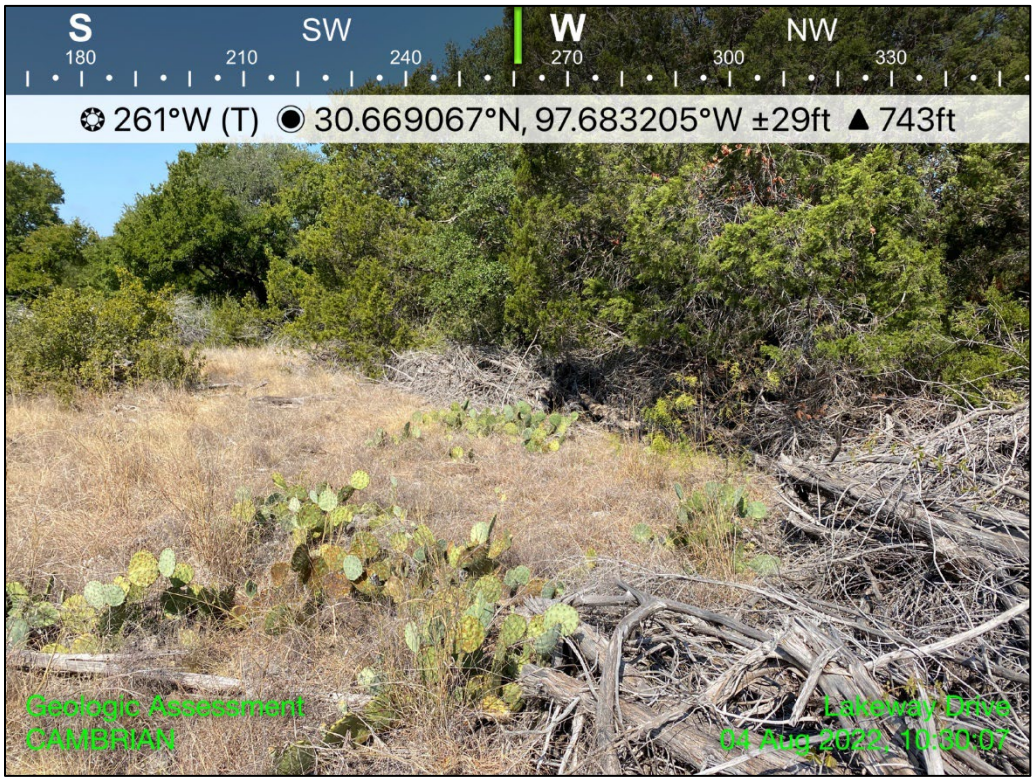


Photo 10. View of the project site.

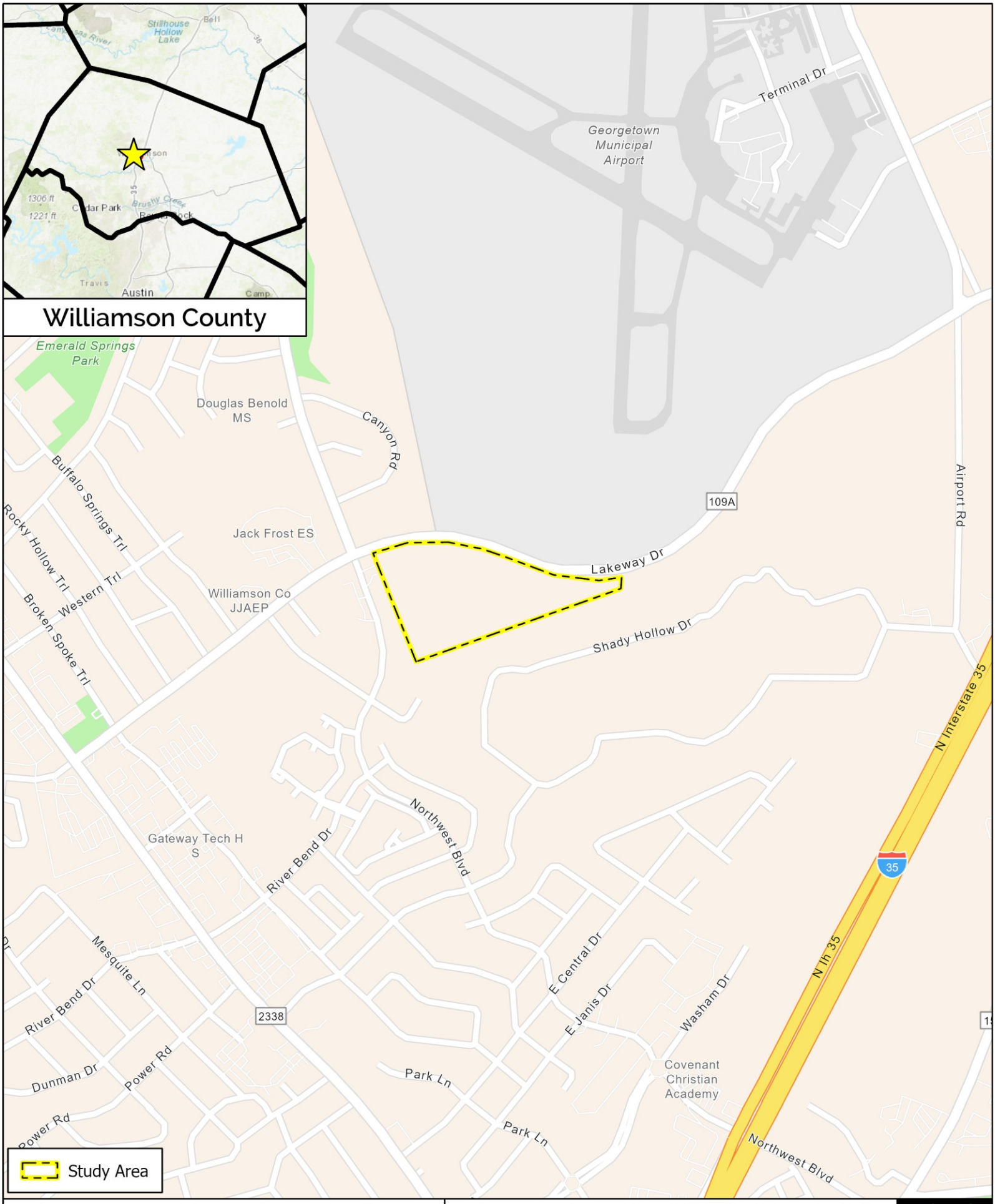


Figure 1 – Site Location Map

Cambrian

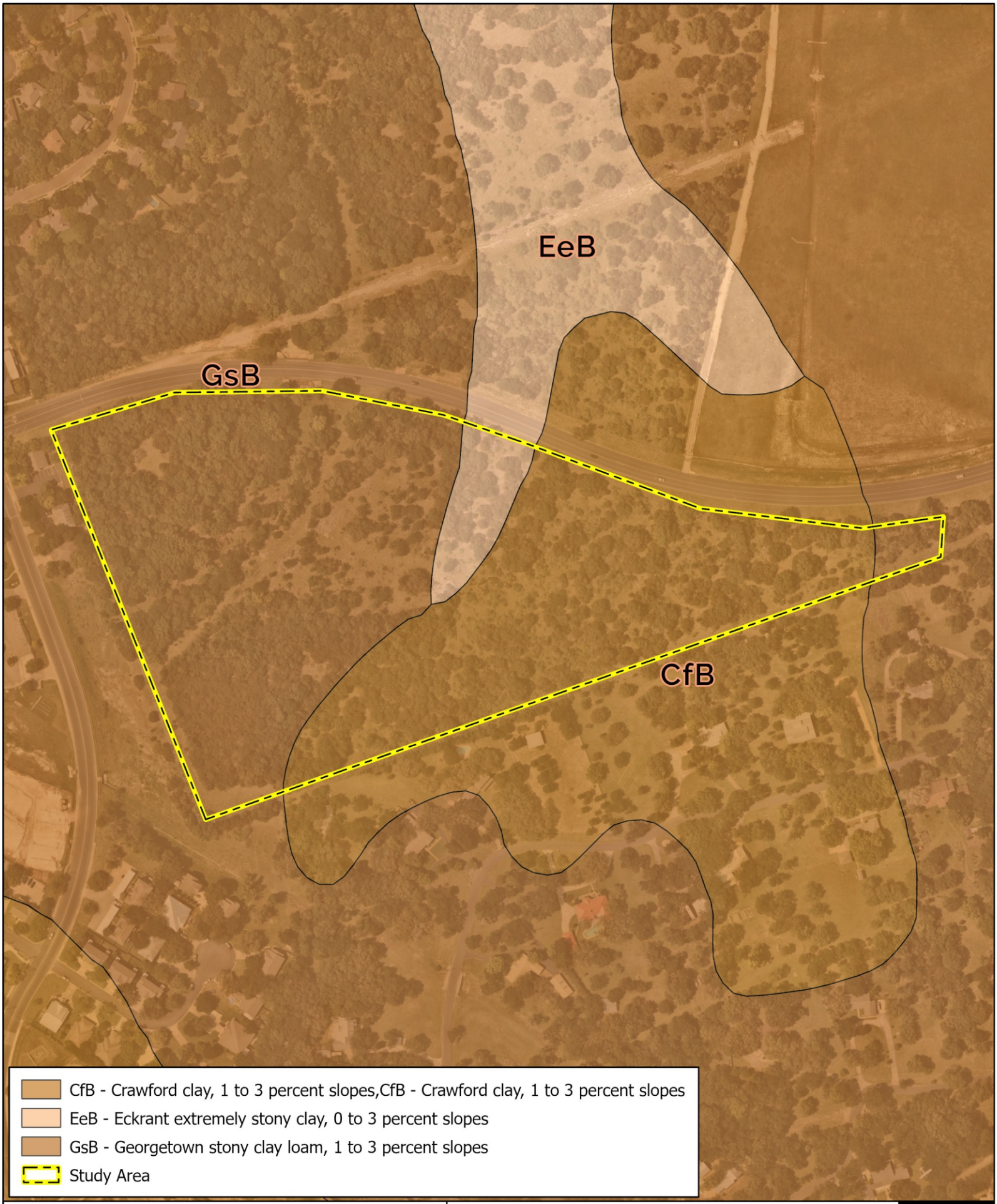


Figure 2 – Site Soils Map

Cambrian

Edwards Aquifer
Recharge Zone

F-1

Ked

Geologic Feature
Five-Foot Contours
100-Year Floodplain
Ked - Edwards Limestone
Study Area

N
W E
S

1" = 150'

Coordinate System: NAD 1983
StatePlane Texas South Central
FIPS 4204 Feet

0 100 200 300 400 Feet

STATE OF TEXAS
CRAIG CRAWFORD
GEOLOGY
NO. 10791
LICENSED
PROFESSIONAL GEOSCIENTIST
7 Sept 2022

Figure 3 – Site Geologic Map

Cambrian

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: NICK SANDLIN, PE (SANDLIN SERVICES, LLC)

Date: 8/23/23

Signature of Customer/Agent:

8/23/2023

Regulated Entity Name: SAN GABRIEL ICE HOUSE

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):4.765 AC

3. Estimated projected population:122

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	6,940	÷ 43,560 =	0.16
Parking	57,935	÷ 43,560 =	1.33
Other paved surfaces		÷ 43,560 =	
Total Impervious Cover	64,875	÷ 43,560 =	1.49

Total Impervious Cover 1.49 **÷ Total Acreage** 4.76 **X 100 =** 31.3**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

11. ☐ A rest stop will be included in this project.

    ☐ A rest stop will not be included in this project.

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100% Domestic	35,871Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day 35,871	

15. Wastewater will be disposed of by:

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

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

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

☒ Sewage Collection System (Sewer Lines):

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

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

☐ The SCS was previously submitted on_____.

☒ The SCS was submitted with this application.

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

☒ The sewage collection system will convey the wastewater to the San Gabriel WWTP - Owned and Operated by City of Georgetown (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM MAP PANEL #48491C0291F (effective 12/20/2019)

19. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

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

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

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
23. ☒ Areas of soil disturbance and areas which will not be disturbed.
24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).

    ☒ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.
28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment A: Factors Affecting Surface Water Quality

Potential pollution sources during the construction phase include increased sediment erosion from disturbed soil; oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicles; concrete washout waste; and miscellaneous trash and litter from construction. Potential pollution sources at the developed site include oil, grease, fuel, and hydraulic fluid contamination from vehicles, trash, and litter.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment B: Volume and Character of Stormwater

On-site stormwater flows from WQ-DA-1 site will be directed to the Batch Detention Pond BMP. Please see the drainage sheets within the approved construction plans for water quality calculations and BMP details.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

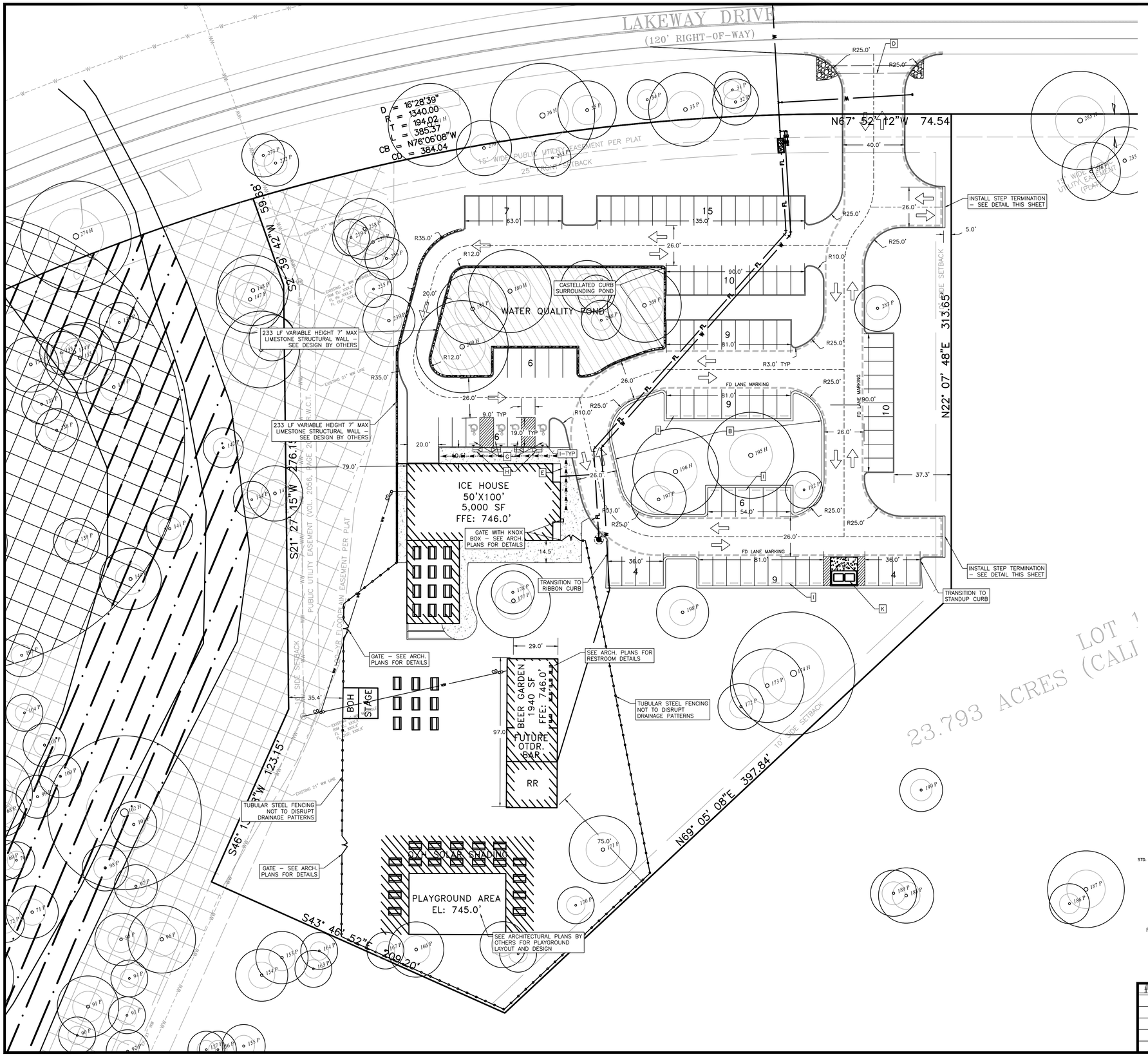
Attachment C:
Suitability Letter from authorized Agent (if OSSF is proposed)
(NOT APPLICABLE)

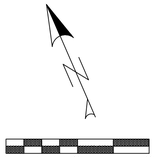
Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment D:
Exception to the Required Geologic Assessment (if requested)
(NOT APPLICABLE)

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Site Plan





IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

NOTES

1. ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULL SHIELD. WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED. ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
2. ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
3. PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN. THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.
4. ALL PARKING SPACES ARE 19' X 9' UNLESS OTHERWISE SHOWN.
5. ALL CURB IS "SPILL TYPE" UNLESS OTHERWISE NOTED
6. ELECTRIC TRANSFORMERS MUST NOT VISIBLE FROM THE ROW OR ADJACENT PROPERTIES AND ARE REQUIRED TO BE SCREENED UNDER 8.04.070.
7. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE, WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
8. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
9. ALL PAVING SHALL BE PER GEOTECHNICAL RECOMMENDATIONS.
10. MONUMENT SIGNS WILL REQUIRE A SEPARATE PLAN AND PERMIT

CITY OF GEORGETOWN SITE DATA	
	PROPOSED
TOTAL SITE AREA	4.76 AC 207,545 SF
BUILDING GROSS FLOOR AREA	6,940 SF
IMPERVIOUS COVER	1.49 AC 64,939 SF = 31.3%

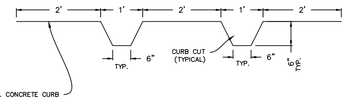
PARKING TABLE	
TOTAL BUILDING AREA	6,940 SF
PARKING RATIO – RESTAURANT	1 SPACE/100 SF + 4 ADDITIONAL SPACES
PARKING RATIO – ENTERTAINMENT	1 SPACE/4 SEATS
PARKING REQUIRED	6940/100 + 4 + 22 = 95 SPACES
PARKING PROVIDED	95 SPACES INCLUDING 4 ADA (2 VAN)

ZONING SETBACKS

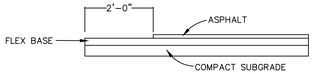
ZONING DISTRICT: C-1

REAR SETBACK (ADJACENT TO RESIDENTIAL USE): 25'
FRONT SETBACK: 25'
SIDE SETBACK: 10'
MAXIMUM BUILDING HEIGHT: 35'

CASTELLATED CURB DETAIL
N.T.S.



END PAVEMENT CONSTRUCTION
STEPPED TERMINATION
N.T.S.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

SITE PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- PROPOSED CURB & GUTTER
- STREET CENTERLINE
- FENCE
- STRUCTURAL RETAINING WALL (BY OTHERS)
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PARKING SPACES (R) / TRANSFORMER PAD (T)
- SITE WALLS
- PHASING
- FEMA ZONE AE (BFE=739')
- REGULATORY FLOODWAY
- TAS ACCESSIBLE ROUTE
  TAS ACCESSIBLE ROUTES MAY NOT EXCEED A CROSS SLOPE OF 1:50 (2%) OR EXCEED A RUNNING SLOPE OF 1:20 (5%) UNLESS DESIGNED AS A RAMP. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12 (8.33%). THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. FIRE LINE
- EX. STORM SEWER LINE / PR. WASTEWATER
- PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED / FLOW ARROW
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER
- EX. UTILITY POLE

SITE LEGEND

- A 6" CURB & GUTTER. SEE DETAIL SHEET.
- B RIBBON CURB. SEE DETAIL SHEET.
- C CASTELLATED CURB. SEE DETAIL SHEET.
- D STANDARD CITY TYPE II DRIVEWAY. SEE DETAIL SHEET
- E CONCRETE SIDEWALK. SEE DETAIL SHEET.
- F PEDESTRIAN CROSSWALK.
- G HANDICAP SPACE W/SIGN. SEE DETAIL SHEET.
- H PEDESTRIAN ADA RAMP OR AT GRADE ADA DOME PAVERS. SEE DETAIL SHEET.
- I CONCRETE WHEEL STOP. SEE DETAIL SHEET.
- J STANDARD CITY BIKE RACK. SEE DETAIL SHEET.
- K DUMPSTER ENCLOSURE WITH CONCRETE PAD PER GEOTECHNICAL REPORT AND CITY STANDARDS

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

SITE PLAN

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 9 OF 33

PROJECT CASE: XXXXXXX

Organized Sewage Collection System Plan (TCEQ-0582)

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

Regulated Entity Name:

1. ☒ **Attachment A – SCS Engineering Design Report**. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: ROY S JONES
   Entity: JONES FAMILY INVESTMENTS, LLC
   Mailing Address: 4819 WILLIAMS DRIVE
   City, State: GEORGETOWN, TX Zip: 78633
   Telephone: 512-943-6106 Fax: _____
   Email Address: michael@jonesfi.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: NICK SANDLIN, P.E.
   Texas Licensed Professional Engineer's Number: 124404
   Entity: SANDLIN SERVICES, LLC
   Mailing Address: 8500 N MOPAC EXPY SUITE 820
   City, State:AUSTIN, TX Zip: 78759
   Telephone:86-679-7303 Fax:_____
   Email Address:nick@sandlinservices.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☐ Residential: Number of single-family lots: _____
   ☐ Multi-family: Number of residential units: _____
   ☒ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

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

100% Domestic	35,871 gallons/day
_____% Industrial	_____ gallons/day
_____% Commingled	_____ gallons/day

   Total gallons/day: 35,871

6. Existing and anticipated infiltration/inflow is _____ gallons/day. This will be addressed by: _____.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on 8/23/23, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
6	277	PVC SDR-26	ASTM D3034

Total Linear Feet: 277

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the San Gabriel WWTP - Owned and Operated by the City of Georgetown (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

    ☒ The City of Georgetown standard specifications.
    ☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

    ☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

    ☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes**. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.
    ☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	1 Of 3	0+00	Manhole
	Of		
	Of		
	Of		
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		
	Of		

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

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

Site Plan Scale: 1" = 40'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☐ The location of all lateral stub-outs are shown and labeled.

☒ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☒ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☐ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☒ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
A	1 of 3	0+00 to 0+00
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☐ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☒ There will be no water line crossings.
☒ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*

27. Vented Manholes:

☐ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☒ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*
A	1	0+00	1

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☐ There are no drop manholes associated with this project.
☒ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
A	1	0+00	1

29. Sewer line stub-outs (For proposed extensions):

☐ The placement and markings of all sewer line stub-outs are shown and labeled.
☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☐ The placement and markings of all lateral stub-outs are shown and labeled.
☒ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☒ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	3 of 3
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	of
Typical trench cross-sections **[Required]**	2 of 3
Bolted manholes **[Required]**	3 of 3
Sewer Service lateral standard details **[Required]**	2 of 3
Clean-out at end of line **[Required, if used]**	2 of 3
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	of

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	3 of 3

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☒ Survey staking was completed on this date: 3/10/21 - Please call when TCEQ schedules a visit

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

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: NICK SANDLIN, P.E. (SANDLIN SERVICES, LLC)

Date: 8/23/23

Place engineer's seal here:

Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Organized Sewage Collection System Plan (TCEQ-0582)

Attachment A – SCS Engineering Design Report

Engineering Design Report
per TAC Rule 217.10(e)

For

San Gabriel Ice House

By:
Nicholas Sandlin, PE
TX #124404
Sandlin Services, LLC
TBPELS Firm # 21356

August 23, 2023

The Project known as San Gabriel Icehouse is a 4.76-acre site plan proposing a restaurant and beer garden. The site is currently undeveloped. Two tracts are within the City of Georgetown city limits. It lies over the Edwards Aquifer Recharge Zone.

This report addresses the requirements of TAC rule 217.10(e). The proposed sanitary sewer system for San Gabriel Icehouse will connect to an existing system that will gravity flow to the San Gabriel Wastewater Treatment Plant. The capacity of the plant will treat the estimated LUE's proposed. The treatment plant and wastewater system is owned, operated, and maintained by the City of Georgetown.

(1) Maps of current, proposed, and future service areas have been included within the Construction Plans:

a. Proposed Service Area – the proposed service area is the 4.76 acres of land known as San Gabriel Icehouse. The proposed system consists of approximately 277 linear feet of 6-inch SDR 26 PVC pipe, and 1 service connection.

(2) Topographic Features of current, proposed, and future service areas:

The undeveloped 4.76 AC project site generally slopes west toward Pecan Branch which then flows southeast to the confluence of the San Gabriel River segment 1248. The confluence with the San Gabriel River is approximately 4.5 miles east of the project site.

(3) Description of Design Flow Determination:

The design flows for the sanitary sewer collection system lines are calculated by the Living Unit Equivalent (LUE) method prescribed by the City of Georgetown. One LUE consists of 3.5 individuals which produce an average flow of 75 gallons per day in accordance with Table B.1 of TCEQ Chapter 217.32 and the City of Georgetown design guidelines. An LUE is intended to represent one single family residence with typical wastewater usage rates for the City's service area.

The LUEs were calculated by totaling the number of services to residential lots that contribute to the

particular pipe section or the upstream manhole. The population was derived by multiplying the number of LUEs by the given 3.5 individuals per household factor. The average flow was determined by multiplying the "population" by the factor of 75 gallons per person per day (flow is in units of gallons per day). The peak dry flow has been calculated by multiplying the average flow by a peaking factor of 4.0 as prescribed by TCEQ Chapter 217.32(a)(2). The derivation of the peak wet flow is described in "Section (7) Inflow and Infiltration". The "Full-Flow Capacity" has been calculated because all pipes are 6-inch PVC SDR 26, the only other variable that affects pipe capacity is the slope of the pipe, and the proposed system has pipes of slopes ranging from 0.50% to 6.50%. The full-flow capacity greatly exceeds the designed peak flows which will ensure conveyance through a 50-year life cycle.

(4) Minimum and Maximum Grades for each size and type of Pipe:

The minimum and maximum slopes of the pipes within the proposed system can be found in the plan sheets. All pipes are 6-inch, and the minimum and maximum pipe slopes are 1.00% and 1.70%, respectively.

In accordance with "Appendix A" of the TCEQ form #TCEQ-0582, a 6-inch pipe shall have a minimum slope of 0.50% and a maximum slope of 12.35% which complies with the proposed design.

(5) Minimum and Maximum Velocities in the System:

The design velocities for both peak dry flow and peak wet flow have been calculated by solving for the depth of flow through the pipe using an interpolative process. In accordance with "Appendix A" of the TCEQ form #TCEQ-00582, when assuming full-flow conditions, a 6-inch pipe shall be designed with slopes between 0.50% and 12.35% to produce a minimum flow velocity of 2.0 $^{ft}/_{s}$ and a maximum of 10.0 $^{ft}/_{s}$. The design slopes and velocities for the pipes in the proposed system falls within these criteria.

(6) Proposed System's Effect on Existing System's Capacity

The proposed system will connect to the existing 21" sanitary sewer line that runs along the west property line of the subject property. None of the existing infrastructure will be affected.

(7) Inflow and Infiltration

Inflow and infiltration flows were calculated for the wastewater line portions of the proposed system per the City of Georgetown design standards. The Inflow and infiltration rate is 750 gallons per day per acre of drainage basin. This is a very conservative estimate for modern materials and construction methods. For each section of pipe on the proposed system a drainage area was determined as seen in **Exhibit 2**. The calculated inflow and infiltration rates were used to determine the peak wet flow rates by adding them to the peak dry flows.

(8) Ability of Existing and Proposed Trunk and Interceptor wastewater collection systems

The existing downstream system has the capacity to accommodate the peak flow for this development. Most of the existing elements of this portion of the collection system will be gravity fed until it reaches the existing Wastewater treatment plant.

(9) Capability of receiving treatment facility to receive and treat the anticipated peak flow

The proposed system will contribute to an existing wastewater collection system that is routed to the San Gabriel Wastewater Treatment Plant. This treatment facility has been designed to accommodate the increase in flow from the proposed development.

(10) Engineering Analysis of Structural Design, Minimization of Odor-Causing Conditions, and Pipe Design Requirements of TAC §217.55

Structural Analysis for Flexible Pipe per TAC §217.53(k)(2)

(A) Live Load Calculations:

The Uni-Bell Handbook, page 210, Table 6.6 Live Loads on Pipe, is referenced to determine live load based on burial depth and classification of vehicular traffic. Accordingly, a live load of 2.78 psi will be the maximum live load the pipe will experience at any point, based on a minimum burial depth of four feet and the highway classification H20.

The following structural analysis of flexible pipe considers both the maximum live load (at 4 feet minimum depth) and the maximum earth load (at 16.9 feet maximum depth) simultaneously when calculating deflection. Therefore, the analysis is conservative.

(B) Allowable Buckling Pressure Determinations:

For the purposes of this application, the buckling analysis has been performed using the method outlined below. The method of calculating allowable buckling pressure provided below is only valid for lines which are installed at depths of 2 feet ≤ H ≤ 80 feet.

(Equation 1) FS = 2.5 for $\frac{h}{D_o} > 2$

(Equation 2) $$R_w = 1 - 0.33(h_w/h)$$

(Equation 3) $$B' = \frac{1}{1 + 4 * e^{-0.065*H}}$$

(Equation 4) $$I = (t^3/12) * (inches^4 / Linch)$$

(Equation 5) $$q_a = \frac{1}{FS}\left(32 R_W B' E_b \frac{EI}{D_O^3}\right)^{1/2}$$

Or, where FS = 2.5, $$q_a = 0.4^2\sqrt{32 R_W B' E_b \frac{EI}{D_O^3}}$$

h = maximum height of soil surface above top pipe (in)
6" PVC SDR 26, h = 202.8 in

D_O = outside diameter of the pipe (in)
6" PVC SDR 26, D_O = 6.625 in

FS = design factor of safety
See Equation 1
6" PVC SDR 26, FS = 2.5

h_w = height of ground water surface above top of pipe (in)
6" PVC SDR 26, h_w = 0 in

R_w = water buoyancy factor. If h_w=0, R_w=1. If $0 \leq h_w \leq h$ (groundwater elevation is between the top of the pipe and the ground surface), calculate R_w with Equation 2.
See Equation 2
6" PVC SDR 26, R_w = 1

H = depth of burial from ground surface to crown of pipe (ft)
6" PVC SDR 26, H = 16.9 ft

B' = empirical coefficient of elastic support
See Equation 3
6" PVC SDR 26, B' = 0.429

t = pipe wall thickness (in)
6" PVC SDR 26, t = 0.316 in

I = moment of inertia of pipe wall cross-section per linear inch of pipe ($inch^4$/lineal inch = $inch^3$). For solid wall pipe, moment of inertia can be calculated with Equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.
See Equation 4
6" PVC SDR 26, I = 0.0026 cubic inches

E_b = modulus of soil reaction for the bedding material (psi)
6" PVC SDR 26, E_b = 2,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

E = modulus of elasticity of pipe material (psi)
6" PVC SDR 26, E = 400,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

q_a = allowable buckling pressure (psi)
See Equation 5
6" PVC SDR 26, q_a = 50.14 psi

a) Calculate pressure applied to pipe under installed conditions:

(Equation 6) $$W_c = \gamma_s * H * (D+t) / 144$$

(Equation 7) $$q_p = \gamma_w * h_w + R_w * (W_c / D) + L_l$$

γ_s = specific weight of soil in pounds per cubic foot (pcf)
γ_s = 139 pcf

Reference: Table 3.1 – Dense angular-grained silty sand and Table 3.2 - $\gamma_{sat} = \gamma_d + (\frac{e}{1+e})\gamma_w$, *Page 57 of Das Braja, Principles of Geotechnical Engineering Sixth Edition, Nelson: Toronto, Ontario, Canada, 2006.*

H = depth of burial from ground surface to crown of pipe (ft)
6" PVC SDR 26, H = 16.9 ft

D = mean pipe diameter (in)
6" PVC SDR 26, D = 6 in

t = pipe wall thickness (in)
6" PVC SDR 26, t = 0.316 in

W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)
See Equation 6
6" PVC SDR 26, W_c = 103.03 lb/in

γ_w = 0.0361 pounds per cubic inch (pci), specific weight of water

h_w = height of ground water surface above top of pipe (in)
6" PVC SDR 26, h_w = 0 in

R_w = water buoyancy factor. If h_w=0, R_w=1. If 0≤h_w≤h (groundwater elevation is between the top of the pipe and the ground surface), calculate R_w with Equation 2.
See Equation 2
6" PVC SDR 26, R_w = 1

L_l = Live Load (psi)
6" PVC SDR 26, L_l = 2.78 psi

Reference: Uni-Bell Handbook, page 210, Table 6.6 Live Loads on Pipe, for highway H20 live load. The minimum depth of burial from ground surface to crown of pipe is four feet, which requires a live load of 2.78 psi.

q_p = pressure applied to pipe under installed conditions (psi)
See Equation 7
6" PVC SDR 26, q_p = 19.95 psi

If $q_a \geq q_p$, the specified pipe is acceptable f. If $q_a \leq q_p$, the wall thickness of the pipe must be increased and/or a pipe with a larger modulus of elasticity must be used. In which case, appropriate modifications must be made and the buckling analysis must be repeated, showing that for the upgraded pipe, $q_a \geq q_p$. Reported below in Table 1 are q_a and q_p values for the type and size of the proposed pipe material. All pipe proposed for this project meets the requirement of $q_a \geq q_p$.

Table 1 – Allowable Buckling Pressure and Pressure Applied to Pipe under Installed Conditions

6-inch PVC SDR 26		
q_a=	50.14	psi
q_p=	19.95	psi

(C) Prism Load Calculations:

The prism load, L_p, value, calculated below, is utilized in Section (F) to calculate vertical deflection.

(Equation 8) $$L_p = \frac{\gamma_s \times H}{144}$$

γ_s = specific weight of soil (pcf)
γ_s = 139 pcf

Reference: Table 3.1 – Dense angular-grained silty sand and Table 3.2 - $\gamma_{sat} = \gamma_d + (\frac{e}{1+e})\gamma_w$*, Page 57 of Das Braja, Principles of Geotechnical Engineering Sixth Edition, Nelson: Toronto, Ontario, Canada, 2006.*

H = depth of burial from ground surface to crown of pipe (ft)
6" PVC SDR 26, H = 16.9 ft

L_p = prism load (psi)
If prism load is calculated using Marston's load formula, or other formulas less conservative than the one provided above, the load should be multiplied by a deflection lag factor D_L = 1.5 to account for long term deflection of the pipe as the bedding consolidates.
See Equation 8
6" PVC SDR 26, L_p = 16.31 psi

(D) Wall Crushing Determinations:

Wall crushing determinations are necessary for rigid pipe only. The proposed pipe material is flexible. Also, no section of the proposed pipe will be installed in rigid encasement. The calculations for determining a maximum depth that the pipe may be buried before wall crushing will occur for rigid pipe, based on TCEQ-10243, are provided below as supplemental information, rather than directly applicable information. Analysis was determined per linear foot of pipe section.

(Equation 9) $$H = \frac{24 * P_c * A}{\gamma_s * D_o}$$

24 = conversions and coefficients

Pc = compressive stress or hydrostatic design basis (HDB); For typical PVC pipes, assume 4,000 psi

A = surface area of the pipe wall cross-section (in^2/ft)
6" PVC SDR 26, A = 6.20 in^2/ft

γ_s = specific weight of soil (pcf)
γ_s = 139 pcf

Reference: Table 3.1 – Dense angular-grained silty sand and Table 3.2 - $\gamma_{sat} = \gamma_d + (\frac{e}{1+e})\gamma_w$, *Page 57 of Das Braja, Principles of Geotechnical Engineering Sixth Edition, Nelson: Toronto, Ontario, Canada, 2006.*

D_O = outside diameter of the pipe (in)
6" PVC SDR 26, D_O = 6.625 in

H = maximum allowable depth of burial from ground surface to crown of pipe (ft)
See Equation 9
6" PVC SDR 26, H = 646 ft

The maximum proposed depth is approximately 16.9 feet for 6" PVC SDR 26, which is well less than the maximum allowable burial depth provided above.

(E) Strain Prediction:

There are no special conditions of this installation which would create significant potential for a strain related failure. Tensile strength data is provided by manufacturers and is based on ASTM standards. Harrison Machine & Plastic Corporation specifies PVC cell class 12454 pipe with a tensile strength of 7,450 psi based on ASTM-D-1784.

(F) Long Term Pipe Deflection:

The ratio of bedding modulus to in-situ soil modulus is $E_b/E' =$ 2,000 psi / 1,500 psi = 1.33 (justification for these values is provided in Section (G)(i)). Since this ratio is greater than 1.25, a zeta factor must be calculated. Zeta is a factor which corrects for the effect of in-situ soil on pipe stability. If the ratio of bedding modulus to soil modulus is less than or equal to 1.25, a zeta value of one can be assumed. The following are direct calculations for zeta based on equations provided by TCEQ in various documents including TCEQ-10243 dated 10/01/04.

(Equation 10)
$$f = \frac{b/d_a - 1}{1.154 + 0.444 \times (b/d_a - 1)}$$

(Equation 11)
$$zeta = \frac{1.44}{f + (1.44 - f) \times (E_b/E_n')}$$

b = trench width (in)
6" PVC SDR 26, b = 18.625 in

Reference: City of Georgetown Trench and Embedment Detail Under Proposed Roadway.

d_a = outside pipe diameter (in)

6" PVC SDR 26, d_a = 6.625 in

f = pipe / trench width coefficient
See Equation 10
6" PVC SDR 26, f = 0.925

E_b = modulus of soil reaction for bedding material (psi)
6" PVC SDR 26, E_b = 2,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

E'_n = modulus of soil reaction for in-situ soils (psi)
6" PVC SDR 26, E'_n = 1,500 psi

Reference: Principles of Geotechnical Engineering Sixth Edition by Braja Das, page 306, Table 10.2.

zeta = Leonhardt's Zeta factor
See Equation 11
6" PVC SDR 26, zeta = 0.893

Pipe Stiffness (P_s) is based on manufacturer's data and national reference standards. The J-M Eagle pipe catalog is referenced in Section G as justification for a pipe stiffness value of 115 psi and is in compliance with ASTM 3034 standards. Pipe stiffness may also be calculated by Equation 12 and 13 as referenced in TCEQ documents, including TCEQ-10243 and the Texas Administrative Code, Chapter 217.

(Equation 12) $$P_s = \frac{EI}{0.149 * r^3}$$ or

(Equation 13) $$P_s = 0.80 * RSC * (\frac{8.337}{D})$$

where RSC = Ring Stiffness Coefficient based on manufacturer's data and
D = mean diameter in inches

E = modulus of elasticity of the pipe material (psi)
6" PVC SDR 26, E_b = 400,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

I = moment of inertia of pipe wall cross-section per linear inch of pipe (inch4/lineal inch = inch3). For solid wall pipe, moment of inertia can be calculated with Equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer. $I = (t^3/12) * (inches4 / Linch)$
6" PVC SDR 26, I = 0.0026 cubic inches

r = mean radius (in)
6" PVC SDR 26, r = 3 in

P_s = pipe stiffness (psi)
See Equation 12
6" PVC SDR 26, Ps = 258.5 psi

In a conservative effort, the following calculations will utilize the manufacture's pipe stiffness value of 115 psi.

Because the terms in the denominator of the Modified Iowa Formula (Equation 15) are added, it is theoretically possible to have zero pipe stiffness and still predict flexible pipe deflections less than 5%. In order to ensure that the stiffness being provided to the installation has a reasonable contribution from pipe stiffness, and does not rely solely on the stiffness provided by the soil stiffness factor (SSF), the ratio of pipe stiffness to soil stiffness factor (P_s/SSF) must be calculated. If P_s/SSF < 0.15, a higher stiffness pipe must be chosen.

(Equation 14) $$\frac{P_s}{SSF} = \frac{P_s}{0.061 \times zeta \times E_b}$$

P_s = pipe stiffness (psi) – per national reference standards
6" PVC SDR 26, P_s = 115 psi

zeta = Leonhardt's Zeta factor
See Equation 11
6" PVC SDR 26, zeta = 0.893

E_b = modulus of soil reaction for bedding material (psi)
6" PVC SDR 26, E_b = 2,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

SSF = Soil Stiffness Factor
See Equation 14
6" PVC SDR 26, SSF = 106.23 psi

P_s / SSF= stiffness ratio
See Equation 14
6" PVC SDR 26, P_s /SSF = 1.06

Therefore, since Ps/SSF > 0.15, the stiffness being provided to the installation has a reasonable contribution from pipe stiffness and does not rely solely on the stiffness provided by the soil stiffness factor.

Finally, predicted deflection must be calculated. For the purposes of this application, predicted deflection shall be calculated using the method outlined below. Maximum allowable deflection is 5%, as determined by the deflection analysis and verified by a mandrel test. Some conservatism should be employed in determining allowable predicted deflections. This conservatism is necessary to allow for variability in in the quality of installation.

(Equation 15) $$\Delta Y / D(\%) = \frac{K \times (L_p + L_l) \times 100}{(0.149 \times P_s) + (0.061 \times zeta \times E_b)}$$

K	=	Bending angle constant, assumed to be 0.110 unless otherwise justified 6" PVC SDR 26, K = 0.110
L_p	=	Prism Load (psi) See Equation 8 6" PVC SDR 26, L_p = 16.31 psi
L_l	=	Live Load (psi) 6" PVC SDR 26, L_l = 2.78 psi

Reference: Uni-Bell Handbook, page 210, Table 6.6 Live Loads on Pipe, for highway H20 live load. The minimum depth of burial from ground surface to crown of pipe is four feet, which requires a live load of 2.78 psi.

P_s	=	pipe stiffness (psi) – per national reference standards 6" PVC SDR 26, P_s = 115 psi
zeta	=	Leonhardt's Zeta factor See Equation 11 6" PVC SDR 26, zeta = 0.893
E_b	=	modulus of soil reaction for bedding material (psi) 6" PVC SDR 26, E_b = 2,000 psi

Reference: USDA NRCS Part 636 Structural Engineering National Engineering Handbook

ΔY/D%	=	Percent predicted vertical deflection under load Or, change in vertical pipe diameter under load See Equation 15 8" PVC SDR 26, ΔY/D = 1.67%

The predicted deflection is approximately 1.67% for 6" PVC SDR 26, which is less than the maximum allowable deflection of 5%. Therefore, the specified pipe size and material are structurally justified for the proposed use.

(G) Justification for Parameters and Assumptions:

(i) Determination of Modulus of Soil Reaction for Bedding and In-Situ Material:
The parameters representing soil conditions are based on the geotechnical report specific to this project, national standards and references, as well as engineering judgment. Reference to the United States Department of Agriculture Natural Resources Conservation Service's National Engineering Handbook, Part 636 Structural Engineering Table 52-2, as provided below, was made in order to specify the modulus of soil reaction for bedding. Per City of Georgetown Standards, the degree of compaction of bedding must be 95%.

Table 2 - USDA NRCS National Engineering Handbook, Part 636 Structural Engineering

Table 52–2 Average values of the modulus of soil reaction for the Modified Iowa Equation

Soil type – pipe bedding material (Unified Soil Classification – ASTM D2487)	E' for degree of compaction of bedding, lb/in² 1/			
	Dumped	Slight, < 85% proctor, < 40% relative density	Moderate, 85-95% proctor, 40-70% relative density	High, > 95% proctor, > 70% relative density
Fine-grained soil (LL>50) 2/ Soil with medium to high plasticity CH, MH, CH-MH	No data available, use E' = 0 or consult with a geotechnical engineer			
Fine-grained soil (LL<50) soil with medium to no plasticity CL, ML, ML-CL, with less than 25% coarse-grained particles	50	200	400	1,000
Fine-grained soil (LL<50) soil with medium to no plasticity CL, ML, ML-CL, with more than 25% coarse-grained particles. Coarse-grained soil with fines GM, GC, SM, SC contains more than 12% fines	100	400	1,000	2,000
Coarse-grained soil with little or no fines GW, GP, SW, SP contains less than 12% fines	200	1,000	2,000	3,000
Crushed rock	1,000	3,000	3,000	3,000

1/ Source ASCE Journal of Geotechnical Engineering Division, January 1977
2/ LL = liquid limit

The modulus of soil reaction for in-situ materials is developed with reference to the geotechnical report and the text, Principles of Geotechnical Engineering Sixth Edition by Braja Das, specifically, page 306, Table 10.2.

(ii) Pipe Diameters and Materials:
Pipe dimensions such as inside, outside and average diameters, thickness, and stiffness are based on pipe catalogs from manufacturers. Specifically, the J-M Eagle pipe catalog, referenced to ASTM 3034 standards, was referenced.

(iii) Modulus of Elasticity:
The modulus of elasticity values for the project pipe material, 8-inch PVC SDR 26, is based on values provided by the United States Department of Agriculture Natural Resources Conservation Service's National Engineering Handbook, Part 636 Structural Engineering, Page 52-11 and 52-12.

(iv) Tensile Strength:
Tensile strength data is provided by manufacturers and is based on ASTM standards. Harrison Machine & Plastic Corporation specifies PVC cell class 12454 pipe with a tensile strength of 7,450 psi based on ASTM-D-1784.

(v) Conversion of Pipe or Ring Stiffness Constant to Pipe Stiffness:
Pipe stiffness and Ring Stiffness constant are based on pipe catalogs from manufacturers. Specifically, the J-M Eagle pipe catalog was used, which complies with ASTM 3034 standards.

(vi) Leonhardt's Zeta Factor:
Leonhardt's Zeta Factor and other equations (Equations 1-15) are referenced in TCEQ form TCEQ-10243 dated 10/01/04 and the Texas Administrative Code Title 30 Chapter 217 available via the TCEQ website. In addition, some formulas may be found in the USDA NRCS National Engineering Handbook Part 636 Structural Engineering.

(vii) Trench Width:

Trench width is in accordance with the City of Georgetown standard details and specifications. The minimum trench width shall be 18. The proceeding calculations confirm the soundness of the design.

(viii) Depth of Cover:
The depth of cover ranges from approximately 4.00 feet to 16.9 feet below finished grade as provided in the construction plans.

(ix) Water Table Elevation:
Groundwater conditions will be monitored during construction.

(x) Unit Weight of Soil:
The unit weight of soil is developed with reference to the geotechnical report and the text: Principles of Geotechnical Engineering Sixth Edition by Braja Das, specifically, Table 3.1 and Table 3.2 on page 57. Table 3.1 provides the dry unit weight for dense angular-grained silty sand while Table 3.2 provides the saturated unit weight based on the following equation, $\gamma_{sat} = \gamma_d + (\frac{e}{1+e})\gamma_w$. The saturated unit weight is used in a conservative effort.

Odor Control per TAC §217.53(h)

No odor issues are to be anticipated, however, if odor becomes a nuisance after operation, measures such as ventilation can be applied as necessary. Based on estimated flows upon operation through a 50-year expected life cycle odor production is estimated to be insignificant.

Pipe Design Requirements per TAC §217.55

a. Manholes are included in the wastewater system at:
   i. All points of change in alignment, grade, or size;
   ii. At the intersections of three or more pipes; and
   iii. At the end of all pipes that may be extended at a future date.
   iv. There are future extensions of the system from Mayfield Office Park; therefore, manholes located at the ends of the system include stubs and plugs.
   v. Clean-outs with water tight plugs are not used within the public Right-of-Way. They are used at all terminal points of the private wastewater system.
   vi. Per the TCEQ Organized Sewage Collection System General Notes located within the plan set, all cleanout installations must pass the testing requirements outlined for gravity collection pipes in TAC §217.57.
b. Types (Materials):
   i. Manholes shall be made of either pre-cast or cast-in-place concrete bases and sections. The grade adjustment rings shall be made only of concrete.
   ii. The use of bricks to adjust manholes is prohibited by notes on the wastewater layout sheets and by a note within the TCEQ General Notes
c. Spacing:
   i. The maximum manhole spacing allowed is 500 linear feet for all proposed pipe sizes in this design. The maximum designed manhole spacing is 480 LF
   ii. There are no tunnels proposed with this plan.
d. Diameter/Size:
e. All manholes shall be 48" inside diameter per City of Georgetown Standard Detail
f. Manhole Covers:
   i. All manholes shall have a 30" cover that is heavy duty load rated and stamped "Sanitary Sewer" per City of Georgetown Standard Detail.
   ii. No manholes are to be located within the 100-year floodplain.
   iii. Manholes are to be constructed of cast iron. For more detail reference East Jordan Iron Works, Inc. Catalog No. 1480A V-1420/1480Z1.
g. Manhole Inverts:
   i. Manhole inverts shall be constructed for smooth flow in accordance with the City of Georgetown Standard Detail.
   ii. Inflow pipes greater than 24" above the flow line out will be required to be drop manholes.
h. Manhole Steps:
   i. Manhole steps are not included within the standard manhole details per the City of Georgetown

i. Connections:
    i. Rubber, water-tight gaskets are required for connections of wastewater pipes to manholes per City of Georgetown Standard Detail.
j. Venting:
    i. No gasketed and/or bolted manholes are proposed and no manhole separations exceed 1,500 feet; therefore, special ventilation will not be required.
k. Cleanouts:
    i. There are no proposed cleanouts for the proposed development of Mayfield Office Park

l. All manholes are all located in the pavement areas within the right-of-ways on the proposed development.

(11) Description of areas not initially served by this project, the projected means of providing service to said areas

As previously stated, the system is designed to serve the proposed development. The overall development includes future service areas outside of the proposed service area, as depicted in Exhibit 1, the Service Area Map. Portions of the future service area will connect to the proposed system via wastewater line 'E' at a later date.

(12) Safety considerations incorporated into the project design:

The design includes safety features commensurate with standard engineering practice and the standards and specifications of the Texas Commission on Environmental Quality, the City of Georgetown, and OSHA practices.
I certify that to the best of my knowledge, the proposed wastewater collection system for Mayfield Office Park is in compliance with *"Chapter 217 – Design Criteria for Domestic Wastewater Systems"*. No variances from the listed criteria will be necessary for the proposed system as it was designed and approved. Please let me know if there is any additional information that will be required.

Nicholas R. Sandlin, PE TBPELS #124404

Organized Sewage Collection System Plan (TCEQ-0582)

Attachment B – Justification and Calculations for Deviation in Straight Alignment Without Manholes (NOT APPLICABLE)

Organized Sewage Collection System Plan (TCEQ-0582)

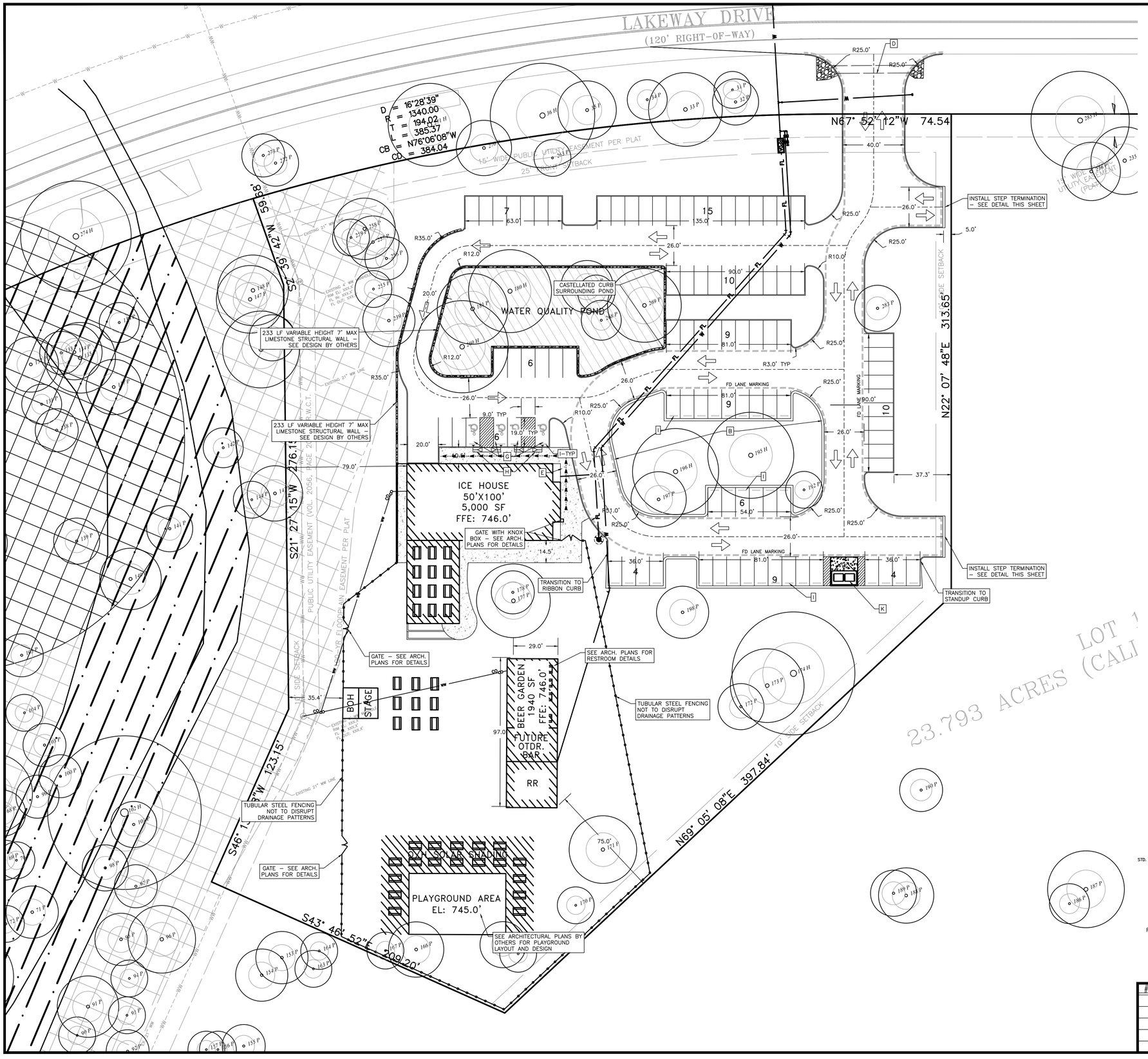
Attachment C – Justification for Variance from Maximum Manhole Spacing (NOT APPLICABLE)

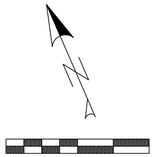
Organized Sewage Collection System Plan (TCEQ-0582)

Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet Per Second (NOT APPLICABLE)

Organized Sewage Collection System Plan (TCEQ-0582)

Site Plan





IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

NOTES

1. ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULL SHIELD. WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED. ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
2. ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
3. PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN. THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.
4. ALL PARKING SPACES ARE 19' X 9' UNLESS OTHERWISE SHOWN.
5. ALL CURB IS "SPILL TYPE" UNLESS OTHERWISE NOTED
6. ELECTRIC TRANSFORMERS MUST NOT VISIBLE FROM THE ROW OR ADJACENT PROPERTIES AND ARE REQUIRED TO BE SCREENED UNDER 8.04.070.
7. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE, WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
8. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
9. ALL PAVING SHALL BE PER GEOTECHNICAL RECOMMENDATIONS.
10. MONUMENT SIGNS WILL REQUIRE A SEPARATE PLAN AND PERMIT

CITY OF GEORGETOWN SITE DATA	
	PROPOSED
TOTAL SITE AREA	4.76 AC 207,545 SF
BUILDING GROSS FLOOR AREA	6,940 SF
IMPERVIOUS COVER	1.49 AC 64,939 SF = 31.3%

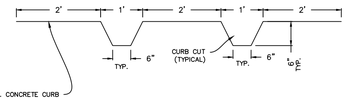
PARKING TABLE	
TOTAL BUILDING AREA	6,940 SF
PARKING RATIO – RESTAURANT	1 SPACE/100 SF + 4 ADDITIONAL SPACES
PARKING RATIO – ENTERTAINMENT	1 SPACE/4 SEATS
PARKING REQUIRED	6940/100 + 4 + 22 = 95 SPACES
PARKING PROVIDED	95 SPACES INCLUDING 4 ADA (2 VAN)

ZONING SETBACKS

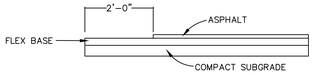
ZONING DISTRICT: C-1

REAR SETBACK (ADJACENT TO RESIDENTIAL USE): 25'
FRONT SETBACK: 25'
SIDE SETBACK: 10'
MAXIMUM BUILDING HEIGHT: 35'

CASTELLATED CURB DETAIL
N.T.S.



END PAVEMENT CONSTRUCTION
STEPPED TERMINATION
N.T.S.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

SITE PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- PROPOSED CURB & GUTTER
- STREET CENTERLINE
- FENCE
- STRUCTURAL RETAINING WALL (BY OTHERS)
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PARKING SPACES (R) / TRANSFORMER PAD (T)
- SITE WALLS
- PHASING
- FEMA ZONE AE (BFE=739')
- REGULATORY FLOODWAY
- TAS ACCESSIBLE ROUTE
  TAS ACCESSIBLE ROUTES MAY NOT EXCEED A CROSS SLOPE OF 1:50 (2%) OR EXCEED A RUNNING SLOPE OF 1:20 (5%) UNLESS DESIGNED AS A RAMP. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12 (8.33%). THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. FIRE LINE
- EX. STORM SEWER LINE / PR. WASTEWATER
- PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED / FLOW ARROW
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER
- EX. UTILITY POLE

SITE LEGEND

- A 6" CURB & GUTTER. SEE DETAIL SHEET.
- B RIBBON CURB. SEE DETAIL SHEET.
- C CASTELLATED CURB. SEE DETAIL SHEET.
- D STANDARD CITY TYPE II DRIVEWAY. SEE DETAIL SHEET
- E CONCRETE SIDEWALK. SEE DETAIL SHEET.
- F PEDESTRIAN CROSSWALK.
- G HANDICAP SPACE W/SIGN. SEE DETAIL SHEET.
- H PEDESTRIAN ADA RAMP OR AT GRADE ADA DOME PAVERS. SEE DETAIL SHEET.
- I CONCRETE WHEEL STOP. SEE DETAIL SHEET.
- J STANDARD CITY BIKE RACK. SEE DETAIL SHEET.
- K DUMPSTER ENCLOSURE WITH CONCRETE PAD PER GEOTECHNICAL REPORT AND CITY STANDARDS

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

SITE PLAN

SAN GABRIEL ICE HOUSE

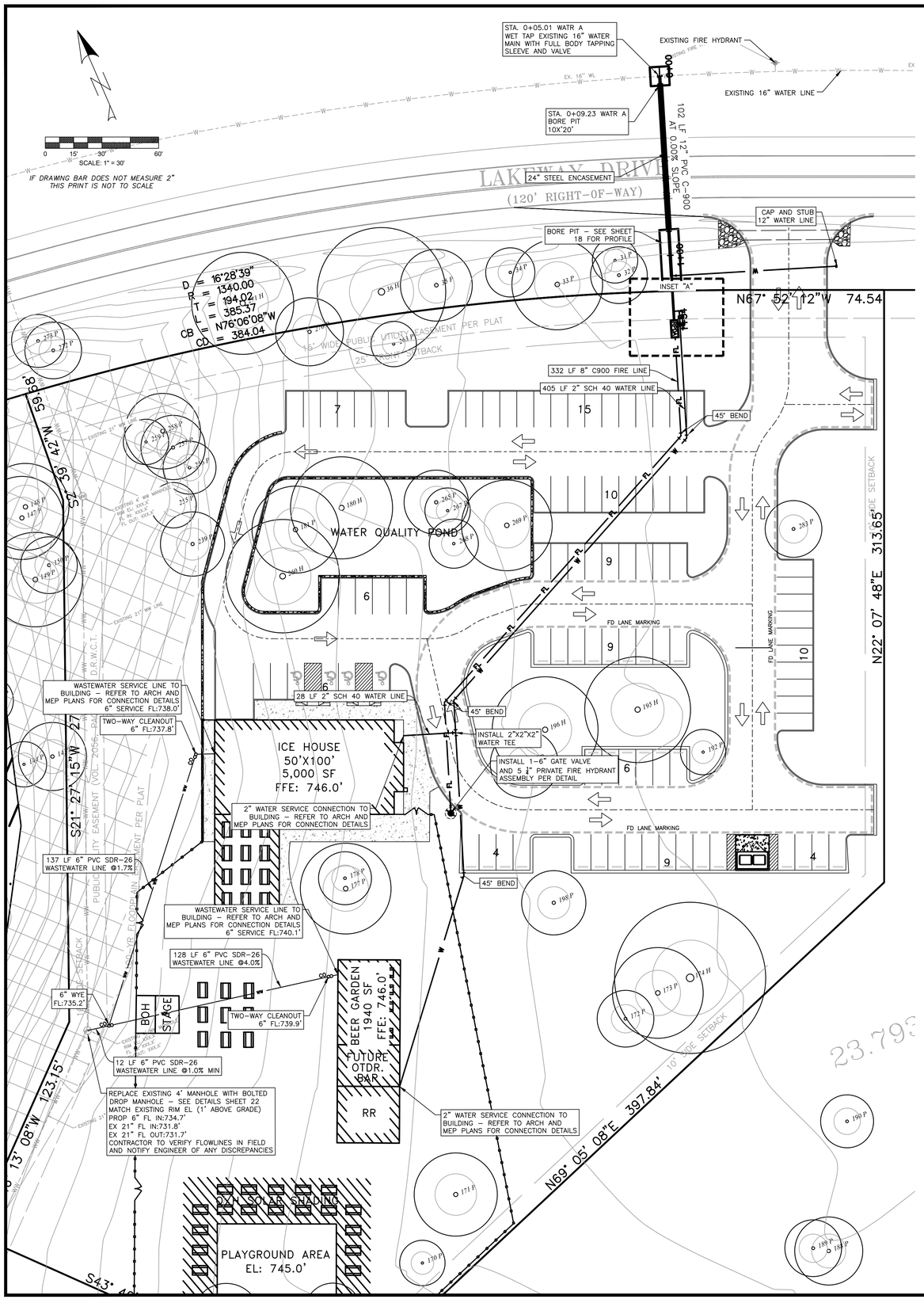
#	REVISION DESCRIPTION	SIGNATURE	DATE

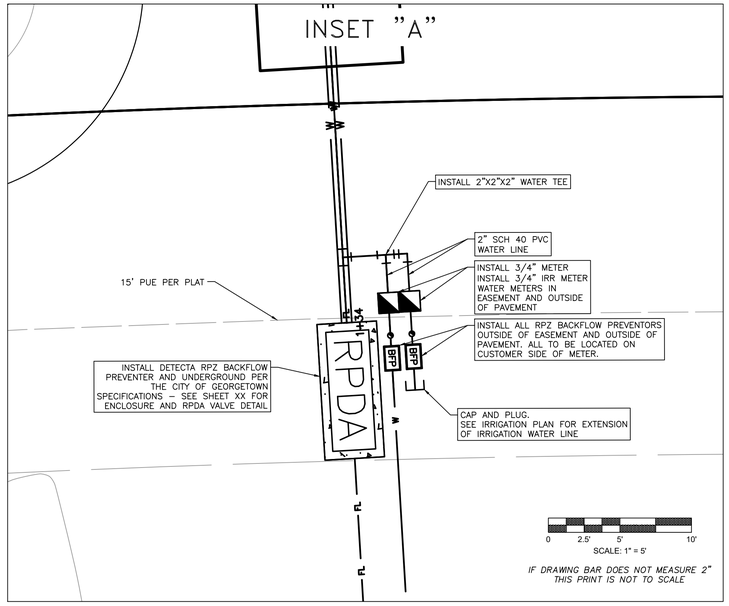
SHEET 9 OF 33

PROJECT CASE: XXXXXXX

Organized Sewage Collection System Plan (TCEQ-0582)

Final Plan and Profile Sheets





NOTES:

1. CLEANOUTS IN SIDEWALK MUST BE FLUSH TO PREVENT TRIPPING HAZARD.
2. SEE BUILDING PLAN FOR CONNECTIONS TO BUILDINGS.
3. DO NOT PLANT TREES OVER CAPS. ALL CAPS TO HAVE 6" PVC STAND PIPES 6" ABOVE PROPOSED GRADE.
4. SEE BUILDING PLAN FOR WATER AND WASTEWATER INTERNAL DESIGN
5. WASTEWATER MANHOLES OUTSIDE OF PAVEMENT, SEE SPECIFIC DETAIL. ALL GRINDER PUMPS ARE PRIVATE AND CONNECT VIA A FORCE MAIN.
6. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE ASSOCIATED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
7. ALL WATER LINES AND SERVICE LINES WILL BE INSTALLED WITH TRACER TAPE.
8. NO WATER METERS LOCATED IN SIDEWALK OR DRIVEWAY AREAS.
9. FIRE HYDRANTS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. SEE DETAIL SHEET FOR PLACEMENT OF APPURTENANCES. FIRE HYDRANTS ASSEMBLY CONSISTS OF, BUT NOT LIMITED TO, 514" FIRE HYDRANT, 6" GATE VALVE, 6" D.I. FIRE LEAD.
10. ALL HORIZONTAL AND VERTICAL WATER LINE BENDS. TEE'S AND DEAD-END'S SHALL BE RESTRAINED TO THE WATER MAIN USING MECHANICAL JOINT RESTRAINT DEVICES.
11. ALL WATERLINE P.I.'S BOTH HORIZONTAL AND VERTICAL SHALL BE ACHIEVED BASED UPON THE PIPE MANUFACTURER'S SPECIFIED MAXIMUM ALLOWABLE JOINT DEFLECTION. P.I.'S LESS THAN OR EQUAL TO 80% OF THE MANUFACTURER'S MAXIMUM SHALL BE CONSTRUCTED AS A SINGLE JOINT DEFLECTION. IN EXCESS OF 80% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION ANGLE SHALL BE CONSTRUCTED AS A SERIES OF EVENLY DISTRIBUTED DEFLECTIONS OVER MULTIPLE JOINTS, SO THAT NO SINGLE DEFLECTION IS GREATER THAN 80% OF THE MAXIMUM.
12. ALL FILL AREAS SHALL BE COMPACTED TO 95% PRIOR TO UTILITY INSTALLATION. CONTRACTOR TO INSTALL PRESSURE REDUCING VALVES AT EACH BUILDING TO CONTROL PRESSURE TO MAXIMUM 80 PSI PER BUILDING CODE.
13. CONTRACTOR TO INSTALL PRESSURE REDUCING VALVES AT EACH BUILDING TO CONTROL PRESSURE TO MAXIMUM 80 PSI PER BUILDING CODE.
14. A RPZ BACKFLOW PREVENTOR IS TO BE INSTALLED ON ALL SERVICES OUTSIDE OF PAVEMENT, SIDEWALKS, ROW, & EASEMENTS. ALL TO BE LOCATED ON THE CUSTOMER SIDE OF THE METERS

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124404
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8/23/2023

UTILITY LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. WASTEWATER
- EX. STORM SEWER LINE / PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER
- FLOW ARROW
- ELECTRIC TRANSFORMER
- UTILITY POLE
- FIRE LINE
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

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WATER DISTRIBUTION AND WASTEWATER COLLECTION PLAN

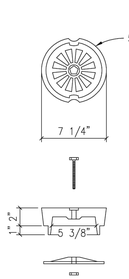
SAN GABRIEL ICE HOUSE

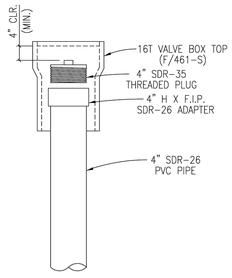
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 17 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SDH WTR.dwg-WATER A (1+00 TO END) Plotted Aug 24, 2023 at 8:50am by Scott | Last Saved by: Scott



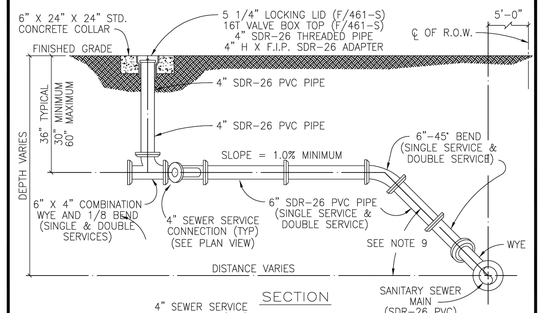


5 1/4" LOCKING LID
(F/461-S)

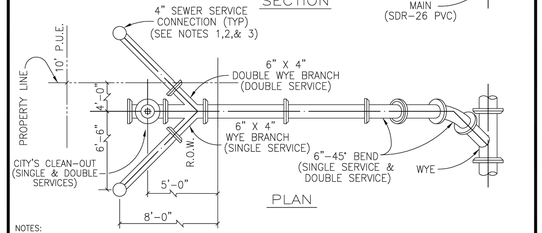
SEWER CLEAN-OUT
CITY OF GEORGETOWN
(RESIDENTIAL SERVICE)

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW12		
SEWER CLEAN-OUT DETAIL	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



SECTION



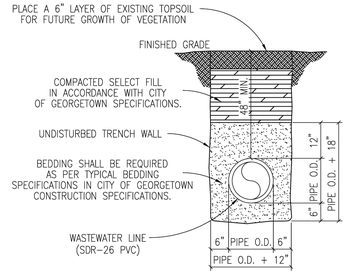
PLAN

NOTES:

1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' INSIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER-TIGHT WITH AN APPROVED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPSITE END WITH P.V.C. TO P.V.C. KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT (1'-0") ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON PAVEMENT REPLACEMENT DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY THE CITY OF GEORGETOWN ENGINEERING DEPARTMENT.
8. SERVICE LINE MATERIAL SHALL BE P.V.C., SDR-26.
9. SEWER SERVICE SLOPE TO BE 45° OFF CENTERLINE OF MAIN.

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

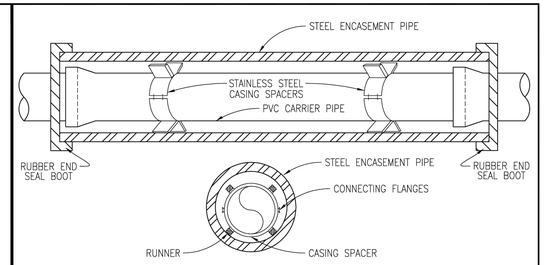
REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW13		
SEWER SERVICE CONNECTIONS	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW16		
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



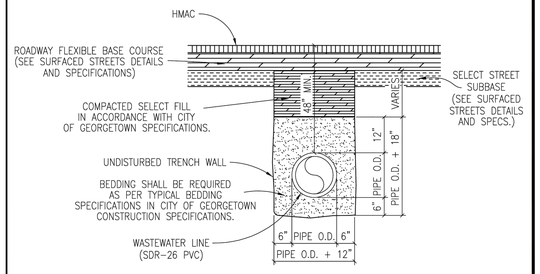
NOTES:

1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH THICKNESS ACCORDING TO THE FOLLOWING TABLE:
7. WHEN CASING IS REQUIRED UNDER PAVEMENT WITHIN THE R.O.W., THE CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.
8. ALL JOINTS SHALL BE RESTRAINED ON PVC CARRIER PIPE.

PIPE SIZE-CARRIER (DIAMETER)	PIPE SIZE-CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"		
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" – 14"	24"	3/8	0.3750
16" – 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W14		
INSTALLATION OF P.V.C. PIPE THROUGH CASING	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



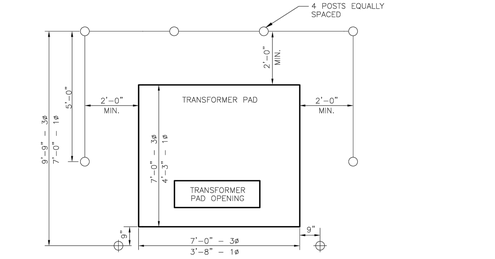
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:

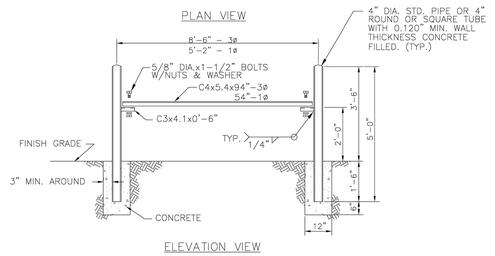
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW18		
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



PLAN VIEW



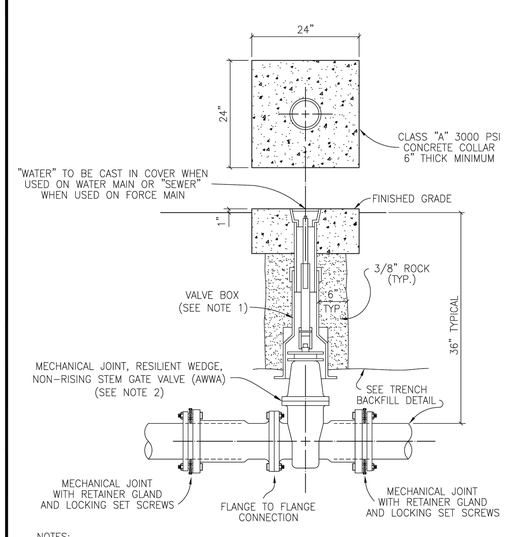
ELEVATION VIEW

NOTES:

1. IF A BUILDING IS USED AS ANY PORTION OF THIS GUARD, THE TRANSFORMER PAD SHALL BE SO LOCATED THAT THE PAD SIDE OR SIDES ADJACENT TO THE SURFACE OF THE BUILDING SHALL HAVE A CLEARANCE OF NOT LESS THAN 5 FEET. FOR TRANSFORMERS 750 KVA AND ABOVE CONTACT GEORGETOWN UTILITY SERVICES ABOUT SPECIAL CLEARANCE REQUIREMENTS.
2. 10'-0" CLEARANCE SHALL BE PROVIDED IN FRONT OF THE EQUIPMENT TO PERMIT HOT STICK OPERATION.

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: UGPB1.1		
PROTECTIVE BOLLARD INSTALLATION FOR PADMOUNT XFMRS, JUNCTION BOXES AND SWITCHGEAR	SCALE: NTS	DATE: 7/05	
	DRAWN BY: JWL	APPROVED BY: MWM	



NOTES:

1. SEE VALVE SETTING DETAIL, DWG. #W-07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER – 2360 SERIES
   B. CLOW

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W21		
INLINE VALVE INSTALLATION	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	

STATE OF TEXAS
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8/23/2023

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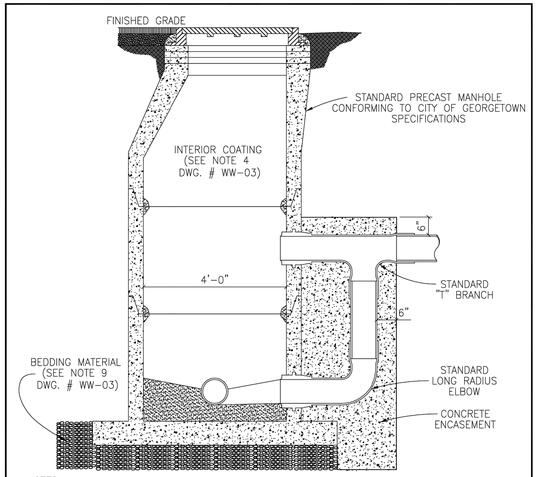
UTILITY DETAILS (2 OF 3)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 21 OF 33

PROJECT CASE: XXXXXXX



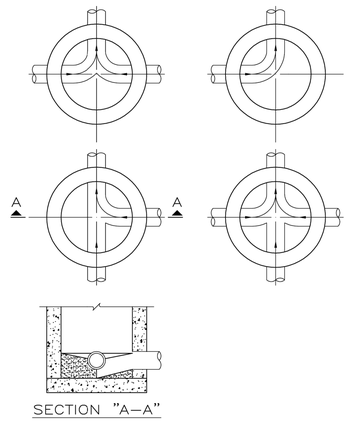
NOTES:

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **DROP CONNECTION–PRECAST MANHOLE TYPE "A"**	DRAWING NAME: WW04
	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

FLOW PATTERNS FOR INVERT CHANNELS



SECTION "A–A"

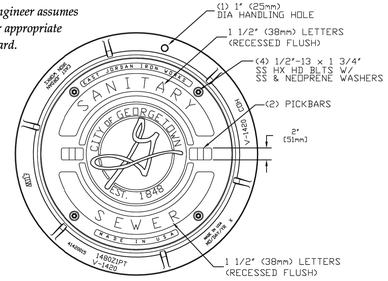
NOTES:

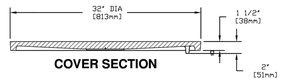
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

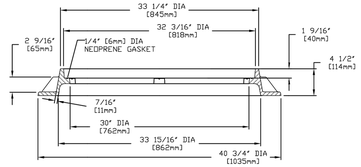
REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **FLOW PATTERNS FOR INVERT CHANNELS**	DRAWING NAME: WW06
	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

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





COVER SECTION



FRAME SECTION

NOTES:

1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V-1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **BOLTED WASTEWATER MANHOLE SET**	DRAWING NAME: WW07A
	SCALE: NTS; DATE: 1/2006; DRAWN BY: MRS; APPROVED BY: TRB

STATE OF TEXAS · NICHOLAS R. SANDLIN · 124404 · LICENSED PROFESSIONAL ENGINEER · 8/23/2023

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SANDLIN SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

UTILITY DETAILS (3 OF 3)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 22 OF 33

PROJECT CASE: XXXXXXX

Temporary Stormwater Section
(TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: NICK SANDLIN, P.E. (SANDLIN SERVICES, LLC)

Date: 8/23/23

Signature of Customer/Agent:

8/23/2023

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER

Regulated Entity Name: SAN GABRIEL ICE HOUSE

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: PECAN BRANCH - SAN GABRIEL RIVER

Temporary Best Management Practices (TBMPs)

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

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

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

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

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

    ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

    ☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

Temporary Stormwater Section (TCEQ-0602)

Attachment A: Spill Response Actions

Spill Response Actions

In the event of an accidental spill, immediate action shall be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials, including contaminated soil and liquid concrete waste (if applicable), shall be disposed of by the Contractor in the manner specified by Federal, State and Local regulations and by the manufacturer of such products. As soon as possible, the spill shall be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States shall be properly reported. The General Contractor shall prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less. The General Contractor shall provide notice to the Owner immediately upon identification of a reportable spill.

All spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the State or Local agency regulations, shall be immediately reported within 24 hours to the EPA National Response Center (1-800-424-8802), TCEQ (1-800-832-8224), and local Fire Department (911).

The reportable quantity for hazardous materials can be found in 40 CFR 302:

Reportable Quantities		
Material	**Media Released to**	**Reportable Quantities**
Engine Oil, Fuel, Hydraulic & Brake Fluid	Land	25 gallons
Engine Oil, Fuel, Hydraulic & Brake Fluid	Water	Visible sheen
Antifreeze	Land	100 lbs (13 gal.)
Battery Acid	Land, Water	100 lbs
Refrigerant	Air	1 lb
Gasoline	Air, Land, Water	100 lbs
Engine Degreasers	Air, Land, Water	100 lbs

Please visit https://www.tceq.texas.gov/response/spills/spill_rq.html for more information

In order to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with stormwater, the following steps shall be implemented.

a) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids paints, paint solvents, additives for soil stabilization,

concrete curing compounds and additives, etc.) shall be stored in a secure location, under cover and in appropriate, tightly sealed containers when not in use.

b) The minimum practical quantity of all such materials shall be kept on the job site and scheduled for delivery as close to time of use as practical. Post Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

c) A spill control and containment kit (containing for example: absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be provided on the construction site and construction employees shall be trained in when and how to use spill containment materials.

d) The contractor personnel will immediately clean up any oil, fuel or hydraulic fluid if observed being released from equipment or vehicles. Vehicles or equipment will cease operation until required repairs are made to the equipment.

e) All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with State and Federal regulations and shall not be allowed to mix with stormwater discharges.

f) All products shall be stored in and used from the original container with the original product label.

g) All products shall be used in strict compliance with instructions on the product label.

h) The disposal of the excess or used products shall be in strict compliance with instructions on the products label.

Spill Prevention and Control

Education

1.) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.

2.) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

3.) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

4.) Establish a continuing education program to indoctrinate new employees.

5.) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

1.) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

2.) Store hazardous materials and wastes in covered containers and protect from vandalism.

3.) Place a stockpile of spill cleanup materials where it will be readily accessible.

4.) Train employees in spill prevention and cleanup.

5.) Designate responsible individuals to oversee and enforce control measures.

6.) Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise cleanup activities.

7.) Do not bury or wash spills with water.

8.) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.

9.) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

10.) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

11.) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

12.) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

1.) Clean up leaks and spills immediately.

2.) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

3.) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

1.) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

2.) Use absorbent materials on small spills rather than hosing down or burying the spill.

3.) Absorbent materials should be promptly removed and disposed of properly.

4.) Follow the practice below for a minor spill:

5.) Contain the spread of the spill.

6.) Recover spilled materials.

7.) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

1.) Contain spread of the spill.

2.) Notify the project foreman immediately.

3.) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

4.) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

5.) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1.) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512- 339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

2.) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

3.) Notification should first be made by telephone and followed up with a written report.

4.) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

5.) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrcc.state.tx.us/enforcement/emergency_response.html.

Vehicle and Equipment Maintenance

1.) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.

2.) Regularly inspect onsite vehicles and equipment for leaks and repair immediately.

3.) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

4.) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

5.) Place drip pans or absorbent materials under paving equipment when not in use.

6.) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

7.) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

8.) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

9.) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

1.) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.

2.) Discourage "topping off" of fuel tanks.

Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

SPILL REPORT FORM

Notes to General Contractor:

- Control and contain the spill.
- Contact the appropriate regulatory agencies if the spill exceeds the applicable reportable quantity.
- Clean up the spill and dispose of waste according to federal, state and local regulations.
- Complete the Spill Report Form in full for each spill that exceeds the applicable reportable quantity and submit to the Owner.
- Call the Owner.
- Resolve as appropriate and as required by regulatory authorities.

SPILL REPORT FORM

DATE:
PROJECT:
PROJECT ADDRESS:

Spill Reported By: _____

Date / Time of Spill: _____

Describe spill location and events leading to spill: _____

_____

Material Spilled: _____

Source of Spill: _____

Amount Spilled: _____

Amount Spilled to Waterway (Name Waterway): _____

Containment or Clean up Action: _____

_____

Approximate depth (yards) of soil excavation: _____

List injuries or Personal Contamination: _____

Action to be taken to prevent future spills:
_____

Agencies notified of spill:
_____

_____

_____ _____
Contractor Signature and Printed Name **Date**

AFTER NOTIFYING GOVERNING AUTHORITIES, IMMEDIATELY COMPLETE THIS FORM AND CONTACT THE OWNER IF THE SPILL EXCEEDS THE REPORTABLE QUANTITY FOR THE GOVERNING AGENCY

Temporary Stormwater Section (TCEQ-0602)

Attachment B: Potential Sources of Contamination

Potential Sources of Contamination and Preventive Measures:

Potential Source: Concrete and concrete products used on-site during construction.
Preventive Measures: Concrete washout structure will be used if necessary.

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventative Measures: Vehicle maintenance will be performed at a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.
Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Silt leaving the site.
Preventative Measures: Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

Potential Source: Construction debris
Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case-by-case basis.

Potential Source: Soil and mud from construction vehicle tires as they leave the site.
Preventative Measures: a stabilized construction exit shall be utilized as vehicles leave the site. And soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel, and excavated materials stockpiled on site.
Preventative Measures: Silt fence shall be installed on the down gradient side of the stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

Potential Source: Portable toilet spill
Preventative Measures: Toilets on the site will be emptied on a regular basis by the contracted toilet company.

Temporary Stormwater Section (TCEQ-0602)

Attachment C: Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage (AC) expected to be disturbed is listed in parentheses next to each activity.

Intended Schedule or Sequence of Major Activities:

1. Submit written notice of construction to TCEQ regional office at least 48 hours prior to the start of any regulated activities. (See Permanent Stormwater Section – Attachment F)

2. A pre-construction conference prior to commencement of construction. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. Contractors must follow requirements as outlined in TCEQ General Construction Notes for the Water Pollution Abatement Plan (WPAP). WPAP Construction Notes are included on the Construction Plan sheets (See Permanent Stormwater Section – Attachment F).

4. Prior to beginning any construction activity, all temporary erosion and sedimentation BMPs and control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications (0.1 Acres).

5. Evaluate temporary erosion control installation. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Review construction schedule and the Water Pollution Abatement Plan (WPAP) requirements.

7. Complete Permanent BMP construction and install landscaping (2.3 Acres).

8. Topsoil, Irrigation and Landscaping: Revegetate all disturbed areas according to plan.

9. Site cleanup and removal of temporary erosion/sedimentation BMP controls. (0.1 Acres)

Maximum total construction time is not expected to exceed 12 months.

Temporary Stormwater Section
(TCEQ-0602)

Attachment D:
Temporary Best Management Practices and Measures

1. There are approximately 0.0 AC of storm water that originate up gradient from the site and flow across the site through an onsite BMP. No upstream stormwater flows to WQ- DA-1.

2. Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property and limits of construction to prevent silt from escaping the construction area during permanent BMP construction.

3. A gravel construction entrance exists on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit may be used to collect all excess concrete during construction, if needed.

4. Temporary BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil and other contaminants, which may mobilize in stormwater flows by slowing the flow of runoff to allow sediment and suspended solids to settle out of the runoff.

5. Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to establishment of temporary vegetation; establishment of permanent vegetation; mulching; geotextiles; sod stabilization; vegetative buffer strips; protection of existing trees and vegetation; and other similar measures.

6. There are no sensitive features or surface streams within the boundaries of the project that would require temporary BMPs. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down gradient of the site.

Temporary Stormwater Section
(TCEQ-0602)

Attachment E:
Request to Temporarily Seal a Feature
(NOT APPLICABLE)

Temporary Stormwater Section (TCEQ-0602)

Attachment F: Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMPs is shown within the Site Plans.

Description of Temporary BMPs

Construction Entrance/Exit:
The purpose of a gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point where traffic will be entering or leaving the construction site from a public right-of-way. This practice should be used at all points of construction ingress and egress. Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected where access is not necessary. A rock stabilized construction entrance exists and will be used at all designated access points.

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

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

Triangular Sediment Filter Dikes
Triangular sediment filter dikes (18"x18"x18" filter material with 6" square folded wire mesh frame) will be installed downgradient of the AST construction area with filter cloth placed over any existing stormwater

collection drains. The dike and filter cloth will be held in place with cloth sandbags. The facility existing topography will not change as the AST will be placed on existing crushed rock.

Concrete Washout Area (if applicable)

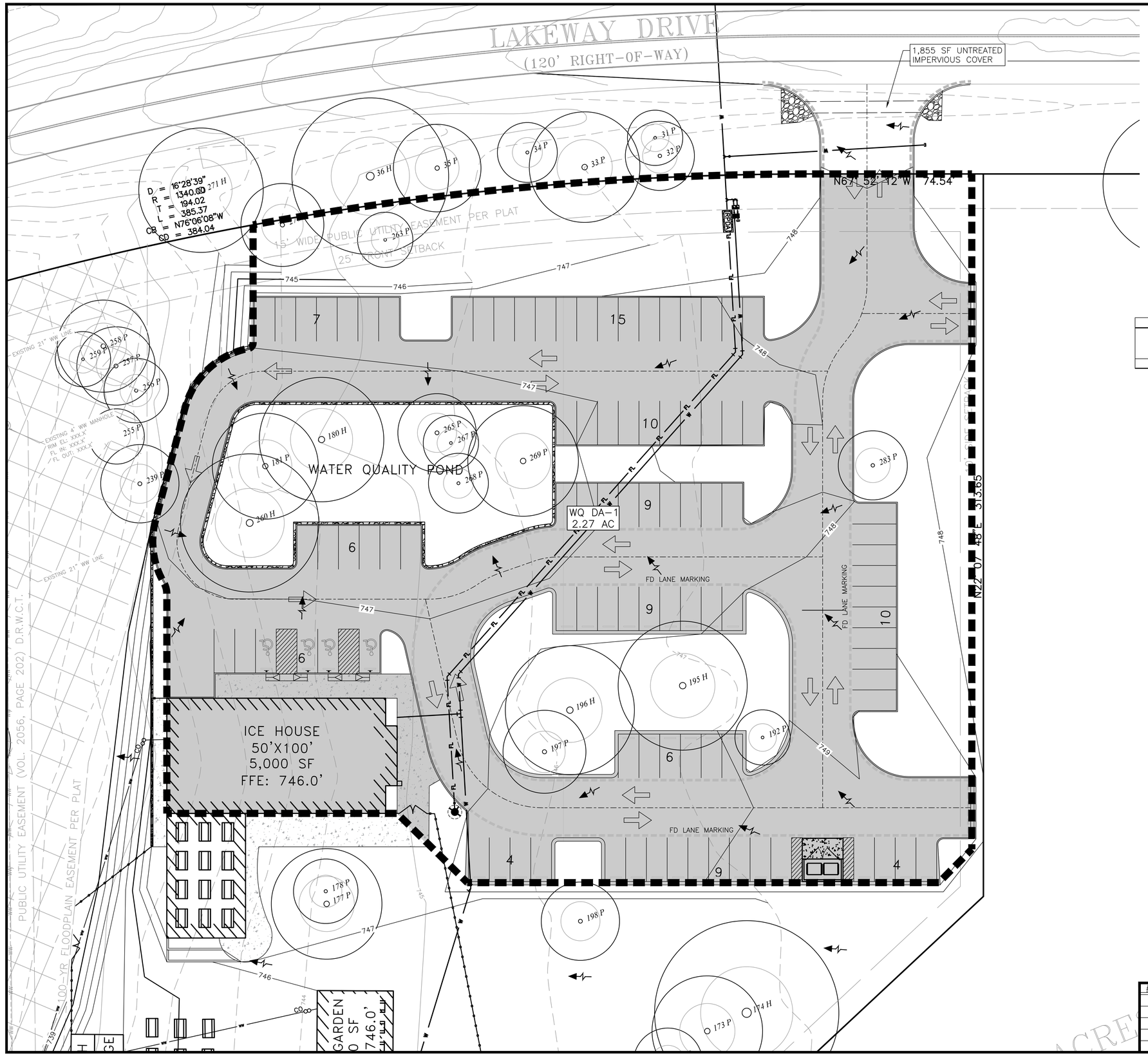
The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Temporary Stormwater Section
(TCEQ-0602)

Attachment G:
Drainage Area Map



0 10' 20' 40'

SCALE: 1" = 20'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

EXISTING DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- EX. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (748)

PROPOSED CONDITIONS			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
WQ DA-1	2.27	98,881	56,441	1.30	57.1%	42,440	0.97	42.9%

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

WATER QUALITY DRAINAGE AREA MAP

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 13 OF 33

PROJECT CASE: XXXXXXX

Temporary Stormwater Section
(TCEQ-0602)

Attachment H:
Temporary Sediment Pond(s) Plans and Calculations
(NOT APPLICABLE)

Temporary Stormwater Section (TCEQ-0602)

Attachment I: Inspection and Maintenance for BMPs

Inspection and Maintenance Guidelines for Construction BMPs

Silt Fence – Section 1.4.3
(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Rock Berms – Section 1.4.5
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance/Exit – Section 1.4.2
(1) The entrance should be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Personnel Responsible for Inspections
The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule
The primary operator is required to choose one of the two inspections listed below.

☐ **Option 1:** Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

☐ **Option 2:** Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of "dry" season and beginning of "wet" season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded.

Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized,
- areas used for storage of materials that are exposed to precipitation,
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system),
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly), and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

Reductions in Inspection Frequency
Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total

rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non- compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

Corrective Action

Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

Inspector Qualifications Log*

Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________
Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________

Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________

Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________

Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________

Inspector Name: ______________________________
Qualifications (Check as appropriate and provide description):
☐ Training Course ______________________________
☐ Supervised Experience ______________________________
☐ Other ______________________________

*The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.

Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Construction Activity Sequence Log*

Name of Operator	Projected Dates Month/Year	Activity Disturbing Soil clearing, excavation, etc.	Location on-site where activity will be conducted	Acreage being disturbed

*Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.

Stormwater Control Installation and Removal Log

Stormwater Control	Location On-Site	Installation Date	Removal Date

Stabilization Activities Log*

Date Activity Initiated	Description of Activity	Description of Stabilization Measure and Location	Date Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated

*****Stabilization and erosion control practices may include, but are not limited to, establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.

Inspection Frequency Log

Date	Frequency

Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading

General Information					
Name of Project		**Tracking Number**		**Inspection Date**	
Inspector Name, Title & Contact Information					
Present Phase of Construction					
Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted)					

Inspection Frequency

Standard Frequency: ☐ Weekly ☐Every 14 days and within 24 hours of a 0.25" rain

Increased Frequency: ☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency:

☐ Once per month (for stabilized areas)

☐ Once per month and within 24 hours of a 0.25" rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought)

☐ Once per month (for frozen conditions where earth-disturbing activities are being conducted)

Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No

If yes, how did you determine whether a 0.25" storm event has occurred?

☐ Rain gauge on site ☐Weather station representative of site. Specify weather station source.

Total rainfall amount that triggered the inspection (in inches):

Unsafe Conditions for Inspection

Did you determine that any portion of your site was unsafe for inspection? ☐ Yes ☐No

If "yes," complete the following:

- Describe the conditions that prevented you from conducting the inspection in this location:

- Location(s) where conditions were found:

Condition and Effectiveness of Erosion and Sediment (E&S) Controls				
Type / Location of E&S Control	**Repairs or Other Maintenance Needed?**	**Corrective Action Required?**	**Date on Which Maintenance of Corrective Action First Identified?**	**Notes**
1.	☐ Yes ☐ No	☐ Yes ☐ No		
2.	☐ Yes ☐ No	☐ Yes ☐ No		
3.	☐ Yes ☐ No	☐ Yes ☐ No		
4.	☐ Yes ☐ No	☐ Yes ☐ No		
5.	☐ Yes ☐ No	☐ Yes ☐ No		
6.	☐ Yes ☐ No	☐ Yes ☐ No		
7.	☐ Yes ☐ No	☐ Yes ☐ No		
8.	☐ Yes ☐ No	☐ Yes ☐ No		
9.	☐ Yes ☐ No	☐ Yes ☐ No		

Condition and Effectiveness of Pollution Prevention (P_2) Practices				
Type / Location of P_2 Practices	**Repairs or Other Maintenance Needed?**	**Corrective Action Required?**	**Identification Date**	**Notes**
1.	☐ Yes ☐ No	☐ Yes ☐ No		
2.	☐ Yes ☐ No	☐ Yes ☐ No		
3.	☐ Yes ☐ No	☐ Yes ☐ No		
4.	☐ Yes ☐ No	☐ Yes ☐ No		
5.	☐ Yes ☐ No	☐ Yes ☐ No		
6.	☐ Yes ☐ No	☐ Yes ☐ No		
7.	☐ Yes ☐ No	☐ Yes ☐ No		
8.	☐ Yes ☐ No	☐ Yes ☐ No		
9.	☐ Yes ☐ No	☐ Yes ☐ No		

Stabilization of Exposed Soil			
Stabilization Area	**Stabilization Method**	**Have you Initiated Stabilization?**	**Notes**

1.		☐ YES ☐ NO If yes, provide date:	
2.		☐ YES ☐ NO If yes, provide date:	
3.		☐ YES ☐ NO If yes, provide date:	
4.		☐ YES ☐ NO If yes, provide date:	

Description of Discharges

Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? ☐ YES ☐ NO
If "YES," provide the following information for each point of discharge:

Discharge Locations	**Observations**
1.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
2.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
3.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:

Contractor or Subcontractor Certification and Signature

"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 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."

Signature of Contractor or Subcontractor: _____ Date**:**

Printed Name and Affiliation:

Certification and Signature by Permittee

"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 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."

Signature of Permittee or
"Duly Authorized Representative": _____ **Date:**

Printed Name and Affiliation:

Section A – Initial Report **(Complete this section within 24 hours of discovering the condition that triggered corrective action.)**		
Name of Project:	Tracking Number:	Today's Date
Date Problem First Discovered:	Time Problem First Discovered:	
Name of Individual Completing this Form:	Contact Information:	

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or Part 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress

(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action.)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐ Yes ☐ No Date:	
2.		☐ Yes ☐ No Date:	

Section A – Initial Report **(Complete this section within 24 hours of discovering the condition that triggered corrective action.)**		
Name of Project:	Tracking Number:	Today's Date
Date Problem First Discovered:	Time Problem First Discovered:	
Name of Individual Completing this Form:	Contact Information:	

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or Part 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress
(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action.)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐ Yes ☐ No Date:	
2.		☐ Yes ☐ No Date:	

Contractor or Subcontractor Certification and Signature

"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 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."

Signature of Contractor or Subcontractor: _____ Date:

Printed Name and Affiliation:

Certification and Signature by Permittee

"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 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."

Signature of Permittee or
"Duly Authorized Representative": _____ Date:

Printed Name and Affiliation:

Temporary Stormwater Section
TCEQ-0602)

Attachment J:
Schedule of Interim and Permanent
Soil Stabilization Practices

Interim Vegetative Stabilization

Interim soil stabilization will not be required.

Permanent Vegetative Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb during construction activity. For this project, the following stabilization practices will be implemented:

1. Hydraulic Mulch and Seeding: Disturbed areas subject to erosion shall be stabilized with hydraulic mulch and/or seeded and watered to provide interim stabilization.

2. Sodding and Wood Mulch: As per the project landscaping plan, sodding and wood mulch will be applied to landscaped areas to provide permanent stabilization prior to project completion.

Records of the following shall be maintained:

1. The dates when major grading activities occur,

2. The dates when construction activities temporarily or permanently cease on a portion of the site, and

3. The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

Permanent Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: NICK SANDLIN, PE (SANDLIN SERVICE, LLC)

Date: 8/23/23

Signature of Customer/Agent

Regulated Entity Name: SAN GABRIEL ICE HOUSE

Permanent Best Management Practices (BMPs)

Permanent best management practices and measures that will be used during and after construction is completed.

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ 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

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

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

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

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

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☒ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - 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.

8. ☐ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

   ☒ N/A

9. ☐ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

   ☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

   ☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

    ☒ Design calculations (TSS removal calculations)
    ☒ TCEQ construction notes
    ☒ All geologic features
    ☒ All proposed structural BMP(s) plans and specifications

    ☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

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

    ☒ N/A

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

    ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

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

    ☐ N/A

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

    ☐ N/A

Permanent Stormwater Section (TCEQ-0600)

Attachment A: 20% or Less Impervious Cover Waiver (if requested for multi-family, school, or small business site)

Permanent Stormwater Section
(TCEQ-0600)

Attachment B:
BMPs for Upgradient Stormwater

There is no upgradient stormwater moving across the site to the Batch Detention Pond BMP.

Permanent Stormwater Section
(TCEQ-0600)

Attachment C:
BMPs for On-Site Stormwater

The San Gabriel Ice House project will increase impervious cover (IC) and the volume of potential on-site stormwater. The Batch Detention Pond BMP is designed to capture and mitigate potential onsite stormwater flows.

Runoff from WQ-DA-1 will convey to a Batch Detention Pond BMP that is designed to capture and detain the required water quality volume. Please see the drainage sheets on the approved construction plans for details.

Permanent Stormwater Section
(TCEQ-0600)

Attachment D:
BMPs for Surface Streams

The Pecan Branch of the Granger Lake-San Gabriel Watershed is adjacent to the proposed project site. All stormwater in the developed WQ-DA-1 will be diverted to a Batch Detention Pond. A structural wall forms a physical boundary between the developed site and the adjacent Pecan Branch and FEMA 100-year floodplain area. Please see the construction plans for details.

Permanent Stormwater Section
(TCEQ-0600)

Attachment E:
Request to Seal Features (if sealing a feature)
(NOT APPLICABLE)

Permanent Stormwater Section (TCEQ-0600)

Attachment F: Construction Plans

PROJECT CONTACTS

OWNER:

JONES FAMILY INVESTMENTS, LLC
4819 WILLIAMS DR
GEORGETOWN, TX 78633
512-943-6106
MICHAEL@JONESFI.COM
CONTACT: MICHAEL JONES

ENGINEER:

SANDLIN SERVICES, LLC
4501 WHISPERING VALLEY DR. UNIT#27
AUSTIN, TEXAS 78727
806-679-7303
CONTACT: NICHOLAS SANDLIN, P.E.

LANDSCAPE ARCHITECT:

BLAIR LANDSCAPE ARCHITECTURE
100 CONGRESS AVE. SUITE 2000,
AUSTIN, TX 78701
512-522-8979
CONTACT: WILL BLAIR

LAND SURVEYOR:

TRIAD SURVEYING, INC.
PO BOX 1489
ROCKDALE, TX 76576
512-446-3457

ARCHITECT OF RECORD:

OPA DESIGN STUDIO
7010 EASY WIND DR, STE 200
AUSTIN, TEXAS 78752
512-899-3100

SURVEY AND BENCHMARK

CONTACT SURVEYOR FOR BENCHMARK INFORMATION.

BEARINGS ARE BASED ON THE TEXAS STATE PLAN COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (NAD 83)

LEGAL DESCRIPTION

S11956 – HAVINS AIRPORT COMMERCIAL SUB, BLOCK D, Lot 1, ACRES 23.779

THIS PARCEL R583645 IS PART OF THE HAVINS AIRPORT COMMERCIAL SUBDIVISION, DOCUMENT #2019011029

ZONING AND USE

JURISDICTION:	CITY OF GEORGETOWN
ZONING:	C-1 LOCAL COMMERCIAL
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	RESTAURANT, MUSIC VENUE

WATERSHED

WATERSHED:	GRANGER LAKE – SAN GABRIEL RIVER

EDWARDS AQUIFER

THIS PROJECT LIES WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS DEFINED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). THIS PROJECT REQUIRES A WPAP (PERMIT #).

FLOODPLAIN NOTE

THE 100-YEAR FLOODPLAIN AS DEFINED BY THE CITY REGULATION, IS CONTAINED WITHIN THE DRAINAGE EASEMENT(S) SHOWN HEREON. A PORTION OF THIS TRACT IS WITHIN THE BOUNDARIES OF THE 100-YEAR FLOODPLAIN OF ANY WATERWAY THAT IS WITHIN THE LIMITS OF THE STUDY OF THE FEDERAL INSURANCE ADMINISTRATION FIRM PANEL #48491C0291F, AND INCORPORATED AREAS EFFECTIVE DATE 12/20/2019 FOR WILLIAMSON COUNTY, TEXAS.

UTILITIES

WATER:	GEORGETOWN UTILITY SYSTEMS
WASTEWATER:	GEORGETOWN UTILITY SYSTEMS

FIRE DEMAND

FIRE FLOW:	1,500 GPM FOR DURATION OF 2 HOURS
LARGEST BUILDING FIRE AREA:	5,000 SF
BUILDING CONSTRUCTION:	TYPE II-B
HYDRANTS REQUIRED:	1
CODE OF RECORD:	2021 INTERNATIONAL FIRE CODE WITH LOCAL AMENDMENTS

GEORGETOWN NOTES:

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT SHALL MEET THE UDC STORM WATER REQUIREMENTS
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT DUMPSTER AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL DRAWINGS.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE PLAN SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. NO HERITAGE TREES ARE PROPOSED TO BE REMOVED WITH THESE PLANS. SEE TREE PROTECTION PLAN FOR DETAILS.
13. THE CONSTRUCTION PORTION OF THESE 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.
14. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
15. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BY RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
16. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
17. SCREENING AND LOCATION OF OUTDOOR STORAGE SHALL COMPLY WITH SECTION 5.09 OF THE UDC.
18. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
19. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER REGULATIONS, WAS COMPLETED ON X/X/2023 BY XXX. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

SAN GABRIEL ICE HOUSE

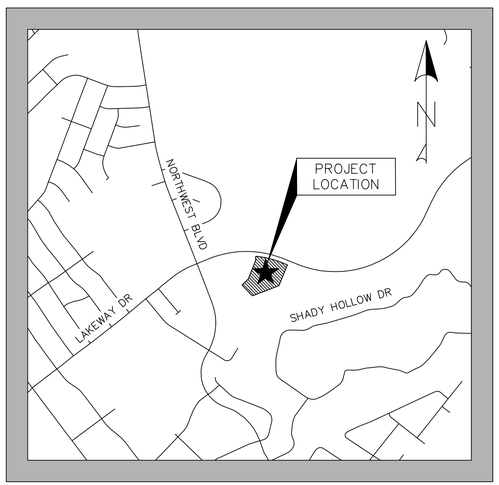
SITE DEVELOPMENT PLANS

ADDRESS: 900 LAKEWAY DRIVE, GEORGETOWN, TEXAS 78628

SDPXXXX-XXX

SITE PLAN/DEVELOPMENT PERMIT NUMBER AND DIGITAL APPROVAL STAMP

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



PROJECT LOCATION MAP
SCALE: 1"=1000'

THIS PROPOSED DEVELOPMENT WILL NOT RESULT IN ANY IDENTIFIABLE ADVERSE IMPACT TO OTHER PROPERTIES. SEE DRAINAGE AREA MAPS AND CALCULATIONS FOR DETAILED ANALYSIS.

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3	GENERAL NOTES (2 OF 2)
4	FINAL PLAT (1 OF 2)
5	FINAL PLAT (2 OF 2)
6	TREE PRESERVATION, MITIGATION, AND EXISTING CONDITIONS PLAN
7	CRZ PROTECTION PLAN
8	EROSION CONTROL PLAN
9	SITE PLAN
10	FIRE PROTECTION PLAN
11	DRIVEWAY PLAN
12	GRADING AND DRAINAGE PLAN
13	WATER QUALITY DRAINAGE AREA MAP
14	WATER QUALITY POND PLAN
15	WATER QUALITY CALCULATIONS
16	WATER QUALITY DETAILS
17	WATER DISTRIBUTION AND WASTEWATER COLLECTION PLAN
18	WATER A (1+00 TO END)
19	EROSION CONTROL DETAILS
20	UTILITY DETAILS (1 OF 3)
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22	UTILITY DETAILS (3 OF 3)
23	CONSTRUCTION DETAILS (1 OF 3)
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26	LANDSCAPE PLAN (1 OF 2)
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28	PHOTOMETRIC AND ELECTRICAL PLAN (1 OF 2)
29	PHOTOMETRIC AND ELECTRICAL PLAN (1 OF 2)
30	ARCHITECTURAL ELEVATIONS (1 OF 4)
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33	ARCHITECTURAL ELEVATIONS (4 OF 4)

CONTRACTOR NOTES:

1. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM THE COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN. AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.
2. BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE, HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.
3. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM 1-800-245-4545, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.
4. ENVIRONMENTAL INSPECTION HAS THE AUTHORITY TO MODIFY/CHANGE EROSION AND SEDIMENTATION CONTROLS TO KEEP THE PROJECT IN COMPLIANCE.
5. THE CONTRACTOR OR SURVEYOR WILL OBTAIN A DIGITAL COPY OF THE CAD FILES THAT REPRESENT THESE IMPROVEMENTS; SANDLIN SERVICES, LLC AND IT'S ASSOCIATES TAKE NO RESPONSIBILITY FOR THE LOCATION OF THESE IMPROVEMENTS IN ANY COORDINATE SYSTEM. DIGITAL FILES USED TO PRODUCE THESE PLANS WERE PARTIALLY CREATED BY PARTIES OTHER THAN SANDLIN SERVICES, LLC AND ARE NOT INTENDED FOR USE IN CONSTRUCTION STAKING. VERTICAL AND HORIZONTAL DATA SHALL BE INDEPENDENTLY VERIFIED BY CONTRACTOR'S R.P.L.S.
6. SANDLIN SERVICES, LLC HAS ENDEAVORED TO DESIGN THESE PLANS COMPLIANT WITH ADA/TDLR AND OTHER ACCESSIBILITY REQUIREMENTS. HOWEVER, THE CONTRACTOR SHALL NOT BE RELIEVED OF ANY RESPONSIBILITY FOR CONSTRUCTING THESE IMPROVEMENTS COMPLIANT WITH ALL APPLICABLE ACCESSIBILITY STANDARDS. IF THE CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND ACCESSIBILITY LAWS/RULES, HE IS TO STOP WORK IN THE AREA OF CONFLICT AND NOTIFY THE ENGINEER IMMEDIATELY FOR A RESOLUTION AND/OR REVISION TO THESE PLANS. SANDLIN SERVICES, LLC SHALL NOT BE HELD RESPONSIBLE FOR CONSTRUCTING THIS SITE COMPLIANT WITH ACCESSIBILITY LAWS/RULES REGARDLESS OF WHAT IS SHOWN IN THESE PLANS.

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

COVER PAGE

SAN GABRIEL ICE HOUSE

CORRECTIONS RECORD

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

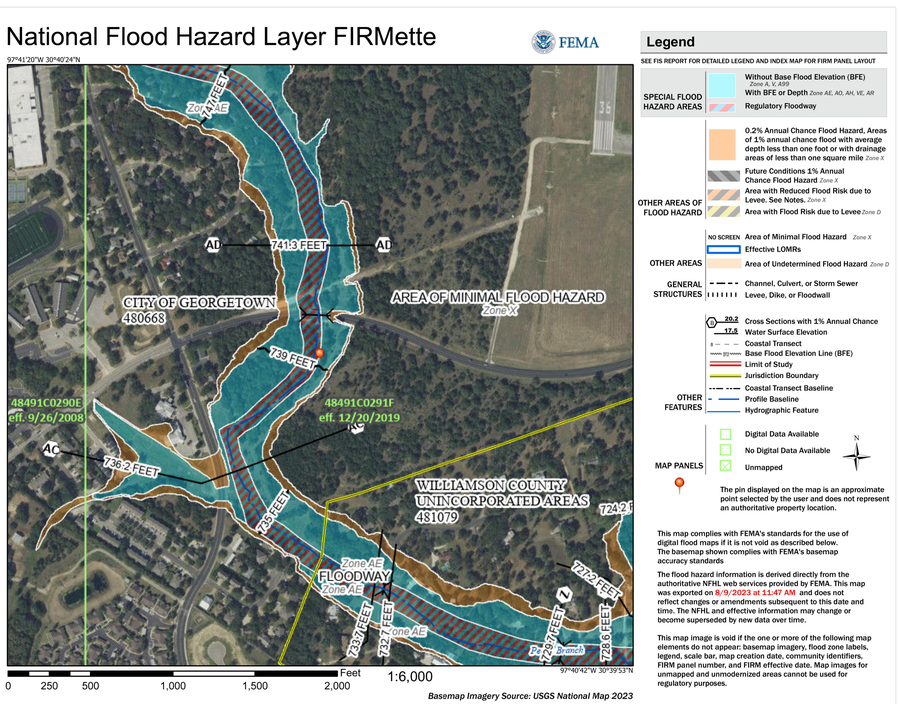
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 1 OF 33

PROJECT CASE: XXXXXXX

PAVING RECOMMENDATIONS:

PAVING RECOMMENDATIONS FORTHCOMING



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS: Without Base Flood Elevation (BFE) Zone A, V, A99; With BFE or Depth Zone AE, AO, AH, VE, AR; Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X; Future Conditions 1% Annual Chance Flood Hazard Zone X; Area with Reduced Flood Risk due to Levee. See Notes. Zone X; Area with Flood Risk due to Levee Zone D
- OTHER AREAS: NO SCREEN Area of Minimal Flood Hazard Zone X; Effective LOMRs; Area of Undetermined Flood Hazard Zone D
- GENERAL STRUCTURES: Channel, Culvert, or Storm Sewer; Levee, Dike, or Floodwall
- OTHER FEATURES: 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation; Coastal Transect; Base Flood Elevation Line (BFE); Limit of Study; Jurisdiction Boundary; Coastal Transect Baseline; Profile Baseline; Hydrographic Feature
- MAP PANELS: Digital Data Available; No Digital Data Available; Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/9/2023 at 11:47 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

A PORTION OF THIS TRACT IS WITHIN THE BOUNDARIES OF THE 100-YEAR FLOODPLAIN OF ANY WATERWAY THAT IS WITHIN THE LIMITS OF THE STUDY OF THE FEDERAL INSURANCE ADMINISTRATION FIRM PANEL #48491C0291F, AND INCORPORATED AREAS EFFECTIVE DATE 12/20/2019.

GEORGETOWN NOTES:

1. 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.

2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS AND UDC REGULATIONS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.

3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.

4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.

5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.

6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.

7 WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY IN DVD FORMAT PRIOR TO PAVING THE STREETS.

10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.

11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM. AND 200 PSI 0900 PVC FOR ALL OTHERS.

12. PUBLIC WATER SYSTEM FIRE LINES SHALL BE 150 PSI €900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.

13. ALL BENDS AND CHANGES IN DIRECTIONS ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.

15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.

16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.

18. 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.

19. ALL SIDEWALK RAMPS AND PUBLIC AREA SIDEWALKS (I.E., NOT ADJACENT TO INDIVIDUAL LOTS) ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.

20. 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 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.

21. THE CITY OF GEORGETOWN SHALL BE CONTACTED 48 HOURS IN ADVANCE FOR CONNECTIONS AND TESTING.

22. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BY RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.

SEQUENCE OF CONSTRUCTION NOTES:

1. INSTALL TEMPORARY SILT FENCE, TREE PROTECTION AND STABILIZED CONSTRUCTION ENTRANCE ACCORDING TO THE CONSTRUCTION PLANS PRIOR TO CLEARING, GRADING, EXCAVATION, ETC. CONTRACTOR SHALL INSPECT AND REPAIR TEMPORARY EROSION CONTROLS ON A REGULAR BASIS AND REMOVE ACCUMULATED SEDIMENT WHEN SIX (6) INCHES OF SEDIMENT HAS BEEN TRAPPED.
2. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES WHERE APPLICABLE
3. THE CONTRACTOR SHALL CONTACT CITY OF GEORGETOWN AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING.
4. PRE-CONSTRUCTION MEETING ONSITE
5. EVALUATE TEMPORARY EROSION CONTROL INSTALLATION.
6. BEGIN SITE CLEARING/DEMOLITION
7. ESTABLISH SUB-GRADE FOR PARKING, BUILDING PAD, DETENTION AND WATER QUALITY POND.
8. INSTALLATION OF UTILITIES (TRENCHING).
9. CONSTRUCTION OF BUILDING AND PAVED AREAS.
10. COMPLETE TESTING REQUIREMENTS
11. COMPLETE CONSTRUCTION AND INSTALL LANDSCAPING
12. CLEAN SITE AND REVEGETATE ALL DISTURBED AREAS IN ACCORDANCE WITH RESTORATION REQUIREMENTS SHOWN ON THE CONSTRUCTION PLANS.
13. PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF THE LETTER.
14. RECEIVE OPERATING PERMIT AND CITY CLEARANCE FOR OCCUPANCY
15. REMOVE TEMPORARY EROSION CONTROL MEASURES AND TREE PROTECTION AFTER ALL DISTURBED AREAS ARE COMPLETELY RESTORED AND REVEGETAGED.

PAVING NOTES:

1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF GEORGETOWN, TX STANDARD SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAVEMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY STANDARD TESTING PROCEDURES, THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITIES SPECIFICATIONS AND THESE PLANS.
3. BARRIER FREE RAMPS SHALL BE CONSTRUCTED AT ALL DRIVEWAY APPROACHES PER CITY STANDARD.
4. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDINGS AS SHOWN ON THE PLANS. ALL PAINT FOR PAVEMENT MARKINGS SHALL ADHERE TO CITY OF GEORGETOWN STANDARD DETAILS AND SPECIFICATIONS.
6. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN, REINFORCEMENT STEEL, AND SOIL COMPACTION SPECIFICATIONS.
7. ALL HANDICAP RAMPING, STRIPING AN PAVEMENT MARKINGS SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT THAT IS MOST CURRENT. SEE GEORGETOWN STANDARD CONSTRUCTION DETAILS.
8. CONTRACTOR RESPONSIBLE FOR PREPARATION, SUBMITTAL AN APPROVAL BY CITY OF GEORGETOWN, TX OF TRAFFIC CONTROL PLAN PRIOR TO START OF CONSTRUCTION.
9. SIDEWALKS ADJACENT TO CURB SHALL BE CONNECTED TO BACK OF CURB USING LONGITUDINAL BUTT JOINT.
10. UNLESS THE PLANS SPECIFICALLY DICTATE OTHERWISE, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE LOCATED OUT OF THE PEDESTRIAN AND AUTOMOBILE ROUTES AND SHALL BE LOCATED BETWEEN THREE TO FIVE FEET BEHIND THE NEAREST BACK OF CURB. SIGN HEIGHT, LOCATION AND STRUCTURE SHALL BE SUCH THAT THE SIGN POSE TO THREAT TO PUBLIC SAFETY. ALSO, ONSITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY AR INTENDED. FIELD ADJUSTMENTS OF LOCATION AND ORIENTATION OF THE SIGNS ARE TO BE MADE TO ACCOMPLISH THIS.
11. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT UNTIL ALL SLEEVING FOR ELECTRIC, GAS, TELEPHONE, CABLE, SITE IRRIGATION OR ANY OTHER UNDERGROUND UTILITY HAS BEEN INSTALLED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONFIRM THAT ALL SLEEVING IS IN PLACE PRIOR TO PLACEMENT OF PERMANENT PAVEMENT.
12. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES, PER A.D.A. AND T.A.S., EXIST TO AND FROM EVERY DOOR. HANDICAP RAMP SLOPES SHALL NOT EXCEED 1 VERTICAL TO 12 HORIZONTAL. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0 PERCENT AND LONGITUDINAL SLOPE 5.0 PERCENT. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A. AND T.A.S. COMPLIANCE ISSUES.
13. STREETS, SIDEWALKS, DRIVEWAYS, AND STORM DRAINAGE FACILITIES IN THE PUBLIC RIGHT-OF WAY SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CITY OF GEORGETOWN INFRASTRUCTURE DESIGN AND DEVELOPMENT STANDARDS MANUAL, LATEST EDITION.
14. FIRE LANES SHALL REMAIN OPEN/ACCESSIBLE AT ALL TIMES DURING CONSTRUCTION. FIRE LANE SHALL BE INSTALLED AND ACCEPTED BY THE CITY PRIOR TO ANY CONSTRUCTION ABOVE THE FOUNDATION.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

GENERAL NOTES - SIDEWALKS

1. SIDEWALKS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE T.A.S. AS ADMINISTERED BY THE TDLR ("TDLR COMPLIANT").

2. SIDEWALKS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UDC. SECTION 12.02.020.

GEOMETRIC AND DESIGN STANDARDS FOR SIDEWALKS

DESIGN AND CONSTRUCTION OF SIDEWALKS SHALL OCCUR IN COMPLIANCE WITH THE FOLLOWING STANDARDS:

A. IN ORDER TO PROVIDE SAFE AND ADEQUATE ACCESS ON CITY SIDEWALKS. ALL SIDEWALKS SHALL MEET MINIMUM CLEAR WIDTH REQUIREMENTS AROUND ALL OBSTRUCTIONS, NATURAL OR MANMADE, AS DESCRIBED HEREIN. CLEAR WIDTH SHALL MEAN THE DISTANCE AS MEASURED FROM THE OUTSIDE EDGE OF THE OBSTRUCTION TO THE OUTSIDE EDGE OF THE SIDEWALK OR FROM THE INSIDE EDGE OF THE OBSTRUCTION TO THE INSIDE EDGE OF THE SIDEWALK. IF THE CLEAR WIDTH IS TO BE OBTAINED BETWEEN THE INSIDE EDGE OF THE SIDEWALK AND OBSTRUCTION, GIVEN THAT THE SIDEWALK IS PLACED AGAINST THE BACK OF CURB, THE CLEAR WIDTH SHALL BE A MINIMUM OF FIVE FEET. IN ALL OTHER CASES, THE MINIMUM CLEAR WIDTH SHALL BE FOUR FEET.

B. ALL SIDEWALKS SHALL MEET CITY STANDARDS AND SPECIFICATIONS. SIDEWALKS MAY BE PLACED SO THAT THEY VARY THE DISTANCE FROM BACK OF CURB, PROVIDED THAT THE MINIMUM IMDTH AND DISTANCE FROM BACK OF CURB IS NOT REDUCED.

C. GIVEN THAT A COMBINATION OR VARIATION FROM THE TWO PLACEMENT METHODS IS NECESSARY OR DESIRED OR THAT AN OBSTRUCTION IS LOCATED WITHIN THE PAVED AREA. THE FOLLOWING CRITERIA

SHALL BE SATISFIED
1. ALL RADII IN THE TRANSITION SECTION SHALL BE A MINIMUM OF TEN FEET.

BENCHMARK AND SCALE FACTOR INFORMATION

SURVEYOR'S NOTES:
1. THE SITE BENCHMARK IS A MAG NAIL WITH A METAL WASHER STAMPED "JPH
LAND SURVEYING" SET IN A CONCRETE DRAINAGE HEADWALL IN THE EAST MARGIN OF F.M. 1460, APPROXIMATELY 200 FEET NORTHWESTERLY FROM THE INTERSECTION OF F.M. 1460 AND WESTINGHOUSE ROAD. BENCHMARK ELEVATION = 846.53' (NAVD'88). SEE VICINITY MAP FOR GENERAL LOCATION.

2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. COMPLETE COPIES OF THE RECORD DESCRIPTION OF THE PROPERTY, ANY RECORD EASEMENTS BENEFITING THE PROPERTY, THE RECORD EASEMENTS OR SERVITUDES AND COVENANTS AFFECTING THE PROPERTY ("RECORD DOCUMENTS"), DOCUMENTS OF RECORD REFERRED TO IN THE RECORD DOCUMENTS, AND ANY OTHER DOCUMENTS CONTAINING DESIRED APPROPRIATE INFORMATION AFFECTING THE PROPERTY BEING SURVEYED AND TO WHICH THE SURVEY SHALL MAKE REFERENCE WERE NOT PROVIDED TO THIS SURVEYOR FOR NOTATION ON THE SURVEY. THEREFORE, EASEMENTS, AGREEMENTS, OR OTHER DOCUMENTS, EITHER RECORDED, OR UNRECORDED MAY EXIST THAT AFFECT THE SUBJECT PROPERTY THAT ARE NOT SHOWN ON THIS SURVEY.

3. THE SITE SURFACE IS NATURAL GROUND/DIRT, UNLESS NOTED OTHERWISE.

4. SUBJECT PROPERTY'S RECORD DESCRIPTION'S ERROR OF CLOSURE, 0.0006'.

5. THE FIELD WORK WAS COMPLETED ON APRIL 8, 2020.

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

GENERAL NOTES (1 OF 2)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 2 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S GEN CVR.dwg-GENERAL NOTES (1 OF 2) Plotted Aug 24, 2023 at 8:47am by Scott | Last Saved by: Scott

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than

when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
   - the dates when major grading activities occur;
   - the dates when construction activities temporarily or permanently cease on a portion of the site; and
   - the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

   A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

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

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

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.

8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet __ of __.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

    If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals).

    The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet __ of __ and marked after backfilling as shown in the detail on Plan Sheet __ of __.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
    (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
    (1) *Low Pressure Air Test.*
    (A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
    (B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
    (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
    (ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3 $$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches
L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
(2) *Infiltration/Exfiltration Test.*
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.
(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) *Mandrel Sizing.*
(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
(iii) All dimensions must meet the appropriate standard.
(B) *Mandrel Design.*
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) *Method Options.*
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
(a) All manholes must pass a leakage test.
(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
(1) Hydrostatic Testing.
(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
(2) Vacuum Testing.
(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

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

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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GENERAL NOTES (2 OF 2)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 3 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH CVR.dwg-GENERAL NOTES (2 OF 2) Plotted Aug 24, 2023 at 8:47am by Scott | Last Saved by: Scott

HAVINS AIRPORT COMMERCIAL SUBDIVISION

(OFFICIAL PUBLIC RECORDS – DOC. # 2019011029)

CITY OF GEORGETOWN

WILLIAMSON COUNTY, TEXAS

METES AND BOUNDS DESCRIPTION

All that certain tract or parcel of land situated in the City of Georgetown, Williamson County, Texas, being all of Lot 1, Block D of the Havins Airport Commercial Subdivision according to a Map or Plat thereof recorded in Document No. 2019011029 of the Official Public Records of Williamson County, Texas and being more particularly described by metes and bounds as follows to wit:

BEGINNING at a found ½" iron rod on the south Right-of-Way line of Lakeway Drive, on an east line of Lot 1, Block C of Reata East recorded in Volume F, Page 90 of the Plat Records of Williamson County, Texas, for the northwest corner of this tract;

THENCE along the said south Right-of-Way line of Lakeway Drive for the following courses and distances:

N68°13'21"E - 38.41' to a found 3/8" iron rod for an exterior ell corner of this tract;

Along the arc of a curve turning to the right with an arc length of 1018.13', a radius of 1340.00', a chord bearing of S89°37'48"E and a chord length of 993.81' to a found ½" iron rod for an exterior ell corner of this tract;

S67°52'12"E - 200.01' to a found ½" iron rod for an interior ell corner of this tract;

Along the arc of a curve turning to the left with an arc length of 439.98', a radius of 1460.00', a chord bearing of S76°29'46"E and a chord length of 438.31' to a found ½" iron rod at a northwest corner of the residue of a called 16.910 Acre tract conveyed to the City of Georgetown in Volume 2056, Page 194, for the northeast corner of this tract;

THENCE S07°52'34"W - 276.97' along the west line of the said residue of the 16.910 Acre tract to a found ½" iron rod on the north line of Lot 42 of Golden Oaks recorded in Volume B, Page 394 of the said Plat Records of Williamson County, at a southwest corner of the said residue of the 16.910 Acre tract, for the southeast corner of this tract;

THENCE along the north lines of the said Lot 42 and Lots 43, 44 and 45, respectively, of the said Golden Oaks for the following courses and distances:

S69°01'22"W - 90.73' to a found 5/8" iron rod at the northwest corner of the said Lot 42, at the northeast corner of the said Lot 43, for an exterior ell corner of this tract;

S69°07'18"W - 328.52' to a found ½" iron rod at the northwest corner of the said Lot 43, at the northeast corner of the said Lot 44, for an exterior ell corner of this tract;

S69°46'19"W - 459.72' to a found ½" iron rod at the northwest corner of the said Lot 44, at the northeast corner of the said Lot 45, for an exterior ell corner of this tract;

S70°19'22"W - 144.33' to a found 5/8" iron rod at the northwest corner of the said Lot 45, for an interior ell corner of this tract;

THENCE S08°50'11"W - 9.71' along the west line of the said Lot 45 to a found ½" iron rod at the northeast corner of Lot 7 of the said Block C of Reata East, for an exterior ell corner of this tract;

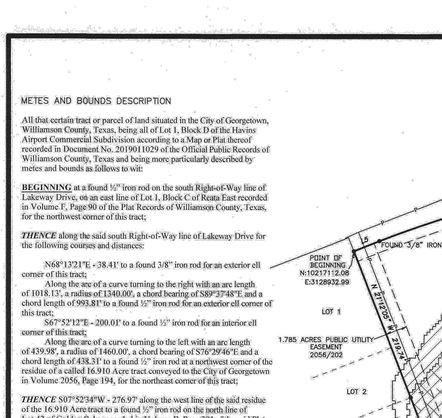
THENCE S71°17'35"W - 306.97' along the north line of the said Lot 7, Block C to a found 3/8" iron rod at the northwest corner of the said Lot 7, at the southeast corner of Lot 4 of the said Block C of Reata East, for the southwest corner of this tract;

THENCE along the east lines of the said Lot 4 and Lots 3, 2 and 1, respectively, of the said Block C of Reata East for the following courses and distances:

N21°12'14"W - 559.85' to a found ½" iron rod for an exterior ell corner of this tract;

N20°56'19"W - 195.45' to a found ½" iron rod at the northeast corner of the said Lot 3, at the southeast corner of the said Lot 2, for an interior ell corner of this tract;

N21°12'05"W - 219.74' to the **POINT OF BEGINNING** containing within these metes and bounds 23.793 Acres of land.



VICINITY MAP
SCALE – 1"=5000'

LINE	BEARING	DISTANCE
L1	S 67°52'12" E	74.54'
L2	S 67°52'12" E	125.47'
L3	S 69°01'22" W	90.73'
L4	S 08°50'11" W	9.71'
L5	N 68°13'21" E	38.41'
L6	S 70°19'22" W	59.69'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1340.00'	993.81'	971.04'	N 68°08'05" W	19°29'49"
C2	1460.00'	439.98'	438.31'	S 76°29'46" E	17°15'59"
C3	1340.00'	639.78'	633.80'	N 82°07'58" E	27°21'20"

LEGEND

● – 1/2" IRON ROD FOUND UNLESS OTHERWISE NOTED

○ – 1/2" IRON ROD SET WITH RED CAP MARKED "TRIAD SURVEYING RPLS 5952"

SHEET 1 OF 2

TRIAD SURVEYING

SURVEYING, INC. FIRM REGISTRATION NO. 10007900

528 COUNTY ROAD 325 P.O. BOX 1489 ROCKDALE, TX. 76567

REPLAT OF LOT 1, BLOCK D
HAVINS AIRPORT COMMERCIAL SUBDIVISION
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

Completion Date:	8/9/23	Drawn by:	BL
Scale:	1"=100'	Surveyed by:	BL/LR
PROJECT NO.	S21-050	Checked by:	BL

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

FINAL PLAT
(1 OF 2)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 4 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH CVR.dwg-FINAL PLAT (1 OF 2) Plotted Aug 24, 2023 at 8:47am by Scott | Last Saved by: Scott

REPLAT OF LOT 1, BLOCK D
HAVINS AIRPORT COMMERCIAL SUBDIVISION

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, ROY S. JONES, MANAGER OF JONES FAMILY INVESTMENTS, LLC, SOLE OWNER OF THE CERTAIN LOT 1, BLOCK D OF THE HAVINS AIRPORT COMMERCIAL SUBDIVISION AND DESCRIBED IN A DEED RECORDED IN DOCUMENT NO. 2021094960 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CERTIFY THERE ARE NO EASEMENT HOLDERS EXCEPT AS SHOWN HEREON; DO HEREBY RESUBDIVIDE SAID TRACT AS SHOWN HEREON; DO HEREBY COVENANT TO ALL RESTRICTIONS LISTED HEREIN, WHICH SHALL RUN WITH THE LAND, AND DO HEREBY DEDICATE TO THE CITY OF GEORGETOWN THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF GEORGETOWN MAY DEEM APPROPRIATE. I HEREBY BIND MY HEIRS, SUCCESSORS, AND ASSIGNS TO WARRANT AND FOREVER DEFEND SUCH DEDICATIONS, ALL AND SINGULAR, TO THE CITY OF GEORGETOWN AGAINST EVERY PERSON WHOMSOEVER CLAIMING OR TO CLAIM THE SAME OR ANY PART THEREOF. THIS SUBDIVISION IS TO BE KNOWN AS REPLAT OF LOT 1, BLOCK D HAVINS AIRPORT COMMERCIAL SUBDIVISION.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 20_____.

_____
ROY S. JONES
FOR JONES FAMILY INVESTMENTS, LLC
4819 WILLIAMS DR.
GEORGETOWN, TX 78633

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED ROY S. JONES, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 20_____.

_____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES ON: _____

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, _____ FOR INDEPENDENT BANK, LIEN HOLDER OF THE CERTAIN LOT 1, BLOCK D OF THE HAVINS AIRPORT COMMERCIAL SUBDIVISION SHOWN HEREON AND DESCRIBED IN A DEED RECORDED IN DOCUMENT NO. 2021094960 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CONSENT TO THE RESUBDIVISION OF SAID TRACT AS SHOWN HEREON; DO FURTHER HEREBY JOIN, APPROVE AND COVENANT TO ALL RESTRICTIONS LISTED HEREIN; AND DO HEREBY DEDICATE TO THE CITY OF GEORGETOWN THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF GEORGETOWN MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS REPLAT OF LOT 1, BLOCK D HAVINS AIRPORT COMMERCIAL SUBDIVISION.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS _____ DAY OF _____, 20_____.

_____
INDEPENDENT BANK
1503 RIVERY BLVD
GEORGETOWN, TX 78628

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED _____, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 20_____.

_____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES ON: _____

I, NICHOLAS SANDLIN, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SUBDIVISION IS IN THE EDWARDS AQUIFER RECHARGE ZONE AND IS ENCROACHED BY A ZONE A FLOOD AREA, AS DENOTED HEREIN, AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48066B0291F, EFFECTIVE DATE DECEMBER 20, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF GEORGETOWN REGULATIONS.

THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENTS SHOWN AND/OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TRAVIS COUNTY, TEXAS, THIS _____ DAY OF _____, 20_____.

_____
NICHOLAS SANDLIN
REGISTERED PROFESSIONAL ENGINEER NO. 124404
STATE OF TEXAS

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF MILAM §

I, BRADLEY L. LIPSCOMB, REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE FROM AN ACTUAL SURVEY MADE ON THE GROUND OF THE PROPERTY LEGALLY DESCRIBED HEREON, AND THAT THERE ARE NO APPARENT DISCREPANCIES, CONFLICTS, OVERLAPPING OF IMPROVEMENTS, VISIBLE UTILITY LINES OR ROADS IN PLACE, EXCEPT AS SHOWN ON THE ACCOMPANYING PLAT, AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY SUPERVISION IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF GEORGETOWN, TEXAS.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT ROCKDALE, MILAM COUNTY, TEXAS, THIS 23rd DAY OF August, 20 23.

_____
BRADLEY L. LIPSCOMB
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5952
STATE OF TEXAS

STATE OF TEXAS · BRADLEY L. LIPSCOMB · 5952 · REGISTERED · LAND SURVEYOR

I, SOFIA NELSON, PLANNING DIRECTOR OF THE CITY OF GEORGETOWN, TEXAS, DO HEREBY CERTIFY THIS PLAT IS APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS.

_____ _____
SOFIA NELSON, PLANNING DIRECTOR DATE

THIS SUBDIVISION TO BE KNOWN AS REPLAT OF LOT 1, BLOCK D HAVINS AIRPORT COMMERCIAL SUBDIVISION HAS BEEN ACCEPTED AND APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS, ACCORDING TO THE MINUTES OF THE MEETING OF THE GEORGETOWN PLANNING AND ZONING COMMISSION ON THE _____ DAY OF _____, 20____, A.D.

_____ _____
TRAVIS PERTHUIS, CHAIRMAN DATE

_____ _____
STEVE DICKEY, SECRETARY DATE

BASED UPON THE ABOVE REPRESENTATIONS OF THE ENGINEER OR SURVEYOR WHOSE SEAL IS AFFIXED HERETO, AND AFTER A REVIEW OF THE PLAT AS REPRESENTED BY THE SAID ENGINEER OR SURVEYOR, I FIND THAT THIS PLAT COMPLIES WITH THE REQUIREMENTS OF CHAPTER 15.44, FLOOD DAMAGE PREVENTION, OF THE GEORGETOWN MUNICIPAL CODE. THIS CERTIFICATION IS MADE SOLELY UPON SUCH REPRESENTATIONS AND SHOULD NOT BE RELIED UPON FOR VERIFICATIONS OF THE FACTS ALLEGED. THE CITY OF GEORGETOWN DISCLAIMS ANY RESPONSIBILITY TO ANY MEMBER OF THE PUBLIC OR INDEPENDENT VERIFICATIONS OF THE REPRESENTATION, FACTUAL OR OTHERWISE, CONTAINED IN THIS PLAT AND THE DOCUMENTS ASSOCIATED WITH IT.

_____ _____
GLEN HOLCOMB, BUILDING OFFICIAL DATE
CITY OF GEORGETOWN

NOTES:

1) THE MONUMENTS OF THIS PLAT HAVE BEEN ROTATED TO THE NAD 83/93 HARN – TEXAS CENTRAL ZONE AND NAVD 88. COORDINATES SHOWN HEREON ARE GRID VALUES.

1) UTILITY PROVIDERS FOR THIS DEVELOPMENT ARE WATER: CITY OF GEORGETOWN, WASTEWATER: CITY OF GEORGETOWN, AND ELECTRIC: PEDERNALES ELECTRIC COOPERATIVE, INC.

2) ALL STRUCTURES/OBSTRUCTIONS ARE PROHIBITED IN DRAINAGE EASEMENTS,

3) THERE ARE AREAS WITHIN THE BOUNDARIES OF THIS SUBDIVISION IN THE 100-YEAR FLOODPLAIN AS DEFINED BY FIRM MAP NUMBER 48066B0291F, EFFECTIVE DATE DECEMBER 20, 2019. THESE AREAS ARE LISTED BELOW:
- 1.2 ACRES WITHIN ZONE "A" FLOOD HAZARD AREA
- 4.9 ACRES WITHIN ZONE "AE" FLOOD HAZARD AREA
- 1.4 ACRES WITHIN ZONE "AE – FLOODWAY" FLOOD HAZARD AREA

4) IN ORDER TO PROMOTE DRAINAGE AWAY FROM A STRUCTURE, THE SLAB ELEVATION SHOULD BE BUILT AT LEAST ONE-FOOT ABOVE THE SURROUNDING GROUND, AND THE GROUND SHOULD BE GRADED AWAY FROM THE STRUCTURE AT A SLOPE OF 1/2" PER FOOT FOR A DISTANCE OF AT LEAST 10 FEET.

NOTES (CONTINUED)

5) ALL SEDIMENTATION, FILTRATION, DETENTION, AND/OR RETENTION BASINS AND RELATED APPURTENANCES SHOWN SHALL BE SITUATED WITHIN A DRAINAGE EASEMENT OR DRAINAGE LOT. THE OWNERS, HOA, OR ASSIGNEES OF THE TRACTS UPON WHICH ARE LOCATED SUCH EASEMENTS, APPURTENANCES, AND DETENTION FACILITIES SHALL MAINTAIN SAME AND BE RESPONSIBLE FOR THEIR MAINTENANCE, ROUTINE INSPECTION, AND UPKEEP.

6) THE MONUMENTS OF THIS PLAT HAVE BEEN ROTATED TO THE NAD 83/93 HARN – TEXAS CENTRAL ZONE AND NAVD 88.

7) THE MAXIMUM IMPERVIOUS COVERAGE PER NON-RESIDENTIAL LOT SHALL BE PURSUANT TO THE UDC AT THE TIME OF SITE PLAN APPLICATION BASED ON THE ZONING DESIGNATION OF THE PROPERTY.

8) THIS SUBDIVISION IS SUBJECT TO ALL GENERAL NOTES AND RESTRICTIONS APPEARING ON THE PLAT OF HAVINS AIRPORT COMMERCIAL SUBDIVISION, RECORDED IN DOCUMENT NO. 2019011029 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

9) THE LANDOWNER ASSUMES ALL RISKS ASSOCIATED WITH IMPROVEMENTS LOCATED IN THE RIGHT-OF-WAY, OR ROAD WIDENING EASEMENTS. BY PLACING ANYTHING IN THE RIGHT-OF-WAY OR ROAD WIDENING EASEMENTS, THE LANDOWNER INDEMNIFIES AND HOLDS THE CITY OF GEORGETOWN, WILLIAMSON COUNTY, THEIR OFFICERS, AGENTS AND EMPLOYEES HARMLESS FROM ANY LIABILITY OWING TO PROPERTY DEFECTS OR NEGLIGENCE NOT ATTRIBUTABLE TO THEM AND ACKNOWLEDGES THAT THE IMPROVEMENTS MAY BE REMOVED BY THE CITY AND/OR COUNTY AND THAT THE OWNER OF THE IMPROVEMENTS WILL BE RESPONSIBLE FOR THE RELOCATION AND/OR REPLACEMENT OF THE IMPROVEMENTS.

10) THE BUILDING OF ALL STREETS, ROADS, AND OTHER PUBLIC THOROUGHFARES AND ANY BRIDGES OR CULVERTS NECESSARY TO BE CONSTRUCTED OR PLACED IS THE RESPONSIBILITY OF THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE CITY OF GEORGETOWN AND/OR WILLIAMSON COUNTY, TEXAS. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY OBLIGATION TO BUILD ANY OF THE STREETS, ROADS, OR OTHER PUBLIC THOROUGHFARES SHOWN ON THIS PLAT OR OF CONSTRUCTING ANY OF THE BRIDGES OR DRAINAGE IMPROVEMENTS IN CONNECTION THEREWITH. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY RESPONSIBILITY FOR DRAINAGE WAYS OR EASEMENTS IN THE SUBDIVISION, OTHER THAN THOSE DRAINING OR PROTECTING THE ROAD SYSTEM AND STREETS IN THEIR RESPECTIVE JURISDICTIONS.

11) NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOODPLAIN DATA, IN PARTICULAR, MAY CHANGE DEPENDING ON SUBSEQUENT DEVELOPMENT. IT IS FURTHER UNDERSTOOD THAT THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT MUST INSTALL AT THEIR OWN EXPENSE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE THAT MAY BE REQUIRED BEFORE THE STREETS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE CITY AND / OR COUNTY.

12) RIGHT-OF-WAY EASEMENTS FOR WIDENING ROADWAYS OR IMPROVING DRAINAGE SHALL BE MAINTAINED BY THE LANDOWNER UNTIL ROAD OR DRAINAGE IMPROVEMENTS ARE ACTUALLY CONSTRUCTED ON THE PROPERTY. THE CITY AND/OR COUNTY HAVE THE RIGHT AT ANY TIME TO TAKE POSSESSION OF ANY ROAD WIDENING EASEMENT FOR CONSTRUCTION, IMPROVEMENT, OR MAINTENANCE OF THE ADJACENT ROAD.

13) THIS PLAT IS SUBJECT TO THE PROVISIONS OF THE CITY OF GEORGETOWN WATER CONSERVATION ORDINANCE.

14) THE SUBDIVISION SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.

15) A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON JULY 11, 2022. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

16) THE SURVEY OF THIS SITE WAS PREPARED WITH THE BENEFIT OF A TITLE COMMITMENT ISSUED BY STEWART TITLE GUARANTY COMPANY (G.F. NO. 21-564058-BC) DATED MARCH 2, 2021. THE FOLLOWING EASEMENTS LISTED WITHIN SCHEDULE B ARE ADDRESSED AS FOLLOWS:

G. MATTERS ADDRESSED ON THE MAP OR PLAT OF SUBDIVISION RECORDED IN DOC. # 2019011029:

FIFTEEN FOOT PUBLIC UTILITY EASEMENT – APPLIES AS SHOWN
TRANSITION ZONE EASEMENT – APPLIES AS A BLANKET EASEMENT
HORIZONTAL ZONE EASEMENT – APPLIES AS A BLANKET EASEMENT
CONICAL ZONE EASEMENT – APPLIES AS A BLANKET EASEMENT

H. SOUTH-WESTERN STATES TELEPHONE COMPANY 486/188 – DOES NOT APPLY TO THIS TRACT

I. CITY OF GEORGETOWN DOC. # 2019003500 – DOES NOT APPLY TO THIS TRACT

J. CITY OF GEORGETOWN DOC. # 2056/202 – APPLIES AS SHOWN

K. CITY OF GEORGETOWN DOC. # 2006014727 – APPLIES AS SHOWN

17) THERE IS HEREBY GRANTED FOR THE USE AND BENEFIT OF THE PUBLIC A CONTINUING AVIGATION EASEMENT FOR THE FREE AND UNOBSTRUCTED FLIGHT OF AIRCRAFT (WHICH TERM SHALL INCLUDE ANY CONTRIVANCE NOW OR HEREAFTER USED FOR FLIGHT THROUGH THE AIR) AND THE RIGHT OF FLIGHT FOR THE PASSAGE OF AIRCRAFT IN THE AIR SPACE ABOVE THE SURFACE OF THE PROPERTY, TOGETHER WITH SUCH NOISE AND OTHER EFFECTS AS MAY BE INHERENT IN THE OPERATION OF AIRCRAFT LANDING AT, TAKING OFF FROM, OR ENGAGED IN OTHER FLIGHT ACTIVITIES AT THE GEORGETOWN MUNICIPAL AIRPORT.

18) GRANTORS DO HEREBY GRANT AND CONVEY AND EASEMENT FOR THE TRANSITION ZONE, AT THAT TERM IS DEFINED IN SECTION 12.36 OF THE CITY OF GEORGETOWN CODE OF ORDINANCES AND AS SHOWN ON THIS PLAT, BEING FURTHER DESCRIBED AS THE REPLAT OF LOT 1, BLOCK D HAVINS AIRPORT COMMERCIAL SUBDIVISION.

19) EACH LOT SHALL BE REQUIRED TO PROVIDE A TRAFFIC IMPACT ANALYSIS (TIA) AT THE TIME OF SITE DEVELOPMENT. THE TRAFFIC IMPACT ANALYSIS WILL BE LIMITED TO ONLY THE SUBDIVISION AND UNLESS OTHERWISE WAIVED BY THE PLANNING DIRECTOR, SHALL BE REQUIRED REGARDLESS OF THE NUMBER OF TRIPS, EXCEPT FOR THE MINIMUM THRESHOLD REQUIREMENTS OF 2,000 AVERAGE DAILY TRIPS (ADT), THE TRAFFIC IMPACT ANALYSIS SHALL MEET THE REQUIREMENTS OF THE UDC.

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, NANCY E. RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____, 20_____ A.D., AT _____ O'CLOCK, _____M., AND DULY RECORDED THIS THE _____ DAY OF _____, 20_____ A.D., AT _____ O'CLOCK, _____M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. _____

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THAT DATE LAST SHOWN ABOVE WRITTEN.

NANCY E. RISTER, CLERK COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY:_____, DEPUTY

STATE OF TEXAS · NICHOLAS R. SANDLIN · 124404 · LICENSED · PROFESSIONAL ENGINEER · 8/23/2023

SHEET 2 OF 2

TRIAD SURVEYING, INC. FIRM REGISTRATION NO. 10007900
528 COUNTY ROAD 325 P.O. BOX 1489 ROCKDALE, TX. 76567

REPLAT OF LOT 1, BLOCK D
HAVINS AIRPORT COMMERCIAL SUBDIVISION
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

Completion Date: 8/9/23		Drawn by:	BL
Scale: N/A		Surveyed by:	LS
PROJECT NO. S21-050		Checked by:	BL

TEXAS 811 BEFORE YOU DIG

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ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

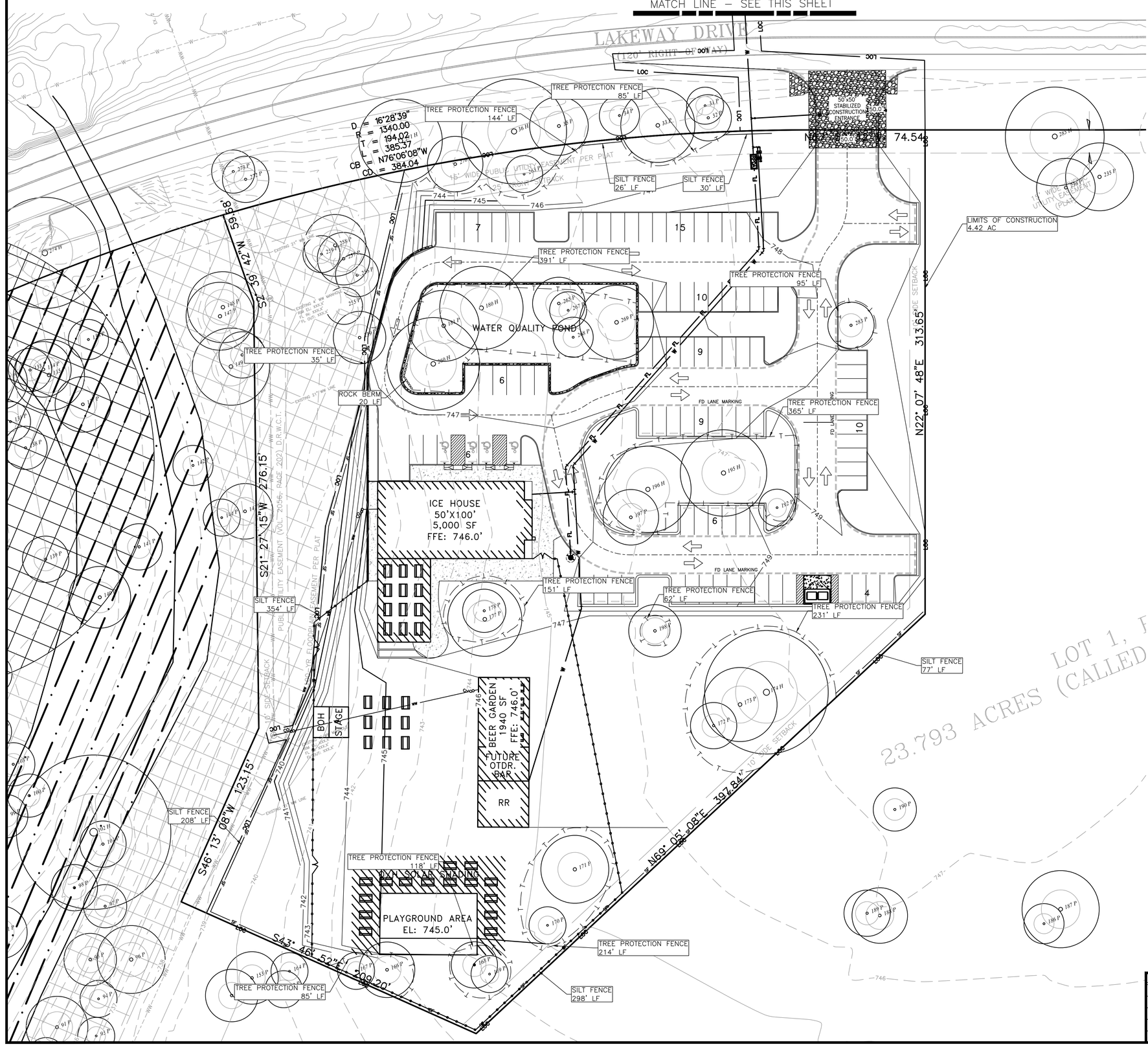
FINAL PLAT
(2 OF 2)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 5 OF 33

PROJECT CASE: XXXXXXX



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

EROSION CONTROL LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- LOC LOC LOC — LIMITS OF CONSTRUCTION
- SF SF SF — SILT FENCE
- T T T — TREE PROTECTION FENCE
- STAGING & TEMPORARY SPOILS AREA
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- FEMA ZONE AE (BFE=739')
- REGULATORY FLOODWAY
- TEMPORARY ROCK BERM
- AREA INLET PROTECTION
- CURB INLET PROTECTION
- 750 EXISTING CONTOURS
- 755 PROPOSED CONTOURS
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

NOTE: ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY INSPECTOR AT TIME OF CONSTRUCTION.

EROSION CONTROL NOTES:

1. LIMITS OF CONSTRUCTION 4.42 AC
2. NO ON-SITE HERITAGE TREES ARE PROPOSED FOR REMOVAL.
3. ALL STAGING & STORAGE SHALL OCCUR WITHIN THE BOUNDARIES OF THE PROPERTY AND LIMITS OF CONSTRUCTION.
4. INSTALL EROSION CONTROLS PER PLAN. WITH THE APPROVAL OF THE ENVIRONMENTAL INSPECTOR, ADJUST AS NEEDED DURING CONSTRUCTION.
5. CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS FROM ALL EXISTING OR NEWLY PAVED SURFACES AT THE END OF CONSTRUCTION.
6. TEMPORARY STAGING & STORAGE AREA/TEMPORARY SPOILS AREA IS TO BE USED DURING NORMAL WORK HOURS (7 A.M. TO 7 P.M.). ONCE CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS FROM AREA AND RESTORE TO ORIGINAL CONDITION OR BETTER.
7. ALL INLETS SHALL HAVE INLET PROTECTION IN PLACE UNTIL THE COMPLETION OF GRADING AND REVEGETATION.
8. IN AREAS WHERE SILT FENCE IS TO BE INSTALLED CROSSING CONTOURS, J-HOOKS SHALL BE ADDED TO THE SILT FENCE EVERY 100 FEET.
9. STABILIZATION OF ALL SLOPES 3:1 OR GREATER, SUITABLE MATTING (TYPE I) WILL BE UTILIZED IN CONJUNCTION WITH REVEGETATIVE EFFORTS ONSITE. CHANNEL STABILIZATION WILL USE TYPE II.
10. FLOODPLAIN TO REMAIN UNDISTURBED AND IS ENCOMPASSED BY FLOODPLAIN EASEMENT DEDICATED BY PLAT.

811 TEXAS ONE-CALL BEFORE YOU DIG
WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

EROSION CONTROL PLAN

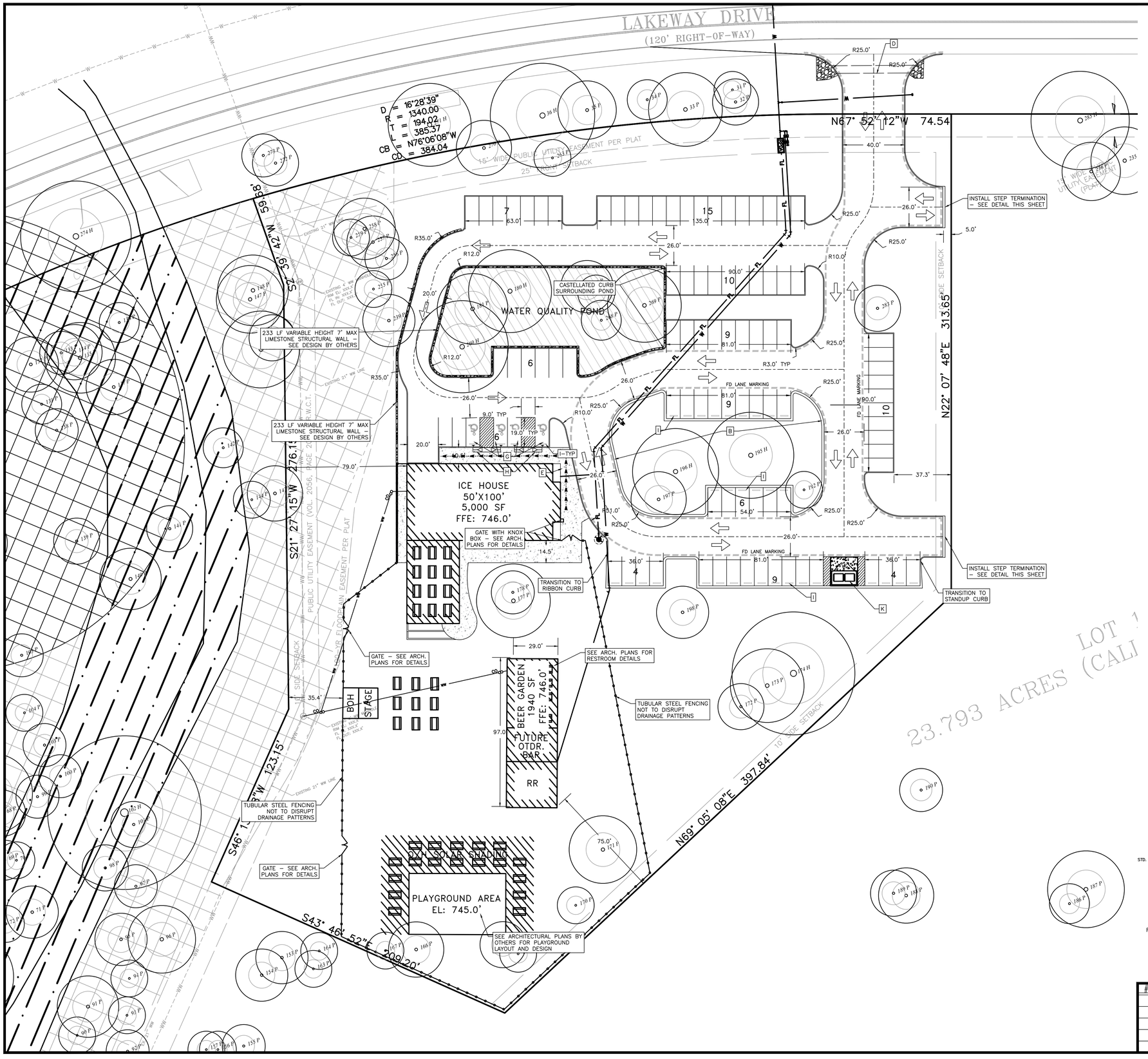
SAN GABRIEL ICE HOUSE

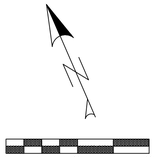
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 8 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH ESC.dwg-EROSION CONTROL PLAN Plotted Aug 24, 2023 at 8:48am by Scott [Last Saved by: Scott





IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

NOTES

1. ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULL SHIELD. WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED. ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
2. ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
3. PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN. THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.
4. ALL PARKING SPACES ARE 19' X 9' UNLESS OTHERWISE SHOWN.
5. ALL CURB IS "SPILL TYPE" UNLESS OTHERWISE NOTED
6. ELECTRIC TRANSFORMERS MUST NOT VISIBLE FROM THE ROW OR ADJACENT PROPERTIES AND ARE REQUIRED TO BE SCREENED UNDER 8.04.070.
7. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE, WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
8. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
9. ALL PAVING SHALL BE PER GEOTECHNICAL RECOMMENDATIONS.
10. MONUMENT SIGNS WILL REQUIRE A SEPARATE PLAN AND PERMIT

CITY OF GEORGETOWN SITE DATA	
	PROPOSED
TOTAL SITE AREA	4.76 AC 207,545 SF
BUILDING GROSS FLOOR AREA	6,940 SF
IMPERVIOUS COVER	1.49 AC 64,939 SF = 31.3%

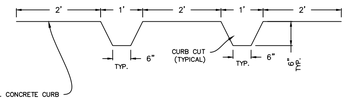
PARKING TABLE	
TOTAL BUILDING AREA	6,940 SF
PARKING RATIO – RESTAURANT	1 SPACE/100 SF + 4 ADDITIONAL SPACES
PARKING RATIO – ENTERTAINMENT	1 SPACE/4 SEATS
PARKING REQUIRED	6940/100 + 4 + 22 = 95 SPACES
PARKING PROVIDED	95 SPACES INCLUDING 4 ADA (2 VAN)

ZONING SETBACKS

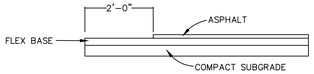
ZONING DISTRICT: C-1

REAR SETBACK (ADJACENT TO RESIDENTIAL USE): 25'
FRONT SETBACK: 25'
SIDE SETBACK: 10'
MAXIMUM BUILDING HEIGHT: 35'

CASTELLATED CURB DETAIL
N.T.S.



END PAVEMENT CONSTRUCTION
STEPPED TERMINATION
N.T.S.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

SITE PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- PROPOSED CURB & GUTTER
- STREET CENTERLINE
- FENCE
- STRUCTURAL RETAINING WALL (BY OTHERS)
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PARKING SPACES (R) / TRANSFORMER PAD (T)
- SITE WALLS
- PHASING
- FEMA ZONE AE (BFE=739')
- REGULATORY FLOODWAY
- TAS ACCESSIBLE ROUTE
  TAS ACCESSIBLE ROUTES MAY NOT EXCEED A CROSS SLOPE OF 1:50 (2%) OR EXCEED A RUNNING SLOPE OF 1:20 (5%) UNLESS DESIGNED AS A RAMP. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12 (8.33%). THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. FIRE LINE
- EX. STORM SEWER LINE / PR. WASTEWATER
- PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED / FLOW ARROW
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER
- EX. UTILITY POLE

SITE LEGEND

- A 6" CURB & GUTTER. SEE DETAIL SHEET.
- B RIBBON CURB. SEE DETAIL SHEET.
- C CASTELLATED CURB. SEE DETAIL SHEET.
- D STANDARD CITY TYPE II DRIVEWAY. SEE DETAIL SHEET
- E CONCRETE SIDEWALK. SEE DETAIL SHEET.
- F PEDESTRIAN CROSSWALK.
- G HANDICAP SPACE W/SIGN. SEE DETAIL SHEET.
- H PEDESTRIAN ADA RAMP OR AT GRADE ADA DOME PAVERS. SEE DETAIL SHEET.
- I CONCRETE WHEEL STOP. SEE DETAIL SHEET.
- J STANDARD CITY BIKE RACK. SEE DETAIL SHEET.
- K DUMPSTER ENCLOSURE WITH CONCRETE PAD PER GEOTECHNICAL REPORT AND CITY STANDARDS

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

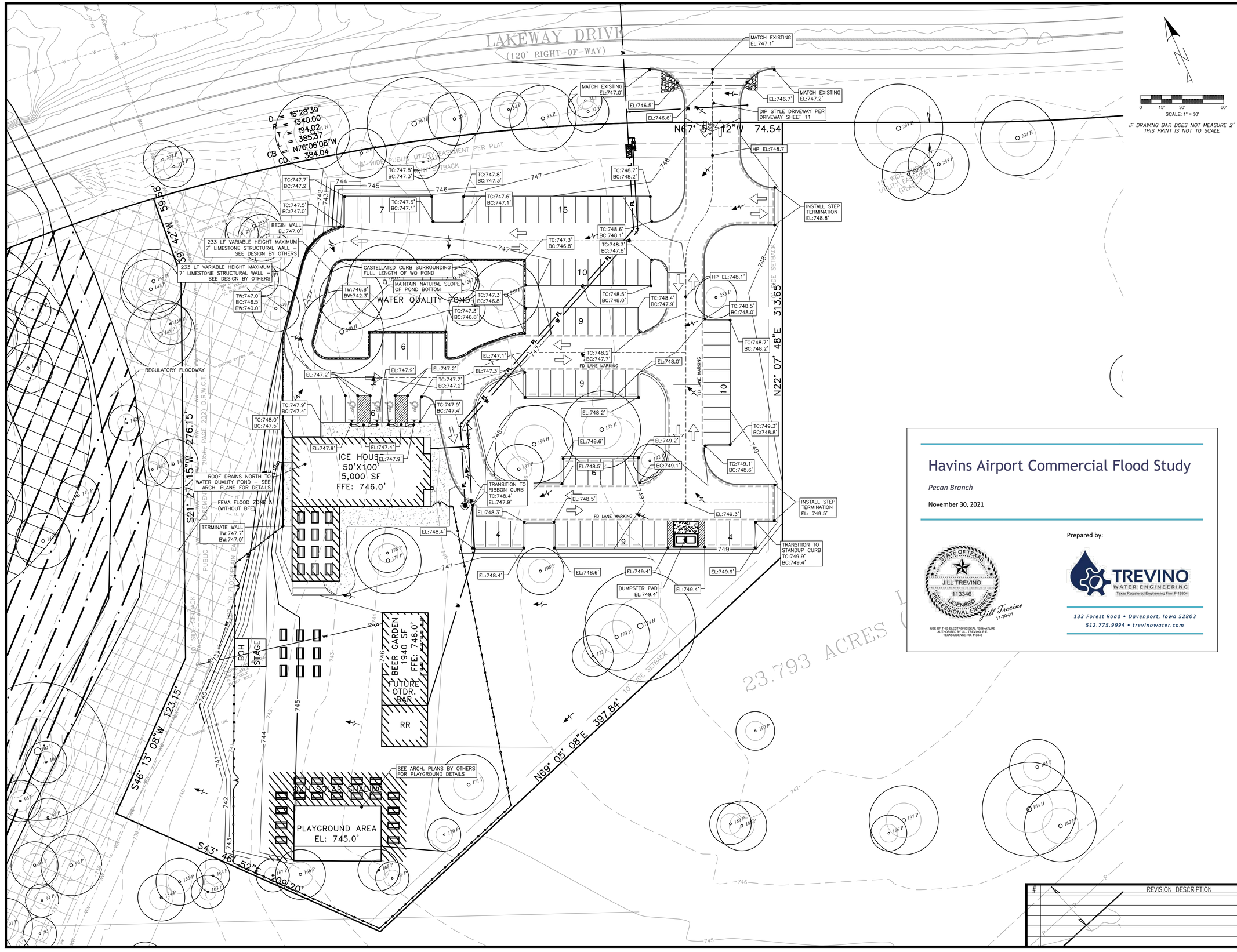
SITE PLAN

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 9 OF 33

PROJECT CASE: XXXXXXX



Havins Airport Commercial Flood Study

Pecan Branch

November 30, 2021

Prepared by:

STATE OF TEXAS
JILL TREVINO
113346
LICENSED
PROFESSIONAL ENGINEER
Jill Trevino
11-30-21

USE OF THIS ELECTRONIC SEAL / SIGNATURE AUTHORIZED BY JILL TREVINO, P.E. TEXAS LICENSE NO. 113346

TREVINO WATER ENGINEERING
Texas Registered Engineering Firm F-18804

133 Forest Road • Davenport, Iowa 52803
512.775.9994 • trevinowater.com

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

GRADING LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- GRADE CONTROL LINE
- PROPOSED CURB & GUTTER
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (755)
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. WASTEWATER
- EX. STORM SEWER LINE / PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FEMA ZONE AE (BFE=739')
- REGULATORY FLOODWAY
- EXISTING TREE (TO REMAIN)
- EL:800.0 EXISTING GROUND ELEVATION
- TC:800.0 BC:800.0 PROPOSED CURB & GUTTER
- HP:800.0 HIGH POINT ELEVATION
- LP:800.0 LOW POINT ELEVATION
- TW:800.0 BW:800.0 PROPOSED TOP AND BOTTOM OF WALL
- FL:800.0 PROPOSED FLOW LINE
- 1.00% PROPOSED SLOPE (SLOPE DOWN)

GRADING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURE WITHIN THE SCOPE OF THIS CONTRACT WHERE NO SPECIFICALLY COVERED IN THE CONSTRUCTION DOCUMENTS SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL CONDITON ANY DAMAGE DONE TO EXISTING IMPROVEMENTS OR UTILITIES.
3. EARTHWORK FOR THE BUILDING FOUNDATION, CONCRETE SLABS AND CONCRETE AND ASPHALT PAVEMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
4. ADJUST PAVEMENT, CURB ELEVATIONS, AND/OR SIDEWALK ELEVATIONS AS NECESSARY TO ENSURE A CONTINUOUS GRADE WITH EXISTING ELEVATIONS.
5. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN ARE ONE FOOT (1').
6. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE FOUR (4) INCHES OF TOPSOIL.
7. REFER TO GEOTECHNICAL REPORT FOR PAVING SECTION RECOMMENDATIONS.

DRAINAGE NOTES

1. SEE ASSOCIATED DRAINAGE REPORT TITLED "HAVINS AIRPORT COMMERCIAL FLOOD STUDY" CONDUCTED 11/30/2023 BY TREVINO WATER ENGINEERING FOR FULL DRAINAGE ANALYSIS. ALL CALCULATIONS CONFORM WITH THE CITY OF GEORGETOWN DCM AND UTILIZE ATLAS 14 RAINFALL DATA.
2. PER THIS PLAN, THE FLOODPLAIN WILL NOT BE ENCROACHED.

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

GRADING AND DRAINAGE PLAN

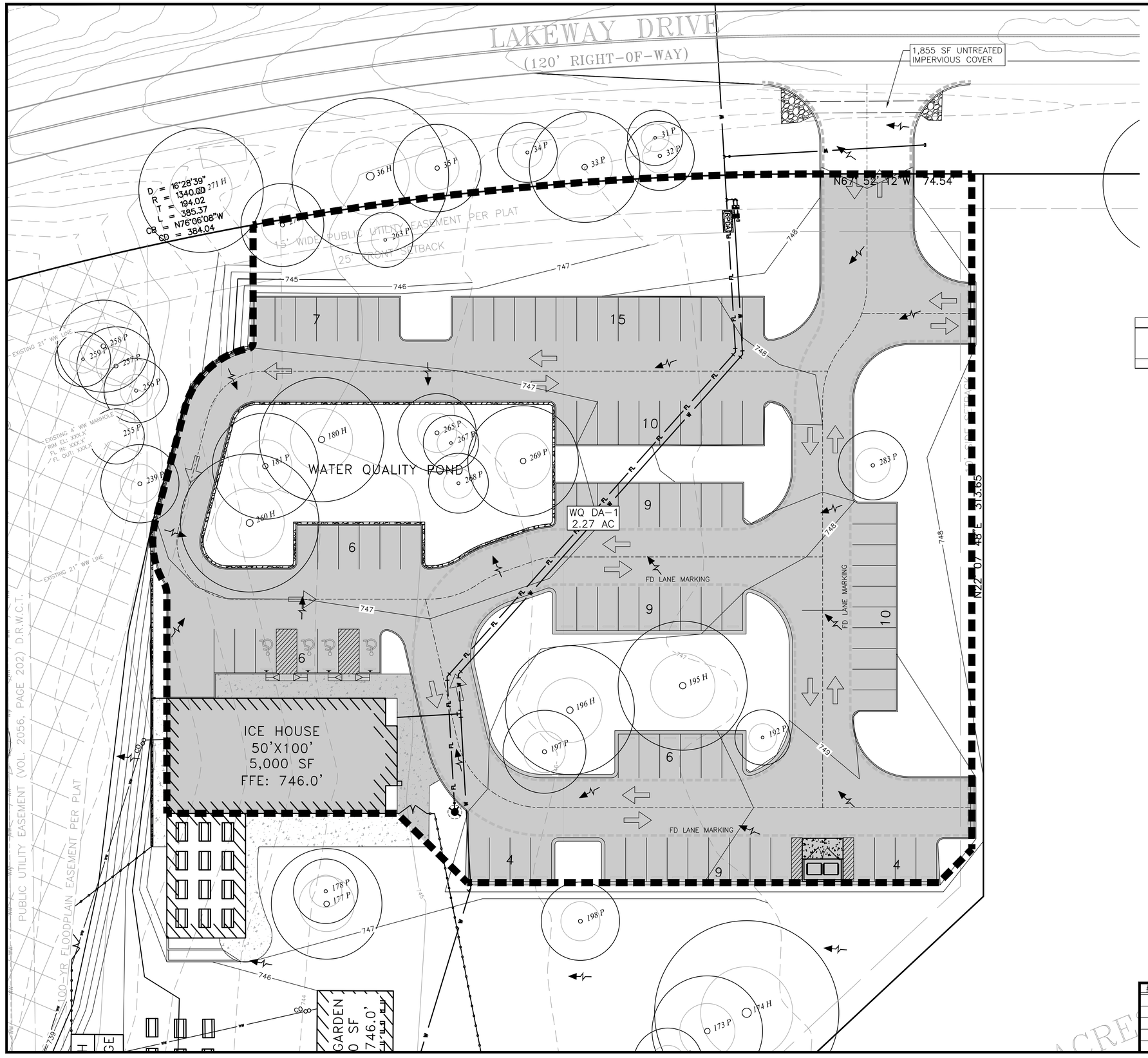
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 12 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH GRD.dwg-GRADING PLAN Plotted Aug 24, 2023 at 8:49am by Scott | Last Saved by: Scott



0 10' 20' 40'

SCALE: 1" = 20'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

EXISTING DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- EX. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (748)

PROPOSED CONDITIONS			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
WQ DA-1	2.27	98,881	56,441	1.30	57.1%	42,440	0.97	42.9%

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SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

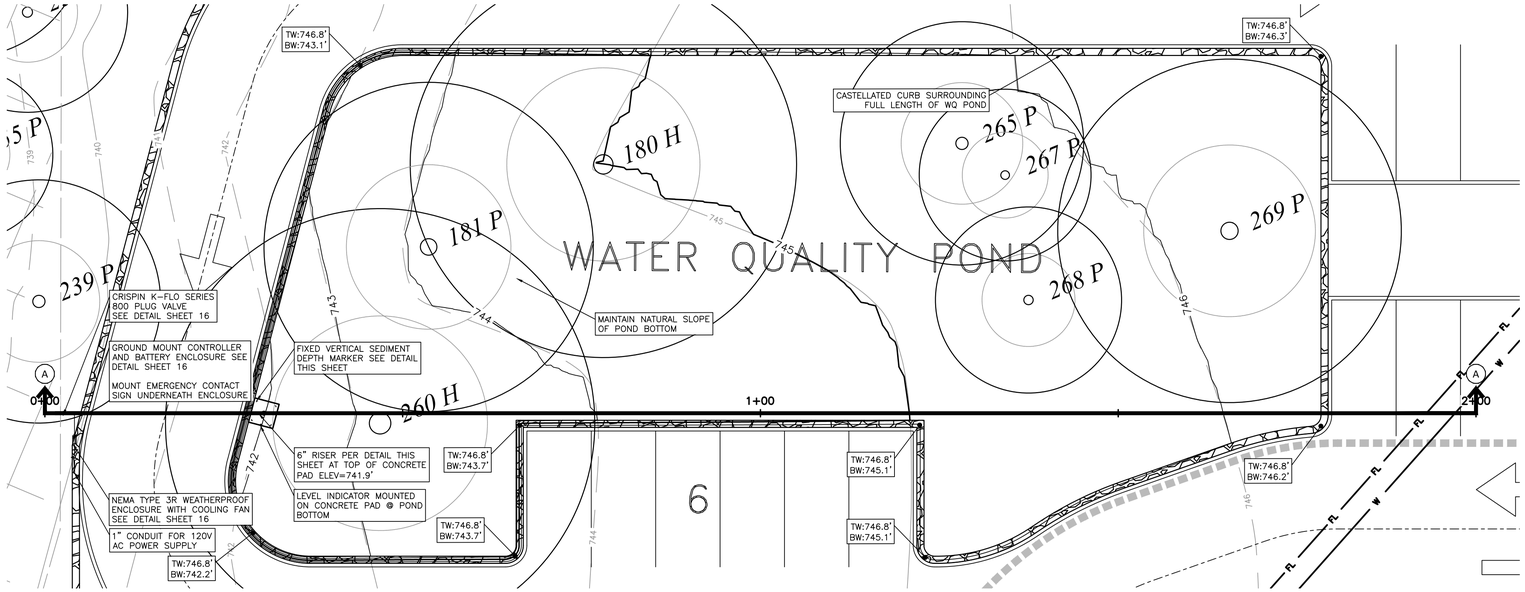
WATER QUALITY DRAINAGE AREA MAP

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

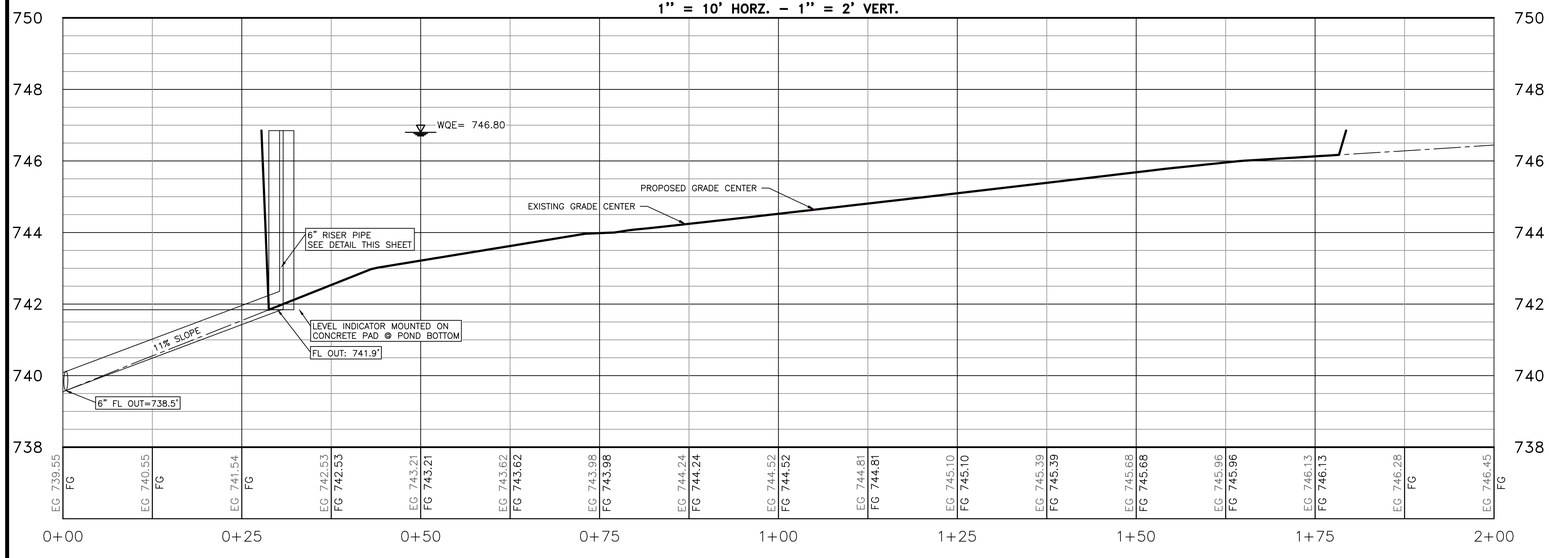
SHEET 13 OF 33

PROJECT CASE: XXXXXXX



POND SECTION A–A PROFILE

1" = 10' HORZ. – 1" = 2' VERT.



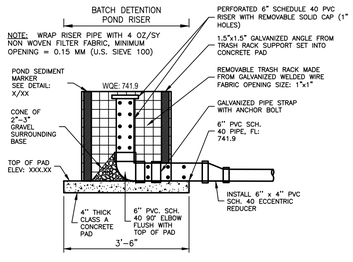
BATCH DETENTION POND		
Contributing Drainage Area =	"WQ DA-1"	
Total Drainage Area =	4.76	acre
Pre-Development I.C. =	0.00	acre
Post-Development I.C. =	1.49	acre
Post-Development I.C. Fraction =	0.31	
$L_{M\ TOTAL\ PROJECT}$ =	1380	lbs
A_C =	**2.27**	acre
A_I =	**1.30**	acre
A_P =	**0.98**	acre
L_R =	**1321**	lbs
Fraction of Annual Runoff (F) =	0.91	
Rainfall Depth =	1.80	inch
Post Development Runoff Coefficient =	0.40	
On-site Water Quality Volume =	5935	cubic ft
Off-site area draining to BMP =	0.00	acre
Off-site Impervious cover draining to BMP =	0.00	acre
Impervious fraction of off-site area =	-	
Off-site Runoff Coefficient =	-	
Off-site Water Quality Volume =	0	cubic ft
Storage for Sediment =	1187	cubic ft
Total Capture Volume Required =	7122	cubic ft
Total Capture Volume Provided =	17228	cubic ft

BATCH DETENTION - DRAWDOWN CALCUALTIONS

Stage (ft amsl)	Storage (cf)	Head (ft)	Relative Volume (cf)	Time To Drain (hr)
741.90	0	2.40	0	0.00
742.00	2	2.50	2	0.00
743.00	260	3.50	258	0.04
744.00	1,494	4.50	1234	0.17
745.00	4,434	5.50	2940	0.36
746.00	10,332	6.50	5898	0.66
746.80	17,228	7.30	12794	1.35
		Complete Drawdown Time		**2.57**
*Elevation of Downstream WSE =		739.5		ft asml
*Orifice Diameter (inches) =		6		in

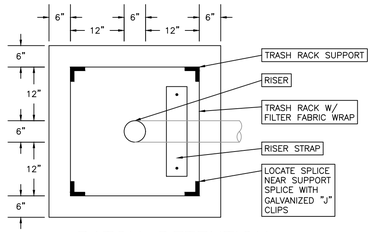
Detention Pond Stage Storage Table

Elevation (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
741.9	10	-	-
742.0	36	2	2
742.1	67	5	7
742.2	104	9	16
742.3	146	12	28
742.4	193	17	45
742.5	243	22	67
742.6	297	27	94
742.7	353	32	127
742.8	411	38	165
742.9	473	44	209
743.0	542	51	260
743.1	662	60	320
743.2	794	73	393
743.3	936	86	479
743.4	1,089	101	580
743.5	1,245	117	697
743.6	1,403	132	830
743.7	1,557	148	978
743.8	1,658	161	1,138
743.9	1,767	171	1,310
744.0	1,924	185	1,494
744.1	2,142	203	1,697
744.2	2,324	223	1,921
744.3	2,505	241	2,162
744.4	2,702	260	2,422
744.5	2,901	280	2,703
744.6	3,115	301	3,003
744.7	3,333	322	3,326
744.8	3,562	345	3,671
744.9	3,803	368	4,039
745.0	4,106	395	4,434
745.1	4,646	438	4,872
745.2	4,984	482	5,353
745.3	5,317	515	5,868
745.4	5,637	548	6,416
745.5	5,944	579	6,995
745.6	6,247	610	7,605
745.7	6,533	639	8,244
745.8	6,818	668	8,911
745.9	7,096	696	9,607
746.0	7,400	725	10,332
746.1	8,026	771	11,103
746.2	8,505	827	11,930
746.3	8,776	864	12,794
746.4	8,821	880	13,674
746.5	8,853	884	14,557
746.6	8,885	887	15,444
746.7	8,918	890	16,334
746.8	8,950	893	17,228



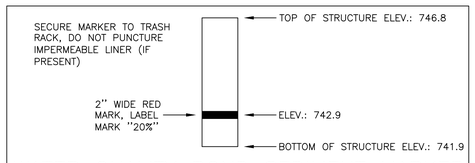
WATER QUALITY RISER PIPE SECTION

N.T.S.



BATCH DETENTION POND RISER PIPE

N.T.S.



WATER QUALITY POND SEDIMENT MARKER

N.T.S.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

POND LEGEND

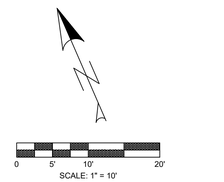
- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- STRUCTURAL RETAINING WALL (BY OTHERS)
- SITE WALLS
- POND FENCE
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE (W)
- PR. WATER LINE (W)
- EX. WASTEWATER (WW)
- PR. WASTEWATER (WW)
- EX. STORM SEWER LINE (STM)
- PR. STORM SEWER LINE (STM)
- EX. FIRE HYDRANT
- PR. FIRE HYDRANT
- EX. WATER METER (WM)
- PR. WATER METER
- EX. WASTEWATER MANHOLE (WW)
- PR. WASTEWATER MANHOLE (WW)
- DETAIL NUMBER (A)
- SECTION A–A (A)
- SECTION LABEL WITH DETAIL CALLOUT REFERENCE WITH BUBBLE

NOTES:

1. POST THE FOLLOWING SIGN UNDER THE VISIBLE ALARM FOR EMERGENCY CONTACT:

   EMERGENCY CONTACT:
   OWNER: 512-943-6106
   TCEQ: 512-339-2929

2. POND BOTTOM SHALL REMAIN NATURAL AND TREES SHALL BE PRESERVED AS SHOWN.



SCALE: 1" = 10'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

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4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

WATER QUALITY POND PLAN

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 14 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH PND.dwg-WATER QUALITY POND PLAN Plotted Aug 24, 2023 at 8:49am by Scott | Last Saved by: Scott

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: San Gabriel Ice House
Date Prepared: 8/2/2023

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: $L_M = 28.93(A_N \times P)$ **<-- Increased to 28.93 per Georgetown standard of 85% removal efficiency**

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Williamson	
Total project area included in plan * =	4.76	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.49	acres
Total post-development impervious cover fraction * =	0.31	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1380	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 "WQ DA-1"

Total drainage basin/outfall area =	2.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.30	acres
Post-development impervious fraction within drainage basin/outfall area =	0.57	
$L_{M\ THIS\ BASIN}$ =	1200	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

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

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

A_C =	2.27	acres
A_I =	1.30	acres
A_P =	0.98	acres
L_R =	1321	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1200 lbs.

F = 0.91

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 =	1.80	inches
Post Development Runoff Coefficient =	0.40	
On-site Water Quality Volume =	5935	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1187	
Total Capture Volume (required water quality volume(s) x 1.20) =	7122	cubic feet

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

TEXAS 811 BEFORE YOU DIG
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4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

WATER QUALITY CALCULATIONS

SAN GABRIEL ICE HOUSE

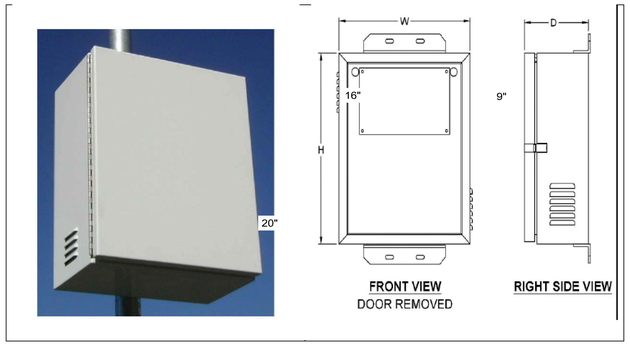
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 15 OF 33

PROJECT CASE: XXXXXXX

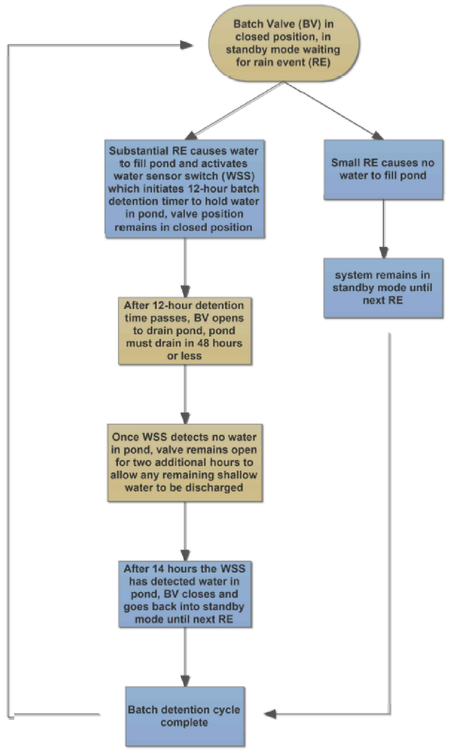
G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SDH PND.dwg-WATER QUALITY CALCULATIONS Plotted Aug 24, 2023 at 8:49am by Scott | Last Saved by: Scott

Ground Mount Controller and Battery Enclosure



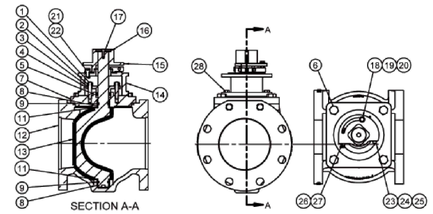
- Standard boxes are fabricated from .125" thick 5052--H32 aluminum
- Heavy--duty stainless steel continuous
- Heavy--duty stainless steel continuous hinge
- Seams are continuously welded and then sanded smooth
- Adjustable tension stainless steel padlock hasp
- Removable component mounting plate
- Standard finish is a bright white polyester powder--coat inside and out
- Two 7/8" diameter wire holes
- Built to NEMA 3R specifications
- Filtered or screened ventilation louvers
- Hinged front door with PORON door gasket
- Supplied with u--bolts (when pole specified)

Batch Valve Programmable Logic Flow Chart



800 SERIES MATERIAL LIST

2.5" to 12", 212F Max Temp., 175 psi Max Press, Bi-Directional



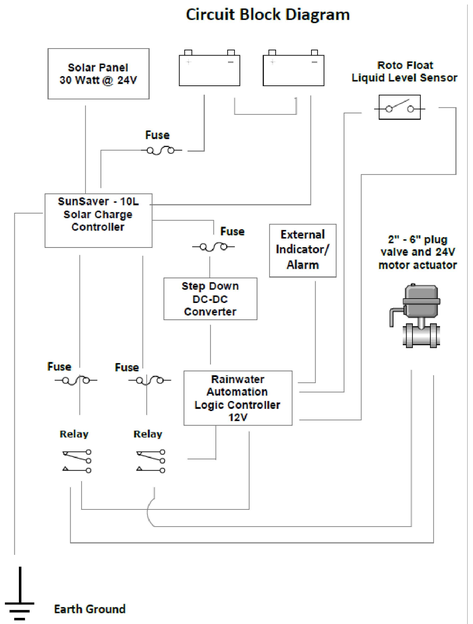
Item	Description	Material	Item	Description	Material
1	Gland Stud	Stainless Steel	15	Torque Collar	A536 GR 65-45-12
2	Hex Nut	Stainless Steel	16	Flat Washer	Q235-A Zinc Plated
3	Flat Washer	Stainless Steel	17	Socket Head Capscrew	Stainless Steel
4	Gland	ASTM A126 CL B	18	Hex Head Capscrew	Stainless Steel
5	V-Ring Set	NBR	19	Hex Nut	Stainless Steel
6	Hex Head Capscrew	Stainless Steel	20	Flat Washer	Stainless Steel
7	Cover	ASTM A126 CL B	21	Socket Head Capscrew	Stainless Steel
8	Bearing	SST, Sintered	22	Lock Washer	Stainless Steel
9	O-Ring	NBR	23	Socket Head Capscrew	Stainless Steel
10	O-Ring	NBR	24	Hex Nut	Stainless Steel
11	Thrust Washer	PTFE	25	Flat Washer	Stainless Steel
12	Body	ASTM A126 CL B	26	Hex Head Capscrew	Stainless Steel
13	Plug Molded	A536 GR 65-45-12 +NBR	27	Hex Nut	Stainless Steel
14	Torque Collar Adapter (Buried)	ASTM A126 CL B	28	Hex Head Capscrew	Stainless Steel

800 SERIES Cv Data (GPM@1PSI)

Size	2.5	3	4	5	6	8	10	12
Cv	425	680	1190	2000	2400	4600	5800	9100

Crispin/K-Flo Valves, 600 Fowler Ave., Berwick PA 18603 T: 800-247-VALV W: www.kflovalves.com

Circuit Block Diagram



PROMATION ENGINEERING
Precision Actuation for Industry

Actuator Specifications	P4		P5		P6	
Torque "lb/Nm	3500"lbs/400Nm		4400"lbs/500Nm		5750"lbs/650Nm	
Supply Voltage	12vac/vdc	24vac/vdc	12vac/vdc	24vac/vdc	12vac/vdc	24vac/vdc
Max Inrush Current	16.1A	9.2A	13.5A	9.0A	12.5A	8.5A
Running Current	16.1A	8.5A	14.1A	7.5A	12.3A	7.0A
Motor	DC Brush Type					
Runtime (90°@60Hz/vdc)	16 sec		22 sec		28 sec	
Runtime (90°@50Hz)	16 sec		22 sec		28 sec	
Duty Cycle	75%					
Motor Starts	1200 per hour					
Weight	47lbs/22kg					
Mechanical Connections	ISO5211 F10 8pt 35mm					
Electrical Entry	(2) 3/4" NPT					
Electrical Terminations	12-16ga					
Environmental Rating	NEMA 4/4X					
Manual Override	7.6" Handwheel					
Control	On/Off-Jog, Proportional					
Actuator Case material	Aluminum Alloy, Powder coated					
Motor Protection	230°F/110°C Thermal F* Class *Totally Enclosed Non-Ventilated Motors					
Ambient Temperature Operating Range	-22°F to +125°F -30°C to +52°C					

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

TEXAS 811 BEFORE YOU DIG
WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

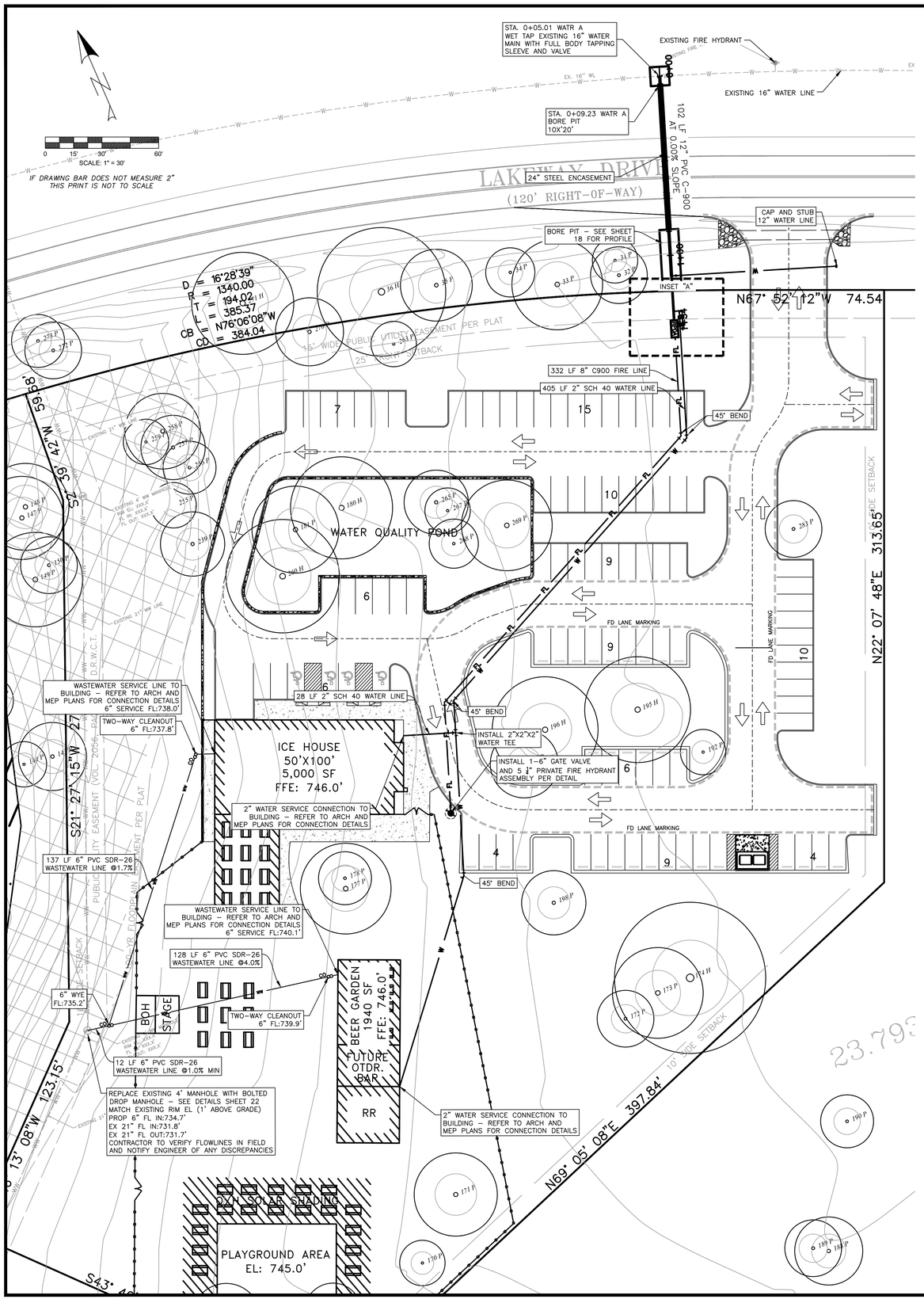
WATER QUALITY DETAILS

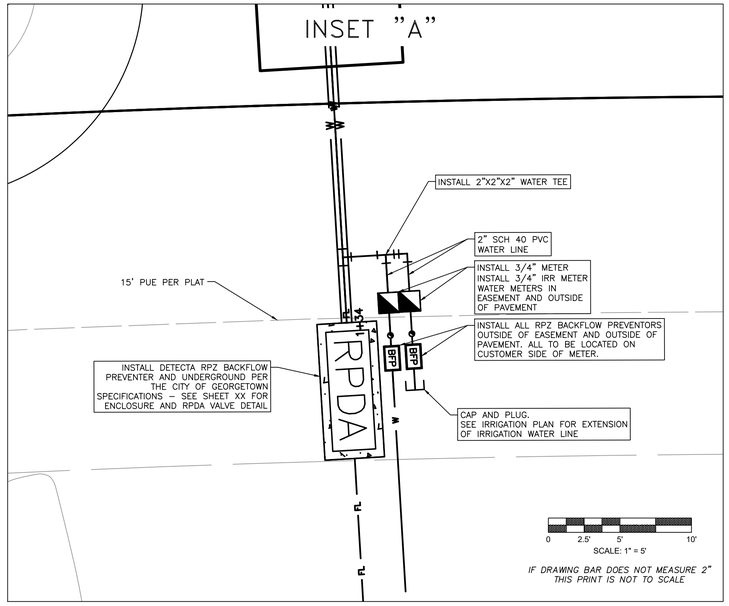
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 16 OF 33

PROJECT CASE: XXXXXXX





NOTES:

1. CLEANOUTS IN SIDEWALK MUST BE FLUSH TO PREVENT TRIPPING HAZARD.
2. SEE BUILDING PLAN FOR CONNECTIONS TO BUILDINGS.
3. DO NOT PLANT TREES OVER CAPS. ALL CAPS TO HAVE 6" PVC STAND PIPES 6" ABOVE PROPOSED GRADE.
4. SEE BUILDING PLAN FOR WATER AND WASTEWATER INTERNAL DESIGN
5. WASTEWATER MANHOLES OUTSIDE OF PAVEMENT, SEE SPECIFIC DETAIL. ALL GRINDER PUMPS ARE PRIVATE AND CONNECT VIA A FORCE MAIN.
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7. ALL WATER LINES AND SERVICE LINES WILL BE INSTALLED WITH TRACER TAPE.
8. NO WATER METERS LOCATED IN SIDEWALK OR DRIVEWAY AREAS.
9. FIRE HYDRANTS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. SEE DETAIL SHEET FOR PLACEMENT OF APPURTENANCES. FIRE HYDRANTS ASSEMBLY CONSISTS OF, BUT NOT LIMITED TO, 514" FIRE HYDRANT, 6" GATE VALVE, 6" D.I. FIRE LEAD.
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12. ALL FILL AREAS SHALL BE COMPACTED TO 95% PRIOR TO UTILITY INSTALLATION. CONTRACTOR TO INSTALL PRESSURE REDUCING VALVES AT EACH BUILDING TO CONTROL PRESSURE TO MAXIMUM 80 PSI PER BUILDING CODE.
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STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

UTILITY LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. WASTEWATER
- EX. STORM SEWER LINE / PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER
- FLOW ARROW
- ELECTRIC TRANSFORMER
- UTILITY POLE
- FIRE LINE
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

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SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

WATER DISTRIBUTION AND WASTEWATER COLLECTION PLAN

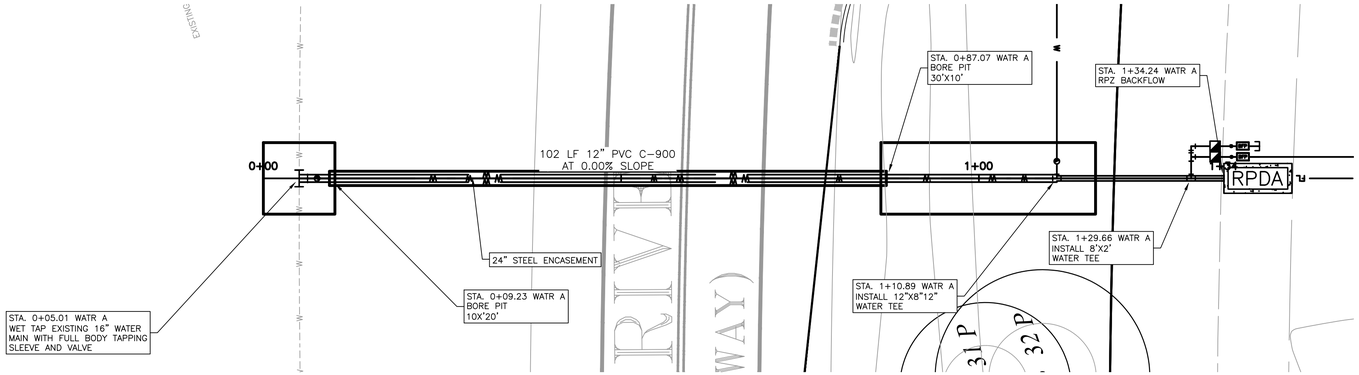
SAN GABRIEL ICE HOUSE

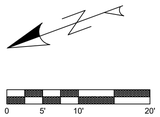
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 17 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SDH WTR.dwg-WATER A (1+00 TO END) Plotted Aug 24, 2023 at 8:50am by Scott | Last Saved by: Scott





IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
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8/23/2023

UTILITY LEGEND

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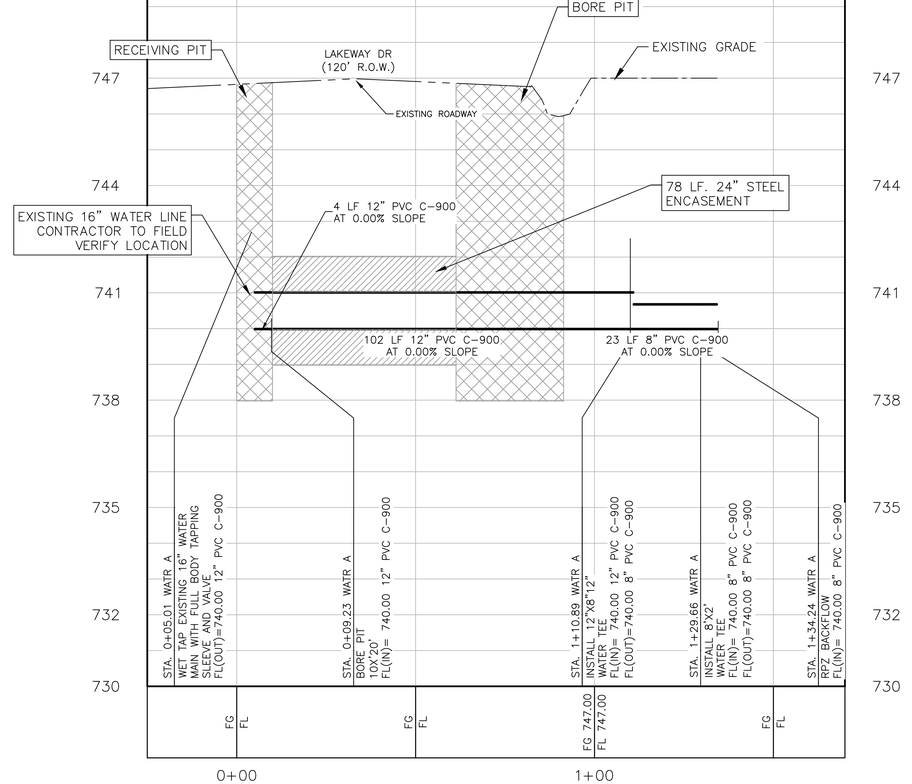
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE (W) / PR. WATER LINE (W)
- EX. WASTEWATER (WW) / PR. WASTEWATER (WW)
- EX. STORM SEWER LINE (STM) / PR. STORM SEWER LINE (STM)
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER (WM) / PR. WATER METER
- EX. WASTEWATER MANHOLE (WW) / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- FLOW ARROW
- GATE VALVE AS NOTED
- ELECTRIC TRANSFORMER (T)
- WW CLEAN OUT
- UTILITY POLE (P)
- BFP BACK FLOW PREVENTER
- FIRE LINE (FL)
- EXISTING TREE (TO REMAIN) (100)
- EXISTING TREE (TO BE REMOVED) (100)

WATR A PROFILE
1" = 30' HORZ. – 1" = 3' VERT.



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TEXAS 811 BEFORE YOU DIG

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4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

WATER A (1+00 TO END)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 18 OF 33

PROJECT CASE: XXXXXXX

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES

DRAWING NAME: EC01 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% *COVERAGE,* PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

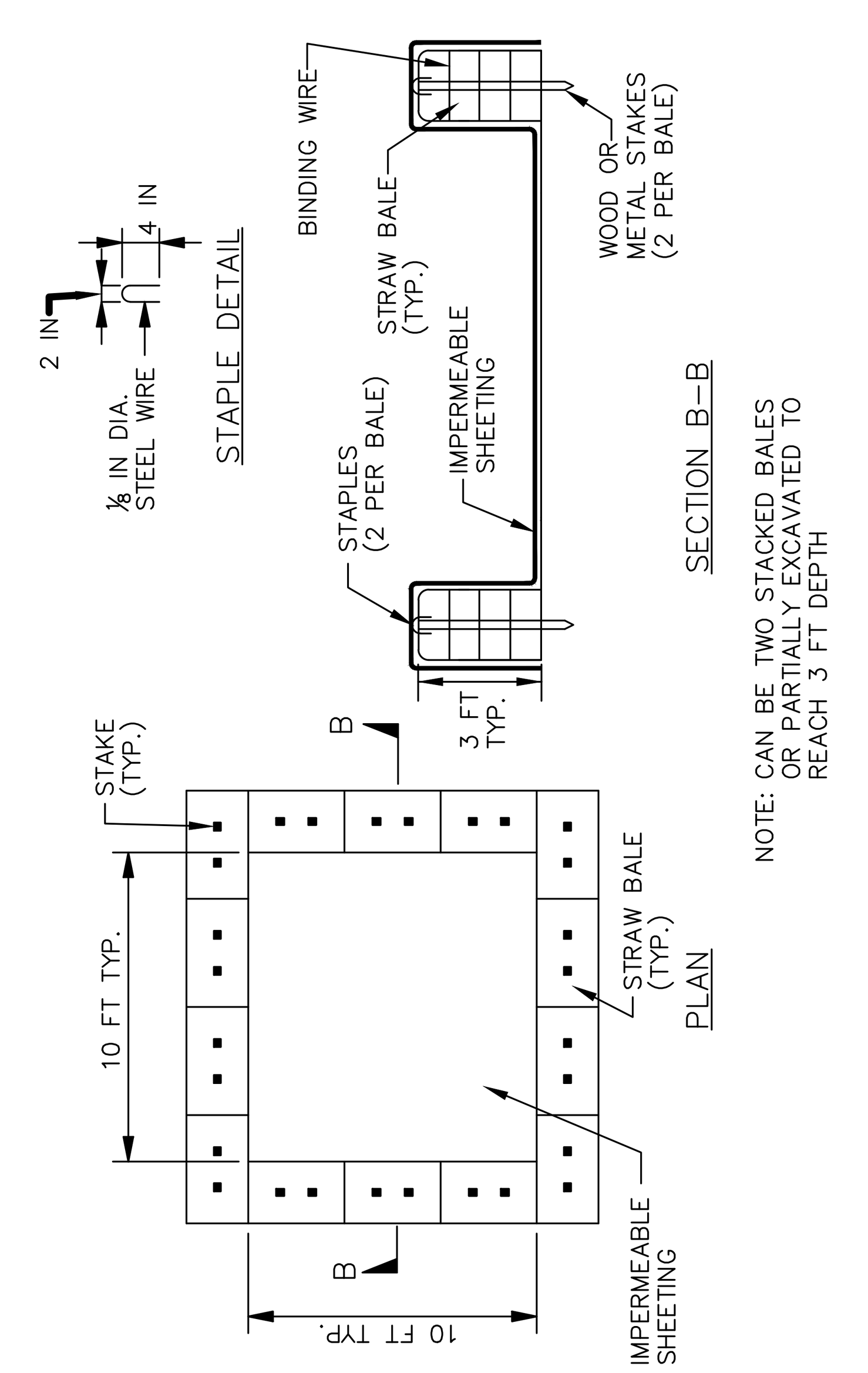
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES

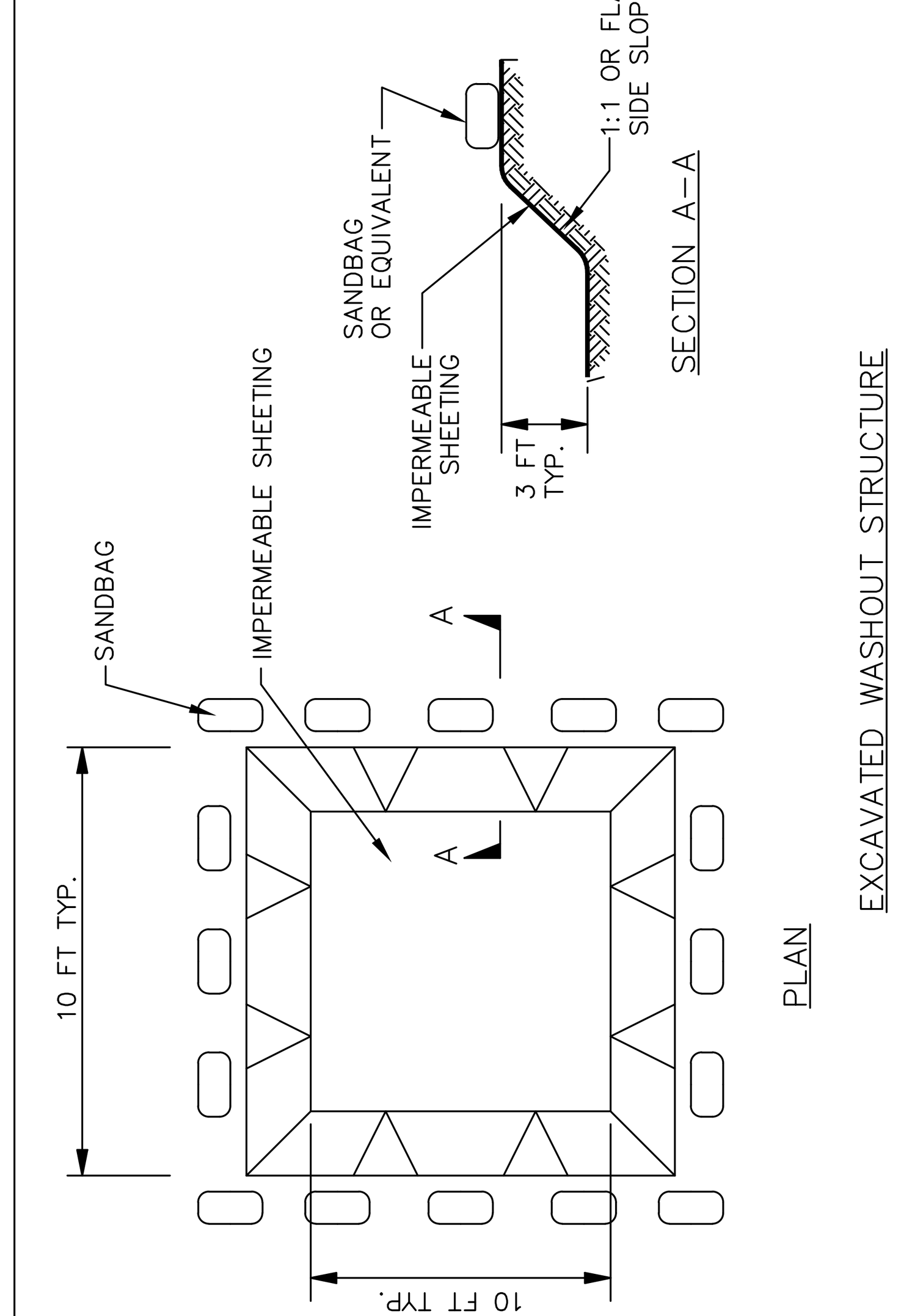
DRAWING NAME: EC01A | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

ONSITE CONCRETE WASHOUT STRUCTURE

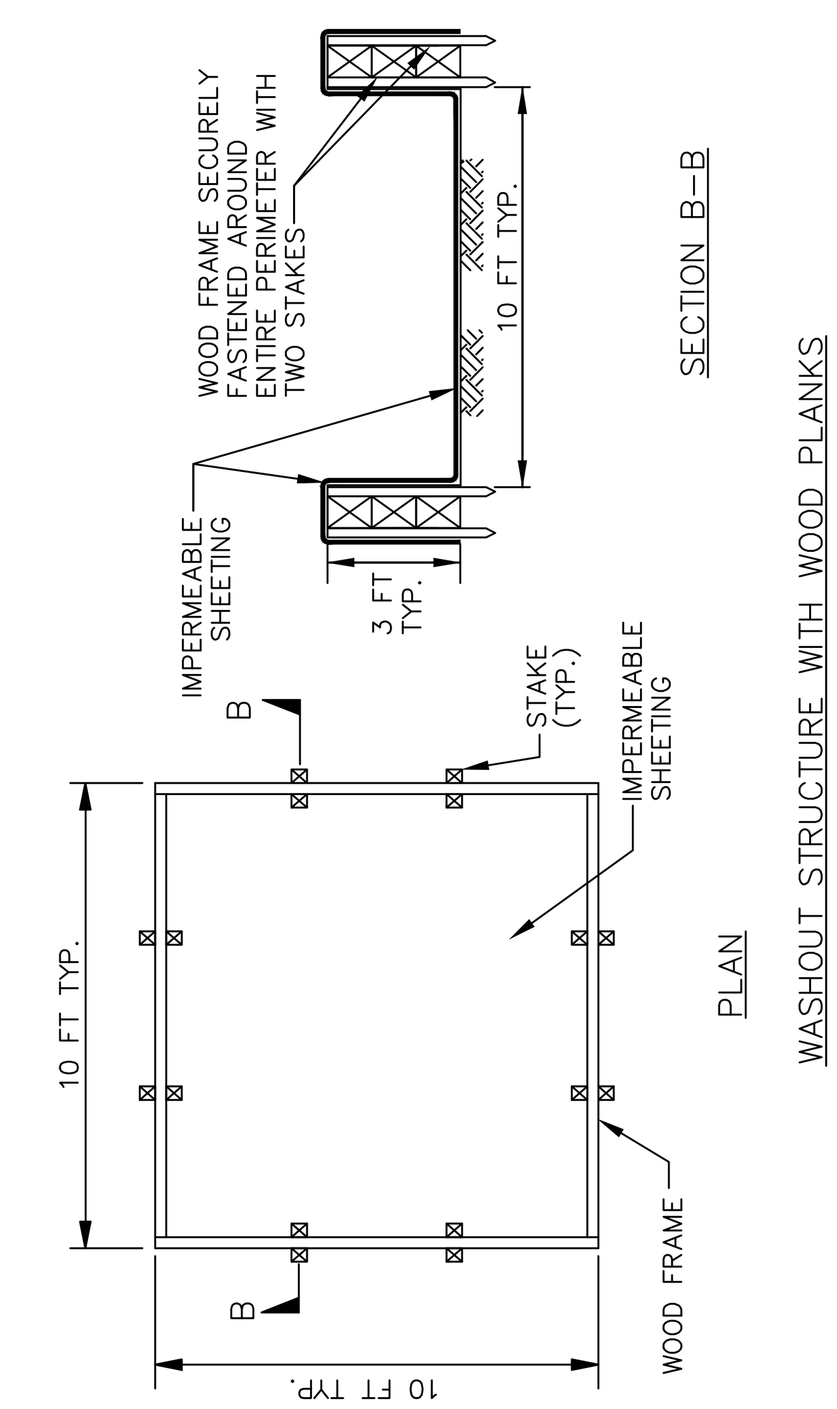


NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES



EXCAVATED WASHOUT STRUCTURE



WASHOUT STRUCTURE WITH WOOD PLANKS

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

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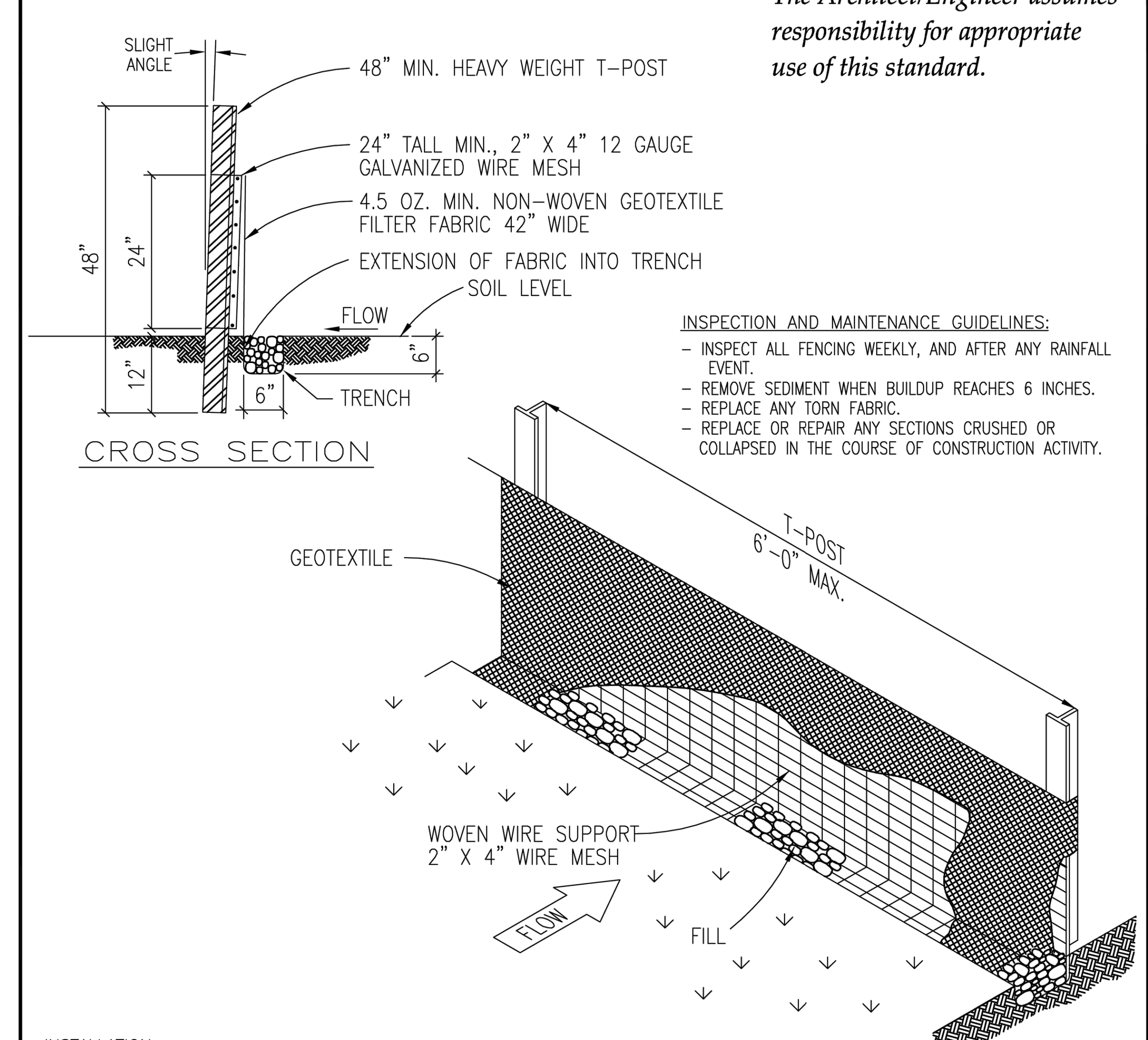


INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:

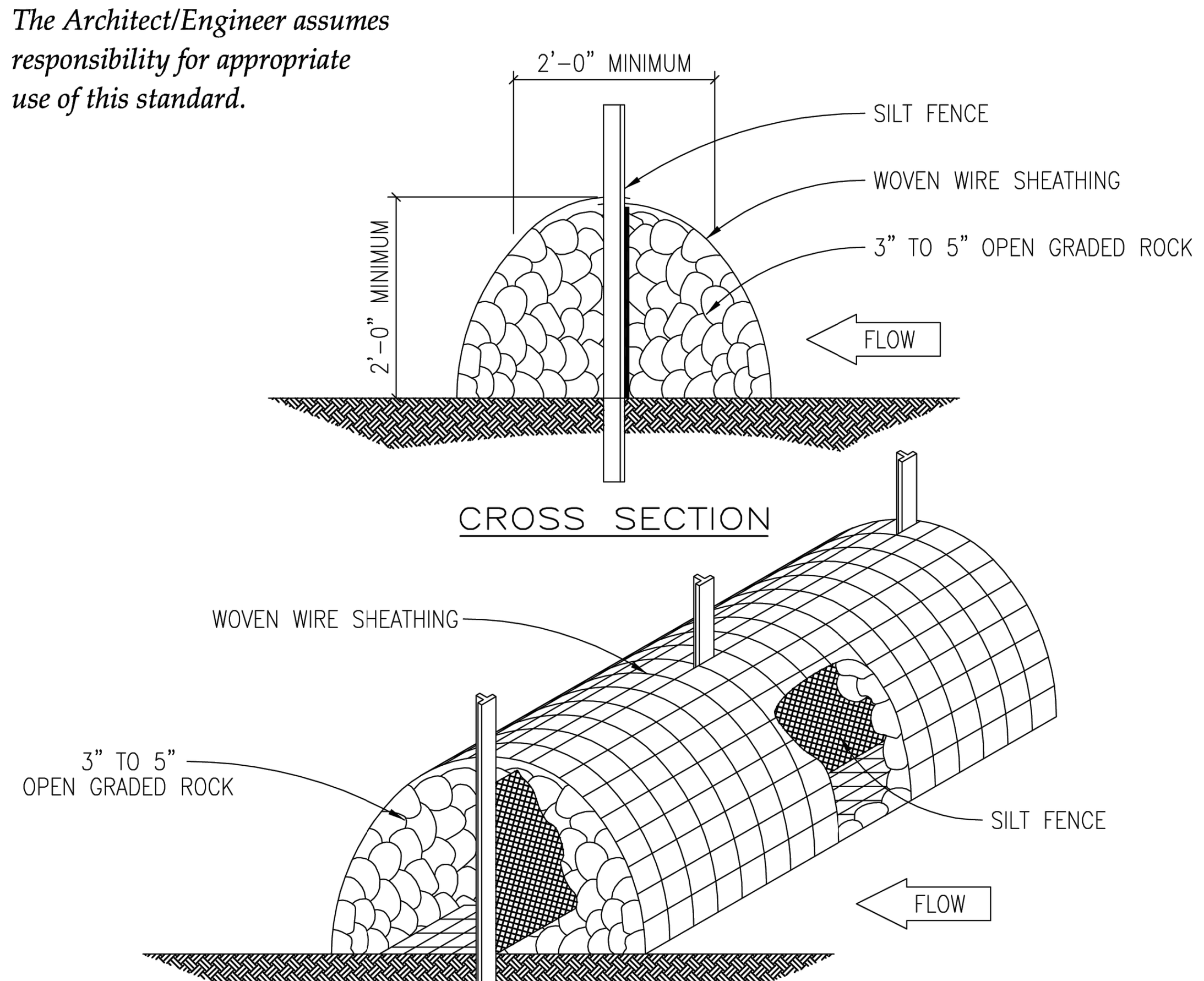
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL

DRAWING NAME: EC02 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

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



INSTALLATION:

- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DRAWING NO. EC-02 "SILT FENCE DETAIL".
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

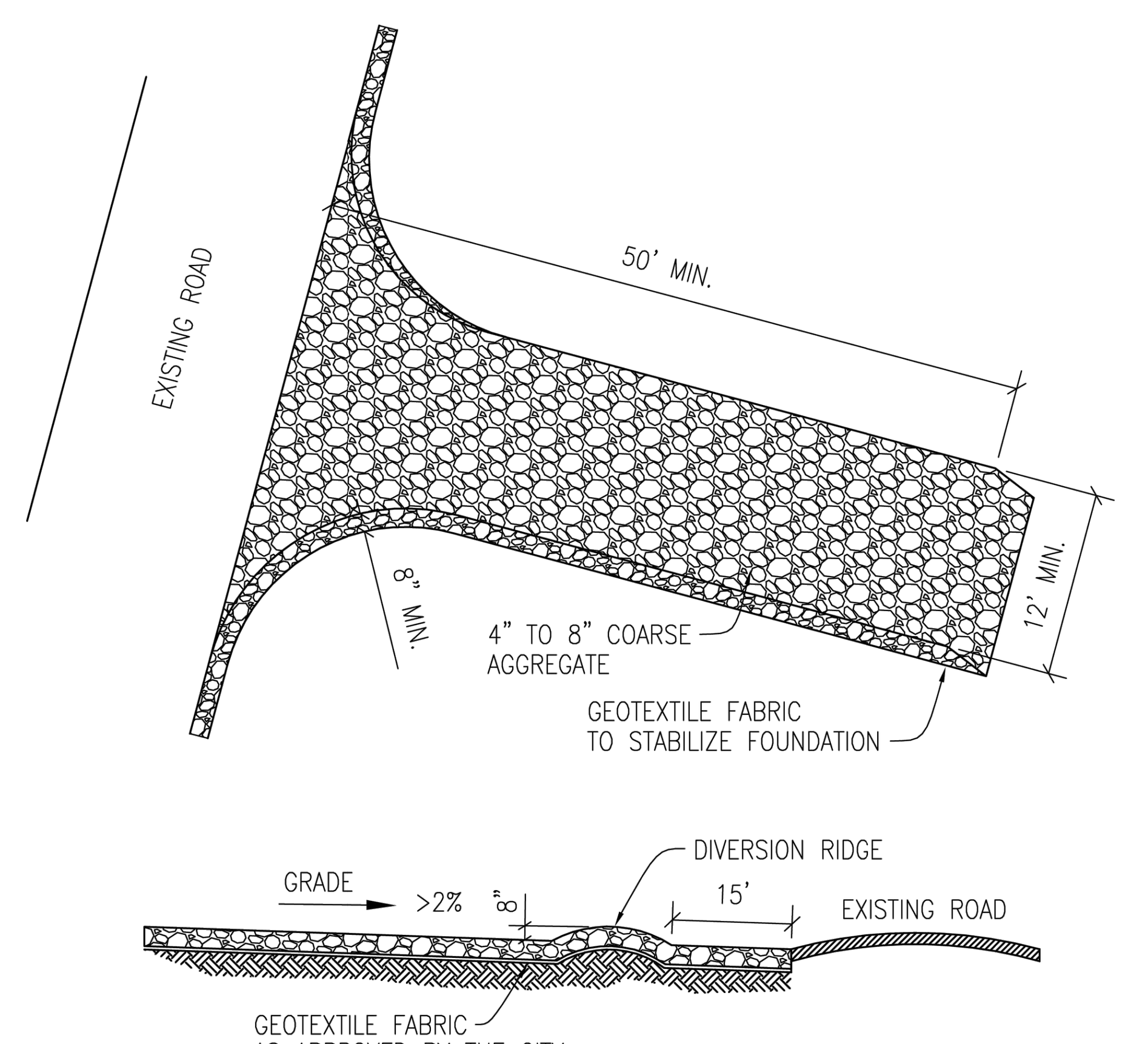
INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE CONTRACTOR. FOR THE INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACES WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
HIGH SERVICE ROCK BERM DETAIL

DRAWING NAME: EC04 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



INSTALLATION:

- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:

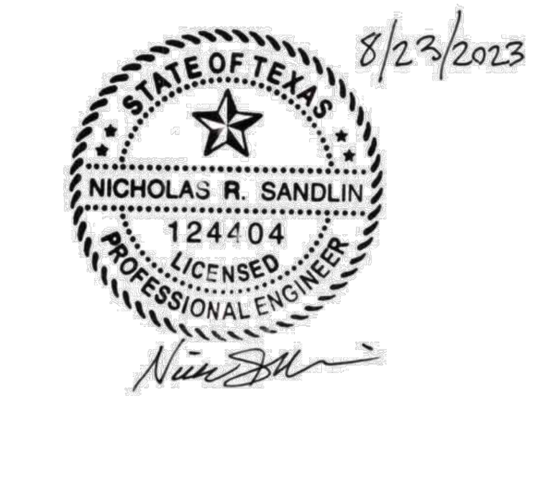
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE

DRAWING NAME: EC06 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

SANDLIN SERVICES, LLC
ENGINEERING | CONSULTING

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

EROSION CONTROL DETAILS

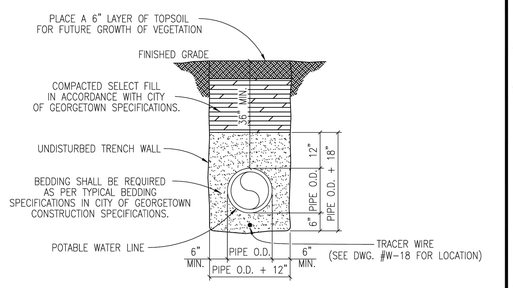
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 19 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH DTL.dwg–EROSION CONTROL DETAILS Plotted Aug 24, 2023 at 8:50am by Scott | Last Saved by: Scott

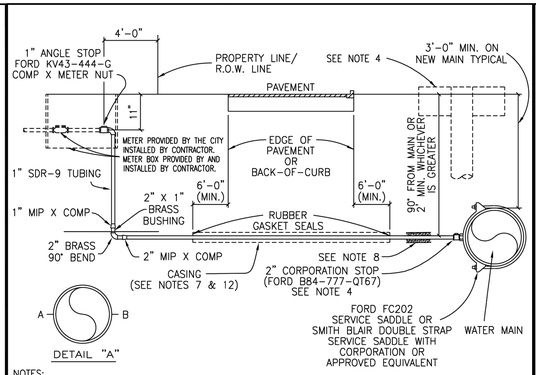


TRENCH WIDTHS

*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

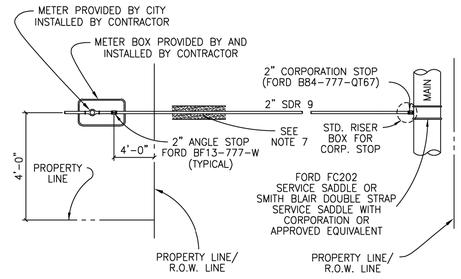
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	DRAWING NAME: W02
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB



NOTES:
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL. SEE STD. RISER FOR CORP. STOP DETAIL, (DWG # W08).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR-26 REQUIRED FOR OPEN-CUT. STEEL CASING PIPE REQUIRED FOR JACK AND BORE. LIMITS OF CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK-OF-CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE. USE DFW-PLASTICS, INC. PART NO. 1200.SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY. SEE DETAIL W23.
12. CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

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

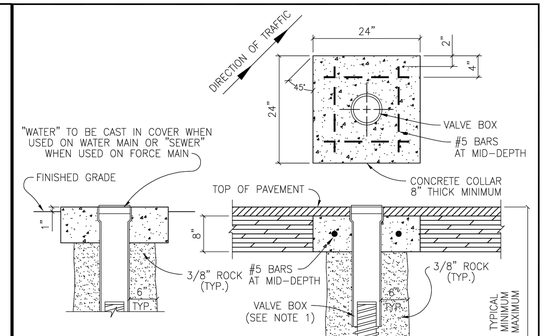
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 01/23/2013
TYPICAL WATER SERVICE-ELEVATION	DRAWING NAME: W03
	SCALE: NTS · DATE: 1/2013 · DRAWN BY: – · APPROVED BY: MH



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 01/23/2013
SINGLE WATER SERVICE PLAN	DRAWING NAME: W04
	SCALE: NTS · DATE: 1/2013 · DRAWN BY: – · APPROVED BY: MH

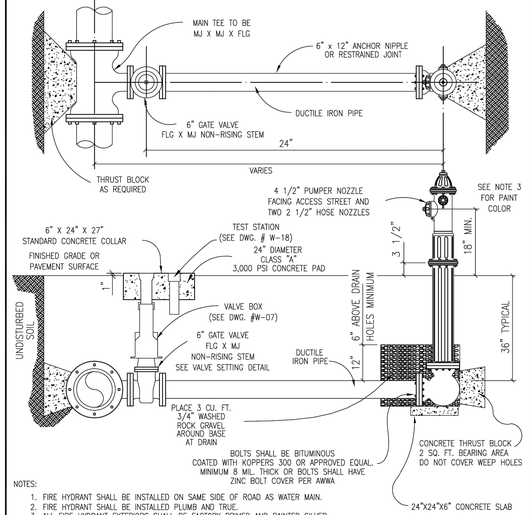


NOTES:

1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
TYPICAL VALVE SETTING	DRAWING NAME: W07
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB

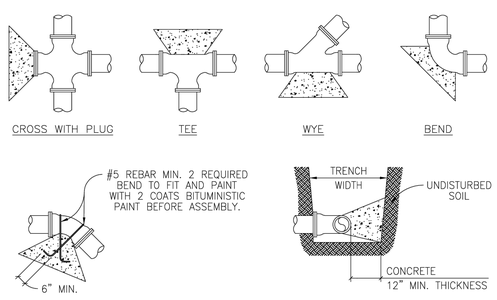


NOTES:

1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELENE FILM.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
TYPICAL FIRE HYDRANT INSTALLATION	DRAWING NAME: W10
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB



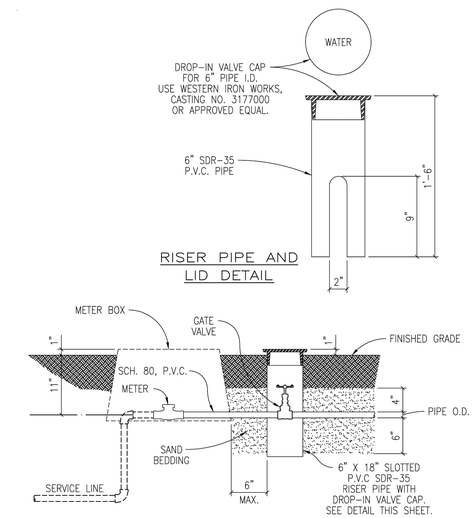
ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER, CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS, AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN	DRAWING NAME: W11
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB

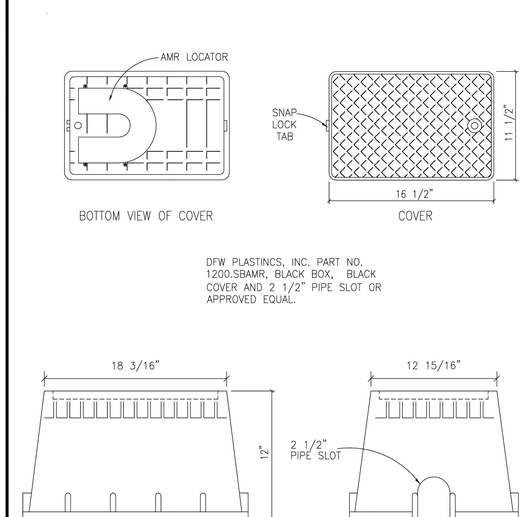


NOTES:

1. GATE VALVE SHALL BE A HAMMOND IB645, CLASS 125, BRONZE GATE, SCREWED BONNET, NON-RISING STEM, SOLID WEDGE DISC WITH THREADED ENDS OR APPROVED EQUAL.
2. DROP-IN VALVE CAP SHALL BE CAST WITH THE WORD "WATER" ON TOP.
3. USE SCHEDULE 80, M.I.P. ADAPTER AS REQUIRED.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
CUSTOMER'S CUT-OFF	DRAWING NAME: W20
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISION NOTE: ADOPTED 6/21/2006
METER BOX (NON-TRAFFIC AREAS)	DRAWING NAME: W23
	SCALE: NTS · DATE: 1/2003 · DRAWN BY: MRS · APPROVED BY: TRB

STATE OF TEXAS · NICHOLAS R. SANDLIN · 124404 · LICENSED PROFESSIONAL ENGINEER · 8/23/2023

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

SANDLIN SERVICES, LLC
ENGINEERING | CONSULTING
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

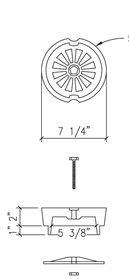
UTILITY DETAILS (1 OF 3)

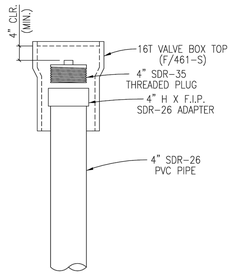
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 20 OF 33

PROJECT CASE: XXXXXXX



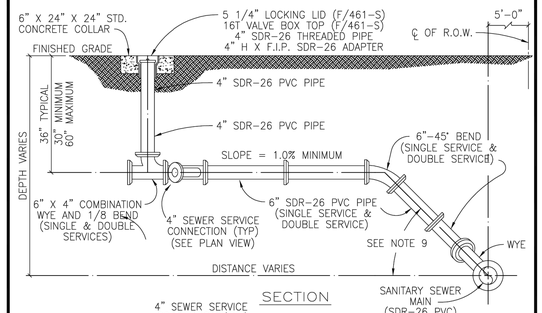


5 1/4" LOCKING LID
(F/461-S)

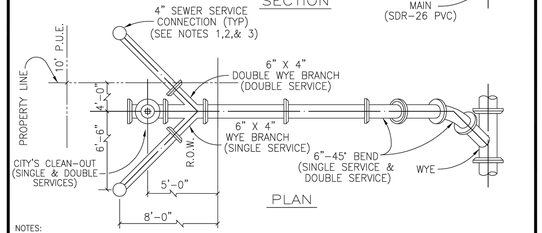
SEWER CLEAN-OUT
CITY OF GEORGETOWN
(RESIDENTIAL SERVICE)

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW12		
SEWER CLEAN-OUT DETAIL	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



SECTION



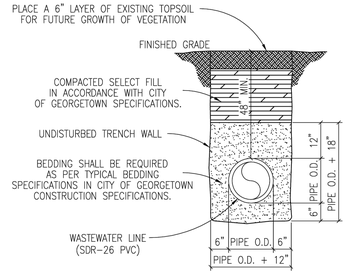
PLAN

NOTES:

1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' INSIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER-TIGHT WITH AN APPROVED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPSITE END WITH P.V.C. TO P.V.C. KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT (1'-0") ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON PAVEMENT REPLACEMENT DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY THE CITY OF GEORGETOWN ENGINEERING DEPARTMENT.
8. SERVICE LINE MATERIAL SHALL BE P.V.C., SDR-26.
9. SEWER SERVICE SLOPE TO BE 45° OFF CENTERLINE OF MAIN.

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

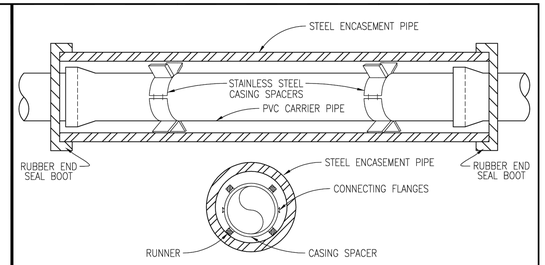
REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW13		
SEWER SERVICE CONNECTIONS	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW16		
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



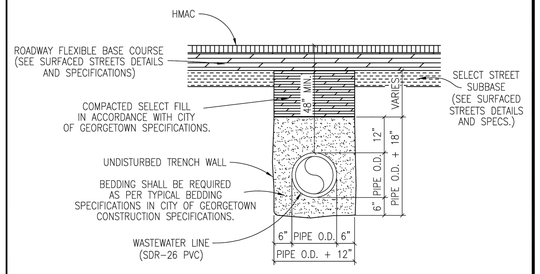
NOTES:

1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH THICKNESS ACCORDING TO THE FOLLOWING TABLE:
7. WHEN CASING IS REQUIRED UNDER PAVEMENT WITHIN THE R.O.W., THE CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.
8. ALL JOINTS SHALL BE RESTRAINED ON PVC CARRIER PIPE.

PIPE SIZE-CARRIER (DIAMETER)	PIPE SIZE-CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"		
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" – 14"	24"	3/8	0.3750
16" – 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W14		
INSTALLATION OF P.V.C. PIPE THROUGH CASING	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



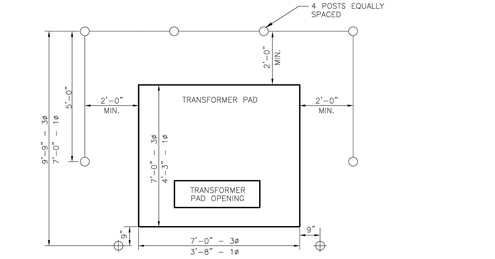
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:

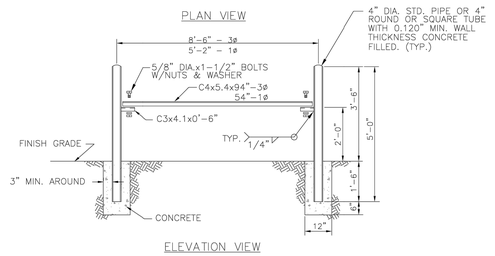
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: WW18		
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	



PLAN VIEW



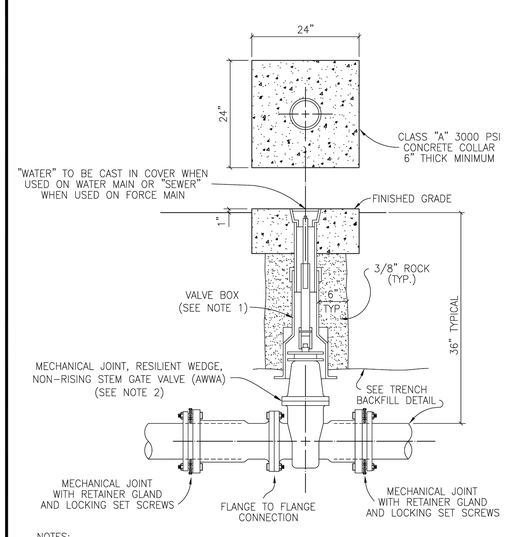
ELEVATION VIEW

NOTES:

1. IF A BUILDING IS USED AS ANY PORTION OF THIS GUARD, THE TRANSFORMER PAD SHALL BE SO LOCATED THAT THE PAD SIDE OR SIDES ADJACENT TO THE SURFACE OF THE BUILDING SHALL HAVE A CLEARANCE OF NOT LESS THAN 5 FEET. FOR TRANSFORMERS 750 KVA AND ABOVE CONTACT GEORGETOWN UTILITY SERVICES ABOUT SPECIAL CLEARANCE REQUIREMENTS.
2. 10'-0" CLEARANCE SHALL BE PROVIDED IN FRONT OF THE EQUIPMENT TO PERMIT HOT STICK OPERATION.

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: UGPB1.1		
PROTECTIVE BOLLARD INSTALLATION FOR PADMOUNT XFMRS, JUNCTION BOXES AND SWITCHGEAR	SCALE: NTS	DATE: 7/05	
	DRAWN BY: JWL	APPROVED BY: MWM	



NOTES:

1. SEE VALVE SETTING DETAIL, DWG. #W-07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER – 2360 SERIES
   B. CLOW

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

REVISION NOTE: ADOPTED 6/21/2006			
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME: W21		
INLINE VALVE INSTALLATION	SCALE: NTS	DATE: 1/2003	
	DRAWN BY: MRS	APPROVED BY: TRB	

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
8/23/2023

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

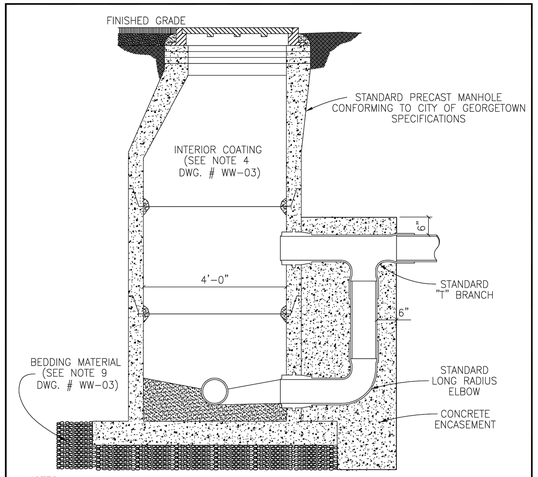
UTILITY DETAILS (2 OF 3)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 21 OF 33

PROJECT CASE: XXXXXXX



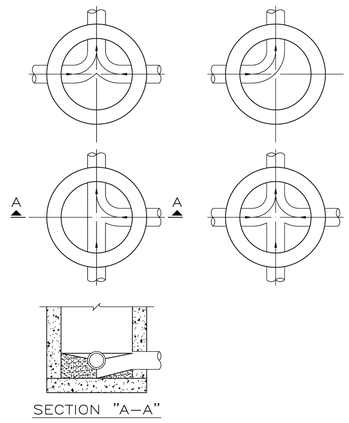
NOTES:

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **DROP CONNECTION–PRECAST MANHOLE TYPE "A"**	DRAWING NAME: WW04
	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

FLOW PATTERNS FOR INVERT CHANNELS



SECTION "A–A"

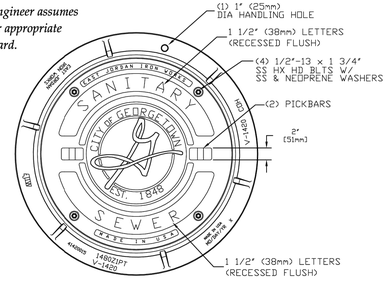
NOTES:

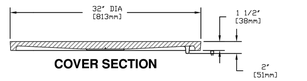
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

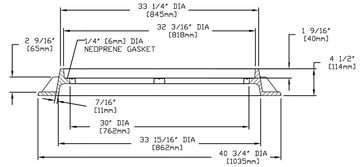
REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **FLOW PATTERNS FOR INVERT CHANNELS**	DRAWING NAME: WW06
	SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; APPROVED BY: TRB

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





COVER SECTION



FRAME SECTION

NOTES:

1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V-1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

REVISION NOTE: ADOPTED 6/21/2006	
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **BOLTED WASTEWATER MANHOLE SET**	DRAWING NAME: WW07A
	SCALE: NTS; DATE: 1/2006; DRAWN BY: MRS; APPROVED BY: TRB

STATE OF TEXAS · NICHOLAS R. SANDLIN · 124404 · LICENSED PROFESSIONAL ENGINEER · 8/23/2023

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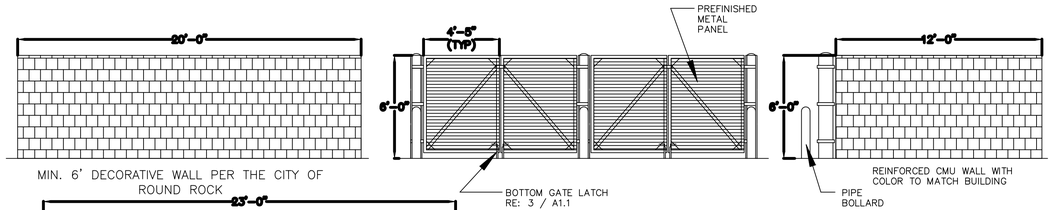
UTILITY DETAILS (3 OF 3)

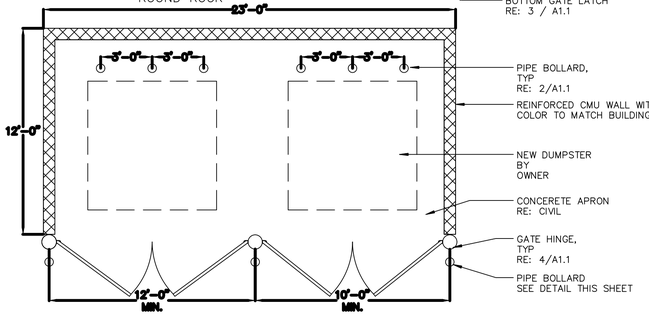
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 22 OF 33

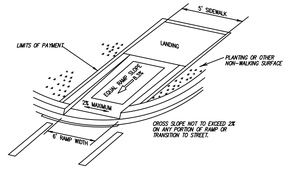
PROJECT CASE: XXXXXXX



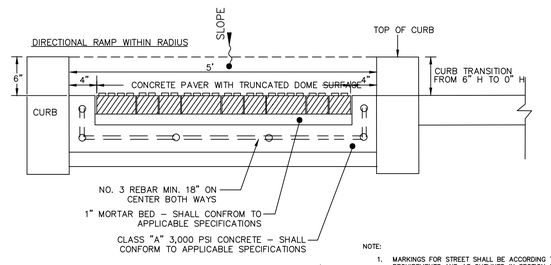


DUMPSTER ENCLOSURE

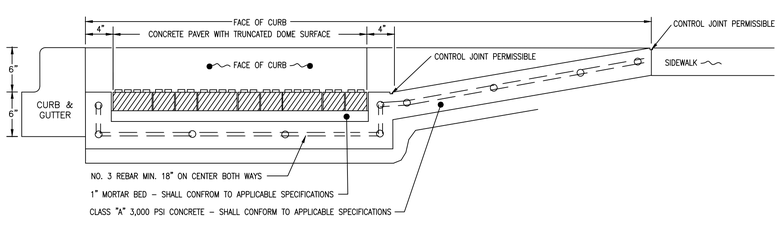
SCALE: NONE



NOTES:
1. SEE SITE PLAN FOR TOTAL LAYOUT.
2. THESE DETAILS ARE FOR REFERENCE AND DIMENSION CONTROL ONLY.
3. ALL DIMENSIONS ARE TO ℄ OF STRIPE UNLESS OTHERWISE INDICATED.
4. ALL COLORS AS SHOWN OR AS SPECIFIED BY LOCAL CODES.

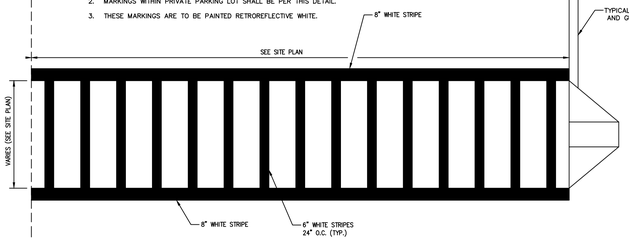


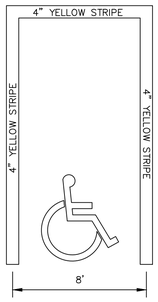
SECTION A–A
NOT TO SCALE



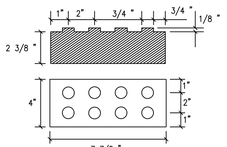
SECTION B–B
NOT TO SCALE

NOTE:
1. MARKINGS FOR STREET SHALL BE ACCORDING TO LOCAL CODE REQUIREMENTS AND AS OUTLINED IN SECTION 3B.18 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. MARKINGS WITHIN PRIVATE PARKING LOT SHALL BE PER THIS DETAIL.
3. THESE MARKINGS ARE TO BE PAINTED RETROREFLECTIVE WHITE.

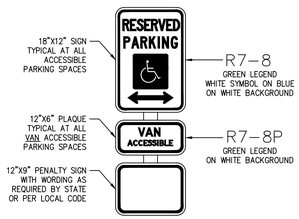


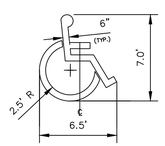


TYPICAL ACCESSIBLE STALL STRIPING



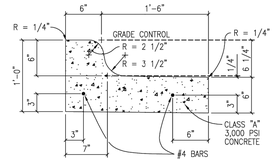
CONCRETE PAVER WITH TRUNCATED DOME SURFACE
NOT TO SCALE



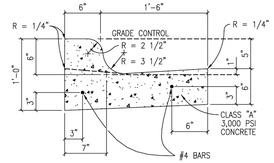


ACCESSIBLE PARKING SYMBOL

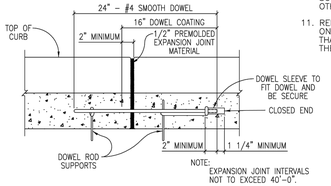
LOCATE AT EDGE OF PARKING SPACE UNLESS ACCOMPANIED BY "VAN" LETTERING



SPILL CURB



CATCH AND LAYDOWN CURB

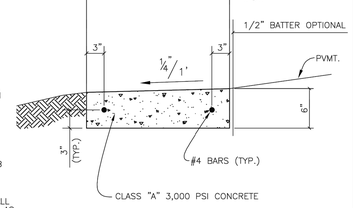


CURB DOWEL DETAIL

NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D–1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP–RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

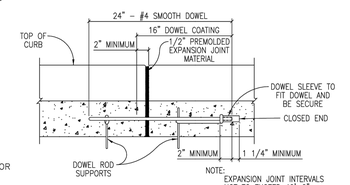
The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS CURB AND GUTTER DETAILS	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: SD06 SCALE: NTS DATE: DRAWN BY: MRS APPROVED BY: TRB



RIBBON CURB

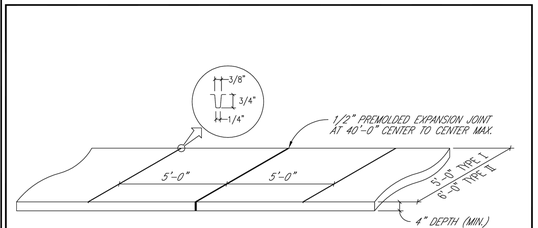
NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D–1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP–RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR TH CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: THREE #4.
   B. ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.



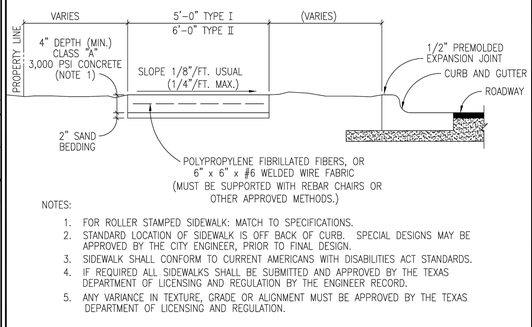
CURB DOWEL DETAIL

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

GEORGETOWN TEXAS Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS RIBBON CURB DETAILS	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: SD08 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES.
TYPE II – AS REQUIRED FOR APARTMENTS, OFFICE AND PARKING LOTS, COMMERCIAL AND INDUSTRIAL.



NOTES:
1. FOR ROLLER STAMPED SIDEWALK: MATCH TO SPECIFICATIONS.
2. STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER, PRIOR TO FINAL DESIGN.
3. SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
4. IF REQUIRED ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE ENGINEER RECORD.
5. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

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

GEORGETOWN TEXAS Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SIDEWALK SECTION AND JOINT DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: SD14 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

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4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

CONSTRUCTION DETAILS (1 OF 3)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 23 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0032-005 San Gabriel Ice House\CAD\Construction Sheets\S SDH DTL.dwg-CONSTRUCTION DETAILS (1 OF 3) Plotted Aug 24, 2023 at 8:50am by Scott | Last Saved by: Scott

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

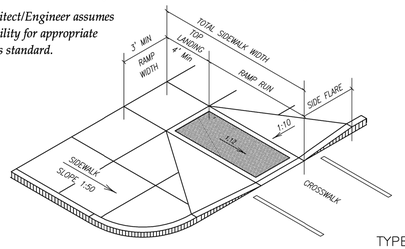
NOTES:

1. COMMERCIAL SIDEWALKS WIDTHS – 6'
   RESIDENTIAL SIDEWALKS WIDTHS – 5'
2. ALL SLOPES ARE MAXIMUM ALLOWABLE. FLATTER SLOPES THAT WILL STILL DRAIN PROPERLY ARE ENCOURAGED.
3. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
4. FOR PURPOSES OF WARNING, THE CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.
5. TEXTURES MAY CONSIST OF PAVERS WITH TRUNCATED DOMED SURFACES OR GROOVES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
6. COLOR CONTRAST, FOR EXAMPLE, CAN BE ACCOMPLISHED WITH COLORED CONCRETE PAVERS THAT HAVE TRUNCATED DOMES OR BY COLORED STAINED CONCRETE WITH GROOVES, EITHER OF WHICH WOULD PROVIDE A CONTRAST WITH TYPICALLY LIGHT COLORED CONCRETE.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA, THE MEDIAN SHOULD BE A MINIMUM OF 4 FEET WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGUALTION (TDLR).
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GRATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB. CURB RAMPS ARE GENERALLY INTERPRETED AS ONLY THE PORTION TYING DIRECTLY INTO THE ROADWAY.
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.
12. ALL SIDEWALKS WILL BE DOWELED INTO EXISTING SIDEWALKS, DRIVEWALKS, DRIVEWAYS, INLET BOXES, RETAINING WALLS, ETC.
13. ALL SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PEDESTRIAN RAMPS GENERAL NOTES

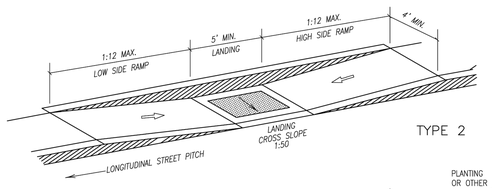
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD28
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

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

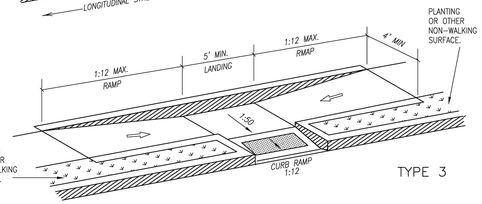


TYPE 1

PERPENDICULAR CURB RAMPS



TYPE 2



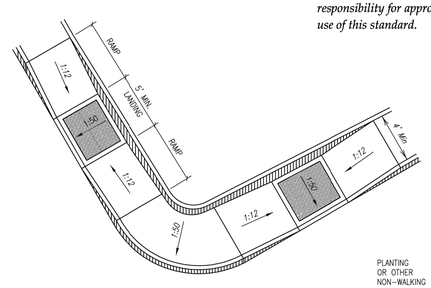
TYPE 3

PARALLEL CURB RAMPS

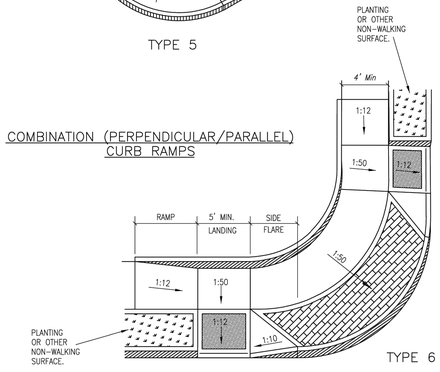
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAILS
TYPE 1-3

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD31
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

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



TYPE 5



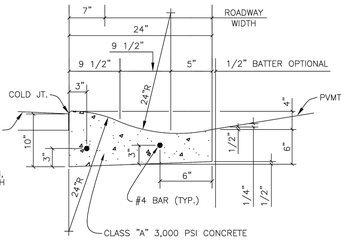
TYPE 6

COMBINATION (PERPENDICULAR/PARALLEL) CURB RAMPS

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAIL TYPES 5 & 6

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD33
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

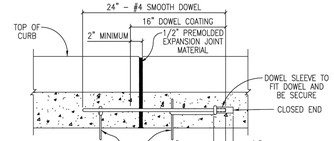
The Architect/Engineer assumes responsibility for appropriate use of this standard.



MOUNTABLE CURB

NOTES:

1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR TH CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: THREE #4,
   B. ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.



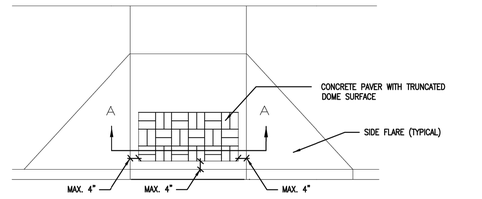
NOTE:
EXPANSION JOINT INTERVALS NOT TO EXCEED 40'-0".

CURB DOWEL DETAIL

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
MOUNTABLE CURB AND GUTTER DETAILS

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD07
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



TRUNCATED DOME PATTERN CURB RAMP

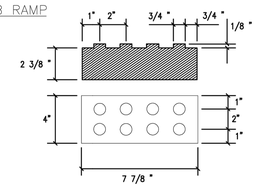
GENERAL NOTES

CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-936, C-33, AND SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.

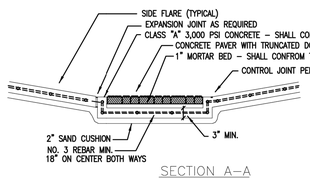
CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.

CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR TO THE ADJACENT SURFACES. THE COLOR OF THE CONCRETE PAVER UNITS SHALL BE SHOWN ELSEWHERE IN THE PLANS. (ADJACENT SURFACES INCLUDE SIDE FLARES).

CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY AND ANY CUT UNIT SHALL BE NOT LESS THAN 25 PERCENT OF A FULL UNIT.



CONCRETE PAVER WITH TRUNCATED DOME SURFACE

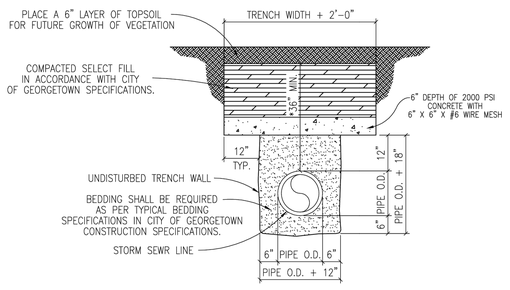


SECTION A–A

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP TEXTURES TYPE A

REVISION NOTE: REVISED 3/14/2014 WBD
REVISION NOTE: ADOPTED 6/21/2006 TRB
DRAWING NAME: SD37
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS/AP | APPROVED BY: TRB

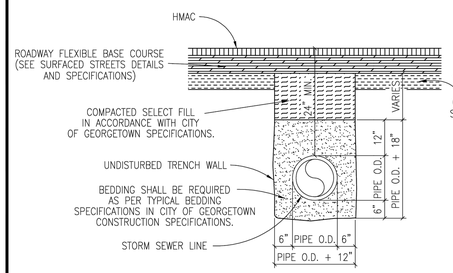


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE TRANCH CAP DETAIL FOR STORM SEWER

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD39
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES:

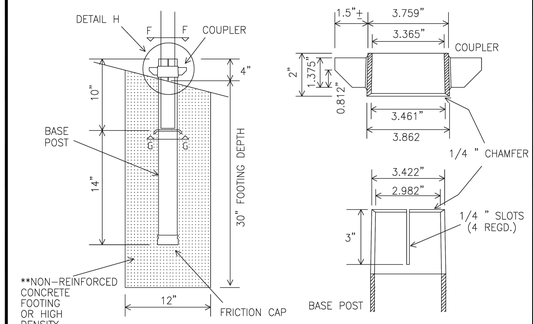
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

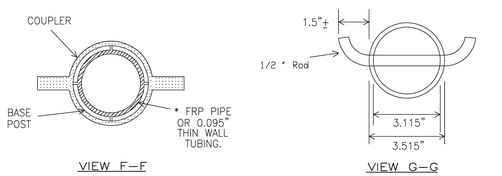
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD41
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



PROFILE

DETAIL H



VIEW F–F

VIEW G–G

* PLASTING INSERT MUST BE USED WITH 1/16 " THIN WALL TUBING.
** FOOTING SHALL BE REMOVED AND BACKFILLED WHEN BARRICADE IS REMOVED.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
UNIVERSAL ANCHOR SYSTEM

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD23
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED PROFESSIONAL ENGINEER
8/23/2023

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

CONSTRUCTION DETAILS (2 OF 3)

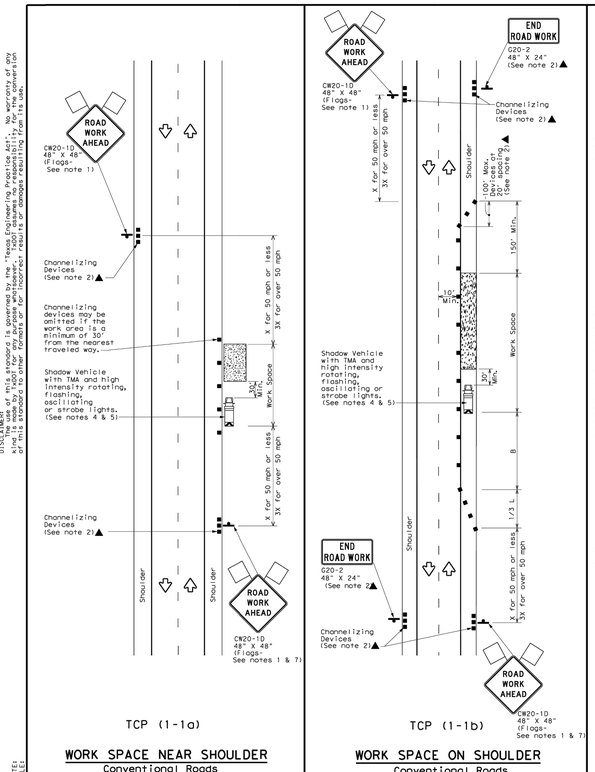
SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 24 OF 33

PROJECT CASE: XXXXXXX

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-2032-005 San Gabriel Ice House\CAD\Construction Sheets\S SGH DTL.dwg-CONSTRUCTION DETAILS (2 OF 3) Plotted Aug 24, 2023 at 8:50am by Scott | Last Saved by: Scott

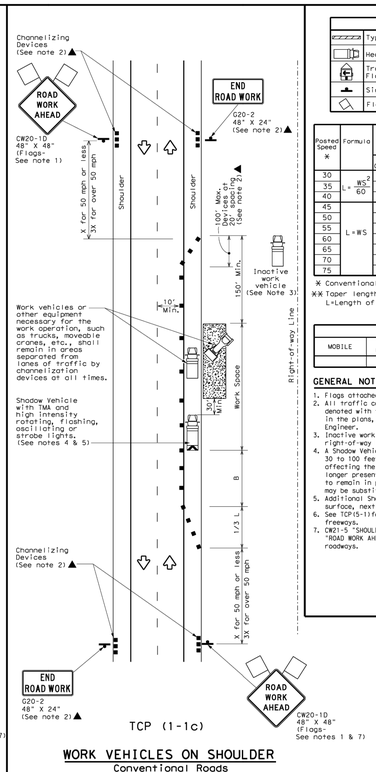


TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads

TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	(M)	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45		450'	495'	540'	45'	90'	320'	195'
50	L=WS	500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900	75'	150'	900'	540'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE					
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY	
	✓	✓			

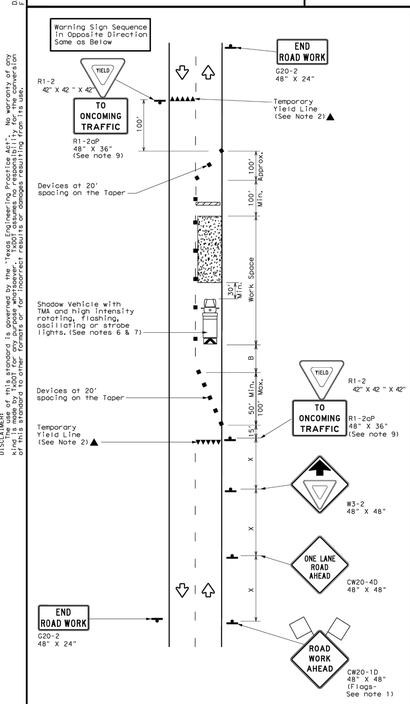
GENERAL NOTES
1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

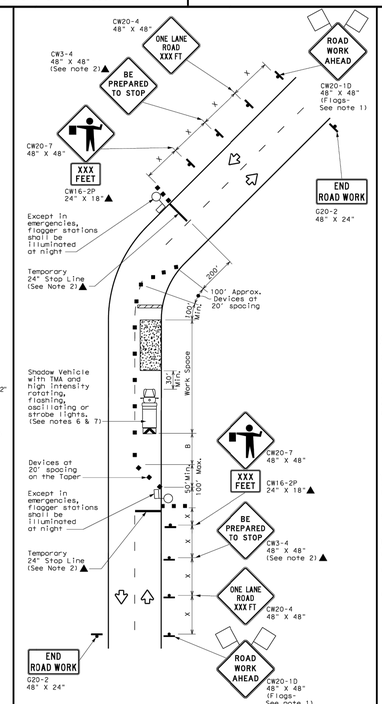
TCP(1-1)-18

FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	DIST	COUNTY		SHEET NO.



TCP (2-2a)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See Note 9)



TCP (2-2b)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	(M)	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45		450'	495'	540'	45'	90'	320'	195'	360'
50	L=WS	500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE					
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY	
	✓	✓	✓		

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

TCP (2-2a)
8. The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
9. The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

TCP (2-2b)
10. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
12. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(2-2)-18

FILE: tcp2-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03 1-97 2-12 4-98 2-18	DIST	COUNTY		SHEET NO.

LOG

STATE OF TEXAS — NICHOLAS R. SANDLIN — 124404 — LICENSED PROFESSIONAL ENGINEER — 8/23/2023

ENGINEERING | CONSULTING
SANDLIN SERVICES, LLC
TBPELS FIRM #21356
4501 WHISPERING VALLEY DRIVE UNIT 27 AUSTIN, TX 78727

CONSTRUCTION DETAILS (3 OF 3)

SAN GABRIEL ICE HOUSE

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 25 OF 33

PROJECT CASE: XXXXXXX

Permanent Stormwater Section (TCEQ-0600)

Attachment G: Inspection, Maintenance, Repair and Retrofit Plan

Recommended Maintenance Guidelines for Batch Detention Pond BMP

Batch detention ponds capture and temporarily detain the water quality volume. They capture the first flush of stormwater, allowing the solids fraction to settle, and they limit downstream erosion by controlling peak flow rates during erosive events. A batch detention pond can be used in combination with grassy swales to achieve water quality and drainage goals. Batch detention ponds may have moderate to somewhat higher maintenance requirements since they are active stormwater controls. There are many factors that may affect a batch detention pond's operation and that will be periodically checked. These factors can include mowing, 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 batch detention pond area.

Inspections

The batch detention pond 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 12 hours and a drawdown time of no more than 48 hours. The remaining inspection(s) should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the pond should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlets(s) as described below. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired/revegetated immediately.

Mowing

The pond, pond side-slopes, and embankment of the pond basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal

Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the pond basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion Control

The pond basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control

Standing water or soggy conditions may occur in the pond basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the pond 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.) particularly in areas of permanent standing water.

Structural Repairs and Replacement

With each inspection, any damage to the structural elements of the pond basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a pond basin will eventually deteriorate and must be replaced.

Sediment Removal

A professionally designed batch detention pond will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the pond 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 pond 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 sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Record Keeping

Maintenance and inspection records should be kept on file by the Owner of the permanent BMPs for a period of at least three (3) years. Repair and retrofit records should be kept on file by the Owner of the permanent BMPs for a period of at least five (5) years.

General Owner Responsibility

The OWNER or SUBSEQUENT OWNER shall bear all expenses for the operation and maintenance of this Permanent Water Quality Control (PWQC) system including but not limited to all general maintenance activities needed to keep this system in proper operation condition. If this system is abused or not maintained, then it may contribute to malfunction of the storm water system. All designated PWQC VFS areas shall remain free of construction, development, and encroachments.

You as the OWNER of this property have a responsibility to provide any SUBSEQUENT OWNER or your real estate agent with a copy of this Best Management Practices (BMP) Maintenance Plan if this facility is sold so that the BMPs can be properly maintained and operated. The same rights, duties, and responsibilities borne by the current OWNER shall be borne by each subsequent OWNER.

OWNER ACKNOWLEDGEMENT AND ACCEPTANCE:

SAN GABRIEL ICE HOUSE

Michael JONES

Print Name

Manager

Title

DocuSigned by:
Michael JONES
322496940B70441...

Signature

8/21/2023

Date

PREPARED AND CERTIFIED BY ENGINEER:

DocuSigned by:
Nick Sandlin
B3CFBB569DC4415...

Nick Sandlin, P.E.

8/21/2023

Date

Permanent Stormwater Section
(TCEQ-0600)

Attachment H:
Pilot-Scale Field Testing Plan (if proposed)
(NOT APPLICABLE)

A pilot-scale field testing plan is not applicable. All BMP design and calculations are based on and comply with Edwards Aquifer Technical Guidance for Edwards Aquifer Rules (RG-348, revised July 2005).

Permanent Stormwater Section
(TCEQ-0600)

Attachment I:
Measures for Minimizing Surface Stream Contamination

The Pecan Branch of the Granger Lake-San Gabriel watershed crosses the property on the west boundary of the proposed 4.76 AC project site. The property drains west directly to Pecan Branch and then southeast to San Gabriel River segment 1248, located approximately 4.5 miles east of the project site. The Batch Detention Pond BMP is designed to address onsite water quality and stormwater drainage to mitigate and minimize any potential offsite surface stream contamination.

Agent Authorization Form
(TCEQ-0599)

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

I MICHAEL JONES,
Print Name

MANAGER,
Title - Owner/President/Other

of JONES FAMILY INVESTMENTS, LLC,
Corporation/Partnership/Entity Name

have authorized NICK SANDLIN, P.E.
Print Name of Agent/Engineer

of SANDLIN SERVICES, 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:

Applicant's Signature

8.24.23
Date

THE STATE OF Texas §
County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared _____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 24th day of August, 2023

Donna Fisher
NOTARY PUBLIC

Donna Fisher
Typed or Printed Name of Notary

Donna Fisher
My Commission Expires
06/04/2025
ID No. 133140518

MY COMMISSION EXPIRES: 6.4.25

Application Fee Form
(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: SAN GABRIEL ICE HOUSE
Regulated Entity Location: LAKEWAY DR, GEORGETOWN, TX 78628
Name of Customer: JONES FAMILY INVESTMENTS, LLC
Contact Person: ROY S. JONES Phone: 512-943-6106
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
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	4.765 Acres	$ 4,000
Sewage Collection System	277 L.F.	$ 138.50
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: 8/23/23

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

Check Payable to the "Texas Commission on Environmental Quality"

Core Data Form
(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	
☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership ☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		
The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).		
6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*		*If new Customer, enter previous Customer below:*
JONES FAMILY INVESTMENTS 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)*
803138921	32068637761		

11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☒ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:	4819 WILLIAMS DRIVE						
	City	GEORGETOWN	**State**	TX	**ZIP**	78633	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(806) 679-7303		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

SAN GABRIEL ICE HOUSE

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	900 LAKEWAY DR							
	City	GEORGETOWN	**State**	TX	**ZIP**	78628	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.668947		**28. Longitude (W) In Decimal:**	-97.683129	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	8.21	-97	40	59.26

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)
5812		722511	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Restaurant

34. Mailing Address:	**4819 WILLIAMS DRIVE**							
	City	**Georgetown**	**State**	**TX**	**ZIP**	**78633**	**ZIP + 4**	
35. E-Mail Address:								

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
( ) -		( ) -

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

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	NICK SANDLIN, P.E. (SANDLIN SERVICES, LLC)	**41. Title:**	PROFESIONAL ENGINEER

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(806 **)** 679-7303		**( )** -	nick@sandlinservices.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:	SANDLIN SERVICES, LLC	**Job Title:**	PRINCIPAL AND PROFESSIONAL ENGINEER
Name *(In Print):*	NICK SANDLIN, P.E.	**Phone:**	**(** 806 **)** 679- **7303**
Signature:		**Date:**	8/23/23