Culver's Williams Drive

Water Pollution Abatement Plan

September 2023

Prepared For:
Ken Schiller and Associates, Inc.
212 Iva June Lane
Georgetown, Texas 78628

Prepared By:
2P Consultants, LLC
203 E. Main Street, Suite 204
Round Rock, Texas 78664

Michael Easton Mundine, P.E.
Project Manager

TBPE FIRM #F-19351

203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
TBPE FIRM #F-19351

Water Pollution Abatement Plan – Table of Contents

Section i
TCEQ Edwards Aquifer Application Cover Page

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Culver's - Williams Drive						**2. Regulated Entity No.:**			
3. Customer Name: Ken Schiller and Associates, INC.						**4. Customer No.:** CN601164080			
5. Project Type: **(Please circle/check one)**	(New)		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	(WPAP)	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**		2.81 AC.	
9. Application Fee:	$4,000.00		**10. Permanent BMP(s):**			Existing Batch Detention Basin			
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**						
13. County:	Williamson		**14. Watershed:**			Berry Creek			

Application Distribution

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

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.

Michael Easton Mundine, P.E.

Print Name of Customer/Authorized Agent

09/14/2023

Signature of Customer/Authorized Agent Date

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

Section I
General Information Form (TCEQ-0585)

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: Michael Easton Mundine

Date: 09/06/2023

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Culver's - Williams Drive
2. County: Williamson County
3. Stream Basin: San Gabriel River (Brazos River Basin)
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: Travis Wilkes
   Entity: Ken Schiller and Associates, INC.
   Mailing Address: 212 Iva June Lane
   City, State: Georgetown, Texas Zip: 78628
   Telephone: (512) 619-1250 FAX: _____
   Email Address: travis@11nmainventures.com

8. Agent/Representative (If any):

   Contact Person: Michael Easton Mundine, P.E.
   Entity: 2P Consultants, LLC.
   Mailing Address: 203 E. Main Street
   City, State: Round Rock, Texas Zip: 78664
   Telephone: (512) 344-9664 FAX: _____
   Email Address: EMundine@2PConsultants.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown.
   ☐ 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.

    4704 Williams Drive, Georgetown, Texas 78633

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: 10/01/2023

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:

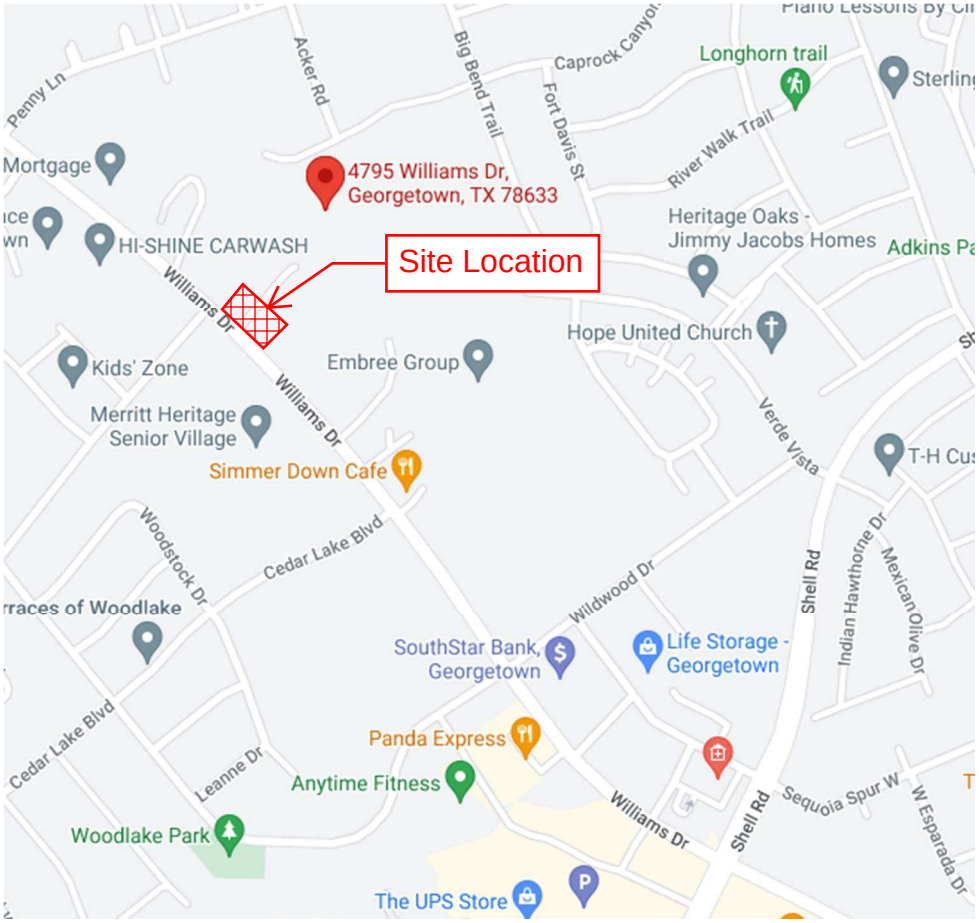
- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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.

2P CONSULTANTS, LLC
203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
TBPE FIRM #F-19351

Attachment 1A – Road Map

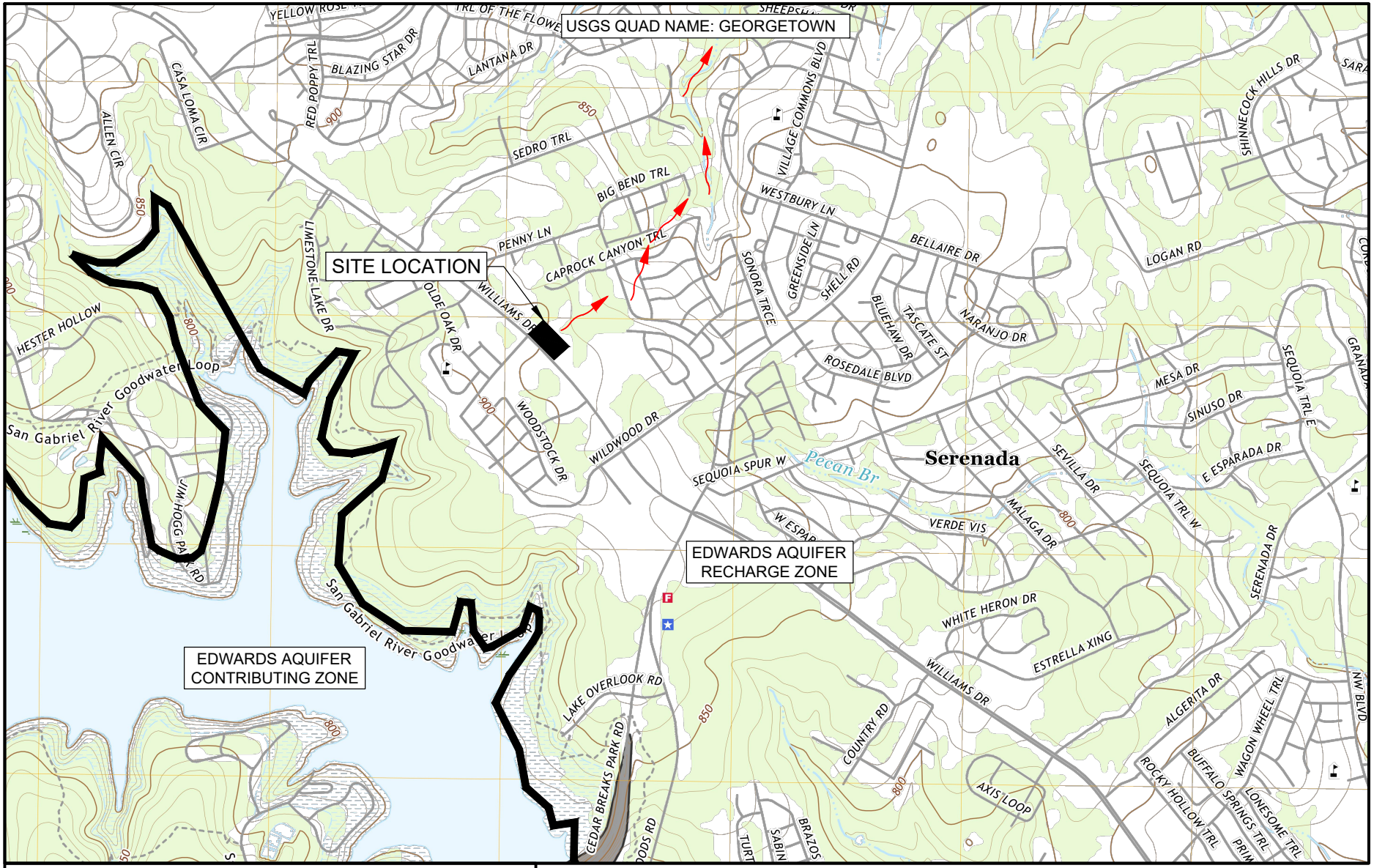


Not To Scale

Site Address: 4704 Williams Drive, Georgetown, Texas 78633

Directions from 2P Consultants:

- Head West on E Main St toward Mays St
- Continue onto W Main St
- Turn right onto S Blair St
- At the traffic circle, take the 2nd exit onto Round Rock Ave
- Turn right onto N Interstate 35 Frontage Rd
- Slight left to merge onto I-35 N
- Merge onto I-35 N
- Take exit 262 toward FM 2338 / Granger / FM 971
- Merge onto N Interstate 35 Frontage Rd
- Turn left onto Williams Drive.
- Site will be to your right.



203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

ATTACHMENT 1B - USGS MAP

CULVER'S - WILLIAMS DRIVE

2P CONSULTANTS, LLC
203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
TBPE FIRM #F-19351

Attachment 1C – Project Description

The proposed Culver's – Williams Drive development is located at 4704 Williams Drive in Georgetown, Texas 78633. The existing site is located on a single lot in Williamson County and within the City Limits of the City of Georgetown. The legal description for this lot is "AW0232 Fish J. Survey, Acres 14.518." The lot is currently being replatted so that the proposed project will be on its own 1.403-acre lot (referred to as Lot 1). The proposed improvements also include the construction of an access drive on a neighboring 1.007-acre lot (referred to as Lot 2) and inside a public access easement on an adjacent 2.658-acre lot (referred to as Lot 3). These lots are located on the northeastern corner of Williams Drive and the currently under construction street of Verde Vista. The project area is equal to the limits of construction for this development, which is 2.81 acres. This area consists of the entirety of Lot 1 where the main development is taking place, and portions of Lot 2 and Lot 3 where access drives are being constructed.

The project area is mostly undeveloped, consisting of a single gravel road that does not provide access to any improvements. This gives the project area 2,355.50 square feet of impervious cover, or 1.92% of the 2.810-acre project area. There are no existing trees on either of these proposed lots and the site slopes gently down toward the northeast, away from the adjacent Williams Drive.

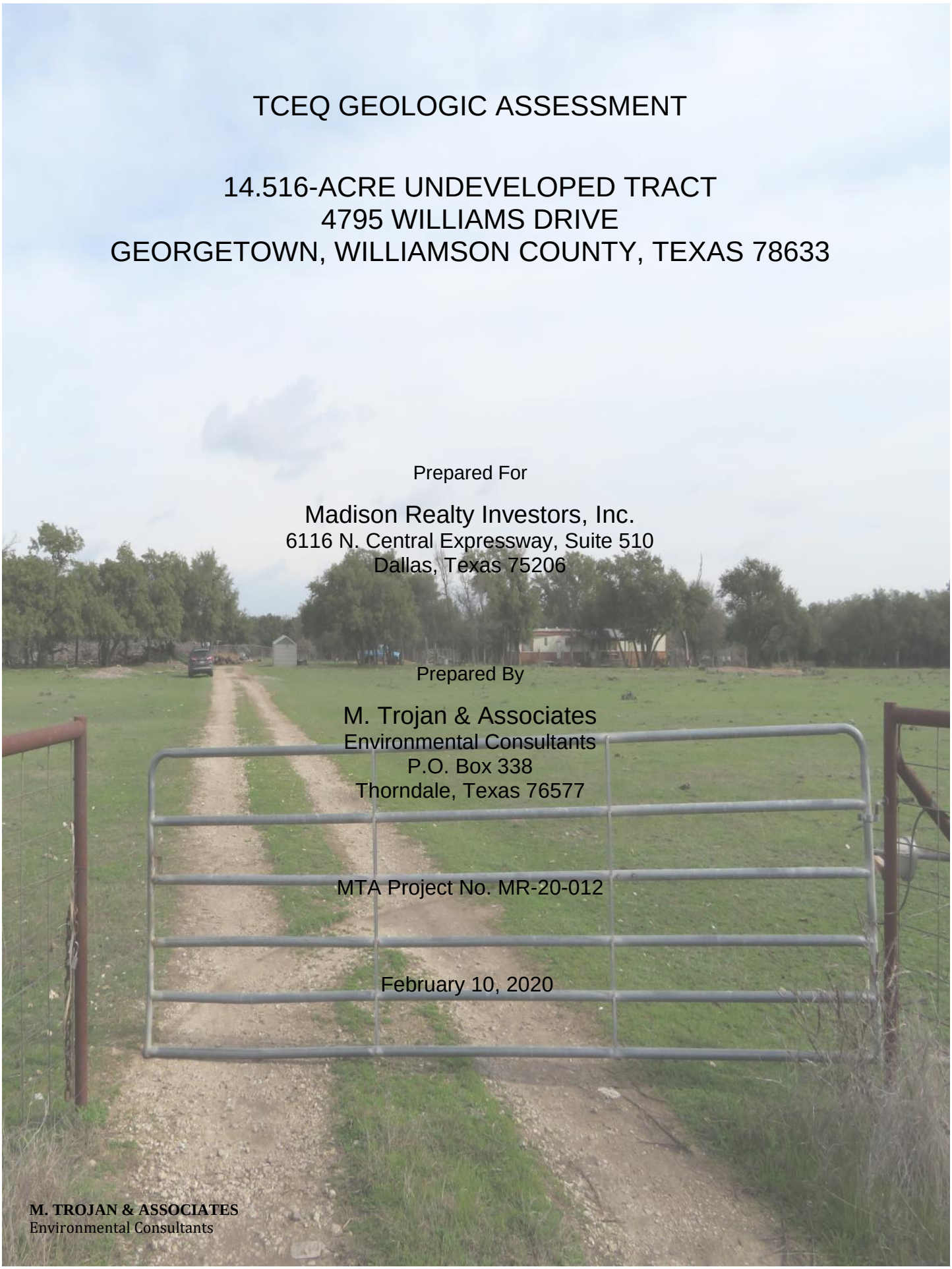
The improvements proposed by this development consist of a 4,440.75 square foot restaurant building on Lot 1 along with its corresponding parking, drive aisles, and utility infrastructure. These improvements bring the impervious cover of Lot 1 to 41,612.80 square feet of impervious cover, or 68.09% of the 1.403-acre lot. Along with these improvements, access drive aisles will be constructed on the adjacent 1.007-acre Lot 2. These drive aisles will bring the impervious cover of Lot 2 to 10,913.64 square feet, or 24.76% of the 1.007-acre lot. The drive aisle that connects to Verde Vista extends through Lot 1 and Lot 2, but also a portion of it will be constructed in the public access easement on Lot 3. This drive aisle brings Lot 3 up to 4,152.85 square feet of impervious cover or 3.57% of the 2.658-acre lot.

These three lots are part of a subdivision that is currently under construction and has an approved Water Pollution Abatement Plan (WPAP). This approved WPAP is for the Schiller Business Park, located at 4795 Williams Drive in Georgetown, Texas; regulated entity number RN111695623 and an Edwards aquifer protection program ID number of 11003524. The approved WPAP consisted of a batch detention system on the northern corner of the property that treats the three lots with proposed improvements in addition to several other lots. The detention and water quality pond was designed under the assumption that Lots 1, 2, and 3 would have 70% impervious cover which is greater than the impervious cover percentages proposed from these improvements for these lots. The pond utilizes a Batch Detention System that will provide 91% Total Suspended Solids (TSS) removal efficiency and has been sized to remove 80% of the TSS in accordance with the Texas Commission on Environmental Quality (TCEQ) Technical Guidance and an additional removal of 5% of the TSS as required by the City of Georgetown. No Wastewater mains are proposed with this development, so an Organized Sewage Collection System Plan (SCS) is not included with this application.

Section II
Geologic Assessment Form (TCEQ-0585)

TCEQ GEOLOGIC ASSESSMENT

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



Prepared For

Madison Realty Investors, Inc.
6116 N. Central Expressway, Suite 510
Dallas, Texas 75206

Prepared By

M. Trojan & Associates
Environmental Consultants
P.O. Box 338
Thorndale, Texas 76577

MTA Project No. MR-20-012

February 10, 2020

M. TROJAN & ASSOCIATES
Environmental Consultants

February 10, 2020

Robert W. Teeter
Madison Realty Investors, Inc.
6116 N. Central Expressway, Suite 510
Dallas, Texas 75206

Subject: Report of TCEQ *Geologic Assessment*
14.516-Acre Undeveloped Tract
4795 Williams Drive
Georgetown, Williamson County, Texas 78633
MTA Project No. MR-20-012

Mr. Teeter:

M. Trojan & Associates is pleased to submit this report of a Texas Commission on Environmental Quality (TCEQ) *Geologic Assessment* for the above referenced property. This *Geologic Assessment* was performed in accordance with the TCEQ requirements and instructions for completing TCEQ Form 0585.

I appreciate the opportunity to assist you in your environmental matters associated with the subject property. Should you have any questions or require additional information, please feel free to contact me at (512) 917-3695, or forward an email to mtrojan0316@gmail.com.

Respectfully,

Michael Trojan, PG
M. TROJAN & ASSOCIATES

Certified Professional Geoscientist #1109 (TX)

c: MTA Project File MR-20-012

TABLE OF CONTENTS

ATTACHMENTS

1.0 TCEQ FORM 0585

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: Michael Trojan, PG Telephone: (512) 917-3695

Representing: M. Trojan & Associates Fax:

Signature of Geologist:

_____

Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

Regulated Entity Name: 14.516-Acre Undeveloped Tract
4795 Williams Drive, Georgetown, Williamson Co., Texas

Project Information

1. Date(s) Geologic Assessment was performed: February 10, 2020

2. Type of Project:

X	WPAP		AST
X	SCS		UST

3. Location of Project:

X	Recharge Zone
	Transition Zone
	Contributing Zone within the Transition Zone

4. [X] **Attachment A – Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. [X] 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 (refer to Attachment D).

Table 1 – Soil Units, Infiltration, Characteristics and Thickness

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Doss silty clay, 1-5% slopes (DoC)	C	up to 1.5
Eckrant cobbly clay, 1-8% slopes (EaD)	D	up to 1.3
Eckrant extremely stony clay, 0-3% slopes (EeB)	D	up to 0.9

* 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. [X] **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. [X] **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. [X] **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan.

   Applicant's Site Plan Scale: unknown
   Site Geologic Map Scale: 1" = 270'
   Site Soils Map Scale (if more than 1 soil type): 1" = 270'

9. Method of collecting positional data:

   [X] 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. [X] Surface geologic units are shown and labeled on the Site Geologic Map.

12. [X] 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 1 (#) 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.

[X] 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. [X] 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.

2.0 OVERVIEW

M. Trojan & Associates was retained to conduct a Geologic *Assessment* for potential future development on a 14.516-acre undeveloped tract located at 4795 Williams Drive in Georgetown, Williamson County, Texas 78633 (refer to Figures 1 and 2 of Attachment D). All aspects of the *Geologic Assessment* were conducted by Mr. Michael Trojan, PG (Certified Professional Geoscientist #1109 in Texas), and the assessment was performed in accordance with Texas Commission on Environmental Quality (TCEQ) requirements and instructions for completing TCEQ Form 0585. The assessment included reconnaissance of the entire property as well as bordering portions of all neighboring properties.

Based on information obtained from the TCEQ, the study area is located on the Edwards Aquifer Recharge Zone. Accordingly, the objective of the *Geologic Assessment* was to identify any naturally occurring geologic (karst) or manmade features that may significantly contribute to recharge of the subsurface. The Edwards Aquifer rules define sensitive features as:

> *" . . . those that have potential for interconnectedness between the surface and the Edwards Aquifer and where rapid infiltration to the subsurface may occur."*

The scope of the *Geologic Assessment* included the following general components:

- Review of published soils and geologic/hydrogeologic information;
- Field evaluation of topographic features;
- Field evaluation of soil types and horizons, relative thicknesses, and hydrologic characteristics (visual only);
- General review of the subsurface geologic units beneath the property as well as geologic units exposed at ground surface (if visible);
- Field evaluation of geologic conditions to determine the presence or absence of caves, solution cavities, solution-enlarged fractures, faults, other natural bedrock features, sinkholes, swallets or swallow holes in drainage features, non-karst closed depressions, manmade features in bedrock, and any other natural or manmade features, and evaluation of such features with respect to their potential ability to convey infiltrating surface water to the underlying subsurface; and
- Preparation of TCEQ Form 0585 for presentation of the findings of this assessment.

3.0 GENERAL PROPERTY DESCRIPTION AND SITE DEVELOPMENT

3.1 Study Area

The study area is comprised of 14.516 acres of land located on the northeast side of Williams Drive, and at approximately the Williams Drive and Woodlake Drive intersection (refer to Figures 1 and 2 of Attachment D and photographs included in Attachment E). The southwestern one-third of the study area is cleared of all large vegetation, while the central and northeastern components are sparsely to densely wooded. Improvements on the tract include a mobile home and large animal shed and pen.

3.2 Proposed Site Development

A site development plan was not available for review during this *Geologic Assessment*.

3.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Geologic Assessment*.

4.0 GEOLIC ASSESSMENT LIMITATIONS

This *Geologic Assessment* was conducted in accordance with rules and guidelines set forth by the TCEQ, as well as consistent with standard methods and practices generally employed by professionals engaged in conducting karst assessments. Still, the scope of the *Geologic Assessment* presents certain limitations. The primary limitations include:

1. The field reconnaissance is conducted to effectively identify the geologic conditions/features at the subject property. However, certain site conditions may render features undetectable as a result of obstruction by: (1) soil cover, (2) very dense, inaccessible vegetation, (3) manmade cover including, but not limited to driveways, concrete slabs, soil and debris piles/mounds, and/or (4) stormwater runoff ground cover following significant rainfall events.

2. The scope of the *Geologic Assessment* does not include identification of features that may be discovered at the time of site development – during excavation, trenching, grading and/or leveling.

3. While this *Geologic Assessment* is confident of the identification of karst features, or lack thereof, the regulatory community reserves the right to conduct a reconnaissance of the study area. At times, regulatory field inspectors may identify additional potential karst features that, in their professional opinion, may require consideration in terms of proposed development on the study area. In this event, the author of this *Geologic Assessment* and the developer are provided the opportunity to conduct additional field investigation of such features, including employment of certain invasive methodologies (e.g., excavation), to either confirm or refute the field findings of the regulatory field inspectors.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: 14.516-Acre Undeveloped 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	
ONSITE																				
MB-1	30.690241	-97.723739	MB	30	Ked	unk	unk	unk					X	≤5		≤35		N/A	N/A	hillside
MB-2	30.690132	-97.723486	MB	30	Kgt	unk	unk	unk					X	≤5		≤35		N/A	N/A	hillside
OFFSITE																				
MB-3	N/A	N/A	MB	30	Kgt	unk	unk	unk					X	≤5		≤35		N/A	N/A	hillside

* DATUM:_____

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: February 10, 2020

Sheet 1 of 1

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

ATTACHMENT B

STRATIGRAPHIC COLUMN

SYSTEM	SERIES	GROUP	FORMATION	LITHOLOGY/ THICKNESS
QUATERNARY				TERRACE AND ALLUVIUM SAND, SILT, CLAY, AND GRAVEL THICKNESS NOT REPORTED
CRETACEOUS	UPPER CRETACEOUS (GULFIAN)	AUSTIN		CHALK, MARL, AND LIMESTONE 325–420 FEET THICK
		EAGLE FORD	EAGLE FORD	SHALE AND SILTY LIMESTONE TO CALCAREOUS SILTSTONE 25–65 FEET THICK
			BUDA	LIMESTONE UP TO 45 FEET THICK
	LOWER CRETACEOUS (COMANCHEAN)		DEL RIO	CLAY 40–70 FEET THICK
			GEORGETOWN	LIMESTONE AND MARL 30–80 FEET THICK
		FREDERICKSBURG	EDWARDS	LIMESTONE AND DOLOSTONE 60–350 FEET THICK
			COMANCHE PEAK	LIMESTONE AND MARL UP TO 80 FEET THICK
			WALNUT FORMATION	LIMESTONE AND MARL UP TO 130 FEET THICK
			PALUXY SAND	SAND UP TO 10 FEET THICK

Geologic unit that directly underlies the subject property

M. TROJAN & ASSOCIATES
Environmental Consultants
P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale: No Scale
Date: February 10, 2020
Project: TCEQ Geologic Assessment
MTA Project: MR-20-012

STRATIGRAPHIC COLUMN

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

ATTACHMENT C

SITE GEOLOGY

TOPOGRAPHY AND SURFACE WATER HYDROLOGY

According to the Williamson County and City of Georgetown GIS, the study area slopes very gently toward the east-northeast (refer to Figure 3 of Attachment D). Topographic elevations on the study area range between approximately 902 and 874 feet above mean sea level (msl), with the highest elevations located at the northwest property corner and the lowest elevations near the northeast corner.

As is depicted on Figure 3 of Attachment D, stormwater runoff generated within the study area boundaries flows primarily toward the northeast and discharges offsite to a designated drainage easement to the northeast of the property. Based on reconnaissance of the property, all runoff was observed to represent overland (sheet) flow; there were no defined drainage ways observed that can qualify as streams. Moreover, no active or inactive springs were observed on the property.

The study area lies in the Berry Creek watershed. This area exhibits very gently sloping drainage basins with relatively sparse "defined" creeks/streams. Berry Creek lies approximately 0.9 miles to the north-northeast of the tract. According to review of a FEMA Flood Insurance Rate Map and Williamson County GIS, no portion of the study area lies within the 100-year floodplain. Moreover, no portion of the property lies within an area designated as a waterway setback zone.

SOILS

According to the *Soil Survey of Williamson County, Texas*, the soils that are reported to cover the study area are as follows (also refer to Figure 4 of Attachment D for soil type locations):

Soil Component Name:	Doss silty clay, 1–5% slopes (DoC)
Soil Surface Texture:	Dark grayish-brown silty clay to approximately 9 inches, underlain by brown silty clay loam to about 19 inches, underlain by limy earth interbedded with fragments of limestone
Hydrologic Group:	Permeability is slow; available water capacity is low
Soil Drainage Class:	Well drained
Soil Component Name:	Eckrant cobbly clay, 1–8% slopes (EaD)
Soil Surface Texture:	Very dark gray, extremely stony silty clay loam to approximately 11 inches, underlain by indurated limestone
Hydrologic Group:	Permeability is very slow; available water capacity is very low; runoff is rapid
Soil Drainage Class:	Well drained

Soil Component Name:	Eckrant extremely stony clay, 0 – 3% slopes (EeB)
Soil Surface Texture:	Very dark gray, extremely stony silty clay loam to approximately 11 inches, underlain by indurated limestone
Hydrologic Group:	Permeability is very slow; available water capacity is very low; runoff is rapid
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 4 of Attachment D, the Eckrant extremely stony clay soils are reported to cover the central and northeast portions of the study area, while the Doss silty clay covers the southwestern component of the property. Shallow excavations were made at various locations across the property and observations of the soil characteristics confirmed the presence of soils similar to those described in the *Soil Survey*. The soils were found to be relatively shallow to medium-thick and fine-grained. The Eckrant soils on the central and northeast components of the tract were observed to exhibit modest to high concentrations of embedded rock fragments up to 4.5 feet in size.

GEOLOGY

According to the *Geologic Map of the West Half of the Taylor, Texas 30X60 Minute Quadrangle* and the *Geologic Atlas of Texas, Austin Sheet*, the study area is reported to be underlain by the Georgetown Formation (Kgt) (refer to Figure 5 of Attachment D for a regional geologic map and the stratigraphic column in Attachment B). The Georgetown Formation consists of limestone and marl (mostly limestone). The limestone is light gray, fine grained, nodular, and moderately indurated. Some limestone is white, hard, brittle, and thick bedded. The Georgetown also includes some shale that is light gray to yellowish gray, marly, and soft. The thickness is reported to range 30 to 80 feet, and the formation thins southward.

Given the consistent soil cover over the entire study area, no true geologic rock outcrops were observed at ground surface. However, "loose" rock fragments up to approximately 4.5 feet in size were observed embedded in surface soils, primarily on the central and northeast parts of the tract (refer to photographs in Attachment E). All bedrock fragments were observed to be light gray, fine- to very fine-grained and hard. No true geologic outcrops were observed on neighboring properties at distances of 200 feet from all boundaries of the tract.

SENSITIVE KARST AND MANMADE FEATURES

Onsite Features

The field reconnaissance of the study area included search for and identification of sensitive karst and manmade features, as defined by TCEQ, and to note potential ground recharge points that may be associated with such features. The field reconnaissance entailed walking 25- to 50-foot spaced transects across the entire study area. The results of the reconnaissance are provided below.

Caves

Based on TCEQ criteria, a cave is a natural underground open (or filled) space formed by dissolution of limestone that is large enough for an average-sized person to enter. When a surface cave opening is encountered, then the subsurface extent of the cave is relevant in terms of subsurface recharge.

Based on observations made across the entire study area, no cave openings/caves were identified.

Solution Cavities

Based on TCEQ criteria, a solution cavity is a natural cavity or depression formed as a result of dissolution of limestone. This category is designed to capture features that are not large enough for a normal-sized person to enter but appear to be part of a system of interconnected voids that connect the surface with the subsurface. The size and geometry of the feature is defined by in-place bedrock. Solution cavities also include areas where dissolution has increased the opening size and permeability along bedding planes as well as fractures.

Based on observations made across the entire study area, no solution cavities were identified.

Solution-Enlarged Fractures

Based on TCEQ criteria, a solution-enlarged fracture is one that shows evidence of being locally enlarged by dissolution of limestone, recognized by measurable (larger than hairline) openings and miss-matched fracture surface shapes.

Based on observations made across the entire study area, no solution-enlarged fractures were identified.

Faults

Based on TCEQ criteria, a fault is defined as a fracture along which there has been displacement of one side of the fracture relative to the other side. Displaced geologic materials and/or an abrupt change in surface topography can both be indicative of the presence of a fault.

Based on observations made across the entire study area, no faults were identified. Moreover, information obtained from technical publications reviewed as part of this *Geologic Assessment* suggests that no known faults are located within the study area or in the close proximity.

Manmade Features in Bedrock

Based on TCEQ criteria, manmade features in bedrock may include water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface.

Based on observations made across the entire study area, the following manmade features in bedrock were identified:

Onsite Manmade Feature in Bedrock MB-1

Latitude: 30.690241
Longitude: -97.723739
Dimensions: unknown

Onsite Feature MB-1 represents a water well located directly northwest of the onsite mobile home (refer to the Geologic Assessment Table in Attachment A, Figure 6 of Attachment D and photograph in Attachment E). The well is not functional. In the event that the well is not resurrected for future use, the well should be plugged and abandoned according to appropriate State rules.

Onsite Manmade Feature in Bedrock MB-2

Latitude: 30.690132
Longitude: -97.723486
Dimensions: unknown

Onsite Feature MB-2 represents an underground septic tank located directly northeast of the mobile home (refer to the Geologic Assessment Table in Attachment A and Figure 6 of Attachment D). The tank is likely functional; however, the system is not utilized. This feature is engineered, fully-enclosed and installed in bedrock that presumably showed no evidence of karst features during the installation process. It is assumed that this feature will not be utilized as part of future development on the tract, and that it will be closed and/or removed.

Swallet or Swallow Holes

Based on TCEQ criteria, a swallet or swallow hole may include a focused recharge feature in an intermittent drainage or stream in karst terrain. Some swallow holes have a surface expression, for example, a cave opening or formation of a whirlpool in the stream at high flow. The general case is that fine soil and sediment as well as gravel are deposited over the bedrock feature during falling stages of flow, thereby intermittently or frequently obscuring the feature.

Based on observations made across the entire study area, no swallet or swallow holes were identified.

Sinkholes

Based on TCEQ criteria, a sinkhole represents a shallow, broad topographic depression formed in response to karst processes. Sinkholes are pragmatically defined as features greater than six (6) feet in diameter with more than six (6) inches of topographic relief. Sinkholes are usually circular in map view. In cross section they may be subtle swales or funnel-shaped pits and some have exposed rimrock at the perimeter. The presence of a sinkhole implies that processes including collapse, subsidence, and soil sapping over geologic time have caused the land surface to sink below the surrounding area.

Based on observations made across the entire study area, no sinkholes were identified.

Other Natural Bedrock Features

Based on TCEQ criteria, other natural bedrock features include vuggy rock and reef deposits that may contain large holes or vugs.

Based on observations made across the entire study area, no other natural bedrock features were identified.

Non-karst Closed Depressions

Based on TCEQ criteria, a non-karst closed depression is a natural or non-natural topographic depression that is not formed by karst processes and is not bedrock floored. A feature larger than six (6) feet in at least one direction and with six (6) inches or more of topographic relief should be considered as a feature.

Based on observations made across the entire study area, no non-karst closed depressions were identified.

Zones

Based on TCEQ criteria, a zone is an area in which any type of karst feature occurs along a trend or in a cluster. Clustered or aligned features are more likely to be an indicator of an integrated flow system at depth than isolated features. Alignment is expected in areas where conduit flow is strongly influenced by structurally controlled fractures.

Based on observations made across the entire study area, no zones were identified.

Offsite Features

The field reconnaissance also included inspection of neighboring properties a distance of approximately 200 feet (as practical) from all boundaries of the study area for identification of offsite sensitive karst and/or manmade features in bedrock that could be deemed as significant in terms of development on the study area. The following offsite feature was identified:

Offsite Manmade Feature in Bedrock MB-3

Latitude: N/A
Longitude: N/A
Dimensions: N/A

Features represented by offsite Feature MB-3 qualify as manmade features in bedrock. The features include any/all underground infrastructure that has been installed along the southwest property boundary – along Williams Drive – including a water line and cable (refer to Geologic Assessment Table in Attachment A and Figure 6 of Appendix D). These features are engineered

and represent fully-enclosed wet and dry lines (Note: This assessment has no knowledge of the installation details).

The infrastructure is installed in bedrock that presumably showed no evidence of karst features during the installation process. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

POTENTIAL FOR FLUID MOVEMENT TO THE SUBSURFACE

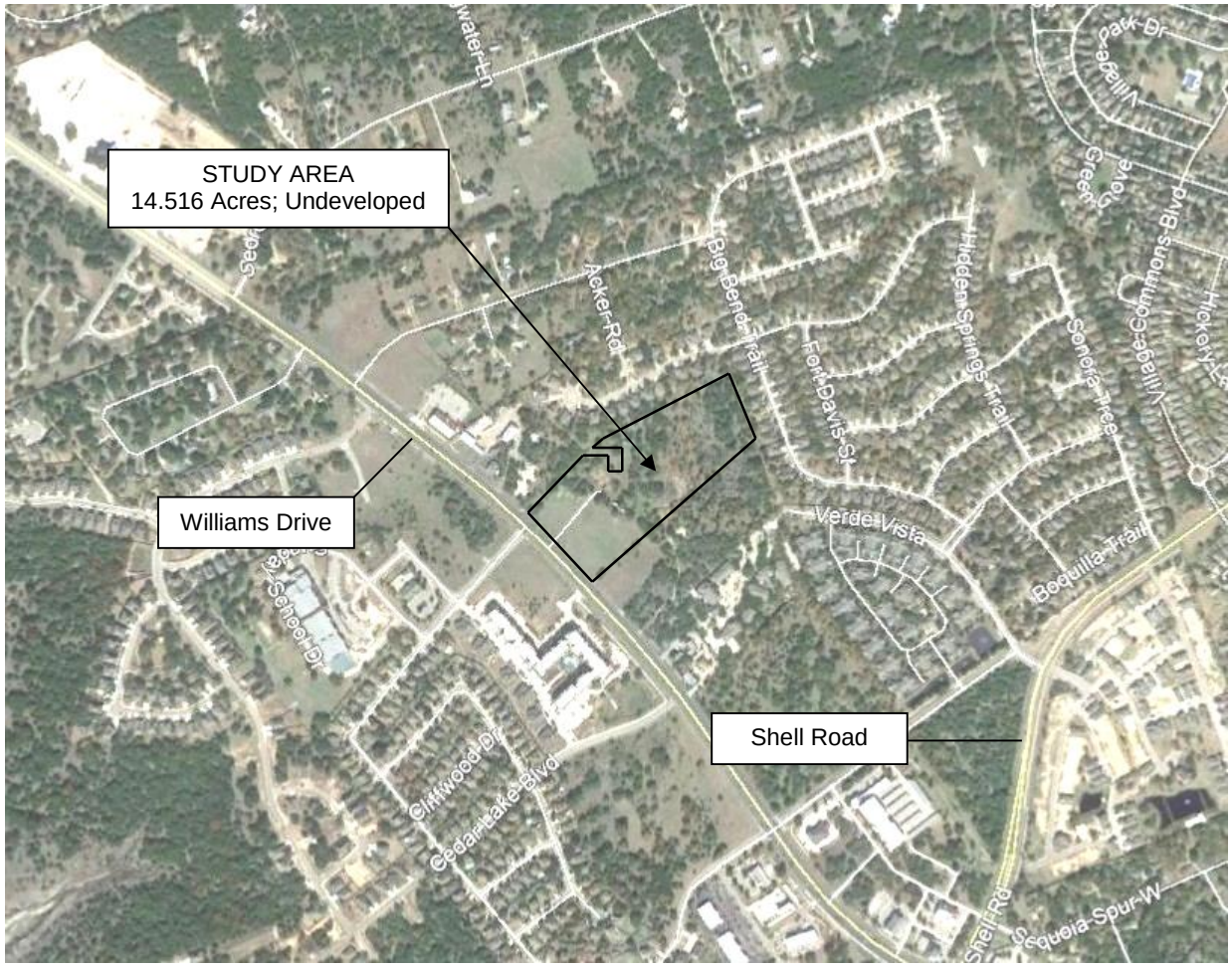
Based on review of available information and visual observations made during the field reconnaissance, this *Geologic Assessment* presents the following observations regarding the potential for recharge of the subsurface within the study area:

- Characteristics of soils that cover the study area are the primary factors that influence potential subsurface recharge on the property. The presence of Doss and Eckrant soils with reported slow and very slow permeability suggests overall slow recharge potential to the subsurface.

- No "defined" karst recharge points with focused recharge potential were observed to be located on the study area.

ATTACHMENT D

SITE GEOLOGIC MAPS



M. TROJAN & ASSOCIATES
Environmental Consultants

P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale:	No Scale
Date:	February 10, 2020
Project:	TCEQ Geologic Assessment
MTA Project:	MR-20-012

FIGURE 1

SITE LOCATION MAP

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

2019 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

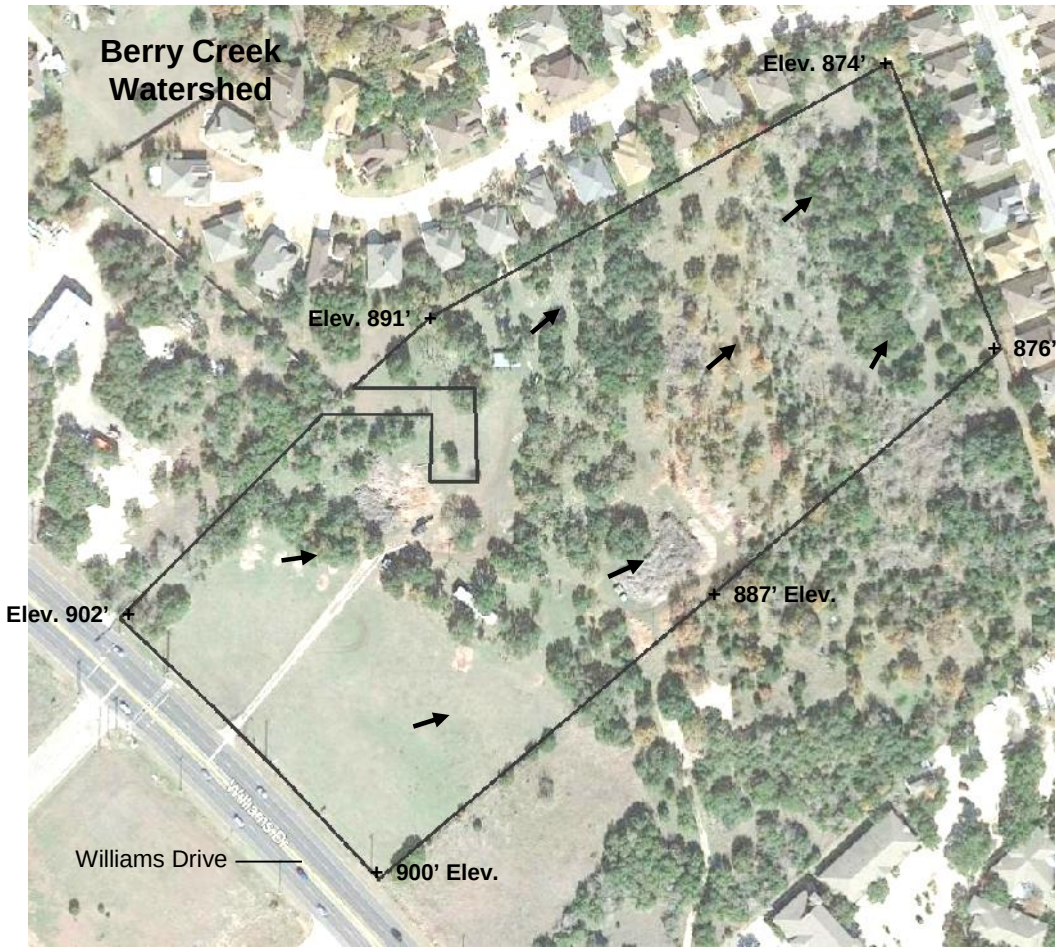
P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale: 1" = 270' (approx.)
Date: February 10, 2020
Project: TCEQ Geologic Assessment
MTA Project: MR-20-012

FIGURE 2

SITE AERIAL PHOTOGRAPH

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



Note: Topographic elevations depicted are approximate

→ Stormwater Runoff

M. TROJAN & ASSOCIATES
Environmental Consultants

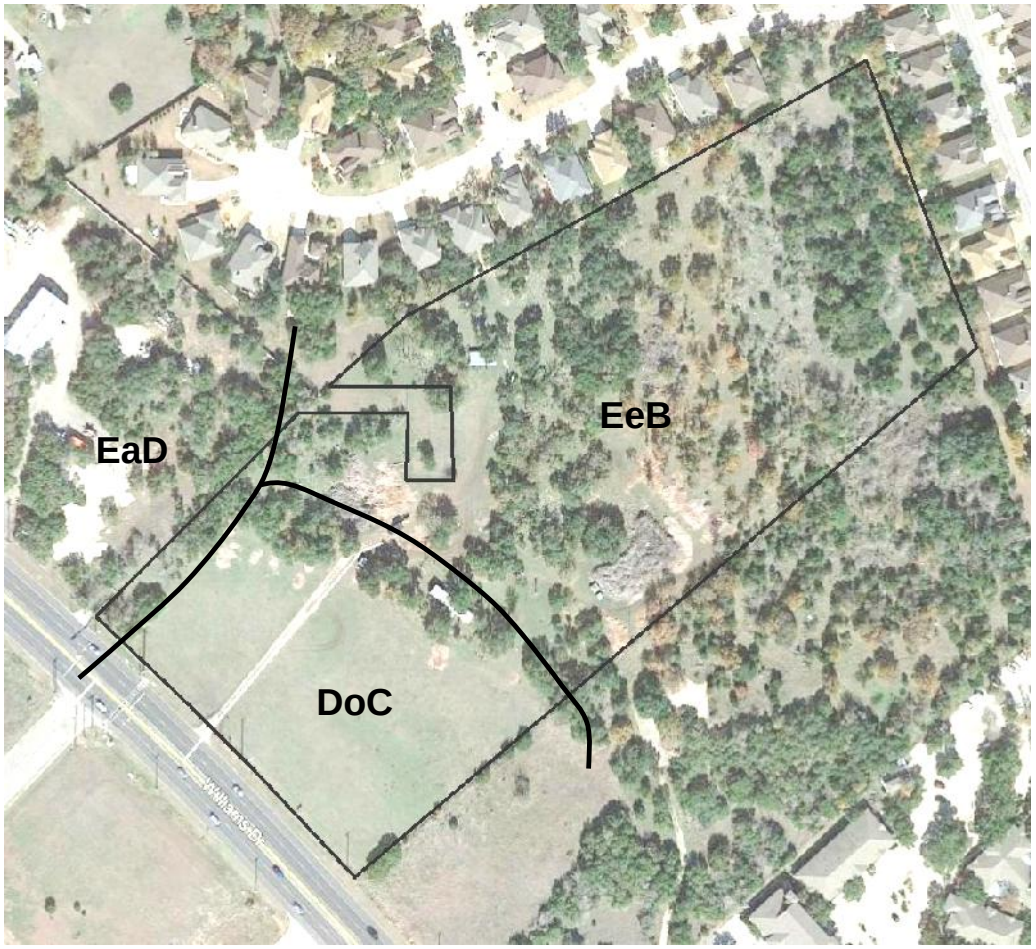
P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale:	1" = 270' (approx.)
Date:	February 10, 2020
Project:	TCEQ Geologic Assessment
MTA Project:	MR-20-012

FIGURE 3

SURFACE WATER HYDROLOGY

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

N

DoC – Doss silty clay, 1-5% slopes / EaD – Eckrant cobbly clay, 1-8% slopes / EeB – Eckrant extremely stony clay, 0-3% slopes

M. TROJAN & ASSOCIATES
Environmental Consultants

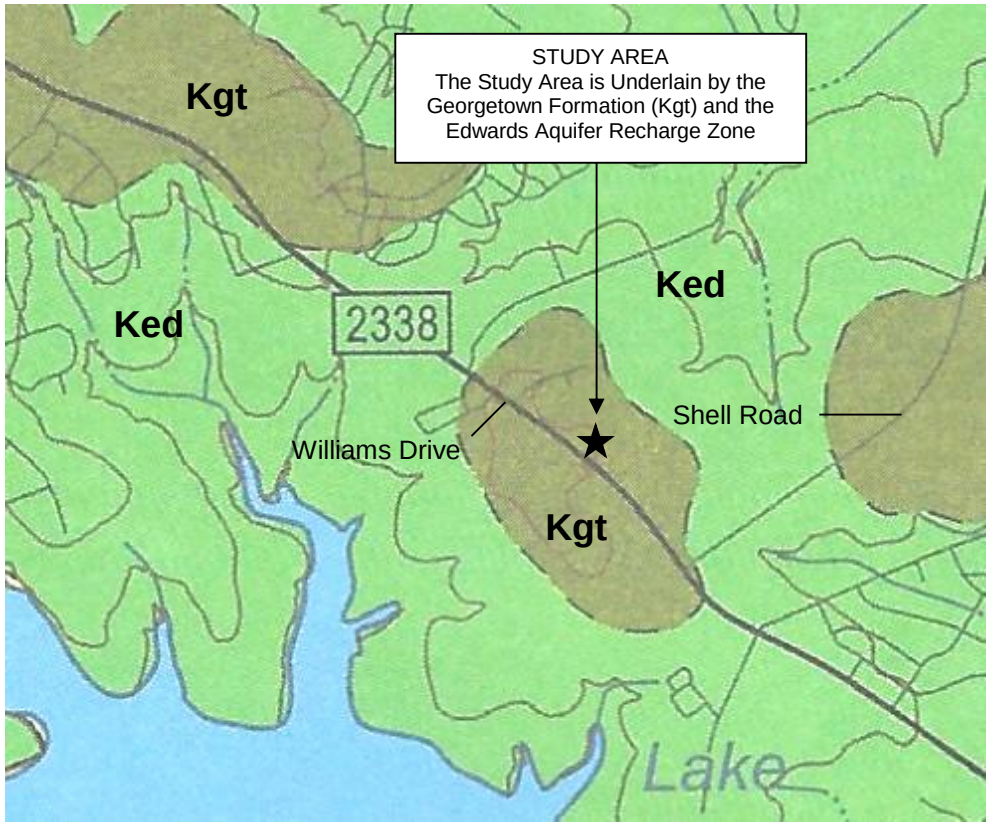
P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale: 1" = 270' (approx.)
Date: February 10, 2020
Project: TCEQ Geologic Assessment
MTA Project: MR-20-012

FIGURE 4

SITE SOILS MAP

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



Ked– Edwards Formation / Kgt – Georgetown Formation

NOTE: Subject property location is approximate
Sources: (1) Geologic Map of the West Half of the Taylor, Texas 30X60 Minute Quadrangle, Bureau of Economic Geology, dated 2005 (2) TCEQ

M. TROJAN & ASSOCIATES
Environmental Consultants

P.O. Box 338
Thorndale, Texas 76577
(512) 917-3695

Scale:	No Scale
Date:	February 10, 2020
Project:	TCEQ Geologic Assessment
MTA Project:	MR-20-012

FIGURE 5

GENERAL GEOLOGIC MAP

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

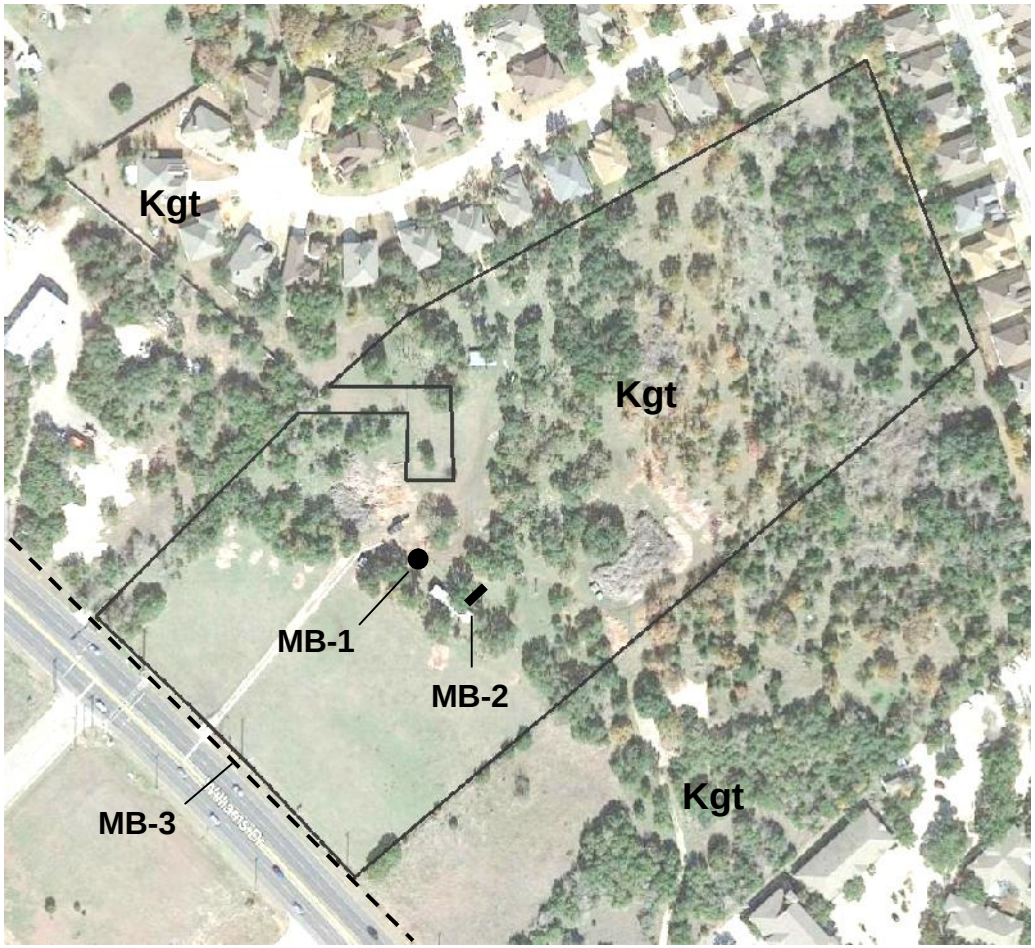
ONSITE FEATURES

MB-1: Manmade feature in bedrock (water well)

MB-2: Manmade feature in bedrock (septic tank)

OFFSITE FEATURES (within 200')

MB-3: Area of manmade features in bedrock (underground infrastructure)



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

NO ONSITE OR OFFSITE KARST FEATURES IDENTIFIED

NOTES

Kgt – Georgetown Formation

Source: Geologic Map of the West Half of the Taylor, Texas 30X60 Minute Quadrangle, Bureau of Economic Geology, dated 2005

M. TROJAN & ASSOCIATES
Environmental Consultants

P.O. Box 338
Thorndale, Texas 76577
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Date:	February 10, 2020
Project:	TCEQ Geologic Assessment
MTA Project	MR-20-012

FIGURE 6

SITE GEOLOGIC MAP

14.516-ACRE UNDEVELOPED TRACT
4795 WILLIAMS DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

ATTACHMENT E

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 1]

Project:	TCEQ Geologic Assessment
Site:	14.516-Acre Undeveloped Tract
Location:	4795 Williams Drive, Georgetown, Williamson County, Texas 78633
Date Taken:	February 10, 2020
Photographer:	Michael Trojan, PG

Description: View of typical landscape on the southwestern one-third of the study area. Photograph taken from the southeast property boundary facing northwest.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]

Project:	TCEQ Geologic Assessment
Site:	14.516-Acre Undeveloped Tract
Location:	4795 Williams Drive, Georgetown, Williamson County, Texas 78633
Date Taken:	February 10, 2020
Photographer:	Michael Trojan, PG
Description:	View of typical landscape on the central and northeastern portions of the study area.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]

Project:	TCEQ Geologic Assessment
Site:	14.516-Acre Undeveloped Tract
Location:	4795 Williams Drive, Georgetown, Williamson County, Texas 78633
Date Taken:	February 10, 2020
Photographer:	Michael Trojan, PG

Description: View of typical "loose" bedrock fragments imbedded in surface soils on the central and northeastern portions of the study area.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]

Project:	TCEQ Geologic Assessment
Site:	14.516-Acre Undeveloped Tract
Location:	4795 Williams Drive, Georgetown, Williamson County, Texas 78633
Date Taken:	February 10, 2020
Photographer:	Michael Trojan, PG

Description: Second view of typical "loose" bedrock fragments imbedded in surface soils on the central and northeastern portions of the study area.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]

Project:	TCEQ Geologic Assessment
Site:	14.516-Acre Undeveloped Tract
Location:	4795 Williams Drive, Georgetown, Williamson County, Texas 78633
Date Taken:	February 10, 2020
Photographer:	Michael Trojan, PG
Description:	View of the onsite water well (Manmade Feature in Bedrock MB-1) on the southwestern one-third part of the study area.

Section III
Water Pollution Abatement Plan (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: Michael Easton Mundine

Date: 09/07/2023

Signature of Customer/Agent:

Regulated Entity Name: Culver's - Williams Drive

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):2.41

3. Estimated projected population:78

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	4,440.75	÷ 43,560 =	0.10
Parking	8,208.00	÷ 43,560 =	0.19
Other paved surfaces	44,029.54	÷ 43,560 =	1.01
Total Impervious Cover	56,678.29	÷ 43,560 =	1.30

Total Impervious Cover 1.30 **÷ Total Acreage** 2.81 **X 100 =** 46.30**% 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	24,290 Gallons/day
0% Industrial	0 Gallons/day
0% Commingled	0 Gallons/day

TOTAL gallons/day 241,760

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 Pecan Branch Wastewater (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" = 30'.

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 #48491C0280E effectived September 26, 2008.

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.

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Attachment 3A – Factors Affecting Surface Water Quality

The factors affecting water quality as a result of proposed site improvements are as follows:

The proposed site improvements for the Culver's restaurant on Williams Drive include the construction of a 4,440.75 square foot restaurant building and the associated parking, drive aisles, and utility infrastructure. These improvements are all on the existing lot legally described as "AW0232 Fish J. Survey, Acres 14.518." This lot is in the process of being replatted, such that the improvements are located on Block A – Lots 1-3. The restaurant and parking are located on Lot 1 while portions of the drive aisles are located on Lots 2 and 3. In the tables below is a summary of the impervious cover for each lot effected by this development.

Site Area Calculations Block A - Lot 1			
	Area (SF)	Area (AC)	Area (%)
Site Area	61,114.68	1.40	100.00%
Building Area	4,440.75	0.10	7.27%
Sidewalk, Pavement, and other Impervious Cover	37,172.05	0.85	60.82%
Total Impervious Cover	41,612.80	0.96	68.09%
Allowable Impervious Cover	42,780.28	0.98	70.00%

Site Area Calculations Block A - Lot 2			
	Area (SF)	Area (AC)	Area (%)
Site Area	44,082.72	1.01	100.00%
Building Area	0.00	0.00	0.00%
Sidewalk, Pavement, and other Impervious Cover	10,913.64	0.25	24.76%
Total Impervious Cover	10,913.64	0.25	24.76%
Allowable Impervious Cover	30,857.90	0.71	70.00%

Site Area Calculations Block A - Lot 3			
	Area (SF)	Area (AC)	Area (%)
Site Area	116,218.08	2.67	100.00%
Building Area	0.00	0.00	0.00%
Sidewalk, Pavement, and other Impervious Cover	4,152.85	0.10	3.57%
Total Impervious Cover	4,152.85	0.10	3.57%
Allowable Impervious Cover	81,352.66	1.87	70.00%

The proposed improvements will facilitate large, industrial vehicular traffic to the site and will cause an increase in Total Suspended Solids (TSS). The vehicular traffic which will be visiting the site will naturally cause an increase in TSS due to unforeseen leaks in vehicles which can include, but are not limited to: brake fluid, hydraulic fluid, antifreeze, oil, gasoline, and diesel fuel. The surface water quality will be affected negatively by this increase in TSS, however, this water quality will be restored to abide by TCEQ (80% TSS Removal) and City of Georgetown's (85% TSS Removal) requirements with the existing Batch Detention Basin.

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Attachment 3B – Volume and Character of Stormwater

The volume and character of stormwater at the project site for both existing and post-development conditions are as follows:

The existing site consists of a single gravel road that does not provide access to any improvements. This existing improvement gives the pre-developed site a total of 2,355.50 square feet of impervious cover, or 1.92% of the 2.81-acre project area. The existing site information is based on a combination of surveys provided by GBI Partners dated May 20, 2022 and Steger & Bizzell Engineering, Inc. dated July 14, 2022. The site slopes down from the high point near the intersection of Williams Drive and the currently under construction Verde Vista extension with an approximate elevation of 903' to the low point located on the east end of the project area with an elevation of approximately 895'. Based on a soils report provided by the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS), the soils for the site consist of doss silty clay. This soil is categorized by a hydrologic soil group of D. The pervious areas of the site consist of short-grass prairie in good condition. These two elements give the proposed development a Base Curve Number of 80. The proposed site is located adjacent to the Verde Vista extension that is currently under construction. For the purpose of stormwater runoff calculations, it is assumed that the Verde Vista extension will be completed prior to the beginning of this development, and as such, the Verde Vista extension improvements are included.

The existing site is split into three separate drainage basins. See below for information about the existing drainage basins.

- Existing Drainage Basin 1 consists of a portion of the Verde Vista extension adjacent to the proposed site that drains to a curb inlet located within the Verde Vista right-of-way. Including the Verde Vista street extension, this basin has 10,055.89 square feet of impervious cover, or 99.46% of the 10,110.82 square foot drainage basin.
- Existing Drainage Basin 2 consists of Block A – Lot 1 and the portion of the Williams Drive right-of-way that drains across the site. The existing improvements give this basin 2,958.53 square feet of impervious cover, or 4.16% of the 71,108.49 square foot drainage basin.
- Existing Drainage Basin 3 consists of Block A – Lot 2 and the upstream portion from the Williams Drive right-of-way and the adjacent lot that drain across the site. The existing improvements give this basin 94.15 square feet of impervious cover, or 0.18% of the 50,894.32 square foot drainage basin.

The proposed site improvements consist of the construction of a 4,440.75 square foot restaurant building and the associated parking, drive aisles, and utility infrastructure. These improvements try to maintain the existing flow patterns and the number of developed drainage basins match the number of existing drainage basins. See below for information about the developed conditions drainage basins.

- Developed Drainage Basin 1 consists of the portion of the Verde Vista extension that drains to the curb inlet inside the Verde Vista right-of-way, in addition to the portion of the Culver's site that drains to the same inlet. The existing and proposed improvements combine for 27,101.19 square feet of impervious cover, or 62.63% of the 43,269.53 square foot drainage basin.

- Developed Drainage Basin 2 consists of the portion of the proposed improvements that drains to the southeastern corner of the development where it will leave the site through curb cuts and drain into a drainage ditch that conveys the water through a drainage easement to an inlet that conveys the stormwater runoff under Verde Vista and to the water quality and detention pond. The proposed improvements give the basin 43,943.61 square feet of impervious cover, or 68.03% of the 64,590.44 square foot drainage basin.
- Developed Drainage Basin 3 consists of the portion of Block A – Lot 2 that is not caught in the proposed improvements, and instead passes through a culvert under the proposed drive aisles and into the drainage ditch that conveys the water through a drainage easement to an inlet that conveys the stormwater runoff under Verde Vista and to the water quality and detention pond. The proposed improvements give this basin 536 square feet of impervious cover, or 2.01% of the 26,664.88 square foot drainage basin.

These improvements will be treated by an existing water quality and detention pond that utilizes a batch detention system to provide water quality treatment for the runoff.

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Attachment 3C – Suitability Letter from Authorized Agent

No On-Site Sewage Facilities are proposed with this development. Thus, a Suitability Letter from Authorized Agent is not required.

This section is not applicable to this project.

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Attachment 3D – Exception to the Required Geologic Assessment

An exception to the required Geologic Assessment is not being requested for this project.

This section is not applicable to this project.

Section IV
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: Michael Easton Mundine

Date: 09/08/2023

Signature of Customer/Agent:

Regulated Entity Name: Culver's - Williams Drive

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: Berry Creek

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.

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Attachment 4A – Spill Response Actions

No spills of hydrocarbons or hazardous substances are expected. However, in the event such an incidence does occur, the contractor should carefully follow the following TCEQ guidelines:

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.

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:
    a. Contain the spread of the spill.
    b. Recover spilled materials.
    c. 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:

From any event, the Reportable Quantity (RQ) = for high toxic materials the RQ>25 gallons. For petroleum/hydrocarbon liquids, spills the RQ>250 gallons (on land) or that which creates “a sheen” on water. Only certified Hazmat teams will be responsible for handling the material at the site.

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. Additionally, in the event of a hazardous material spill, local Williamson county and/or city of Georgetown police, fire and potentially EMS should be contacted in order to initiate the hazardous material response team.
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. Notifications should first be made by telephone and followed up with a written report of which one copy is to be kept onsite in the report binder and one copy provided to the TCEQ.
4. The services of a spill 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.tceq.state.tx.us/response/spills.html

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203 E. Main Street, Suite 204
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Attachment 4B – Potential Sources of Contamination

No particular activity or process during construction is anticipated to present a significant risk of being a potential source of contamination. However, during regular construction operations, several common and minor risks of contamination are anticipated. Should the unforeseeable mishap occur during construction or regular operation of the facility, the contractor shall follow the guidelines set forth in "Attachment 4A – Spill Response Actions."

Potential sources of sediment to stormwater runoff:

- Clearing and grubbing
- Grading and excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Combined Staging Area – small fueling, minor equipment maintenance, sanitary facilities.
- Materials Storage Area – solvents, adhesives, paving materials, aggregates, trash, etc.
- Construction Activities – paving, concrete pouring
- Concrete Washout Area

Potential Onsite Pollutants:

- Fertilizer
- Concrete
- Glue, adhesives
- Gasoline, diesel fuel, hydraulic fluids, antifreeze
- Sanitary toilets

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Attachment 4C – Sequence of Major Activities

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan and in accordance with the stormwater pollution prevention plan (SWPPP) that is required to be posted on the site. Approximately 2.81 acres will be disturbed during this activity.
2. The environmental project manager, and/or site supervisor, and/or designated responsible party, and the general contractor will follow the storm water pollution prevention plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with city inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion and sedimentation control plan.
3. Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the stormwater pollution plan (SWPPP) posted on the site.
4. Begin site clearing and demolition activities. Approximately 2.81 acres will be disturbed during this activity.
5. Complete construction and begin re-vegetation of the site.
6. Upon completion of the site construction and re-vegetation of a project site, the design engineer shall submit an engineer's letter of concurrence to the City of Georgetown indicating that construction, including re-vegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate city inspector.
7. After construction is complete and all disturbed areas have been re-vegetated per plan to at least 90% established, remove the temporary erosion and sedimentation controls, and complete any necessary final re-vegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation that is needed.

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Attachment 4D – Temporary Best Management Practices and Measures

Prior to the commencement of any construction activity whatsoever, the contractor shall install the silt fencing per the Erosion and Sedimentation Control Plan. The silt fencing shall be installed per TCEQ and local requirements. The proposed temporary BMP are intended to control increased TSS from construction activities in the following manner:

A.) The proposed development receives stormwater runoff from the Williams Drive right-of-way to the southwest and a portion of the lot to the southeast of the proposed site. The area to the east and the Verde Vista right-of-way to the north drain away from the site.

B.) The temporary BMPs proposed during construction activities will prevent sediment-laden runoff from pollutant sources listed in 'Attachment 4B – Potential Sources of Contamination' from leaving the proposed site. The primary method of controlling sediment-laden stormwater runoff is through silt fencing and a rock berm. The erosion controls will be placed per plan along the downslope edges of the project area.

C.) With the temporary silt fences and rock berm in place, no unfiltered stormwater runoff will enter any surface streams or sensitive features.

D.) The proposed project seeks to honor the natural drainage patterns that currently exist in the proposed project area. There are no known sensitive geologic features on the site. After construction is completed, the site will maintain its current drainage patterns with the stormwater runoff draining towards the northeast.

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Attachment 4E – Request to Temporarily Seal a Feature

No temporary sealing of naturally occurring sensitive features on the site are proposed.

This section is not applicable to this project.

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Attachment 4F – Structural Practices

The following temporary BMP structural practices will be employed on the site:

1. Silt Fence – used as barrier protection around the downslope perimeter of the project. The fence retains sediment primarily by retarding flow and promoting deposition on the uphill side of the slope. Runoff is filtered as it passes through the geotextile fabric.
2. Rock Berm – used to intercept sediment-laden runoff in areas of concentrated flow and then detain the sediment and release the water in sheet flow.
3. Concrete Washout Area – used to prevent or reduce the discharge of pollutants to stormwater from concrete waste. The concrete washout area is a designated area to wash out wastes into the temporary pit where the concrete can set, be broken up, and the disposed of properly.
4. Stabilized Construction Entrance – used to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. The stabilized construction entrance is a stabilized pad of crushed stone and should be located at any point traffic will be entering or leaving the construction site from a public right-of-way.
5. Contractor Staging Area – used as an area for the contractor to store and prepare equipment and materials before using them during the construction phase.

The placement of structural practices in the floodplain has been avoided.

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Attachment 4G – Drainage Area Map

See attached Construction Plans for the Existing and Proposed Drainage Area Maps.

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Attachment 4H – Temporary Sediment Pond(s) Plan and Calculations

There are no temporary sediment ponds or basins proposed as a temporary BMP for stormwater management on this project.

This section is not applicable to this project.

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Attachment 4I – Inspection and Maintenance for BMPs

The inspection and maintenance of temporary BMP's will be made according to TCEQ RG-348, Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices.

Inspection Personnel:

Inspections shall be conducted by qualified representatives of the contractor acting on behalf of the owner or a designated party if hired separately by the owner. Each operator must delegate authority to the specifically described position or person performing inspections, as provided by 30 TAC 305.128, as an authorized person for signing reports and performing certain activities requested by the director or required by the TPDES general permit. This delegation of authority must be provided to the director of TCEQ in writing and a copy shall be kept along with the signed effective copy of the SWP3.

Inspection Schedule and Procedures - Inspections must comply with the following:

A.) An inspection shall occur weekly and after any rain event. This inspection should include an inspection of the temporary concrete washout area.

B.) The authorized party shall inspect all disturbed areas of the site, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site.

C.) Disturbed areas and areas used for storage of materials that are exposed to precipitation or within limits of the 1% annual chance (100 year) floodplain must be inspected for evidence of, or the potential for, pollutants entering the runoff from the site. Erosion and sediment control measures identified in the plan must be observed to ensure that they are operating correctly. Observations can be made during wet or dry weather conditions. Where discharge locations or points are accessible, they must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. This can be done by inspecting receiving waters to see whether any signs or erosion or sediment are associated with the discharge location. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

D.) Based on the results of the inspection, the site description and the pollution prevention measures identified in the plan must be revised as soon as possible after an inspection that reveals inadequacies. The inspection and plan review process must provide for timely implementation of any changes to the plan with 7 calendar days following the inspection.

E.) An inspection report that summarizes the scope of the inspection, name(s) and qualifications of personnel conducting the inspection, the dates of the inspection, major observations relating to the implementation of the SWP3. Major observations shall include as a minimum location of discharges of sediment or other pollutants from the site, location of BMPs that need to be maintained, location of BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where BMPs are needed. Actions taken as a result of the inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and the TPDES general permit. The report must be signed by the authorized representative delegated by the operators in accordance with TAC 305.128.

Maintenance and Corrective Actions - Maintenance of erosion control facilities shall consist of the minimum requirements as follows:

A.) In ongoing construction areas inspect erosion control improvements to confirm facilities are in place and operable. Where facilities have been temporarily set aside or damaged due to construction activity, place facilities in service before leaving job site.
B.) If weather forecast predicts possibility of rain, check entire facilities throughout site to assure facilities are in place and operable. If job site weather conditions indicate high probability of rain, make special inspection of erosion control facilities.
C.) After rainfall events review erosion control facilities as soon as site is accessible. Clean berm/swales and other structural facilities. Determine where additional facilities or alternative techniques are needed to control sediment leaving site.
D.) After portions of site have been seeded, review these areas on regular basis in accordance with project specifications to assure proper watering until grass is established. Reseed areas where grass is not well established.
E.) Spills are to be handled as specified by the manufacturer of the product in a timely safe manner by personnel. The site superintendent will be responsible for coordinating spill prevention and cleanup operations.
F.) Concrete trucks will discharge extra concrete or wash out drum only at an approved location on site. Residual product shall be properly disposed of.
G.) Inspect vehicle entrance and exits for evidence of off-site tracking and correct as needed.
H.) If sediment escapes the site, the contractor where feasible and where access is available shall collect and remove sedimentation material by appropriate non-damaging methods. Additionally, the contractor shall correct the condition causing discharges.
I.) If inspections or other information sources reveal a control has been used incorrectly, or that a control is performing inadequately, the contractor must replace, correct or modify the control as soon as practical after discovery of the deficiency.

Silt Fence – Inspection and maintenance guidelines for silt fences are as follows:

A.) Inspect all fencing weekly, and after any rainfall.
B.) Remove sediment when buildup reaches 6 inches.
C.) Replace any torn fabric or install a second line of fencing parallel to the torn section.
D.) 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.
E.) 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 Berm – Inspection and maintenance guidelines for the rock berm is as followed:

A) Inspections should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
B) 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.
C) Repair any loose wire sheathing.
D) The berm should be reshaped as needed during inspection.
E) 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.
F) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Stabilized Construction Entrance – Inspection and maintenance guidelines for the stabilized construction entrance are as follows:

A.) 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.
B.) All sediments spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
C.) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public rights-of-way.
D.) 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.
E.) All sediment should be prevented from entering any storm drain, ditch, or water course by using approved methods.

Concrete Washout Area – Inspection and maintenance guidelines for the concrete washout area are as follows:

A.) Concrete washout areas should be located at least 50 feet from sensitive features, storm drains, open ditches, or water bodies.
B.) Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
C.) Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
D.) When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials sued to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

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Round Rock, Texas 78664
512-344-9664
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Attachment 4J – Schedule of Interim and Permanent Soil Stabilization Practices

Prior to Disturbance – Install all temporary erosion and sedimentation control features.

During Construction – Inspect and maintain all temporary erosion and sedimentation control structures per TCEQ regulations.

After Completion of Permanent Erosion and Sediment Controls – Stabilize and restore all areas disturbed during construction. Permanent seeding will be applied immediately after the final design grades are achieved on portions of the site but no later than 14 days after construction activities have permanently ceased. After the entire site is stabilized, any sediment that has accumulated will be removed and hauled off-site for disposal. Construction debris, trash and temporary BMPs including silt fences, material storage areas, sanitary toilets, etc.) will also be removed and any areas disturbed during removal will be seeded immediately.

Section V
Permanent Stormwater Section (TCEQ-0600)

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: Michael Easton Mundine

Date: 09/11/2023

Signature of Customer/Agent

Regulated Entity Name: Culver's - Williams Drive

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

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203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
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Attachment 5A – 20% or Less Impervious Cover Waiver

The site will not be used for multi-family residential developments, schools, or small business sites. This project will also have more than 20% impervious cover.

This section is not applicable to this project.

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203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
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Attachment 5B – BMPs for Upgradient Stormwater

The proposed development receives upgradient stormwater runoff from the Williams Drive right-of-way located southwest of the proposed site. The total off-site area which drains onto the proposed development is approximately 0.30 acres, of which approximately 0.05 acres is impervious cover, or 16.97%.

The upgradient stormwater runoff from Williams Drive is split between Drainage Basins #2 and #3. Stormwater runoff from the lots to the southeast and northeast as well as from the Verde Vista extension that is currently under construction do not enter the site. No additional detention or water quality facilities are proposed to treat the stormwater runoff originating from upstream of the proposed site. The existing water quality pond utilizing a Batch Detention System will provide both detention and water quality treatment to offsite stormwater that flows over proposed improvements, and the Batch Detention System has been sized accordingly. Refer to "Attachment 5C – BMPs for Onsite Stormwater" for more information on surface drainage features.

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Attachment 5C – BMPs for On-Site Stormwater

In general accordance with the TCEQ Technical Guidance Manual, onsite stormwater BMP's must be designed to remove at least 80% of the increased total suspended solids (TSS) from the proposed project. The City of Georgetown requires an additional 5%, for a minimum requirement of 85% TSS removal. An existing detention and water quality pond utilizing a Batch Detention Basin system will be used for this WPAP. The proposed site drains to the existing Batch Detention Basin located on the northern corner of the site.

As described in the Addendum Sheet of "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" (TCEQ Approval of Innovative Technology, Section 3.2.17),

> "Batch Detention Basins capture and temporarily detain the water quality volume from a storm event using an automated controller and valve. They are intended to serve primarily as settling basins for the solids fraction, and as a means of limiting downstream erosion by controlling peak flow rates during erosive events… Batch detention basins are designed to prevent clogging of the outflow structure and resuspension of captured sediment during a discharge. They also provide enhanced dissolved pollutant removal performance. The batch detention design typically incorporates a non-clogging outflow structure, such as an orifice protected by a trash rack, or a perforated riser pipe protected by riprap."

The proposed site layout and grading divide the site into 3 separate detention basins. Drainage basin #1 includes a portion of the Verde Vista extension and a portion of the site that drains to a curb inlet in the Verde Vista right-of-way. Drainage Basins #2 and #3 drain to a drainage swale inside of a drainage easement to the east of the site. The curb inlet in the Verde Vista right-of-way and the drainage swale east of the proposed improvements convey the stormwater runoff to the existing detention and water quality pond located to the northeast of the proposed site.

This development is the first development coming to the Schiller Business Park subdivision that is part of the Verde Vista extension project. The subdivision was designed with a water quality and detention pond sized to treat 6 of the lots that will be platted alongside the Verde Vista extension. A separate detention and water quality treatment facility will be required for the remaining two lots in the subdivision. The subdivision has an area of 23.80 acres, and have the Verde Vista extension project is completed, the existing subdivision will have an impervious cover of 2.16 acres. The proposed improvements will bring the impervious cover up to 3.45 acres. The portion of this subdivision draining to the detention and water quality pond constructed with the Verde Vista extension is only 15.25 acres, 1.50 acres of which is existing impervious cover. The proposed improvements will bring up the impervious cover of the area that drains to the pond to 2.79 acres. Using the TCEQ Calculation Spreadsheet, this information gives us a required water quality volume of 3,067 cubic feet, a sediment storage volume of 613 cubic feet, and a combined total of 3,681 cubic feet. See the following pages for the TCEQ TSS calculations for this development.

The batch detention system built alongside the Verde Vista extension has been sized to treat all of the added impervious cover with these plans as well as the assumed impervious cover that could be added with future development on adjacent lots. Using the TCEQ Calculation Spreadsheet, the required water volume for this Batch Detention Basin is 38,660 cubic feet. An additional 7,736 cubic feet is required for sediment storage for a total capture volume of 46,416 cubic feet. As designed, the proposed water quality pond provides 51,846 cubic feet of volume at an elevation of 871.65', which will be the rim elevation for the rotating bucket of the SmartBatch System.

This capture volume exceeds the volume necessary for the minimum 80% TSS required by TCEQ and the 85% required by the City of Georgetown. See the following pages for the TCEQ TSS calculations for the water quality pond constructed with the subdivision improvements.

TCEQ TSS Calculations Spreadsheet for the Culvers – Williams Drive Project

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Additional information is provided for cells with a red triangle in the upper right corn
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will r

1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: $L_M = 28.93(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resul
A_N = Net increase in impervious a
P = Average annual precipitation

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson		
Total project area included in plan * =	23.80	acres	
Predevelopment impervious area within the limits of the plan * =	2.16	acres	
Total post-development impervious area within the limits of the plan* =	3.45	acres	
Total post-development impervious cover fraction * =	0.15		
P =	32	inches	
$L_{M\ TOTAL\ PROJECT}$ =	1195	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. = POI 2

Total drainage basin/outfall area =	15.25	acres
Predevelopment impervious area within drainage basin/outfall area =	1.50	acres
Post-development impervious area within drainage basin/outfall area =	2.79	acres
Post-development impervious fraction within drainage basin/outfall area =	0.18	
$L_{M\ THIS\ BASIN}$ =	1195	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention System
Removal efficiency = 91 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 3

where:

A_C = Total On-Site drainage area
A_I = Impervious area proposed in
A_P = Pervious area remaining in tl
L_R = TSS Load removed from this

A_C =	**15.25**	acres
A_I =	**2.79**	acres
A_P =	**12.46**	acres
L_R =	**3010**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**1195**	lbs.
F =	**0.40**	

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Rainfall Depth =	**0.29**	inches
Post Development Runoff Coefficient =	**0.19**	
On-site Water Quality Volume =	**3067**	cubic feet

Calculations from RG-348

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 =	**613**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**3681**	cubic feet

2P CONSULTANTS, LLC
September 13, 2023

TCEQ TSS Calculations Spreadsheet for Water Quality Facility Constructed With Subdivision Improvements

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Additional information is provided for cells with a red triangle in the upper right corn
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-
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1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: $L_M = 28.93(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resul
A_N = Net increase in impervious a
P = Average annual precipitation

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	23.80	acres
Predevelopment impervious area within the limits of the plan * =	0.35	acres
Total post-development impervious area within the limits of the plan* =	9.18	acres
Total post-development impervious cover fraction * =	0.39	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	8170	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = POI 2

Total drainage basin/outfall area =	15.25	acres
Predevelopment impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious area within drainage basin/outfall area =	8.95	acres
Post-development impervious fraction within drainage basin/outfall area =	0.59	
$L_{M\ THIS\ BASIN}$ =	8184	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention System
Removal efficiency = 91 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 3

where:

A_C = Total On-Site drainage area
A_I = Impervious area proposed in
A_P = Pervious area remaining in tl
L_R = TSS Load removed from this

A_C =	**15.25**	acres
A_I =	**8.95**	acres
A_P =	**6.30**	acres
L_R =	**9117**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**8170**	lbs.
F =	**0.90**	

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Rainfall Depth =	**1.70**	inches
Post Development Runoff Coefficient =	**0.41**	
On-site Water Quality Volume =	**38680**	cubic feet

Calculations from RG-348

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 =	**7736**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**46416**	cubic feet

2P CONSULTANTS, LLC
203 E. Main Street, Suite 204
Round Rock, Texas 78664
512-344-9664
TBPE FIRM #F-19351

Attachment 5D – BMPs for Surface Streams

No BMPs are proposed to specifically affect surface streams.

The function of the proposed onsite BMPs is to remove TSS from stormwater runoff while retaining natural flow patterns downstream of the site. Therefore, the BMPs proposed for reducing pollutant loads in surface stream are the onsite BMPs and are described in the previous section: “Attachment 5C – BMPs for On-site Stormwater”.

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Attachment 5E – Request to Seal Features

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 for any features on this site.

This section is not applicable to this project.

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Attachment 5F – Construction Plans

An electronic copy of the design plans is included with this submittal. Full-sized copies of the construction plans are submitted separately.

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Attachment 5G – Inspection, Maintenance, Repair, and Retrofit Plan

The following are recommended maintenance procedures as outlined in TCEQ's Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices.

Batch Detention Basins:
Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

Inspections: Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing: The basin, basin side-slopes, and embankment of the 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 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 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 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 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.).

Structural Repairs and Replacement: With each inspection, any damage to structural elements of the 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 basin will eventually deteriorate and must be replaced.

Sediment Removal: A properly designed batch detention basin 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 basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

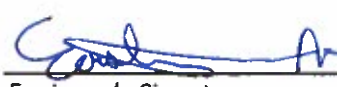
Logic Controller: The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The 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: Records of all inspections and maintenance for the facility shall be recorded and maintained for the water quality facility beginning at startup of the facility. Record keeping shall be detailed to provide type of maintenance or repair made, date of the service, and detail of the extent of the maintenance or repair. The owner or responsible party of the facility is responsible for maintaining the facility as outlined in this plan until such time as another entity assumes responsibility in writing or ownership of the property is transferred. A copy of the transfer of ownership or responsibility must be filed with the Executive Director of TCEQ within 30 days of the transfer.

Owner's Signature

2-7-2023

Date



Engineer's Signature

2/8/2023

Date

2P CONSULTANTS, LLC
203 E. Main Street, Suite 204
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512-344-9664
TBPE FIRM #F-19351

Attachment 5H – Pilot-Scale Field Testing Plan

TCEQ's Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices was used to design permanent BMPs and measures for this site.

This section is not applicable to this project.

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Attachment 5I – Measures for Minimizing Surface Stream Contamination

BMPs proposed to reduce pollutants in surface streams are discussed in Attachment 5C: "BMPs for Onsite Stormwater." Peak runoff rates for the existing and proposed drainage areas were determined using HEC-HMS 4.11. Atlas 14 rainfall precipitation data was taken from the Williamson County Subdivision Regulations for a site located over the San Gabriel River Zone. This rainfall data was plugged into HEC-HMS as a 24-hour frequency storm for the 2, 10, 25, and 100-year storm events. The Atlas 14 rainfall precipitation data can be found in the table below.

Williamson County Atlas 14 Precipitation Data for the San Gabriel River Zone				
Duration	2-YR (in)	10-YR (in)	25-YR (in)	100-YR (in)
5 MIN	0.51	0.757	0.921	1.19
15 MIN	1.02	1.51	1.84	2.37
1 HR	1.88	2.79	3.4	4.39
2 HR	2.3	3.55	4.43	5.98
3 HR	2.55	4.02	5.09	7.06
6 HR	2.98	4.81	6.18	8.75
12 HR	3.44	5.54	7.12	10.1
24 HR	3.94	6.3	8.04	11.2

The existing 2.81-acre project area is mostly undeveloped, consisting of a single gravel road that does not provide access to any improvements. This existing improvement gives the pre-developed site a total of 2,355.50 square feet of impervious cover, or 1.92% of the 2.81-acre project area. The site slopes down from the high point near the intersection of Williams Drive and the currently under construction Verde Vista extension with an approximate elevation of 903' to the low point located on the east end of the project area with an elevation of approximately 895'. The existing site is split into three separate drainage basins by the existing improvements and site topography.

- Existing Drainage Basin 1 consists of a portion of the Verde Vista extension adjacent to the proposed site that drains to a curb inlet located within the Verde Vista right-of-way. Including the Verde Vista street extension, this basin has 10,055.89 square feet of impervious cover, or 99.46% of the 10,110.82 square foot drainage basin. This curb inlet in the Verde Vista right-of-way is referred to as Point of Interest 1.
- Existing Drainage Basin 2 consists of Block A – Lot 1 and the portion of the Williams Drive right-of-way that drains across the site. The existing improvements give this basin 2,958.53 square feet of impervious cover, or 4.16% of the 71,108.49 square foot drainage basin. The area downstream of Existing Drainage Basin 2 and 3 is referred to as Point of Interest 2.
- Existing Drainage Basin 3 consists of Block A – Lot 2 and the upstream portion from the Williams Drive right-of-way and the adjacent lot that drain across the site. The existing improvements give this basin 94.15 square feet of impervious cover, or 0.18% of the 50,894.32 square foot drainage basin. The area downstream of Existing Drainage Basin 2 and 3 is referred to as Point of Interest 2.

A summary of the existing conditions drainage basin information and the drainage calculations from the HEC-HMS model for the existing conditions can be found at the top of the next page.

Existing Conditions Drainage Basin Information									
Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
EX-1	10,110.82	0.23	0.000362676	10,055.89	99.46%	80	97.90	6.0	3.6
EX-2	71,108.49	1.63	0.002550666	2,958.53	4.16%	80	80.75	6.0	3.6
EX-3	50,894.32	1.17	0.001825583	94.15	0.18%	80	80.03	6.4	3.9

Existing Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	1.09	1.61	1.97	2.54
2	4.68	8.71	11.47	15.94
3	3.18	5.99	7.91	11.01
POI 1	1.09	1.61	1.97	2.54
POI 2	7.86	14.67	19.36	26.94

The proposed site improvements consist of the construction of a 4,440.75 square foot restaurant building and the associated parking, drive aisles, and utility infrastructure. These improvements try to maintain the existing flow patterns and the number of developed drainage basins match the number of existing drainage basins. See below for information about the developed conditions drainage basins.

- Developed Drainage Basin 1 consists of the portion of the Verde Vista extension that drains to the curb inlet inside the Verde Vista right-of-way, in addition to the portion of the Culver's site that drains to the same inlet. The existing and proposed improvements combine for 27,101.19 square feet of impervious cover, or 62.63% of the 43,269.53 square foot drainage basin.
- Developed Drainage Basin 2 consists of the portion of the proposed improvements that drains to the southeastern corner of the development where it will leave the site through curb cuts and drain into a drainage ditch that conveys the water through a drainage easement to an inlet that conveys the stormwater runoff under Verde Vista and to the water quality and detention pond. The proposed improvements give the basin 43,943.61 square feet of impervious cover, or 68.03% of the 64,590.44 square foot drainage basin.
- Developed Drainage Basin 3 consists of the portion of Block A – Lot 2 that is not caught in the proposed improvements, and instead passes through a culvert under the proposed drive aisles and into the drainage ditch that conveys the water through a drainage easement to an inlet that conveys the stormwater runoff under Verde Vista and to the water quality and detention pond. The proposed improvements give this basin 536 square feet of impervious cover, or 2.01% of the 26,664.88 square foot drainage basin.

A summary of the developed conditions drainage basin information and drainage calculations from the HEC-HMS model for the proposed conditions are as follows:

Developed Conditions Drainage Basin Information									
Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
1	43,269.53	0.99	0.001552081	27,101.19	62.63%	80	91.27	6.0	3.6
2	61,062.44	1.40	0.002190314	42,006.16	68.79%	80	92.38	6.0	3.6
3	23,197.19	0.53	0.000832085	536.00	2.31%	80	80.42	9.4	5.6

Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	3.96	6.29	7.86	10.41
2	5.75	9.02	11.23	14.80
3	1.28	2.39	3.16	4.40
POI 1	3.96	6.29	7.86	10.41
POI 2	6.92	11.26	14.21	18.97

A summary of comparison between the existing and proposed drainage calculations is as follows:

Existing vs Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
POI 1	2.87	4.68	5.89	7.87
POI 2	-0.94	-3.41	-5.15	-7.97

The increase in stormwater runoff and TSS will be handled by a detention and water quality pond that is being constructed alongside the subdivision improvements and is located to the northeast of the proposed site. This pond will utilize a Batch Detention system in order to necessary detention and water quality volume. Stormwater will fill the pond until it reaches the rim of the rotating bucket at 871.65', the water quality elevation of the pond, and the base of the bucket is at 869', the bottom of the pond. As the stormwater runoff in the pond rises above an elevation of 871.65', the stormwater will enter the outfall bucket and be conveyed to an existing stormwater structure through an 18" pipe. Twelve hours after the rainfall event begins, the outfall bucket will slowly rotate to an elevation of 869' over the span of 46 hours to completely empty the pond after all the suspended solids have settled.

A table showing the storage capacity of the Batch Detention Basin can be seen below:

Detention and Water Quality Pond Stage Storage			
Elevation	Area (SF)	Cumulative Volume (ft^3)	Pond Discharge (cfs)
869	0.00	0.00	0.00
870	10,612.05	5,306.03	0.00
871	33,325.72	27,274.91	0.00
871.65	41,456.40	51,845.69	0.00
872	43,152.51	66,670.29	4.53
873	46,302.93	111,398.01	17.98
874	49,607.53	159,353.24	51.34
874.33	50,743.38	175,911.14	68.70
875	53,135.09	210,710.43	---
875.33	54,369.24	228,448.64	---

Stormwater runoff leaving the Batch Detention Basin is reduced from the existing conditions for the 2-YR, 10-YR, 25-YR, 50-YR, and 100-YR storm events. Stormwater runoff from the Batch Detention Basin will enter an 18" pipe and get conveyed to an existing stormwater structure and will have no adverse impacts to neighboring or downstream properties as the stormwater flow will enter the existing stormwater structure at a flowrate below the existing conditions flowrate.

Section VI
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 Travis Wilkes,
Print Name

Other,
Title - Owner/President/Other

of Ken Schiller & Associates, Inc.,
Corporation/Partnership/Entity Name

have authorized Michael Easton Mundine, P.E.
Print Name of Agent/Engineer

of 2P Consultants, 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

2-7-2023
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Travis Wilke 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 7 day of February 2023

Leticia Hernandez
NOTARY PUBLIC

LETICIA HERNANDEZ
My Notary ID # 125650598
Expires April 7, 2026

Leticia Hernandez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: April 7, 2026

Section VII
Application Fee Form (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Culver's - Williams Drive
Regulated Entity Location: 4704 Williams Drive, Georgetown, Texas 78633
Name of Customer: Ken Schiller and Associates, INC.
Contact Person: Travis Wilkes Phone: (512) 619-1250
Customer Reference Number (if issued):CN 601164080
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	2.81 Acres	$ 4,000.00
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 09/14/2023

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 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

Section VIII
Core Data Form (TCEQ-10400)

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ 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 601164080		RN

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	9/14/2023

☐ 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:*

Ken Schiller and Associates Inc.

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
109620800	N/A	74-2519257	N/A

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ **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
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

212 Iva June Lane

City	State	ZIP	ZIP + 4
Georgetown	TX	78628	2961

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	travis@11nmainventures.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 619-1250		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☒ 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 Agency 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.*)

Culver's - Williams Drive

23. Street Address of the Regulated Entity: *(No PO Boxes)*	4704 Williams Drive							
	City	Georgetown	**State**	TX	**ZIP**	78633	**ZIP + 4**	2201
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.689883		**28. Longitude (W) In Decimal:**	97.724708		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	
30°	41'	23.58"	97°	43'	28.95"	

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)
5810		722511	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

This development is for a Culver's restaurant that serves fast food and ice cream.

34. Mailing Address:	**212 Iva June Lane**							
	City	**Georgetown**	**State**	**TX**	**ZIP**	**78628**	**ZIP + 4**	**2961**

35. E-Mail Address:	**travis@11nmainventures.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 619-1250		**( ) -**

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	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Michael Easton Mundine	**41. Title:**	Project Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 344-9664	109	( ) -	emundine@2pconsultants.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:	2P Consultants, LLC.	**Job Title:**	Project Engineer
Name *(In Print):*	Michael Easton Mundine	**Phone:**	(512) 344- **9664**
Signature:		**Date:**	10/27/2023

PROJECT TITLE :	CULVERS RESTAURANT SITE DEVELOPMENT PLANS
PROJECT LEGAL DESCRIPTION:	2.38 ACRES SITUATED IN THE JOSEPH FISH SURVEY ABSTRACT NO. 232
PROJECT STREET ADDRESS:	4704 WILLIAMS DR. GEORGETOWN, TEXAS 78633
PROPERTY OWNER:	KEN SCHILLER & ASSOCIATES, INC. TRAVIS WILKES 212 IVA JUNE LN. GEORGETOWN, TEXAS 78628 TRAVIS@11NMAINVENTURES.COM 11NMAINVENTURES.COM (512) 619-1250
ENGINEER:	2P CONSULTANTS, LLC. 203 E. MAIN STREET, SUITE 203 ROUND ROCK, TX 78664 MICHAEL EASTON MUNDINE, P.E EMUNDINE@2PCONSULTANTS.COM WWW.2PCONSULTANTS.COM (512) 344-9664
ARCHITECT:	WENDY MARTIN OLLMANN EARNEST MARTIN ARCHITECTS 200 S STATE ST BELVIDERE, ILLINOIS 61008 WENDY MARTIN WMARTIN@OAARCH.COM 512-593-6039
LANDSCAPE ARCHITECT:	MELONCON DESIGN GROUP, INC. 1004 GREAT OAKS COVE ROUND ROCK, TEXAS 78681 TODD MELONCON TODD@MELONCONDESIGNGROUP.COM WWW.MELONCONDESIGNGROUP.COM 512-560-1185
SURVEYOR:	JPH LAND SURVEYING, INC 1516 E. PALM VALLEY BLVD., SUITE A4 ROUND ROCK, TX 78664 COLE STREVEY JPHLANDSURVEYING.COM 512-577-5688

SITE AREA CALCULATIONS BLOCK A - LOT 1

	AREA (SF)	AREA (AC)	AREA (%)
SITE AREA	61,114.68	1.40	100.00
BUILDING AREA	4,440.75	0.10	7.27
SW, PAVEMENT, MISC. IMPERVIOUS COVER	37,172.05	0.85	60.82
TOTAL IMPERVIOUS COVER	41,612.80	0.96	68.09
ALLOWABLE IMPERVIOUS COVER	42,780.28	0.98	70.00

SITE AREA CALCULATIONS BLOCK A - LOT 2

	AREA (SF)	AREA (AC)	AREA (%)
SITE AREA	44,082.72	1.01	100.00
BUILDING AREA	0.00	0.00	0.00
SW, PAVEMENT, MISC. IMPERVIOUS COVER	10,913.64	0.25	24.76
TOTAL IMPERVIOUS COVER	10,913.64	0.25	24.76
ALLOWABLE IMPERVIOUS COVER	30,857.90	0.71	70.00

CITY LIMITS NOTE: THE PROJECT IS LOCATED IN THE CITY LIMITS OF THE CITY OF GEORGETOWN.

ZONING NOTE: THE PROPERTY IS ZONED AS C-1 - LOCAL COMMERCIAL

OVERLAY NOTE: THE ADJACENT WILLIAMS DRIVE IS PART OF THE SCENIC-NATURAL OVERLAY. THERE ARE NO OTHER OVERLAYS ONSITE.

FLOODPLAIN NOTE: NO PORTION OF THIS PROJECT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM MAP 48491C0280E EFFECTIVE SEPTEMBER 26, 2008: .

AQUIFER NOTE: THIS PROJECT IS LOCATED IN THE EDWARDS AQUIFER RECHARGE ZONE.

WATERSHED NOTE: THIS SITE IS LOCATED IN THE BERRY CREEK WATERSHED, THERE ARE NO KNOWN CRITICAL ENVIRONMENTAL FEATURES EVIDENT ON THIS SITE.

WATER QUALITY: THIS PROJECT IS LOCATED WITHIN THE EDWARD'S AQUIFER RECHARGE ZONE AND HAS AN APPROVED WPAP UNDER EDWARD'S AQUIFER PROTECTION PROGRAM.

DETENTION NOTE: DETENTION IS PROVIDED BY A REGIONAL DETENTION POND. CONSTRUCTED UNDER 2022-40-CON 4795 WILLIAMS DRIVE SUBDIVISION IMPROVEMENT PLANS

TRAFFIC CALCULATIONS:

AM IN: N/A*	AM OUT: N/A*	AM PASS-BY: N/A*
PM IN: 38	PM OUT: 35	PM PASS-BY: 72

*AM HAS BEEN LABELED AS N/A DUE TO THE FACT THAT CULVERS DOES NOT SERVE BREAKFAST.

BENCHMARKS: BM ½" REBAR
X = 3116659.6798
Y = 10223942.1980

UTILITY CONTACTS:

WATER:	CITY OF GEORGETOWN	512-930-3640	GUS.GEORGETOWN.ORG 21 EAST MAIN STREET ROUND ROCK, TX 78664
WASTEWATER:	CITY OF GEORGETOWN	512-930-3640	GUS.GEORGETOWN.ORG 21 EAST MAIN STREET ROUND ROCK, TX 7866
ELECTRIC:	ONCOR ELECTRIC	888-313-6862	HTTPS://WWW.ONCOR.COM/US/EN/HOME.HTML 203 W MAIN ST, ROUND ROCK, TX 78664
CABLE/TELEPHONE:	TBD	TBD	
NATURAL GAS:	TBD	TBD	

IMPORTANT NOTES TO CONTRACTOR

ADDITIONAL NOTES FOR PROPERTIES LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE:

1. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
2. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON FEBRUARY 10, 2020 AND JANUARY 16, 2023. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN

SUBDIVISION CONSTRUCTION PLAN NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE 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 IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. 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.
4. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06

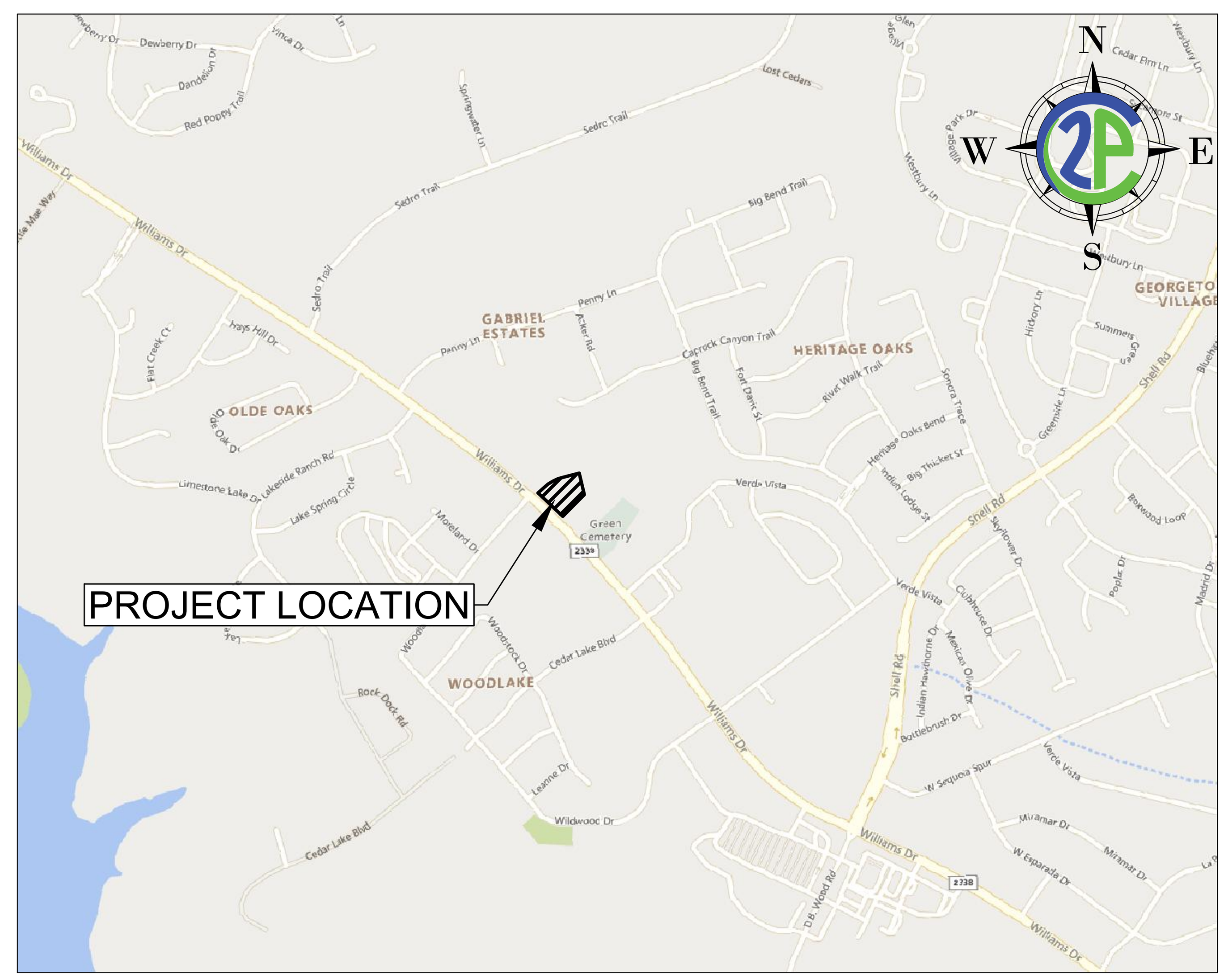
GENERAL NOTES:

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 SPECIFICATIONS AND STANDARDS, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER 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, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
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 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. FIRE FLOW REQUIREMENTS OF 1,500 GALLONS PER MINUTE ARE BEING PERMITTED IN THIS APPLICATION.
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATEDBY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEERS 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.
15. 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.
16. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTING, 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.
17. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06

IMAGES: * signature TP.png
XREFS: * MEM SEAL.dwg * E-BASE.dwg

CULVERS RESTAURANT SITE DEVELOPMENT PLANS

4704 WILLIAMS DR
GEORGETOWN, TEXAS 78633
INITIAL SUBMITTAL: 07/17/2023
2023-47-SDP



VICINITY MAP - 1" = 1000'

RECORDED FINAL PLAT DOC.NO ____________

WPAP CASE #________________________

SWPPP________________________

REVISIONS / CORRECTIONS

No.	Description	Revise (R) Add (A) Void (V) Sheet No.'s	TOTAL # SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ FT)	TOTAL SITE IMP. COVER (SF. FT)/%	CITY OF AUSTIN APPROVAL DATE	DATE IMAGED

NOTES:

1. THESE PLANS ARE NOT TO BE CONSIDERED FINAL FOR CONSTRUCTION UNTIL ACCEPTED BY THE CITY / AND, OR THE COUNTY. CHANGES MAY BE REQUIRED PRIOR TO APPROVAL.
2. 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 OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ADDITIONAL SITE DEVELOPMENT PLAN NOTES, SUBJECT TO APPLICABILITY:

1. **SCREENING AND LOCATION OF OUTDOOR STORAGE SHALL COMPLY WITH SECTION 5.09 OF THE UDC.**
2. **THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.**
3. **A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON (JANUARY 16, 2023). ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.**

IMPORTANT NOTES TO CONTRACTOR

1. THE LOCATIONS OF THE EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER, DESIGN ENGINEER OR THE OWNER'S 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 OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, AND SHALL REPAIR OR REPLACE TO NEW QUALITY.
2. CAUTION: DO NOT USE THESE DRAWINGS FOR STAKING BUILDINGS ON THIS PROJECT. THE SIZE AND CONFIGURATION OF THESE BUILDINGS SHOWN HEREON ARE BASED ON THE LATEST ARCHITECTURAL INFORMATION AVAILABLE TO 2P CONSULTANTS, LLC. AT THE TIME OF COMPLETION OF THESE PLANS. THE FUTURE SIZE AND CONFIGURATION OF EACH BUILDING IS SUBJECT TO CHANGE. THE LATEST APPROVED, SIGNED AND SEALED ARCHITECTURAL PLANS SHOULD BE CONSULTED FOR THE ACTUAL SIZE, CONFIGURATION AND LOCATION OF EACH BUILDING.
3. CONTRACTOR SHALL REFER TO CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS, OR ANY REQUIRED LOCAL CODE WHICHEVER IS MOST STRINGENT.
4. THIS SITE IS SUBJECT TO TPDES REGULATIONS. TXR15000. TDLR NO.:TABS2021007840

PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, DATE

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, THE CITY OF GEORGETOWN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

I, MICHAEL EASTON MUNDINE P.E., do hereby confirm that any new Public Works and Drainage Improvements described herein, have been designed in compliance with the stormwater drainage policy adopted by the City of Georgetown, Texas.

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

9/14/23

MICHAEL EASTON MUNDINE, P.E. DATE
ALL PLAN SHEETS EXCEPT
LANDSCAPE AND ARCHITECTURAL SHEETS

ENGINEERING
2P
CONSULTING

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

1 OF 35 - COVER SHEET - ----- - CULVERS RESTAURANT SITE DEVELOPMENT PLANS

4704 WILLIAMS DR GEORGETOWN, TEXAS 78633 - Date Plotted:9/14/2023 10:17 AM

CITY OF GEORGETOWN'S GENERAL 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 PLAN SHALL MEET THE UDC STORMWATER 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, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
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 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. FIRE FLOW REQUIREMENTS OF 1,500 GALLONS PER MINUTE ARE BEING MET BY THIS PLAN.
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. 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.
15. 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.
16. 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.
17. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
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 QUALITY REGULATIONS, WAS COMPLETED ON FEBRUARY 10, 2020 AND JANUARY 16, 2023. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

GENERAL NOTES: (CITY OF GEORGETOWN)

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 IN AFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THIS 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 MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TEST AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY CONTRACTOR ACCORDING TO THE CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF GEORGETOWN DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY 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 C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEAD 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 TCEQ AND THE CITY,
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALT CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADS.
19. ALL SIDEWALK RAMPS 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 IMPROVEMENT. THIS BOND SHALL BE ESTABLISHED FOR 2YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON TIFF OR PDF (300dpi).

FIRE PROTECTION NOTES

1. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.
2. BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.
3. ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTILLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.
4. ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING AND JOINT RESTRAINED WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.
5. ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINT RESTRAINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.
6. ALL UNDERGROUND SHALL BE FLUSHED PER THE REQUIREMENTS OF NFPA STANDARD 24 AND WITNESSED BY GEORGETOWN FMO.
7. ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI, OR 50 PSI MORE THAN THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE + OR - 5 PSI FOR 2 HOURS.
8. FENCES, LANDSCAPING, AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT, AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOTE FDCs.
9. LICENSE REQUIREMENTS OF EITHER RME-U OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYOR'S MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

CONSTRUCTION SEQUENCING

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.
2. THE ENVIRONMENTAL PROJECT MANAGER, AND/OR SITE SUPERVISOR, AND/OR DESIGNATED RESPONSIBLE PARTY, AND THE GENERAL CONTRACTOR WILL FOLLOW THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.
3. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.
4. BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.
5. COMPLETE CONSTRUCTION AND START RE-VEGETATION OF THE SITE.
6. UPON COMPLETION OF THE SITE CONSTRUCTION AND RE-VEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE TO THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT INDICATING THAT CONSTRUCTION, INCLUDING RE-VEGETATION, IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
7. AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN RE-VEGETATED PER PLAN TO AT LEAST 90 PERCENT ESTABLISHED, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL RE-VEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

TPDES / SWPPP

A STORMWATER POLLUTION PREVENTION PLAN, AS REQUIRED BY THE STATE OF TEXAS UNDER THE TPDES STATUTES, IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST BE FILED AND AVAILABLE FOR INSPECTION ON-SITE. PROJECT INFO & CONTACT NAME SHALL BE POSTED IN A PUBLIC PLACE AT THE MAIN GATE / CONSTRUCTION ENTRANCE. THE NOTICE OF INTENT (NOI) SHALL BE FILED WITH T.C.E.Q. AND A COPY GIVEN TO THE CITY OF GEORGETOWN. NO WORK SHALL BE STARTED BEFORE ALL ASPECTS OF THE SWPPP ARE IN PLACE. ALL REGULATIONS ON THE SWPPP SHALL BE STRICTLY FOLLOWED OR THE CONTRACTOR WILL BE SUBJECT TO SERIOUS FINES. CONTRACTOR INFORMATION:

CONTRACTOR:

CONTRACTOR PHONE NUMBER:

FIRE DEPARTMENT NOTES

ON PAVEMENT FIRE LINE STRIPES SHALL BE A CONTINUOUS 8" RED COLOR STRIPE WITH: "NO PARKING - FIRE LANE - TOW AWAY ZONE" IN 4" WHITE COLOR LETTERS.

ALONG CURBS, PAINT FACE WITH RED COLOR AND WRITE WITH 4" WHITE COLOR LETTERS: "NO PARKING - FIRE LANE - TOW AWAY ZONE".

STREET AND DRAINAGE NOTES:

1. ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE CITY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE PRIOR TO ANY TESTING.
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
4. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE CITY OF ROUND ROCK ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT.
5. BARRICADES BUILT TO CITY OF GEORGETOWN STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
6. ALL R.C.P. SHALL BE MINIMUM CLASS III.
7. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY ROCK ENGINEERING AND TESTING LABORATORY, LLC. ON OCTOBER 24, 2022. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

Table 1: Recommended Pavement Section Thickness, Inches

	RIGID PAVEMENT	
	LIGHT DUTY SECTION	HEAVY DUTY SECTION
REINFORCED CONCRETE	6"	8"
COMPACTED SUBGRADE	8"	8"

NOTES:

- THE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
- CONTROL JOINT SPACING SHALL NOT EXCEED 15-FEET AND PREFERABLY LESS TO ADEQUATELY CONTROL CRACKING.
- IT IS RECOMMENDED TO REINFORCE THE CONCRETE WITH #4 BARS ($\frac{1}{2}$" DIAMETER) SPACED AT 18" AND 12" ON CENTER EACH WAY FOR LIGHT AND HEAVY-DUTY OPTIONS, RESPECTIVELY. THE SPLICE LENGTH FOR #4 BARS SHOULD NOT BE LESS THAN 20".
- HEAVY-DUTY TRUCK PARKING, LOADING, UNLOADING AND TURNING AREAS SHOULD USE THE HEAVY DUTY RIGID PAVEMENT OPTION.
- THE PAVEMENT THICKNESSES ABOVE, ONCE COMPLETE, WILL BE CAPABLE OF SUPPORTING A TOTAL VEHICLE LIVE LOAD OF 90,000 POUNDS AND MEETS THE HS-20 (16 KIPS PER WHEEL) LOAD CARRYING CAPACITY REQUIRED.
- AVERAGE DAILY TRUCK TRAFFIC EXCLUDES PICKUP AND PANEL TRUCKS.
- INADEQUATE DRAINAGE OF THE PAVEMENT SYSTEM WILL ACCELERATE PAVEMENT DISTRESS AND RESULT IN INCREASED MAINTENANCE COSTS. ADEQUATE DRAINAGE SHOULD BE PROVIDED FOR THE PAVEMENT SYSTEM. ADEQUATE DRAINAGE CONSISTS OF A CURB AND GUTTER OR A SHOULDER AND BAR DITCH SYSTEM.
- THESE PAVEMENT THICKNESS DESIGNS ARE INTENDED TO TRANSFER THE LOAD FROM THE ANTICIPATED TRAFFIC CONDITIONS. DEEP SEATED SOIL SWELLING OR SETTLEMENT OF FILL MATERIALS MAY CAUSE LONG WAVE SURFACE ROUGHNESS. THE RECOMMENDATIONS ABOVE ARE INTENDED TO REDUCE MAINTENANCE COSTS AND INCREASE THE SERVICEABLE LIFESPAN OF THE PAVEMENT SYSTEM.

TECQ-0592 (Rev. 3/15/07)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN 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 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. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
6. 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).
7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
8. 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).
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. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 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 TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
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	SAN ANTONIO REGIONAL OFFICE
2800 S. IH 35, SUITE 100	14250 JUDSON ROAD
AUSTIN, TEXAS 78704-5712	SAN ANTONIO, TEXAS 78233-4480
PHONE (512) 339-2929	PHONE (210) 490-3096
FAX (512) 339-3795	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
WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61-G AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).
3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF PW-G) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).
4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).
5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR, AS REQUIRED BY 30 TAC §290.44(E)(4)(B).
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4).
7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT, AS REQUIRED BY 30 TAC §290.44(B)
8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT, AS REQUIRED BY 30 TAC §290.44(D)(1).
9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION, AS REQUIRED BY 30 TAC §290.44(F)(1).
10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED, AS REQUIRED BY 30 TAC §290.44(F)(1).
11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
    - THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q = \frac{LPD\sqrt{P}}{148{,}000}$$

WHERE:

Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,

L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,

D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND

P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

- THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

WHERE:

L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,

S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,

D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND

P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIAL UTILIZED MUST MEET 30 TAC §290.44(E)(1)-(4).
13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEAN-OUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT, AS REQUIRED BY 30 TAC §290.44(E)(5).
14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION, AS REQUIRED BY 30 TAC §290.44(E)(6).
15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE, AS REQURIED BY 30 TAC §290.44(E)(7).
16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS, AS REQUIRED BY 30 TAC §290.44(E)(8).
17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C-651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK FOR EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, AS REQUIRED BY 30 TAC §290.44(F)(3).
18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

GENERAL NOTES (1 OF 2)

PERMIT No. ----

SHEET No. 2 OF 35

2023-47-SDP

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PLOT DATE: Thursday, September 14, 2023
PLOTTED BY: EMUNDINE

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	San Antonio Regional Office
12100 Park 35 Circle, Building A	14250 Judson Road
Austin, Texas 78753-1808	San Antonio, Texas 78233-4480
Phone (512) 339-2929	Phone (210) 490-3096
Fax (512) 339-3795	Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

RECOMD | REVISIONS | DATE | NO.

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

GENERAL NOTES (2 OF 2)

PERMIT No. ----

SHEET No. 3 OF 35

2023-47-SDP

WHEREAS Ken Schiller & Associates, Inc., a Texas corporation (hereinafter referred to as Schiller tract) is the owner of that certain 14.518 acre tract situated in the Joseph Fish Survey, Abstract No. 232, City of Georgetown, Williamson County, Texas, recorded in a Special Warranty Deed under Instrument Number 2022027501, Official Public Records of Williamson County, Texas,

And WHEREAS Novak Williams Senior Living LLC, a Texas limited liability company (hereinafter referred to as Novak tract) is the owner of that certain 9.290 acre tract situated in the Joseph Fish Survey, Abstract No. 232, City of Georgetown, Williamson County, Texas, recorded in a Special Warranty Deed under Instrument Number 2023021036, Official Public Records of Williamson County, Texas; the subject tract, is more particularly described as follows (bearings are based on the Texas Coordinate System of 1983, Central Zone):

BEGINNING at a 1/2-inch capped rebar stamped "FOREST SURVEYING BOUNDARY RPLS 1847" found in the northeast right-of-way line of Williams Drive (a variable width right-of-way, partially described in deeds to the State of Texas recorded under Instrument Numbers 2007059175 and 2007075483 of said official public records), being in southeast line of that tract described as a 0.27 of an acre roadway to a Cemetery Tract in a Warranty Deed to Betty Sue Barker, Trustee of The Barker Family Trust (hereinafter referred to as Barker roadway tract), recorded under Instrument Number 2017040286 of said official public records, at the common north corner of said Schiller tract and said State of Texas (Instrument Number 2007059175) tract;

THENCE along a common line of said Barker roadway tract and said Schiller tract the following calls:

1. NORTH 47° 02' 14" EAST, a distance of 427.67 feet to a 1/2-inch capped rebar stamped "FOREST SURVEYING BOUNDARY RPLS 1847" found,
2. SOUTH 89° 22' 32" EAST, a distance of 128.05 feet to a 5/8-inch rebar found in the west line of that tract described as a 0.198 of an acre Cemetery Tract in a Warranty Deed to Betty Sue Barker, Trustee of The Barker Family Trust (hereinafter referred to as Barker cemetery tract), recorded under Instrument Number 2017040286 of said official public records at a common corner of said Schilling tract and said Barker roadway tract;

THENCE along the common line of said Barker cemetery tract and said Schiller tract the following calls:

1. SOUTH 00° 43' 10" EAST, a distance of 86.89 feet to a 2-inch metal fence corner post found at the southwest corner of said Barker cemetery tract,
2. SOUTH 88° 26' 38" EAST, a distance of 66.93 feet 2-inch metal fence corner post found at the southeast corner of said Barker cemetery tract,
3. NORTH 00° 44' 18" WEST, a distance of 128.06 feet to a 2-inch metal fence corner post found at the northeast corner of said Barker cemetery tract,
4. NORTH 89° 36' 31" WEST, a distance of 67.02 feet to a 2-inch metal fence corner post found at a common corner of said Barker cemetery tract and said Barker roadway tract;

THENCE NORTH 89° 15' 59" WEST, along a common line of said Barker roadway tract and said Schiller tract, a distance of 106.72 feet to a 5/8-inch rebar found in the southeast line of Lot 11, Block B, THE RESERVE AT HERITAGE OAKS, an addition to the City of Georgetown, recorded under Instrument Number 2012099556 of said official public records;

THENCE along the common line of Block B of said THE RESERVE AT HERITAGE OAKS and said Schiller tract the following calls:

1. NORTH 47° 06' 22" EAST, a distance of 148.48 feet to 1/2-inch rebar with an illegible cap found at the common south corner of Lot 9 and Lot 10, Block B of said THE RESERVE AT HERITAGE OAKS,
2. NORTH 58° 59' 21" EAST, a distance of 736.32 feet to a 1/2-inch capped rebar stamped "FOREST SURVEYING BOUNDARY RPLS 1847" found in the southwest line of Tract "E" (Open Space-Drainage), HERITAGE OAKS SECTION 5, an addition to the City of Georgetown, recorded in Cabinet GG, Slide 287, Plat Records of Williamson County, Texas, at the common east corner of Lot 1, Block B of said THE RESERVE AT HERITAGE OAKS and said Schiller tract;

THENCE SOUTH 21° 33' 20" EAST, along the common line of said Tract "E", HERITAGE OAKS SECTION 5 and said Schiller tract, a distance of 449.79 feet to a 1/2-inch rebar at the common east corner of said Schiller tract and said Novak tract;

THENCE SOUTH 22° 14' 50" EAST, along the common line of said Tract "E", HERITAGE OAKS SECTION 5 and said Novak tract, at a distance of 369.53 feet passing a 5/8-inch rebar found at the northwest terminus corner of Verde Vista, (a 65-foot right-of-way described in Cabinet CC, Slide 262 of said plat records), continuing along the common line of said Novak tract and the west terminal line of said Verde Vista a total distance of 388.77 feet to a 1/2-inch rebar found at the east corner of said Novak tract and the purported north corner of that tract described as 1625 square feet in a Right-of-Way Dedication Deed to the City of Georgetown, a Texas home-rule corporation (hereinafter referred to as City of Georgetown tract), recorded under Instrument Number 2004030341 of said official public records, from which a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found at the southeast corner of said City of Georgetown tract bears SOUTH 22° 25' 52" EAST, a distance of 52.99 feet;

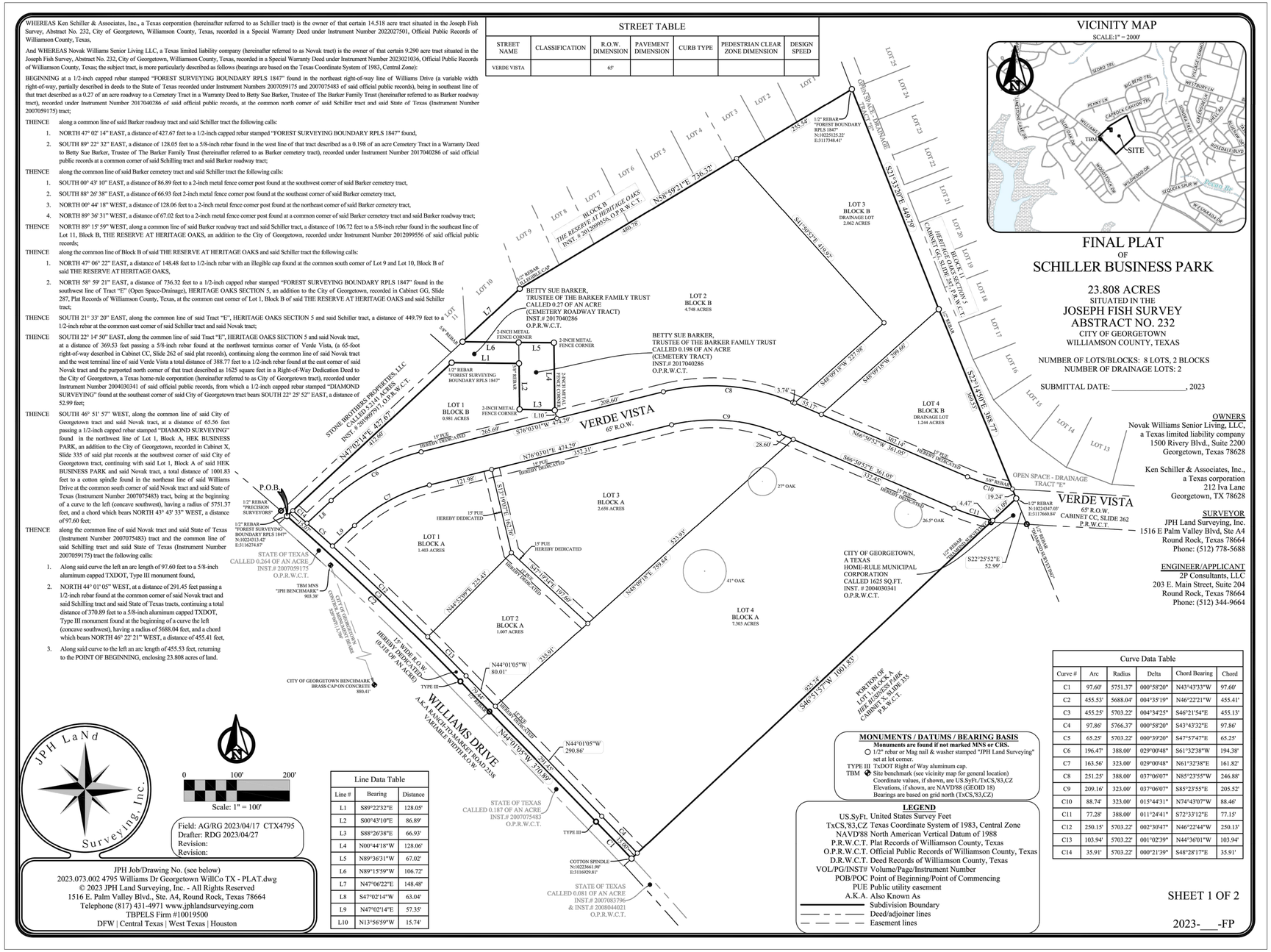
THENCE SOUTH 46° 51' 57" WEST, along the common line of said City of Georgetown tract and said Novak tract, at a distance of 65.56 feet passing a 1/2-inch capped rebar stamped "DIAMOND SURVEYING" found in the northwest line of Lot 1, Block A, HEK BUSINESS PARK, an addition to the City of Georgetown, recorded in Cabinet X, Slide 335 of said plat records at the southwest corner of said City of Georgetown tract, continuing with said Lot 1, Block A of said HEK BUSINESS PARK and said Novak tract, a total distance of 1001.83 feet to a cotton spindle found in the northeast line of said Williams Drive at the common south corner of said Novak tract and said State of Texas (Instrument Number 2007075483) tract, being at the beginning of a curve to the left (concave southwest), having a radius of 5751.37 feet, and a chord which bears NORTH 43° 43' 33" WEST, a distance of 97.60 feet;

THENCE along the common line of said Novak tract and said State of Texas (Instrument Number 2007075483) tract and the common line of said Schilling tract and said State of Texas (Instrument Number 2007059175) tract the following calls:

1. Along said curve the left an arc length of 97.60 feet to a 5/8-inch aluminum capped TXDOT, Type III monument found,
2. NORTH 44° 01' 05" WEST, at a distance of 291.45 feet passing a 1/2-inch rebar found at the common corner of said Novak tract and said Schilling tract and said State of Texas tracts, continuing a total distance of 370.89 feet to a 5/8-inch aluminum capped TXDOT, Type III monument found at the beginning of a curve the left (concave southwest), having a radius of 5688.04 feet, and a chord which bears NORTH 46° 22' 21" WEST, a distance of 455.41 feet,
3. Along said curve to the left an arc length of 455.53 feet, returning to the POINT OF BEGINNING, enclosing 23.808 acres of land.

STREET TABLE

STREET NAME	CLASSIFICATION	R.O.W. DIMENSION	PAVEMENT DIMENSION	CURB TYPE	PEDESTRIAN CLEAR ZONE DIMENSION	DESIGN SPEED
VERDE VISTA		65'				



VICINITY MAP

SCALE:1" = 2000'

FINAL PLAT
OF
SCHILLER BUSINESS PARK

23.808 ACRES
SITUATED IN THE
JOSEPH FISH SURVEY
ABSTRACT NO. 232
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

NUMBER OF LOTS/BLOCKS: 8 LOTS, 2 BLOCKS
NUMBER OF DRAINAGE LOTS: 2

SUBMITTAL DATE: _____, 2023

OWNERS
Novak Williams Senior Living, LLC,
a Texas limited liability company
1500 Rivery Blvd., Suite 2200
Georgetown, Texas 78628

Ken Schiller & Associates, Inc.,
a Texas corporation
212 Iva Lane
Georgetown, TX 78628

SURVEYOR
JPH Land Surveying, Inc.
1516 E Palm Valley Blvd, Ste A4
Round Rock, Texas 78664
Phone: (512) 778-5688

ENGINEER/APPLICANT
2P Consultants, LLC
203 E. Main Street, Suite 204
Round Rock, Texas 78664
Phone: (512) 344-9664

MONUMENTS / DATUMS / BEARING BASIS

Monuments are found if not marked MNS or CRS.
○ 1/2" rebar or Mag nail & washer stamped "JPH Land Surveying" set at lot corner.
TYPE III TxDOT Right of Way aluminum cap.
TBM ✪ Site benchmark (see vicinity map for general location)
Coordinate values, if shown, are US.SyFt./TxCS,'83,CZ
Elevations, if shown, are NAVD'88 (GEOID 18)
Bearings are based on grid north (TxCS,'83,CZ)

LEGEND

US.SyFt. United States Survey Feet
TxCS,'83,CZ Texas Coordinate System of 1983, Central Zone
NAVD'88 North American Vertical Datum of 1988
P.R.W.C.T. Plat Records of Williamson County, Texas
O.P.R.W.C.T. Official Public Records of Williamson County, Texas
D.R.W.C.T. Deed Records of Williamson County, Texas
VOL/PG/INST# Volume/Page/Instrument Number
POB/POC Point of Beginning/Point of Commencing
PUE Public utility easement
A.K.A. Also Known As
Subdivision Boundary
Deed/adjoiner lines
Easement lines

Curve Data Table

Curve #	Arc	Radius	Delta	Chord Bearing	Chord
C1	97.60'	5751.37'	000°58'20"	N43°43'33"W	97.60'
C2	455.53'	5688.04'	004°35'19"	N46°22'21"W	455.41'
C3	455.25'	5703.22'	004°34'25"	S46°21'54"E	455.13'
C4	97.86'	5766.37'	000°58'20"	S43°43'32"E	97.86'
C5	65.25'	5703.22'	000°39'20"	S47°57'47"E	65.25'
C6	196.47'	388.00'	029°00'48"	S61°32'38"W	194.38'
C7	163.56'	323.00'	029°00'48"	N61°32'38"E	161.82'
C8	251.25'	388.00'	037°06'07"	N85°23'55"W	246.88'
C9	209.16'	323.00'	037°06'07"	S85°23'55"E	205.52'
C10	88.74'	323.00'	015°44'31"	N74°43'07"W	88.46'
C11	77.28'	388.00'	011°24'41"	S72°33'12"E	77.15'
C12	250.15'	5703.22'	002°30'47"	N46°22'44"W	250.13'
C13	103.94'	5703.22'	001°02'39"	N44°36'01"W	103.94'
C14	35.91'	5703.22'	000°21'39"	S48°28'17"E	35.91'

Line Data Table

Line #	Bearing	Distance
L1	S89°22'32"E	128.05'
L2	S00°43'10"E	86.89'
L3	S88°26'38"E	66.93'
L4	N00°44'18"W	128.06'
L5	N89°36'31"W	67.02'
L6	N89°15'59"W	106.72'
L7	N47°06'22"E	148.48'
L8	S47°02'14"W	63.04'
L9	N47°02'14"E	57.35'
L10	N13°56'59"W	15.74'

0 100' 200'
Scale: 1" = 100'

Field: AG/RG 2023/04/17 CTX4795
Drafter: RDG 2023/04/27
Revision:
Revision:

JPH Job/Drawing No. (see below)
2023.073.002 4795 Williams Dr Georgetown WillCo TX - PLAT.dwg

1516 E. Palm Valley Blvd., Ste. A4, Round Rock, Texas 78664
Telephone (817) 431-4971 www.jphlandsurveying.com
TBPELS Firm #10019500
DFW | Central Texas | West Texas | Houston

SHEET 1 OF 2

2023-___-FP

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

FOR INFORMATIONAL PURPOSES ONLY

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

FINAL PLAT (1 OF 2)

PERMIT No.

SHEET No.
4
OF 35

IMAGES:
XREFS: * 24x36 2PC TitleBlock.dwg
PLOT DATE: November 14, 2023
PLOTTED BY: EMMONE

2023-47-SDP

PLAT NOTES:

1. Utility providers for this development are Water: City of Georgetown, Wastewater: City of Georgetown, and Electric: Oncor Electric Delivery Company.
2. All structures/obstructions are prohibited in drainage easements.
3. There are no areas within the boundaries of this subdivision in the 100-year floodplain as defined by FIRM Number 48491C0280E, effective date September 26, 2008.
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.
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. Any Heritage Tree as noted on this plat is subject, in perpetuity, to the maintenance, care, pruning and removal requirements of the City of Georgetown. Approval removal does not require modification of the plat.
7. All individual lots containing Heritage Trees are configured and designed so that the lot is developable for the intended purpose without requiring removal of the Heritage Trees or exceeding the percentage of allowable disturbance within the Heritage Trees CRZ.
8. A 15-foot Public Utility Easement is dedicated along all street frontages within this plat.
9. The monuments of this plat have been rotated to Texas Coordinate System of 1983, Central Zone and NAVD'88.
10. The maximum impervious coverage per non-residential lot shall be pursuant to the UDC at the time of issuing the Storm Water Permit.
11. 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.
12. 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.
13. 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.
14. 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.
15. Unless otherwise noted herein, all easements dedicated to the City of Georgetown by this plat shall be EXCLUSIVE to the City of Georgetown, and Grantor covenants that Grantor and Grantor's heirs, successors, and assigns shall not convey any other easement, license, or conflicting right to use in any manner, the area (or any portion thereof) covered by this grant.
16. All easements dedicated to the City of Georgetown by this plat additionally include the following rights: (1) the right of the City to change the size of any facilities installed, maintained, or operated within the easement area; (2) the right of the City to relocate any facilities within the easement area; and (3) the right of the City to remove from the easement area all trees and parts thereof, or other obstructions, which endanger or may interfere with the efficiency and maintenance of any facilities within the easement area.
17. This plat is subject to the provisions of the City of Georgetown Water Conservation Ordinance.
18. The subdivision 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 Quality Regulations, was completed on ___________________. Any springs and streams as identified in the Geologic Assessment are shown herein.
20. Grantors do hereby grant and convey an easement for the Conical Zone as 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 that area beneath the horizontal surface which is one foot in height for each 20 feet of horizontal distance beginning at the periphery of the horizontal surface extending to a height of 350 feet above the airport elevation. This easement shall be perpetual and shall be binding on Grantor and its assigns, heirs, and successors.
21. The site benchmark is a mag nail with metal washer stamped "JPH BENCHMARK" set in a concrete sidewalk, located in the northeast margin of Williams Drive, and approximately 71 feet east from the centerline intersection of Williams Drive and Woodlake Drive. Benchmark Elevation = 903.38' (NAVD'88). See vicinity map for general location.
22. Right-of-Way Easements to Chisholm Trail Water Supply Corporation described in Volume 939, Page 310 and Volume 939, Page 319 of the Deed Records of Williamson County, Texas, are blanket in nature and may affect this property.
23. This survey was performed with the benefit of a title commitment provided by Title Resources Guaranty Company, GF# 2114344JM, effective December 28, 2021, and issued January 6, 2022, and a title commitment provided by First National Title Insurance Company, File# 22-654626-GT, effective March 5, 2023, and issued March 9, 2023. 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 **except for those items listed within Schedule B of said commitment**. Therefore, easements, agreements, or other documents, either recorded, or unrecorded may exist that affect the subject property that are not shown on this survey.

JPH LaNd Surveying, Inc.

FINAL PLAT
OF
SCHILLER BUSINESS PARK

JPH Job/Drawing No. (see below)
2023.073.002 4795 Williams Dr Georgetown WillCo TX - PLAT.dwg

1516 E. Palm Valley Blvd., Ste. A4, Round Rock, Texas 78664
Telephone (817) 431-4971 www.jphlandsurveying.com
TBPELS Firm #10019500
DFW | Central Texas | West Texas | Houston

STATE OF TEXAS §
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

Novak Williams Senior Living, LLC, a Texas limited liability company acting by and through Jeffrey Ladd Novak, Manager, owner of the certain 9.290 acre tract of land shown hereon (Lot 4 of Block A, Lot 4 of Block B, and ROW) and described in a deed recorded in Document No. 2023021036 of the Official Public Records of Williamson County, Texas, do hereby certify that there are no easement holders except as shown hereon, do hereby subdivide said tract as shown hereon, and 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 *SCHILLER BUSINESS PARK.*

*TO CERTI*FY WHICH, WITNESS by my hand this ________ day of _____________, 2023.

By: Novak Williams Senior Living, LLC

____

Jeffrey Ladd Novak, Manager
1500 Rivery Blvd., Suite 2200
Georgetown, Texas 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 Jeffrey Ladd Novak, 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 _____________, 2023.

______________________________, ______________________________
(Notary Public's signature) Print Name
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 §

That Vista Bank, Lien Holder of the certain 9.290 acre tract of land shown hereon and described in a Deed of Trust recorded in Document Number 2023021037, of the Official Public Records of Williamson County, Texas, do hereby consent to the subdivision of said tract as shown hereon; and do further hereby join, approve, and consent 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 *SCHILLER BUSINESS PARK.*

*TO CERTIF*Y WHICH, witness by my hand this ___ day of __________________________, 20____.

Vista Bank
50th Street Office
4621 50th Street
Lubbock, Texas 79414

By:

________________________, its __________________

STATE OF TEXAS §
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

Before me, the undersigned authority, 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 above and foregoing instrument, and acknowledged to me that he executed the same for the purpose and considerations therein expressed, in the capacity therein stated.

GIVEN UNDER MY HAND and seal of office on this the ___ day of ___________________________, 20____.

______________________________, ______________________________
(Notary Public's signature) Print Name
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 §

Ken Schiller & Associates, Inc., a Texas corporation acting by and through Ken Schiller, Director, owner of the certain 14.518 acre tract of land shown hereon (Lots 1, 2 & 3 of Block A, Lots 1, 2 & 3 of Block B, and ROW) and described in a deed recorded in Document No. 2022027501 of the Official Public Records of Williamson County, Texas, do hereby state that there are no lien holders of the certain tract of land; do hereby certify that there are no easement holders except as shown hereon, do hereby subdivide said tract as shown hereon, and 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 *SCHILLER BUSINESS PARK.*

*TO CERTI*FY WHICH, WITNESS by my hand this ________ day of _____________, 2023.

By: Ken Schiller & Associates, Inc.

____

Ken Schiller, Director
212 Iva June Lane
Georgetown, Texas 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 Ken Schiller, 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 _____________, 2023.

______________________________, ______________________________
(Notary Public's signature) Print Name
Notary Public in and for the State of Texas

My Commission expires on:__________________

CITY BUILDING OFFICIAL APPROVAL:

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, Texas

PLANNING DIRECTOR APPROVAL:

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
City of Georgetown

PLANNING AND ZONING COMMISSION APPROVAL:

This subdivision to be known as *SCHILLER BUSINESS PARK has been ac*cepted 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 _____________, 2023, A.D.

______________________ ______________________
R. Travis Perthuis, Chairman Date

______________________ ______________________
Chere Heintzmann, Secretary Date

ENGINEER'S CERTIFICATION:

I, David Urban, Licensed Professional Engineer in the State of Texas, do hereby certify that this subdivision is not in the Edwards Aquifer Recharge Zone and is not 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 48491C0280E, effective date September 26, 2008, 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 by my hand and seal at the City of Georgetown, Williamson County, Texas, this ________ day of ________________________, 2023.

NOTE:

For Review. This document is released for the purpose of review under the authority of David Urban, Licensed Professional Engineer No. 82783 on May 2, 2023. It is not to be used for bidding, permit or construction.

____
David Urban
Licensed Professional Engineer
No. 82783 State of Texas

STATE OF TEXAS §
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, Chris Henderson, 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 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 by my hand and seal at the City of Round Rock, Williamson County, Texas, this _______day of ________________________, 2023.

PRELIMINARY: THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

____
Chris Henderson
Registered Professional Surveyor
No. 6831 State of Texas

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 Document No. ___________________.

TO CERTIFY WHICH, WITNESS my hand and seal at the County Court of said County, at my office in Georgetown, Texas, the date last shown above written.

____
Nancy Rister, Clerk County Court of Williamson County, Texas

By: ______________________________, Deputy

SHEET 2 OF 2

2023-___-FP

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

REVIEWED: VALUE | DRAWN: D.O. | DESIGNED: D.O.

FOR INFORMATIONAL PURPOSES ONLY

NO. | DATE | REVISIONS | RECOM'D

RIO DESIERTO, LLC

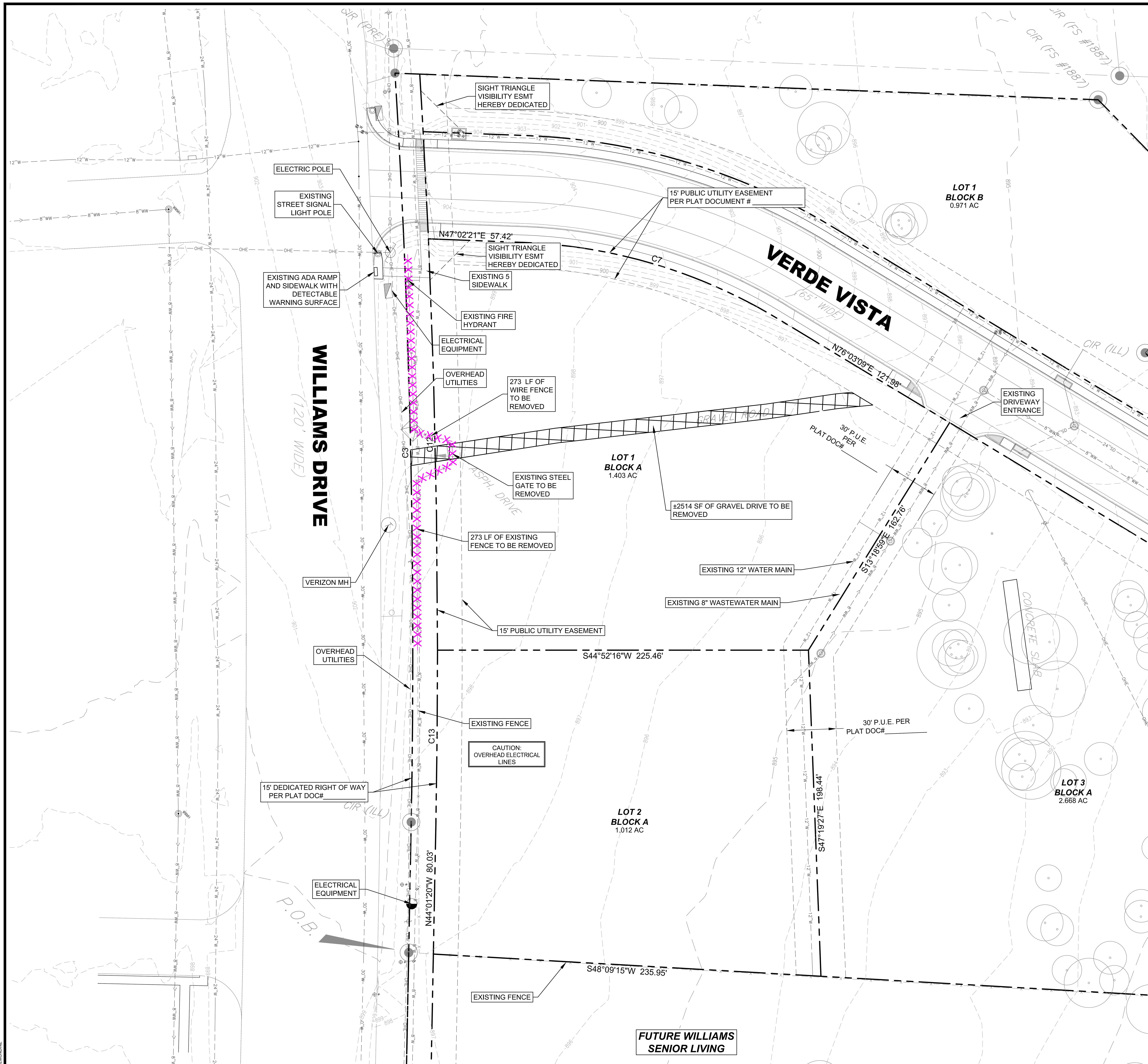
CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

FINAL PLAT (2 OF 2)

PERMIT No. ----

SHEET No. 5 OF 35

2023-47-SDP



SCALE : 1" = 30'

GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK) (IRON) (WOOD) (BARB WIRE)
- DITCH (CREEK) LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- CURB & GUTTER
- UNDERGROUND ELEC.
- OVERHEAD UTILITY
- UNDERGROUND TELE.
- UNDERGROUND GAS LINE
- WATER LINE
- WASTEWATER LINE
- ACCESSIBLE ROUTE

DEMOLITION LEGEND

- LINE DEMO (UTILITIES, CURBS)
- AREA OF DEMO (VEGETATION, PAVEMENT, UTILITIES)

DEMOLITION NOTES:

1. A PRE-CONSTRUCTION MEETING WITH THE CITY, IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.
2. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS.
3. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREE, ETC. THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
4. CONTRACTOR TO ENSURE THAT NO DEMOLITION ACTIVITIES OCCURS WITHIN THE HALF CRITICAL ROOT ZONE OF TREES PROPOSED TO BE PROTECTED.
5. REFER TO EROSION AND SEDIMENTATION CONTROL DETAILS FOR TREE PROTECTION DETAILS.
6. FIRE SAFETY: THIS SITE SHALL BE COMPLIANT WITH CHAPTER 33 OF THE INTERNATIONAL FIRE CODE 2015, DURING CONSTRUCTION AND DEMOLITION.

Curve Table

Curve #	ARC DISTANCE	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C3	455.53	5688.04	4.59	N46° 22' 14"W	455.41
C7	163.56	323.00	29.01	N61° 32' 45"E	161.82
C12	250.15	5703.04	2.51	N46° 23' 08"W	250.13
C13	104.78	5703.04	1.05	N44° 36' 09"W	104.77

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

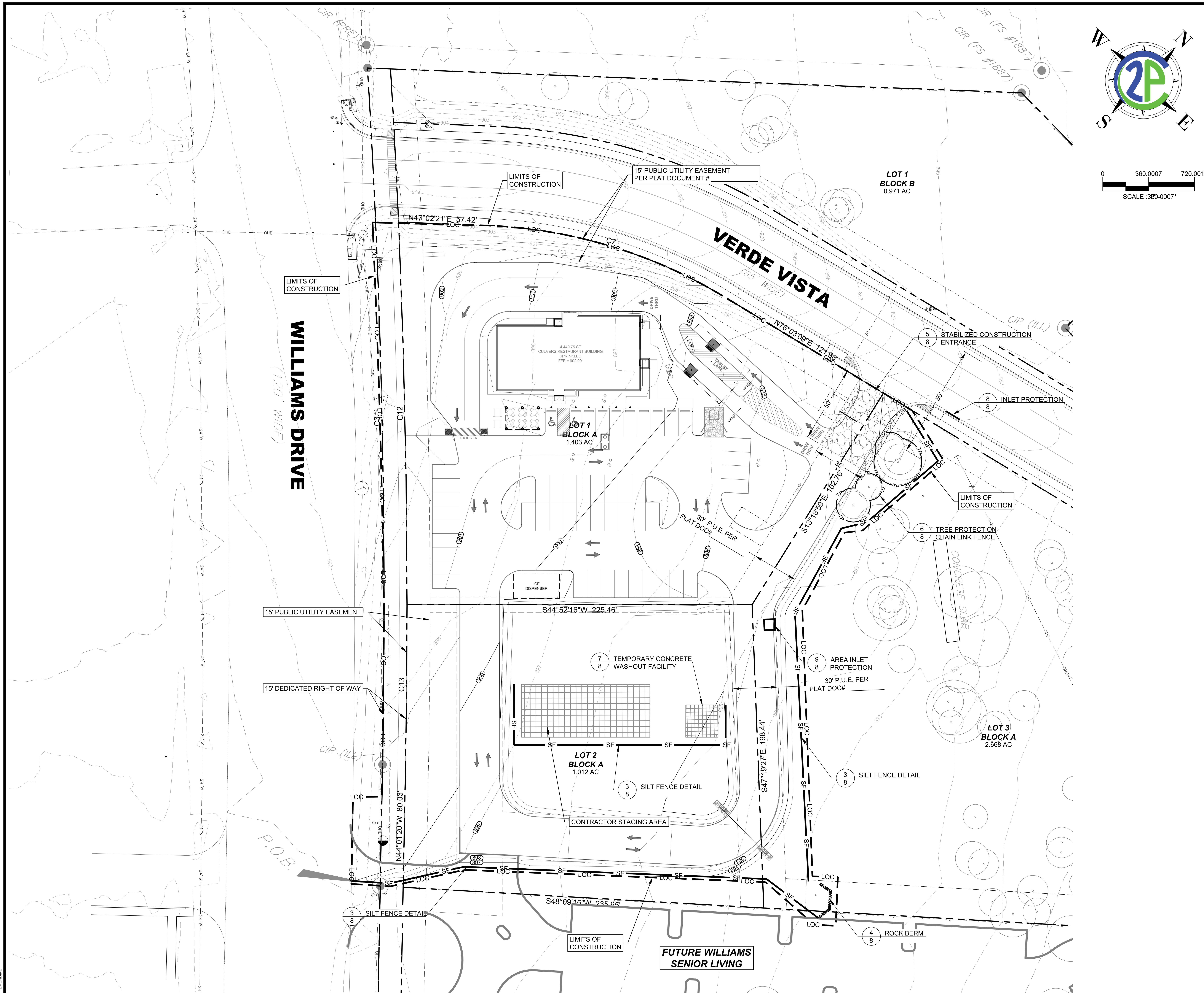
NO. DATE REVISIONS RECORD

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

EXISTING CONDITIONS AND DEMOLITION PLAN

PERMIT No.
2023-47-SDP



GENERAL LEGEND

SYMBOLS

- WATER METER
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- OVERHEAD UTILITY
- UNDERGROUND TELE.
- UNDERGROUND GAS LINE
- WATER LINE
- WASTEWATER LINE
- ACCESSIBLE ROUTE

EROSION & SEDIMENT CONTROL, TREE PROTECTION LEGEND

- LIMITS OF CONSTRUCTION
- TREE PROTECTION FENCING
- ROCK BERM
- SILT FENCE
- ORANGE MESH SAFETY FENCE
- IP INLET PROTECTION
- LP LOW POINT
- HP HIGH POINT
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY SPOILS SITE
- CONSTRUCTION STAGING AREA
- EROSION CONTROL BLANKET
- REVEGETATION AREA

NOTES:

1. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER CITY CODE, OR AS DIRECTED BY THE OWNERS REPRESENTATIVE.
2. SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH DETAIL.
3. ALL DISTURBED AREAS SHALL BE REVEGETATED WITH NATIVE GRASSES (REFER TO NOTE SHEET FOR SPECS). ALL DISTURBED AREAS WITH SLOPES 5:1 OR STEEPER, WHICH ARE NOT ARMORED OTHERWISE, SHALL HAVE A SOIL RETENTION BLANKET (EXCELSIOR II OR APPROVED EQUAL) INSTALLED TO ASSIST WITH REVEGETATION.

DETAIL NUMBER — # — DETAIL NAME
SHEET NUMBER WHERE DETAIL IS LOCATED — #
DETAIL REFERENCE CALLOUT

LIMITS OF CONSTRUCTION = 2.81 AC.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK EROSION AND SEDIMENTATION CONTROL ORDINANCE.
2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY THE CITY OF ROUND ROCK FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
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512-344-9664
TBPE FIRM #F-19351

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECORD

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

EROSION CONTROL PLAN

PERMIT No.
2023-47-SDP
SHEET No.

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 | DRAWING NAME: EC01 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

(1) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES

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.

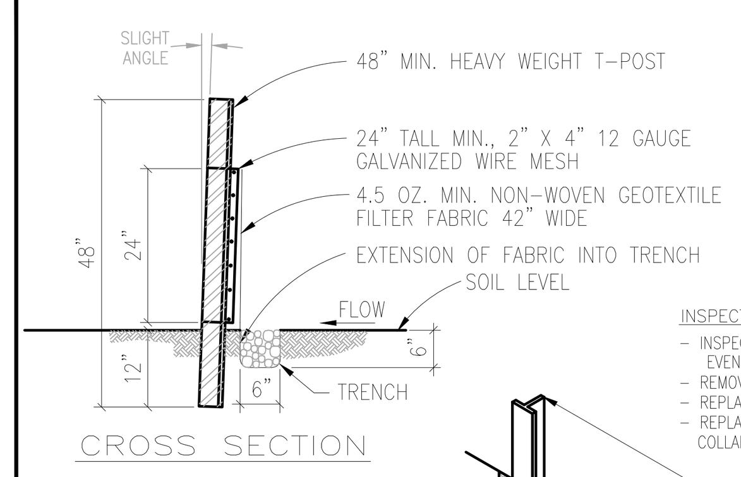
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006 | DRAWING NAME: EC01A | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

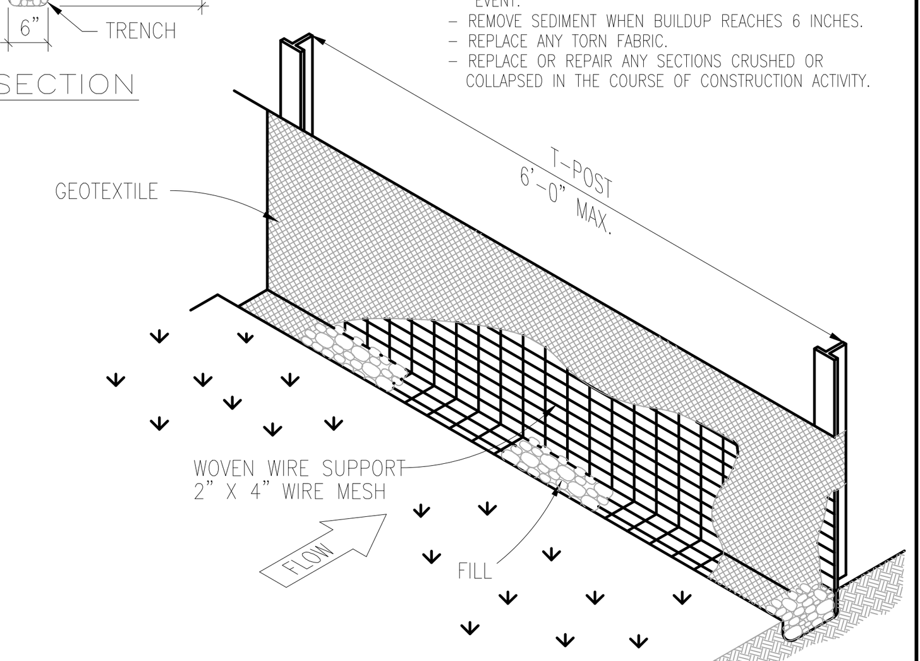
GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

(2) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES

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



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.

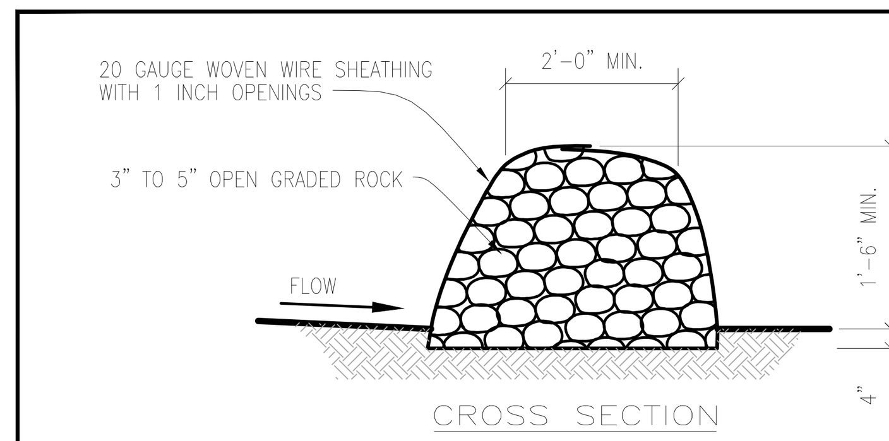


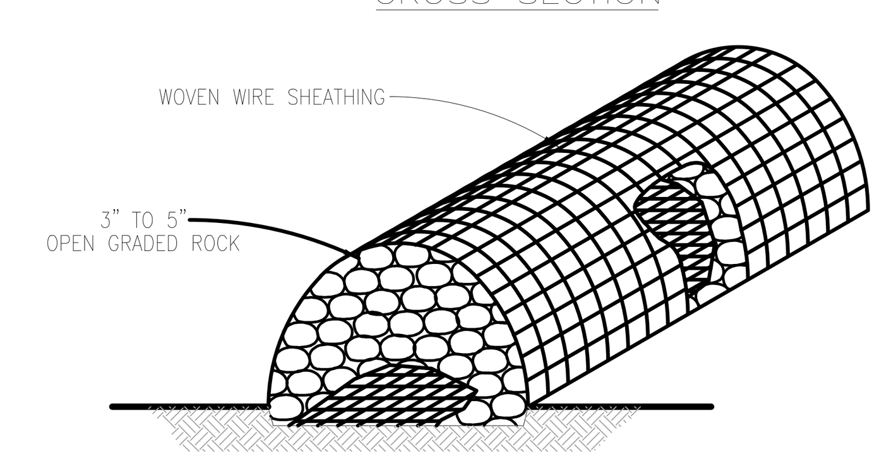
INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY 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 | DRAWING NAME: EC02 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

(3) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – SILT FENCE DETAIL





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.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE 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 ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

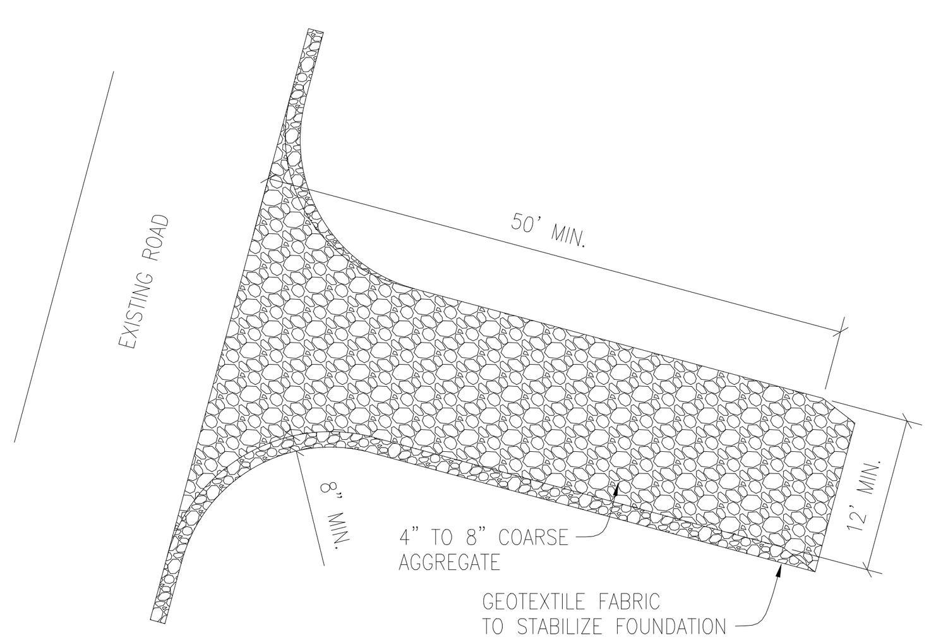
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

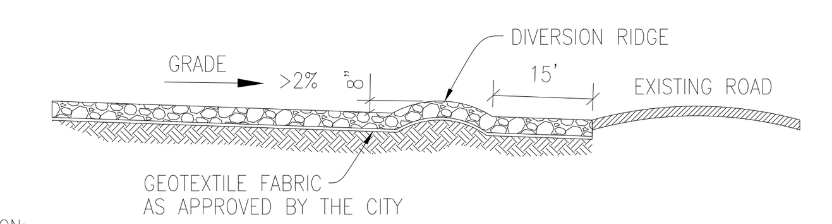
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006 | DRAWING NAME: EC03 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

(4) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – ROCK BERM DETAIL





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.

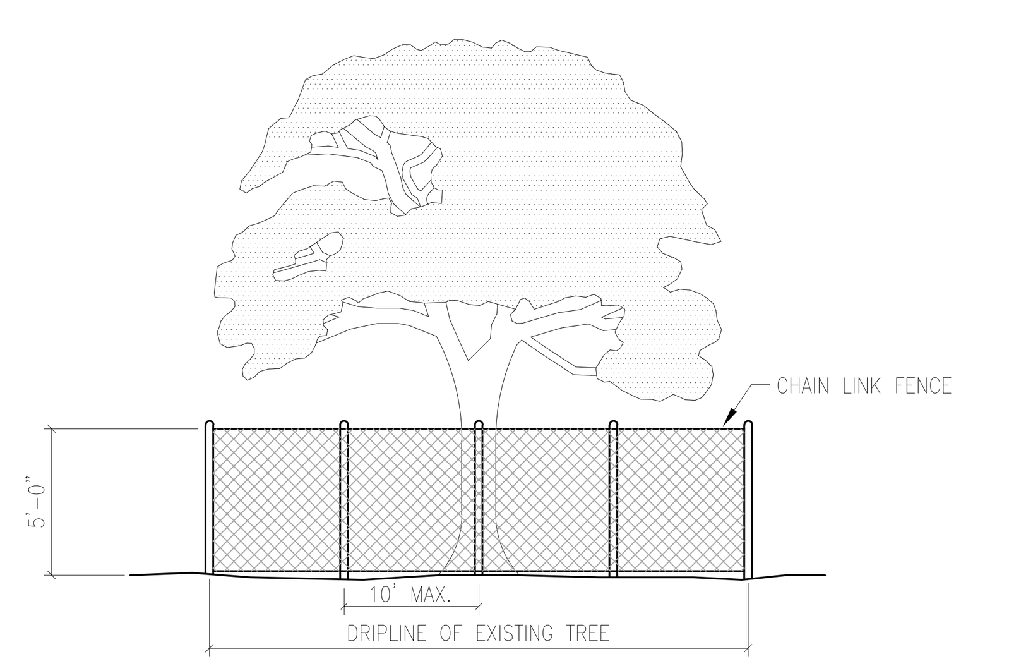
INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO 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 | DRAWING NAME: EC06 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

(5) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – STABILIZED CONSTRUCTION ENTRANCE



NOTES:

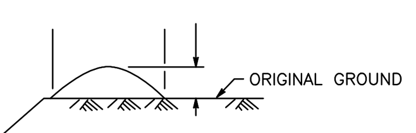
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

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

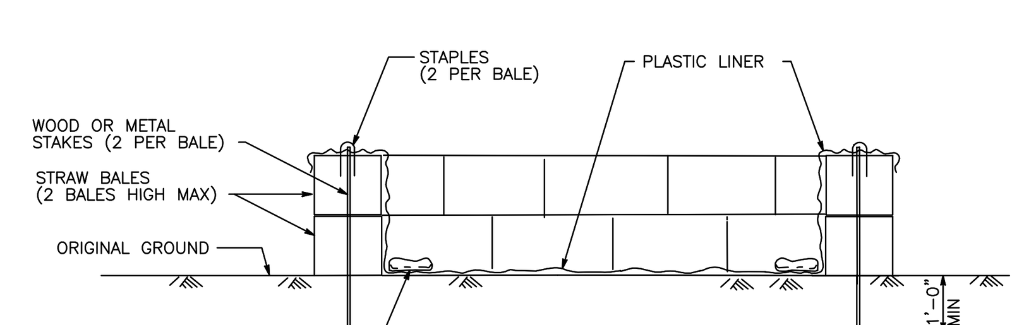
REVISION NOTE: ADOPTED 6/21/2006 | DRAWING NAME: EC09 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

GEORGETOWN TEXAS EST. 1848 – Georgetown Utility Systems – Your Community Owned Utility

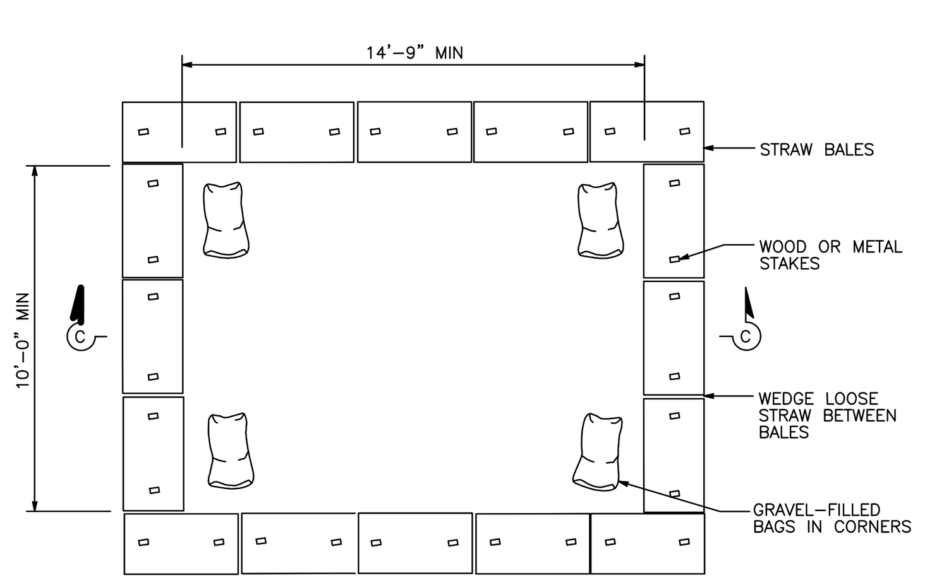
(6) CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS – TREE PROTECTION – CHAIN LINK FENCE



TYPICAL SECTION
EARTHEN BERM

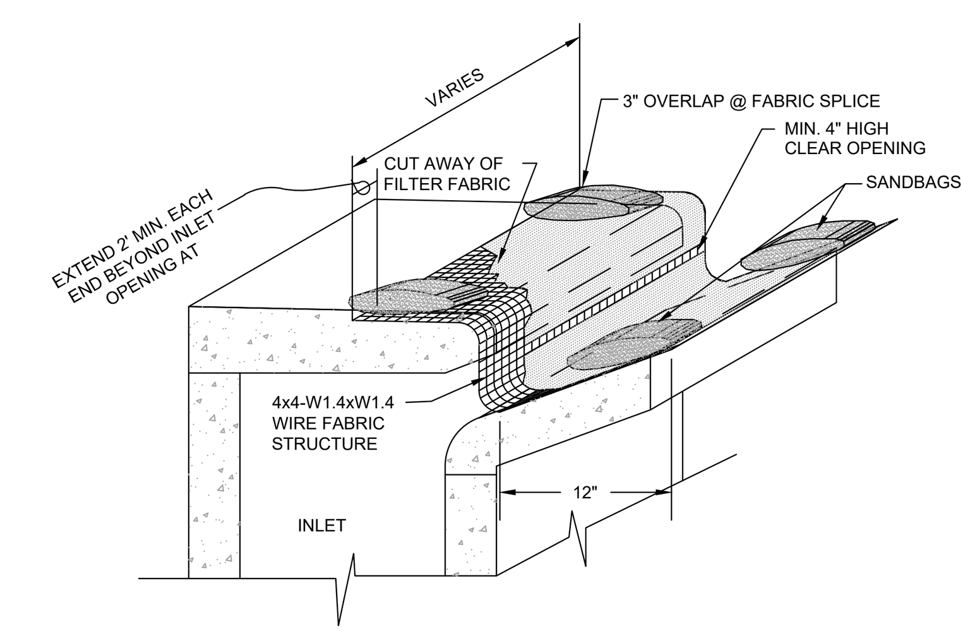


SECTION C–C



PLAN

(7) TEMPORARY CONCRETE WASHOUT FACILITY
(ON GRADE)
NTS

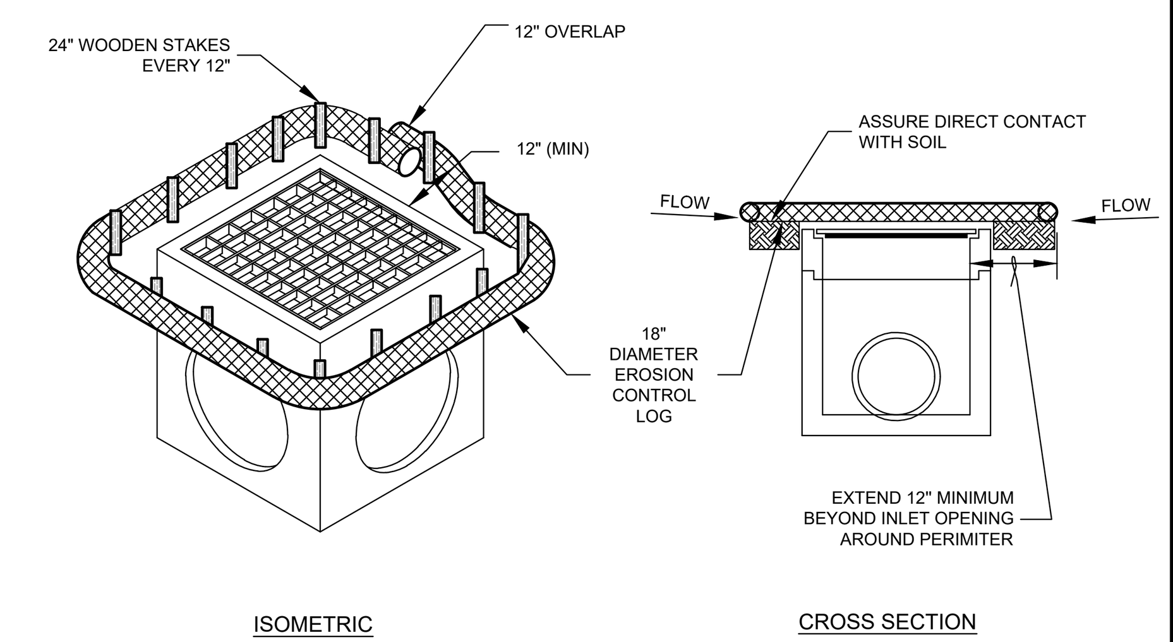


NOTE 1: WHERE MINIMUM CLEARANCES CAUSES TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1"x4" BOARD TO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE.

NOTE 2: REMOVE SECTION OF FILTER FABRIC IF CONCENTRATED FLOW OCCURES AT THIS LOCATION OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.

(8) TYPE II INLET PROTECTION
NOT TO SCALE

DET. 902



NOTES:

1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE; AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING STRAW AND HAY.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

(9) AREA INLET PROTECTION WITH EROSION CONTROL LOG DETAIL
NOT TO SCALE

DETAILS

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

STATE OF TEXAS – MICHAEL EASTON MUNDINE – 143266 – LICENSED PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

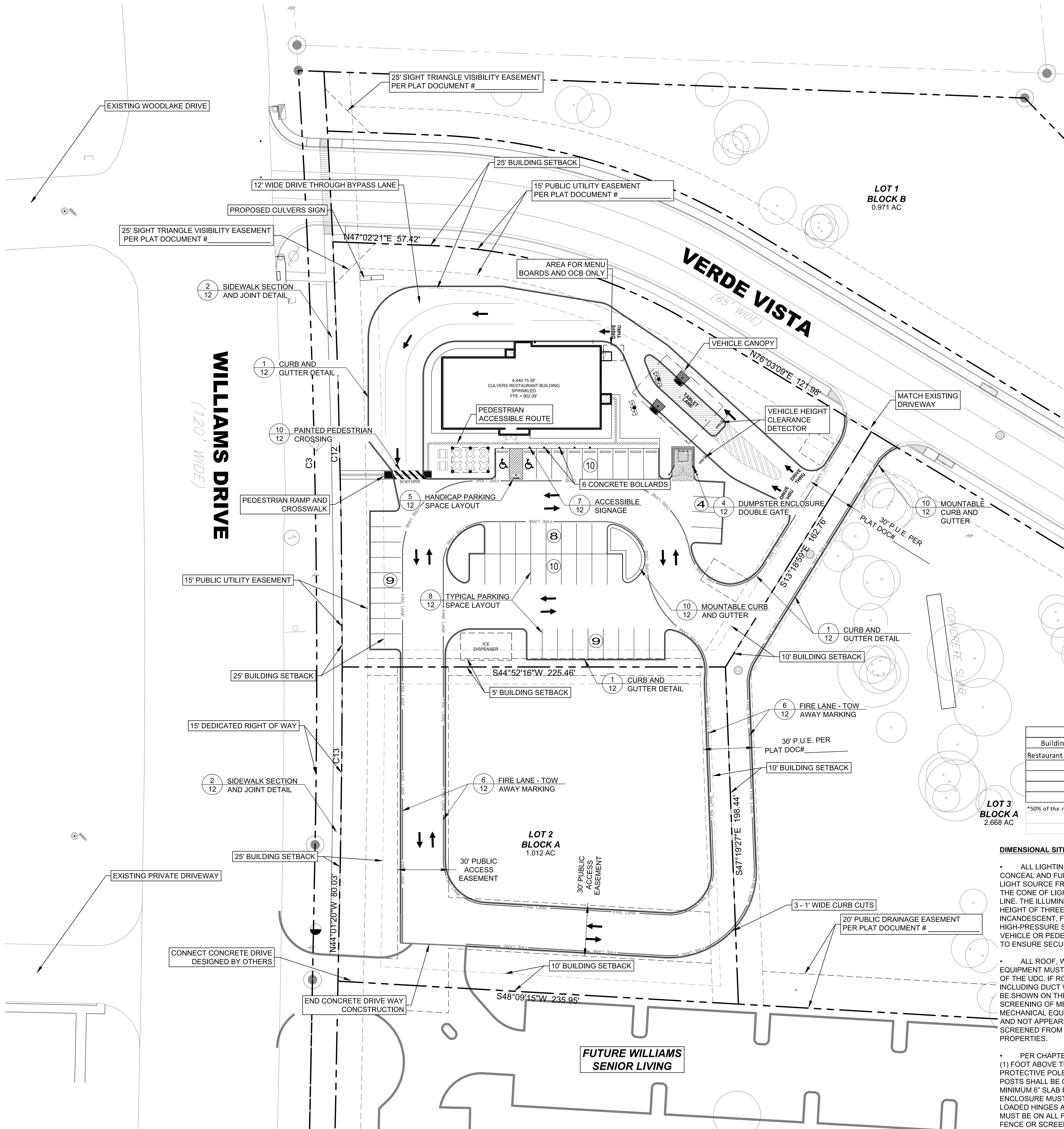
CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

EROSION CONTROL DETAILS

PERMIT No.

SHEET No.
8
OF 35

2023-47-SDP



0 30 60

SCALE : 1" = 30'

SITE PLAN NOTES:

1. DIMENSIONS ARE SHOWN ON THE DIMENSIONAL CONTROL PLAN. FOR PRECISE DIMENSIONS AND LOCATION OF SITE IMPROVEMENTS, ELECTRONIC FILES OF THE SITE LAYOUT WILL BE MADE AVAILABLE TO THE CONTRACTOR AND HIS SURVEYOR UPON REQUEST. FOR BUILDING DIMENSIONS, CONTRACTOR SHALL USE ARCHITECTURAL AND STRUCTURAL PLANS.
2. EXISTING UTILITIES ARE SHOWN PER RECORD DRAWINGS.
3. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).
4. FACILITIES, BUILDINGS OR PORTIONS OF BUILDINGS HEREAFTER CONSTRUCTED SHALL BE ACCESSIBLE TO FIRE DEPARTMENT APPARATUS BY WAY OF AN APPROVED FIRE APPARATUS ACCESS ROAD WITH AN ASPHALT, CONCRETE OR OTHER APPROVED DRIVING SURFACE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS (34 050 KG). THE APPROVED FIRE APPARATUS ACCESS ROAD MUST BE IN PLACE BEFORE COMBUSTIBLES ARE BROUGHT ON SITE.

GENERAL LEGEND

SYMBOLS

WATER METER; WATER VALVE; FIRE HYDRANT; BACKFLOW PREVENTER; UTILITY POLE; LIGHT POLE; WASTEWATER MANHOLE; CLEAN OUT; KEYNOTES; PARKING COUNT; WW SERVICE; WATER SERVICE; STORMSEWER MANHOLE; SIGN; CURB INLET; GRATE INLET; TABLE TOP AREA INLET; TREE TO BE SAVED; TREE TO BE REMOVED

LINETYPES

PROPERTY BOUNDARY; LOC LIMITS OF CONSTRUCTION; FENCES (CHAINLINK) (IRON) (WOOD) (BARB WIRE); DITCH (CREEK) LINE; EXISTING CONTOURS; PROPOSED CONTOURS; CURB & GUTTER; UGE UNDERGROUND ELEC.; OHE OVERHEAD UTILITY; TEL UNDERGROUND TELE.; GAS UNDERGROUND GAS LINE; W WATER LINE; WW WASTEWATER LINE; ACCESSIBLE ROUTE

DETAIL NUMBER / SHEET NUMBER WHERE DETAIL IS LOCATED — DETAIL NAME

DETAIL REFERENCE CALLOUT

SITE AREA CALCULATIONS BLOCK A - LOT 1	AREA (SF)	AREA (AC)	AREA (%)
SITE AREA	61,114.68	1.40	100.00
BUILDING AREA	4,440.75	0.10	7.27
SW, PAVEMENT, MISC. IMPERVIOUS COVER	37,172.05	0.85	60.82
TOTAL IMPERVIOUS COVER	41,612.80	0.96	68.09
ALLOWABLE IMPERVIOUS COVER	42,780.28	0.98	70.00

SITE AREA CALCULATIONS BLOCK A - LOT 2	AREA (SF)	AREA (AC)	AREA (%)
SITE AREA	44,082.72	1.01	100.00
BUILDING AREA	0.00	0.00	0.00
SW, PAVEMENT, MISC. IMPERVIOUS COVER	10,913.64	0.25	24.76
TOTAL IMPERVIOUS COVER	10,913.64	0.25	24.76
ALLOWABLE IMPERVIOUS COVER	30,857.90	0.71	70.00

SITE AREA CALCULATIONS BLOCK A - LOT 3	AREA (SF)	AREA (AC)	AREA (%)
SITE AREA	116,218.08	2.67	100.00
BUILDING AREA	0.00	0.00	0.00
SW, PAVEMENT, MISC. IMPERVIOUS COVER	4,152.85	0.10	3.57
TOTAL IMPERVIOUS COVER	4,152.85	0.10	3.57
ALLOWABLE IMPERVIOUS COVER	81,352.66	1.87	70.00

Parking Calculations

Building Use	Area (SF)	Parking Requirement	Parking Spaces Required
Restaurant	4,441*	1 per 100 sf of designated seating area/entertainment area + 4 additional spaces	27
		Total Parking Spaces Required:	27
		Handicap Accessible Parking Spaces Required:	2
		Total Parking Spaces Provided:	50
		Handicap Accessible Parking Spaces Provided:	2

*50% of the restaurant area is proposed as the designated seating area.

DIMENSIONAL SITE PLAN NOTES:

- ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULLY 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.
- ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT SHALL 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.
- PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POSTS IN CORNERS AND AT IMPACT AREAS. FENCE POSTS SHALL BE OF 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.

811

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: XXXXX DRAWN: VALUE REVIEWED: VALUE

STATE OF TEXAS — MICHAEL EASTON MUNDINE — 143266 — LICENSED PROFESSIONAL ENGINEER

9/14/2023

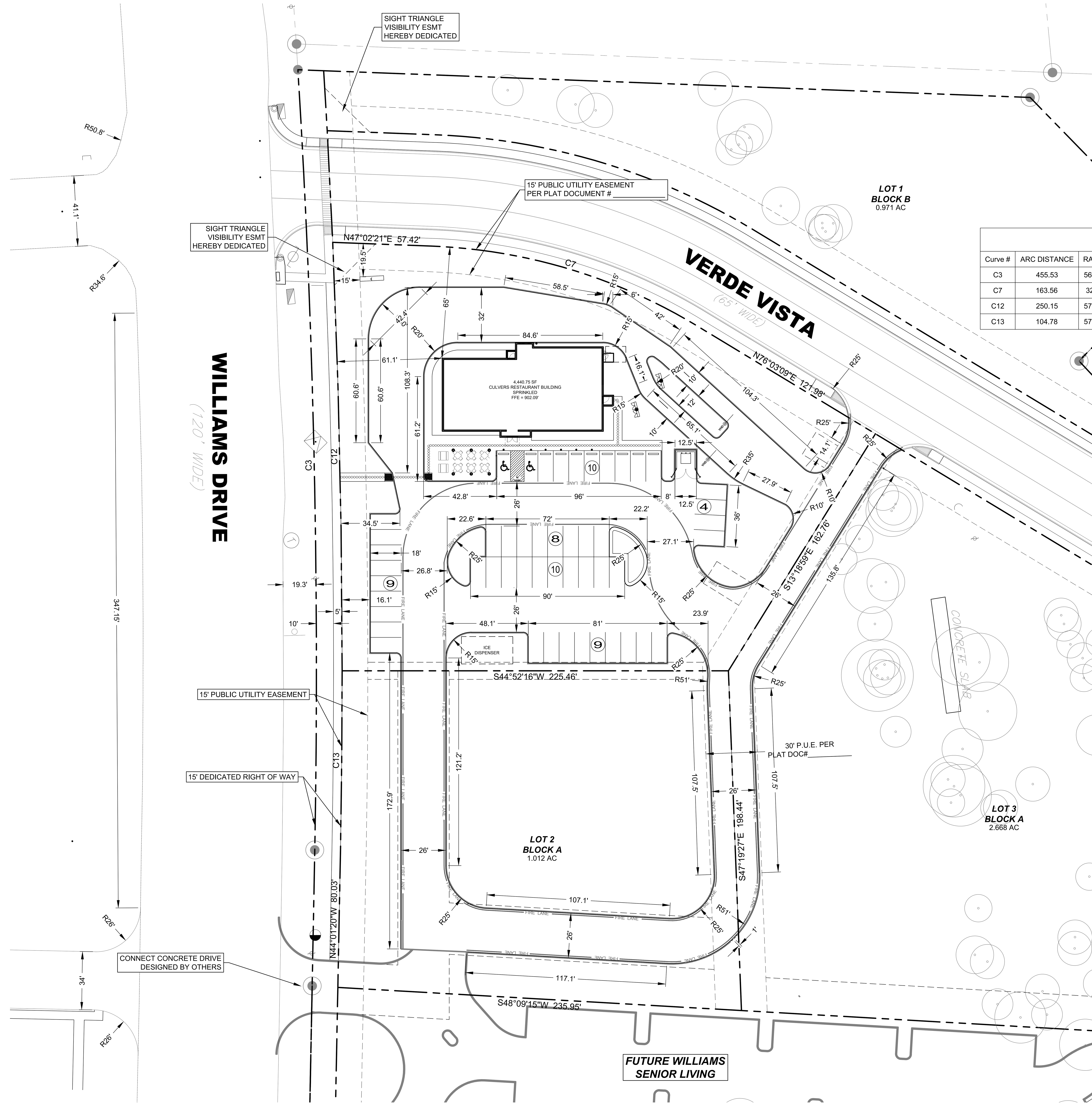
NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

SITE PLAN

PERMIT No.
2023-47-SDP



0 360.0007 720.0014
SCALE : 360.0007"

Curve Table

Curve #	ARC DISTANCE	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C3	455.53	5688.04	4.59	N46° 22' 14"W	455.41
C7	163.56	323.00	29.01	N61° 32' 45"E	161.82
C12	250.15	5703.04	2.51	N46° 23' 08"W	250.13
C13	104.78	5703.04	1.05	N44° 36' 09"W	104.77

GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK)
- (IRON)
- (WOOD)
- (BARB WIRE)
- DITCH (CREEK) LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- CURB & GUTTER
- UNDERGROUND ELEC.
- OVERHEAD UTILITY
- UNDERGROUND TELE.
- UNDERGROUND GAS LINE
- WATER LINE
- WASTEWATER LINE
- ACCESSIBLE ROUTE

DETAIL NUMBER
SHEET NUMBER WHERE DETAIL IS LOCATED
DETAIL NAME
DETAIL REFERENCE CALLOUT

DIMENSIONAL CONTROL PLAN NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES INCLUDING EXISTING IRRIGATION 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 OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
3. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL PROPERTY CORNERS.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRY LOCATIONS, DOWNSPOUT LOCATIONS AND TOTAL NUMBER OF DOWNSPOUTS REQUIRED.
5. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES.

CITY OF GEORGETOWN'S DIMENSION SITE PLAN NOTES:

7. ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULLY 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.
8. 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.
9. 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 SHALL BE OF 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.

"FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF (MICHAEL EASTON MUNDINE, 143266) ON (9/14/2023). IT IS NOT TO BE USEDFOR BIDDING, PERMIT OR CONSTRUCTION."

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

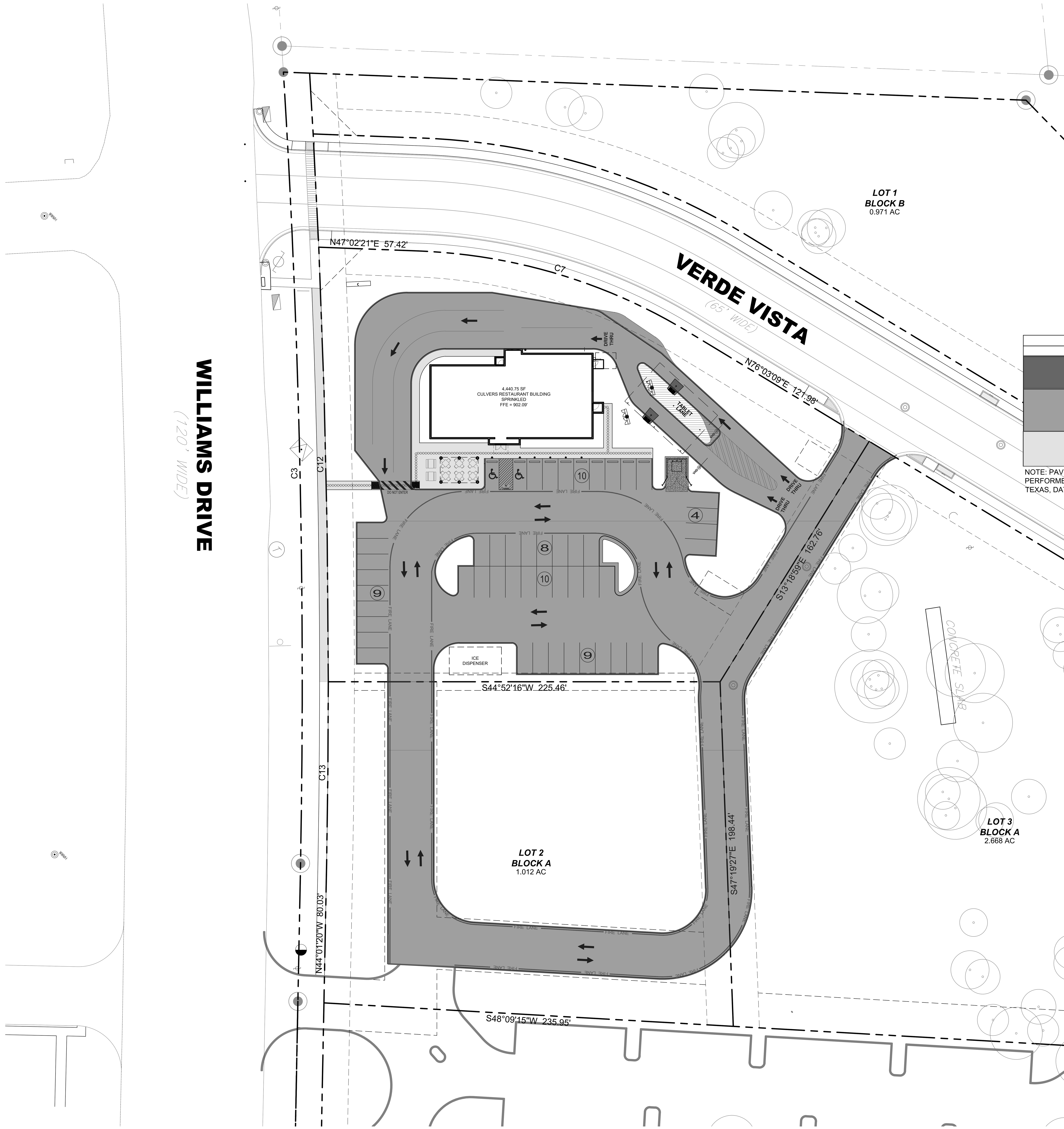
NO. DATE REVISIONS RECORD

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

DIMENSION CONTROL PLAN

PERMIT No.
2023-47-SDP
SHEET No.
10
OF 35



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SCALE: 360.0007'

GENERAL LEGEND

SYMBOLS

WATER METER
WATER VALVE
FIRE HYDRANT
BACKFLOW PREVENTER
UTILITY POLE
LIGHT POLE
WASTEWATER MANHOLE
CLEAN OUT
KEYNOTES
PARKING COUNT
WW SERVICE
WATER SERVICE
STORMSEWER MANHOLE
SIGN
CURB INLET
GRATE INLET
TABLE TOP AREA INLET
TREE TO BE SAVED
TREE TO BE REMOVED

LINETYPES

PROPERTY BOUNDARY
LOC — LIMITS OF CONSTRUCTION
FENCES (CHAINLINK)
(IRON)
(WOOD)
(BARB WIRE)
DITCH (CREEK) LINE
EXISTING CONTOURS
PROPOSED CONTOURS
CURB & GUTTER
UGE — UNDERGROUND ELEC.
OHE — OVERHEAD UTILITY
TEL — UNDERGROUND TELE.
GAS — UNDERGROUND GAS LINE
W — WATER LINE
WW — WASTEWATER LINE
ACCESSIBLE ROUTE

Site Paving Table

Hatch	Pavement Type	Quantity	Description
	Heavy Duty Rigid Pavement	245.45 SF	8" Portland Cement Concrete 8" Compacted Subgrade
	Light Duty Rigid Pavement	49,843.13 SF	6" Portland Cement Concrete 8" Compacted Subgrade
	Sidewalk	3,549.78 SF	4" Minimum of Class "A" Concrete 2" Sand Cushion 6" Compacted Subgrade

NOTE: PAVING SECTION RECOMMENDATIONS AND INFORMATION COME FROM THE GEOTECHNICAL ENGINEERING REPORT PERFORMED BY ROCK ENGINEERING AND TESTING LABORATORY, LLC FOR WILLIAMS DRIVE BUSINESS PARK, GEORGETOWN, TEXAS, DATED OCTOBER 4TH, 2022. SEE SHEET 12 FOR MORE INFORMATION.

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

"FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF (MICHAEL EASTON MUNDINE, 143266) ON (9/14/2023). IT IS NOT TO BE USEDFOR BIDDING, PERMIT OR CONSTRUCTION."

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

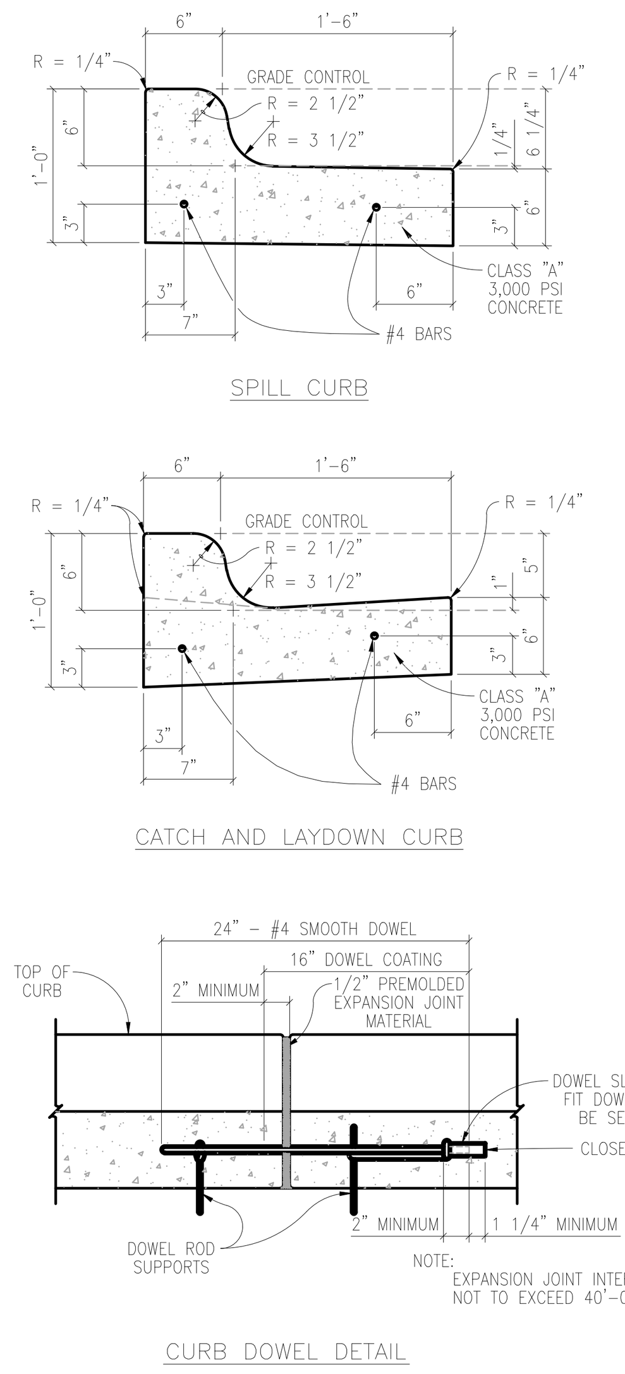
NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

PAVING PLAN

PERMIT No.
2023-47-SDP



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.

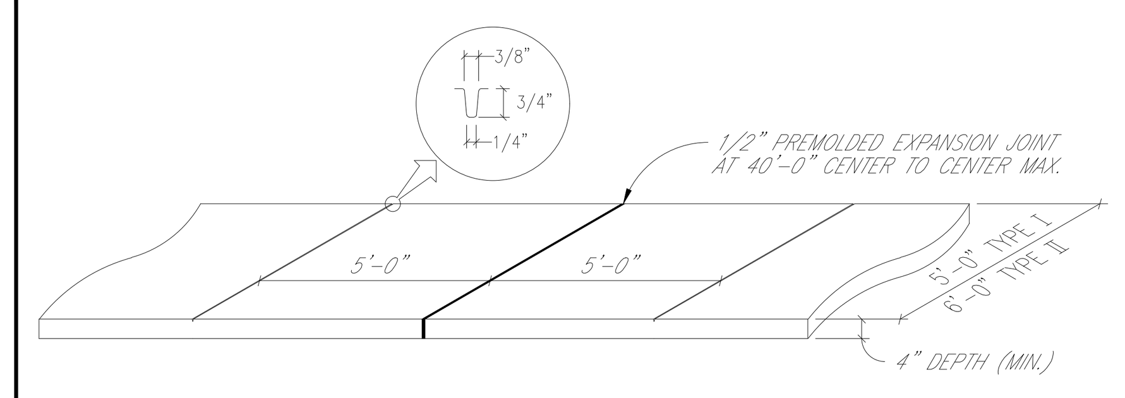
REVISION NOTE: ADOPTED 6/21/2006

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

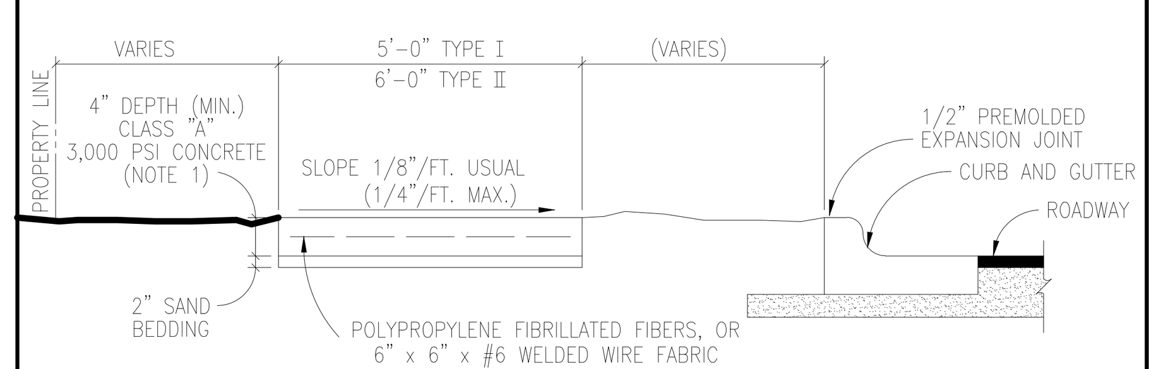
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

(1) CURB AND GUTTER DETAILS

DRAWING NAME: SD06 | SCALE: NTS | DATE: | DRAWN BY: MRS | APPROVED BY: TRB



TYPE I - AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES, TRIPLEXES AND QUADRAPLEXES.
TYPE II - AS REQUIRED FOR MULTI-FAMILY, OTHER NON-RESIDENTIAL USES AND PARKING LOTS/STRUCTURES.
ALL THOROUGHFARES (COLLECTOR AND ABOVE) REQUIRE TYPE II.



NOTES:

1. STANDARD LOCATION OF SIDEWALK SHALL BE IN CONFORMANCE WITH THE UDC.
2. SIDEWALK SHALL CONFORM TO CURRENT TDLR/TAS STANDARDS.
3. ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND ENGINEER OF RECORD.
4. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT SHALL BE APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND BY THE CITY ENGINEER.
5. SLIP DOWEL SHALL BE INSTALLED AT EVERY LONGITUDINAL EXPANSION JOINT (UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER DURING ENGINEERING PLAN REVIEW PRIOR TO FINAL DESIGN).

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

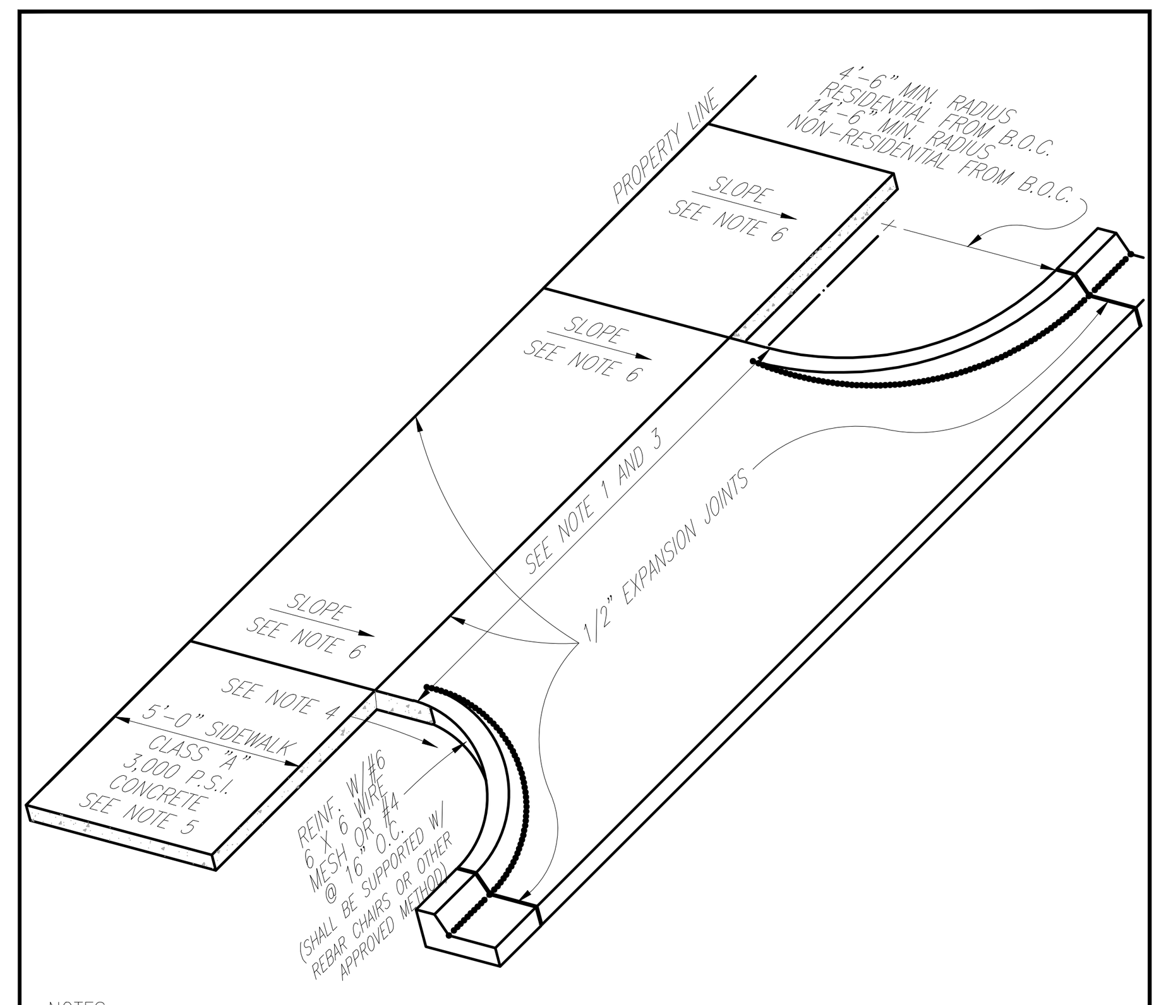
REVISION NOTE: REVISED 6/25/2015 WBD
REVISION NOTE: ADOPTED 6/21/2006 TRB

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

(2) SIDEWALK SECTION AND JOINT DETAIL

DRAWING NAME: SD14 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



NOTES:

1. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 30'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-0" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY PERMITS SHALL BE ACQUIRED FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR "RADIUS" AT CORNERS, PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY" RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION SHALL BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, SHALL NOT EXCEED 2.0%.
7. DRIVEWAY APPROACH THICKNESS SHALL BE A MIN. OF 6".

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

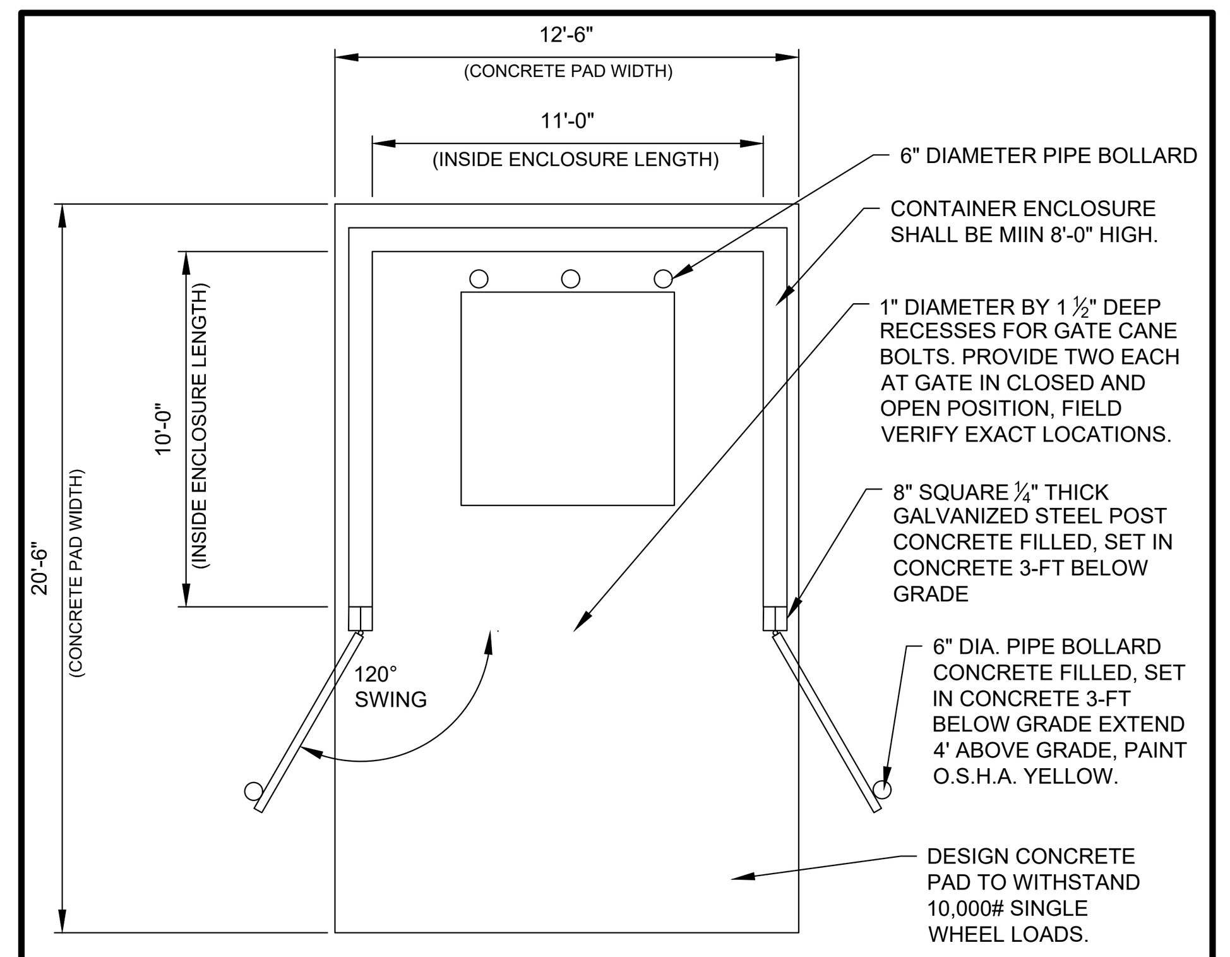
REVISION NOTE: REVISED 6/25/2015 WBD
REVISION NOTE: ADOPTED 6/21/2006 TRB

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

(3) CONCRETE DRIVEWAY APPROACH TYPICAL

DRAWING NAME: SD15 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



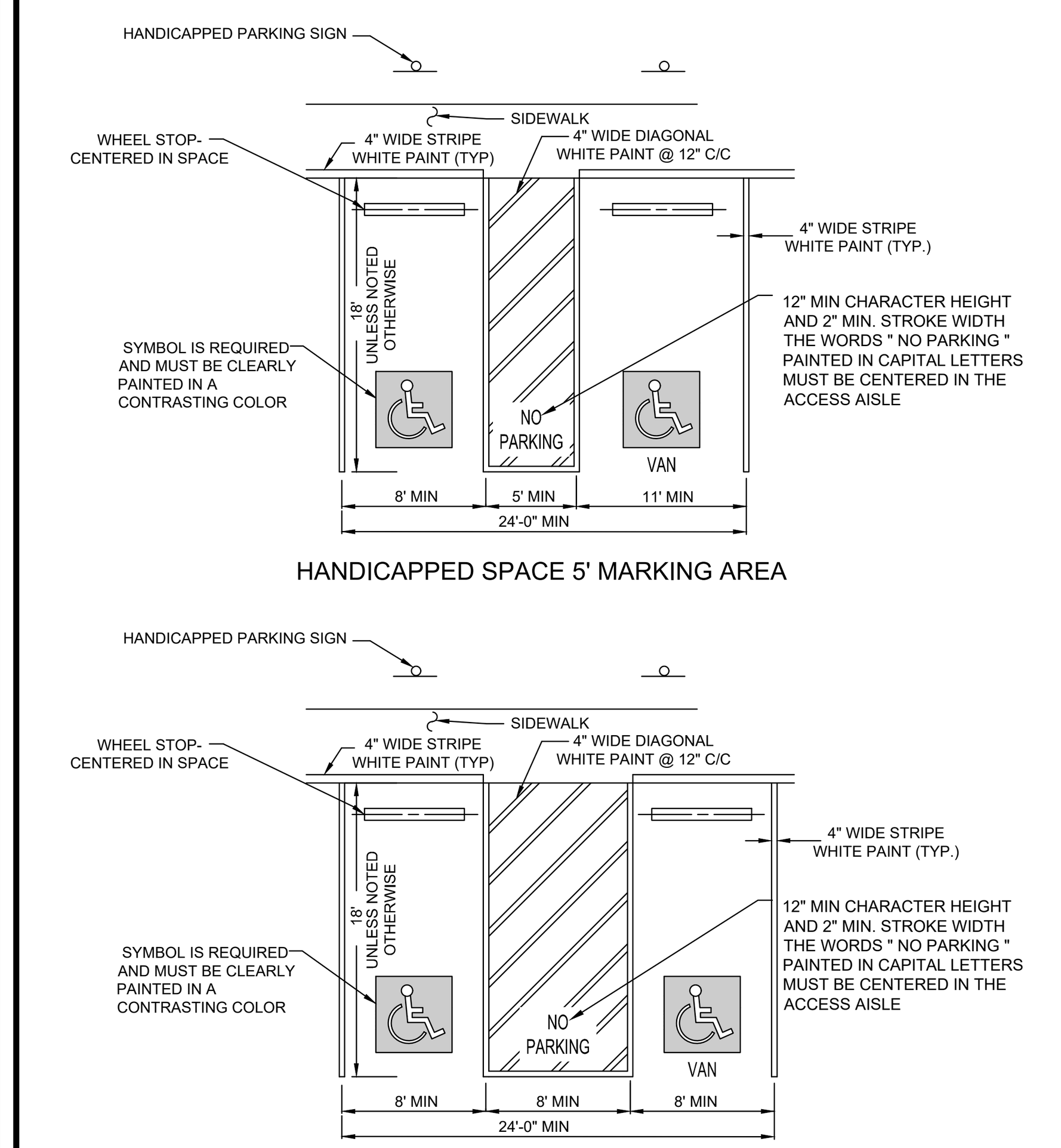
NOTES:

A. BINS SHALL BE LOCATED ON THE SIDE OR REAR OF THE BUILDING AND SCREENED FROM PUBLIC VIEW.
B. BINS MUST BE LOCATED AT LEAST 50 FEET AWAY FROM RESIDENTIALLY-ZONED PROPERTY LINES. BINS LARGER THAN 90 GALLONS SHALL BE LOCATED ON A MINIMUM SIX-INCH REINFORCED SLAB, SLOPED TO DRAIN.
   1. A DECORATIVE MASONRY WALL (MINIMUM SIX FEET IN HEIGHT) ON THREE SIDES AND A GATE ON THE FOURTH SIDE.
   2. THE GATE SHALL BE CONSTRUCTED OF SOLID WOOD OR SOLID METAL. A NINETY(90) GALLON OR LESS ROLL-OUT CONTAINER MAY BE STORED OUTSIDE IF SCREENED BY ANY TYPE OF EVERGREEN LANDSCAPING OR PRIVACY FENCE WITH A GATE AT LEAST AS TALL AS THE CONTAINER(S) AND THAT WILL EFFECTIVELY SCREEN THE CONTAINER(S) FROM VIEW FROM ALL SIDES.
   3. SIX INCH CONCRETE FILLED STEEL PIPES SHALL BE LOCATED TO PROTECT THE ENCLOSURE FROM TRUCK OPERATIONS.
   4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 3000 PSI.
C. GARBAGE DUMPSTERS ARE REQUIRED TO BE SCREENED BY A WALL CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS: UNPAINTED CLAY BRICK, LEDGE STONE, FIELDSTONE, CAST STONE, MARBLE, GRANITE, OR TILE, PAINTED OR TINTED STUCCO, FACTORY TINTED (NOT PAINTED) SPLIT-FACED CONCRETE MASONRY UNIT, TEXTURED PRECAST CONCRETE (E.G. WOODCRTETE), OR SIMILAR MATERIAL APPROVED BY THE DIRECTOR OF PLANNING. THE WALL SHALL BE OF THE SAME MATERIAL AS, OR VISUALLY COMPATIBLE WITH, THE PRIMARY STRUCTURE AND SHALL BE AT LEAST AS HIGH AS THE DUMPSTER IT IS ENCLOSING.
D. BIN SCREENING SHALL BE MAINTAINED BY THE OWNER AT ALL TIMES.

(4) CONTAINER ENCLOSURE PLAN

NOT TO SCALE

DET. 1325



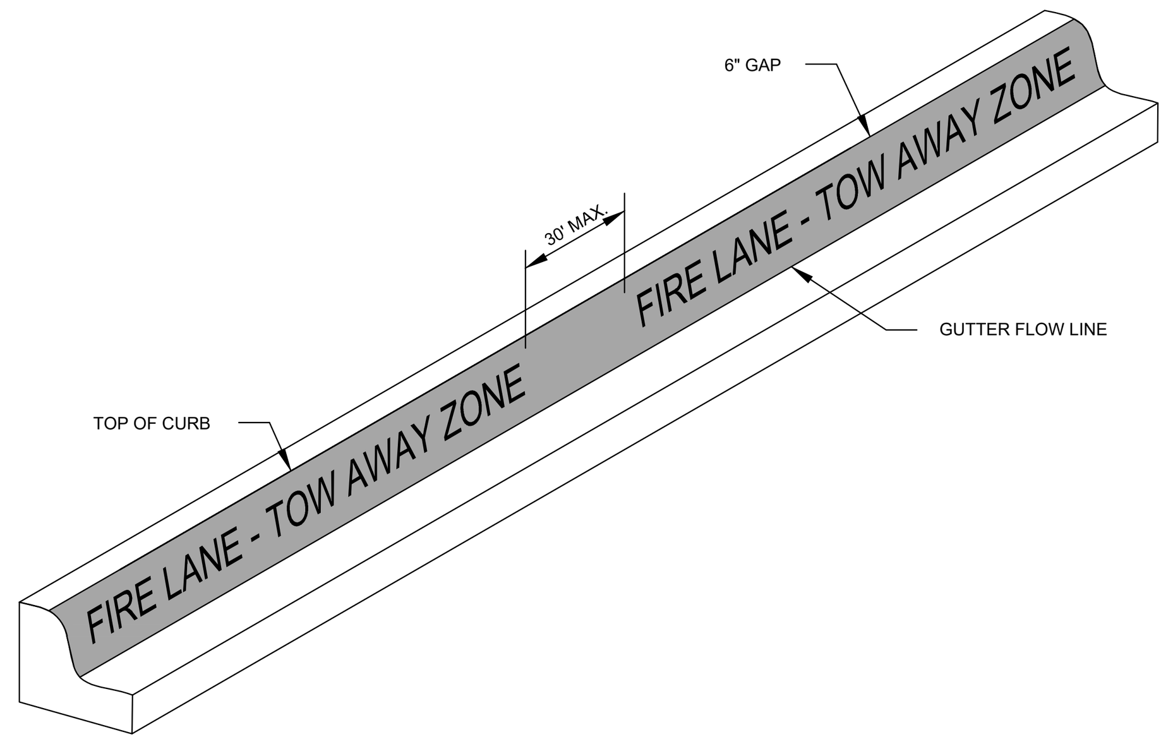
NOTES:

1. DRIVE AISLE IS MIN. 25' WIDE
2. RAMP ACCESS AND SURFACE SLOPES SHALL COMPLY WITH ADA/TAS REQUIREMENTS.
3. EACH HANDICAPPED PARKING SPACE SHALL BE SIGNED IN ACCORDANCE WITH ADA REQUIREMENTS.

(5) HANDICAP PARKING SPACE LAYOUT

NOT TO SCALE

DETAILS.dwg



NOTES:

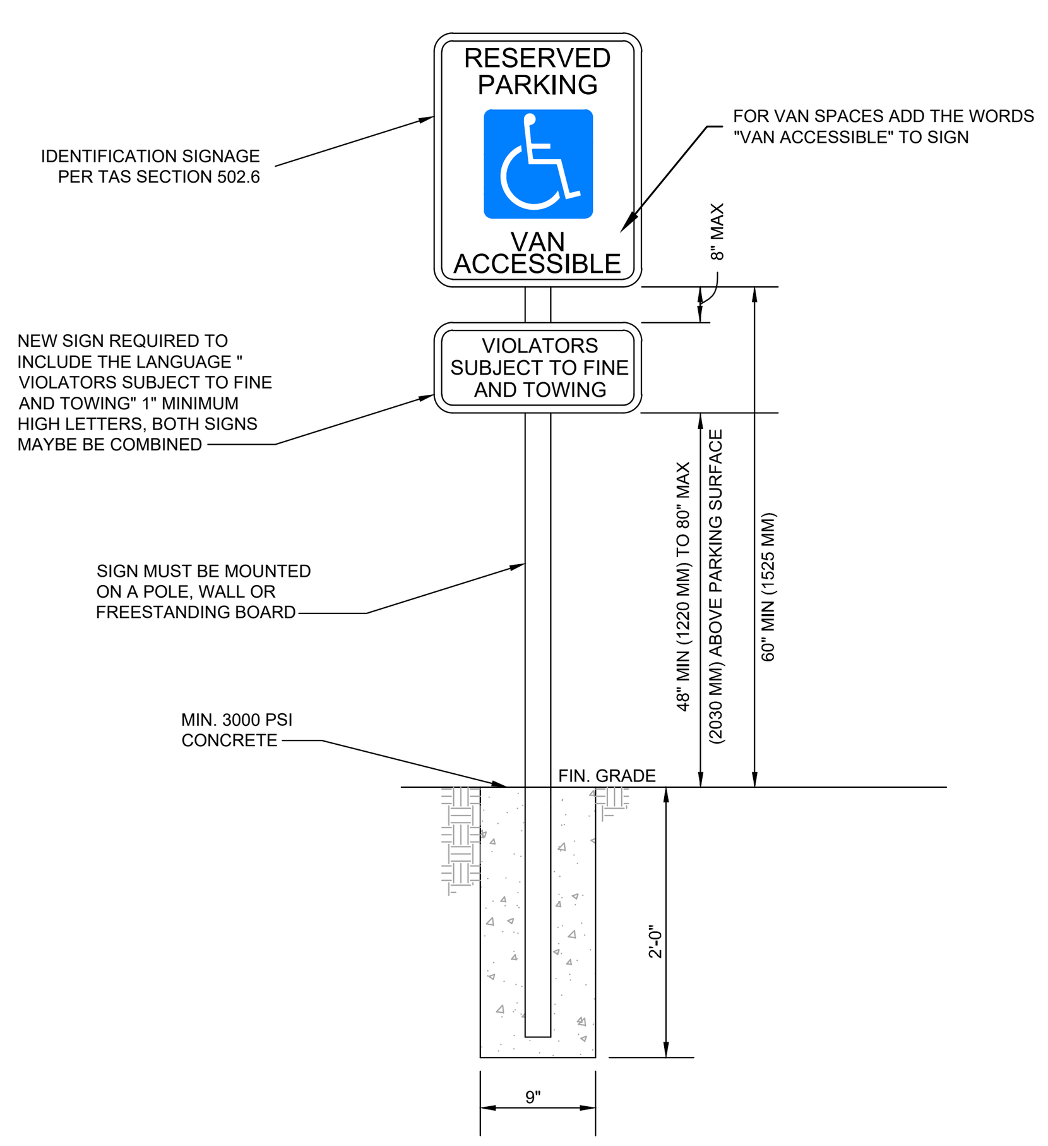
FIRE LANE STRIPING TO BE 6" WIDE RED PAINT WITH "NO PARKING FIRE LANE" IN 4" TALL WHITE LETTERS. WORDING MAY NOT BE SPACED GREATER THAN 30' APART. STRIPING TO BE PAINTED ON THE FACE OF CURB WHEN PRESENT AND PAINTED FLAT ON THE PARKING SURFACE WHEN IT IS NOT.

(6) FIRE LANE -TOW AWAY MARKING DETAIL

NOT TO SCALE

NOTES:

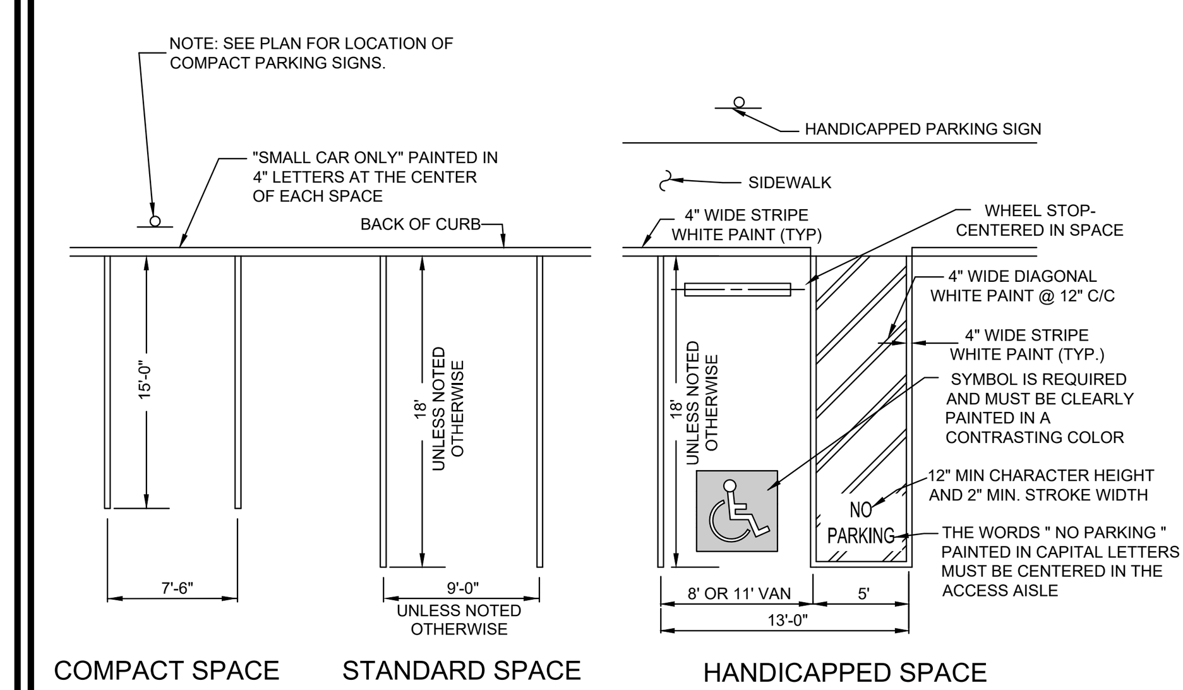
1. ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED AND RESERVED FOR THE THE DISABLED BY VERTICALLY MOUNTED SIGNS INCORPORATING THE SYMBOL OF ACCESSIBILITY AND PLACED SO THAT THEY WILL NOT BE OBSCURED BY PARKED VEHICLES. THERE SHALL BE A SUFFICIENT NUMBER OF SIGNS SO THAT EACH SPACE IS CLEARLY IDENTIFIED. THE SIGNAGE SHALL BE SUCH SIZE THAT IS LEGIBLE FROM A DISTANCE THAT WOULD BE REASONABLE FOR THE CONDITION. SIGNS MAY BE MOUNTED ON POSTS, WALL, FENCES, COLUMNS, OR OTHER PERMANENT VERTICAL SURFACES. THEY SHOULD BE MOUNTED BETWEEN 48 INCHES AND 80 INCHES ABOVE THE GROUND OR FLOOR SURFACE UNLESS THEY ARE PART OF AN ACCESSIBLE ROUTE.
2. WHERE NOTED ON THE DRAWINGS-SIGN MAY BE MOUNTED ON A WALL-USING SAME DIMENSIONS.
3. SIGNS AND POSTS FOR HANDICAPPED AND COMPACT PARKING SHALL BE PAINTED GREEN, BACK AND FRONT, WITH WHITE LETTERING.



(7) ACCESSIBLE SIGNAGE

NOT TO SCALE

DETAILS.dwg



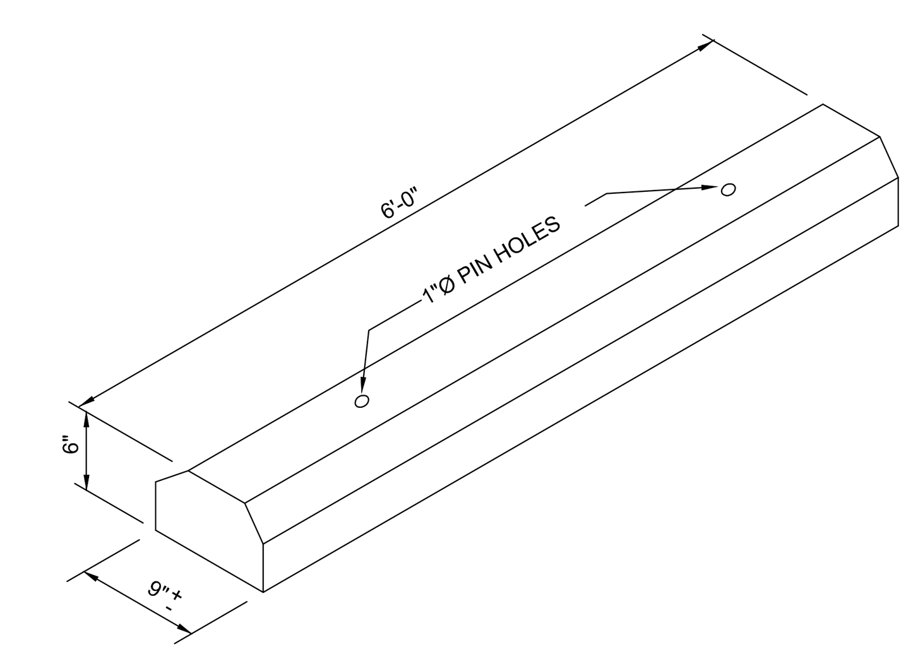
NOTES:

1. DRIVE AISLE IS MIN. 25' WIDE
2. RAMP ACCESS AND SURFACE SLOPES SHALL COMPLY WITH ADA/TAS REQUIREMENTS.
3. EACH HANDICAPPED PARKING SPACE SHALL BE SIGNED IN ACCORDANCE WITH ADA REQUIREMENTS.

(8) TYPICAL PARKING SPACE LAYOUT

NOT TO SCALE

DETAILS.dwg



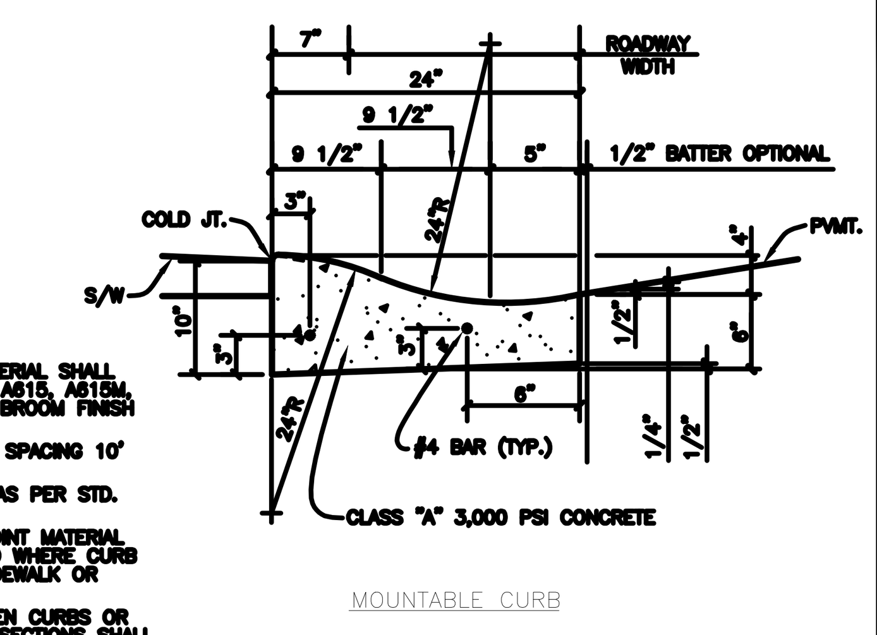
ISOMETRIC

NOTES:
1. FURNISH TWO (2) 3/4" Ø IRON PINS PER WHEEL STOP, 3'-0" LONG
2. MINIMUM REINFORCEMENT TO BE 2 EA. LONGITUDINAL #3 BARS.

(9) PRECAST CONCRETE WHEEL STOP

NOT TO SCALE

DET 312



NOTES:

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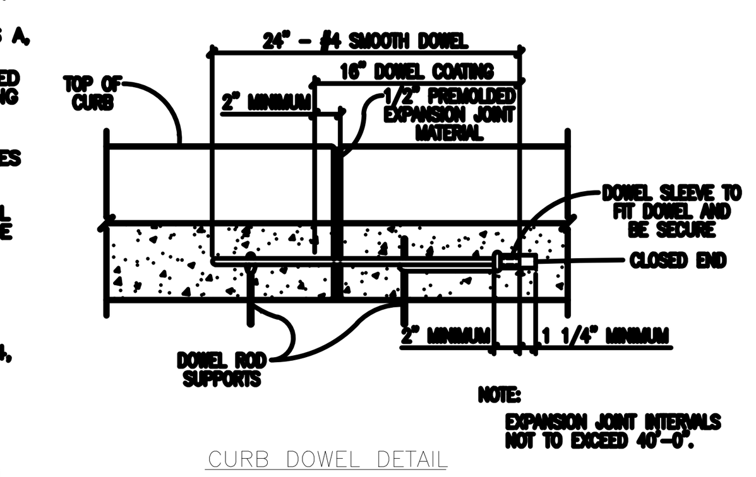
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR TH CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING 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.



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

ADOPTED 6/21/2006

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

(10) MOUNTABLE CURB AND GUTTER DETAILS

SD07 | NTS | 1/2003 | MRS | TRB

Rigid Pavement Section Recommendations

The use of concrete for paving has become more prevalent in recent years due to the long-term maintenance cost benefits of concrete pavement compared to asphalt pavements. The recommended light and heavy-duty rigid concrete pavement sections are provided in the following table:

Rigid Pavement	Light Duty	Heavy Duty
Reinforced Concrete	6"	8"
Compacted Subgrade	8"	8"

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

STATE OF TEXAS — MICHAEL EASTON MUNDINE — 143266 — LICENSED PROFESSIONAL ENGINEER

9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

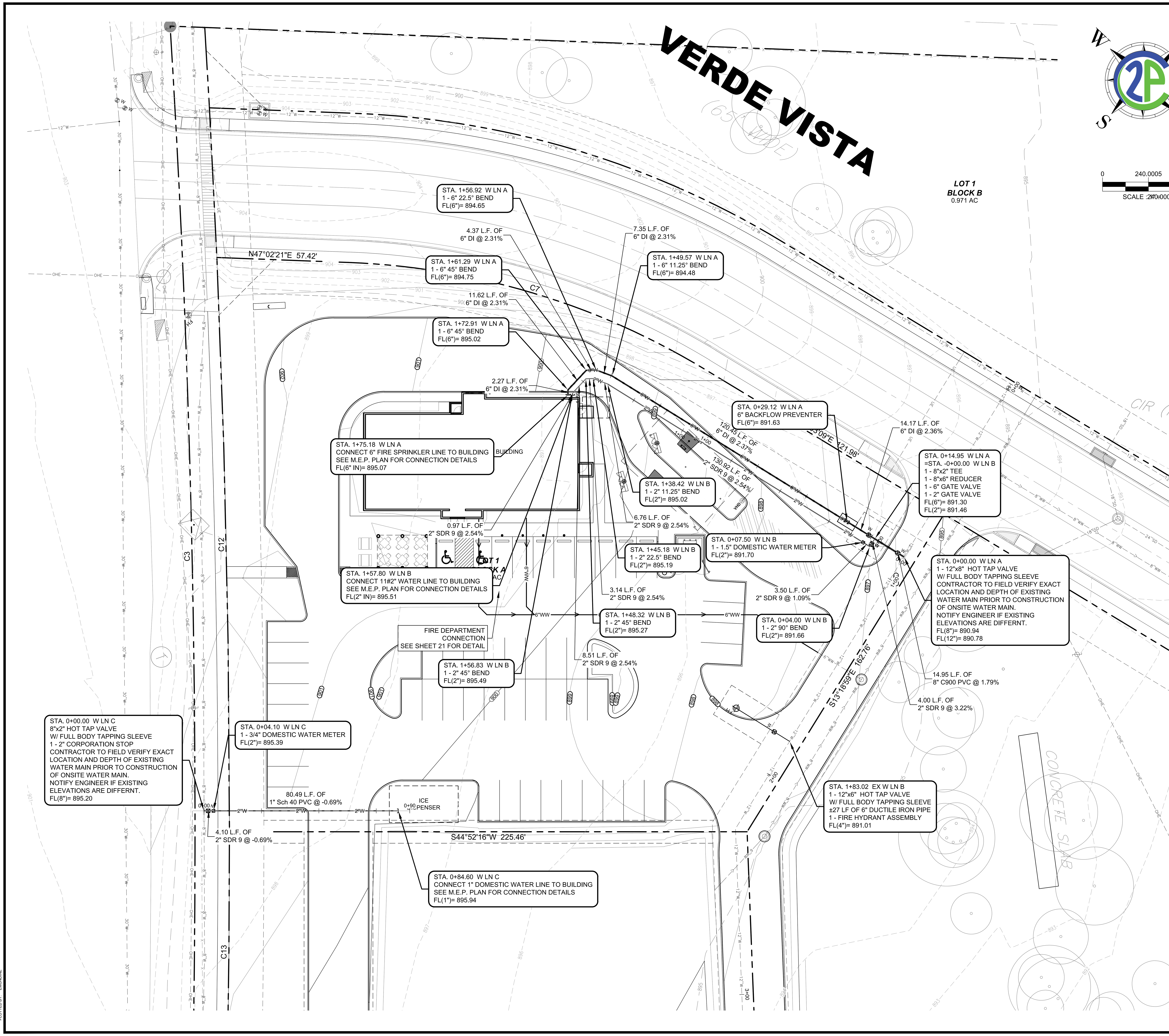
SITE DETAILS

PERMIT No. ----

SHEET No. 12 OF 35

2023-47-SDP

IMAGES: * COGLogoBWTrans.gif * COGLogoBWTrans.gif * COGLogoBWTrans.gif * COGLogoBWTrans.gif * COGLogoBWTrans.gif * signature TP.png * COGLogoBWTrans.gif
XREFS: * 24x36 2PC TitleBlock.dwg * Ec01.dwg * Ec02.dwg * Ec01A.dwg * Ec06.dwg * Ec09.dwg * Sd14-REVISED.dwg * Sd41.dwg * Sd42.dwg * W02.dwg * W07.dwg * W10.dwg * W11.dwg * W21.dwg * W22.dwg * W18.dwg * Ww18.dwg * MEM SEAL.dwg * Sd06.dwg * Sd15-REVISED.dwg * W23.dwg * W17.dwg * Ec03.dwg * W22_Water Oak.dwg * Sd10.dwg * W04 - REVISION.dwg * W03 - REVISION.dwg * Ww02.dwg * Ww09.dwg * Sd07.dwg * W14.dwg
DWG: N:\Projects\Culvers - Williams Dr & Verde Vista\CAD\Sheets\DETAILS.dwg
PLOT DATE: Thursday, September 14, 2023
PLOTTED BY: EMUNDINE



0 240.0005 480.001
SCALE : 240.0005'

GENERAL LEGEND

SYMBOLS

WATER METER	WW SERVICE
WATER VALVE	WATER SERVICE
FIRE HYDRANT	STORMSEWER MANHOLE
BACKFLOW PREVENTER	SIGN
UTILITY POLE	CURB INLET
LIGHT POLE	GRATE INLET
WASTEWATER MANHOLE	TABLE TOP AREA INLET
CLEAN OUT	TREE TO BE SAVED
KEYNOTES	TREE TO BE REMOVED
PARKING COUNT	

LINETYPES

PROPERTY BOUNDARY
LIMITS OF CONSTRUCTION
FENCES (CHAINLINK)
(IRON)
(WOOD)
(BARB WIRE)
DITCH (CREEK) LINE
EXISTING CONTOURS
PROPOSED CONTOURS
CURB & GUTTER
UNDERGROUND ELEC.
OVERHEAD UTILITY
UNDERGROUND TELE.
UNDERGROUND GAS LINE
WATER LINE
WASTEWATER LINE
ACCESSIBLE ROUTE

NOTES:

1. WATER SERVICE TO BE PROVIDED BY THE CITY OF GEORGETOWN.
2. WASTEWATER SERVICE TO BE PROVIDED BY THE CITY OF GEORGETOWN.
3. CONTRACTOR TO COORDINATE WITH M.E.P. PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO ENSURE FIRE HYDRANTS, METERS OR VALVES ARE NOT PLACES WITHIN SIDEWALKS.
5. UNLESS OTHERWISE NOTED, ALL WATER LINES 4"-12" IN DIAMETER SHALL BE C900 PVC PIPE, WATER LINES LESS THAN 4" IN DIAMETER SHALL BE SCH 40 PVC PIPE.
6. THE CONTRACTOR IS TO CONTACT THE CITY OF GEORGETOWN PRIOR TO INSTALLATION OF THE METER AND FOR THE METER SPECS.
7. ALL WASTEWATER LINES ARE TO BE CONSTRUCTED OF SDR 26 PVC.
8. CONTRACTOR TO COORDINATE AND INSTALL NECESSARY IRRIGATION, ELECTRICAL AND TELECOMMUNICATION SLEEVES PRIOR TO PLACEMENT OF PAVEMENT.
9. ALL BENDS, TEES, REDUCERS AND GATE VALVES SHALL BE RESTRAINED PER CITY OF GEORGETOWN STANDARDS.
10. MINIMUM CLEARANCE BETWEEN WATER AND SANITARY SEWER LINES SHALL COMPLY WITH TCEQ REQUIREMENTS.
11. REFER TO SITE PLAN FOR UTILITY EASEMENT(S) LOCATION(S).
12. CONTRACTOR SHALL COORDINATE LIGHT POLE LOCATIONS AND SLEEVING FOR ELECTRICAL SERVICE WITH M.E.P.
13. CONTRACTOR SHALL COORDINATE LOCATIONS, SIZE AND TYPE OF LIGHTING WITH M.E.P. AND BUILDING PLANS.
14. CONTRACTOR SHALL ADJUST ALL VISIBLE UTILITY FEATURES TO FINISHED GRADE AS NEEDED AT NO ADDITIONAL COST TO OWNER.
15. ALL NON-CITY INFRASTRUCTURE INCLUDING GAS, ELECTRIC, CABLE AND TELECOMMUNICATION SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE. THIS INCLUDES, BUT IS NOT LIMITED TO WATER LINES, WASTEWATER AND STORM SEWER, WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18"

CITY OF GEORGETOWN FIRE HYDRANT COLOR CODE SYSTEM. PRIVATE FIRE HYDRANT MAINTENANCE SHALL BE IN ACCORDANCE WITH NFPA 291.

A. ALL PRIVATE HYDRANT BARRELS WILL BE PAINTED RED WITH THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C OF THIS SECTION TO INDICATE FLOW. THE CUSTOMER WILL BE RESPONSIBLE FOR TESTING AND MAINTAINING THEIR PRIVATE FIRE HYDRANT(S).
B. ALL PRIVATE FIRE HYDRANTS SHOULD BE INSPECTED, MAINTAINED, AND FLOW TESTED ANNUALLY, AND COLOR CODED TO INDICATE THE EXPECTED FIRE FLOW FROM THE HYDRANT DURING NORMAL OPERATION. SUCH COLOR APPLIED TO THE FIRE HYDRANT BY PAINTING THE BONNET THE APPROPRIATE COLOR FOR THE EXPECTED FLOW CONDITION.
C. **HYDRANT FLOW CODING STANDARDS.** PUBLIC HYDRANTS BARRELS WILL BE PAINTED SILVER, THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN AS FOLLOWS AT 20 PSI RESIDUAL:

FLOW	COLOR
GREATER THAN 1,500 GPM	BLUE
1,000 - 1,500 GPM	GREEN
500 - 999 GPM	ORANGE
LESS THAN 500 GPM	RED
NOT WORKING	BLACK OR BAGGED

D. AT THE CONCLUSION OF CONSTRUCTION, FIRE HYDRANTS SHALL BE FLOW TESTED AND COLOR CODED IN ACCORDANCE WITH CITY'S STANDARDS, AND RESULTS SHALL BE E-MAILED TO THE FIRE DEPARTMENT. (IFC-LA-507.5.7 FIRE HYDRANT SYSTEMS)

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

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DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

NO. DATE REVISIONS RECOMD

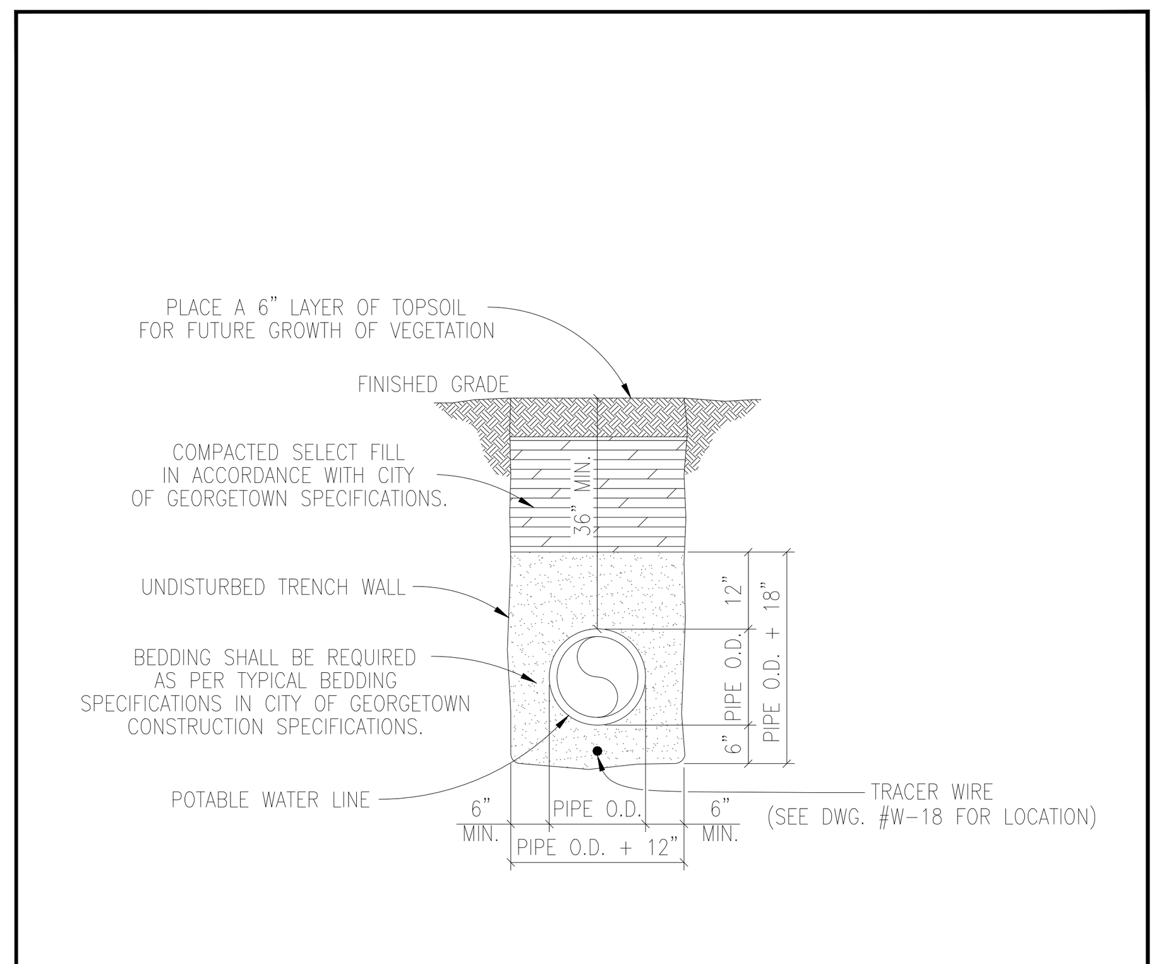
RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WATER PLAN

PERMIT No.
2023-47-SDP

SHEET No.
19
OF 35



PLACE A 6" LAYER OF TOPSOIL FOR FUTURE GROWTH OF VEGETATION
FINISHED GRADE
COMPACTED SELECT FILL IN ACCORDANCE WITH CITY OF GEORGETOWN SPECIFICATIONS.
UNDISTURBED TRENCH WALL
BEDDING SHALL BE REQUIRED AS PER TYPICAL BEDDING SPECIFICATIONS IN CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
POTABLE WATER LINE
TRACER WIRE (SEE DWG. #W-18 FOR LOCATION)
6" MIN.
PIPE O.D.
PIPE O.D. + 12"

TRENCH WIDTHS

*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.

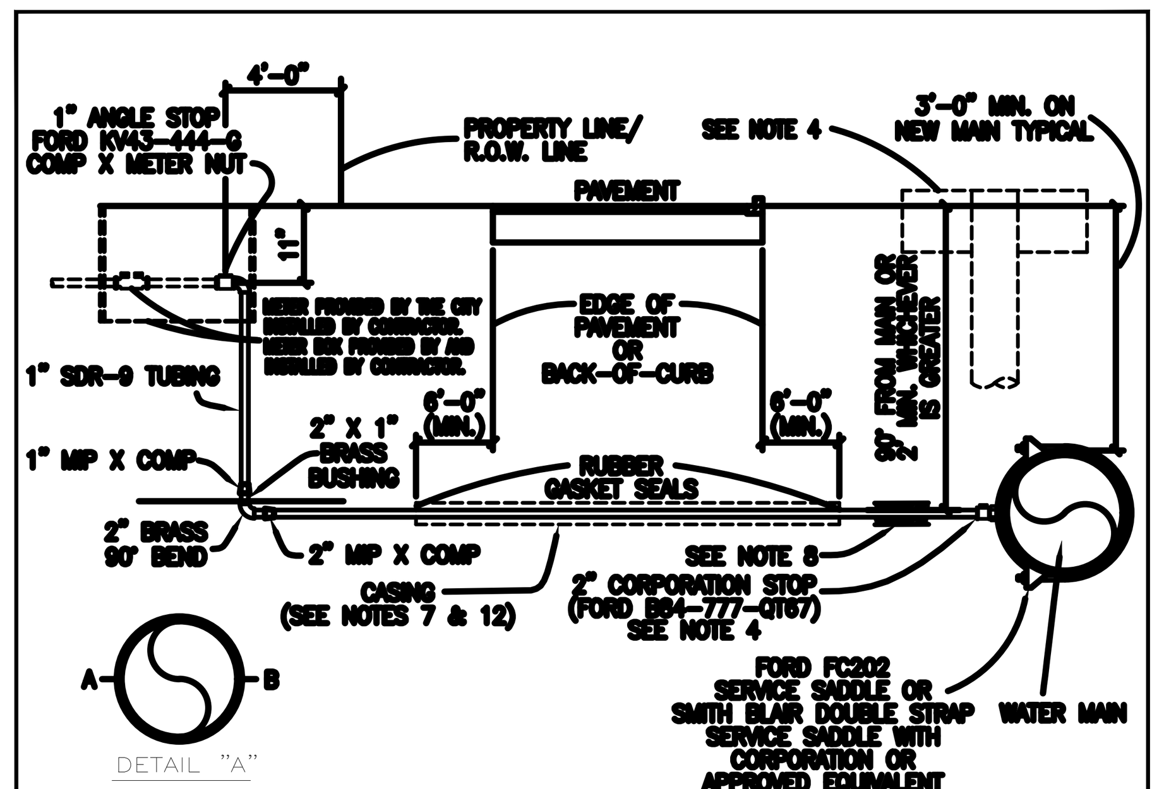
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS — W02



1" ANGLE STOP FORD KA43-444-Q COMP X METER NUT
4'-0"
PROPERTY LINE/ R.O.W. LINE
SEE NOTE 4
3'-0" MIN. ON NEW MAIN TYPICAL
PAVEMENT
EDGE OF PAVEMENT OR BACK-OF-CURB
1" SDR-9 TUBING
1" MIP X COMP
2" X 1" BRASS BUSHING
2" BRASS 90° BEND
2" MIP X COMP
RUBBER GASKET SEALS
CASING (SEE NOTES 7 & 12)
2" CORPORATION STOP (FORD B84-777-QT67) SEE NOTE 4
SEE NOTE 8
FORD FC202 SERVICE SADDLE OR SMITH BLAIR DOUBLE STRAP SERVICE SADDLE WITH CORPORATION OR APPROVED EQUIVALENT
WATER MAIN
DETAIL "A"

NOTES:

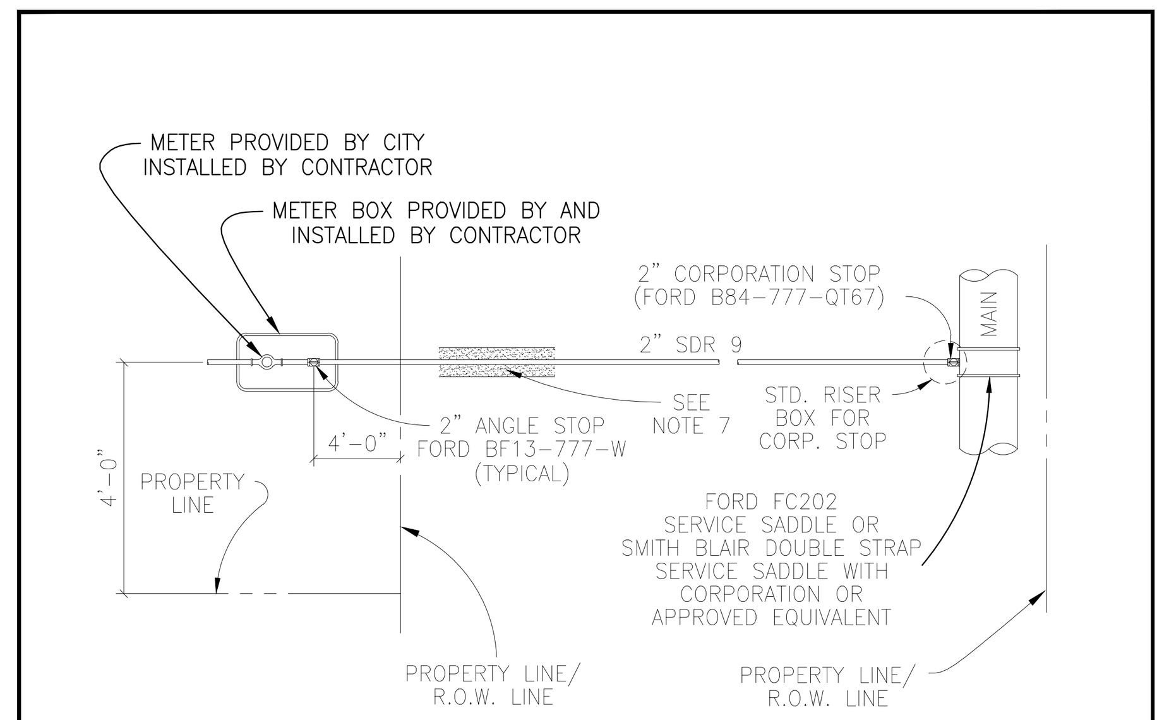
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING 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.

ADOPTED 01/23/2013

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL WATER SERVICE-ELEVATION — W03



METER PROVIDED BY CITY INSTALLED BY CONTRACTOR
METER BOX PROVIDED BY AND INSTALLED BY CONTRACTOR
2" CORPORATION STOP (FORD B84-777-QT67)
2" SDR 9
MAIN
2" ANGLE STOP FORD BF13-777-W (TYPICAL)
SEE NOTE 7
STD. RISER BOX FOR CORP. STOP
4'-0"
PROPERTY LINE
FORD FC202 SERVICE SADDLE OR SMITH BLAIR DOUBLE STRAP SERVICE SADDLE WITH CORPORATION OR APPROVED EQUIVALENT
PROPERTY LINE/ R.O.W. LINE
PROPERTY LINE/ R.O.W. LINE

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.

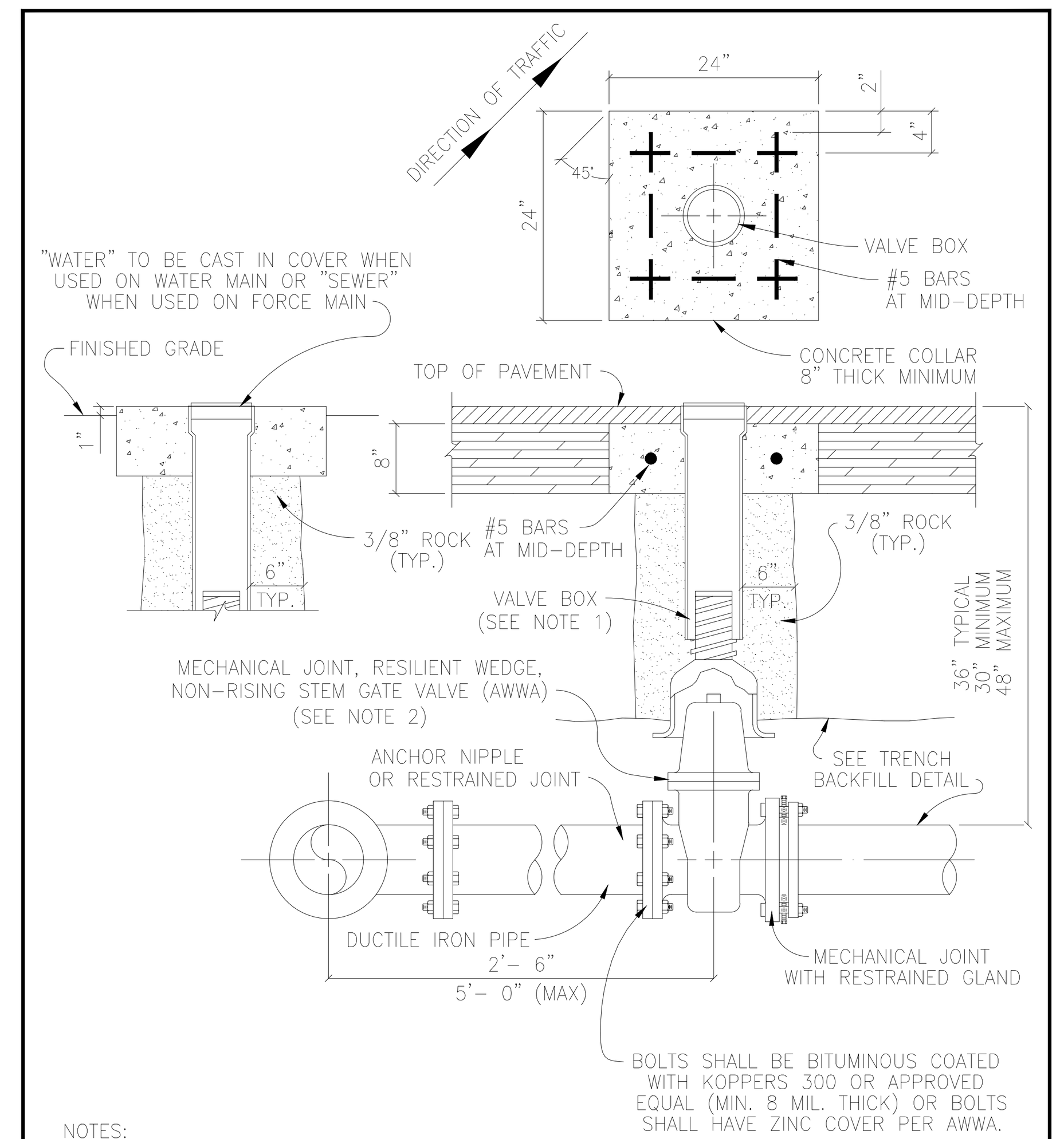
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

SINGLE WATER SERVICE PLAN — W04

SCALE: NTS DATE: 1/2013 DRAWN BY: — APPROVED BY: MH



DIRECTION OF TRAFFIC
24"
"WATER" TO BE CAST IN COVER WHEN USED ON WATER MAIN OR "SEWER" WHEN USED ON FORCE MAIN
VALVE BOX
#5 BARS AT MID-DEPTH
FINISHED GRADE
TOP OF PAVEMENT
CONCRETE COLLAR 8" THICK MINIMUM
3/8" ROCK (TYP.)
#5 BARS AT MID-DEPTH
VALVE BOX (SEE NOTE 1)
MECHANICAL JOINT, RESILIENT WEDGE, NON-RISING STEM GATE VALVE (AWWA) (SEE NOTE 2)
ANCHOR NIPPLE OR RESTRAINED JOINT
SEE TRENCH BACKFILL DETAIL
DUCTILE IRON PIPE
2'- 6"
5'- 0" (MAX)
MECHANICAL JOINT WITH RESTRAINED GLAND
BOLTS SHALL BE BITUMINOUS COATED WITH KOPPERS 300 OR APPROVED EQUAL (MIN. 8 MIL. THICK) OR BOLTS SHALL HAVE ZINC COVER PER AWWA.

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

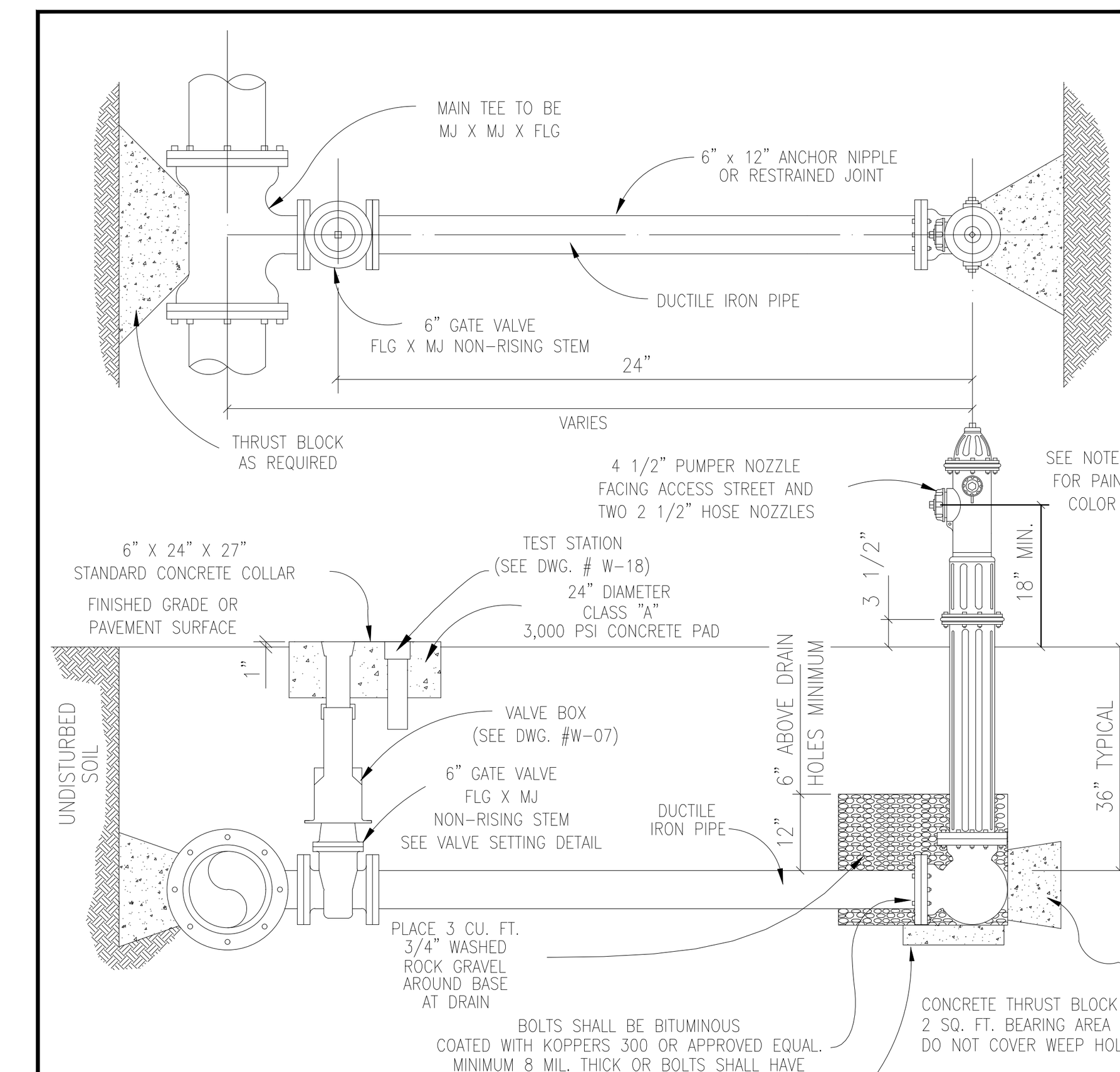
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL VALVE SETTING — W07

SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



MAIN TEE TO BE MJ X MJ X FLG
6" X 12" ANCHOR NIPPLE OR RESTRAINED JOINT
DUCTILE IRON PIPE
6" GATE VALVE FLG X MJ NON-RISING STEM
THRUST BLOCK AS REQUIRED
VARIES
4 1/2" PUMPER NOZZLE FACING ACCESS STREET AND TWO 2 1/2" HOSE NOZZLES
TEST STATION (SEE DWG. # W-18)
24" DIAMETER CLASS "A" 3,000 PSI CONCRETE PAD
6" X 24" X 27" STANDARD CONCRETE COLLAR
FINISHED GRADE OR PAVEMENT SURFACE
VALVE BOX (SEE DWG. # W-07)
6" GATE VALVE FLG X MJ NON-RISING STEM SEE VALVE SETTING DETAIL
DUCTILE IRON PIPE
UNDISTURBED SOIL
PLACE 3 CU. FT. 3/4" WASHED ROCK GRAVEL AROUND BASE AT DRAIN
BOLTS SHALL BE BITUMINOUS COATED WITH KOPPERS 300 OR APPROVED EQUAL. MINIMUM 8 MIL. THICK OR BOLTS SHALL HAVE ZINC BOLT COVER PER AWWA
CONCRETE THRUST BLOCK 2 SQ. FT. BEARING AREA DO NOT COVER WEEP HOLES
24"X24"X6" CONCRETE SLAB

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.

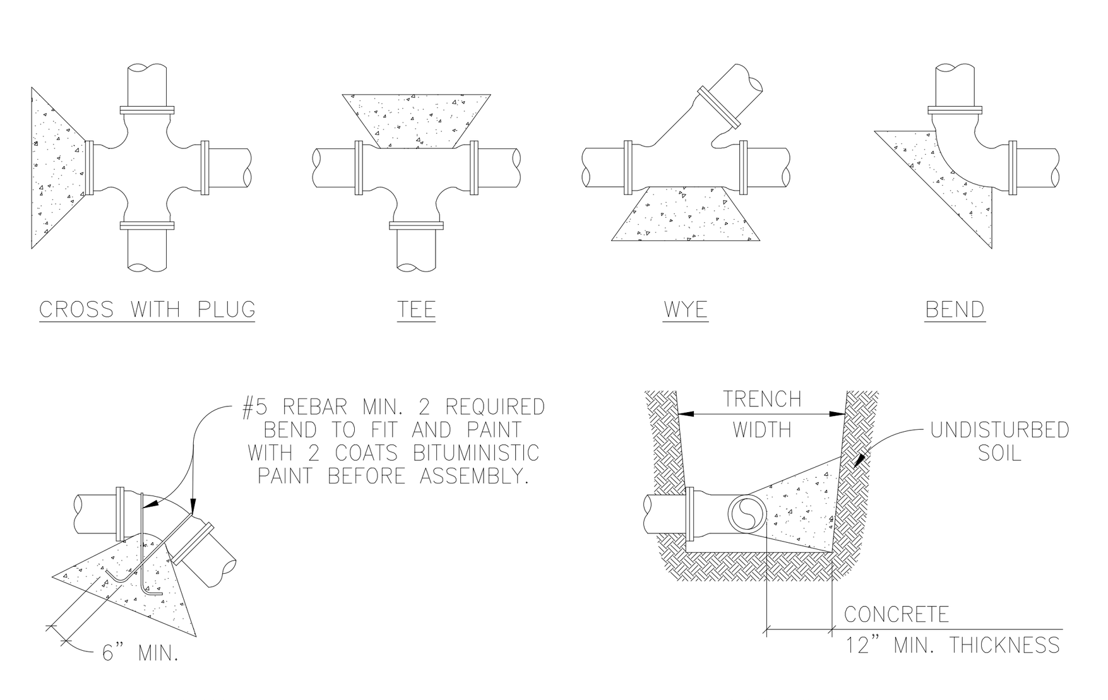
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL FIRE HYDRANT INSTALLATION — 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.

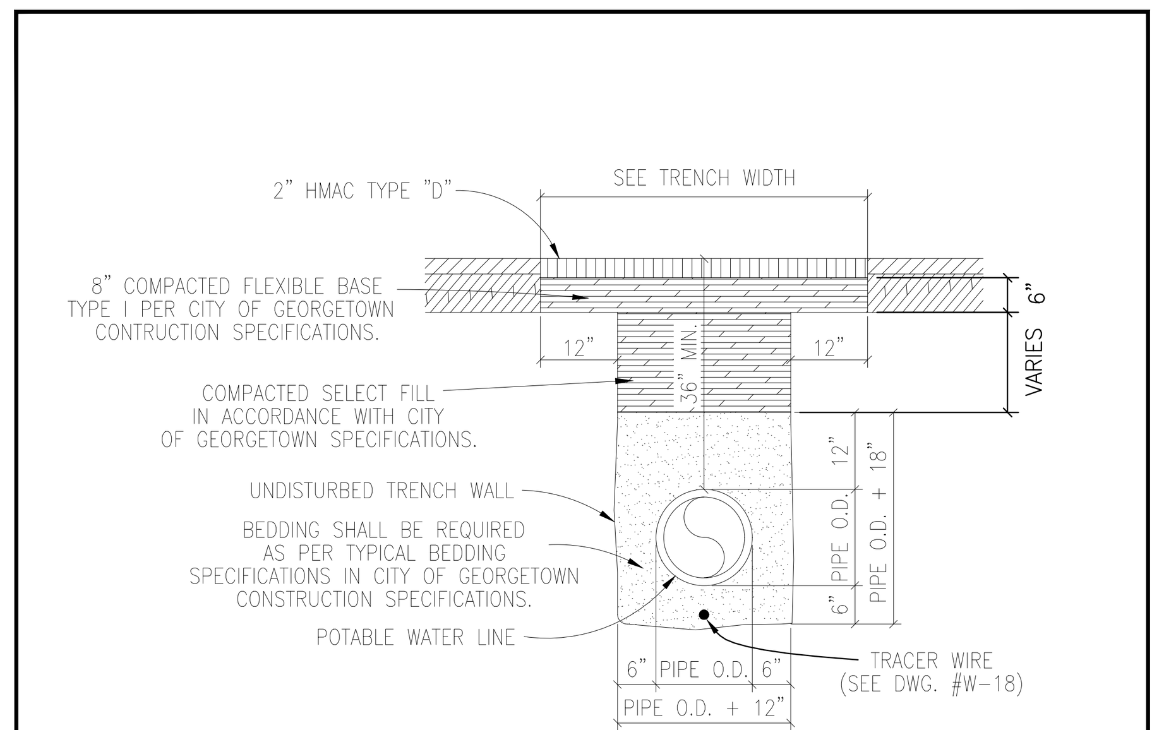
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN — W11

SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



2" HMAC TYPE "D"
SEE TRENCH WIDTH
8" COMPACTED FLEXIBLE BASE TYPE I PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
VARIES
6"
12"
COMPACTED SELECT FILL IN ACCORDANCE WITH CITY OF GEORGETOWN SPECIFICATIONS.
UNDISTURBED TRENCH WALL
BEDDING SHALL BE REQUIRED AS PER TYPICAL BEDDING SPECIFICATIONS IN CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
POTABLE WATER LINE
TRACER WIRE (SEE DWG. #W-18)
PIPE O.D. + 12"

TRENCH WIDTHS

*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.

*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

NOTES:

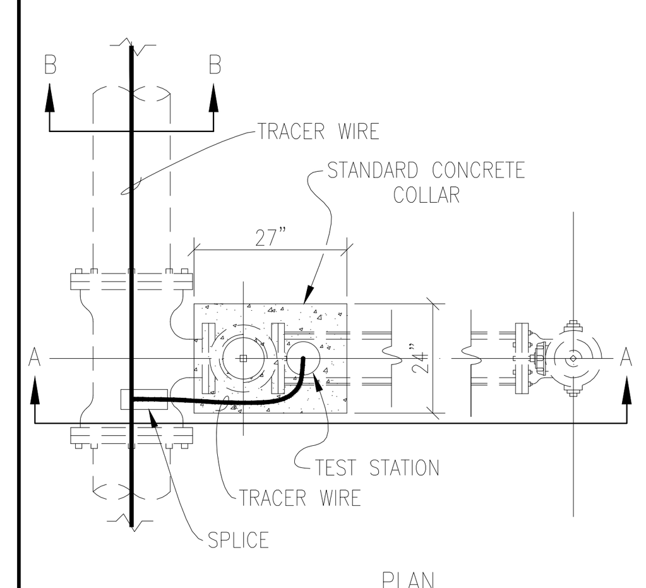
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. 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.

ADOPTED 6/21/2006

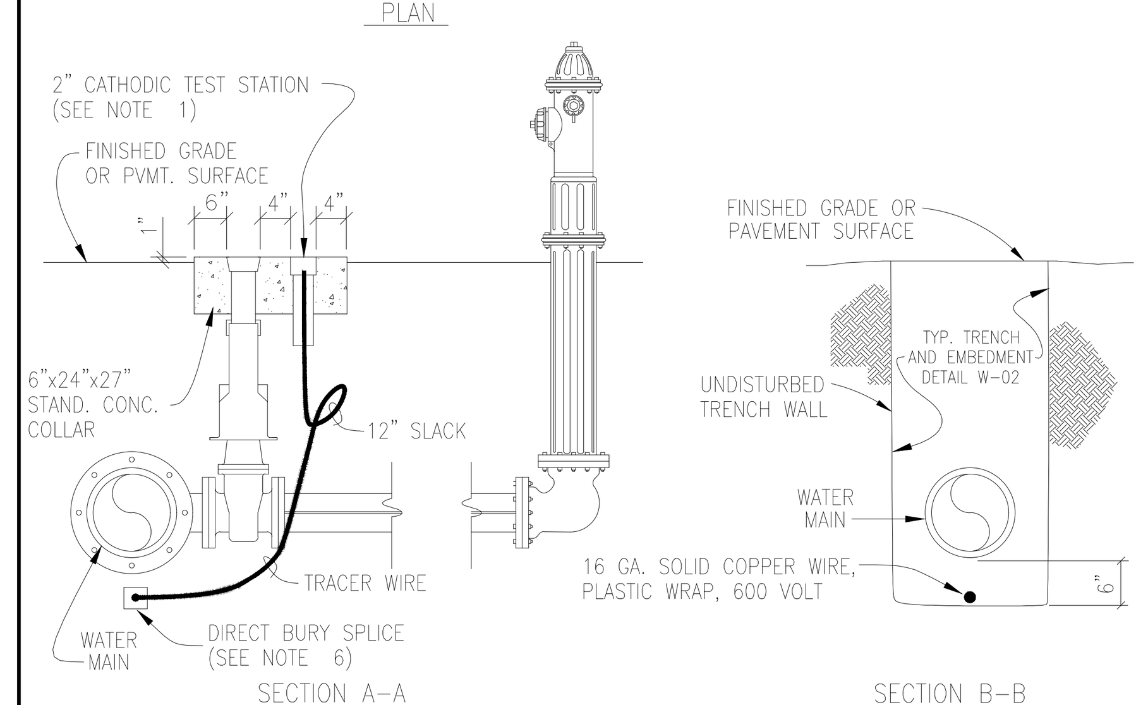
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY — W17



NOTES:

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



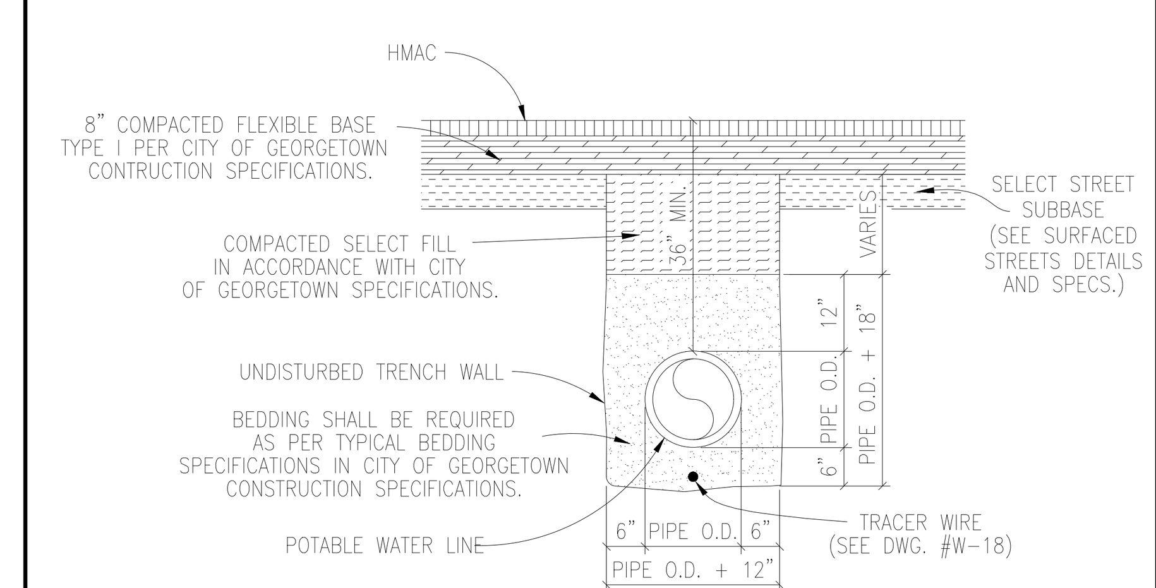
2" CATHODIC TEST STATION (SEE NOTE 1)
FINISHED GRADE OR PVMT. SURFACE
6"x24"x27" STAND. CONC. COLLAR
12" SLACK
TRACER WIRE
WATER MAIN
DIRECT BURY SPLICE (SEE NOTE 6)
SECTION A-A
FINISHED GRADE OR PAVEMENT SURFACE
TYP. TRENCH AND EMBEDMENT DETAIL W-02
UNDISTURBED TRENCH WALL
WATER MAIN
16 GA. SOLID COPPER WIRE, PLASTIC WRAP, 600 VOLT
SECTION B-B

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TRACER WIRE INSTALLATION AND TEST STATION LOCATION — W18



HMAC
8" COMPACTED FLEXIBLE BASE TYPE I PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
SELECT STREET SUBBASE (SEE SURFACED STREETS DETAILS AND SPECS.)
COMPACTED SELECT FILL IN ACCORDANCE WITH CITY OF GEORGETOWN SPECIFICATIONS.
UNDISTURBED TRENCH WALL
BEDDING SHALL BE REQUIRED AS PER TYPICAL BEDDING SPECIFICATIONS IN CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
POTABLE WATER LINE
TRACER WIRE (SEE DWG. #W-18)
PIPE O.D. + 12"

TRENCH WIDTHS

*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.

*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

NOTES:

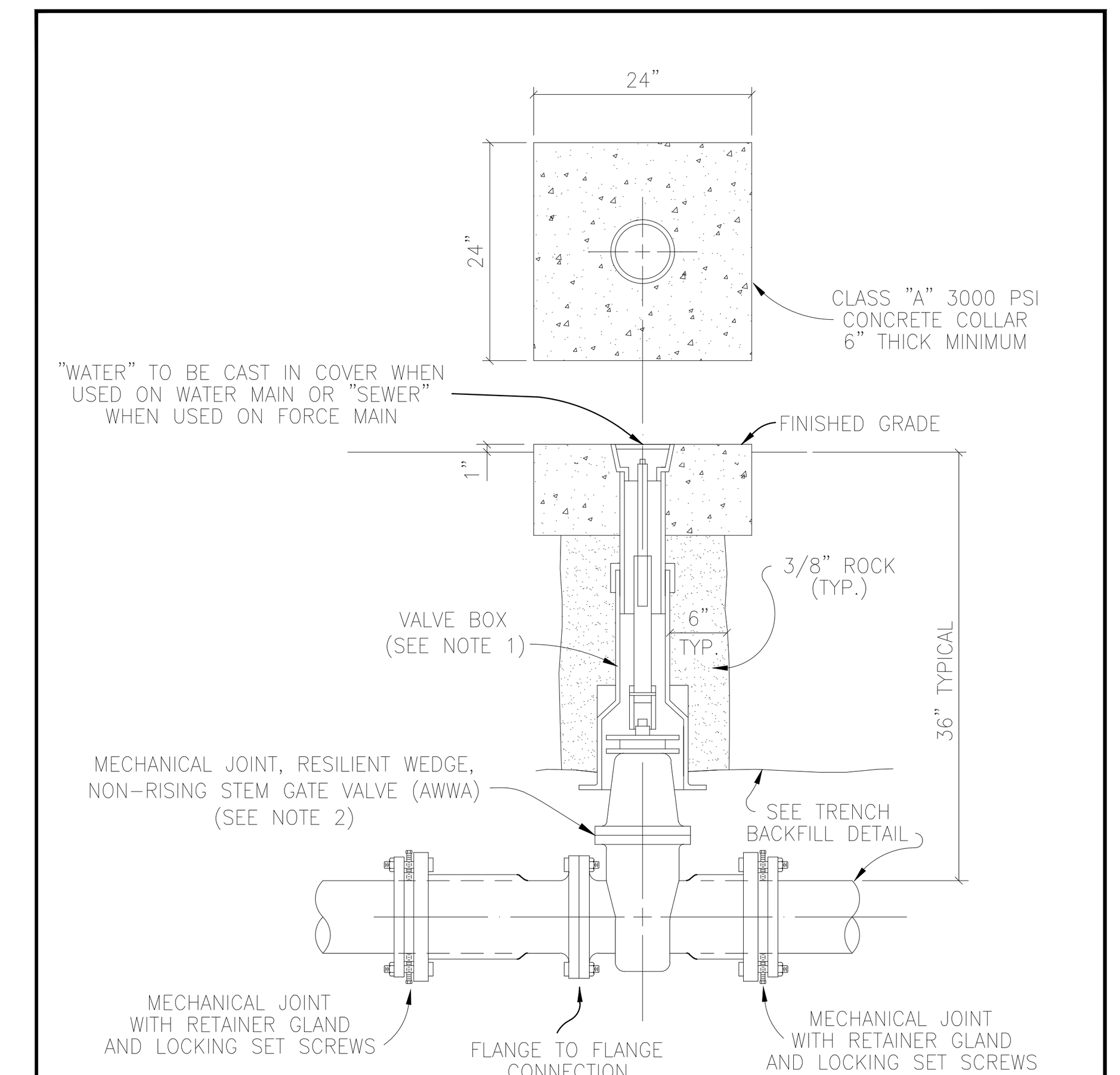
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY — W22



24"
CLASS "A" 3000 PSI CONCRETE COLLAR 6" THICK MINIMUM
"WATER" TO BE CAST IN COVER WHEN USED ON WATER MAIN OR "SEWER" WHEN USED ON FORCE MAIN
FINISHED GRADE
3/8" ROCK (TYP.)
VALVE BOX (SEE NOTE 1)
MECHANICAL JOINT, RESILIENT WEDGE, NON-RISING STEM GATE VALVE (AWWA) (SEE NOTE 2)
SEE TRENCH BACKFILL DETAIL
MECHANICAL JOINT WITH RETAINER GLAND AND LOCKING SET SCREWS
FLANGE TO FLANGE CONNECTION
MECHANICAL JOINT WITH RETAINER GLAND AND LOCKING SET SCREWS

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.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

INLINE VALVE INSTALLATION — W21

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

MICHAEL EASTON MUNDINE 143266 LICENSED PROFESSIONAL ENGINEER

9/14/2023

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

RIO DESIERTO, LLC

CULVERS RESTAURANT SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WATER DETAILS (1 OF 2)

PERMIT No. ----

SHEET No. 20 OF 35

2023-47-SDP

ES-A-Deringer 50

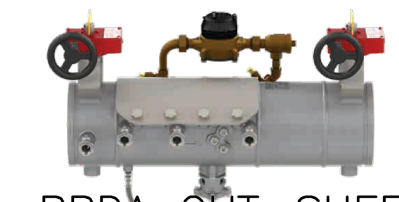
Job Name	The Preserve at Water Oak	Contractor	
Job Location	3701 W. HWY 29	Approval	
Engineer	2P Consultants, LLC - Nelson Ogren, PE	Contractor's P.O. No.	
Approval	City of Georgetown	Representative	

LEAD FREE*

Deringer™ 50

Reduced Pressure Detector Assembly

Sizes: 2"** – 8"



RPDA CUT-SHEET

HORIZONTAL

The Deringer™ 50 Reduced Pressure Detector Assemby (RPDA-II) prevents non-health hazard pollutants and hazardous contaminants entering a potable water supply system when backpressure and/or backsiphonage conditions occur. Used primarily on fire sprinkler systems when monitoring of unauthorized water use is required.

Approved for Fire Protection, Waterworks, Plumbing, and Irrigation Applications!

Features

- Integral shutoff valves indoor/outdoor application
- 100% stainless steel housing
- Tamper-resistant test cocks
- Stainless steel braided wire sensing line
- Patented Dual-action™ second check module
  - Poppet action at low flow
  - Swing action at high flow
- Balanced chamber Relief Valve
  - No sliding seals
- Poppet action first check for more reliable Relief Valve closure
- Lead free bronze bypass components
- CuFt or gallons bypass meter
- Single check bypass
- Prewired supervisory switches
- Flanged adapters available
- IPS grooved ends

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

Specifications

The Deringer 50 Reduce Pressure Detector Assembly (RPDA) valve shall utilize two independent check modules and two integral resiliently seated shutoff valves all of which shall be contained within a single rigid valve housing constructed entirely of 304 stainless steel. Both integral shutoff valves shall include prewired supervisory tamper switches contained within a weatherproof actuator housing approved for both indoor and outdoor use. Dual-action second check module shall operate as a "poppet style" check under low flow conditions, operate as a "swing style" check under high flow conditions and utilize replaceable silicone elastomer sealing discs. Assembly test cocks shall be handle-less and operate via a tamper resistant actuator. Assembly shall have a single full access service port and cover with an "inline" replaceable elastomer seal. All bypass assembly components shall be lead free and include a meter registering either gallons or cubic feet, a single check valve and required test cocks. The Relief Valve shall operate using only static seals (zero dynamic/sliding seals). All wetted surface Relief Valve components shall be constructed of stainless steel. Assembly shall be serviceable without special tools.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

AMES FIRE & WATERWORKS
A WATTS Brand

Materials

Valve Housing:	304 Stainless Steel
Valve Cover:	304 Stainless Steel
SOV Disks:	EPDM/304SS
SOV Shafts:	304 Stainless Steel
Bypass Spring:	302 Stainless Steel
RV Spring:	302 Stainless Steel
SOV Bearings:	Teflon® fluoropolymer/Bronze
Non-wetted Bolts:	Grade 8 Zinc Plated
Check Disks:	Silicone (NSF)
Wetted Fasteners:	18-8 Stainless Steel
Bypass Components:	Lead Free Bronze
RV Housing:	304 Stainless Steel
Check Springs:	17-7 Stainless Steel
Check Pins:	17-7/18-8 Stainless Steel
Check Seats:	Noryl® Polymer (NSF
O-rings:	Buna-N (NSF)
Bypass Internals:	ABS Polymer (NSF)
RV Hose:	Braided Stainless Steel Wire

Pressure — Temperature

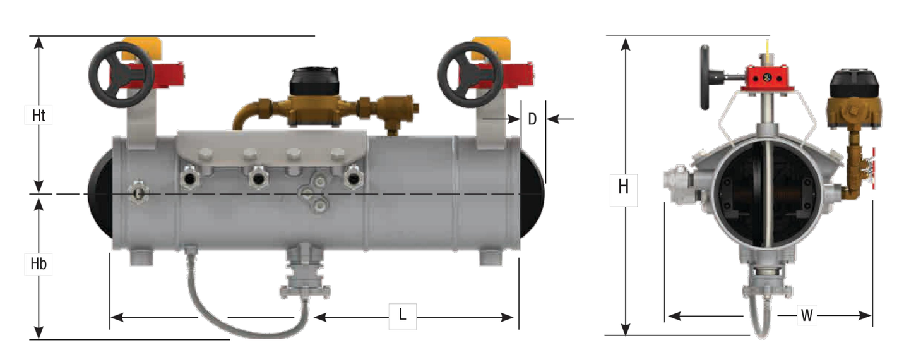
Temperature Range: 33°F – 140°F
Working Pressure: 10 – 175psi

Standards

AWWA C511-07 Compliant
NSF/ANSI 372, UL CERTIFIED
LEAD FREE
End Connections
- IPS Groove for Steel Pipe: AWWA C606
- Flange Adapters: ANSI B16.1 Class 125

USC APPROVED

Dimensions — Weights



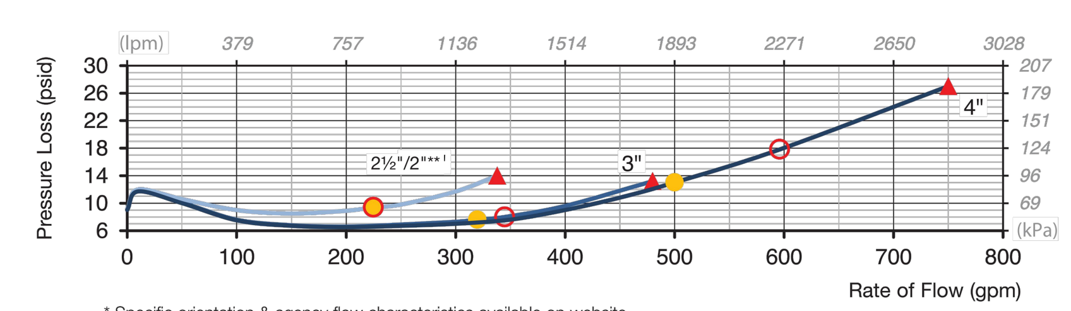
Size	Model	Ht		Hb		L		D		H		W		Weight		
in.		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kg	
2 (2 ½")	50	9.3	236	8.7	221	22.1	561	0.0	0	18.0	457	12.5	318	59	27	
2½	50	7.1	180	8.7	74	18.7	475	0.0	0	15.8	401	11.0	279	47	21	
3	50	7.4	188	8.7	74	18.7	475	0.0	0	16.1	409	11.0	279	49	22	
4	50	7.9	201	8.7	79	18.7	475	0.2	5	16.6	422	11.0	279	51	23	[4" Domestic]
6	50	10.1	257	10.5	114	25	726	1.0	25	20.6	523	13.8	351	99	45	
8	50	10.4	264	5.4	137	31.0	787	1.8	46	21.1	536	13.8	351	150	68	[8" Fire]

**2" size utilizes a 2 ½" assembly with 2 ½" groove to 2" female NPT adapter and couplings. Adapter and couplings ship unassembled.

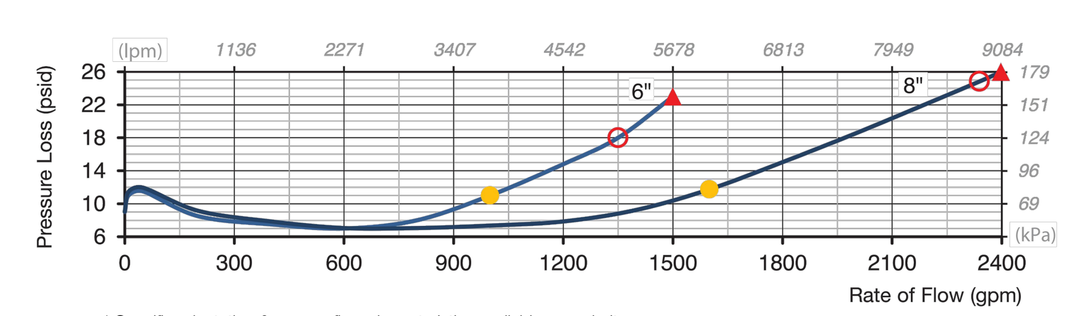
Teflon® is a registered trademark of The Chemours Company.
Noryl® is a registered trademark of SABIC Global Technologies B.V.

Flow Performance

● = Rated Flow ▲ = UL Tested ○ = 15 fps



* Specific orientation & agency flow characteristics available on website



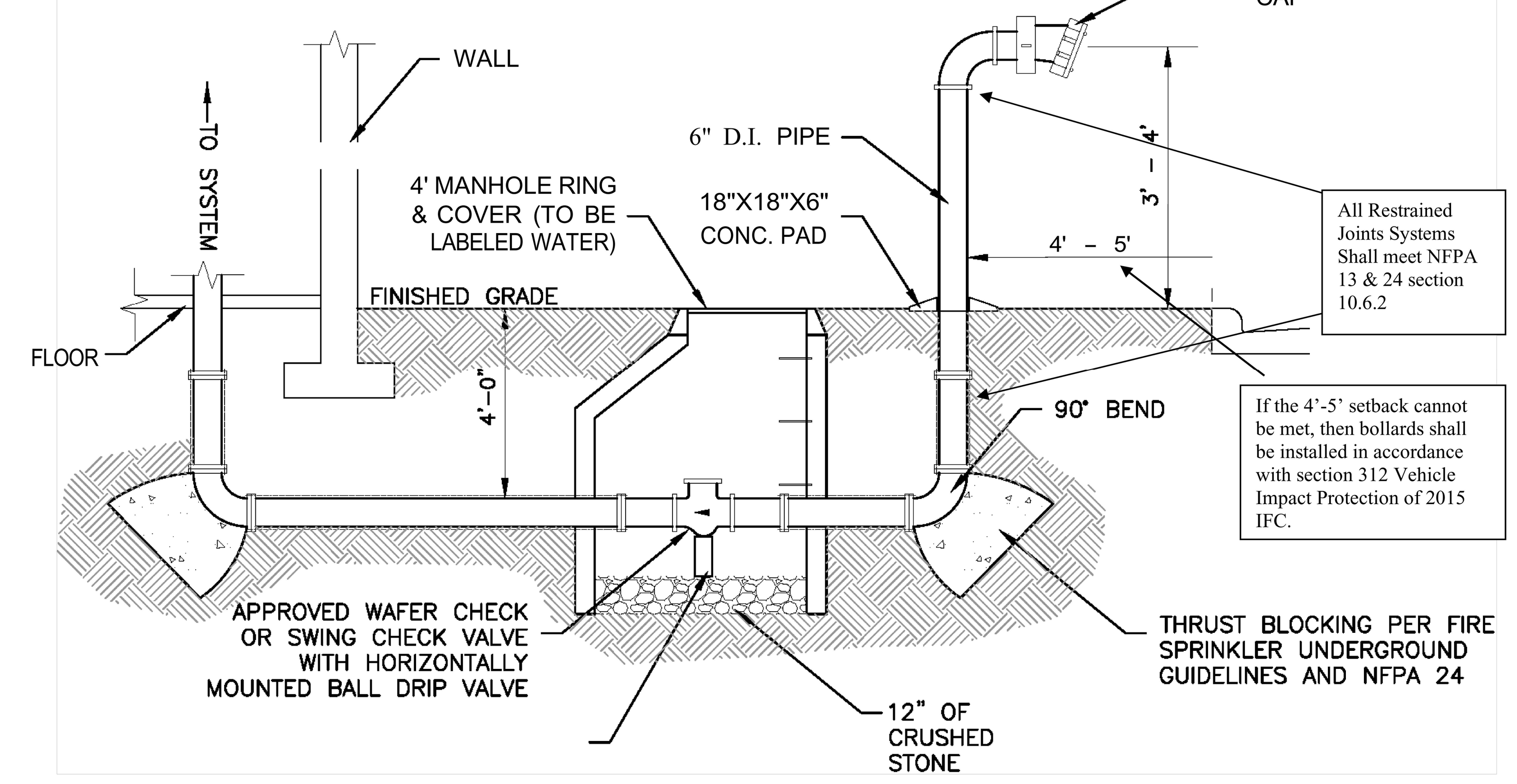
* Specific orientation & agency flow characteristics available on website

AMES FIRE & WATERWORKS
A WATTS Brand

USA: Backflow T: (978) 689-6066 • F: (978) 975-8350 • AmesFireWater.com
USA: Control Valves T: (713) 943-0688 • F: (713) 944-9445 • AmesFireWater.com
Canada: T: (905) 332-4090 • F: (905) 332-7068 • AmesFireWater.ca
Latin America: T: (52) 55-4122-0138 • AmesFireWater.com

Per State Fire Marshall's Office an RME-G or U License is required in order to work on Private Fire Mains and Their Appurtenances (NFPA 24)

All Fire Department Connections (FDCs) shall be marked as approved by the Fire Code Official. Two red street lane reflectors (stimsonite model 88AB or similar) shall be installed six inches from centerline of the fire apparatus access roadway on the side closest to the FDC. Markers shall be parallel to the FDC having the reflective ends of the street markers facing the direction of traffic. 2015 IFC 912.7



All Restrained Joints Systems Shall meet NFPA 13 & 24 section 10.6.2

If the 4'-5' setback cannot be met, then bollards shall be installed in accordance with section 312 Vehicle Impact Protection of 2015 IFC.

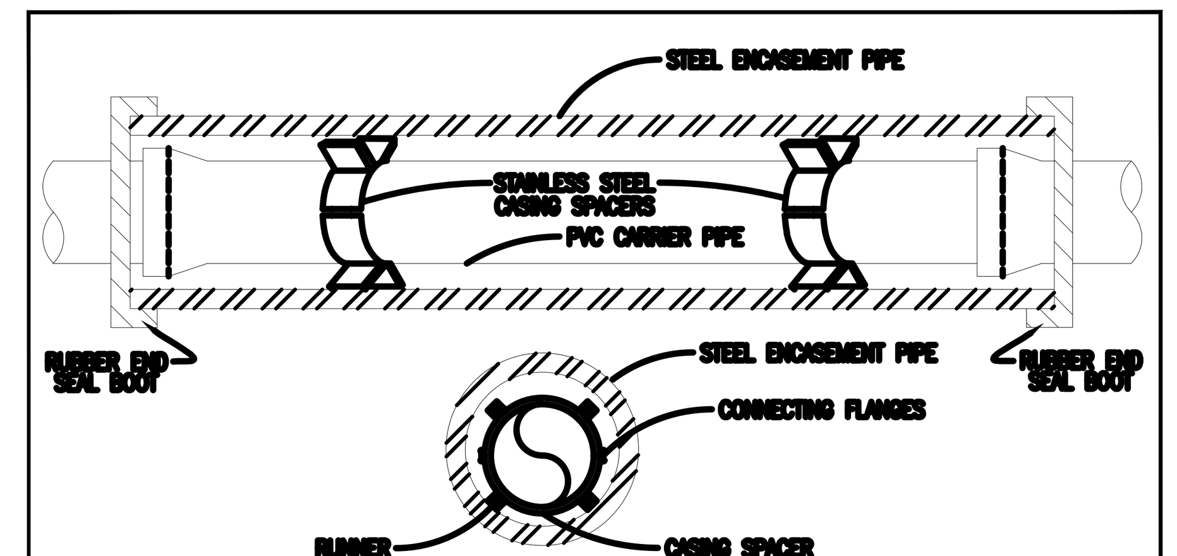
FIRE DEPARTMENT CONNECTION

NOT TO SCALE

FIRE HYDRANT NOTES

HYDRANT FLOW CODING STANDARDS. PUBLIC HYDRANTS BARRELS WILL BE PAINTED SILVER, THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN AS FOLLOWS AT 20 PSI RESIDUAL:
FLOW COLOR
GREATER THAN 1500 GPM - BLUE
1000-1500 GPM - GREEN
500-999 GPM - ORANGE
LESS THAN 500 GPM - RED
NOT WORKING - BLACK OR BAGGED

AT THE CONCLUSION OF CONSTRUCTION FIRE HYDRANTS SHALL BE FLOW TESTED AND COLOR CODED IN ACCORDANCE WITH CITY'S STANDARDS, AND RESULTS SHALL BE E-MAILED TO THE FIRE DEPARTMENT. IFC-LA-507.5.7 FIRE HYDRANT SYSTEMS.



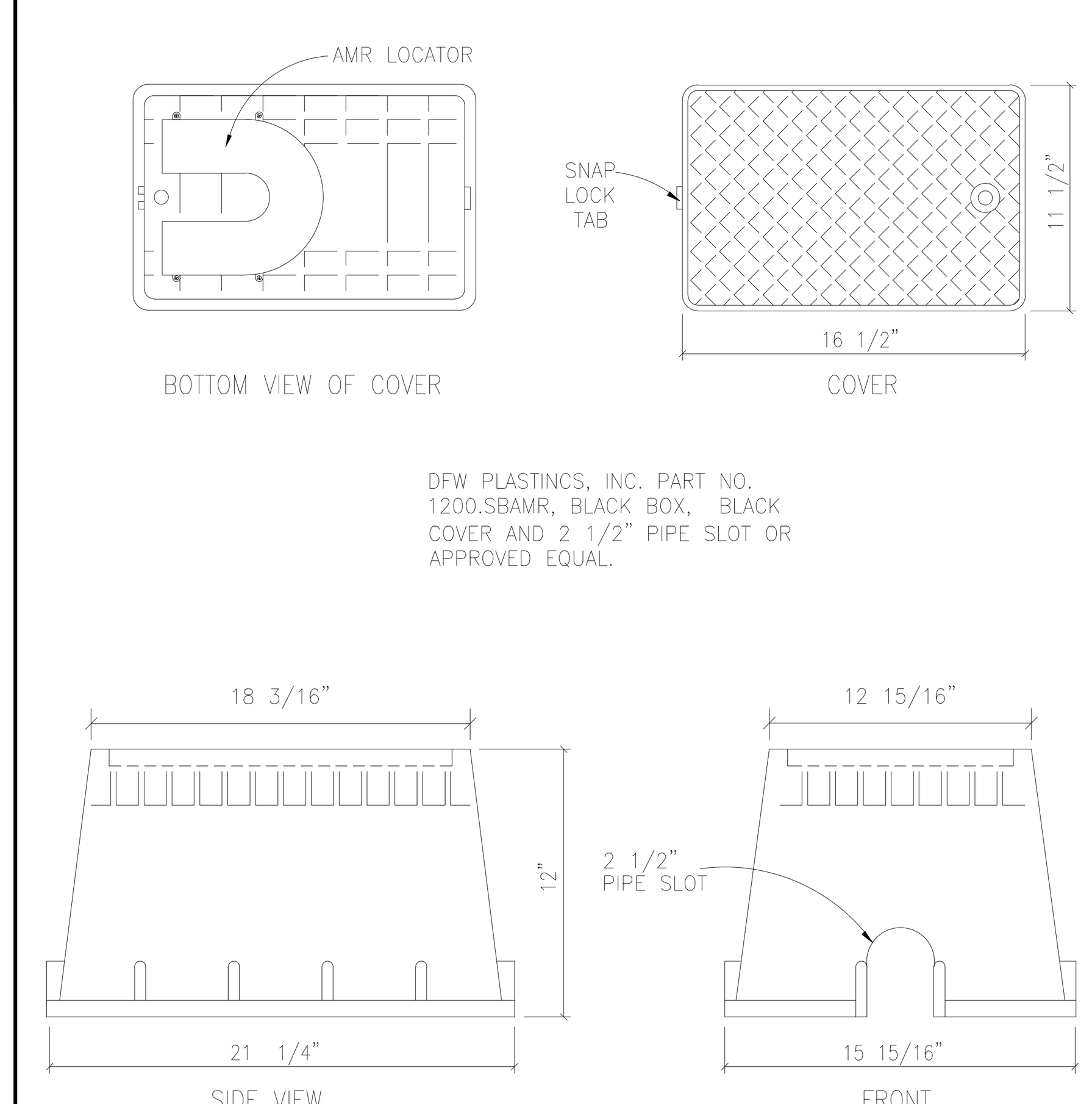
NOTES:

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.

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
INSTALLATION OF P.V.C. PIPE THROUGH CASING
ADOPTED 6/21/2006
W14
NTS 1/2003 MRS TRB



DFW PLASTINCS, INC. PART NO. 1200.SBAMR, BLACK BOX, BLACK COVER AND 2 1/2" PIPE SLOT OR APPROVED EQUAL.

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

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems, Your Community Owned Utility
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
METER BOX (NON-TRAFFIC AREAS)
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W23
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS APPROVED BY: TRB

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS — MICHAEL EASTON MUNDINE 143266 LICENSED PROFESSIONAL ENGINEER
9/14/2023

RECOM'D | REVISIONS | DATE | NO.

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WATER DETAILS (2 OF 2)

PERMIT No. ----

SHEET No. 21 OF 35

2023-47-SDP

IMAGES: * COGLogoBWTrans.gif * COGLogoBWTrans.gif * signature TP.png * COGLogoBWTrans.gif ...
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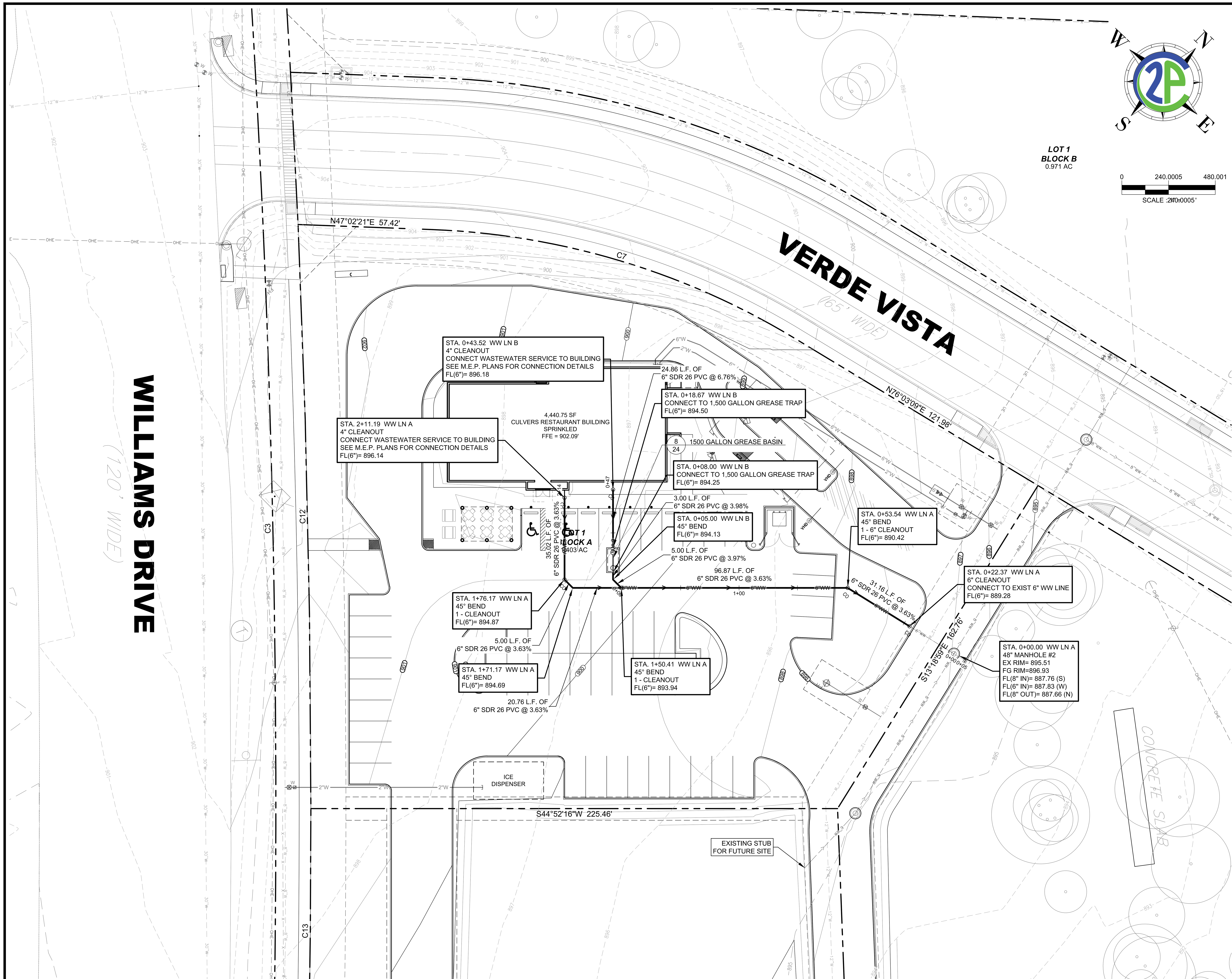
PLOT DATE: Thursday, September 14, 2023
PLOTTED BY: EMUNDINE
austin



GENERAL LEGEND

SYMBOLS

WATER METER	WW SERVICE		
WATER VALVE	WATER SERVICE		
FIRE HYDRANT	STORMSEWER MANHOLE		
BACKFLOW PREVENTER	SIGN		
UTILITY POLE	CURB INLET		
LIGHT POLE	GRATE INLET		
WASTEWATER MANHOLE	TABLE TOP AREA INLET		
CLEAN OUT	TREE TO BE SAVED		
KEYNOTES	TREE TO BE REMOVED		
PARKING COUNT			

LINETYPES

- PROPERTY BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK)
- (IRON)
- (WOOD)
- (BARB WIRE)
- DITCH (CREEK) LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- CURB & GUTTER
- UGE — UNDERGROUND ELEC.
- OHE — OVERHEAD UTILITY
- TEL — UNDERGROUND TELE.
- GAS — UNDERGROUND GAS LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- ACCESSIBLE ROUTE

NOTES:

1. WATER SERVICE TO BE PROVIDED BY THE CITY OF GEORGETOWN.
2. WASTEWATER SERVICE TO BE PROVIDED BY THE CITY OF GEORGETOWN.
3. CONTRACTOR TO COORDINATE WITH M.E.P. PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO ENSURE FIRE HYDRANTS, METERS OR VALVES ARE NOT PLACES WITHIN SIDEWALKS.
5. UNLESS OTHERWISE NOTED, ALL WATER LINES 4"-12" IN DIAMETER SHALL BE C900 PVC PIPE, WATER LINES LESS THAN 4" IN DIAMETER SHALL BE SCH 40 PVC PIPE.
6. THE CONTRACTOR IS TO CONTACT THE CITY OF GEORGETOWN PRIOR TO INSTALLATION OF THE METER AND FOR THE METER SPECS.
7. ALL WASTEWATER LINES ARE TO BE CONSTRUCTED OF SDR 26 (160 PSI PRESSURE RATING).
8. CONTRACTOR TO COORDINATE AND INSTALL NECESSARY IRRIGATION, ELECTRICAL AND TELECOMMUNICATION SLEEVES PRIOR TO PLACEMENT OF PAVEMENT.
9. ALL BENDS, TEES, REDUCERS AND GATE VALVES SHALL BE RESTRAINED PER CITY OF GEORGETOWN STANDARDS.
10. MINIMUM CLEARANCE BETWEEN WATER AND SANITARY SEWER LINES SHALL COMPLY WITH TCEQ REQUIREMENTS.
11. REFER TO SITE PLAN FOR UTILITY EASEMENT(S) LOCATION(S).
12. CONTRACTOR SHALL COORDINATE LIGHT POLE LOCATIONS AND SLEEVING FOR ELECTRICAL SERVICE WITH M.E.P.
13. CONTRACTOR SHALL COORDINATE LOCATIONS, SIZE AND TYPE OF LIGHTING WITH M.E.P. AND BUILDING PLANS.
14. CONTRACTOR SHALL ADJUST ALL VISIBLE UTILITY FEATURES TO FINISHED GRADE AS NEEDED AT NO ADDITIONAL COST TO OWNER.
15. ALL NON-CITY INFRASTRUCTURE INCLUDING GAS, ELECTRIC, CABLE AND TELECOMMUNICATION SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE. THIS INCLUDES, BUT IS NOT LIMITED TO WATER LINES, WASTEWATER AND STORM SEWER, WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18"

811

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

REVIEWED VALUE | DRAWN D.O. | DESIGNED D.O.

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

RECOM'D | REVISIONS | DATE | NO.

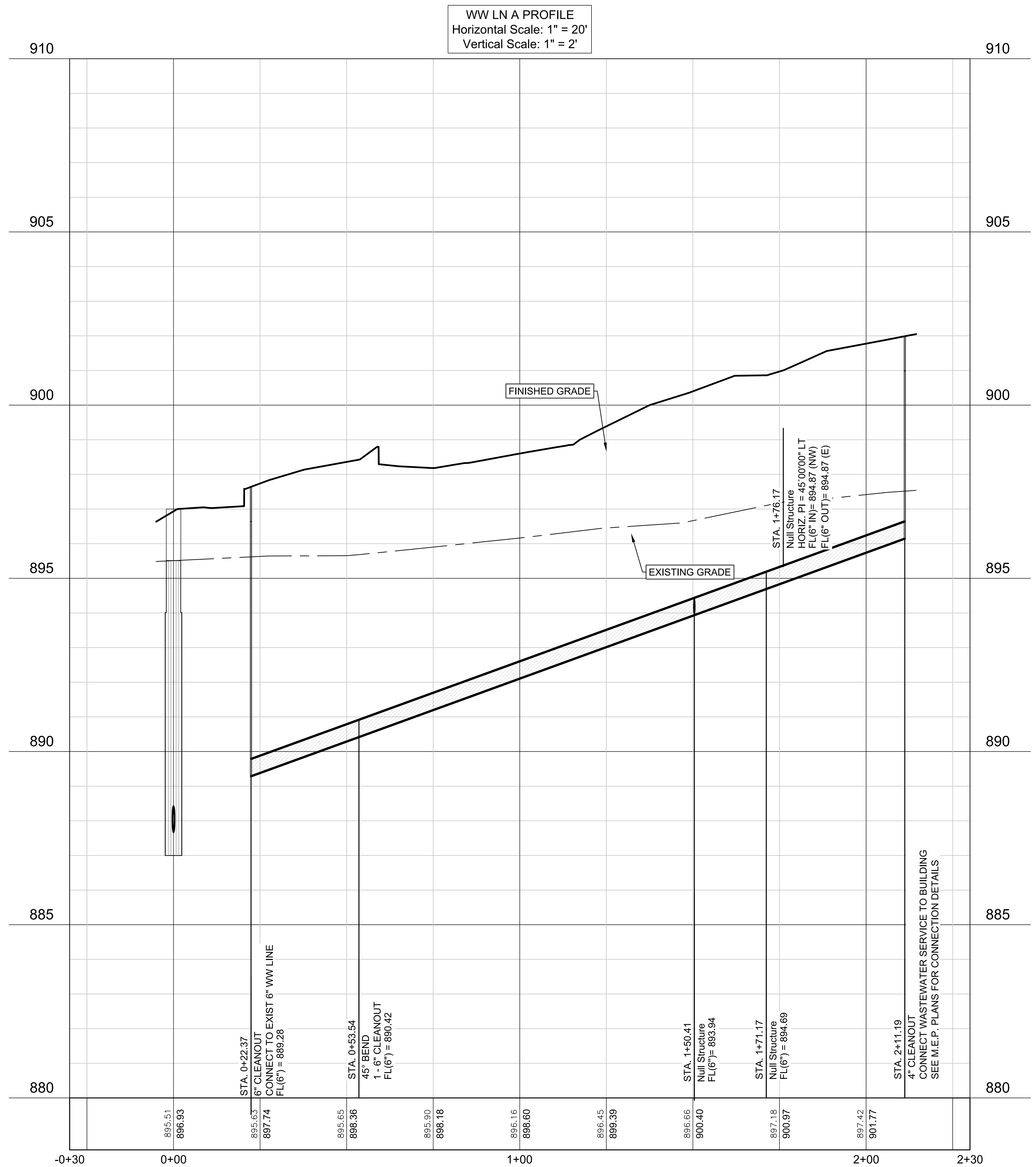
RIO DESIERTO, LLC

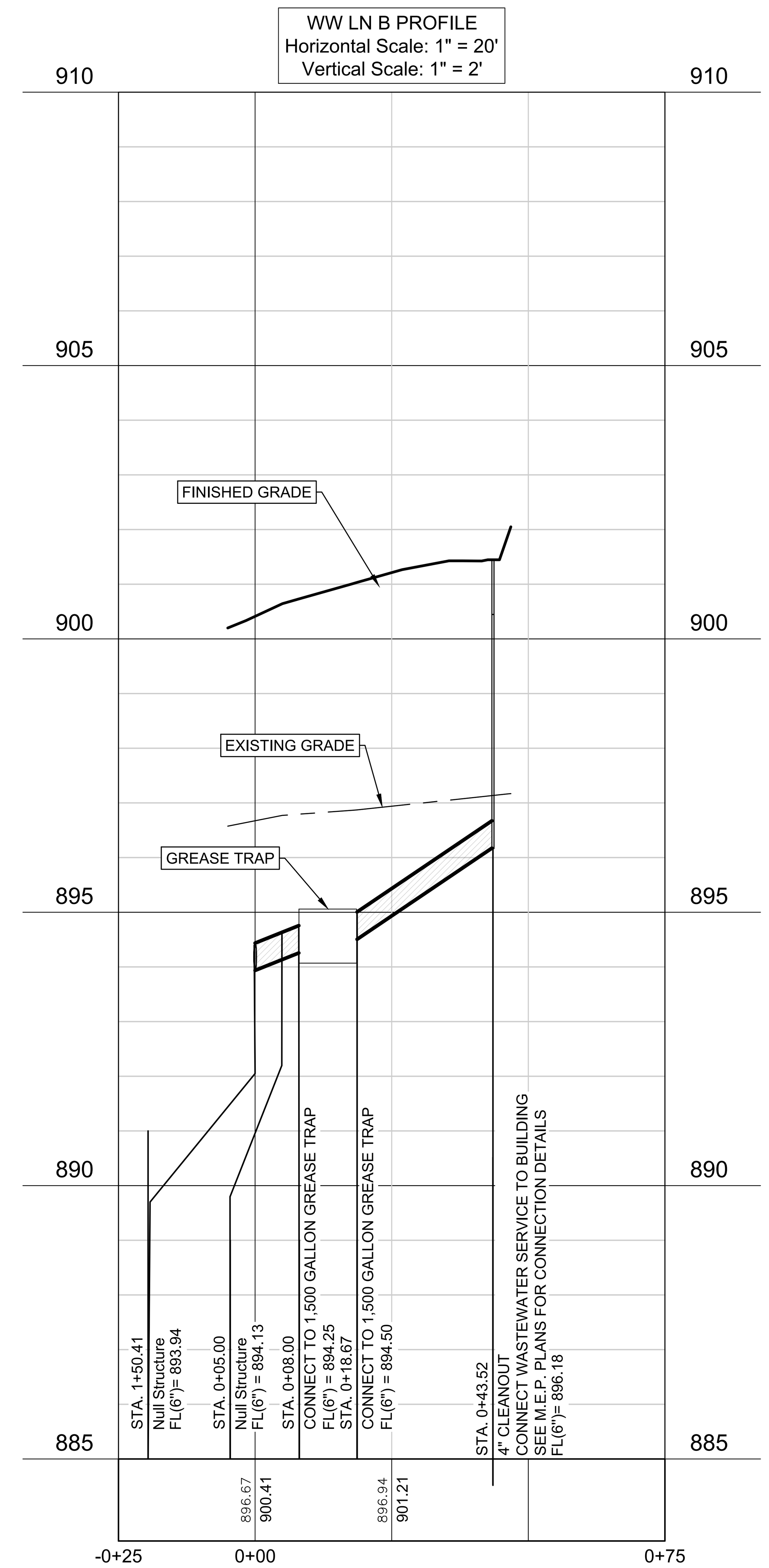
CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WASTEWATER PLAN

PERMIT No.
2023-47-SDP

SHEET No.
22
OF 35





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512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOMD

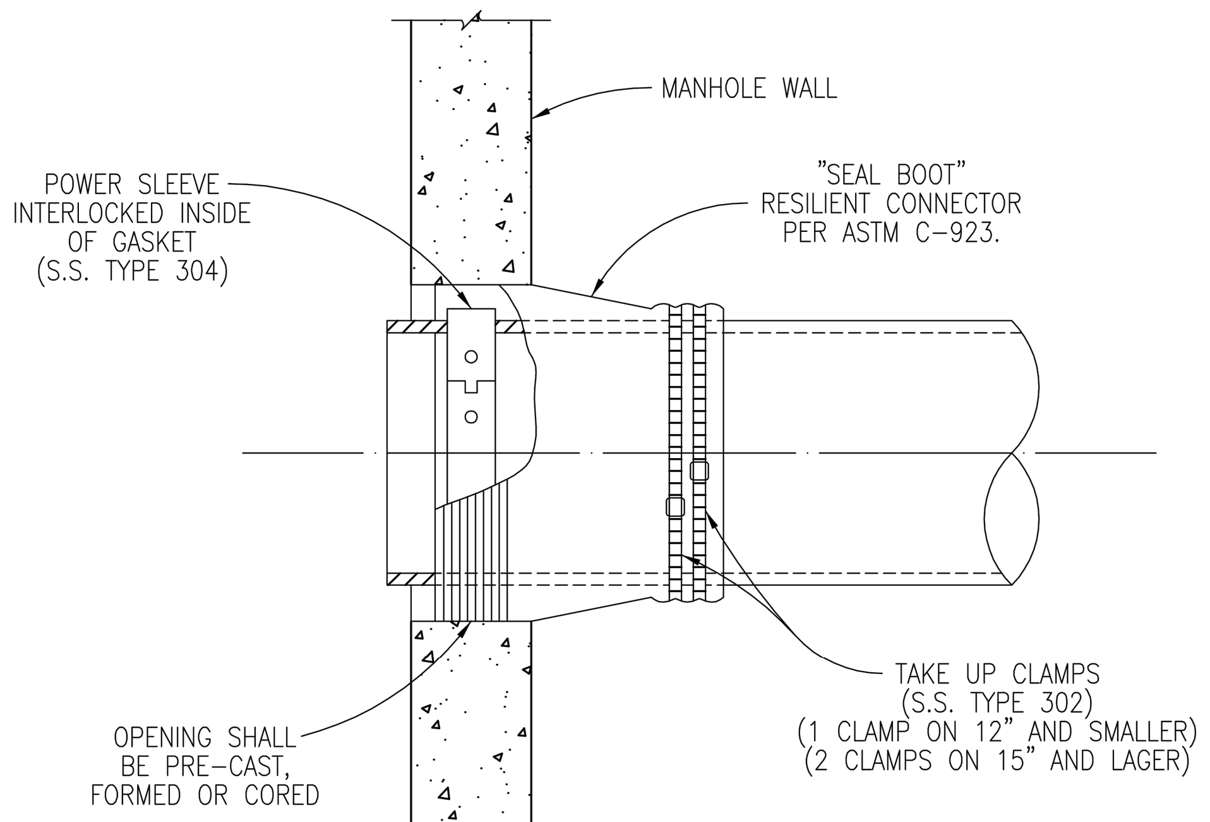
RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WASTEWATER PROFILES

PERMIT No.
2023-47-SDP

SHEET No.
23
OF 35



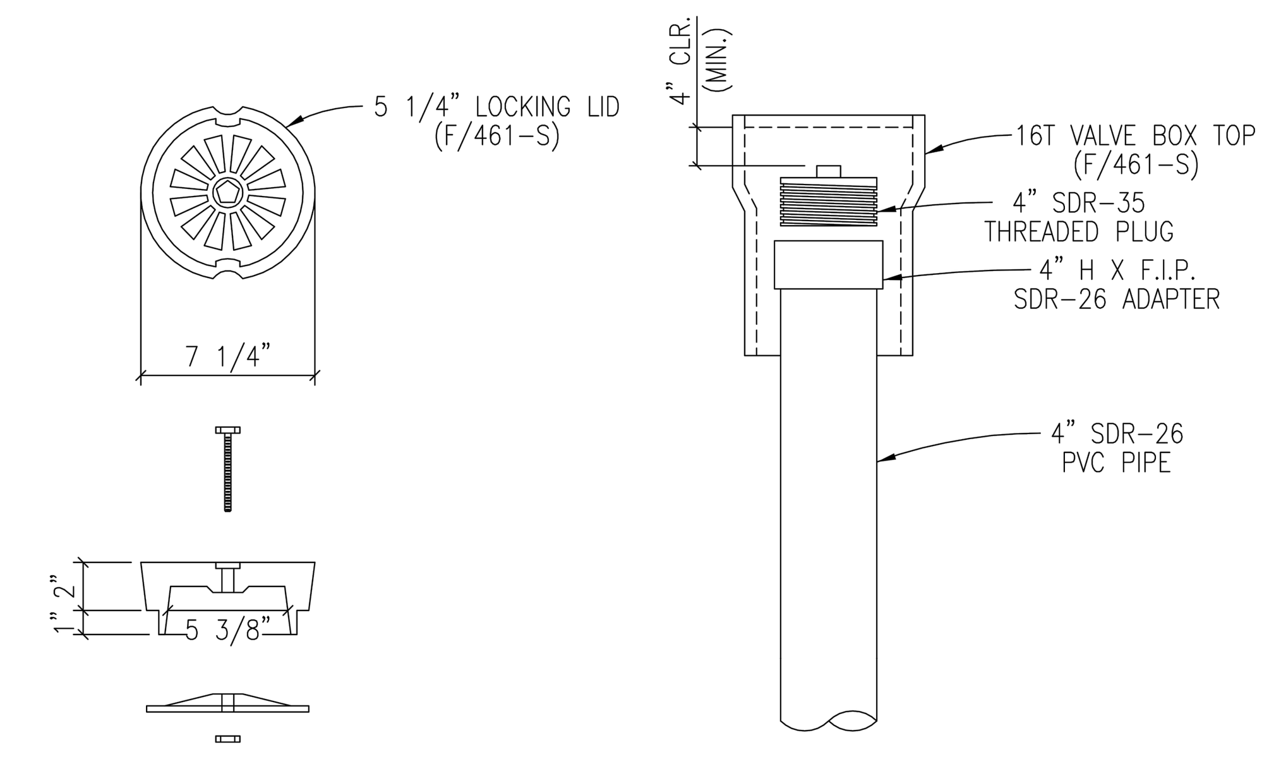
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(1) FLEXIBLE "SEAL BOOT" CONNECTOR

Georgetown Utility Systems — Your Community Owned Utility

DRAWING NAME: WW10 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



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

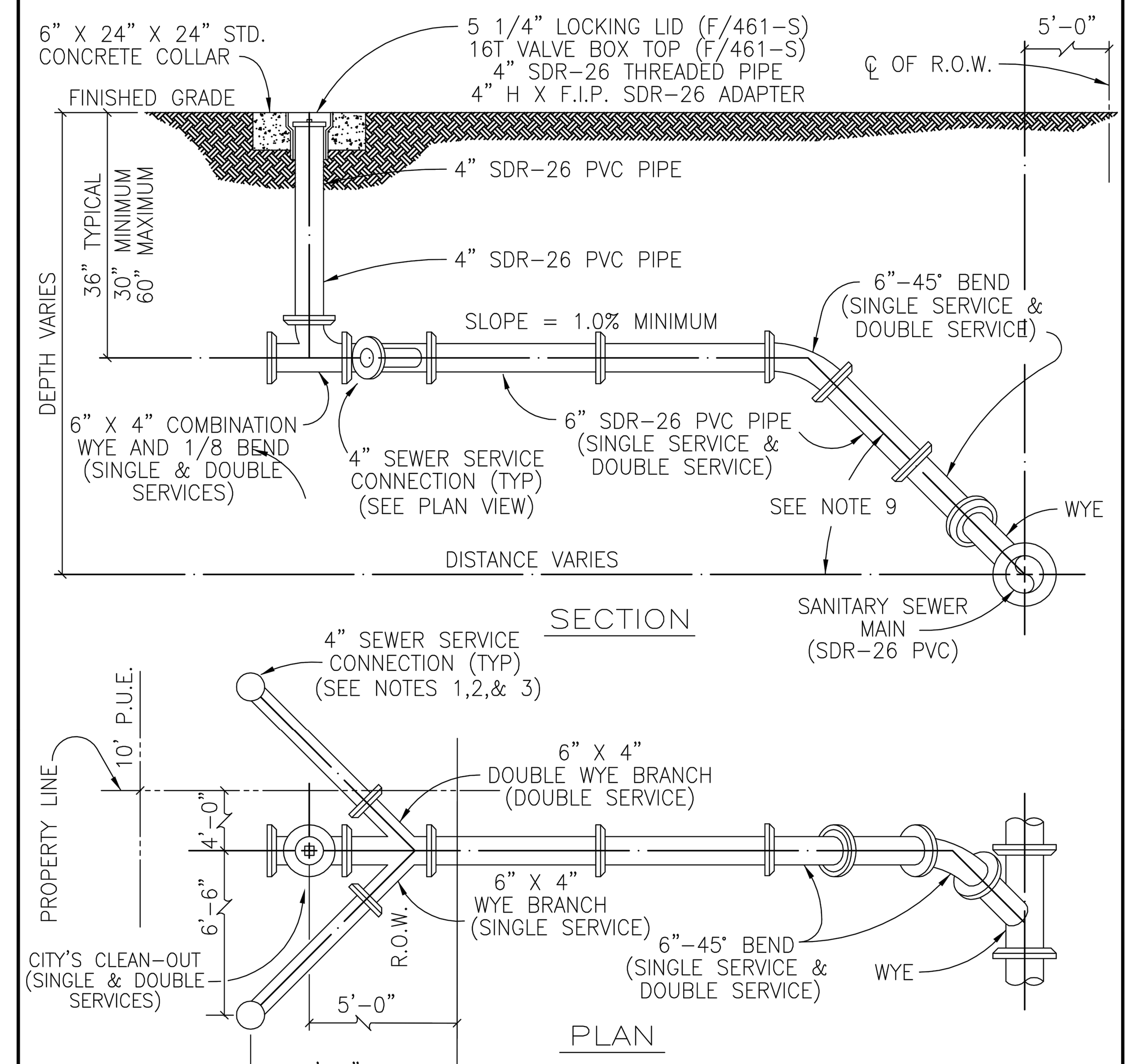
SEWER CLEAN-OUT
CITY OF GEORGETOWN
(RESIDENTIAL SERVICE)

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(2) SEWER CLEAN-OUT DETAIL

DRAWING NAME: WW12 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



NOTES:

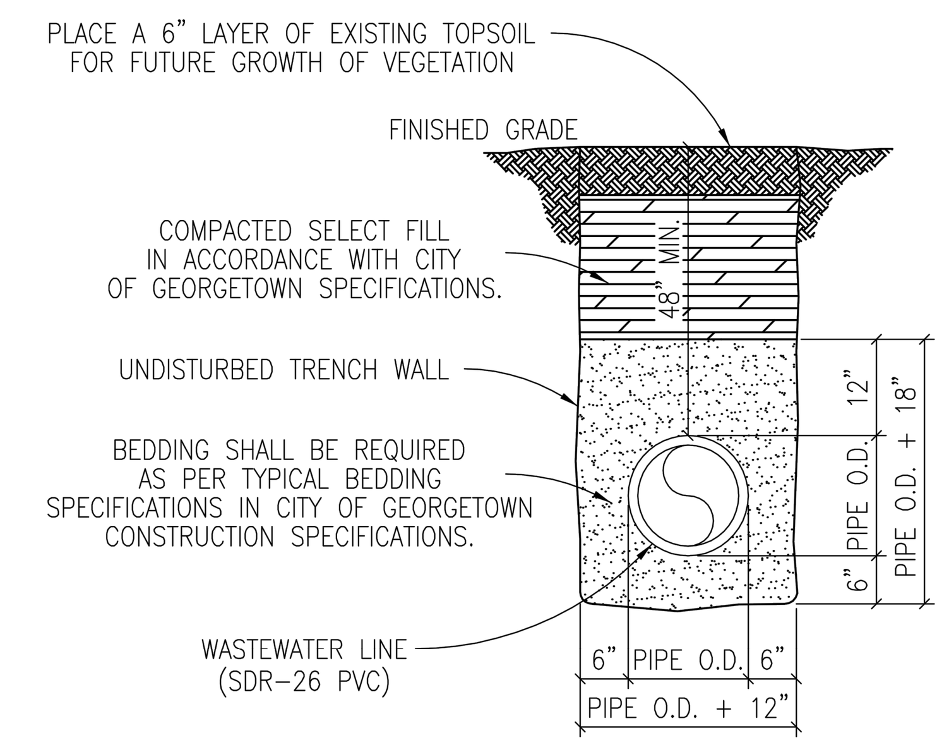
1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' INSIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER-TIGHT WITH AN APPROVED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END" 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
(3) SEWER SERVICE CONNECTIONS

DRAWING NAME: WW13 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



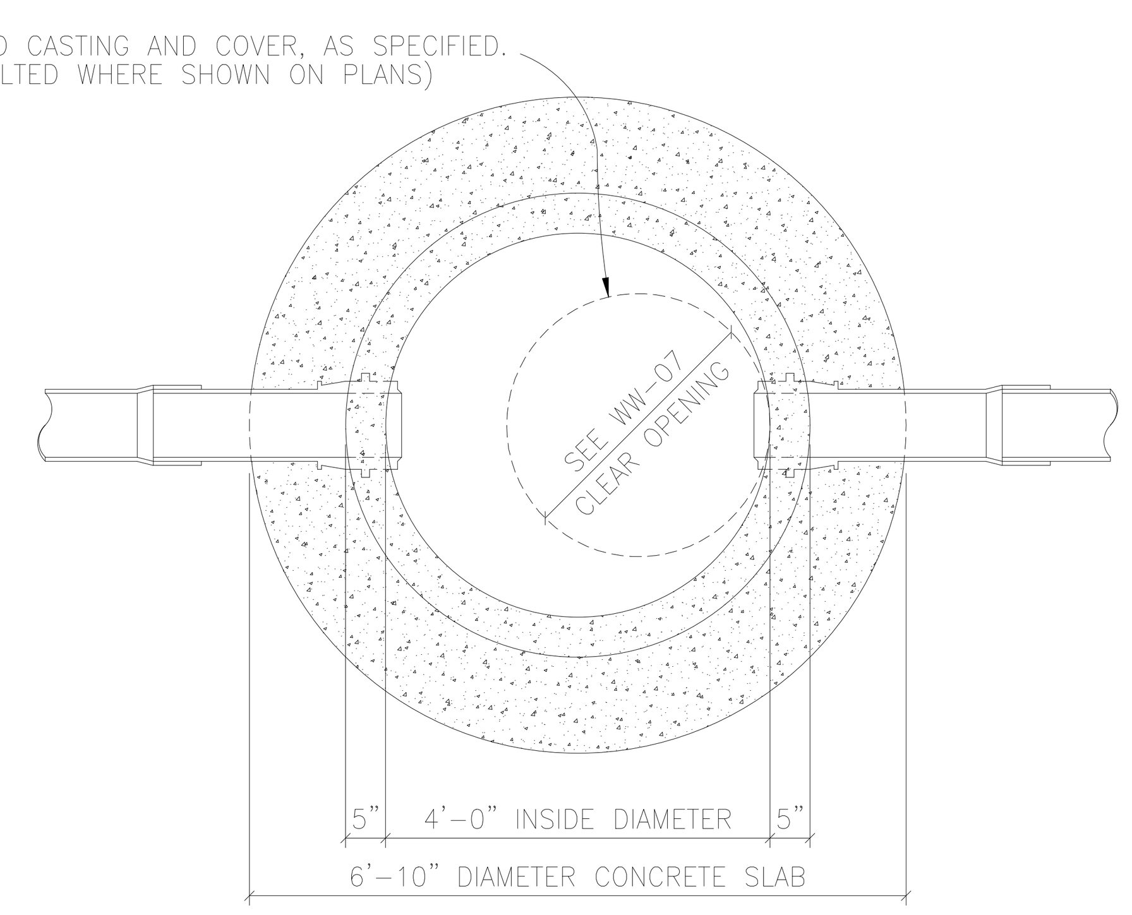
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(4) TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS

DRAWING NAME: WW16 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



SEE DETAIL WW-03

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

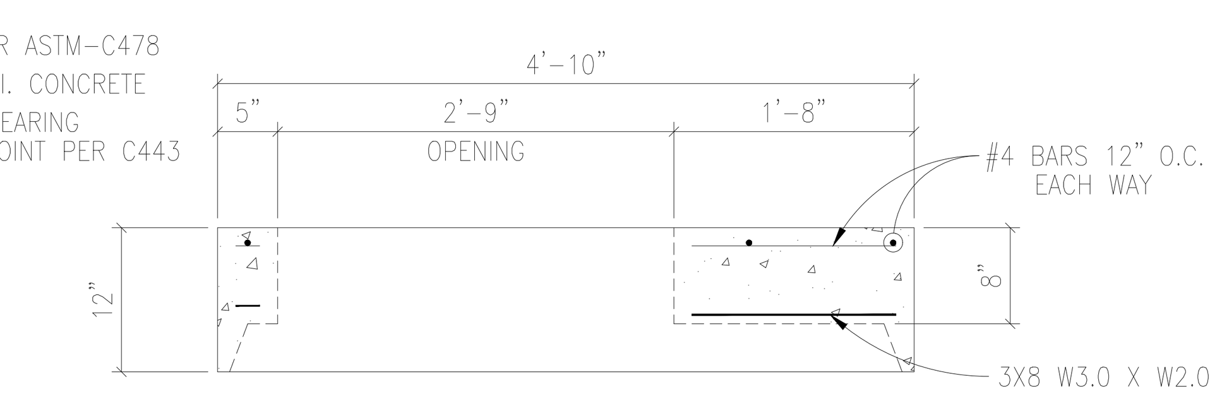
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(5) STANDARD MANHOLE – PLAN

DRAWING NAME: WW02 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

M.F.G. PER ASTM-C478
5000 P.S.I. CONCRETE
TRAFFIC BEARING
O-RING JOINT PER C443



NOTES:

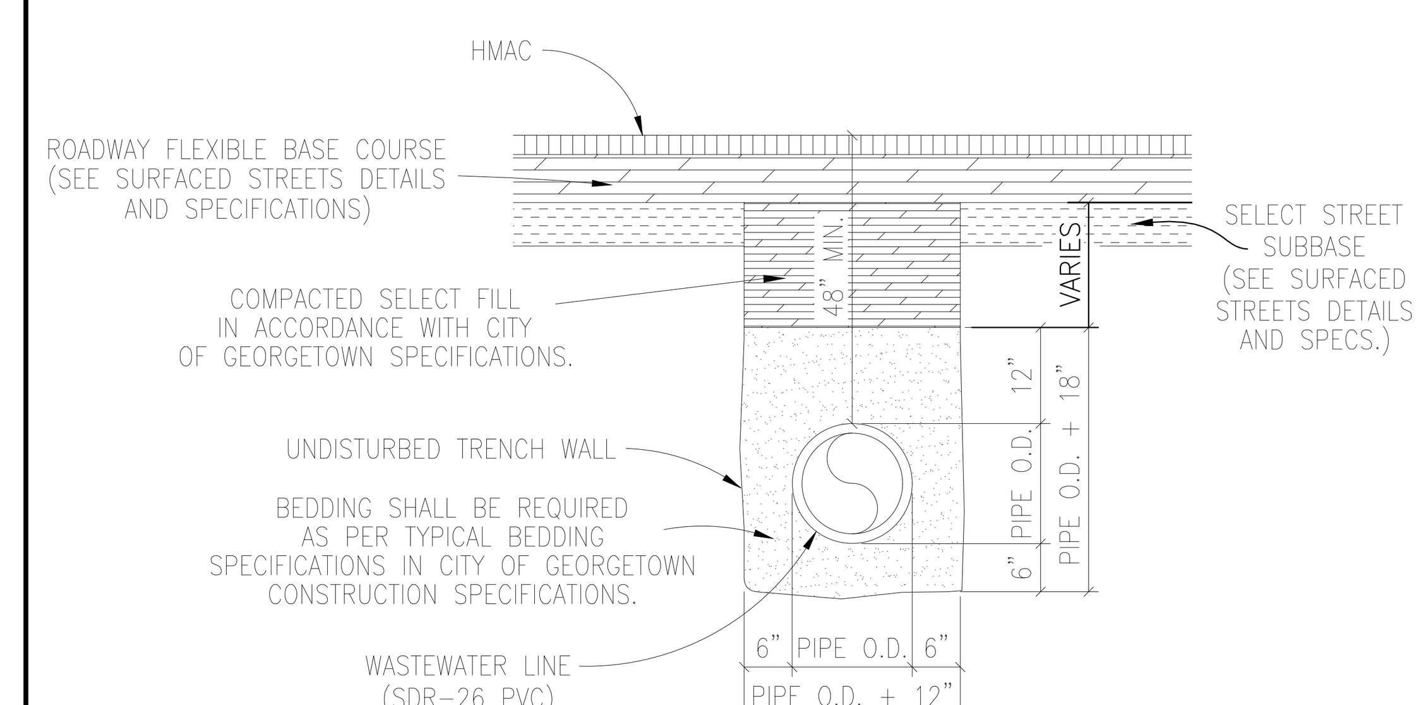
1. AVAILABLE WITH CAST IRON RING AND COVER CAST IN PLACE.
2. PERMITTED ONLY WITH WRITTEN APPROVAL FROM GEORGETOWN UTILITY SYSTEMS, CITY OF GEORGETOWN

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(6) 48" MANHOLE FLAT LID

DRAWING NAME: WW09 | 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:

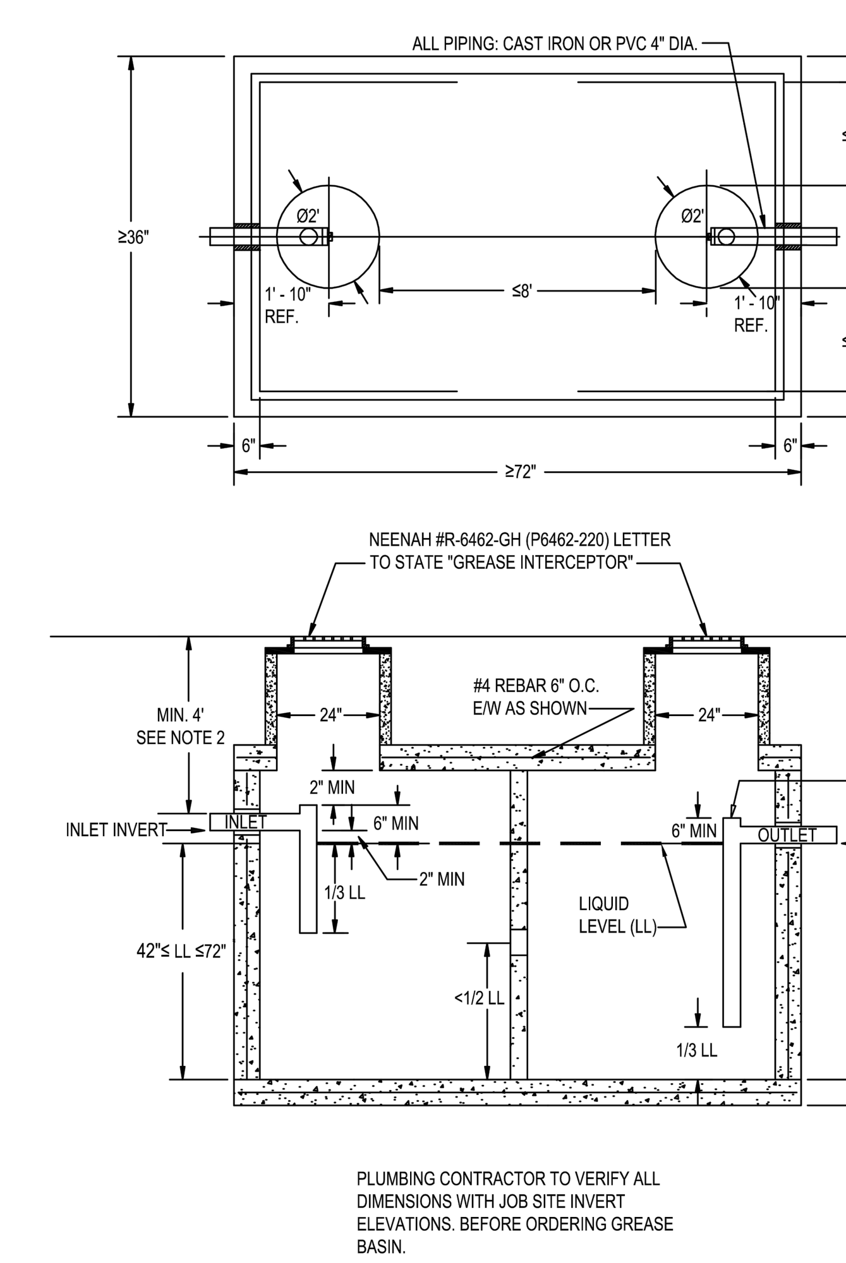
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
(7) TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

DRAWING NAME: WW18 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



PLUMBING CONTRACTOR TO VERIFY ALL DIMENSIONS WITH JOB SITE INVERT ELEVATIONS. BEFORE ORDERING GREASE BASIN.

(8) 1,500 GALLON GREASE BASIN DETAIL

SCALE : NONE

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

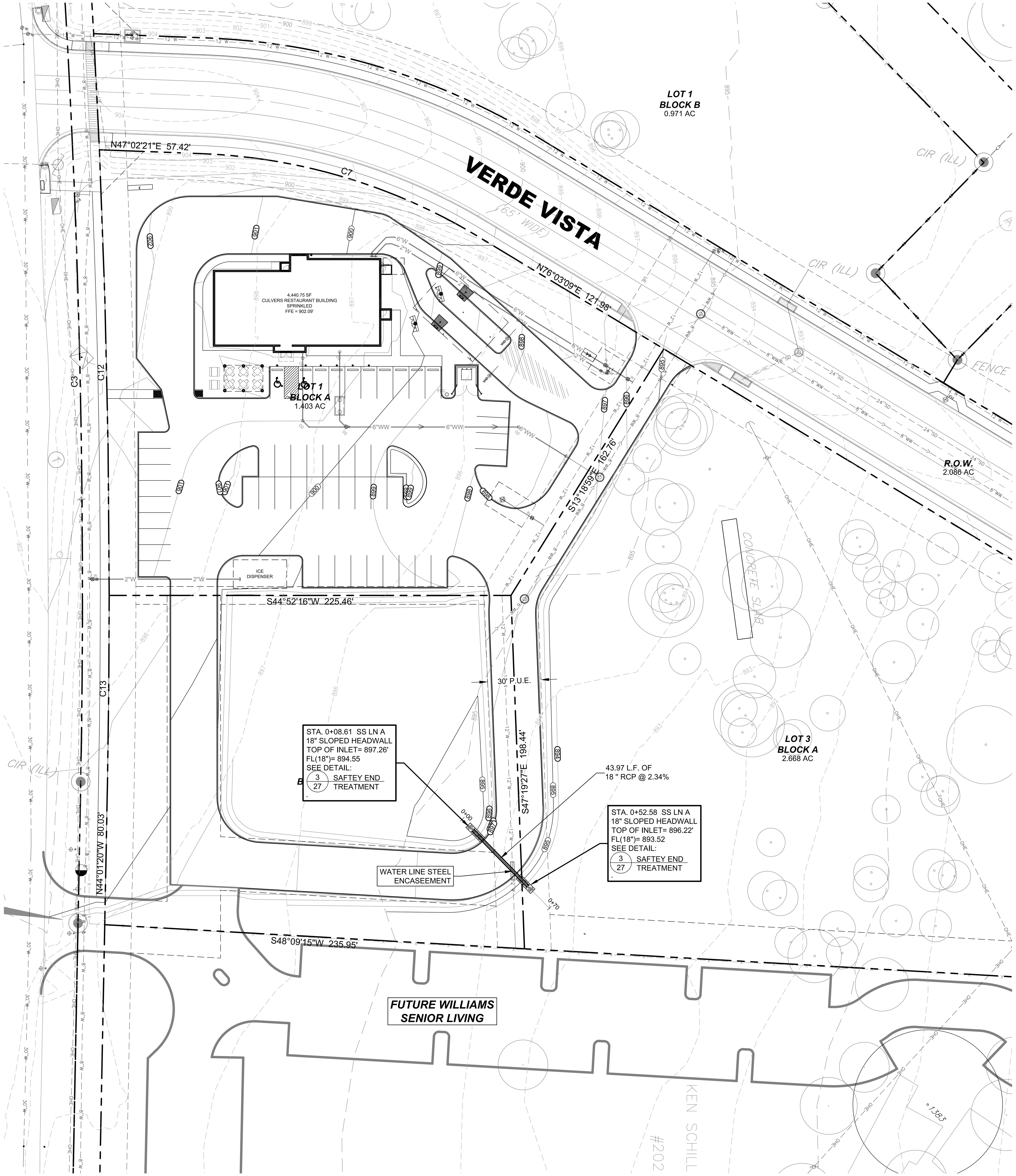
CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

WASTEWATER DETAILS

PERMIT No. ----

SHEET No. 24 OF 35

2023-47-SDP



0 360.0007 720.0014
SCALE :360.0007'

GENERAL LEGEND

SYMBOLS

WATER METER
WATER VALVE
FIRE HYDRANT
BACKFLOW PREVENTER
UTILITY POLE
LIGHT POLE
WASTEWATER MANHOLE
CLEAN OUT
KEYNOTES
PARKING COUNT
WW SERVICE
WATER SERVICE
STORMSEWER MANHOLE
SIGN
CURB INLET
GRATE INLET
TABLE TOP AREA INLET
TREE TO BE SAVED
TREE TO BE REMOVED

LINETYPES

PROPERTY BOUNDARY
LOC — LIMITS OF CONSTRUCTION
FENCES (CHAINLINK)
(IRON)
(WOOD)
(BARB WIRE)
DITCH (CREEK) LINE
725 — EXISTING CONTOURS
725 — PROPOSED CONTOURS
CURB & GUTTER
UGE — UNDERGROUND ELEC.
OHE — OVERHEAD UTILITY
TEL — UNDERGROUND TELE.
GAS — UNDERGROUND GAS LINE
W — WATER LINE
WW — WASTEWATER LINE
ACCESSIBLE ROUTE

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

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DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

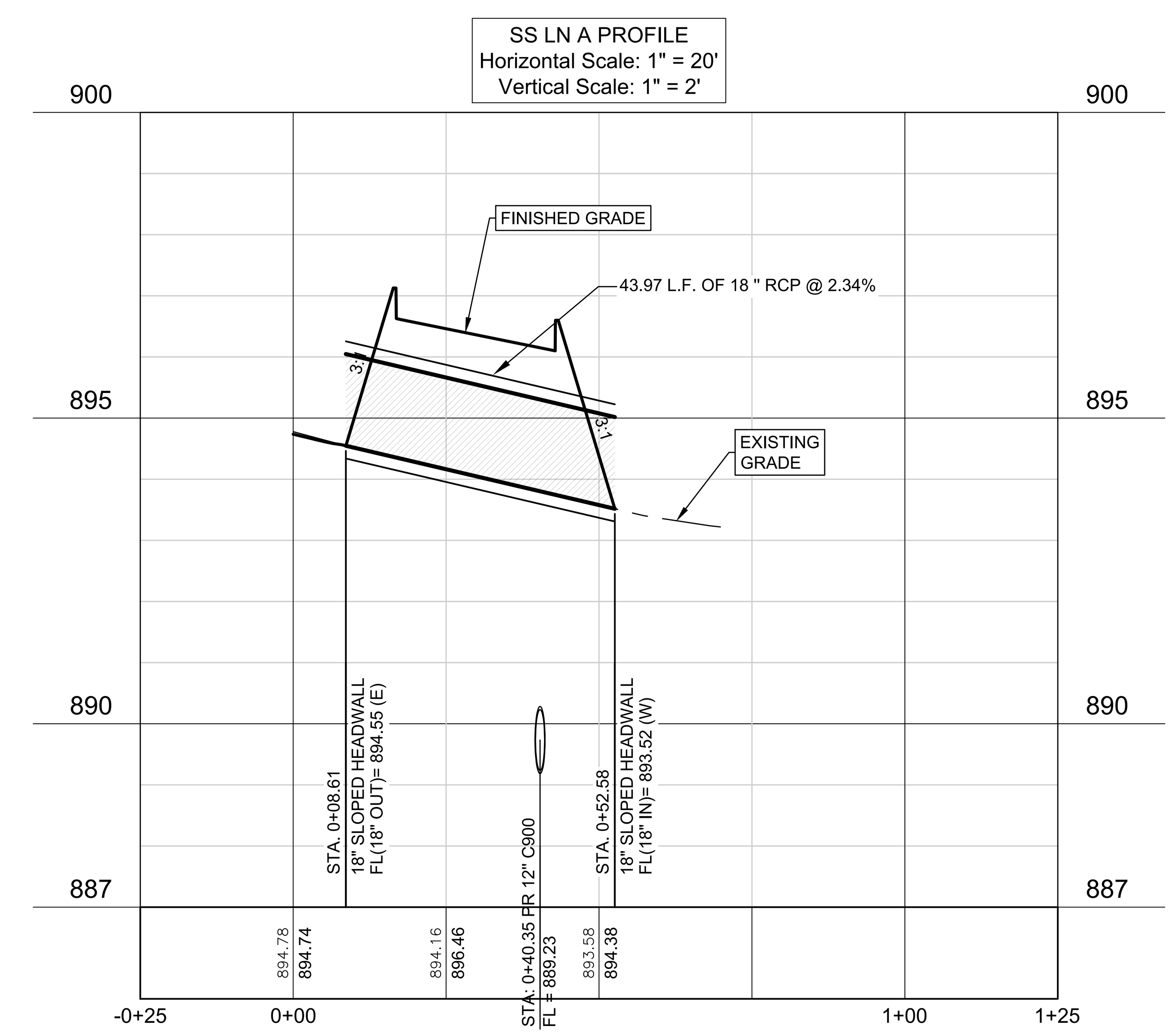
NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

STORM PLAN

PERMIT No.
2023-47-SDP
SHEET No.
25
OF 35



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MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

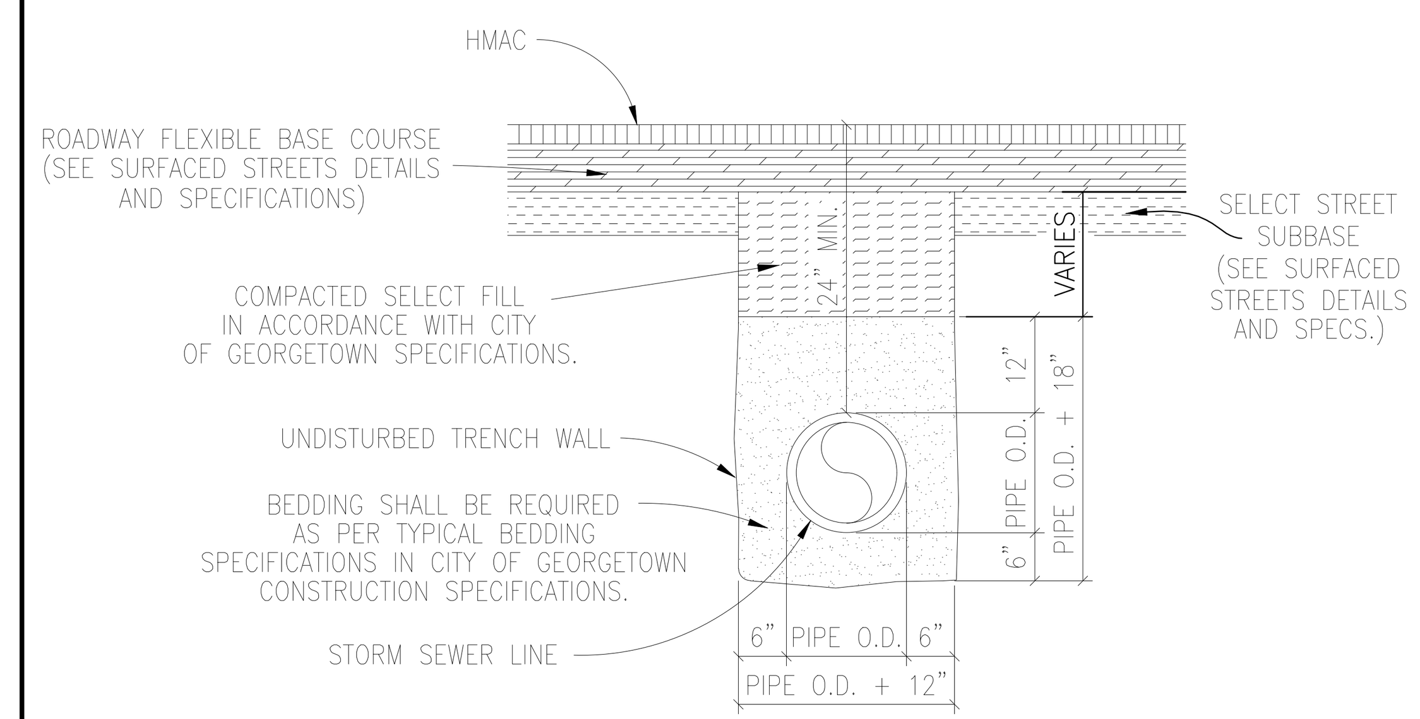
NO.	DATE	REVISIONS	RECOMM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

STORM PROFILES

PERMIT No.
2023-47-SDP
SHEET No.
26
OF 35



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.

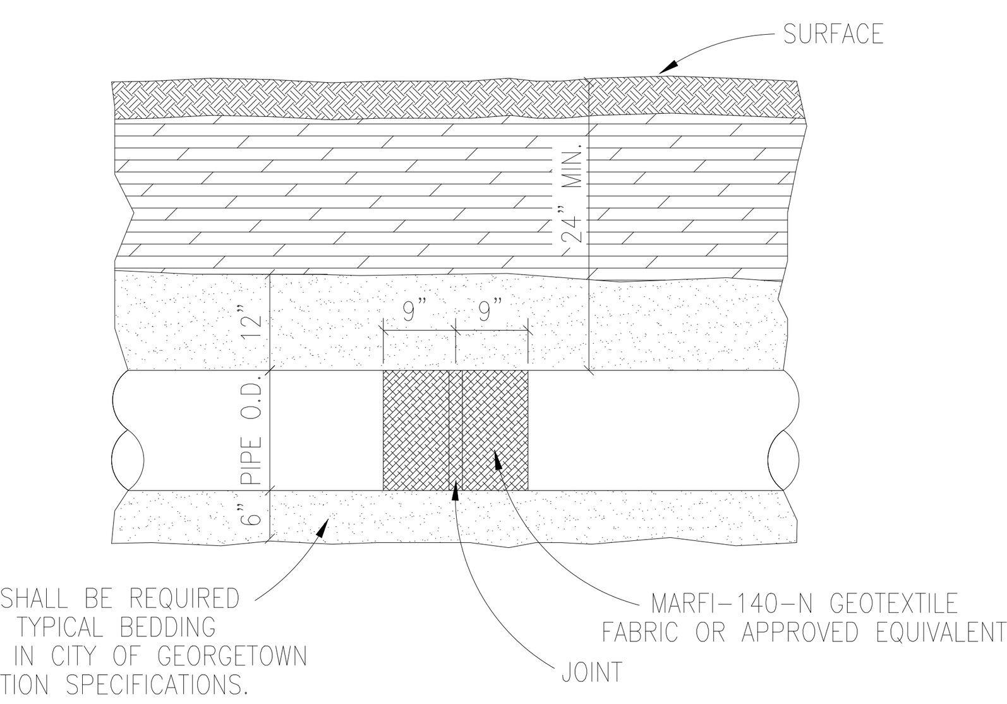
REVISION NOTE: ADOPTED 6/21/2006

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

1 TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER

DRAWING NAME: SD41
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES

1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARF1-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

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

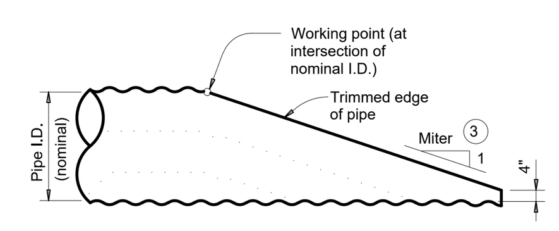
REVISION NOTE: ADOPTED 6/21/2006

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

2 TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER

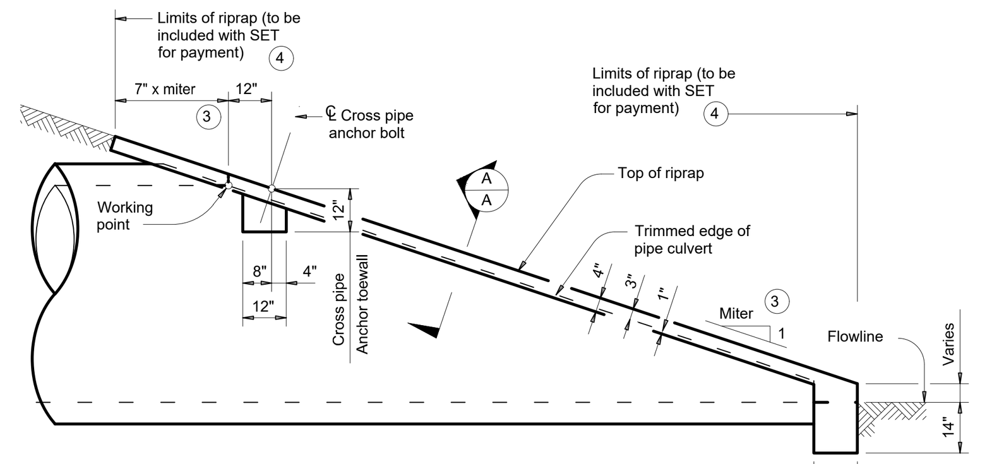
DRAWING NAME: SD42
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

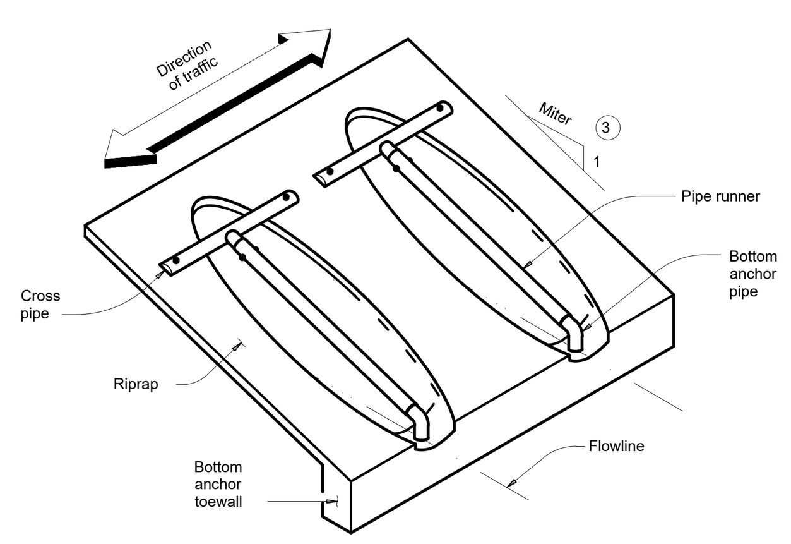
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS ① ②

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length – 3:1 Side Slope 0° Skew	3:1 15° Skew	3:1 30° Skew	3:1 45° Skew	4:1 Side Slope 0° Skew	4:1 15° Skew	4:1 30° Skew	4:1 45° Skew	6:1 Side Slope 0° Skew	6:1 15° Skew	6:1 30° Skew	6:1 45° Skew
24"	1' - 7"	3' - 5"	N/A	N/A	N/A	5' - 10"	N/A	N/A	N/A	8' - 1"	N/A	N/A	N/A	12' - 9"
27"	1' - 8"	3' - 8"	N/A	N/A	5' - 5"	6' - 11"	N/A	N/A	7' - 7"	9' - 7"	N/A	N/A	11' - 11"	14' - 11"
30"	1' - 10"	3' - 11"	N/A	N/A	6' - 4"	8' - 0"	N/A	N/A	8' - 9"	11' - 0"	N/A	N/A	13' - 8"	17' - 0"
33"	1' - 11"	4' - 2"	6' - 2"	6' - 5"	7' - 3"	9' - 1"	8' - 6"	8' - 10"	10' - 0"	12' - 5"	13' - 3"	13' - 9"	15' - 5"	19' - 2"
36"	2' - 1"	4' - 5"	6' - 11"	7' - 3"	8' - 2"	10' - 2"	9' - 6"	9' - 11"	11' - 2"	13' - 10"	14' - 9"	15' - 3"	17' - 2"	21' - 3"
42"	2' - 4"	4' - 11"	8' - 6"	8' - 10"	9' - 11"	12' - 4"	11' - 7"	12' - 0"	13' - 6"	16' - 8"	17' - 9"	18' - 5"	20' - 8"	25' - 7"
48"	2' - 7"	5' - 5"	10' - 1"	10' - 5"	11' - 9"	N/A	13' - 7"	14' - 2"	15' - 10"	N/A	20' - 9"	21' - 6"	24' - 2"	N/A
54"	3' - 0"	5' - 11"	11' - 8"	12' - 1"	N/A	N/A	15' - 8"	16' - 3"	N/A	N/A	23' - 10"	24' - 8"	N/A	N/A
60"	3' - 3"	6' - 5"	13' - 3"	N/A	N/A	N/A	17' - 9"	N/A	N/A	N/A	26' - 10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS ③

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED ②

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS ①

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10' - 0"
4" STD	4.500"	4.026"	19' - 8"
5" STD	5.563"	5.047"	34' - 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) ⑤

Nominal Culvert I.D.	3:1 Side Slope 0° Skew	3:1 15° Skew	3:1 30° Skew	3:1 45° Skew	4:1 Side Slope 0° Skew	4:1 15° Skew	4:1 30° Skew	4:1 45° Skew	6:1 Side Slope 0° Skew	6:1 15° Skew	6:1 30° Skew	6:1 45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

① Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

② This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

③ Miter = slope of mitered end of pipe culvert.

④ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

⑤ Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

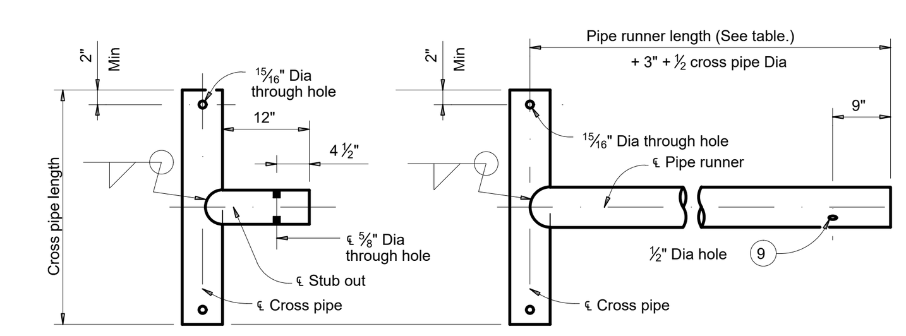
SAFETY END TREATMENT

3 FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

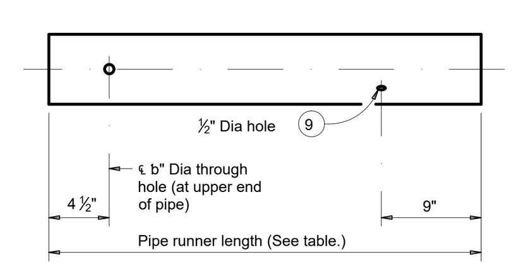
SETP-CD

FILE: setpcdse-20.dgn | DN: GAF | CK: CAT | DW: JRP | CK: GAF
©TxDOT February 2020 | CONT | SECT | JOB | HIGHWAY
REVISIONS | DIST | COUNTY | SHEET NO.

DATE:
FILE:

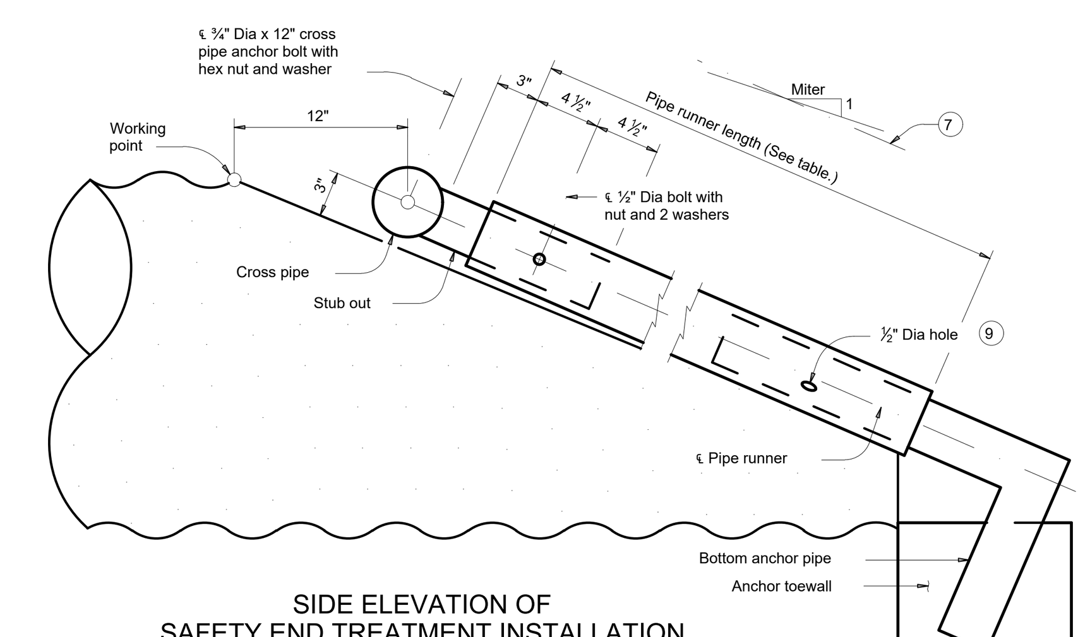


CROSS PIPE AND CONNECTIONS DETAILS



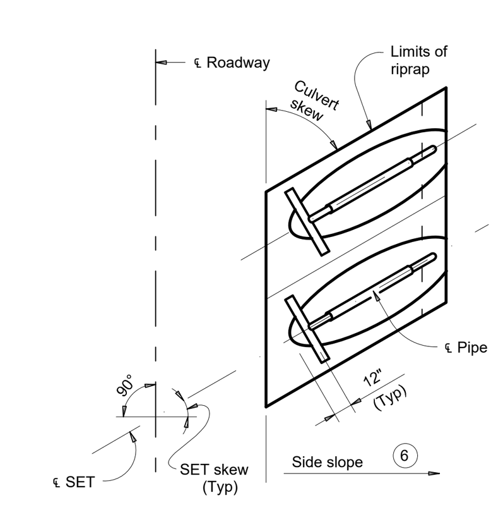
NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

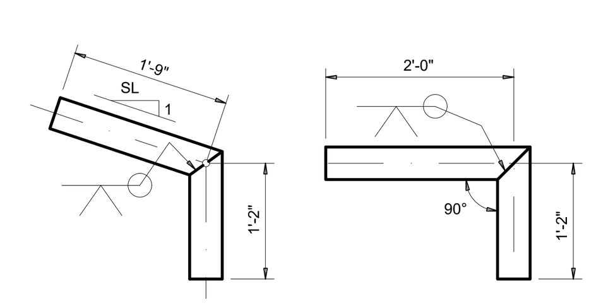


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

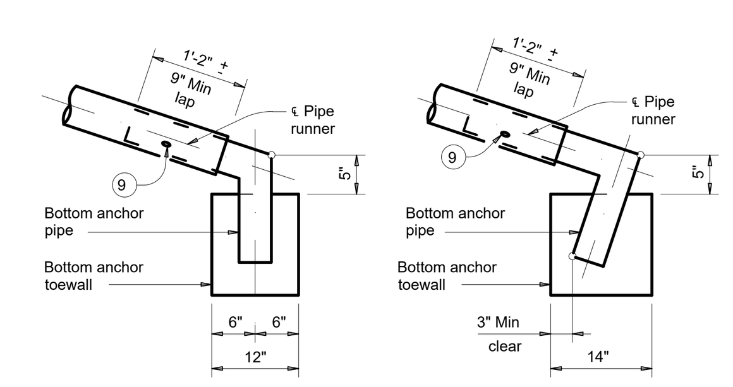
(Showing pipe runner with Cross Pipe Connection Option A1 and Anchor Pipe Option B2 on corrugated metal pipe (CMP) culvert. Reinforced concrete pipe culvert (RCP) details are similar. Riprap not shown for clarity)



PLAN OF SKEWED INSTALLATION

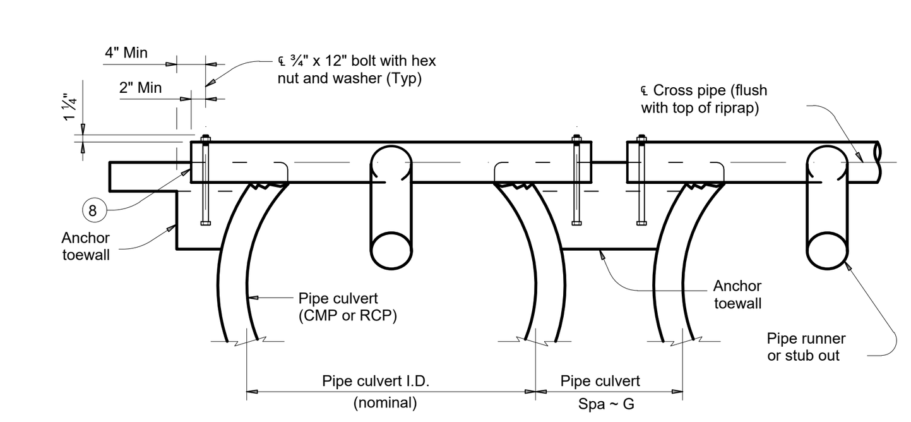


BOTTOM ANCHOR PIPE DETAILS ⑩

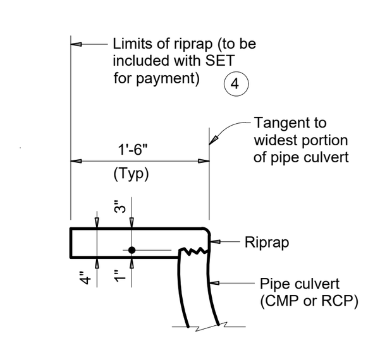


BOTTOM ANCHOR TOEWALL DETAILS

(Culvert and riprap not shown for clarity.)



SHOWING CROSS PIPE AND ANCHOR TOEWALL



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SECTION A-A

④ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

⑥ Recommended values of side slope are 3:1, 4:1, and 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.

⑦ Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.

⑧ Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

⑨ After installation, inspect the ½" hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.

⑩ At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

MATERIAL NOTES:
Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
Provide pipe runners, cross pipes, and anchor pipes conforming to the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.
Provide ASTM A307 bolts and nuts.
Galvanize all steel components, except concrete reinforcing, after fabrication.
Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:
Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.
Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.
Payment for riprap and toewall is included in the price bid for each safety end treatment.
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: setpcdse-20.dgn | DN: GAF | CK: CAT | DW: JRP | CK: GAF
©TxDOT February 2020 | CONT | SECT | JOB | HIGHWAY
REVISIONS | DIST | COUNTY | SHEET NO.

DATE:
FILE:

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

2P ENGINEERING CONSULTING

DESIGNED: D.O. | DRAWN: D.O. | REVIEWED: VALUE

STATE OF TEXAS — MICHAEL EASTON MUNDINE — 143266 — LICENSED PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

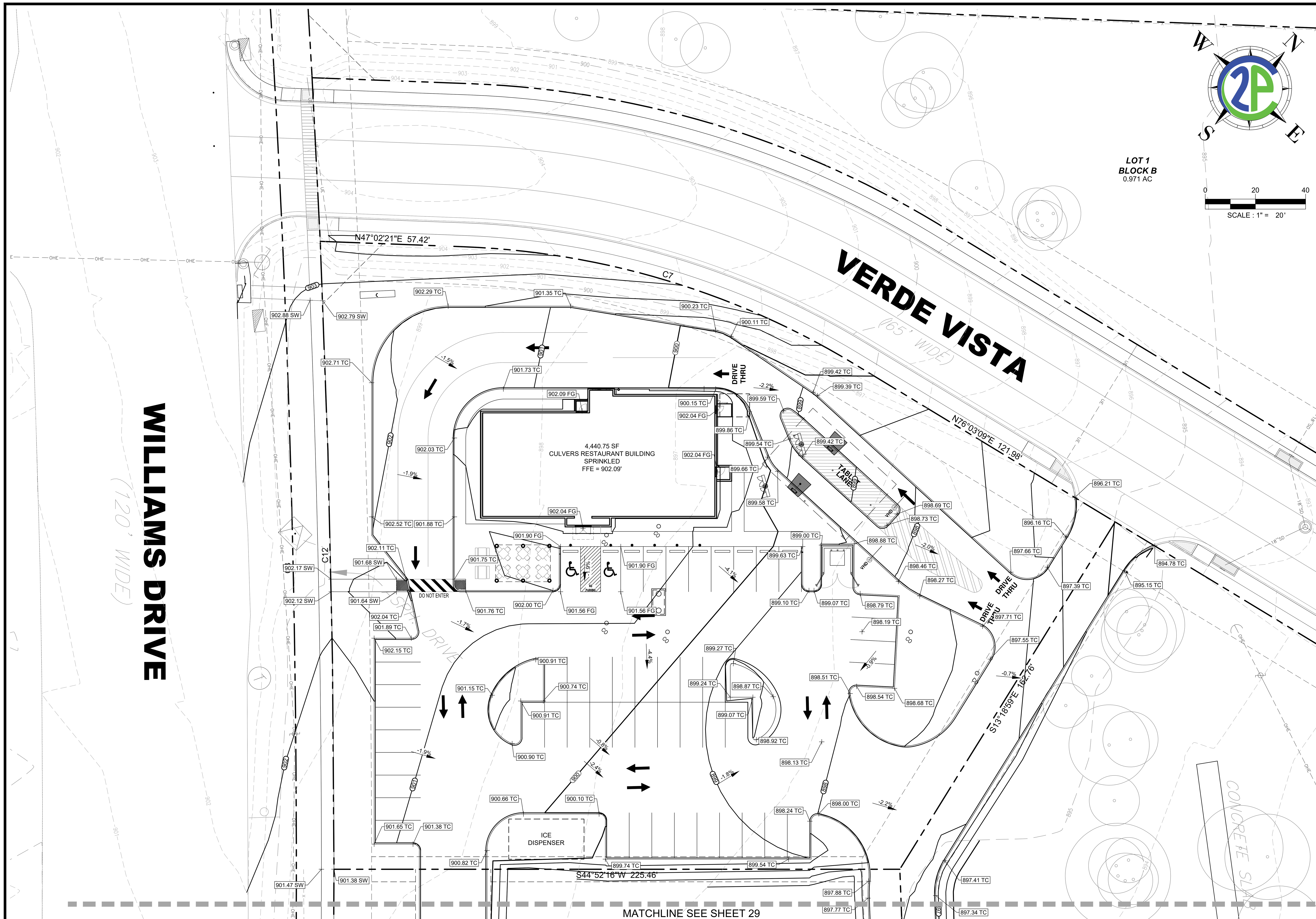
CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

STORM DETAILS

PERMIT No.

SHEET No.

2023-47-SDP



GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK) (IRON) (WOOD) (BARB WIRE)
- DITCH (CREEK) LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- CURB & GUTTER
- UGE — UNDERGROUND ELEC.
- OHE — OVERHEAD UTILITY
- TEL — UNDERGROUND TELE.
- GAS — UNDERGROUND GAS LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- ACCESSIBLE ROUTE

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

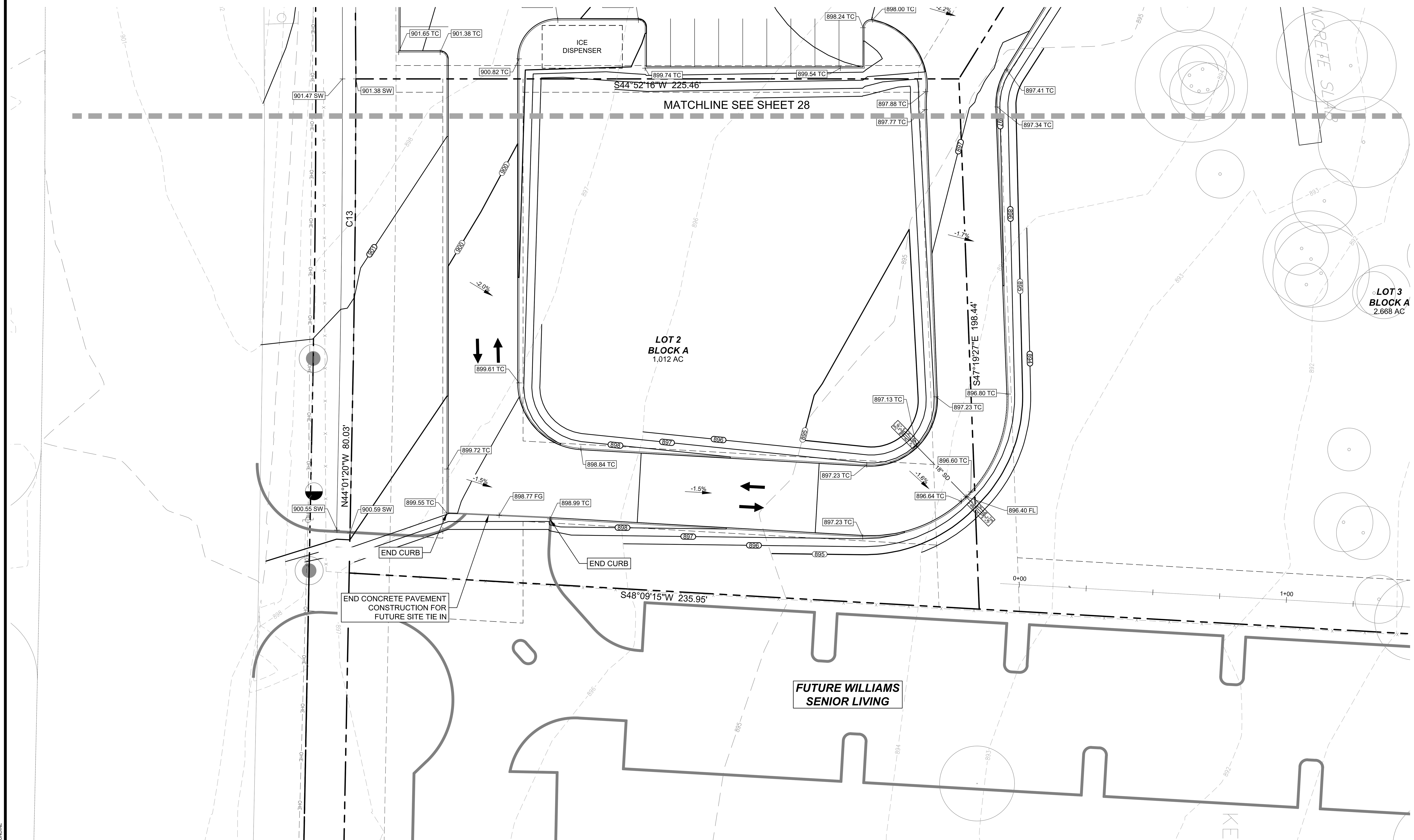
RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

GRADING PLAN (1 OF 2)

PERMIT No.
2023-47-SDP

SHEET No.
28
OF 35



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GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK)
- (IRON)
- (WOOD)
- (BARB WIRE)
- DITCH (CREEK) LINE
- 725 — EXISTING CONTOURS
- 725 — PROPOSED CONTOURS
- CURB & GUTTER
- UGE — UNDERGROUND ELEC.
- OHE — OVERHEAD UTILITY
- TEL — UNDERGROUND TELE.
- GAS — UNDERGROUND GAS LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- ACCESSIBLE ROUTE

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

CONTRACTOR NOTES:

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2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED
PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

GRADING PLAN (2 OF 2)

PERMIT No.
2023-47-SDP

Existing Conditions Drainage Basin Information

Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
EX-1	10,110.82	0.23	0.000362676	10,055.89	99.46%	80	97.90	6.0	3.6
EX-2	71,108.49	1.63	0.002550666	2,958.53	4.16%	80	80.75	6.0	3.6
EX-3	50,894.32	1.17	0.001825583	94.15	0.18%	80	80.03	6.4	3.9

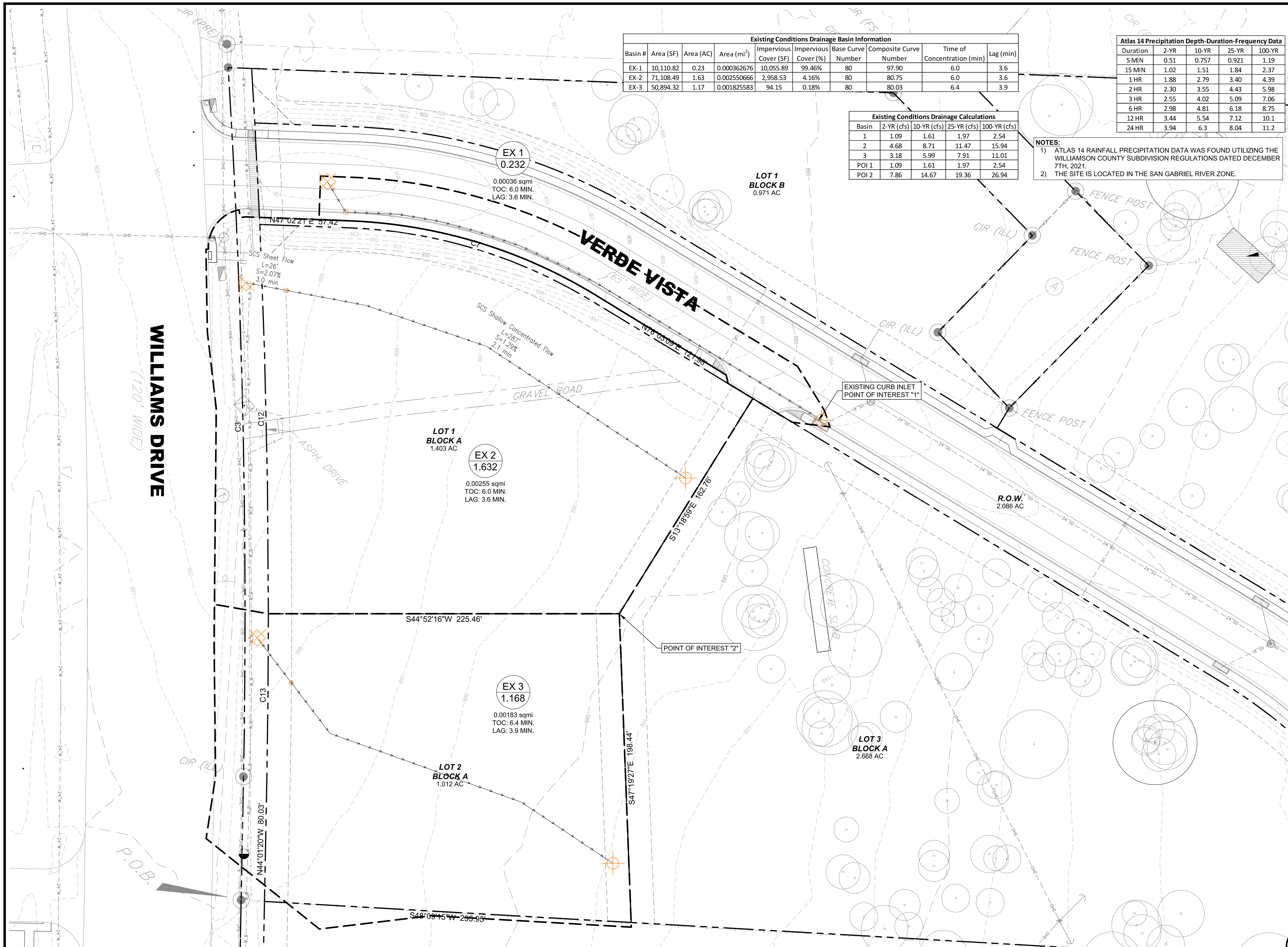
Existing Conditions Drainage Calculations

Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	1.09	1.61	1.97	2.54
2	4.68	8.71	11.47	15.94
3	3.18	5.99	7.91	11.01
POI 1	1.09	1.61	1.97	2.54
POI 2	7.86	14.67	19.36	26.94

Atlas 14 Precipitation Depth-Duration-Frequency Data

Duration	2-YR	10-YR	25-YR	100-YR
5 MIN	0.51	0.757	0.921	1.19
15 MIN	1.02	1.51	1.84	2.37
1 HR	1.88	2.79	3.40	4.39
2 HR	2.30	3.55	4.43	5.98
3 HR	2.55	4.02	5.09	7.06
6 HR	2.98	4.81	6.18	8.75
12 HR	3.44	5.54	7.12	10.1
24 HR	3.94	6.3	8.04	11.2

NOTES:
1) ATLAS 14 RAINFALL PRECIPITATION DATA WAS FOUND UTILIZING THE WILLIAMSON COUNTY SUBDIVISION REGULATIONS DATED DECEMBER 7TH, 2021.
2) THE SITE IS LOCATED IN THE SAN GABRIEL RIVER ZONE.



GENERAL LEGEND

SYMBOLS

WATER METER — WW SERVICE
WATER VALVE — WATER SERVICE
FIRE HYDRANT — STORMSEWER MANHOLE
BACKFLOW PREVENTER — SIGN
UTILITY POLE — CURB INLET
LIGHT POLE — GRATE INLET
WASTEWATER MANHOLE — TABLE TOP AREA INLET
CLEAN OUT — TREE TO BE SAVED
KEYNOTES — TREE TO BE REMOVED
PARKING COUNT

LINETYPES

PROPERTY BOUNDARY
LIMITS OF CONSTRUCTION
FENCES (CHAINLINK) (IRON) (WOOD) (BARB WIRE)
DITCH (CREEK) LINE
EXISTING CONTOURS
PROPOSED CONTOURS
CURB & GUTTER
UNDERGROUND ELEC.
OVERHEAD UTILITY
UNDERGROUND TELE.
UNDERGROUND GAS LINE
WATER LINE
WASTEWATER LINE
ACCESSIBLE ROUTE

DRAINAGE STUDY LEGEND

DRAINAGE BOUNDARY LINE
DA / ACRE — DRAINAGE BOUNDARY LABEL DRAINAGE AREA (ACRES)
NO — INLET NUMBER
FLOW ARROW
TIME OF CONCENTRATION LINE
EXISTING 100-YR FLOOD PLAIN LINE
PROPOSED 100-YR FLOOD PLAIN LINE
LP LOW POINT — HP HIGH POINT

0 30 60
SCALE : 1" = 30'

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

CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

REVIEWED VALUE — DRAWN D.O. — DESIGNED D.O.

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

RECORD — REVISIONS — DATE — NO.

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

EXISTING CONDITIONS
DRAINAGE AREA MAP

PERMIT No.
2023-47-SDP

SHEET No.
30
OF 35

Atlas 14 Precipitation Depth-Duration-Frequency Data				
Duration	2-YR	10-YR	25-YR	100-YR
5 MIN	0.51	0.757	0.921	1.19
15 MIN	1.02	1.51	1.84	2.37
1 HR	1.88	2.79	3.40	4.39
2 HR	2.30	3.55	4.43	5.98
3 HR	2.55	4.02	5.09	7.06
6 HR	2.98	4.81	6.18	8.75
12 HR	3.44	5.54	7.12	10.1
24 HR	3.94	6.3	8.04	11.2

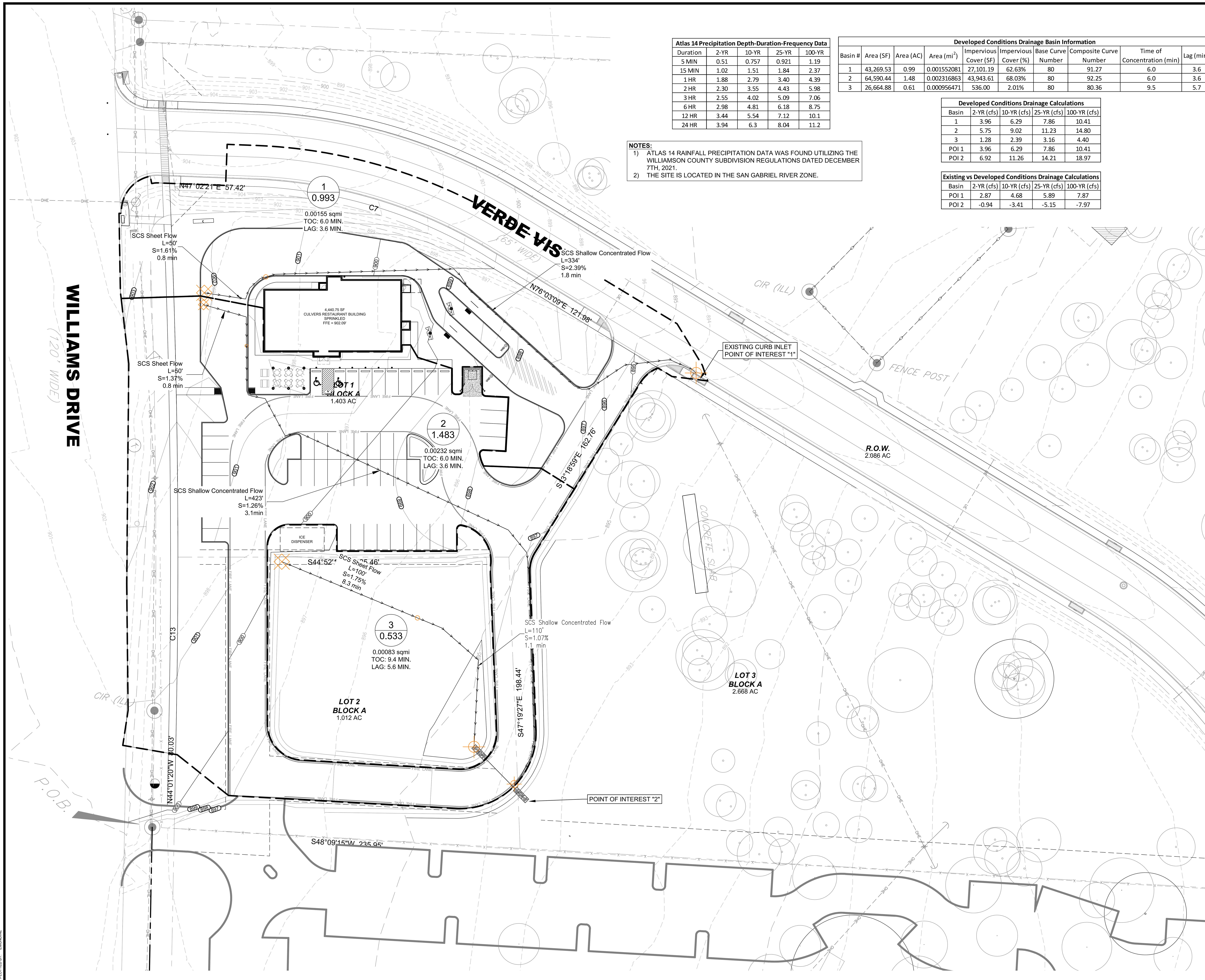
NOTES:

1) ATLAS 14 RAINFALL PRECIPITATION DATA WAS FOUND UTILIZING THE WILLIAMSON COUNTY SUBDIVISION REGULATIONS DATED DECEMBER 7TH, 2021.
2) THE SITE IS LOCATED IN THE SAN GABRIEL RIVER ZONE.

Developed Conditions Drainage Basin Information									
Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
1	43,269.53	0.99	0.001552081	27,101.19	62.63%	80	91.27	6.0	3.6
2	64,590.44	1.48	0.002316863	43,943.61	68.03%	80	92.25	6.0	3.6
3	26,664.88	0.61	0.000956471	536.00	2.01%	80	80.36	9.5	5.7

Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	3.96	6.29	7.86	10.41
2	5.75	9.02	11.23	14.80
3	1.28	2.39	3.16	4.40
POI 1	3.96	6.29	7.86	10.41
POI 2	6.92	11.26	14.21	18.97

Existing vs Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
POI 1	2.87	4.68	5.89	7.87
POI 2	-0.94	-3.41	-5.15	-7.97



GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK)
- (IRON)
- (WOOD)
- (BARB WIRE)
- DITCH (CREEK) LINE
- 725 — EXISTING CONTOURS
- 725 — PROPOSED CONTOURS
- CURB & GUTTER
- UGE — UNDERGROUND ELEC.
- OHE — OVERHEAD UTILITY
- TEL — UNDERGROUND TELE.
- GAS — UNDERGROUND GAS LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- ACCESSIBLE ROUTE

DRAINAGE STUDY LEGEND

- DRAINAGE BOUNDARY LINE
- DA / ACRE — DRAINAGE BOUNDARY LABEL, DRAINAGE AREA (ACRES)
- NO — INLET NUMBER
- FLOW ARROW
- TIME OF CONCENTRATION LINE
- 100-YR — EXISTING 100-YR FLOOD PLAIN LINE
- PR 100-YR — PROPOSED 100-YR FLOOD PLAIN LINE
- LP LOW POINT
- HP HIGH POINT

W N S E

0 30 60
SCALE : 1" = 30'

811
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512-344-9664
TBPE FIRM #F-19351

DESIGNED: D.O. DRAWN: D.O. REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
9/14/2023

NO.	DATE	REVISIONS	RECOM'D

RIO DESIERTO, LLC

CULVERS RESTAURANT
SITE DEVELOPMENT PLANS
4704 WILLIAMS DR GEORGETOWN, TEXAS 78633

PROPOSED CONDITIONS DRAINAGE AREA MAP

PERMIT No.
2023-47-SDP

Existing Conditions Drainage Basin Information									
Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
1	440,738.21	10.12	0.0158093	70,824.99	16.07%	80	82.89	30.5	18.3
2	685,524.26	15.74	0.0245898	4,932.48	0.72%	80	80.13	31.6	19.0
3	31,525.88	0.72	0.0011308	0.00	0.00%	80	80	16.3	9.8

Existing Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	14.49	26.26	34.43	47.86
2	19.82	37.91	50.54	71.35
3	1.32	2.5	3.31	4.64

Williamson County Atlas 14 Preicipitation Data for the San Gabriel River Zone				
Duration	2-YR (in)	10-YR (in)	25-YR (in)	100-YR (in)
5 MIN	0.51	0.757	0.921	1.19
15 MIN	1.02	1.51	1.84	2.37
1 HR	1.88	2.79	3.4	4.39
2 HR	2.3	3.55	4.43	5.98
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24 HR	3.94	6.3	8.04	11.2

NOTES:
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GENERAL LEGEND

SYMBOLS

WATER METER
WATER VALVE
FIRE HYDRANT
BACKFLOW PREVENTER
UTILITY POLE
LIGHT POLE
WASTEWATER MANHOLE
CLEAN OUT
KEYNOTES
PARKING COUNT
WW SERVICE
WATER SERVICE
STORMSEWER MANHOLE
SIGN
CURB INLET
GRATE INLET
TABLE TOP AREA INLET
TREE TO BE SAVED
TREE TO BE REMOVED

LINETYPES

PROPERTY BOUNDARY
LIMITS OF CONSTRUCTION
FENCES (CHAINLINK)
(IRON)
(WOOD)
(BARB WIRE)
DITCH (CREEK) LINE
EXISTING CONTOURS
PROPOSED CONTOURS
CURB & GUTTER
UNDERGROUND ELEC.
OVERHEAD UTILITY
UNDERGROUND TELE.
UNDERGROUND GAS LINE
WATER LINE
WASTEWATER LINE
ACCESSIBLE ROUTE

DRAINAGE STUDY LEGEND

DRAINAGE BOUNDARY LINE
DRAINAGE BOUNDARY LABEL DRAINAGE AREA (ACRES)
INLET NUMBER
FLOW ARROW
TIME OF CONCENTRATION LINE
EXISTING 100-YR FLOOD PLAIN LINE
PROPOSED 100-YR FLOOD PLAIN LINE
LP LOW POINT HP HIGH POINT

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DESIGNED: EM DRAWN: DO REVIEWED: VALUE

STATE OF TEXAS
MICHAEL EASTON MUNDINE
143266
LICENSED PROFESSIONAL ENGINEER
5/17/2023

NO. DATE REVISIONS RECOMD

WILKES - SCHILLER BUSINESS PARK
4795 WILLIAMS DRIVE
SUBDIVISION IMPROVEMENT PLANS
4795 WILLIAMS DRIVE GEORGETOWN, TEXAS 78633

EXISTING CONDITIONS DRAINAGE AREA MAP

PERMIT No. 2022-40-CON
SHEET No. 14 OF 32

Williamson County Atlas 14 Preicipitation Data for the San Gabriel River Zone				
Duration	2-YR (in)	10-YR (in)	25-YR (in)	100-YR (in)
5 MIN	0.51	0.757	0.921	1.19
15 MIN	1.02	1.51	1.84	2.37
1 HR	1.88	2.79	3.4	4.39
2 HR	2.3	3.55	4.43	5.98
3 HR	2.55	4.02	5.09	7.06
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24 HR	3.94	6.3	8.04	11.2

NOTES:
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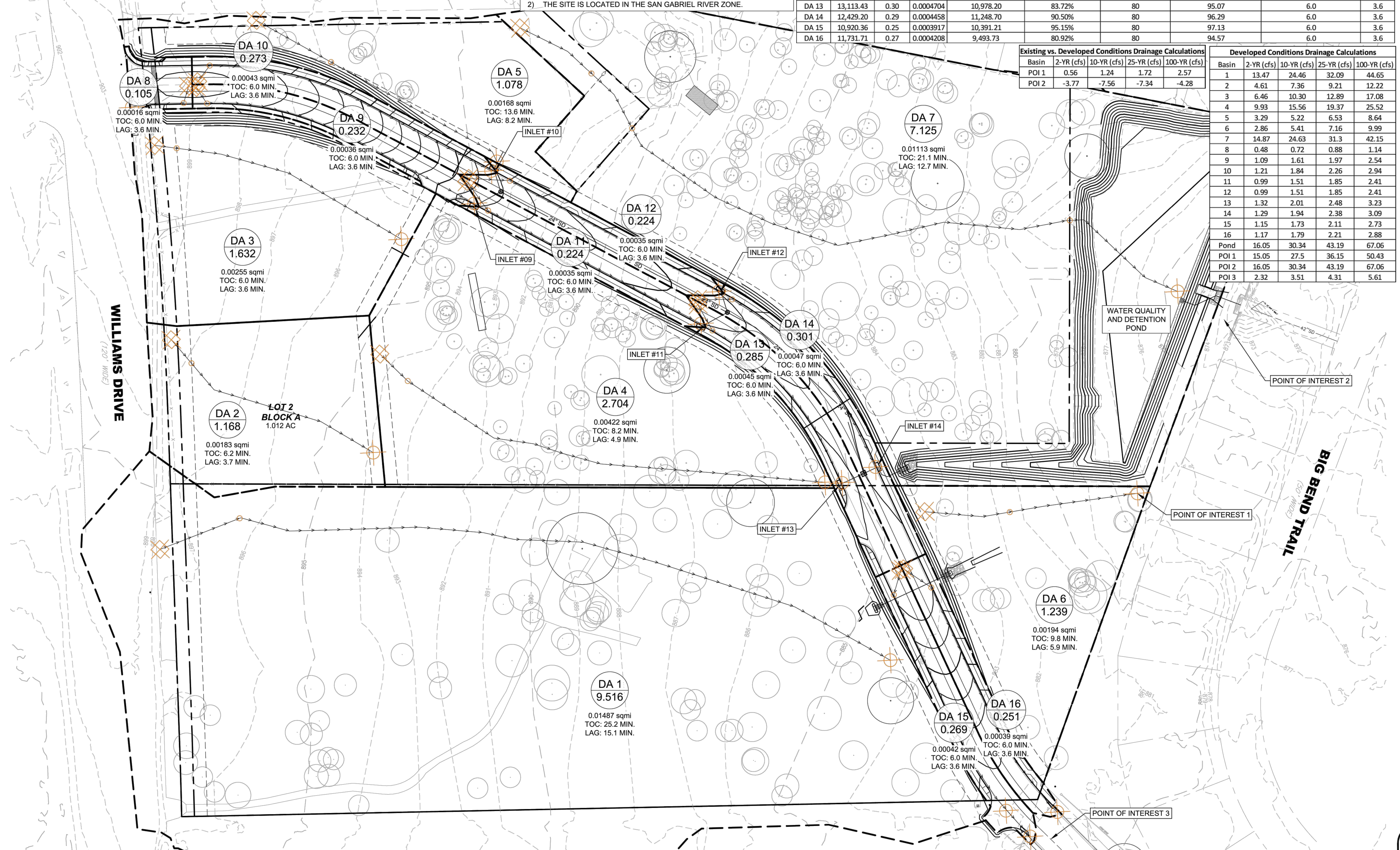
Developed Conditions Drainage Basin Information									
Basin #	Area (SF)	Area (AC)	Area (mi^2)	Impervious Cover (SF)	Impervious Cover (%)	Base Curve Number	Composite Curve Number	Time of Concentration (min)	Lag (min)
DA 1	414,538.28	9.52	0.0148695	64,784.81	15.63%	80	82.81	25.6	15.3
DA 2	50,894.32	1.17	0.0018256	30,935.09	60.78%	80	90.94	6.0	3.6
DA 3	71,108.49	1.63	0.0025507	43,560.28	61.26%	80	91.03	6.0	3.6
DA 4	117,779.65	2.70	0.0042248	81,352.66	69.07%	80	92.43	8.2	4.9
DA 5	46,954.70	1.08	0.0016843	29,954.99	63.80%	80	91.48	12.0	7.2
DA 6	53,950.84	1.24	0.0019352	60.00	0.11%	80	80.02	9.8	5.9
DA 7	310,347.23	7.12	0.0111322	144,582.82	46.59%	80	88.39	21.7	13.0
DA 8	4,553.69	0.10	0.0001633	4,407.87	96.80%	80	97.42	6.0	3.6
DA 9	10,110.82	0.23	0.0003627	10,055.89	99.46%	80	97.90	6.0	3.6
DA 10	11,905.21	0.27	0.000427	10,236.65	85.98%	80	95.48	6.0	3.6
DA 11	9,764.69	0.22	0.0003503	8,413.58	86.16%	80	95.51	6.0	3.6
DA 12	9,764.69	0.22	0.0003503	8,412.66	86.15%	80	95.51	6.0	3.6
DA 13	13,113.43	0.30	0.0004704	10,978.20	83.72%	80	95.07	6.0	3.6
DA 14	12,429.20	0.29	0.0004458	11,248.70	90.50%	80	96.29	6.0	3.6
DA 15	10,920.36	0.25	0.0003917	10,391.21	95.15%	80	97.13	6.0	3.6
DA 16	11,731.71	0.27	0.0004208	9,493.73	80.92%	80	94.57	6.0	3.6

Existing vs. Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
POI 1	0.56	1.24	1.72	2.57
POI 2	-3.77	-7.56	-7.34	-4.28

Developed Conditions Drainage Calculations				
Basin	2-YR (cfs)	10-YR (cfs)	25-YR (cfs)	100-YR (cfs)
1	13.47	24.46	32.09	44.65
2	4.61	7.36	9.21	12.22
3	6.46	10.30	12.89	17.08
4	9.93	15.56	19.37	25.52
5	3.29	5.22	6.53	8.64
6	2.86	5.41	7.16	9.99
7	14.87	24.63	31.3	42.15
8	0.48	0.72	0.88	1.14
9	1.09	1.61	1.97	2.54
10	1.21	1.84	2.26	2.94
11	0.99	1.51	1.85	2.41
12	0.99	1.51	1.85	2.41
13	1.32	2.01	2.48	3.23
14	1.29	1.94	2.38	3.09
15	1.15	1.73	2.11	2.73
16	1.17	1.79	2.21	2.88
Pond	16.05	30.34	43.19	67.06
POI 1	15.05	27.5	36.15	50.43
POI 2	16.05	30.34	43.19	67.06
POI 3	2.32	3.51	4.31	5.61



GENERAL LEGEND

SYMBOLS

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- UTILITY POLE
- LIGHT POLE
- WASTEWATER MANHOLE
- CLEAN OUT
- KEYNOTES
- PARKING COUNT
- WW SERVICE
- WATER SERVICE
- STORMSEWER MANHOLE
- SIGN
- CURB INLET
- GRATE INLET
- TABLE TOP AREA INLET
- TREE TO BE SAVED
- TREE TO BE REMOVED

LINETYPES

- PROPERTY BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- FENCES (CHAINLINK) (IRON) (WOOD) (BARB WIRE)
- DITCH (CREEK) LINE
- 725 EXISTING CONTOURS
- 725 PROPOSED CONTOURS
- CURB & GUTTER
- UGE UNDERGROUND ELEC.
- OHE OVERHEAD UTILITY
- TEL UNDERGROUND TELE.
- GAS UNDERGROUND GAS LINE
- W WATER LINE
- WW WASTEWATER LINE
- ACCESSIBLE ROUTE

DRAINAGE STUDY LEGEND

- DRAINAGE BOUNDARY LINE
- DA / ACRE — DRAINAGE BOUNDARY LABEL DRAINAGE AREA (ACRES)
- NO — INLET NUMBER
- FLOW ARROW
- TIME OF CONCENTRATION LINE
- 100-YR — EXISTING 100-YR FLOOD PLAIN LINE
- PR 100-YR — PROPOSED 100-YR FLOOD PLAIN LINE
- LP LOW POINT
- HP HIGH POINT

0 60 120
SCALE : 1" = 60'

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

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Inlet Calculation Table																																	
Inlet Information					25-Year Flow Calculations														100-Year Flow Calculations														
Inlet and Drainage Basin Number	Inlet Information	Slope %	Gutter Depression a (in)	Clogging Factor	25-Year Flow(CFS)	Upstream Carry-Over Flow Q_{pass} (CFS)	Total Runoff Q_a (CFS)	Water Depth y_0 (FT)	Ponded Width (FT)	Capacity Per Foot of Inlet Q_a/L_a (CFS)	L_a	Inlet Length L (FT)	L/L_a	a/Y_0	Q/Q_a	Flow Intercepted By Inlet Q (CFS)	Carry-Over Flow Q_{pass} (CFS)	100-Year Flow(CFS)	Upstream Carry-Over Flow Q_{pass} (CFS)	Total Runoff Q_a (CFS)	Water Depth y_0 (FT)	Ponded Width (FT)	Capacity Per Foot of Inlet Q_a/L_a (CFS)	L_a	Inlet Length L (FT)	L/L_a	a/Y_0	Q/Q_a	Flow Intercepted By Inlet Q (CFS)	Carry-Over Flow Q_{pass} (CFS)			
9	10' Curb Inlet On Grade	4.00%	5.75"	10%	1.97	0.00	1.97	0.22'	0.57'	0.80	2.47'	10'	4.04	2.16	1	1.97	0.00	2.54	0	2.54	0.24'	0.62'	0.82	3.10'	10'	3.22	1.98	1	2.54	0.00			
10	10' Curb Inlet On Grade	4.00%	5.75"	10%	2.26	0.00	2.26	0.23'	0.60'	0.81	2.80'	10'	3.58	2.06	1	2.26	0.00	2.94	0	2.94	0.26'	0.66'	0.83	3.53'	10'	2.83	1.88	1	2.94	0.00			
11	10' Curb Inlet On Grade	1.00%	5.75"	10%	1.85	0.00	1.85	0.28'	0.71'	0.85	2.16'	10'	4.62	1.73	1	1.85	0.00	2.41	0	2.41	0.30'	0.78'	0.88	2.73'	10'	3.67	1.57	1	2.41	0.00			
12	10' Curb Inlet On Grade	1.00%	5.75"	10%	1.85	0.00	1.85	0.28'	0.71'	0.85	2.16'	10'	4.62	1.73	1	1.85	0.00	2.41	0	2.41	0.30'	0.78'	0.88	2.73'	10'	3.67	1.57	1	2.41	0.00			
13	10' Curb Inlet In Sump	0%	5.75"	10%	2.48	0.00	2.48	0.20'	0.52'	N/A	N/A	10'	N/A	N/A	N/A	2.48	0.00	3.23	0	3.23	0.24'	0.62'	N/A	N/A	10'	N/A	N/A	N/A	3.23	0.00			
14	10' Curb Inlet In Sump	0%	5.75"	10%	2.38	0.00	2.38	0.20'	0.51'	N/A	N/A	10'	N/A	N/A	N/A	2.38	0.00	3.09	0	3.09	0.24'	0.61'	N/A	N/A	10'	N/A	N/A	N/A	3.09	0.00			

IMAGES: * signature TP.png
XREFS: * 24x36 2PC TitleBlock.dwg * ebase.dwg * MEM SEAL.dwg * PBASE-Road.dwg
DWG: N:\Projects\Wilkes - 4795 Williams Drive\CAD\Sheets\PROPOSED DRAINAGE AREA MAP.dwg
PLOT DATE: Wednesday, May 17, 2023
PLOTTED BY: EMUNDINE

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: EM DRAWN: DO REVIEWED: VALUE

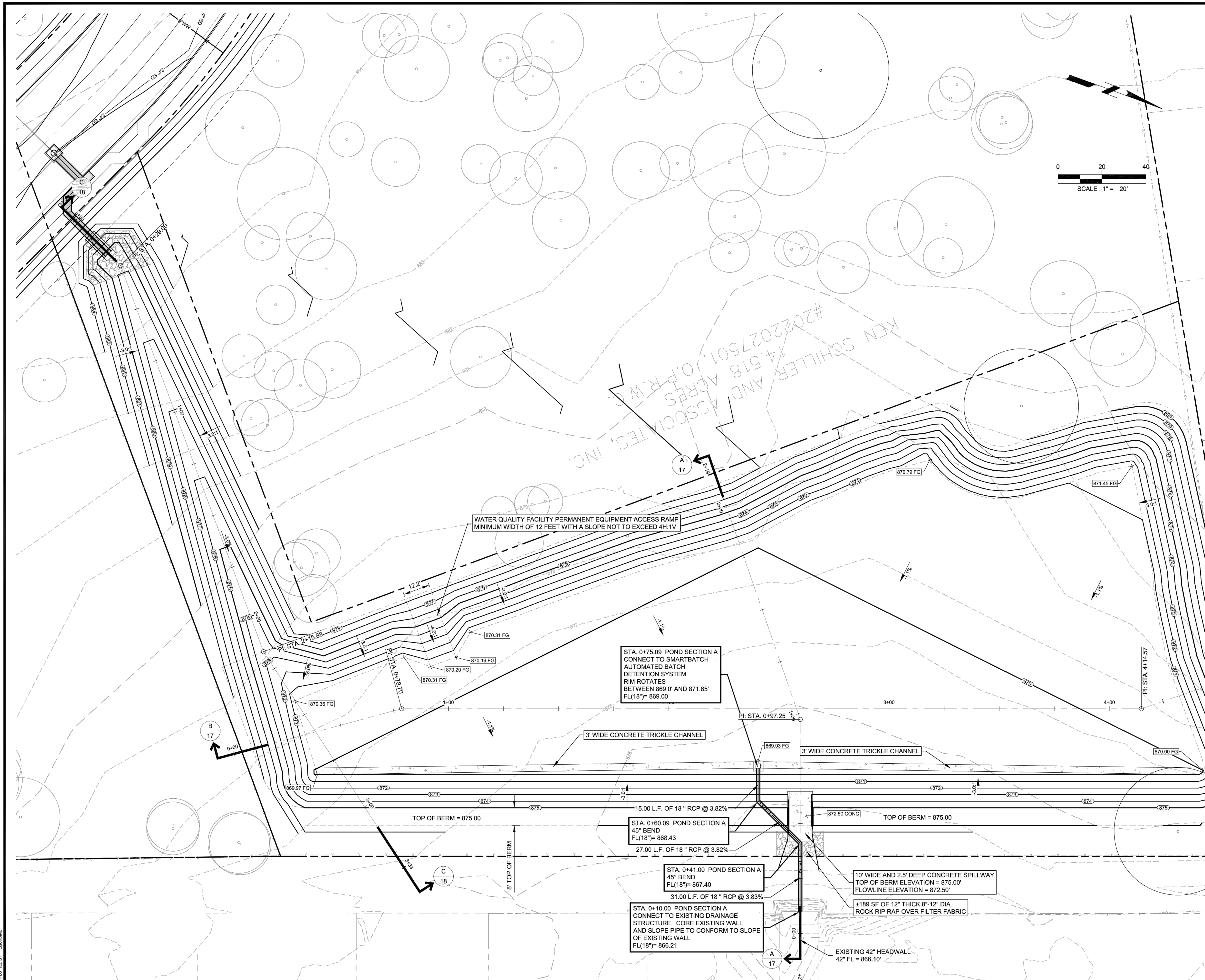
STATE OF TEXAS — MICHAEL EASTON MUNDINE — 143266 — LICENSED PROFESSIONAL ENGINEER
5/17/2023

RECOM'D | REVISIONS | DATE | NO.

WILKES - SCHILLER BUSINESS PARK
4795 WILLIAMS DRIVE
SUBDIVISION IMPROVEMENT PLANS
4795 WILLIAMS DRIVE GEORGETOWN, TEXAS 78633

PROPOSED CONDITIONS DRAINAGE AREA MAP

PERMIT No. 2022-40-CON
SHEET No. 15 OF 32



GENERAL LEGEND

SYMBOLS

WATER METER	WW SERVICE
WATER VALVE	WATER SERVICE
FIRE HYDRANT	STORMSEWER MANHOLE
BACKFLOW PREVENTER	SIGN
UTILITY POLE	CURB INLET
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KEYNOTES	TREE TO BE REMOVED
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- WW — WASTEWATER LINE
- ACCESSIBLE ROUTE

GRADING LEGEND

EXISTING

(493.00 NG) NATURAL GROUND	(493.00 EX GUT) GUTTER
(493.00 EX PAV) PVMT	(493.00 EX SW) SIDEWALK

PROPOSED

493.00 PAV — PAVEMENT	493.00 TOW — TOP OF WALL
493.00 TC — TOP OF CURB	493.00 TOE — TOE OF SLOPE
493.00 SW — SIDEWALK	493.00 TOP — TOP OF SLOPE
493.00 TG — TOP OF GRATE INLET	493.00 CONC — CONCRETE
493.00 FL — FLOWLINE	493.00 FF — FINISHED FLOOR
493.00 FG — FINISHED GROUND	

PROPOSED GRADE BREAK ON SURFACE (CONC, PVMT, GRASS, ETC.)

LP LOW POINT HP HIGH POINT

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CONTRACTOR NOTES:

EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. CONTRACTOR TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS & DEPTHS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL CONSIDER PROPOSED UTILITY IMPROVEMENTS AND PROVIDE ADEQUATE HORIZONTAL AND VERTICAL CLEARANCE DURING INSTALLATION OF ALL UTILITY INFRASTRUCTURE.

2P CONSULTANTS, LLC
203 E. MAIN STREET, SUITE 204
ROUND ROCK, TEXAS 78664
512-344-9664
TBPE FIRM #F-19351

DESIGNED: EM | DRAWN: DO | REVIEWED: VALUE

STATE OF TEXAS — MICHAEL EASTON MUNDINE — 143266 — LICENSED PROFESSIONAL ENGINEER

5/17/2023

NO.	DATE	REVISIONS	RECOMD

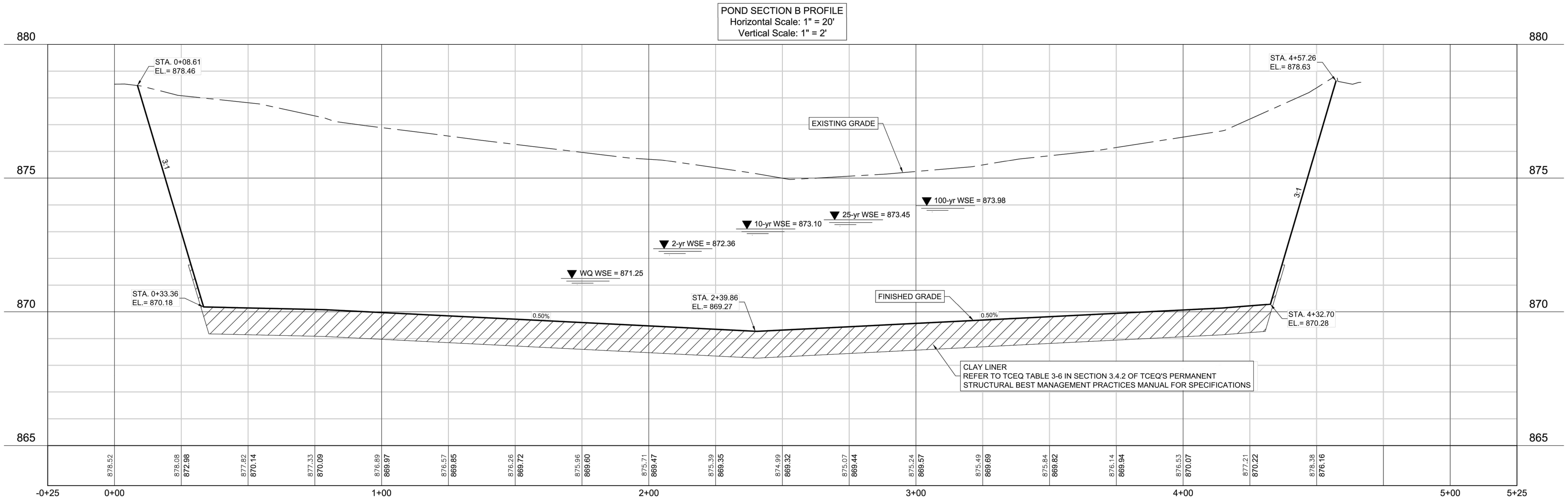
WILKES - SCHILLER BUSINESS PARK

4795 WILLIAMS DRIVE
SUBDIVISION IMPROVEMENT PLANS
4795 WILLIAMS DRIVE GEORGETOWN, TEXAS 78633

DETENTION AND WATER QUALITY POND PLAN

PERMIT No. 2022-40-CON

SHEET No. 16 OF 32



Detention and Water Quality Pond Stage Storage			
Elevation	Area (SF)	Cumulative Volume (ft^3)	Pond Discharge (cfs)
869	0.00	0.00	0.00
870	21213.85	1,060.93	0.00
871	40985.57	41,706.64	0.00
871.25	42100.27	52,092.37	0.00
872	44469.40	84,556.00	14.10
873	47700.39	120,640.89	27.09
874	51060.69	180,021.44	68.24
875	54662.81	232,883.18	125.52

NOTES:

1) WATER QUALITY VOLUME REQUIRED IS 46,416 CUBIC FEET
2) WATER QUALITY VOLUME PROVIDED IS 52,092.37 CUBIC FEET
3) WATER QUALITY ELEVATION IS 871.25'
4) OVERFLOW WEIR DEPTH = 2.5'
5) OVERFLOW WEIR WIDTH = 10'
6) OVERFLOW WEIR COEFFICIENT = 2.67

Detention and Water Quality Pond Calculations				
Event	2-YR	10-YR	25-YR	100-YR
Peak Pond Inflow (cfs)	43.27	69.18	86.80	115.40
Peak Pond Outflow (cfs)	16.05	30.34	43.19	67.06
Peak Pond Elevation (ft)	872.36	873.10	873.45	873.98

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Additional information is provided for cells with a red triangle in the upper right corn
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will r

1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: L_M = 28.93(A_N x P)

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resul
A_N = Net increase in impervious a
P = Average annual precipitation

Site Data: Determine Required Load Removal Based on the Entire Project
County = Williamson
Total project area included in plan * = 23.80 acres
Predevelopment impervious area within the limits of the plan * = 0.35 acres
Total post-development impervious area within the limits of the plan* = 9.18 acres
Total post-development impervious cover fraction * = 0.39
P = 32 inches

$L_{M\ TOTAL\ PROJECT}$ = **8170** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = POI 2

Total drainage basin/outfall area = 15.25 acres
Predevelopment impervious area within drainage basin/outfall area = 0.11 acres
Post-development impervious area within drainage basin/outfall area = 8.95 acres
Post-development impervious fraction within drainage basin/outfall area = **0.59**
$L_{M\ THIS\ BASIN}$ = **8184** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention System
Removal efficiency = 91 percent

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 3

where: A_C = Total On-Site drainage area
A_I = Impervious area proposed in
A_P = Pervious area remaining in th
L_R = TSS Load removed from this

A_C = 15.25 acres
A_I = **8.95** acres
A_P = **6.30** acres
L_R = **9117** lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 8184 lbs.

F = **0.90**

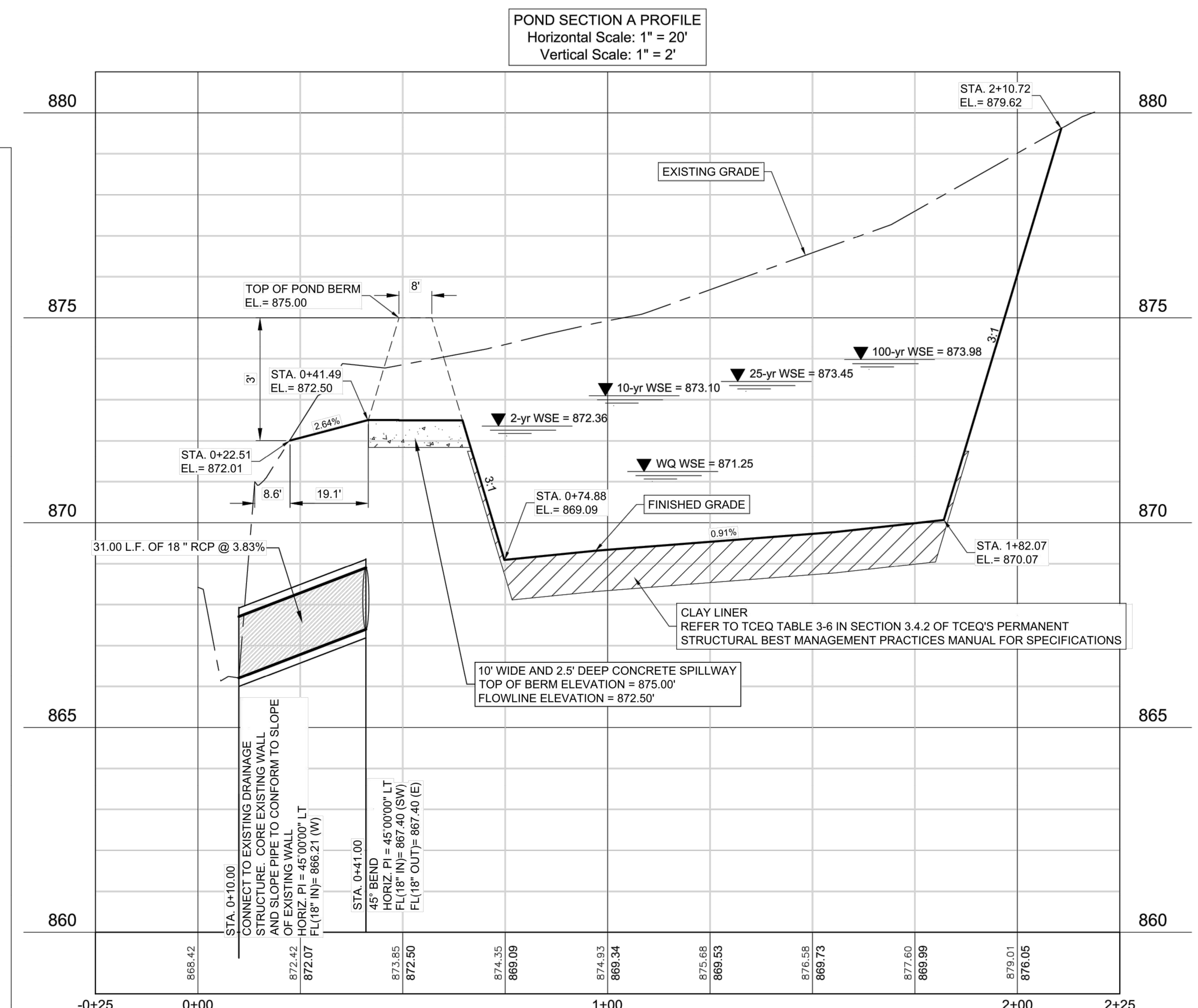
6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Rainfall Depth = **1.70** inches
Post Development Runoff Coefficient = **0.41**
On-site Water Quality Volume = **38680** cubic feet

Calculations from RG-348

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 = **7736**
Total Capture Volume (required water quality volume(s) x 1.20) = 46416 cubic feet



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DETENTION AND WATER QUALITY POND SECTIONS AND CALCULATIONS

PERMIT No.
2022-40-CON

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