Colliers
Engineering & Design

WATER POLLUTION ABATEMENT PLAN EXCEPTION

October 9, 2023

JOHNSON RANCH

JOB NUMBER: 1031-02-01
COMAL COUNTY, TEXAS

Prepared for:

DHJB DEVELOPMENT, LLC
102A CORDILLERA RIDGE
BOERNE, TX 78006
830-336-2518

Prepared by:

J. Wayne Flores
Texas Professional Engineer
License No. 90130

STATE OF TEXAS
WAYNE FLORES
90130
LICENSED
PROFESSIONAL ENGINEER
10-9-23

Colliers Engineering & Design
640 N Walnut Avenue Suite 1101
New Braunfels
Texas 78130 US
Main: 877 627 3772
Colliersengineering.com

Project No.

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EDWARDS AQUIFER APPLICATION COVER
(TCEQ-20705)

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: Johnson Ranch						**2. Regulated Entity No.:** 105332522				
3. Customer Name: DHJB Development LLC						**4. Customer No.:** 604156356				
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):**		12.1		
9. Application Fee:	$500		**10. Permanent BMP(s):**			N/A				
11. SCS (Linear Ft.):	0		**12. AST/UST (No. Tanks):**			N/A				
13. County:	Comal		**14. Watershed:**			Upper Cibolo 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.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
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 __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.	
WAYNE FLORES	
Print Name of Customer/Authorized Agent	
[signature]	9-26-23
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):	

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GENERAL INFORMATION FORM
(TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

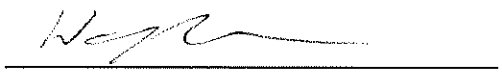
Signature

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

Print Name of Customer/Agent: Wayne Flores

Date: 9-26-2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Johnson Ranch
2. County: Comal
3. Stream Basin: Cibolo Creek
4. Groundwater Conservation District (If applicable): _____
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [ ] SCS
   [ ] Modification
   [ ] AST
   [ ] UST
   [X] Exception Request

7. Customer (Applicant):

Contact Person: _____
Entity: DHJB Development, LLC
Mailing Address: 102A Cordillera Ridge
City, State: Boerne, TX Zip: 78006
Telephone: 830-336-2518 FAX: _____
Email Address: _____

8. Agent/Representative (If any):

Contact Person: Wayne Flores
Entity: Colliers Engineering & Design
Mailing Address: 640 N Walnut, Ste. 1101
City, State: New Braunfels, TX Zip: 78130
Telephone: 726-223-4847 FAX: _____
Email Address: wayne.flores@collierseng.com

9. Project Location:

☐ The project site is located inside the city limits of _____.
☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Bulverde
☐ 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.
Northwest intersection of FM 1863 and Johnson Way

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: _____

14. [X] **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:

- [X] Area of the site
- [X] Offsite areas
- [X] Impervious cover
- [X] Permanent BMP(s)
- [X] Proposed site use
- [X] Site history
- [X] Previous development
- [X] 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)
- [X] Undeveloped (Undisturbed/Uncleared)
- [ ] Other: _____

Prohibited Activities

16. [X] 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. [X] 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:

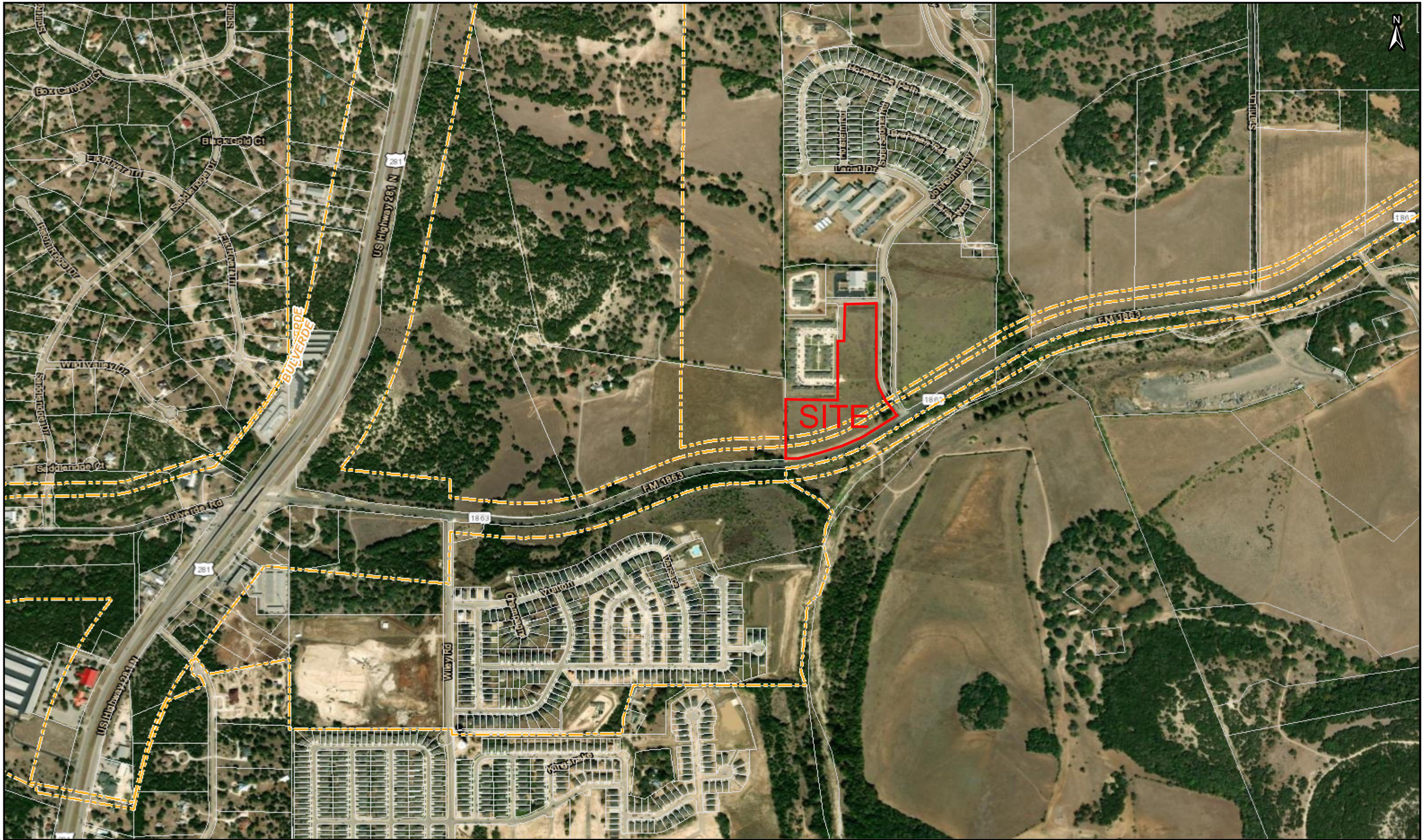
- ☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an 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.



San Antonio Office
3421 Paesanos Pkwy
San Antonio, TX
T: 877.627.3772
www.colliersengineering.com
TBPE Firm# F-14909
TBPLS Firm# 10194550

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Comments:

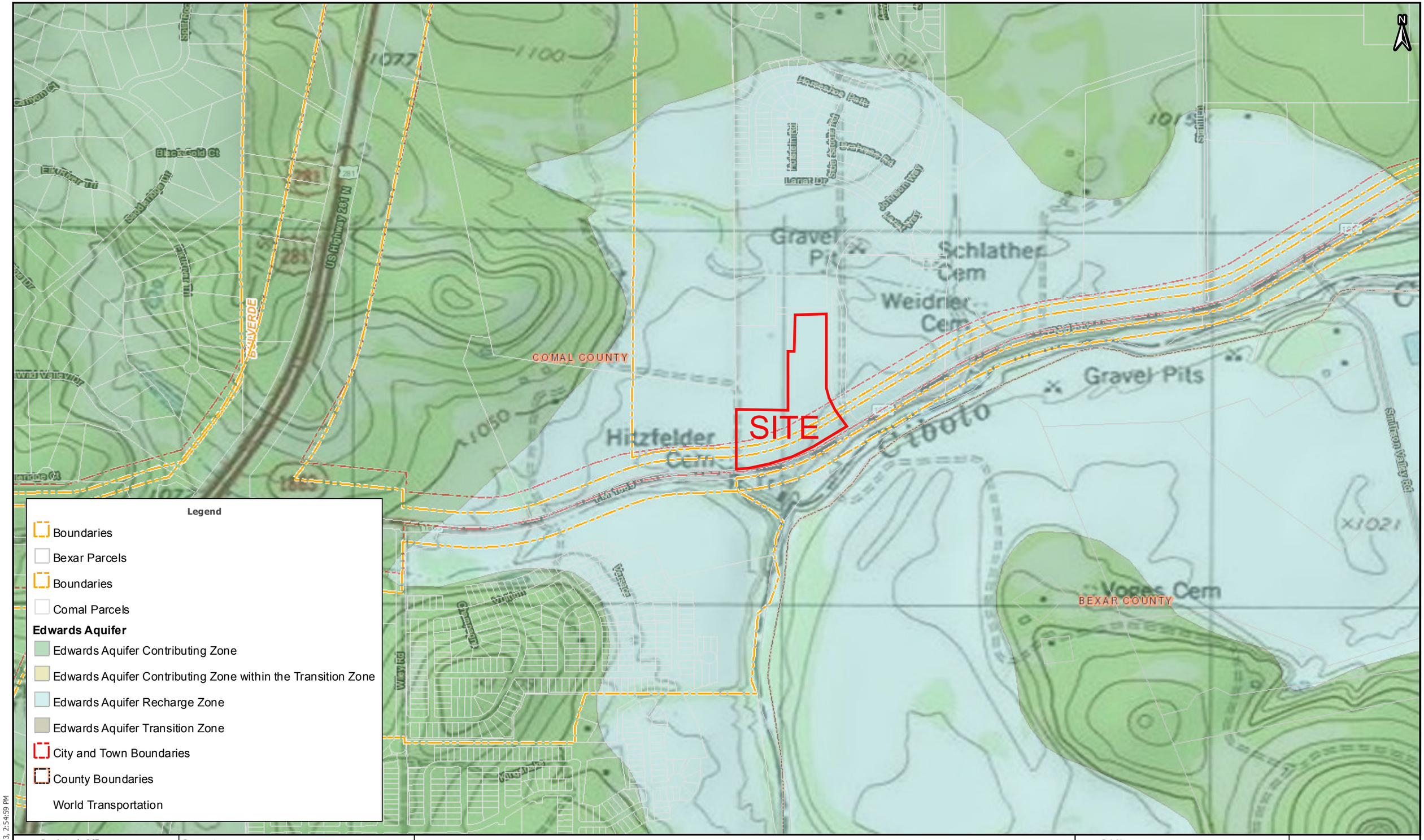
EXHIBIT A - ROAD MAP

Prj No.	
Designer: Initials	
September 2023	EX

1" = 752'

Date: Sep 20, 2023, 2:49:48 PM

THIS WAS PRODUCED FROM MATERIAL THAT WAS STORED &/OR TRANSMITTED ELECTRONICALLY & MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING CONSULTANT'S ORIGINAL SIGNATURE & SEAL.



San Antonio Office
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TBPE Firm# F-14909
TBPLS Firm# 10194550

Colliers Engineering & Design

Comments:

EXHIBIT B - USGS/EARZ MAP

Prj No.	
Designer: Initials	
September 2023	EX

1 " = 752 '

Date: Sep 20, 2023, 2:54:59 PM

THIS WAS PRODUCED FROM MATERIAL THAT WAS STORED &/OR TRANSMITTED ELECTRONICALLY & MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING CONSULTANT'S ORIGINAL SIGNATURE & SEAL.

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ATTACHMENT C- PROJECT DESCRIPTION

The Johnson Ranch is a 751.3 acre low density residential development located in Comal County, TX, within the City of Bulverde ETJ. The site has approximately 113 acres of Edwards Aquifer Recharge Zone located on the south portion, with an additional 212 acres of land draining towards the Recharge Zone. The remainder of the site is located in the Edwards Aquifer Contributing Zone.

Johnson Ranch originally obtained a Water Pollution Abatement Plan permit for the entire 751.3 acres in August 2007, with the permitted construction consisting of Phase 1A and the Johnson Ranch Elementary School (WPAP obtained by others). The construction of this subdivision will occur in phases, and each now each subsequent construction phase will be submitted either as a modification to the original Water Pollution Abatement Plan (consisting of any construction within the 325 acres in the Recharge Zone drainage area) or new a Contributing Zone Permit (and subsequent modifications) for all construction within the remaining 426.3 acres of Contributing Zone.

The current WPAP exception will consist of grading improvements only on approximately 12.1 acres. There will also be an extension of an underground culvert pipe across the site for approximately 485-feet and two 4-way inlets. There will be no addition of impervious cover. Attachment B shows the location of the site.

As specified in TAC Chapter 213.5(b)(4)(D)(ii)(III) where a site is used for low density single-family development and has 20% impervious cover or less, other permanent BMPs are not required.

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GEOLOGIC ASSESSMENT FORM
(TCEQ-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: Roman C. Pineda, P.G.

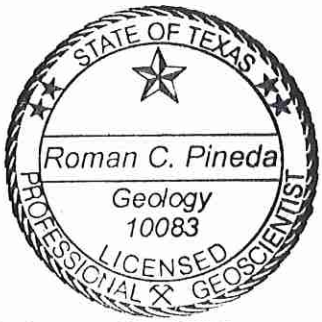
Telephone: (210) 979-8444

Fax: (210) 979-8441

Date: 9/19/2023

Representing: Colliers Engineering & Design, TBPE Firm #9513 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Johnson Ranch Tract

Project Information

1. Date(s) Geologic Assessment was performed: August 30 , 2023
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Lewsiville silty clay, 1 to 3 percent slope (LeB)	B	2-3
Sunev silty clay loam, 0 to 1 percent slopes (SuA)	B	2-3
Gruene clay, 1 to 5 percent slopes (GrC)	D	1-2

Soil Name	Group*	Thickness(feet)

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

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

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

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

   Applicant's Site Plan Scale: 1" = 50'
   Site Geologic Map Scale: 1" = 50'
   Site Soils Map Scale (if more than 1 soil type): 1" = 200'

9. Method of collecting positional data:

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

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☐ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☒ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

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

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

Administrative Information

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: JOHNSON RANCH 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	
	No geologic or manmade features were identified at the time of the site visit.																			

* DATUM: NAD 83

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 9/19/2023

Sheet 1 of 1

Attachment A

STATE OF TEXAS
Roman C. Pineda
Geology
10083
LICENSED PROFESSIONAL GEOSCIENTIST

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

JOHNSON RANCH TRACT

Stratigraphic Column

[Ashworth, J.B. (Jan 1983) Ground-Water Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas, Texas Department of Water Resources, rept., 273, 12 pp.]

System	Series	Group		Stratigraphic Unit	Hydrology Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member	Upper Trinity	500	Alternating and resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone. Also contains two distinct evaporite zones	Yields very small to small quantities of relatively highly mineralized water
				Lower Member	Middle Trinity	320	Massive, fossiliferous limestone grading upward into thin beds of limestone, dolomite, marl, and shale. Numerous caves and reefs occur in the lower portion of the member	Yields small to moderate quantities of fresh to slightly saline water
			Travis Park Formation	Hensell Sand Member / Bexar Shale Member		300	Red to gray clay, silt, sand, conglomerate, and thin limestone beds grading downdip into silty dolomite, marl, calcareous shale, and shaley limestone	
				Cow Creek Limestone Member		90	Massive, fossiliferous, white to gray, argillaceous to dolomitic limestone with local thinly bedded layers of sand, shale, and lignite	
				Hammett Shale Member		80	Dark blue to gray, fossiliferous, calcareous and dolomitic shale with thinly interbedded layers of limestone and sand	Not known to yield water
				Sligo Limestone Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water
				Hosston Sand Member		350	Red and white conglomerate, sandstone, clay stone, shale, dolomite, and limestone	
Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomite limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of the study area.

ATTACHMENT B

JOHNSON RANCH TRACT

Narrative Description of Site Geology

The overall potential for fluid migration to the Edwards Aquifer on the site is none to low. Quaternary alluvium (Qal) exists on the site and overlies the upper member of the Glen Rose Formation. The dominant trend for the site is N43°E, based on an average of the trends of faults within the surrounding area and from published maps (Collins, 1993).

The Qal is characterized as unconsolidated soil, silt, sand and gravels deposited within the floodplain. Karst development does not occur within the Qal.

No geologic or manmade features were observed on the site at the time of the site visit.

PROP ID: 75165
LEGAL DESCRIPTION:
A-174 SURV 194 A GAYTAN, 39.415 ACRES
OWNER: JUAN J KRITZLER LTD PARTNERSHIP

OHE

SITE

FLOOD ZONE X OTHER FLOOD AREAS

APPROXIMATE LIMITS FLOOD ZONE AE AS SCALED FROM FEMA MAP NO. 48091C0385F 100-YEAR FLOOD PLAIN PER COMAL COUNTY GIS)

FLOOD ZONE X OTHER FLOOD AREAS

APPROXIMATE LIMITS FLOOD ZONE AE AS SCALED FROM FEMA MAP NO. 48091C0385F 100-YEAR FLOOD PLAIN PER COMAL COUNTY GIS)

WILLOW BRANCH
50' PRIVATE ROAD

WESTWARD SPUR
50' R.O.W.

JOHNSON WAY

LOT 1
BLOCK Z

HIGHWAY NO 1863
(80' R.O.W.)

FM 1863

CIBOLO CREEK

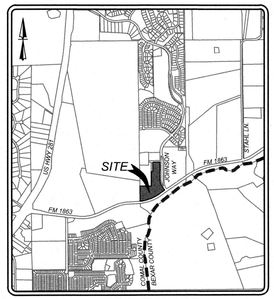
Qal

1023 1022 1021 1020 1019 1018 1016 1024 1025 1026

LEGEND

Qal	ALLUVIUM
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION
S-1	POTENTIAL RECHARGEFEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
	FAULT, LOCATED APPROXIMATELY (D,DOWNTHROWN SIDE;U,UPTHROWN SIDE)
	FAULT EXISTANCEUNCERTAIN
	POSSIBLE FAULT (AS LOCATED BY AERIAL PHOTOGRAPHS)
	STRIKE AND DIP OF BEDDING
	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
	CAVE
	NON-KARST CLOSED DEPRESSION
	SWALLOW HOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
	PROPOSED SANITARY SEWER LINE
-S-	EXISTING SANITARY SEWER LINE
	50' SEWER ENVELOPE
	PROPOSED MANHOLE
	EXISTING MANHOLE

NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS



LOCATION MAP
NOT-TO-SCALE

SCALE : 1" = 50'
0' 50' 100' 150'

SAN ANTONIO
3421 Pasadena Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIER ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 TBPLS Firm#: 10194509
Collier Engineering & Design
www.colliersengineering.com

ISSUE DATE

REVISIONS

STATE OF TEXAS
ROMAN C. PINEDA
GEOLOGY
10083
LICENSED
PROFESSIONAL GEOSCIENTIST
9.19.2023

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS
SITE GEOLOGIC MAP

JOB NO. 1031-02-01
DATE: SEPTEMBER 2023
DRAWN: RCP CHECKED: RCP

ATTACHMENT
D

Date: Sep 19, 2023, 1:30pm User ID: rpineda
File: K:\1031\02\01\Design\Environmental\GA\cad & gis\GA map.dwg

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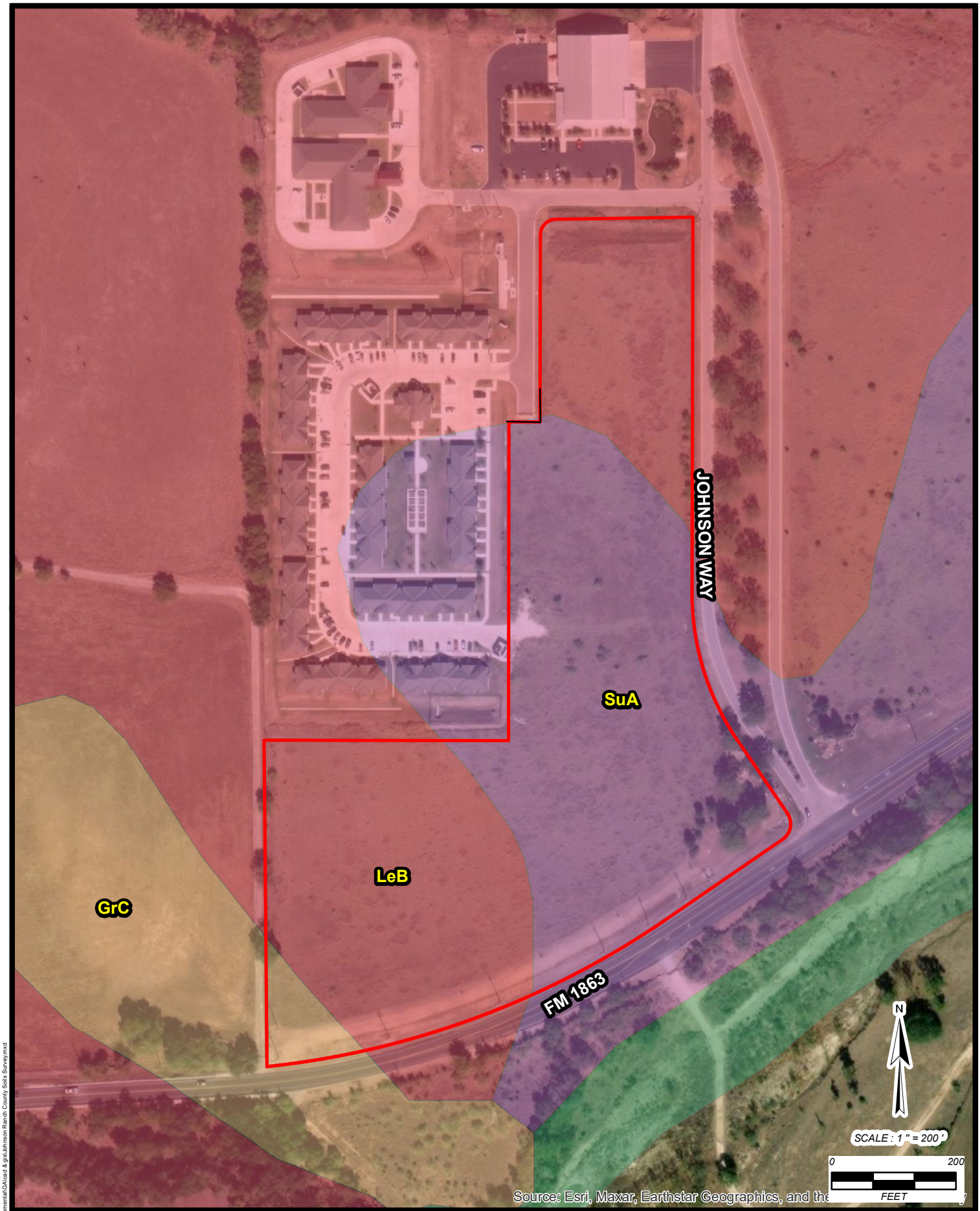

San Antonio Office
3421 Paesanos Pkwy #200
San Antonio, TX 78231
T: 210.979.8444
www.colliersengineering.com
Colliers Engineering & Design

JOHNSON RANCH TRACT
GEOLOGIC ASSESSMENT
COMAL COUNTY SOILS

REVISIONS: ISSUE DATE:

JOB NO. 1031-02-01

DATE: September 2023 DESIGNER:

DRAWN: RCP CHECKED: RCP

ATTACHMENT E

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

Date: Sep 18, 2023, 11:12:24 AM User ID: rpineda
File: K:\1031\02\01\Design\Environmental\GA\cad & gis\Johnson Ranch County Soils Survey.mxd

JOHNSON RANCH TRACT

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RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM (TCEQ-0628)

Recharge and Transition Zone Exception Request Form

Texas Commission on Environmental Quality
30 TAC §213.9 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 **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Wayne Flores
Date: 9-26-2023
Signature of Customer/Agent:

Regulated Entity Name: Johnson Ranch

Exception Request

1. [X] **Attachment A - Nature of Exception.** A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
2. [X] **Attachment B - Documentation of Equivalent Water Quality Protection.** Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

3. [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.
4. [X] The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. [X] The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

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EXCEPTION REQUEST ATTACHMENT A – NATURE OF EXCEPTION

The current WPAP exception will consist of grading improvements only on approximately 12.1 acres. There will also be an extension of an underground culvert pipe across the site for approximately 485-feet and two 4-way inlets. There will be no addition of impervious cover. Attachment B shows the location of the site.

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EXCEPTION REQUEST ATTACHMENT B – DOCUMENTATION OF EQUIVALENT WATER QUALITY PROTECTION

The current WPAP exception will not add any impervious cover to the site and drainage will continue the same as it does currently. As specified in TAC Chapter 213.5(b)(4)(D)(ii)(III) where a site is used for low density single-family development and has 20% impervious cover or less, other permanent BMPs are not required.

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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.

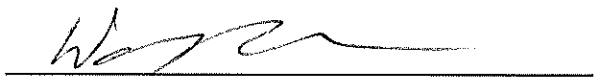
Signature

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: Wayne Flores

Date: 9-26-2023

Signature of Customer/Agent:



Regulated Entity Name: Johnson Ranch

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: Cibolo 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:

[X] 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.

[X] 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.

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

[X] 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. [X] 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.

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

9. [X] **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. [X] **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.

    [X] 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. [X] 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. [X] Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. [X] 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. [X] 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.

TCEQ-0602 Attachments

Johnson Ranch

Temporary Stormwater Section

Attachment A – Spill Response Actions

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses. Measures include reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

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

Education

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

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

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

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

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

General Measures

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

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

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

(4) Train employees in spill prevention and cleanup.

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

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

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately

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

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

Minor Spills

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

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

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

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

(5) Contain the spread of the spill

(6) Recover spilled materials

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

Semi-Significant Spills

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

Spills should be cleaned up immediately using the following steps:

(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

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

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

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

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

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

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

Vehicle and Equipment Maintenance

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

(2) Discourage “topping off” of fuel tanks.

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

Attachment B – Potential Sources of Contamination

Potential Source:	Asphalt products used on this project
Preventative Measure:	After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup, should an unexpected rain occur. For the duration of the asphalt curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off, should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain event.

Potential Source:	Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings
Preventative Measure:	Vehicle maintenance, when possible, will be performed within the construction staging areas.

Potential Source:	Miscellaneous trash and litter from construction
Preventative Measure:	Trash containers will be placed throughout the site to encourage proper trash disposal.

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

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ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

Subdivision Construction:

1. Install temporary erosion protection BMPs.
2. Perform rough grading to site. (12.1 acres)
3. Install storm drain culverts and 4-way inlets.
4. Perform final grading to site. (12.1 acres)
5. Establish vegetation over disturbed areas.
6. Remove temporary BMPs.

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ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Temporary measures are intended to provide a method of slowing the flow or runoff from the construction site in order to allow sediment and suspended solids to settle out of the water. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

BMP measures utilized in this plan are intended to allow storm water to continue downstream after passing through for treatment. This will allow stormwater runoff to continue downstream to any existing sensitive features.

Site Grading:
The clearing and grading of the land will disturb the largest area of soil, so erosion control measures will be installed as the first step in construction. The methodology for pollution prevention of all on-site stormwater will include a) the erection of silt fences along the downgradient boundary of the construction activities, b) installation of rock berms with silt fence covering downgradient from areas of concentrated stormwater flow, c) installation of stabilized construction entrances to reduce the dispersion of sediment from the site, and d) installation of a construction staging area.

Construction:

All installed erosion control measures will be inspected, and if necessary, repaired before any additional construction begins, as well as periodically throughout the construction process. The contractor will be responsible for all maintenance of erosion control measures, as well as the installation of all remaining on-site control measures, including the concrete truck washout, as necessary.

Attachment E - Request to Temporarily Seal a Feature, if sealing a feature

N/A

Attachment F – Structural Practices

The following structural measures will be installed prior to the initiation of site construction:

- Silt fences along the downstream boundary of all construction activity, and rock berms with silt fence covering for secondary protection
- Installation of stabilized construction entrances and construction staging areas
- Installation of concrete truck washout pits, as required

Attachment G – Drainage Map

SEE CONSTRUCTION PLANS

Attachment H - Temporary Sediment Pond(s) Plans and Calculations

N/A

Attachment I – Inspection and Maintenance for BMPs

Inspections

Designated and qualified person(s) shall inspect BMPs every seven days, and within 24 hours after a storm event greater than 0.5 inches of rainfall. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water TPDES data for a period of three years after the date of the inspection. A copy of the Inspection Report Form is provided in the Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion. (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, and (6) concrete truck rinse-out pit for signs of potential failure. Deficiencies noted during the inspection will be corrected and documented within seven (7) calendar days following the inspection or before the next anticipated storm event if practicable.

SWPPP Inspection Report

Project Name: _____ **Date of Inspection: _____**

Inspection Frequency: (Every 7 Days, 14 Days, or Post Rain)_____

Post Significant Rainfall: N/A / Rainfall Amount:_____

Is inspector qualified to perform inspections? Yes

Are inspector qualifications present in SWPPP? Yes

Was the entire site inspected? _____

If no, please list conditions limiting the scope of the inspection:_____

General Notes:

Please note if the following areas or controls were observed in compliance during the inspection.

Do the following items comply with SWPPP regulation?	Yes/No or Note Corrective Action Taken
Copy of the NOI with the SWPPP?	
Construction Site Notice posted at entrance(s) to site?	
Copy of the NOI at the site entrance?	
Do storage areas show signs of erosion?	
Do disturbed areas show signs of erosion?	
Are there signs of erosion at outfalls?	
BMPs working properly? (If no, make list of issue locations in area of concern/corrective action section below)	
Do BMPs need maintenance? (If yes, make a detailed list of issue locations in area of concern/corrective action seciton below.	
Are new BMPs required on-site?	
Did the site map/BMP map get updated?	

SWPPP Inspection Report

Control	Compliant (Yes - No - N/A)
General	
Revegetation	
Silt Fence	
Rock Berm	
Sediment Traps	
Tree Protection	
Site Stabilization	
Detention and/or Water Quality Pond	
Stabilized Construction Entrance	
Concrete Washout	
Spoils/Materials Site	
Drainage Channells	
Outfall/Outlet Protections	
Inlet Protections	
No Off-site Discharge	
Equipment Area	
Trash receptacles	
Construction Debris	
Infrastructure	
Roadway clearing	
Utility clearing	
Roadway grading	
Utility construction	
Drainage construction	
Roadway base	
Roadway surfaces	
Site cleanups	

Inspector Qualifications: _____

By my signature below, I certify that all terms are acceptable and the project site is in compliance with SWPPP.

_____ _____

Inspector's Name Inspector's Signature

_____ _____

Name of Owner/Operator (Firm) Date

SWPPP Inspection Report

Project Milestone Dates

Date when major site grading activities begin:

Construction Activity	Date

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

STABILIZATION PRACTICES

Installation and utilization of stabilization measures will begin as soon as practicable in any portion of the site where construction activities have either temporarily or permanently ceased. Stabilization measures must be initiated immediately, where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Temporary / Interim stabilization methods should be utilized in situations where development and/or construction practices have ceased temporarily, and permanent stabilization methods should be utilized after development and/or construction activities have been completed.

Disturbed areas to receive paving, landscape treatment and turfing shall be covered by erosion control blankets. All other rough graded slopes, disturbed ground surfaces and discharge channels shall receive seeding with native seed mix and then covered by erosion control blankets or straw mulching or other approved BMP. Stockpile materials shall be seeded and covered by soil erosion blankets. A storm water perimeter control device shall be established at a minimum distance of 10 feet from the toe of the stockpile. The materials excavated from utility trenching shall be protected from up gradient storm run-on. The excavated materials shall be covered by erosion control blankets.

TEMPORARY STABILIZATION

Temporary (Interim) Stabilization

Seed Specification: INTERIM SEEDING: N/A

Temporary vegetation - establishment of natural grassy areas that are intended to l be re-disturbed during later phases of construction or development. Temporary vegetation is usually accomplished by spreading rapidly growing grasses via the process of hydro-seeding or hydro-mulching.

Mulching - the process of spreading a ground layer of chipped wood or brush to protect disturbed and unstable topsoil against erosion by storm water runoff by slowing run-off velocities, promoting sediment deposition, filtering sediment, and promoting increased ground infiltration rates. Mulching also provides the added benefits of reducing soil water loss, which is beneficial when attempting to establish newly planted vegetation. Applied in thicker layers and the size of mulch chips, mulching can also be used to prevent erosion on areas of steeper slope.

Geo-textiles - Geo-textiles (i.e. fiber matting, coir, filter fabrics) are porous materials or ground coverings which allow storm water run-off to pass through, but block the passage of most sediment and larger suspended particles. Geo-textiles matting can be used on newly seeded slopes to lessen seed and soil loss, or next to riprap to prevent run-off from washing out the soil beneath.

Vegetative buffer strips - areas where vegetation has been left undisturbed or where vegetation has been re-established, typically in long, narrow strips. Buffer strip areas retard the speed of storm water runoff, promote sediment filtration, increase ground infiltration, and improve site aesthetics. Vegetative buffer strips are extremely effective on steep, unstable slopes, or within floodplains, and along the bank slopes of waterways.

Tree Protection - is a required practice by most regulatory agencies. Only trees of certain sizes are required to be protected. Refer to your specific governing jurisdiction for specific regulations. However, even if tree protection is not a required, regulated practice it is still and important and cost effective erosion control method. (reference: **Preservation of mature vegetation** for specific details)

Preservation of mature vegetation - provides a natural buffer zone and promotes improved storm water run-off quality by helping minimize topsoil erosion as well as providing cost effective aesthetic benefits. Established, mature vegetation can withstand and tolerate heavier storm events than newly planted vegetation, due to a deeper, more established root system. It is necessary that preservation of existing, mature vegetation be planned for in advance of site construction. Areas to be preserved should be clearly marked and possibly even barricaded to prevent damage during construction.

Interim Stabilization Practices:	**When Implemented:**	**Located:**	**Purpose:**	**In Use:**
Temporary Vegetation	Throughout site development	N/A	Temporary vegetation growth is recommended to reduce soil erosion in areas that are not actively under development.	**NO**
Mulching	Throughout site development	N/A	Mulching is utilized to reduce topsoil erosion and to prevent soil water loss. This method can be used in planted/landscaped areas to prevent soil movement and water loss until vegetation is well established.	**NO**
Geo-textiles	Throughout site	N/A	Geo-textiles (i.e. matting, Curlex) can be used to	**NO**

	development		temporarily stabilize soil in areas where it is not feasible to utilize mulching or temporary vegetation.	
Vegetative Buffer Strips	Throughout site development	Located at perimeters of the site and along natural creekbeds	Vegetative buffer strips will be utilized throughout the site for both drainage and aesthetic purposes, as well as for the secondary benefits of improved water quality due to sediment deposition and improved infiltration.	**NO**
Tree Protection	Throughout site development	Located around all desirable trees to be retained, per plan	Desirable trees throughout the site are to be protected during and after construction to promote both water quality and aesthetics.	**YES**
Preservation of Existing Mature Vegetation	Throughout site development	Desirable existing vegetation to be preserved throughout the site, per plan	Desirable existent mature vegetation (i.e. under-story) is to be preserved throughout the site to promote water quality via sediment deposition and improved infiltration.	**YES**

PERMANENT STABILIZATION

Permanent Stabilization

Permanent drainage structures, including concrete curbs and gutters, concrete pavement, asphalt pavement, drainage swales, drainage ditch, turfing, vegetative strips, concrete culvert and pipe culvert will provide permanent erosion control at this project site. After initial stabilization, the Contractor shall inspect the site once a month until project acceptance as been granted by the Customer Representative/Contract Manager. Unsatisfactory stabilized areas shall be future stabilized at the request of the Customer Representative/Contract Manager. Final or permanent stabilization shall be in

accordance with the specification sections: [2300 Earthwork], [02916 Mulching for erosion control],[02921 Seeding],[02922 Sodding],[02923 Sprigging],[02919 Top soil], [02924 Seeding] and [02925or 02926 Establishment of Turf].

Seed Specification: PERMANENT SEEDING: Permanent stabilization to be according to site specific re-stabilization / landscape plan and / or the San Antonio Ordinances.

Permanent vegetation - the process of establishing a permanent vegetative ground cover that helps reduce topsoil erosion by holding and stabilizing soil particles, which in turn slows storm water run-off velocity, promotes ground infiltration, promoting sediment deposition, and by providing secondary aesthetic benefits. Permanent vegetation is established by planting and seeding in areas where the soil needs stabilization due to existing soil structure, texture, or steeper grade slopes. Permanent vegetation can include trees, grasses and shrubs.

Mulching - the process of spreading a ground layer of chipped wood or brush to protect disturbed and unstable topsoil against erosion by storm water runoff by slowing run-off velocities, promoting sediment deposition, filtering sediment, and promoting increased ground infiltration rates. Mulching also provides the added benefits of reducing soil water loss, which is beneficial when attempting to establish newly planted vegetation. Applied in thicker layers and the size of mulch chips, mulching can also be used to prevent erosion on areas of steeper slope.

Geo-textiles - Geo-textiles (i.e. fiber matting, coir, filter fabrics) are porous materials or ground coverings which allow storm water run-off to pass through, but block the passage of most sediment and larger suspended particles. Geo-textiles matting can be used on newly seeded slopes to lessen seed and soil loss, or next to riprap to prevent run-off from washing out the soil beneath.

Sod stabilization - the practice of installing grass sod strips or squares over a disturbed or unprotected topsoil surface to provide instant protection of soil from the erosive forces of storm water run-off. Sod stabilization is an effective and feasible practice in areas where construction activities are complete increasing the chances that the grass cover will have the opportunity to become established. This measure requires maintenance such as the installation of sub-sod topsoil and frequent watering to promote sod growth.

Hydro-mulch/seeding stabilization - the practice of applying seed mixtures hydraulically with paper or wood mulch material over a disturbed or unprotected topsoil surface to provide vegetative protection of soil from the erosive forces of storm water run-off. Hydro-mulch/seeding stabilization is an effective and feasible practice in areas where construction activities are complete increasing the chances that the grass cover will have the opportunity to become established. This measure requires maintenance such as the placement of topsoil and frequent watering to promote sod growth.

Vegetative buffer strips - areas where vegetation has been left undisturbed or where vegetation has been re-established, typically in long, narrow strips. Buffer strip areas retard the speed of storm water runoff, promote sediment filtration, increase ground infiltration, and improve site aesthetics. Vegetative buffer

Paved or impervious surfaces - provides permanent stabilization by protecting soil from exposure of impact erosion by rainfall with a layer of concrete, asphalt or other impervious cover.

Preservation of mature vegetation - provides a natural buffer zone and promotes improved storm water run-off quality by helping minimize topsoil erosion as well as providing cost effective aesthetic benefits. Established, mature vegetation can withstand and tolerate heavier storm events than newly planted vegetation, due to a deeper, more established root system. It is necessary that preservation of existing, mature vegetation be planned for in advance of site construction. Areas to be preserved should be clearly marked and possibly even barricaded to prevent damage during construction.

Permanent Stabilization Practices:	**When Implemented:**	**Located:**	**Purpose:**	**In Use:**
Permanent Vegetation (i.e. grasses, shrubbery, trees)	Installed during the last phase of site development	To be located throughout site, per plan	Installation of permanent vegetation is a method of reducing and preventing soil erosion, improved infiltration and increases site aesthetics.	**YES**
Mulching	Installed during the last phase of site development	N/A	Mulching is utilized to reduce topsoil erosion and to prevent soil water loss. This method can be used in planted/landscaped areas to prevent soil movement and water loss until vegetation is well established.	**NO**
Geo-textiles	Installed during the last phase of site development	To be located in areas of significant soil disturbance	Geo-textiles are utilized to reduce soil erosion and promote vegetation growth in high slope and/or high water flow areas.	**NO**
Sod Stabilization	Installed during the last phase of site development	To be located throughout the site, per landscaping plan	Sod stabilization is used to establish a complete and instant vegetative ground cover in an effort to prevent topsoil erosion.	**YES**
Hydro-mulch/Seeding	Installed during the last phase of site development	To be used throughout the site, per landscaping plan	Hydro-mulch/seeding stabilization is used to establish a complete vegetative ground cover in an effort to prevent topsoil erosion.	**YES**

Stabilization				
Vegetative Buffer Strips	Installed during the last phase of site development	To be located at perimeter of site	Vegetative buffer strips will be utilized throughout the site for both drainage and aesthetic purposes, as well as for the secondary benefits of improved water quality due to sediment deposition and improved infiltration.	**NO**
Paved and/or Impervious Surfaces	Installed during the last phase of site development	Throughout the site	Areas where structural concrete are located within the site; minimize and prevent erosion at those locations	**YES**
Preservation of Existing Mature Vegetation	Installed during the last phase of site development	Located at perimeters of site	Desirable existent mature vegetation (i.e. under-story) is to be preserved throughout the site to promote water quality via sediment deposition and improved infiltration.	**YES**

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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.

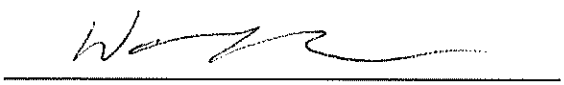
Signature

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: Wayne Flores

Date: 9-26-2023

Signature of Customer/Agent



Regulated Entity Name: Johnson Ranch

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. n/a 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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ATTACHMENT A – 20% OR LESS IMPERVIOUS COVER WAIVER

The construction activities will not add any impervious cover to the site, so the exception falls under the 20% or less impervious cover waiver.

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ATTACHMENT B – BMPs FOR UPGRADIENT STORMWATER

N/A

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ATTACHMENT C – BMPs FOR ONSITE STORMWATER

N/A

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ATTACHMENT D – BMPs FOR SURFACE STREAMS

N/A

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ATTACHMENT E – REQUEST TO SEAL FEATURES, IF SEALING FEATURE

N/A

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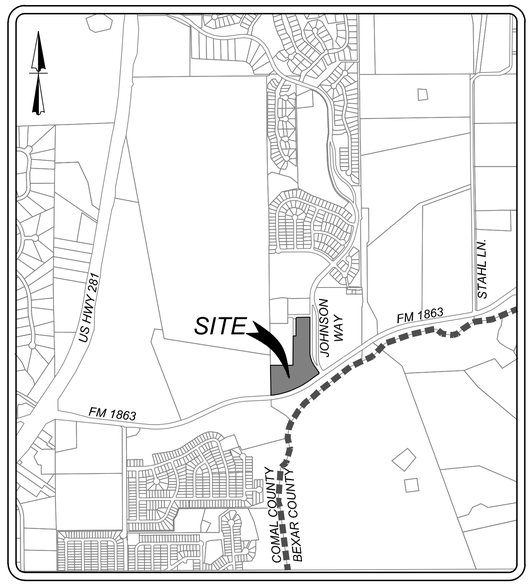
ATTACHMENT F – CONSTRUCTION PLANS

See attached construction plans.

JOHNSON TRACT - GRADING IMPROVEMENTS

BULVERDE, TEXAS

DRAINAGE AND GRADING IMPROVEMENTS



LOCATION MAP

NOT-TO-SCALE

SHEET INDEX

OWNER: DHJB DEVELOPMENT LLC
28 CORDILLERA TRACE, STE 4
BOERNE TEXAS 78006
PHONE: (830) 336 -2518

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER

9/25/23

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, BURT P. WELLMANN, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN TO THESE PLANS AND ALL ENGINEERING ASPECTS ARE IN COMPLIANCE WITH CITY AND STATE ENGINEERING REGULATIONS AND LAWS.

REGISTERED PROFESSIONAL ENGINEER
P.E. REGISTRATION NO. 100256

KFW
ENGINEERS + SURVEYING
14603 Huebner Rd, Bldg 40, San Antonio, TX 78230
Phone #: (210) 979-8444 • Fax #: (210) 979-8441
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

JOB NO. - 1031-02-01

COVER SHEET

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

Date: Sep 26, 2023, 8:56pm User ID: andres.vazquez
File: R:\Projects\2023-KFW Projects\1031\Civil\01 Design\Civil\0.0 COVER SHEET.dwg

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

2. DESIGN PROCEDURES ARE IN GENERAL COMPLIANCE WITH THE CITY OF BULVERDE SUBDIVISION ORDINANCE.

3. A MINIMUM OF ONE BENCHMARK PER SUBDIVISION SHALL BE PLACED AND WILL INCLUDE DESCRIPTION. CALL THE DEPT OF PUBLIC WORKS AT (830) 438-4912.

4. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF BULVERDE, CONSULTING ENGINEER, CONTRACTOR, COUNTY ENGINEER (IF APPROPRIATE), JOHNSON RANCH M.U.D. AND GBRA, AND ANY OTHER AFFECTED PARTIES. NOTIFY PROJECT ENGINEER AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

5. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING CONSTRUCTION. CALL DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION, (830) 438-4912.

6. BARRICADES SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY. (STREETS, ETC. MAY BE LISTED IN ADDITION TO OR INSTEAD OF NOTE.)

7. EXPLOSIVES AND BLASTING ARE NOT ALLOWED.

8. ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.

9. THE LOCATION OF ANY EXISTING WATER AND/OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

10. ALL STORM SEWER PIPES TO BE CLASS III RCP UNLESS NOTED OTHERWISE.

11. CAST BRONZE SURVEY MARKERS SHALL BE PLACED IN CONCRETE IN PERMANENT, ACCESSIBLE LOCATIONS AT THE TIME OF CONSTRUCTION. THE LOCATIONS OF THE MARKERS SHALL BE INDICATED ON THE CONSTRUCTION PLANS. A MINIMUM OF ONE MARKER SHALL BE PLACED FOR EACH 20 ACRES OF THE PROJECT.

12. WHENEVER SOIL INVESTIGATION OR EXCAVATION SHOWS MORE THAN 2 FEET OF EXPANSIVE SUBGRADE, WITH P.I. GREATER THAN 25, ONE OF THE FOLLOWING MEASURES MUST BE ADOPTED:
a. REPLACE 1.5 FEET OF SUBGRADE WITH A MATERIAL WITH A P.I. LESS THAN 15.
b. LIME STABILIZE 8 INCHES OF SUBGRADE.
c. INCREASE THE BASE THICKNESS BY 50%.

13. ANY REFERENCES IN THE PLANS AND SPECIATIONS TO PROPRIETARY MATERIALS OR SOLE SOURCE MANUFACTURERS ARE SUBJECT TO SUBSTITUTIONS OF EQUAL PRODUCTS THE APPROVAL OF WHICH IS AT THE SOLE DISCRETION OF THE DESIGN ENGINEER.

14. THE ENGINEER MAY APPROVE ALTERATIONS TO THE NOTES AND SPECIFICATIONS HEREIN. NO INSPECTOR SHALL ALTER OR CHANGE THE DESIGN OR SPECIFICATIONS HEREIN WITHOUT WRITTEN APPROVAL OF THE DESIGN ENGINEER.

15. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WATER AND WASTEWATER SYSTEMS AT ALL TIMES DURING CONSTRUCTION. ANY WORK INVOLVING POWER OUTAGES, BYPASS PUMPING, PUMP AND HAUL, OR ANY OTHER INTERRUPTION OF FLOW MUST BE PERFORMED BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS.

ON-SITE FILL SPECIFICATIONS

A. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT PREPARED BY KLEINFELDER ON JANUARY 21, 2008 PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH THE GEOTECH ENGINEER RECOMMENDATIONS. ANY DEVIATIONS MAY ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE GEOTECHNICAL ENGINEER.

B. ANY IMPORT OR SELECT FILL SHALL BE AN APPROVED INORGANIC MATERIAL, FREE OF DEBRIS. THE ONSITE SOILS MAY BE UTILIZED PROVIDED THE FOLLOWING RECOMMENDATIONS FOR SELECT FILL ARE MET. THE FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.

C. PLACEMENT SHALL BE IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED TO WITHIN +3% AND -3% POINTS OF THE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D698, STANDARD PROCTOR METHOD. SELECT FILL SHOULD HAVE A PLASTICITY INDEX RANGING BETWEEN 5 AND 15 AND HAVE A MAXIMUM PARTICLE SIZE OF THREE INCHES.

D. TESTING AND CERTIFICATION OF THE ON-SITE FILL MATERIAL SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER. A 50 LB. SAMPLE OF THE PROPOSED MATERIAL SHALL BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR APPROVAL AND DETERMINATION OF A MOISTURE-DENSITY RELATIONSHIP IN ADVANCE OF THE FILL AND COMPACTION OPERATIONS IN ORDER TO PERMIT INSPECTION AND TESTING AS THE FILL IS PLACED. FILL PLACEMENT WILL BE INSPECTED AND TESTED FOR UNIFORMITY, ACCEPTABLE MATERIAL, AND FIELD DENSITY PER 5,000 SQUARE FEET PER LIFT (A MINIMUM OF THREE (3) PER LIFT PER PAD).

E. COMPLIANCE WITH THESE SPECIFICATIONS AS STATED ABOVE OR AS MODIFIED BY THE GEOTECHNICAL ENGINEER FOR SPECIFIC CONDITIONS SHALL BE THE BASIS FOR CERTIFICATION OF COMPLIANCE WITH FHA DATA SHEET 79G AND VA REQUIREMENTS.

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. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).

3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).

4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).

5. 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).

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). REVISED MARCH 4, 2015

7. 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.

CONSTRUCTION SEQUENCING

1. ALL CONSTRUCTION ACCESS WILL BE THROUGH THE SUBDIVISION ENTRANCE OFF FM 1863.

2. CALL CONSTRUCTION INSPECTION CHRIS ESPINOZA AT 210-275-7378 AND JOE PANTOJA WITH G.B.R.A. AT 830-243-2600, 48 HOURS PRIOR TO BEGINNING ANY WORK, CALL THE ONE CALL CENTER FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN THE RIGHT-OF-WAY.

3. INSTALL TEMPORARY EROSION CONTROLS, TREE PROTECTION FENCING AND BARRICADES PRIOR TO ANY SITE CLEARING AND GRUBBING. NOTIFY THE PROJECT ENGINEER WHEN INSTALLED. INSTALL CONSTRUCTION ENTRANCE.
4.
5. HOLD PRE-CONSTRUCTION CONFERENCE.

6. DEMOLISH ALL STRUCTURES IDENTIFIED IN DEMOLITION PLAN.

7. ROUGH GRADE ROADWAYS

8. HORIZONTAL AND VERTICAL CONTROL AT 50' INTERVALS MINIMUM MUST BE PLACED AT THE TIME OF PIPE LAYING.

9. BEGIN INSTALLATION OF STORM SEWER LINES AND OTHER UNDERGROUND UTILITIES. RESTORE AS MUCH DISTURBED AREA AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.

10. COMPLETE ALL UNDERGROUND STORM AND UTILITY INSTALLATIONS WITHIN THE RIGHT-OF-WAY.

11. LAY FINAL BASE COURSE ON DRIVE AREA.

12. LAY ASPHALT.

13. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.

14. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS.

15. COMPLETE ANY NECESSARY FINAL CLEAN UP.

JOHNSON RANCH M.U.D. CONSTRUCTION NOTES

1. THE WATER AND WASTEWATER PER GBRA STANDARDS SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN MATERIAL AND METHODS USED TO DO THIS WORK, EXCEPT AS MODIFIED BY THE ENGINEER.

2. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE JOHNSON RANCH M.U.D. AND GBRA (GUADALUPE-BLANCO RIVER AUTHORITY).

3. THE CONTRACTOR SHALL CONTACT THE BULVERDE AREA "ONE CALL" SYSTEM FOR EXISTING UTILITY LOCATIONS AT LEAST 48 PRIOR TO BEGINNING EXCAVATION. IN ADVANCE OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE TIED TO, OR ALTERED OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.

4. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER SERVICE THAT WOULD INTERFERE WITH THE WATER SERVICES. NO DRY UTILITIES (GAS, ELECTRIC) SHALL BE PLACED WITHIN 10 FEET OF WATER OR WASTEWATER SERVICES.

5. THE S.A.W.S. SPECIFICATION ITEM DD-804-1 WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE CONTRACT DOCUMENTS WHICH INCLUDE A TRENCH SAFETY PLAN AND A PAY ITEM FOR TRENCH SAFETY MEASURES.

6. ALL MATERIALS TEST, INCLUDING SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS, SHALL BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY.

7. ALL MAINS SHALL HAVE A MINIMUM 48 INCHES OF COVER FROM FINISHED GRADE TO TOP OF PIPE UNLESS OTHERWISE NOTED ON PLANS.

8. MANHOLE FRAMES AND COVERS AND WATER VALVES SHALL BE RAISED TO FINISH PAVEMENT GRADE AT THE CONTRACTOR'S EXPENSE PRIOR TO FINAL CONSTRUCTION.

9. ALL DUCTILE IRON PIPE AND FITTINGS TO BE WRAPPED WITH A MINIMUM 8 MIL. POLYETHYLENE.

10. PROVIDE EXTENSION STEMS FOR ALL VALVES WITH OPERATING NUTS DEEPER THAN 36". EXTENSION STEMS SHALL BE EQUIPPED WITH CENTERING RINGS. EXTEND TO 18" - 24" OF FINISHED GRADE.

11. CONTRACTOR TO MARK LOCATION OF VALVES OUTSIDE OF PAVEMENT AREA. VERIFY WITH JOHNSON RANCH M.U.D. ON WHAT TYPES OF MARKS.

12. PRIOR TO ANY CONSTRUCTION, THE TEMPORARY EROSION CONTROL ITEMS SHALL BE IN PLACE.

13. CONTRACTOR SHALL KEEP THE ENGINEER AND BULVERDE PUBLIC WORKS DIRECTOR CURRENT ON THE STATUS OF EACH STAGE OF CONSTRUCTION ACTIVITY.

14. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS 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. UTILITY RELOCATION WORK HAS BEEN OR WILL BE ACCOMPLISHED TO CLEAR THE WORK SPACE. THE RELOCATIONS ARE NOT REFLECTED ON THESE DRAWINGS.

15. ALL FORCE MAINS SHALL BE WHITE WITH BROWN POLY WRAP STATING "FORCE MAIN".

16. FORCE MAINS SHALL HAVE BROWN "FORCE MAIN" TWELVE INCH WIDE MAGNETIC TAPE PLACED EIGHTEEN INCHES BELOW FINISH GRADES.

17. WATER PIPE AND GRAVITY SEWER SHALL HAVE SIX INCH WIDE MAGNETIC TRACER TAPE INSTALLED 24" ABOVE TOP OF PIPE.

18. AIR VALVES FOR SEWER SHALL BE 2" MINIMUM A.R.I. MODEL D-025 WITH NYLON BODY, MALE THREADED INLET, AND MALE CAM LOCK OUTLET. AIR VALVES FOR WATER SHALL BE 2" MINIMUM A.R.I. MODEL D-040 WITH NYLON BODY.

19. HDPE RINGS FOR MANHOLES ARE NOT ACCEPTABLE.

20. SINGLE BOLT SELF SEALING MANHOLE LIDS ARE NOT ACCEPTABLE.

21. ALL VALVE PIPING IN LIFT STATION DRY WELLS AND FORCE MAIN CLEANOUTS SHALL BE PAINTED OR COATED AGAINST CORROSION.

22. CONTRACTORS ARE RESPONSIBLE FOR FLUSHING OF WATER LINES. SCHEDULE FLUSHING WITH JOHNSON RANCH M.U.D. AND GBRA, 48 HOUR NOTICE REQUIRED.

23. CONTRACTOR TO PROVIDE GBRA 48-HOUR NOTICE FOR ALL INSPECTIONS. CONTRACTOR MUST OBTAIN GBRA INSPECTION AND APPROVAL PRIOR TO PERFORMING ANY BACKFILLING, PLACING OF CONCRETE, OR OTHERWISE COVERING WATER OR SEWER WORK.

24. FORCEMAIN TESTING SHALL BE IN ACCORDANCE WITH TAC 217.68 PROCEDURES. TEST PRESSURE SHALL BE 150 PSI.

GUADALUPE-BLANCO RIVER AUTHORITY GENERAL NOTES:

MATERIALS

ALL REFERENCES TO MANUFACTURED PROPRIETARY PARTS ARE SUBJECT TO SUBSTITUTION TO APPROVED EQUAL WITH PRIOR APPROVAL OF THE ENGINEER AND JOHNSON RANCH M.U.D.

1. BURIED WATER PIPING SHALL BE C900 DR14, BLUE COLOR FOR POTABLE, PURPLE COLOR FOR RECLAIMED. FITTINGS SHALL BE CEMENT LINED AWWA C153 COMPACT MECHANICAL JOINT DUCTILE IRON WITH FORD UNI-FLANGE SERIES 1500 RESTRAINTS. PIPE BELL JOINT RESTRAINTS SHALL BE FORD UNI-FLANGE SERIES FITTINGS FOR PROJECTS NEAR OR EAST OF INTERSTATE 35 SHALL BE FUSION BONDED EPOXY COATED.

2. EXPOSED WATER PIPING AND FITTINGS SHALL BE CEMENT LINED FLANGED DUCTILE IRON WITH FIELD PAINT COATINGS AS SPECIFIED HEREIN. GRAVITY WASTEWATER PIPE AND FITTINGS SHALL BE GREEN COLOR GASKETED ASTM D3034 SDR26. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS. SANITARY TAPPING SADDLES ARE NOT ALLOWED.

3. MJ TEE BOLTS AND NUTS FOR BURIED LOCATIONS SHALL BE CORTEN, EXCEPT FOR PROJECTS NEAR OR EAST OF INTERSTATE 35 USE TYPE 304 STAINLESS STEEL. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY.

4. ALL OTHER FASTENERS SHALL BE TYPE 304 STAINLESS STEEL (E.G. HARDWARE, SCREWS, ANCHOR BOLTS, RODS, FLANGE BOLTS AND NUTS, ETC.). ALL BOLTS AND NUTS SHALL BE HEAVY HEX. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY. BOLTS AND NUTS SHALL NOT BE PAINTED.

5. TAPPING SLEEVES 24" AND SMALLER SHALL BE AMERICAN FLOW CONTROL SERIES 2800. TAPPING SLEEVES 24" AND SMALLER SHALL BE FUSION BONDED EPOXY COATED FOR PROJECTS NEAR OR EAST OF INTERSTATE 35. TAPPING SLEEVES LARGER THAN 24" SHALL BE SMITH BLAIR MODEL 624. ALL TAPPING SLEEVES SHALL HAVE STAINLESS STEEL HARDWARE AND SPLIT MJ RESTRAINTS. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY. TAPPING SLEEVES SHALL BE INSTALLED 24" MINIMUM FROM THE NEAREST PIPE BELL AS MEASURED FROM THE EDGE OF THE TAPPING SLEEVE TO TAPER OF BELL. ASSEMBLY MUST BE SUCCESSFULLY DISINFECTED AND PRESSURE TESTED PRIOR TO TAPPING. PERFORM 100 PSI AIR TEST FOR 10 MINUTES DURATION. NO ALLOWABLE LEAKAGE. CONCRETE BLOCKING TO UNDISTURBED EARTH IS REQUIRED UNDER AND BEHIND TAPPING SLEEVES AND VALVES. INSTALL MECHANICAL RESTRAINTS 60 LF MINIMUM EACH WAY, INCLUDING ON EXISTING PIPING.

6. ALL BURIED METAL PIPE, FITTINGS, HYDRANTS, AND VALVES SHALL BE WRAPPED WITH 8MIL POLY.

7. PRESSURE REDUCING VALVES, IF REQUIRED, SHALL BE MANUFACTURED BY CLA-VAL WITH ANTI-CAVITATION INSTALL INSIDE BURIED H-20 PRECAST CONCRETE VAULT WITH LOCKABLE ALUMINUM ACCESS HATCHES, ALUMINUM LADDER, AND FLOOR DRAIN OR COARSE GRAVEL BOTTOM.

8. FLANGED COUPLING ADAPTERS SHALL BE SMITH BLAIR 911.

9. PVC MALE ADAPTERS ARE NOT ALLOWED.

10. PAINT SHALL BE WHITE COLOR HIGH-BUILD EPOXY WITH TOPCOAT OF POLYURETHANE. TOPCOAT COLOR SHALL BE SAFETY BLUE FOR WATER, SAFETY GREEN FOR SEWER, SAFETY PURPLE FOR RECLAIMED. INSTALL IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

TESTING

1. ALL OTHER UTILITIES MUST BE COMPLETE PRIOR TO PERFORMING ANY WATER OR WASTEWATER TESTING.

2. ALL TESTING MUST BE COMPLETE PRIOR TO PAVING STREETS.

3. ALL TESTING MUST BE COMPLETE PRIOR TO PERFORMING TIE-INS TO EXISTING WATER OR WASTEWATER SYSTEMS.

4. CONTRACTOR SHALL PERFORM PRE-TESTING TO VERIFY PASSING RESULTS PRIOR TO REQUESTING GBRA INSPECTION. PROVIDE CONNECTION POINT FOR GBRA DIGITAL TEST GAUGE.

5. ALL TESTING SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY GBRA.

6. PERFORM TRENCH BACKFILL DENSITY TESTING AT INTERVALS SPECIFIED BY THE DESIGN ENGINEER, EXACT LOCATIONS TO BE DESIGNATED BY INSPECTOR. SCHEDULE GBRA TO WITNESS TESTING. PROVIDE COPIES OF REPORTS TO GBRA.

7. FOLLOW AWWA PIPE TESTING PROCEDURES AND ALLOWABLE LEAKAGE FOR WATER LINES. TEST EVERY VALVED SECTION (I.E. TEST AGAINST EVERY VALVE IN CLOSED POSITION). TEST PRESSURE SHALL BE THE MAXIMUM RATING OF MATERIAL INSTALLED. TEST DURATION SHALL BE 2 HOURS.

8. FOLLOW AWWA PROCEDURES FOR FLUSHING AND DISINFECTION OF WATER PIPING. FLUSHING AND DISINFECTION MUST BE COMPLETE PRIOR TO PERFORMING TIE-INS TO EXISTING SYSTEMS.

9. ALL GRAVITY WASTEWATER PIPING SHALL BE SUBJECT TO LOW PRESSURE AIR TESTING IN ACCORDANCE WITH TCEQ REQUIREMENTS. INFILTRATION AND EXFILTRATION TESTING ARE NOT ALLOWED.

10. MANDREL TESTING SHALL BE PERFORMED FOR ALL GRAVITY WASTEWATER MAINS PRIOR TO INSTALLATION OF CORROSION RESISTANT MANHOLE LINING.

11. ALL MANHOLES, REGARDLESS OF VEHICULAR TRAFFIC DETOURING, SHALL BE VACUUM TESTED AFTER COMPLETION OF BACKFILL, COMPACTION, AND FINAL GRADING OF ROAD BASE BUT PRIOR TO PAVING STREETS AND PRIOR TO CORROSION RESISTANT MANHOLE LINING. VACUUM TESTING SHALL BE PERFORMED WITH A PLATE TYPE TEST HEAD PLACED ON TOP OF COMPLETED MANHOLE METAL CASTING RING WHICH HAS BEEN INSTALLED AND ENCASED IN CONCRETE AT FINAL GRADE. MANHOLES SHALL BE TESTED AT 10 INCHES OF MERCURY FOR 2 MINUTES DURATION. ALLOWABLE LOSS IS 1 INCH OF MERCURY. INFILTRATION AND EXFILTRATION TESTING ARE NOT ALLOWED.

12. PERFORM VIDEO INSPECTION AND GOLF BALL TESTING OF GRAVITY WASTEWATER PIPING AFTER CORROSION RESISTANT MANHOLE LINING BUT PRIOR TO PAVING STREETS. PIPE AND MANHOLES MUST BE CLEANED FREE OF DIRT, ROCKS, SCALE, MUD, SILT, AND ANY OTHER FOREIGN MATTER PRIOR TO PERFORMING VIDEO INSPECTION AND GOLF BALL TESTING. FLOOD SYSTEM WITH WATER IMMEDIATELY PRIOR TO PERFORMING VIDEO INSPECTION. HANG AND DRAG A GOLF BALL IN FRONT OF CAMERA. PIPE GRADE IS OUT OF TOLERANCE IF GOLF BALL BECOMES FULLY SUBMERGED. SCHEDULE GBRA TO WITNESS VIDEO INSPECTION. PROVIDE DVD'S AND WRITTEN REPORTS TO GBRA.

13. FOLLOW TCEQ PIPE TESTING PROCEDURES AND ALLOWABLE LEAKAGE FOR FORCE MAINS. TEST EVERY VALVED SECTION (I.E. TEST AGAINST EVERY VALVE IN CLOSED POSITION). TEST PRESSURE SHALL BE THE MAXIMUM RATING OF MATERIAL INSTALLED.

CONSTRUCTION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH GBRA STANDARDS AS PUBLISHED AT THE FOLLOWING WEBSITE: HTTP://WWW.GBRA.ORG/PUBLIC/WATERWASTEWATERSERVICES.ASPX

2. COPIES OF EACH CONSTRUCTION SUBMITTAL (SHOP DRAWINGS, PRODUCT DATA, ETC.) SHALL BE PROVIDED FOR GBRA REVIEW AND APPROVAL PRIOR TO FABRICATION. USE CLOUDS, BOXES, ARROWS, ETC., TO CLEARLY MARK ALL PROPOSED OPTIONS AND PART NUMBERS. LIST ANY PROPOSED DEVIATIONS ON THE SUBMITTAL COVER SHEET. ALLOW 14 CALENDAR DAYS FOR REVIEW.

3. ALL WATER AND WASTEWATER INSTALLATIONS MUST BE INSPECTED AND APPROVED BY GBRA PRIOR TO BACKFILLING OR OTHERWISE COVERING THE WORK. THIS INCLUDES CROSSINGS OF WATER AND WASTEWATER BY OTHER UTILITIES. GBRA WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS. CALL 830-379-5822 TO SCHEDULE INSPECTIONS (48 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL INSPECTIONS).

4. TRENCH EXCAVATION AND PIPE INSTALLATION WILL NOT BE PERMITTED UNTIL SUBGRADE HAS BEEN ESTABLISHED. SURVEY STAKING MUST BE INSTALLED PRIOR TO AND MAINTAINED DURING TRENCH EXCAVATION AND PIPE INSTALLATION. SURVEY STAKING SHALL INCLUDE HORIZONTAL AND VERTICAL CONTROL AT A MINIMUM OF 50 FOOT STATION INTERVALS. HORIZONTAL OFFSETS SHALL BE 15 FEET MAXIMUM. INSTALL PROPERTY PINS AND STAKES. MARK FINISH GRADE LINES WITH CUT/FILL ON OFFSET STAKES AND PROPERTY STAKES. ALL MARKS SHALL FACE THE PIPELINE. SURVEY STAKING SHALL BE PERFORMED BY THE CONTRACTOR.

5. BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE BACKFLOW ASSEMBLY MUST BE PROVIDED FOR TEMPORARY CONNECTIONS TO EXISTING WATER LINES. BACKFLOW DEVICES SHALL BE TESTED BY A LICENSED BACKFLOW PREVENTION ASSEMBLY TESTER. SUBMIT TEST REPORTS.

6. PVC MALE ADAPTERS ARE NOT ALLOWED.

7. SANITARY TAPPING SADDLES ARE NOT ALLOWED.

8. MANHOLE INTERNAL DROPS ARE NOT ALLOWED.

9. PIPE BELLS SHALL BE INSTALLED IN UPSTREAM DIRECTION.

10. ALL PIPING SHALL BE INSTALLED IN STRAIGHT ALIGNMENT. PIPE CURVATURE AND/OR PIPE DEFLECTION ARE NOT ALLOWED.

11. INSTALL CONCRETE THRUST BLOCKING AND MECHANICAL RESTRAINTS FOR PRESSURE PIPING SYSTEMS.

12. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 12 INCHES VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.

13. WATER AND WASTEWATER PIPE LENGTHS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES. BOTH PIPES SHALL BE CENTERED AT WATER AND WASTEWATER CROSSINGS, INCLUDING WASTEWATER LATERALS AND FIRE HYDRANT LEADS.

14. WATER AND WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED IF LOCATED UNDER CONCRETE CHANNELS, BOX CULVERTS, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE AND SINGLE BARRELS 30" OR LARGER.

15. VALVE BOXES, EXPOSED PIPING AND VALVES, AND APPURTENANCES SHALL BE PAINTED. PROVIDE PAINTED CURB CUT MARKINGS AT VALVES AND SERVICES. SAFETY BLUE FOR WATER, SAFETY GREEN FOR SEWER, SAFETY PURPLE FOR RECLAIMED. DO NOT PAINT STAINLESS STEEL, HOT DIP GALVANIZED, BRASS, OR ALUMINUM ITEMS.

16. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ¾" CHAMFER STRIPS. CONCRETE IN UNPAVED AREAS SHALL BE 2" ABOVE FINISH GRADE.

17. THE CONTRACTOR SHALL ADJUST EXISTING WATER AND WASTEWATER FACILITIES TO PROPOSED FINISH GRADES INCLUDING BUT NOT LIMITED TO MANHOLES, CLEANOUTS, VALVES, HYDRANTS, APPURTENANCES, ETC. EXISTING FACILITIES THAT ARE DISTURBED SHALL BE RESTORED AND TESTED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS.

18. EXISTING MANHOLES THAT ARE DISTURBED SHALL BE RESTORED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS INCLUDING TESTING, CORROSION RESISTANT LINING, RINGS AND COVERS, ETC.

19. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. ANY WORK INVOLVING POWER OUTAGES, BYPASS PUMPING, PUMP AND HAUL, OR ANY OTHER INTERRUPTION OF SANITARY FLOW MUST BE PERFORMED BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS. ALL NECESSARY TEMPORARY POWER, BYPASS PUMPING, PUMP AND HAUL, TEMPORARY PLUGS, ETC., SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR. COORDINATE AND SCHEDULE ANY SUCH ACTIVITIES WITH GBRA.

20. EXPLOSIVES AND BLASTING ARE NOT ALLOWED

KFW ENGINEERS + SURVEYING
182 W Mill St., New Braunfels, Tx. 78130
Phone: 830.627.3064 Fax: 830.627.9097
TBPE Firm #: 5613 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

GENERAL NOTES

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
1.0

Date: Sep. 22, 2023, 3:59pm User ID: andres.vazquez
File: R:\Projects\000-KFW Projects\1031\02\03 Design\Civil\1.0 GENERAL NOTES.dwg

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JOHNSON TRACT - EXISTING CONDITIONS RUNOFF CALCULATIONS - RATIONAL METHOD

Study Point	Drainage Area(s)	(Acres)	C	$T_{carryover}$ (min)		T_{ovrl} (min)	T_{sc} (min)	T_{ch} (min)	T_{tot} (min)	I_5 (in/hr)	I_{10} (in/hr)	I_{25} (in/hr)	I_{100} (in/hr)	Q_5 (ft^3/s)	Q_{10} (ft^3/s)	Q_{25} (ft^3/s)	Q_{100} (ft^3/s)
SP1	DA 1	7.55	0.46			9.7	6.1	0.0	15.8	5.18	6.03	7.23	9.17	17.98	20.95	25.12	31.83
OS2		Reference Drainage Area Map by Cole For Lot 3 Drainage Calculations												3.15	4.01	4.82	6.14
	DA 2	6.71	0.45			14.3	3.0	1.6	18.9	4.74	5.50	6.60	8.34	14.30	16.61	19.92	25.18
SP2	OS2 +DA 2	SIMPLY SUMMED												17.45	20.62	24.74	31.32
OS3		Reference Drainage Area Map by Bowman Consulting												9.02	10.30	11.36	13.73
	DA 3	1.22	0.45			11.0	0.0	0.7	11.7	5.98	6.99	8.44	10.71	3.28	3.84	4.63	5.88
SP3	OS3 + DA 3	SIMPLY SUMMED												12.30	14.14	15.99	19.61

Existing
Time Of Concentration Calculation - SCS TR-55 Method

Drainage Area	SHEET FLOW n	L (ft)	P_2 (in)	s %	T_t(min)	SHALLOW CONCENTRATED FLOW Paved/Unpaved	V (ft/s)	L (ft)	s (%)	T_t(min)	CHANNEL FLOW L (ft)	V (ft/s)	T_t(min)	TOTAL T_t(min)
DA-1	0.15	100	4.12	1.5	9.7	Unpaved	1.84	674	1.3	6.1	0	6.0	0.0	**15.8**
						Paved	0.00	0.00	0.0	0.0				
DA-2	0.15	45	4.12	7.6	5.0	Unpaved	1.53	280	0.9	3.0	566	6.0	1.6	**18.9**
	0.15	55	4.12	0.5	9.3	Paved	0.00	0.00	0.0	0.0				
DA-3	0.15	78	4.12	3.0	6.0	Unpaved	2.41	0	2.2	0.0	235	6.0	0.7	**11.7**
	0.15	22	4.12	11.7	5.0	Paved	0.00	0.00	0.0	0.0				

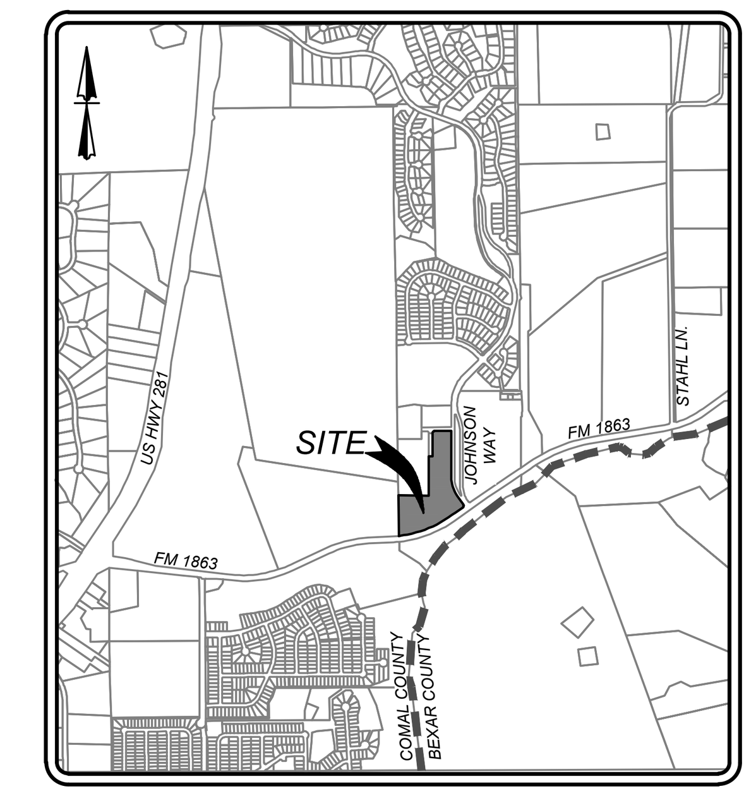
DA-1	***7.55-acre***		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.53	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	7.02	0.42
WEIGHTED COEFFICIENT =			0.46

DA-2	***6.71-acre***		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.41	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	6.30	0.42
WEIGHTED COEFFICIENT =			0.45

DA-3	***1.22-acre***		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.08	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	1.14	0.42
WEIGHTED COEFFICIENT =			0.45

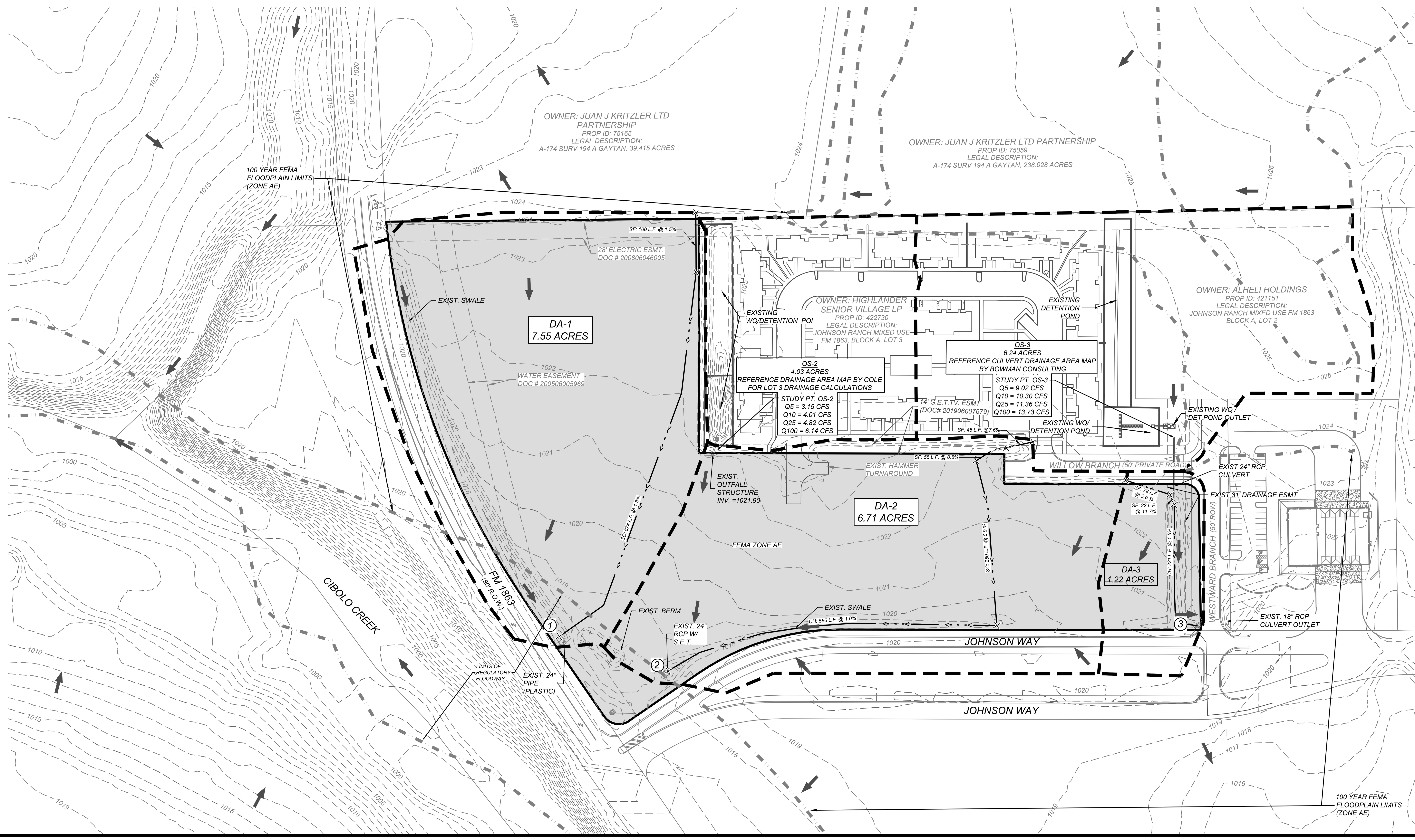
LEGEND

- SITE LOCATION
- DA-2 — WATERSHED IDENTIFIER
- 1 — STUDY POINT
- DRAINAGE AREA BOUNDARY
- FLOW PATH
- -959- — EXISTING CONTOURS
- FLOW ARROW
- SF — SHEET FLOW
- SC — SHALLOW CONCENTRATED FLOW
- CH — CHANNELIZED FLOW
- X — BREAK BETWEEN Tc FLOW TYPE



LOCATION MAP
NOT-TO-SCALE

SCALE : 1"=100'
0' 100' 200' 300'



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TBPE Firm #: 9513 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS
EXISTING CONDITIONS DRAINAGE AREA MAP

JOB NO.1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
2.0

Date: Sep 22, 2023, 3:44pm User ID: andres.vazquez
File: R:\Projects\000--KFW Projects\1031\02\01\Design\Civil\2.0 EXISTING CONDITIONS DAM.dwg

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JOHNSON TRACT - ONSITE PROPOSED RUNOFF CALCULATIONS - RATIONAL METHOD

Study Point	Drainage Area(s)	(Acres)	C	$T_{carryover}$ (min)	T_{ovrl} (min)	T_{sc} (min)	T_{ch} (min)	T_{tot} (min)	I_5 (in/hr)	I_{10} (in/hr)	I_{25} (in/hr)	I_{100} (in/hr)	Q_5 (ft^3/s)	Q_{10} (ft^3/s)	Q_{25} (ft^3/s)	Q_{100} (ft^3/s)
	DA-1A	2.09	0.42		11.4	0.2	3.2	14.8	5.36	6.25	7.50	9.51	4.70	5.48	6.58	8.34
	DA-1B	5.05	0.47		11.4	1.6	2.6	15.6	5.21	6.07	7.28	9.23	12.37	14.42	17.29	21.91
SP1	DA-1A + DA-1B	7.14	0.46	15.6				15.6	5.21	6.07	7.28	9.23	16.95	19.75	23.68	30.02
	DA-2A	0.80	0.42		11.4	0.2	0.5	12.1	5.92	6.91	8.34	10.59	1.99	2.32	2.80	3.56
	DA-2B	0.75	0.43		15.0	2.8	0.0	17.8	4.87	5.66	6.79	8.58	1.57	1.83	2.19	2.77
	DA-2C	3.35	0.45		11.4	1.6	1.1	14.1	5.49	6.41	7.70	9.77	8.28	9.66	11.61	14.73
	DA-2D	1.93	0.45		11.4	1.1	1.1	13.6	5.59	6.53	7.85	9.96	4.85	5.67	6.82	8.65
	DA-2 (SUM OF DA-2 AREAS)	6.83	0.44	17.8			2.1	19.9	4.59	5.34	6.41	8.09	13.94	16.22	19.44	24.56
OS2		4.03			Reference Drainage Area Map by Cole								3.15	4.01	4.82	6.14
SP2A	DA-2A + OS-2A	4.83			SIMPLY SUMMED								5.14	6.33	7.62	9.70
SP2B	SP2A + DA-2B	5.58			SIMPLY SUMMED								6.71	8.16	9.81	12.47
SP2C	SP2B + DA-2C	8.93			SIMPLY SUMMED								14.99	17.82	21.42	27.20
SP2	DA-2 +OS-2	10.86			SIMPLY SUMMED								17.09	20.23	24.26	30.70
OS3		6.24			Reference Drainage Area Map by Bowman Consulting								9.02	10.30	11.36	13.73
	DA 3	1.50	0.47		17.5	0.0	1.9	19.4	4.67	5.43	6.51	8.22	3.29	3.83	4.59	5.80
SP3	OS3 + DA 3	7.74			SIMPLY SUMMED								12.31	14.13	15.95	19.53

Proposed
Time Of Concentration Calculation - SCS TR-55 Method

Drainage Area / Study Pt.	SHEET FLOW n	SHEET FLOW L (ft)	SHEET FLOW P_2 (in)	SHEET FLOW s %	SHEET FLOW T_t(min)	SHALLOW CONCENTRATED FLOW Paved/Unpaved	V (ft/s)	L (ft)	s (%)	T_t(min)	CHANNEL FLOW L (ft)	V (ft/s)	T_t(min)	TOTAL T_t(min)
DA-1A	0.15	100	4.12	1.0	11.4	Unpaved	1.61	17	1.0	0.2	766	4.0	3.2	**14.8**
DA-1B	0.15	100	4.12	1.0	11.4	Unpaved	1.61	152	1.0	1.6	610	4.0	2.5	**15.6**
						Unpaved	9.31	35	33.3	0.1				
SP1	CARRYOVER FROM DA-1B				15.60									**15.6**
DA-2A	0.15	100	4.12	1.0	11.4	Unpaved	1.61	15	1.0	0.2	113	4.0	0.5	**12.1**
DA-2B	0.15	100	4.12	0.5	15.0	Unpaved	1.27	215	0.6	2.8				**17.8**
DA-2C	0.15	100	4.12	1.0	11.4	Unpaved	1.61	153	1.0	1.6	273	4.0	1.1	**14.1**
DA-2D	0.15	100	4.12	1.0	11.4	Unpaved	1.61	102	1.0	1.1	271	4.0	1.1	**13.6**
SP2	CARRYOVER FROM DA-2B				17.8						281	6.0	0.8	**19.9**
											302	4.0	1.3	
DA-3 / SP3	0.15	25	4.12	0.5	5.0	Unpaved	1.14	0	0.5	0.0	458	4.0	1.9	**19.4**
	0.15	75	4.12	0.5	12.5	Paved	0.00	0	0.0	0.0				

	25 YEAR Peak Flows Existing	25 YEAR Peak Flows Proposed	100 YEAR Peak Flows Existing	100 YEAR Peak Flows Proposed
SP1	25.12	23.68	31.83	30.02
SP2	24.74	24.26	31.32	30.70
SP3	15.99	15.95	19.61	19.53

DA-1A	*2.09-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.00	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	2.09	0.42
WEIGHTED COEFFICIENT =			0.42

DA-1B	*5.05-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.51	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	4.54	0.42
WEIGHTED COEFFICIENT =			0.47

DA-2A	*0.80-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.00	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	0.80	0.42
WEIGHTED COEFFICIENT =			0.42

DA-2B	*0.75-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.01	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	0.74	0.42
WEIGHTED COEFFICIENT =			0.43

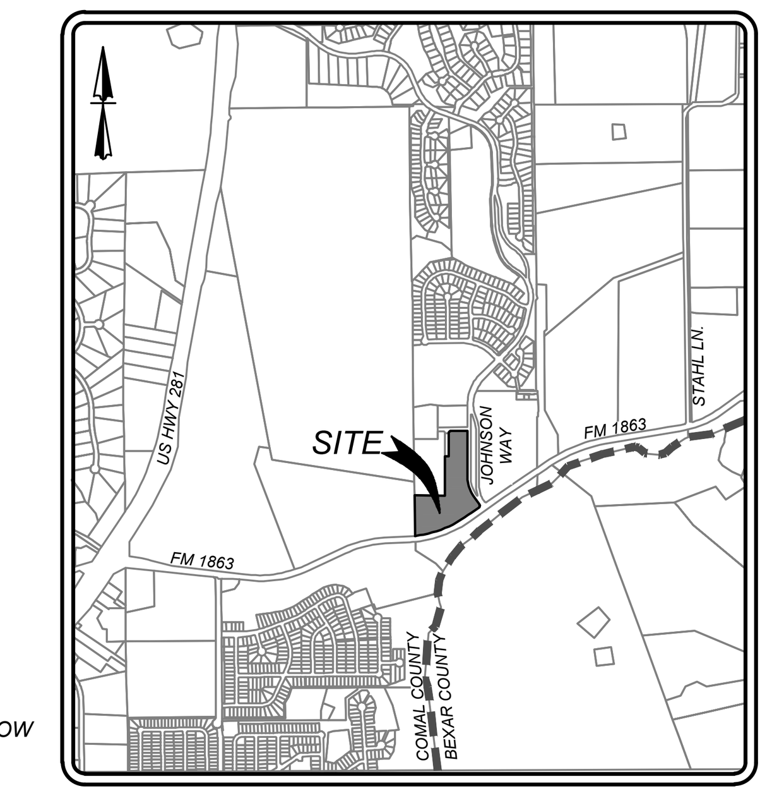
DA-2C	*3.35-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.19	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	3.16	0.42
WEIGHTED COEFFICIENT =			0.45

DA-2D	*1.93-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.11	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	1.82	0.42
WEIGHTED COEFFICIENT =			0.45

DA-3	*1.50-acre*		
CHARACTER OF AREA	SLOPE	AREA (acre)	C
Developed Areas			
Asphalt	1-3%	0.15	0.95
Concrete	--	0.00	0.00
Grass-well maintained	1-3%	1.35	0.42
WEIGHTED COEFFICIENT =			0.47

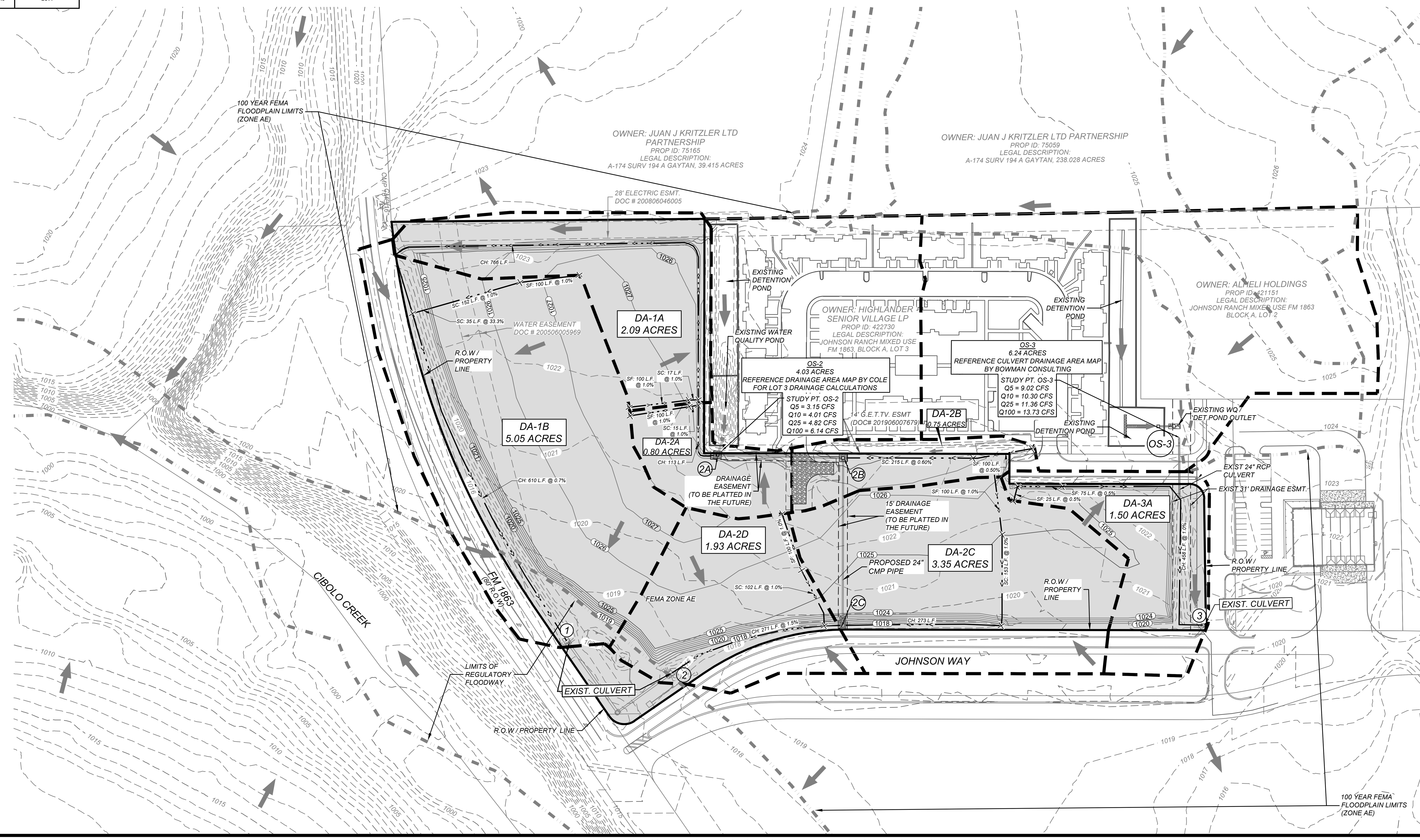
LEGEND

- SITE LOCATION
- DA4 — WATERSHED IDENTIFIER
- (1) — STUDY POINT
- DRAINAGE AREA BOUNDARY
- FLOW PATH
- 959 — EXISTING CONTOURS
- 959 — PROPOSED CONTOURS
- FLOW ARROW
- PROPOSED 4-WAY INLET
- SF — SHEET FLOW
- SC — SHALLOW CONCENTRATED FLOW
- CH — CHANNELIZED FLOW
- X — BREAK BETWEEN Tc FLOW TYPE



LOCATION MAP
NOT-TO-SCALE

SCALE : 1"=100'
0' 100' 200' 300'



KFW ENGINEERS + SURVEYING
162 W Mill St., New Braunfels, Tx. 78130
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TBPE Firm #: 9513 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS
PROPOSED CONDITIONS DRAINAGE AREA MAP

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
2.1

Date: Sep 22, 2023, 3:47pm User ID: andres.vazquez
File: R:\Projects\000-KFW Projects\1031\02\01\Design\Civil\2.1 PROPOSED CONDITIONS DAM.dwg

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TRENCH EXCAVATION SAFETY PROTECTION

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

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

GENERAL NOTES:
1. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.

2. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.

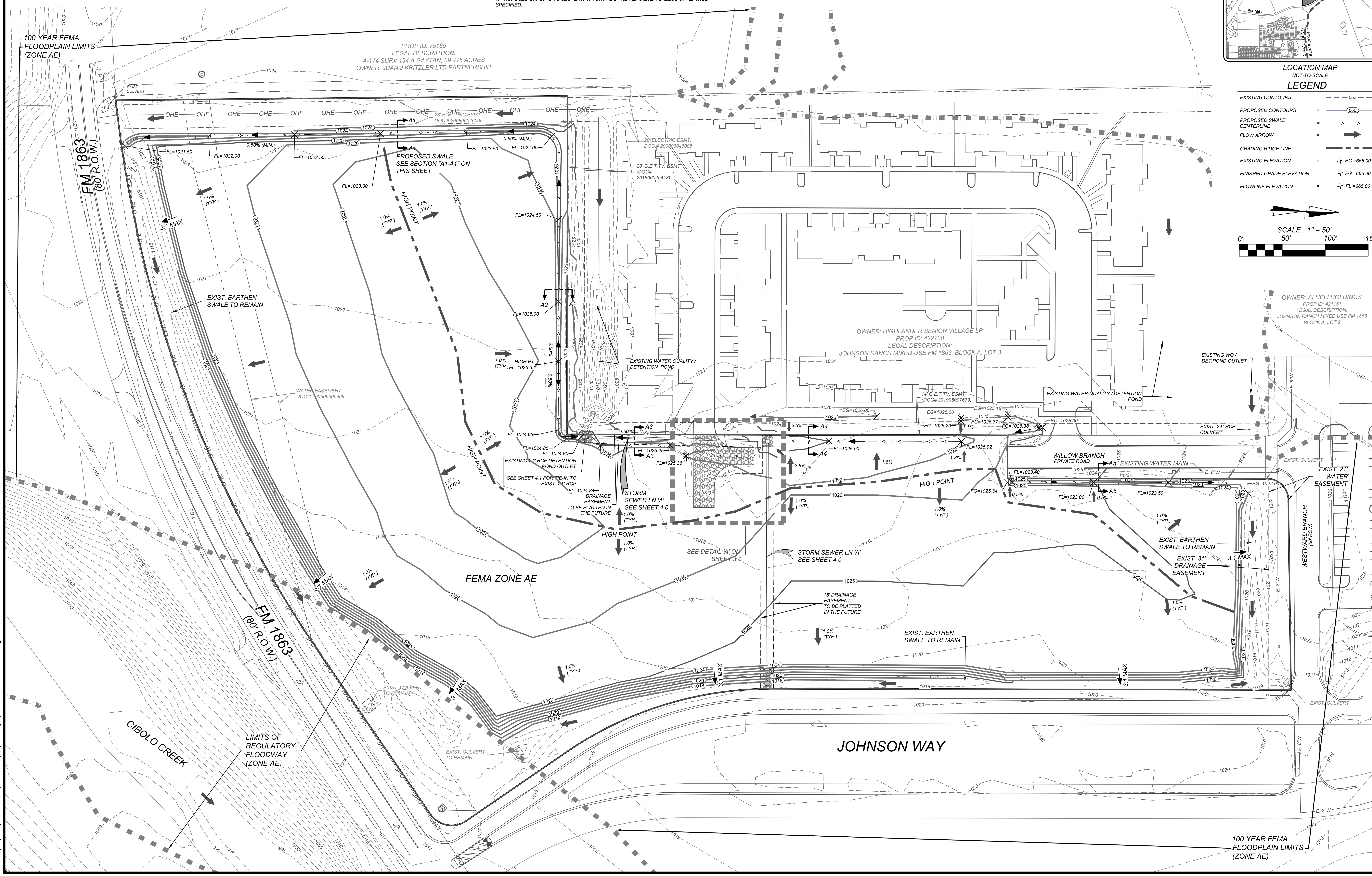
3. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES.

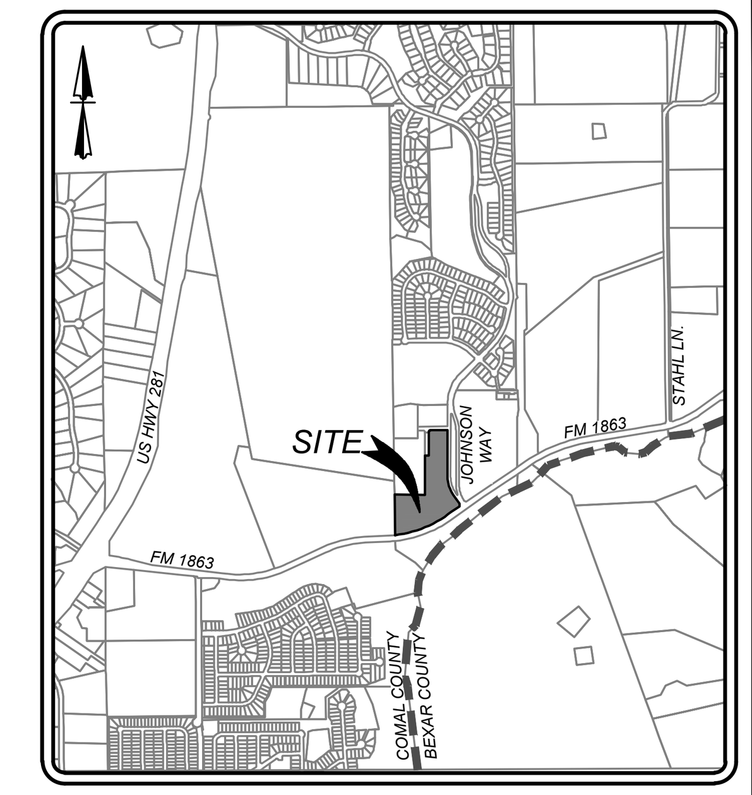
4. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.

5. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO ALL SWALES.

6. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME.

7. PROPOSED GRADING TO SLOPE 1.0 % TOWARDS THE PERIMETER UNLESS OTHERWISE SPECIFIED.





LOCATION MAP
NOT-TO-SCALE

LEGEND

EXISTING CONTOURS	= 665
PROPOSED CONTOURS	= 665
PROPOSED SWALE CENTERLINE	=
FLOW ARROW	=
GRADING RIDGE LINE	=
EXISTING ELEVATION	= EG =665.00
FINISHED GRADE ELEVATION	= FG =665.00
FLOWLINE ELEVATION	= FL =665.00

SCALE : 1" = 50'
0' 50' 100' 150'

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STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

GRADING PLAN

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
3.0

Date: Sep 22, 2023, 3:49pm User ID: andres.vazquez
File: R:\Projects\000--KFW Projects\1031\02\01\Design\Civil\3.0_GRADING PLAN.dwg

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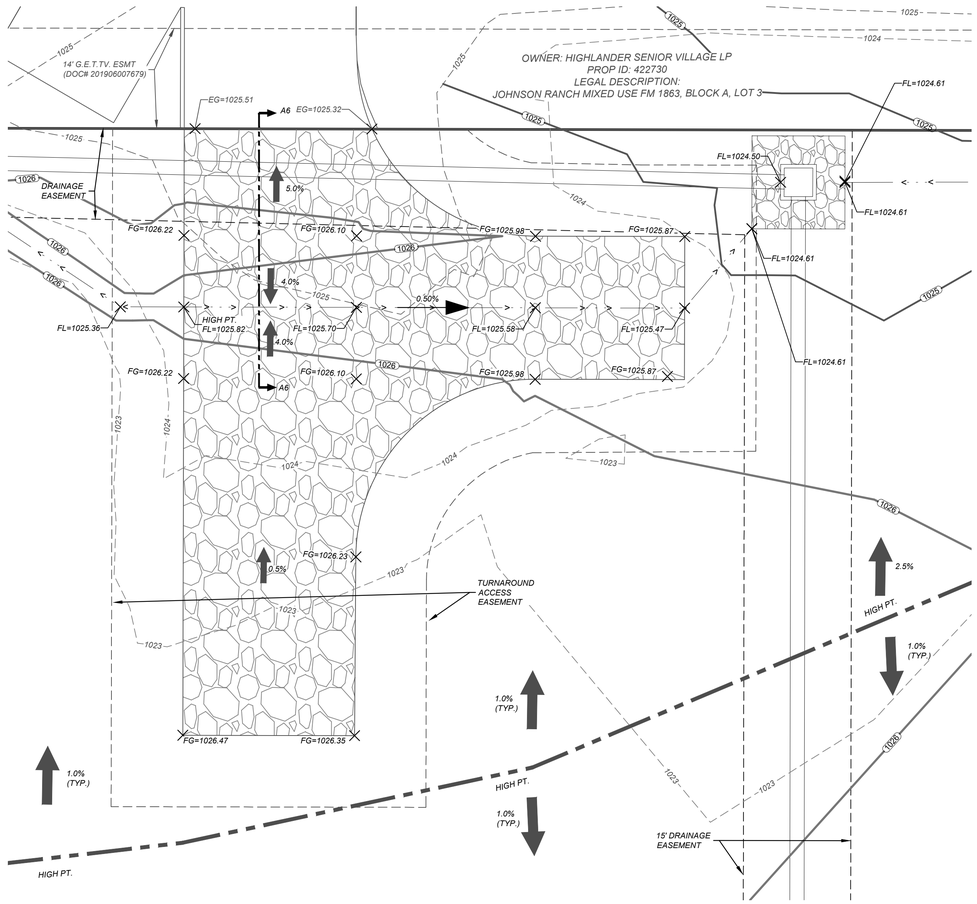
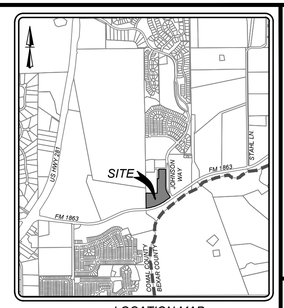
7. *PROPOSED GRADING TO SLOPE 1.0 % TOWARDS THE PERIMETER UNLESS OTHERWISE SPECIFIED.*





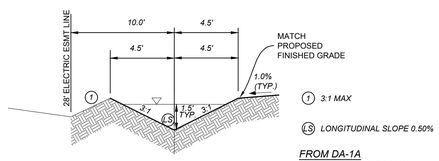
LOCATION MAP
NOT-TO-SCALE

LEGEND

EXISTING CONTOURS	=	665
PROPOSED CONTOURS	=	665
PROPOSED SWALE CENTERLINE	=	
FLOW ARROW	=	
GRADING RIDGE LINE	=	
EXISTING ELEVATION	=	EG =665.00
FINISHED GRADE ELEVATION	=	FG =665.00
FLOWLINE ELEVATION	=	FL =665.00

SCALE : 1" = 50'

0' 50' 100' 150'

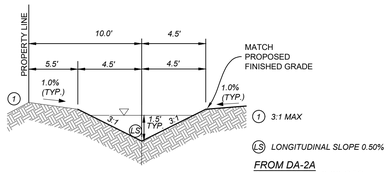


SECTION "A1-A1"
N.T.S.

1 *3:1 MAX*

LS *LONGITUDINAL SLOPE 0.50%*

FROM DA-1A
$Q_{100/25}$ *= 8.34 / 6.58 CFS*
$V_{100/25}$ *= 2.00 / 1.88 FPS*
$D_{100/25}$ *= 1.18' / 1.08'*

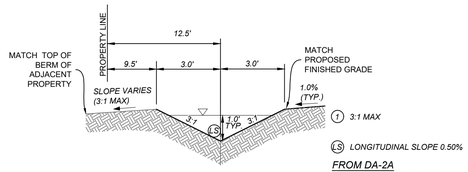


SECTION "A2-A2"
N.T.S.

1 *3:1 MAX*

LS *LONGITUDINAL SLOPE 0.50%*

FROM DA-2A
$Q_{100/25}$ *= 3.56 / 2.80 CFS*
$V_{100/25}$ *= 1.60 / 1.53 FPS*
$D_{100/25}$ *= 0.86' / 0.78'*

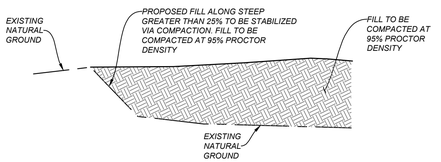


SECTION "A3-A3"
N.T.S.

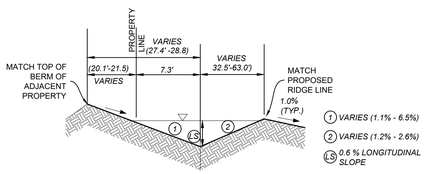
1 *3:1 MAX*

LS *LONGITUDINAL SLOPE 0.50%*

FROM DA-2A
$Q_{100/25}$ *= 3.56 / 2.80 CFS*
$V_{100/25}$ *= 1.60 / 1.53 FPS*
$D_{100/25}$ *= 0.86 ' / 0.78'*



CROSS SECTION A7-A7
NOT-TO-SCALE
TIE IN TO EXISTING NATURAL GROUND



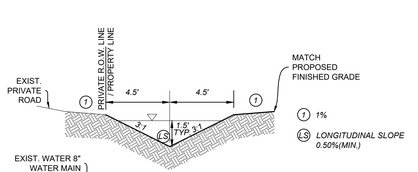
SECTION "A4-A4"
N.T.S.

1 *VARIES (1.1% - 6.5%)*

2 *VARIES (1.2% - 2.6%)*

LS *0.6 % LONGITUDINAL SLOPE*

FROM DA-2B
$Q_{100/25}$ *= 2.77 / 2.19 CFS*
$V_{100/25}$ *= 0.87 / 0.78 FPS*
$D_{100/25}$ *= 0.32' / 0.30'*

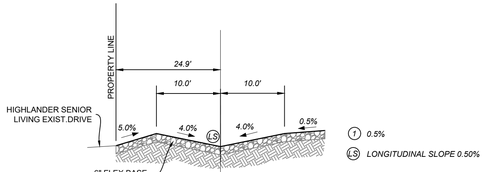


SECTION "A5-A5"
N.T.S.

1 *1%*

LS *LONGITUDINAL SLOPE 0.50%(MIN.)*

FROM DA-3A
$Q_{100/25}$ *= 5.80 /4.59 CFS*
$V_{100/25}$ *= 1.82 / 1.73 FPS*
$D_{100/25}$ *= 1.03' / 0.94'*



SECTION "A6-A6"
N.T.S.

1 *0.5%*

LS *LONGITUDINAL SLOPE 0.50%*

FROM DA-2B
$Q_{100/25}$ *= 2.77 / 2.19 CFS*
$V_{100/25}$ *= 1.15 / 1.12FPS*
$D_{100/25}$ *= 0.31' / 0.28'*

KFW ENGINEERS + SURVEYING
162 W Mill St., New Braunfels, Tx. 78130
Phone: 830.625.8555 Fax: 830.627.8097
TBPE Firm #: 5813 • TBPLS Firm #: 10123300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

GRADING PLAN DETAILS

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
3.1

Date: Sep 22, 2023, 4:47pm User ID: andres.vazquez
File: R:\Projects\000-1419 Projects\103\02\03\Design\Civil\3.0_GRADING PLAN.dwg

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NOTES:

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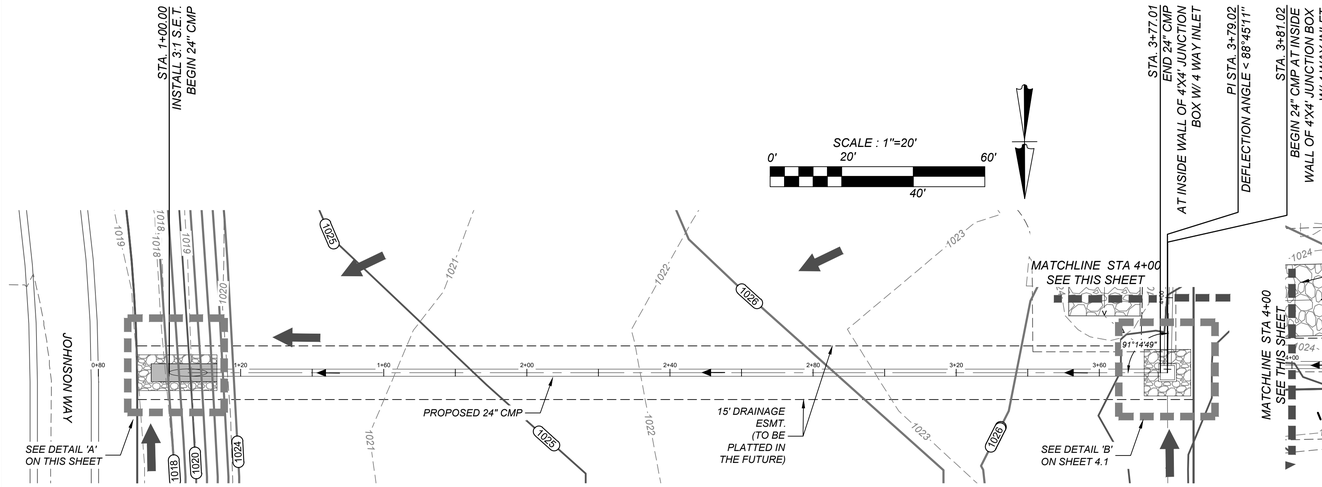
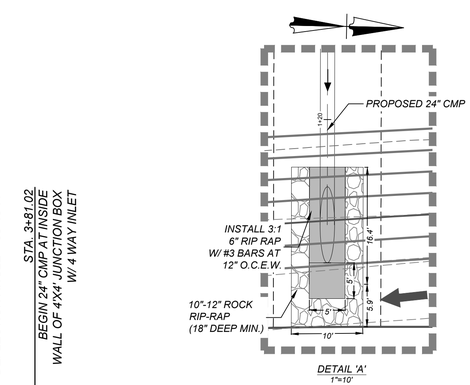
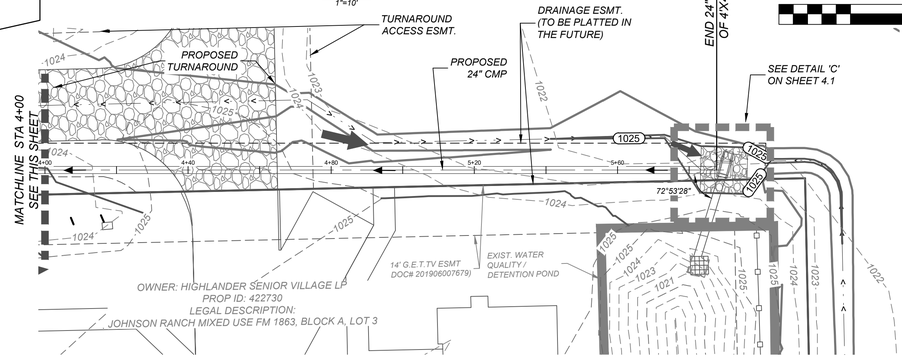
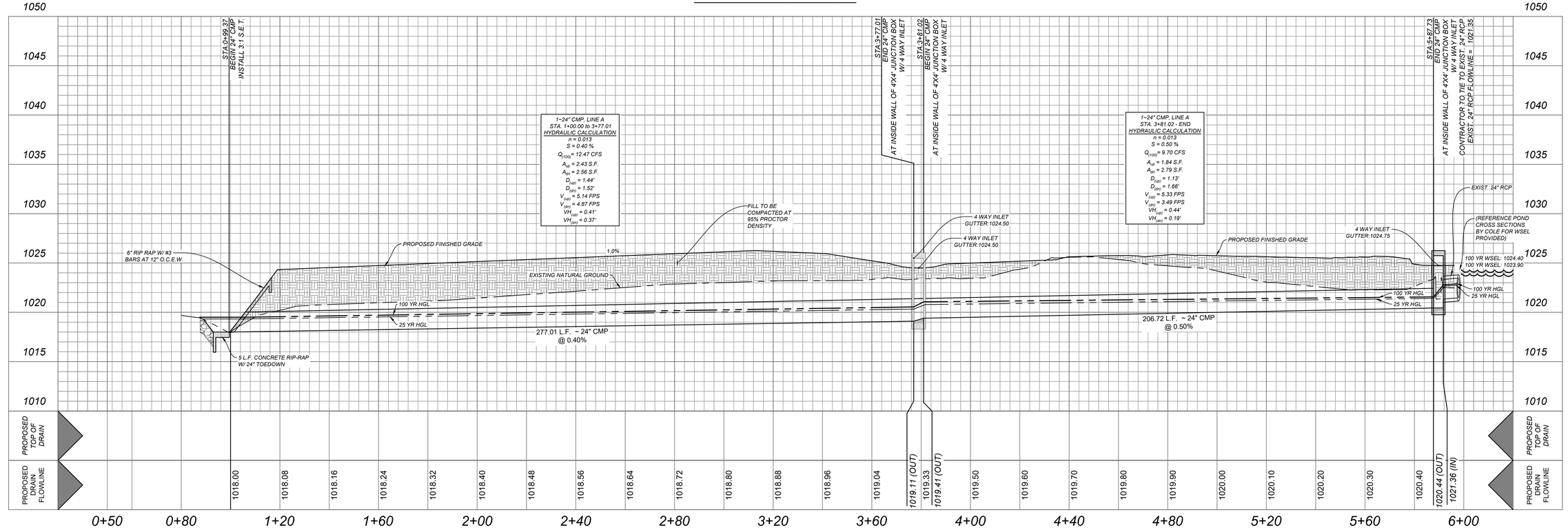
3. ALL EARTHEN CHANNELS AND DETENTION GRADING MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).







STORM LN 'A' STA. 0+50.00 TO STA. 6+00.00



KFW ENGINEERS + SURVEYING
182 W Mill St., New Braunfels, Tx. 78130
Phone #: 830.627.3064 Fax #: 830.627.8097
TBPE Firm #: 10613 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS
STORM SEWER LINE A
(PLAN & PROFILE)

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
4.0

Date: Sep 22, 2023, 3:47pm User ID: andres.vazquez
File: N:\Projects\000-MFR Projects\1031\02\01\Design\Civil\4.1 STORM SEWER L N A.dwg

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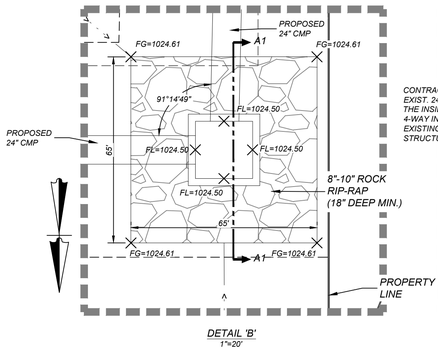
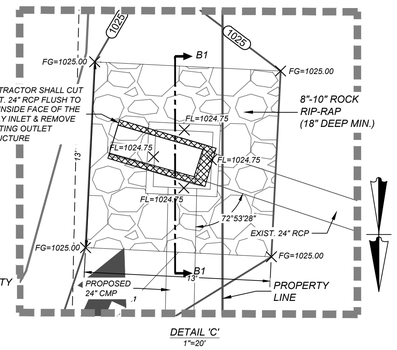
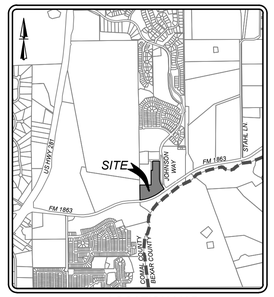


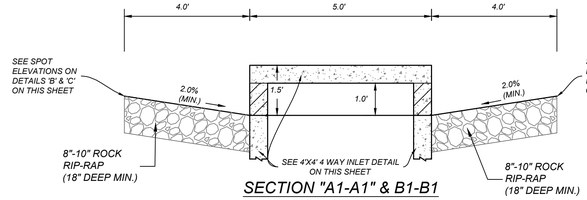
DETAIL 'B'
1"=20'



DETAIL 'C'
1"=20'



LOCATION MAP
NOT-TO-SCALE



SECTION "A1-A1" & B1-B1
NOT-TO-SCALE

KFW ENGINEERS + SURVEYING
182 W Mill St., New Braunfels, Tx. 78130
Phone #: 830.627.3064 Fax #: 830.627.3097
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ISSUE DATE

REVISIONS

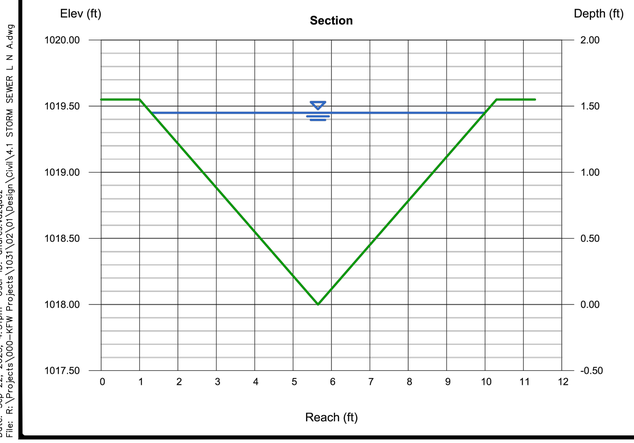
STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED
PROFESSIONAL ENGINEER
9/25/23

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Sep 22 2023

DA-2C (100 YEAR) (Used for Tailwater Basis of Stormwater System)

Triangular		**Highlighted**	
Side Slopes (z:1)	= 3.00, 3.00	Depth (ft)	= 1.45
Total Depth (ft)	= 1.55	Q (cfs)	= 14.73
		Area (sqft)	= 6.31
Invert Elev (ft)	= 1018.00	Velocity (ft/s)	= 2.34
Slope (%)	= 0.50	Wetted Perim (ft)	= 9.17
N-Value	= 0.035	Crit Depth, Yc (ft)	= 1.09
		Top Width (ft)	= 8.70
Calculations		EGL (ft)	= 1.53
Compute by:	Known Q		
Known Q (cfs)	= 14.73		

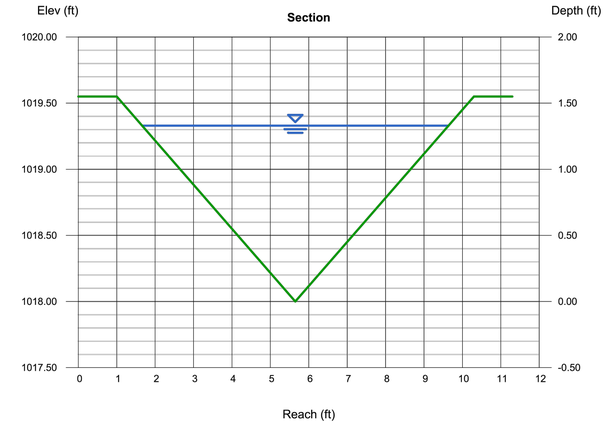


Channel Report

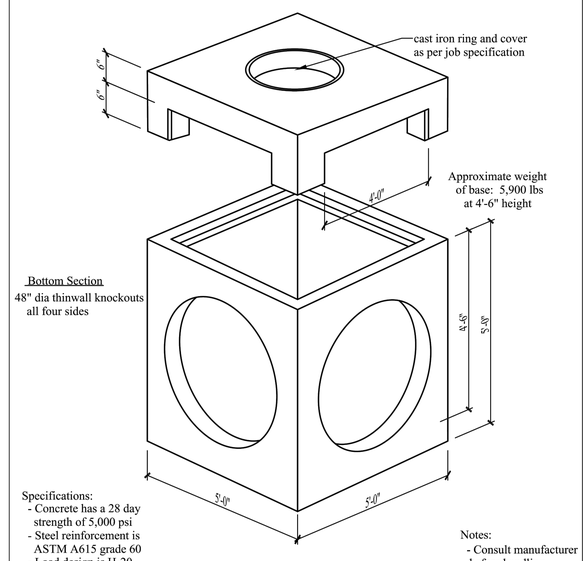
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Sep 22 2023

DA-2C (25 YEAR) (Used for Tailwater Basis of Stormwater System)

Triangular		**Highlighted**	
Side Slopes (z:1)	= 3.00, 3.00	Depth (ft)	= 1.33
Total Depth (ft)	= 1.55	Q (cfs)	= 11.61
		Area (sqft)	= 5.31
Invert Elev (ft)	= 1018.00	Velocity (ft/s)	= 2.19
Slope (%)	= 0.50	Wetted Perim (ft)	= 8.41
N-Value	= 0.035	Crit Depth, Yc (ft)	= 0.99
		Top Width (ft)	= 7.98
Calculations		EGL (ft)	= 1.40
Compute by:	Known Q		
Known Q (cfs)	= 11.61		



4' x 4' x var 4-Way Inlet



Bottom Section
48" dia thinwall knockouts
all four sides

Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20

Notes:
- Consult manufacturer before handling

Capital Precast	CAPITAL PRECAST, INC. 6905 SOUTH OLD BASTROP HWY SAN MARCOS, TEXAS 78666 PH. (830) 606-6200	FOR	4' x 4' x var 4-Way Inlet
		JOB	
		DRAWN RW	DATE 12/1/2015 Rev. No.
		FILE	catalog\areainlets\4x4 area inlet
		SHEET	1 OF 1

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

STORM SEWER DETAILS

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
4.1

Date: Sep 22, 2023, 4:51pm User ID: andres.vazquez
File: R:\Projects\1000-1099 Projects\1031\02\03 Design\Civil\4.1 STORM SEWER L N A.dwg

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INSTALLATION:

1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO ENSURE THAT STRUCTURAL BMP'S ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
3. CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
4. CONTRACTOR TO VERIFY SUFFICIENT VEGETATION IN AREAS DENOTED AS VEGETATED FILTER STRIP. IF INSUFFICIENT VEGETATION EXISTS, CONTRACTOR SHALL IMPLEMENT A DIFFERENT BEST MANAGEMENT PRACTICE AND WILL SHOW IT ON THIS PLAN WITH NOTATION IN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

PROJECT COMPLETION:

1. ALL DISTURBED AREAS ARES NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
2. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADIENT AREAS HAVE BEEN STABILIZED PER SWPPP AND PROJECT SPECIFICATIONS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION (NOT).

GENERAL:

1. THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.
2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPDES STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
3. ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.
4. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

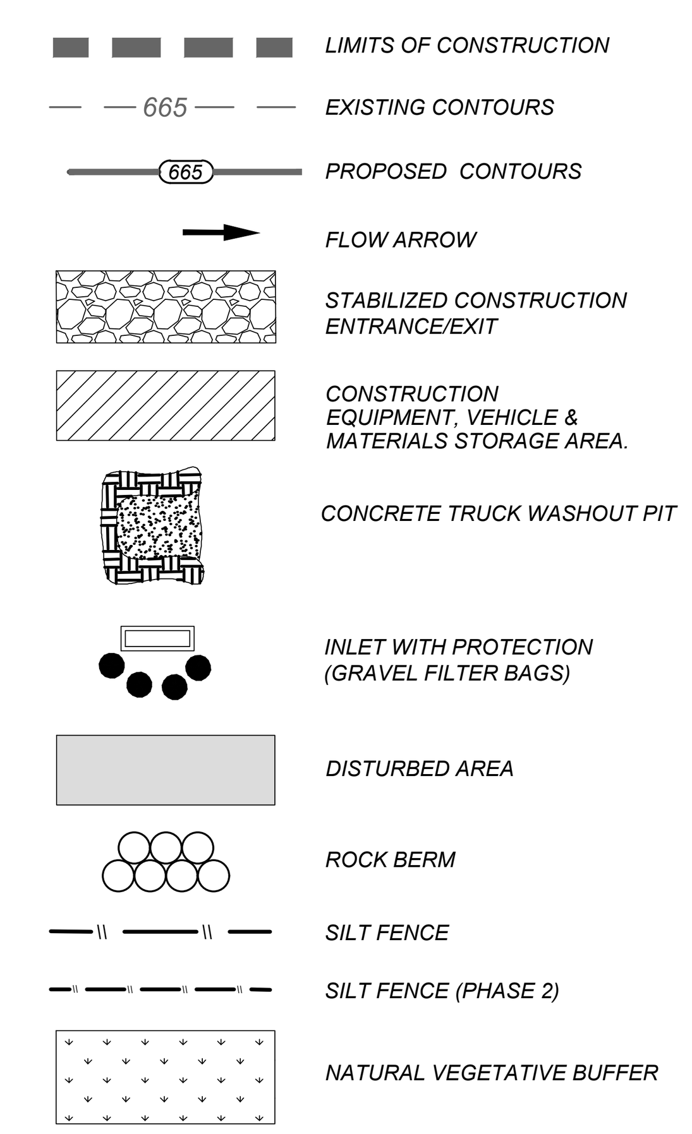
MAINTENANCE AND INSPECTION:

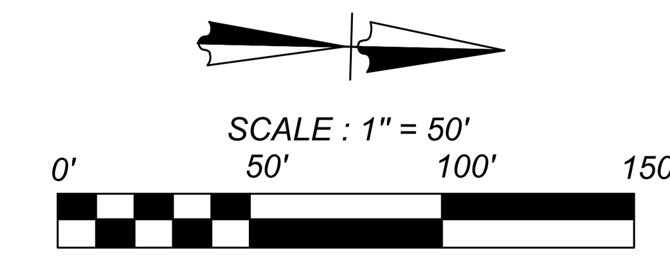
1. CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THEY SHOULD BE PROTECTED WITH APPROPRIATE BEST MANAGEMENT PRACTICES UNTIL THE AREAS HAVE BEEN STABILIZED AS PER THE SPECIFICATIONS OF THE SWPPP. THE AREAS OF THIS ADDITIONAL SOIL DISTURBANCE AND THE MEASURES USED SHOULD BE SHOWN ON THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMP'S AS PER THE SPECIFICATIONS OF THE SWPPP. THE CONTRACTOR MAY MODIFY THE CONTROLS AS NECESSARY TO PREVENT SEDIMENT RUNOFF. THESE MODIFICATIONS SHOULD BE SHOWN AND THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

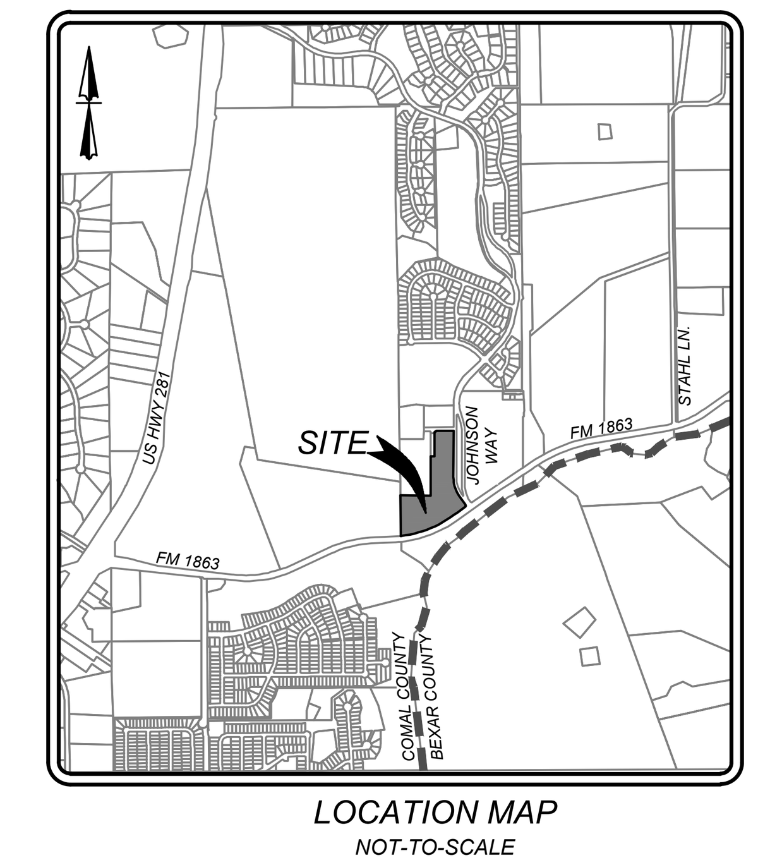
STABILIZATION AND REVEGETATION:

1. ALL DISTURBED AREAS SHALL BE REVEGETATED TO A MINIMIUM OF 85%. EROSION AND SEDIMENTATION SHALL BE PREVENTED THROUGH THE USE OF SILT FENCE, CONTROL MATTING, OR OTHER BMP AS APPROPRIATE.

LEGEND



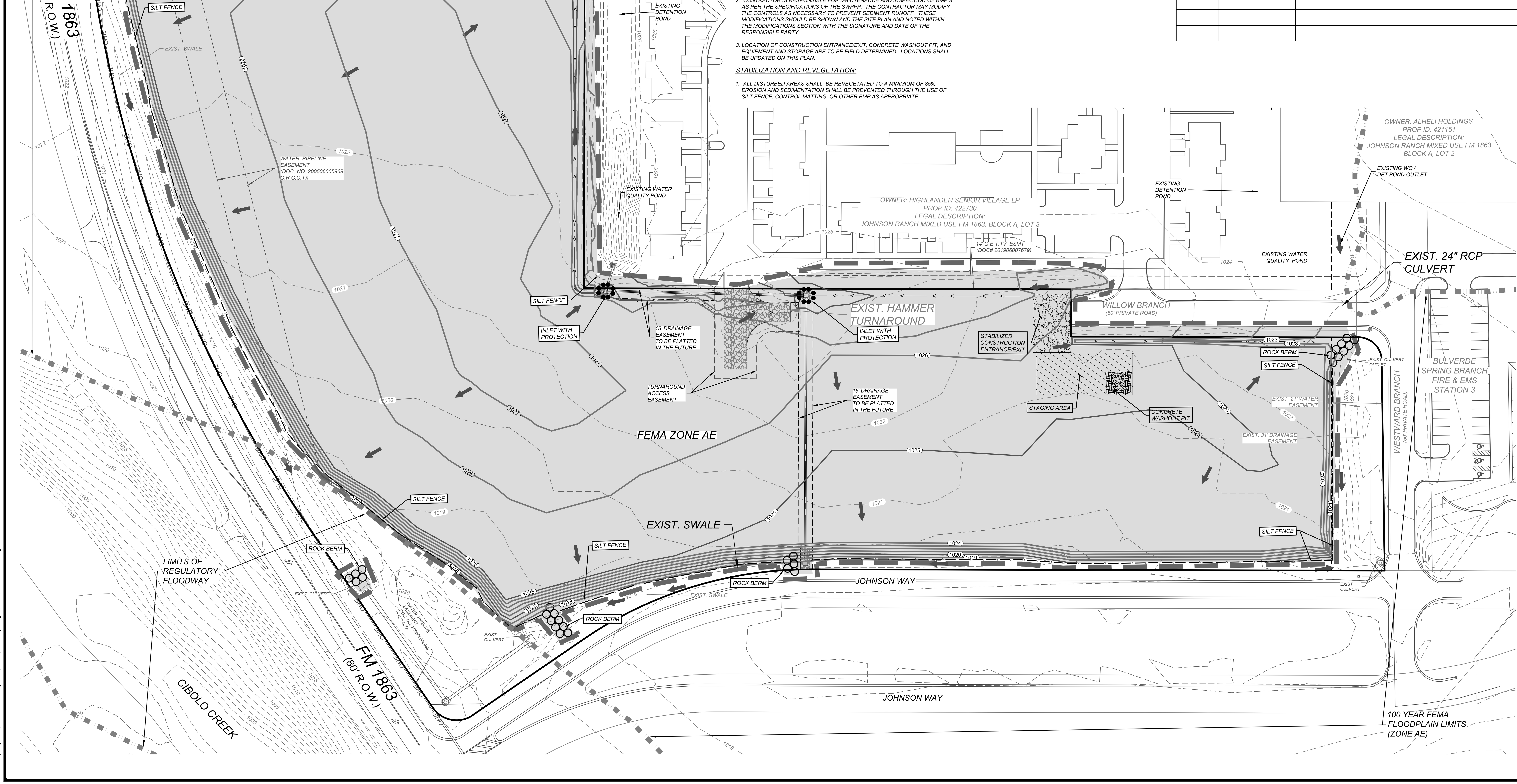




LOCATION MAP
NOT-TO-SCALE

SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION



KFW
ENGINEERS + SURVEYING
162 W Mill St., New Braunfels, Tx. 78130
Phone #: (830) 220-6042 • Fax #: (830) 627-9097
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS

STATE OF TEXAS
BURT P. WELLMANN
100256
LICENSED PROFESSIONAL ENGINEER
9/25/23

JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

STORMWATER POLLUTION PROTECTION PLAN

JOB NO.1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
5.0

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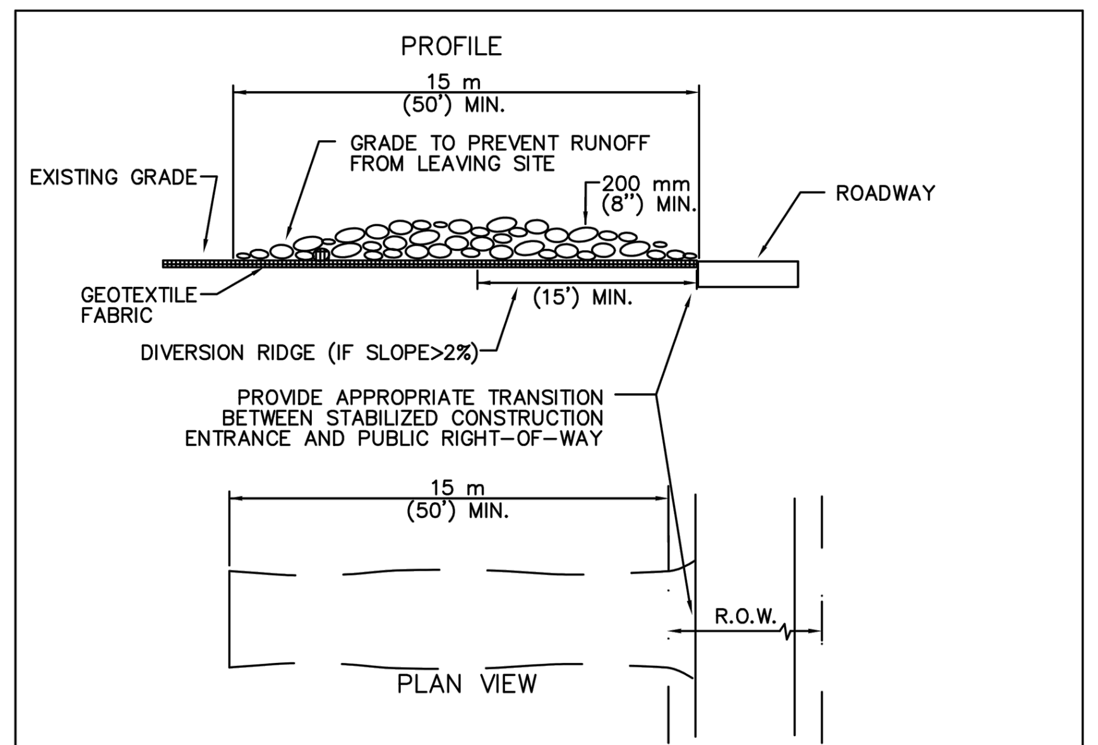
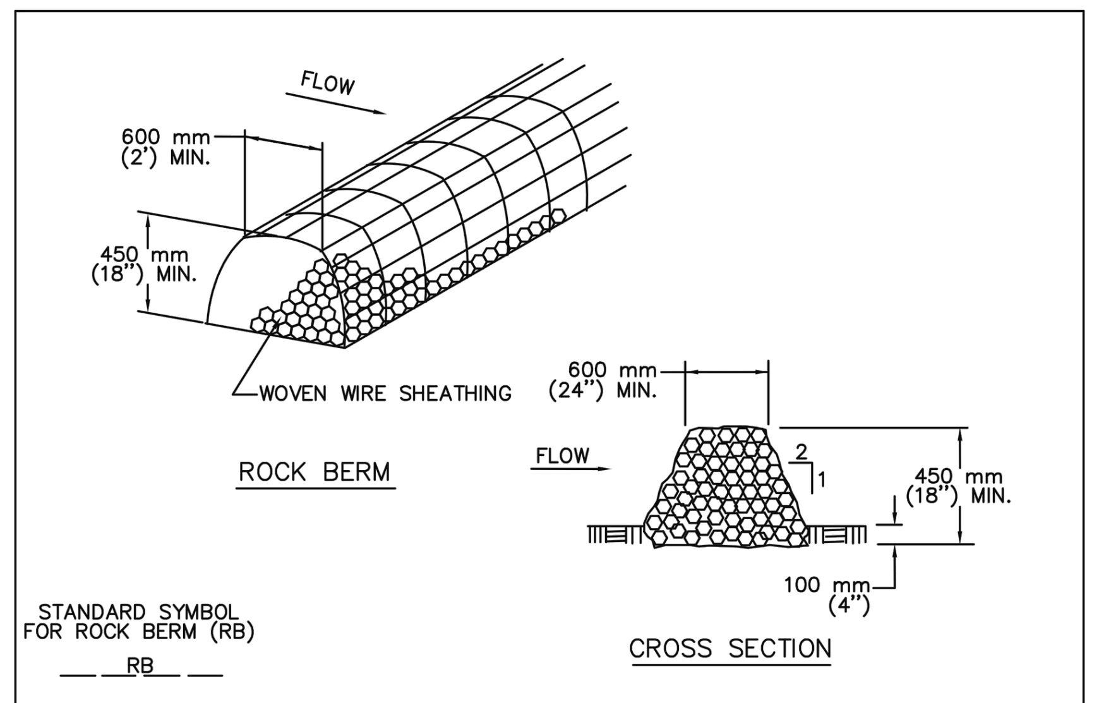
Date: Sep 22, 2023, 3:55pm User ID: andres.vazquez
File: R:\Projects\000-KFW Projects\1031\02\01\Design\Civil\5.0 SWPPP.dwg



NOTES: (BUILD TO TCEQ SPECIFICATION, REFER TO TECHNICAL GUIDANCE MANUAL)

1. STONE SIZE: 75–125 mm (4–8") WASHED STONE.
2. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
3. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
4. THICKNESS: NOT LESS THAN 200 mm (8").
5. WIDTH: NOT LESS THAN 12' WIDE.
6. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH MIN. 4" WASHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
7. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

STABILIZED CONSTRUCTION ENTRANCE



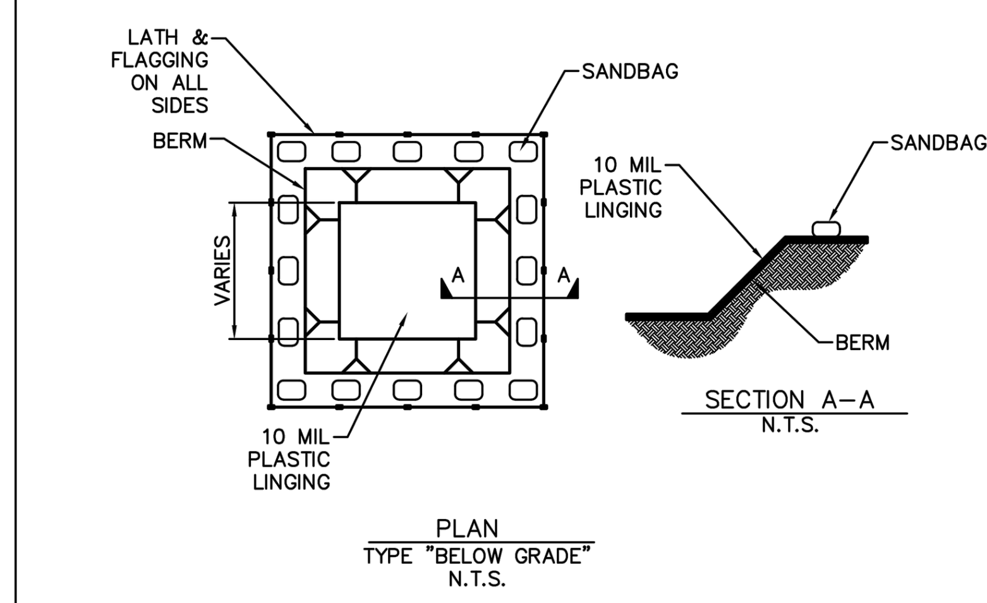
STANDARD SYMBOL FOR ROCK BERM (RB)

RB

NOTES: (BUILD TO TCEQ SPECIFICATION, REFER TO TECHNICAL GUIDANCE MANUAL)

1. BUILD ALONG CONTOUR AT 0% SLOPE OR AS NEAR AS POSSIBLE AND ENDS TO BE TIED INTO EXISTING UPLOPE GRADE.
2. USE ONLY CLEAN, OPEN GRADED ROCK 100 to 200 mm (5 to 8") DIAMETER FOR STREAM FLOW CONDITIONS. USE CLEAN OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR OTHER CONDITIONS.
3. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE). ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 150 mm (6 ") WITH T–POSTS OR WITH 15M OR 20M (#5 OR #6) REBAR, WITH MAXIMUM SPACING APART OF 1.2 m (48") ON CENTER.
4. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE–WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
5. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
6. DAILY INSPECTION SHALL BE MADE ON SEVERE–SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 150 mm (6").
7. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK BERM



PLAN
TYPE "BELOW GRADE"
N.T.S.

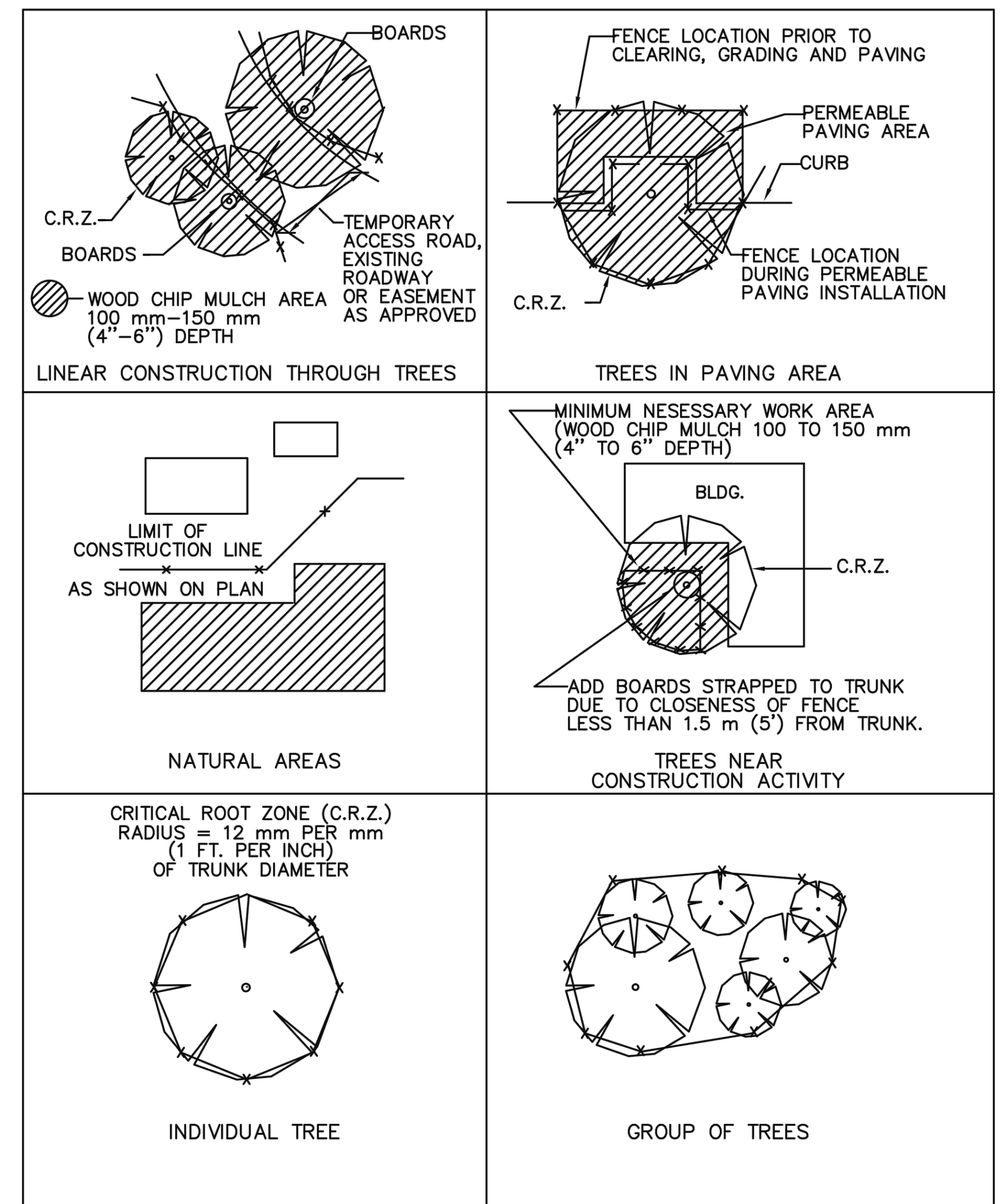
NOTES:

1. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.

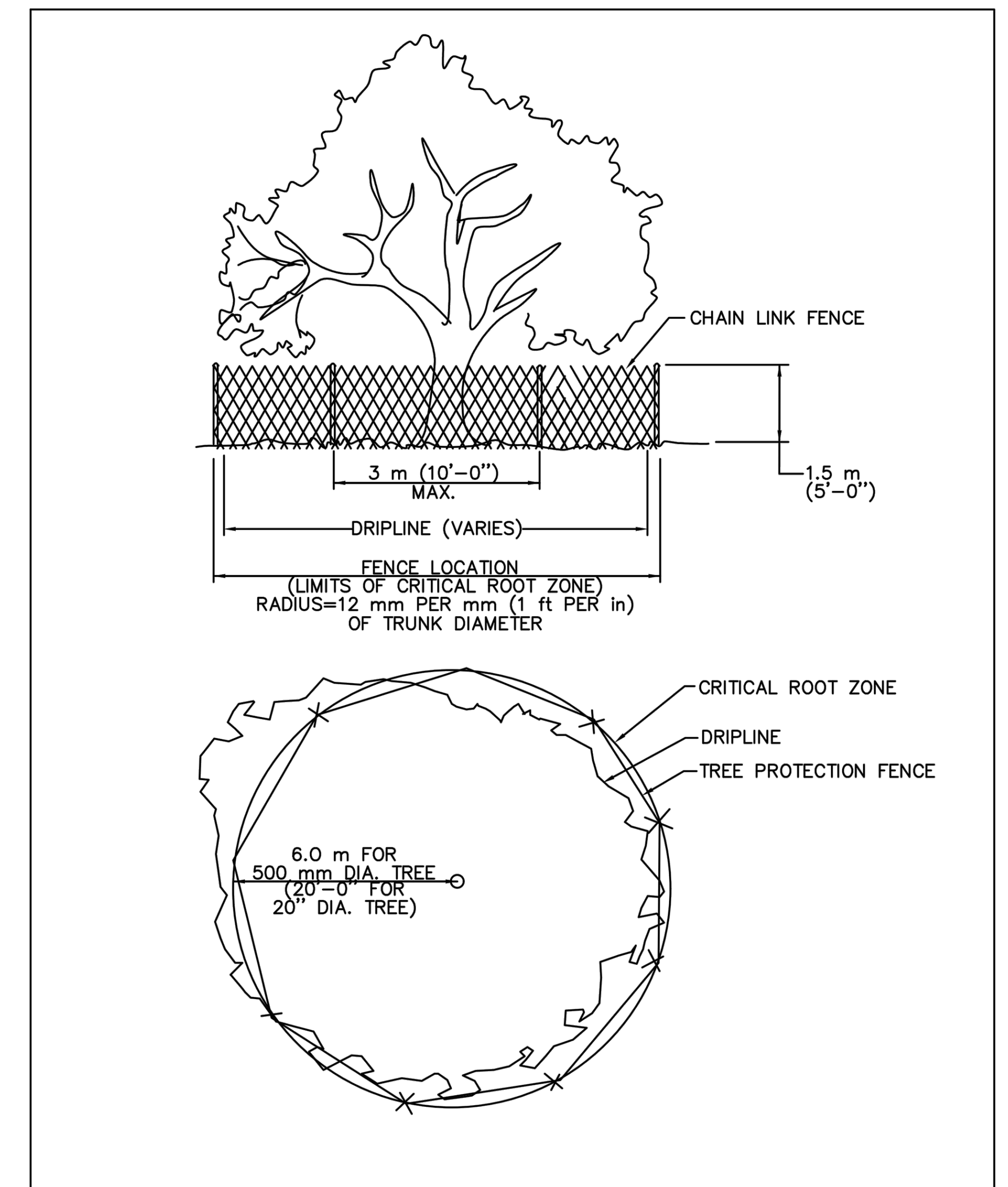
2. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

3. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MINL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

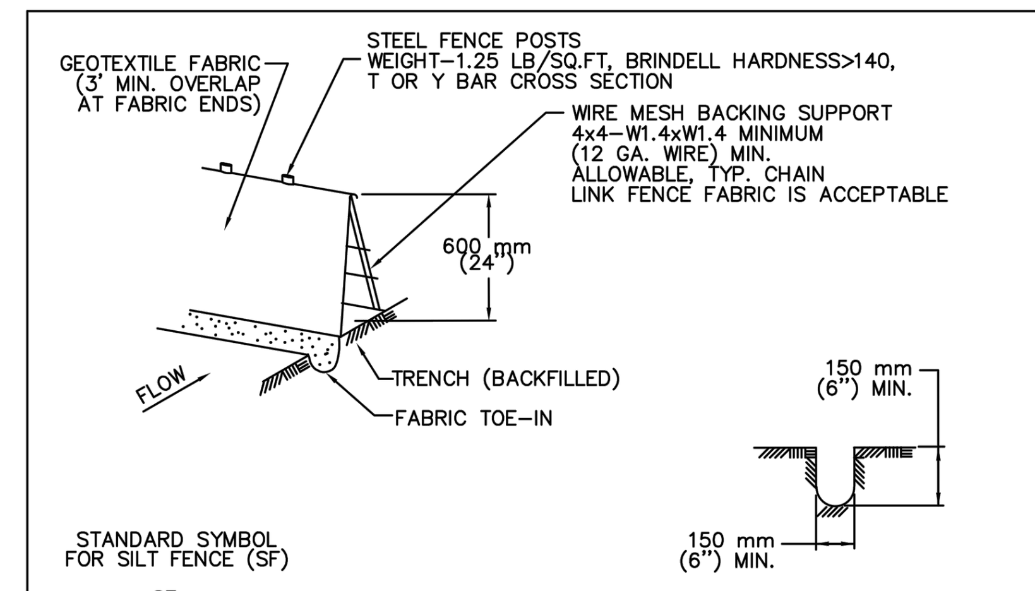
CONCRETE WASHOUT AREA



TREE PROTECTION FENCE LOCATIONS



TREE PROTECTION FENCE TYPE A – CHAIN LINK



STANDARD SYMBOL FOR SILT FENCE (SF)

SF
L=

TRENCH CROSS SECTION

NOTES: (BUILD TO TCEQ SPECIFICATION, REFER TO TECHNICAL GUIDANCE MANUAL)

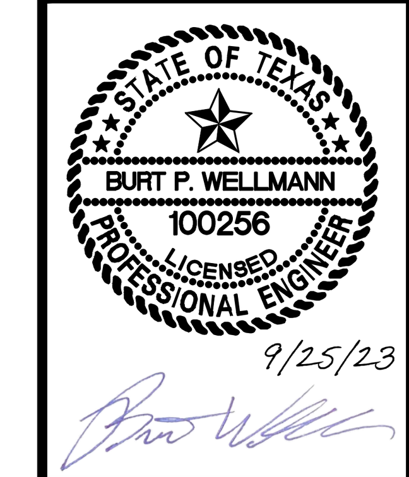
1. MAX. DRAINAGE AREA TO SILT FENCE=1/4 ACRE PER 100 L.F.
2. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (1'), AT LEAST 4' LONG AND NO MORE THAN 6' APART.
3. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
4. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
6. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
7. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

KFW
ENGINEERS + SURVEYING
162 W Mill St., New Braunfels, Tx. 78130
Phone #: (830) 220-6042 • Fax #: (830) 627-9097
TBPE Firm #: 9513 • TBPLS Firm #: 10122300

ISSUE DATE

REVISIONS



JOHNSON RANCH TRACT
COMAL COUNTY, TEXAS

STORMWATER POLLUTION PROTECTION PLAN DETAILS

JOB NO. 1031-02-01
DATE: FEBRUARY 2023
DRAWN: AVP CHECKED: WF

SHEET NUMBER:
5.1

Date: Sep 22, 2023, 3:57pm User ID: andres.vazquez
File: R:\Projects\000-KFW Projects\1031\02\01\Design\Civil\5.1 SWPPP DETAILS.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

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ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR & RETROFIT PLAN

N/A

Colliers Engineering & Design

ATTACHMENT H – PILOT-SCALE FIELD TESTING PLAN

N/A

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ATTACHMENT I – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

N/A

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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 CHARLES P. HILL,
Print Name

PRESIDENT,
Title - Owner/President/Other

of DHJB Development LLC,
Corporation/Partnership/Entity Name

have authorized Wayne Flores and/or Burt Wellmann
Print Name of Agent/Engineer

of Colliers Engineering and Design
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

9/27/23
Date

THE STATE OF Texas §

County of Kendall §

VICTORIA ASHLEY DEROCHER
Notary Public, State of Texas
Comm. Expires 11-24-2025
Notary ID 133463786

BEFORE ME, the undersigned authority, on this day personally appeared Charlie Hill 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 27 day of September, 2023.

NOTARY PUBLIC

Victoria A. DeRocher
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/24/2025

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& Design

FEE APPLICATION FORM
(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Johnson Ranch
Regulated Entity Location: FM 1863 & Johnson Way
Name of Customer: DHJB Development LLC
Contact Person: Charlie Hill Phone: 830-336-2518
Customer Reference Number (if issued):CN ~~602990472~~ 604156356
Regulated Entity Reference Number (if issued):RN 105332522

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	Acres	$
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	$ 500
Extension of Time	Each	$

Signature: [signature] Date: 9/27/23

TCEQ-0574 (Rev. 02-24-15)

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

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CORE DATA FORM
(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)*

☒ Other **WPAP Exception**

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 604156356		**RN 105332522**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 9-26-2023

☐ 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:*

DHJB Development, LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
	32047553295		

11. Type of Customer:
☐ Corporation ☐ Individual Partnership: ☐ General ☒ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ 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 ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

102A Cordillera Ridge							
City	Boerne	**State**	TX	**ZIP**	78006	**ZIP + 4**	5948

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	cphill@dhinv.com

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(830) 336-2518		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Johnson Ranch

23. Street Address of the Regulated Entity: ***(No PO Boxes)***							
	City		**State**		**ZIP**		**ZIP + 4**	
24. County							

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

25. Description to Physical Location:	Northwest corner of FM 1863 and Johnson Way intersection				
26. Nearest City			**State**	**Nearest ZIP Code**	
Bulverde			TX	78163	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.74532412		**28. Longitude (W) In Decimal:**	98.42012184	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	44	43.1668	98	25	12.4386

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)

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

Residential Development

34. Mailing Address:	**102A Cordillera Ridge**						
	City	**Boerne**	**State**	**TX**	**ZIP**	**78006**	**ZIP + 4**	**5948**
35. E-Mail Address:	**cphill@dhinv.com**						

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(830) 336-2518		( ) -

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

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

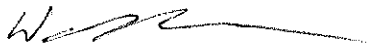
SECTION IV: Preparer Information

40. Name:	Wayne Flores, P.E.	41. Title:	Senior Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 220-6042		( ) -	wayne.flores@collierseng.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:	Colliers Engineering & Design	Job Title:	Senior Project Manager
Name *(In Print)*:	Wayne Flores, P.E.	Phone:	(830) 220- 6042
Signature:		Date:	9/26/2023