

# WATER POLLUTION ABATEMENT PLAN (WPAP) & ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) PLAN

FOR

# **PROVIDENT EAGLE'S NEST**

3030 EAGLE'S NEST STREET ROUND ROCK, WILLIAMSON COUNTY, TEXAS 78665

PREPARED FOR:

Provident Realty Advisors, Inc. 10210 N Central Expressway, Suite 300 Dallas, TX 75231

PREPARED BY:

WGI 4700 Mueller Boulevard, Suite 300 Austin, Texas 78723

Texas Engineering Firm # F-15085 WGI Project # 010729.00

MARCH 2025

# 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 <u>30 TAC 213</u>.

#### **Administrative Review**

1. <u>Edwards Aquifer applications</u> 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: <u>http://www.tceq.texas.gov/field/eapp</u>.

- 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 N NEST	ame: PROVI	DENT I	EAGLE	ES	2. Re	egulat	ed Entity No.:			
<b>3. Customer Name:</b> P ADVISORS, INC.	ROVIDENT R	EALTY	7		4. Cu	istom	<b>er No.:</b> CN6044	56160		
5. Project Type: (Please circle/check one)	New	Modif	icatior	1	Exter	nsion	Exception			
6. Plan Type: (Please circle/check one)	WPAP CZP	SCS	JUST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures		
7. Land Use: (Please circle/check one)	Residential	Non-r	residen	tial		8. Sit	e (acres):	20.67		
9. Application Fee:	\$ 4650	10. P	ermaı	nent I	BMP(s	s):	CONTECH JEI (EXTENDED)	LYFISH, BATCH DETENTION		
11. SCS (Linear Ft.):	1233	12. A	ST/US	ST (No	o. Tar	nks):	N/A			
13. County:	WILLIAMSON	14. W	aters	hed:			BRUSHY CREE	EK WATERHSED		

# **Application Distribution**

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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.)			<u>_X</u> _
Region (1 req.)			<u>_X</u>
County(ies)		_	<u>_X</u>
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 X_Round Rock

	S	an 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

Austin Region

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.

Alyssa N. Alvarez, P.E.

Print Name of Customer/Authorized Agent Signature of Customer/Authorized Agent

1/27/2025

Date

**FOR TCEQ INTERNAL USE ONI	LY**			
Date(s)Reviewed:		Date Adn	ninistratively Comple	te:
Received From:		Correct N	lumber of Copies:	
Received By:		Distribut	ion Date:	
EAPP File Number:		Complexa	:	
Admin. Review(s) (No.):		No. AR R	ounds:	
Delinquent Fees (Y/N):		Review T	ime Spent:	
Lat./Long. Verified:		SOS Cust	omer Verification:	
Agent Authorization Complete/Notarized (Y/N):		Fee	Payable to TCEQ (Y/	/N):
Core Data Form Complete (Y/N):		Check:	Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days ol	d (Y/N):



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General Information Form, 1

# **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: ALYSSA N. ALVAREZ, PE

Date: <u>1/27/25</u> Signature of Customer/Agent:

aupso alvarez

## **Project Information**

- 1. Regulated Entity Name: PROVIDENT EAGLES NEST
- 2. County: WILLIAMSON
- 3. Stream Basin: BRUSHY CREEK
- 4. Groundwater Conservation District (If applicable):
- 5. Edwards Aquifer Zone:

$\left \right $	Recharge Zone
	Transition Zone

6. Plan Type:

🔀 WPAP	AST
$\boxtimes$ SCS	UST
Modification	Exception Request

7. Customer (Applicant):

Contact Person: <u>HUNTER GRAHAM</u> Entity: <u>PROVIDENT REALTY ADVISORS, INC.</u> Mailing Address: <u>10210 N CENTRAL EXPY, STE.300</u> City, State: <u>DALLAS, TEXAS</u> Zip: <u>75231</u> Telephone: <u>(972) 385-4100</u> FAX: \_\_\_\_\_ Email Address: <u>HGRAHAM@PROVIDENTREALTY.NET</u>

8. Agent/Representative (If any):

Contact Person: <u>ALYSSA N. ALVAREZ, PE</u>	
Entity: <u>WGI</u>	
Mailing Address: <u>4700 MULLER BLVD, SUITE 300</u>	
City, State: <u>AUSTIN, TEXAS</u>	Zip: <u>78723</u>
Telephone: <u>(512) 669-5560</u>	FAX:
Email Address: <u>ALYSSA.ALVAREZ@WGINC.COM</u>	

9. Project Location:

 $\boxtimes$  The project site is located inside the city limits of <u>ROUND ROCK</u>.

The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of \_\_\_\_\_.

- The project site is not located within any city's limits or ETJ.
- 10. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

3030 EAGLE'S NEST STREET, ROUND ROCK, TEXAS 78665

- 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:

 $\boxtimes$  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. Attachment C Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:
  - Area of the site
    Offsite areas
    Impervious cover
    Permanent BMP(s)
    Proposed site use
    Site history
    Previous development
  - Area(s) to be demolished
- 15. Existing project site conditions are noted below:
  - Existing commercial site
    Existing industrial site
    Existing residential site
    Existing paved and/or unpaved roads
    Undeveloped (Cleared)
    Undeveloped (Undisturbed/Uncleared)
    Other: \_\_\_\_\_

## **Prohibited Activities**

- 16. I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
  - (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
  - (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
  - (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
  - (4) The use of sewage holding tanks as parts of organized collection systems; and
  - (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
  - (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.
- 17. I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
  - (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
  - (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

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

## Administrative Information

- 18. The fee for the plan(s) is based on:
  - For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
  - For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
  - For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
  - A request for an exception to any substantive portion of the regulations related to the protection of water quality.
  - A request for an extension to a previously approved plan.
- 19. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

## 

 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.



Cypress Blvd

Site Location: 17 Cypress Blvd. Round Rock, TX 78665

PROVIDENT EAGLES NEST 3030 EAGLE'S NEST STREET ROUND ROCK, WILLIAMSON COUNTY, TEXAS

Luther Peterson Park

> ATTACHMENT A ROAD MAP

**VGI**.

WGInc.com 4700 MUELLER BLVD, SUITE 300, AUSTIN, TEXAS, 78723



## General Information Form (TCEQ-0587) Attachment B

### **USGS/Edwards Recharge Zone Map**



ROUND ROCK QUADRANGLE 7.5-MINUTE SERIES



January 23, 2025

Texas Commission on Environmental Quality 12100 Park 35 Circle Austin, Texas 78753

RE: Attachment C - Project Description for WPAP Provident Eagles Nest 3030 Eagles Nest Street Round Rock, Williamson County, Texas 78665

To whom it may concern,

Please accept this Engineer's summary letter as our project description for the above referenced project. The project is located at 3030 Eagles Nest Street, Round Rock, Texas 78665, in the Full Purpose limits of the City of Round Rock, in Williamson County, Texas.

The proposed project will consist of the design and construction of three one story light industrial buildings for Provident Realty. The 20.67-acre site is partially developed with abandoned buildings on one of the lots, and the concrete slab foundation of another abandoned office building on the other lot, giving an existing impervious cover amount of 40.06%, all of which is proposed to be demoed. The subject site is currently zoned Light Industrial (LI) and located within the Brushy Creek Watershed. No portion of the subject site is located within the FEMA 100-year floodplain according to Flood Insurance Map #48491C0491F (December 20, 2019). The site is located within the Edwards Aquifer Recharge zone.

The site has no existing water quality facilities. Two detention ponds will be provided for flood control, with storm water runoff for one pond being treated by a Contech Jellyfish system, and the other pond being treated by a Batch (extended) Detention System.

The proposed development changes the drainage patterns of the site. Drainage patterns are altered due to site grading and the addition of two detention ponds on site. In existing conditions, there are offsite flows passing through the site, and the same offsite flows pass through the site in proposed conditions. Proposed conditions direct flow patterns to new discharge points, but do not increase discharge rates from proposed conditions. If necessary, the design of the detention controls will be reviewed and confirmed during the proposed improvement process for these lots.

To our knowledge, the enclosed application materials are complete, correct, and in full compliance with the TCEQ requirements. Should you have any questions regarding this project or application, please do not hesitate to contact our office.

Sincerely,

WGI Texas Engineering Firm No. F-15085

Alyssa Alvarez, PE Project Manager



Geologic Assessment Form, 2

# Kimley **»Horn**

December 12, 2024

Mr. Nathan Forney Provident Realty Advisors 10210 North Central Expressway Suite 300 Dallas, Texas 75231 nforney@providentrealty.com

#### RE: Geologic Assessment Provident Eagles Nest Round Rock, Williamson County, Texas

Dear Mr. Forney,

Attached please find the Geologic Assessment (GA) prepared for your proposed Provident Eagles Nest project. Sensitive features, as defined by 30 TAC§213, were not found during the course of the assessment.

This assessment does not address the possible presence of subsurface conditions that may be exposed during future construction and/or development. Should solution features or conditions be exposed during site construction activities that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the TCEQ Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Please feel free to contact Craig Hiatt at craig.hiatt@kimley-horn.com or 512-646-2240 if you have questions or comments. We sincerely appreciate the opportunity to provide professional environmental consulting, civil engineering, and survey services to Provident Realty Advisors.

Regards,

Homas Kiety

Thomas Kirby, CHMM Environmental Scientist

Craig W. Hiatt, M.S. Environmental Manager

Geologic Assessment 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:

Telephone: 512-335-1785

James R. Woodburn, P.G.

Fax: <u>512-335-0527</u>

Date: <u>12/10/2024</u>

Representing: <u>Ranger Environmental Services, LLC (Reg No. 50140)</u> (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Provident Eagles Nest

# **Project Information**

- 1. Date(s) Geologic Assessment was performed: <u>12/06/2024</u>
- 2. Type of Project:

⊠ WPAP □ SCS

AST

3. Location of Project:

Recharge Zone



Contributing Zone within the Transition Zone

- 4. X Attachment A Geologic Assessment Table. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
- 5. 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.

Soil Name	Group*	Thickness(feet)
Austin silty clay, 1 to 3 percent slopes (AsB)	D	1.83-3.25
Denton silty clay, 3 to 5 percent slopes (DnC)	D	1.83-5.0
Eckrant-Rock outcrop association, 1 to 10 percent slopes (ErE)	D	0.33-1.67

# Table 1 - Soil Units, InfiltrationCharacteristics and Thickness

Soil Name	Group*	Thickness(feet)
Georgetown stony clay loam, 1 to 3 percent slopes (GsB)	D	1.67-3.33
Houston Black clay, 1 to 3 percent slopes (HoB)	D	>6.67

\* 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:  $1'' = \underline{60}'$ Site Geologic Map Scale:  $1'' = \underline{60}'$ Site Soils Map Scale (if more than 1 soil type): 1'' = 273'

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  $\underline{1}$  (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)

] The wells are not in use and have been properly abandoned.

ig i 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.

## ATTACHMENT A

Geological Assessment Table TCEQ-0585 Table

GEOL	OGIC ASSES	SMENT TABLE					PROJECT NAME: Provident Eagles Nest													
	LOCATI	ON				FE	ATUR	E CHA	RACTE	ris	TICS				EVA	LUAT	ION	PHY	SICAL	SETTING
1A	1B *	1C*	2A	2B	3		4		5	5A	6	7	8A	8B	9	1	0	1	1	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIM	ENSIONS (F	EET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	ITIVITY	CATCHM (AC	ENT AREA RES)	TOPOGRAPHY
						х	Y	Z		10						<40	<u>&gt;40</u>	<1.6	<u>&gt;1.6</u>	
S-1	30.551592	-97.683031	MB	30	Qt	0.67	0.67	0.8						5	35	Х		Х		Hillside
S-2	30.550081	-97.684670	CD	5	Qt	90	40	5					V,O	10	15	Х		Х		Hillside
S-3	30.551359	-97.683583	CD	5	Kdg/Qt	175	215	2.5					V,O,F	10	15	Х			Х	Drainage
S-4	30.550171	-97.683302	MB	30	Qt	3.2	3.2	1						5	35	Х		Х		Hillside

#### \* DATUM WGS84

2A TYPE	TYPE	2B POINTS
С	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
0	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	
С	Coarse - cobbles, breakdown, sand, gravel	
C	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	
=s	Flowstone, cements, cave deposits	
<	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.

por & Wed

Date 12/10/2024

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



## ATTACHMENT B

Stratigraphic Column



## ATTACHMENT C

Site Geology



## GEOLOGIC ASSESSMENT Provident Eagles Nest 17 Cypress Boulevard, Round Rock, Texas Williamson County December 2024

## **INTRODUCTION**

Ranger Environmental Services, LLC (Ranger) was contracted to conduct a Geologic Assessment of the referenced property. The entire property has been developed and is owned by Round Rock Independent School District (ISD). The eastern portion of the property is a former and now vacant Round Rock ISD office building while the western portion of the property was a former and now dismantled semi-conductor facility. This location lies within the designated Edwards Aquifer Recharge Zone. Since the subject site is located over the Edwards Aquifer Recharge Zone, site development should adhere to the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program Rules in accordance with Title 30 of the Texas Administrative Code, Section 213 (30 TAC§ 213).

## **PROJECT DESCRIPTION**

The subject site consists of two tracts. Tract 1 is an approximate 7.563-acre lot, more or less, located at 17 Cypress Boulevard, Round Rock, in Williamson County, Texas, at approximately N 30.551006 and approximately W -97.682239. Tract 2 is an approximate 13.110-acre lot, more or less, located at 2 Cypress Cove, Round Rock, in Williamson County, Texas, at approximately N 30.550760 and approximately W -97.684761.

The areas surrounding the property consist of primarily vacant properties to the south and west or commercial properties to the north and east.

## METHODOLOGY

This assessment follows general guidelines contained in TCEQ guidance "*Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones*" (TCEQ Guidance 0585). The site is located on an area of the Recharge and Contributing Zones that may contain karst features within the outcropping limestone. Karst features may be expressed as surface features but more commonly tend to persist with depth.

A field geologic assessment was conducted by James R. Woodburn, P.G. and Chad M. Copeland, P.G. on December 6, 2024. The majority of the property has been developed by the Round Rock ISD. Large portions of both Tract 1 and Tract 2 of the property have been cemented. Concrete

foundations are present at the vacant eastern Round Rock ISD building and western semiconductor area. The vacant building appears to have been abandoned for a number of years. The property has multiple fire hydrants, water pits, and underground utilities including storm drains, water and gas piping, vaults, and culverts. The former semi-conductor area was constructed in the late 1990s and does not appear to have been in use.

The walking geologic survey was conducted on 50-foot center transects, where possible. No intrusive testing was conducted. If present, features identified in the field were photographed and recorded with a hand held global positioning system (GPS). Potential features encountered may include, but are not limited to, caves, solution cavities, solution-enlarged fractures, faults, manmade features in bedrock, swallow holes, sinkholes, non-karst closed depressions, and zone clusters or aligned features. The geologic assessment table, stratigraphic column, geologic, soils and topographic maps are included herein.

## **RESEARCH INFORMATION**

Prior to conducting the geologic survey, Ranger conducted a review of existing geologic data, Edwards Aquifer documentation, and maps to prepare for the field survey. Reviewed references included, but are not limited to:

- Barnes, V.E. 1974. *Geologic Atlas of Texas, Austin Sheet*. The University of Texas at Austin, Bureau of Economic Geology.
- Senger, R.K., E.W. Collins and C.W. Kreitler. 1990. <u>Hydrogeology of the Northern</u> Segment of the Edwards Aquifer, Austin Region, Report of Investigations 192. The University of Texas at Austin, Bureau of Economic Geology.
- Texas Commission on Environmental Quality. 1999. <u>Complying with the Edwards</u> <u>Aquifer Rules: Administrative Guidance</u>.
- Texas Commission on Environmental Quality. Revised 2004. <u>Instructions to Geologist</u> for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones.
- Sellards, E.H., W.S. Adkins and F.B. Plummer. 1932. <u>The University of Texas Bulletin</u> <u>No. 3232. The Geology of Texas</u>. Volume 1, Stratigraphy.
- USDA National Resources Conversation Services (www.nrcs.usda.gov).
- Texas Commission on Environmental Quality (www.tceq.state.tx.us).
- Federal Emergency Management Agency (FEMA) Flood Plain Maps.
- Center for Geospatial Technology, Texas Tech University, obtained from the Texas Geologic Atlas of Texas.
- United States Geological Survey (USGS) Topographic Maps
- Environmental Systems Research Institute (ESRI) data

## SITE GEOLOGY

Referencing the <u>Geologic Atlas of Texas</u>, <u>Austin Sheet</u>, and <u>The University of Texas Bulletin No.</u> <u>3232</u>, <u>The Geology of Texas</u>, <u>Volume 1</u>, the subject site is underlain by Cretaceous sedimentary strata and fluviatile terrace deposits. In general, the Cretaceous strata dip regionally one degree towards the east-southeast. The area lies along the Balcones Fault Zone, a geologic province characterized in this region by north-northeast trending en echelon normal faults with the downthrown side most commonly to the east of the fault planes.

The Balcones Fault Zone trend closely follows the structural trend of the late Paleozoic Ouachita fold and thrust belt. Faulting may have been initiated in the Late Cretaceous with the majority of movement taking place during the late Oligocene and early Miocene. Minor isostatic adjustments resulting from sediment loading in the Gulf of Mexico continue to the present.

The local stratigraphic sections which outcrop at the site are the Del Rio Clay and Georgetown Formation (Kdg), undivided, on the western portion of the property as well as Quaternary fluviatile terrace deposits (Qt) along the higher elevated areas on the central and eastern portions of the property. The fluviatile terrace deposits typically include unconsolidated sands, silts, clays, and gravels along the current and ancestral local river basins. The terrace deposits often include sediments consisting of calcareous clay, dolomite, and limestone debris from the adjacent Cretaceous Del Rio Clay, Georgetown Formation, and Edwards Limestone as well as chert and quartz.

The Cretaceous Del Rio Clay is primarily medium gray calcareous and fossiliferous clay that weathers to light or yellowish gray. In the unweathered section, the clay typically contains kaolinite and illite. The Del Rio Clay is approximately 40 to 70 feet thick and provides a confining layer to the underlying Georgetown Formation. The Georgetown Formation consists primarily of argillaceous, nodular, moderately indurated limestones interbedded with marls. Georgetown limestones are typically fine grained, massive, and fossiliferous. Small vugs may be present within the formation but are not common. The Georgetown Formation is approximately 30 feet to 80 feet in thickness and thins southward. The Georgetown Formation represent the uppermost Edwards aquifer strata.

Because the site was fully developed, no geologic outcropping was identified within the boundaries of the property. Soil was exposed on the low lying portions to the west which appeared to be silty clay with calcareous fragments. No vugs, faults, fractures, caves, or solution cavities were observed during the site geologic inspection.

## SITE SPECIFIC GEOLOGIC FEATURES

The following geologic features, as defined in Texas Commission on Environmental Quality (TCEQ) guidance "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones" (TCEQ Guidance 0585), were observed at the site:

## S-1 Manmade Feature in Bedrock (MB) Water Well – *Not a sensitive feature*

The observed water is located in the northern portion of Tract 1 and was noted to be approximately eight inches in diameter and extended approximately 10 inches above ground surface. The well completed with at steel casing on a six-foot by six-foot concrete pad. The well was installed within the Qt formation. The well was not active or in use, and the well was does not appear to be abandoned. There was no evidence of rapid infiltration into the water well. The catchment area is less than 1.6 acres.

### S-2 Non-Karst Closed Depression (CD) – Not a sensitive feature

A non-karst closed depression was noted in the northwestern portion of the Tract 1. The closed depression measured approximately 55 feet wide by 35 feet and approximately 5 feet deep. Vegetation and loose or soft mud, soil, organics, leaves, and sticks were observed in the closed depression. The probability of rapid infiltration is low. The catchment area is less than 1.6 acres.

## S-3 Non-Karst Closed Depression (CD) – Not a sensitive feature

A non-karst closed depression was noted in the southern portion of Tract 2. The closed depression measured approximately 175 feet wide by 215 feet and approximately 2.5 feet deep. Vegetation, fin, compacted clay rich sediment, and loose or soft mud and soil were observed in the closed depression. The depression appears to be formed from surface water drainage reformed during site construction activities.

The probability of rapid infiltration is low. The catchment area is greater than 1.6 acres.

### S-4 Manmade Feature in Bedrock (MB) Sanitary Sewer – Not a sensitive feature

The observed sanitary sewer is located in the southwestern portion of Tract 1 and was noted to be approximately 38 inches in diameter and approximately 12 inches above ground surface. The manway cover was entirely encased in cement. The sanitary sewer is located within the Qt formation. There was no evidence of rapid infiltration into the sanitary sewer. The catchment area is less than 1.6 acres.

## SOIL DESCRIPTION

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the soil at the subject site was mapped as the following units:

- Austin silty clay, 1 to 3 percent slopes (AsB);
- Denton silty clay, 3 to 5 percent slopes (DnC);
- Eckrant-Rock outcrop association, 1 to 10 percent slopes (ErE);
- Georgetown stony clay loam, 1 to 3 percent slopes (GsB); and
- Houston Black clay, 1 to 3 percent slopes (HoB).

These soils are well drained with a very slow infiltration rate and permeability when thoroughly wetted. Runoff is medium to very high.

Please see attached USDA NRCS Custom Soil Resource Report for additional soil information.

## **TOPOGRAPHY AND DRAINAGE**

Topography at the site grades predominantly west toward Chandler Branch, a tributary of Brushy Creek. All surface water from Tract 1 flows west towards Tract 2. In the center of the property between Tract 1 and Tract 2, there is a steep slope down to the west. Due to the development of the site, surface water gathers in low areas to the southeast of the former semi-conductor pad.

## CONCLUSIONS AND RECOMMENDATIONS

Ranger Environmental Services, LLC conducted a Geologic Assessment of the site in accordance with 30 TAC§ 213. Ranger concludes that no sensitive features as defined by the TCEQ (30 TAC§ 213) were observed at the site; however, it should be noted that the property has been previously developed by Round Rock ISD.

This assessment does not address the possible presence of subsurface conditions that may be exposed during future construction and/or development. Should solution features or conditions be exposed during site construction activities that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the TCEQ Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

## LIMITATIONS

It should be noted that only areas readily accessible were inspected. There may be geologic features present that were not identified as part of this study. This non-intrusive visual field assessment cannot wholly eliminate the possibility of sensitive features at the site.

Prepared by:



James R. Woodburn, P.G.



Chad M. Copeland, P.G.



Photograph 1: Image depicting feature S-1, the water well.



Photograph 2: Image depicting feature S-2.



Photograph 3: Image depicting feature S-3 with a view toward the southwest.



Photograph 4: Another image depicting feature S-3 with a view toward the south.



Photograph 5: Image depicting feature S-4, the sanitary sewer.



Photograph 6: Image depicting one of multiple underground pits within the former semiconductor concrete pad.



Photograph 7: Image of piping around the former semi-conductor concrete pad.



Photograph 8: Image depicting a storm drain on the southeastern portion of Tract 1 adjacent to the former Round Rock ISD building.

## ATTACHMENT D

Site Geologic Map(s)




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ALTA/NS	SPS LAN	D TITLE	Ξ
SL	JRVEY (	)F	
TRACT 1 - 7.	563 ACR	ES OF	LAND
	AND		
TRACT 2 - 13	.11 ACR	ES OF	LAND
SITU	ATED IN	THE	
CITY OF	ROUNE	) ROCK	,
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United States Department of Agriculture

Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Williamson County, Texas

**Provident Eagles Nest** 



# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2\_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# **How Soil Surveys Are Made**

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.





 $\mathbb{N}$ 

	MAP L	EGEND		MAP INFORMATION
Area of In	terest (AOI)	33	Spoil Area	The soil surveys that comprise your AOI were mapped at
	Area of Interest (AOI)	۵	Stony Spot	1:20,000.
Soils		0	Very Stony Spot	Warning: Soil Map may not be valid at this scale
	Soil Map Unit Polygons	Ŷ	Wet Spot	training. Con map may not be tand at the board.
~	Soil Map Unit Lines	۰ ۵	Other	Enlargement of maps beyond the scale of mapping can cause
	Soil Map Unit Points		Special Line Features	line placement. The maps do not show the small areas of
Special	Point Features	Water Fea	tures	contrasting soils that could have been shown at a more detailed
0	Bowout	$\sim$	Streams and Canals	
X		Transporta	ation	Please rely on the bar scale on each map sheet for map
×	Clay Spot	++++	Rails	measurements.
$\diamond$	Closed Depression	~	Interstate Highways	Source of Map: Natural Resources Conservation Service
X	Gravel Pit	~	US Routes	Web Soil Survey URL:
00	Gravelly Spot	~	Major Roads	Coordinate System: Web Mercator (EPSG:3857)
0	Landfill	~	Local Roads	Maps from the Web Soil Survey are based on the Web Mercator
Α.	Lava Flow	Backgrou	nd	projection, which preserves direction and shape but distorts
عله	Marsh or swamp	No.	Aerial Photography	Albers equal-area conic projection, should be used if more
R	Mine or Quarry			accurate calculations of distance or area are required.
0	Miscellaneous Water			This product is generated from the USDA-NRCS certified data as
0	Perennial Water			of the version date(s) listed below.
$\vee$	Rock Outcrop			Soil Survey Area: Williamson County, Texas
+	Saline Spot			Survey Area Data: Version 25, Aug 30, 2024
	Sandy Spot			Soil man units are labeled (as space allows) for man scales
-	Severely Eroded Spot			1:50,000 or larger.
0	Sinkhole			Data(s) aerial images were photographed. Data not available
Š	Slide or Slip			
ø	Sodic Spot			The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
AsB	Austin silty clay, 1 to 3 percent slopes	0.2	1.0%	
DnC	Denton silty clay, 3 to 5 percent slopes	3.2	15.2%	
ErE	Eckrant-Rock outcrop association, 1 to 10 percent slopes	6.6	31.1%	
GsB	Georgetown stony clay loam, 1 to 3 percent slopes	8.5	40.0%	
НоВ	Houston Black clay, 1 to 3 percent slopes	2.7	12.7%	
Totals for Area of Interest		21.2	100.0%	

## Map Unit Legend

## **Map Unit Descriptions**

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

### Williamson County, Texas

#### AsB—Austin silty clay, 1 to 3 percent slopes

#### **Map Unit Setting**

National map unit symbol: 2vtgj Elevation: 440 to 810 feet Mean annual precipitation: 30 to 40 inches Mean annual air temperature: 63 to 70 degrees F Frost-free period: 228 to 293 days Farmland classification: Farmland of statewide importance

#### **Map Unit Composition**

Austin and similar soils: 90 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Austin**

#### Setting

Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Down-slope shape: Linear Across-slope shape: Convex Parent material: Residuum weathered from chalk

#### **Typical profile**

Ap - 0 to 16 inches: silty clay Bw - 16 to 22 inches: silty clay Bk - 22 to 29 inches: silty clay Cr - 29 to 57 inches: bedrock

#### **Properties and qualities**

Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 39 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 85 percent
Maximum salinity: Nonsaline to very slightly saline (0.5 to 2.1 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: D Ecological site: R086AY007TX - Southern Clay Loam Hydric soil rating: No

#### **Minor Components**

#### Houston black

Percent of map unit: 10 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Microfeatures of landform position: Linear gilgai Down-slope shape: Convex, linear Across-slope shape: Convex, linear Ecological site: R086AY011TX - Southern Blackland Hydric soil rating: No

#### DnC—Denton silty clay, 3 to 5 percent slopes

#### Map Unit Setting

National map unit symbol: 2t26r Elevation: 570 to 1,870 feet Mean annual precipitation: 31 to 36 inches Mean annual air temperature: 65 to 68 degrees F Frost-free period: 220 to 260 days Farmland classification: All areas are prime farmland

#### Map Unit Composition

Denton and similar soils: 88 percent Minor components: 12 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Denton**

#### Setting

Landform: Hillslopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

#### **Typical profile**

A - 0 to 14 inches: silty clay Bw - 14 to 25 inches: silty clay Bk - 25 to 33 inches: silty clay Ck - 33 to 36 inches: gravelly silty clay R - 36 to 80 inches: bedrock

#### **Properties and qualities**

*Slope:* 3 to 5 percent *Depth to restrictive feature:* 22 to 60 inches to lithic bedrock *Drainage class:* Well drained Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Calcium carbonate, maximum content: 80 percent Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.3 inches)

#### Interpretive groups

Land capability classification (irrigated): 3s Land capability classification (nonirrigated): 3s Hydrologic Soil Group: D Ecological site: R081CY357TX - Clay Loam 29-35 PZ Hydric soil rating: No

#### **Minor Components**

#### Brackett

Percent of map unit: 6 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Ecological site: R081CY355TX - Adobe 29-35 PZ Hydric soil rating: No

#### Doss

Percent of map unit: 4 percent Landform: Hillslopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Ecological site: R081CY574TX - Shallow 29-35 PZ Hydric soil rating: No

#### Purves

Percent of map unit: 2 percent Landform: Hillslopes Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Linear Ecological site: R081CY574TX - Shallow 29-35 PZ Hydric soil rating: No

#### ErE—Eckrant-Rock outcrop association, 1 to 10 percent slopes

#### Map Unit Setting

National map unit symbol: 2t0sm Elevation: 620 to 2,400 feet Mean annual precipitation: 29 to 35 inches Mean annual air temperature: 64 to 68 degrees F Frost-free period: 210 to 250 days Farmland classification: Not prime farmland

#### Map Unit Composition

*Eckrant and similar soils:* 58 percent *Rock outcrop:* 16 percent *Minor components:* 26 percent *Estimates are based on observations, descriptions, and transects of the mapunit.* 

#### **Description of Eckrant**

#### Setting

Landform: Ridges Landform position (two-dimensional): Summit, shoulder, footslope Landform position (three-dimensional): Interfluve, base slope Down-slope shape: Convex Across-slope shape: Linear Parent material: Residuum weathered from limestone

#### **Typical profile**

A1 - 0 to 4 inches: very cobbly clay A2 - 4 to 11 inches: extremely cobbly clay R - 11 to 80 inches: bedrock

#### **Properties and qualities**

Slope: 1 to 10 percent
Surface area covered with cobbles, stones or boulders: 2.3 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.0 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e

*Hydrologic Soil Group:* D *Ecological site:* R081CY360TX - Low Stony Hill 29-35 PZ *Hydric soil rating:* No

#### **Description of Rock Outcrop**

#### Setting

Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Limestone

#### **Typical profile**

R - 0 to 80 inches: bedrock

#### **Properties and qualities**

Slope: 1 to 10 percent Depth to restrictive feature: 0 to 2 inches to lithic bedrock Runoff class: Very low Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

#### **Minor Components**

#### Tarpley

Percent of map unit: 11 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder, footslope Landform position (three-dimensional): Interfluve, base slope Down-slope shape: Convex Across-slope shape: Linear Ecological site: R081CY361TX - Redland 29-35 PZ Hydric soil rating: No

#### Real

Percent of map unit: 6 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Linear Ecological site: R081CY355TX - Adobe 29-35 PZ Hydric soil rating: No

#### Brackett

Percent of map unit: 5 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Down-slope shape: Convex Across-slope shape: Linear Ecological site: R081CY355TX - Adobe 29-35 PZ Hydric soil rating: No

#### Pratley

Percent of map unit: 4 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder, footslope Landform position (three-dimensional): Interfluve, base slope Down-slope shape: Concave Across-slope shape: Linear Ecological site: R081CY357TX - Clay Loam 29-35 PZ Hydric soil rating: No

#### GsB—Georgetown stony clay loam, 1 to 3 percent slopes

#### **Map Unit Setting**

National map unit symbol: 2t277 Elevation: 620 to 1,250 feet Mean annual precipitation: 32 to 36 inches Mean annual air temperature: 65 to 68 degrees F Frost-free period: 230 to 260 days Farmland classification: Not prime farmland

#### Map Unit Composition

Georgetown and similar soils: 90 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Georgetown**

#### Setting

Landform: Ridges Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Interfluve, side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Clayey residuum weathered from limestone

#### **Typical profile**

A - 0 to 7 inches: stony clay loam Bt - 7 to 35 inches: cobbly clay R - 35 to 60 inches: bedrock

#### **Properties and qualities**

Slope: 1 to 3 percent Surface area covered with cobbles, stones or boulders: 0.1 percent Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained Runoff class: Very high Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R081CY361TX - Redland 29-35 PZ Hydric soil rating: No

#### **Minor Components**

#### Tarpley

Percent of map unit: 5 percent Landform: Ridges Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Interfluve, side slope Down-slope shape: Linear Across-slope shape: Linear Ecological site: R081CY361TX - Redland 29-35 PZ Hydric soil rating: No

#### Eckrant

Percent of map unit: 3 percent Landform: Ridges Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Interfluve, side slope Down-slope shape: Convex Across-slope shape: Convex Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ Hydric soil rating: No

#### Fairlie

Percent of map unit: 2 percent Landform: Ridges Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Interfluve, side slope Down-slope shape: Linear Across-slope shape: Concave Ecological site: R086AY011TX - Southern Blackland Hydric soil rating: No

#### HoB—Houston Black clay, 1 to 3 percent slopes

#### Map Unit Setting

National map unit symbol: 2ssh0 Elevation: 270 to 1,040 feet Mean annual precipitation: 33 to 43 inches Mean annual air temperature: 62 to 63 degrees F Frost-free period: 217 to 244 days Farmland classification: All areas are prime farmland

#### Map Unit Composition

Houston black and similar soils: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Houston Black**

#### Setting

Landform: Ridges Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve Microfeatures of landform position: Linear gilgai Down-slope shape: Convex, linear Across-slope shape: Convex, linear Parent material: Clayey residuum weathered from calcareous mudstone of upper cretaceous age

#### **Typical profile**

Ap - 0 to 6 inches: clay Bkss - 6 to 70 inches: clay BCkss - 70 to 80 inches: clay

#### **Properties and qualities**

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 9.6 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e Hydrologic Soil Group: D Ecological site: R086AY011TX - Southern Blackland Hydric soil rating: No

#### Minor Components

#### Heiden

Percent of map unit: 15 percent Landform: Plains Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Interfluve Microfeatures of landform position: Linear gilgai Down-slope shape: Linear Across-slope shape: Convex Ecological site: R086AY011TX - Southern Blackland Hydric soil rating: No

#### Fairlie

Percent of map unit: 5 percent Landform: Ridges Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Convex Ecological site: R086AY011TX - Southern Blackland Hydric soil rating: No

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## Water Pollution Abatement Plan Application Form, 3

# Water Pollution Abatement Plan Application

#### **Texas Commission on Environmental Quality**

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

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

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

## Signature

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

Print Name of Customer/Agent: ALYSSA N. ALVAREZ, PE

Date: <u>1/27/25</u> Signature of Customer/Agent:

aupsa alvarez

Regulated Entity Name: PROVIDENT EAGLES NEST

## **Regulated Entity Information**

- 1. The type of project is:
  - Residential: Number of Lots:\_\_\_\_

Residential: Number of Living Unit Equivalents:

🔀 Commercial

Industrial

Other:\_\_\_\_

- 2. Total site acreage (size of property): 20.67
- 3. Estimated projected population:
- 4. The amount and type of impervious cover expected after construction are shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	292,995	÷ 43,560 =	6.73
Parking	61,218	÷ 43,560 =	1.41
Other paved surfaces	296,645	÷ 43,560 =	6.81
Total Impervious Cover	650,858	÷ 43,560 =	14.95

**Table 1 - Impervious Cover Table** 

Total Impervious Cover <u>14.95</u> ÷ Total Acreage <u>20.67</u> X 100 = <u>72.33</u>% Impervious Cover

- 5. Attachment A Factors Affecting Surface Water Quality. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
- 6. Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

## For Road Projects Only

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

7. Type of project:

TXDOT road project.

County road or roads built to county specifications.

City thoroughfare or roads to be dedicated to a municipality.

Street or road providing access to private driveways.

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

Concrete Asphaltic concrete pavement Other:

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

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

10. Length of pavement area: \_\_\_\_\_ feet.

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

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

A rest stop will not be included in this project.

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

### Stormwater to be generated by the Proposed Project

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

### Wastewater to be generated by the Proposed Project

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

<u>100</u> % Domestic	<u>20,720</u> Gallons/day
% Industrial	Gallons/day
% Commingled	Gallons/day
TOTAL gallons/day <u>20,720</u>	

15. Wastewater will be disposed of by:

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

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

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

Sewage Collection System (Sewer Lines):

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

The SCS was previously submitted on\_\_\_\_\_.

- $\boxtimes$  The SCS was submitted with this application.
  - The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

The sewage collection system will convey the wastewater to the <u>Brushy Creek Regional</u> <u>Wastewater System (East)</u> (name) Treatment Plant. The treatment facility is:

$\times$	Existing.
	Proposed.

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

## Site Plan Requirements

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

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

Site Plan Scale: 1" = <u>60</u>'.

18. 100-year floodplain boundaries:

Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): <u>#48491C0491F (December 20, 2019)</u>

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

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

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

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

The wells are not in use and have been properly abandoned.

The wells are not in use and will be properly abandoned.

] The wells are in use and comply with 16 TAC §76.

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

- 21. Geologic or manmade features which are on the site:
  - All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
  - No sensitive geologic or manmade features were identified in the Geologic Assessment.

Attachment D - Exception to the Required Geologic Assessment. A request and justification for an exception to a portion of the Geologic Assessment is attached.
- 22. The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. 🖂 Areas of soil disturbance and areas which will not be disturbed.
- 24. 🔀 Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. 🛛 Locations where soil stabilization practices are expected to occur.
- 26. Surface waters (including wetlands).

🛛 N/A

- 27. Locations where stormwater discharges to surface water or sensitive features are to occur.
  - There will be no discharges to surface water or sensitive features.
- 28. 🔀 Legal boundaries of the site are shown.

## Administrative Information

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



#### Water Pollution Abatement Plan Application Form (TCEQ-0584) Attachment A

#### **Factors Affecting Water Quality**

Urbanization will affect water quality by increasing sediment loading and introducing nutrients, pathogens, oxygen-demanding matter and toxic pollutants to receiving waters.

Factors affecting water quality for the proposed development include the following:

- 1. Proposed road and vehicular traffic
- 2. Human litter

The runoff will be captured by a proposed Contech Jellyfish Filter and Detention Pond system and a Batch Detention pond on site. The detention has been designed to limit developed flows to pre-developed conditions. The treated runoff will be slowly released onto its natural path in developed conditions so as to not disrupt the natural flow of the land. Detention for the 2-, 10-, 25-, 50-, and 100-year storm events are required. There is currently 40.04% impervious cover on the site and the proposed development will result in 72.33% impervious cover. The Jellyfish and ponds have been sized and designed for fully developed site conditions. These detention ponds will mitigate pollutants from the factors listed above.



#### Water Pollution Abatement Plan Application Form [TCEQ-0584] Attachment B

#### Volume and Character of Stormwater

The total site area is ±20.67 acres and is partially developed with abandoned office buildings on one of the lots, and the concrete slab foundation of another abandoned building on the other lot. The proposed development will result in 72.33% impervious cover.

Two detention ponds will be provided for flood control, with storm water runoff for one pond being treated by a Contech Jellyfish system, and the other pond being treated by a Batch (extended) Detention System. Discharge to these points will be required to comply with the Clean Water Act of 1977.

Based on soil type classification C, slope on the project site and vegetative cover a curve number of 80 was used in the SCS method using HEC-HMS for the determination of stormwater runoff.

Please refer to the plan set for more information, including drainage area maps.

Volume (quantity) – Reference Contech TCEQ calculations within this report Character (quality) – Runoff from Factors Affecting Water Quality (Attachment A)



## Organized Sewage Collection System Plan Application, 4

# Organized Sewage Collection System Application

#### **Texas Commission on Environmental Quality**

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

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

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

#### Regulated Entity Name: Provident Eagles Nest

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

## **Customer Information**

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

Contact Person: <u>HUNTER GRAHAM</u> Entity: <u>PROVIDENT REALTY ADVISORS, INC.</u> Mailing Address: <u>10210 N CENTRAL EXPY, STE.300</u> City, State: <u>DALLAS, TEXAS</u> Zip: <u>75231</u> Telephone: <u>(972) 385-4100</u> Fax: \_\_\_\_\_ Email Address: <u>HGRAHAM@PROVIDENTREALTY.NET</u> *The appropriate regional office must be informed of any changes in this information within 30 days of the change.* 

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

Contact Person: <u>ALYSSA N. ALVAREZ, PE</u>		
Texas Licensed Professional Engineer's Number: <u>129292</u>		
Entity: <u>WGI Engineering</u>		
Mailing Address: <u>4700 MULLER BLVD, SUITE 300</u>		
City, State: <u>AUSTIN, TEXAS</u>	Zip: <u>78723</u>	
Telephone: <u>(512) 669-5560</u>	Fax:	
Email Address:ALYSSA.ALVAREZ@WGINC.COM		

## **Project Information**

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

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

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

<u>100</u> % Domestic	<u>137116.8</u> gallons/day
% Industrial	gallons/day
% Commingled	gallons/day
Total gallons/day: 137116.8	

- 6. Existing and anticipated infiltration/inflow is <u>15,698</u> gallons/day. This will be addressed by: <u>Pipe sizing and flow calculations have been designed to accommodate this capacity</u>.
- 7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

The WPAP application for this development was approved by letter dated \_\_\_\_\_. A copy of the approval letter is attached.

The WPAP application for this development was submitted to the TCEQ on  $\frac{1/27/25}{1/25}$ , but has not been approved.

A WPAP application is required for an associated project, but it has not been submitted. There is no associated project requiring a WPAP application.

8. Pipe description:

#### Table 1 - Pipe Description

Pipe			
Diameter(Inches)	Linear Feet (1)	Pipe Material (2)	Specifications (3)
8	965	PVC SDR-26	ASTM D2241
4	268	HDPE (Force Main)	ANSI DR13.5

#### Total Linear Feet: 1002

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

9. The sewage collection system will convey the wastewater to the <u>East Brushy Creek Regional</u> <u>Wastewater</u> (name) Treatment Plant. The treatment facility is:

$\boxtimes$	Existing
	Proposed

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

$\ge$	The City of <u>Round Rock</u> standard specifications.
	Other. Specifications are attached.

- 11. No force main(s) and/or lift station(s) are associated with this sewage collection system.
  - A force main(s) and/or lift station(s) is associated with this sewage collection system and the Lift Station/Force Main System Application form (TCEQ-0624) is included with this application.

## Alignment

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

Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

## Manholes and Cleanouts

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

line	Shown on Sheet	Station	Manhole or Clean-
Line	Shown on sheet	Station	001:
J-A-7	71 Of 103	16+04	Manhole
J-A-9	71 Of 103	10+75	Cleanout
J-A-8	71 Of 103	17+03	Cleanout
J-A-6	71 Of 103	13+14	Manhole
J-A-2	71 Of 103	10+25	Manhole
J-A-1	71 Of 103	10+00	Manhole
J-B-1	72 Of 103	10+00	Manhole

#### **Table 2 - Manholes and Cleanouts**

Line	Shown on Sheet	Station	Manhole or Clean- out?
J-B-2	72 Of 103	13+10	Cleanout
J-B-3	72 Of 103	13+89	Cleanout
	Of		

- 15. Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.
- 16. The maximum spacing between manholes on this project for each pipe diameter is no greater than:

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

- Attachment C Justification for Variance from Maximum Manhole Spacing. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.
- 17. All manholes will be monolithic, cast-in-place concrete.
  - The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

## Site Plan Requirements

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

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

Site Plan Scale: 1" = <u>60</u>'.

- 19. The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.
- 20. Lateral stub-outs:
  - igtimes The location of all lateral stub-outs are shown and labeled.
    - No lateral stub-outs will be installed during the construction of this sewer collection system.

- 21. Location of existing and proposed water lines:
  - $\bigotimes$  The entire water distribution system for this project is shown and labeled.
  - If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
  - There will be no water lines associated with this project.

#### 22. 100-year floodplain:

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

#### Table 3 - 100-Year Floodplain

Line	Sheet	Station
	of	to

#### 23. 5-year floodplain:

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

Line	Sheet	Station
	of	to

- 24.  $\square$  Legal boundaries of the site are shown.
- 25. The *final plans and technical specifications* are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

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

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

] There will be no water line crossings.

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

#### Table 5 - Water Line Crossings

Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
WL-A	16+67.47	Crossing		3.17'
WL-F	13+45.15	Crossing		1.50'
WL-D	15+56.86	Crossing		1.50'

#### 27. Vented Manholes:

No part of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

A portion of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

A portion of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

A portion of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 0 - Vented Mannoles				
Line	Manhole	Station	Sheet	

#### Table 6 - Vented Manholes

Line	Manhole	Station	Sheet

28. Drop manholes:

There are no drop manholes associated with this project.

Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(I)(2)(H).

#### Table 7 - Drop Manholes

Line	Manhole	Station	Sheet

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

The placement and markings of all sewer line stub-outs are shown and labeled.

No sewer line stub-outs are to be installed during the construction of this sewage collection system.

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

The placement and markings of all lateral stub-outs are shown and labeled.

No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

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

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

Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.

Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second. Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

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

#### Table 8 - Flows Greater Than 10 Feet per Second

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

Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.

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

## Administrative Information

- 34. The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.
- 35. Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Standard Details	Shown on Sheet
Lateral stub-out marking [Required]	89 of 103
Manhole, showing inverts comply with 30 TAC §217.55(I)(2) [Required]	89 of 103
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	89 of 103
Typical trench cross-sections [Required]	88 of 103
Bolted manholes [Required]	89 of 103
Sewer Service lateral standard details [Required]	89 of 103
Clean-out at end of line [Required, if used]	89 of 103
Baffles or concrete encasement for shock/erosion protection [Required, if flow velocity of any section of pipe >10 fps]	of
Detail showing Wastewater Line/Water Line Crossing [Required, if crossings are proposed]	88 of 103
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	of

#### Table 9 - Standard Details

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

- 36. All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.
- 37. All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

Survey staking was completed on this date: \_\_\_\_\_

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

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: <u>ALYSSA N. ALVAREZ, PE</u>

Date: <u>1/27/25</u>

Place engineer's seal here:



Signature of Licensed Professional Engineer:

anyso aware

## Appendix A-Flow Velocity Table

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

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

#### Table 10 - Slope Velocity

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

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

Figure 1 - Manning's Formula

Where:

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



Lift Station/Force Main System Application, 5

# Lift Station/Force Main System Application

#### **Texas Commission on Environmental Quality**

for Regulated Activities On the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c)(3)(B)and(c), Effective June 1, 1999

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

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

Regulated Entity Name: PROVIDENT EAGLES NEST

## **Customer Information**

(If different than customer information provided on core data form)

1. The person(s) responsible for providing the engineering certification to the TCEQ pursuant to 30 TAC §213.5(f)(2)(C) during construction and 30 TAC §213.5 (c)(3)(D) upon completion of construction is:

Contact Person: ALYSSA N. ALVAREZ, PEEntity: WGI EngineeringMailing Address: 4700 MULLER BLVD, SUITE 300City, State: AUSTIN, TEXASZip: 78723Telephone: (512) 669-5560Fax: \_\_\_\_\_Email Address: ALYSSA.ALVAREZ@WGINC.COM

2. The engineer responsible for the design of this lift station and force main:

Contact Person: <u>ALYSSA N. ALVAREZ, PE</u> Entity: <u>WGI Engineering</u> Mailing Address: <u>4700 MULLER BLVD, SUITE 300</u> City, State: <u>AUSTIN, TEXAS</u> Zip: <u>78723</u> Telephone: <u>(512) 669-5560</u> Fax: \_\_\_\_\_ Email Address: <u>ALYSSA.ALVAREZ@WGINC.COM</u> Texas Licensed Professional Engineer's Serial Number: 129292

## **Project Information**

3. This project is for the construction or replacement of:

Lift Station only.

TCEQ-0624 (Rev. 02-11-15)

Lift Station and Force Main system.

K Lift Station, Force Main, and Gravity system.

4. The sewage collection system will convey the wastewater to the (East) Brushy Creek <u>Regional Wastewater</u> (name) Treatment Plant. The treatment facility is:

🔀 Existing Proposed

5. All components of this lift station/force main system will comply with:

 $\times$  The City of Round Rock standard specifications. Other. Specifications are attached.

## Site Plan Requirements

#### Items 6-14 must be included on the Site Plan.

6. The Site Plan must have a minimum scale of 1'' = 400'.

Site Plan Scale: 1" = 60'.

- 7. X Lift station/force main system layout meets all requirements of 30 TAC Chapter 217.
- 8. Geologic or Manmade Features:
  - No geologic or manmade features were identified in the Geologic Assessment. ig > All geologic or manmade features identified in the Geologic Assessment (caves, solution openings, sinkholes, fractures, joints, porous zones, etc.) which exist at the site of the proposed lift station and along the path(s) or within 50 feet of each side of a proposed force main line are shown on the Site Plan and are listed in the table below. Designs used to protect the integrity of the sewer line crossing each feature are described and labeled on the attached page. A detailed design drawing for each feature is shown on Plan Sheet 09 of 103.

No Geologic Assessment is required for this project.

#### Table 1 - Geologic or Manmade Features

Line	Station to Station	Type of Feature
	to	

9.	Existing topographic contours are shown and labeled.	The contour interval is $\underline{1}$ feet.
	(Contour interval must not be greater than 5 feet).	

10.	$\exists$ Finished topographic contours are shown and labeled.	The contour interval is <u>1</u> feet.
	(Contour interval must not be greater than 5 feet).	

Finished topographic contours will not differ from the existing topographic configuration and are not shown.

11. 100-year floodplain boundaries

Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): \_\_\_\_\_

12. 5-year floodplain:

After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above sewer lines.)

After construction is complete, all sections of the force main located within the 5year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

#### Table 2 - 5-Year Floodplain

Line	Sheet	Station to Station
	of	to

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

If applicable, this must agree with Item No. 15 on the Geologic Assessment Form.

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 plugged.

] The wells are not in use and will be properly plugged.

The wells are in use and comply with 16 TAC Chapter 76.

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

14.  $\square$  Legal boundaries of the site are shown.

## Plan and Profile Sheets

The construction drawings and technical specifications will not be considered for review unless they are the **final plans and technical specifications** which will be used by the contractor for bidding and construction.

#### Items 15 – 18 must be included on the Plan and Profile sheets.

15.  $\square$  The equipment installation construction plans must have a minimum scale of 1" = 10'.

Plan sheet scale: 1'' = 20 '.

- 16. 🛛 Locations, descriptions and elevations of all required equipment and piping for the lift station and force main are shown and labeled.
- 17. Air Release/Vacuum Valves will be provided at all peaks in elevation of the proposed force main. These locations are listed in the table below and labeled on the appropriate plan and profile sheets.

Line	Station	Sheet
		of

#### Table 3 - Air Release/Vacuum Valves

- 18. The **final plans and technical specifications** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.
- 19. Attachment A Engineering Design Report. An engineering design report with the following required items is attached:
  - $\boxtimes$  The report is dated, signed, and sealed by a Texas Licensed Professional Engineer.
  - Calculations for sizing system.
  - Pump head calculations, including, but not limited to, system head and pump capacity curves, head loss calculations, and minimum and maximum static head C values for normal and peak operational conditions.
  - $\boxtimes$  100-year and 25-year flood considerations.
  - igtriangleq Total lift station pumping capacity with the largest pump out of service.
  - Type of pumps, including standby units.
  - Type of pump controllers, including standby air supply for bubbler controllers, as applicable.

 $\boxtimes$  Pump cycle time.

Type of wet well ventilation; include number of air changes for mechanical ventilation.

Minimum and maximum flow velocities for the force main.

- $\boxtimes$  Lift station security.
- ☐ Lift station emergency provisions and reliability.

## Administrative Information

- 20. Upon completion of the wet well excavation, a geologist must certify that the excavation was inspected for the presence of sensitive features and submit the signed, sealed, and dated certification to the appropriate regional office.
- 21. The TCEQ Lift Stations and Force Mains General Construction Notes (TCEQ-0591) are included on the General Notes Sheet of the Final Construction Plans for this lift station and/or force main system.
- 22. 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.
- 23. Any modification of this lift station/force main system application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Lift Station/Force Main System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c)(3)(C) and 30 TAC Chapter 217, and prepared by:

Print Name of Licensed Professional Engineer: ALYSSA N. ALVAREZ, PE

Place engineer's seal here:

Date: <u>1/27/25</u> Signature of Licensed Professional Engineer:





#### Lift Station/Force Main System Application (TCEQ-0624)

Attachment A

**Provident Eagles Nest** 

#### Lift Station Design Report

#### INTRODUCTION

The purpose of the subject lift station report is to provide documentation on design decisions for the proposed wastewater lift station. Any proposed development will provide wastewater infrastructure per City of Austin requirements as detailed in the Utility Criteria Manual and per TCEQ requirements as detailed in 30 TAC Chapter 217, Subchapter C.

#### **PROPOSED CONDITIONS**

The proposed conditions of the site will add a total of 74 LUE's generated from 3 office/warehouse buildings. Proposed wastewater infrastructure will convey on-site wastewater from these buildings to the existing 8" wastewater line running through the site (UID 1470228). Part of the improvements include a force main system and lift station at a portion of the site where the grading is not conducive to gravity lines. The portion of wastewater system containing the lift station and force main only captures flows from 2 of the 3 proposed buildings or 38 of the total 74 LUEs produced. The lift station and 4" force main proposed under this SCS application ties into the previously mentioned 8" existing wastewater pipe. Pipe calculations and lengths included below are for reference.

All lift station related calculations are included in the sections below.

#### CALCULATIONS

1. Flow Development

Number of Units: 152,000 SF LUE Rate = 1 LUE per 4,000 unit Total LUEs = 152,000 Units  $*\frac{1 \text{ LUE}}{4,000 \text{ Unit}} = 38 \text{ LUEs}$ 

 Average dry weather flow (GPM): Average Dry Weather Flow = 70 gpcd \* LUEs \* 3.5 person/1440

Average Dry Weather Flow = 70 \* 38 \* 3.5/1440 = 6.47 GPM

• Maximum dry weather flow:

Peaking factor =  $\frac{18 + (0.0206 * F)^{0.5}}{4 + (0.0206 * F)^{0.5}}$ 

Where F = Average dry weather flow (GPM) and the peaking factor has a maximum of 4.

Peak Flow Factor (PFF) =  $\frac{18 + (0.0206 + 6.47)^{.5}}{4 + (0.0206 + 6.47)^{.5}} = 4.22 = 4$ 

Maximum Dry Weather Flow = F \* PFF

Maximum Dry Weather Flow = 6.47 \* 4 = 25.88 GPM

• Maximum wet weather flow:

Site area = 10.75 acres

Inflow and Infiltration (I&I) =  $\frac{750 \text{ GDP/Acre*Acre}}{1440}$ 

Inflow and Infiltration =  $\frac{750*10.75}{1440}$  = 5.60 GPM

Maximum Wet Weather Flow = Max Dry Weather Flow (GPM) + I&I (GPM)

Maximum Wet Weather Flow = 25.88 + 5.60 = 31.48 GPM

• Pump Capacity

Capacity of each pump = 87.4 GPM

Capacity of two pumps = 174.8 GPM > 31.48 GPM

#### 2. Wet Well Design

• Volume between pump on and pump off:

City of Round Rock:

Volume = 
$$\frac{\theta * q}{4}$$

Where  $\boldsymbol{\theta}$  is the minimum cycle time in minutes and  $\boldsymbol{q}$  is the pump capacity in GPM.

Minimum cycle time determined from table in City of Round Rock DACS 1.6.3.H.6 Motor H.P. is between 2 and 50 H.P. so the minimum cycle time is 10 minutes.

Volume required = 
$$\frac{10 \text{ min.}*87.4 \text{ GPM}}{4} = 218.5 \text{ gal}$$

TCEQ:

Volume = 
$$\frac{T*Q}{4*7.48}$$

Where T is the cycle time in minutes and Q is pump capacity in GPM.

According to TCEQ's Figure in 30 TAC §217.60(b)(7), the minimum cycle time is 6 minutes. The proposed pump meets both volume requirements.

Volume required =  $\frac{6 \text{ min.}*87.4 \text{ GPM}}{4*7.48} = 17.52 \text{ ft}^3 = 131.10 \text{ gal}$ 

• Pump Sequencing Provided:

Inlet Pipe	738.53 ft
High-Level Alarm	749.95 ft
Lag Pump On	749.45 ft
Lead Pump On	738.53 ft
Pump Off	737.67 ft

• Volume Provided:

Wet well diameter = 6 ft = 72 inches

Volume =  $(72/12/2)^2 * \pi * (738.53 - 737.67) = 24.31 \text{ ft}^3 = 181.85 \text{ gal}$ 

Volume Provided (181.85 gal) > Volume Required (131.10 gal)

#### 3. Wet Well Detention Time

Detention Time =  $T_d = T_f + T_e$ 

Where  $T_f$  is the time to fill the wet well in minutes which equals V/i

And  $T_e$  is the time to empty the wet well in minutes which equals V/(q - i)

Where V = volume of wet well between pump on and off elevation in gal, q = pump capacity in GPM i = flow into the station

- Detention Time where i = average dry weather flow:  $T_d = (181.85 / 6.47) + (181.85 / (87.4 - 6.47)) = 30.35 \text{ min}$
- Detention Time where i = maximum wet weather flow:  $T_d = (181.85 / 25.88) + (181.85 / (87.4 - 25.88)) = 9.98 \text{ min}$
- Odor Control Requirements 36.99 min < 110.72 min < 180 min, therefore no odor control is required.

#### 4. Static Head

Flow Line at Discharge Manhole = 744.68 feet

Static head on pump on elevation = 744.68 – 738.53 = 6.15 feet

Static head on pump off elevation = 744.68 – 737.67 = 7.01 feet

#### 5. Net Positive Suction Head

All onsite wastewater piping will be gravity pipe varied from 4- to 10q-inch PVC SDR-26. The gravity system will discharge from an 8-inch pipe into the wet well where it is pumped into a 4-inch force main.

Net Positive Suction Head =  $NPSH_A = P_B + H_s - P_V - Hf_S$ 

Where  $P_B$  = barometric pressure in feet absolute; 33.4 feet may be used in COA's service area  $H_S$  = minimum static suction head in feet

 $P_v$  = vapor pressure of liquid in feet absolute; 1.4 feet may be used in COA's service area  $Hf_s$  = friction loss in suction in feet

Net Positive Suction Head = NPSH<sub>A</sub> = 33.4 + 6.15 - 1.4 - 5.25 = 32.90 ft

#### 6. Suction Piping Design

A majority of wastewater piping will be 8" PVC SDR-26 gravity pipe. The gravity system will discharge into a wet well. These wastewater pipes are designed with slopes that will provide a velocity of at least 2 fps flowing full, as calculated using Manning's Equation with a Roughness Coefficient (n) of 0.011. Sewer pipes are also designed with slopes that will provide a velocity less than 10 fps. The remainder of the wastewater piping is to be 4" HDPE DR13.5 force main to be discussed in the following section of this report.

Pipe Diameter	Pipe Type	Minimum Slope	Maximum Slope	
4"	(Force Main)HDPE DR13.5	5.00%	5.00%	
8"	(Gravity) PVC SDR-26	0.50%	1.85%	

#### 7. Force Main Design

All force mains in this project are 4" HDPE DR13.5 per the City of Round Rock UCM 1.6.3.C.11 and TCEQ Title 30, §217.67. The proposed Force Main conveys flows at 4.03 fps from the proposed lift station to a proposed manhole which ties these flows into an existing 8" wastewater line (UID 1470228). This force main is proposed at a location on site where grading does not allow for gravity main design compliant with TCEQ and City of Round Rock regulations.

Pipe Velocity (one pump on):

Velocity = Q/A

Where Q = flow in pipe A= pipe area

Velocity = 
$$\frac{87.4 \text{ GPM}/60 / 7.48}{(4/12/2)^2 * \pi} = 2.232 \text{ fps}$$

• Pipe velocity (two pumps on): Velocity = Q/A

Velocity =  $\frac{174.8 \text{ GPM}/60 / 7.48}{(4/12/2)^2 * \pi} = 4.463 \text{ fps}$ 

• Maximum Time to Flush the Line:

Flush Time =  $(T_f + T_e) * \frac{\text{Force main length}}{\theta/2*V_{fm}*60}$ 

Where  $T_f$  and  $T_e$  use average dry weather flow (GPM) for i  $V_{fm}$  = Flow velocity in the force main in feet per second  $\Theta$  = Pump cycle time in minutes

Flush Time =  $30.35 * \frac{268}{10/2*4.463*60} = 6.07 \text{ min}$ 

• Odor and Corrosion Control

Force main detention flush time is 6.07 min (calculated above) which is less than the 30minute maximum, so odor and corrosion control will not be required.

• Sulfide Generation Potential

Velocities in this system are not expected to reach scouring velocities during average dry weather flow periods. The wastewater system should be inspected regularly to ensure there is no hydrogen sulfide generation or corrosion in the wet well or force main.

#### 8. Head Loss Curves

The system curve and proposed pump curve are plotted in Figure 1 below. The design currently proposed contains two Liberty LGV03-Series 3-15HP Pumps with a 4-inch diameter impeller each designed at 87.4 GPM with 29.2 feet of head. The curve for one pump operating is represented by the green line on the graph and the curve for two pumps operating is represented by the yellow line on the graph. The maximum wet weather flow design point is 31.48 GPM at 15.58 feet and the average dry weather flow design point is 6.47 GPM at 15.06 feet. Head loss for the system was calculated using the Darcy-Weisbach equation.



#### 9. Buoyancy Calculations

Smooth wall Manhole Installation:

• Weight of the Structure:

$$\begin{split} & \mathsf{W}_{\mathsf{total}} = \mathsf{W}_{\mathsf{walls}} + \mathsf{W}_{\mathsf{base}} + \mathsf{W}_{\mathsf{cover}} \\ & \mathsf{W}_{\mathsf{total}} = \left[ \pi \left( \left( \frac{\mathsf{B}_{\mathsf{d}}}{2} \right)^2 - \left( \frac{\mathsf{D}_{\mathsf{i}}}{2} \right)^2 \right) (\mathsf{H} - \mathsf{t}_{\mathsf{b}} - \mathsf{t}_{\mathsf{s}}) \gamma_{\mathsf{C}} \right] + \left[ \frac{\pi}{4} (\mathsf{B}_{\mathsf{d}})^2 (\mathsf{t}_{\mathsf{b}}) \gamma_{\mathsf{C}} \right] + \left[ \pi \left( \left( \frac{\mathsf{B}_{\mathsf{d}}}{2} \right)^2 - \left( \frac{\mathsf{D}_{\mathsf{c}}}{2} \right)^2 \right) (\mathsf{t}_{\mathsf{s}}) (\gamma_{\mathsf{A}}) \right] + \mathsf{W}_{\mathsf{cover}} \end{split}$$

Where H = Height of wet well (ft) 18.42 ft  $B_d$  = Outer diameter (ft) 6.5 ft

- D<sub>i</sub> = Inner diameter (ft) 6
- t<sub>b</sub> = Base thickness (ft) .542 ft
- tw = Wall thickness (ft) .5 ft
- D<sub>c</sub> = Diameter of cover (ft)
- $\Gamma_c$  = Unit weight of concrete (lbs/ft<sup>3</sup>) 150
- $\Gamma_A$  = Unit weight of Aluminum (lbs/ft<sup>3</sup>) 168.5
- $t_s$  = Top of slab thickness (ft) .25 ft

$$W_{\text{total}} = \left[ \pi \left( \left(\frac{6.5}{2}\right)^2 - \left(\frac{6}{2}\right)^2 \right) (18.42 - .542 - .25) * 150 \right] + \left[ \frac{\pi}{4} (6.5)^2 (.542) * 150 \right] + \left[ \left( \left(\frac{6.5}{2}\right)^2 * \pi \right) (.25) (168.5) \right]$$

Wtotal = 12979.69 + 2697.78 + 1379.83 = 17,075.31 lbs down

• Sliding Resistance:

Normal Stress =  $\sigma = (K_a * \gamma_s * H) * d$ 

Where  $\sigma$  = Effective normal stress against the wall (lbs/ft<sup>2</sup>)

 $K_a$  = Active lateral earth pressure coefficient (dimensionless)  $\gamma_s$  = Unit weight of dry soil (lbs/ft<sup>3</sup>) (Assumed value of 120 lbs/ft<sup>2</sup>) H = height of wet well (ft) d = Depth at which normal pressure acts (ft)

Normal Stress =  $\sigma = (.33 * 120 * 18.42) * (18.42 * \frac{2}{3}) = 8957.42 \text{ lbs/ft}^2$ 

 $R_{sliding} = \sigma * f * \pi * B_d$ 

Where f = friction factor (dimensionless)  $B_d$ = Outer diameter (ft)

 $R_{\text{sliding}}$  = 8957.42 \* .5 \*  $\pi$  \* 6.5 = 91456.89 lbs down

Buoyant Force

Buoyant Force = B =  $\gamma_w \left(\pi * \frac{B_d^2}{4}\right) * H$ 

Buoyant Force = B =  $62.4 * \left(\pi * \frac{6.5^2}{4}\right) * 18.42 = 38140.88$  lbs up

• Stability:

 $W_{total} + R_{sliding} \geq B$ 

$$17,075.31 \text{ lbs} + 91456.89 \text{ lbs} = 108,531.80 \text{ lbs} \ge 38,140.88 \text{ lbs}$$

#### 10. Water Hammer

Pressure Wave Velocity = a = 
$$12 / \left( \frac{w}{g} \left( \frac{1}{k} + \frac{d}{Et} \right) \right)^{.5}$$

Where a = pressure wave velocity

w = specific weight of water (62.4  $lb/ft^3$ )

- g = acceleration of gravity  $(32.2 \text{ ft/s}^2)$
- k = bulk modulus of water (300,000 psi)
- d = inside diameter of pipe (in)

E = Young's modulus of pipe (psi) (400,000 psi average for PVC)

t = pipe wall thickness (in)

Pressure wave velocity = a = 
$$12/(62.4/_{32.2}(1/_{300,000} + 4.072/_{400000} * .241))^{.5}$$
 = 1,276.90 fps  
Water Hammer = p =  $\frac{a*v}{2.31*g}$  + operating pressure of pipe (psi)

Where p = water hammer pressure (psi) a = pressure wave velocity v = flow velocity in pipe (ft/s) Operating Pressure =  $2 * S_v * t/d_o$ 

Where  $S_{\gamma}$  = Tensile strength of pipe (psi) t = Pipe wall thickness (in)  $d_{\circ}$  = Pipe outside diameter (in)

Operating Pressure = 2 \* 7,000 \* 0.214/4.072 = 735.76 psi

Water hammer pressure = p =  $\frac{1,276.90 * 4.03}{2.31 * 32.2} + 735.76 = 804.94$  psi

#### Testing, Inspection, and Certification

**Criteria for Laying Pipe:** Pipe embedment, compaction, and envelope size shall comply with TAC Title 30 §217.54 and Austin Water Utility requirements.

**Manholes and Related Structures:** All manhole covers will be at least 30 inches nominal diameter. Manhole connections shall comply with by rule 217.55(n) of the TAC Title 30.

**Testing Requirements for Installation of Gravity Collection System Pipes:** Infiltration and exfiltration test or low air pressure test shall conform to TAC Title 30 §217.57 note 16(a)(1) and 16(a)(2).

**Testing Requirements for Installation of Force Main Pipes:** All force mains shall be subjected to a pressure test and leakage test conforming to TAC Title 30 §217.68.

**Testing Requirements for Manholes:** All manholes shall be subjected to a leakage test and shall conform to TAC Title 30 §217.58.

The professional engineer signing and sealing this document is responsible for the completion of this Engineering Design Report and will certify that all the information provided in this document and in the accompanying set of plans and specifications show full compliance with the requirements of Chapter 217 of the TAC Title 30 (TCEQ's rules).

Signature, Seal, and Date of the Texas Professional engineer who is certifying this document.



#### Engineered Products

Ρ	u	m	p:
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i unip.			
Size:	(X)LGV Series 60Hz (3-	Dimensions:	
Туре:	3-15HP Grinder Pump	Suction:	
Synch Speed:	3600 rpm	Discharge:	3 in
Dia:	4 in		
Curve:	CUSTOM TRIM High FI	c	
Impeller:	3 Vane High Flow - CUS	6	

#### Search Criteria:

Flow:	83.6 US gpm	Near Miss:	
Head:	26.75 ft	Static Head:	0 ft

Fluid:			
Name:	Water		
SG:	1	Vapor Pressure:	0.256 psi a
Density:	62.4 lb/ft <sup>3</sup>	Atm Pressure:	14.7 psi a
Viscosity:	1.1 cP		
Temperature:	60 °F	Margin Ratio:	1
Pump Limits:			
Temperature:	104 °F	Sphere Size:	
Wkg Pressure:		Power:	15 hp
Motor:			
Standard:	Liberty	Size:	3 hp
Enclosure:	N/A	Speed:	3600 rpm
Frame:			•
Sizing Criteria:	Max Power on Desi	gn Curve	
Min Motor Power:	3 hp	-	
Max Motor Power:	15 hp		

#### Pump Selection Warnings:

None





ATTENTION: CUSTOM IMPELLER TRIM SIZES ARE SUBJECT TO A COST ADDER. STANDARD TRIMS ARE ALSO SHOWN IN THIS CATALOG FOR REFERENCE. STANDARD TRIMS ARE: 4.5, 5.4, 6.2, 7.0, and 7.6 INCHES.

#### Performance Evaluation:

Flow	Speed	Head	Power	NPSHr
US gpm	rpm	ft	hp	ft
100	3450	25.2	3	2
83.6	3450	30.4	3	2
66.9	3450	34.5	3	2
50.2	3450	38	3	2
33.4	3450	40.7	3	2





LGV03-Series - 60 Hz

### Model: LGV032A0450S2SBJB-5

Pump Type	HP	Voltage	Hz	Impeller Size	Impeller Material	Seal Config	Seal Material	Discharge	Cord Type	Cord Length
High Volume Grinder Ordinary Location	3 hp	230V 1Ø (ph)	60 Hz	4.5"	Stainless Steel	Dual Seal	Silicon Carbide / Silicon Carbide	Horizontal, 2.0", 2.5" & 3", 150# ANSI, & 2" NPT	Heavy Duty Quick- Connect	50'

### Accessories:

Control Panel: No Control Panel Selected

Start Kit or Capacitor: K001864

Float: No Float Selected

Guide Rail: GR3-ANSI



## Engineered**Products**

# LGV03-Series LGH03-Series Grinder

## **Ordinary Location**

- V-Slice® Cutter Technology
- Dual seal
- 2", 2.5" & 3" ANSI® horizontal discharge with 2" NPT
- Stainless steel impeller
- Standard Quick-connect power and control cords



Proudly built in the USA with US and global components





 $\mathbf{3}_{hp}$ 

. 60 нz



- 2" NPT with 3" NPT flange

Patent: See www.LibertyPumps.com/LEP/patents



# **Technical Data**

LGV03/LGH03-Series - 60 Hz

Model Number	LGH032A	LGH033A	LGH034A	LGH035A	LGV032A	LGV033A	LGV034A	LGV035A
НР	3	3	3	3	3	3	3	3
Volts	230	200/230*	460	575	230	200/230*	460	575
Phase	1**	3	3	3	1**	3	3	3
Hz	60	60	60	60	60	60	60	60
RPM	3450	3450	3450	3450	3450	3450	3450	3450
FLA	24	16(13.8	6.8	5.3	21.5	14.4/12.5	6.5	4.6
LRA	125	119	59	39	125	119	59	39
Max kW Input	5.4	5.2	5.2	4.9	4.7	4.6	4.7	4.2
NEMA Code	_	A	A	А	_	А	А	А
Service Factor	1	1	1	1	1	1	1	1
Power Factor (%)	99	94	94	93	98	93	92	92
KVA Code	F	м	м	К	F	М	М	К
Std Impeller Diameter (in)	5.4	5.4	5.4	5.4	4.5	4.5	4.5	4.5
Shut-Off Head w/Std Impeller (ft)	97	97	97	97	62	62	62	62
Min Head w/Std Impeller (ft)	20	20	20	20	10	10	10	10
Max Flow @ Min Head (GPM)	120	120	120	120	180	180	180	180
Power Cord Type & Diameter	Type W, 1 in	SOOW,0.72 in						

\* System voltages: 208 and 240 volts with utilization voltages: 200 and 230 volts. These pumps are able to be rewired to 460 volts in the field.

\*\* Single-phase motors require capacitors. Liberty Pumps control panel or capacitor kits are recommended for proper operation and warranty. Refer to "Control Panel" section.



# **Technical Data**

LGV03/L<del>GH03</del>-Series - 60 Hz

Motor Insulation Class	H 180°C
Impeller Type	Semi-Open
Impeller Material	Stainless Steel
Control Cord Type & Diameter	18/5 SOOW, 0.375 in
Power Cord Length (Options)	35, 50, 100 ft
Standard Quick-connect Cords	Standard
Heavy-duty Quick-connect Cords	Optional
Upper (Inner) Seal Material	Carbon - Rotating Ceramic - Stationary Viton Elastomers
Lower (Outer) Seal Material)	Silicon Carbide - Rotating Graphite Impregnated Silicon Carbide - Stationary Viton Elastomers
Max Water Temp for Continuous Duty	40°C
Min Fluid Level for Continuous Operation	Motor Housing Fully Submerged
Fluid pH Range	4–10
Starts Per Hour	30
Shaft Material	416 Stainless Steel
Fastener Material	316 Stainless Steel
O-Ring Elastomers	Buna-N

Upper Bearing	Single Row Deep Groove
Lower Bearing	Double Row Angular Contact
Oil Type	ISO VG10 Turbine Oil
Max Submersion Depth	75 ft
Discharge (Std)	Horizontal, 2 in, 2.5 in & 3 in 150# ANSI with 2 in NPT
Discharge (Optional)	Vertical, 2 in & 3 in NPT
Protective External Finish	Epoxy Powder Coat
Seal Fail Detection	Dual Probe - 2 Wire with Resistor 200K ohm Resistance
Thermal Protection	1-phase - 2 Hermetically Sealed Thermostats 3-phase - 3 Hermetically Sealed Thermostats 125°C Opening Temperature 105°C Closing Temperature 3A @ 120VAC, 1A @ 240 VAC
Volute Material	Class 30 Cast Iron
Pump Weight	270 lbs
Cuts Per Minute	Over 400,000
Cutter Material	Hardened 440 Stainless Steel
Certifications	CSA Certified to CSA and UL <sup>®</sup> Standards CAN/CSA C22.2 No. 108-14 ANSI/UL 778 6th Ed

# **Performance Curve**

### LGV03/LGH03-Series - 60 Hz



Pumps must operate within the proper range shown on the performance chart. It is the responsibility of the end user to ensure this requirement is met. Pumps operating outside the recommended range are prone to damage, excessive vibration, cavitation, poor efficiency, and may exceed nameplate amperage.

Specifications are subject to change without notice.




# **Dimensional Data**

LGV03/LGH03-Series - 60 Hz

### Horizontal Discharge





# **Dimensional Data**

LGV03/<del>LGH03-</del>Series - 60 Hz

## Vertical Discharge





# **Specifications and Construction**

LGV03/LGH03-Series - 60 Hz

#### GENERAL

The contractor shall provide labor, material, equipment, and incidentals required to provide 2 (QTY) sewage grinder pumps as specified herein. The pump models covered in this specification are LGH032A, LGH033A, LGH034A, LGH035A high head and LGV032A, LGV033A, LGV034A, LGV035A high volume grinder pumps. The pump furnished for this application shall be model LGV03xxxxxx as manufactured by Liberty Pumps.

#### **OPERATING CONDITIONS**

Each submersible pump shall be rated at 3 hp, Volts, phase, 60 Hz, 3450 RPM. The unit shall produce **83.6** GPM at **26.75'** feet of total dynamic head.

The submersible pump shall be capable of handling residential and commercial sewage and grinding it to a fine slurry, enabling it to be pumped over long distances. The LGH03-Series submersible pump shall have a shut-off head of 97 feet and a max flow of 120 GPM @ 20 feet of total dynamic head. The LGV03-Series submersible pump shall have a shut-off head of 62 feet and a max flow of 180 GPM @ 10 feet of total dynamic head.

#### CONSTRUCTION

Each centrifugal sewage grinder pump shall be equal to the Certified LGH03/ LGV03-Series pumps as manufactured by Liberty Pumps, Bergen NY. The casting enclosing the motor shall be constructed of class 30 cast iron. The motor housing shall be oil-filled to dissipate heat. Air-filled motors shall not be considered equal since they do not properly dissipate heat from the motor. Mating parts shall be machined and sealed with a Buna-N O-ring. All fasteners exposed to the process fluid shall be stainless steel. The motor shall be protected on the top side with a sealed cast iron cord entry plate, which is potted to prevent water from entering through the cord. The motor shall be protected on the lower side with a dual mechanical seal arrangement and an oil-filled intermediate chamber. The upper (inner) seal shall be a two-piece mechanical seal with a carbon rotating and a ceramic stationary face. The lower (outer) seal shall be a two-piece mechanical seal with a silicon carbide rotating and a graphite impregnated silicon carbide stationary face. The upper and lower bearings shall be sized to properly withstand radial and thrust loads produced throughout the full operating range of the pump.

#### POWER AND CONTROL CORD

The submersible pump shall be supplied with 35, 50, or 100 feet of a multiconductor cord of type W for model LGH032A and type SOOW for models LGH033A, LGH034A, LGH035A, LGV032A, LGV033A, LGV034A, and LGV035A. These type W & SOOW power cords carry a voltage rating of 600 V, a temperature rating of 90°C, have oil-resistant insulation, are water- and weather-resistant, UL listed, and CSA approved.

The power cord shall be sized for the rated full load amps of the pump for continuous duty in accordance with the NEC. A separate type SOOW control cord of equal length shall also exit the pump. Both the Standard Quick-connect power and control cords shall have a molded Neoprene plug held in place with a stainless steel compression plate. The plugs engage a receptacle with molded-in electrical pins, all of which shall be protected by a cast iron housing. The motor shall be protected from moisture via these two sealing methods: the plug to receptacle, and receptacle to cast iron housing. The power and control cord leads shall be connected to the motor leads via a terminal block. The Standard Quick-connect cords offer quick cord replacement without the need to send the entire pump to an authorized repair facility and allows for pump maintenance without disturbing electrical boxes or control panels.

# HEAVY-DUTY QUICK-CONNECT CORDS

#### (OPTIONAL)

Optional Heavy-duty Quick-connect cord shall offer quick cord replacement without the need to send the entire pump to an authorized repair facility. This shall also allow for pump maintenance without disturbing electrical boxes or control panels. A terminal block shall be used for internal wire connections.

#### **BEARINGS AND SHAFT**

The shaft shall be supported by two ball bearings. The top bearing shall be a deep groove radial contact ball bearing and the lower bearing shall be a double row angular contact ball bearing designed to handle the radial and axial forces incurred by pumping. The lower bearing shall be positively retained by a threaded bearing retaining nut, which eliminates any axial movement or rotation of the outer bearing race. Both bearings shall be permanently lubricated by the oil that fills the motor housing. Pump designs requiring scheduled bearing maintenance shall not be considered equal. Pumps with single row lower bearings or sleeve bearings shall not be considered equal. The bearing system shall be sized to provide a minimum of 100,000 hours B10 bearing life throughout the operating range of the pump. Pumps that only provide a 50,000 hour B10 bearing life shall not be considered equal.

The motor shaft shall be made of 416 stainless steel. The motor shaft shall be constructed from a single piece of stainless steel. Spin welded shafts shall not be considered equal. The shaft shall be designed to withstand the maximum torque and radial loads present during start-up and normal operation. Shafts of carbon steel or chrome-plated shafts shall not be considered equal.



#### MOTOR

The motor shall be oil-filled, inverter duty, Class H insulated, NEMA A design (3-phase models), and rated for continuous duty. Since air-filled motors are not capable of dissipating heat efficiently, they shall not be considered equal. The mid chamber design utilizing **MidTherm™ Cooling** technology shall allow for oil in the motor chamber to reject heat to the pumped media and provide cooling to the motor. This motor design shall provide significantly reduced operating temperatures. Pumps requiring an auxiliary cooling means shall not be considered equal.

The motor shall be constructed to meet IE3 Premium Efficiency standards in accordance with NEMA MG1. The copper stator windings shall be insulated with moisture-resistant Class H insulation materials, rated for 180°C per NEMA MG1 1.66. The maximum continuous temperature of pumped liquids shall be 40°C. The winding operating temperature at rated horsepower and service factor shall be a maximum of 125°C @ 40°C ambient.

Motor shall have UL approved thermostats mounted directly on the stator windings. Motor shall have two thermostats on the LGH032A and LGV032A models, and three thermostats, one on each phase, on models LGH033A, LGH034A, LGH035A, LGV033A, LGV034A, and LGV035A. The thermostat leads of the control cord shall be connected to a motor control relay in the control panel.

Motor service factor shall be 1.0 under normal conditions and 1.0 when operated on a Variable Frequency Drive (VFD) per MG1 standard. Motor shall have a voltage tolerance of  $\pm 10\%$  from nominal. Motor shall meet the requirements of NEMA MG1 Part 30 and 31 for operation on Pulse Width Modulation type VFD with inverter duty rated magnet wire and insulation. Motor shall be capable of handling up to 30 evenly spaced starts per hour without overheating.

#### SEALS

The pump shall have two shaft seals separated by an oil chamber. Pumps utilizing single seal technology shall not be considered equal. A leak detection probe shall be positioned in the oil chamber and shall allow for continuous monitoring for lower (outer) seal failure. The lower seal shall be a two-piece design that is easily serviceable. Shaft seals shall not require scheduled maintenance. The upper (inner) seal shall be carbon on ceramic and the lower seal shall be silicon carbide on graphite impregnated silicon carbide. Both seals shall include stainless steel housings and Viton elastomers.

#### IMPELLER

The impeller shall be stainless steel. The impeller shall be dynamically balanced, keyed and bolted onto the motor shaft.

#### CONTROL PANEL

All LGH03/LGV03-Series pumps require a control panel. The control panel shall be equipped with circuit breakers and adjustable overload devices to protect against excess current or electrical problems. This device shall be sized appropriately for the pump model(s) being controlled.

The control panel shall include thermal overload relay(s) that shall shut down the pump in the event the thermostats in the motor open. Thermostats are designed to open at 125°C.

The control panel shall include a seal fail monitoring device that shall indicate a primary seal failure. The seal fail monitoring device shall be capable of monitoring the resistance of the seal failure probe in the pump. The sensitivity of the seal fail monitoring device shall be adjustable from approximately  $1K\Omega$  to at least  $250k\Omega$ .

The control panel for 1-phase models shall include a motor start circuit that automatically engages and disengages the start windings of the 1-phase motor. The motor start circuit shall consist of a properly sized relay which engages and disengages the motor start windings. A solid state start switch shall monitor start winding voltage and shall control the aforementioned relay. The start and run capacitors shall be properly sized per the motor specifications. A bleed resistor shall be used on the start capacitor to avoid unwanted voltage spikes during startup. Capacitor start/run components (Kit#K001864) are available for 1-phase models using a non-Liberty Pumps control panel.

		Control Panel Model			
Porop Model	Voltage	Fiberglass Enclosure		Stainless Steel Enclosure	
		Duplex	Simplex	Duplex	Simplex
LGH032A	230	LED2-35A	LES2-35A	LEDS2-35A	LESS2-35A
LGV032A	230	LED2-35A	LES2-35A	LEDS2-35A	LESS2-35A
LGH033A	200/230	LED3-35	LES3-35	LEDS3-35	LESS3-35
LGV033A	200/230	LED3-35	LES3-35	LEDS3-35	LESS3-35
LGH034A	460	LED3-20	LES3-20	LEDS3-20	LESS3-20
LGV034A	460	LED3-20	LES3-20	LEDS3-20	LESS3-20
LGH035A	575	LED5-20	LES5-20	LEDS5-20	LESS5-20
LGV035A	575	LED5-20	LES5-20	LEDS5-20	LESS5-20



#### **CUTTER MECHANISM**

The cutter and plate shall consist of hardened 440 stainless steel with a Rockwell C hardness of 55-60. The stationary cutter plate shall have specially designed orifices through it, which enable the slurry to flow through the pump housing at an equalized pressure and velocity. The stationary cutter plate shall feature patented V-Slice® Cutter Technology. This superior cutting system consists of V shapes to maximize cutting action and arc shape exclusion slots to outwardly eject debris from under the rotary cutter. The rotary cutter shall have four blades and be designed with a recessed area behind the cutting edge to prevent the accumulation and binding of any material between rotary cutter and the stationary cutter plate. The cutter shall be capable of over 400,000 cuts per minute. The cutting system shall incorporate close tolerances for optimum performance. Ring or radial cutters, or those that grind on the outside circumference of shall not be considered equal.

#### SHAFT GROUNDING BRUSH

3-phase pumps shall be equipped with a shaft grounding brush. Pumps not utilizing a current mitigation technology shall not be considered equal.

#### QUALITY CONTROL

The pump shall be manufactured in an  $\rm ISO^{\otimes}$  9001 certified facility. Manufactured in the USA with US and global components.

#### SUPPORT

The pump shall have cast iron support legs, enabling it to be a freestanding unit. The legs shall be high enough to allow solids and long stringy debris to enter the pump inlet.

#### **PROTECTIVE FINISH**

The exterior of the casting shall be protected with corrosion-resistant baked-on epoxy powder coat.

#### TESTING

The pump shall have a ground continuity check and undergo a hi-pot test for electrical integrity, moisture content, and insulation defects. The motor housing and mid chamber shall be pressurized, and an air leak decay test performed to ensure integrity of the assembled unit. The pump shall be run, voltage and current monitored, and checked for noise or other malfunction. Certified performance testing is available upon request.

#### **APPLICATIONS**

- Municipal Engineered Lift Stations
- Storm Water Removal
- Wastewater Transfer
- Industrial Wastewater
- Treatment Plants

#### MATERIAL FEATURES PUMP:

- Grinder High Head or High Volume
- Discharge Horizontal, 2", 2.5" & 3" 150# ANSI, with 2" NPT, Vertical, 2" or 3" NPT
- Seals Dual Mechanical with Viton Elastomers, Upper (Inner) Carbon on Ceramic; Lower (Outer) - Silicon Carbide on Graphite Impregnated Silicon Carbide
- Construction Cast Iron ASTM A48, Class 30, 30,000# Tensile Strength, Protected with a Corrosion-Resistant Baked-on Epoxy Powder Coating
- Hardware 316 Stainless Steel
- O-ring Seals Buna-N
- Stainless Steel Impeller Precision Balanced
- Hardened 440 Stainless Steel Cutter and Cutter Plate
- Cuts per minute over 400,000
- Thermal Sensors and Moisture Detection System
- Optional:
  - Heavy-duty Quick-connect Power and Control Cords
  - Cord Length Options (feet) 35, 50, 100
  - Trimmed Impeller

#### MOTOR:

- 1-Phase 230 Volt, 3450 RPM
- 3-Phase 200/230, 460, 575 Volt, 3450 RPM
- Inverter Duty, Class H Insulation, NEMA A Design (3-phase models)
- Oil-filled Motor Housing
- Cast Iron Housing with **MidTherm™** Cooling deep sump design for Improved Heat Dissipation
- Continuous Duty Operation
- Bearings
  - Upper Single Row Deep Groove Radial Contact
  - Lower Double Row Angular Contact



#### LIMITED WARRANTY

Liberty Pumps, Inc. warrants that pumps of its Engineered Product line are free from all factory defects in material and workmanship for a period of 18 months from the date of installation or 24 months from the date of manufacture, whichever occurs first, and provided that such products are used in compliance with their intended applications as set forth in the Liberty Engineered Products specifications and technical manuals. The date of installation shall be determined by a completed pump start-up report and warranty registration form.

A pump startup report, filled out by a qualified installer, is required for warranty to take effect. The report must be submitted within 30 days from the installation date and submitted through the Liberty Pumps website. During the warranty period, the manufacturer's obligation, and at its discretion, shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the product is returned freight prepaid to the manufacturer or its authorized service center, and provided that none of the following warranty-voiding characteristics are evident:

The manufacturer shall not be liable under this Warranty if the product has not been properly installed or maintained in accordance with the printed instructions provided; if it has been disassembled, modified, abused or tampered with; if the pump discharge has been reduced in size; if the pump has been used in water temperatures above those shown in the specifications; if the thermal overload(s) and seal moisture probe(s) have not been properly connected (where equipped); if the pump has been used in water containing sand, lime, cement, gravel or other abrasives; if the product has been used to pump chemicals or hydrocarbons; if the product has been moved from its original installation location, or if the label bearing the serial and code number has been removed.

Liberty Pumps, Inc. shall not be liable for any loss, damage or expenses resulting from installation or use of its products, or for consequential damages, including field labor costs, travel expenses, rental equipment, costs of removal, reinstallation or transportation to and from the factory or an authorized Liberty Pumps repair facility.

There is no other express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to 18 months from the date of installation or 24 months from the manufacturing date. This Warranty contains the exclusive remedy of the purchaser, and, where permitted, liability for consequential or incidental damages under any and all warranties are excluded.



# Engineered Products

# GR3/GR4-Series Guide Rails

- Class 30 heavy cast iron construction
- Sized for 2" rail pipes (not included)
- Durable nitrile sealing grommet
- Upper stainless steel rail support and mid support bracket included
- Powder coated for corrosion resistance
- Available in 3" and 4" ANSI®
- Maximum pump weight 750 lbs (340 kg)





Mid Support Bracket





Non-sparking "NS" models feature bronze claw for installation in hazardous locations



Proudly built in the USA with US and global components

# **GR3/GR4-Series Guide Rails** Specifications and Dimensional Data

Material: Class 30 Gray Cast Iron (Bronze claw on "NS" models) Weight: See chart for model-specific information Seal: Heavy Duty Nitrile Rail Size: 2" (Not Included) Discharge: All flanges are machined to ANSI 150 lb specifications (See chart for model-specific information) Maximum Pump Weight: 750 lbs Upper Rail Support: Stainless Steel Mid-Rail Support: Stainless Steel

Claw Attachment Bolts: 5/8" - 11 x 1.5" Stainless Steel

Model	ANSI <sup>®</sup> Size	Weight	Series
GR3-ANSI	3"	137 lbs	LGV, LGH, 2LE
GR4-ANSI	4"	150 lbs	3LV, 3LE, 3LM, 3LEV
GR3NS-ANSI	3"	145 lbs	XLGV, XLGH
GR4NS-ANSI	4"	158 lbs	3XLV, 3XLE, 3XLM





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# SMITH PUMP COMPANY LIFT STATION PUMP DOWN PANEL

CONFIDENTIAL Sales Quote Valid until: 1/15/2025 \* Project: Eagles Nest Round Rock Tx Date: 12/16/2024 \* Owner: Eagles Nest Project #: 15771 Allied Underground \* Salesman: Jeff McHattie Contractor: Unknown at this point \* Branch: Austin Engineer: Liberty LGV03 17.9 Estimated \* Pump: FLA Per Pump: 30" x 24" x 10" Estimated Size: Actual FLA Panel Type Voltage/ Phase Seal Fail 230V / 1 Phase Duplex Indicator Light - Interior Power Monitor: **Enclosure Type** No Bypass Switch Horsepower NEMA 4X 304 S.S. Indicator Light - Interior 3 Main Alarm Pump Fail - Start Lag Starter Type Flashing Red Light IEC Alarm & Indicator Light **High Water** Low Water - Redundant Off Activate Main Alarm None ✓ Inner Door Seal Fail Telemetry ✓ Elapsed Time Meters Main Disconnect Switch  $\checkmark$ Phase Fail Telemetry One Phase Monitor Per Motor Select Main Disconnect Alarm Test Pushbutton 110V Convienence Outlet Pump Fail Telemetry ✓ High Water Telemetry Lightning Arrestor ✓ Horn w/ Silence Heater w/ Thermostat Anti - Rapid Cycle Low Water Telemetry 12V Alarm Battery Backup ✓ Lead/ Omit Pump Switch Pump Run Status Telemetry Auto Dialer ✓ Lag Pump Delay On UL 508A Panel OmniSite OmniBeacon Submittal Required Cut Sheets Required Main Alarm Manual Reset Specificiations Provided **DeRagger Lite** 

> Other Options Available - Contact Waco PMG - SHIPPING CHARGES ARE NOT INCLUDED IN SALES QUOTE -

No DeRagger

Eagles Nest Round Rock Tx Eagles Nest Liberty LGV03 15771 Salesman: Jeff McHattie Quote Valid Until: 1/15/2025 Sales Notes: Estimated Delivery: 10 Weeks

12/16/2024

NO spec - Meeting TCEQ Requirements



Permanent Stormwater Section, 7

# **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: ALYSSA N. ALVAREZ, PE

Date: <u>1/27/25</u>

Signature of Customer/Agent

aupsa awaren

Regulated Entity Name: PROVIDENT EAGLES NEST

# 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.



- 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 multifamily 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.

	<ul> <li>A description of the BMPs and measures that will be used to prevent surface water, groundwater, or stormwater that originates upgradient and flows across the site is attached.</li> <li>No surface water, groundwater or stormwater originates upgradient fand flows across the site, and an explanation is attached.</li> <li>Permanent BMPs or measures are not required to prevent pollution or water, groundwater, or stormwater that originates upgradient from t flows across the site, and an explanation is attached.</li> </ul>	pollution of t from the site from the site of surface he site and
7.	Attachment C - BMPs for On-site Stormwater.	
	<ul> <li>A description of the BMPs and measures that will be used to prevent surface water or groundwater that originates on-site or flows off the pollution caused by contaminated stormwater runoff from the site is</li> <li>Permanent BMPs or measures are not required to prevent pollution or groundwater that originates on-site or flows off the site, including caused by contaminated stormwater runoff, and an explanation is attemption.</li> </ul>	pollution of site, including attached. of surface water pollution cached.
8.	Attachment D - BMPs for Surface Streams. A description of the BMPs and that prevent pollutants from entering surface streams, sensitive features is attached. Each feature identified in the Geologic Assessment as sensiti addressed.	d measures , or the aquifer ve has been
	⊠ N/A	
9.	The applicant understands that to the extent practicable, BMPs and meas maintain flow to naturally occurring sensitive features identified in either assessment, executive director review, or during excavation, blasting, or	sures must the geologic construction.
	<ul> <li>The permanent sealing of or diversion of flow from a naturally-occurr feature that accepts recharge to the Edwards Aquifer as a permanent abatement measure has not been proposed.</li> <li>Attachment E - Request to Seal Features. A request to seal a natural sensitive feature, that includes, for each feature, a justification as to v reasonable and practicable alternative exists, is attached.</li> </ul>	ing sensitive pollution ly-occurring why no
10	Attachment F - Construction Plans. All construction plans and design call the proposed permanent BMP(s) and measures have been prepared by o direct supervision of a Texas Licensed Professional Engineer, and are sign dated. The plans are attached and, if applicable include:	culations for r under the ed, sealed, and
	<ul> <li>Design calculations (TSS removal calculations)</li> <li>TCEQ construction notes</li> <li>All geologic features</li> <li>All proposed structural BMP(s) plans and specifications</li> </ul>	
	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
	<ul> <li>Signed by the owner or responsible party</li> <li>Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit</li> </ul>
	A discussion of record keeping procedures
	N/A
12. 🗌	<b>Attachment H - Pilot-Scale Field Testing Plan</b> . 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.
$\boxtimes$	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

degradation. N/A

# Responsibility for Maintenance of Permanent BMP(s)

by the regulated activity, which increase erosion that results in water quality

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

N/A



#### Permanent Stormwater Section (TCEQ-0600) Attachment A

#### 20% or Less Impervious Cover Waiver

A request to waive the requirements is not being requested due to the impervious cover being more than 20%.



#### Permanent Stormwater Section (TCEQ-0600) Attachment B

#### **BMP for Upgradient Water**

Storm water runoff from upgradient areas flow to discharge point C on the attached plan set. Off-site flows are routed through an extension of an existing 6'x3' concrete channel per the North May Expansion Plan into the Batch (Extended) Detention System prevent pollutants in upgradient stormwater being conveyed through the site. See Attachment C for further details on the detention pond mentioned above.



#### Permanent Stormwater Section (TCEQ-0600) Attachment C

#### Permanent BMP's for On-Site Stormwater

Implementation of a parallel Contech Jellyfish Filter system at Detention Pond A and Batch (Extended) Detention system at Detention Pond B have been selected as the permanent Best Management Practice (BMP) to reduce the increase in total suspended solids (TSS) load associated with the site development. The Jellyfish Filter is designed to provide water quality for the proposed development and to meet the Texas Commission on Environmental Qualities Technical Guidance Manual expectations. The TSS removal calculations, provided as Attachment J, demonstrate that the Jellyfish Filter and Batch Detention will sufficiently remove 86% of the increased TSS load when the site is fully developed.



#### Permanent Stormwater Section (TCEQ-0600) Attachment E

#### **Request to Temporarily Seal Features**

There are no "sensitive" and/or "possibly-sensitive" features on the project site, and seals are not being requested.



#### Permanent Stormwater Section (TCEQ-0600) Attachment F

#### **Construction Plans**

Construction plans for this project have been prepared and have been submitted along with this application.



#### Permanent Stormwater Section (TCEQ-0600) Attachment G

#### Inspection, Maintenance, Repair and Retrofit Plan

#### Contech Jellyfish Filters

\*See following Jellyfish Filter Owner's Manual for Inspection/Maintenance instructions. Only professional maintenance service providers trained in confined space entry procedures should enter the vessel.

- a. Maintenance of the Jellyfish Filters is to be done quarterly for the first year of operation. Then, filter cartridges should be annually tested for adequate flow rate, cleaned, recommissioned, or replaced.
- b. For steps pertaining to the external rinsing of the filter cartridges, follow the instructions listed in section 3.2.4 of the Jellyfish Filter Owner's Manual.
- c. In case of a chemical spill, the Jellyfish filter should be cleaned out immediately per section 3.2.6 of the Jellyfish Filter Owner's Manual.

#### Chapter 3

#### 3.0 - Inspection and Maintenance Overview

The primary purpose of the Jellyfish Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, captured pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Maintenance activities may be required in the event of an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- · Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW)

Maintenance activities typically include:

- Removal of oil, floatable trash and debris
- · Removal of collected sediments from manhole sump
- · Rinsing and re-installing the filter cartridges
- · Replace filter cartridge tentacles, as needed.

It is recommended that Jellyfish Filter inspection and maintenance be performed by professionally trained individuals, with experience in stormwater maintenance and disposal services. Maintenance procedures may require manned entry into the Jellyfish structure. Only professional maintenance service providers trained in confined space entry procedures should enter the vessel. Procedures, safety and damage prevention precautions, and other information, included in these guidelines, should be reviewed and observed prior to all inspection and maintenance activities.



#### 3.1 – Inspection

#### 3.1.1 - Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; or per the approved project stormwater quality documents (if applicable), whichever is more frequent.

- Post-construction inspection is required prior to putting the Jellyfish Filter into service. All construction debris or construction-related sediment within the device must be removed, and any damage to system components repaired.
- A minimum of two inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
- Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
- · Inspection is recommended after each major storm event.
- · Immediately after an upstream oil, fuel or other chemical spill.

#### 3.1.2 - Inspection Tools and Equipment

The following equipment and tools are typically required when performing a Jellyfish Filter inspection:

- Access cover lifting tool
- · Sediment probe (clear hollow tube with check valve)
- Tape measure
- Flashlight
- Camera
- · Inspection and maintenance log documentation
- · Safety cones and caution tape
- · Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

#### 3.1.3 – Inspection Procedure

The following procedure is recommended when performing inspections:

- Provide traffic control measures as necessary.
- Inspect the MAW for floatable pollutants such as trash, debris, and oil sheen.
- Measure oil and sediment depth by lowering a sediment probe through the MAW opening until contact is made with the floor of the structure. Retrieve the probe, record sediment depth, and presences of any oil layers and repeat in multiple locations within the MAW opening. Sediment depth of 12 inches or greater indicates maintenance is required.
- Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
- Inspect the MAW, cartridge deck, and backwash pool weir for cracks or broken components. If damaged, repair is required.
- Dry weather inspections: inspect the cartridge deck for standing water.
  - · No standing water under normal operating condition.
  - Standing water **inside** the backwash pool, but not outside the backwash pool, this condition indicates that the filter cartridges need to be rinsed.
  - Standing water outside the backwash pool may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.



The depth of sediment and oil can be measured from the surface by using a sediment probe or dipstick tube equipped with a ball check valve and inserted through the Jellyfish Filter's maintenance access wall opening. The large opening provides convenient access for inspection and vacuum removal of water and pollutants.



- Wet weather inspections: observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW.
  - Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
  - Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
  - **18 inches or greater** and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges are occluded with sediment and need to be rinsed.

#### 3.2 – Maintenance

#### 3.2.1 – Maintenance Requirements

Required maintenance for Jellyfish Filter units is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

- Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
- · Floatable trash, debris, and oil must be removed.
- Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs first.
- Replace filter cartridge if rinsing does not remove accumulated sediment from the tentacles, or if tentacles are damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
- Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
- The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged by the spill.

#### 3.2.2 – Maintenance Tools and Equipment

The following equipment and tools are typically required when performing Jellyfish Filter maintenance:

- Vacuum truck
- Ladder
- · Garden hose and low pressure sprayer
- · Rope or cord to lift filter cartridges from the cartridge deck to the surface
- · Adjustable pliers for removing filter cartridge tentacles from cartridge head plate
- · Plastic tub or garbage can for collecting effluent from rinsed filter cartridge tentacles
- · Access cover lifting tool
- Sediment probe (clear hollow tube with check valve)
- Tape measure
- Flashlight
- Camera
- Inspection and maintenance log documentation
- · Safety cones and caution tape
- · Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- · Proper safety equipment for confined space entry
- · Replacement filter cartridge tentacles if required

#### 3.2.3 - Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

Provide traffic control measures as necessary.



- Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures.
- Caution: Dropping objects onto the cartridge deck may cause damage.
- Perform Inspection Procedure prior to maintenance activity.
- To access the cartridge deck for filter cartridge service, descend the ladder and step directly onto the deck.
   Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.

#### 3.2.4 - Filter Cartridge Rinsing Procedure

- · Remove a cartridge lid.
- · Remove the cartridge from the receptacle using the lifting loops in the cartridge head plate. Caution: Should

a snag occur, do not force the cartridge upward as damage to the tentacles may result. Rotate the cartridge with a slight sideways motion to clear the snag and continue removing the cartridge.

- Thread a rope or cord through the lifting loops and lift the filter cartridge from the cartridge deck to the top surface outside the structure.
- Caution: Immediately replace and secure the lid on the exposed empty receptacle as a safety precaution. Never expose more than one empty cartridge receptacle.
- Repeat the filter cartridge removal procedure until all of the cartridges are located at the top surface outside the structure.
- Disassemble the tentacles from each filter cartridge by rotating counter-clockwise. Remove the tentacles from the cartridge head plate.
- Position a receptacle in a plastic tub or garbage can such that the rinse water is captured. Using a low-pressure garden hose sprayer, direct a wide-angle water spray at a downward 45° angle onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane.
   Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane. Turn membrane upside down and pour out any residual rinsewater to ensure center of tentacle is clear of any sediment.
- Remove rinse water from rinse tub or garbage can using a vacuum hose as needed.
- Slip the o-ring over the tentacle nipple and reassemble onto the cartridge head plate; hand-tighten.
- If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.
- Lower a rinsed filter cartridge to the cartridge deck. Remove the cartridge lid on a receptacle and carefully
  lower the filter cartridge into the receptacle until the head plate gasket is seated squarely on the lip of the
  receptacle. Caution: Should a snag occur when lowering the cartridge into the receptacle, do not force the
  cartridge downward; damage may occur. Rotate the cartridge with a slight sideways motion to clear the snag
  and complete the installation.
- Replace the cartridge lid on the exposed receptacle. Rinse away any accumulated grit from the receptacle threads if needed to get a proper fit. Align the cartridge lid male threads with the cartridge receptacle female threads. Firmly twist the cartridge lid clockwise a minimum 110° to seat the filter cartridge snugly in place, with a proper watertight seal.
- Repeat cartridge installation until all cartridges are installed.



Rinsing of dirty filter cartridge tentacles with a low-pressure garden hose sprayer, and using a plastic garbage container to capture rinse water.



#### 3.2.5 – Vacuum Cleaning Procedure

- Caution: Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening, being careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck. The separator skirt surrounds the filter cartridge zone, and could be torn if contacted by the wand. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
  - To remove floatable trash, debris, and oil, lower the vacuum hose into the MAW opening and vacuum floatable pollutants off the surface of the water. Alternatively, floatable solids may be removed by a net or skimmer.
  - Using a vacuum hose, remove the water from the lower chamber to the sanitary sewer, if permitted by the local regulating authority, or into a separate containment tank.
  - · Remove the sediment from the bottom of the unit through the MAW opening.
  - For larger diameter Jellyfish Filter manholes (8-ft, 10-ft, 12-ft diameter), complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle..
  - After the unit is clean, re-fill the lower chamber with water if required by the local jurisdiction, and re-install filter cartridges.
  - Dispose of sediment, floatable trash and debris, oil, spent tentacles, and water according to local regulatory requirements.

#### 3.2.6 – Chemical Spills

• **Caution**: If a chemical spill has been captured by the Jellyfish Filter, do not attempt maintenance. Immediately contact the local hazard response agency.





A maintenance worker stationed on the surface uses a vacuum hose to evacuate water, sediment, and floatables from the Jellyfish Filter by inserting the vacuum wand through the maintenance access wall opening.





A view of a Jellyfish Filter cartridge deck from the surface showing all the cartridge lids intact and no standing water on the deck (left image), and inspection of the flexible separator skirt from inside the maintenance access wall opening (right image).





Assembly of a Jellyfish Filter cartridge (left) and installation of a filter cartridge into a cartridge receptacle in the deck (right).

#### 3.3 – Disposal Procedures

Disposal requirements for recovered pollutants and spent filtration tentacles may vary depending on local guidelines. In most areas the sediment and spent filtration tentacles, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste.

Petroleum-based pollutants captured by the Jellyfish Filter, such as oil and fuels, should be removed and disposed of by a licensed waste management company.

Although the Jellyfish Filter captures virtually all free oil, a sheen may still be present at the MAW. A rainbow or sheen can be visible at oil concentrations of less than 10 mg/L (ppm).

## **Batch Detention Pond Specification Submittal**

<u>Preface</u> – The following specifications describe the general function and components of a typical Texas Commission on Environmental Quality (TCEQ) approved batch detention pond. The system operates as an "off-grid" electronically controlled solar powered storm water management unit. This batch detention system uses a water level sensor, solar power panel, logic controller w/ microprocessor, and a plug valve with actuator to meet batch detention standards as set by the TCEQ.

<u>Certification</u> – All of the components described below meet TCEQ's batch detention specifications for a 91% Total Suspended Solid removal rate. See attached logic flow chart for overview of system cycles.

#### Components:

- Valve 4" or 6", cast iron, actuated by an electric motor, valve placed in concrete vault when installed below ground, valve placed on concrete pad due to weight
- Actuator low voltage motor mounted on top of valve, bolted in place to concrete vault ceiling
- Extended bonnet Cold rolled steel stem extension that connects valve to actuator when valve is used in subgrade applications, stainless steel flanges
- Main board 24-volt panel that controls all aspects of batch control system
- Batteries two 12-volt 35 amp/hr. sealed lead acid (SLA) connected in series
- Solar Panel 24-volt 30-watt. One charge controller regulates solar panel power for batch control system.
- Sensor 1 float switch mounted on trash rack that indicates when water present in pond and when pond is empty
- Sensor 2 position sensor in actuator determines the orientation of the valve to control positions for start and stop

<u>Controller Programming</u> – All functions of the system are factory programmed which allows the control box, valve, and actuator to received and send commands on their own based on environmental conditions without any human interaction. Manual mode to override switch to open and close valve by flip of a switch and to test all components during inspections. Reset button to reset controller.

Alerts - The main board will illuminate an exterior red light for the following conditions:

- Improper valve function
- Low battery
- Sensor 1 float switch inoperable

<u>Manual Control</u> - In case of electronic inoperability or failed actuator, an effortless clutchless handwheel on the actuator can be turned to open or close valve manually, easy-to-read position indicator displays open/closed valve position

#### Service Schedule:

- Batteries Sealed lead acid batteries can have a design life of anywhere from 3-5 years. Many factors affect service life of the battery, temperature being ones of those factors. Recommended replacement is every 3-5 years. Batteries can be tested annually to determine remaining life expectancy. Battery terminals to be inspected annually.
- Solar Panel(s) Solar panels last 25-30 years. Annual inspection of the batch detention system should verify the surface of the solar panel is clean, facing south, is secure, and has no debris/trees blocking panel from sun.

<u>Quality Installation</u> - Rainwater Specialists, LLC agrees to perform in a good and workmanlike manner. All work detailed in the detailed scope of work sheet shall guarantee the installation of all products and material according to manufacturer's written instructions and construction industry standards.





#### Batch Valve Control System Programmable Logic Flow Chart

# **Circuit Block Diagram**





Rainwater Specialists, LLC 15001 Crosscreek Dr. Austin, TX 78737 www.rainwaterspecialists.com 512-677-RAIN

## **Batch Detention Pond Solar Specifications and Performance**

System Power Consumption – 6.15 AH/day or ~75 wh/day average @ 8 valve turns maximum/week, sized for 5 days of autonomy

Control Board System – 24VDC PCB with error indication and remote cell output

Valve – 24 VDC @ 9 amps, one turn @ 16 seconds

Solar Panel - Solarland 30 Watt, 24 Volts polycrystalline solar module with junction box. Vmp: 34.4V, Imp: 0.87A, Voc: 43.2V, Isc: 0.96A. 21.3" x 20.08" x 1.18", 8.27 lbs.

Charge controller - SunSaver 10 10 Amp, 24 Volt solar charge controller with LVD 6' x 2.18' x 1.32'

Batteries - Universal Power Group UB12350(Group U1) 12V 35 amph 7.68" x 5.16" x 6.14" 23.15lbs



### **Electric Actuated Butterfly Valves**

Ductile Iron Lug Body ASME 150# 2" to 6" Pipe series **5673** 

**Features** 

- Direct mount lug butterfly valve with ISO5211 mount
- Epoxy coated ductile iron body with 316 SS disc
- Unique wave line seat reduces torque and extends seal life
- Visual valve position indicator
- Rugged aluminum Type 4X weatherproof actuator
- · Heavy duty motors with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Two auxiliary position confirmation limit switches
- EPS Electronic Positioning System models available
- Actuators CSA Listed per UL429 and CSA C22.2

#### Applications

EPDM seals typically used for on-off control of water and other compatible media. NBR (Buna-N) seals typically used for air, oil, vacuum and other compatible media. FPM (Viton) seals typically used for on-off control of hydrocarbons, oils and other compatible chemicals/media. Suitable for use with ANSI/ASME Class 125/150 pipe flanges. Actuators designed for 70% duty cycle.

#### Operation

On-Off electric actuated valve uses power-to-open and power-to-close, stays in the last known position with loss of power. On receipt of a continuous voltage signal, the motor runs and via a rugged all metal gear system rotates the ball 90°. The motor is automatically stopped by internal cams striking limit switches. On receipt of a reversing continuous signal, the motor turns in the opposite direction reversing the valve position. Power connections direct to terminal strip via included cable connector, or optional 1/2" NPT conduit adapters.

#### Construction

Valve Body	Epoxy coated ductile iron	
Disc	316 stainless steel CF8M	
Disc Seat/Liner	EPDM, NBR (Buna-N) or FPM (Viton)	
Stem/Stem Seals	420 stainless steel / (2) v-ring, same material as seat	
Gear Drive	Heavy duty alloy steel and aluminum bronze, self locking	
Actuator Enclosure	Aluminum, polyester powder painted, Type 4X, IP67	
Visual Valve Position Indicator	Clear polycarbonate window, ,red/yellow open-closed	
Fasteners	Stainless Steel	
Auxiliary Limit Switches	2 x SPDT (125VAC/5A)	



#### Description

Electric operated direct mount butterfly valves with epoxy- coated ductile iron lug body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 150 flanges and includes integral molded flange gaskets. Disc is precision machined 316SS. Two piece stem and disc design enhances the flow capacity and reduces turbulence. Rugged corrosion resistant electric actuator includes a manual override, valve position confirmation switches, thermostatically controlled anticondensation heater, and over-torque protection.

#### Approvals

#### Actuators



- CSA Listed to:
- UL429 and CSA C22.2 no 139
- Type 4X, IP67 weatherproof enclosure
- CE conformance
- ISO5211 Mounting

#### Valves

- Design complies with API-609, MSS SP-67
- Tests per API-598, AWWA C502-87
- CE according to PED 97/23/EC, ISO5208



### **Electric Actuated Butterfly Valves**

Ductile Iron Lug Body ASME 150# Features and P/T Chart series 5673

#### **Construction Features**





Visual Valve Position Indicator

#### Pressure Rating

Pressure Rating: 230 PSI (16 Bar), Vacuum 29in Hg

#### **Temperature Rating**

Actuator Temperature Rating: -13 to 131° F (-25 to 55° C) Valve Temperature Rating: EPDM seals 0 to 248° F (-18 to 120°C) NBR (Buna-N) seals 5 to 185° F (-15 to 85°C) FPM (Viton) seals 5 to 338° F (-15 to 170°C)

### **Ground Mount Controller and Battery Enclosure**



- Standard boxes are fabricated from .125" thick 5052--H32 aluminum
- Heavy--duty stainless steel continuous
- Heavy--duty stainless steel continuous hinge
- Seams are continuously welded and then sanded smooth
- Adjustable tension stainless steel padlock hasp
- Removable component mounting plate

- Standard finish is a bright white polyester powder--coat inside and out
- Two 7/8" diameter wire holes
- Built to NEMA 3R specifications
- Filtered or screened ventilation louvers
- Hinged front door with PORON door gasket
- Supplied with u--bolts (when pole specified)





#### **Detention Structures**

- a. Accumulated paper, trash and debris should be removed every six (6) months or as necessary.
- b. Corrective maintenance is required any time draw-down does not occur within twenty-four (24) hours.
- c. The structure should be inspected annually and repairs should be made if necessary.
- d. In detention structures, silt shall be removed.
- e. Structural integrity of structures shall be maintained at all times.

than former

Signature of Agent



#### Permanent Stormwater Section (TCEQ-0600) Attachment H

#### Pilot Scale Field Testing Plan

The BMPS used, a Contech Jellyfish Filter and a Batch (Extended) Detention pond, has been recognized by TCEQ as an acceptable permanent stormwater best management practice, and therefore a Pilot Scale Field Testing Plan has not been provided.


#### Permanent Stormwater Section (TCEQ-0600) Attachment I

#### Measures for Minimizing Surface Stream Contamination

While there are no Surface Streams or Wet Surfaces on site, drainage facilities have been designed to capture storm water runoff from proposed developments and direct the on-site storm water through the proposed Contech Jellyfish Filter and Batch Detention Pond. These systems have been designed to treat the stormwater runoff and the detention ponds designed to reduce peak flow rates discharging downstream to that at below existing conditions. Treating the stormwater before it leaves the site will reduce the amount of pollutes downstream. Reduced peak flow rates will result in lower velocities for storm water entering surface streams, thereby reducing the potential for erosion. The filter and batch detention have been designed to provide for TSS removal and increased water quality for storm water discharge downstream.

Attachment J

#### **CONTECH JELLYFISH TSS CALCULATIONS**

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality TSS Removal Calculations

Duoioo	t Noma, Duaridant Paglas Nast		
Date Pr	epared: 11/8/2024		
1. The Required Load R	Reduction for the total project:		
Calculations from RG-348 Pages 3-27 to 3-30	Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$		
L <sub>M TOTAL</sub>	$_{PROJECT}$ = Required TSS removal resulting from the proposed development = 80% $A_N$ = Net increase in impervious area for the project $P$ = Average annual precipitation, inches	ó of increased load	
5	Site Data: Determine Required Load Removal Based on the Entire Project		
	County =	Williamson	
	$rac{1}{10}$	20.64	acres
	Total post-development impervious area within the limits of the plan <sup>*</sup> -	14.05	acres
	Total post-development impervious area within the mints of the plan =	0.72	acres
	P =	32	inches
	$L_{M \text{ total project}} =$	13012	lbs.
	Number of drainage basins / outfalls areas leaving the plan area =	2	
2. Drainage Basin Para	meters (This information should be provided for each basin):		
	Drainage Basin/Outfall Area No. =	P1	
	Total drain and havin (outfall and		
	Predevelopment impervious area within drainage basin/outfall area –	9.04	acres
	Post-development impervious area within drainage basin/outfall area =	7.81	acres
	Post-development impervious fraction within drainage basin/outfall area =	0.81	literes
	$L_{\rm MTHiSBASIN} =$	6798	lbs.
3. Indicate the propose	d BMP Code for this basin.		
	Proposed BMP =	JF	abbreviation
	Removal efficiency =	86	percent
4. Calculate Maximum	TSS Load Removed ( $L_R$ ) for this Drainage Basin by the selected BMP T	<u>уре.</u>	
	RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x ( $A_1$ x 34.6 + $A_P$ x 0.54)		
	$A_{\rm C}$ = Total On-Site drainage area in the BMP catchment area $A_{\rm I}$ = Impervious area proposed in the BMP catchment area $A_{\rm P}$ = Pervious area remaining in the BMP catchment area $L_{\rm R}$ = TSS Load removed from this catchment area by the proposed BMP		
	A <sub>c</sub> =	9.64	acres
	$A_{I} =$	7.81	acres
	$A_{\rm P} =$	1.83	acres
	$L_R =$	7464	lbs.
5. Calculate Fraction of	f Annual Runoff to Treat the drainage basin / outfall area		
	Desired LM THIS BASIN =	6798	lbs.
	F =	0.91	
		-	

#### 6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

	Peak Treatment Flow Required =	8.21	cubic feet per second
	Cartridge Length =	54	inches
Pages Section 3.2.22	Rainfall Intensity = Effective Area =	1.15 7.08	inches per hour acres
Calculations from RG-348	Offsite area draining to BMP = Offsite impervious cover draining to BMP =	0.00 0.00	acres

<u>7. Jellyfish</u> Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size	Vau	lt	_
Jellyfish Size for I	flow-Based Configuration = (2)JFPDo	<b>3811-21-5</b>	
Jellyf	ish Treatment Flow Rate = 8.38	cfs	

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

#### **BATCH DETENTION TSS CALCULATIONS**

Text shown in blue indicate location of instructions in the Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fie	Technical G	Guidance ges to th	Manual - RG-	348. Il remove the equations u	sed in the spreadsheet
1. The Required Load Reduction for the total project:	Ca	alculations	from RG-348	Pages 3-27 t	o 3-30
Page 3-29 Equation	n 3.3: L <sub>M</sub> = 27	.2(A <sub>N</sub> x P)			
where: L <sub>M TOTA</sub>	$A_{N} = Ne$ $A_{N} = Ne$ P = Av	equired TS et increase verage anni	S removal resulti in impervious ar ual precipitation,	ng from the proposed developmen ea for the project inches	t = 80% of increased load
Site Data: Determine Required Load Removal Based on the E	ntire Project County = V	Villiamsor	<b>.</b>		
Total project area included Predevelopment impervious area within the limits of t	in plan * = he plan * =	20.67 0.00	acres		
Total post-development impervious area within the limits of	the plan* =	14.95	acres		
lotal post-development impervious cover	P =	0.72 32	inches		
L <sub>M TOTA</sub>	L PROJECT =	13012	Ibs.		
The values entered in these fields should be for the total p	roject area.		_		
Number of drainage basins / outfalls areas leaving the	plan area =	2	•		
2. Drainage Basin Parameters (This information should be pr	ovided for ea	ch basin)	1		
Drainage Basin/Outfall A	Area No. =	P2&P3	•		
Total drainage basin/ou	ıtfall area =	11.03	acres		
Predevelopment impervious area within drainage basin/ou	itfall area =	0.00	acres		
Post-development impervious area within drainage basin/ou Post-development impervious fraction within drainage basin/ou	itfall area = itfall area =	0.65	acres		
L <sub>M</sub>	THIS BASIN =	6215	Ibs.		
3. Indicate the proposed BMP Code for this basin.					
Propos	sed BMP = Ex	ctended (E	atch) Detentio	n	
Removal e	efficiency =	91	percent	Aqualogic Ca Bioretention Contech Sto Constructed	ntridge Filter mFilter Wetland
				Extended De Grassy Swal Retention / Ir Sand Filter Stormceptor	tention e rigation
				Vegetated Fi Vortechs Wet Basin Wet Vault	ter Strips
4. Calculate Maximum TSS Load Removed (L <sub>R</sub> ) for this Drain	age Basin by	the selec	ted BMP Type.		
RG-348 Page 3-33 Equation	n 3.7: L <sub>R</sub> = (B	MP efficier	ncy) x P x (A <sub>I</sub> x	34.6 + A <sub>P</sub> x 0.54)	
where:	A <sub>C</sub> = To	tal On-Site	drainage area i	n the BMP catchment area	
	$A_i = Im$ $A_2 = Pc$	pervious a	rea proposed in t	he BMP catchment area	
	$L_R = TS$	SS Load re	moved from this	catchment area by the proposed i	BMP
	A <sub>c</sub> =	11 03	acres		
	A <sub>1</sub> =	7.14	acres		
	A <sub>P</sub> = L <sub>R</sub> =	3.89 7255	acres Ibs		
5. Calculate Fraction of Annual Runoff to Treat the drainage	<u>basin / outfal</u>	<u>l area</u>	•		
Desired L <sub>M</sub>	THIS BASIN =	6215	Ibs.		
	F =	0.86	•		
alculate Capture Volume required by the BMP Type for the	his drainage	basin / o	utfall area.	Calculations from RG-348	Pages 3-34 to 3-36
Raint	fall Depth =	1.38	inches		
Post Development Runoff Co On-site Water Quality	v Volume =	0.46 25266	cubic feet		
	с	alculation	s from RG-348	Pages 3-36 to 3-37	
Off-site area draining	g to BMP =	0.00	acres	-	
Off-site Impervious cover draining	g to BMP =	0.00	acres		
Off-site Runoff C	oefficient =	0.00	•		
Off-site Water Quality	/ Volume =	0	cubic feet		

cubic feet

5053

30319

Storage for Sediment =

Total Capture Volume (required water quality volume(s) x 1.20) =



Agent Authorization Form, 8

	Agent Authorization Form For Required Signature Edwards Aquifer Protection Program
	Effective June 1, 1999
I	
DIRECTO	<u>)R, INDUSTRIAL DEVELOPMENT &amp; ACQUISITIONS</u> , Title - Owner/President/Other
of	
have authorized	ALYSSA N. ALVAREZ, PE, Print Name of Agent/Engineer
of	WGI Engineering Print Name of Firm
4	un the balant of the above meneral Operation. Desterouble, on Earlie

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:

pplicant's Signature

-14124 Date

THE STATE OF \_\_\_\_\_\_\_ § County of Da S

BEFORE ME, the undersigned authority, on this day personally appeared <u>Honter Graham</u>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 <u>4</u> day of <u>December</u>, 2024.

JENNIFER LEGER Notary Public, State of Texas Comm. Expires 04-18-2027 Notary ID 126930455

NOTARY PUBLIC

MY COMMISSION EXPIRES: 4.18.27



Application Fee Form, 9

# **Application Fee Form**

Name of Proposed Regulated Entity: PROVIDENT EAGLES NEST         Regulated Entity Location: 3030 EAGLE'S NEST STREET         Name of Customer: PROVIDENT REALTY ADVISORS, INC.         Contact Person: HUNTER GRAHAM       Phone: (972) 385-4100         Customer Reference Number (if issued):CN 604456160         Regulated Entity Reference Number (if issued):RN         Austin Regional Office (3373)				
Regulated Entity Location: 3030 EAGLE'S NEST STREET         Name of Customer: PROVIDENT REALTY ADVISORS, INC.         Contact Person: HUNTER GRAHAM       Phone: (972) 385-4100         Customer Reference Number (if issued):CN 604456160         Regulated Entity Reference Number (if issued):RN         Austin Regional Office (3373)				
Name of Customer: PROVIDENT REALTY ADVISORS, INC.         Contact Person: HUNTER GRAHAM       Phone: (972) 385-4100         Customer Reference Number (if issued):CN 604456160         Regulated Entity Reference Number (if issued):RN         Austin Regional Office (3373)				
Contact Person: <u>HUNTER GRAHAM</u> Phone: <u>(972) 385-4100</u> Customer Reference Number (if issued):CN <u>604456160</u> Regulated Entity Reference Number (if issued):RN Austin Regional Office (3373)				
Customer Reference Number (if issued):CN <u>604456160</u> Regulated Entity Reference Number (if issued):RN Austin Regional Office (3373)				
Regulated Entity Reference Number (if issued):RN Austin Regional Office (3373)				
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 <b>Texas</b>				
<b>Commission on Environmental Quality</b> . Your canceled check will serve as your receipt. <b>This</b>				
form must be submitted with your fee payment. This payment is being submitted to:				
🖂 Austin Regional Office 🛛 🗌 San Antonio Regional Office				
Mailed to: TCEQ - Cashier Overnight Delivery to: TCEQ - Cashier				
Revenues Section 12100 Park 35 Circle				
Mail Code 214 Building A, 3rd Floor				
P.O. Box 13088 Austin, TX 78753				
Austin, TX 78711-3088 (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 DwellingAcres\$				
Water Pollution Abatement Plan, Contributing Zone				
Plan: Multiple Single Family Residential and ParksAcres\$				
Water Pollution Abatement Plan, Contributing Zone				
Plan: Non-residential20.93 Acres\$ 4000				
Sewage Collection System1233 L.F.\$ 650				
Lift Stations without sewer linesAcres\$				
Underground or Aboveground Storage Tank Facility Tanks \$				
Piping System(s)(only) Each \$				
Exception Each \$				
Extension of Time Each \$				

Signature: 000 aware

Date: <u>1/24/25</u>

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

#### **Organized Sewage Collection Systems and Modifications**

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

# Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

#### **Exception Requests**

Project	Fee	
Exception Request	\$500	

#### Extension of Time Requests

Project	Fee	
Extension of Time Request	\$150	



Core Data Form, 10



# **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 desc	cribe in space provided.)			
	·····			
		1 1 1 1 1		
New Permit, Registration or Authorization (Core Data P	-orm should be submitted with i	he program application.)		
Benewal (Core Data Form should be submitted with the	e renewal form)			
2. Customer Reference Number (if issued)	Follow this link to coorsh	3. Regulated Entity Reference Number (if issued)		
	FOILOW LITIS TITIK LO SEAFCH	<b>o i</b> ( <i>i</i> )		
for CN or RN numbers in				
	Central Registry**	<b>D</b> 11		
CN 604456160	central negistry	RN		
	J			

## **SECTION II: Customer Information**

4. General Cu	istomer Ir	nformati	on	5. Effective	Date for Cu	ustome	er Info	ormation	Update	<b>es</b> (mm/dd/	уууу)		12/06/24
New Custor	ner		×υ	pdate to Custo	mer Informa	tion		Chan	ge in Re	egulated Ent	itv Owne	ership	
Change in Le	egal Name	(Verifiable	e with the Tex	as Secretary o	f State or Tex	as Com	ptroll	er of Public	Accour	nts)	,	P	
The Custome	r Name sı	ubmitted	here may b	be updated a	utomatical	ly base	ed on	what is cu	urrent	and active	with th	ie Texas Secr	etary of State
(SOS) or Texa	s Comptro	oller of P	Public Accou	nts (CPA).									
6. Customer I	egal Nan	<b>1e</b> (If an ii	ndividual, prii	nt last name fi	rst: eg: Doe, J	lohn)			<u>If nev</u>	v Customer, (	enter pre	evious Custom	er below:
Provident Realt	y Advisors	, Inc.											
7. TX SOS/CP	A Filing N	umber		8. TX State	<b>Tax ID</b> (11 d	igits)			9. Fe	deral Tax II	D	10. DUNS I	Number (if
0150579	300								(0.1)			applicable)	
0100010	000								(9 dig	(ITS)			
11. Type of C	ustomer:		Corporat	tion				🗌 Individ	lual		Partne	ership: 🗌 Gen	eral 🗌 Limited
Government:	City 🗌 🤇	County 🗌	] Federal 🗌	Local 🗌 State	e 🗌 Other			Sole Pr	roprieto	orship	🗌 Otl	her:	
12. Number o	of Employ	ees							13. l	ndepender	ntly Ow	ned and Ope	erated?
0-20	21-100	⊠ 101-25	0 251-	500 🗌 501	and higher				🖂 Ye	es [	🗌 No		
14. Customer	<b>Role</b> (Pro	posed or	Actual) – as in	t relates to the	Regulated E	ntity list	ted on	this form.	Please d	check one of	the follo	wing	
Øwner		🗌 Ope	rator	0	vner & Opera	ator				C Othory			
	al Licensee	🔀 Re	sponsible Par	rty 🗌	VCP/BSA App	olicant							
15 Mailing													
15. Walling	10210 N	Central E	xpy, Ste. 300										
Address:		I			[	1						·	l
	City	Dallas			State	тх		ZIP	7523	1		ZIP + 4	
16. Country N	Aailing In	formatio	on (if outside	USA)	I	•	17. E-Mail Address (if applicable)						
							Hgr	rham@prov	videntre	alty.net			
18. Telephon	e Number	r			19. Extensio	on or C	ode			20. Fax N	umber	(if applicable)	
												() applicable)	

() -

#### **SECTION III: Regulated Entity Information**

	Neguia								
21. General Regulated En	tity Informat	t <b>ion</b> (If 'New Regulate	d Entity" is select	ted, a new pe	rmit applica	tion is also re	equired.)		
New Regulated Entity 🔲 Update to Regulated Entity Name 🔲 Update to Regulated Entity Information									
The Regulated Entity Nar as Inc, LP, or LLC).	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 Nam	<b>ie</b> (Enter name	e of the site where the	regulated action	is taking pla	ce.)				
Provident Eagles Nest	Provident Eagles Nest								
23. Street Address of the Regulated Entity:	3030 Eagles	Nest St.							
				-		-			
(NO PO Boxes)	City	Round Rock	State	тх	ZIP	78665		ZIP + 4	
24. County	Williamson								
		If no Street Ad	dress is provid	ed, fields 2	5-28 are re	quired.			
25. Description to									
Physical Location:									
26. Nearest City						State		Nea	rest ZIP Code
Latitude/Longitude are ro used to supply coordinate	equired and es where nor	may be added/upd ne have been provid	ated to meet T led or to gain d	CEQ Core D accuracy).	ata Standa	rds. (Geoco	oding of th	ne Physical	Address may be
27. Latitude (N) In Decim	al:		28. Longitude (W) In Decimal:			al:			
Degrees	Minutes	Seco	nds	Degree	25	Mir	nutes		Seconds
30	33	01.	9	97		40			55.7
29. Primary SIC Code	30. 9	Secondary SIC Code		31. Primar	y NAICS Co	de	32. Seco	ndary NAI	CS Code
(4 digits)	(4 di	gits)		<b>(</b> 5 or 6 digit	s)		(5 or 6 dig	gits)	
4225				493110					
33. What is the Primary E	Business of th	nis entity? (Do not	repeat the SIC or	NAICS descri	ption.)				
Warehouse/ Storage									
34. Mailing									
Address:									
	City		State		ZIP			ZIP + 4	
35. E-Mail Address:				L					

36. Telephone Number	37. Extension or Code	38. Fax Number (if applicable)
( ) -		( ) -

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

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

## **SECTION IV: Preparer Information**

40. Name:	Alyssa N. Alvar	ez		41. Title:	Project Manager
42. Telephone Number 43. Ext./Code 44. Fax Number 45. E-Mail Addr		Address			
( 512 ) 669-5560			( ) -	alyssa.alvare	z@wginc.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:	WGI Engineering	Job Title:	Project M	anager	
Name (In Print):	Alyssa N. Alvarez			Phone:	( 512 ) 669- <b>5560</b>
Signature:	augsa awarez			Date:	1/27/2025
	1 0				



Owner Authorization Form, 11



## **Owner Authorization Form**

Edwards Aquifer Protection Program

#### Instructions

Complete the following form by adding the requested information in the fields below. The form must be notarized for it to be considered complete. Attach it to other programmatic submittals required by 30 Texas Administrative Code (30 TAC), Chapter 213, and provide it to TCEQ's Edwards Aquifer Protection Program (EAPP) as part of your application.

If you have questions on how to fill out this form or about EAPP, please contact us by phone at 512-339-2929 or by e-mail at <u>eapp@tceq.texas.gov</u>.

#### Landowner Authorization

I, Dennis Covington on behalf of Round Rock Independent School District

am the owner of the property located at:

Oakmont Centre Sec 1, Lot 2, Acres 7.561 & Partial Replat Of Lot 2, Blk A, Cypress Addition, Lot 2A, Blk A, Ac 13.11

and am duly authorized in accordance with 30 TAC 213.4(c)(2) and 213.4(d)(1), or 30 TAC 213.23(c)(2) and 213.23(d), relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize <u>Provident Realty Advisors, Inc</u> To conduct <u>Construction of three (3)</u> one story light industrial buildings with associated parking, drainage, water quality, and utility improvements. At <u>2930 & 3030 Eagle's Nest Street</u>

#### Landowner Acknowledgement

I understand that <u>Round Rock Independent School District (RRISD)</u>

Is ultimately responsible for the compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation and subject to administrative rule or orders and penalties as provided under 30 TAC 213.10, relating to enforcement. Such violations may also be subject to civil penalties.

#### Landowner Signature

Landowner Signature 1412025

Date

THE STATE § OF <u>Texas</u> County § of <u>William5m</u>

BEFORE ME, the undersigned authority, on this day personally appeared

Dennis Covington, CFO, RRISD

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.

2027

GIVEN under my hand and seal of office on this 14th day of March

132093045 ID:

NOTARY PUBLIC

Name of Notary: \_\_\_\_\_\_ MY COMMISSION EXPIRES:

#### **Optional Attachments**

#### Select All that apply:

- □ Lease Agreement
- □ Signed Contract
- □ Deed Restricted Easement
- $\Box$  Other legally binding documents





Site Construction Plans, 12



#### **Site Construction Plans**

One (1) PDF of site construction plans is being submitted separately in conjunction with this submittal, and one (1) full size set and one (1) half size set can be provided in person upon request.

_	<u> </u>	G		F
	O\ PR 101 DA (97 CC	<u>NNERS / DEVELOPERS</u> OVIDENT REALTY ADVISORS, INC. 210 N CENTRAL EXPY, STE. 300 LLAS, TEXAS 75231 72) 385-4100 DNTACT: HUNTER GRAHAM	SURVEYOR: SUMMIT GEOMATICS INC., 4603 N STAHL PARK, SUITE 103 SAN ANTONIO, TEXAS 78217 (210) 971-4870 CONTACT: ROBERT A. HARPER, RPLS	LANDSCAPE ARCHITECT: WGI 4700 MUELLER BLVD, SUITE 300 AUSTIN, TEXAS 78723 (512) 669-5560 CONTACT: DARCY NUFFER, RLA, ASLA,
5	<u>CI</u> W0 47 AU (5: CC	<u>VIL ENGINEER:</u> GI 00 MUELLER BLVD, SUITE 300 ISTIN, TEXAS 78723 12) 669-5560 INTACT: ALYSSA N. ALVAREZ, PE	ARCHITECT: GSR-ANDRADE ARCHITECTS 2001 N LAMAR STREET, SUITE 400 DALLAS, TEXAS 75202 (214) 824-7040 CONTACT: SYED AHMED, LEED AP B	LEED AP
	<u>NC</u> 1.	<u>)TES:</u> APPROVAL OF THESE PLANS BY THE CITY GOVERNMENTAL ENTITIES MAY BE REQU ADDITIONAL APPROVALS ARE NECESSARY.	OF ROUND ROCK INDICATES COMPLIANCE WITH APPL UIRED PRIOR TO THE START OF CONSTRUCTION. TH	ICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER HE APPLICANT IS RESPONSIBLE FOR DETERMINING IF
	2.	RELEASE OF THIS APPLICATION DOES NOT THE ENGINEER OF RECORD IS SOLELY RE	T CONSTITUTE A VERIFICATION OF ALL DATA, INFORMA	TION AND CALCULATIONS SUPPLIED BY THE APPLICANT. ADEQUACY OF HIS/ HER SUBMITTAL, WHETHER OR NOT
_	3.	THE PLAN IS COMPLETE, ACCURATE, AND ROCK DESIGN AND CONSTRUCTION STAND	IN COMPLIANCE WITH THE CITY OF ROUND ROCK ZONI DARDS.	NG AND DEVELOPMENT CODE, AND THE CITY OF ROUND
	4.	BY THE ACT OF SUBMITTING A BID FOR MATERIAL SUPPLIERS HE INTENDS TO USE DOCUMENTS AND HAVE FOUND THEM CO FURTHER WARRANTS THAT TO THE BEST SPECIFIED OR INDICATED HEREIN ARE ACC	R THE PROPOSED CONTRACT, THE BIDDER WARRANTS E HAVE CAREFULLY AND THOROUGHLY REVIEWED THE I OMPLETE AND FREE FROM ANY AMBIGUITIES AND SU F OF HIS OR HIS SUBCONTRACTORS AND MATERIAL S CEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIE	5 THAT THE BIDDER, AND ALL SUBCONTRACTORS AND DRAWINGS AND SPECIFICATIONS AND OTHER CONTRACT JFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER UPPLIERS KNOWLEDGE ALL MATERIALS AND PRODUCTS S.
	5.	THE LOCATION OF ALL EXISTING UTILITIE NOT MATCH LOCATIONS AS CONSTRUCTE UTILITY, FOR ASSISTANCE IN DETERMINI LOCATIONS OF UTILITY CROSSING PRIO CONDITIONS, THE CONTRACTOR SHALL PI SEALED ON JUNE 19TH, 2024.	ES SHOWN ON THESE PLANS HAS BEEN BASED UPON RED. D. THE CONTRACTOR SHALL CONTACT THE "ONE CALL" ING EXISTING UTILITY LOCATIONS PRIOR TO BEGINNI OR TO BEGINNING CONSTRUCTION. IN THE EVENT ROMPTLY NOTIFY THE ENGINEER. SURVEY PERFORMED	CORD INFORMATION AND/OR A FIELD SURVEY, AND MAY ' SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL NG CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY OF A DISCREPANCY BETWEEN THE PLANS AND FIELD BY SUMMIT GEOMATICS, INC. ON MAY 28TH, 2024 AND
4	6.	ALL CONSTRUCTION OPERATIONS SHALL E HEALTH ADMINISTRATION. (OSHA STAND, MATERIALS MAY BE PURCHASED FROM OSH	BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE ARDS MAY BE PURCHASED FROM THE GOVERNMENT PRI HA, WASHINGTON SQUARE BLVD, SUITE 203, 800 DOLOR	REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND NTING OFFICE; INFORMATION AND RELATED REFERENCE OSA ST, SAN ANTONIO, TEXAS 78207-4559).
	7.	PURSUANT TO 15-12-131 OF THE CITY CO NOR PLACE A BARRICADE OR OTHER TRA FROM THE DEPARTMENT OF PUBLIC WORK	DE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPE FFIC DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OE	DE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, TAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT
	8.	CONTRACTOR SHALL RESTORE ALL SIGN: CONSTRUCTION, CONTRACTORS SHALL R	S AND PAVEMENT MARKINGS TO EXISTING CONDITIO EFER TO THE TEXAS MANUAL ON UNIFORM TRAFFIC	NS FOLLOWING THE COMPLETION OF EACH PHASE OF CONTROL DEVICES (TMUTCD) FOR SIGN AND MARKING
	9.	ALL CONSTRUCTION HEREIN SHALL BE PE OTHERWISE NOTED. NO SEPARATE SPECI	ERFORMED IN ACCORDANCE WITH CITY OF ROUND ROO FICATIONS WILL BE PROVIDED BY WGI.	CK AND/OR TXDOT STANDARD SPECIFICATIONS, UNLESS
_	10.	THE DISTURBED AREAS WITHIN THIS PRO TO THE RELEASE OF FISCAL SURETY FOR PRIOR TO THIS RELEASE TO ENSURE TH DISTURBANCE OF THE PROJECT WHICH IS PHASE [LDC 25-8-184(B)(2)].	DJECT SHALL BE RE-VEGETATED AND ALL PERMANENT E THAT PHASE. 25-8-182(B) TEMPORARY EROSION/SEDI IAT SUBSEQUENT PHASE DISTURBED AREAS ARE ADEC NOT ADEQUATELY RE-VEGETATED SHALL BE BROUGHT 1	ROSION/SEDIMENTATION CONTROLS COMPLETED PRIOR MENTATION CONTROLS SHALL BE ADJUSTED AS NEEDED QUATELY COVERED. ANY AREA WITHIN THE LIMIT OF NTO COMPLIANCE PRIOR TO THE RELEASE OF THE FINAL
	11.	CONTRACTOR SHALL NOTIFY THE CITY OF INSPECTION FEES, AND TO SCHEDULE THE ANY CONSTRUCTION ACTIVITIES WITHIN T HTTPS://WWW.ROUNDROCKTEXAS.GOV/CI HTTPS://WWW.ROUNDROCKTEXAS.GOV/CI OF SUBMITTAL REQUIREMENTS, FEE CALCI	ROUND ROCK – SITE & SUBDIVISION DIVISION TO SUB REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT TY-DEPARTMENTS/PLANNING-AND-DEVELOPMENT-SERVI TY-DEPARTMENTS/TRANSPORTATION/TRAFFIC-OPERATI JLATIONS, AND TO ARRANGE PAYMENT OF INSPECTION	AIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO CES/BUILDING-INSPECTION/ AND ONS/CONSTRUCTION-INSPECTION-SERVICES/ FOR A LIST FEES.
2	12.	EXISTING SIDEWALKS TO REMAIN WITHIN APPLICABLE VERSION OF THE TEXAS ACCE	I THE LIMITS OF CONSTRUCTION HAVE BEEN VERIFIED SSIBILITY STANDARDS, FEDERAL ADA REQUIREMENTS, A	BY THE SURVEY TO COMPLY WITHIN REASON WITH THE ND CITY OF ROUND ROCK STANDARDS.
3	13. 14.	THE WATER QUALITY PONDS PROPOSED W DEVELOPMENT OF STRUCTURES THAT REQ THE CITY OF ROUND ROCK STREET IMPAG REVIEW FOR EACH BUILDING	/ITH THIS SITE PLAN WILL BE PRIVATELY MAINTAINED. QUIRE A BUILDING PERMIT WITHIN THIS SITE PLAN, OR CT FEE ORDINANCES, AS APPLICABLE, AND MUST BE P/	REVISIONS THEREOF, ARE REQUIRED TO COMPLY WITH AID UPON COMPLETION OF THE BUILDING PERMIT PLAN
	15.	FOR MAINTENANCE OF THE WATER QUALI PUBLIC RECORDS, WILLIAMSON COUNTY, 1	ITY AND/OR DETENTION FACILITIES, SEE AGREEMENT TEXAS.	FILED IN DOCUMENT NO , OFFICIAL
	16.	THE SITE IS COMPOSED OF 2 LOTS/TRAC APPLICATION FOR SUBDIVISION AND NO, OFFICIAL P	TS. IT HAS BEEN APPROVED AS ONE COHESIVE DEVELO SITE PLAN APPROVAL MAY BE REQUIRED. PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.	OPMENT. IF PORTIONS OF THE LOTS/TRACTS ARE SOLD, THE RECORDED UDA IS FILED AS DOCUMENT
-	17.	NO STRUCTURE SHALL BE OCCUPIED UNT ROCK.	TL THE DETENTION FACILITY HAVE BEEN CONSTRUCTE	D, INSPECTED AND ACCEPTED BY THE CITY OF ROUND
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# SITE PLAN FOR PROVIDENT EAGLES NEST 2930 & 3030 EAGLES NEST STREET

ROUND ROCK, TX, 78665



## VICINITY MAP N.T.S.

SUBMITTAL DATE: NOVEMBER 20, 2024

**RELATED CASES:** PLAT: RP24-000008 SIP: SIP24-00024 TDLR: TABS2025006097, TABS2025006103, TABS2025006129 TCEQ: TBD WW CAPACITY ANALYSIS: WWC24-00005

SUBMITTED BY:

ALYSSA N. ALVAREZ, P.E. LICENSED PROFESSIONAL ENGINEER NO. 129292 WANTMAN GROUP, INC. (WGI) 4700 MUELLER BOULEVARD, SUITE 300 AUSTIN, TEXAS 78723 (512) 669-5560



I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL . THE PLAN IS COMPLETE, ACCURATE AND IN COMPLIANCE WITH CHAPTER 25-8 SUBCHAPTER A OF THE LAND DEVELOPMENT CODE. [LDC 25-8-152]

		RE	EVISION / CORRECTI	IONS				
No.	DESCRIPTION		SHEET NO.	SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ.FT)	TOTAL SITE IMP. COVER (SQ.FT)/%	APPROVAL DATE	DATE IMAGED
	E		D					С

DESC. NO. C001 C002

COVER SHEET

SHEET INDEX

## CIVIL SHEET INDEX SHEET TITLE

**PROJECT DESCRIPTION:** 

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF THREE (3) ONE STORY LIGHT INDUSTRIAL BUILDINGS ON A 20.67-ACRE SITE WITH ASSOCIATED PARKING, DRAINAGE, WATER QUALITY AND UTILITY IMPROVEMENTS.

#### LEGAL DESCRIPTION:

TRACT 1: LOT 2, OAKMONT CENTRE, SECTION ONE, REVISED, A SUBDIVISION IN WILLIAMSON COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN CABINET F, SLIDE 129 OF THE PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS, SAVE AND EXCEPT THE PORTION CONVEYED TO THE CITY OF ROUND ROCK UNDER DOCUMENT NO. 2014087453 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

TRACT 2: BEING ALL OF THAT CERTAIN TRACT OR PARCEL OF LAND CONTAINING 13.110 ACRES, MORE OR LESS, BEING A PORTION OF LOT 2, BLOCK "A", CYPRESS ADDITION, A SUBDIVISION IN WILLIAMSON COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN CABINET N, SLIDE 266 OF THE PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS SHOWN ON EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF.

## LAND USE SUMMARY:

70NING<sup>.</sup> PROPOSED SITE USE: GROSS ACREAGE: LIMITS OF CONSTRUCTION:

MIXED-USE (WAREHOUSE & OFFICE) 20.67 ACRES ±20.93 ACRES

#### FLOODPLAIN INFORMATION:

NO PORTION OF THIS SITE IS LOCATED WITHIN THE FEMA 100-YEAR FLOODPLAIN. THIS PROPERTY IS LOCATED WITHIN ZONE 'K32', AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON F.I.R.M. PANEL NO. 48491C0491F, ROUND ROCK, TEXAS DATED DECEMBER 20, 2019.

#### WATERSHED:

THIS PROJECT IS LOCATED IN THE BRUSHY CREEK WATERSHED. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE

#### **BENCHMARK:**

<sup>5</sup>/<sub>8</sub>" IRON ROD WITH CAP STAMPED "SUMMIT GEOMATICS, INC." SET FOR THE SOUTHWEST CORNER OF SAID 3.385 ACRE TRACT, THE NORTHWEST CORNER OF SAID PARCEL 19 AND MARKING THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT

## SURVEY BASIS:

BEARING ORIENTATION IS BASED UPON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE 4203, NORTH AMERICAN DATUM OF 1983 (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00. VERTICAL DATUM IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ELEVATIONS WERE ESTABLISHED USING THE ALLTERRA RTK NETWORK. GEOID 18. MEASUREMENTS ARE IN U.S. SURVEY FEET. DISTANCES AND COORDINATES SHOWN HEREON ARE IN SURFACE AND MAY BE CONVERTED TO GRID BY USING THE COMBINED SCALE FACTOR OF 0.99988001

#### TRAFFIC CONTROL PLAN NOTE:

THIS NOTE IS BEING PLACED ON THE PLAN SET IN THE ABSENCE OF A TEMPORARY TRAFFIC CONTROL PLAN (TCP) WITH THE FULL UNDERSTANDING THAT AN ENGINEERED TCP SHALL BE REVIEWED AND APPROVED BY THE CITY OF ROUND ROCK TRANSPORTATION DIVISION. FURTHERMORE, A TCP SHALL BE SUBMITTED TO THE CITY OF ROUND ROCK PERMIT PORTAL FOR REVIEW A MINIMUM OF 6 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT/PROJECT REPRESENTATIVE FURTHER RECOGNIZES THAT A TCP REVIEW FEE IS REQUIRED FOR THE INITIAL REVIEW AND ALL RE-REVIEWS, AS PRESCRIBED BY THE MOST CURRENT VERSION OF THE CITY'S FEE ORDINANCE.

#### THE FOLLOWING MUST BE TAKEN INTO CONSIDERATION:

• REFER TO THE "TXDOT TRAFFIC CONTROL STANDARDS" FOR DEVELOPING TRAFFIC CONTROL STRATEGIES HTTPS://WWW.DOT.STATE.TX.US/INSDTDOT/ORGCHART/CMD/CSERVE/STANDARD/TOC.HTM

• TCPS SHALL NOT BE APPROVED WITHOUT AN APPROVED SITE PLAN, SITE PLAN EXEMPTION, OR GENERAL PERMIT A TRAFFIC CONTROL PLAN IS NOT A PERMIT

ACCEPTED	FOR	CONS	TRUC	FION:

CITY OF ROUND ROCK, TEXAS PLANNING AND DEVELOPMENT SERVICES DEPARTMENT



	CONS	FOR
HONE NO: 512-669-5560		4700 MUELLER BOULEVARD, SUITE 300

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NOVEMBER 20, 2024

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		CIVIL SHEET INDEX
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C006	6	PLAT (3 OF 3)
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C101	8	DETAILED EXISTING CONDITIONS PLAN (1 OF 3)
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C103	10	DETAILED EXISTING CONDITIONS PLAN (3 OF 3)
C200	11	OVERALL EROSION & SEDIMENTATION CONTROL PLAN
C201	12	DETAILED EROSION & SEDIMENTATION CONTROL PLAN (1 OF 3)
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C203	14	DETAILED EROSION & SEDIMENTATION CONTROL PLAN (3 OF 3)
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CS106	25	DETAILED SITE PLAN F
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CS108	27	DETAILED SITE PLAN H
CS201	28	DETAILED SITE DIMENSIONAL CONTROL PLAN A
CS202	29	DETAILED SITE DIMENSIONAL CONTROL PLAN B
CS203	30	DETAILED SITE DIMENSIONAL CONTROL PLAN C
CS204	31	DETAILED SITE DIMENSIONAL CONTROL PLAN D
CS205	32	DETAILED SITE DIMENSIONAL CONTROL PLAN E
CS206	33	DETAILED SITE DIMENSIONAL CONTROL PLAN F
CS207	34	DETAILED SITE DIMENSIONAL CONTROL PLAN G
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CG102	45	
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CG105	48	
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<u>(</u> 10/	150	I DE LAILED GRADING PLAN G

		CONSTRUCTION PRIOR TO	FORMAL CITY APPROVAL
PHONE NO: 512-669-5560			ACCORD A700 MUELLER BOULEVARD, SUITE 300 AVERTIN, TX 78723
	2930 & 3030 EAGLE'S NEST STREET	ROUND ROCK, WILLIAMSON COUNTY, TEXAS 78665	TTAL 2024 CHEET INDEX
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CU100	79	WATERLINE B PLAN & PROFILE - STA 10+00 TO END
CU110	80	WATERLINE C PLAN & PROFILE - STA 10+00 TO 15+00
CU111	81	WATERI INF C PLAN & PROFILE - STA 15+00 TO 20+00
CU112	82	WATERLINE C PLAN & PROFILE - STA 20+00 TO 25+00
CU113	83	WATERLINE C PLAN & PROFILE - STA 25+00 TO STA END
CU114	84	WATERLINE D PLAN & PROFILE - STA 10+00 TO END
CU115	85	WATERLINE E PLAN & PROFILE - STA 10+00 TO STA 15+00
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- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK DESIGN AND CONSTRUCTION ANDARDS SPECIFICATIONS MANUAL
- 2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED, SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
- 3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES, ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS AS APPROPRIATE
- 4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION. 5. THE CONTRACTOR SHALL GIVE THE CITY OF ROUND ROCK 48 HOURS' NOTICE BEFORE BEGINNING EACH PHASE
- OF CONSTRUCTION. TELEPHONE (512) 218-5428 (PLANNING AND DEVELOPMENT SERVICES DEPARTMENT) 6 ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF
- SODDING OR SEEDING AT THE CONTRACTOR'S DISCREPANCY. THE TYPE OF REVEGETATION PROVIDED MUST BE EQUIVALENT TO OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CITY OF
- ROUND ROCK, THE ENGINEER, THE CONTRACTOR, OTHER UTILITY COMPANIES AND ANY AFFECTED PARTIES OR OTHER ENTITY THE CITY OR ENGINEER DEEM NECESSARY. 8. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT
- DEVIATES FROM THE PLANS. CHANGES TO APPROVED, CONSTRUCTION- STAMPED PLANS WILL REQUIRE A REVISION FROM THE ENGINEER THAT IS APPROVED BY THE CITY. THE ENGINEER SHALL FURNISH THE CITY OF ROUND ROCK ACCURATE "AS- BUILT" RECORD DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS- BUILT" RECORD DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT
- THE ROUND ROCK CITY COUNCIL SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY ASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
- 10. WHEN CONSTRUCTION ACTIVITIES ARE TAKING PLACE WITHIN AN EASEMENT, THE CONTRACTOR SHALL CONFINE HIS/HER WORK TO WITHIN THE BOUNDS OF PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE CITY OF ROUND ROCK CIVIL INSPECTOR AND/OR THE CITY ENGINEER.
- 11. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
- 12. AVAILABLE PERMANENT BENCHMARKS (CITY OF ROUND ROCK DATUM) WITH VERTICAL DATUM INFORMATION THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS: AT A <sup>1</sup>/<sub>2</sub> - INCH IRON ROD FOUND ON THE LAST LINE OF WESTVIEW DRIVE (50' WIDE INGRESS/EGRESS EASEMENT0 DESCRIBED IN VOLUME 841, PAGE OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS, OF A CALLED 5.53 ACRE TRACT OF LAND DESCRIBED IN AN INSTRUMENT TO MARCO A. LEAL AND SANDRA G. LEAL RECORDED IN DOCUMENT NO. 2016122585, O.P.R.W.C.T. AND MARKING THE NORTHWEST CORNER OF SAID 5.536 ACRE TRACT AND THE HEREIN DESCRIBED TRACT. ELEVATIONS ARE BASED ON NAVD88 (GEOID 18) B.M NO. 1- MAG NAIL SET IN CONCRETE. ELEV. = 778.30'.

## TRENCH SAFETY NOTES:

- 1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH, IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL. SHALL BE SLOPED. SHORED. SHEETED. BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT SHALL BE PROVIDED AS PART OF A PACKAGE REQUIRED PRIOR TO THE PRE-CONSTRUCTION MEETING AND ANY CONSTRUCTION ACTIVITIES.
- 2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4 FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED IN SUCH A MANNER AS TO REQUIRE NOMORE THAN 25 FEET OF LATERAL
- 3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH BUT, DURING CONSTRUCTION, IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH (OR) TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE SUBMITTED TO THE CITY OF ROUND ROCK FOR REVIEW AND APPROVAL.

## STREET AND DRAINAGE NOTES:

- ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTIN SHALL BE PAID FOR BY THE CONTRACTOR. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE CITY INSPECTOR AND HE/SHE SHALL BE GIVEN A MINIMUM OF 24 HOURS' NOTICE PRIOR TO ANY TESTING.
- PUBLIC ROADWAYS CONSTRUCTED AS PART OF ANY DEVELOPMENT PERMIT SHALL BE FREE FROM DEFECTS.PATCHES, OR REPAIRS PRIOR TO ACCEPTANCE BY THE CITY OF ROUND ROCK. ROADWAYS SHALL HAVE A CLEAR SURFACE FREE FROM ANY GOUGES. MARRING, OR CRACKING TO BE CONSIDERED SUITABLE TO THE CITY OF ROUND ROCK TRANSPORTATION DEPT. NO NEW ROADWAYS SHALL BE ACCEPTED UNTIL ALL CONSTRUCTION TRAFFIC RELATED TO THIS OR ANY ASSOCIATED PERMIT HAS CEASED, AND THE ROADWAY IS OPEN TO AND EXCLUSIVELY USED BY THE GENERAL PUBLIC
- BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO VITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
- 4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC. SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
- 5. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED HOWEVER IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS SUBMITTED TO AND APPROVED BY THE CITY OF ROUND ROCK PLANNING AND DEVELOPMENT SERVICES DFPARTMENT
- 6. BARRICADES BUILT TO CITY OF ROUND ROCK STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY, DURING CONSTRUCTION, TO MAINTAIN JOB AND PUBLIC SAFETY.
- 7. ALL R.C.P. SHALL BE MINIMUM CLASS III. ALL PUBLIC R.C.P. SHALL BE A MINIMUM OF 18-INCHES IN DIAMETER.
- 8. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY AND THE PAVING SECTIONS DESIGNED IN ACCORDANCE WITH THE CURRENT CITY OF ROUND ROCK DESIGN CRITERIA. REFERENCE THE PAVEMENT SECTION OF THE GEOTECH REPORT PREPARED BY RONE ENGINEERING SERVICES, LLC, DATED JUNE 6TH, 2024, PROJECT NO # 24-28777 FOR PAVING SECTION CRITERIA.
- THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE GEOTECHNICAL REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.
- WHERE PL'S ARE OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT.

## **TRAFFIC MARKING NOTES:**

- ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION
- 2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND, THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

# **EROSION AND SEDIMENTATION CONTROL NOTES:**

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

## TCEQ LIFT STATIONS AND FORCE MAINS:

- This lift station and/or force main must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Rules, and any local government standard specifications.
- 2. Any modification to the activities described in the referenced Lift Station/Force Main (LSFM) System application following the date of approval may require the submittal of a LSFM System application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.
- 3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include: - the name of the approved project; - the activity start date; and
  - the contact information of the prime contractor.
- Upon completion of any lift station excavation, a geologist must certify that the excavation has been inspected for the presence of sensitive features. The certification must be signed, sealed, and dated by the geologist preparing the certification. Certification that the excavation has been inspected must be submitted to the appropriate regional office. - If sensitive feature(s) are identified, all regulated activities near the sensitive feature must be suspended immediately and may not proceed until the executive director has reviewed and approved the methods proposed to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality from the lift station. - Construction may continue if the geologist certifies that no sensitive feature or features were present.
- If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovery. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing within two working days. The applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially TCEQ-0591 (Rev. 2-26-2016) Page 2 of 2 adverse impacts to water quality while maintaining the structural integrity of the line.
- All force main lines must be tested in accordance with 30 TAC §217.68. Testing method will
- A pressure test must use 50 pounds per square inch above the normal operating pressure of a force main. - A temporary valve for pressure testing may be installed near the discharge point of a
- force main and removed after a test is successfully completed. - A pump isolation valve may be used as an opposite termination point.
- A test must involve filling a force main with water. - A pipe must hold the designated test pressure for a minimum of 4.0 hours.
- The leakage rate must not exceed 10.0 gallons per inch diameter per mile of pipe per

ON THIS DATE:

## WATER AND WASTEWATER NOTES:

- 1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 200), OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). WATER SERVICES (2" OR LESS) SHALLBE POLYETHYLENE TUBING (BLACK, 200 PSI, DR 9).
- 2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26 HIGHER PRESSURE RATED (160 PSI), OR DUCTILE IRON (AWWA C-100, MIN, CLASS 200), PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200). UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTOF THE PAVEMENT SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
- 3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
- 4. ALL FIRE HYDRANT AND SPRINKLER LEADS SHALL BE DUCTILE IRON PIPE (AWWA C-100, MIN. CLASS 5. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE AND
- SEALED WITH DUCT TAPE OR EQUAL ACCEPTED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR. 6. THE CONTRACTOR SHALL CONTACT THE CITY OF ROUND ROCK INSPECTOR TO COORDINATE UTILITY
- TIF-INS AND NOTIFY HIM/HER AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING LINES. 7. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. TAPPING OF FIBERGLASS MANHOLES IS PROHIBITED.
- 8. THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION, A COPY OF THIS PERMIT MUST BE POSSESSED AT ALL TIMES BY ANY PARTIES WHO UTILIZE WATER. CONTACT THE METER SERVICES SUPERVISOR AT (512) 218-5575 FOR ADDITIONAL INFORMATION.
- 9. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED IN ADVANCE WITH THE CITY OF ROUND ROCK CIVIL INSPECTOR.
- 10. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM STERILIZATION OF ALL POTABLE WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING TEST GAUGES), SUPPLIES (INCLUDING CONCENTRATED CHLORINE DISINFECTING MATERIAL), AND NECESSARY LABOR REQUIRED FOR THE STERILIZATION PROCEDURE. THE STERILIZATION PROCEDURE SHALL BE MONITORED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR. WATER SAMPLES WILL BE COLLECTED BY THE CITY OF ROUND ROCK TO VERIFY EACH TREATED LINE HAS ATTAINED AN INITIAL CHLORINE CONCENTRATION OF 50 PPM. WHERE MEANS OF FLUSHING IS NECESSARY, THE CONTRACTOR, AT HIS EXPENSE, SHALL PROVIDE FLUSHING DEVICES AND REMOVE SAID DEVICES PRIOR TO FINAL ACCEPTANCE BY THE CITY OF ROUND ROCK.
- 11. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTOR'S REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF ROUND ROCK NOT LESS THAN (24) HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY. THE CONTRACTOR SHALL SUPPLY A CHECK OR MONEY ORDER, PAYABLE TO THE CITY OF ROUND ROCK, TO COVER THE FEE CHARGED FOR TESTING EACH WATER SAMPLE. FEE AMOUNTS MAY BE OBTAINED BY CONTACTING THE CITY OF ROUND ROCK ENVIRONMENTAL SERVICES LABORATORY AT (512) 218-5561 OR WATERLAB@ROUNDROCKTEXAS.GOV.
- 12. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALLWATER LINES CONSTRUCTED. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THESE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR.
- 13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF ROUND ROCK CIVIL INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.
- 14. THE CONTRACTOR (OR SUBCONTRACTORS) SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS DIRECTED TO DO SO BY CITY OF ROUND ROCK PERSONNEL 15. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.
- 16. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:

WATER SERVICE

WASTEWATER

SERVICE VALVE

"W' ON TOP OF CURB
(BLUE COLOR) "S" ON TOP OF CURB
"V" ON FACE OF CURB

SPECIFICATION:

- 17. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND APPROVED BYTHE CITY OF ROUND ROCK.
- 18. CONTACT THE CITY OF ROUND ROCK PUBLIC WORKS DEPARTMENT FOR ASSISTANCE IN DETERMINING EXISTING WATER AND WASTEWATER LOCATIONS. THE CITY OF ROUND ROCK FIRE DEPARTMENT SHALL BE NOTIFIED 48 HOURS PRIOR TO TESTING OF
- ANY BUILDING SPRINKLER PIPING SO THAT THEY MAY BE PRESENT TO MONITOR SUCH TESTING. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING

TO ASTM C33 FOR STONE QUALITY AND MEET	ING THE FOLLOWING GRADATION
SIEVE SIZE	PERCENT RETAINED BY WEIG
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

21. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM. 22. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 217, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF ROUND ROCK SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY

## ROUND ROCK FIRE DEPARTMENT NOTES:

- GENERAL: ALL DEVELOPMENTS SHALL COMPLY WITH THE CURRENT FIRE CODE, APPENDICES, AND ANY LOCAL AMENDMENTS AS ADOPTED BY THE CITY OF ROUND ROCK.
- COMBUSTIBLE MATERIALS ON-SITE: ALL-WEATHER ACCESS ROADS/DRIVES (ASPHALT/CONCRETE CAPABLE OF SUPPORTING 80,000 LB. APPARATUS LOADING) SHALL BE CONSTRUCTED, AND ALL WATER LINES SHALL BE TESTED AND FIRE HYDRANTS IN-SERVICE, PRIOR TO BRINGING COMBUSTIBLE MATERIALS (WOOD, PACKAGING, PLASTICS, ETC.) ON ANY JOB SITE. BASE MATERIAL IS NOT ACCEPTABLE FOR FIRE ACCESS ROADS/DRIVES.
- 3. FIRE LANES: FIRE APPARATUS ACCESS ROADS/DRIVES SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF (20) FEET. WHERE TRAFFIC IS TWO-WAY DIRECTIONAL, BUILDINGS EXCEED (30) FEET OR THREE STORIES ÎN HEIGHT, TOTAL BUILDING AREA EXCEEDS 62,000 SQUARE FEET, OR WHERE HYDRANTS ARE LOCATED ALONG THE FIRE 13 ACCESS ROADS. THE MINIMUM WIDTH SHALL BE (26) FEET, IE RAISED CURBING OR MEDIANS COMPROMISE MINIMUM WIDTH. CURBING SHALL BE MOUNTABLE AND RAISED AREA SHALL CONTAIN NO OBSTRUCTIONS SUCH AS LANDSCAPING, SIGNAGE, GROUND-MOUNTED EQUIPMENT, ETC.
- ALL-WEATHER SURFACE: THE PAVEMENT STRUCTURE FOR FIRE ACCESS ROADS/DRIVES MUST BE ALLWEATHER SURFACE (ASPHALT/CONCRETE) DESIGNED TO SUPPORT AN 80,000 LB. APPARATUS LOADING. 5. GRADE: THE GRADE THROUGH THE FIRE LANE ACCESS SHALL NOT EXCEED 7% AND NO GRADE BREAKS SHALL EXCEED 3%.
- TURNING RADII: TURNING RADII SHALL BE A MINIMUM OF 25-FTT INSIDE AND 50-FT OUTSIDE AS
- MEASURED FROM FACE-OF-CURB (WHEN PRESENT) OR ON DRIVABLE, PAVED SURFACE. VERTICAL CLEARANCE: THE VERTICAL CLEARANCE OVER A DESIGNATED FIRE LANE SHALL NOT BE LESS 7. THAN 13'-6".
- EMERGENCY RESPONDER RADIO COVERAGE: ADEQUATE EMERGENCY RESPONDER RADIO COVERAGE SHALL 8. BE REOUIRED FOR ALL NEW BUILDINGS. A PRE-ENHANCEMENT RADIO SURVEY SHALL BE REOUIRED AT THE 80% CONSTRUCTION PHASE FOR CERTAIN BUILDING TYPES BASED ON THE SIZE OF THE BUILDING PREENHANCEMENT RADIO SURVEY REQUIREMENTS INCLUDE THE FOLLOWING BUILDING TYPES: GREATER THAN (5) STORIES BELOW GRADE PLANE WOOD FRAMED CONSTRUCTION GREATER THAN 50.000 SF CONCRETE OR METAL FRAMED CONSTRUCTION GREATER THAN 25,000 SF
- REQUIRED FIRE FLOWS: A PROJECT'S MINIMUM FIRE FLOW FOR THE LARGEST BUILDING SHALL BE MEASURED AT (20) PSI RESIDUAL PRESSURE THAT IS AVAILABLE FOR FIREFIGHTING PER THE FLOWS ON TABLES B105.1 OR B105.2 OF THE INTERNATIONAL FIRE CODE (IFC), APPENDIX B. DISCLAIMER: IT IS THE RESPONSIBILITY OF THE DEVELOPER AND ENGINEER TO ENSURE THESE MINIMUM FIRE FLOW REQUIREMENTS FOR THE SITE ARE MET VIA FLOW TESTING AND WATER MODELING.
- 10. SPRINKER SYSTEMS: BUILDINGS EQUIPPED WITH ANY FIRE DEPARTMENT CONNECTIONS (FDC) SHALL HAVE A FIRE HYDRANT LOCATED WITHIN 100' OF THE FDC (REMOTE FDC IS PERMISSIBLE). FDC SHALL BE IDENTIFIED ON THE SITE VIA SIGNAGE.
- GATES: IF GATES ARE PROVIDED ALONG ANY FIRE ACCESS ROAD/DRIVE, MINIMUM PASSABLE WIDTH SHALL NOT BE LESS THAN (20) FEET AND SHALL COMPLY WITH IFC APPENDIX D AND ROUND ROCK CODE OF ORDINANCES REGARDING EMERGENCY ACCESS SYSTEMS. GATES WILL REQUIRE A KNOX-BOX® KEY BOX THAT SHALL CONTAIN KEYS TO GAIN NECESSARY ACCESS AS REQUIRED BY THE FIRE CODE OFFICIAL.
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	ΒΙ	Α	
CAP STAMPED "SUMMIT GEOMATICS INC" : LENGTH OF 461.83 FEET, HAVING A RADIUS 455.68 FEET TO A 5/8-INCH IRON ROD WITH STAMPED "SUMMIT GEOMATICS INC" SET IN : LENGTH OF 70.11 FEET, HAVING A RADIUS 70.09 FEET TO THE POINT OF BEGINNING		PLAT OF         PLAT OF         PRESS ADDITION         PRESS ADDITION         SS of LAND         SS of LAND <tr< td=""><td>NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL</td></tr<>	NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL
CAP STAMPED "SUMMIT GEOMATICS INC" SET FOR CORNER; 5) NORTH 27" 27" 44" EAST FOR A DISTANCE OF 29.10 FEET TO A 5/8-INCH IRON ROD WITH C SET FOR THE BEGINNING OF A CURVE TO THE LEFT; 6) ALONG SAID CURVE TURNING TO THE LEFT WITH A DELTA ANGLE OF 32" 28" 04", AN ARCI OF 815.00 FEET, AND WHOSE LONG CHORD BEARS NORTH 30" 22" 01" EAST FOR A DISTANCE OF 4 CAP STAMPED "SUMMIT GEOMATICS INC" SET FOR CORNER; 7) NORTH 37" 07" 15" EAST FOR A DISTANCE OF 48.19 FEET TO A MAG NAIL WITH WASHER S1 A CONCRETE DRAINAGE CHANNEL FOR THE BEGINNING OF A CURVE TO THE LEFT; 8) ALONG SAID CURVE TURNING TO THE LEFT WITH A DELTA ANGLE OF 04" 48" 39", AN ARCI OF 835.00 FEET, AND WHOSE LONG CHORD BEARS NORTH 08" 40" 55" EAST FOR A DISTANCE OF 7 ACONTRETE DRAINAGE CHANNEL FOR THE BEGINNING OF A CURVE TO THE LEFT; 8] ALONG SAID CURVE TURNING TO THE LEFT WITH A DELTA ANGLE OF 04" 48" 39", AN ARCI 0F 835.00 FEET, AND WHOSE LOND.		PARTIAL REF LOT 2, BLOCK A CYP BEING A 13.11 ACRE STUATED IN THE DAVID CUR CITY OF ROUND ROCK, MILLIAM CITY OF ROUND ROCK, MILLIAM STUATED IN THE DAVID CUR STUATED IN THE	PHONE NO: 512-669-5560 PHONE NO: 512-669-5560 MODDO ACCORDENCE ACCORD ACC
PIPES, VAUUS, VAULIS, MAHOLES, CHANRELS, INLETS, STRUCIUMES, ACCESS FACULITIES, CONDULIS, AFTON FLANNES, AND ANY RECESSARY ACCESSORIES THERETO (COLLECTIVELY THE "FACILITIES'). THIS CONVEYANCE IS MADE AND ACCEPTED SUBJECT TO ANY AND ALL CONDITIONS AND RESTRICTIONS, IF ANY, RELATING TO THE HEREIN BOVE DESSORIBED PROPERTY TO THE EXTENT, THAT THE SAME MAY STILL BE IN FORCE AND EFFECT AND SHOWN OF RECORD IN THE OFFICE OF THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS OR TRAVIS CONUNTY, TEXAS. EXCEPT AS OTHERWISE NOTED, THE EASEMENT, RIGHTS, AND PRIVILEGES HEREIN GRANTED SHALL BE PERPETUAL. PROVIDED HOWEVER THAT SAID EASEMENT, RIGHTS, AND PRIVILEGES HEREIN GRANTED SHALL BE PERPETUAL. PROVIDED HOWEVER THAT SAID EASEMENT, RIGHTS, AND PRIVILEGES HEREIN GRANTED SHALL BE PERPETUAL. PROVIDED HOWEVER THAT SAID EASEMENT, RIGHTS, AND PRIVILEGES HEREIN GRANTED SHALL BE PERPETUAL. PROVIDED HOWEVER THAT SAID EASEMENT, RIGHTS, AND PRIVILEGES HEREIN GRANTED SHALL BE PERPETUAL. PROVIDED HOWEVER THAT SAID EASEMENT, RIGHTS, AND PRIVILEGES GRANTED HEREIN BREE SCOURDS IN THE EVENT THE UTILITIES ARE ABANDONED OR SHALL CEASE TO BE IN OPERATION, FOR A PERINGSES COVERED BY THIS GRANT, WITHOUT THE EXPRESS WRITTEN CONVEY ANY OTHER EASEMENT OR CONFLUCTING RIGHTS, AND PRIVILEGES GRANTED HEREIN ARE EXCLUSIVE, AND GRANTOR COVENANTS NOT TO CONVEY ANY OTHER EASEMENT OR CONFLUCTING RIGHTS AND REMAINSES COVERED BY THIS GRANT, WITHOUT THE EXPRESS CONSENT OF GRANTEG, WHICH AND RELIVIES COVERED BY THIS GRANT, WITHOUT THE EXPRESS PROPOSED EASEMENT FOR OTHER EASEMENTS, GRANTEE MAY REQUIRES GOVERED BY THIS GRANT, WITHOUT THE EXPRESS CONSENT OF GRANTEG WHICH AND RELAXED COVERED BY THIS GRANT, WITHOUT THE EXPRESS PROPOSED EASEMENT FOR OTHER EASEMENTS, GRANTEE MAY REQUIRE REASONABLE SAFEGUARDS TO PROFECT THE INTEGRITY OF THE FACILITIES THEREON.	<ul> <li>(a) THE RIGHT TO INSTALL ADDITIONAL FACUTIES ON THE EASEMENT TRACT:</li> <li>(b) THE RIGHT TO GRADE THE EASEMENT FOR THE EASEMENT TRACT.</li> <li>(c) THE RIGHT TO GRADE THE EASEMENT FOR THE FALL WIDTH THEREOF AND TO EXTEND THE CUTS AND FILLS FOR SUCH GRADING INTO THE LAND ALONG AND OUTSIDE THE EASEMENT TO VOLE AND ACROSS GRANTEEMAY FIND REGESSARY.</li> <li>(c) THE RIGHT OF RIGHTS FOR ADDITIONAL FACILITIES ON THE EASEMENT TO SUCH EXTENT AS GRANTEEMAY FIND REGESSARY.</li> <li>(d) THE RIGHT OF RIGHTS FOR ADDITIONAL FACILITIES ON THE EASEMENT TO VER AND ACROSS GRANTEEMAY FIND REGESSARY.</li> <li>(e) THE RIGHT OF RIGHTS FROM THE EASEMENT TO VER AND ACROSS GRANTEMAY FIND REGESSARY.</li> <li>(d) THE RIGHT OF RIGHTS FROM THE EASEMENT FOR THE LAST PRACTICABLE DAMAGE AND NOW PREDREAD FROM THE RIGHT OF THE GRANTER FOR THE RIGHT OF THE GRANTER RIGHT OF THE RIGHT OF THE GRANTER RIGHT OF THE GRANTER RIGHT OF THE GRANTER RIGHT OF THE RIGHT OF THE</li></ul>	<ul> <li>OF THE EXERNENT</li> <li>OF THE EXERNENT</li> <li>OF ANALTER PRACT IN CONSTRUCT THE EXERT OF CONSTRUCT THE ANAL DO TARE HARTER SHALL PROMITLY BACKELL ANY TERCH.</li> <li>OF BAWTEE SHALL PROMITLY BACKELL ANY TERCH.</li> <li>OF BAWTEE SHALL PROMITLY BACKELL ANY TERCH.</li> <li>OF THE EXERCISE OF THE REAM FOR THE CAURSE SAND AMAGE IT SHALL DO TO RESTRUCT THE ROMATE OF THE REAM FOR THE R</li></ul>	INITIAL SUBMITTAL NOVEMBER 20, 2024 UNTY, TEXAS 78665 3)
OTHER LANDS INTENDED FOR PUBLIC DEDICATION AS SHOWN HEREON.	MY COMMISSION EXPIRES: CITY OF ROUND ROCK CERTIFICATION APPROVED THIS DAY OF 20 BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT OF THE CITY OF ROUND ROCK, TEXAS, AND AUTHORIZED TO BE FILED FOR RECORD BY THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS. THE PROPERTY COVERED BY THIS PLAT IS WITHIN THE CITY LIMITS OF THE CITY OF ROUND ROCK. THE PROPERTY COVERED BY THIS PLAT IS WITHIN THE CITY LIMITS OF THE CITY OF ROUND ROCK. BRADLEY DUSHKIN, AICP DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES DEPARTMENT	CITY OF ROUND ROCK STATE OF TEXAS § COUNTY OF WILLIAMSON § THAT I, INANCY RISTER, CLERK OF THE COUNTY, TEXAS, DO HEREBY CERTIFY THAT THAT I, INANCY RISTER, CLERK OF THE COUNTY OF ALTHENTICATION, WAS FILED FOR THE FOREGOING INSTRUMENT IN WRITING, WITH IT'S CERTIFICATE OF ALTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE JAD. ATOCLOCKM IN THE PLAT RECORDS OF SALD COUNTY, IN DOCUMENT NUMBER	CUND ROCK, WILLIAMSON COL ROUND ROCK, WILLIAMSON COL SHEET COOC
	B regord and 21:01 4202\71\01 .gwb.(2)11019399N29103-01014	A ۲: /03_SunaRock /03_Finals/01_CAD/2 ۲	6 OF 105 SDP24-00030









0	20' 2 LEG	60' 80' END	ORIZED FOR	ION PRIOR TO	TY APPROVAL
		BOUNDARY / R.O.W. EASEMENT / SETBACK CURB / EDGE OF PVMT BUILDING FACE CONTOUR WATER LINE WASTEWATER LINE FORCE MAIN STORM DRAIN LINE OVERHEAD UTILITY UNDERGROUND UTILITY GAS LINE FENCE	NOT AUTH	CONSTRUCT	FORMAL CI
		RETAINING WALL BENCHMARK MAIL BOX SIGN WATER METER VAULT WATER METER VAULT WATER VALVE WATER MANHOLE WASTEWATER MANHOLE UTILITY POLE CLEAN-OUT GUY WIRE ELEC MANHOLE ELEC TRANSFORMER PAD AIR CONDITIONER UNIT STORM DRAIN INLET STORM DRAIN MANHOLE TREE TO REMAIN TREE TO BE REMOVED STREET LIGHTS	PHONE NO: 512-669-5560		4700 MUELLER BOULEVARD, SUITE 300 AISTIN TX 7873
OWNERS: PROVI <u>SURVEYOR:</u> SUMM <u>SUBMITTAL DATE</u> <u>BENCHMARK:</u> <sup>5</sup> / <sub>8</sub> " I <u>GEOMATICS</u> , INC. SAID 3.385 ACRE SAID PARCEL 19 / OF THE HEREIN D	DENT REAL 4IT GEOMA <u>:</u> AUGUST 1 RON ROD W " SET FOR TRACT, THI AND MARKII DESCRIBED	TY ADVISORS, INC. FICS, INC. 9, 2024 /ITH CAP STAMPED "SUMMIT FHE SOUTHWEST CORNER OF E NORTHWEST CORNER OF NG THE NORTHWEST CORNEF FRACT		SSA N. ALVA 129292 CONAL EN SIONAL EN AL SUBMIT MBER 20, 2	As
<ul> <li>ENGINEER: WGI</li> <li>FIRE LANE NOTES</li> <li>THE FIRE LANES MUST TRAFFIC PAINT SIX IN THE WORDS "FIRE LAN LETTERS AT TWENTY- ALONG BOTH SIDES C STRIPING SHALL BE O</li> <li>THE GRADE THROUGH AND THE GRADE THROUGH AND THE GRADE BREA</li> <li>THE VERTICAL CLEAR THAN 13'6".</li> <li>FIRE LANE SHALL HAV WHERE THE TRAFFIC HEIGHT, BUILDINGS E LOCATED ALONG THE</li> <li>PUBLIC STREET CONN PRELIMINARY PLAT.</li> <li>A SECOND POINT OF A ADOPTED FIRE CODE, RESIDENTIAL SUBDIVI</li> <li>NO PORTION OF TRACC</li> <li>ON-SITE DETENTION ' 5. THERE ARE TWO MON</li> <li>PARKING LOT MEDIAN CODE OF ORDINANCE</li> </ul>	ECTION POINTS / ACCESS, MEETING SIONS CONTAINS TO WITHIN 1% AN WILL BE PROVIDE AND ISLANDS / S CHAPTER 8 ART	SLY MARKED BY PAINTED LINES OF RED TO SHOW THE BOUNDARIES OF THE LANE. "SHALL APPEAR IN FOUR INCH WHITE VALS ON THE RED BORDER MARKINGS S. WHERE A CURB IS AVAILABLE, THE FACE OF THE CURB. ACCESS SHALL NOT BE GREATER THAN >79 R >3%. SIGNATED FIRE LANE SHALL NOT BE LESS CTED WIDTH OF NOT LESS THAN 20'. INGS ARE EXCEEDING 30' OR 3 STORIES IN D SQ FT. OR WHERE HYDRANTS ARE ADS THE MIN. WIDTH SHALL BE 26'. ARE SUBJECT TO APPROVAL ON G ALL CRITERIA OF THE MOST RECENTLY HALL BE REQUIRED ON ALL PLATS OF ING GREATER THAN 29 DWELLING UNITS INUAL CHANCE FLOODPLAIN. ED VIA TWO DETENTION PONDS. THIS SITE ARE TO BE LANDSCAPED PER ROUND ROCK TICLE II SEC 8-10.	PROVIDENT EAGLES NEST	2950 & 2050 EAGLE 2 NEST 21 REET ROUND ROCK, WILLIAMSON COUNTY, TEXAS 78665	AILED EXISTING CONDITIONS PLAN (3 OF 3)
		· 			





![](_page_174_Figure_0.jpeg)

![](_page_175_Figure_0.jpeg)

![](_page_175_Picture_1.jpeg)

![](_page_176_Figure_0.jpeg)

![](_page_177_Figure_0.jpeg)

![](_page_178_Figure_0.jpeg)

![](_page_179_Figure_0.jpeg)

![](_page_179_Picture_1.jpeg)










































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	В	
EAK RUNOFF RATES		
ANALYSIS POINT A		
NG ONS )	PROPOSED DISCHARGE (CFS)	NET CHANGE IN FLOW (CFS)
-	6.48	-0.20
5	11.52	-0.94
	14.35	-2.45
6	16.10	-3.36
)	22.39	-0.30
EAK RUNOFF RATES		
ANALYSIS POINT B		
NG ONS )	PROPOSED DISCHARGE TOTAL (CFS)	NET CHANGE IN FLOW (CFS)
}	0.00	-13.93
2	0.00	-26.12
2	0.00	-36.42
6	0.00	-47.86
EAK RUNOFF RATES		
ANALYSIS POINT C		
١G	PROPOSED	NET CHANGE IN
ONS	DISCHARGE	FLOW (CFS)
5	35.99	-0.06
2	63.98	-2.64
<u> </u>	86.91	-0.83
1	117.23	-3.68





LOT 1, BLOCK B REPLAT OF

AND A REPLAT OF CYPE AND A FINAL PLA

2.905 ACRES OF RELI T OF WAY (CYPRES DOC. NO. 2012098 M.P.R.W.C.T.

30 MPH SPEED LIMIT

CONTROL POINT #2 GRID N: 10,174,007.51 GRID E: 3,131,255.48 ELEV.=779.24'






















			D				
4L N	/IETHOD)	)					
	2	5-Year			10	0-Year	
С	l (in/hr)	A (Acres)	Q (cfs)	С	l (in/hr)	A (Acres)	Q (cfs)
.75	9.84	0.07	0.48	0.83	11.86	0.07	0.65
.79	9.84	0.15	1.13	0.88	11.86	0.15	1.51
.79	9.84	0.14	1.09	0.88	11.86	0.14	1.46
.79	9.84	0.14	1.12	0.88	11.86	0.14	1.50
.79	9.84	0.13	1.02	0.88	11.86	0.13	1.36
.75	9.84	0.05	0.34	0.83	11.86	0.05	0.46
.82	9.84	0.29	2.33	0.90	11.86	0.29	3.11
.86	9.84	1.55	13.07	0.95	11.86	1.55	17.41
.86	9.84	1.28	10.81	0.95	11.86	1.28	14.39
.86	9.84	1.27	10.75	0.95	11.86	1.27	14.31
.86	9.84	1.51	12.81	0.95	11.86	1.51	17.06
.62	9.84	1.40	8.57	0.70	11.86	1.40	11.65
.62	9.84	0.39	2.39	0.70	11.86	0.39	3.24
.62	9.84	0.11	0.67	0.70	11.86	0.11	0.92
.62	9.84	0.16	0.99	0.70	11.86	0.16	1.34
.62	9.84	0.17	1.06	0.70	11.86	0.17	1.44
.62	9.84	0.17	1.05	0.70	11.86	0.17	1.42
.63	9.84	0.53	3.27	0.71	11.86	0.53	4.45
.62	9.84	0.71	4.32	0.70	11.86	0.71	5.87
.80	9.84	0.52	4.08	0.89	11.86	0.52	5.46
.77	9.84	0.39	2.96	0.86	11.86	0.39	3.97
.68	9.84	0.42	2.79	0.76	11.86	0.42	3.77
.86	9.84	1.82	15.40	0.95	11.86	1.82	20.50
.86	9.84	1.29	10.92	0.95	11.86	1.29	14.53
.86	9.84	1.77	14.98	0.95	11.86	1.77	19.94
.82	9.84	0.16	1.28	0.90	11.86	0.16	1.72
.82	9.84	0.14	1.12	0.90	11.86	0.14	1.50
#	_					/	
60	ENT		/				
En:C	26 TE						





SDP24-00030

O

LOT 1, BLOCK B REPLAT OF AND A REPLAT OF CYPE AND A FINAL PLA 2.905 ACRES OF RELEA HT OF WAY (CYPRES DOC. NO. 20120984 M.P.R.W.C.T.

<u>:ONTROL POINT #2</u> RID N: 10,174,007 GRID N: 10,174,007.51 GRID E: 3,131,255.48 ELEV.=779.24

"30 MPH SPEED LAMIT"









_		G			F					E					D	_
									Ē							
5																
4									SAITXISAN ANTONIO & TCEQUEPD PRO DESIGNSUFPD0811-PRO.DWG 11/3/2022 4:44 PM					BYPASS TRANS OPEN	OP OF WEIR FER JING	
									ICSTORMWATER/JURISDICTIONS/USA	Jelly THIS PRODUCT MA FOLLOWING-U.S. F OTHER I	ATENT NO. 8,287,726; 8,221,618. NTERNATIONAL PATENTS PENDI	<b>THE</b> US 8, 123, 935: NG		TRANSFER O		
3		PE		INOFF RA	TES											
		A	NALY	SIS POINT	A											
	STORM	EXISTIN	G	PROPO	SED	NETCHA	NGE	IN								
	PERIOD	CONDITIO	NS	DISCHA		FLOW (	CFS)	)								
	2-YR	6.68		(CF) 6.48	<b>5)</b> 8	-0.2	0									
	10-YR	12.46		11.5	52	-0.9	4									
	25-YR	16.81		14.3	5	-2.4	5									
	50-YR 100 VP	19.46		16.1	0	-3.3	6 0									
	Drainage A	rea Study P	Point	DA (sq ft)	DA (ac)	DA (sq mi)	Cu	rve 1ber	Imper Cover	vious (sq ft)	Impervie Cover (J	ous AC)	Impervious Cover (%)	Tc (min)	Tc lag (min)	
2	P-1	Α		419 795	9.64	0.01506	8	0	340	127	7 81		81.02%	5	3	
				DETENI				_	,						-	I
			E	LEVATION-	STORAGE	TABLE										
			INCRE	EMENTA				STO								
	(FT)	DEPTH (FT)		EPTH FT)	(FT <sup>2</sup> )	VOLUME (F	T <sup>3</sup> )	(F	T <sup>3</sup> )	NO	TES					
_	739.42	0.00	Ċ	0.00	0	0	- /		0							
5. 5.	740.00	0.58	0	).58	1,251	726		7:	26							
	741.00	2.58	1	1.00	15,952	15,952		24,	463							
	743.00	3.58	1	1.00	18,832	18,832		43,	294							
0.07 (01)	743.67	4.25		).6/	18,864 18,870	12,639 6 230		<u>55,</u> 62	<u>933</u> 163	2-YR	WSE					
	745.00	5.58		1.00	<u>18,9</u> 27	18,927		81,	090							
	745.17	5.75	0	0.17	18,935	3,219		84,	309	10-YR	WSE					
TATA YOUNG	/46.00 746.77	<u>6.58</u> 7.35		) 77	18,975 19,012	15,749		100 114	,058 698	25.VP	WSE					
	747.00	7.58		).23	19,023	4,375		119	,073							
	747.37	7.95	0	).37	19,040	7,045		126	,118	50-YR	WSE					
7/01/00/0	748.00 748.34	8.58 8.92		).03	19,071	12,014		138	,132	100 V	RWSE					
	749.00	9.58	0	0.66	19,118	12,618		157	,240	TOP OF	POND					



Project Name:	Provident Eagles Nest
Date Prepared:	11/8/2024
1. The Required Load Reduction	n for the total project:
Calculations from RG-348 Pages 3-27 to 3-30	Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$
$L_{MTOTAL PROJECT} = A_N =$	Required TSS removal resulting from the proposed developmen Net increase in impervious area for the project
P =	Average annual precipitation, inches
Site Data:	Determine Required Load Removal Based on the Entire Project Co
1	Total project area included in pl Predevelopment impervious area within the limits of the p otal post-development impervious area within the limits of the p Total post-development impervious cover fract
	L <sub>MI TUTIAL PR</sub>
	Number of drainage basins / outfalls areas leaving the plan
2. Drainage Basin Parameters (	This information should be provided for each basin):
	Drainage Basin/Outfall Area





		WQ &	DETENTI	ON POND B
		ELEVA	TION-STO	RAGE TABL
		INCREMENTAL		
ELEVATION	DEPTH	DEPTH	AREA	INCREMEN
(FT)	(FT)	(FT)	(FT <sup>2</sup> )	VOLUME (
746.18	0.00	0.00	0	0
747.00	0.82	0.82	9,830	8,061
747.76	1.58	0.76	9,831	7,427
748.00	1.82	1.82	29,463	53,623
748.80	2.62	0.80	31,259	25,007
749.00	2.82	0.20	31,707	6,341
749.17	2.99	0.37	31,712	11,575
749.40	3.22	0.40	31,719	12,751
749.54	3.36	0.37	31,722	11,737
749.69	3.51	0.29	31,726	9,105
750.00	3.82	0.47	31,735	14,757
751.00	4.82	1.31	31,763	41,642
752 00	5.82	2 00	31 961	63 922





# Roto Float Liquid Level Sensor 4" or 6" plug valve and 24VDC motor/actuator

# Valworx

- Features Direct mount lug butterfly valve with ISO5211 mount Epoxy coated ductile iron body with 316 SS disc • Unique wave line seat reduces torque and extends seal life
- Visual valve position indicator Rugged aluminum Type 4X weatherproof actuator
- Heavy duty motors with overload protection
- Thermostatically controlled anti-condensation heater Manual override with end of travel mechanical stops
- Two auxiliary position confirmation limit switches
- EPS Electronic Positioning System models available Actuators CSA Listed per UL429 and CSA C22.2

## Applications

EPDM seals typically used for on-off control of water and other compatible media. NBR (Buna-N) seals typically used for air, oil, vacuum and other compatible media. FPM (Viton) seals typically used for on-off control of hydrocarbons, oils and other compatible chemicals/media. Suitable for use with ANSI/ASME Class 125/150 pipe flanges. Actuators designed for 70% duty cycle.

### Operation

On-Off electric actuated valve uses power-to-open and power-to-close, stays in the last known position with loss of power. On receipt of a continuous voltage signal, the motor runs and via a rugged all metal gear system rotates the ball 90°. The motor is automatically stopped by internal cams striking limit switches. On receipt of a reversing continuous signal, the motor turns in the opposite direction reversing the valve position. Power connections direct to terminal strip via included cable con-nector, or optional 1/2" NPT conduit adapters.

Valve Body	Epoxy coated ductile iron
Disc	316 stainless steel CF8M
Disc Seat/Liner	EPDM, NBR (Buna-N) or FPM (Viton)
Stem/Stem Seals	420 stainless steel / (2) v-ring, same material as seat
Gear Drive	Heavy duty alloy steel and aluminum bronze, self locking
Actuator Enclosure	Aluminum, polyester powder painted, Type 4X, IP67
Visual Valve Position Indicator	Clear polycarbonate window, ,red/yellow open-closed
Fasteners	Stainless Steel
Auxiliary Limit Switches	2 x SPDT (125VAC/5A)

Description

Electric Actuated Butterfly Valves SERIES

Ductile Iron Lug Body ASME 150# 5673

2" to 6" Pipe

Electric operated direct mount butterfly valves with epoxy- coated ductile iron lug body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 150 flanges and includes integral molded flange gaskets. Disc is precision machined 316SS. Two piece stem and disc design enhances the flow capacity and reduces turbulence. Rugged corrosion resistant electric actuator includes a manual override, valve position confirmation switchthermostatically controlled anticondensation heater, and over-torque protec-

## SB® CE

Approvals

Actuators	
CSA Listed to:	0 00
- UL429 and CSA C22.2 n	o 139
- Type 4X, IP67 weatherpr	oof
enclosure	
CE conformance	
- ISO5211 Mounting	
Valves	
<ul> <li>Design complies with Al 67</li> </ul>	PI-609, MSS SP-
<ul> <li>Tests per API-598, AWW</li> </ul>	A C502-87
CE according to PED 97/2	23/EC, ISO5208

www.valworx.com

where:

where:











В



et -	Liberty Pumps Inc.					
			Liberty P	umps		Released: 7/17/2024
			EngineeredP	roducts		•
	Fluid:					
	Name: SG: Density: Viscosity: Temperature:	Water 1 62.4 lb/ft³ 1.1 cP 60 °F	Vapor Pressure: Atm Pressure: Margin Ratio:	0.256 psi a 14.7 psi a 1		CONFIDENTIAL
	Pump Limits					* Projects Fooles N
i.	Temperature: Wkg Pressure:	104 °F 	Sphere Size: Power:	 15 hp		* Owner: Eagles N Contractor: Allied Un
	Motor: Standard: Enclosure: Frame:	Liberty N/A 	Size: Speed:	3 hp 3600 rpm	Liberty Pumps Build-a-	Engineer:Unknown* Pump:Liberty LCEstimated Size:30" x 24"
i	Sizing Criteria: Min Motor Power: Max Motor Power:	Max Power 3 hp 15 hp	on Design Curve		Engineered Products	Panel Type Duplex
				- 90	Model: LGV032A0450S2SBJB-5	Enclosure Type NEMA 4X 304 S.S.
-				- 80	Pump Type     HP     Voltage     H2     Impeller Size     Impeller Material     Seal Contrig     Seal Material     Discharge     Cord Type     Cord Type       High Volume Grinder Ordinary Location     3 hp     230V 10/(ph)     60 Hz     4.5"     Stainless Steel     Dual Seal     Silicon Carbide     Horizontal, 2.0", (Silicon     Heavy Duty     50'	Main Alarm Flashing Red Light
				Efficiency	Accessories:	High Water Activate Main Alarm
		1		- 40 <sup>*</sup> - 30	Control Panel: No Control Panel Selected	Elapsed Time Meters
	21.5			- 20	Start Kit or Capacitor: K001864	Main Disconnect Switch
	$\leftarrow$	<b>`</b>		- 10	Float: No Float Selected	
-	N. Marca	-		0	Guide Rail: GR3-ANSI	Lightning Arrestor
-						Heater w/ Thermostat
75	100 125	150 175	200 225 US	gpm		12V Alarm Battery Backup
7.0,	and 7.6 INCHES.		ALSO SHOWN IN THIS			OmniSite OmniBeacon
	Pow	ver	NPSHr			
	333		2			
	3 3 3		2 2 2			Othe - SHIPPING





		ISUBGRADE					
	14LF 12" PVC @ 0.009	%=\	8LF 12" PVC @ 0.00%		ار (		-3.23'-
12" PVC @ 0.00%				128LF 12'	PVC @ 0.00%		4LF 12" PVC @ 100.46%
		<u> </u>					
							24LF 12" PVC 0
							14LF 12" PVC @ ???-
							12LF 12" PVC @ -0.01%
							31LF 12" PVC @ 0.00%
E - (13)							
							349LF 8" PVC @ 0.40
	PER			(G	- (130))	((129))	<u> </u>
			5' 5' 	3 ADAPT	Structure	55 55 Structure 99 90	99 99 19 19 19 19 19 19 19 19 19 19 19 1
	+47.04 ( )+00 WL EE DRANT / DRANT / N): 764.5	): 765.20 ): 765.20 )+61.32 ( )+00 WL	N): 764.5 S): 764.5 ): 765.35 ): 765.39 +69.80 ( +69.80 (	(FOSTE (FOSTE S): 764.9 (): 765.12 ): 765.12		N): 764.5 N): 764.5 S): 764.5 S): 764.5 (1): 764.5 (1): 760.5 S): 760.5 S): 760.5	
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17+00			18-	+00	· F · · · ·	н түр т	19+00
20'	40' WL A PROFILE - HORZ:	STA 15+00 TO ST :1" = 20'; VERT: 1" = 2'	A 20+00 0 1	' 2' 4'			



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0	1'	2'	4'
0	10'	20'	40'

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12	+00 KR 4				<u>ド </u> 13- 13-	+00 2'	25 74 74	75	75	<u>14+</u>	+00 2	7 <u>7</u> 74	75
15 27	52.66 15.27	52.52 45.27	52.55 15.27	52.70 ST/ (5T/ (5T/ 12" 12" (3)	52.77 FL 15.27 FL 15.27	52.67 15.27	52.52 [33] 112": FIR COI FL ] 15.27 FL ]	52.55 <sup>1</sup>	52.70 45.27	52.77 15.27	52.77 ts 27	52.77 15.27	52 75
				A: 12+65.96 (J-C A: 10+00 WL-D TALL: TEE W/ 2.55° C 12" RSGV	12" (NW): 745.2 12" (NE): 745.2 12" (NE): 745.2	1.13+18.33 (J-C	X. 107-00 WL-C STALL: X6" TEE R HYDRANT ASS R DETAIL WT-( 12" (SE): 745.27 (12" (NW): 745.27 245.27 245.27 245.27 245.27 245.27 245.27 245.27						
				C-19) ) ) FFLECTION			5) SEMBLY PER 05						
					52LF 12" PVC @ 0.0	00%						231LF 12" PVC @ (	5.0
												A A	
			SUBG	RADE									





	741	WL C PLAN -	STA 21+00 TO ST	A 25+00	\\		57425
			SCALE: $1^{+} = 20^{+}$				
			SUBG	RADE			FINISHED
			<u> </u>			<b>-</b> - <u>-</u>	·
							·
	225LF 12" PVC @ 0.00%						
				/			
					3LY PER		
					5 (J-C-13) MT-05 WT-05 45.08' 5.08'		
					23+70.56 ALL: " TEE HYDRAN" HYDRAN" (NW): 7 (NW): 7 (NE): 74 (NE): 74		
	<u> 20 00 00 00 00 00 00 00 00 00 00 00 00 </u>	<u>608 808</u>	<u>80</u> 2		STA:           INST:           12"x6           73           FIRE           RCORR           73           FI           FL           FL	802 800	
745.0	752.5 752.5 752.7 752.7	745.0	<u>745.0</u> 752.3	752.4 752.4 752.4 752.6	745.0	752.5	1 7 7
·UU		23+00			24	++UU	



CORR DE IAIL WI-05 FL 12" IN (W): 745.08' FL 12" OUT (E): 745.08' FL 6" OUT (N): 745.08' 10LF 12" PVC STA: 26+13.69 INSTALL 45° BEND		1" SERVICE SADDLE W/ CORPORATION STOP FL 12" (SW): 743.88' FL 12" (NE): 743.88' FL 1" (NW): 744.34'	
			52
		WL C PLAN - STA 26+60 TO END SCALE: 1" = 20'	
		SUBGRADE	
10LF 12" PVC @ 0.00%			·
39LF 12" PVC @ 1.05%	100LF 12" PVC @ 0.81%		
		140LF 12" PVC @ 1.009	%
STA: 26+13.69 (J-C-14) INSTALL 45° BEND L 12" (NW): 745.08 TL 12" (E): 745.08 TL 12" (E): 745.08 STA: 26+23.75 (J-C-15) NSTALL: 2"x6" TEE TRE HYDRANT ASSEMBLY PE ORR DETALL WT-05 L 12" (W): 745.08' L 12" (E): 745.08' L 6" (N): 745.08' L 6" (N): 745.08'	5TA: 26+62.46 (J-C-16) INSTALL 45° BEND LL 12" (W): 744.68' LL 12" (NE): 744.69'	5TA: 27+62.14 (J-C-17) INSTALL: I'' SERVICE SADDLE W/ CORPORATION STOP I' 12" (SW): 743.88' I. 11" (NW): 744.34' I. 11" (NW): 744.34'	
00 745.08 752.53 752.53 753.00 753.00	744.76 752.94 752.94 752.60 752.60 752.34 752.02 752.02	744.06           751.70           751.70           751.38           751.38           751.38           751.38           751.38           751.38           751.38           751.38           751.38           751.38           751.38           743.50           743.50           743.30           743.30           743.30           743.10           743.10	)
0 10' 20'	40' WL C PROFILE - STA 25+00 TO END HORZ:1" = 20'; VERT: 1" = 2'		

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STA 10+00 TO END

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WATERLINE D PLAN & PROFILE



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12+00 12"WL	12"₩L=	8/13LF 12" PV =+===================================		13+00 12"WL	-+ <u></u> 12"₩L <del>-</del> =	12"WL		14+00 12"WL=	12"₩
MATCHLIN	E - SHEET CU114	- WL E2	9 STA 15+00						
		SUBGRADE							
	13I F 12" PVC @ 0	).18%—							
							273LF 12" P	VC @ 0.18%	
				8" PVC PIPE - (1 STA: 12+77.81 FL: 740.49					
	9 8 STA: 12+49.00 (J-E-1) INSTALL: 12"x8" CROSS 5 (2) - 12" RSGV (FOSTER ADAPTED	ON SERVICE LINES) FL 12" (NW): 743.00 FL 8" (NE): 743.00 FL 8" (SW): 743.00 FL 12" (SE): 743.00 FL 12" (SE): 743.00 FL 12" (SE): 743.00 STA: 12+62.26 (Structure - (133)) STA: 12+62.26 (Structure - (133))	12"x6" CROSS (2) - 12" RSGV (2) - FIRE HYDRANT ASSEMBLY P (2) - FIRE HYDRANT ASSEMBLY P CORR DETAIL WT-05 EL 6" (NW): 742.98 FL 12" (SW): 742.98 FL 12" (SE): 742.98 FL 12" (SE): 742.98		γ + I(i)	0 -		04 0	0
749.4	742.8 749.4 742.9( 742.9(	749.78	742.9 <sup>,</sup> 749.7,	742.8 742.9 742.8 742.9 742.9	749.4 742.8	<u>742.8</u> 1 749.7	749.7	742.6 <u>5</u>	749.4 742.6
12700 0' 40'	WL E PROFILE	- STA 10+00 T Z:1" = 20'; VERT: 1" =	O STA 15+00		4'		14	TUU	
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KEY MAP NOT TO SCALE 87 OF 105 SDP24-00030











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E S NO GRO WIT	<sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'-0"</sup> <sup>4'</sup>	(SYMME NOISNEXX3 PERM RE BAI A BEA CONS CONS CONS CONS CONS CONS CONS CONS	TOP MAT       10       1/2*       0*						NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO	FORMAL CITY APPROVAL
		11. II REC ON	ATMENT FOR INCETS AN THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CORB.       SCALE: NTS         CORD SIGNED COPY       PILE       CITY OF ROUND ROCK       SCALE: NTS         APPROVED       -       CITY OF ROUND ROCK       STAP         01-28-21       DATE       STANDARD 10' AND 15'       SHEET 1 of 1         INCENTECT/ENCINEER ASSUMES       CURB INLET DETAIL       FROUND ROCK TEAMS						e	
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