

**WATER POLLUTION ABATEMENT PLAN**  
**FOR**  
**OAK RUN VILLAGE APARTMENTS**

PREPARED FOR  
Texas Commission on Environmental Quality  
Region 13 – San Antonio  
14250 Judson Road  
San Antonio, Texas 78233  
210-490-3096 (office)  
210-545-4329 (fax)

PREPARED BY



F-13351

James Ingalls, P.E.  
2021 SH 46W, Ste. 105  
New Braunfels, TX 78132

Prepared  
February 21, 2023



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# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### Our Review of Your Application

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

### Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

### Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

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

**Mid-Review Modifications**

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

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

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

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

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

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

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

<b>1. Regulated Entity Name:</b> Oak Run Village Apartments				<b>2. Regulated Entity No.:</b>					
<b>3. Customer Name:</b> PARCHAUS NEW BRAUNFELS LP				<b>4. Customer No.:</b>					
<b>5. Project Type:</b> (Please circle/check one)	<input checked="" type="radio"/> New	Modification			Extension		Exception		
<b>6. Plan Type:</b> (Please circle/check one)	<input checked="" type="radio"/> WPAP	<input type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EXP	<input type="radio"/> EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	<input checked="" type="radio"/> Residential		Non-residential			<b>8. Site (acres):</b>		17.532	
<b>9. Application Fee:</b>	\$6,500		<b>10. Permanent BMP(s):</b>			(4) - CONTECH Jellyfish Filters			
<b>11. SCS (Linear Ft.):</b>	N/A		<b>12. AST/UST (No. Tanks):</b>			N/A			
<b>13. County:</b>	Comal		<b>14. Watershed:</b>			Dry Comal Creek			

# Application Distribution

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

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

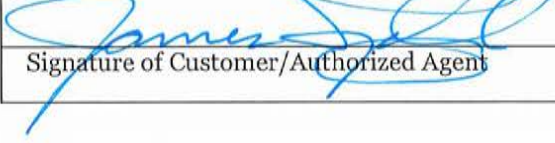
<b>Austin Region</b>			
<b>County:</b>	<b>Hays</b>	<b>Travis</b>	<b>Williamson</b>
Original (1 req.)	—	—	—
Region (1 req.)	—	—	—
County(ies)	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	<input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

<b>San Antonio Region</b>					
<b>County:</b>	<b>Bexar</b>	<b>Comal</b>	<b>Kinney</b>	<b>Medina</b>	<b>Uvalde</b>
Original (1 req.)	—	✓	—	—	—
Region (1 req.)	—	✓	—	—	—
County(ies)	—	✓	—	—	—
Groundwater Conservation District(s)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Trinity-Glen Rose	<input checked="" type="checkbox"/> Edwards Aquifer Authority	<input type="checkbox"/> Kinney	<input type="checkbox"/> EAA <input type="checkbox"/> Medina	<input type="checkbox"/> EAA <input type="checkbox"/> Uvalde
City(ies) Jurisdiction	<input type="checkbox"/> Castle Hills <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Helotes <input type="checkbox"/> Hill Country Village <input type="checkbox"/> Hollywood Park <input type="checkbox"/> San Antonio (SAWS) <input type="checkbox"/> Shavano Park	<input type="checkbox"/> Bulverde <input type="checkbox"/> Fair Oaks Ranch <input type="checkbox"/> Garden Ridge <input checked="" type="checkbox"/> New Braunfels <input type="checkbox"/> Schertz	NA	<input type="checkbox"/> San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

James Ingalls, P.E.

Print Name of Customer/Authorized Agent



2-21-23

Signature of Customer/Authorized Agent

Date

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

# 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: James Ingalls, P.E.

Date: 2-21-23

Signature of Customer/Agent:



## Project Information

1. Regulated Entity Name: Oak Run Village Apartments
2. County: Comal
3. Stream Basin: Dry Comal Creek
4. Groundwater Conservation District (If applicable): Comal Trinity GCD, EAA
5. Edwards Aquifer Zone:
  - Recharge Zone
  - Transition Zone
6. Plan Type:
  - WPAP
  - SCS
  - Modification
  - AST
  - UST
  - Exception Request



7. Customer (Applicant):

Contact Person: Basil Koutsogeorgas  
Entity: PARCHAUS NEW BRAUNFELS LP  
Mailing Address: 8350 N Central Expy Ste 1500  
City, State: Dallas, TX Zip: 75206  
Telephone: 972-385-4130 FAX: \_\_\_\_\_  
Email Address: BasilK@providentrealty.net

8. Agent/Representative (If any):

Contact Person: James Ingalls, P.E.  
Entity: INK Civil  
Mailing Address: 2021 W SH46 Suite 105  
City, State: New Braunfels, TX Zip: 78132  
Telephone: 830-358-7127 FAX: \_\_\_\_\_  
Email Address: jamesingalls@ink-civil.com

9. Project Location:

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

Subject property is located behind the Starbucks on Loop 337 and Oak Run Pkwy at 2850 Loop 337 New Braunfels, TX 78130

11.  **Attachment A – Road Map.** A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.
12.  **Attachment B - USGS / Edwards Recharge Zone Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:
- Project site boundaries.
  - USGS Quadrangle Name(s).
  - Boundaries of the Recharge Zone (and Transition Zone, if applicable).
  - Drainage path from the project site to the boundary of the Recharge Zone.
13.  **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.
- Survey staking will be completed by this date: 3/20/2022

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

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

15. Existing project site conditions are noted below:

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

### ***Prohibited Activities***

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

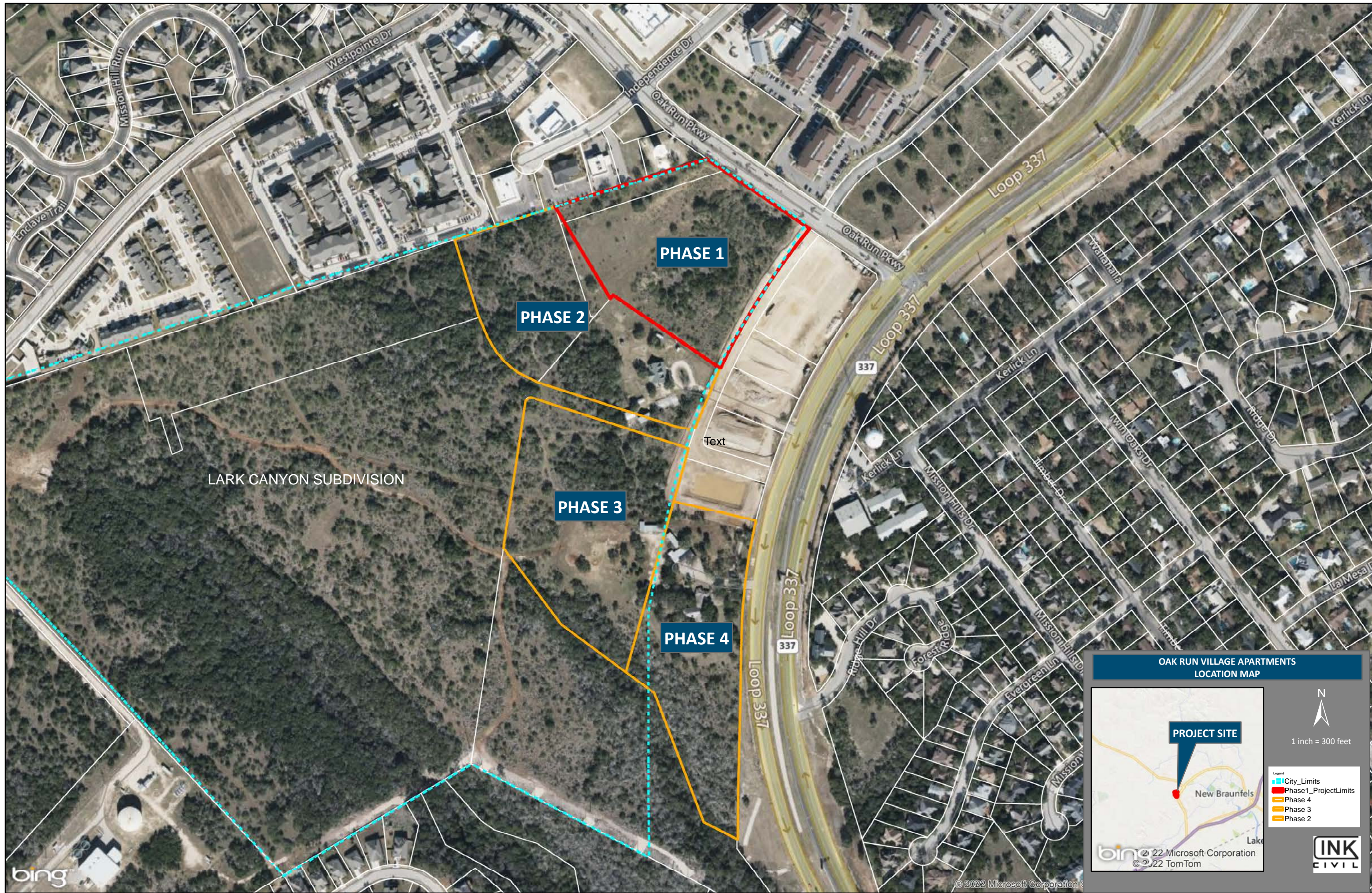
- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

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

### ***Administrative Information***

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

- For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
  - For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
  - For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
  - A request for an exception to any substantive portion of the regulations related to the protection of water quality.
  - A request for an extension to a previously approved plan.
19.  Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
- TCEQ cashier
  - Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
  - San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
20.  Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
21.  No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



PHASE 1

PHASE 2

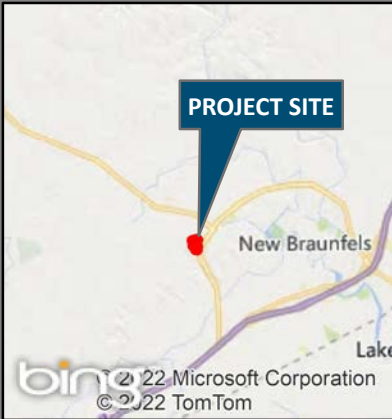
PHASE 3

PHASE 4

LARK CANYON SUBDIVISION

Text

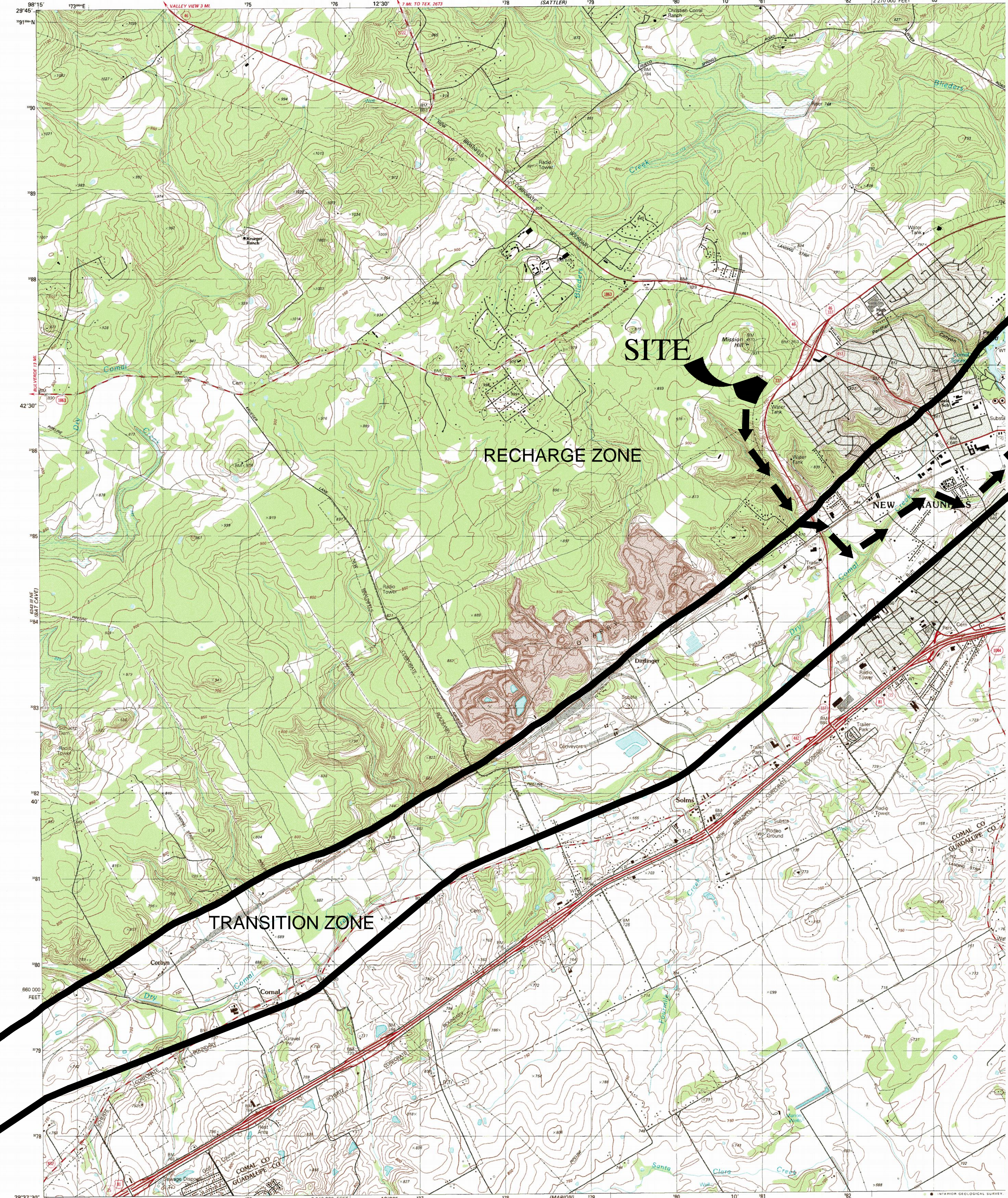
OAK RUN VILLAGE APARTMENTS  
LOCATION MAP



1 inch = 300 feet

- City Limits
- Phase 1 Project Limits
- Phase 4
- Phase 3
- Phase 2





Produced by the United States Geological Survey in cooperation with the Texas Water Development Board. Revised in cooperation with the Texas Water Development Board. Control by USGS, NOS/NOAA, and USCE. Compiled by the Army Map Service by photogrammetric methods from aerial photographs taken 1956. Field checked 1958. Revised from aerial photographs taken 1956. Field checked 1987. Map edited 1988.

Projection and 10,000-foot grid ticks: Texas coordinate system, south central zone (Lambert conformal conic). 1000-meter Universal Transverse Mercator grid, zone 14 1927 North American Datum. To place on the predicted North American Datum 1983 move the projection lines 20 meters south and 28 meters east as shown by dashed corner ticks. Plus and dashed lines indicate selected fence and field lines generally visible on aerial photographs. This information is uncorrected.

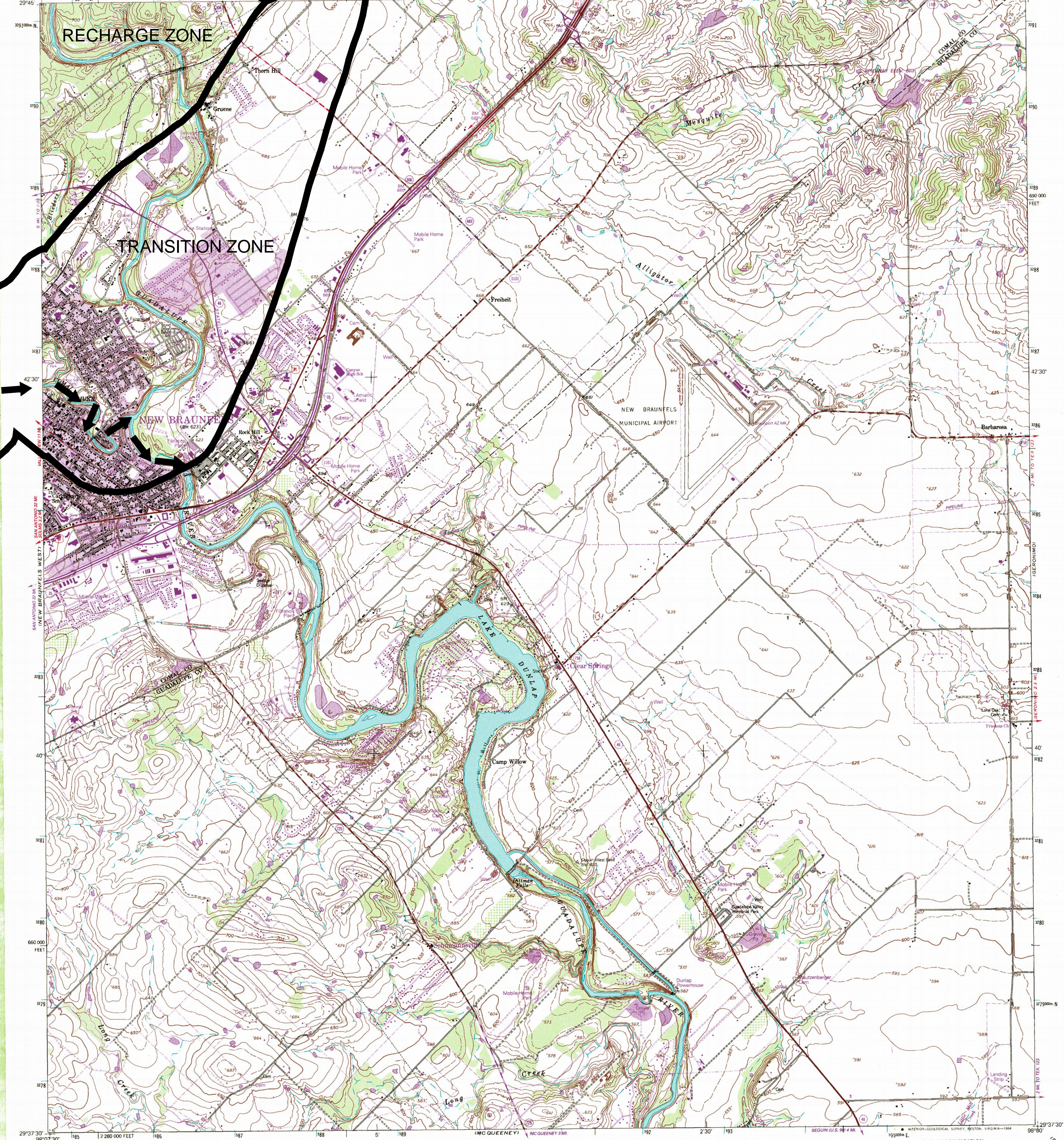
UTM GRID AND 1984 MAGNETIC NORTH DECLINATION AT CENTER OF MAP DATUM IS APPROXIMATE

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

2998-413

NEW BRAUNFELS 2998

DMA 6343 1



Produced by the United States Geological Survey in cooperation with the Defense Mapping Agency. Control by USGS and MCGONAGAL and USCE. Compiled from aerial photographs taken 1956. Revisions in purple and woodland compiled from aerial photographs taken 1986 and other sources and has been field checked. Map edited 1984. Conflicts may exist between some updated features and previously mapped contours.

North American Datum of 1927 (NAD 27). Projection and 10,000-foot ticks: Texas Coordinate System, south central zone (Lambert Conformal Conic). Blue 1000-meter Universal Transverse Mercator ticks, zone 14 North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of each tick between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geospatial Survey NADCON software.

UTM GRID AND 1984 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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

2998-414

NEW BRAUNFELS EAST, TEX. 2998

DMA 6343 1

**ATTACHMENT “C”**  
**Project Description**

The proposed Oak Run Village Apartments is located at 2850 Loop 337, New Braunfels, Texas 78130 in Comal County. The site consists of a 17.53-acre tract mostly undeveloped land with a single residential homestead. This property is outside of the City of New Braunfels City Limits and is located within the Extra Territorial Jurisdiction (ETJ) of the City of New Braunfels. This property was included as part of the Lark Canyon Subdivision Master Plan and was anticipated for multi-family use. According to the Flood Insurance Rate Map No. 48091C0435F, there is no existing floodplain located within the property. The stream basin for stormwater runoff is the Dry Comal Creek.

The proposed land use will consist of the following:

The development will be constructed in four phases. The scope of this WPAP application will include all building infrastructure associated with Phase 1 and 2 of the development, comprising of the entire 17.53-acre tract. Phase 3 and 4 of the development is located across Paladora Drive on a separate 15.57-acre tract of land and will be submitted with a separate WPAP application. Please see attached Location Map (Attachment A) for a breakout of the proposed phasing.

The proposed construction will include grading for the building pads, parking, drainage, and utility service lines. The subdivision infrastructure will include a water system, sewer, electricity, telephone, cable television, apartment buildings with 330 units, and an offsite detention pond that will accommodate all phases of the developments stormwater runoff. Phase 2 will include the demolition of the existing residential house (built around 2002) and construction of apartment buildings with an additional 330 units. Future planning is required of Phase 3 and 4 to determine final buildout conditions.

Total impervious cover for Phase 1 and Phase 2 is 6.98-acres (39.81 %) and 6.97-acres (39.76 %), respectively. To minimize storm water pollution, the storm sewer system will be fitted with Contech Jellyfish filters. The filters were selected in accordance with the criteria set forth in the Technical Guidance Manual RG-348.

A sewage collection system plan will be submitted at a later date to serve both proposed lots. The SCS will connect to existing NBU infrastructure. Proposed construction will include minor grading for the utility mains. The SCS on this project will be owned and maintained by New Braunfels Utilities (NBU) upon the acceptance of the constructed facilities.



## **GEOLOGIC ASSESSMENT**

For

**PARC HAUS TRACT  
LOOP 337  
NEW BRAUNFELS, COMAL COUNTY, TEXAS**

Prepared for  
**INK CIVIL  
2021 SH 46W, SUITE 105  
NEW BRAUNFELS, TEXAS 78132**

Prepared by

**Professional Service Industries, Inc.  
3 Burwood Lane  
San Antonio, Texas 78216  
Telephone (210) 342-9377**

**PSI PROJECT NO.: 0435-5166**

**November 15, 2021**





Professional Service Industries, Inc.  
3 Burwood Lane, San Antonio, TX 78216  
Phone: (210) 342-9377  
Fax: (210) 342-9401

November 15, 2021

Ink Civil  
2021 SH 46W, Suite 105  
New Braunfels, TX 78132

Attn: Mr. Shane A. Klar, PE, Principal  
Email: [shane.klar@ink-civil.com](mailto:shane.klar@ink-civil.com)

RE: Geologic Assessment  
Parc Haus Tract  
Loop 337  
New Braunfels, Comal County, Texas  
PSI Project No. 435-5166

Dear Mr. Klar:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

#### **AUTHORIZATION**

Authorization to perform this assessment was given via a signed copy of PSI Proposal No. 356254 on October 20, 2021.

#### **PROJECT DESCRIPTION**

The property consists of the Parc Haus tract located on the west side of Loop 337, south of Oak Run Parkway in New Braunfels, Comal County, Texas. The subject property is approximately 30-acres in size, and composed of three tracts: the North Tract, South Tract and Loop Tract. The site is located on the Edwards Aquifer Recharge Zone (EARZ), and therefore subject to special rules promulgated by the Texas Commission on Environmental Quality (TCEQ) designed to protect environmentally sensitive areas. The site is predominantly undeveloped, with site vegetation consisting of live oak, ashe-juniper trees, huisache, mountain laurel, prickly pear, agarita, and grasses.

#### **REGIONAL GEOLOGY**

##### **Physiography**

From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,100 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Bexar County and is composed of fault blocks of limestone, chalk,



shale, and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1,100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie and is composed of relatively flat-lying beds of marl, clay, and sandy clay. According to topographic maps, elevations at the subject site range from approximately 925 feet above sea level in the northern portion of the north tract, to about 780 feet MSL in the southern portion of the Loop tract, in a drainage, with a slope to the south-southeast.

### **Stratigraphy and Structure**

The northern portion of the site is mapped as the Cretaceous Del Rio clay (Kdr). The site is overlain with a thin veneer of grass covered soil. Rock outcrops were minimal. According to the Geologic Atlas of Texas, the Del Rio Clay is calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, *Ilmatogyra arietina* (formerly *exogyra arietina*) is widespread throughout the formation. The thickness ranges from 40-70 feet. A band across the north-central portion of the site is mapped as the Georgetown formation (Kgt) which is composed of limestone and marl; mostly limestone, fine grained, argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white: some shale, marl, soft, light gray to yellowish gray; marine mega fossils include *Kingena wacoensis* and *Gryphaea washitaensis*; thickness 30 – 80 feet, thins southward.

Rocks underlying the southern portion of the site consist of the Lower Cretaceous Edwards Person Formation. Notable rock outcrops were limited to the drainage feature bordering the southwest portion of the South Tract, and the Loop Tract. According to “The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas” written by the USGS, the Person Formation ranges in thickness from 180 to 224 feet and forms the upper formation of the Edwards Group. The Person Formation and the underlying Kainer Formation comprises the Edwards Aquifer, a federally designated sole source aquifer for the region.

The rocks on the southern portion of the site are mapped as the cyclic and marine member of the Person Formation. The lithology consists of a chert-bearing mudstone to packstone and miliolid grainstone. It weathers to massive, light-tan outcrops with scattered toucasia (bivalve or clam) fossils present. This member is one of the most hydrologically productive due to the large number of subsurface caverns associated with incipient karstification. It is very permeable with laterally extensive, fabric and non-fabric selective porosity.

### **SITE INVESTIGATION**

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the



attached TCEQ report format. Feature S-1 was a zone of vuggy fractured rock with solution-enlarged fractures in a drainage near the southwest property line of the South Tract. Features S-2 and S-3 were small solution cavities on uplands in the western portions of the South Tract and North Tract, respectively.

**SUMMARY**

A solution-enlarged fractured rock outcrop zone (S-1) near the southwestern property line was the only sensitive feature noted on the subject tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted,  
**PROFESSIONAL SERVICE INDUSTRIES, INC.**



John Langan, P.G.  
Environmental Department Manager



## **WARRANTY**

The field observations and research reported herein are considered enough in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of Ink Civil for the site discussed herein. Reproductions of this report cannot be made without the expressed approval of Ink Civil. The general terms and conditions under which this assessment was prepared apply solely to Ink Civil. No other warranties are implied or expressed.



# 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: John Langan

Telephone: 210/342-9377

Date: 11/15/21

Fax: 210/342-9401

Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Parc Haus



## Project Information

1. Date(s) Geologic Assessment was performed: 10/26-27/21

2. Type of Project:

WPAP

AST

SCS

UST

3. Location of Project:

Recharge Zone

Transition Zone

Contributing Zone within the Transition Zone

4.  **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5.  Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups\* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Rumple Comfort Association	B	1-2
Medlin Eckrant Association	B	2-3
Eckrant-rock outcrop	B	1-2

Soil Name	Group*	Thickness(feet)

*\* Soil Group Definitions (Abbreviated)*

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

6.  **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7.  **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8.  **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'  
 Applicant's Site Plan Scale: 1" = 150'  
 Site Geologic Map Scale: 1" = 150'  
 Site Soils Map Scale (if more than 1 soil type): 1" = 358'
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 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- The wells are not in use and have been properly abandoned.
- The wells are not in use and will be properly abandoned.
- The wells are in use and comply with 16 TAC Chapter 76.
- There are no wells or test holes of any kind known to exist on the project site.

### *Administrative Information*

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

**STRATIGRAPHIC COLUMN**  
**Parc Haus Tract**  
**Loop 337**  
**New Braunfels, Comal County, Texas**

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Del Rio Clay	40-70	Calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, <i>Ilmatogyra arietina</i> (formerly <i>exogyra arietina</i> ) is widespread throughout the formation.
Georgetown Formation	10-40'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: <i>waconella wacoensis</i> brachiopod; low porosity and permeability development.
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.



## SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Rumble-Comfort association, undulating (RUD) and Medlin Eckrant Association (MED) and Eckrant-Rock outcrop complex, steep (ErG).

Rumble-Comfort association soils are shallow to moderately deep soils on uplands in the Edwards Plateau. The surface layer is a dark reddish-brown cherty clay loam about 10 inches thick and overlies a subsoil of reddish-brown cherty clay with abundant limestone fragments to a depth of 28 inches. The underlying parent material is an indurated limestone. The soil is well drained, with medium surface runoff, moderately slow permeability, and very low available water capacity. The soil is not suited for cropland, or cultivation, but is used as range land and habitat for wildlife.

Medlin-Eckrant soils are nearly level to gently sloping soils on broad ridges and shallow valleys in uplands that develop over limestone. Due to the large amount of rock fragments and shallowness, these soils are not suited to crops or pasturelands, but are used as rangeland. The soil is well drained, with moderately slow permeability, very low water capacity and rapid surface runoff. The shallow depth to limestone is suitable for home sites, as the rock offers stable footings for foundations, but considerable cutting and blasting is required for underground utility lines.

Eckrant-Rock outcrop complex, steep is similar in profile, but are found on long, narrow slopes on high hills and ridges and along escarpments. The surface layer of Eckrant soil is very dark gray extremely stony clay about 10 inches thick. The lower portion of the surface layer is up to 75% stones and cobbles and overlies the fractured limestone parent material.





## SITE GEOLOGIC NARRATIVE

### Physiography

From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,100 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Bexar County and is composed of fault blocks of limestone, chalk, shale, and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1,100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie and is composed of relatively flat-lying beds of marl, clay, and sandy clay. According to topographic maps, elevations at the subject site range from approximately 925 feet above sea level in the northern portion of the north tract, to about 780 feet MSL in the southern portion of the Loop tract, in a drainage, with a slope to the south-southeast.

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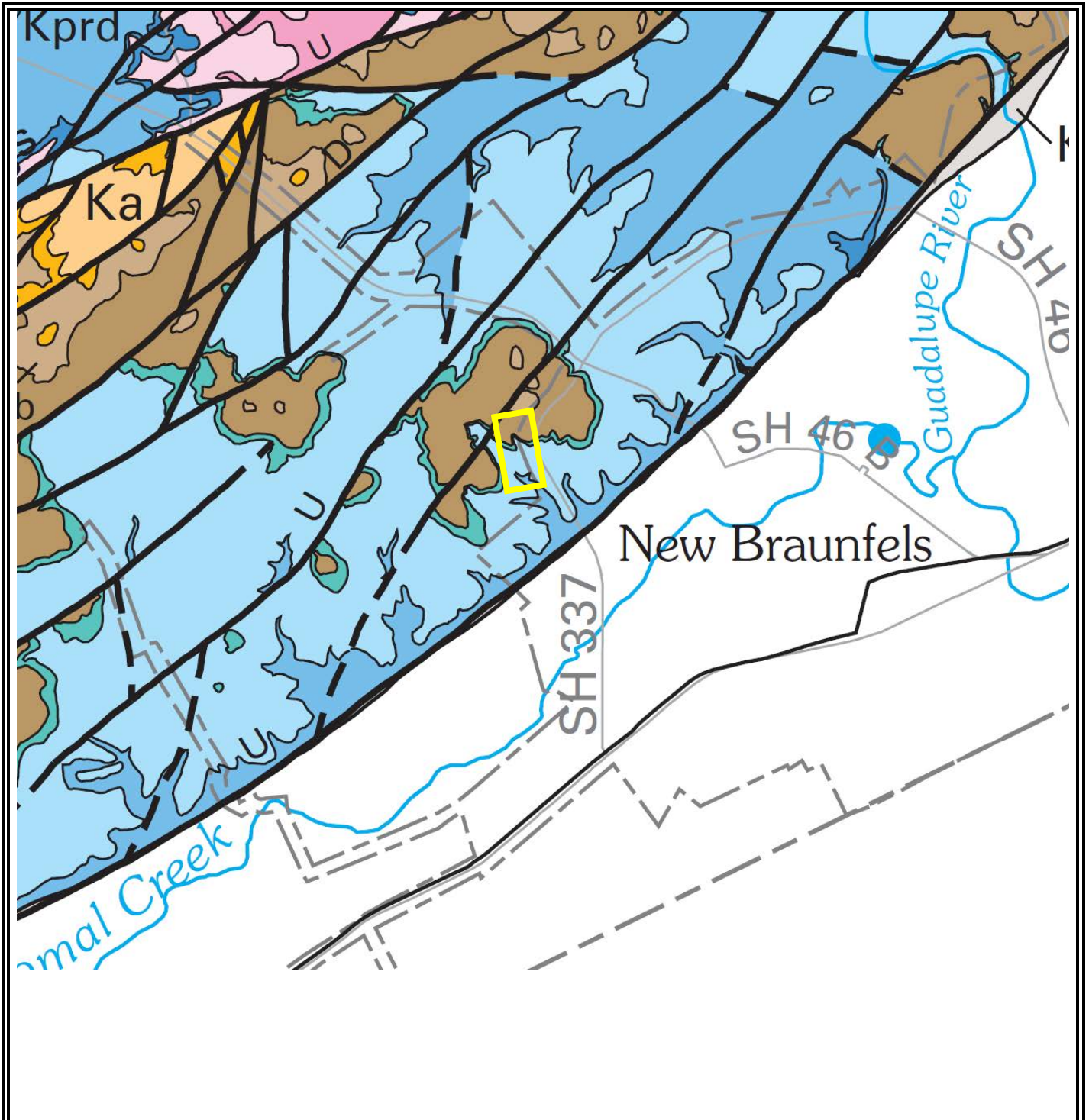
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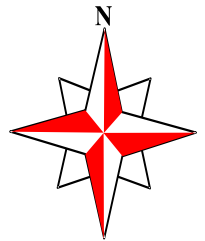
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**psi**  
 PSI, Inc.  
 3 Burwood Lane  
 San Antonio, Texas 78216

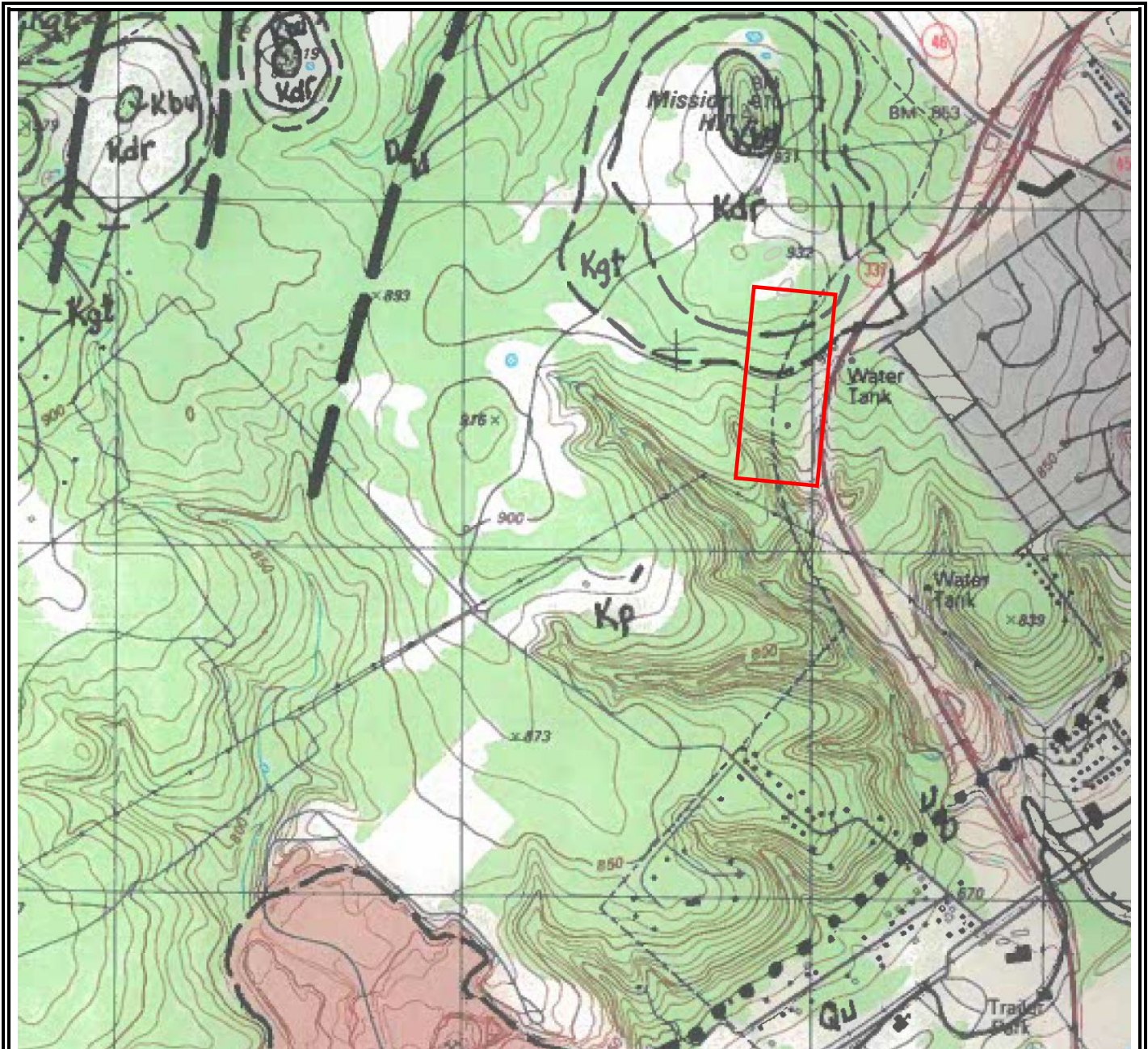
**PROJECT NAME:**

Parc Haus Tract  
 Loop 337  
 New Braunfels, TX

PROJECT NO.:435-5166

**Geologic Map of Edwards  
 Aquifer Recharge Zone,  
 South-Central Texas**  
 (USGS, 2005)

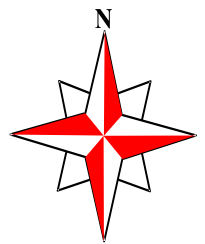


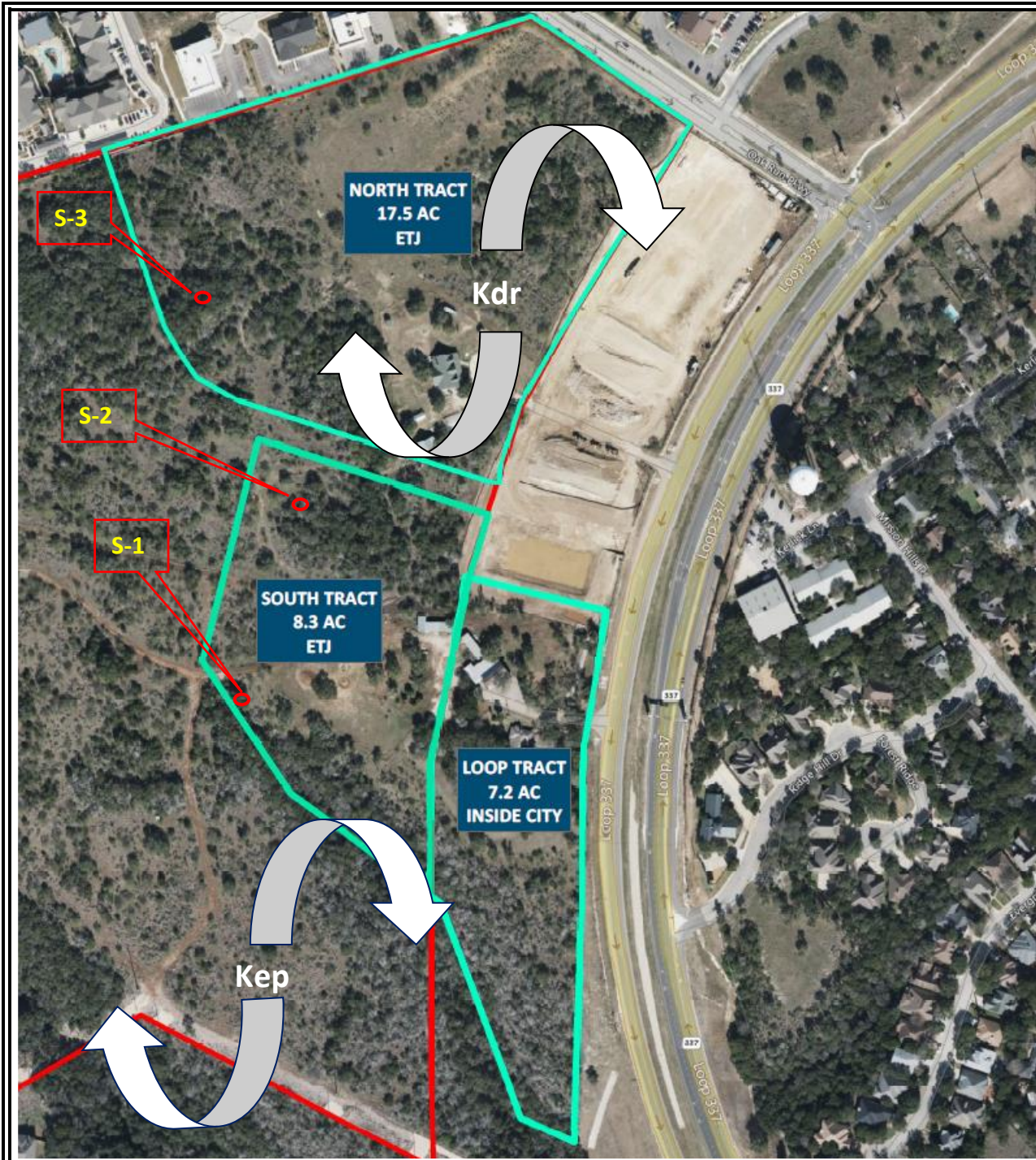


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**PROJECT NAME:**  
 Parc Haus Tract  
 Loop 337  
 New Braunfels, Texas  
 PROJECT NO.:435-5166

**Geologic Map of the New Braunfels West, Texas Quadrangle**  
 Bureau of Economic Geology,  
 UT-Austin (Collins 1993)  
 Geology from Abbot (1973) and King (1957)





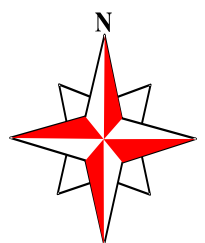
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**PROJECT NAME:**  
Parc Haus Tract  
Loop 337  
New Braunfels, Texas  
PROJECT NO.:435-5166



**Geologic Feature Map**

**Key**  
Kdr- Cretaceous Del Rio Clay  
Kep-Cretaceous Edwards  
Person Formation  
S-1 Feature Location



**GEOLOGIC ASSESSMENT TABLE** PROJECT NAME: Equinox Townhomes Tract

LOCATION			FEATURE CHARACTERISTICS										EVALUATION			PHYSICAL SETTING	
1A FEATURE ID	1B LATITUDE	1C LONGITUDE	2A FEATURE TYPE	2B POINTS	3 FORMATION	4 DIMENSIONS (FEET)			5 TREND (DEGREES)	5A DENSITY (NOFT)	6 DEPTH (FEET)	7 INFILL	8A RELATIVE INFILTRATION RATE	9 TOTAL	10 SENSITIVITY	11 CATCHMENT AREA (ACRES)	12 TOPOGRAPHY
S-1	29-42-24.7	98-9-54.5	SFZ	30	Kep	X	Y	Z	10			N	22	52	X	X	drainage
S-2	29-42-29.3	98-9-53.9	SC	20	Kep	2	1	1				F	5	25	X	X	hillside
S-3	29-42-33.8	98-9-56.63	SC	20	Kgt	3	2	0.5				F	5	25	X	S	hillside

\* DATUM:

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, understood, and I have followed the Texas Commission on Environmental Quality's instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.



Date 11/15/21

Sheet 1 of 1



1. View of vuggy fractured rock zone feature S-1, located at 29-42-24.7; 98-9-54.5 on the southwestern property line of the South Tract, west of Loop 337 in New Braunfels, Texas.



2. View of fractured rock and cavities in S-1.

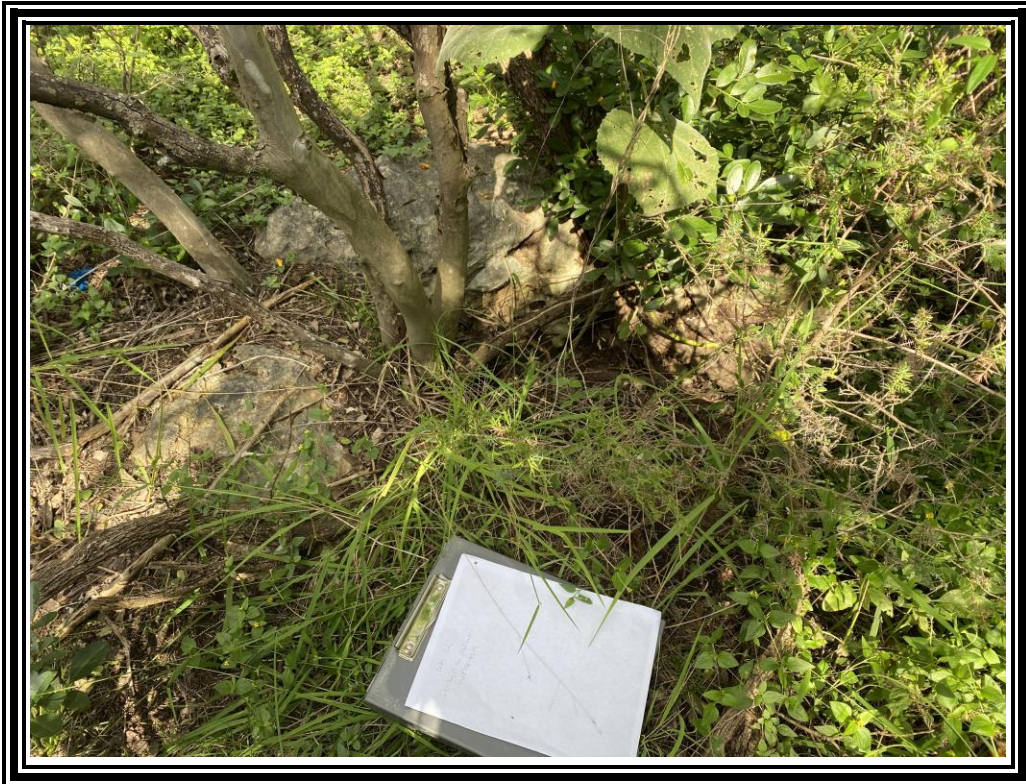


3. View of southern bank of S-1.



4. Close-up view of vuggy rock on the left, with fractured rock underlying and exposed to the right.





5. View of solution cavity feature S-2, located at 29-42-29.3 98-9-53.9, in the uplands on the South Tract, near the northwest corner.



6. View of solution cavity feature S-3, located at 29-42-33.8 98-9-56.6, in the uplands on the North Tract, in the southwest portion.



7. View north along the eastern property line from the Loop Tract.

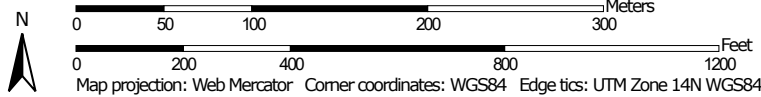


8. View of thick vegetation in the North Tract.

Soil Map—Comal and Hays Counties, Texas



Map Scale: 1:4,300 if printed on A portrait (8.5" x 11") sheet.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas

Survey Area Data: Version 18, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 17, 2020—Jan 15, 2021

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 Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ErG	Eckrant-Rock outcrop association, 8 to 30 percent slopes	3.7	10.8%
MEC	Medlin, warm-Eckrant association, 1 to 8 percent slopes	5.6	16.4%
RUD	Rumple-Comfort, rubbly association, 1 to 8 percent slopes	24.7	72.8%
<b>Totals for Area of Interest</b>		<b>34.0</b>	<b>100.0%</b>

# 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.*

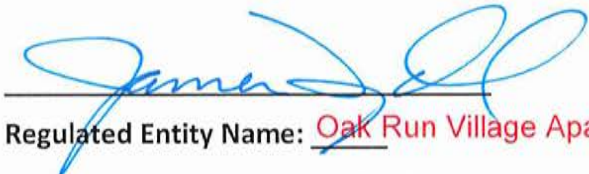
## Signature

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: James Ingalls, P.E.

Date: 2-21-23

Signature of Customer/Agent:



Regulated Entity Name: Oak Run Village Apartments

## Regulated Entity Information

1. The type of project is:

- Residential: Number of Lots: \_\_\_\_\_
- Residential: Number of Living Unit Equivalents: 660
- Commercial
- Industrial
- Other: \_\_\_\_\_

2. Total site acreage (size of property): 17.532

3. Estimated projected population: 1100

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	217,360	÷ 43,560 =	4.99
Parking	351,098	÷ 43,560 =	8.06
Other paved surfaces	39,204	÷ 43,560 =	0.90
Total Impervious Cover	607,662	÷ 43,560 =	13.95

**Total Impervious Cover** 13.95 ÷ **Total Acreage** 17.53 X 100 = 79.58 % 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<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

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

Width of pavement area: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

Pavement area \_\_\_\_\_ acres ÷ R.O.W. area \_\_\_\_\_ acres x 100 = \_\_\_\_\_% impervious cover.

11.  A rest stop will be included in this project.
- A rest stop will not be included in this project.

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

### ***Stormwater to be generated by the Proposed Project***

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

### ***Wastewater to be generated by the Proposed Project***

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

<u>100</u> % Domestic	_____ Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	_____ Gallons/day
TOTAL gallons/day <u>69,300</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 \_\_\_\_\_.

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 \_\_\_\_\_ (name) Treatment Plant. The treatment facility is:

- Existing.  
 Proposed.

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

## Site Plan Requirements

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

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

Site Plan Scale: 1" = 150 '.

18. 100-year floodplain boundaries:

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

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRMETTE: 48091C0435F eff. date 9/02/2009

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 0 (#) 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. **No sensitive feature located on tract with Phase 1 and 2 WPAP.**

**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.

**ATTACHMENT “A”**  
**Factors Affecting Water Quality**

The development will consist of apartment buildings with approximately 217,360 square feet of floor space, with associated parking. To minimize pollution from the site four Contech Jellyfish filtration units will be implemented. Some pollution may occur due to automobile waste, cleaning chemicals, and improperly disposed of waste or litter from the residents, which may have an effect on surface water quality.

**ATTACHMENT “B”**  
**Volume and Character of Stormwater**

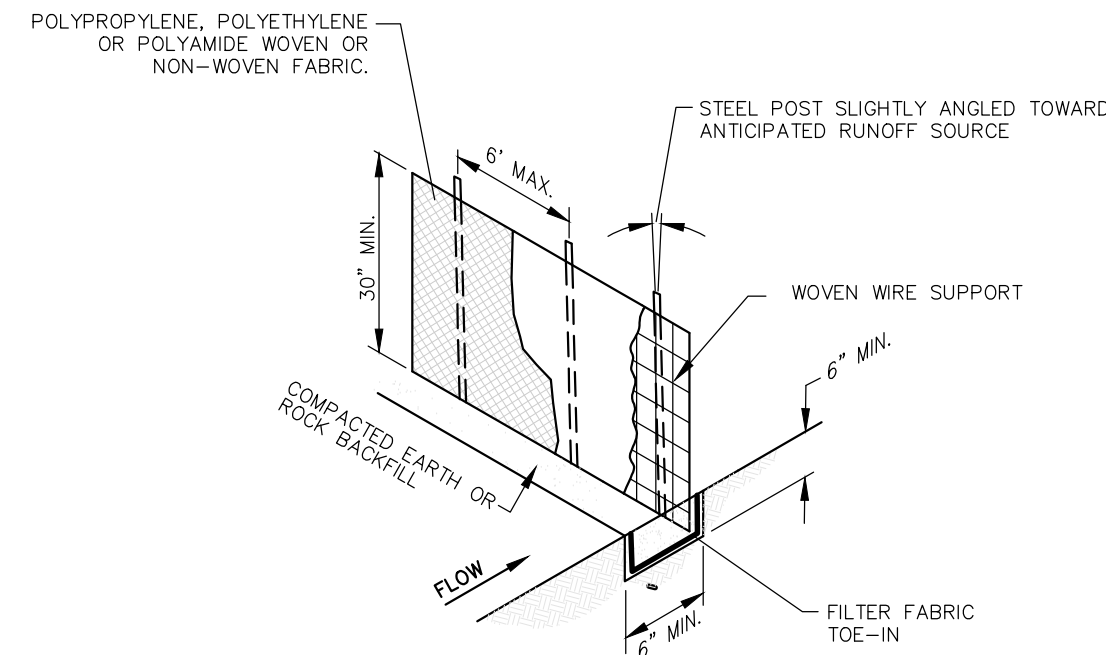
The development of this site will result in an increase in stormwater run-off. To minimize the increase in stormwater runoff an offsite detention pond will be utilized. Sized to accommodate each phase of the development, the pond will be designed to reduce the peak stormwater runoff for ultimate development within the proposed drainage area.

**ATTACHMENT “C”**  
**Suitability Letter from Authorized Agent**

There is no proposed OSSF.

**ATTACHMENT “D”**  
**Exception to the Required Geologic Assessment**

No exception will be requested.



**SILT FENCE**

**MATERIALS:**

- SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN<sup>2</sup>, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT<sup>2</sup>, AND BRINELL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

**INSTALLATION:**

- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1'-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER, WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
- LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.
- THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW, WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3'-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

**INSPECTION AND MAINTENANCE GUIDELINES:**

- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
- WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

**EROSION CONTROL NOTES:**

- LIMITS OF CONSTRUCTION AND OTHER EROSION CONTROL IMPROVEMENTS SHOWN OUTSIDE THE PROPERTY ARE SHOWN FOR GRAPHICAL PURPOSE ONLY. IF NEAR PROPERTY LINE, THE INTENT IS TO BE PLACED NEAR THE PROPERTY LINE, NOT ON THE ADJACENT PROPERTY.
- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED IN THE SWPPP DOCUMENTS AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
- AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UP-GRADIENT AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
- UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL, SEC. 12.2(N).

**STABILIZED CONSTRUCTION ENTRANCE / EXIT**

**MATERIALS:**

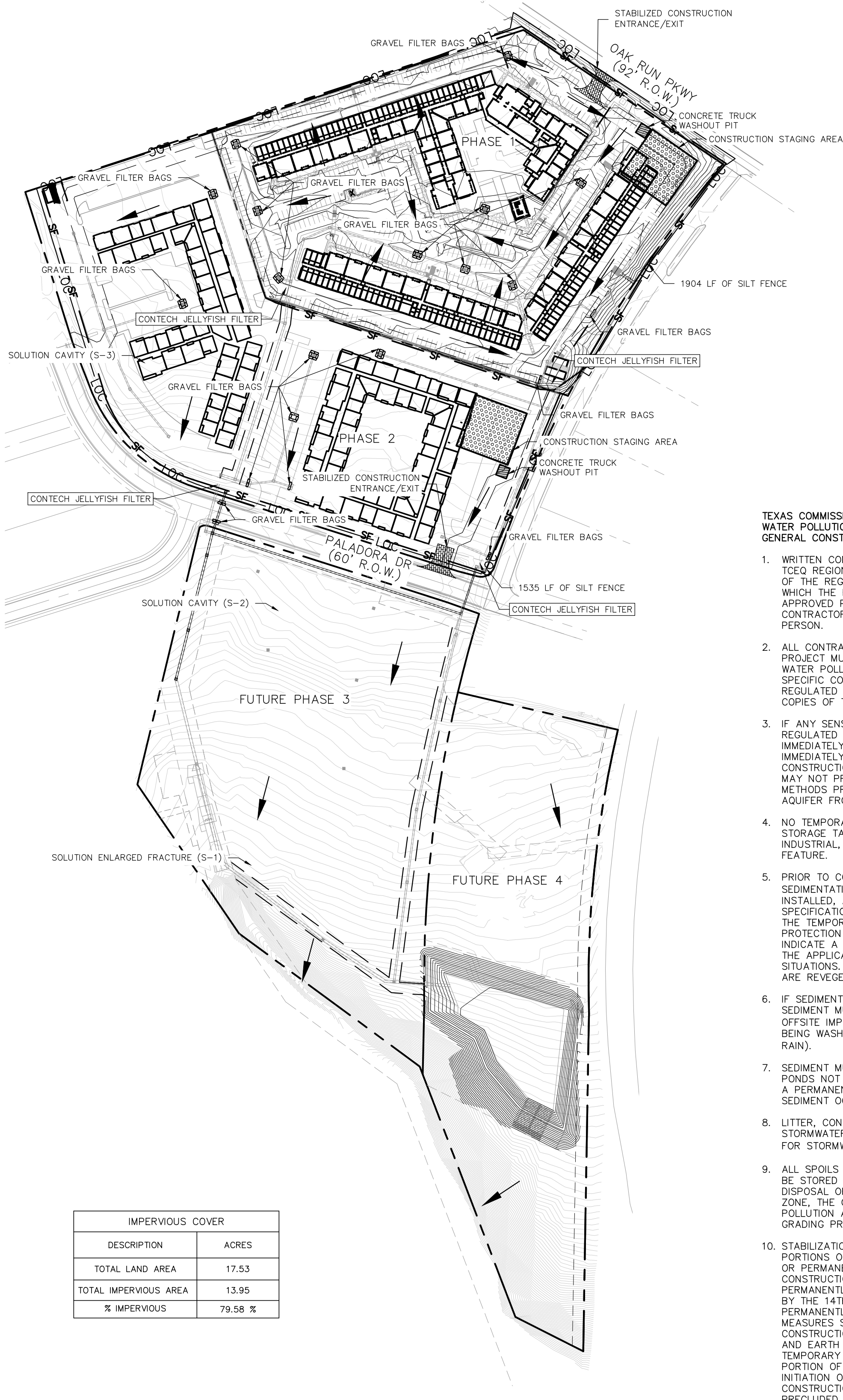
- THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
- THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
- THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD<sup>2</sup>, A MULLEN BURST RATING OF 140 LB/IN<sup>2</sup>, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
- IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

**INSTALLATION:**

- AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
- THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
- IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
- PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
- PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
- DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
- INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

**INSPECTION AND MAINTENANCE GUIDELINES:**

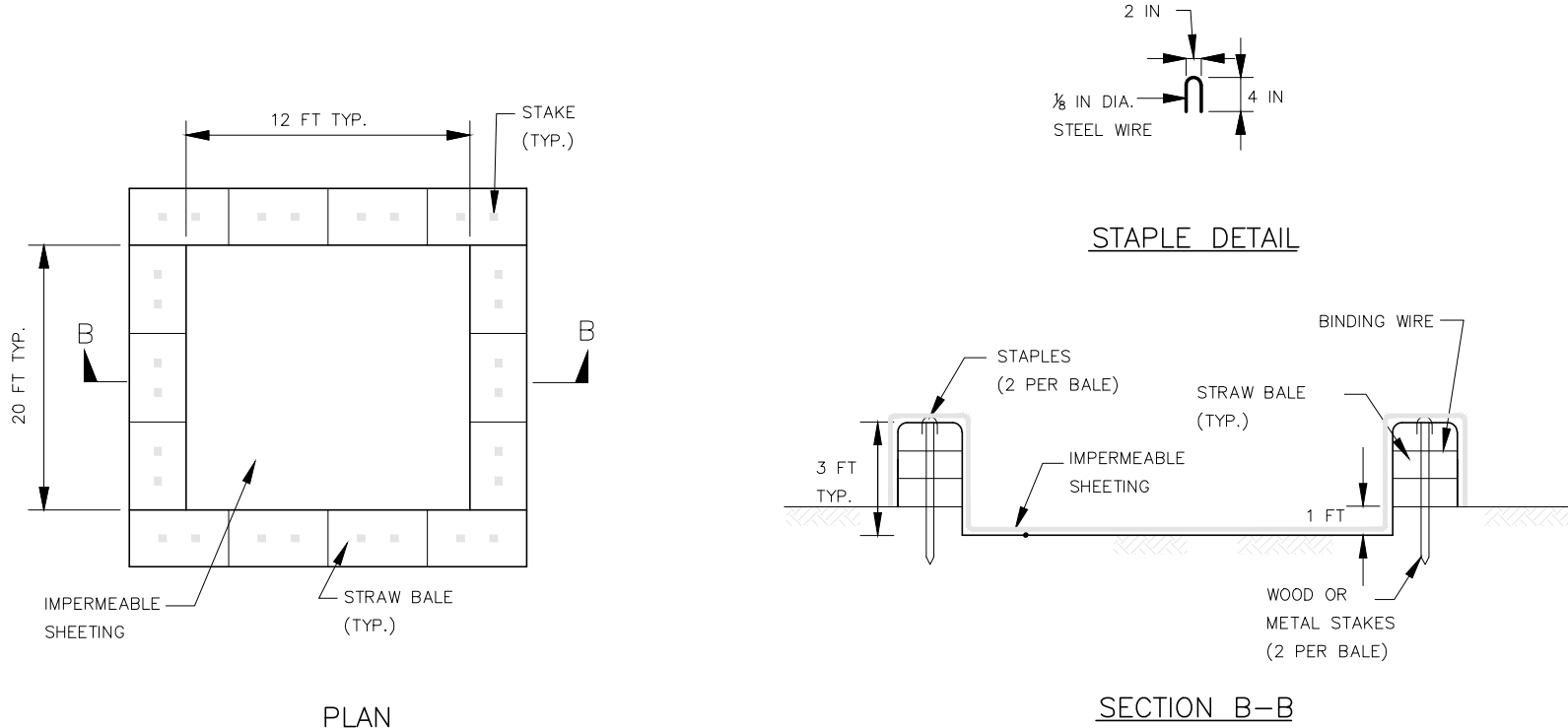
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR LOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANDOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



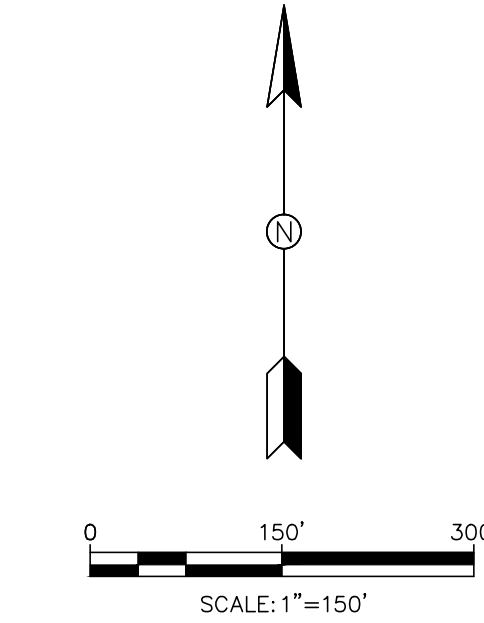
IMPERVIOUS COVER	
DESCRIPTION	ACRES
TOTAL LAND AREA	17.53
TOTAL IMPERVIOUS AREA	13.95
% IMPERVIOUS	79.58 %

**SEQUENCE OF CONSTRUCTION:**

- OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO TCEQ), IF APPLICABLE.
- INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
- SCHEDULE PRE-CON MEETING WITH THE CITY.
- BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
- BEGIN SITE CLEARING AND GRADING.
- INSTALL TEMPORARY SEED POND AS APPROPRIATE.
- RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
- COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
- CITY OF NEW BRAUNFELS FINAL INSPECTION.
- CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% FULLY ESTABLISHED. RYE IS NOT ACCEPTED.
- CITY ISSUES CERTIFICATE OF ACCEPTANCE OR OCCUPANCY.



**TYPICAL CONCRETE TRUCK WASHOUT PIT**



**LEGEND**

- SF SILT FENCE
- BOUNDARY OF DISTURBED AREA
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROWS
- GRAVEL FILTER BAGS (INLET PROTECTION)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT

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

- WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
- SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).
- ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
- THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
  - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
  - B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
  - C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

**SOIL STABILIZATION NOTE**  
ALL DISTURBED SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.



**PROVIDENT REALTY ADVISORS**  
10120 N. CENTRAL EXPRESSWAY,  
SUITE 300, DALLAS, TX 75231

**OAK RUN VILLAGE APARTMENTS  
(PHASE 1 & 2)**

**WPAP SITE PLAN**

**SHEET 1 OF 1**

NO	DATE	ISSUES AND REVISIONS



2021 W SH46, STE 105  
NEW BRAUNFELS, TX. 78132  
PH: 830-358-7127 ink-civil.com  
TBPE FIRM F-13351

# Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: James Ingalls, P.E.

Date: 2-21-23

Signature of Customer/Agent:



Regulated Entity Name: Oak Run Village Apartments

## Project Information

### Potential Sources of Contamination

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

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

The following fuels and/or hazardous substances will be stored on the site: \_\_\_\_\_

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

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

- Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- Fuels and hazardous substances will not be stored on the site.
- 2.  **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3.  Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4.  **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

### ***Sequence of Construction***

- 5.  **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
  - For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
  - For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6.  Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Comal/Guadalupe River

### ***Temporary Best Management Practices (TBMPs)***

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

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

- A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
  - A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
  - A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
  - A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8.  The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
  - There will be no temporary sealing of naturally-occurring sensitive features on the site.
9.  **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10.  **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
  - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
  - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
  - There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11.  **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- N/A
12.  **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13.  All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14.  If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15.  Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16.  Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

### ***Soil Stabilization Practices***

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

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



18.  Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19.  Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

### ***Administrative Information***

20.  All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21.  If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22.  Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

**ATTACHMENT “A”**  
**Spill Response Actions**

Spill Prevention and Control

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

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

***Education***

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a “significant spill” is for each material they use, and what is the appropriate response for “significant” and “insignificant” spills. Employees should also be aware of when spills must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor’s superintendent or representative oversee and enforce proper spill prevention and control measures.

***General Measures***

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.

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

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

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

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

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

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

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

### ***Cleanup***

(1) Clean up leaks and spills immediately.

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

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

### ***Minor Spills***

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

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

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

- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

### ***Semi-Significant Spills***

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

Spills should be cleaned up immediately:

- (1) Contain spread of the spill.
- (2) Notify the project foreman immediately.
- (3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- (4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- (5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

### ***Significant/Hazardous Spills***

For significant or hazardous spills that are in reportable quantities:

- (1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- (2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- (3) Notification should first be made by telephone and followed up with a written report.

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

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

More information on spill rules and appropriate responses is available on the TCEQ website at: [http://www.tnrcc.state.tx.us/enforcement/emergency\\_response.html](http://www.tnrcc.state.tx.us/enforcement/emergency_response.html)

### ***Vehicle and Equipment Maintenance***

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

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

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

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

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

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

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

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

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

### ***Vehicle and Equipment Fueling***

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

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

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

**ATTACHMENT “B”**  
**Potential Sources of Contamination**

The only potential sources of contamination are construction equipment leaks, re-fueling spills, port-o-lets, and the total suspended solids (TSS) due to the construction activities on-site. There are no other anticipated potential sources of contamination.

**ATTACHMENT “C”**  
**Sequence of Major Activities**

Stages of Construction:

1. Installation of temporary BMP's.
2. Minor site grading: This includes the removal of organic material and other debris within the proposed parking and building site.  
Approximate total disturbed area = 8.71-acres (Phase 1)  
Approximate total disturbed area = 8.82-acres (Phase 2)
3. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction.  
Approximate total disturbed area = 7.0-acres (Phase 1)  
Approximate total disturbed area = 7.0-acres (Phase 2)
4. Utility installation: All primary utility mains have already been installed and are available at the site. Sewer, water, gas, and electrical services will be installed at this time.
5. Finished grading: Final landscaping, Parking and building infrastructure are installed.  
Approximate total disturbed area = 6.98-acres (Phase 1)  
Approximate total disturbed area = 6.97-acres (Phase 2)

**ATTACHMENT “D”**  
**Temporary BMP's and Measures**

The following sequence will be followed for installing temporary BMP's:

1. Silt fence will be constructed on the downgradient side of proposed site.
2. A stabilized construction exit will be installed prior to any site work.

A. Silt Fence will be installed on the most downgradient side of the site and will reduce potential pollution from any stormwater that originates onsite or offsite. A stabilized construction exit will be constructed at the entrance of the site; this will reduce the amount of contaminants leaving the site.

B. Silt fence will be placed on the downgradient side of each proposed improvement to contain pollutants generated from onsite runoff. Disturbed areas will be seeded to replace destroyed vegetation. The existing vegetation located downgradient of each proposed improvement will

work in conjunction with the silt fence and stabilized construction entrance to prevent pollution of water originating onsite and/or flowing offsite.

C. The proposed silt fences, and stabilized construction entrance constructed upgradient of the existing streams will prevent pollutants from entering them, as well as the aquifer. According to the Geologic Assessment, there is one sensitive feature that will be requested to be permanently sealed prior to site work.

**ATTACHMENT “E”**  
**Request to Temporarily Seal a Feature**

There will be no request to temporarily seal a feature.

**ATTACHMENT “F”**  
**Structural Practices**

Stabilized Construction Entrance/Exit, rock gabions, and silt fence will be used to protect disturbed soils and to prevent contamination from leaving the project site.

**ATTACHMENT “G”**  
**Drainage Area Map**

See Drainage Area Map at the end of this section.

**ATTACHMENT “H”**  
**Temporary Sediment Pond Plans and Calculations**

There will not be more than 10 acres of disturbed soil in one common drainage area that will occur at one time. Silt fence will be used for small drainage areas. No sediment ponds will be constructed due to the minimal amount of soil disturbance.

**ATTACHMENT “I”**  
**Inspection and Maintenance for BMP’s**

**Inspection and Maintenance Plan**

The contractor is required to inspect the control and fences at weekly intervals and after any rainfall events to ensure that they are functioning properly. The contractor is required to document any changes on the Site Plan, documentation must include person performing task, task performed, and date. The contractor must also document if proper inspection measures have been taken while making changes. The person(s) responsible for maintenance controls and fences shall immediately make any necessary repairs to damaged areas.

Temporary Construction Entrance/Exit: The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of

any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

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

TCEQ staff will be allowed full access to the property during construction of the project for inspecting controls and fences and to verify that the accepted plan is being utilized in the field. TCEQ staff has the right to speak with the contractor to verify plan changes and modifications.

Documentation: All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the WPAP Site Plan showing inspection/maintenance measures performed, date, and person responsible for inspection and maintenance. Any changes made to the location or type of controls shown on the accepted plans, due to onsite conditions, shall be documented on the site plan that is part of this Water Pollution Abatement Plan. No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, person responsible for the change, and the reason for the change.

**Owner's Information:**

Owner: PARCHAUS NEW BRAUNFELS LP  
Contact: Basil Koutsogeorgas  
Address: 8350 N. Central Expressway, Ste. 1500  
Dallas, TX 75206

**Design Engineer:**

Company: INK Civil  
Contact: James Ingalls, P.E.  
Phone: (830) 358-7127  
Address: 2021 SH 46W, Ste. 105  
New Braunfels, Texas 78132



**Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:**

Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

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

Signature of Responsible Party: \_\_\_\_\_

**This portion of the form shall be filled out and signed by the responsible party prior to construction.**

**ATTACHMENT “J”**  
**Schedule of Interim and Permanent Soil Stabilization Practices**

Areas which are disturbed by construction staging and storage areas will be hydro mulched with the appropriate seed mixture. Areas between the edge of pavement and property line will also be hydro mulched. There will be no fill slopes exceeding a 3:1 slope, and all fill slopes will be hydro mulched. Installation and acceptable mixtures of hydro mulch are as follows:

**Materials:**

Hydraulic Mulches: Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

Hydraulic Matrices: Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer’s recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

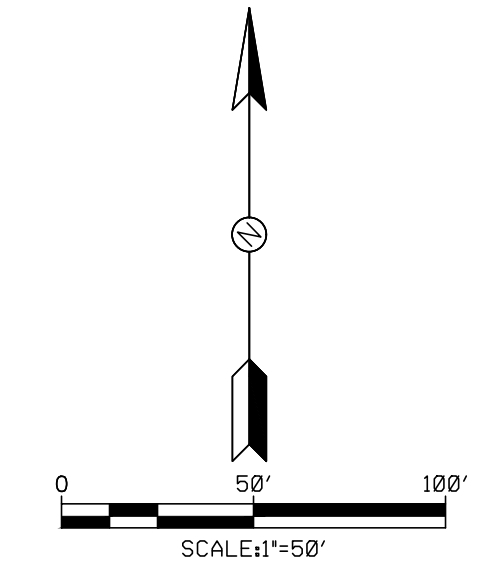
Seed Mixtures:

<b>Dates</b>	<b>Climate</b>	<b>Species</b>	<b>(lb/ac.)</b>
Sept. 1 to Nov. 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheats	30.0
		<b>Total</b>	<b>55.0</b>
Sept. 1 to Nov. 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug. 31	Temporary Warm Season	Foxtail Millet	30.0

Fertilizer: Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet.

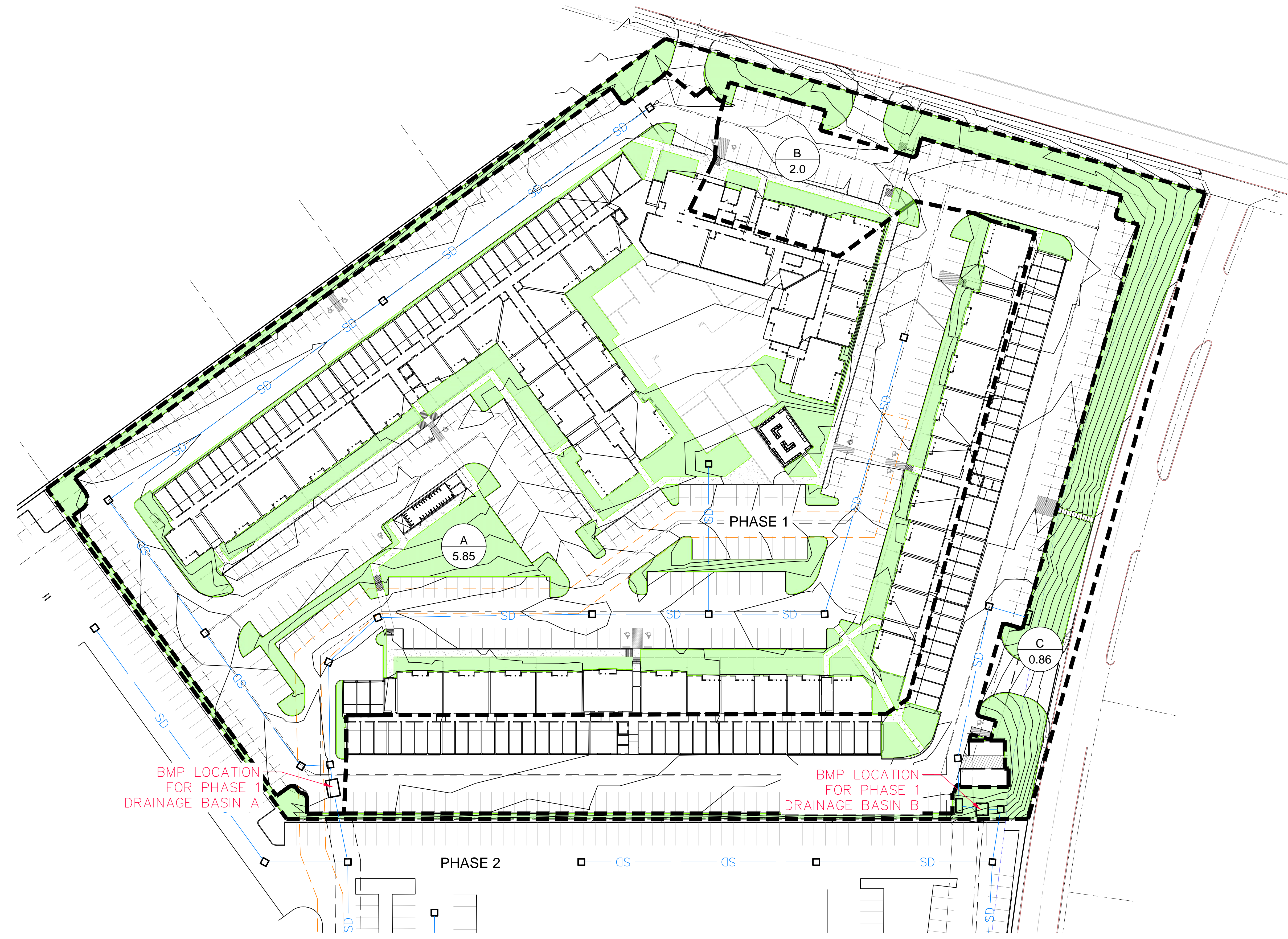
**Installation:**

- (1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.
- (2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- (3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.



**LEGEND**

- PROPOSED DRAINAGE AREA BOUNDARY
- SD PROPOSED STORM DRAIN
- A DRAINAGE BASIN LABEL
- 9.0 BASIN AREA (AC)



PROVIDENT REALTY ADVISORS  
10120 N. CENTRAL EXPRESSWAY,  
SUITE 300, DALLAS, TX 75231

OAK RUN VILLAGE APARTMENTS  
(PHASE 1)

WPAP DRAINAGE MAP

SHEET **1** OF **1**

NO	DATE	ISSUES AND REVISIONS
1		



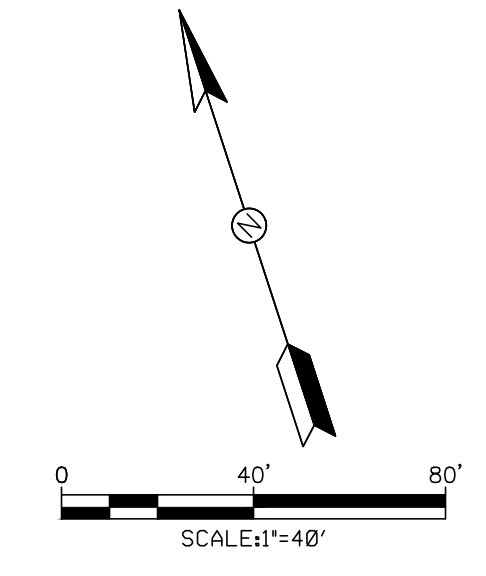
2021 W SH46, STE 105  
NEW BRAUNFELS, TX. 78132  
PH: 830-358-7127 ink-civil.com  
TBPE FIRM F-13351

Oak Run Village Apartments Phase 1 - TSS Calculations 11/14/2022

TCEQ Load Removal Calculations Summary					
Drainage Basin/Outfall Area	Total Drainage Basin Area (Ac)	Predevelopment Impervious Cover (Ac)	Post Development Impervious Cover (Ac)	Required TSS Removal (lbs)	Design TSS Removal (lbs)
A	5.85	0	4.96	4452	4457
B	2.00	0	1.92	1723	1768
C	0.86	0	0.10	90	-
<b>Total</b>	<b>8.71</b>	<b>0</b>	<b>6.98</b>	<b>6265</b>	<b>6265</b>

Summary:  
There will be two storm drain lines consisting of Drainage Area A & B. Area C TSS load will be accounted for as "overtreatment" in Drainage Basin A & B

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**LEGEND**

- PROPOSED DRAINAGE AREA BOUNDARY
- PROPOSED STORM DRAIN
- A DRAINAGE BASIN LABEL
- 9.0 BASIN AREA (AC)



PROVIDENT REALTY ADVISORS  
10120 N. CENTRAL EXPRESSWAY,  
SUITE 300, DALLAS, TX 75231

OAK RUN VILLAGE APARTMENTS  
(PHASE 2)

WPAP DRAINAGE MAP

SHEET **1** OF **1**

NO	DATE	ISSUES AND REVISIONS



2021 W SH46, STE 105  
NEW BRAUNFELS, TX. 78132  
PH: 830-358-7127 ink-civil.com  
TBPE FIRM F-13351

Oak Run Village Apartments Phase 2 - TSS Calculations 12/27/2022

Drainage Basin/Outfall Area	Total Drainage Basin Area (Ac)	TCEQ Load Removal Calculations Summary		Required TSS Removal (lbs)	Design TSS Removal (lbs)
		Predevelopment Impervious Cover (Ac)	Post Development Impervious Cover (Ac)		
A	4.68	0	4.21	3779	3629
B	3.00	0	2.75	2466	2472
C	1.14	0	0.06	54	54
<b>Total</b>	<b>8.82</b>	<b>0</b>	<b>7.02</b>	<b>6301</b>	<b>6301</b>

Summary:  
There will be two storm drain lines consisting of Drainage Area A & B. Area C TSS load will be accounted for as "overtreatment" in both DA A & B

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# 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.*

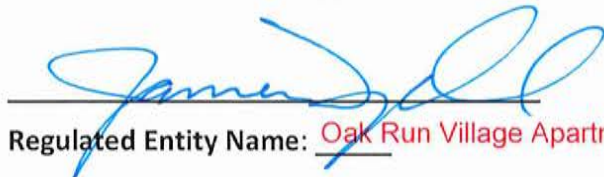
## Signature

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: James Ingalls, P.E.

Date: 2-21-23

Signature of Customer/Agent



Regulated Entity Name: Oak Run Village Apartments

## Permanent Best Management Practices (BMPs)

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

- Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.  
 N/A
- These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.  
 The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: \_\_\_\_\_

N/A

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

N/A

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

The site will be used for low density single-family residential development and has 20% or less impervious cover.

The site will be used for low density single-family residential development but has more than 20% impervious cover.

The site will not be used for low density single-family residential development.

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

**Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

The site will not be used for multi-family residential developments, schools, or small business sites.

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

- A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
  - No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
  - Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7.  **Attachment C - BMPs for On-site Stormwater.**
- A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
  - Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8.  **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- N/A
9.  The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
  - Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10.  **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- Design calculations (TSS removal calculations)
  - TCEQ construction notes
  - All geologic features
  - All proposed structural BMP(s) plans and specifications
- N/A



11.  **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- Prepared and certified by the engineer designing the permanent BMPs and measures
  - Signed by the owner or responsible party
  - Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
  - A discussion of record keeping procedures
- N/A
12.  **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- N/A
13.  **Attachment I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- N/A

### ***Responsibility for Maintenance of Permanent BMP(s)***

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

14.  The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- N/A
15.  A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- N/A

**ATTACHMENT “A”**  
**20% or Less Impervious Cover Waiver**

The 20% Impervious Cover Waiver does not apply. Permanent BMP’s will be designed in accordance with TCEQ requirements for the removal of TSS generated by the proposed development.

**ATTACHMENT “B”**  
**BMP’s for Upgradient Stormwater**

No upgradient stormwater will flow across the site.

**ATTACHMENT “C”**  
**BMP’s for On-Site Stormwater**

The permanent BMP’s used to treat on-site stormwater runoff will be Contech Jellyfish stormwater filtration systems fitted to the storm drains. Please refer to the WPAP Drainage Area Map in the Temporary Stormwater Section for areas of treatment and BMP structures used.

**ATTACHMENT “D”**  
**BMP’s for Surface Streams**

No surface streams are in proximity to the site. All stormwater runoff flows into the Dry Comal Creek and subsequently the Comal/Guadalupe River. Pollution control from the Contech Jellyfish filters should minimize contaminants from leaving the site with stormwater runoff.

**ATTACHMENT “E”**  
**Request to Seal Feature**

N/A

**ATTACHMENT “F”**  
**Construction Plans**

Please see attached Construction Plans at the end of this section.

**ATTACHMENT “G”**  
**Inspection, Maintenance, Repair, and Retrofit Plan**

**Retention/Irrigation Maintenance and Monitoring Procedures**

- *Inspections.* The irrigation system, including pumps, should be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. Two of these inspections should occur during or immediately following wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately. In particular, sprinkler heads must be checked to determine if any are broken, clogged, or not spraying properly. All inspection and testing reports should be kept on site and accessible to inspectors.
- *Sediment Removal.* Remove sediment from splitter box, basin, and wet wells at least two times per year or when the depth reaches 3 inches.
- *Irrigation Areas.* To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.
- *Mowing.* The upper stage, side slopes, and embankment of a retention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.
- *Debris and Litter Removal.* Debris and litter will accumulate near the basin pump and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the irrigation system.
- *Erosion Control.* The pond side slopes and embankment may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems.
- *Nuisance Control.* Standing water or soggy conditions in the retention basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).

## **Storm Filter Maintenance Guidelines**

### **Recommended maintenance guidelines include:**

- **Inspections.** Inspection of the storage component (and sedimentation manhole, if appropriate) should occur at a minimum of twice a year. It is recommended to wait 7 – 14 days after the last storm event, prior to making an inspection. This should allow for improved water clarity for observations in the storage facility. Sediment depth can be measured with a rod or other means. If sediment depth is greater than 1 foot, sediment removal in the storage facility is warranted.
- **Cartridge Replacement.** Cartridges should initially be replaced annually. If inspection of the removed cartridges indicates that their life expectancy exceeds one year, a modified maintenance plan should be provided to TCEQ specifying the new replacement schedule. Cartridge replacement also may be required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms.
- **Sediment Removal.** Sediment removal should occur before the accumulated sediment occupies 20% of the settling chamber. Typically includes cartridge replacement and sediment removal from the vault.
- **Debris and Litter Removal.** Debris and litter must be removed when its presence threatens the proper operation of the system.

### **Storm Filter Systems Maintenance and Monitoring Procedures**

- Refer to CONTECH Jellyfish Filter Maintenance Guide attached below.

**Attachment "G"**

**Maintenance Plan for Storm Filter**

Storm Filter: The Contech Jellyfish filtration devices will be located along the storm sewer alignments.

Owner: PARCHAUS NEW BRAUNFELS LP  
8350 N. Central Expressway, Ste. 1500  
Dallas, TX 75206  
Contact: Basil Koutsogeorgas  
Phone: (972) 385-4130

Storm Filter Maintenance and Monitoring Procedures will be implemented to ensure that the proposed BMP functions as designed.

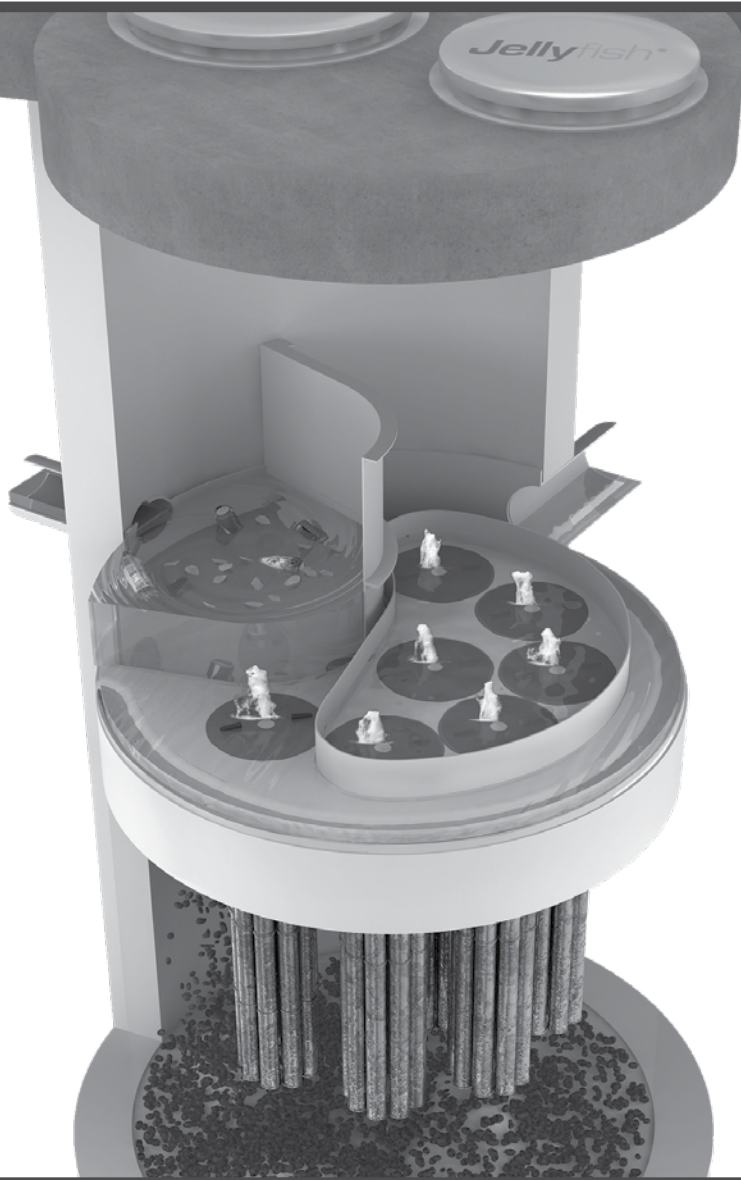
  
\_\_\_\_\_  
PARCHAUS NEW BRAUNFELS LP

2/21/2023  
Date

I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that, if they are followed as outlined, the storm filter will function as designed.

  
\_\_\_\_\_  
James Ingalls, P.E.

## Jellyfish<sup>®</sup> Filter Maintenance Guide





## **JELLYFISH® FILTER INSPECTION & MAINTENANCE GUIDE**

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

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## 1.0 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, these 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.

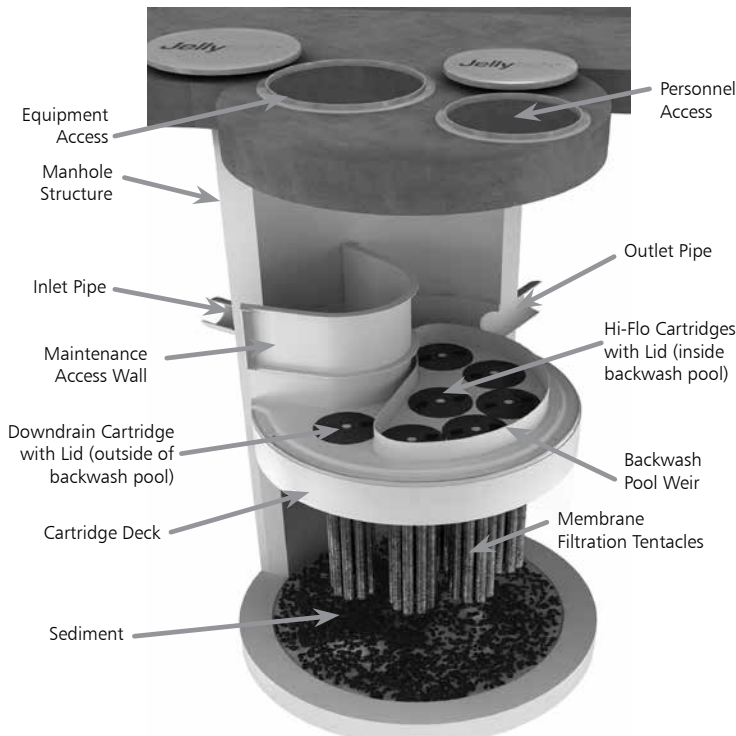
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion 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) or inlet bay for vault systems

Maintenance activities include:

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



Note: Separator Skirt not shown

## 2.0 Inspection 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.*

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. 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.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

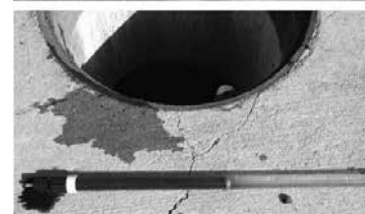
## 3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

### 3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe



- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment ( $\geq 1/16''$ ) accumulated on the deck surface should be removed.

### 3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- 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 need to be rinsed.

## 4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter 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:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. 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 sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. 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 or compromised by the spill.

## 5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

1. Provide traffic control measures as necessary.
2. 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.**

3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure 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.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

### 5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. **Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs.**
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

### 5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device



2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray 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.**

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

### 5.3 Sediment and Floatables Extraction

1. 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. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes ( $\geq 8$ -ft) and some vaults 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.

### 5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. **Caution: Do not force the cartridge downward; damage may occur.**
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. 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.

### 5.5 Chemical Spills

**Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.**

### 5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

# Jellyfish Filter Components & Filter Cartridge Assembly and Installation

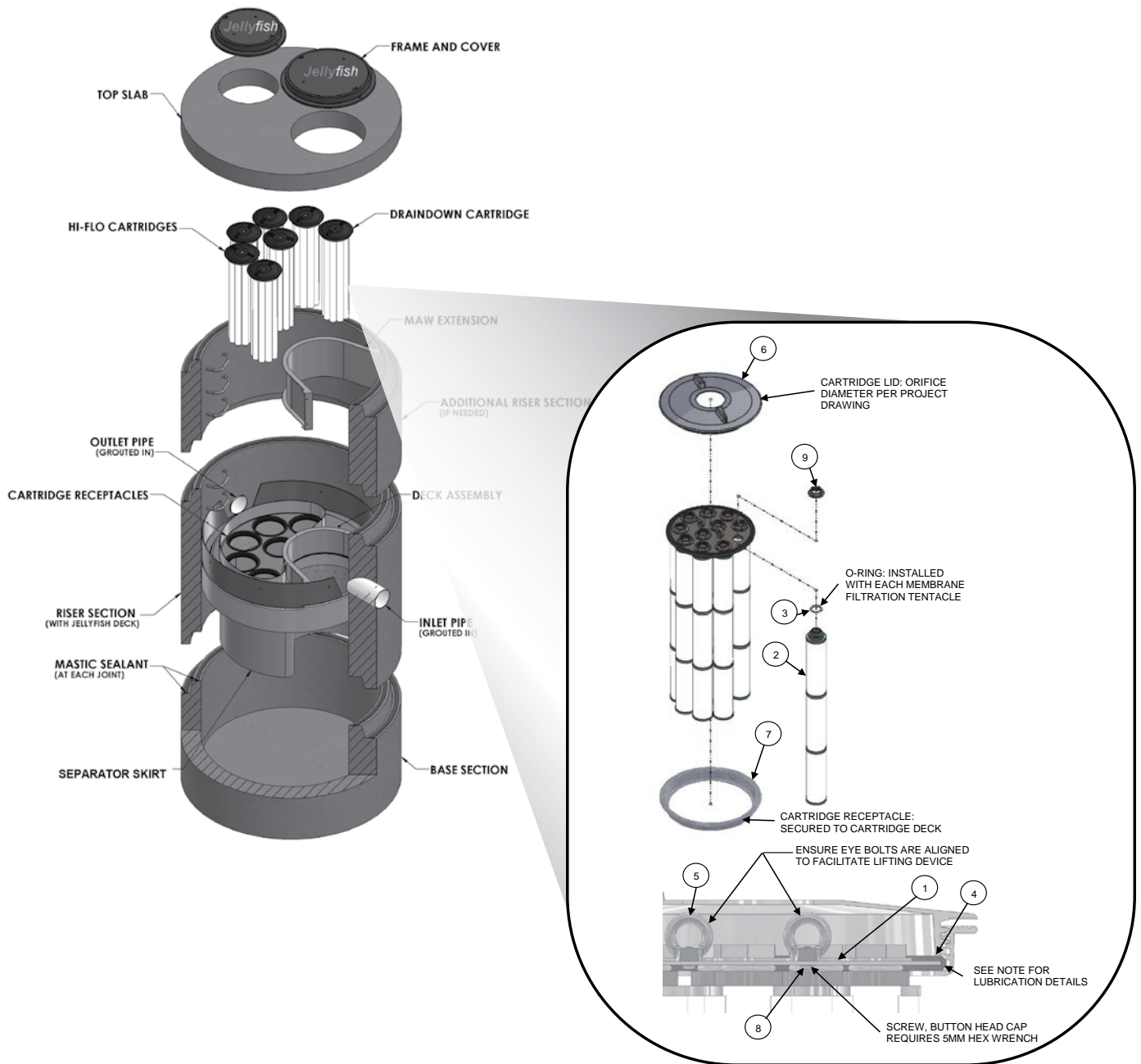


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

## NOTES:

### Head Plate Gasket Installation:

Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lids (Item 6). Follow Lubricant manufacturer's instructions.

### Lid Assembly:

Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clockwise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

## Jellyfish Filter Inspection and Maintenance Log

Owner:		Jellyfish Model No:	
Location:		GPS Coordinates:	
Land Use:	Commercial:	Industrial:	Service Station:
	Roadway/Highway:	Airport:	Residential:

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						



#### Support

- Drawings and specifications are available at [www.conteches.com/jellyfish](http://www.conteches.com/jellyfish).
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at [www.conteches.com/ccmp](http://www.conteches.com/ccmp)

**Jellyfish**<sup>®</sup>

**CONTECH**<sup>®</sup>  
ENGINEERED SOLUTIONS

800.338.1122

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**ATTACHMENT "I"**

**Measures for Minimizing Surface Stream Contamination**

All surface streams will be protected from erosion by not allowing runoff to exceed existing velocities. The storm water runoff from the property will be directed into the storm drains with Contech Storm Filters where the pollutants will be removed. Runoff from the site will be conveyed to the detention pond which will be designed to reduce the peak stormwater runoff.

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

Project Name: **Oak Run Village**  
Date Prepared: 11/16/2022

**1. The Required Load Reduction for the total project:**

Calculations from RG-348 Page 3-29 Equation 3.3:  $L_d = 27.2(A_o \times P)$   
Pages 3-27 to 3-30

$L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_o$  = Not increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

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

County =	Cornwall
Total project area included in plan =	8.71 acres
Predevelopment impervious area within the limits of the plan =	0.00 acres
Total post-development impervious area within the limits of the plan =	6.08 acres
Total post-development impervious cover fraction =	0.69
$P$ =	33 inches
$L_d$ TOTAL PROJECT =	6665 lbs.

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

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

**Drainage Basin/Outfall Area No. = A**

Total drainage basin/outfall area =	5.85 acres
Predevelopment impervious area within drainage basin/outfall area =	0.00 acres
Post-development impervious area within drainage basin/outfall area =	4.95 acres
Post-development impervious fraction within drainage basin/outfall area =	0.85
$L_d$ BASIN =	4492 lbs.

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **JF** abbreviation  
Removal efficiency = **86** percent

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

RG-348 Page 3-33 Equation 3.7:  
 $L_d = (BMP \text{ efficiency}) \times P \times (A_i \times 3.6 + A_o \times 0.54)$

$A_i$  = Total On-Site drainage area in the BMP catchment area  
 $A_o$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Previous area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP

$A_i$ =	5.85 acres
$A_o$ =	4.95 acres
$A_p$ =	0.96 acres
$L_d$ =	4884 lbs.

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

Desired  $L_d$  TSS LOAD = 4492 lbs.  
 $F = 0.67$

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

Offsite area draining to BMP = 0.00 acres  
Offsite impervious cover draining to BMP = 0.00 acres

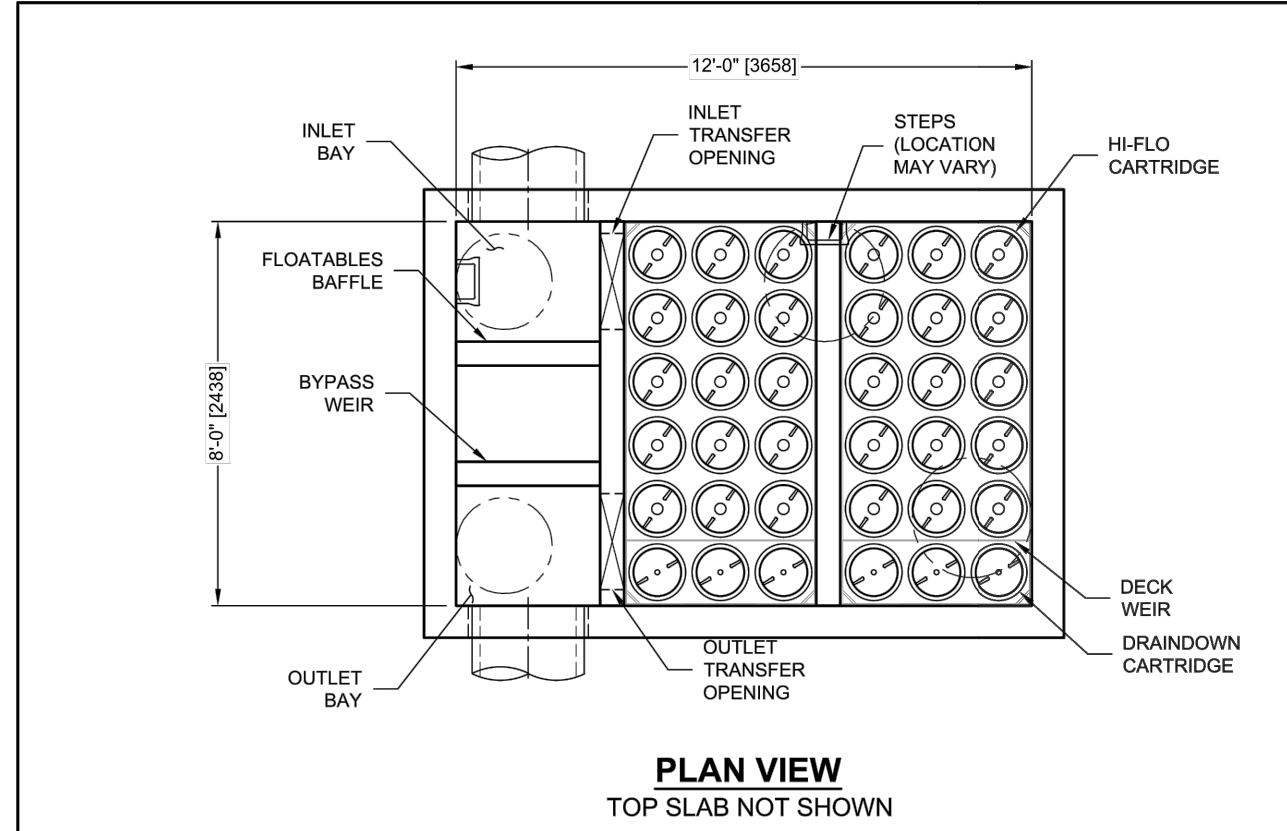
Rainfall Intensity = 1.20 inches per hour  
Effective Area = 4.95 acres  
Cartridge Length = 34 inches

Peak Treatment Flow Required = 5.43 cubic feet per second

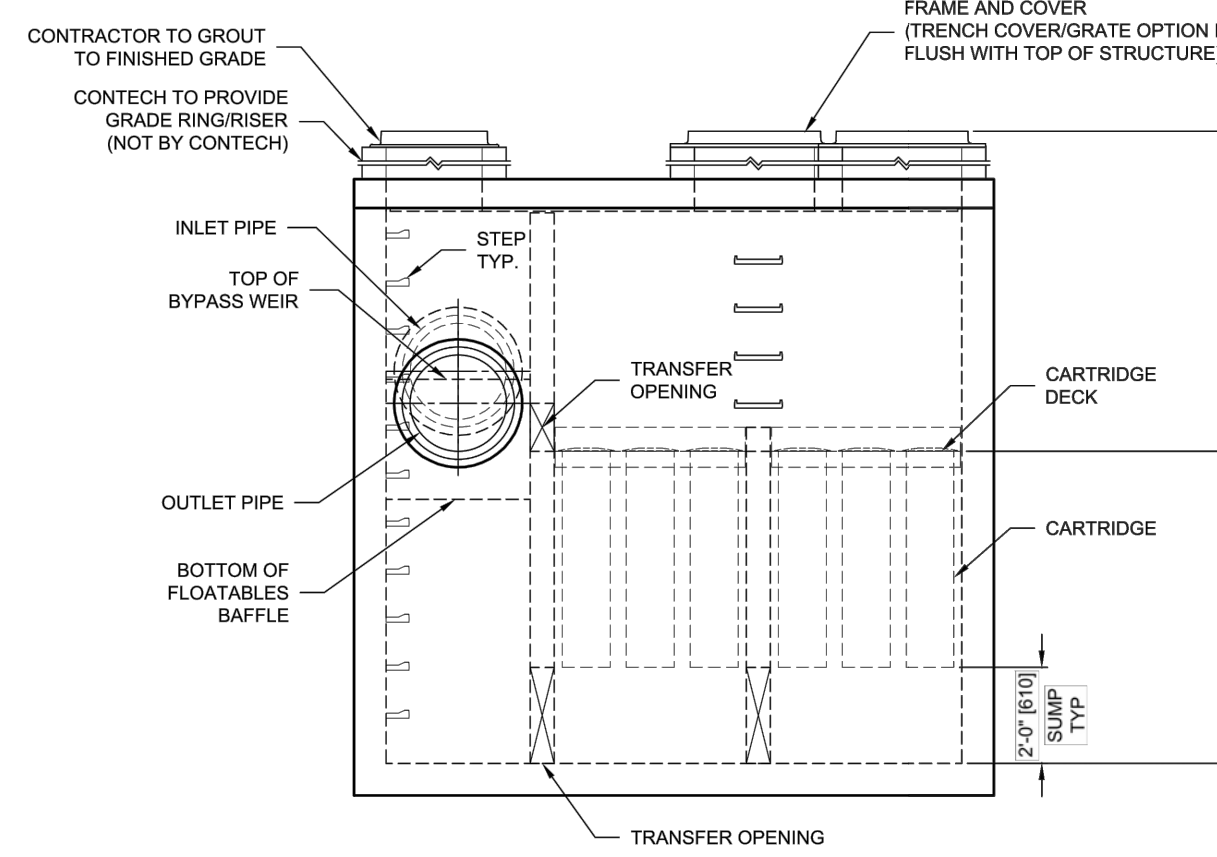
**2. Jellyfish**

Designed as Required in RG-348 Section 3.2.22

<b>Flow Through Jellyfish Size</b>	
Jellyfish Size for Flow-Based Configuration =	JFPD0808-6
Jellyfish Treatment Flow Rate =	5.52 cfs



**PLAN VIEW**  
TOP SLAB NOT SHOWN



**ELEVATION VIEW**

**Jellyfish® Filter**  
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,297,756; 8,212,418; US 8,033,915; OTHER INTERNATIONAL PATENTS PENDING

**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SIZE, TYPE AND QUANTITY. THE STANDARD PEAK DIVERSION VAULT STYLE WITH PRECAST TOP SLAB IS SHOWN. THE 6' X 12' (2438 X 3658) JELLYFISH PEAK TREATMENT CAPACITY IS 5.86 CFS (166.50 L/s). MAXIMUM BYPASS CAPACITY IS DETERMINED BY CONTECH ENGINEERED SOLUTIONS. IF THE SITE CONDITIONS EXCEED THE TOTAL BYPASS CAPACITY OF THE SYSTEM, AN UPSTREAM DIVERSION STRUCTURE IS REQUIRED.

CARTRIDGE SIZE	54	40	27	15
FLOW RATE HIGH-FLOW / DRAINDOWN (cfs [L/s])	0.1780 (0.89 [5.102/55])	0.1330 (0.65 [3.68/184])	0.0890 (0.45 [2.55/128])	0.0490 (0.25 [1.42/21])
MAXIMUM CARTRIDGE QUANTITY, HI-FLO / DRAINDOWN	30/6	30/6	30/6	30/6
MAXIMUM TREATMENT	5.86 (166.50)	4.41 (124.88)	2.94 (83.25)	1.62 (45.87)
OUTLET INVERT TO STRUCTURE INVERT (A) (ft. [mm])	5.90 (1991)	5.33 (1625)	4.25 (1299)	3.25 (991)
FINISHED GRADE TO OUTLET INVERT (SHALLOW) (B)	DETERMINED BY CONTECH			
FINISHED GRADE TO OUTLET INVERT (STANDARD) (B) (ft. [mm])	5.67 (1727)	4.58 (1396)		

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs [L/s])	*
PEAK FLOW RATE (cfs [L/s])	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH (IN) (mm)	*
RIM ELEVATION	*
PIPE DATA: I/E MAT'L DIA SLOPE % HGL	*
INLET #1	*
INLET #2	*
OUTLET	*
SEE GENERAL NOTES 7-8 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.	
NOTES/SPECIAL REQUIREMENTS:	

**24" TRENCH COVER**  
SHALLOW TOP  
SLAB CONFIGURATION  
(LENGTH VARIES)  
NOT TO SCALE

**FRAME AND COVER**  
STANDARD TOP  
SLAB CONFIGURATION  
(DIAMETER VARIES)  
NOT TO SCALE

**GENERAL NOTES:**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE: [www.conteches.com](http://www.conteches.com)
- ALTERNATE UNITS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET ASHOTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' (0M) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET ASHOTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND ASHOTO LOAD FACTOR DESIGN METHOD.
- OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
- THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERTIGHT OR FLEXIBLE BODY GROUT).
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

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900-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0812  
PEAK DIVERSION CONFIGURATION  
STANDARD DETAIL

Texas Commission on Environmental Quality  
TSS Removal Calculations 04-20-2009  
Project Name: **Oak Run Village Apartments - Phase 1**  
Date Prepared: 08/08/2009

**1. The Required Load Reduction for the total project:**

Calculations from RG-348 Page 3-27 to 3-30  
Page 3-29 Equation 3.3:  $L_d = 27.2(A_o \times P)$

$L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_o$  = Not increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

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

County =	Cornwall
Total project area included in plan =	8.71 acres
Predevelopment impervious area within the limits of the plan =	0.00 acres
Total post-development impervious area within the limits of the plan =	6.08 acres
Total post-development impervious cover fraction =	0.69
$P$ =	33 inches
$L_d$ TOTAL PROJECT =	6205 lbs.

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

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

**Drainage Basin/Outfall Area No. = C**

Total drainage basin/outfall area =	0.86 acres
Predevelopment impervious area within drainage basin/outfall area =	0.00 acres
Post-development impervious area within drainage basin/outfall area =	0.10 acres
Post-development impervious fraction within drainage basin/outfall area =	0.12
$L_d$ BASIN =	90 lbs.

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **NONE** percent  
Removal efficiency =

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

RG-348 Page 3-33 Equation 3.7:  $L_d = (BMP \text{ efficiency}) \times P \times (A_i \times 3.6 + A_o \times 0.54)$

$A_i$  = Total On-Site drainage area in the BMP catchment area  
 $A_o$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Previous area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP

$A_i$ =	0.86 acres
$A_o$ =	0.10 acres
$A_p$ =	0.79 acres
$L_d$ =	0 lbs.

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

Desired  $L_d$  TSS LOAD = 0 lbs.  
 $F = 0.00$



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

Project Name: **Oak Run Village**  
Date Prepared: 11/16/2022

**1. The Required Load Reduction for the total project:**

Calculations from RG-348 Page 3-29 Equation 3.3:  $L_d = 27.2(A_o \times P)$   
Pages 3-27 to 3-30

$L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_o$  = Not increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

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

County =	Cornwall
Total project area included in plan =	8.71 acres
Predevelopment impervious area within the limits of the plan =	0.00 acres
Total post-development impervious area within the limits of the plan =	6.08 acres
Total post-development impervious cover fraction =	0.69
$P$ =	33 inches
$L_d$ TOTAL PROJECT =	6665 lbs.

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

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

**Drainage Basin/Outfall Area No. = B**

Total drainage basin/outfall area =	3.00 acres
Predevelopment impervious area within drainage basin/outfall area =	0.00 acres
Post-development impervious area within drainage basin/outfall area =	1.02 acres
Post-development impervious fraction within drainage basin/outfall area =	0.34
$L_d$ BASIN =	1793 lbs.

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **JF** abbreviation  
Removal efficiency = **86** percent

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

RG-348 Page 3-33 Equation 3.7:  
 $L_d = (BMP \text{ efficiency}) \times P \times (A_i \times 3.6 + A_o \times 0.54)$

$A_i$  = Total On-Site drainage area in the BMP catchment area  
 $A_o$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Previous area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP

$A_i$ =	3.00 acres
$A_o$ =	1.02 acres
$A_p$ =	0.08 acres
$L_d$ =	1887 lbs.

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

Desired  $L_d$  TSS LOAD = 1768 lbs.  
 $F = 0.54$

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

Offsite area draining to BMP = 0.00 acres  
Offsite impervious cover draining to BMP = 0.00 acres

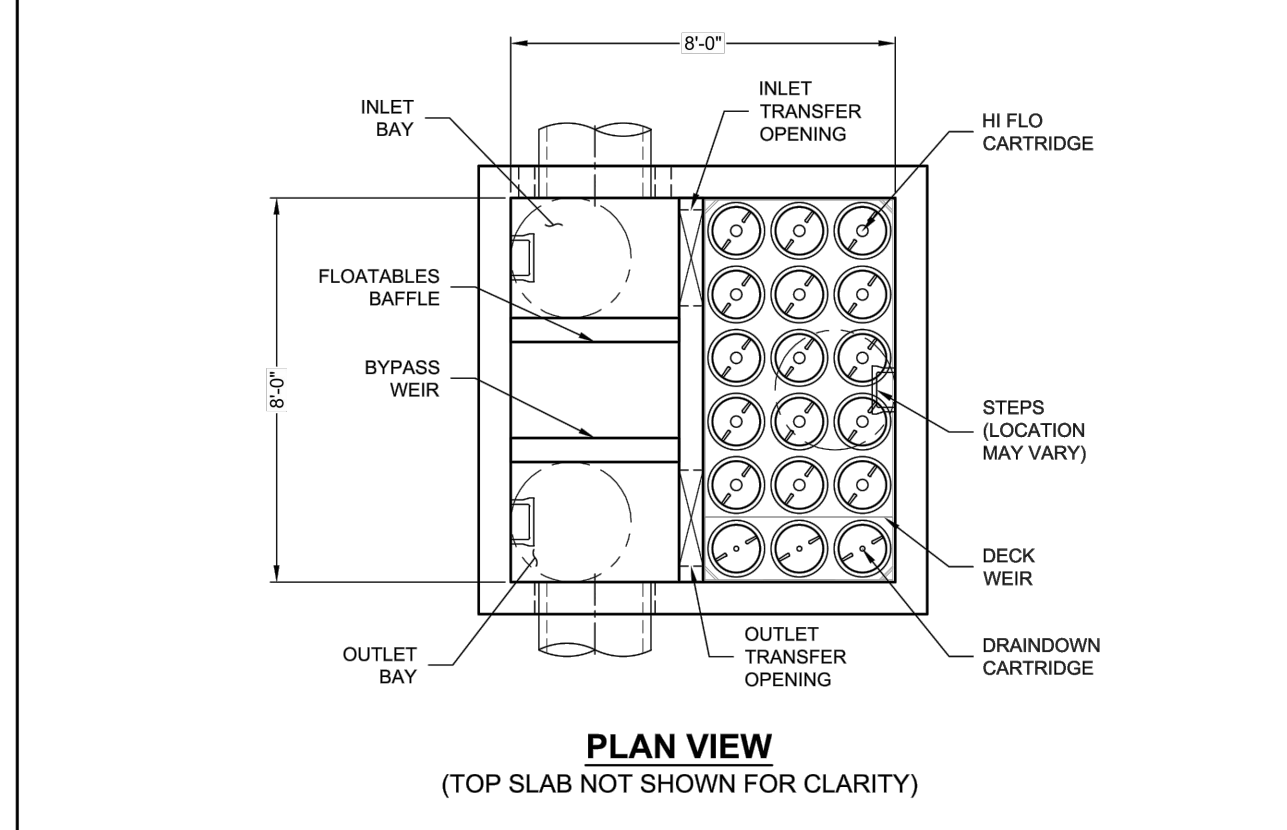
Rainfall Intensity = 1.20 inches per hour  
Effective Area = 1.02 acres  
Cartridge Length = 34 inches

Peak Treatment Flow Required = 2.62 cubic feet per second

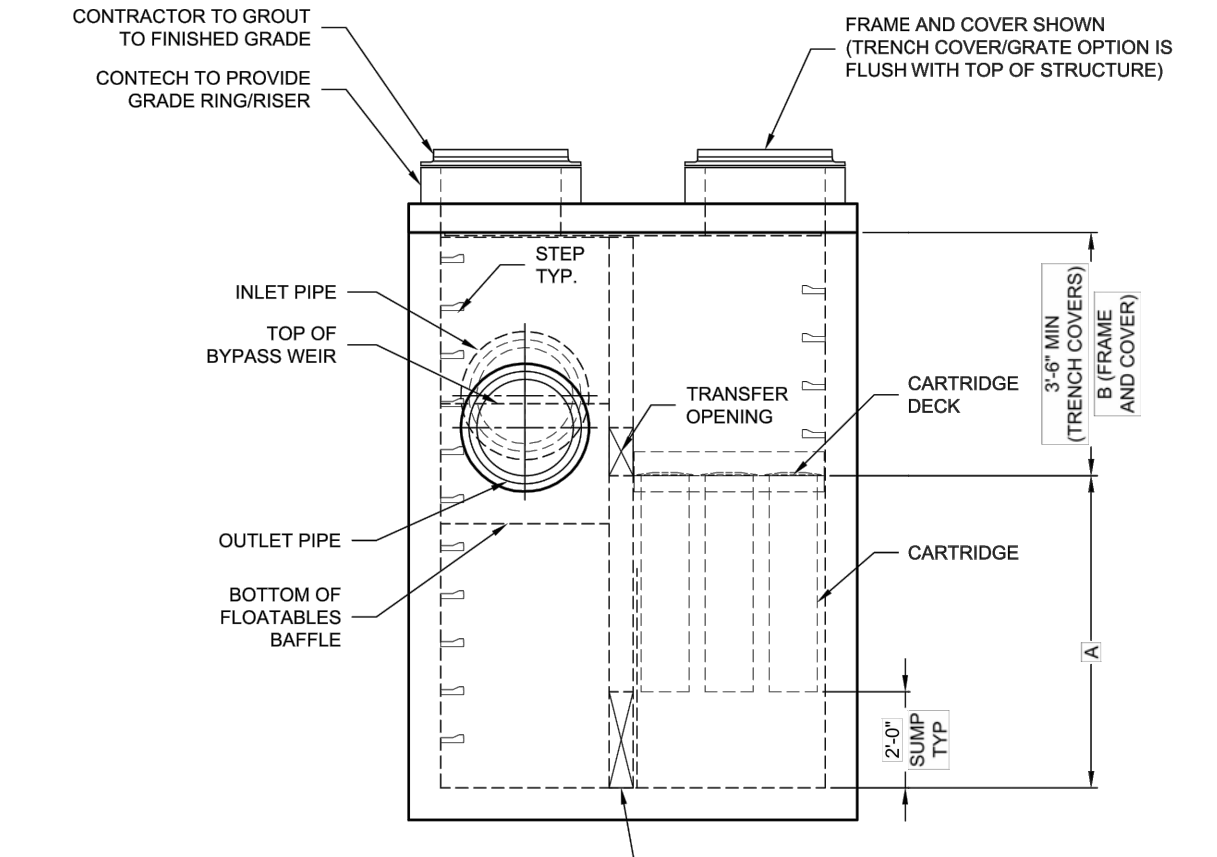
**2. Jellyfish**

Designed as Required in RG-348 Section 3.2.22

<b>Flow Through Jellyfish Size</b>	
Jellyfish Size for Flow-Based Configuration =	JFPD0808-14-3
Jellyfish Treatment Flow Rate =	2.76 cfs



**PLAN VIEW**  
TOP SLAB NOT SHOWN FOR CLARITY



**ELEVATION VIEW**

**Jellyfish® Filter**  
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,297,756; 8,212,418; US 8,033,915; OTHER INTERNATIONAL PATENTS PENDING

**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION VAULT STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	4'-6"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 (0.89)	0.133 (0.67)	0.089 (0.45)	0.049 (0.25)
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH (IN)	*
PIPE DATA: I/E MAT'L DIA SLOPE % HGL	*
INLET #1	*
INLET #2	*
OUTLET	*
SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.	
RIM ELEVATION	*
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

**24" TRENCH COVER**  
SHALLOW TOP  
SLAB CONFIGURATION  
(LENGTH VARIES)  
N.T.S.

**FRAME AND COVER**  
STANDARD TOP  
SLAB CONFIGURATION  
(DIAMETER VARIES)  
N.T.S.

**GENERAL NOTES:**

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- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND ASHOTO LOAD FACTOR DESIGN METHOD.
- OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
- THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERTIGHT OR FLEXIBLE BODY).
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

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JELLYFISH JFPD0808  
STANDARD DETAIL  
PEAK DIVERSION CONFIGURATION

**1. The Required Load Reduction for the total project:**  
 Calculations from RG-348 Page 3-29 Equation 3.3:  $L_d = 27.2(A_p \times F)$   
 Pages 3-27 to 3-30  
 $L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_p$  = Net increase in impervious area for the project  
 $F$  = Average annual precipitation, inches  
 Site Data: Determine Required Load Removal Based on the Entire Project  
 County = **Comal**  
 Total project area included in plan = **6.82** acres  
 Predevelopment impervious area within the limits of the plan = **0.00** acres  
 Total post-development impervious area within the limits of the plan = **7.92** acres  
 Total post-development impervious cover fraction = **0.86**  
 $F$  = **33** inches  
 $L_d$  TOTAL PROJECT = **6301** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**

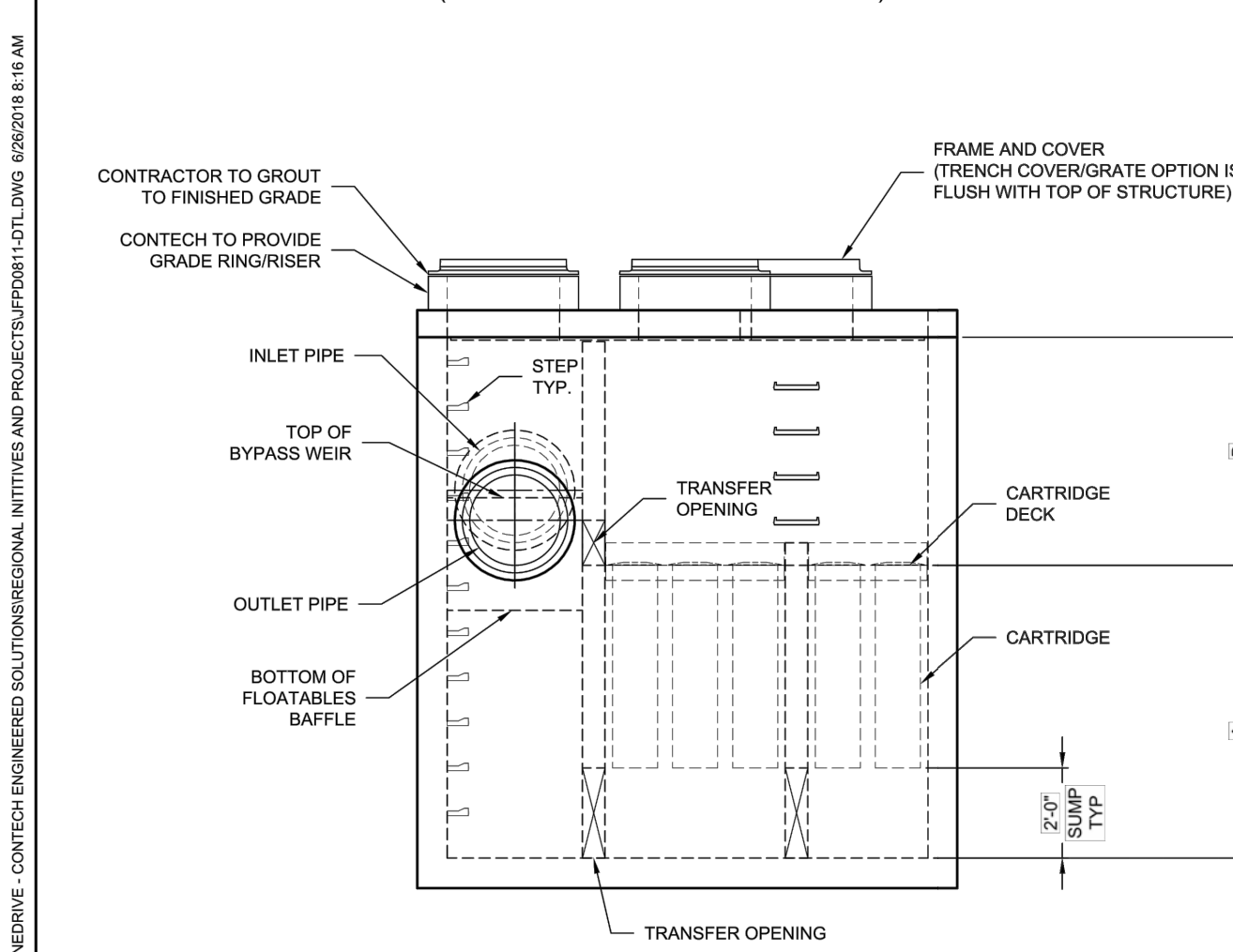
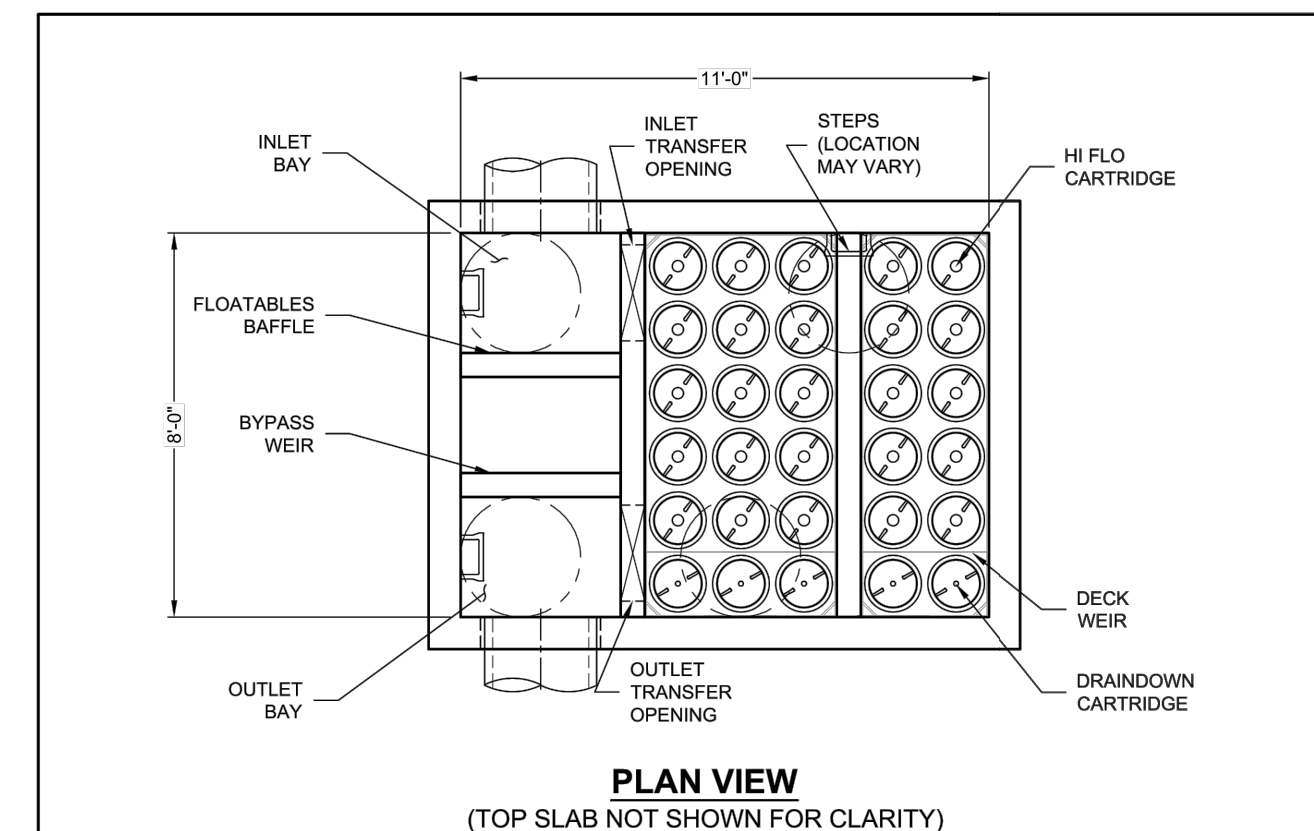
**2. Drainage Basin Parameters (This information should be provided for each basin):**  
 Drainage Basin/Outfall Area No. = **A**  
 Total drainage basin/outfall area = **4.68** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **4.61** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.99**  
 $L_d$  TSS BASIN = **3779** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**  
 Proposed BMP = **JF** abbreviation  
 Removal efficiency = **86** percent

**4. Calculate Maximum TSS Load Removed ( $L_d$ ) for this Drainage Basin by the selected BMP Type:**  
 RG-348 Page 3-33 Equation 3.7:  
 $L_d = (BMP \text{ efficiency}) \times F \times (A_1 \times 34.6 + A_2 \times 0.54)$   
 $A_1$  = Total On-Site drainage area in the BMP catchment area  
 $A_2$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Pervious area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP  
 $A_1$  = **4.68** acres  
 $A_2$  = **0.00** acres  
 $A_p$  = **0.47** acres  
 $L_d$  = **4141** lbs.

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area:**  
 Desired  $L_d$  TSS BASIN = **3779** lbs.  
 $F$  = **0.99**

**6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area:**  
 Offsite area draining to BMP = **0.00** acres  
 Offsite impervious cover draining to BMP = **0.00** acres  
 Calculations from RG-348 Page Section 3.2.22  
 Rainfall Intensity = **1.20** inches per hour  
 Effective Area = **3.80** acres  
 Cartridge Length = **54** inches  
 Peak Treatment Flow Required = **4.60** cubic feet per second

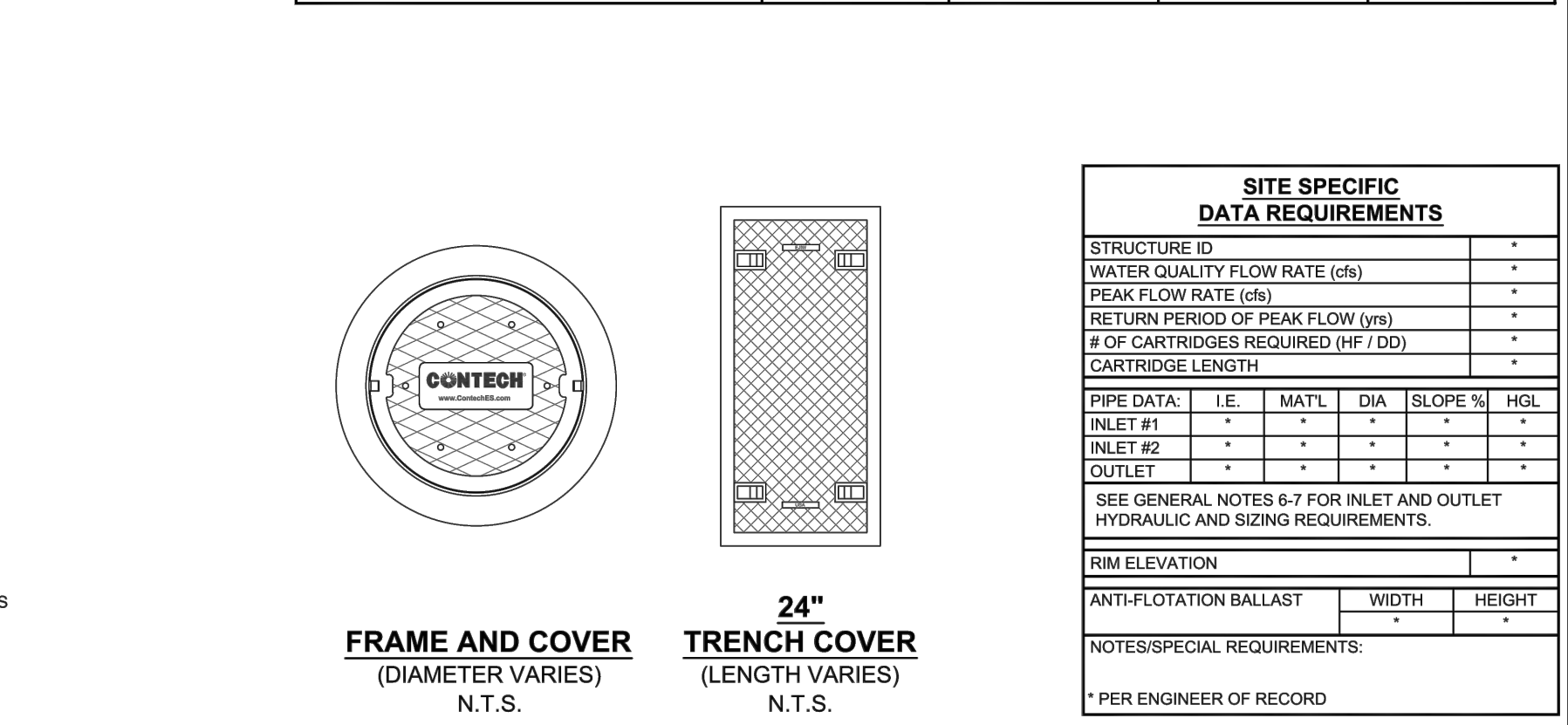
**7. Jellyfish**  
 Designed as Required in RG-348 Section 3.2.22  
 Flow Through Jellyfish Size  
 Jellyfish Size for Flow-Based Configuration = **JFPD0811-24-5**  
 Jellyfish Treatment Flow Rate = **4.72** cfs



**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION	54"	40"	27"	15"
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	6'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAIN/DOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	4.90	3.67	2.45	1.36
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



**GENERAL NOTES:**  
 1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.  
 2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)  
 3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.  
 4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.  
 5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.  
 6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.  
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 8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

**INSTALLATION NOTES:**  
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 C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS NON-SHRINK GROUT WITH APPROVED WATERTOP OR FLEXIBLE BOOT.  
 D. CARTRIDGE INSTALLATION BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

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JELLYFISH JFPD0811  
 STANDARD DETAIL  
 PEAK DIVERSION CONFIGURATION

**1. The Required Load Reduction for the total project:**  
 Calculations from RG-348 Page 3-29 Equation 3.3:  $L_d = 27.2(A_p \times F)$   
 Pages 3-27 to 3-30  
 $L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_p$  = Net increase in impervious area for the project  
 $F$  = Average annual precipitation, inches  
 Site Data: Determine Required Load Removal Based on the Entire Project  
 County = **Comal**  
 Total project area included in plan = **6.82** acres  
 Predevelopment impervious area within the limits of the plan = **0.00** acres  
 Total post-development impervious area within the limits of the plan = **7.92** acres  
 Total post-development impervious cover fraction = **0.79**  
 $F$  = **33** inches  
 $L_d$  TOTAL PROJECT = **6256** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**

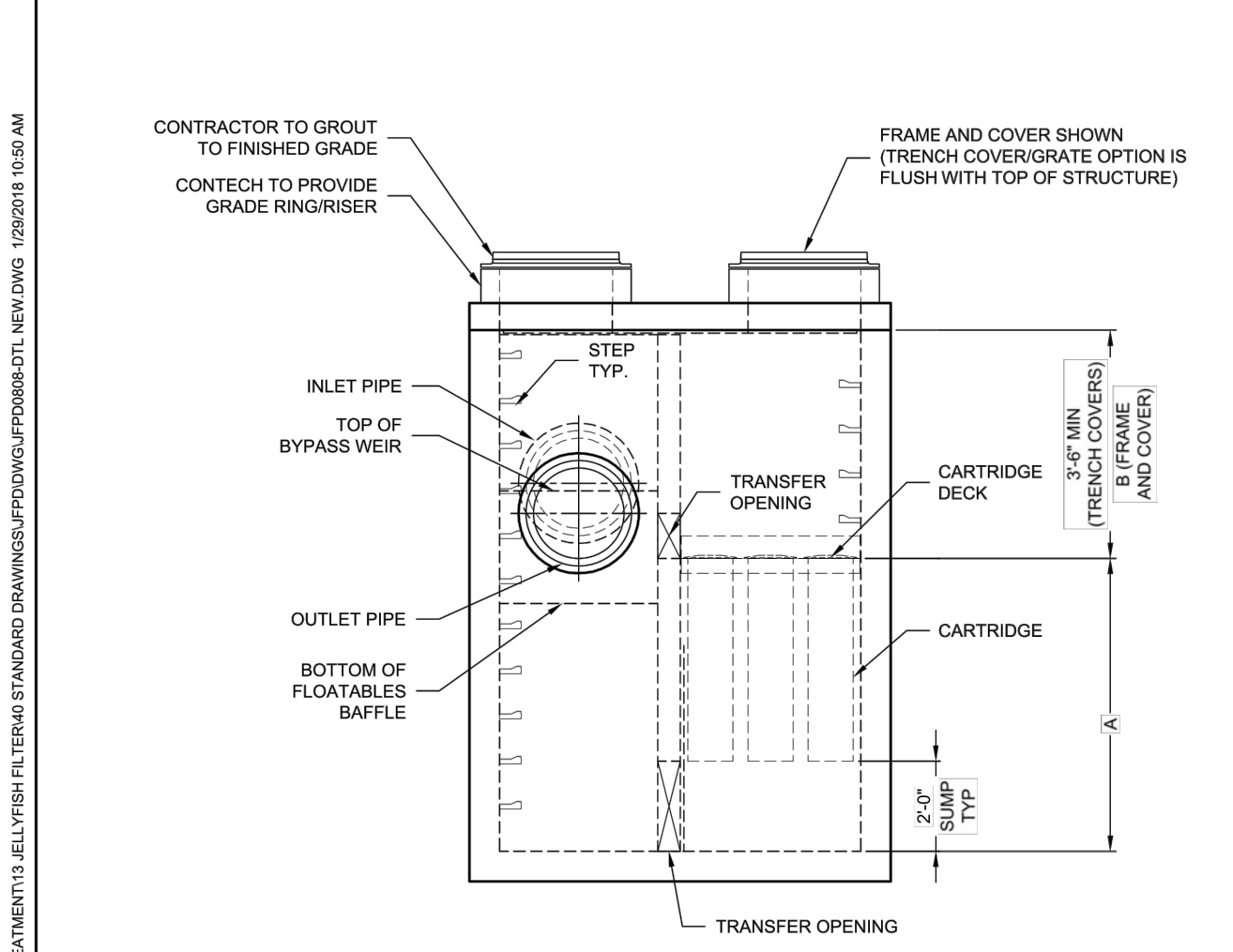
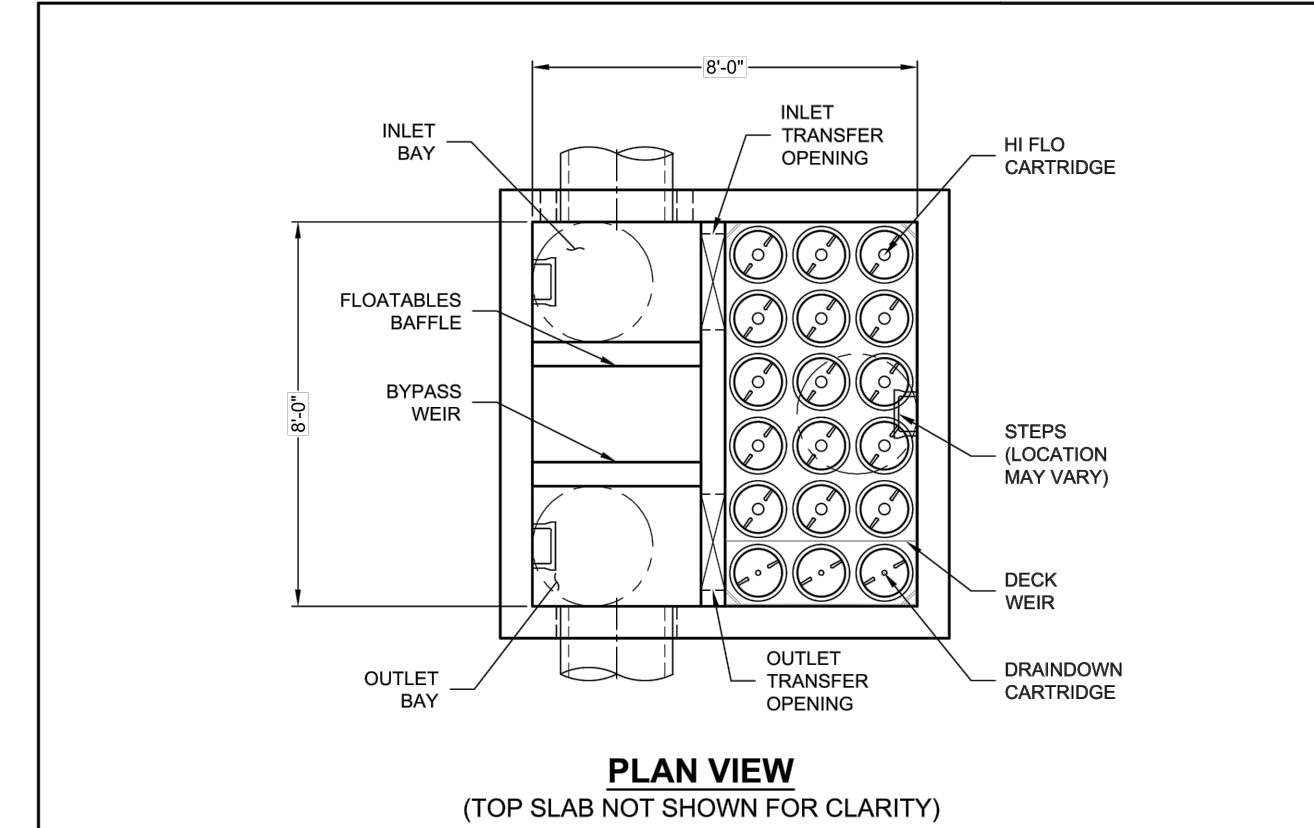
**2. Drainage Basin Parameters (This information should be provided for each basin):**  
 Drainage Basin/Outfall Area No. = **B**  
 Total drainage basin/outfall area = **3.00** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **3.78** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.92**  
 $L_d$  TSS BASIN = **2468** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**  
 Proposed BMP = **JF** abbreviation  
 Removal efficiency = **86** percent

**4. Calculate Maximum TSS Load Removed ( $L_d$ ) for this Drainage Basin by the selected BMP Type:**  
 RG-348 Page 3-33 Equation 3.7:  
 $L_d = (BMP \text{ efficiency}) \times F \times (A_1 \times 34.6 + A_2 \times 0.54)$   
 $A_1$  = Total On-Site drainage area in the BMP catchment area  
 $A_2$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Pervious area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP  
 $A_1$  = **3.00** acres  
 $A_2$  = **0.75** acres  
 $A_p$  = **0.85** acres  
 $L_d$  = **2094** lbs.

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area:**  
 Desired  $L_d$  TSS BASIN = **2472** lbs.  
 $F$  = **0.91**

**6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area:**  
 Offsite area draining to BMP = **0.00** acres  
 Offsite impervious cover draining to BMP = **0.00** acres  
 Calculations from RG-348 Page Section 3.2.22  
 Rainfall Intensity = **1.15** inches per hour  
 Effective Area = **2.48** acres  
 Cartridge Length = **54** inches  
 Peak Treatment Flow Required = **3.88** cubic feet per second

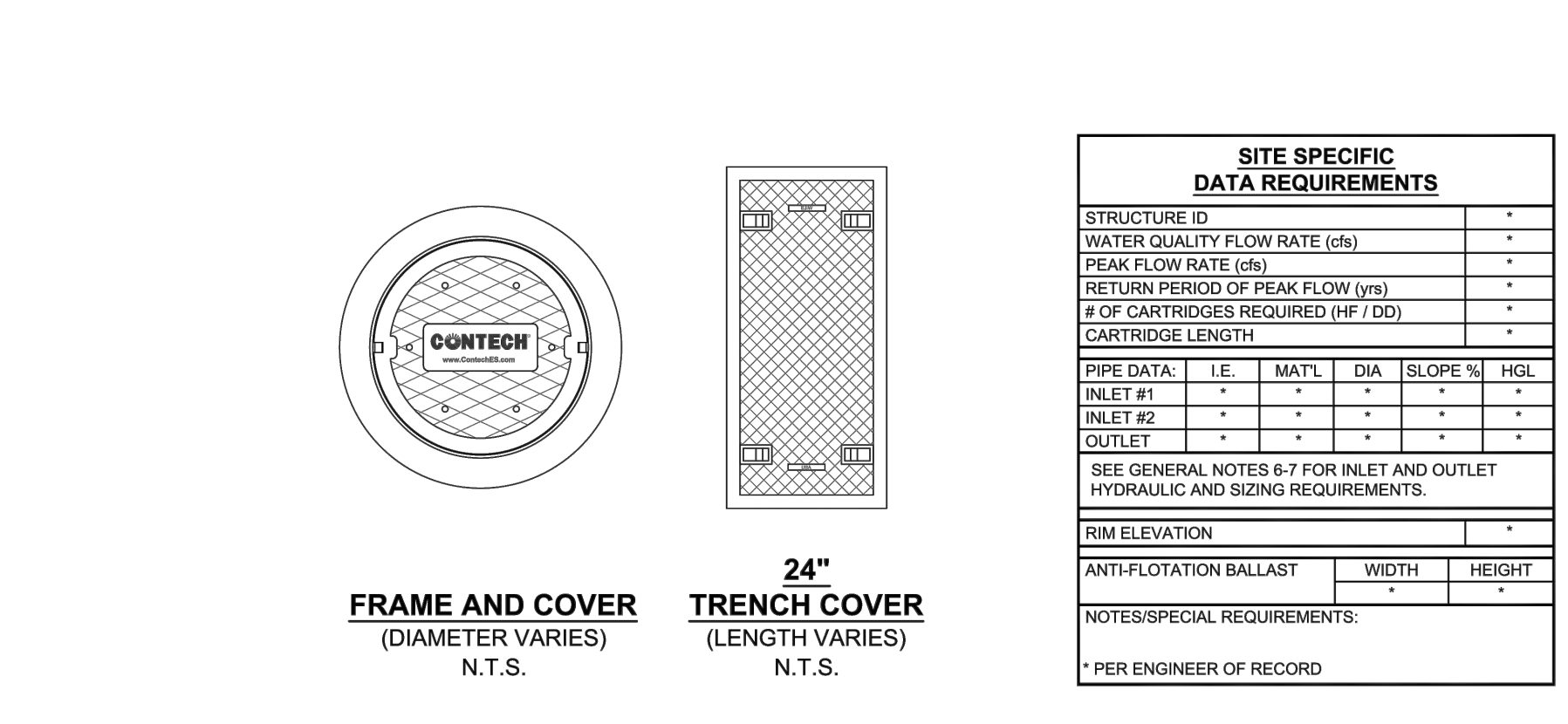
**7. Jellyfish**  
 Designed as Required in RG-348 Section 3.2.22  
 Flow Through Jellyfish Size  
 Jellyfish Size for Flow-Based Configuration = **JFPD0808-13-3**  
 Jellyfish Treatment Flow Rate = **3.94** cfs



**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION	54"	40"	27"	15"
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	6'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAIN/DOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



**GENERAL NOTES:**  
 1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.  
 2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)  
 3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.  
 4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.  
 5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.  
 6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.  
 7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.  
 8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

**INSTALLATION NOTES:**  
 A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.  
 B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.  
 C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS NON-SHRINK GROUT WITH APPROVED WATERTOP OR FLEXIBLE BOOT.  
 D. CARTRIDGE INSTALLATION BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

**CONTECH ENGINEERED SOLUTIONS LLC**  
 www.contechES.com  
 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45399  
 800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808  
 STANDARD DETAIL  
 PEAK DIVERSION CONFIGURATION

**1. The Required Load Reduction for the total project:**  
 Calculations from RG-348 Page 3-29 Equation 3.3:  $L_d = 27.2(A_p \times F)$   
 Pages 3-27 to 3-30  
 $L_d$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_p$  = Net increase in impervious area for the project  
 $F$  = Average annual precipitation, inches  
 Site Data: Determine Required Load Removal Based on the Entire Project  
 County = **Comal**  
 Total project area included in plan = **6.82** acres  
 Predevelopment impervious area within the limits of the plan = **0.00** acres  
 Total post-development impervious area within the limits of the plan = **6.97** acres  
 Total post-development impervious cover fraction = **0.79**  
 $F$  = **33** inches  
 $L_d$  TOTAL PROJECT = **6256** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**

**2. Drainage Basin Parameters (This information should be provided for each basin):**  
 Drainage Basin/Outfall Area No. = **C**  
 Total drainage basin/outfall area = **1.14** acres  
 Predevelopment impervious area within drainage basin/outfall area = **0.00** acres  
 Post-development impervious area within drainage basin/outfall area = **0.06** acres  
 Post-development impervious fraction within drainage basin/outfall area = **0.05**  
 $L_d$  TSS BASIN = **54** lbs.  
 Number of drainage basins / outfalls areas leaving the plan area = **3**  
 Proposed BMP = **NONE**  
 Removal efficiency = **0** percent

**4. Calculate Maximum TSS Load Removed ( $L_d$ ) for this Drainage Basin by the selected BMP Type:**  
 RG-348 Page 3-33 Equation 3.7:  
 $L_d = (BMP \text{ efficiency}) \times F \times (A_1 \times 34.6 + A_2 \times 0.54)$   
 $A_1$  = Total On-Site drainage area in the BMP catchment area  
 $A_2$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Pervious area remaining in the BMP catchment area  
 $L_d$  = TSS Load removed from this catchment area by the proposed BMP  
 $A_1$  = **1.14** acres  
 $A_2$  = **0.06** acres  
 $A_p$  = **1.08** acres  
 $L_d$  = **0** lbs.

**5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area:**  
 Desired  $L_d$  TSS BASIN = **0** lbs.  
 $F$  = **0.00**



**PROVIDENT REALTY ADVISORS**  
 10120 N. CENTRAL EXPRESSWAY,  
 SUITE 300, DALLAS, TX 75231

**OAK RUN VILLAGE APARTMENTS**  
 (PHASE 1 & 2)

**WPAP DRAINAGE DETAILS II**

SHEET **2** OF **2**

NO	DATE	ISSUES AND REVISIONS
△		

**INK CIVIL**

2021 W SH46, STE 105  
 NEW BRAUNFELS, TX. 78132  
 PH: 830-358-7127 ink-civil.com  
 TBPE FIRM F-13351

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**Agent Authorization Form**  
For Required Signature  
Edwards Aquifer Protection Program  
Relating to 30 TAC Chapter 213  
Effective June 1, 1999

I \_\_\_\_\_ Basil Koutsogeorgas \_\_\_\_\_  
Print Name  
\_\_\_\_\_ Managing Member \_\_\_\_\_  
Title - Owner/President/Other  
of \_\_\_\_\_ PARCHAUS NEW BRAUNFELS LLC LP \_\_\_\_\_  
Corporation/Partnership/Entity Name  
have authorized \_\_\_\_\_ James Ingalls, P.E. \_\_\_\_\_  
Print Name of Agent/Engineer  
of \_\_\_\_\_ INK Civil \_\_\_\_\_  
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

[Signature]  
Applicant's Signature

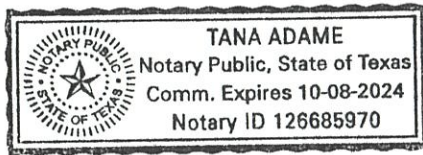
1/5/2023  
Date

THE STATE OF TEXAS §

County of DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared BASIL KOUTSOGEORGAS 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 5 day of JANUARY, 2023.



Tana Adame  
NOTARY PUBLIC

TANA ADAME  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10-8-24

# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Oak Run Village Apartments  
 Regulated Entity Location: 2850 Loop 337 New Braunfels, TX 78130  
 Name of Customer: PARCHAUS NEW BRAUNFELS LP  
 Contact Person: Basil Koutsogeorgas Phone: 972-385-4130  
 Customer Reference Number (if issued): CN \_\_\_\_\_  
 Regulated Entity Reference Number (if issued): RN \_\_\_\_\_

### Austin Regional Office (3373)

Hays  Travis  Williamson

### San Antonio Regional Office (3362)

Bexar  Medina  Uvalde  
 Comal  Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

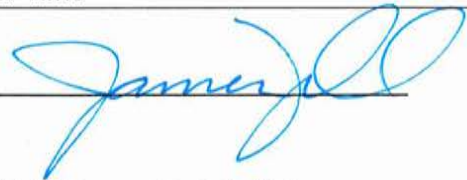
Austin Regional Office  San Antonio Regional Office  
 Mailed to: TCEQ - Cashier  Overnight Delivery to: TCEQ - Cashier  
 Revenues Section 12100 Park 35 Circle  
 Mail Code 214 Building A, 3rd Floor  
 P.O. Box 13088 Austin, TX 78753  
 Austin, TX 78711-3088 (512)239-0357

### 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 Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	17.532 Acres	\$ \$6,500
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

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



Date: 2-21-23

# Application Fee Schedule

## Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

### ***Water Pollution Abatement Plans and Modifications***

#### ***Contributing Zone Plans and Modifications***

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

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

<b><i>Project</i></b>	<b><i>Cost per Linear Foot</i></b>	<b><i>Minimum Fee- Maximum Fee</i></b>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

#### ***Underground and Aboveground Storage Tank System Facility Plans and Modifications***

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

#### ***Exception Requests***

<b><i>Project</i></b>	<b><i>Fee</i></b>
Exception Request	\$500

#### ***Extension of Time Requests***

<b><i>Project</i></b>	<b><i>Fee</i></b>
Extension of Time Request	\$150



TCEQ Use Only

# TCEQ Core Data Form

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

## SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> Other	
2. Customer Reference Number (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	3. Regulated Entity Reference Number (if issued)
CN		RN

## SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)		
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)			
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>			
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)		If new Customer, enter previous Customer below:	
PARCHAUS NEW BRAUNFELS LP			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0804319773	32081954235		
11. Type of Customer:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input type="checkbox"/> 0-20 <input checked="" type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
15. Mailing Address:	8350 N. CENTRAL EXPRESSWAY SUITE 1500		
	City	DALLAS	State TX ZIP 75206 ZIP + 4
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
		BasilK@providentrealty.net	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	
( 972 ) 385-4130		(   ) -	

## SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
<i>The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
Oak Run Village Apartments	

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>	2850 Loop 337						
	City	N.Braunfels	State	TX	ZIP	78130	ZIP + 4
24. County							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	APPROX 0.15 MILES NORTHWEST OF LOOP 337 AND OAK RUN PKWY INTERSECTION						
26. Nearest City	New Braunfels			State	TX	Nearest ZIP Code	78130
27. Latitude (N) In Decimal:	29.710173		28. Longitude (W) In Decimal:	-98.163815			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29	42	36.6228	-98	9	49.734		
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)				
6552	6719	531210	531120				
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>							
Real estate investors; Multi-Family residential development							
34. Mailing Address:	8350 N. CENTRAL EXPRESSWAY SUITE 1500						
	City	Dallas	State	TX	ZIP	75206	ZIP + 4
35. E-Mail Address:	BasilK@providentrealty.net						
36. Telephone Number	37. Extension or Code		38. Fax Number <i>(if applicable)</i>				
( 972 ) 385-4130			( ) -				

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

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input checked="" type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

**SECTION IV: Preparer Information**

40. Name:	Chad Friesenhahn	41. Title:	EIT
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
( 830 ) 358-7127		( ) -	chadfriesenhahn@ink-civil.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:	INK Civil	Job Title:	Principal
Name <i>(In Print)</i> :	James Ingalls, PE	Phone:	( 830 ) 358- 7127
Signature:		Date:	2-21-23