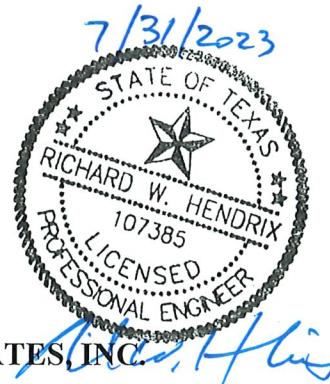


**WATER POLLUTION ABATEMENT PLAN
FOR
LANDMARK NORTH-WEST**

August 1, 2023

MBC Job. No. 30371-0976

PREPARED BY:



MACINA · BOSE · COPELAND AND ASSOCIATES, INC.
dba MBC Engineers

Texas Registered Engineering Firm F-784 | SBE Certified #214046463

TBPLS Firm Registration No. 10011700

1035 Central Parkway North | San Antonio, Texas 78232

(210) 545-1122 Phone | (210) 545-9302 Fax

www.mbcengineers.com

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

Technical Review

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

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Landmark North-West					2. Regulated Entity No.: 106376296				
3. Customer Name: IH10/Loop 1604 Partners, Ltd.					4. Customer No.: 603349507				
5. Project Type: (Please circle/check one)	New	<u>Modification</u>			Extension	Exception			
6. Plan Type: (Please circle/check one)	<u>WPAP</u>	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	<u>Residential</u>	<u>Non-residential</u>			8. Site (acres):			12.14	
9. Application Fee:	\$6,500.00		10. Permanent BMP(s):			Sedimentation/Filtration Pond (existing)			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):			N/A			
13. County:	Bexar		14. Watershed:			Upper Leon Creek			

Application Distribution

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

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

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	—
Region (1 req.)	—	—	—
County(ies)	—	—	—
Groundwater Conservation District(s)	<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

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	<u>X</u>	—	—	—	—
Region (1 req.)	<u>X</u>	—	—	—	—
County(ies)	<u>X</u>	—	—	—	—
Groundwater Conservation District(s)	<input checked="" type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Trinity-Glen Rose	<input 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 checked="" 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 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.	
Richard W. Hendrix	
Print Name of Customer/Authorized Agent	
<i>R.W. Hendrix</i>	<i>7/31/2023</i>
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 (TCEQ-0587)**

Attachment A - Road Map

Attachment B - USGS / Edwards Recharge Zone Map

Attachment C - Project Description

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: Richard W. Hendrix, P.E.

Date: 7/31/2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Landmark North-West
2. County: Bexar County
3. Stream Basin: Upper Leon Creek
4. Groundwater Conservation District (If applicable): _____
5. Edwards Aquifer Zone:
 - Recharge Zone
 - Transition Zone
6. Plan Type:
 - WPAP
 - SCS
 - Modification
 - AST
 - UST
 - Exception Request

7. Customer (Applicant):

Contact Person: Benjamin Dreszer

Entity: IH10/Loop 1604 Partners, LTD.

Mailing Address: 10003 N.W. Military Hwy, Suite 2205

City, State: San Antonio, Texas

Zip: 78231

Telephone: (210) 593-0777

FAX: (210) 593-0780

Email Address: benjamin@fulcrumsa.com

8. Agent/Representative (If any):

Contact Person: Richard W. Hendrix, P.E.

Entity: Macina, Bose, Copeland & Associates, Inc.

Mailing Address: 1035 Central Parkway N.

City, State: San Antonio, TX

Zip: 78232

Telephone: (210) 545-1122

FAX: (210) 545-9302

Email Address: rhendrix@mbcengineers.com

9. Project Location:

The project site is located inside the city limits of San Antonio.

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

The project site is not located within any city's limits or ETJ.

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

The site is located on the southeast side of IH 10 and Loop 1604 interchange within the Upper Leon Creek watershed.

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: TBD

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:

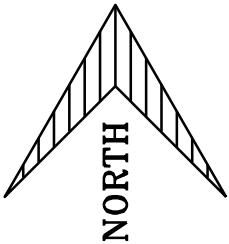
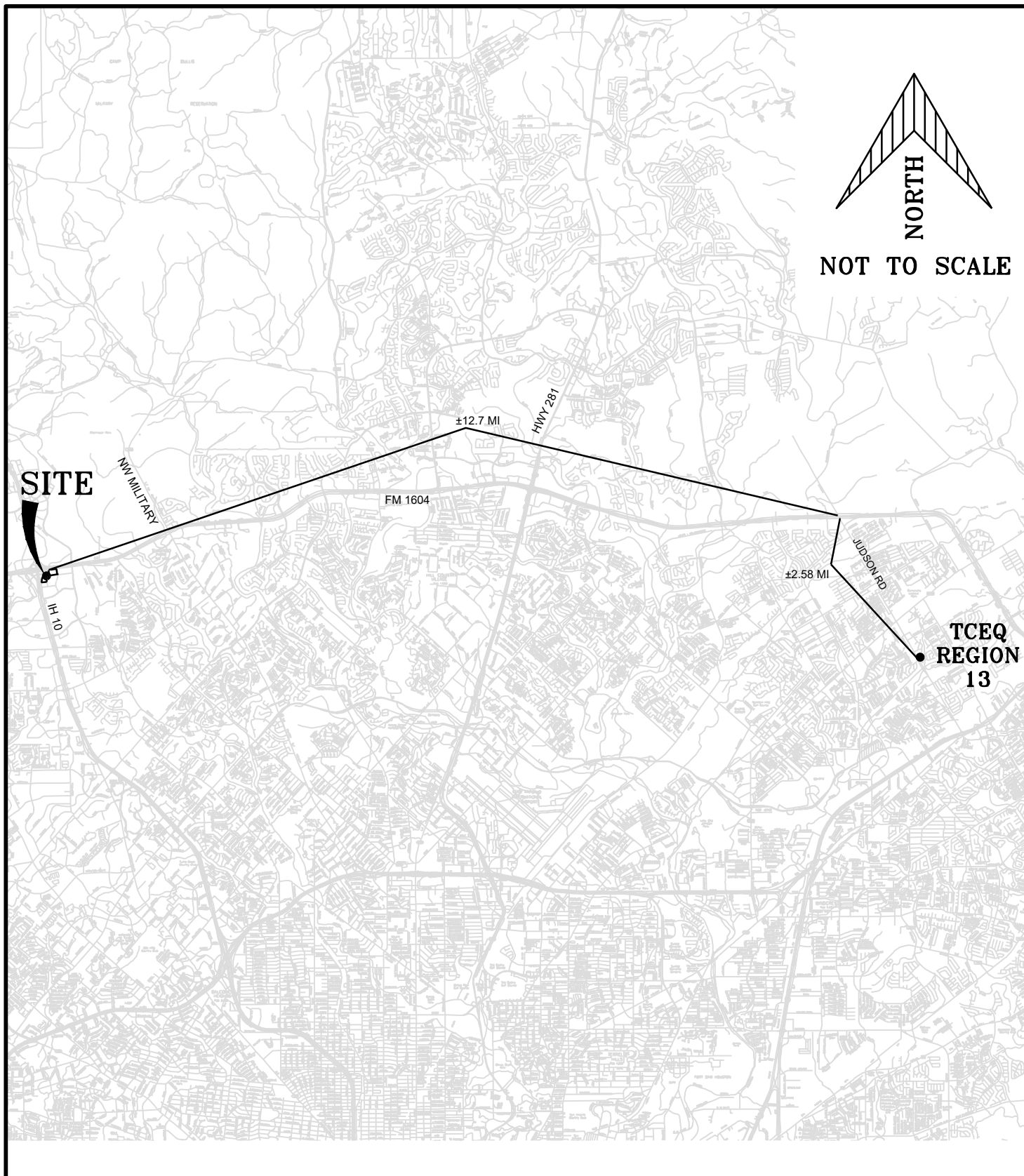
- For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- For a UST Facility Plan or Modification or an AST Facility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

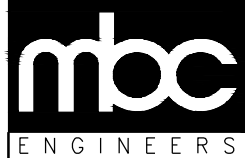


NOT TO SCALE

SITE

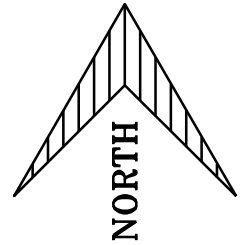
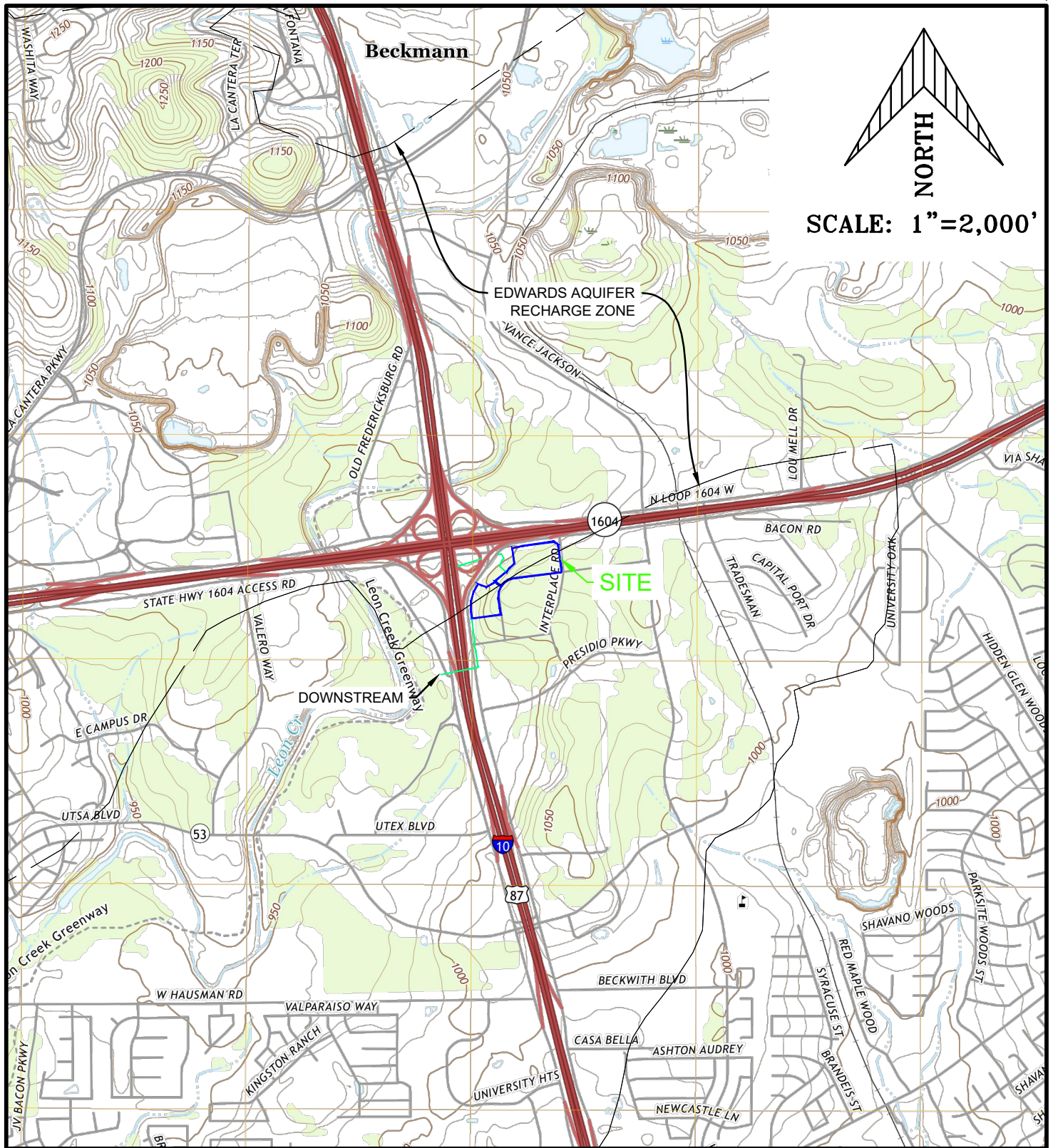
**TCEQ
REGION
13**

**LANDMARK NORTH-WEST
SAN ANTONIO, TEXAS
ROAD MAP**



1035 Central Parkway North
San Antonio, Texas 78232
(210) 545-1122 FAX (210) 545-9302
TEXAS REGISTERED ENGINEERING FIRM F-784

DESIGN RH
 DRAWN RH
 CHECKED RH
 DATE AUGUST 2023
 JOB NO. 0976-30371
 ATTACHMENT A



SCALE: 1"=2,000'

USGS QUAD: CASTLE HILLS



1035 Central Parkway North
 San Antonio, Texas 78232
 (210) 545-1122 FAX (210) 545-9302
 TEXAS REGISTERED ENGINEERING FIRM F-784

**LANDMARK NORTH-WEST
 ANTHEM PARKWAY
 SAN ANTONIO, TEXAS
 USGS EXHIBIT**

DESIGN	RH
DRAWN	RH
CHECKED	DLA
DATE	AUGUST 2023
JOB NO.	30371/0976
EXHIBIT - C	

FORM 0587 ATTACHMENT

ATTACHMENT “C” - Project Description

Landmark North-West is a 12.139-acre tract of land to be developed. The development will include multiple office/retail buildings and associated parking. The entire 35.45 acres site is located in both the Recharge Zone and the Contributing Zone within the Transition Zone within the Upper Leon Creek Watershed. The site is located at the southeast corner of the IH-10 and Loop 1604 interchange.

Existing Conditions

The site currently has numerous live oak and cedar trees, along with typical underbrush associated with this type of terrain. The existing water quality pond was designed for ultimate development conditions that is located within the recharge zone. There are two existing asphalt roads, one located to the east and the other located directly south of the project site, several office buildings and apartments with associated parking.

Existing Drainage Conditions

The \pm 11.3952 acres north portion of the \pm 35.45 acres watershed located within or drains towards the recharge zone in the northwest/northeast direction with slopes ranging between 5.0% minimum to 8.1% maximum. The remaining \pm 19.1228 acres watershed located outside of the recharge zone, but within the contributing zone within the transition zone drains towards the southwest/southeast with slopes ranging a minimum of 4.0% to a maximum of 5.4% away from the recharge zone. Currently the existing developed area contributes \pm 14.26 acres of impervious cover to the overall \pm 35.45 project site.

Future Development

The existing water quality pond as mentioned before was designed for ultimate development conditions of the \pm 35.45 acres, as the remaining undeveloped portions of the site are planned for development at the client's discretion.

The project is located within the city limits of City of San Antonio in Bexar County, Texas. Portable water and wastewater disposal is provided by the San Antonio Water System (SAWS). Wastewater is disposed of by conveyance to the existing Steven M. Clouse Water Recycling Center operated by SAWS.

– **Geologic Assessment Form (TCEQ-0585)**

Attachment A - Geologic Assessment Table (TCEQ-0585-Table)

Comments to the Geologic Assessment Table

Attachment B - Soil Profile and Narrative of Soil Units

Attachment C - Stratigraphic Column

Attachment D - Narrative of Site Specific Geology

Site Geologic Map(s)

Table or list for the position of features' latitude/longitude (if mapped using GPS)



GEOLOGIC ASSESSMENT (WPAP)

LANDMARK TRACT ***SOUTHWEST CORNER OF I.H. 10 AND LOOP 1604*** ***SAN ANTONIO, TEXAS***

FROST GEOSCIENCES, INC. PROJECT NO.: FGS-E15146
MAY 21, 2015

Prepared exclusively for

I.H. 10/Loop 1604 Partners, LTD
10003 N.W. Military Highway, Suite 2205
San Antonio, Texas 78231

Frost GeoSciences

Geotechnical ▪ Construction Materials
Geologic ▪ Environmental

Frost GeoSciences

Geotechnical • Construction Materials
Geologic • Environmental

Frost Geosciences, Inc.
13402 Western Oak
Helotes, Texas 78023
Office (210)-372-1315
Fax (210)-372-1318
www.frostgeosciences.com
TBPE Firm Registration # F-9227
TBPG Firm Registration # 50040

May 21, 2015

I.H. 10/Loop 1604 Partners, LTD
10003 N.W. Military Highway, Suite 2205
San Antonio, Texas 78231

Attn: Senior Geologist

SUBJECT:

Geologic Assessment (WPAP)
for the Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
Southwest Corner of I.H. 10 and Loop 1604
San Antonio, Texas
FGS Project N^o FGS-EI5146

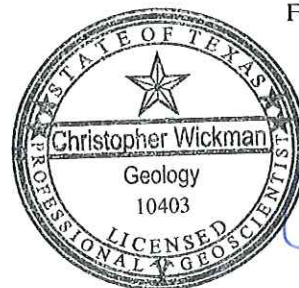
Dear Senior Geologist:

Frost GeoSciences, Inc., (FGS) is pleased to submit the enclosed Geologic Assessment completed for the above referenced Site as it relates to 30 TAC §213.5(b)(3), effective September 11, 2003. Our investigation was conducted, and this report was prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04).

If you have any questions regarding this report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.

We appreciate the opportunity to perform these services for I.H. 10/Loop 1604 Partners, LTD. Please contact the undersigned if you have questions regarding this report.

Respectfully submitted,
Frost GeoSciences, Inc.



Chris Wickman, P.G.
Senior Geologist

Copies Submitted: (6) Senior Geologist; I.H. 10/Loop 1604 Partners, LTD
(1) Electronic (pdf) Copy

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 100-Year Floodplain..... 7
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BEST MANAGEMENT PRACTICES 10
DISCLAIMER 10
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APPENDIX A - Site Location Figures

- Figure 1: Site Layout
- Figure 2: Street Map
- Figure 3: USGS Topographic Map
- Figure 4: Bexar County Watersheds Map
- Figure 5: Official Edwards Aquifer Recharge Zone Map
- Figure 6: FEMA Flood Map
- Figure 7: USDA Soil Survey Aerial Photograph, 1 inch = 500 feet
- Figure 8A: U.S. Geological Survey, Water Resources Investigation # 4030-95
- Figure 8B: Geologic Map of the New Braunfels, TX 30 X 60 Minute Quadrangle
- Figure 9: 2014 Aerial Photograph, 1 inch = 500 feet
- Figure 10: 2014 Aerial Photograph with PRFs, 1 inch = 200 feet

APPENDIX B - Site Photographs

APPENDIX C - Site Geologic Map

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: Chris Wickman

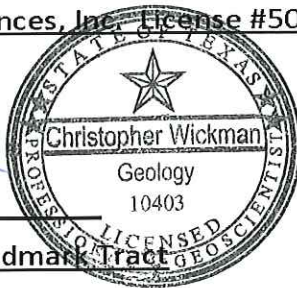
Telephone: (210) 372-1315

Date: May 21, 2015

Fax: (210) 372-1318

Representing: Frost Geosciences, Inc. License #50040 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Landmark Tract

Project Information

1. Date(s) Geologic Assessment was performed: May 19, 2015

2. Type of Project:

WPAP
 SCS

AST
 UST

3. Location of Project:

Recharge Zone
 Transition Zone
 Contributing Zone within the Transition Zone

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford & Bexar stony soils	D	0 - 1
Patrick soils	B	0 - 1.5
Tarrant soils	C	0 - 1

* Soil Group Definitions (Abbreviated)

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

6. **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7. **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8. **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'
 Applicant's Site Plan Scale: 1" = 50'
 Site Geologic Map Scale: 1" = 50'
 Site Soils Map Scale (if more than 1 soil type): 1" = 500'
9. Method of collecting positional data:
 - Global Positioning System (GPS) technology.
 - Other method(s). Please describe method of data collection: 2014 Aerial Photograph
10. The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. Surface geologic units are shown and labeled on the Site Geologic Map.

12. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
- Geologic or manmade features were not discovered on the project site during the field investigation.
13. The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
- There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- The wells are not in use and have been properly abandoned.
- The wells are not in use and will be properly abandoned.
- The wells are in use and comply with 16 TAC Chapter 76.
- There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

STRATIGRAPHIC COLUMN

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

Hydrogeologic subdivision	Group, formation, or member	Hydro-logic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/permeability type									
Upper Cretaceous	Upper confining units	Eagle Ford Group	CU	30 – 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/ low permeability								
		Buda Limestone	CU	40 – 50	Buff, light gray, dense mudstone	Porcelaneous limestone with calcite-filled veins	Minor surface karst	Low porosity/low permeability								
		Del Rio Clay	CU	40 – 50	Blue-green to yellow-brown clay	Fossiliferous; <i>Ilymatogyra arietina</i>	None	None/primary upper confining unit								
Lower Cretaceous	Edwards aquifer	Georgetown Formation	Karst AQ; not karst CU	2 – 20	Reddish-brown, gray to light tan marly limestone	Marker fossil; <i>Waconella wacoensis</i>	None	Low porosity/low permeability								
									Person Formation	Cyclic and marine members, undivided	AQ	80 – 90	Mudstone to packstone; <i>mitolid</i> grainstone; chert	Thin graded cycles; massive beds to relatively thin beds; crossbeds	Many subsurface; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding
		Leached and collapsed members, undivided	AQ	70 – 90	Crystalline limestone; mudstone to grainstone; chert; collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; stromatolitic limestone	Extensive lateral development; large rooms	Majority not fabric/one of the most permeable								
		Grainstone member	AQ	50 – 60	<i>Mitolid</i> grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability								
		Dolomitic member	AQ	110 – 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, <i>Toucasia</i> abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding								
		Lower confining unit	Upper member of the Glen Rose Limestone	CU; evaporite beds AQ	350 – 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/relatively impermeable							

GEOLOGIC ASSESSMENT TABLE

PROJECT NUMBER: FGS-E15146

PROJECT NAME: Landmark Tract

1A FEATURE ID	LOCATION			FEATURE CHARACTERISTICS										EVALUATION		PHYSICAL SETTING		
	1B*	1C*	2A FEATURE TYPE	2B POINTS	3 FORMATI N	4 DIMENSIONS (FEET)			5 TREND (DEGREES)	5A DOM	6 DENSITY (NO/FT)	7 APERTURE (FEET)	8A INFILL RATE	8B RELATIVE INFILTRATION RATE	9 TOTAL	10 SENSITIVITY	11 CATCHMENT AREA (ACRES)	12 TOPOGRAPHY
	LATITUDE	LONGITUDE				X	Y	Z										
S-1	29° 35' 25.48"	-98° 35' 40.16"	F	20	Kep/Kbu	-	-	-	-	10	-	-	7	-	27	27	YES	HILLSIDE

Datum: NAD 27

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, Floodplain, Streambed

I have read, I understand, 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 213.



Chris Wickman, P.G.

Date May 21, 2015

LOCATION

The Site is located in the southeastern corner of the intersection of Loop 1604 and Interstate Highway 10 (I.H. 10) in San Antonio, Texas. An overall view of the area is shown on copies of the site plan, a street map, the U.S.G.S. Topographic Map, the Bexar County Watersheds Map, the Official Edwards Aquifer Recharge Zone Map, the FIRM Map, the Bureau of Economic Geology Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, U.S. Geological Survey Water Resources Investigations 95-4030 Map, a 2014 aerial photograph at a scale of 1"=500', a 2014 aerial photograph at a scale of 1"=200', and a 1962 aerial photograph at a scale of 1"=500', Figures 1 through 10 in Appendix A.

METHODOLOGY

The Geologic Assessment was performed by Mr. Chris Wickman, P.G., Senior Geologist with Frost GeoSciences, Inc. Mr. Wickman is a Licensed Professional Geoscientist in the State of Texas (License # 10403).

Frost GeoSciences, Inc. researched the geology of the area east of the intersection of Loop 1604 and I.H. 10. The research included, but was not limited to, the Geologic Atlas of Texas, San Antonio Sheet, FEMA maps, Edwards Aquifer Recharge Zone Maps, U.S.G.S. 7.5 Minute Quadrangle Maps, the Bureau of Economic Geology-Geologic Atlas of Texas, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the U.S.G.S. Water-Resources Investigations Report 95-4030, and the U.S.D.A. Soil Survey of Bexar County, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or man-made potential recharge features (PRFs). A transect spacing of approximately 50 feet, or less depending on vegetation thickness, was used to inspect the project area. A 2014 aerial photograph, in conjunction with a hand held Garmin GPS 72H Global Positioning System with an Estimated Potential Error ranging from 10 to 14 feet, was used to navigate around the property and identify the locations of PRFs, as recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The locations of any PRFs noted in the field were marked with blue and white flagging. The flagging is numbered with the same PRF I.D. # that is used on the Site Geologic Map. The Site Geologic Map, indicating the limits of the Site, and the locations of PRFs and rock outcrops noted on the Site, is included in Appendix C. A copy of a 2014 Aerial Photograph at an approximate scale of 1"=200' indicating the limits of the Site, and the locations of potential recharge features and rock outcrops noted on the Site, is included on Figure 10 in Appendix A. The Geologic Assessment Form TCEQ-0585, (Rev. 10-1-10), Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this Site and are included on pages 1-5 of this report.

RESEARCH & OBSERVATIONS**7.5 Minute Quadrangle Map Review**

According to the U.S.G.S. 7.5 Minute Quadrangle Map, Castle Hills, Texas Sheet (1992), the elevation across the Site ranges from 990 to 1040 feet above mean sea level. The Site has a total relief of approximately 50 feet. The topographic map depicts the Site as undeveloped wooded land. Runoff from the Site flows to the north and northwest into Leon Creek. The intersection of Loop 1604 and I.H. 10 is located immediately northwest of the Site. A copy of the U.S.G.S. 7.5 Minute Quadrangle Map indicating the location of the Site is included on Figure 3 in Appendix A. According to the Bexar County Watersheds Map (2003), the Site is located within the Upper Leon Creek Watershed Area. A copy of the Bexar County Watersheds Map indicating the location of the Site is included on Figure 4 in Appendix A.

Recharge/Transition Zone

According to the Edwards Underground Water District Reference Map, (March 1988), the Official Edwards Aquifer Recharge Zone Map, Bulverde, Texas Sheet (1996) and the Edwards Aquifer Authority, Recharge Zone and Contributing Zone Map (1999), the Site is located within the Contributing and Recharge Zones of the Edwards Aquifer. A copy of the Edwards Aquifer Authority, Edwards Aquifer Recharge Zone and Contributing Zone Map, Castle Hills, Texas Quadrangle (1999) indicating the location of the Site is included on Figure 5 in Appendix A.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the Bexar County, Texas, Community Panel Number 48029C0230G (Revised September 29, 2010) was reviewed to determine if the Site is located in areas prone to flooding. A review of the above mentioned Panel Number indicated that the Site is located within "Zone X". According to the Panel Legend, Zone X represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the above referenced FIRM panel indicating the location of the Site is included on Figure 6 in Appendix A.

Soils

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Bexar County, Texas, issued (1966), the Site is located on the Crawford and Bexar stony soils (Cb), Patrick Soils, 1 to 3 percent slopes (PaB) and the Tarrant Association (TaB). A copy of the 1962 aerial photo (approximate scale: 1"=500') from the U.S.D.A. Soil Survey of Bexar County, Texas indicating the location of the Site and the soil types is included on Figure 7 in Appendix A.

The Crawford and Bexar Stony Soils (Cb) are very dark grayish brown to reddish brown clay. They are stony clay in texture and are shallow to moderately deep over hard limestone. These soils are extensive in the northern part of the county. The surface layer is noncalcareous, about 8 inches thick, and very dark grayish brown or very dark brown. It has fine, subangular blocky and granular structure. When moist, this layer is very firm but breaks easily to a mass of fine clods. When dry, is very hard and contains many large cracks. Angular fragments of chert and limestone are common.

These fragments may range in size from a quarter of an inch to 24 inches in diameter. The subsurface layer is dense, angular blocky clay. This layer is neutral or slightly acidic, but it may be limy in the lower parts. It is about 26 inches thick and either overlies a thin layer of yellowish red to pale brown, limy clay or, if the limy layer is lacking, rests on hard, fractured limestone. Crawford soils are naturally well drained. Internal drainage and permeability vary according to moisture content. Water moves rapidly when the soil is dry and cracked, but very slowly when the soil is wet. This soil has a USDA Texture Classification of Cherty Clay Loam to Loam. The Unified Classification is CG or CL. The AASHO Classification is A-2, A-4, or A-6. This soil has an average permeability from 1.0 to 1.5 inches/hour.

Patrick soils, 1 to 3 percent slopes make up the most extensive acreage of Patrick soils mapped in the county. They are in the northern part and occur as nearly level to gently sloping terraces along streams that drain the limestone prairies. The terraces are 3 to 30 feet above the present streambeds. Areas of these soils are mostly long and narrow, or from 200 to 1,500 feet in width. The surface layer is clay loam, gravelly clay loam, silty clay or light clay and is about 12 inches thick. The subsurface layer, about 5 inches thick is brown clay loam, loam or light clay. This layer has granular structure. It is moderately permeable, firm to friable when moist and calcareous. Unless protected, the soils are susceptible to water erosion. This soil has a USDA Texture Classification of gravel bed containing loamy soil material. The Unified Classification is Gm or GC. The AASHO Classification is A-2. This soil has an average permeability from 2.0 to 5.0+ inches/hour

The Tarrant Association consists of stony soils that are very shallow, dark colored, and gently undulating to steep. The Tarrant Association occurs on the limestone prairies in the northern third of the county. The surface layer is very dark grayish brown, calcareous clay loam and is about 10 inches thick. It has moderate, fine, subangular blocky structure. This layer is crumbly and friable when moist. Limestone fragments that range from a quarter of an inch to 24 inches in diameter cover about 35 percent of the surface. The subsurface layer, about 8 inches thick, is hard fractured limestone. The cracks and spaces are filled with dark grayish brown clay loam. The bedrock is hard limestone. Tarrant soils have rapid surface drainage and good internal drainage. The capacity to hold water is low. Natural fertility is high. Water erosion is a hazard. This soil has a USDA Texture Classification of Clay Loam. The Unified Classification is CL or CH. The AASHO Classification is A-7. This soil has an average permeability from 1.0 to 1.5 inches/hour.

Narrative Description of the Site Geology

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the Site into the Edwards Aquifer appears to be low. The locations of the PRFs are identified on the 2014 aerial photograph on Figure 10 in Appendix A, and on the Site Geologic Map provided in Appendix C. Color photos of the Site and some of the PRFs are included in Appendix B.

The Site is covered by moderately dense stand of vegetative cover with numerous open grassy areas. Selective clearing was observed in the northeastern portion of the Site with areas of spread mulch covering the ground surface. The spread mulch obscured the ground surface in these areas of the northeastern portion of the Site. Site visit photos indicating the condition of the property at the time of the on-site inspection are included in Appendix B. Overall vegetation on the Site consists of live oak (*Quercus virginiana*) cedar elm (*Ulmus crassifolia*), with Texas persimmon (*Diospyros texana*), agarita (*Berberis trifoliolata*), yucca (*Yucca treculeana*), and prickly pear cactus (*Opuntia lindheimeri*). The variations in the vegetative cover on the property are visible in the 2014 aerial photo on Figures 9 and 10 in Appendix A. A copy of the site layout indicating the boundary of the Site and the elevations is included on the Site Geologic Map in Appendix C of this report.

No obvious visual indications of PRFs were identified on the Site at the time of the site inspection. However, based on a review of the Site location depicted on the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the boundary of the contributing zone and the recharge zone is identified as and inferred fault. The inferred fault identified on the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle is labeled S-1 on the Site Geologic Map included with this report. This fault is the boundary between the Edwards aquifer recharge zone and the contributing zone. No obvious visual indications of this fault were observed on the Site at the time of the site inspection. According to the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the upwardly displaced formation to the north and northwest of the inferred fault is the Edwards Person Limestone and downwardly displaced formations to the southeast of the fault, are the Buda Limestone, Del Rio Clay and the Eagle Ford Formation. Frost GeoSciences, Inc. rates this feature as low on Figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores a 27 on the sensitivity scale, column 10 in the Geologic Assessment Table on Page 4 of this report. Frost GeoSciences, Inc. does consider this to be a sensitive feature.

According to the U.S. Geological Survey Water Resources Investigations, 95-4030 (WRI), and the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the Site is located on the Eagle Ford Group, Buda Limestone, Del Rio Clay and the Edwards limestone. According to the Geologic Map of the New Braunfels, Texas 30 x 60 Minute Quadrangle a very small area of Edwards limestone is located in the north and northeastern portions of the Site. The WRI map does not indicate Edwards limestone present on the Site. A copy of the WRI map and the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle are included on Figures 8A and 8B in Appendix A. A copy of the Stratigraphic Column highlighting the outcropping formations is included on Page 3 of this report.

The Eagle Ford Group consists of compact, silty shale containing fossil fish teeth and bones in the upper part. The middle part is a silty flaggy limestone grading to a medium gray calcareous siltstone. This part will weather to a pale yellowish brown. The lower part consists of dark gray calcareous shale. Overall thickness of the Eagle Ford Group ranges from 25 to 65 feet.

The Buda Limestone consists of buff to light gray dense mudstone to porcelaneous limestone with calcite filled veins. This formation develops minor surface karst. Overall thickness ranges from 40 to 50 feet.

The Del Rio Clay is the upper confining unit of the Edwards Aquifer and consists of blue-green to yellow-brown clay. This formation is fossiliferous with abundant *Ilymatogyra arietina*. This formation generally does not develop karst features. Overall thickness ranges from 40 to 50 feet.

The Edwards Limestone outcrops in the northwestern portion of the Site and is faulted out by a fault bearing N 70O. This has displaced Buda Limestone and the underlying Del Rio Clay along the south side of the fault. The Eagle Ford Formation is located in the northeastern and eastern portions of the Site as it sits on top of the Buda Limestone.

According to the site plan provided by MBC Engineers, the surveyed elevations on the Site range from 983 to 1035 feet. According to this survey, the total relief on the Site is approximately 52 feet. A copy of the site plan indicating the boundary of the Site and the elevations is included on the Site Plan on Figure 1 in Appendix A and the Site Geologic Map in Appendix C of this report.

BEST MANAGEMENT PRACTICES

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the Site into the Edwards Aquifer appears to range from low to moderate. The potential always exists to encounter solution cavities within the subsurface during excavating activities. Frost GeoSciences, Inc. is of the opinion that it is very important for construction personnel to be informed of the potential to encounter cavities in the subsurface that lack a surface expression. Construction personnel should also be informed of the proper protocol to follow in the event a karst feature is encountered during the development of the Site.

DISCLAIMER

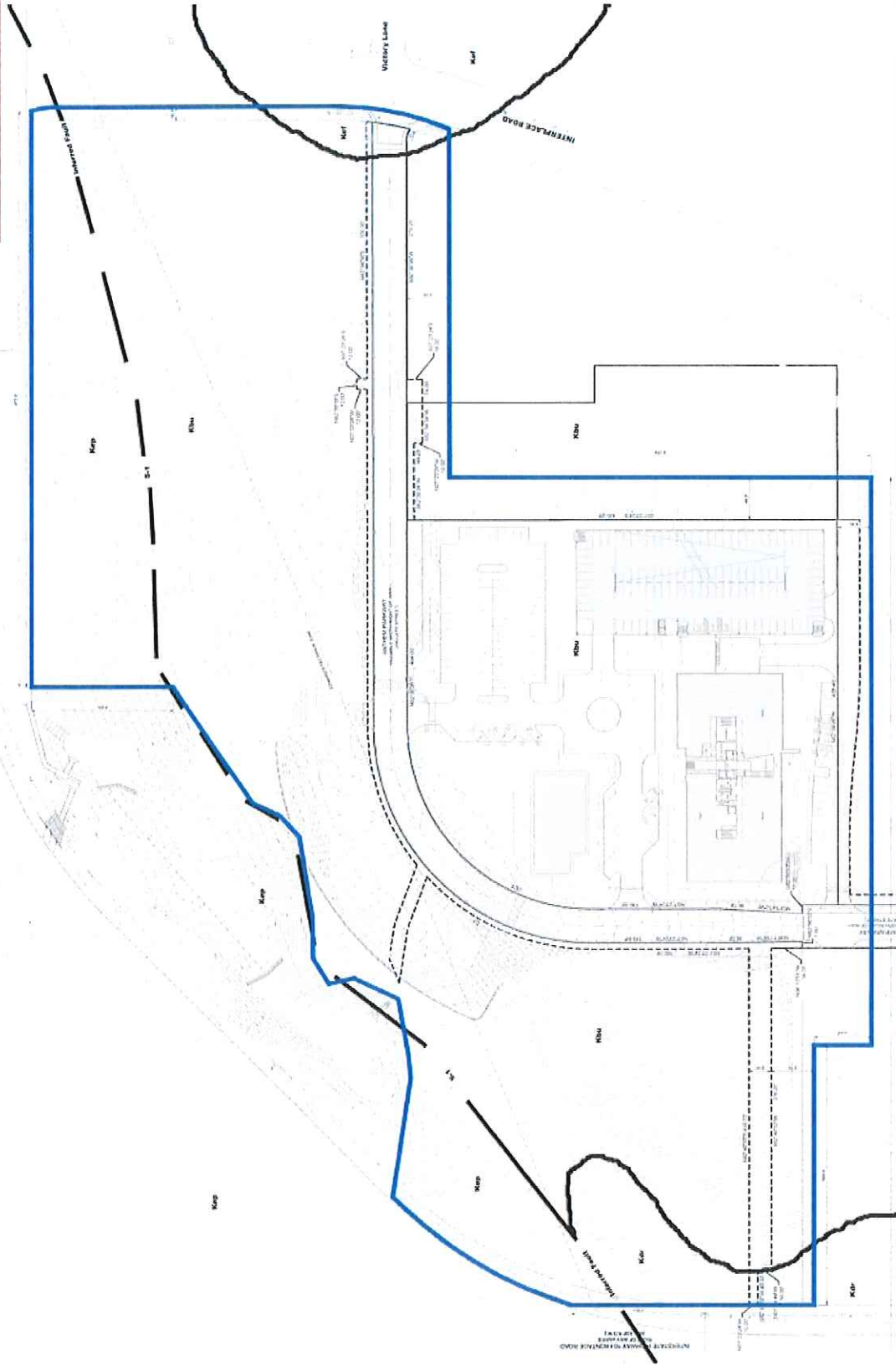
This report has been prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04) by a Licensed Texas Professional Geoscientist. All areas of the Site were carefully inspected for features that could contribute to the recharge of the Edwards Aquifer, however, this survey cannot preclude the presence of subsurface karst features that lack surface expression. This report is not intended to be a definitive investigation of all possible geologic or karst features at this site. All conclusions, opinions, and recommendations for Best Management Practices (BMP's) in this report are based on information obtained while researching the project, and on the site conditions at the time of our field investigation.

This report has been prepared for the exclusive use of I.H. 10/Loop 1604 Partners, LTD. This report is based on available known records, a visual inspection of the Site, and the work generally accepted for a Geologic Assessment for Regulated Activities / Developments on the Edwards Aquifer Recharge / Transition Zone, relating to 30 TAC §213.5(b)(3), effective June 1, 1999.

REFERENCES

1. USGS - 7.5 Minute Topographic Quadrangle of Castle Hills, Texas, 1992
2. Edwards Underground Water District Reference Map, March 1988
3. Official Edwards Aquifer Recharge Zone Map, Castle Hills, Texas, 1992
4. Stein, W.G. and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas, U.S. Geological Survey Water Resources Investigations 95-4030.
5. Barnes, V.L., 1983, Geologic Atlas of Texas Sheet, Bureau of Economic Geology and University of Texas at Austin, Geologic Atlas of Texas.
6. Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 48029C0230G, dated September 29, 2010.
7. United States Department of Agriculture Soil Conservation Service Soil Survey of Bexar County 1962.
8. TCEQ-0585-Instructions (Rev. 10-1-04), "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone".
9. Collins, Edward, W., 2000, Geologic Map of the New Braunfels 30 X 60 Minute Quadrangle, Bureau of Economic Geology, The University of Texas at Austin, Texas.
10. San Antonio Water Systems, Bexar County Watersheds Map, 2004.

APPENDIX A
SITE LOCATION FIGURES

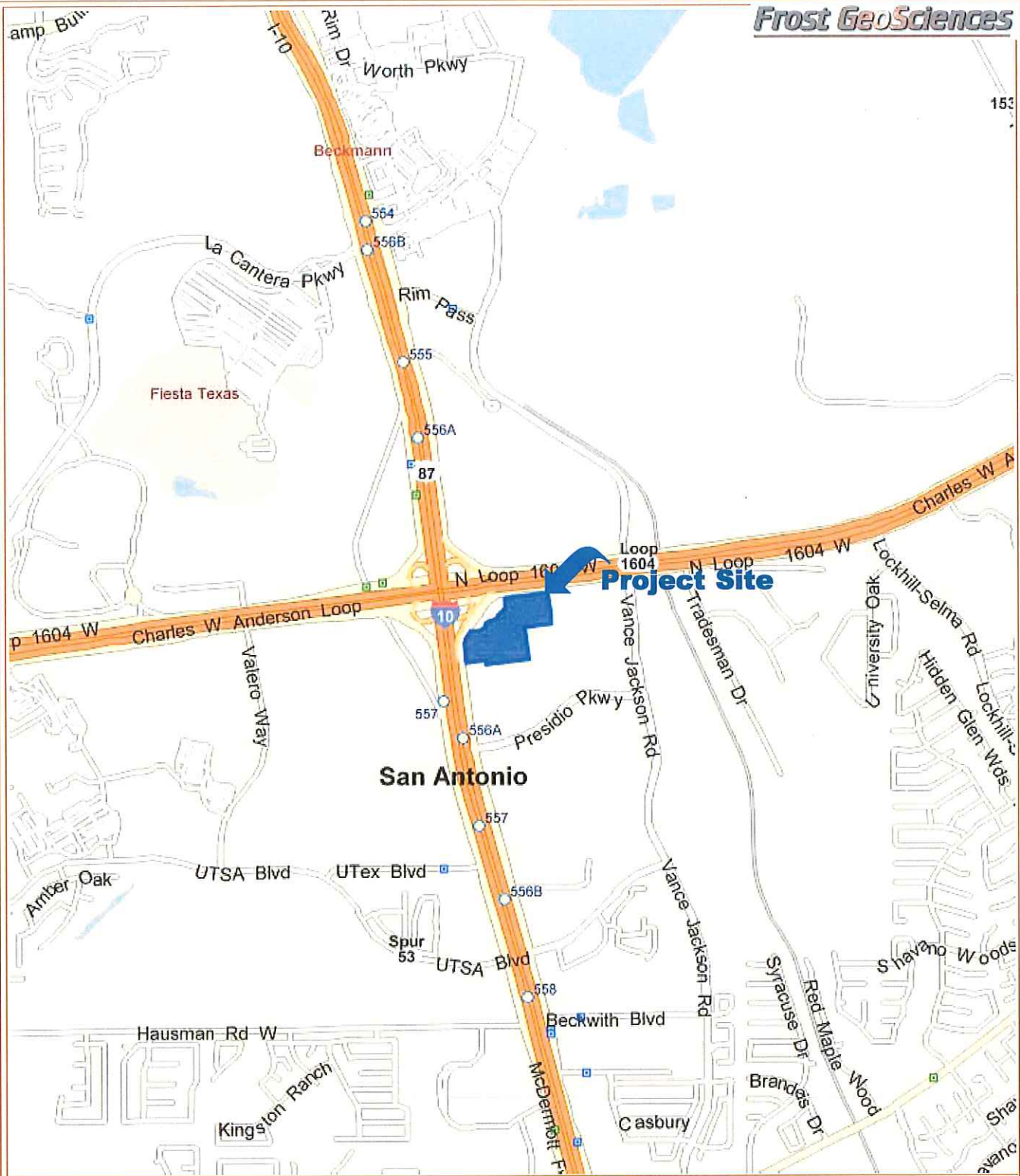


PROJECT NAME:
 Geologic Site Assessment (SCS)
 for Regulated Activities / Development on the
 Edwards Aquifer Recharge / Transition Zone
 Landmark Tract
 San Antonio, Texas

Site Layout

PROJECT NO.: FGS-EI5146

DATE: May 21, 2015



PROJECT NAME:

Geologic Site Assessment (WPAP)
 for Regulated Activities / Development on the
 Edwards Aquifer Recharge / Transition Zone
 Landmark Tract
 San Antonio, Texas

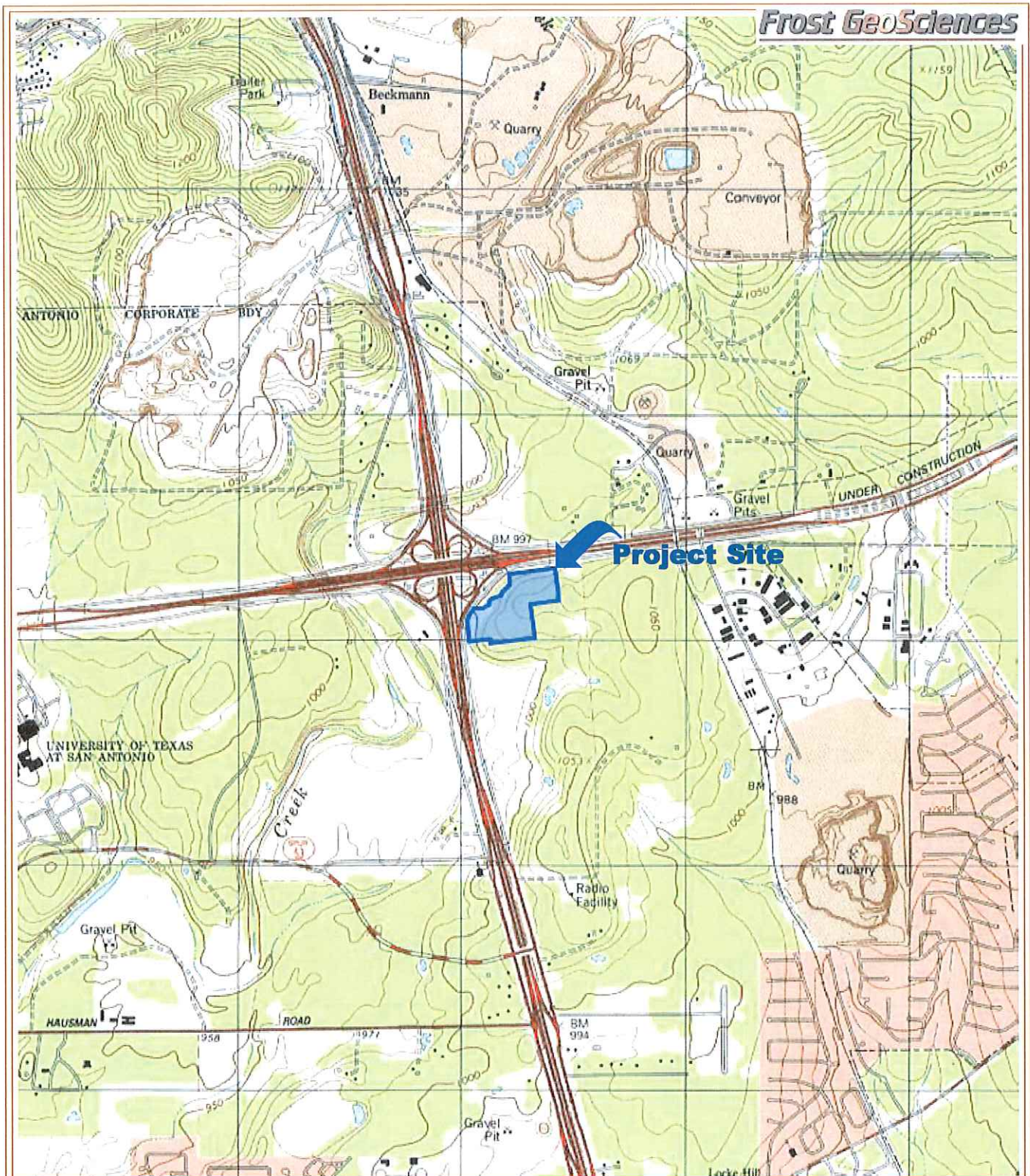
Street Map

PROJECT NO.:

FGS-E15146

DATE:

May 21, 2015



PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
San Antonio, Texas

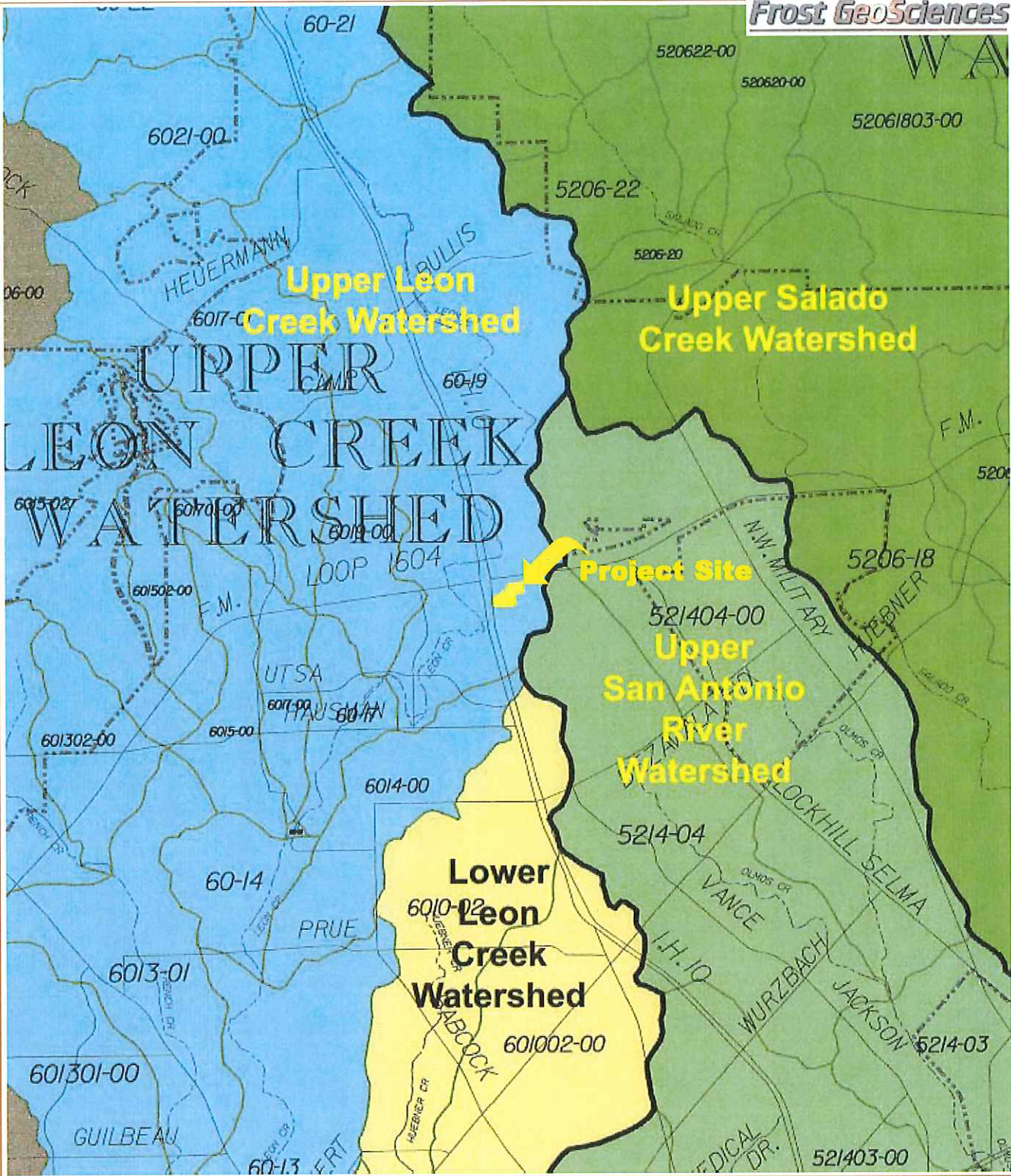
U.S.G.S. 7.5 Minute Quadrangle Map
Castle Hills, Texas Sheet (1992)

PROJECT NO.:

FGS-E15146

DATE:

May 21, 2015



PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
San Antonio, Texas

Bexar County Watersheds Map
San Antonio Water Systems (2004)

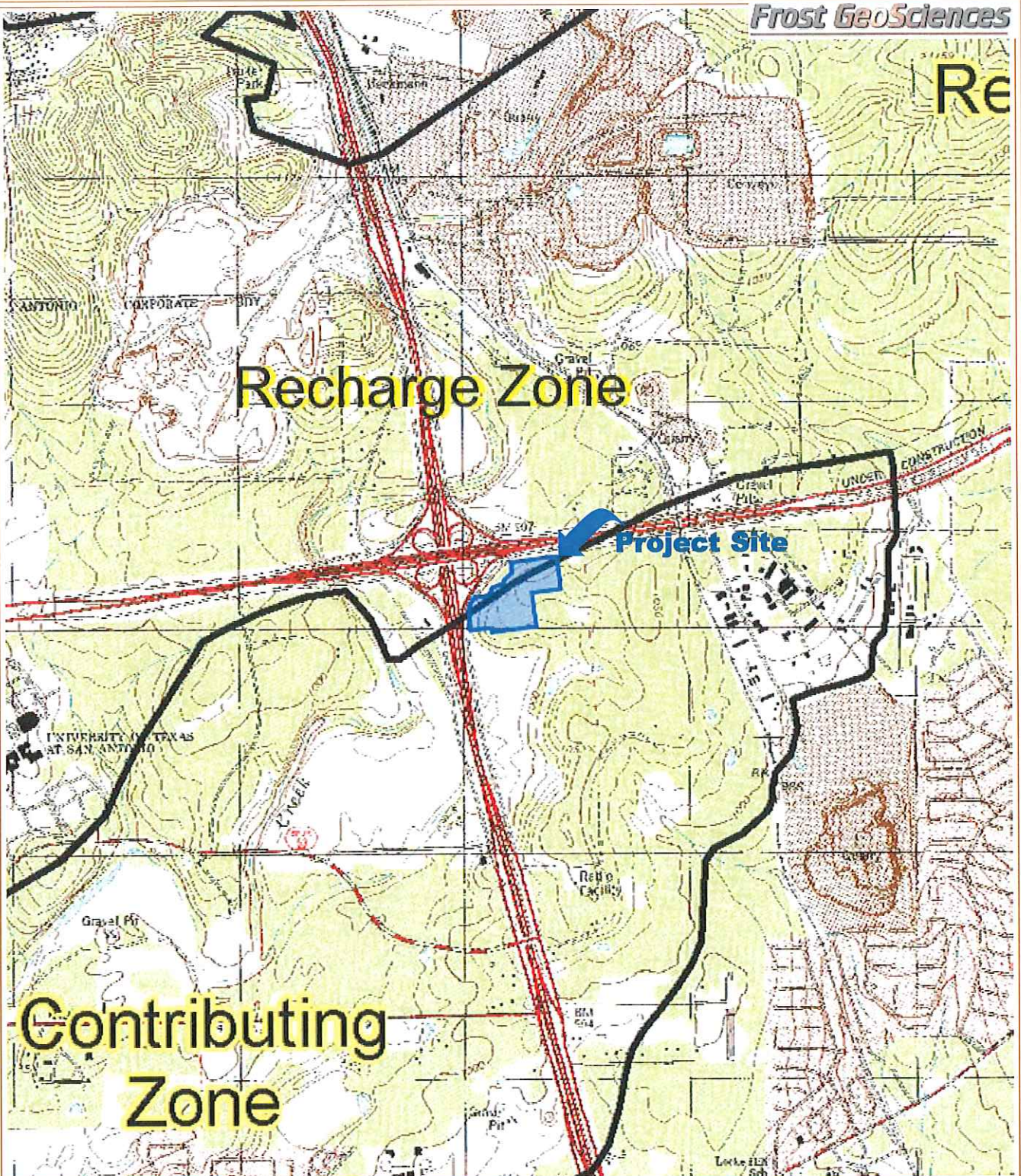
PROJECT NO.:

FGS-E15146

DATE:

May 21, 2015

Re



Recharge Zone

Project Site

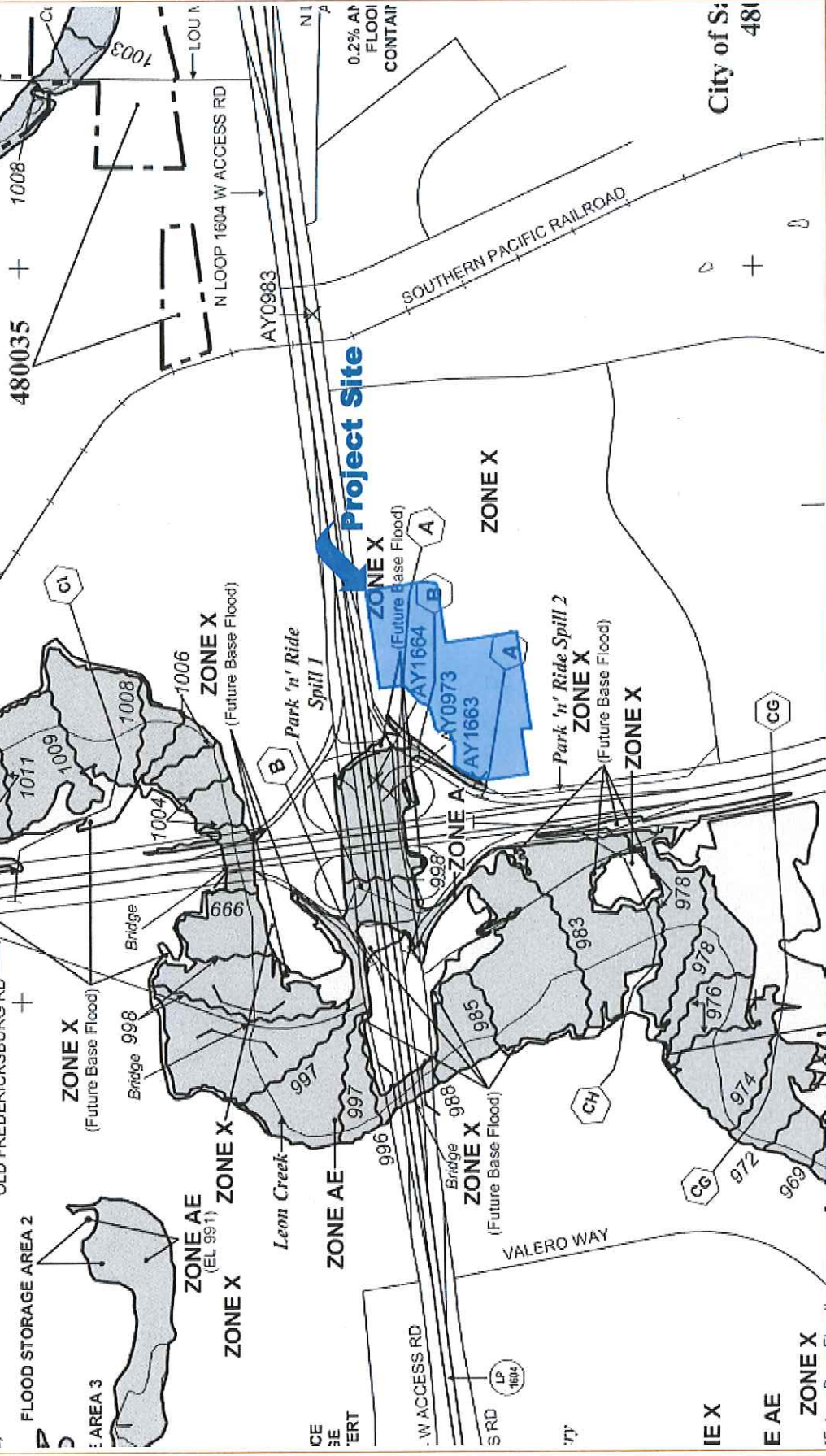
Contributing Zone

PROJECT NAME:
 Geologic Site Assessment (WPAP)
 for Regulated Activities / Development on the
 Edwards Aquifer Recharge / Transition Zone
 Landmark Tract
 San Antonio, Texas

AA-Edwards Aquifer Recharge and Contributing
 Zone Map, Castle Hills, Texas Quadrangle (1999)

PROJECT NO.:
 FGSE15146

DATE:
 May 21, 2015

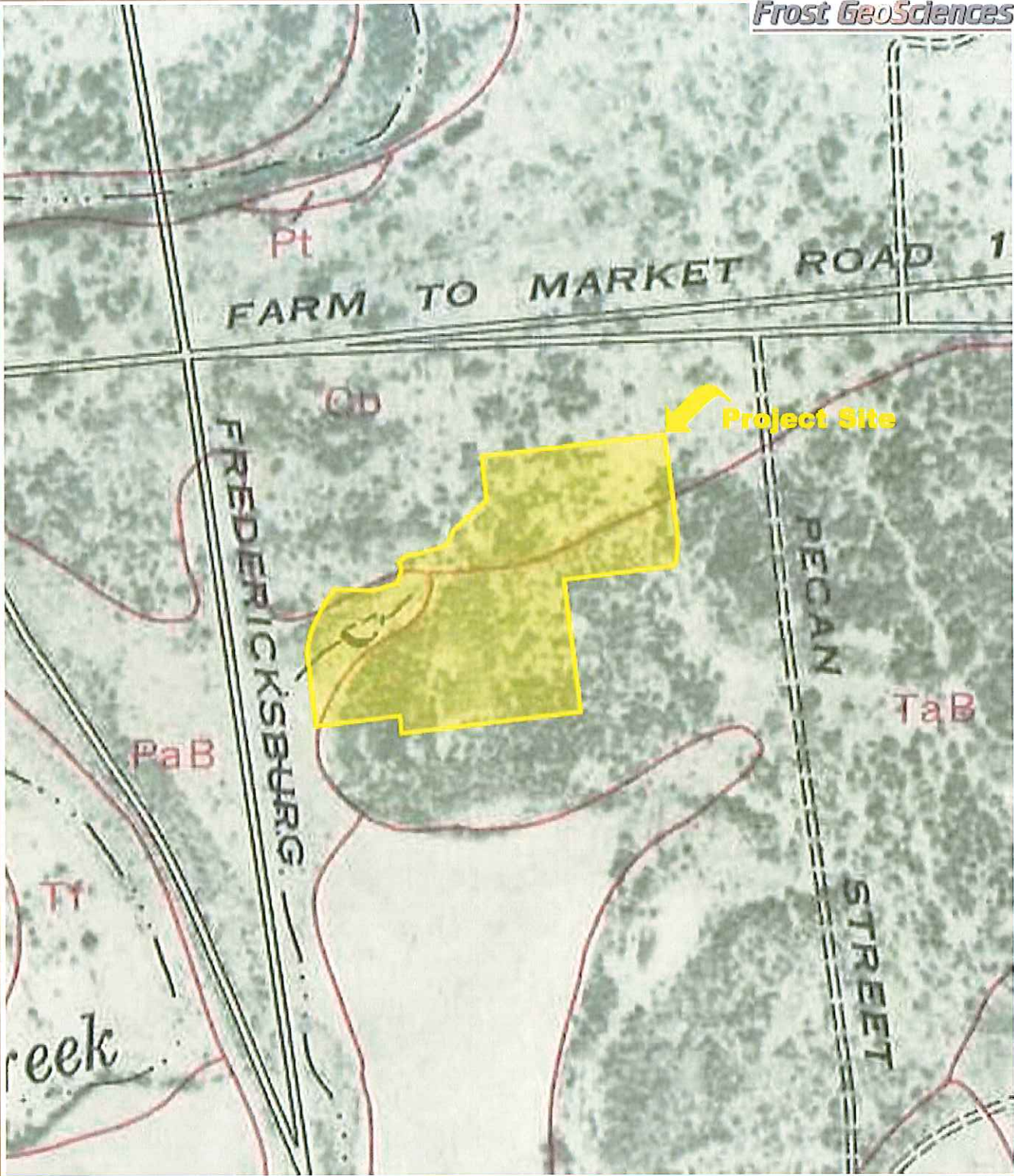


PROJECT NAME: Flood Insurance Rate Map (FIRM)
Community Panel # 48029C0230G (9/29/2010)

PROJECT NO.: FGS-EI5146
DATE: May 21, 2015

PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Landmark Tract San Antonio, Texas

FIGURE 6

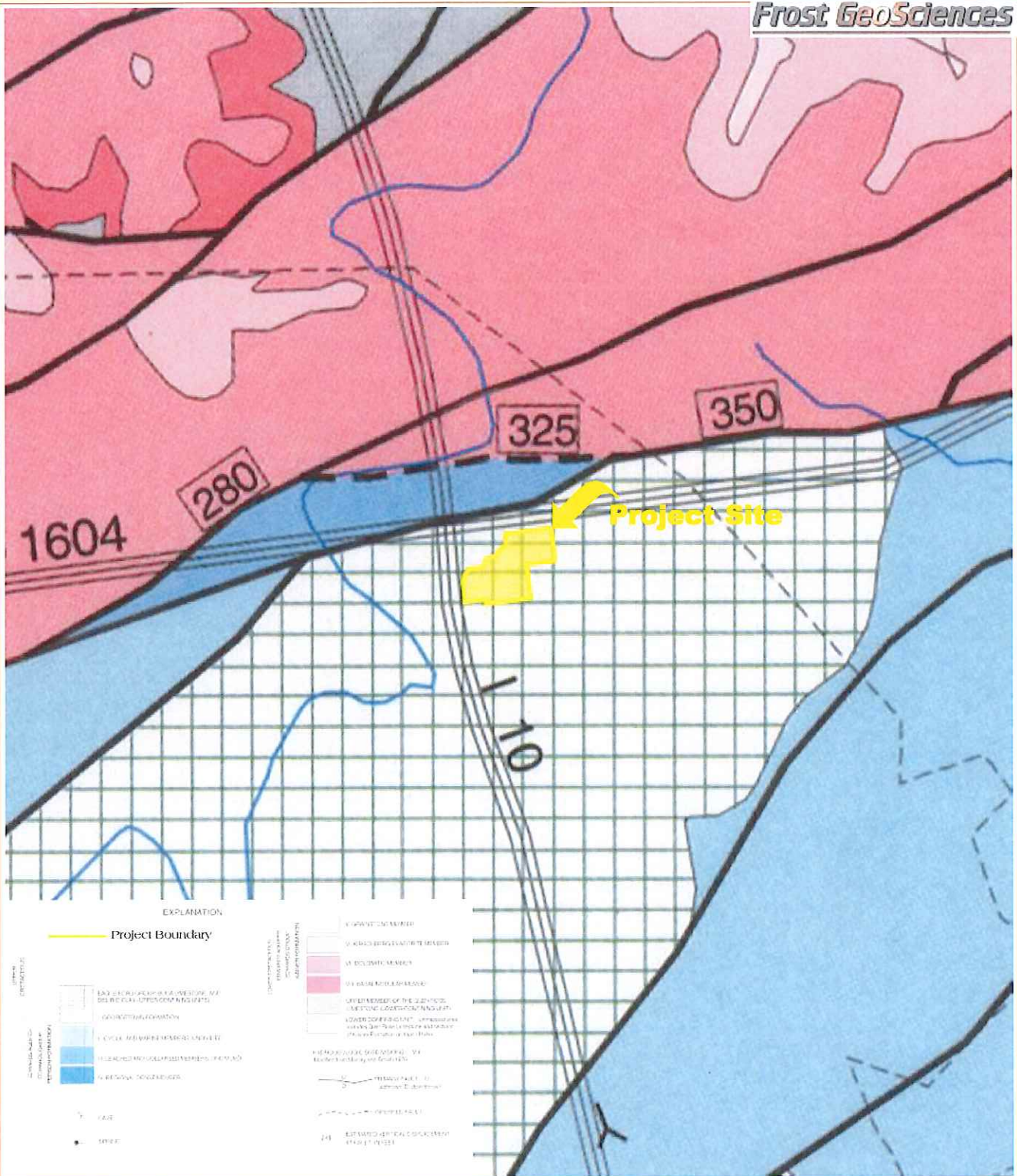


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
San Antonio, Texas

1962 Aerial Photograph
U.S.D.A. Soil Survey of Bexar County, Texas

PROJECT NO.:
FGS-E15146

DATE:
May 21, 2014

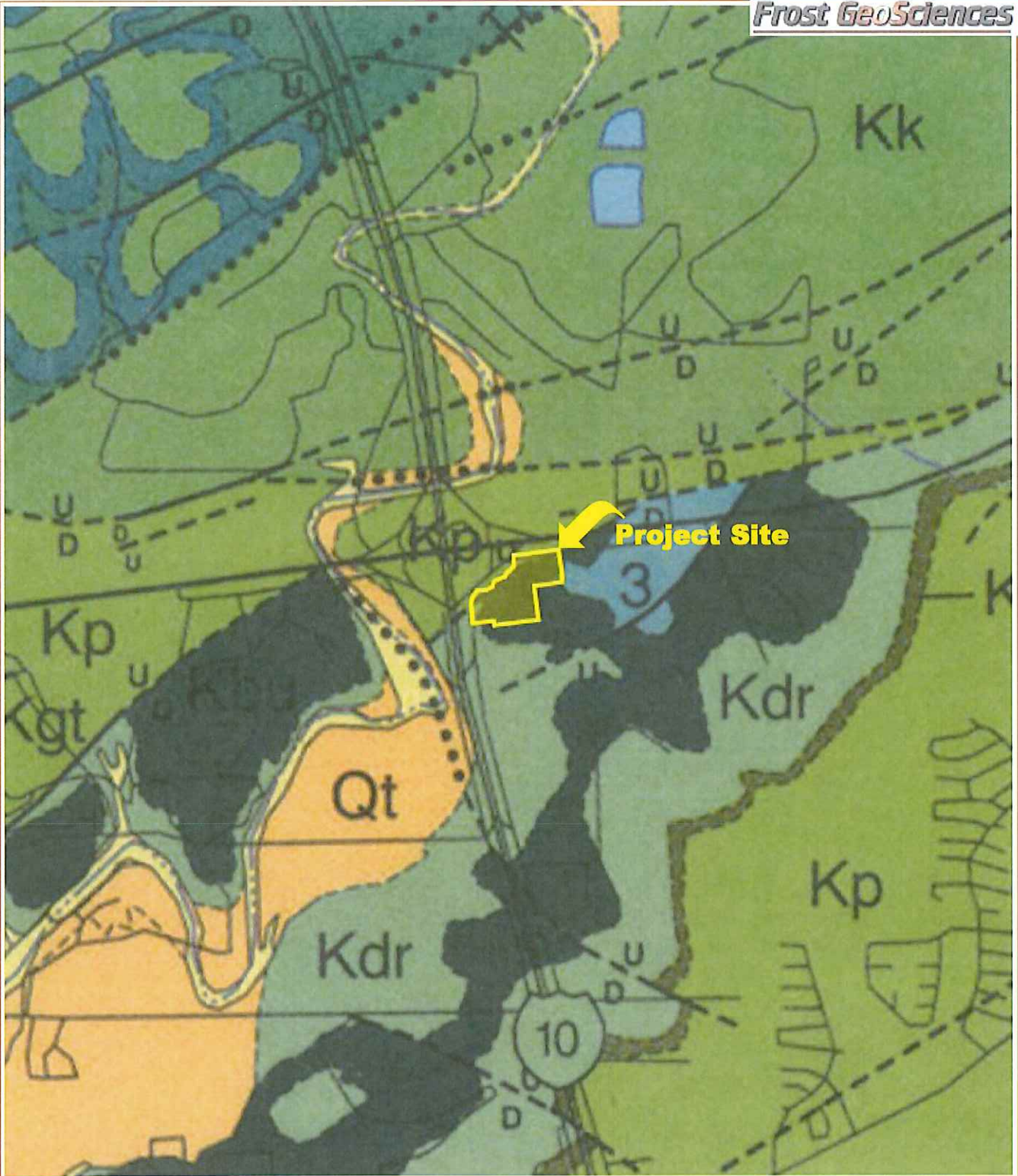


PROJECT NAME:
 Geologic Site Assessment (WPAP)
 for Regulated Activities / Development on the
 Edwards Aquifer Recharge / Transition Zone
 Landmark Tract
 San Antonio, Texas

United States Geologic Survey
 Water Resources Investigations #4030-95
 Geologic Map of Bexar County, Texas

PROJECT NO.:
 FGS-E15146

DATE:
 May 21, 2015



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
San Antonio, Texas

Bureau of Economic Geology
Geologic Map of the New Braunfels, Texas
30 X 60 Minute Quadrangle (2000)

PROJECT NO.:
FGS-E15146

DATE:
May 21, 2015



PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Landmark Tract
San Antonio, Texas

2014 Aerial Photograph
National Agricultural Imagery Program

PROJECT NO.:

FGS-E15146

DATE:

May 21, 2015



PROJECT NAME:

Geologic Site Assessment (SCS) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Landmark Tract San Antonio, Texas

2012 Aerial Photograph
National Agricultural Imagery Program

PROJECT NO.: FGS-E15146

DATE: May 21, 2015

APPENDIX B

SITE PHOTOGRAPHS



Photo #1 – Typical view of the vegetative cover observed in the southwestern portion of the Site.



Photo #2 – Typical view of the vegetative cover observed in the southwestern portion of the Site.



Photo #3 – Typical view of the vegetative cover observed in the central portion of the Site.



Photo #4 – Typical view of the vegetative cover observed in the central portion of the Site.



Photo #5 – Typical view of the vegetative cover observed in the southeastern portion of the Site.



Photo #6 – Typical view of the vegetative cover observed in the southeastern portion of the Site.



Photo #7 – Typical view of the vegetative cover observed in the northeastern portion of the Site.



Photo #8 – Typical view of the vegetative cover observed in the northeastern portion of the Site.



Photo #9 – Typical view of the vegetative cover observed in the eastern portion of the Site.

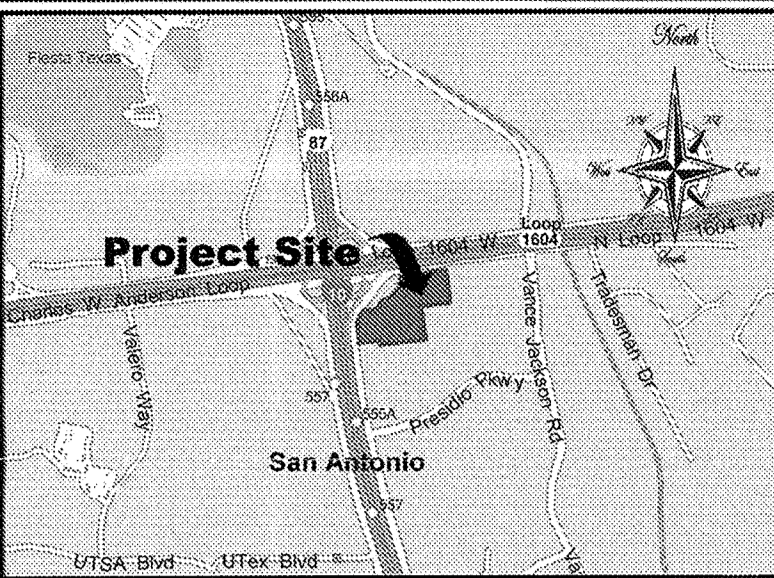


Photo #10 – Typical view of the vegetative cover observed in the eastern portion of the Site.

APPENDIX C

SITE GEOLOGIC MAP

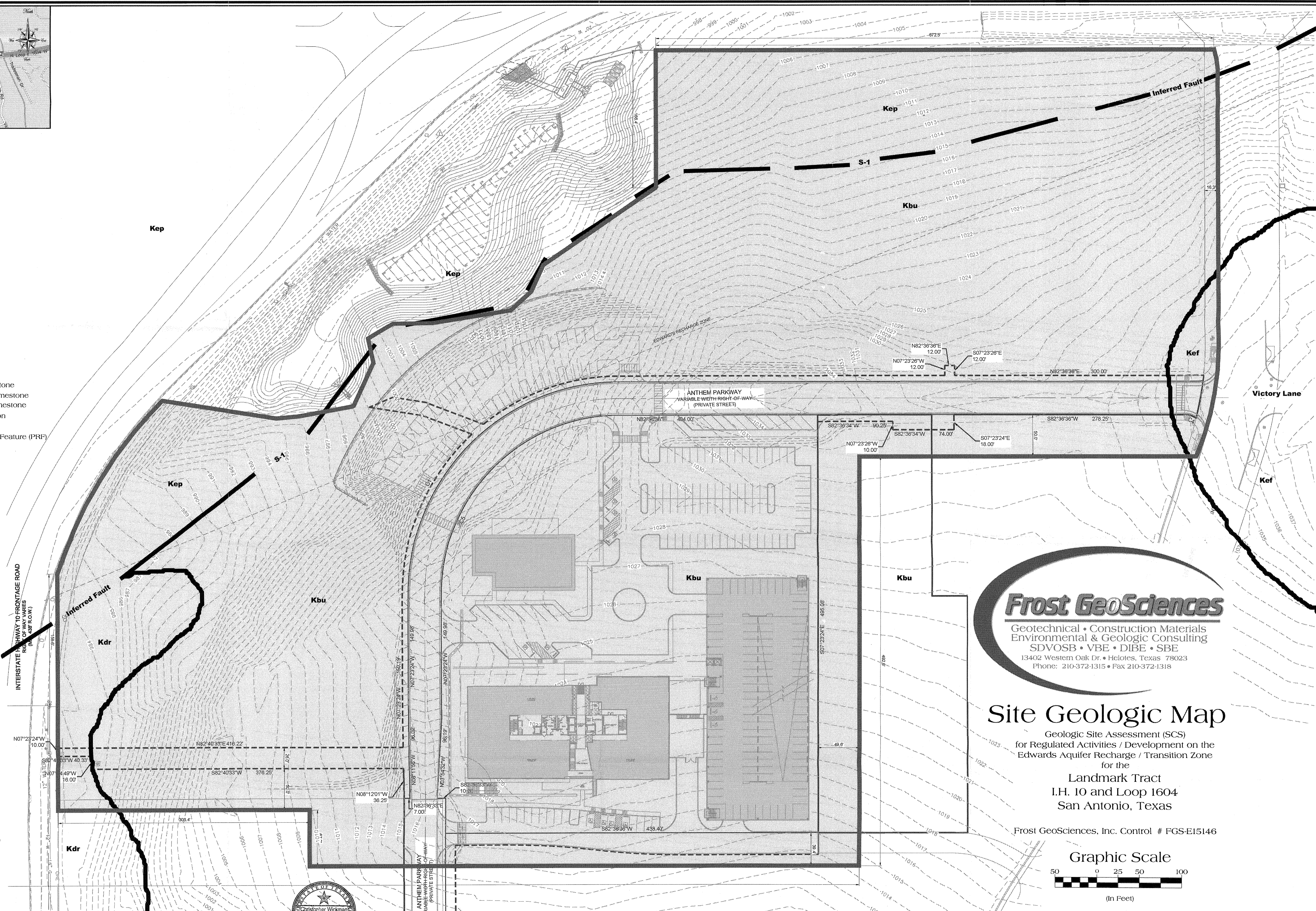
FGS Project N^o FGS-E15146



Location Map

Legend

- Fill - Fill Material
- Qal - Alluvium
- Kau - Austin Chalk
- Kef - Eagle Ford Shale
- Kbu - Buda Limestone
- Kdr - Del Rio Clay
- Kgt - Georgetown Limestone
- Kep - Edwards Person Limestone
- Kek - Edwards Kainer Limestone
- Kgr - Glen Rose Formation
- S-# - Potential Recharge Feature (PRF)
- - - - Formation Contact
- - - - Inferred Fault

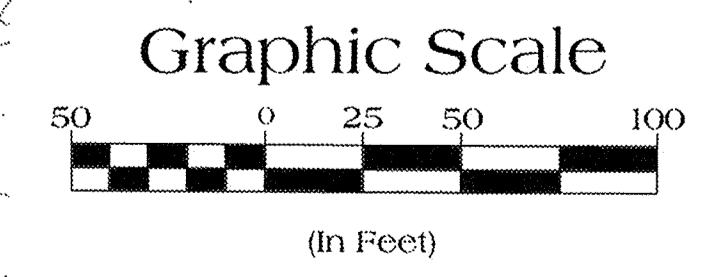


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 13402 Western Oak Dr. • Helotes, Texas 78023
 Phone: 210-372-1315 • Fax 210-372-1318

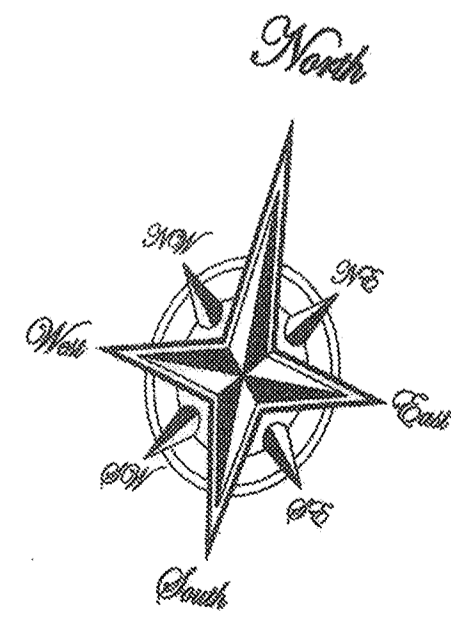
Site Geologic Map

Geologic Site Assessment (SCS)
 for Regulated Activities / Development on the
 Edwards Aquifer Recharge / Transition Zone
 for the
 Landmark Tract
 I.H. 10 and Loop 1604
 San Antonio, Texas

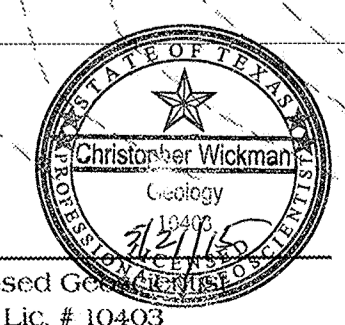
Frost GeoSciences, Inc. Control # FGS-EI5146



1 inch = 50 feet
 Representative Fraction 1:600
 Contour Interval - 1 foot



Signature of Texas Licensed Geologist
 Chris Wickman, P.G. Lic. # 10403



Fault Information Obtained From:
 Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983)
 U.S. Geological Survey, Water Resources Investigations Report
 Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)

Floodplain Information Obtained From
 FIRM: Flood Insurance Rate Map
 Bexar County, Texas: Panel # 48029C0230G, Revised 9/29/2010

– **Modification of a Previously Approved Plan (TCEQ-0590)**

Attachment A – Original Approval Letter and Approved Modification Letters

Attachment B – Narrative of Proposed Modification

Attachment C – Current Site Plan of the Approved Project

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Richard W. Hendrix, P.E.

Date: 7/31/2023

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Landmark North-West
Original Regulated Entity Name: The Landmark Anthem Parkway MPCD
Regulated Entity Number(s) (RN): 106376296
Edwards Aquifer Protection Program ID Number(s): 3043.00
 The applicant has not changed and the Customer Number (CN) is: 603349507
 The applicant or Regulated Entity has changed. A new Core Data Form has been provided.
2. **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
- 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;
 - 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;
 - Development of land previously identified as undeveloped in the original water pollution abatement plan;
 - Physical modification of the approved organized sewage collection system;
 - Physical modification of the approved underground storage tank system;
 - Physical modification of the approved aboveground storage tank system.
4. Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

<i>WPAP Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Acres	_____	_____
Type of Development	_____	_____
Number of Residential Lots	_____	_____
Impervious Cover (acres)	<u>14.26</u>	<u>8.36</u>
Impervious Cover (%)	<u>40.2</u>	<u>63.8</u>
Permanent BMPs	_____	_____
Other	_____	_____

<i>SCS Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Linear Feet	_____	_____
Pipe Diameter	_____	_____
Other	_____	_____

<i>AST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of ASTs	_____	_____
Volume of ASTs	_____	_____
Other	_____	_____

<i>UST Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Number of USTs	_____	_____
Volume of USTs	_____	_____
Other	_____	_____

5. **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
 - The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
 - The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
 - The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
 - Acreage has not been added to or removed from the approved plan.

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

ATTACHMENT A

ORIGINAL APPROVAL LETTER AND APPROVED MODIFICATION LETTERS

Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 1, 2012

Mr. Steve Braha
IH-10/Loop 1604 Partners, Ltd
9100 IH-West, Suite 230
San Antonio, Texas 78230

Re: Edwards Aquifer, Bexar County

Name of Project: Medistar Victory Medical Center; Located southeast of the intersection of IH-10 and Loop 1604 and bounded on the east by Vance Jackson; San Antonio, Texas

Type of Plan: Request for Approval of Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program San Antonio File No. 3043.00; Investigation No. 997659; Regulated Entity No. RN106376296

Dear Mr. Braha:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the San Antonio Regional Office by Pape-Dawson Engineers, Inc. on behalf of IH-10/Loop 1604 Partners, Ltd., Victory Landmark Real Estate, LLC, and FAE Holdings 411560R, LLC on March 30, 2012. Final review of the WPAP was completed after additional material was received on May 22, 2012 and May 25, 2012. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

Background

The site project limits encompass several sites formerly part of a 463-acre parent tract, previously identified as Fiesta Northwest Crossing/Umbell Oaks. This 36.66-acre area currently proposed for development was previously authorized under a WPAP titled "The Landmark"

(EAPP File No. 2795.00, approved by letter dated July 16, 2008) and a WPAP modification titled "The Landmark – Office One" (EAPP File No. 2795.01, approved by letter dated August 22, 2008). These approvals have subsequently expired and no extensions of time were granted.

Project Description

The legal boundary of the site where proposed regulated activities will occur is 98.7 acres. The project limits within the site is 36.66 acres. The proposed project is located over the recharge zone and the contributing zone within the transition zone that drain back onto the recharge zone. The impervious cover will be 4.6 acres (12.7 percent). The proposed site development incorporates the following features.

- A multi-story hospital building
- Paved entry roads accessing the site from Loop 1604, entrances, connecting drives, parking and sidewalks
- A service dock to accommodate delivery trailers
- Dumpsters and trash compactors
- Medical and red bag waste disposal storage facilities
- Medical gas storage pad
- An AST Facility for hospital generators. A separate aboveground storage tank facility plan will be submitted at a later date.

Project wastewater will be disposed of by conveyance to the existing Leon Creek Water Recycling Center owned by the San Antonio Water System.

Permanent Pollution Abatement Measures

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one sedimentation/filtration basin with dual sedimentation chambers and a single filtration chamber, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,765.84 pounds of TSS generated from the 4.6 acres of impervious cover (3,598 pounds of TSS generated from 4.41 acres of on-site impervious cover and 167 pounds of TSS generated from 0.25 acres of on-site uncaptured areas). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measure consists of a dual chamber sedimentation/filtration basin designed to provide treatment for the entire 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover.

Table 1. BMP Impervious Cover (I/C) Summary

Watershed	Watershed Area (ac)	Proposed I/C to BMP (ac)	Proposed uncaptured I/C (ac)	Total proposed I/C (ac)	Design I/C to BMP (ac)	Remaining I/C to BMP
A	34.08	4.41	0.21	4.62	25.28	20.66

Table 2. BMP Design Summary					
Req. WQV (ft3)	Design WQV (ft3)	Req. sand filter area (ft2)	Design sand filter area (ft2)	Req. TSS removal LR (lb/yr)	Design TSS removal LR (lb/yr)
28,039	129,119	2,804	12,476	4,502	23,213

The water quality basin will consist of a geomembrane lined, sedimentation/filtration basin sized to capture the first 1.50 inches of stormwater run-off. The filtration basin will consist of 12,476 square feet of ASTM C-33 sand, which is 18 inches thick and an underdrain piping system covered with a minimum two inch gravel layer. Stormwater run-off from the hospital site will drain to the underground storm drain system which in turn discharges to a vegetative swale which will convey drainage to the inlet structure at the proposed water quality basin. Run-off from the proposed streets bounding the hospital to the south and west will overland flow across naturally vegetated and undisturbed portions of the 36.66 acre project site to the vegetative swale.

Geology

According to the geologic assessment included with the application, the site is underlain by the Eagle Ford Shale, the Buda Limestone, the Del Rio Clay, and the Person Formation. Four fault zones were noted, none of which were assessed as sensitive. The San Antonio Regional Office site assessment conducted on May 18, 2012 revealed that the site is generally as described by geologic assessment.

Special Conditions

1. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
2. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.
3. The applicant shall comply with all applicable provisions of 30 TAC 330 Subchapter Y: Medical Waste Management regarding the handling, transportation, and disposal of medical waste as defined in Chapter 330.3.
4. For any future modifications to this WPAP, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.
5. This WPAP approval letter does not include the installation of the above ground storage tank facility. Prior to construction of the AST Facility, a separate AST Plan must be submitted and receive approval from the executive director.

6. Regulated activities observed during the site assessment investigation, conducted on May 18, 2012, may constitute construction without prior approval of the WPAP application in violation of 30 TAC Chapter §213.4(a)(1). Therefore, the applicant is hereby advised that the after-the-fact approval of the development, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.10 of Commission rules.

Standard Conditions

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence; the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the

contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

15. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. 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 San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be 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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

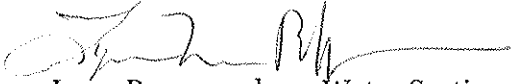
Mr. Steve Braha

June 1, 2012

Page 7

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Yuliya Dunaway of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-490-3096.

Sincerely,



Lynn Bumguardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LMB/YD/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Ms. Cara Tackett, P.E., Pape-Dawson Engineers
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Karl Dreher, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 28, 2012

Mr. Robert N. Helms, Jr.
Victory Landmark Real Estate, LLC
2201 Timberloch Place
The Woodlands, Texas 77380-1140

Mr. Robert Hodge
FAE Holdings 411560R, LLC
7670 Woodway Drive, Suite 160
Houston, Texas 77063-1593

Re: Edwards Aquifer, Bexar County

Name of Project: Medistar Victory Medical Center; Located southeast of the intersection of Loop 1604 and Vance Jackson; San Antonio, Texas

Type of Plan: Request for Approval of an Aboveground Storage Tank Facility (AST); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 3043.01; Investigation No. 1043440; Regulated Entity No. RN106376296

Dear Mr. Helms and Mr. Hodge:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the AST Application for the above-referenced project submitted to the San Antonio Regional Office by Pape-Dawson Engineers, Inc. on behalf of Victory Landmark Real Estate, LLC and FAE Holdings 411560R, LLC on November 1, 2012. As presented to the TCEQ, the AST Facility Plan proposed in the application was prepared to be in general compliance with the requirements of 30 TAC §213.5(e). Therefore, based on the applicant's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this approval letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

Project Description

The project site is located on the Edwards Aquifer Contributing Zone within the Transition Zone. The AST Facility is proposed to be one diesel tank installed for fueling an emergency generator at the Medistar Victory Medical Hospital (EAPP ID No. 3043.00). The proposed AST Facility Plan includes the items listed in the table below.

AST	Gallons	Tank Material	Contents of Tank
1	1705	steel	diesel
Total	1705		

Equivalent Protection

The described AST is a double walled steel tank (UL-142 Double-wall Construction). The tank consists of a primary tank within a sealed secondary tank. The outer tank dimensions will be 8.33 feet in width and 29.5 feet in length and 1.42 feet in height. The interstitial area between the two tanks will contain any product leaks from the primary tank.

All piping and hoses will extend outside the AST structure. Piping will be mounted on the top of the tank and will be double-walled. Spill and overfill control for each tank and piping structures will be provided by tank level gauge placed in the AST and will announce an alarm if a release occurs from the primary tank.

The planned spill response that will take place at the facility is provided in Attachment "E" (enclosed) of the AST Facility Plan Application (Response Actions to Spills). In the event of a release or an accumulation of contaminated stormwater, the contained stormwater will be disposed of in accordance with TCEQ requirements.

Geology

According to the geologic assessment included with the application, the site is underlain by the Eagle Ford Shale, the Buda Limestone, the Del Rio Clay, and the Person Formation. No geologic or manmade features were identified within 150 feet from the AST Facility. The San Antonio Regional Office did not conduct a site assessment.

Standard Conditions

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures

contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC, PST) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved AST Facility Plan is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved AST Facility Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Prior to commencing construction, the applicant shall submit any modifications to this approved AST Facility Plan required by some other regulating authority or desired by the applicant.
7. Modification to the activities described in the referenced AST Facility Plan, including Attachment "E" of the AST Facility Plan application (Response Actions to Spills), following the date of approval may require the submittal of an Edwards Aquifer Protection Plan application to modify this approval. The payment of appropriate fees and all information necessary must be provided for its review and approval prior to initiating construction of the modifications.
8. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
9. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved AST Facility Plan, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
10. All borings with depths greater than or equal to 20 feet must be plugged with a non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must

be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

11. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. Attachment "E" of the AST Facility Plan application (Response Actions to Spills) shall be located on-site (copy enclosed).
19. In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly. The applicant must comply with 30 TAC Chapter 334, Subchapter D, pertaining to Release Reporting and Corrective Action.

Mr. Robert N. Helms
Mr. Robert Hodge
Page 5
December 28, 2012

20. During the life of the AST facility, the owner shall comply with all applicable provisions of 30 TAC §213.5(e). Additionally, the owners, Victory Landmark Real Estate, LLC and FAE Holdings 411560R, LLC shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume all responsibility for provisions and specific conditions of this approval.
21. An "as-built" site plan for the facility shall be drawn to scale and in sufficient detail to depict the specific locations and dimensions of all major components of the storage system. A copy of such "as-built" site plan and construction drawings, as well as operating instructions for all major system components shall be maintained in a secure location at the site of the proposed facility. This information shall be available for examination by TCEQ personnel upon request.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Yuliya Dunaway of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4077.

Sincerely,



Lynn Bumgardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LMB/yd

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Attachment "E" of AST Facility Plan application (Response Actions to Spills)

cc: Ms. Cara Tackett, P.E., Pape-Dawson Engineers
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

MEDISTAR VICTORY MEDICAL CENTER

Aboveground Storage Tank Application

Spill Response Actions

In the event of an accidental leak or spill:

- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall the material should be covered with poly or plastic sheeting to prevent contaminating runoff.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
 - the National Response Center at (800) 424-8802
 - the Edwards Aquifer Authority at (210) 222-2204
 - the TCEQ Regional Office (210) 490-3096 (if during business hours: 8 AM to 5 PM) or
 - the State Emergency Response Center (800) 832-8224 (if after hours)
- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

installed will be complete.

16. N/A Surface waters (including wetlands).
17. Locations where stormwater discharges to surface water or sensitive features.
 √ There will be no discharges to surface water or sensitive features.

BEST MANAGEMENT PRACTICES

18. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.
- √ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
- In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.
If any leak occurs as a result of a tank wall failure, the secondary containment (outer steel wall) will prevent fuel from leaving the tank structure. The tank will be equipped with a leak detection switch, and a top-mounted fuel level gauge. A supply of absorbent material will also be kept on site in the event of a minor spill. Any fuel-contaminated material will be disposed in accordance with the applicable TCEQ regulations. TCEQ will be notified of any reportable quantity spills.
19. √ All stormwater accumulating inside the containment structure will be disposed of through an authorized waste disposal contractor.
 Containment area will be covered by a roof.
 √ Containment area will not be covered by a roof.
 A description of the alternate method of stormwater disposal is submitted for the executive director's review and approval and is provided directly behind this page.
20. √ **ATTACHMENT D - Spill and Overfill Control.** Descriptions of the methods to be used at the facility for spill and overfill control are provided ***below***. Methods can include the proper transfer of fuels or chemicals from tanks into motor vehicles, and having a person present during fuel or chemical transfers.
Overfill and spill control will be achieved by maintaining proper personnel communication at the tank during fueling operations. The tank will be equipped with a top-mounted fuel level gauge.
21. √ **ATTACHMENT E - Response Actions to Spills.** A description of the planned response actions to spills that will take place at the facility is provided ***below***.
The TCEQ will be notified of any spill or leakage of reportable quantity, in accordance with applicable regulations. If accidental leaks or spills take place from the primary containment of the AST, the outer steel wall of the AST will act as a secondary containment and will prevent fuel from leaving the tank structure. Fuel supply and return lines will be double-walled. A top-mounted fuel gauge

and a leak detection switch will be installed on the AST. The AST will be located within a limited access Utility Yard to help prevent vehicles or other equipment utilized onsite from damaging the tank. A supply of absorbent material is also kept onsite in the event of a minor spill. Any fuel or fuel-contaminated materials shall be disposed of in accordance with applicable TCEQ regulations.

ADMINISTRATIVE INFORMATION

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

- The WPAP application for this project was approved by letter dated June 1, 2012. A copy of the approval letter is attached at the end of this application.
- The WPAP application for this project was submitted to the TCEQ on _____, but has not been approved.
- A WPAP application is required for an associated project, but it has not been submitted.
- There will be no building or structure associated with this project. In the event a building or structure is needed in the future, the required WPAP will be submitted to the TCEQ.
- The proposed AST is located on the Transition Zone and a WPAP is not required.

23. This facility is subject to the requirements for the reporting and cleanup of surface spills and overfills pursuant to 30 TAC 334 Subchapter D relating to Release Reporting and Corrective Action.

24. 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.

25. Any modification of this AST Facility Plan application will require executive director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **ABOVEGROUND STORAGE TANK FACILITY PLAN APPLICATION** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Cara C. Tackett, P.E.
Print Name of Customer/Agent


Signature of Customer/Agent

10/29/12
Date

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 24, 2014

Mr. Steve Braha
IH-10/Loop 1604 Partners, Ltd.
9100 IH-10 West, Suite 230
San Antonio, TX 78230

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: Landmark Apartments (AKA Medistar Victory Medical Center); Located on the southwest of the intersection of Vance Jackson and Victory Lane; San Antonio, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan Modification (WPAPMOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Investigation No. 1129429; Regulated Entity No. RN106376296; Additional ID No. 13-13110602

Dear Mr. Braha:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the San Antonio Regional Office by Pape-Dawson Engineers, Inc. on behalf of IH-10/Loop 1604 Partners, Ltd. on November 6, 2013. Final review of the WPAP Modification was completed after additional material and received on January 15, 2014, and February 3, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The site project limits encompass several sites formerly part of a 463-acre parent tract, previously identified as Fiesta Northwest Crossing/Umbell Oaks. This 17.50-acre area currently proposed for development was previously authorized under a WPAP titled "The Landmark" (EAPP File No. 2795.00, approved by letter dated July 16, 2008) and a WPAP modification titled "The Landmark-Office One" (EAPP File No. 2795.01, approved by letter dated August 22, 2008). These approvals have subsequently expired, and no extensions to time were granted.

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Medistar Victory Medical Center was approved on June 1, 2012. The legal boundary of the site is 98.7 acres. The project limits within the site is 36.66 acres designated for multi-story hospital development. The impervious cover for the 36.66 acre development is approximately 4.6 acres. A dual chamber sedimentation/filtration basin was designed to provide treatment for the entire 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover.

PROJECT DESCRIPTION

The proposed commercial project will include the construction of multi-family apartments, retail complex, amenities, and associated roads and infrastructure. Of the 17.50 acres, only 7.30 acres drains to the Edwards Aquifer Recharge Zone. The impervious cover of the 7.30 acres will be 4.87 acres (66.1 percent). Project wastewater will be disposed of by conveyance to the existing Leon Creek Water Recycling Center owned by the San Antonio Water System.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing dual chamber sedimentation/filtration basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), has been constructed to treat storm water runoff. The required total suspended solids (TSS) treatment for this project is 3,974 pounds of TSS generated from the 4.87 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The existing dual sedimentation/filtration basin is designed to provide treatment for the 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover. With approved and proposed impervious cover the total is 8.99 acres. The basin has a designed TSS removal of 23,213 lb/yr (9,122 lb/yr required). The basin has a designed water quality volume of 130,314 ft³ (107,599 ft³ required). The filtration system for the basin will consist of 12,476 square feet of sand (3,054 square feet required) with an ASTM rating of C-33, which is 18 inches thick and an underdrain piping system covered with a minimum two inch gravel layer.

The individual treatment measure consists of a dual chamber sedimentation/filtration basin designed to provide treatment for the entire 34.08 acre watershed with an ultimate development build-out of 25.28 acres (20,628 lbs) impervious cover. The remaining impervious cover to be treated is 15.79 acres (12,885 lbs).

GEOLOGY

According to the geologic assessment included with the application, the site is underlain by the Eagle Ford Shale, the Buda Limestone, and the Del Rio Clay, and the Cyclic, and the Marine of the Person Formation. No sensitive geologic or manmade features were located within the site. Four faults were also identified in the assessment and were rated as non-sensitive by the project geologist. The San Antonio Regional Office site assessment conducted on December 20, 2013 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 1, 2012.

- II. All sediment and/or media removed from the water quality basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the

boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

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 San Antonio Regional Office within 30 days of site completion.

18. The applicant shall be 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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

19. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
20. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
21. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Monica Reyes of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4012.

Sincerely,



Lynn Bumgardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LMB/MR/eg

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Song L. Tan, P.E., Pape-Dawson Engineers, Inc.
Mr. Renee Green, P.E., Bexar County Public Works
Mr. George Wissmann, Trinity Glen Rose GCD
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 10, 2014

Mr. Steve Braha
IH-10/Loop 1604 Partners, Ltd.
9100 IH-10 West, Suite 230
San Antonio, Texas 78230

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: Landmark Victory Medical Office Building; Located west of the intersection of Vance Jackson and Victory Lane; San Antonio, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Investigation No. 1193197; Regulated Entity No. RN106376296; Additional ID No. 13-14090401

Dear Mr. Braha:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the San Antonio Regional Office by CobbFendley on behalf of IH-10/Loop 1604 Partners, Ltd. on September 4, 2014. Final review of the WPAP was completed after additional material was received on September 26, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The 3.3167-acre site is a part of a larger 463-acre tract, formerly identified as Fiesta Northwest Crossing/Umbell Oaks. The site that is currently proposed for development was previously authorized under a WPAP entitled "The Landmark: which was approved by letter dated July 16, 2008 and a WPAP modification entitled "The Landmark – Office One" approved by letter dated August 22, 2008. These approvals have subsequently expired.

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In 2012, the Medistar Victory Medical Center WPAP was approved by letter dated June 1, 2012. The 36.66 acre site included the construction of a multi-story hospital with 4.62 acres (12.70 percent) of impervious cover. A sedimentation/filtration basin was designed to provide treatment for the entire 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover.

The Landmark Apartments WPAP modification was approved by letter dated February 24, 2014 for construction of multi-family apartments, retail complex, and associated roads and infrastructure. Of the 17.50 acres, only 7.30 acres drain to the Recharge Zone. The impervious cover totals 4.87 acres (66.10 percent). Project wastewater will be disposed of by conveyance to the existing Leon Creek Water Recycling Center owned by the San Antonio Water System.

PROJECT DESCRIPTION

This WPAP modification proposes the construction of a three story medical office building and associated infrastructure on an approximately 3.3167 acre tract with 2.38 acres (71.76 percent) of impervious cover. Project wastewater will be disposed of by conveyance to the existing Leon Creek Water Recycling Center owned by the San Antonio Water System.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing dual chamber sedimentation/filtration basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), has been constructed to treat storm water runoff. The required total suspended solids (TSS) treatment for this project is 9,686 pounds of TSS generated from the 11.87 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The existing dual sedimentation/filtration basin is designed to provide treatment for the 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover. With approved and proposed impervious cover the total is 11.87 acres. The basin has a designed water quality volume of 129,119 cubic feet (129,119 cubic feet required). The filtration system for the basin consists of 12,476 square feet of sand (10,760 square feet required) meeting ASTM C-33, which is 18 inches thick and an underdrain piping system covered with a minimum two inch gravel layer. The basin has the capacity to treat an additional 13.41 acres of impervious cover.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Eagle Ford Group, the Buda Limestone, the Del Rio Clay and the Person Formation. Four faults assessed as non-sensitive were noted by the project geologist. The San Antonio Regional Office site assessment conducted on October 3, 2014 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 1, 2012 and the WPAP modification approval letter dated February 24, 2014.
- II. All sediment and/or media removed from the permanent pollution abatement measure during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. 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 San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be 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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or

ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Dianne Pavlicek, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4074.

Sincerely,



Lynn Bumgardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LB/DP/eg

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Travis M. McCoy, P.E., CobbFendley
Mr. Scott Halty, San Antonio Water System
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 2, 2015

Mr. Marcus C. Moreno
IH 10/Loop 1604 Partners, LTD.
10003 N.W. Military Hwy, Suite 2205
San Antonio, Texas 78231

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: The Landmark Anthem Parkway; Located on the southeast side of the IH 10 and Loop 1604 interchange; San Antonio, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Investigation No. 1261706; Regulated Entity No. RN106376296; Additional ID No. 13-15062901

Dear Mr. Moreno:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP modification for the above-referenced project submitted to the San Antonio Regional Office by Macina, Bose, Copeland & Associates, Inc. on behalf of IH 10/Loop 1604 Partners, LTD. on June 29, 2015. Final review of the WPAP modification was completed after additional material was received on August 12, 2015 and August 21, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The 3.3167-acre site is a part of a larger 463-acre tract, formerly identified as Fiesta Northwest Crossing/Umbell Oaks. The site that is currently proposed for development was previously authorized under a WPAP entitled "The Landmark: which was approved by letter dated July 16, 2008 and a WPAP modification entitled "The Landmark – Office One" approved by letter dated August 22, 2008. These approvals have subsequently expired, and no extensions to time were granted.

In 2012, the Medistar Victory Medical Center WPAP was approved by letter dated June 1, 2012. The 36.66 acre site included the construction of a multi-story hospital with 4.62 acres (12.70 percent) of impervious cover. A sedimentation/filtration basin was designed to provide treatment for the entire 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover.

The Landmark Apartments WPAP modification was approved by letter dated February 24, 2014 for construction of multi-family apartments, retail complex, and associated roads and infrastructure. Of the 17.50 acres, only 7.30 acres drain to the Recharge Zone. The impervious cover totals 4.87 acres (66.10 percent).

The Landmark Victory Medical Office Building WPAP modification was approved by letter dated October 10, 2014 for construction of a three story medical office building and associated infrastructure on an approximately 3.3167 acre tract with 2.38 acres (71.76 percent) of impervious cover.

PROJECT DESCRIPTION

This WPAP modification proposes the construction of a variable width right of way (Anthem Parkway), a multi-story office building and associated parking garage along Anthem Parkway on a 7.40 acre tract with 5.34 acres (72.16 percent) of impervious cover. Of the 5.34 acres of impervious cover, only 2.39 acres drain to the Recharge Zone. Project wastewater will be disposed of by conveyance to the existing Leon Creek Water Recycling Center owned by the San Antonio Water System.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing dual chamber sedimentation/filtration basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), has been constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 11,636 pounds of TSS generated from the 14.26 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The existing dual sedimentation/filtration basin is designed to provide treatment for the 34.08 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover. With approved and proposed impervious cover the total is 14.26 acres. The basin has a designed water quality volume of 129,119 cubic feet (129,119 cubic feet required). The filtration system for the basin consists of 12,476 square feet of sand (10,760 square feet required) meeting ASTM C-33, which is 18 inches thick and an underdrain piping system covered with a minimum two inch

gravel layer. The basin has the capacity to treat an additional 11.02 acres of impervious cover, as calculated using TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005).

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Eagle Ford Group, the Buda Limestone, the Del Rio Clay and the Person Formation. One fault assessed as non-sensitive was noted by the project geologist. The San Antonio Regional Office did not conduct a site assessment.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated June 1, 2012 and the WPAP modification approval letters dated February 24, 2014 and October 10, 2014.
- II. All sediment and/or media removed from the permanent pollution abatement measure during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and

Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the 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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. 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 San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be 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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be

Mr. Marcus c. Moreno
September 2, 2015
Page 6

submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Dianne Pavlicek-Mesa, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4074.

Sincerely,



Lynn Bumguardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LB/DPM/eg

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Richard W. Hendrix, P.E., Macina, Bose, Copeland & Associates, Inc.
Mr. Scott Halty, San Antonio Water System
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

ATTACHMENT B
NARRATIVE OF PROPOSED MODIFICATION

FORM 0590 ATTACHMENT

ATTACHMENT “B” – Narrative of Proposed Modification

The purpose of this WPAP modification is to elaborate on the proposed 12.139-acre tract project site and previously approved WPAP as explained in this attachment. The existing dual chamber sedimentation/filtration basin was designed to provide treatment for the entire 35.45 acre watershed with an ultimate development build-out of 25.28 acres of impervious cover.

The previously approved Water Pollution Abatement Plan (WPAP) RN106376296 of Medistar Victory Medical Center, located southeast of the intersection of IH-10 and Loop 1604 of the project site. The proposed regulated activities will occur in 98.7 acres, the project limits within the site is 35.45 acres, located over the recharge zone and contributing zone, within the transition zone which drains back onto the recharge zone. The impervious cover consisted of 4.6 acres (12.98%) which was approved for the site development that incorporated the following features:

- A multi-story hospital building
- Paved entry roads accessing the site from Loop 1604, entrances, connecting drives, parking and sidewalk
- A service dock to accommodate delivery trailers
- Dumpsters and trash compactors
- Medical and red bag waste disposal storage facilities
- Medical gas storage pad
- An AST Facility for hospital generators, a separate aboveground storage tank facility plan was previously submitted and approved

The previously approved Water Pollution Abatement Plan (WPAP) RN106376296 of Landmark Apartments (AKA Medistar Victory Medical Center) located on the southwest of the intersection of Vance Jackson and Victory Lane is a commercial project which includes the construction of multi-family apartments, retail complex, amenities, and associated roads and infrastructure. Of the 17.50 acres, only 7.30 acres drains to the Edwards Aquifer Recharge Zone. The impervious cover to the 35.45 acres will be 4.87 acres (13.74%).

The previously approved Water Pollution Abatement Plan (WPAP) Modification RN105504161 of The Landmark Anthem Parkway is located northwest of the intersection of Interlace and Landmark Parkway. Landmark Anthem Parkway is a commercial project that included the

construction of multi-story office building, parking garage, and associated roads and infrastructure. Of the 7.4014 acres, only 2.714 acres drains to the Edwards Aquifer Recharge Zone. The impervious cover to the 35.45 acres will be 2.39 acres (6.74%).

This 35.45 acre tract area currently proposed for development was previously authorized under a WPAP titled “The Landmark – Office One” RN105504161, which the project area of 12.139 acres within the 98.1 acre site, it includes the construction of several office/retail buildings with associated parking. The impervious cover that lies within or drains back to the recharge catchment area (35.45 acres) will be 8.359 acres (23.58%).

The proposed modification is for the development of a 12.139-acre tract of land that will be developed as several office/retail buildings and associated parking. The entire 35.45-acre site is located in both the Recharge Zone and the Contributing Zone within the Transition Zone within the Upper Leon Creek Watershed. The additional impervious cover to the 35.45 acres will be 8.359 acres (23.58%). Only 9.813 acres out of the 12.139-acre development will be conveyed towards BMPs and the remaining 2.325 acres will runoff away from proposed BMPs honoring the existing watershed. Please reference the exhibit titled “Impervious Cover Site Exhibit” for additional impervious cover information. Please note that the Landmark WPAP and The Landmark – Office WPAP Modification have expired.

Total Design I/C to BMP
(25.28 acres)

BMP Impervious Cover (I/C) Summary		
WPAP	Date	Proposed I/C to BMP (ac)
Medistar Victory Medical Center WPAP	June 1, 2012	4.62
Landmark Apartments WPAP Mod	February 24, 2014	4.87
Landmark Victory Medical Office Building WPAP Mod	October 10, 2014	2.38
The Landmark Anthem Parkway WPAP Modification	September 2, 2015	2.39
Previous Total		14.26
Proposed Modification of the Landmark Anthem Parkway WPAP	Proposed Modification I/C (12.139 acres)	8.36
Proposed Total		22.62
Remaining I/C to BMP		2.66

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M \text{ TOTAL PROJECT}}$ = Required TSS removal resulting from the proposed development = 80% of increased load

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Bexar	
Total project area included in plan * =	35.45	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	22.62	acres
Total post-development impervious cover fraction * =	0.64	
P =	30	inches

$L_{M \text{ TOTAL PROJECT}}$ = **18458** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **1**

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

Drainage Basin/Outfall Area No. = **1**

Total drainage basin/outfall area =	35.45	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	22.62	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M \text{ THIS BASIN}}$ =	18458	lbs.



3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Sand Filter**
Removal efficiency = **89** percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

A_C = Total On-Site drainage area in the BMP catchment area

A_I = Impervious area proposed in the BMP catchment area

A_P = Pervious area remaining in the BMP catchment area

L_R = TSS Load removed from this catchment area by the proposed BMP

A_C = **35.45** acres

A_I = **25.28** acres

A_P = 10.17 acres
L_R = 23501 lbs

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

Desired L_{M THIS BASIN} = 18458 lbs.

F = 0.79

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

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.04 inches
Post Development Runoff Coefficient = 0.52
On-site Water Quality Volume = 69467 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres
Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 13893

Total Capture Volume (required water quality volume(s) x 1.20) = 83361 cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr Enter determined permeability rate or assumed value of 0.1
Irrigation area = NA square feet
NA acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = 83361 cubic feet

Minimum filter basin area = 3859 square feet

Maximum sedimentation basin area = 34734 square feet

Minimum sedimentation basin area = 8683 square feet For minimum water depth of 2 feet

For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

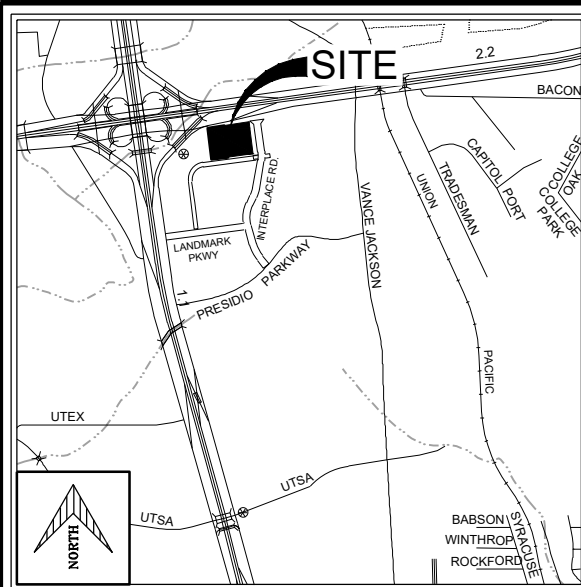
Water Quality Volume for combined basins = 83361 cubic feet

Minimum filter basin area = 6947 square feet

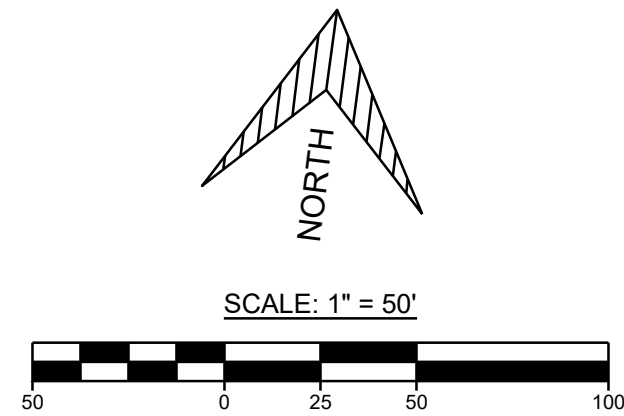
Maximum sedimentation basin area = 27787 square feet

Minimum sedimentation basin area = 1737 square feet For minimum water depth of 2 feet

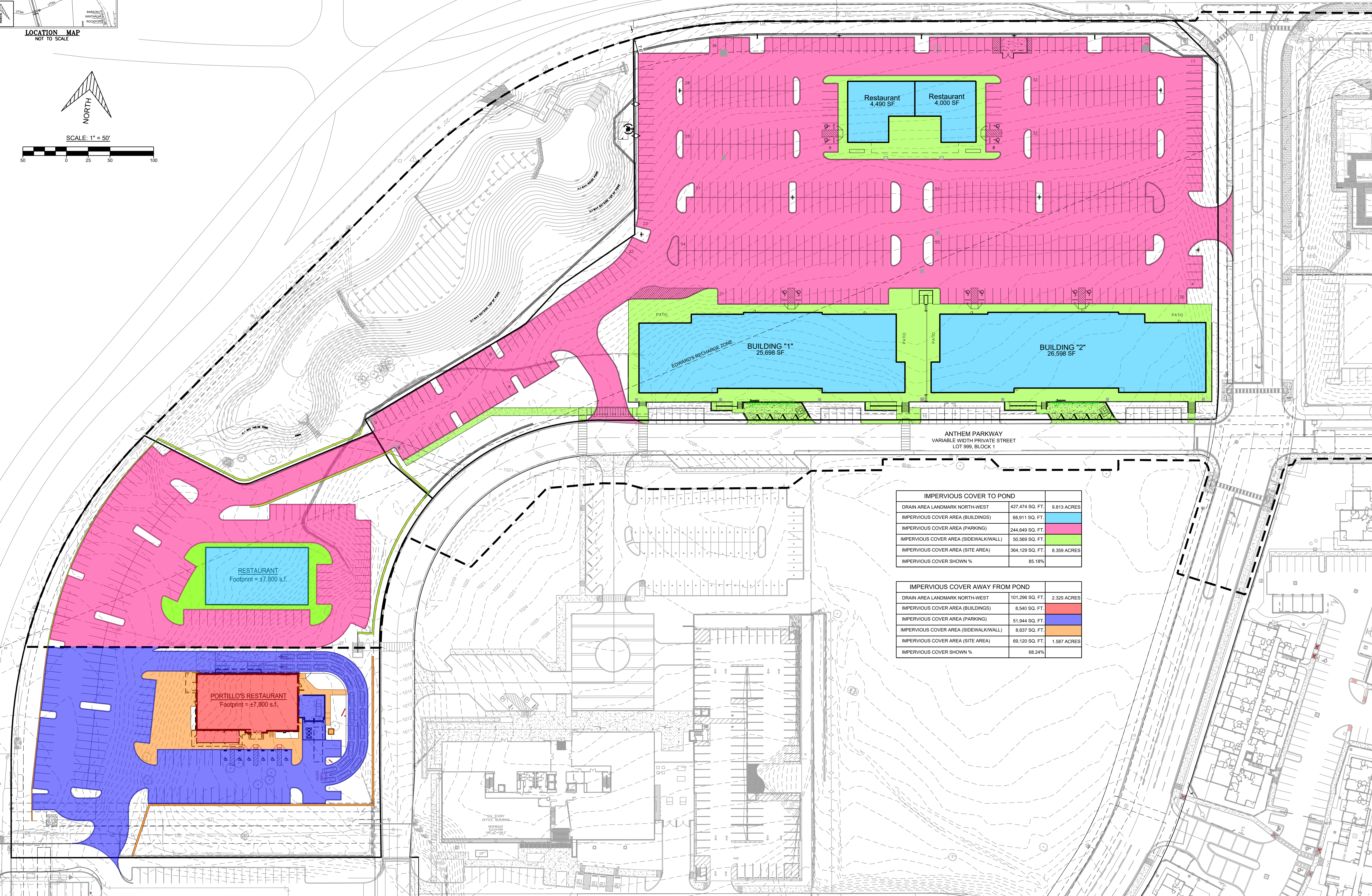
For maximum water depth of 8 feet



LOCATION MAP
NOT TO SCALE



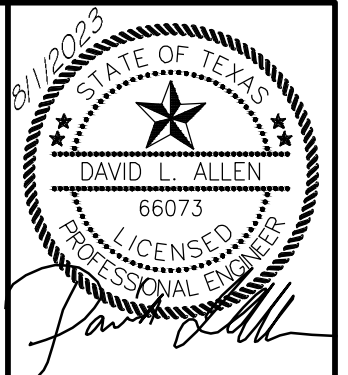
LOOP 1604 FRONTAGE ROAD



IMPERVIOUS COVER TO POND		
DRAIN AREA LANDMARK NORTH-WEST	427,474 SQ. FT.	9.813 ACRES
IMPERVIOUS COVER AREA (BUILDINGS)	68,911 SQ. FT.	
IMPERVIOUS COVER AREA (PARKING)	244,649 SQ. FT.	
IMPERVIOUS COVER AREA (SIDEWALK/WALL)	50,569 SQ. FT.	
IMPERVIOUS COVER AREA (SITE AREA)	364,129 SQ. FT.	8.359 ACRES
IMPERVIOUS COVER SHOWN %	85.18%	

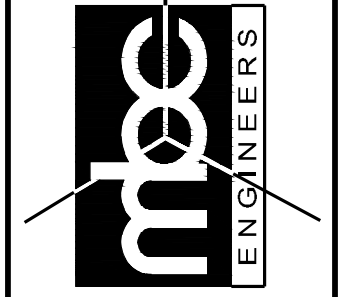
IMPERVIOUS COVER AWAY FROM POND		
DRAIN AREA LANDMARK NORTH-WEST	101,296 SQ. FT.	2.325 ACRES
IMPERVIOUS COVER AREA (BUILDINGS)	8,540 SQ. FT.	
IMPERVIOUS COVER AREA (PARKING)	51,944 SQ. FT.	
IMPERVIOUS COVER AREA (SIDEWALK/WALL)	8,637 SQ. FT.	
IMPERVIOUS COVER AREA (SITE AREA)	69,120 SQ. FT.	1.587 ACRES
IMPERVIOUS COVER SHOWN %	68.24%	

ANHEM PARKWAY
VARIABLE WIDTH PRIVATE STREET
LOT 999, BLOCK 1



PRIMARY CONTACT:
RICHARD HENDRIX, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9002 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700



LANDMARK NORTH & WEST
SAN ANTONIO, TEXAS
IMPERVIOUS COVER - SITE

REVISIONS:	DATE	DESCRIPTION	BY

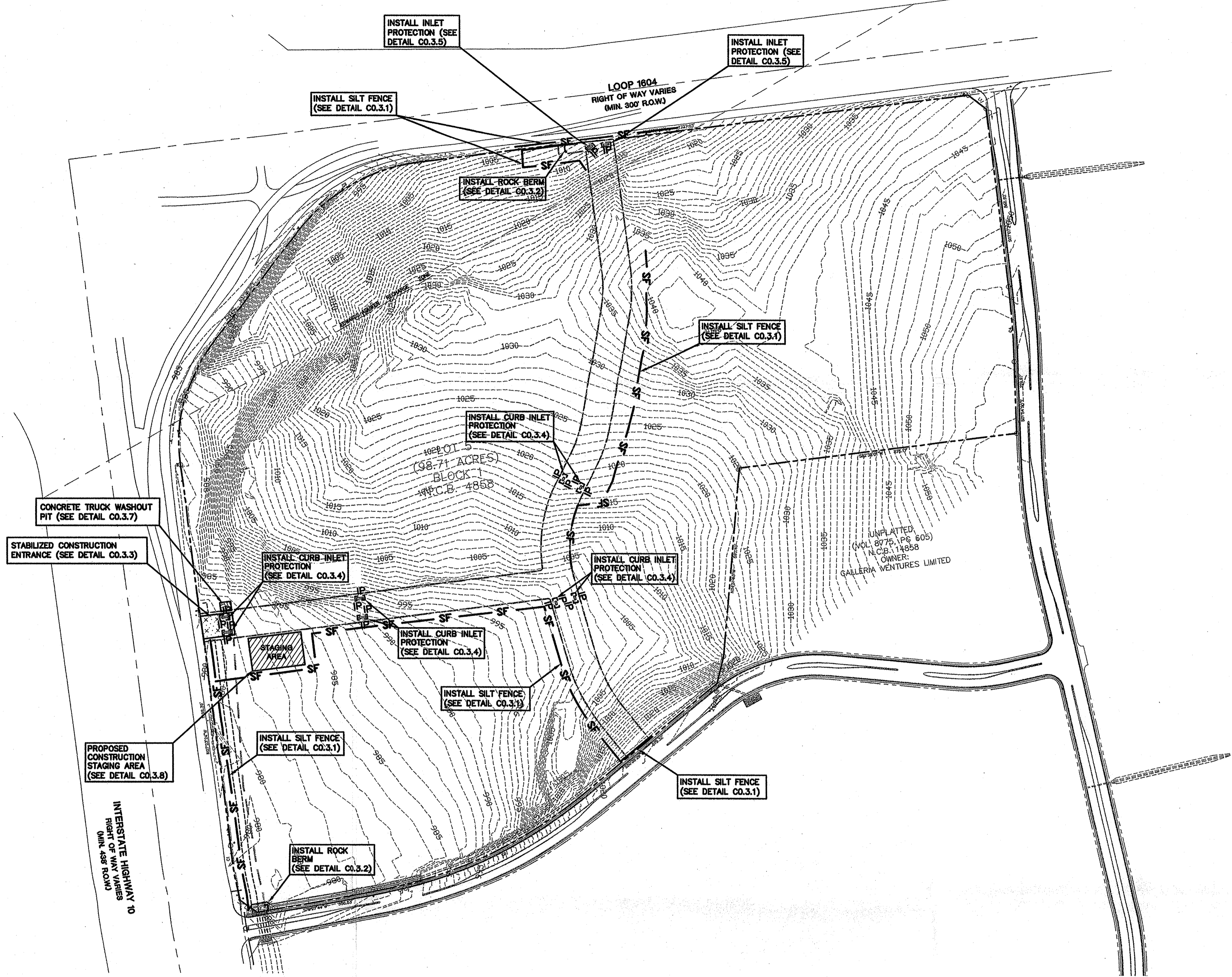
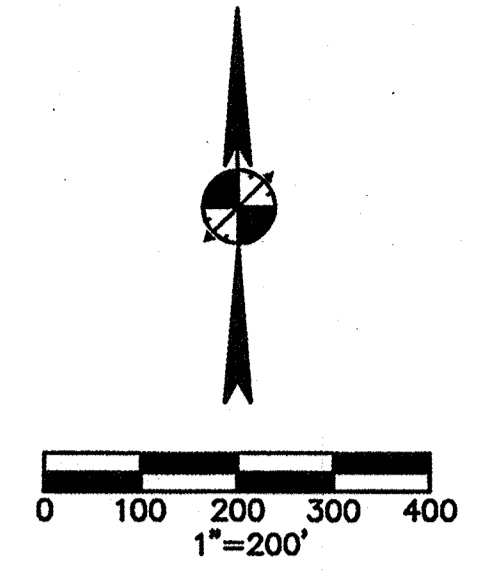
PLAT ID#	
APP#	
DESIGN	RH
DRAWN	GM
CHECKED	DLA
DATE	03/21/2023
JOB NO.	30371-0976

EX-24

Date: Aug 01, 2023, 10:11am User: D. hendrix Layout: C11-00-OVERALL SITE PLAN File: P:\076\30371-Fulcrum\landmark\Design\trac\Design\Design\Exhibit04-northwest trail impervious cover WP\04-30371.dwg Layout name: C11-00-OVERALL SITE PLAN

LEGEND

EXISTING	PROPOSED	DESCRIPTION
●	○	1/2" IRON ROD FOUND
○	○	1/2" IRON ROD SET
○	○	IRON PIPE FOUND
○	○	NAIL FOUND
○	○	COMPUTED POINT
○	○	MONUMENT FOUND
○	○	POINT OF BEGINNING
○	○	BENCHMARK
○	○	RECORD INFORMATION
○	○	LIGHT POLE
○	○	POWER POLE
○	○	DOWN GUY
○	○	FIRE HYDRANT
○	○	WATER VALVE
○	○	WATER METER
○	○	GAS METER
○	○	GAS VALVE
○	○	WOOD FENCE
○	○	CHAIN LINK FENCE
○	○	WIRE FENCE
○	○	ELECTRICAL MANHOLE
○	○	WASTEWATER MANHOLE
○	○	STORMSEWER MANHOLE
○	○	WATER MANHOLE
○	○	CLEAN OUT
○	○	DRAINAGE INLET
○	○	CURB INLET
○	○	CURB & GUTTER
○	○	HANDICAPPED PARKING SPACE
○	○	SIGN
○	○	VARIABLE HEIGHT CONCRETE RETAINING WALL
○	○	ELECTRIC PULL BOX
○	○	ELECTRIC METER
○	○	ELECTRIC TRANSFORMER
○	○	TELEPHONE SERVICE BOX
○	○	BOLLARD
○	○	OVER HEAD ELEC. LINE
○	○	OVER HEAD TELEPHONE
○	○	STORM SEWER LINE
○	○	WATER LINE
○	○	FIRE WATER LINE
○	○	DOMESTIC WATER LINE
○	○	LANDSCAPE WATER LINE
○	○	WASTEWATER LINE
○	○	UNDERGROUND ELECTRIC
○	○	UNDERGROUND TELEPHONE
○	○	GAS LINE
○	○	PROPERTY LINE
○	○	CONTOUR
○	○	SPOT ELEVATION
○	○	FLOW DIRECTION
○	○	CONCRETE SURFACE
○	○	LIMITS OF CONSTRUCTION
○	○	ON SITE TREE TO REMAIN
○	○	ON SITE TREE TO BE REMOVED
○	○	FDC (FIRE DEPARTMENT CONNECTION)
○	○	INLET PROTECTION (SEE DETAIL CO.3.4, & CO.3.5)
○	○	SILT FENCE (SEE DETAIL CO.3.1)
○	○	TREE PROTECTION (SEE DETAIL CO.3.6)
○	○	ROCK BERM (SEE DETAIL CO.3.2)
○	○	CONSTRUCTION ENTRANCE (SEE DETAIL CO.3.3)
○	○	STAGING AREA



STORM WATER POLLUTION PREVENTION NOTES

- PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
- INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
- THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
- ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
- THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY, WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE.
- SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
- STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
 - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
 - TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
 - MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
 - PERMANENT EROSION CONTROL: REFER TO LANDSCAPE PLAN FOR PLATING REQUIREMENTS. IF NOT ADDRESSED BY LANDSCAPE PLAN, THE FOLLOWING SHALL APPLY.
 - ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
 - A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
 - THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:

BROADCAST SEEDING:

 - FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
 - FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
 - FERTILIZER SHALL BE A PELLETTED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
 - MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

- HYDRAULIC SEEDING:**
- FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
 - FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
 - FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
 - MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
 - THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)
 - RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
 - SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS.
 - TWO SEEDINGS SHOULD OCCUR DURING PROJECT. FIRST SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND SECOND BY FINAL PUNCH LIST.
- THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE IF LAND, WHICH IT DRAINS.

GENERAL NOTES:

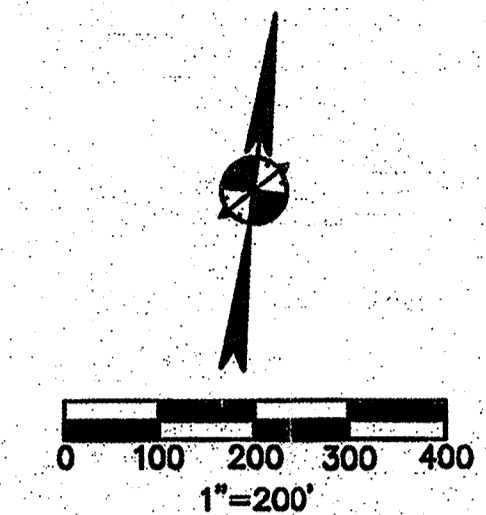
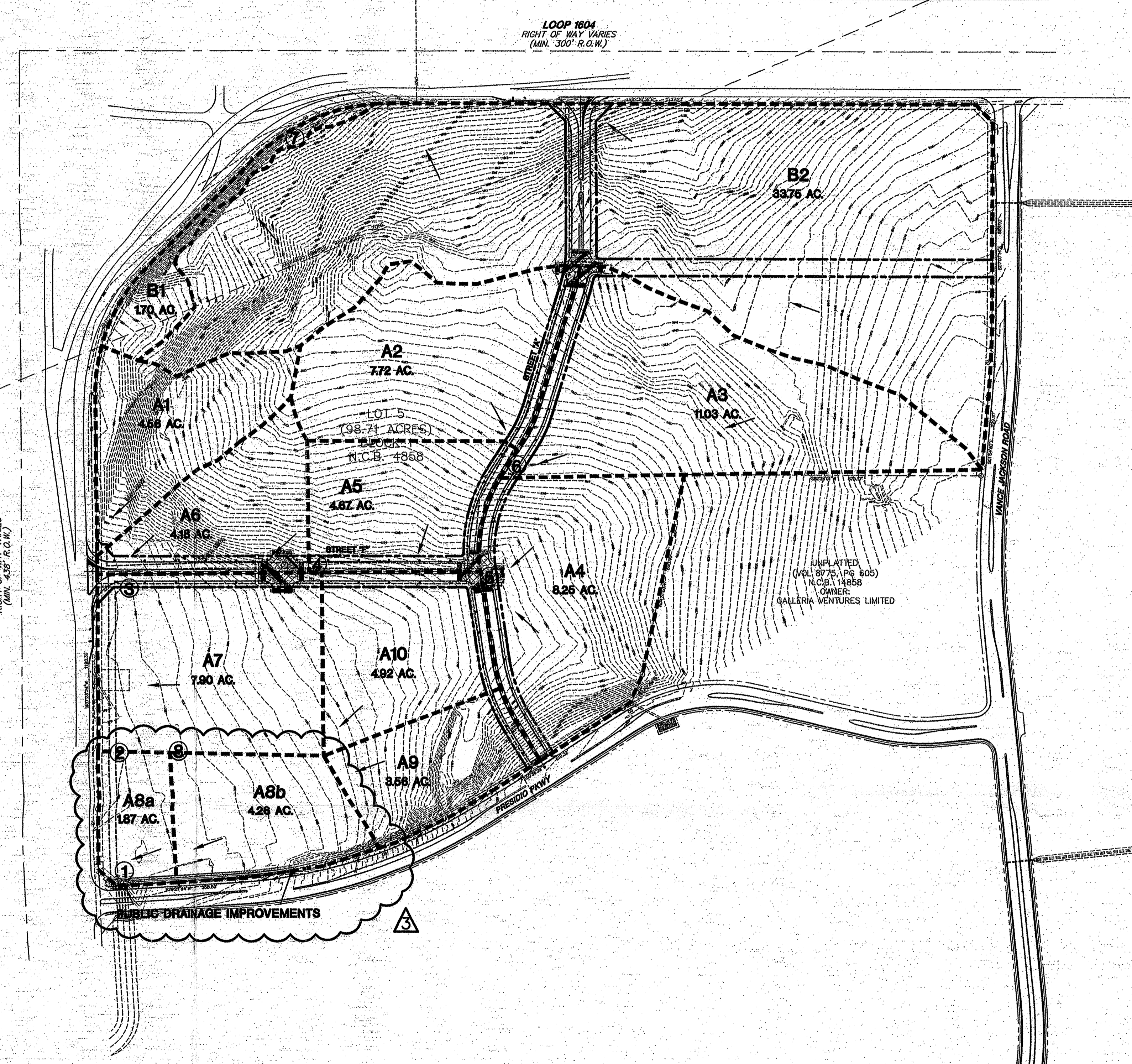
- SOIL STABILIZATION REQUIRED IN AREAS DISTURBED IN ACCORDANCE WITH TCEQ NOTE 9.
- SOIL WILL BE DISTURBED IN ALL AREAS WITHIN LIMITS OF CONSTRUCTION.

BENCHMARKS:

- TBM "A" TxDOT MONUMENT LOCATED IN THE SOUTH RIGHT OF WAY LINE OF LOOP 1604, ±1777' WEST OF VANCE JACKSON ROAD. ELEV=1000.40'
- TBM "B" CUT "X" ON CONCRETE LOCATED AT THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF PRESIDIO PARKWAY AND THE EAST RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 10. ELEV=974.25'
- TBM "C" MAG NAIL SET IN THE SOUTHERLY RIGHT OF WAY OF LOOP 1604 ±450' EAST OF INTERSTATE HIGHWAY 10. ELEV=988.81'
- TBM "D" 1/2 INCH IRON ROD WITH RED BPI CAP LOCATED IN THE CENTER OF PRESIDIO PARKWAY ±1686' EAST OF INTERSTATE HIGHWAY 10. ELEV=1015.34'
- TBM "E" 1/2 INCH IRON ROD WITH VICKERY CAP LOCATED IN THE WEST RIGHT OF WAY LINE OF VANCE JACKSON ±1078' SOUTH OF LOOP 1604. ELEV=1056.47'

LEGAL DESCRIPTION:

LOT 5, BLOCK 1, N.C.B. 14585, REGAL HILLS SUBDIVISION, RECORDED IN VOLUME 9569, PAGE 31, DEED AND PLAT RECORDS, BEKAR COUNTY, TEXAS.



LEGEND

EXISTING	PROPOSED	DESCRIPTION
○	○	1/2" IRON ROD FOUND
○	○	1/2" IRON ROD SET
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○	○	VARIABLE HEIGHT CONCRETE RETAINING WALL
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○	○	PROPERTY LINE
○	○	CONTOUR
○	○	SPOT ELEVATION
○	○	FLOW DIRECTION
○	○	CONCRETE SURFACE

THIS SET OF PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB AT ALL TIMES. OTHERWISE THE JOB IS SUBJECT TO REJECTION IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS ON SAME WITHOUT WRITTEN PERMISSION FROM THE BUILDING INSPECTOR'S OFFICE CITY OF SAN ANTONIO. THE STAMPING OF THIS PLAN AND SPECIFICATIONS SHALL NOT BE HELD TO PERMIT OR TO BE APPROVAL OF THE VIOLATION OF ANY PROVISIONS OF ANY CITY ORDINANCE OR STATE LAW.

CITY OF SAN ANTONIO PROPOSED CONDITIONS

CP	Drainage Area	Area (Ac)	C	Tc (min)	I _s (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	Q _s (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)
A1		4.56	0.80	5.0	6.96	8.76	10.44	25.39	31.56	38.09
A2		7.72	0.80	5.0	6.96	8.76	10.44	42.98	54.10	64.48
A3		11.03	0.80	20.0	4.56	5.88	7.09	40.24	51.71	62.56
A4		8.25	0.80	5.0	6.96	8.76	10.44	45.94	57.82	68.90
A5		4.67	0.80	5.0	6.96	8.76	10.44	26.00	32.73	39.00
A6		4.18	0.80	5.0	6.96	8.76	10.44	23.27	29.29	34.91
A7		7.90	0.80	5.0	6.96	8.76	10.44	43.99	55.36	65.98
A8a		1.87	0.80	5.0	6.96	8.76	10.44	10.41	13.10	15.62
A8b		4.26	0.80	5.0	6.96	8.76	10.44	23.72	29.85	35.58
A9		3.56	0.80	5.0	6.96	8.76	10.44	19.82	24.95	29.75
A10		4.92	0.80	5.0	6.96	8.76	10.44	27.39	34.48	41.09
B1		1.70	0.80	5.0	6.96	8.76	10.44	9.47	11.91	14.20
B2		33.75	0.80	17.0	4.84	6.16	7.42	130.68	166.32	200.34
6 A2+A3		18.75	0.80	20.0	4.56	5.88	7.09	68.40	87.90	108.35
5 A2+A3+A4		27.00	0.80	20.0	4.56	5.88	7.09	98.50	126.58	153.14
4 A2+A3+A4+A5		31.67	0.80	20.0	4.56	5.88	7.09	115.53	148.47	178.63
3 A1+A2+A3+A4+A5+A6		40.41	0.80	22.0	4.39	5.68	6.88	141.92	183.62	222.42
8 A8b+A9+A10		12.74	0.80	5.0	6.96	8.76	10.44	70.94	89.28	106.40
2 A1+A2+A3+A4+A5+A6+A8b+A9+A10		53.15	0.80	23.0	4.30	5.59	6.78	182.84	237.69	288.29
1 A1+A2+A3+A4+A5+A6+A8b+A9+A10		58.02	0.80	24.0	4.22	5.50	6.68	185.75	242.09	294.03
7 B1+B2		35.45	0.80	17.0	4.84	6.16	7.42	137.26	174.70	210.43

TxDOT (BEXAR COUNTY) PROPOSED CONDITIONS

CP	Drainage Area	Area (Ac)	C	Tc (min)	I _s (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	Q _s (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)
A1		4.56	0.80	10.0	7.05	8.07	9.26	25.72	29.44	33.78
A2		7.72	0.80	10.0	7.05	8.07	9.26	43.54	49.84	57.19
A3		11.03	0.80	20.0	5.04	5.78	6.66	44.47	51.00	58.77
A4		8.25	0.80	10.0	7.05	8.07	9.26	46.53	53.28	61.12
A5		4.67	0.80	10.0	7.05	8.07	9.26	26.34	30.15	34.60
A6		4.18	0.80	10.0	7.05	8.07	9.26	23.58	26.99	30.97
A7		7.90	0.80	10.0	7.05	8.07	9.26	44.56	51.00	58.52
A8a		1.87	0.80	10.0	7.05	8.07	9.26	10.55	12.07	13.85
A8b		4.26	0.80	10.0	7.05	8.07	9.26	24.03	27.50	31.56
A9		3.56	0.80	10.0	7.05	8.07	9.26	20.08	22.98	26.37
A10		4.92	0.80	10.0	7.05	8.07	9.26	27.75	31.78	36.45
B1		1.70	0.80	10.0	7.05	8.07	9.26	9.99	10.98	12.59
B2		33.75	0.80	17.0	5.49	6.30	7.25	148.23	170.10	195.75
6 A2+A3		18.75	0.80	20.0	5.04	5.78	6.66	75.60	86.70	99.90
5 A2+A3+A4		27.00	0.80	20.0	5.04	5.78	6.66	108.66	124.85	143.86
4 A2+A3+A4+A5		31.67	0.80	20.0	5.04	5.78	6.66	127.69	146.44	168.74
3 A1+A2+A3+A4+A5+A6		40.41	0.80	22.0	4.78	5.48	6.32	154.53	177.16	204.31

CITY OF SAN ANTONIO
STORM WATER SERVICES DEPARTMENT
PLAN REVIEW DIVISION

2/27/11
For

PUBLIC WORKS
Storm Water Engineering
By: [Signature]
Date: 2/27/11

THE LANDMARK

PLOTTING SCALE: 1" = 1'
DATE: 03-26-08

10/10/07 User: J.P. P...
BLC/PWA/TE-S/1407205-DAL/ANG

BENCHMARKS:

TBM "A" TxDOT MONUMENT LOCATED IN THE SOUTH RIGHT OF WAY LINE OF LOOP 1604, ±1777' WEST OF VANCE JACKSON ROAD.
ELEV=1000.40'

TBM "B" CUT "X" ON CONCRETE LOCATED AT THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF PRESIDIO PARKWAY AND THE EAST RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 10.
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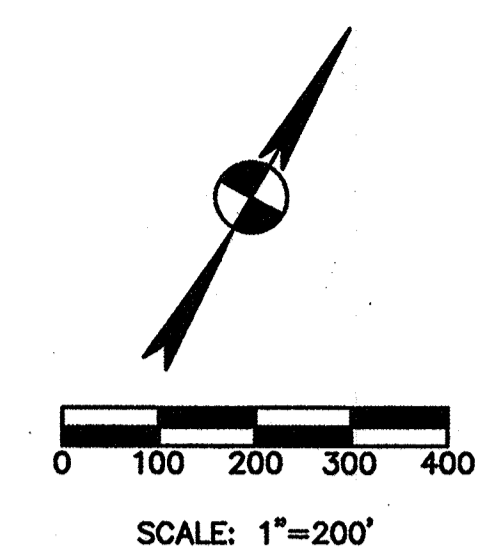
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ELEV=1056.47'

LEGAL DESCRIPTION:

LOT 5, BLOCK 1, N.C.B. 14855, REGAL HILLS SUBDIVISION, RECORDED IN VOLUME 9569, PAGE 31, DEED AND PLAT RECORDS, BEXAR COUNTY, TEXAS.

CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD BEARING	CHORD
C1	1'49"26"	5511.55'	175.45'	87.73'	N08°17'55"W	175.44'
C2	44°59'52"	523.16'	410.87'	216.69'	N15°06'32"E	400.39'
C3	44°59'05"	572.96'	449.85'	237.24'	N60°06'03"E	438.38'
C4	51°2'23"	2957.00'	232.36'	116.26'	S04°31'02"E	232.28'
C5	3'07"11"	535.00'	29.13'	14.57'	S52°12'04"W	29.13'
C6	28°49'15"	1465.00'	736.92'	376.43'	S65°03'06"W	729.18'



LEGEND

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○	○	1/2" IRON ROD FOUND
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⊙	⊙	MONUMENT FOUND
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(XXX)	(XXX)	RECORD INFORMATION
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○	○	WIRE FENCE
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WMH	WMH	WASTEWATER MANHOLE
SSMH	SSMH	STORMSEWER MANHOLE
WTR	WTR	WATER MANHOLE
CO	CO	CLEAN OUT
□	□	DRAINAGE INLET
□	□	CURB INLET
□	□	CURB & GUTTER
□	□	HANDICAPPED PARKING SPACE
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○	○	WATER LINE
○	○	FIRE WATER LINE
○	○	DOMESTIC WATER LINE
○	○	LANDSCAPE WATER LINE
○	○	WASTEWATER LINE
○	○	UNDERGROUND ELECTRIC
○	○	UNDERGROUND TELEPHONE
○	○	GAS LINE
○	○	PROPERTY LINE
○	○	CONTOUR
○	○	SPOT ELEVATION
○	○	FLOW DIRECTION
○	○	CONCRETE SURFACE
○	○	LIMITS OF CONSTRUCTION
○	○	ON SITE TREE TO REMAIN
○	○	ON SITE TREE TO BE REMOVED

Bury+Partners
ENGINEERING SOLUTIONS
922 Iron Rd, Suite 100
San Antonio, TX 78216
Tel: (210)525-9999 Fax: (210)525-6699
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STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER

6/13/08

OVERALL SITE PLAN

THE LANDMARK
IH-10 & LOOP 1604
SAN ANTONIO, TEXAS

PLOTTING SCALE: 1" = 100'
DATE REVISED: 03/27/08
FILE: V:\72\08\67208\SPNDWG
DRAWN BY: BRB
DESIGNED BY: CDA
REVIEWED BY: CDA
PROJECT NO.: 672-06.00

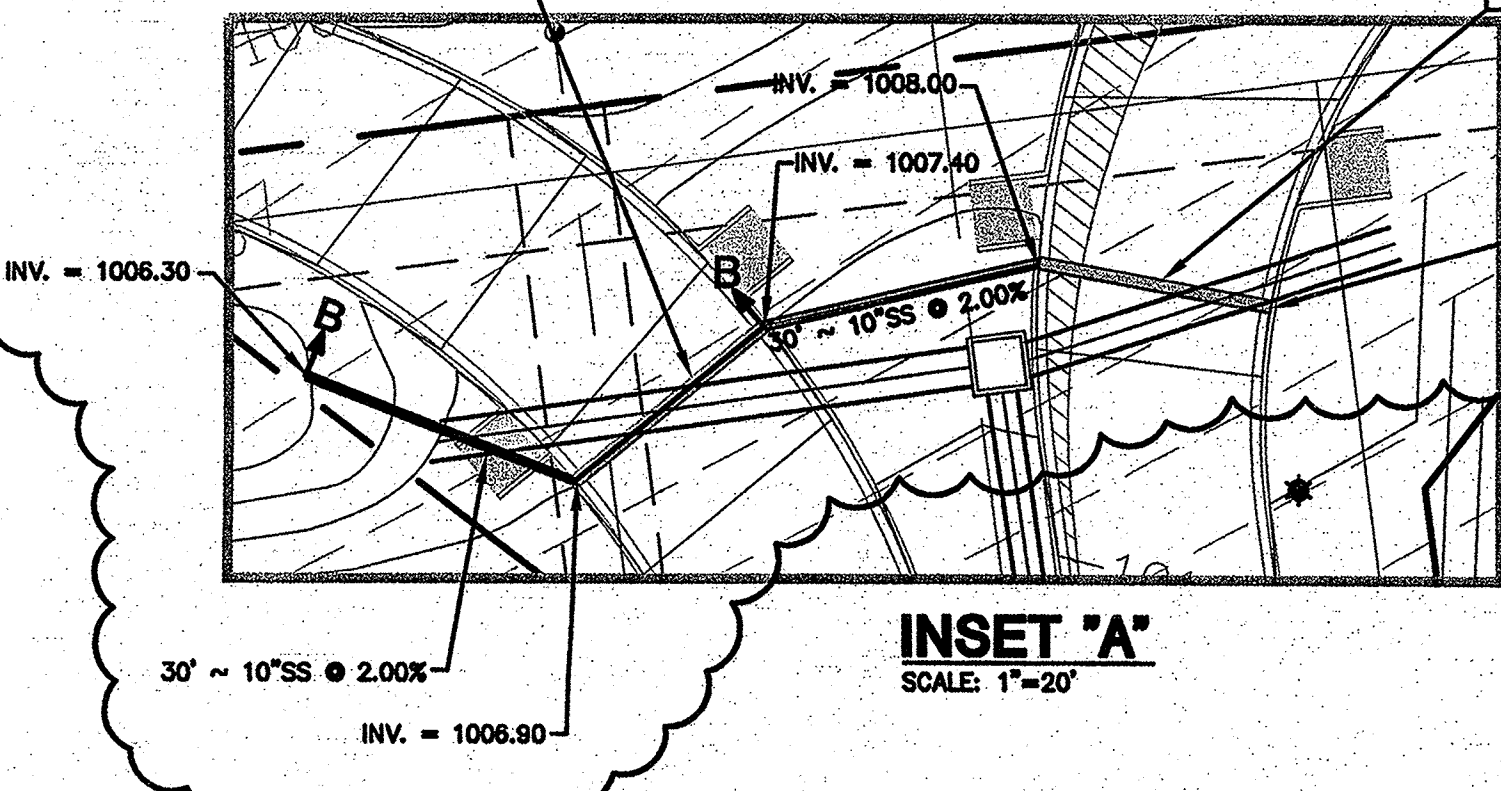
SHEET
C0.4

Date: Jun 13, 2008, 1:17pm User: ID: ewarford
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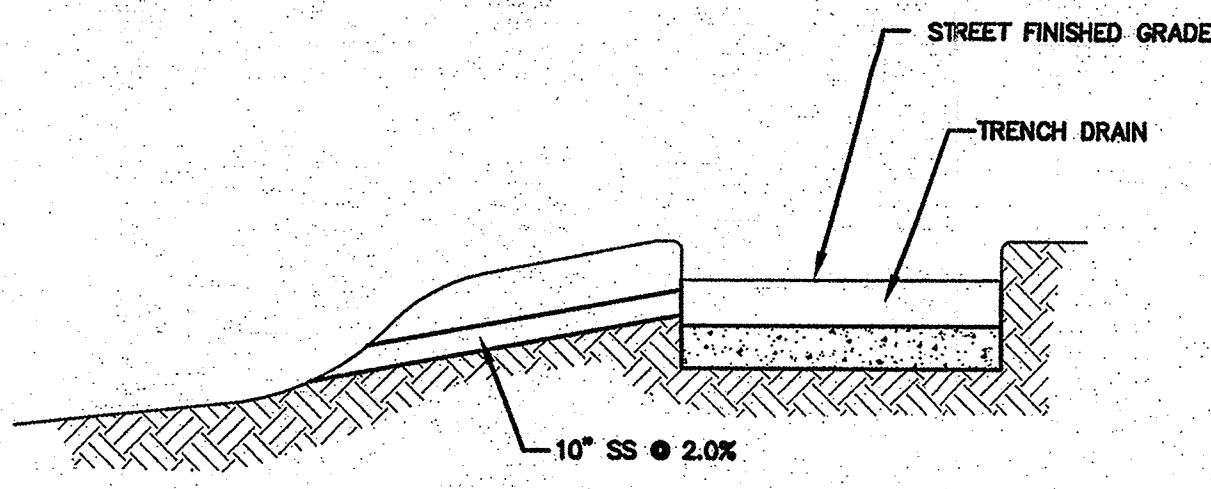
INSTALL:
EAST JORDON IRON WORKS V-7324
BOLTED TRENCH GRATE AND FRAME
WITH NECESSARY FROM ENDS TO TIE
TO 10" S.S. PIPING. CONTACT EAST
JORDON IRON WORKS FOR INSTALLATION
SPECIFICATIONS @ 1-800-626-4653
OR WWW.EJW.COM
TOP = ±1009.45 (TO MATCH FINISHED
GRADE)

INSTALL:
EAST JORDON IRON WORKS V-7324
BOLTED TRENCH GRATE AND FRAME
WITH NECESSARY FROM ENDS TO TIE
TO 10" S.S. PIPING. CONTACT EAST
JORDON IRON WORKS FOR INSTALLATION
SPECIFICATIONS @ 1-800-626-4653
OR WWW.EJW.COM
TOP = ±1009.80 (TO MATCH FINISHED
GRADE)

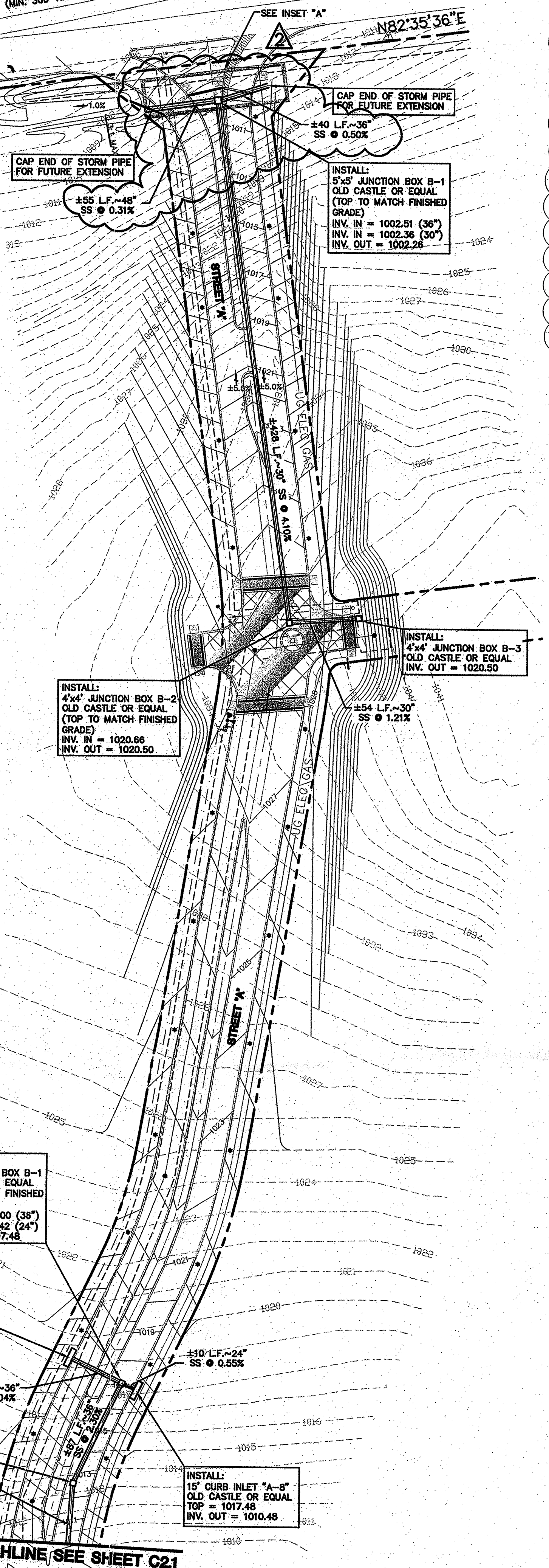
LOOP 1604
RIGHT OF WAY VARIES
(MIN. 300' R.O.W.)



INSET 'A'
SCALE: 1"=20'

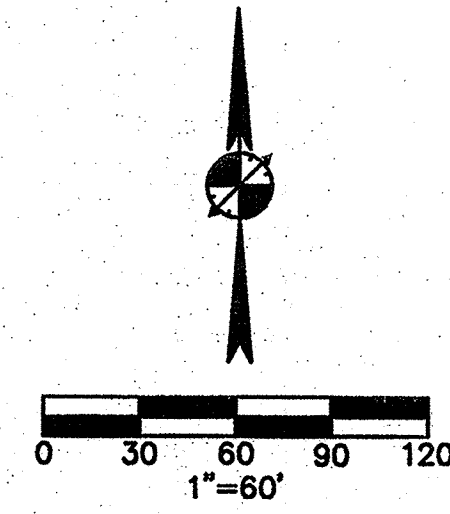


SECTION 'B-B'



STORM SEWER NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE SITE INFORMATION SHEET FOR UTILITY CONTACTS)
 2. VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
 3. COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
 4. THE FOLLOWING STORM SEWER PIPES ARE ALLOWABLE (WITH MANUFACTURER'S SPECS FOR BACKFILL FOLLOWED):
 - A. 12" THRU 48" RCP, D-LOAD DESIGN
 - B. 6" THRU 12" PVC, SDR 35 OR SCH. 40
 - C. 12" THRU 18" GALVANIZED CORRUGATED METAL (2-2/3" x 1/2" CORRUGATED)
 - D. 12" THRU 48" "ULTRAFLO" SPIRAL RIB PIPE (AASHTO M-36 TYPE I.R. WITH GALVANIZED STEEL AS PER AASHTO M-218)
 - E. 6" THRU 36", HDPE
- NOTE:
- A. OPTIONS C & D SHALL NOT BE USED ALONG COASTAL REGIONS OR AREAS WHERE THE EXISTING SOILS ARE CORROSIVE.
 - B. THE ABOVE SHALL BE FOLLOWED UNLESS PIPES ARE TO BE INSTALLED IN PUBLIC ROW OR EASEMENT. IF PIPE IS PART OF PUBLIC SYSTEM, PIPE MATERIAL SHALL FOLLOW REQUIREMENTS OF AUTHORITY HAVING JURISDICTION.
 - C. MANNING'S "N" VALVE SHALL BE 0.013 OR LESS.
5. ALL STORM SEWER INLETS/STRUCTURES SHALL BE PRE-CAST.
 6. GRATE INLETS LOCATED IN THE PEDESTRIAN ACCESS ROUTE OR HIGH TRAFFIC AREAS SHALL BE ADA COMPLIANT.
 7. GROUT/FORM MANHOLE OR INLET TO PROVIDE FOR SMOOTH FLOW OF WATER.



LEGEND

EXISTING	PROPOSED	
○	○	1/2" IRON ROD FOUND
○	○	1/2" IRON ROD SET
○	○	IRON PIPE FOUND
○	○	NAIL FOUND
○	○	COMPUTED POINT
○	○	MONUMENT FOUND
○	○	POINT OF BEGINNING
○	○	BENCHMARK
○	○	RECORD INFORMATION
○	○	LIGHT POLE
○	○	POWER POLE
○	○	DOWN GUY
○	○	FIRE HYDRANT
○	○	WATER VALVE
○	○	WATER METER
○	○	GAS METER
○	○	GAS VALVE
○	○	WOOD FENCE
○	○	CHAIN LINK FENCE
○	○	WIRE FENCE
○	○	ELECTRICAL MANHOLE
○	○	WASTEWATER MANHOLE
○	○	STORMSEWER MANHOLE
○	○	WATER MANHOLE
○	○	CLEAN OUT
○	○	DRAINAGE INLET
○	○	CURB INLET
○	○	CURB & GUTTER
○	○	HANDICAPPED PARKING SPACE
○	○	SIGN
○	○	VARIABLE HEIGHT CONCRETE RETAINING WALL
○	○	ELECTRIC PULL BOX
○	○	ELECTRIC METER
○	○	ELECTRIC TRANSFORMER
○	○	TELEPHONE SERVICE BOX
○	○	BOLLARD
○	○	OVER HEAD ELEC. LINE
○	○	OVER HEAD TELEPHONE
○	○	STORM SEWER LINE
○	○	WATER LINE
○	○	FIRE WATER LINE
○	○	DOMESTIC WATER LINE
○	○	LANDSCAPE WATER LINE
○	○	WASTEWATER LINE
○	○	UNDERGROUND ELECTRIC
○	○	UNDERGROUND TELEPHONE
○	○	GAS LINE
○	○	PROPERTY LINE
○	○	CONTOUR
○	○	SPOT ELEVATION
○	○	FLOW DIRECTION
○	○	CONCRETE SURFACE

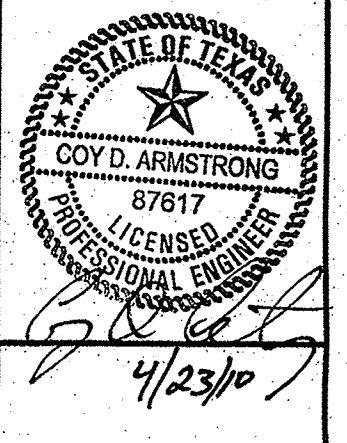
THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project area in order to implement Contractor's trench excavation safety protection systems programs and/or procedures. The Contractor's implementation of the system's programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA standards for trench excavation. Specifically, Contractor and/or contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

NO.	DATE	REVISION	APPROVAL
07-25-08		ADDENDUM 'A'	
4-23-10		CHANGE BULLETIN #2	

Bury+Partners
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TRF# Registration Number F-1048
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**PRIVATE STORM SEWER PLAN
LINE 'B'**

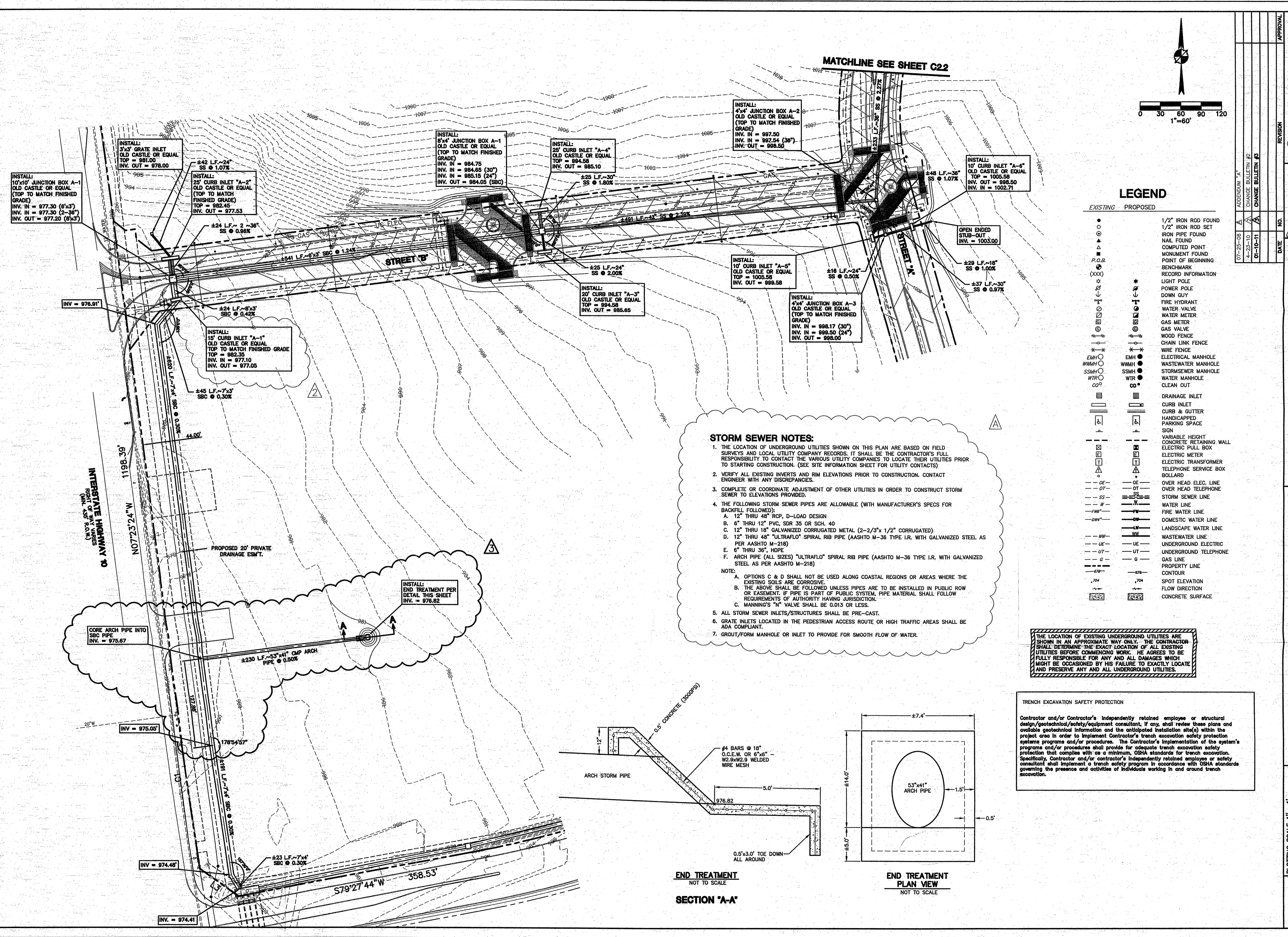
THE LANDMARK
IH-10 & LOOP 1604
SAN ANTONIO, TEXAS

PLOTTING SCALE: 1"= 1'
DATE: 03/28/08
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DRAWN BY: BRB
DESIGNED BY: CE
REVIEWED BY: CDA
PROJECT NO.: 672-06.00

SHEET
C2.2

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Date: Jan 11, 2011, 11:28am User ID: ewarford
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 TWP Registration Number P-1048
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STATE OF TEXAS
 COY D. ARMSTRONG
 87617
 LICENSED PROFESSIONAL ENGINEER

1/10/11

**PRIVATE STORM SEWER PLAN
 LINE 'A'**

**THE LANDMARK
 IH-10 & LOOP 1604
 SAN ANTONIO, TEXAS**

PLOTTING SCALE: 1" = 1'
 DATE REVISED: 03/26/08
 FILE: G:\972\06\PUBLIC\PRIVATE-SS\607200-SS-PSSP-A.dwg
 DRAWN BY: BRB
 DESIGNED BY: CE
 REVIEWED BY: CDA
 PROJECT NO.: 672-06.00

**SHEET
 C2.1**

LEGEND

EXISTING	PROPOSED	DESCRIPTION
○	○	1/2" IRON ROD FOUND
○	○	1/2" IRON ROD SET
○	○	IRON PIPE FOUND
○	○	NAIL FOUND
○	○	COMPUTED POINT
○	○	MONUMENT FOUND
○	○	POINT OF BEGINNING
○	○	BENCHMARK
○	○	RECORD INFORMATION
○	○	LIGHT POLE
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○	○	DOWN GUY
○	○	FIRE HYDRANT
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○	○	SPOT ELEVATION
○	○	FLOW DIRECTION
○	○	CONCRETE SURFACE

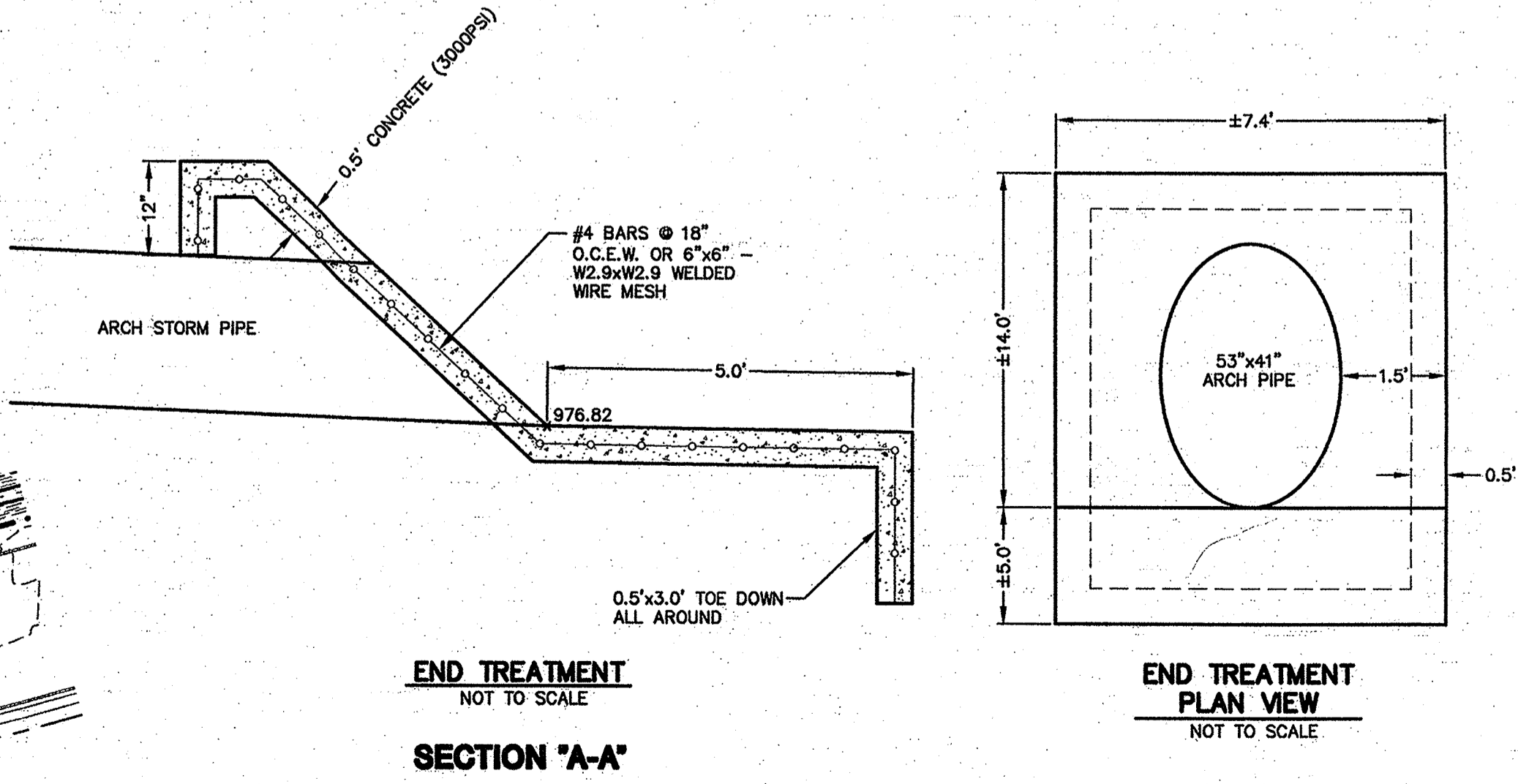
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 - 12" THRU 48" "ULTRAFLO" SPIRAL RIB PIPE (AASHTO M-36 TYPE I.R. WITH GALVANIZED STEEL AS PER AASHTO M-218)
 - 6" THRU 36", HDPE
 - ARCH PIPE (ALL SIZES) "ULTRAFLO" SPIRAL RIB PIPE (AASHTO M-36 TYPE I.R. WITH GALVANIZED STEEL AS PER AASHTO M-218)
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**END TREATMENT
 NOT TO SCALE
 SECTION 'A-A'**

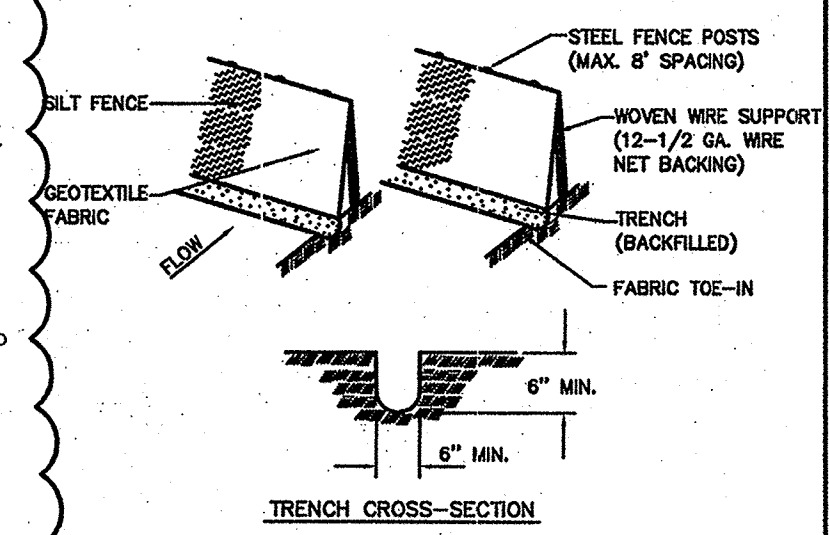
**END TREATMENT
 NOT TO SCALE
 PLAN VIEW**

NOTES:

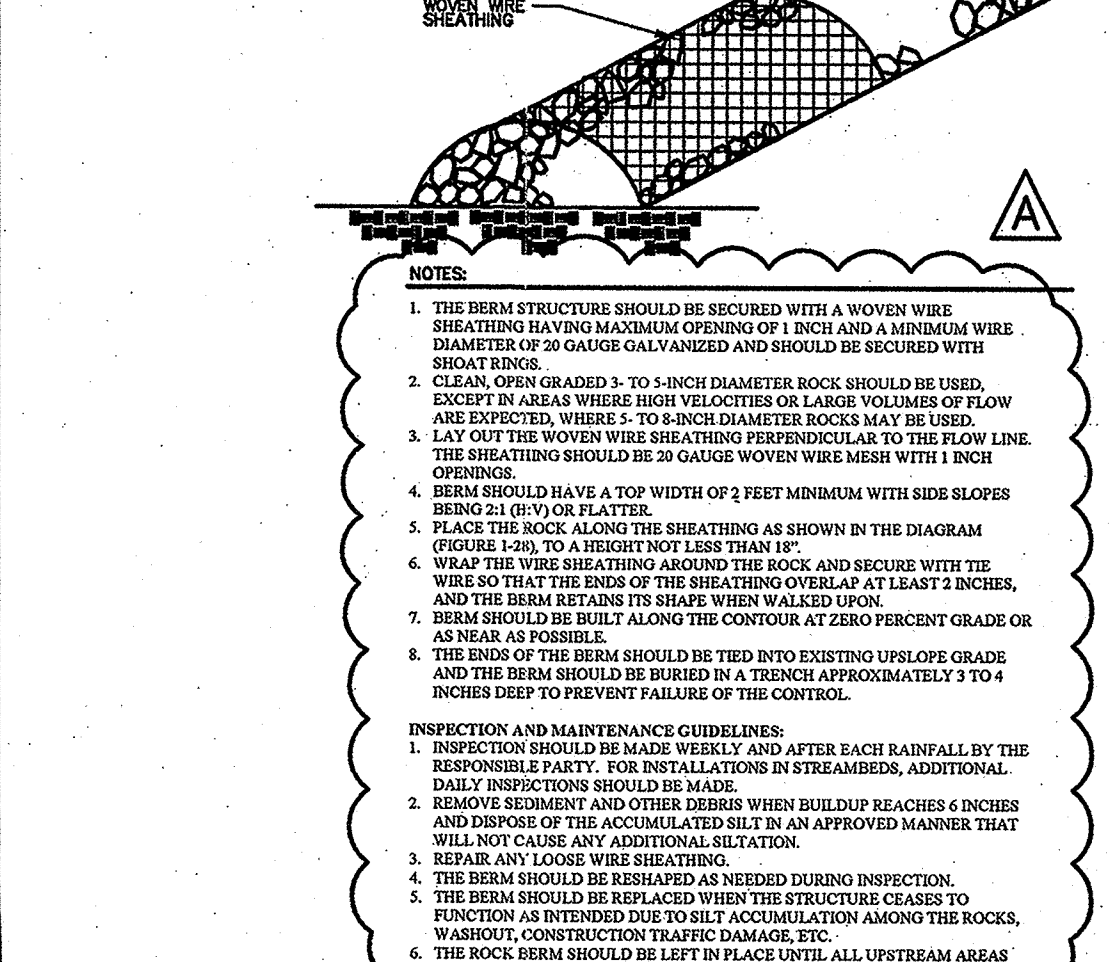
- SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MILLER BURST STRENGTH EXCEEDING 19 LB/LIN, ULTRA-VIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF 0.5 MILS NO. 30.
- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH THE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/LF, AND BRENDEL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM. 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 1/4000 FEET OF FENCE.
- THE TOP 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 OUTCROPS), WEIGHT FABRIC FLAP WITH 3 INCHES OF FRA GRAVEL ON UPSHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 4 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. FABRIC ENDS SHOULD BE COMPLETELY SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPED 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 SECONDARY LINE OF FENCING PARALLEL TO THE TORN SECTION.
- REPAIR OR REPLACE ANY SECTION CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT.



C-0.31 SILT FENCE
SCALE: N.T.S.



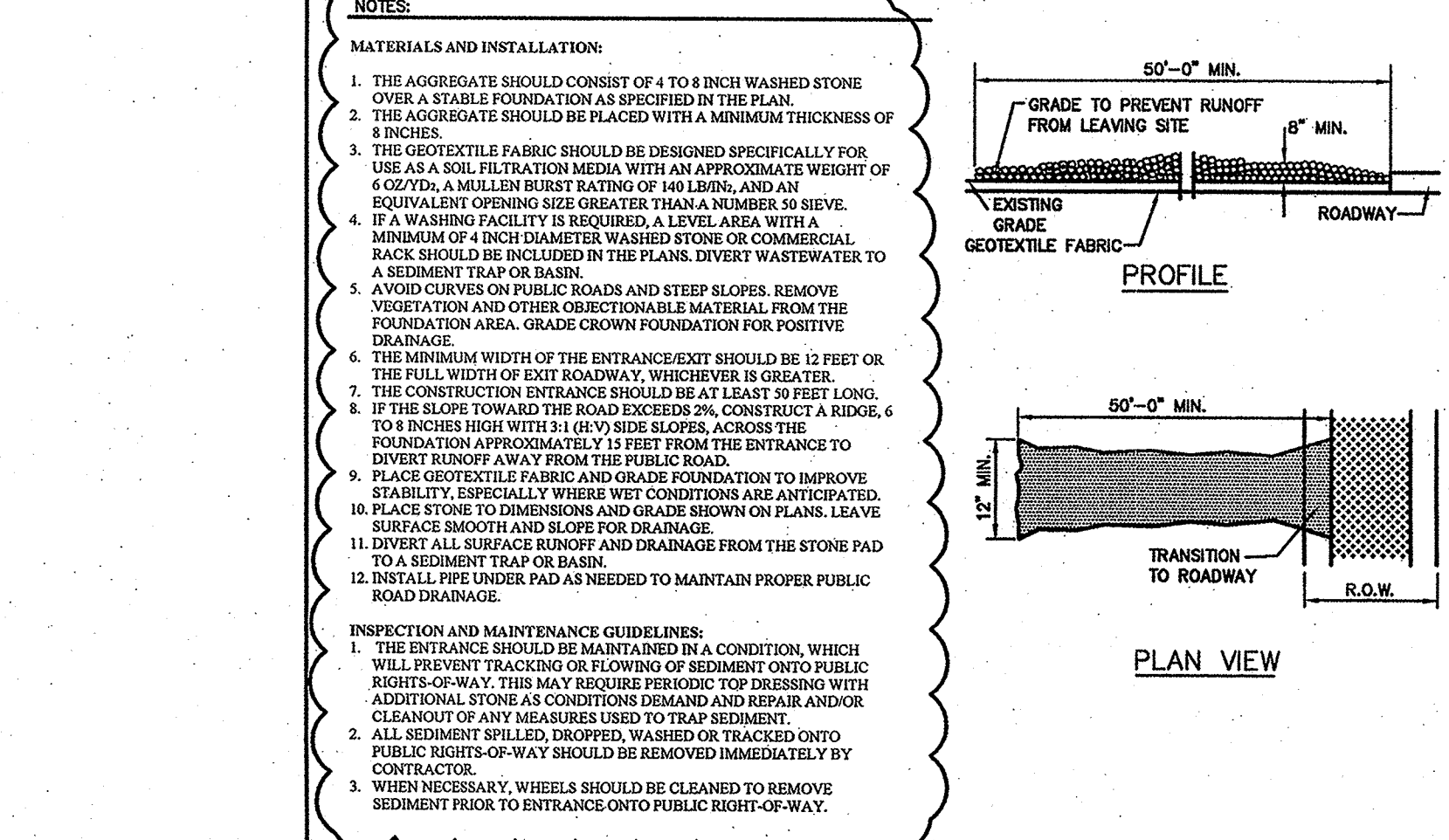
NOTES:

- THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1/2 INCH AND A MINIMUM WIRE DIAMETER OF 30 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SMOOTH RICE.
- CLEAN, OPEN GRADED 3- TO 8-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE STONE VOLUMES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 2- TO 8-INCH DIAMETER ROCKS MAY BE USED.
- LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE BERM LINE. THE SHEATHINGS SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENING.
- BERMS SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM (GRADE 1:00 TO A SLOPE NOT LESS THAN 5%).
- WEAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE END OF THE SHEATHING OVERLAPS AT LEAST 2 INCHES, AND THE BERM REMAINS THE SHAPE WHEN WALKED UPON.
- BERM SHOULD BE 7' ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
- DIKERS 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 FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND GRADE BROWN 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.

C-0.32 ROCK BERM
SCALE: N.T.S.



NOTES:

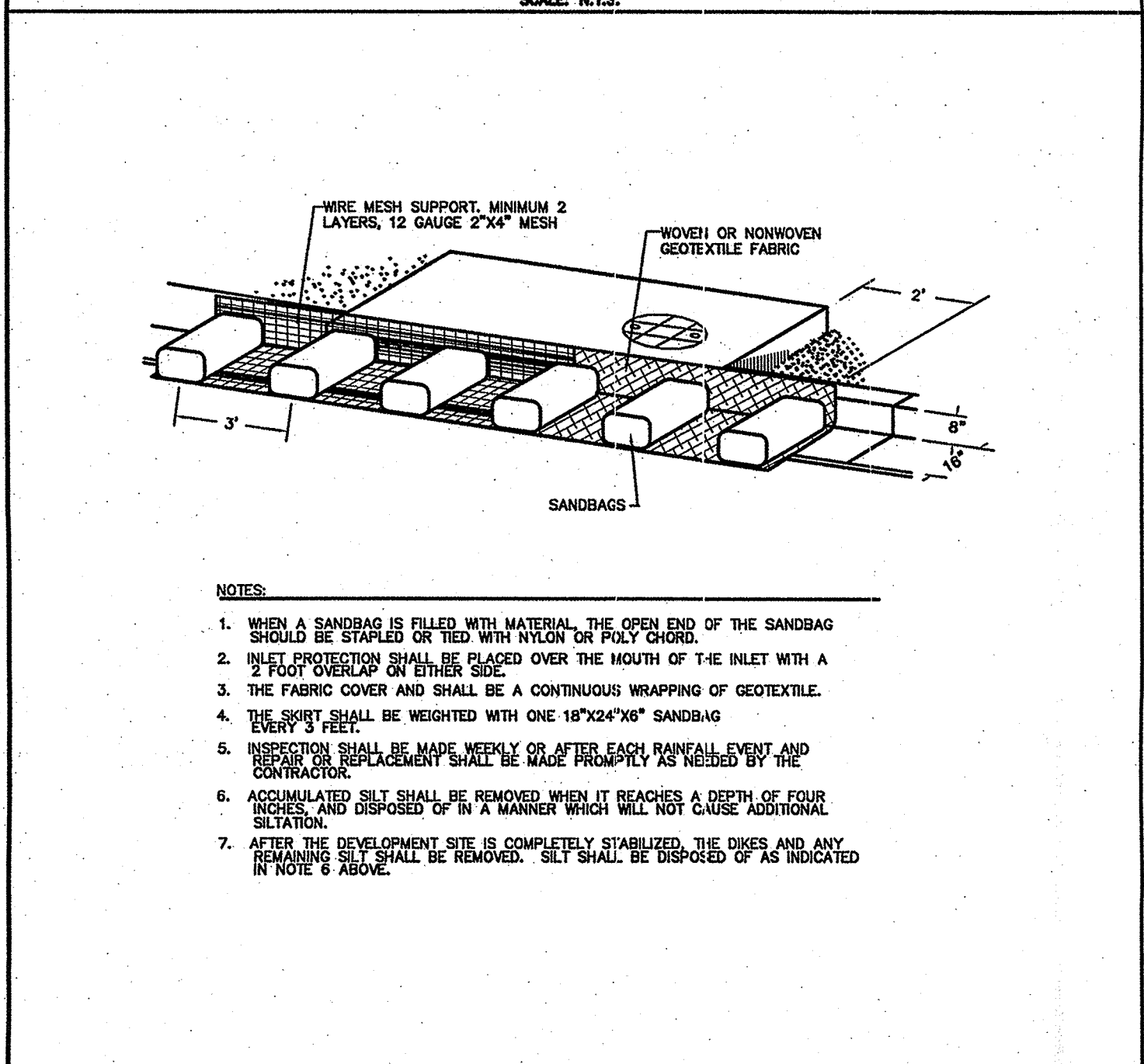
MATERIALS AND INSTALLATION:

- 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 4 INCHES.
- THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 4 OZ/YD, A MILLER BURST RATING OF 40 LB/LIN, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 30 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 PLAN. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.
- AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBSTRUCTABLE 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 DODGE, 4- 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 DIMENSION AND GRADE BROWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
- PLACE STONE TO DIMENSION AND GRADE BROWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
- DIKERS 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 FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND GRADE BROWN 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.

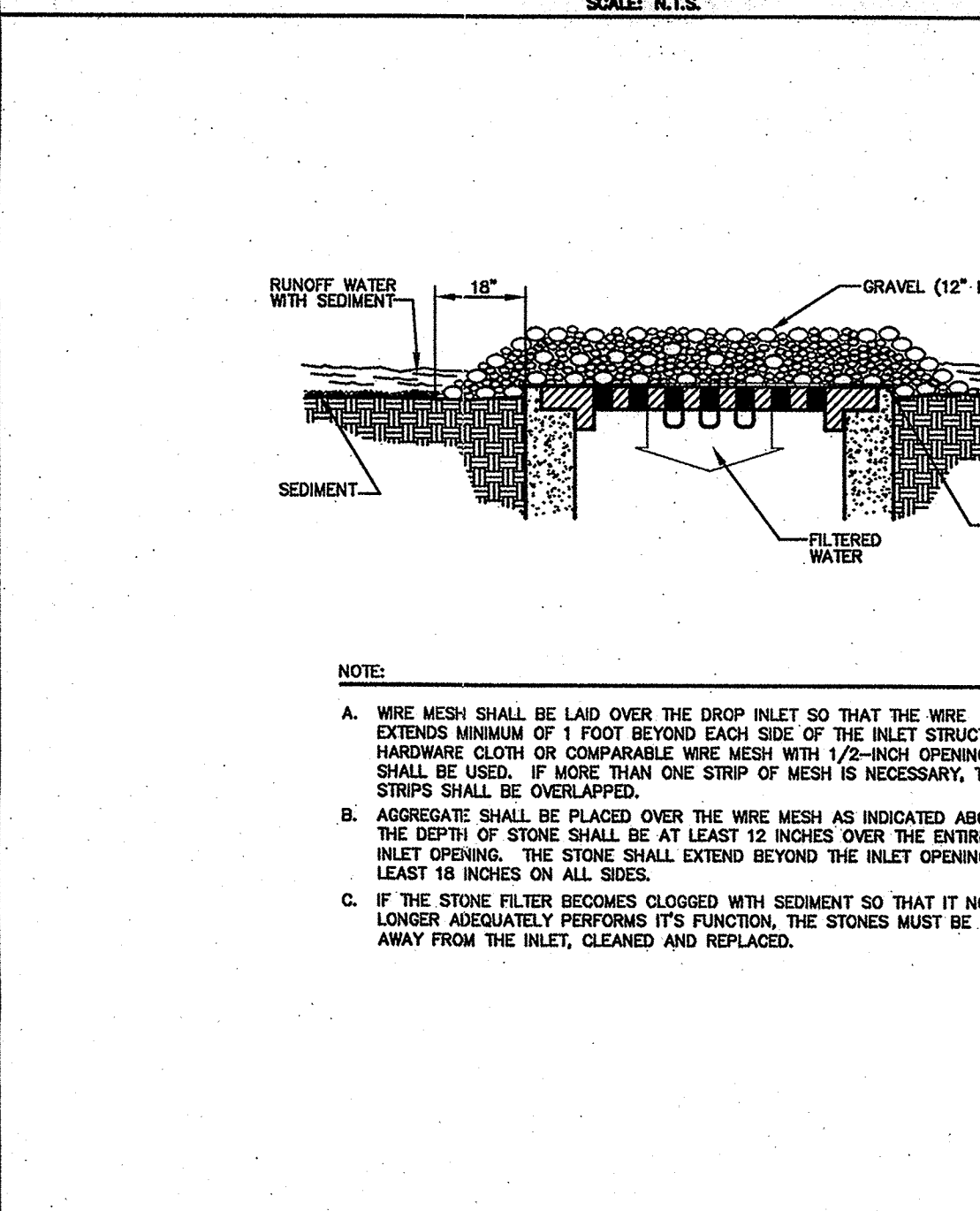
C-0.33 STABILIZED CONSTRUCTION ENTRANCE
SCALE: N.T.S.



NOTES:

- WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
- INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 1 FOOT DEPTH OF SAND OR OTHER SOFT MATERIAL.
- THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
- THE FABRIC SHALL BE WEIGHTED WITH ONE 18"x24"x6" SANDBAG.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NECESSARY.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL EROSION.
- AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN THE SPECIFICATIONS.

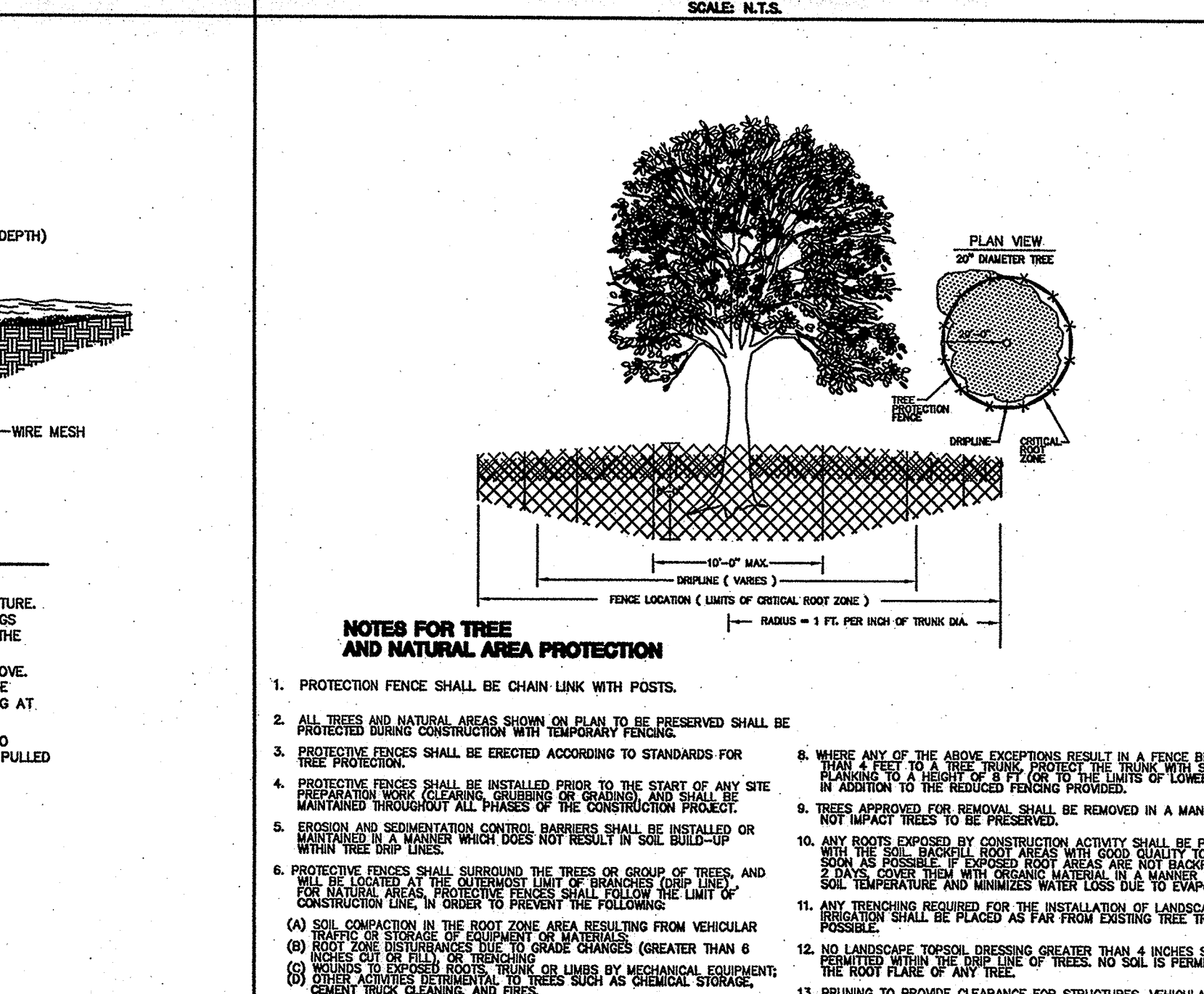
C-0.34 CURB INLET PROTECTION BARRIER
SCALE: N.T.S.



NOTES:

- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 2 FEET BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
- AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

C-0.35 GRATE INLET PROTECTION BARRIER
SCALE: N.T.S.

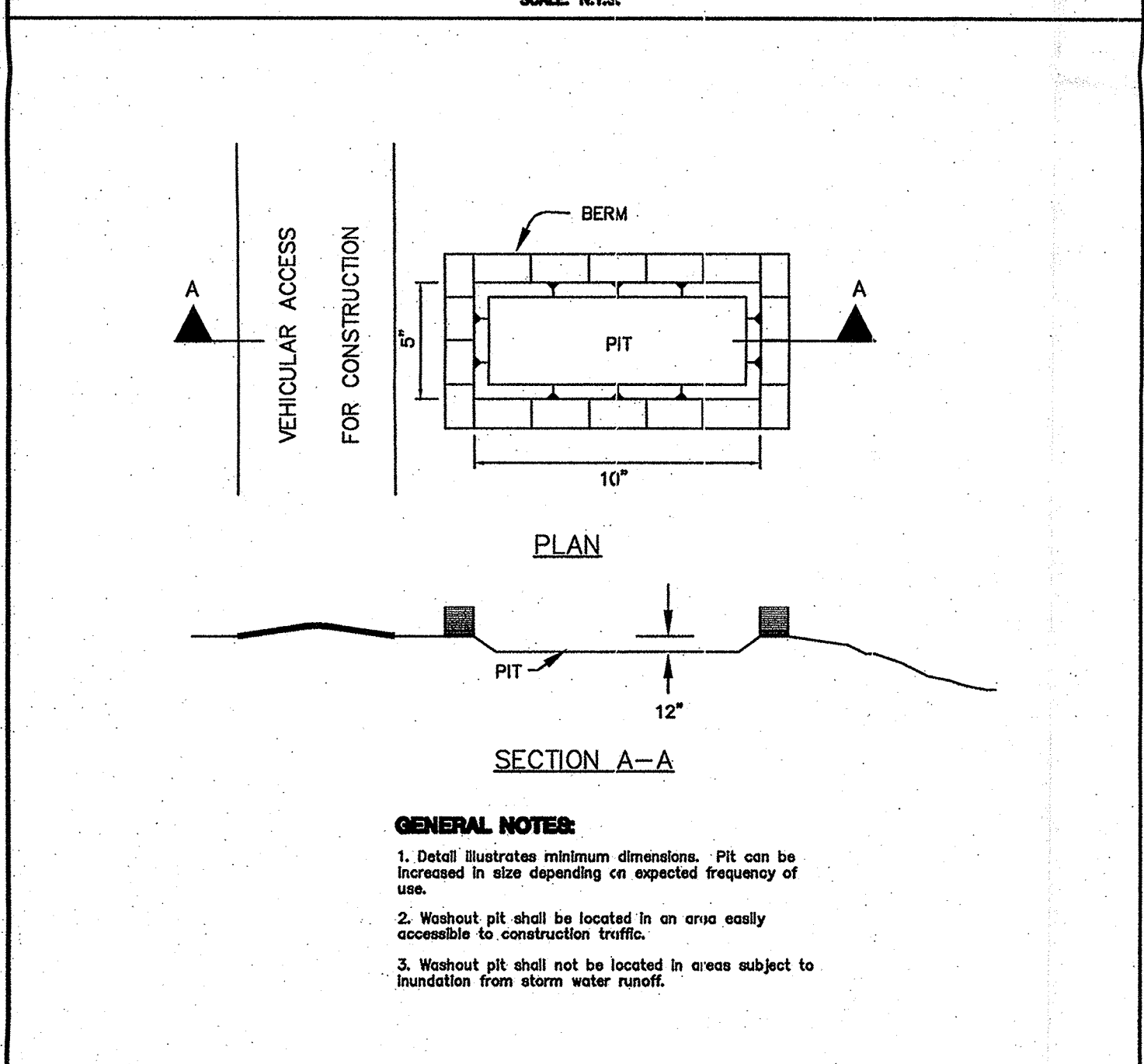


NOTES FOR TREE AND NATURAL AREA PROTECTION

- PROTECTION FENCE SHALL BE CHAIN LINK WITH POSTS.
- ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED WITH THIS TREE PROTECTION FENCE.
- PROTECTIVE FENCES SHALL BE ERRECTED ACCORDING TO STANDARDS FOR TREE PROTECTION.
- PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK. FENCES SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
- EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND SHALL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHED (UPPER) LIMB OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
 - SOIL COMPACTED BY EQUIPMENT OR VEHICLES FROM VEHICULAR TRAFFIC.
 - TRIPPING OR STRIPPING OF ROOTS OR BRANCHES.
 - TRIPPING OR STRIPPING OF ROOTS OR BRANCHES BY MECHANICAL EQUIPMENT.
 - TRIPPING OR STRIPPING OF ROOTS OR BRANCHES BY MECHANICAL EQUIPMENT.
 - TRIPPING OR STRIPPING OF ROOTS OR BRANCHES BY MECHANICAL EQUIPMENT.
 - TRIPPING OR STRIPPING OF ROOTS OR BRANCHES BY MECHANICAL EQUIPMENT.
- EXCEPT TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED:
 - WHERE THERE IS AN APPROVED GRASS CHANGE, IMPERMEABLE CURB OR OTHER PROTECTIVE MEASURES TO PREVENT EROSION AND SEDIMENTATION.
 - WHERE PROTECTIVE FENCES TO STREET FRONTAGE ARE A DISTURBANCE TO THE STREET FRONTAGE.
 - WHERE THERE IS A SIGNIFICANT OBSTRUCTION TO THE STREET FRONTAGE.
 - WHERE THERE IS A SIGNIFICANT OBSTRUCTION TO THE STREET FRONTAGE.
 - WHERE THERE IS A SIGNIFICANT OBSTRUCTION TO THE STREET FRONTAGE.
 - WHERE THERE IS A SIGNIFICANT OBSTRUCTION TO THE STREET FRONTAGE.
- EXCEPT TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED:
 - WHERE THERE IS AN APPROVED GRASS CHANGE, IMPERMEABLE CURB OR OTHER PROTECTIVE MEASURES TO PREVENT EROSION AND SEDIMENTATION.
 - WHERE PROTECTIVE FENCES TO STREET FRONTAGE ARE A DISTURBANCE TO THE STREET FRONTAGE.
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SPECIAL NOTE FOR THE PROTECTION OF NATURAL AREAS: NO EXCEPTIONS TO PERMITTED.

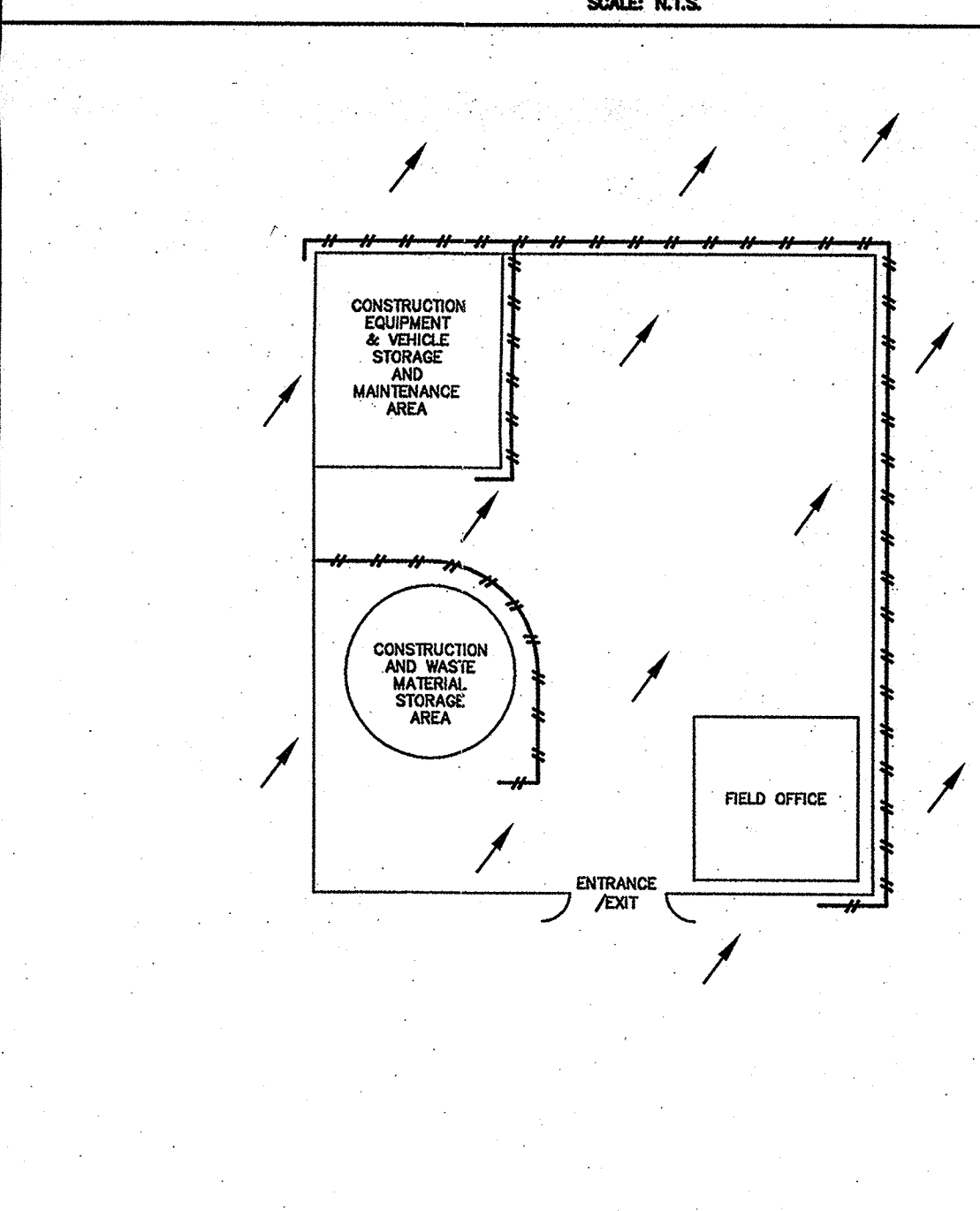
C-0.36 TREE PROTECTION
SCALE: N.T.S.



GENERAL NOTES:

- Detail illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.
- Washout pit shall be located in an area easily accessible to construction traffic.
- Washout pit shall not be located in areas subject to inundation from storm water runoff.

C-0.37 CONCRETE TRUCK WASHOUT PIT



LEGEND:

- SILT FENCE
- FLOW ARROWS

C-0.38 TYPICAL CONSTRUCTION STAGING AREA

STORM WATER POLLUTION PREVENTION NOTES

- PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ON-SITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
- INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
- THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
- ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
- THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
- WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
- SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
- STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
- TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
- MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
- PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
 - A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
 - THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:
 - BROADBANK SEEDING:
 - FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
 - FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
 - FERTILIZER SHALL BE A PELLETTED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.
 - MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.
 - HYDRAULIC SEEDING:
 - FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
 - FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
 - FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.
 - MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 1.4 POUNDS PER 1000 SF.
- THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAINFALL OCCURRED OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)
- RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
- SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS.
- TWO SEEDINGS SHOULD OCCUR DURING PROJECT. FIRST SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND SECOND BY FINAL PUNCH LIST.

- THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 3,600 CUBIC FEET OF STORAGE FOR EVERY ACRE IF LAND, WHICH IT DRAINS.

STORM WATER POLLUTION PREVENTION PLAN / TPDES

SPECIFICATIONS:

STORM WATER POLLUTION PREVENTION PLAN / TPDES

FURNISH AND INSTALL TEMPORARY AND PERMANENT STORM WATER POLLUTION PREVENTION CONTROL MEASURES SHOWN IN THE PLANS. CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE INTENT OF SUCH POLLUTION CONTROL MEASURES, TPDES PERMITS, OR OTHER LOCAL WATERWAY DEVELOPMENT PERMITS.

EXECUTION:

- CONTRACTOR IS RESPONSIBLE FOR ALL POLLUTION PREVENTION MEASURES SHOWN IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
- SUBMIT A STORM WATER TPDES GENERAL PERMIT NOTICE OF INTENT (NOI) AT LEAST TWO DAYS PRIOR TO START OF CONSTRUCTION TO THE APPROPRIATE AGENCY SHOWN ON THE SWPPP.
- POST SIGNED AND COMPLETED NOI POSTING NOTICE OR CONSTRUCTION SITE NOTICE (CSN) AT CONSTRUCTION ENTRANCE FOR PUBLIC VIEWING, AND KEEP A COPY OF THE SWPPP AT THE JOB SITE AT ALL TIMES.
- INSTALL AND MAINTAIN POLLUTION CONTROL MEASURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND WITH PROJECT SPECIFICATIONS.
- INSTALL EROSION CONTROL MEASURES AND CONSTRUCTION ENTRANCES AS SHOWN IN THE SWPPP PRIOR TO BEGINNING CONSTRUCTION. POLLUTION CONTROL MEASURES SHALL BE REPAIRED, RESTABLISHED, ADJUSTED OR REINSTALLED WITH EACH SUBSEQUENT PHASE OF CONSTRUCTION IN ACCORDANCE WITH THE SWPPP.
- CONTRACTOR IS RESPONSIBLE FOR ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE, AND SHALL REMOVE THE ACCUMULATION OF OFF-SITE SEDIMENT PROMPTLY.
- MAINTAIN SEDIMENT TRAPS OR SEDIMENTATION BASINS.
- OFF-SITE MATERIAL STORAGE AREAS USED SOLELY BY THE PROJECT ARE CONSIDERED PART OF THE PROJECT.
- MAINTAIN RECORDS OF PROJECT MILESTONE DATES AND FIELD CHANGES AS REQUIRED BY THE SWPPP.
- INSPECT POLLUTION CONTROL MEASURES EVERY 14 DAYS AND WITHIN 24 HOURS AFTER A STORM EVENT GREATER THAN 0.5 INCHES OF RAINFALL. AN INSPECTION REPORT SHALL BE RECORDED AS REQUIRED BY THE SWPPP.
- DEFICIENCIES NOTED DURING THE INSPECTION WILL BE CORRECTED AND DOCUMENTED WITHIN SEVEN CALENDAR DAYS OR BEFORE THE NEXT ANTICIPATED STORM EVENT.

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San Antonio, TX 78216
Tel: (210) 655-4689
BuryPartners@att.net ©Copyright 2007

STATE OF TEXAS
COY D. ARMSTRONG
6777
LICENSED PROFESSIONAL ENGINEER
6/30/08

STORM WATER POLLUTION PREVENTION PLAN DETAILS

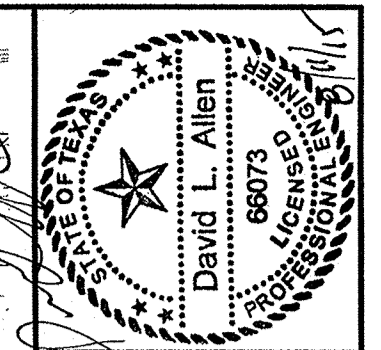
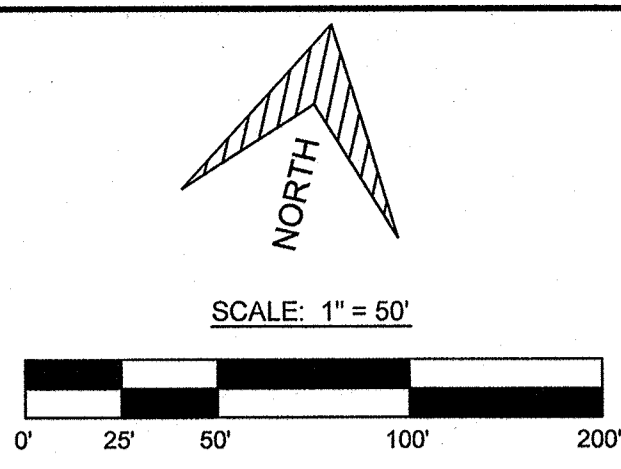
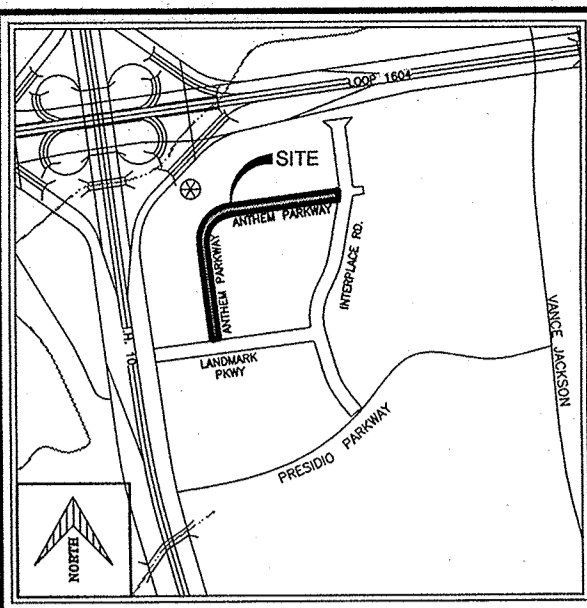
THE LANDMARK
IH-10 & LOOP 1604
SAN ANTONIO, TEXAS

PLOTTING SCALE: 1" = 1'
DATE REVISION: 06/30/08
FILE: 6:\PTZ\06\PTZ208SWPPP.DWG
DRAWN BY: BRB
DESIGNED BY: C.E.
REVIEWED BY: CDA
PROJECT NO.: 672-02.00

SHEET
C0.3

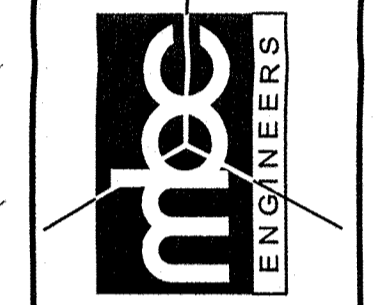
ATTACHMENT C

CURRENT SITE PLAN OF THE APPROVED PROJECT



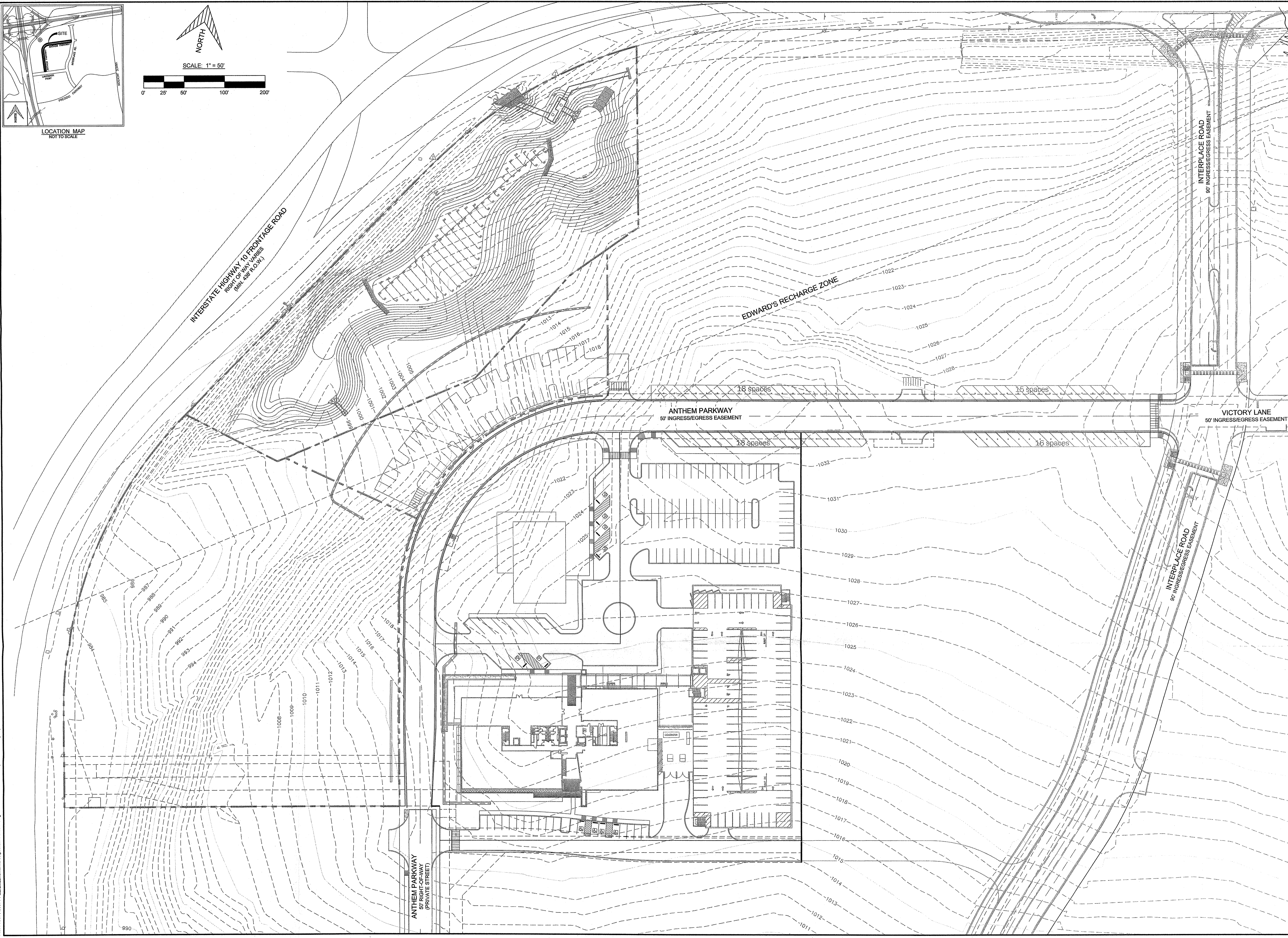
PRIMARY CONTACT:
ROGER W. GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78222
(210) 545-1122 Fax: (210) 545-9932 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. 7864 & T.B.P.L.S. 10017700



LANDMARK ANTHEM PARKWAY MPCD
SAN ANTONIO, TX.
OVERALL SITE PLAN

Date: Aug 10, 2015, 11:27am, User ID: anyas Layout SITE4
File: P:\07030371-FulmarkLandmarkDesign\Main ParcelDesign\Exhibit1-overall site plan-30371.dwg, Layout name: SITE4



REVISIONS:	DATE	No.	DESCRIPTION	BY

PLAT ID#	150282
APP#	
DESIGN	RWH
DRAWN	GM
CHECKED	RWG
DATE	03-16-15
JOB NO.	30371-0976
SHT.	1 OF 1

– **Water Pollution Abatement Plan Application Form (TCEQ-0584)**

Attachment A - Factors Affecting Water Quality

Attachment B - Volume and Character of Stormwater

Attachment C - Suitability Letter from Authorized Agent (if OSSF is proposed)

Attachment D - Exception to the Required Geologic Assessment (if requesting an exception)

Site Plan

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: Richard W. Hendrix, P.E.

Date: 7/31/2023

Signature of Customer/Agent:



Regulated Entity Name: Landmark North-West

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): 12.139 Acre

3. Estimated projected population: N/A

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	68,911	÷ 43,560 =	1.582
Parking	244,649	÷ 43,560 =	5.616
Other paved surfaces	50,569	÷ 43,560 =	1.161
Total Impervious Cover	364,129	÷ 43,560 =	8.359

Total Impervious Cover 8.359 ÷ Total Acreage 9.813 X 100 = 85.18% 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 = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.

10. Length of pavement area: _____ feet.

Width of pavement area: _____ feet.

L x W = _____ Ft² ÷ 43,560 Ft²/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
<u>N/A</u> % Industrial	_____ Gallons/day
<u>N/A</u> % Commingled	_____ Gallons/day
TOTAL gallons/day _____	

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 Steven M. Clouse (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" = 50'.

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): FIRM #48029C0230G

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

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

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

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

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

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

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

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

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

All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

No sensitive geologic or manmade features were identified in the Geologic Assessment.

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

- 22. The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. Areas of soil disturbance and areas which will not be disturbed.
- 24. Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. Locations where soil stabilization practices are expected to occur.
- 26. Surface waters (including wetlands).
 - N/A
- 27. Locations where stormwater discharges to surface water or sensitive features are to occur.
 - There will be no discharges to surface water or sensitive features.
- 28. Legal boundaries of the site are shown.

Administrative Information

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

FORM 0584 ATTACHMENTS

ATTACHMENT “A” – Factors affecting water quality

The major factor that may affect the water quality is oil and grease from parking facilities. This is to be handled by the existing sedimentation/ filtration basin.

ATTACHMENT “B” – Volume and character of stormwater

Stormwater runoff generated from the proposed site will come from roof tops and parking areas with very little from grassy areas. Runoff will be treated by the existing sedimentation/filtration basin. No unusual contaminants other than oil and grease from parking areas are expected.

HYDROLOGY PA-3 ATLAS 14 INTENSITIES

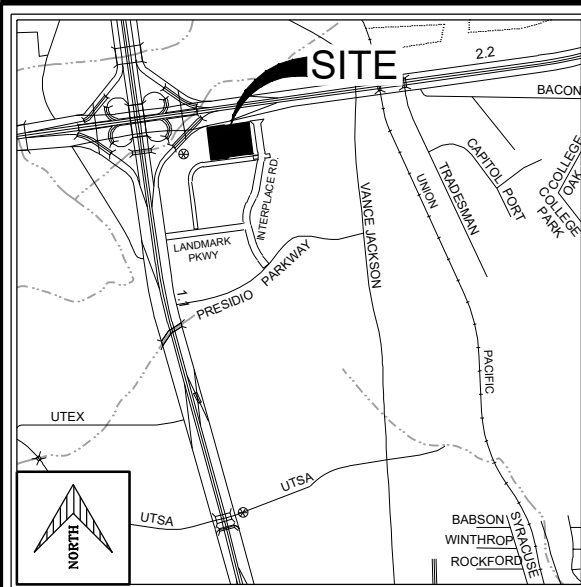
Contributing Area	Area (acres)	Cw*	Tc (min)	I1 (in/hr)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q1 (cfs)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
A2	1.90	0.88	16	3.50	5.10	7.07	8.79	5.85	8.53	11.82	14.70
A3	4.57	0.89	17	3.39	4.94	6.84	8.50	13.80	20.09	27.82	34.57
B1	1.57	0.91	13	3.84	5.66	7.89	9.85	5.49	8.09	11.27	14.07
B2	0.89	0.86	13	3.84	5.66	7.89	9.85	2.94	4.33	6.04	7.54
C1	1.90	0.75	7	4.78	7.11	9.95	12.49	6.81	10.13	14.18	17.80
A4	2.90	0.86	18	3.30	4.80	6.63	8.24	8.23	11.97	16.54	20.55
D2	2.29	0.87	11	4.10	6.08	8.50	10.64	8.17	12.11	16.93	21.20

ATTACHMENT “C” – Suitability Letter from Authorized Agent (if OSSF is proposed)

Not Applicable

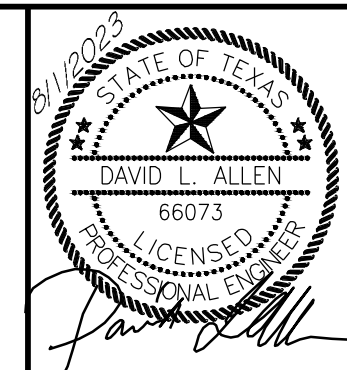
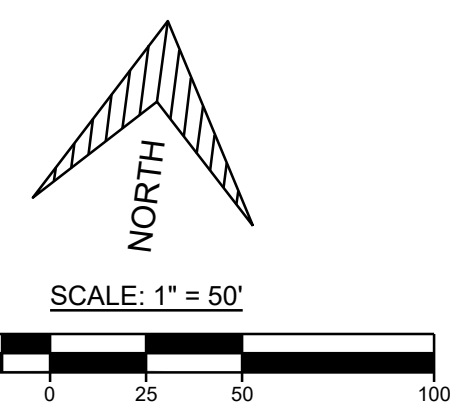
ATTACHMENT “D” – Exception to the Required Geologic Assessment (if requesting an exception)

Not Applicable, previous Geologic Assessment completed on May 21, 2015.



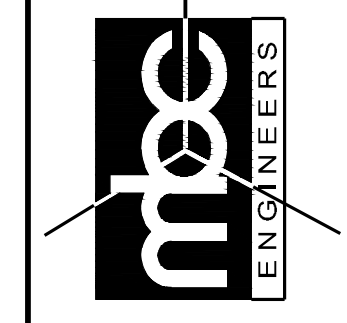
TRENCH EXCAVATION SAFETY PROTECTION
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK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

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY PLAN AND CONSIDER EXISTING AND PROPOSED DRAINAGE PATTERNS DURING THE CONSTRUCTION OF THE PROJECT IN ORDER TO ACCOMPLISH THIS, IT MAY BE NECESSARY TO PHASE THE GRADING, CONSTRUCT TEMPORARY BERMS AND SWALES WHILE FACTORING IN SURROUNDING CONDITIONS TO PROPERLY DIRECT AND CONTROL SURFACE RUNOFF. ADDITIONALLY, THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE TIMING OF CONSTRUCTING PONDS, CHANNELS AND STORM DRAINAGE SYSTEMS.



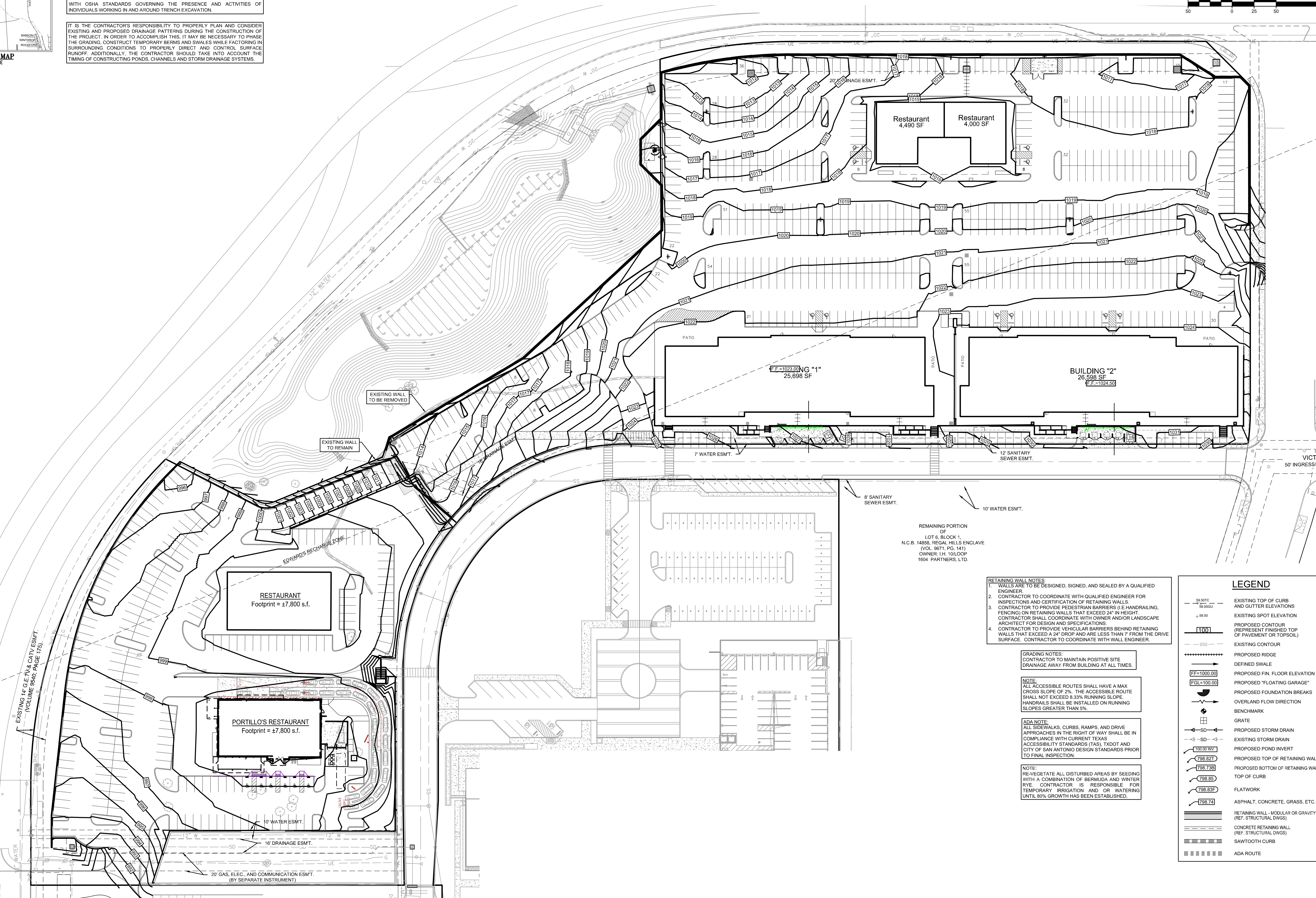
PRIMARY CONTACT:
 RICHARD HENDRIX, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 1035 Central Parkway North, San Antonio, Texas 78232
 (210) 545-1122 Fax (210) 545-9002 www.mbcengineers.com
 FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700



LANDMARK NORTH & WEST
SAN ANTONIO, TEXAS
OVERALL GRADING PLAN

Date: Aug 01, 2023, 3:28pm User: ID: rhenrich Layout: C08.00-OVERALL GRADING PLAN
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RETAINING WALL NOTES:
 1. WALLS ARE TO BE DESIGNED, SIGNED, AND SEALED BY A QUALIFIED ENGINEER.
 2. CONTRACTOR TO COORDINATE WITH QUALIFIED ENGINEER FOR INSPECTIONS AND CERTIFICATION OF RETAINING WALLS.
 3. CONTRACTOR TO PROVIDE PEDESTRIAN BARRIERS (I.E. HANDRAILING, FENCING) ON RETAINING WALLS THAT EXCEED 24" IN HEIGHT. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR LANDSCAPE ARCHITECT FOR DESIGN AND SPECIFICATIONS.
 4. CONTRACTOR TO PROVIDE VEHICULAR BARRIERS BEHIND RETAINING WALLS THAT EXCEED A 24" DROP AND ARE LESS THAN 7' FROM THE DRIVE SURFACE. CONTRACTOR TO COORDINATE WITH WALL ENGINEER.

GRADING NOTES:
 CONTRACTOR TO MAINTAIN POSITIVE SITE DRAINAGE AWAY FROM BUILDING AT ALL TIMES.

NOTE:
 ALL ACCESSIBLE ROUTES SHALL HAVE A MAX CROSS SLOPE OF 2%. THE ACCESSIBLE ROUTE SHALL NOT EXCEED 8.33% RUNNING SLOPE. HANDRAILS SHALL BE INSTALLED ON RUNNING SLOPES GREATER THAN 5%.

ADA NOTE:
 ALL SIDEWALKS, CURBS, RAMPS, AND DRIVE APPROACHES IN THE RIGHT OF WAY SHALL BE IN COMPLIANCE WITH CURRENT TEXAS ACCESSIBILITY STANDARDS (TAS), TxDOT AND CITY OF SAN ANTONIO DESIGN STANDARDS PRIOR TO FINAL INSPECTION.

NOTE:
 RE-VEGETATE ALL DISTURBED AREAS BY SEEDING WITH A COMBINATION OF BERMUDA AND WINTER RYE. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY IRRIGATION AND OR WATERING UNTIL 80% GROWTH HAS BEEN ESTABLISHED.

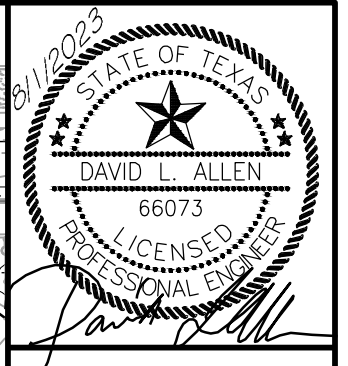
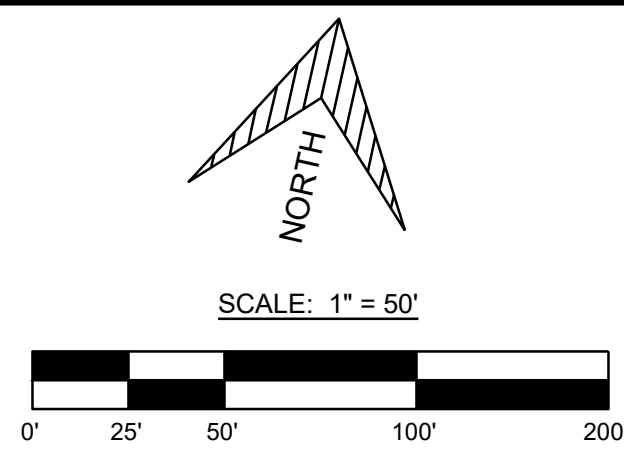
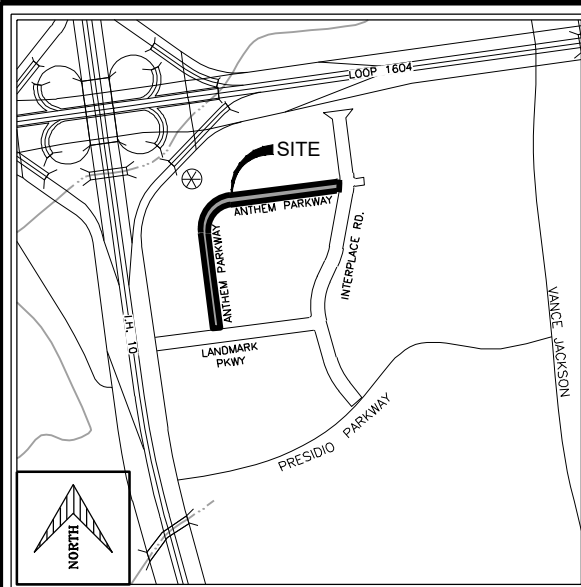
LEGEND

— 99.00C —	EXISTING TOP OF CURB AND GUTTER ELEVATIONS
— 99.00U —	EXISTING SPOT ELEVATION
100	PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
— 950 —	EXISTING CONTOUR
-----	PROPOSED RIDGE
-----	DEFINED SWALE
FF=1000.00	PROPOSED FIN. FLOOR ELEVATION
FGL=100.00	PROPOSED "FLOATING GARAGE"
-----	PROPOSED FOUNDATION BREAKS
-----	OVERLAND FLOW DIRECTION
+	BENCHMARK
— SD —	GRATE
— SD —	PROPOSED STORM DRAIN
— SD —	EXISTING STORM DRAIN
100.00 INV	PROPOSED POND INVERT
788.827	PROPOSED TOP OF RETAINING WALL
788.738	PROPOSED BOTTOM OF RETAINING WALL
788.85	TOP OF CURB
788.833	FLATWORK
788.74	ASPHALT, CONCRETE, GRASS, ETC.
-----	RETAINING WALL - MODULAR OR GRAVITY (REF. STRUCTURAL DWGS)
-----	CONCRETE RETAINING WALL (REF. STRUCTURAL DWGS)
-----	SAWTOOTH CURB
-----	ADA ROUTE

REVISIONS:	DATE	DESCRIPTION

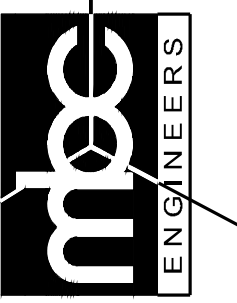
PLAT ID# _____
 A/P# _____
 DESIGN RH
 DRAWN GM
 CHECKED DLA
 DATE 03/21/2023
 JOB NO. 30371-0976

C08.00



PRIMARY CONTACT:
ROGER W. GUNDERMAN, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
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FIRM REGISTRATION NUMBER: T.B.P.E. F.784 & T.B.P.L.S. 10011700

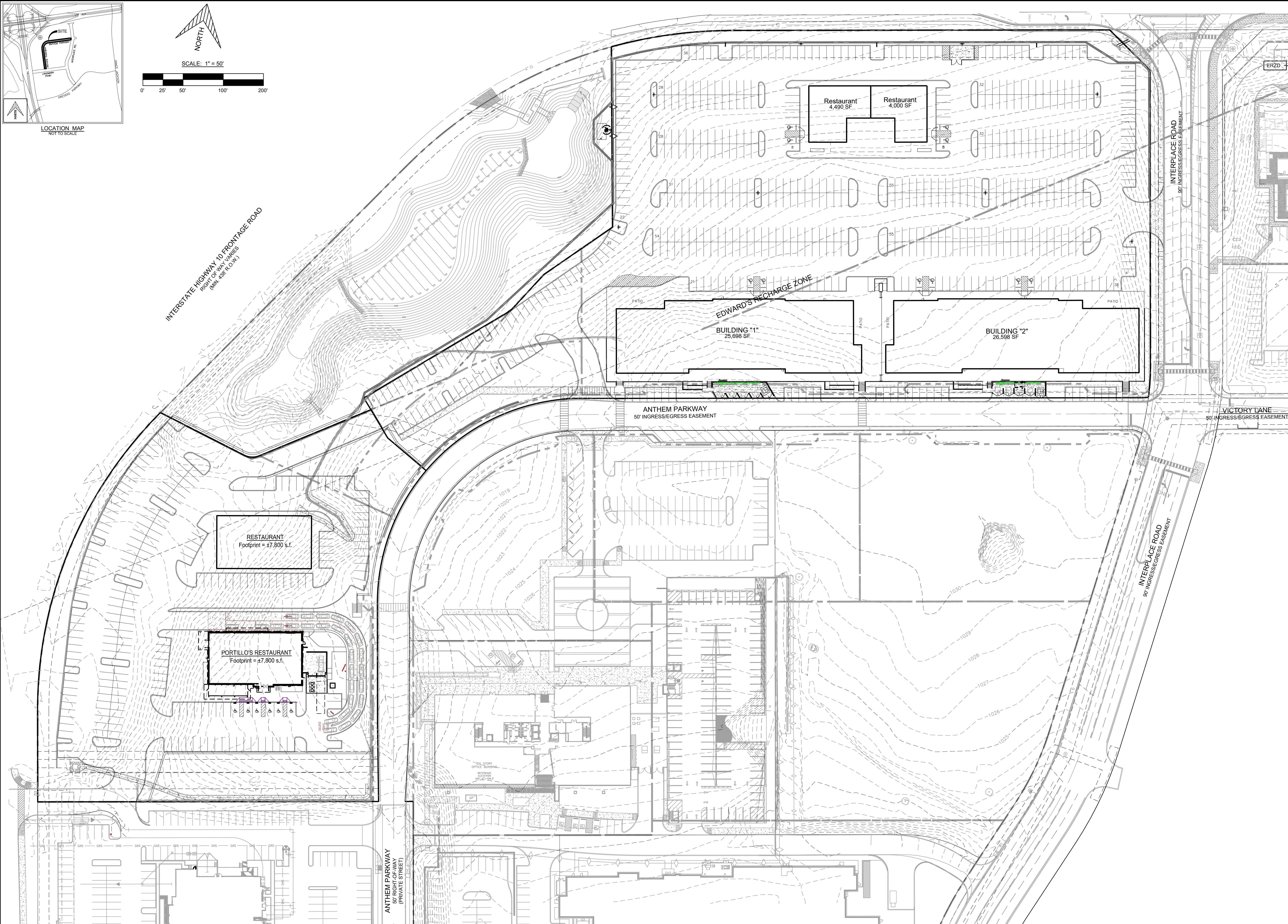


LANDMARK NORTH-WEST WPAP MOD
SAN ANTONIO, TX.
OVERALL SITE PLAN

REVISIONS:	DATE	No.	DESCRIPTION	BY

PLAT ID# 150282
 APPR RWIH
 DESIGN GM
 DRAWN RWG
 CHECKED RWG
 DATE 07-18-2023
 JOB NO. 30371-0976
 SHT. 1 OF 1

Date: Aug 01, 2023, 3:18pm User: ID: rheodor Layout: OVERALL SITE PLAN
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– **Temporary Stormwater Section (TCEQ-0602)**

Attachment A - Spill Response Actions

Attachment B - Potential Sources of Contamination

Attachment C - Sequence of Major Activities

Attachment D - Temporary Best Management Practices and Measures

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

Attachment F - Structural Practices

Attachment G - Drainage Area Map

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

Attachment I - Inspection and Maintenance for BMPs

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

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: Richard W. Hendrix, P.E.

Date: 7/31/2023

Signature of Customer/Agent:



Regulated Entity Name: Landmark North-West

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: Leon Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

Soil Stabilization Practices

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

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

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

Administrative Information

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

FORM 0602 ATTACHMENTS

ATTACHMENT “A” - SPILL RESPONSE

In the event of a spill involving hydrocarbons or other hazardous substances, the contractor will immediately notify TCEQ (at 210-490-3096) and the engineer (210 545-1122) explaining the type and nature of the spill. The contractor shall be required to maintain a sufficient stockpile of sand material in the staging area. This sand material shall be used to immediately isolate and provide containment of the spill by constructing dikes. Furthermore, this sand material shall act as an absorbent material that can be disposed of offsite and out of the Recharge Zone during cleanup operations. All contaminated soils resulting from an accidental release will be required to be removed and disposed of in accordance with all local, state, and federal regulations.

The objective of this attachment 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 storm water impacts of leaks and spills:

Education

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

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

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

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

(5) Have 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 storm-water 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 BMPs.
- (9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- (10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- (11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- (12) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- (1) Clean up leaks and spills immediately.
- (2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- (3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- (1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- (2) Use absorbent materials on small spills rather than hosing down or burying the spill.
- (3) Absorbent materials should be promptly removed and disposed of properly.
- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- (1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM.

After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

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

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

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

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

Vehicle and Equipment Maintenance

(1) If maintenance must occur on-site, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of storm-water 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, 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 storm-water. 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 run-on of storm-water 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

Other potential sources are:

1. Oil and gasoline leaks from construction equipment.
2. Vehicles tracking in and out of the project.
3. Asphaltic paving and associated materials.
4. Minor leakage or spillage of paints, lacquers, solvents, etc., used in conjunctions with building construction which may occur simultaneously with infrastructure construction.
5. Leakage from self-contained portable toilet facilities.

ATTACHMENT “C” – SEQUENCE OF MAJOR ACTIVITIES

1. Install all Temporary BMP’s (rock berms and silt fencing), construction entrance, and tree protection for on-site construction. (8.5 acres)
2. Clear site of brush, trees and any existing debris & prepare area for construction (8.0 acres)
3. Excavate and fill site as dictated by the grading plan (8.0 acres)
4. Construct underground storm drains to route runoff to BMP’s (4.5 acres)
5. Install inlet protection on all curb and grate inlets (4.5 acres)
6. Construct building pads (0.84 acres)
7. Install utilities; sewer laterals, water services, and underground electric (4.50 acres)
8. Construct Building (0.84 acres)
9. Fine grade site (8.0 acres)
10. Construct paved surfaces; concrete parking areas & sidewalks (5.0 acres)
11. Install landscaping (1.5 acres)
12. Remove any left-over debris after construction (8.0 acres)
13. Remove temporary BMPs (8.5 acres)

ATTACHMENT “D” - Temporary Best Management Practices

A) There is no up-gradient water flowing onto the site. Underground storm drain systems are proposed to take the treated and untreated run-off through site. The run-off will then discharge through outfall structures and be allowed to flow toward Leon Creek north of the site.

B) All contractors, subcontractors, and builders shall endeavor to avoid the pollution of runoff water by using “best management practices” and reasonable foresight to avoid contact between runoff water and polluting materials.

Some best management practices to which all parties are expected to conform are as follows:

1. Prior to the beginning of the work listed in “Attachment C”, the contractor will install the sediment control barriers as specified on the separate “Temporary Pollution Abatement Plan” which is attached at the end of this section. These barriers (silt fences, etc.) will be maintained during the entire time construction is in progress. Thus erodible material and pollution that might be generated during construction will be intercepted by these same barriers.
2. The installation of a stabilized construction entrance/exit(s) and a construction staging area to reduce the dispersion of sediment from the site.
3. The silt fences specified on the “Temporary Pollution Abatement Plan” were positioned to be down-gradient of all construction zones. Thus, with proper installation and maintenance these barriers shall be effective in preventing potentially contaminated runoff from leaving the site.
4. The general contractor shall develop a written plan to control the generation of dust during construction phase and submit it to the developer.
5. Builders and their contractors shall clean equipment only onto areas protected by their silt fences or dikes. Set forth in the TBMP’s plan is a location where a “Concrete Truck Washout Pit” will be constructed. The builder shall inform his concrete supplier that this Washout Pit is the only point in the project where washout and waste concrete mix may be discharged.
6. Stockpiles of erodible material (topsoil, sand, etc.) shall be placed in areas only protected by silt fences or other erosion barriers.
7. All contractors shall provide self-contained toilet facilities for their employees.
8. Chemicals, solvents, paints, and other potentially toxic materials must be stored in such a manner that they are protected from rainfall and surface runoff water.

9. All contractors shall provide waste receptacles at locations convenient to their construction area; to protect from leaching by rainfall; and provide regular collection.

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

D) BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMP's. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

If any sensitive features are discovered during construction, all regulated activities near the sensitive feature shall be suspended. The TCEQ Regional office will be notified immediately and a plan will be submitted to TCEQ for treatment of the feature. See note 3 of TCEQ WPAP General Construction Notes.

San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329	State of Texas Spill-Reporting Hotline (800) 832-8224 Bexar County Storm Water Quality (210) 335-6663
---	--

ATTACHMENT “E” – Request to Temporarily Seal a Feature

Not Applicable

ATTACHMENT “F” – Structural Practices

The following measures will be installed as part of the site preparation activities:

- Erection of silt fences along the downgradient boundary of construction activities.
- Inlet protection will be installed.
- Stabilized construction entrance/exit(s) will be installed.
- A construction staging area will be designated.
- Concrete truck washout pit(s) will be installed where required to facilitate controlled disposal of concrete truck washout.

ATTACHMENT “G” – Drainage Area Map

Please reference the attached drawing illustrating the proposed drainage areas and sub-areas. Other erosion controls within each disturbed area will be used, such as silt fencing and inlet protection.

ATTACHMENT “H”- Temporary Sediment Pond Plans and Calculations

Not Applicable. No areas greater than 10 acres with a common drainage area will be disturbed at one time. A sedimentation/filtration pond exists on-site and has been designed for ultimate development of the overall drainage area.

ATTACHMENT “I” – Inspection and Maintenance

All TBMP’S shall be inspected by the contractor on a weekly basis and after all substantial rain events. The contractor shall keep records of all inspections that were made. Also the contractor shall repair or replace any damaged or dysfunctional TBMP’s. The contractor shall insure that all TBMP’s are maintained and inspected according to TCEQ’s Technical Guidance Manual.

Inspection and Maintenance shall include but is not limited to:

For the Construction Entrance:

- The contractor shall maintain the entrance in a condition which will prevent tracking or flowing of sediment onto public right-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.
- The contractor shall immediately remove any and all sediment spilled, dropped, washed or tracked onto public rights-of-way.
- When necessary, the contractor shall clean wheels to remove sediment prior to entrance onto public rights-of-way.
- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- The contractor shall prevent all sediment from entering any storm drain, ditch, or water course by using approved methods.

For Silt Fencing:

- The contractor shall inspect all silt fencing weekly and after any rainfall for sediment accumulation, torn fabric and crushed or collapsed sections throughout the duration of construction.
- Sediment shall be removed when sediment buildup reaches 6 inches, or a second line of fencing shall be installed parallel to the original fence.
- Torn fabric shall be replaced by the contractor; a second line of fencing shall be erected parallel to the torn section if replacement is not feasible.
- Contractor shall replace or repair any fence sections crushed or collapsed during the course of construction. Silt fence may be relocated by the contractor to a location where it will provide equal protection should the original/planned installation obstruct vehicular access to the site.

- 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 re-vegetated. The fence itself should be disposed of in an approved landfill.

For Rock Berms:

- The contractor shall inspect all rock berms weekly and after any rainfall for sediment accumulation, debris building up, or damage throughout the duration of construction.
- Sediment and other debris shall be removed when sediment buildup reaches 6 inches. The accumulated silt and debris shall be disposed in an approved manner that will not cause any additional siltation.
- The contractor to repair any loose wire sheathing.
- The contractor shall reshape the berm as needed during inspection throughout the duration of construction.
- The contractor shall replace the berm when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- The rock berm shall remain in place until all upstream areas are stabilized and accumulated silt removed.

For Grate and Curb Inlet Protection:

- The contractor shall inspect all inlet protection weekly and after any rainfall for sediment accumulation, debris building up, or damage throughout the duration of construction. Repair or replacement should be made promptly as needed by the contractor.
- Sediment and other debris shall be removed when sediment buildup reaches 3 inches. The removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The contractor shall check placement of inlet protection measures to prevent gaps between these measures and the curb.
- The contractor shall inspect the filter fabric and patch or replace if torn or missing.
- Records will be kept with the construction site Superintendent of all inspection and maintenance actions. See maintenance record chart next on the next page.

For Concrete Washout Pit

- The contractor shall inspect all concrete washout pits weekly and after any rainfall.
- Contractor shall ensure that all excess concrete is being washed out into the designated washout pits only.
- The hardened concrete shall be disposed of when the pit is no longer required and when it becomes full.

General

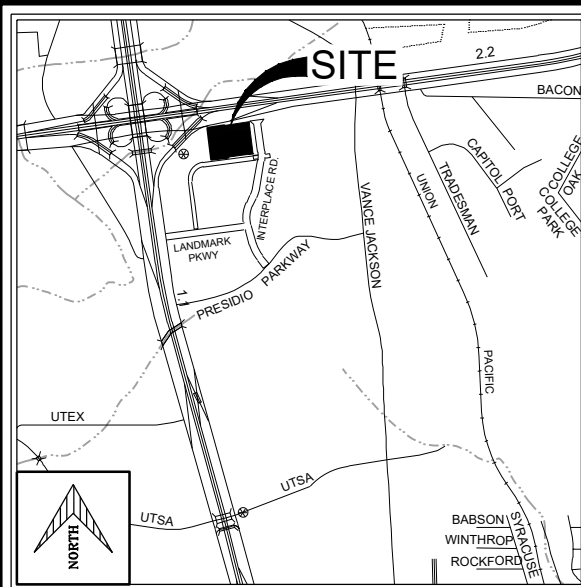
- Records will be kept with the construction site superintendent of all inspections and maintenance actions. See the attached maintenance record chart.
- Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).
- 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).

ATTACHMENT “J” – Interim and Permanent Soil Stabilization

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing only the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005).

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of 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 seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

The site shall be stabilized with sod and/or seed upon the completion of construction. If construction is to temporary cease and temporary stabilization is required as noted above, the exposed soil shall be stabilized by mulch until construction resumes.



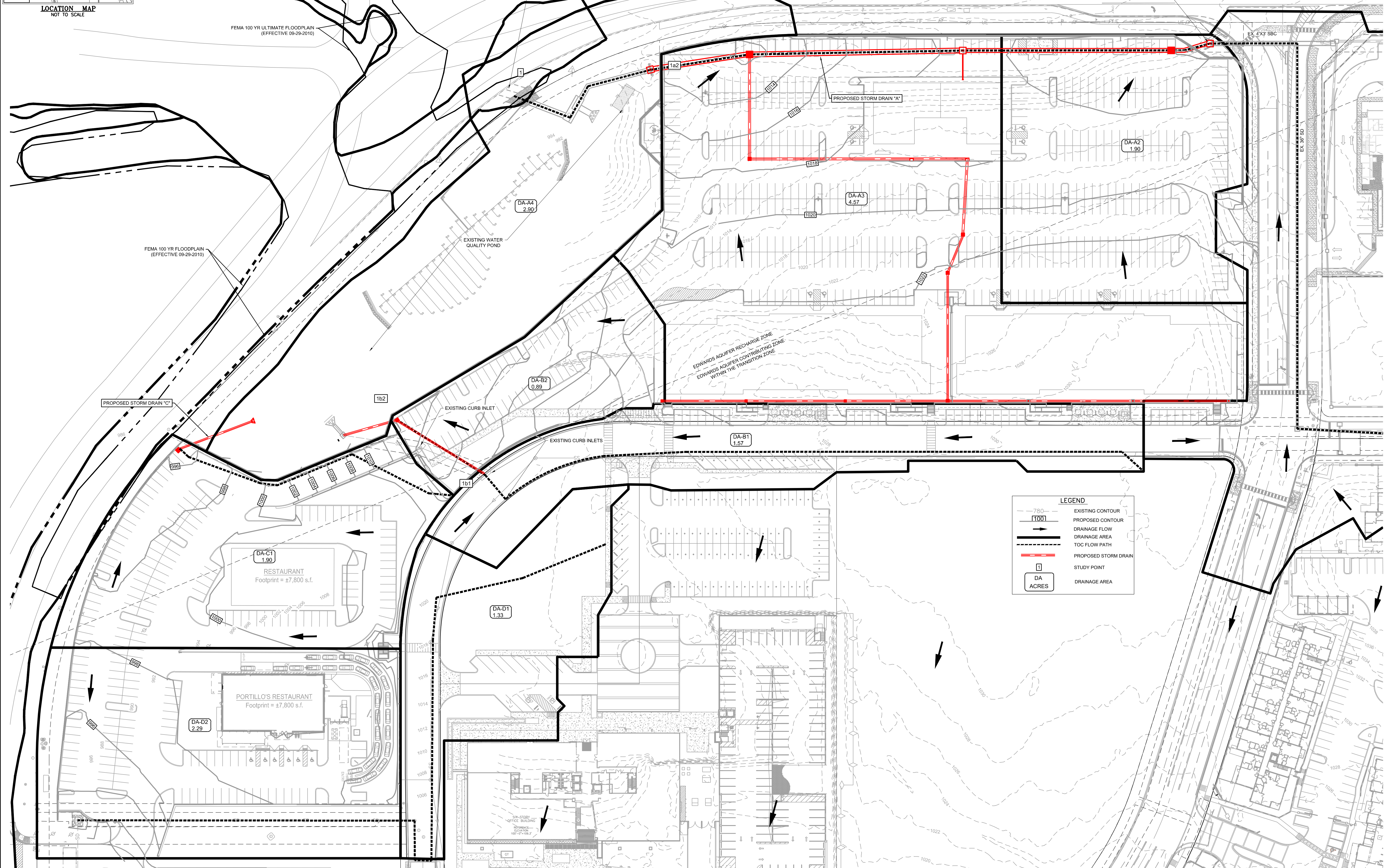
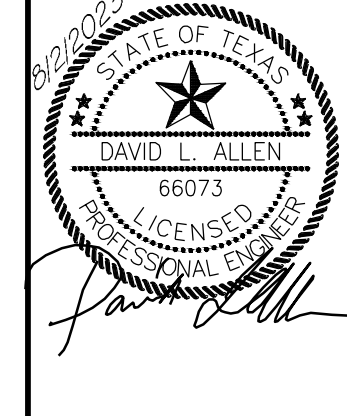
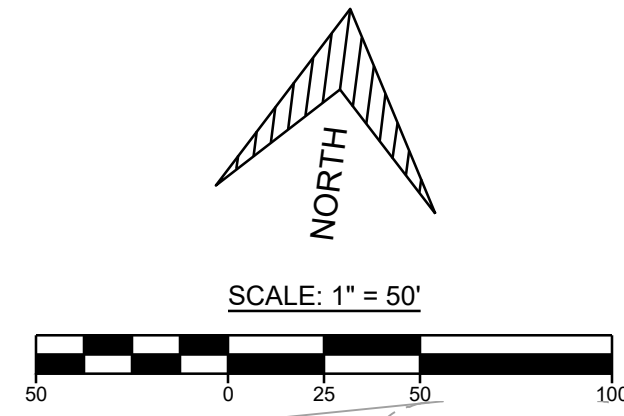
HYDROLOGY CALCULATIONS

Inlet/Study Point	Structure/Description	Contributing Area (acres)	C _w *	Overland Flow (Equation 3-3, TR-55)					Shallow Concentrated Flow (Figure 3-1, TR-55)				Channel Flow			Total Time of Conc. (min)	I _t (in/hr)	I _s (in/hr)	I ₁₅ (in/hr)	I ₃₀ (in/hr)	Q ₁ (cfs)	Q ₅ (cfs)	Q ₁₅ (cfs)	Q ₃₀ (cfs)		
				Surface Condition	n	P ₂ (in)	L (ft)	S (ft/ft)	T ₁ (min)	Surface	L (ft)	S (ft/ft)	T _{1c} (min)	L (ft)	V (ft/s)										T _{1c} (min)	
																										Surface
Proposed/Ultimate Conditions																										
1a1	Prop. Storm Drain	A1-A2	21.82	0.88	Bermudagrass	0.41	3.96	40	0.02	9.5	Paved	335	0.019	2.0	1615	6	4.5	16	3.50	5.10	7.07	8.79	67.2	97.9	135.8	168.8
1a2	Prop. Storm Drain	A1-A3	26.39	0.89	Bermudagrass	0.41	3.96	40	0.02	9.5	Paved	335	0.019	2.0	2995	6	5.8	17	3.39	4.94	6.84	8.50	79.7	116.0	160.7	199.6
1b1	Prop. Storm Drain	B1	1.57	0.91	Bermudagrass	0.41	3.96	30	0.02	7.5	Paved	715	0.014	5.0	0	6	0.0	13	3.84	5.66	7.89	9.85	5.5	8.1	11.3	14.1
1b2	Prop. Storm Drain	B1-B2	2.46	0.86	Bermudagrass	0.41	3.96	30	0.02	7.5	Paved	715	0.014	5.0	155	6	0.4	13	3.84	5.66	7.89	9.85	8.1	12.0	16.7	20.8
1c	Prop. Storm Drain	C1	1.90	0.75	Bermudagrass	0.41	3.96	20	0.02	5.4	Unpaved	70	0.02	0.5	250	6	0.7	7	4.78	7.11	9.95	12.49	6.8	10.1	14.2	17.8
1	Exist. TxDOT Culvert "A1"	A1-A4, B1-B2, C1	33.65	0.86	Bermudagrass	0.41	3.96	40	0.02	9.5	Paved	335	0.019	2.0	2990	6	6.6	18	3.30	4.80	6.63	8.24	95.5	138.9	191.9	238.5
2	Exist. 4-way Inlet	D1-D2	3.02	0.87	Bermudagrass	0.41	3.96	30	0.02	7.5	Paved	465	0.05	1.7	450	6	1.3	11	4.10	6.08	8.50	10.64	12.9	19.1	26.8	33.5

*Ref. weighted runoff coefficient calculations

PREVIOUSLY APPROVED DESIGN

Area (acres)	Q ₁₅ (cfs)	Q ₃₀ (cfs)
-	-	-
-	-	-
-	-	-
46.1	205	239
3.99	27.0	35.7



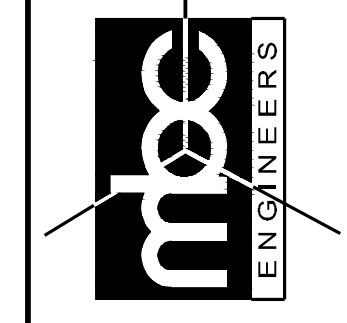
LEGEND

- - - - - EXISTING CONTOUR
- — — — — PROPOSED CONTOUR
- → → → → DRAINAGE FLOW
- ▭ DRAINAGE AREA
- — — — — TOC FLOW PATH
- — — — — PROPOSED STORM DRAIN
- STUDY POINT
- DA ACRES DRAINAGE AREA

Date: Aug 02, 2023, 8:02am User: ID: rheoide, Layout: DAM File: P:\076\03071-Fulcrum\andmark\Design\30371.dwg Layout name: DAM

PRIMARY CONTACT: RICHARD HENDRIX, P.E.

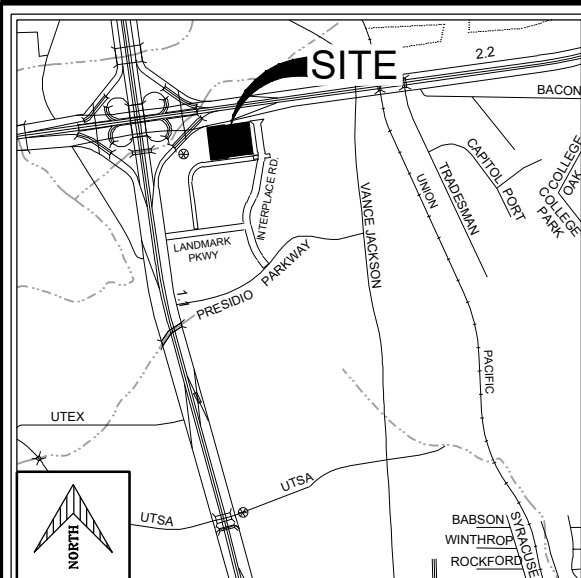
MACINA • BOSE • COPELAND & ASSOC., INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 1035 Central Parkway North, San Antonio, Texas 78232
 (210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
 FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700



**LANDMARK NORTH & WEST
 SAN ANTONIO, TEXAS
 PROPOSED/ULTIMATE CONDITIONS
 DRAINAGE AREA MAP**

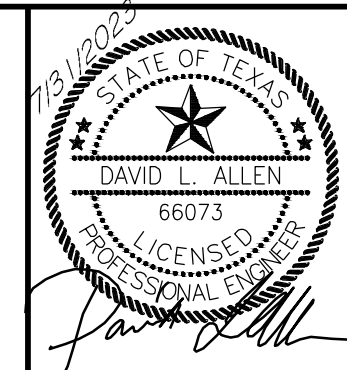
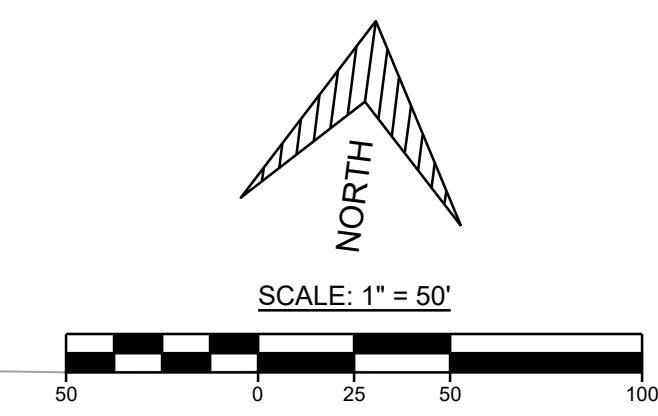
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	RH	GM	DLA		03/21/2023	30371-0976

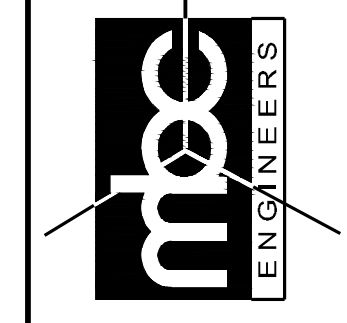


LEGEND

	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	CONCRETE TRUCK WASHOUT PIT
	GRATE & CURB INLET PROTECTION
	FIBER ROLL BERM
	ROCK BERM
	EXISTING CONTOUR
	PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
	DEFINED SWALE
	PROPOSED RETAINING WALL
	PROPOSED SAWTOOTH CURB
	PROPOSED RIDGE
	PROPOSED FIN FLOOR ELEVATION
	PROPOSED FOUNDATION BREAKS
	OVERLAND FLOW DIRECTION
	GRATE
	DRAINAGE FLOW (PROPOSED)
	LIMITS OF CONSTRUCTION AREA OF SOIL DISTURBANCE (TO BE REVEGETATED)
	WATERSHED BOUNDARY
	IMPERVIOUS COVER TO BE DEMOLISHED
	EROSION CONTROL MAT



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 FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700



LANDMARK NORTH & WEST
 SAN ANTONIO, TEXAS
 EROSION CONTROL PLAN

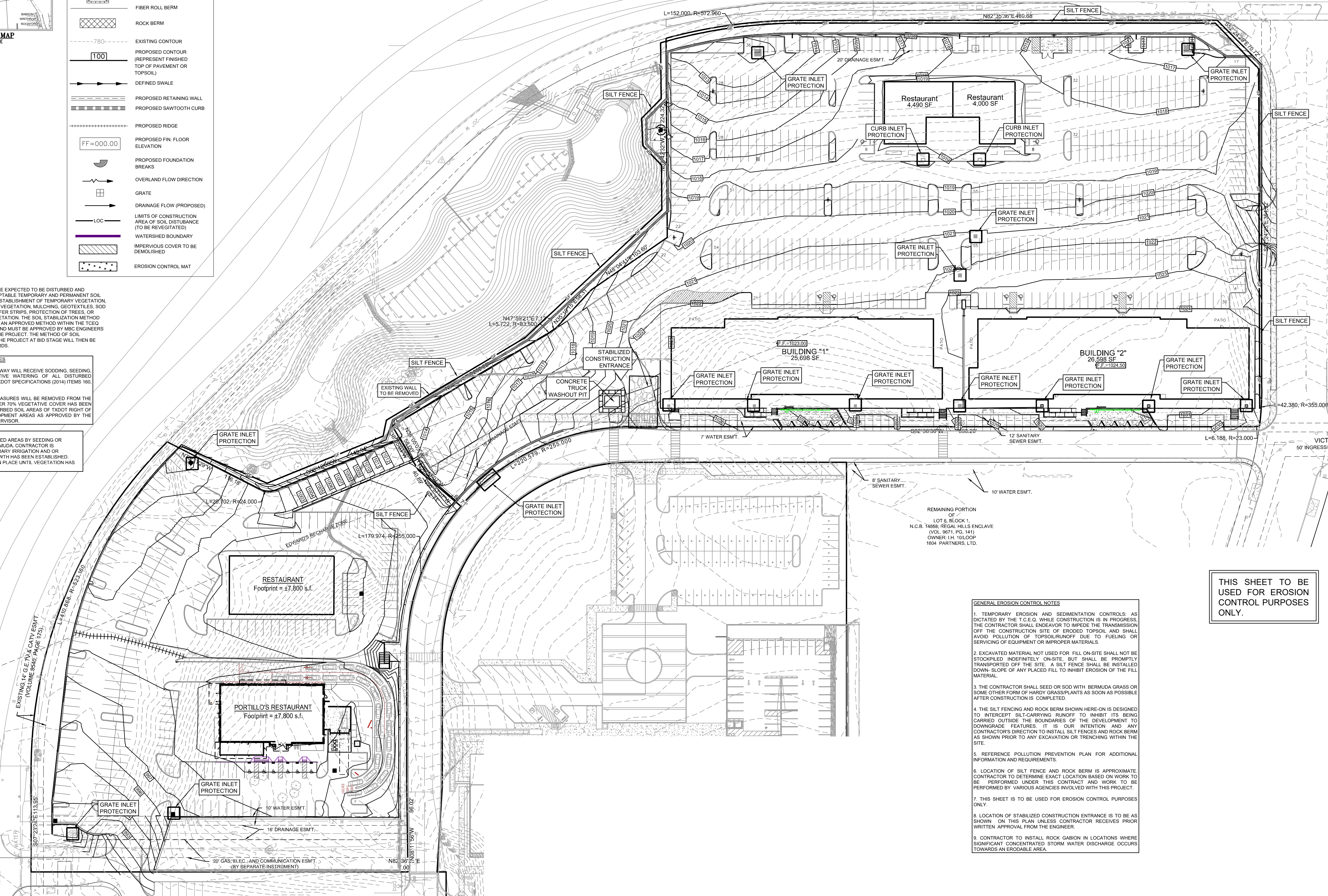
NOTE:
 ALL AREAS WITHIN PROPERTY ARE EXPECTED TO BE DISTURBED AND STABILIZED. EXAMPLES OF ACCEPTABLE TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES ARE ESTABLISHMENT OF TEMPORARY VEGETATION, ESTABLISHMENT OF PERMANENT VEGETATION, MULCHING, GEOTEXTILES, SOD STABILIZATION, VEGETATIVE BUFFER STRIPS, PROTECTION OF TREES, OR PRESERVATION OF MATURE VEGETATION. THE SOIL STABILIZATION METHOD USED IN THIS PROJECT SHALL BE AN APPROVED METHOD WITHIN THE TCEQ TECHNICAL GUIDANCE MANUAL, AND MUST BE APPROVED BY MBE ENGINEERS BEFORE IT IS IMPLEMENTED IN THE PROJECT. THE METHOD OF SOIL STABILIZATION APPROVED FOR THE PROJECT AT BID STAGE WILL THEN BE SENT TO TCEQ FOR THEIR RECORDS.

TXDOT EROSION CONTROL NOTES

- AREAS IN TXDOT RIGHT OF WAY WILL RECEIVE SODDING, SEEDING, FERTILIZER AND VEGETATIVE WATERING OF ALL DISTURBED AREAS TO COMPLY WITH TXDOT SPECIFICATIONS (2014) ITEMS 160, 162, 164, 166, AND 168.
- ALL EROSION CONTROL MEASURES WILL BE REMOVED FROM THE TXDOT RIGHT OF WAY AFTER 70% VEGETATIVE COVER HAS BEEN ESTABLISHED IN THE DISTURBED SOIL AREAS OF TXDOT RIGHT OF WAY AND ON SITE DEVELOPMENT AREAS AS APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR.

VEGETATION NOTES:

- RE-VEGETATE ALL DISTURBED AREAS BY SEEDING OR SODDING AREAS WITH BERMUDA. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY IRRIGATION AND OR WATERING UNTIL 85% GROWTH HAS BEEN ESTABLISHED.
- SILT FENCING TO REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ESTABLISHED.



REMAINING PORTION OF LOT 6, BLOCK 1, N.C.B. 14858, REGAL HILLS ENCLAVE (VOL. 9671, PG. 141) OWNER: LH 101000P 1604 PARTNERS, LTD.

GENERAL EROSION CONTROL NOTES

- TEMPORARY EROSION AND SEDIMENTATION CONTROLS: AS DICTATED BY THE T.C.E.Q. WHILE CONSTRUCTION IS IN PROGRESS, THE CONTRACTOR SHALL ENDEAVOR TO IMPEDE THE TRANSMISSION OFF THE CONSTRUCTION SITE OF ERODED TOPSOIL AND SHALL AVOID POLLUTION OF TOPSOIL/RUNOFF DUE TO FUELING OR SERVICING OF EQUIPMENT OR IMPROPER MATERIALS.
- EXCAVATED MATERIAL NOT USED FOR FILL ON-SITE SHALL NOT BE STOCKPILED INDEFINITELY ON-SITE, BUT SHALL BE PROMPTLY TRANSPORTED OFF THE SITE. A SILT FENCE SHALL BE INSTALLED DOWN SLOPE OF ANY PLACED FILL TO INHIBIT EROSION OF THE FILL MATERIAL.
- THE CONTRACTOR SHALL SEED OR SOD WITH BERMUDA GRASS OR SOME OTHER FORM OF HARDY GRASS/PLANTS AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETED.
- THE SILT FENCING AND ROCK BERM SHOWN HERE-ON IS DESIGNED TO INTERCEPT SILT-CARRYING RUNOFF TO INHIBIT ITS BEING CARRIED OUTSIDE THE BOUNDARIES OF THE DEVELOPMENT TO DOWNGRADE FEATURES. IT IS OUR INTENTION AND ANY CONTRACTORS DIRECTION TO INSTALL SILT FENCES AND ROCK BERM AS SHOWN PRIOR TO ANY EXCAVATION OR TRENCHING WITHIN THE SITE.
- REFERENCE POLLUTION PREVENTION PLAN FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- LOCATION OF SILT FENCE AND ROCK BERM IS APPROXIMATE. CONTRACTOR TO DETERMINE EXACT LOCATION BASED ON WORK TO BE PERFORMED UNDER THIS CONTRACT AND WORK TO BE PERFORMED BY VARIOUS AGENCIES INVOLVED WITH THIS PROJECT.
- THIS SHEET IS TO BE USED FOR EROSION CONTROL PURPOSES ONLY.
- LOCATION OF STABILIZED CONSTRUCTION ENTRANCE IS TO BE AS SHOWN ON THIS PLAN UNLESS CONTRACTOR RECEIVES PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
- CONTRACTOR TO INSTALL ROCK GABION IN LOCATIONS WHERE SIGNIFICANT CONCENTRATED STORM WATER DISCHARGE OCCURS TOWARDS AN ERODABLE AREA.

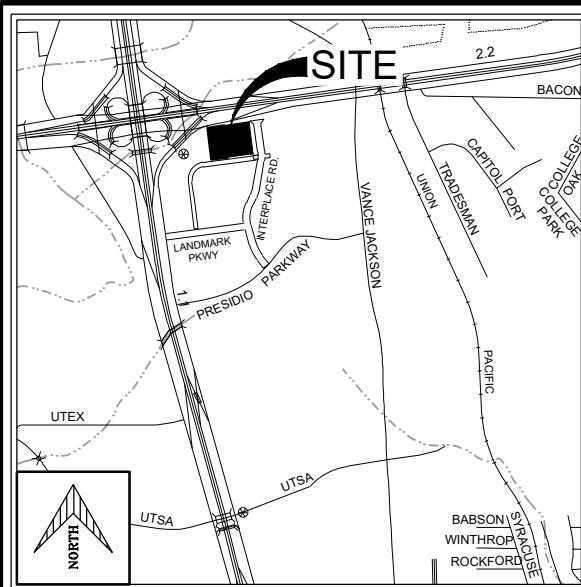
THIS SHEET TO BE USED FOR EROSION CONTROL PURPOSES ONLY.

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REVISIONS:	DATE	DESCRIPTION

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 DRAWN _____
 CHECKED _____
 DATE 03/21/2023
 JOB NO. 30371-0976

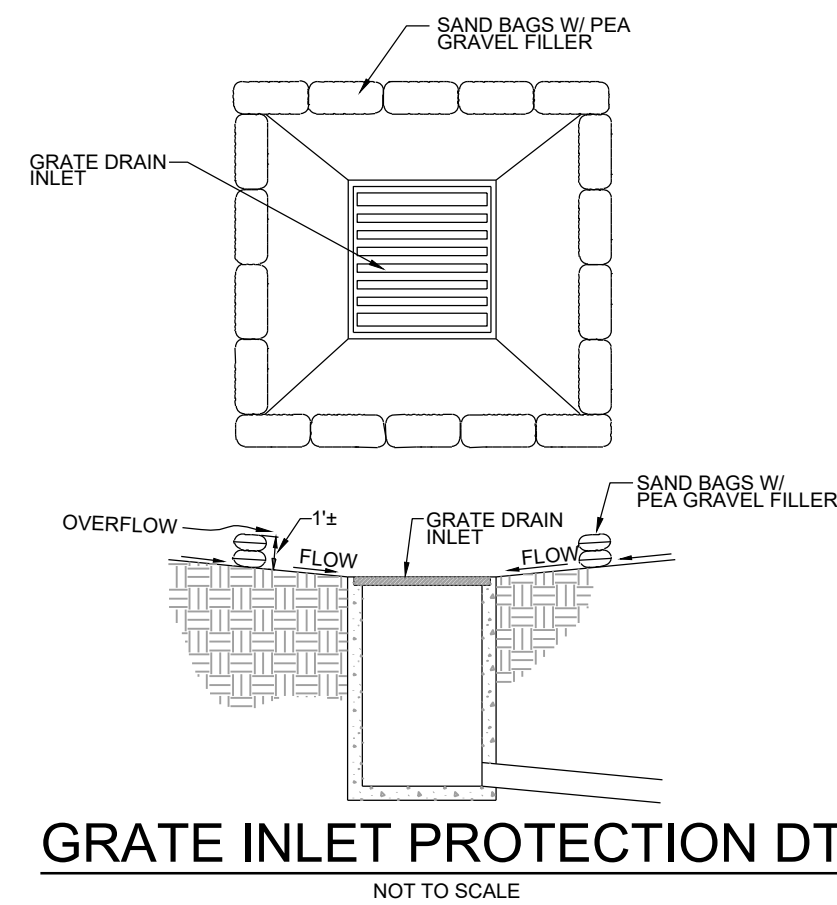
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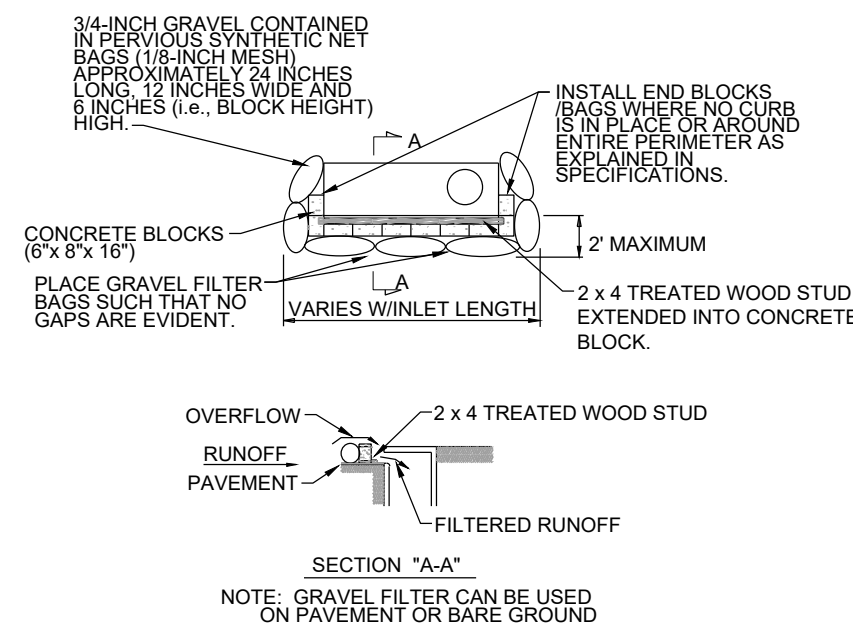
LOCATION MAP
NOT TO SCALE

GENERAL EROSION CONTROL NOTES

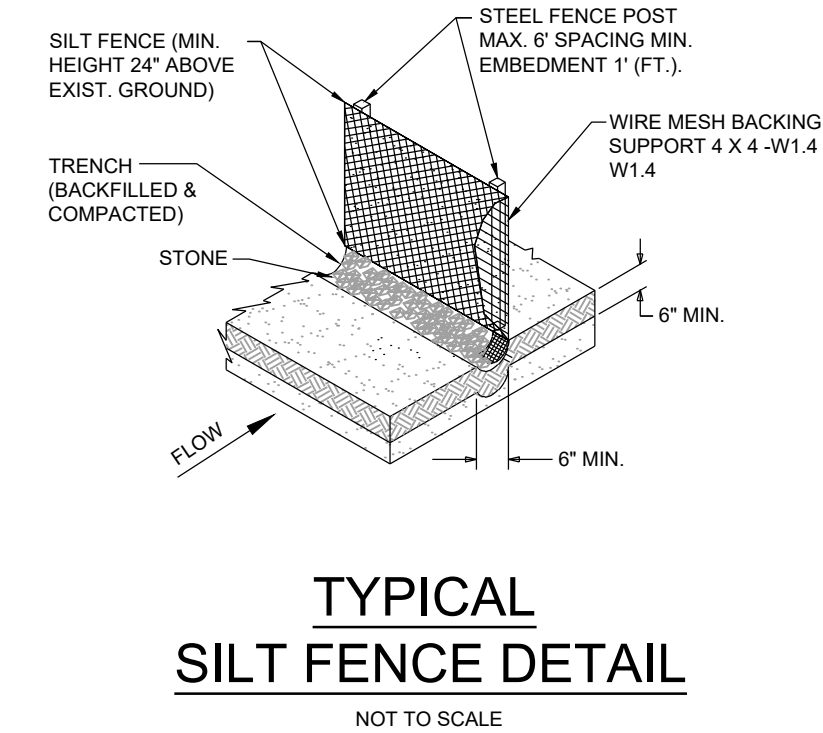
1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS, AS DICTATED BY THE T.C.E.Q. WHILE CONSTRUCTION IS IN PROGRESS, THE CONTRACTOR SHALL ENDEAVOR TO IMPED THE TRANSMISSION OFF THE CONSTRUCTION SITE OF ERODED TOPSOIL AND SHALL AVOID POLLUTION OF TOPSOIL/RUNOFF DUE TO FUELING OR SERVICING OF EQUIPMENT OR IMPROPER MATERIALS.
2. EXCAVATED MATERIAL NOT USED FOR FILL ON-SITE SHALL NOT BE STOCKPILED INDEFINITELY ON-SITE, BUT SHALL BE PROMPTLY TRANSPORTED OFF THE SITE. A SILT FENCE SHALL BE INSTALLED DOWN-SLOPE OF ANY PLACED FILL TO INHIBIT EROSION OF THE FILL MATERIAL.
3. THE CONTRACTOR SHALL SEED OR SOD WITH BERMUDA GRASS OR SOME OTHER FORM OF HARDY GRASS/PLANTS AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETED.
4. THE SILT FENCING AND ROCK BERM SHOWN HERE-ON IS DESIGNED TO INTERCEPT SILT-CARRYING RUNOFF TO INHIBIT ITS BEING CARRIED OUTSIDE THE BOUNDARIES OF THE DEVELOPMENT TO DOWNGRADE FEATURES. IT IS OUR INTENTION AND ANY CONTRACTOR'S DIRECTION TO INSTALL SILT FENCES AND ROCK BERM AS SHOWN PRIOR TO ANY EXCAVATION OR TRENCHING WITHIN THE SITE.
5. REFERENCE POLLUTION PREVENTION PLAN FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. LOCATION OF SILT FENCE AND ROCK BERM IS APPROXIMATE. CONTRACTOR TO DETERMINE EXACT LOCATION BASED ON WORK TO BE PERFORMED UNDER THIS CONTRACT AND WORK TO BE PERFORMED BY VARIOUS AGENCIES INVOLVED WITH THIS PROJECT.
7. THIS SHEET IS TO BE USED FOR EROSION CONTROL PURPOSES ONLY.
8. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE IS TO BE AS SHOWN ON THIS PLAN UNLESS CONTRACTOR RECEIVES PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
9. CONTRACTOR TO INSTALL ROCK GABION IN LOCATIONS WHERE SIGNIFICANT CONCENTRATED STORM WATER DISCHARGE OCCURS TOWARDS AN ERODABLE AREA.



GRATE INLET PROTECTION DTL.
NOT TO SCALE



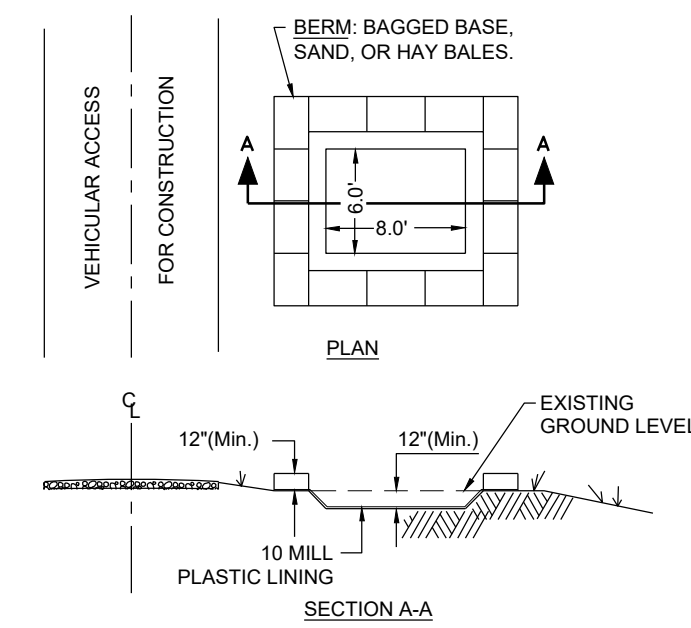
CURB INLET GRAVEL FILTER
NOT TO SCALE



TYPICAL SILT FENCE DETAIL
NOT TO SCALE

SILT FENCE NOTES:

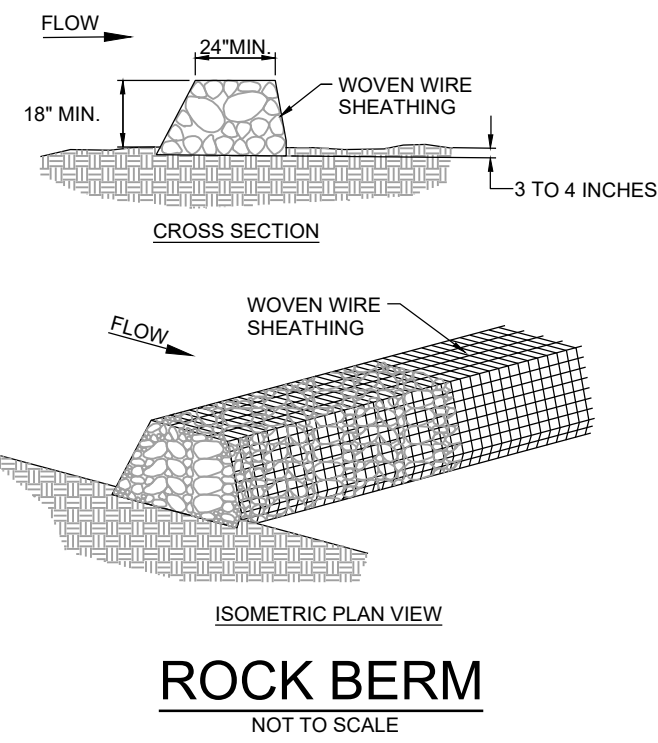
1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP.
2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 130 ACRE/100 FEET OF FENCE.
3. 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 OUTCROPP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
4. 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.
5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
6. INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION 6.
9. 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.
10. 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 A APPROVED LANDFILL.
11. DESIGNATED SILT FENCE CONSIST OF THE FOLLOWING: GEOTECHNICAL FILTER FABRIC, STRETCHED AND SECURED TO THREE FOOT HIGH WIRE FENCING AND SUPPORTED BY STEEL POSTS AT A MAXIMUM SPACING OF 6 FEET. THE BOTTOM 6 INCHES OF FABRIC SHALL BE BURIED.
12. MAINTENANCE AND INSPECTIONS SHALL BE AS DESIGNATED IN THE STORM WATER POLLUTION PREVENTION PLAN.



CONCRETE TRUCK WASHOUT PIT
NOT TO SCALE

WASHOUT PIT GENERAL NOTES:

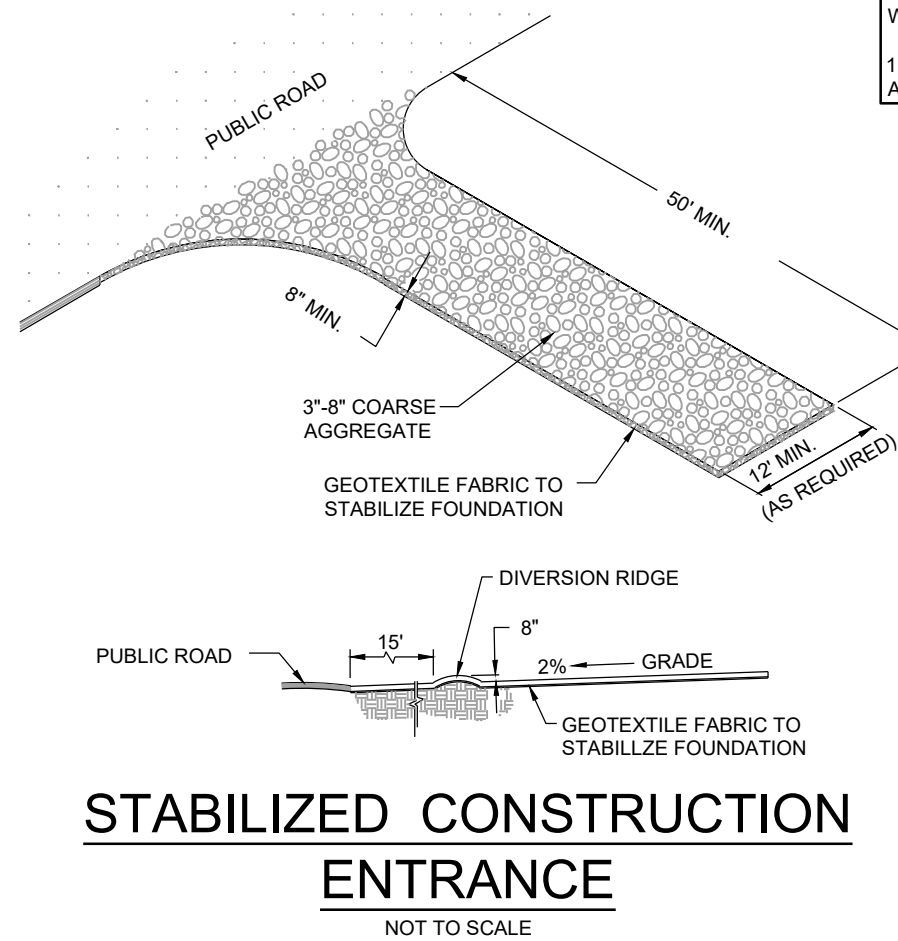
- DETAILS ILLUSTRATE MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
- IF HAY BALES ARE USED FOR BERM, THEY SHALL BE ANCHORED IN PLACE WITH 2 REBARS PER BALE, DRIVEN INTO GROUND ENOUGH TO PROVIDE REASONABLE STABILITY.
- WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
- WASHOUT PIT SHALL NOT BE LOCATED IN AREA SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
- PIT SHALL NOT BE LOCATED OVER OR IN THE IMMEDIATE VICINITY OF A FEATURE OF GROUNDWATER RECHARGE.



ROCK BERM
NOT TO SCALE

ROCK BERM NOTES:

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHORT RINGS.
2. CLEAN, OPEN GRADED 3 TO 6 INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5 TO 8 INCH DIAMETER ROCKS MAY BE USED.
3. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER. HEIGHT OF ROCK BERM SHALL NOT BE LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
6. BERM SHALL BE INSTALLED PERPENDICULAR TO DIRECTION OF FLOW.
7. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
8. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES. DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
9. THE BERM SHOULD BE RESHAPED AND REPAIRED AS NEEDED DURING INSPECTION.
10. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
11. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SITE REMOVED.



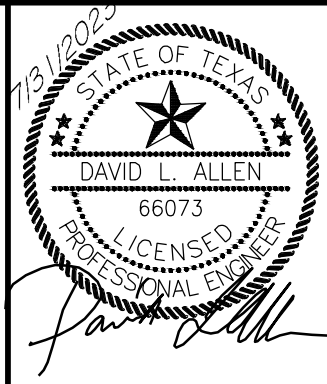
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE (S. C. E.) INSTALLATION OF CONSTRUCTION ENTRANCE:

1. CLEAR THE AREA OF DEBRIS, ROCKS, OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
2. GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE S.C.E. ONTO A PUBLIC STREET WILL NOT BE ACCEPTED.
3. PLACE ROCK AS REQUIRED. (3"-5" OPEN GRADED CLEAN CRUSHED STONE)
4. SIDE CONTAINMENT, AT THE CONTRACTOR'S DISCRETION, IS SUGGESTED. THE SPECIFIED 6" THICKNESS OF CRUSHED STONE MUST BE MAINTAINED.

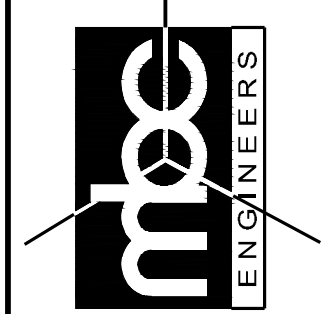
LEGEND	
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	CONCRETE TRUCK WASHOUT PIT
	GRATE & CURB INLET PROTECTION
	FIBER ROLL BERM
	ROCK BERM
	EXISTING CONTOUR
	PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
	DEFINED SWALE
	PROPOSED RETAINING WALL
	PROPOSED SAWTOOTH CURB
	PROPOSED RIDGE
	PROPOSED FIN. FLOOR ELEVATION
	PROPOSED FOUNDATION BREAKS
	OVERLAND FLOW DIRECTION
	GRATE
	DRAINAGE FLOW (PROPOSED)
	LIMITS OF CONSTRUCTION AREA OF SOIL DISTURBANCE (TO BE REVEGETATED)
	WATERSHED BOUNDARY
	IMPERVIOUS COVER TO BE DEMOLISHED
	EROSION CONTROL MAT

THIS SHEET TO BE USED FOR EROSION CONTROL PURPOSES ONLY.



PRIMARY CONTACT:
RICHARD HENDRIX, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9002 www.mbcengineers.com
FIRM REGISTRATION NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700



LANDMARK NORTH & WEST
SAN ANTONIO, TEXAS
EROSION CONTROL DETAILS

REVISIONS:	DATE	DESCRIPTION
No.		

PLAT ID#	
APP#	
DESIGN	RH
DRAWN	GM
CHECKED	DLA
DATE	03/21/2023
JOB NO.	30371-0976

C04.01

– **Permanent Stormwater Section (TCEQ-0600)**

Attachment A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site

Attachment B - BMPs for Upgradient Stormwater

Attachment C - BMPs for On-site Stormwater

Attachment D - BMPs for Surface Streams

Attachment E - Request to Seal Features (if sealing a feature)

Attachment F - Construction Plans

Attachment G - Inspection, Maintenance, Repair and Retrofit Plan

Attachment H - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the

Edwards Aquifer Rules: Technical Guidance for BMPs

Attachment I - Measures for Minimizing Surface Stream Contamination

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: Richard W. Hendrix, P.E.

Date: 7/31/2023

Signature of Customer/Agent



Regulated Entity Name: Landmark North-West

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

FORM 0600 ATTACHMENTS

ATTACHMENT “A” – 20% or less Impervious Cover Waiver

Not Applicable

ATTACHMENT “B” – BMP For Upgradient Storm Water

Stormwater originating upgradient from the site will not flow through the site and is not accounted for in the basin design.

ATTACHMENT “C” – BMPs for On-site Storm Water

The proposed post development of the Landmark North-West project will utilize permanent grass and concrete (within the paving) swales located throughout the site that will direct the storm water run-off to the various curb and grate inlets. These inlets are tied to permanent underground storm drainage systems. These drainage systems ultimately discharge into the existing water quality basin. The BMP has been designed to remove a minimum of 80% of the “TSS” from the storm water runoff.

ATTACHMENT “D” – BMPs for Surface Streams

The existing sedimentation/filtration basin will remove pollutants from stormwater runoff before it leaves the site.

ATTACHMENT “E”- Request to Seal Features

There are no sensitive features that will need to be sealed.

ATTACHMENT “F”- Construction Plans

See attached plans for existing water quality pond.

ATTACHMENT “G” Maintenance Plan and Schedule for Sedimentation and Filtration Basins

See attached maintenance plan for previously approved and constructed sedimentation and filtration basin.

INSPECTION, MAINTENANCE, REPAIR AND REPROFIT PLAN
FOR THE LANDMARK OFFICE ONE – IH 10 AND LOOP 1604

The owner of the lot where a sand filter system is located is responsible for the inspection, maintenance, and repair of the sand filter system.

Inspections. BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

Sediment Removal. Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

Media Replacement. Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

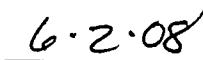
Debris and Litter Removal. Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Filter Underdrain. Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.

Mowing. Grass areas in and around sand filters 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. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.



Signature of Owner/Agent



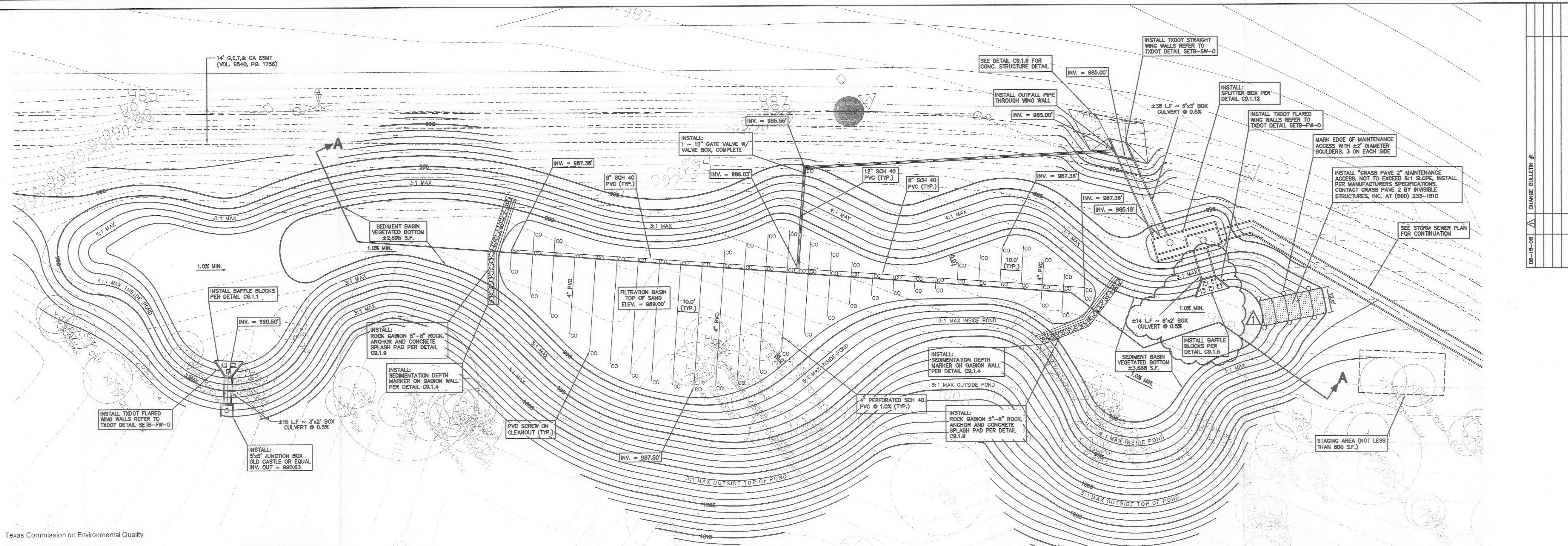
Date

ATTACHMENT “H” – Pilot Scale Field Testing Plan

Not Applicable

ATTACHMENT “I” – Measure for Minimizing Surface Stream Contamination.

There will be no appreciable increase in velocity that would cause surface stream contamination associated with this development. Storm water by-pass structures have been designed for the 25 year storm for the basin to surface drain storm water run-off. Energy dissipaters (concrete flow blocks) have been designed at the outlet structure in order to further minimize the possibility for erosion and surface stream contamination.

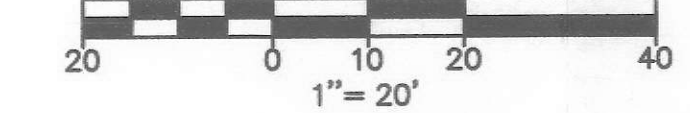


Texas Commission on Environmental Quality
 TSS Removal Calculations 02-20-2008
 Project Name: The Landmark
 Date Prepared: 6/2/2008

Additional information is provided for calls with a red triangle in the upper right corner. Place the cursor over the call. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

SEDIMENTATION/ FILTRATION BASIN
 SCALE: 1"=20'

NOTE:
 TOP OF POND IS AT ELEVATION 995.00'.
 VARIABLE GRADING CHANGES AT THIS ELEVATION



1. The Required Load Reduction for the total project. Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_{R} = 27.2(A_{i} \times P)$

County =	bexar	acres
Total project area included in plan =	35.45	acres
Predevelopment impervious area within the limits of the plan =	0.00	acres
Total post-development impervious area within the limits of the plan =	25.28	acres
Total post-development impervious cover fraction =	0.71	
P =	39	inches
L_{R} total project =	20628	lbs.

* The values entered in these fields should be for the total project area.
 Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. =	1
Total drainage basin/outfall area =	33.78 acres
Predevelopment impervious area within drainage basin/outfall area =	0.00 acres
Post-development impervious area within drainage basin/outfall area =	24.99 acres
Post-development impervious fraction within drainage basin/outfall area =	0.74
L_{R} this basin =	20392 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	sf	abbreviation	AQ	Aqualogic™ Cartridge Filter
Removal efficiency =	89	percent	BR	BioRetention
			CS	Contech StormFilter
			CW	Constructed Wetland
			ED	Extended Detention
			GS	Grassy Swale
			RI	Retention / Infiltration
			SF	Sand Filter
			VF	Vegetative Filter Strip
			WB	Wet Basin
			WV	Wet Vault

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

RG-348 Page 3-33 Equation 3.7: $L_{R} = (BMP \text{ efficiency}) \times P \times (A_{i} \times 34.6 + A_{p} \times 0.54)$

where:	A_{i} = Total On-Site drainage area in the BMP catchment area
	A_{p} = Impervious area proposed in the BMP catchment area
	A_{p} = Previous area remaining in the BMP catchment area
	L_{R} = TSS Load removed from this catchment area by the proposed BMP
A_{i} =	33.78 ac/89
A_{p} =	24.99 acres
A_{p} =	8.78 ac/89
L_{R} =	23213 lbs.

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

Desired L_{R} this basin =	20628 lbs.
F =	0.89

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.85	
On-site Water Quality Volume =	107599	cubic feet
Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0.00	cubic feet
Storage for Sediment =	21520	cubic feet
Total Capture Volume (required water quality volume(s) x 1.20) =	129119	cubic feet

The following equations are used to calculate the required water quality volume(s) for the selected BMP. The values for BMP types not selected in cell C53 will show NA.

7. Retention/Irrigation System. Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet
Infiltration Area Calculations:		
Soil infiltration/permeability rate =	0.1	in/hr
Irrigation area =	NA	square feet

8. Extended Detention Basin System. Designed as Required in RG-348 Pages 3-48 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
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9. Filter area for Sand Filters. Designed as Required in RG-348 Pages 3-58 to 3-63

Water Quality Volume for sedimentation basin =	129119	cubic feet
Minimum filter basin area =	5978	square feet
Maximum sedimentation basin area =	33000	square feet
Minimum sedimentation basin area =	13450	square feet

9A. Full Sedimentation and Filtration System

Water Quality Volume for combined basins =	129119	cubic feet
Minimum filter basin area =	10760	square feet
Maximum sedimentation basin area =	43040	square feet
Minimum sedimentation basin area =	2690	square feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	129119	cubic feet
Minimum filter basin area =	10760	square feet
Maximum sedimentation basin area =	43040	square feet
Minimum sedimentation basin area =	2690	square feet

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

Drainage Basin/Outfall Area No. =	2
Total drainage basin/outfall area =	1.70 ac/89
Predevelopment impervious area within drainage basin/outfall area =	0.00 ac/89
Post-development impervious area within drainage basin/outfall area =	0.00 ac/89
Post-development impervious fraction within drainage basin/outfall area =	0.00
L_{R} this basin =	0 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	sf	abbreviation	AQ	Aqualogic™ Cartridge Filter
Removal efficiency =	89	percent	BR	BioRetention
			CS	Contech StormFilter
			CW	Constructed Wetland
			ED	Extended Detention
			GS	Grassy Swale
			RI	Retention / Infiltration
			SF	Sand Filter
			VF	Vegetative Filter Strip
			WB	Wet Basin
			WV	Wet Vault

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

RG-348 Page 3-33 Equation 3.7: $L_{R} = (BMP \text{ efficiency}) \times P \times (A_{i} \times 34.6 + A_{p} \times 0.54)$

where:	A_{i} = Total On-Site drainage area in the BMP catchment area
	A_{p} = Impervious area proposed in the BMP catchment area
	A_{p} = Previous area remaining in the BMP catchment area
	L_{R} = TSS Load removed from this catchment area by the proposed BMP
A_{i} =	1.70 acres
A_{p} =	0.00 acres
A_{p} =	1.70 acres
L_{R} =	25 lbs.

5. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.85	
On-site Water Quality Volume =	107599	cubic feet
Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0.00	cubic feet
Storage for Sediment =	21520	cubic feet
Total Capture Volume (required water quality volume(s) x 1.20) =	129119	cubic feet

7. Retention/Irrigation System. Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet
Infiltration Area Calculations:		
Soil infiltration/permeability rate =	0.1	in/hr
Irrigation area =	NA	square feet

8. Extended Detention Basin System. Designed as Required in RG-348 Pages 3-48 to 3-51

Required Water Quality Volume for extended detention basin =	NA	cubic feet
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9. Filter area for Sand Filters. Designed as Required in RG-348 Pages 3-58 to 3-63

Water Quality Volume for sedimentation basin =	129119	cubic feet
Minimum filter basin area =	5978	square feet
Maximum sedimentation basin area =	33000	square feet
Minimum sedimentation basin area =	13450	square feet

9A. Full Sedimentation and Filtration System

Water Quality Volume for combined basins =	129119	cubic feet
Minimum filter basin area =	10760	square feet
Maximum sedimentation basin area =	43040	square feet
Minimum sedimentation basin area =	2690	square feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	129119	cubic feet
Minimum filter basin area =	10760	square feet
Maximum sedimentation basin area =	43040	square feet
Minimum sedimentation basin area =	2690	square feet

OVERALL ULTIMATE BMP CALCULATION SUMMARY

WATERSHED AREA =	35.45 ACRES
RUNOFF DEPTH =	1.50 INCHES
Basin Stormwater Depth =	4.56 FEET
SAND FILTER AREA REQUIRED:	10,760 S.F.
SAND FILTER AREA PROVIDED:	12,476 S.F.
SEDIMENTATION AREA REQUIRED:	2,690 S.F.
SEDIMENTATION AREA PROVIDED:	6,583 S.F.
CAPTURE VOLUME REQUIRED:	129,119 C.F.
CAPTURE VOLUME PROVIDED:	173,09 C.F.S

* VOLUME OF POND PROVIDED TO ACCOUNT FOR DEVELOPMENT OF UP TO 24.99 ACRES OF ON-SITE IMPERVIOUS COVER ON 35.45 ACRE TRACT AND UP TO 0.29 ACRES OF OFF-SITE IMPERVIOUS COVER

Texas Commission on Environmental Quality
 Contributing Zone Plan
 General Construction Notes

- Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should 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 with the name and telephone number of the contact person.
- All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
- No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet of a domestic, industrial, irrigation, or public water supply well.
- Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspectors 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 no 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 volume.
- Liter, 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 soils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.
- Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
- The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
 - any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
 - any change in the nature or character of the regulated activity from that which was originally approved;
 - any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
 - any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795 San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

WARNING!
 CONTRACTOR TO VERIFY EXACT LOCATION OF FIBER OPTIC CABLE OR OTHER UTILITIES!

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

BuryPartners
 CONSULTING ENGINEERS
 602 Jones Road, Suite 100
 San Antonio, TX 78216
 Tel. (210) 348-9900 Fax (210) 348-0029
 BuryPartners-CA, Inc. Copyright 2008

STATE OF TEXAS
 COY D. ARMSTRONG
 87617
 LICENSED PROFESSIONAL ENGINEER
 8/15/08

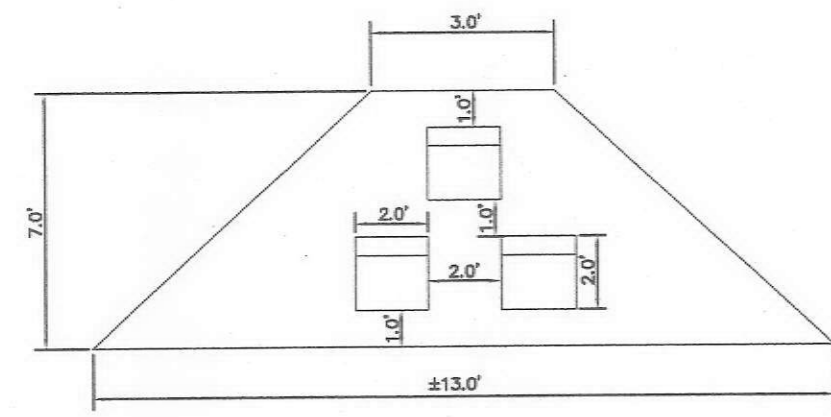
WATER QUALITY POND

THE LANDMARK
 IH-10 & LOOP 1604
 SAN ANTONIO, TEXAS

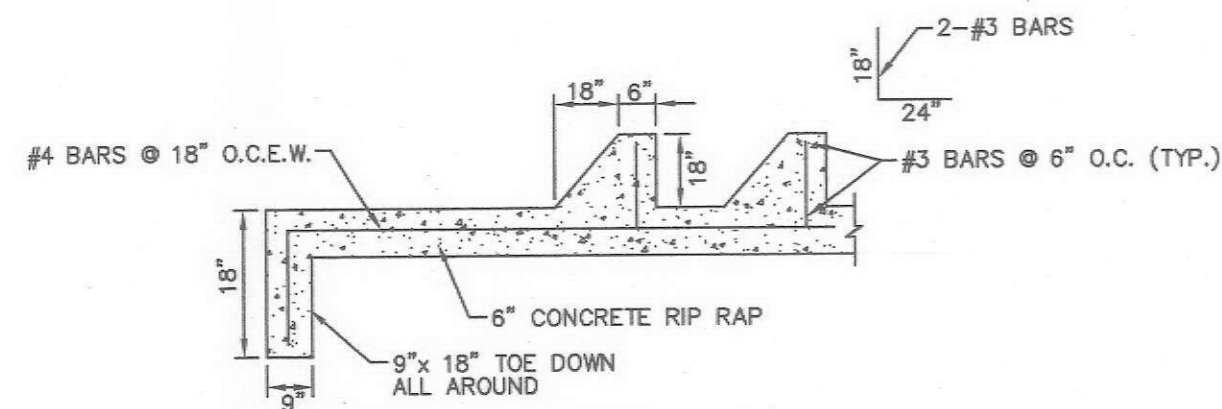
TCEQ-R73
 AUG 20 2008
 SAN ANTONIO

PLOTTING SCALE: 1"=1'
 DATE REVISED: AUG 20, 2008
 FILE: G:\072\08\07208000.dwg
 DRAWN BY: ENW
 DESIGNED BY: GF
 REVIEWED BY: COA
 PROJECT NO.: 672-08-00

SHEET
C9.0



PLAN



ENERGY DISSIPATOR PROFILE

NOTE:
1. ALL CONCRETE SHALL BE 3000PSI
IN 28 DAYS

C9.11 DISSIPATOR BLOCK DETAIL
SCALE: N.T.S.

GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	UNIT	SPECS.
MATERIAL			NONWOVEN GEOTEXTILE
UNIT WEIGHT	OZ./SQ. YD.		8 (MIN.)
FILTRATION RATE	IN./SEC.		0.08 (MIN.)
GRAB STRENGTH	ASTM D-1682	LB.	400 (MIN.)
PUNCTURE STRENGTH	ASTM D-751(MOD.)	LB.	125 (MIN.)
MULDEN BURST STRENGTH	ASTM D-701	PSI	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	300 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)

SAND BED AND GEOTEXTILE FABRIC
THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING SUITABLE GEOTEXTILE FABRIC MEETING THE FOLLOWING SPECIFICATIONS:

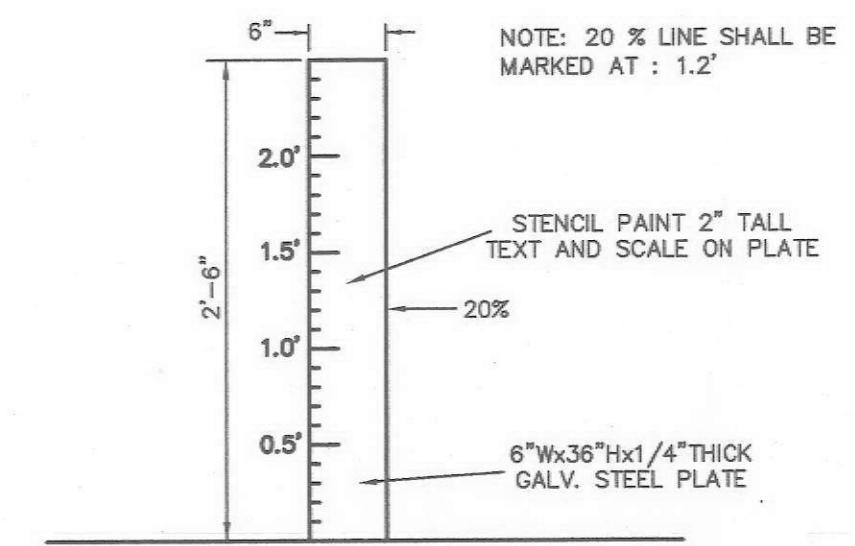
FIRST (TOP) LAYER- FINE SAND, 0.02-0.04 INCH, 18 INCH DEPTH, TEST METHOD ASTM C-33
SECOND LAYER- 1/2-2 INCH GRAVEL, AT LEAST 1 INCH DEPTH TO 2 INCH DEPTH SURROUNDING UNDERDRAIN PIPING

FOR SEDIMENTATION AND FILTRATION PONDS
CLAY LINERS SHALL MEET THE FOLLOWING SPECIFICATIONS:

TABLE 1-7
CLAY LINER SPECIFICATION

PROPERTY	TEST METHOD	UNIT	SPECS.
PERMEABILITY	ASTM D-2434	Cm/Sec	1 x 10 ⁻⁸
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-222	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF 12 INCHES.



NOTE: SEDIMENT DEPTH MARKER TO BE INSTALLED ON SEDIMENT BASIN SIDE OF ROCK GABION WALL

C9.14 SEDIMENT DEPTH MARKER
SCALE: N.T.S.

Bury+Partners
ENGINEERING SOLUTIONS
922 Iron Road, Suite 100
San Antonio, TX 78216
Tel: (210)381-9900 Fax: (210)381-4600
BuryPartners@earthlink.net Copyright 2008

STATE OF TEXAS
COY D. ARMSTRONG
87617
LICENSED PROFESSIONAL ENGINEER
EXPIRES 08/31/2011

DATE: 08-15-08
REVISION: 1
APPROVAL: [Signature]

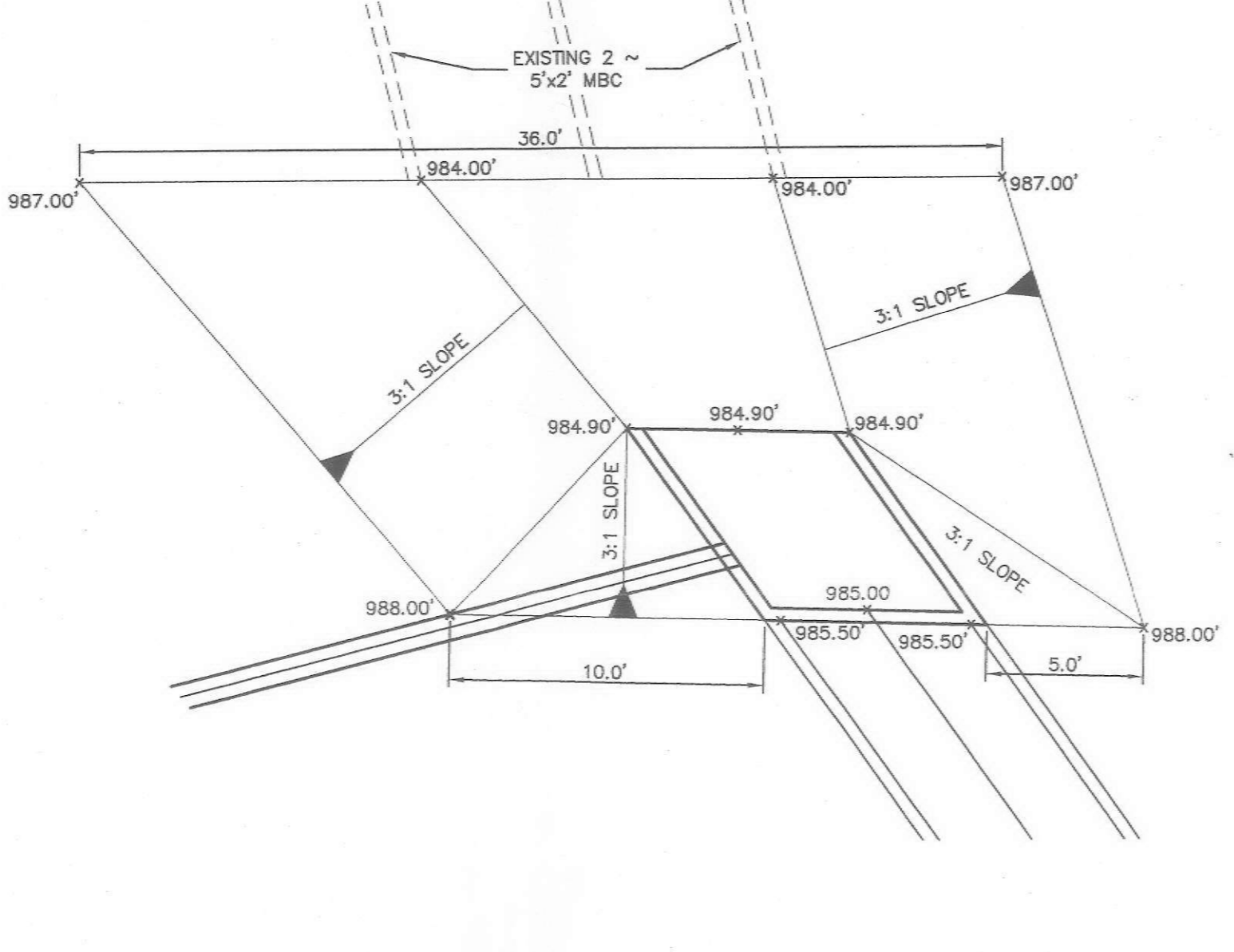
WATER QUALITY POND DETAILS

THE LANDMARK
IH-10 & LOOP 1604
SAN ANTONIO, TEXAS

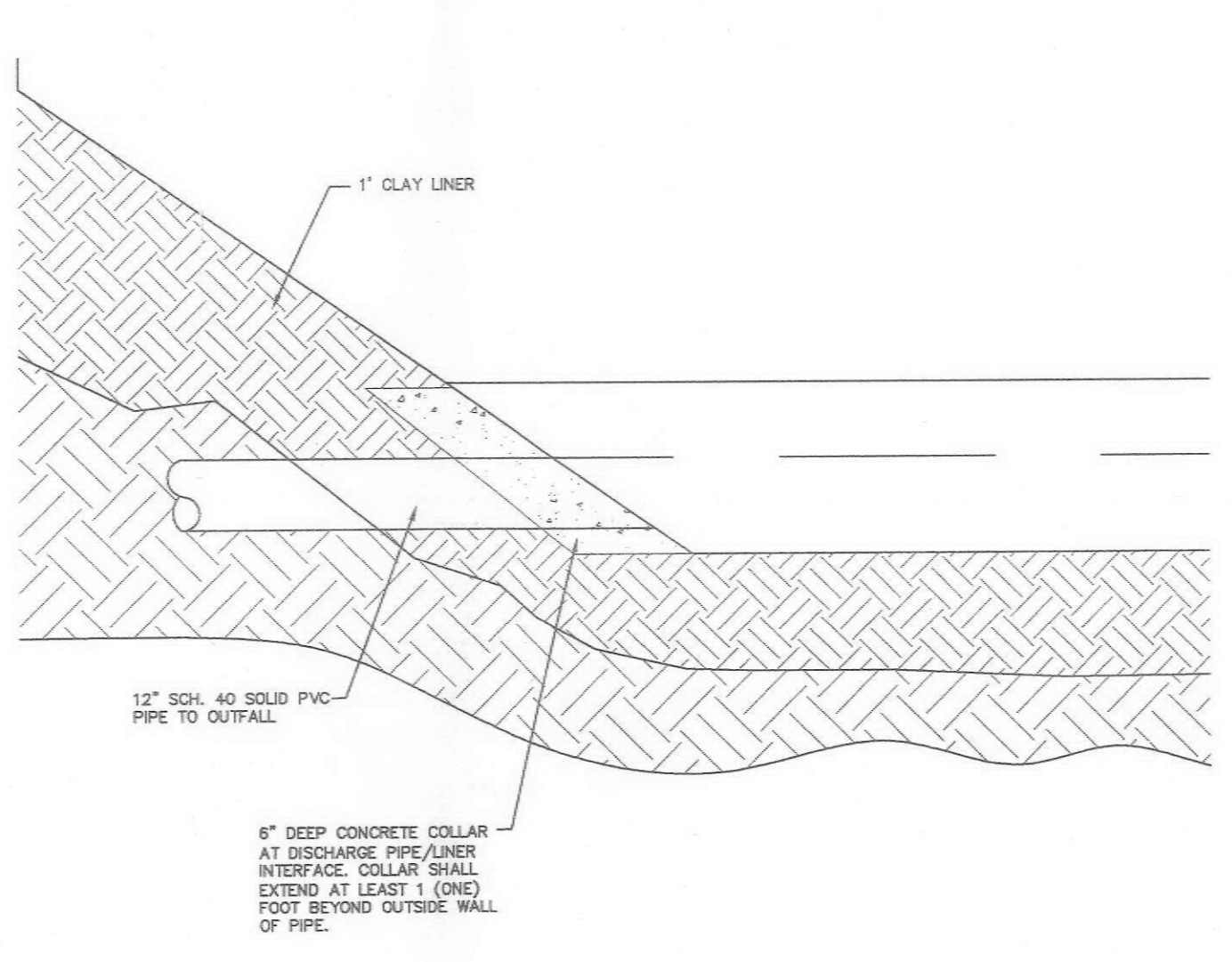
PROJECT NO. 672-06.00
DESIGNED BY: GDA
REVIEWED BY: GDA
DRAWN BY: ENW
FILE: G:\172\10\17206\10.dwg
DATE REVISED: Aug. 20, 2008
PLOTING SCALE: 1" = 1'

SHEET
C9.1

C9.12 NOT USED
SCALE: N.T.S.

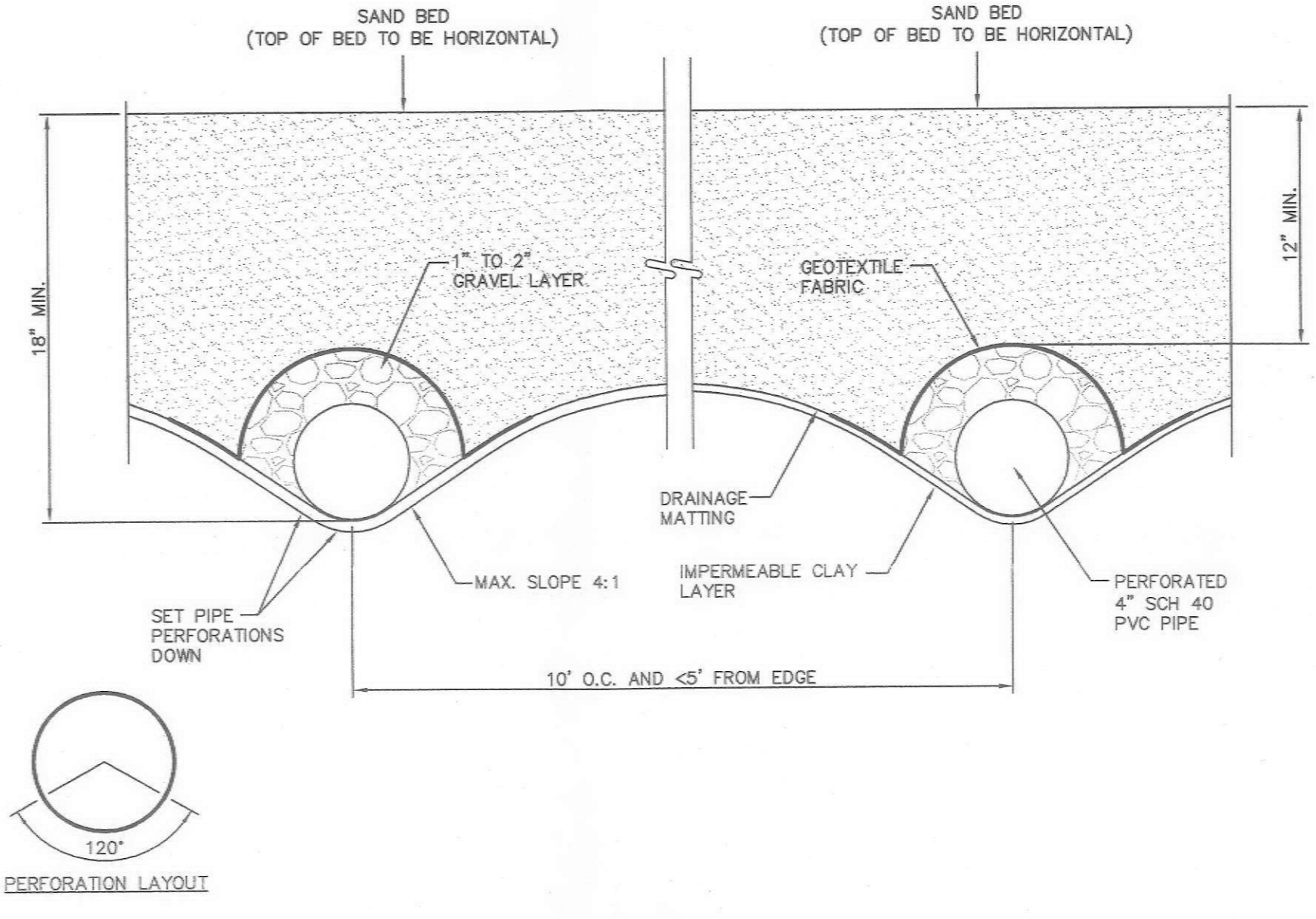


C9.16 CONCRETE STRUCTURE DETAIL
SCALE: N.T.S.

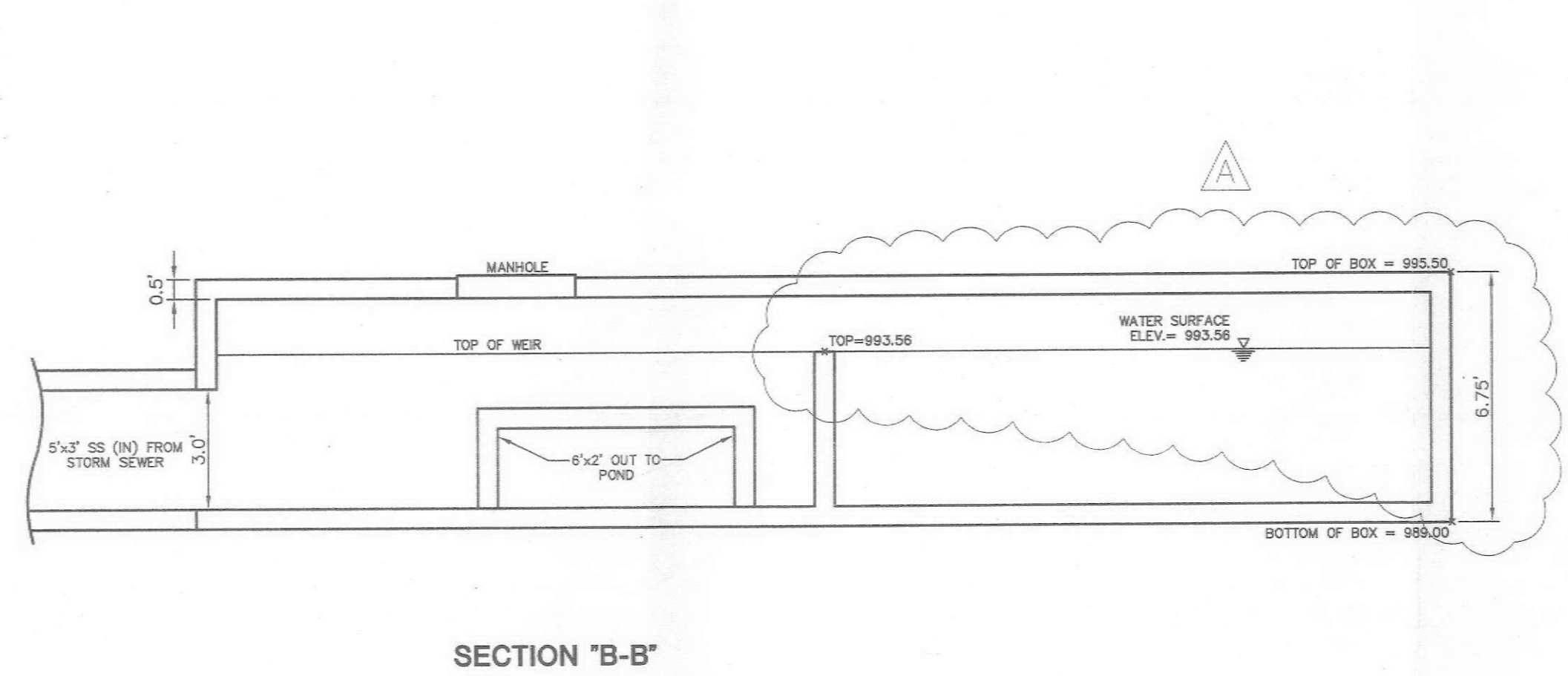


C9.110 OUTFALL DETAIL
SCALE: N.T.S.

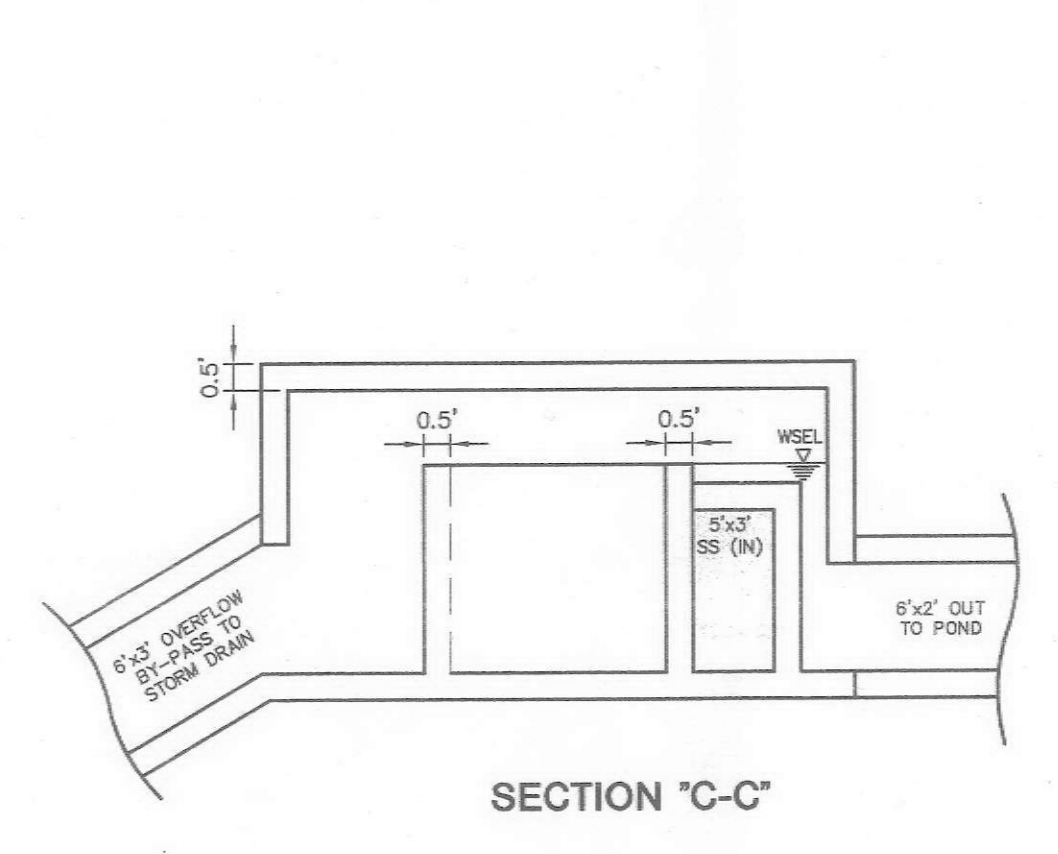
C9.13 FILTRATION POND SAND BED SPECS
SCALE: N.T.S.



C9.17 SAN BED PROFILE (TRENCH DESIGN) DETAIL
SCALE: N.T.S.

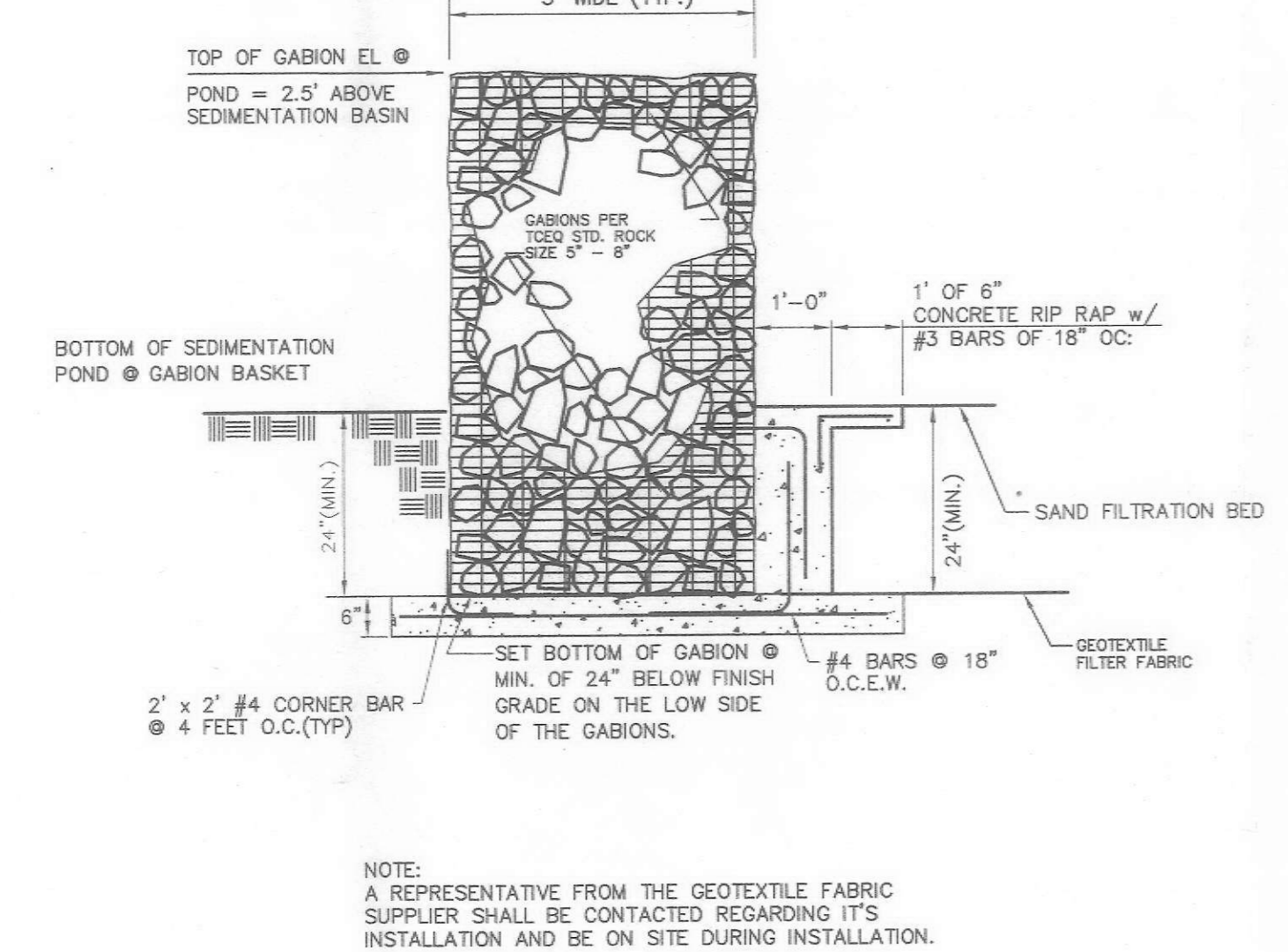


C9.12 SECTION 'B-B'

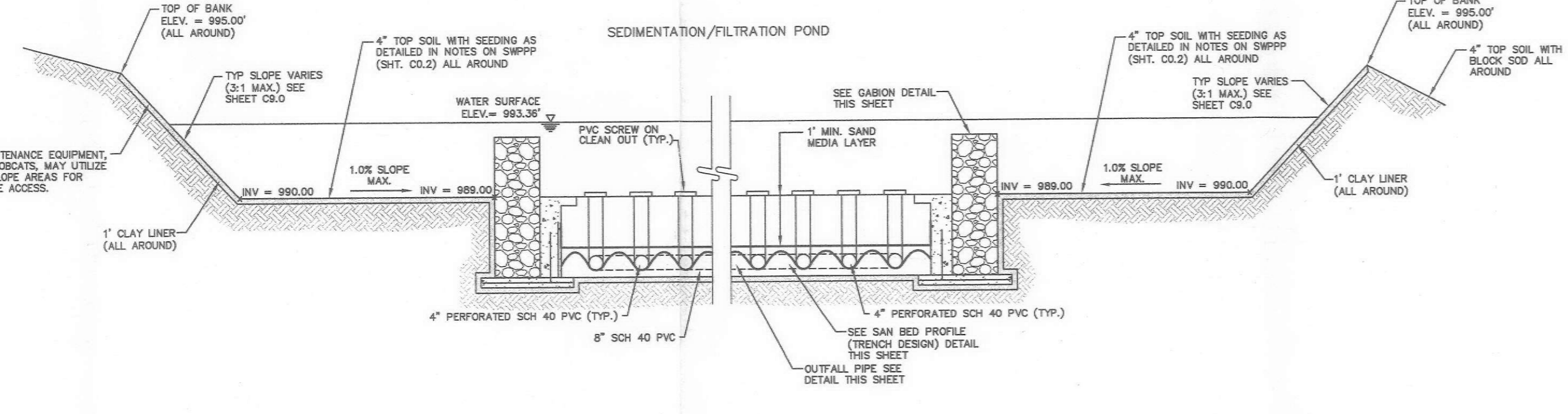


C9.18 6" GATE VALVE DETAIL
SCALE: N.T.S.

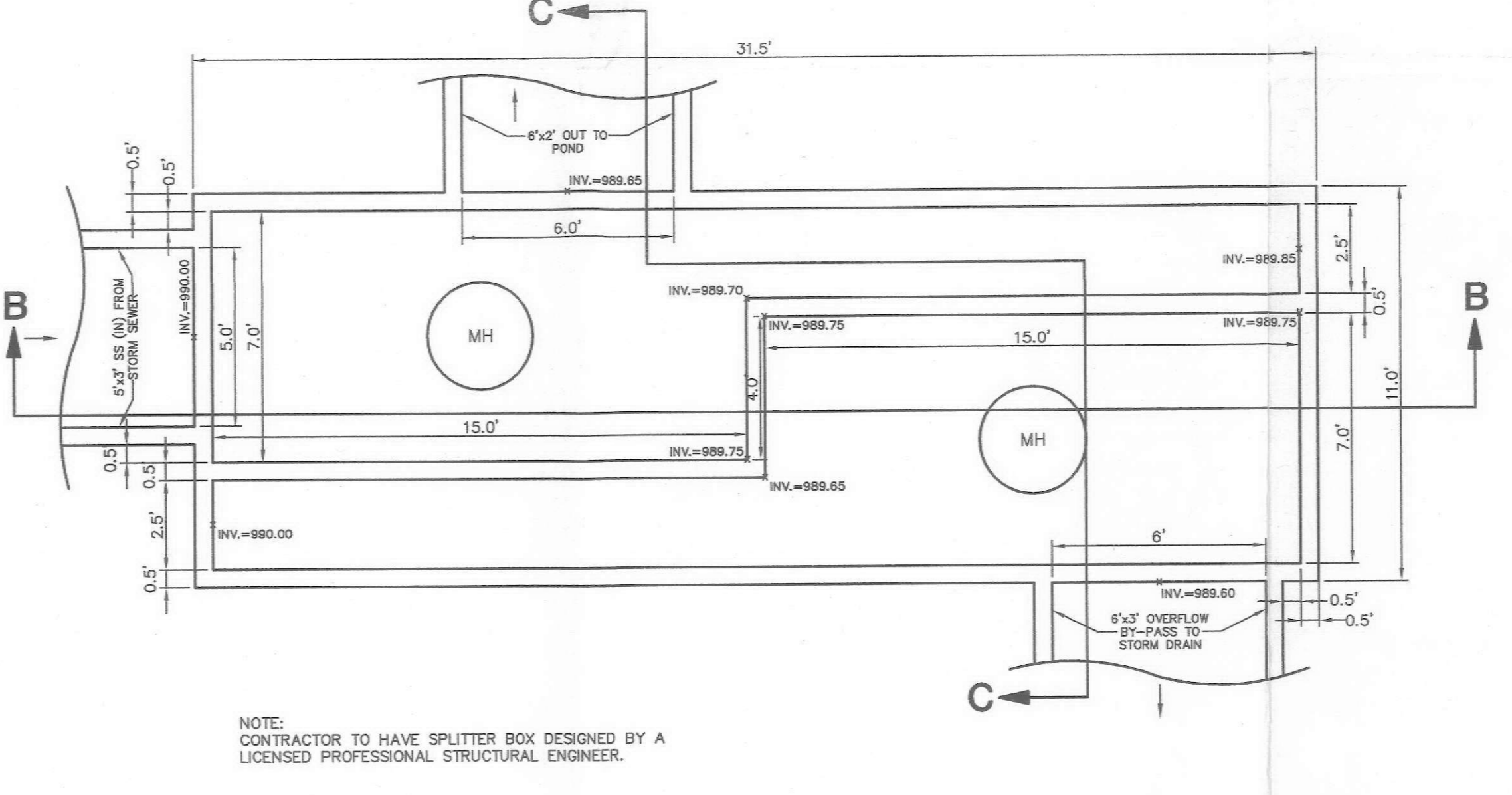
C9.15 DISSIPATOR BLOCK DETAIL
SCALE: N.T.S.



C9.19 GABION BASKET WALL DETAIL
SCALE: N.T.S.



C9.11 SECTION 'A-A'
SCALE: N.T.S.



C9.12 SPLITTER BOX DETAIL
SCALE: N.T.S.

SHARP CRESTED RECTANGULAR WEIR CALCULATION

$$L_w = Q / (C * H^{3/2})$$

Q = 173.09 CFS
C = 3.33 WEIR COEFFICIENT
H = 1.33 FT

L_w = 31.28 FT REQUIRED
L_w = 34 FT PROVIDED

Drawn: Aug 20, 2008, 6:02am User: D. Madhwarani
File: G:\172\10\17206\10.dwg

- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**

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

I Benjamin Dreszer,
Print Name

Partner,
Title - Owner/President/Other

of I.H. 10/ Loop 1604 Partners, LTD.,
Corporation/Partnership/Entity Name

have authorized Richard W. Hendrix, P.E.
Print Name of Agent/Engineer

of MBC Engineers, Inc.
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:

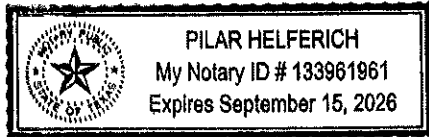
[Handwritten Signature]
Applicant's Signature

7/27/28
Date

THE STATE OF Texas §
County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Benjamin Dresler 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 27th day of July 2023



[Handwritten Signature]
NOTARY PUBLIC
PILAR HELFERICH
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9/15/2026

- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the “Texas Commission on Environmental Quality”**
- **Core Data Form (TCEQ-10400)**

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Landmark North-West

Regulated Entity Location: Southeast corner of Loop 1604 & I.H. 10

Name of Customer: IH10/Loop 1604 Partners, LTD.

Contact Person: Benjamin Dreszer

Phone: (210) 593-0777

Customer Reference Number (if issued): CN 603349507

Regulated Entity Reference Number (if issued): RN 106376296

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

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
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	12.14 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: 7/31/2023

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

<i>Project</i>	<i>Project Area in Acres</i>	<i>Fee</i>
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

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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



TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input 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 checked="" type="checkbox"/> Other WPAP Modification
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 603349507		RN 106376296

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input type="checkbox"/> New Customer <input checked="" 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)		<i>If new Customer, enter previous Customer below:</i>	
IH 10/Loop 1604 Partners, LTD			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
		260437282	
11. Type of Customer:	<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <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 checked="" type="checkbox"/> 0-20 <input 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"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant			
15. Mailing Address:	10003 NW Military Hwy, Suite 2205		
	City	San Antonio	State TX ZIP 78231 ZIP + 4 1890
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	

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

New Regulated Entity Update to Regulated Entity Name Update to Regulated Entity Information

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

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

Landmark North-West

23. Street Address of the Regulated Entity:(No PO Boxes)

City	San Antonio	State	TX	ZIP	78249	ZIP + 4	
-------------	-------------	--------------	----	------------	-------	----------------	--

24. County

Bexar

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

25. Description to**Physical Location:**

Southeast corner of the intersection of Loop 1604 and IH 10

26. Nearest City**State****Nearest ZIP Code**

San Antonio

TX

78249

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

27. Latitude (N) In Decimal:

29.587977

28. Longitude (W) In Decimal:

-98.593959

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

29

35

16.7166

-98

35

38.2518

29. Primary SIC Code**30. Secondary SIC Code****31. Primary NAICS Code****32. Secondary NAICS Code**

(4 digits)

(4 digits)

(5 or 6 digits)

(5 or 6 digits)

8748

531120

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

Commercial retail business

34. Mailing

10003 NW Military Hwy, Suite 2205

Address:

City	San Antonio	State	TX	ZIP	78231	ZIP + 4	1890
-------------	-------------	--------------	----	------------	-------	----------------	------

35. E-Mail Address:

benjamin@fulcrumsa.com

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

(210) 593-777

() -

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 type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Richard Hendrix	41. Title:	Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 545-1122		(210) 545-9302	rhendrix@mbcengineers.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:	MBC Engineers	Job Title:	Project Manager
Name (In Print):	Richard Hendrix	Phone:	(210) 545- 1122
Signature:		Date:	7/31/2023