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: Veritas Academy						**2. Regulated Entity No.:**			
3. Customer Name: Veritas Academy						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		96.60 Acres	
9. Application Fee:	$8,650		**10. Permanent BMP(s):**			Retention Irrigation			
11. SCS (Linear Ft.):	307		**12. AST/UST (No. Tanks):**						
13. County:	Hays		**14. Watershed:**			Bear Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	_x_	___	___
Region (1 req.)	_x_	___	___
County(ies)	_x_	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority _x_Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	_x_Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
REESE HUNLEY Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 10-27-2023 Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

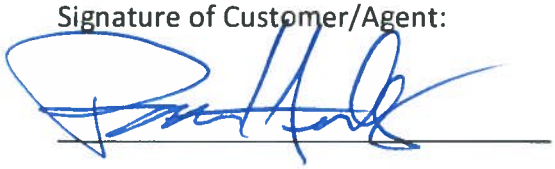
Signature

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

Print Name of Customer/Agent: Reese Hurley, P.E.

Date: 10-27-2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Veritas Academy
2. County: Hays
3. Stream Basin: Bear Creek
4. Groundwater Conservation District (If applicable): Barton Springs/Edwards Aquifer
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☒ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Cameron Cook
   Entity: Veritas Academy
   Mailing Address: 13401 Escarpment Blvd
   City, State: Austin, Texas Zip: 78739
   Telephone: 512-891-1674 FAX: 512-891-1693
   Email Address: cameron.cook@veritasacademy.net

8. Agent/Representative (If any):

   Contact Person: Reese Hurley, P.E.
   Entity: LJA Engineering, Inc.
   Mailing Address: 7500 Rialto Blvd., Building II, Suite 100
   City, State: Austin, Texas Zip: 78735
   Telephone: 512-439-4734 FAX: 512-439-4716
   Email Address: rhurley@lja.com

9. Project Location:

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

    13401 Escarpment Blvd. Austin, Texas 78739

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

    ☒ Survey staking will be completed by this date: _____

14. ☒ **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:

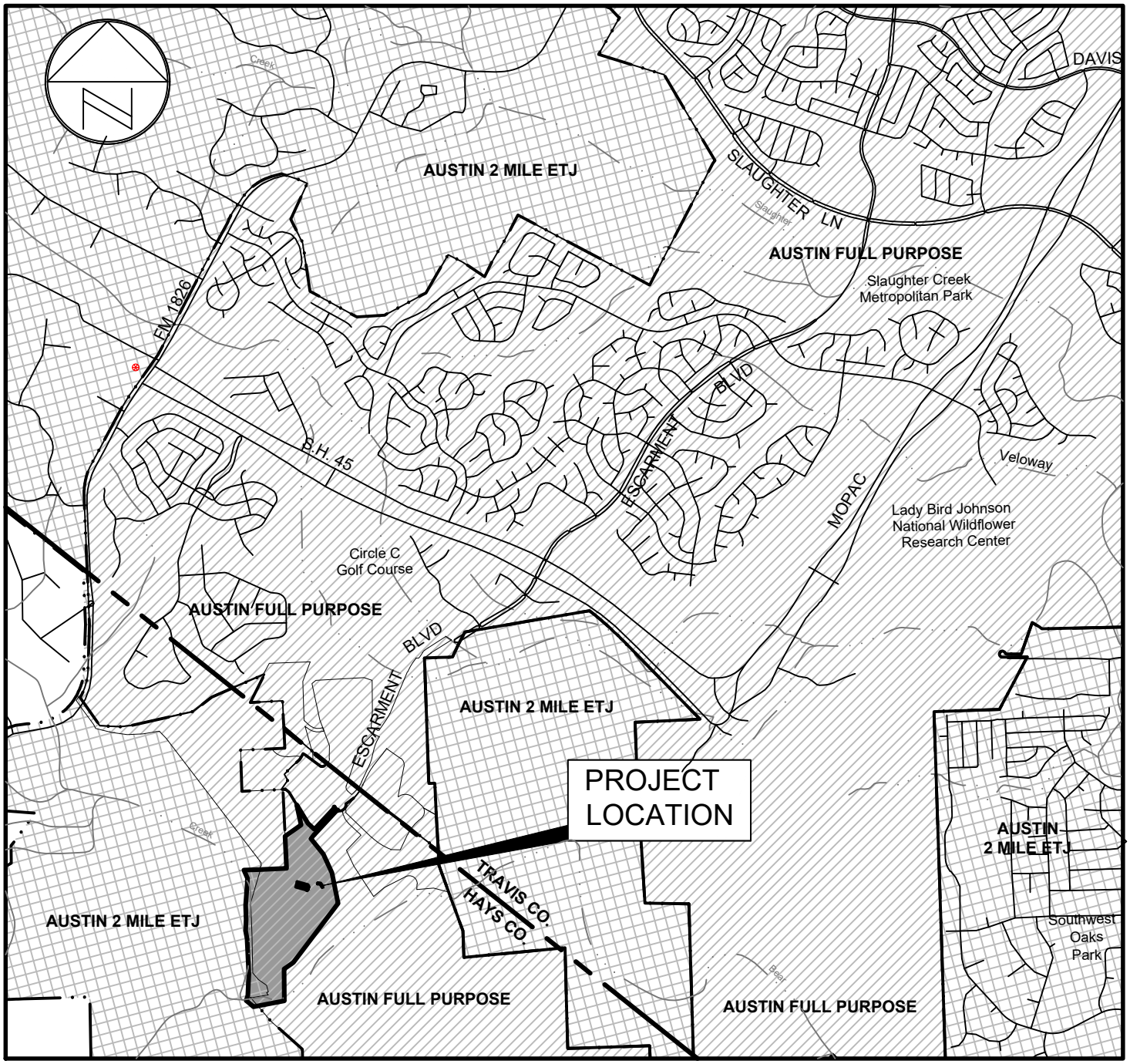
- ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an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



(NTS)

GRID NO.: A-13, A-14, WZ13

MAPSCO PAGE: 670V, 670Z, 671N, 671S, 671W

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

Veritas Academy
Gym Addition and Campus Improvements
Road Map

13401 Escarpment Boulevard, Austin TX

FORM 0587, ATTACHMENT A

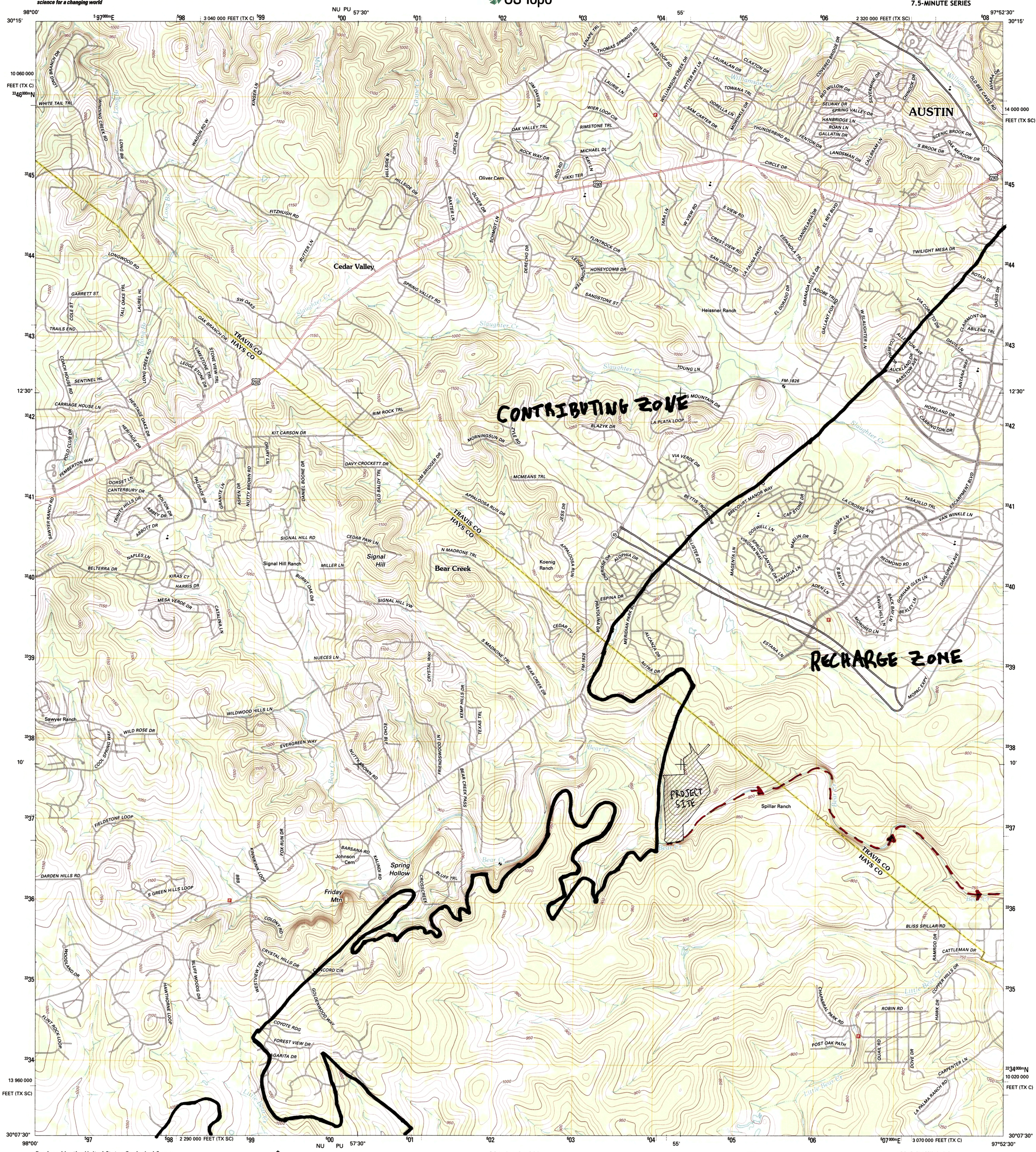
1 OF 3

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

SIGNAL HILL QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south
central and central zones)

Imagery.....NAIP, May 2010
Roads.....©2006-2012 TomTom
Names.....GNIS, 2012
Hydrography.....National Hydrography Dataset, 2010
Contours.....National Elevation Dataset, 2002
Boundaries.....Census, IBWC, IBC, USGS, 1972 - 2012

MN 4° 29' 80 MILS
GN 0° 32' 9 MILS
UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
600 NU PU
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS
QUADRANGLE LOCATION

Shingle Hills	Bee Cave	Austin West
Dripping Springs	Signal Hill	Oak Hill
Driftwood	Mountain City	Buda

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route	State Route
US Route	Local Road
Ramp	4WD

Interstate Route US Route State Route

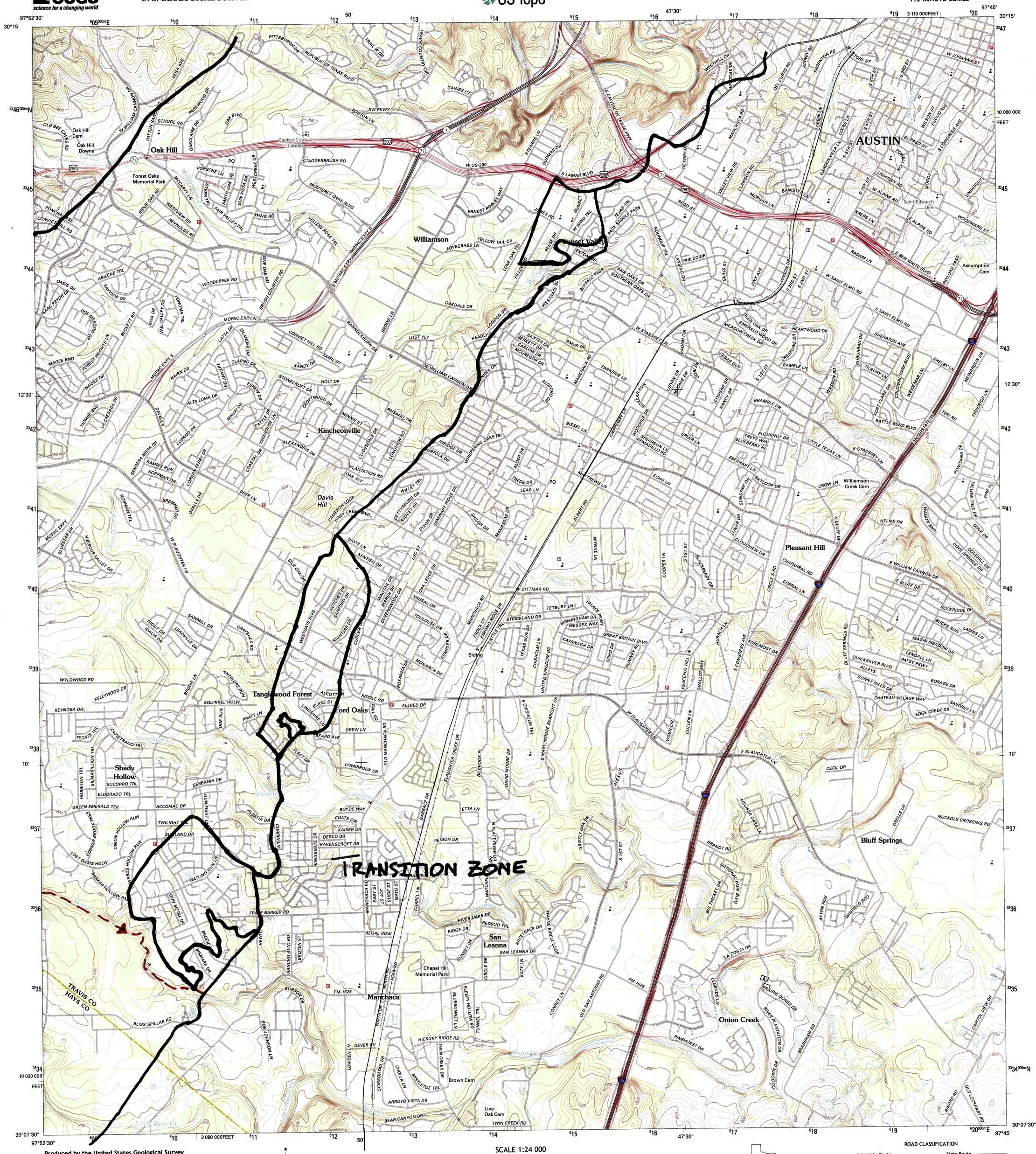
SIGNAL HILL, TX
2013

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

OAK HILL QUADRANGLE
TEXAS
7.5-MINUTE SERIES



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UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MN 4° 25' 78 MILS
GN 0° 36' 11 MILS

U.S. National Grid
100,000-m Square ID
PU
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS
QUADRANGLE LOCATION

Bee Cave	Austin West	Austin East
Signal Hill	Oak Hill	Montopolis
Mountain City	Buda	Creedmoor

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route — State Route
US Route — Local Road
Ramp — 4WD

Interstate Route | US Route | State Route

OAK HILL, TX
2013

ATTACHMENTS – FORM 0587

ATTACHMENT C – Project Description

The proposed Veritas Academy Gym Addition and Campus Improvements site plan is located on 96.60 acres of developed land. The site is located at the southernmost end of the Avana subdivision at 13401 Escarpment Boulevard, Austin, Texas 78739. The project is located in Northern Hays County within the City of Austin's full purpose jurisdiction. The project site is within the Bear Creek Watershed which is classified as the Barton Springs Zone by the City of Austin. The project site is subject to the Bradley Settlement Agreement, an agreement between the original owner and the City of Austin regarding the required water quality controls. To meet the requirements of the agreement, the water quality controls have been designed in conformance with the City of Austin's SOS Ordinance requirements. The proposed limits of construction will encompass 15.39 acres.

The site was undeveloped until Veritas Academy, a private school, was constructed in 2018. The previous development constructed 3.95 acres of impervious area consisting of a main school building, auditorium, eight pre-manufactured units with decking serving as school classrooms/offices/facilities, parking, and a drive aisle. Batting cages, an outdoor pavilion, and two faculty offices have also been constructed. The proposed improvements will include the removal of 0.67 acres of impervious area and construction of 2.97 acres of impervious area to consist of a gym, expanded driveway immediately surrounding the guard shack, relocated pre-manufactured units with wood decking to serve as school classrooms, two separate student and faculty restrooms, parking, a looped drive aisle and drop-off area, required fire lanes, and required accessible paths. A portion of the existing drive aisle, sidewalks, wood decking, 320 linear feet of 8-inch water line, 329 linear feet of 6-inch wastewater line, a restroom, a 3:1 safety end treatment, storm sewer pipes, and several inlets will be demolished. A transformer, two meter banks, two fire hydrants, and two portable classrooms will be relocated onsite. After the proposed improvements are constructed, the site will consist of 6.25 acres of impervious area.

Currently, storm sewer pipes and open channels convey developed runoff to an existing onsite water quality pond, which overflows into the existing detention pond during larger storm events. The northern portion of the site driveway sheet flows onto a vegetative filter strip located just west of the driveway and is not detained onsite. Developed runoff from the remainder of the site is conveyed to the existing retention/irrigation water quality pond. The existing onsite retention/irrigation pond includes sedimentation and filtration chambers for purposes of pre-treatment.

Onsite detention pond improvements are designed to keep developed conditions peak runoff rates to be no greater than the pre-developed rates. The project shall capture developed storm water runoff from onsite impervious cover and landscape areas using proposed and existing inlets. The runoff in drainage area D2 (8.98 acres) shall be conveyed via open channels and underground storm sewer pipe to an existing retention/irrigation water quality pond. The runoff from drainage area D3 (4.64) shall be conveyed via open channels and underground storm sewer pipe to a proposed retention/irrigation water quality pond. Both water quality ponds will discharge into an existing onsite detention pond. HEC-HMS software was utilized to model the detention pond improvements. The existing detention pond has primarily 3:1 side slopes. To account for additional onsite runoff from the maximum allowable impervious cover (6.5 acres), the sides of the detention pond will be excavated, and walls will be installed to increase the detention volume.

The runoff associated with drainage area D4, located at the north portion of the site, is not conveyed to these ponds. The impervious improvements in this northern drainage area are related to the driveway improvements immediately surrounding the guard shack. The runoff from this drainage area is conveyed through an existing open channel, existing culvert, and existing flow spreader to an existing vegetative filter strip to provide water quality.

An existing 6" domestic water line and an existing 8" domestic fire line currently serve the site. The existing site has approximately 2,428 LF of water line for the purpose of providing the needed hydrant flows. There are approximately 2,256 linear feet of 4" domestic water service line. 2" domestic service lines extend from the 4" main to serve four of the existing portable units. Water and wastewater utilities are also required for the proposed improvements. The proposed onsite water and fire water lines will connect to the existing lines via proposed "tee joints" and extend through the site for the purpose of serving the proposed gym, restrooms, and relocated fire hydrants. The proposed improvements will install approximately 400 linear feet of 8" fire water line for purposes of providing the needed hydrant flows. Approximately 134 linear feet of 4-inch domestic water service line will be installed to serve the proposed gym. 187 linear feet of 2" domestic service line will be installed from the 4" main to serve the proposed restrooms.

Currently, a lift station with pump, pump controls, wet well, and a force main serve the sight. The lift station is located at the south end (the lowest end) of the site. Approximately 2,303 linear feet of existing 3-inch force main mechanically conveys flow northward, where it connects to an existing 3-inch force main. The main school building, auditorium, and individual pre-manufactured units are served by a system of 6" and 8" wastewater collection lines before all flow ultimately reaches the existing lift station. Wastewater generated by the proposed improvements will ultimately gravity flow to the existing onsite sewage collection system. The proposed gym and restrooms will be served by a system of 4" and 6" wastewater collection lines before all wastewater flow ultimately reaches the existing lift station. Detailed information concerning the wastewater collection system is contained within the SCS application.

Horizon™
Environmental Services, Inc.

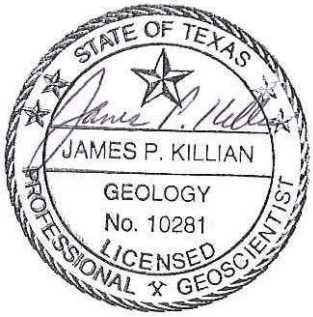
GEOLOGIC ASSESSMENT
APPROXIMATELY 21.2-ACRE VERITAS ACADEMY AND GYM PROJECT
13401 ESCARPMENT BOULEVARD
AUSTIN, HAYS COUNTY, TEXAS
HJN 23138 GA

PREPARED FOR:

VERITAS ACADEMY
AUSTIN, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES, INC.
TBPG FIRM REGISTRATION NO. 50488



JUNE 2023

CORPORATE HEADQUARTERS
1507 S Interstate 35 • Austin, Texas 78741-2502 • 512.328.2430 • www.horizon-esi.com
TBPG Firm No. 50488 • An LJA Company

Horizon
Environmental Services, Inc.

TABLE OF CONTENTS

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

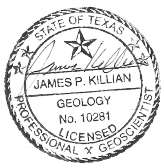
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: James Killian Telephone: 512-328-2430

Date: 15 June 2023 Fax: 512-328-1804

Representing: Horizon Environmental Services, Inc. and TBPG Form Registration No. 50488
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Approximately 21.2-acre Veritas Academy and Gym Project; 13401 Escarpment Boulevard, Austin, Hays County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 7 June 2023
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Brackett-Rock Outcrop-Comfort Complex (BtD)	D	1.2
Comfort-Rock Outcrop Complex, 1-8% slopes (CrD)	D	1.1

Soil Name	Group*	Thickness(feet)

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

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

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

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

   Applicant's Site Plan Scale: 1" = 400'
   Site Geologic Map Scale: 1" = 400'
   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: _____

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

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

    ☐ There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

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ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

Horizon observed no features on the subject site that meet the TCEQ definition of a potential recharge feature; as such, the TCEQ Geologic Assessment Table was not completed.

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ATTACHMENT B

STRATIGRAPHIC COLUMN

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
			914	0
Dolomitic Member (Kkd)	Edwards Aquifer	80		
			834	80
Basal Nodular Member (Kkbn)		50		
			784	130
Upper Glen Rose Limestone (Kgru)	Confining Unit	350		
			434	480

Note: Unit elevation and thickness given with respect to a ground surface elevation of 914 ft on the northern property boundary.

Horizon™ Environmental Services, Inc.

Date:	06/16/2023
Drawn:	TRB/KRW
HJN NO:	23138

Attachment B

Stratigraphic Column
Veritas Academy and Gym Project
Austin, Hays County, Texas

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

23138 - Veritas Academy and Gym Project\Graphics\23138A05GA_Strat

Horizon
Environmental Services, Inc.

ATTACHMENT C

DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of approximately 21.2 acres located at 13401 Escarpment Boulevard, Austin, Hays County, Texas, was conducted pursuant to Texas rules for regulated activities in the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site consists of developed land used for a private educational facility. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

The entire subject site is located within the Edwards Aquifer Recharge Zone (EARZ), as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves.

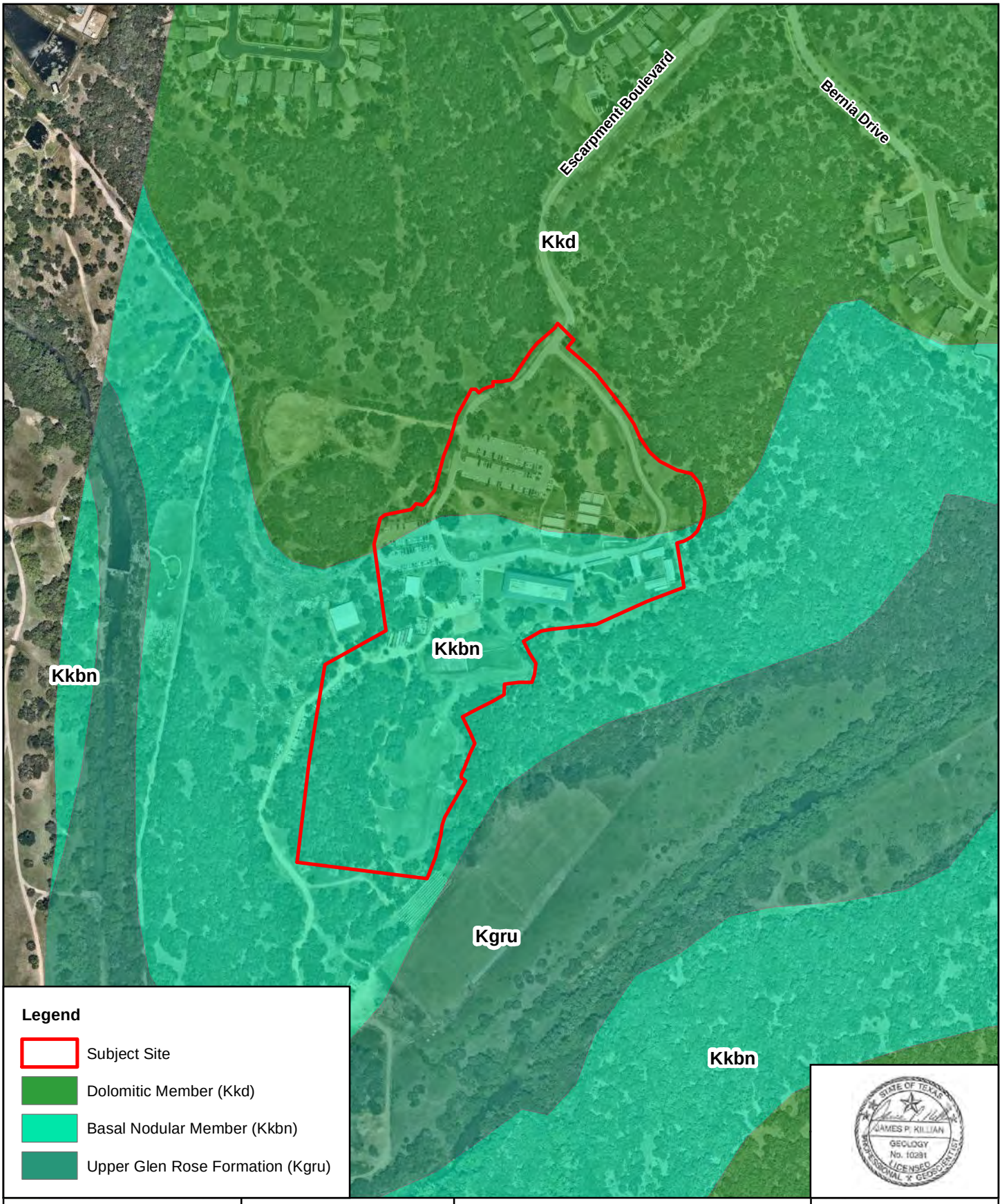
The subject site is underlain by the Dolomitic Member (Kkd) and the Basal Nodular Member (Kkbn) of the Edwards Group-Kanier Formation (Blome, 2005; Stein and Ozuna, 1995; Small and Clark, 2000; Clark, 2003) which have estimated maximum thicknesses of about 80 feet and 50 feet, respectively.

No naturally occurring geologic features or man-made features were identified at this site. Further information pertaining to the subject site is presented in Attachments D, E, and F. Photographs of the subject site are presented in Attachment G.

Horizon
Environmental Services, Inc.

ATTACHMENT D

SITE GEOLOGIC MAP



STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon™
Environmental Services, Inc.

Date:	06/08/2023
Drawn:	ZHB/KRW
HJN NO:	23138.001 GA
Source:	Nearmap, 2023; Blome et al., 2005

Attachment D

Site Geologic Map
Veritas Academy and Gym Project
Austin, Hays County, Texas

N

0 200 400
Feet

23138--Veritas_Academy_&_Gym_Project\Graphics\23138-001GA_06A_SGM.mxd

Horizon
Environmental Services, Inc.

ATTACHMENT E

SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 2005). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services, Inc. (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site consists of approximately 21.2 acres of partially developed land located at 13401 Escarpment Boulevard in Hays County, Texas (Appendix F, Figure 1).

2.2 LAND USE

The subject site is reportedly used for a private educational facility. Eight habitable structures were observed on the site. Escarpment Boulevard runs from the north end to the center of the site. Surrounding lands are generally used for rural and suburban residences, farming, and raising livestock.

2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently to moderately sloping terrain within the Bear Creek watershed (Appendix F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 840 feet above mean sea level (amsl) within a tributary of Bear Creek near the southeastern property boundary to a maximum of approximately 920 feet amsl near the

northern property boundary. Drainage on the site occurs primarily by overland sheet flow from northwest to southeast in the northern half and from north to south and northwest to southeast in the southern half toward unnamed tributaries of Bear Creek.

2.4 EDWARDS AQUIFER ZONE

The subject site is found within the Edwards Aquifer Recharge Zone (TCEQ, 2023) (Attachment F, Figure 2).

2.5 SURFACE SOILS

Two soil units are mapped within the subject site (NRCS, 2023) (Appendix F, Figure 4). Generally, the soil series are similar in their physical, chemical, and engineering properties, with the principal exception being rock fragment content and thickness. The soil units are described in further detail below.

Brackett-Rock Outcrop-Comfort Complex (BtD) consists of shallow, loamy and clayey soils and Rock outcrop on uplands in the Edwards Plateau. Slopes range from 1 to 8%. Many areas have a benched appearance along hill slopes because of the horizontal bands of Rock outcrop. The Brackett and Comfort soils are between the bands of Rock outcrop. Brackett soil makes up 30 to 60% of the complex. Rock outcrop makes up 10 to 45%. Comfort soil and similar soils make up 10 to 20%. The underlying material is weakly cemented limestone interbedded with thin layers of indurated limestone. The soil complex is moderately alkaline and calcareous throughout. Typically, the areas of Rock outcrop consist of exposures of limestone bedrock. There is some soil material in the narrow fractures in the rock. The soils in this complex are well-drained. Surface runoff is medium to rapid. Permeability is moderately slow in Brackett soil and slow in Comfort soil. The available water capacity is very low. Water erosion is a severe hazard. Seeps are common along the slopes after heavy rainfall. The medium to rapid runoff, the very low available water capacity, the shallow rooting zone, and the outcrops of rock are severe limitations, which affect roads and streets, corrosivity to uncoated steel, outcrops of rock, and slope (Batte et al., 1984).

Comfort-Rock Outcrop Complex, 1 to 8% slopes (CrD) consists of shallow, clayey soils and Rock outcrop on side slopes and on hilltops and ridgetops on uplands in the Edwards Plateau. Comfort extremely stony clay makes up 49 to more than 95% of the complex. Rock outcrop and areas of soil less than 4 inches deep make up 5 to 36%. Rumple, Purves, Eckrant, and Real soils make up less than 5 to 30%. The areas of Rock outcrop are long, narrow horizontal bands on hill slopes and along small drains. Cobbles and stones as much as 4 feet across cover about 45% of the surface. The subsoil extends to a depth of 13 inches. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The Comfort soil is well-drained. Surface runoff is slow to medium. Permeability is slow, and the available water capacity is very low. Water erosion is a slight hazard. Typically, Rock outcrop is dolomitic limestone that is barren of soil except in narrow fractures in the rock. The areas of Rock outcrop, cobbles and stones on the surface and in the soil, the limited rooting depth, and the very low available water capacity are severe limitations. The stony surface layer, shallowness to bedrock,

and corrosivity to uncoated steel are severe limitations to use of the soils for recreation purposes (Batte et al., 1984).

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed no water wells on the subject site and 15 wells within 0.5 miles of the subject site (TCEQ, 2023; TWDB, 2023). According to the TWDB records, all the off-site wells are reportedly completed within the Edwards Aquifer and/or Trinity Aquifer at total depths ranging from 100 to 895 feet below surface. Horizon observed no wells on the subject site.

The results of this assessment do not preclude the existence of undocumented/abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the feature until the TCEQ is contacted.

2.7 GEOLOGY

Literature Review

A review of existing literature shows the subject site is underlain by 2 geologic members of the Edwards Group-Kainer Formation (Dolomitic Member [Kkd] and Basal Nodular Member [Kkbn]) (Blome et al., 2005). The estimated maximum thickness of the Edwards Group-Kainer Formation) is about 130 feet at higher elevations located near the northern boundary of the subject site.

The Dolomitic Member (Kkd) is mudstone to grainstone and chert-bearing, crystalline limestone. The massive bedded Dolomitic Member weathers light gray in outcrop and has abundant *Toucasia*. Cavern development is directly related to faults, fractures, and bedding planes; thus, it is considered to have nonfabric-selective porosity except where solutions along bedding planes yield water. The thickness of the member ranges from 110 to 140 feet (Stein and Ozuna, 1995; Small and Clark, 2000).

The Basal Nodular Member (Kkbn) is shaly, nodular limestone and burrowed mudstone to wackestone. It exhibits minor lateral cavern development at surface and nonfabric-selective porosity. It is identified in the field as gray nodular mudstone, containing black rotund bodies and *miliolids*, gastropods, and *Exogyra texana*. The member is considered regionally as a lower confining unit and is locally water bearing through dissolution along bedding planes. The thickness of this member ranges from 20 to 70 feet (Stein and Ozuna, 1995; Clark, 2003).

In general, the rock strata beneath the site dip to the southeast at about 10 to 30 feet per mile. The subject site is located within the Balcones Fault Zone and available geologic reports indicate the immediate area has been affected by geologically inactive, normal faulting. A normal fault is an inclined fault in which the hanging wall appears to have slipped downward relative to the footwall. The nearest mapped faults are approximately 0.5 miles to the west and 0.5 miles to the east, striking N30°E and N20°E, respectively (Blome et al., 2005).

The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

Field Assessment

Horizon observed no man-made or geologic features on the subject site that meet the TCEQ definition of a potential recharge feature.

3.0 CONCLUSIONS AND RECOMMENDATIONS

No geologic or man-made features were identified at the subject site that would require protection or mitigation pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213). The site generally appears well-suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any site disturbing activities.

Because the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. If any subsurface voids are encountered during site development, work should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful contribution to the Edwards Aquifer.

4.0 REFERENCES

Batte, Charles D.; Trevino, Rosando; Divin, James; and Bearden, Eddie D. Soil Survey of Comal and Hays Counties, Texas. US Department of Agriculture, Natural Resources Conservation Service (formerly Soil Conservation Service), in cooperation with the Texas Agricultural Experiment Station. 1984.

(Blome et al.) Blome, Charles D., Jason R. Faith, Diana E. Pedraza, George B. Ozuna, James C. Cole, Allan K. Clark, Ted A. Small, and Robert R. Morris. *Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas*. US Geological Survey Scientific Investigations Map 2873, Version 1.1. 2005.

(CAPCOG) Capital Area Council of Governments. 5-foot contours, CAPCOG Center for Regional Development, Austin, Texas. 2007.

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_____. *Property Profile*. City of Austin Property Profile web map application. <http://www.austintexas.gov/gis/propertyprofile/>. Accessed 8 June 2023.

(Nearmap) Nearmap US, Inc. Nearmap Vertical™ digital orthographic photograph, <https://go.nearmap.com>. Imagery date 30 April 2023.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Soil map data layer updated 12 September 2019. Accessed 15 June 2023.

(OSM) OpenStreetMap contributors. OpenStreetMap, <http://www.openstreetmap .org>. Available under the Open Database License (www.opendatacommons.org/ licenses/odbl). Accessed 8 June 2023.

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Management Practices. Revised July 2005.

_____. Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer (Revised). Appendix A to RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices. September 2007.

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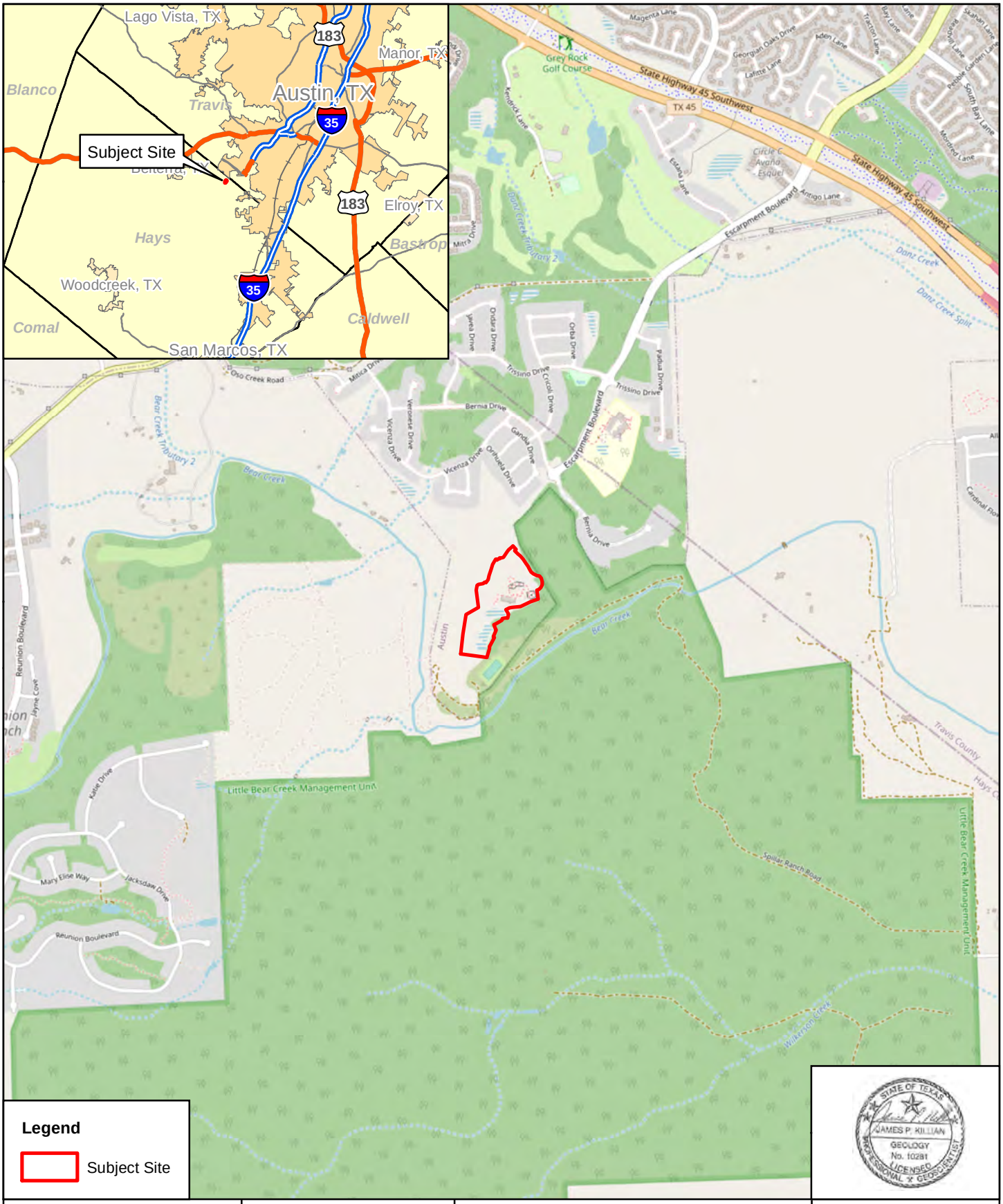
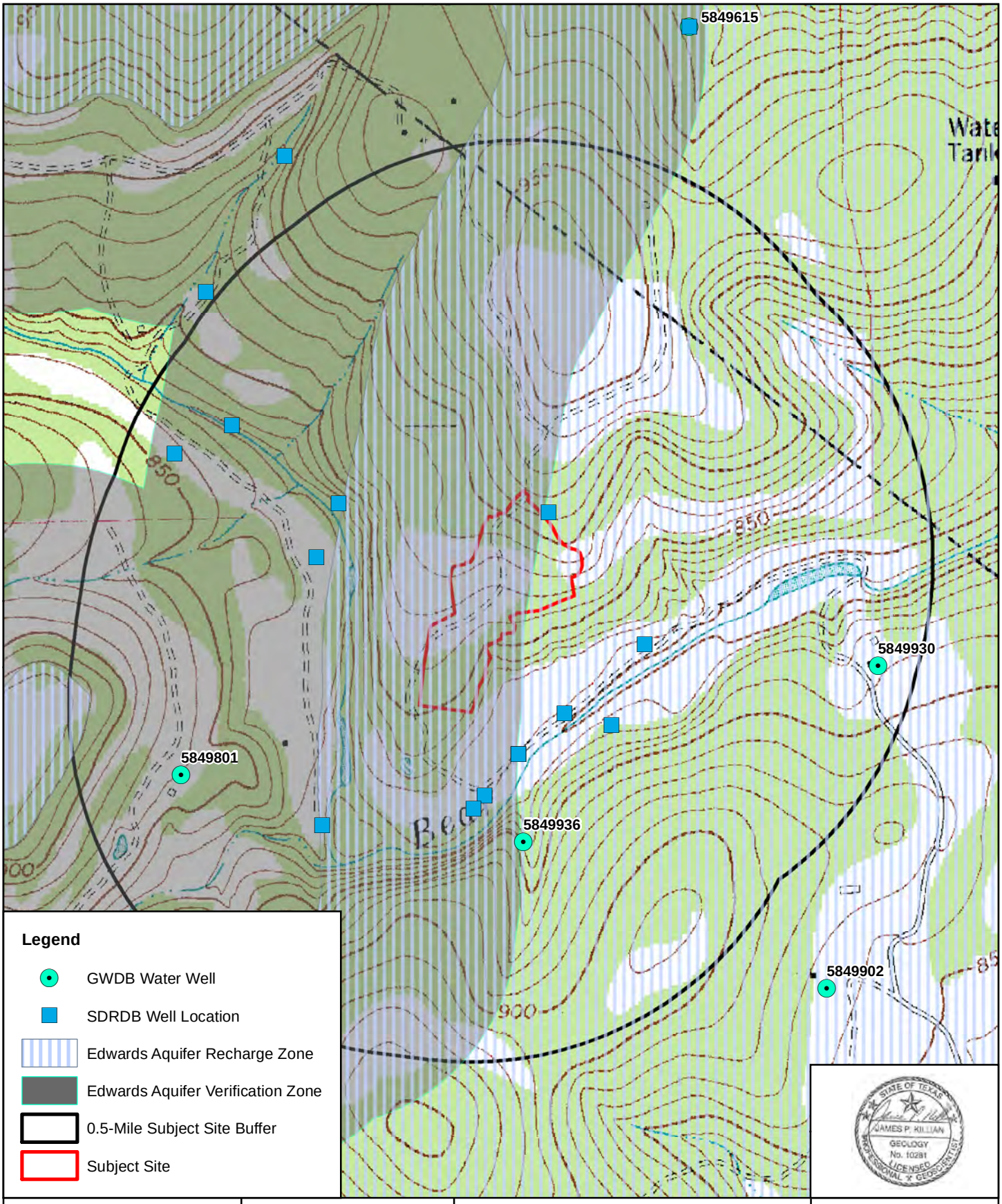
(USGS) US Geological Survey. 7.5-minute series topographic maps, Signal Hill, Texas, quadrangle. 1986.

ATTACHMENT F

ADDITIONAL SITE MAPS



23138–Veritas_Academy_&_Gym_Project\Graphics\23138-001GA_01A_VicMap.mxd



Horizon Environmental Services, Inc.

Date:	06/08/2023
Drawn:	ZHB
HJN NO:	23138.001 GA
Source:	TCEQ, 2023; TWDB, 2023; USGS, 1986

Attachment F, Figure 2

Topography and Hydrogeology Map
Veritas Academy and Gym Project
Austin, Hays County, Texas

23138--Veritas_Academy_&_Gym_Project\Graphics\23138-001GA_02A_TopoHydro.mxd

Date:	06/08/2023
Drawn:	ZHB
HJN NO:	23138.001 GA
Source:	COA, 2019; Nearmap, 2023

Horizon Environmental Services, Inc.

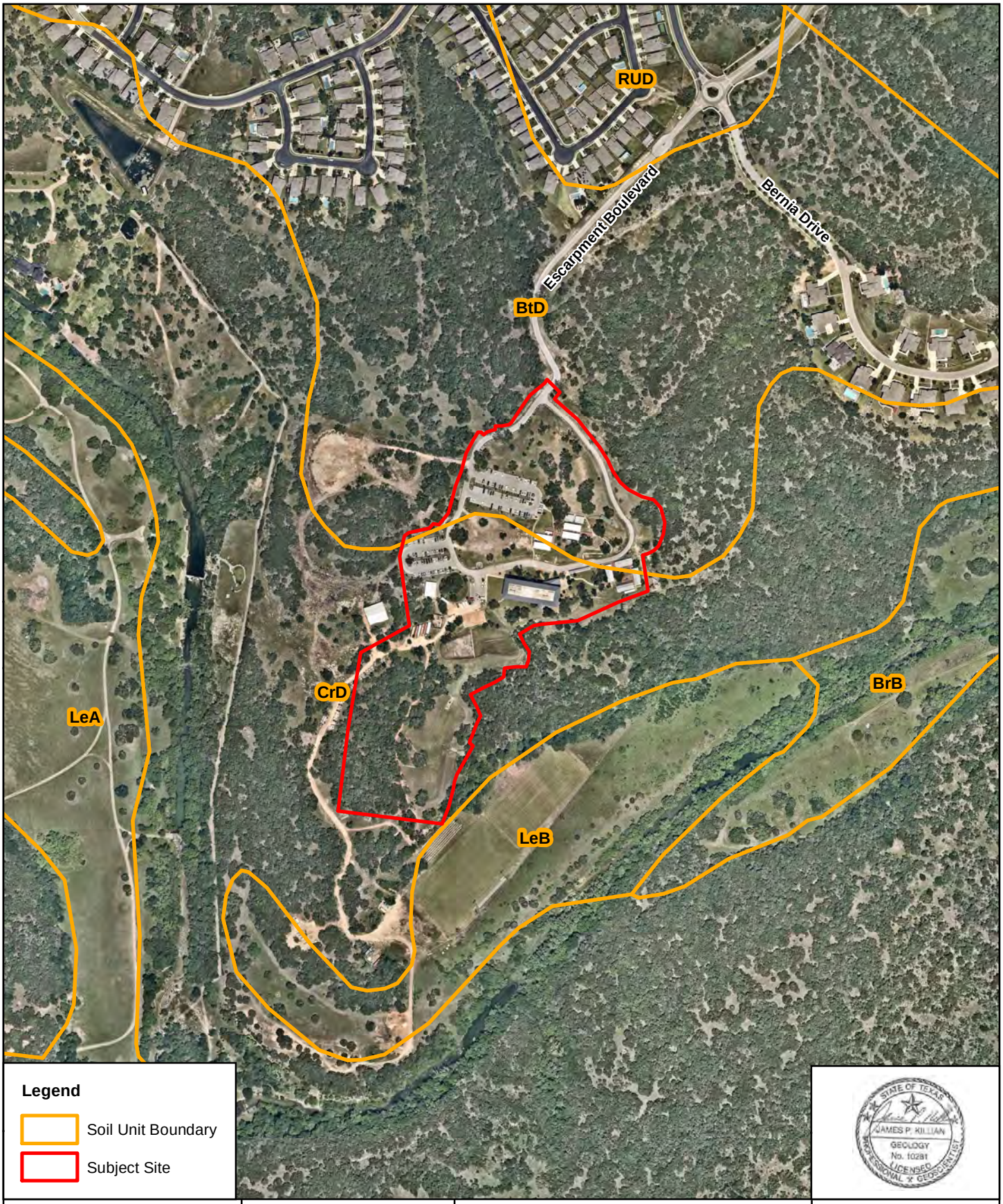
Attachment F, Figure 3

Topography Map
Veritas Academy and Gym Project
Austin, Hays County, Texas

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

0 250 500
Feet

23138–Veritas_Academy_&_Gym_Project\Graphics\23138-001GA_03A_Topo.mxd



Legend

- Soil Unit Boundary
- Subject Site

JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST
STATE OF TEXAS

Horizon™
Environmental Services, Inc.

Date:	06/08/2023
Drawn:	ZHB
HJN NO:	23138.001 GA
Source:	Nearmap, 2023; NRCS, 2019

Attachment F, Figure 4

Site Soil Map
Veritas Academy and Gym Project
Austin, Hays County, Texas

N

0 250 500
Feet

23138–Veritas_Academy_&_Gym_Project\Graphics\23138-001GA_04A_Soil.mxd

Horizon
Environmental Services, Inc.

ATTACHMENT G

SITE PHOTOGRAPHS

Horizon
Environmental Services, Inc.

PHOTO 1
General view of subject site, facing south

PHOTO 2
General view of subject site, facing east

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: Reese Hurley, P.E.

Date: 12-18-2023

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: Veritas Academy
   Original Regulated Entity Name: Veritas Academy
   Regulated Entity Number(s) (RN): 108353129
   Edwards Aquifer Protection Program ID Number(s): _____
   ☒ The applicant has not changed and the Customer Number (CN) is: 604817940
   ☐ 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.

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	96.60	96.60
Type of Development	Commercial	Commercial
Number of Residential Lots	0	0
Impervious Cover (acres)	4.5	6.25
Impervious Cover (%	4.66	6.47
Permanent BMPs	2	3
Other	____	____

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	4,913	5,220
Pipe Diameter	4", 6", 8"	4", 6", 8"
Other	____	____

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	_____	_____
Volume of ASTs	_____	_____
Other	_____	_____

UST Modification Summary	***Approved Project***	***Proposed Modification***
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.

COPY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 30, 2015

Mr. Jef Fowler
Veritas Academy
P. O. Box 90517
Austin, Texas 78709

Re: Edwards Aquifer, Hays County
Veritas Academy; Located at the end of Escarpment Boulevard in the City of Austin, in Hays County, Texas
Request for Approval of a Water Pollution Abatement Plan (WPAP) and Organized Sewage Collection System (SCS);
30 Texas Administrative Code (TAC) Chapter 213 and Chapter 217 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11-15051301&2

Dear Mr. Fowler:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP/SCS applications for the above-referenced project submitted to the Austin Regional Office on behalf of Veritas Academy by LJA Engineering, Inc. on May 13, 2015. Final reviews of the applications were completed after additional materials were received on July 28 and July 30, 2015. 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.*

PROJECT DESCRIPTION

The proposed Veritas Academy site is located on 96.6 acres of undeveloped land on the Edwards Aquifer Recharge Zone. The proposed project will disturb an area of 16.4 acres, 4.14 acres of which will be impervious cover. Proposed construction includes a main school building, auditorium, and pre-manufactured units with decking to serve as school/classroom/offices/facilities. Other improvements include parking, drive aisle, drainage, water and wastewater utilities, a retention/irrigation water quality pond and detention pond for larger storms. Upon treatment, outflow is into the Bear Creek watershed.

The proposed sewage collection system includes both gravity lines and a force main. The gravity lines consist of 771 linear feet of 8-inch SDR 26 pipe (service lines are 6-inch), which will convey the wastewater to a lift station. Wastewater pumped from the lift station will be carried using 2,303 linear feet of 3-inch force main and fittings. The force main piping will consist of 250 psi Certa-Lok Yelomine (SDR 17).

The proposed lift station will consist of a six-foot diameter wet well with an approximate depth of seventeen (17) feet, two duplex submersible non-clog pumps in parallel, and a 6-foot x 7-foot valve vault. An odor control system and back-up emergency generator will also be provided. Each pump will have a pumping capacity of 70 gallons per minute at a total dynamic head of 175 feet. Additional equipment will include a control panel, an audio visual alarm, a rail-type pump support system, level pump controllers, and discharge piping with valves (in vault beside wet well), and a security fence with controlled access.

The system will collect wastewater into a gravity system and be routed to the lift station located at the south end of the proposed site, and then pumped to a an existing 3-inch force main in Escarpment Boulevard, which connects to an 8-inch lines owned by Midtex Utilities and eventually to a 15-inch wastewater line in Escarpment Boulevard en route for treatment and disposal at the South Austin Regional Wastewater Treatment Plant. The project is located within the City of Austin ETJ and will conform to all applicable codes, ordinances, and requirements of the City of Austin. System designs and calculations were sealed by Reece Hurley, P.E., and Daniel Ryan, P.E.

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, a retention/irrigation pond, 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 3,716 pounds of TSS generated from the 4.14 acres of impervious cover.

The individual treatment measures will consist of a retention/irrigation pond. The total capture volume required is 17,722 cubic feet; 57,464 cubic feet are provided. The required irrigation area is 0.41 acres; the provided irrigation area is 1.30 acres. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Treatment design calculations were sealed by Reece Hurley, P.E., on May 12, 2015 to demonstrate the total treatment load removal to exceed the required additional total suspended solids (TSS) loading.

GEOLOGY

The geologic assessment (GA) was conducted in May 2011 by J. Jackson Harper, P.G. Geological & Hydrogeological Consulting, as part of the GA for a larger project, including two properties totaling 555 acres.

According to the geologic assessment included with the application, the site is underlain by the Upper Member of the Glen Rose Formation (Kgru), the Basal Nodular Member of the Kainer Formation (Kbn), the Dolomitic Member of the Kainer Formation (Kdo), and Quaternary Alluvium (Qal). The Austin Regional Office site assessment conducted on July 2, 2015 revealed the site to be generally as described.

Natural buffers were proposed for five features (SR-1/G37, SR-2/G40, SR-3/G10, SR-5/G09, and SR-8/G08). No regulated activities will take place within the natural buffers. The size is generally based on the drainage are for each sensitive feature; these odd shaped setbacks for features are illustrated on the construction plans (plan sheet 3 of 43).

SPECIAL CONDITIONS

I. All sediment and/or media removed from the basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

II. Permanent pollution abatement measures shall be operational prior to occupancy of the facility.

III. It is emphasized that where wastewater lines must bridge faults, caverns, sinkholes, or solution features the lines shall be constructed in a manner that will maintain the structural integrity of the pipe. When such sensitive features area encountered, 30 TAC §213.5(f)(2) requires that all regulated activities near the feature must be immediately suspended and the owner/developer shall immediately notify the Austin Regional Office. Additionally, when such geologic features are encountered which are bridged by construction, the location and extend of those features must be assessed by a geologist and must be reported to the Austin Regional Office in writing within two working days of discovery as required by 30 TAC §213.5(c)(3)(K). Construction may not resume in the area of the feature until the executive director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts.

IV. Upon completion of any lift station excavation, a geologist shall certify that the excavation has been inspected for the presence of sensitive features. Certification that the excavation has been inspected must be submitted to the Austin Regional Office.

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. 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:

3. 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/SCS and this notice of approval shall be maintained at the project location until all regulated activities are completed.
4. Modification to the activities described in the referenced WPAP/SCS 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.

5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin 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.
6. 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. 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.
7. 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.

<u>During Construction:</u>

8. 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.
9. 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 Austin 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.
10. 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.
11. 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.
12. 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.

13. Two 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. 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.
15. No part of the SCS system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

16. 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 Austin Regional Office within 30 days of BMP site completion. Certification by a Texas licensed professional engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.
17. 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 Austin Regional Office within 30 days of the transfer.
18. Upon legal transfer of this property or sewage utility, 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.
19. 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 Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
20. 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.

21. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office.
22. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), 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.

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 Ms. Tejashri Kyle, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,

for Carolyn Runyon, Water Section Manager
Austin Region Office
Texas Commission on Environmental Quality

CDR/tjk/jcs

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

cc: Reece Hurley, P.E., LJA Engineering, Inc., Austin
The Honorable Bert Cobb, M.D., County Judge, Hays County
Ms. Brooke Leftwich, Environmental Compliance Specialist, Hays County
Mr. David Johns, P.G., Watershed Protection Dept., City of Austin
Mr. John Dupnik, P.G., General Manager, Barton Springs/Edwards Aquifer Conservation District
TCEQ Central Records, Building F, MC 212

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this __ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 __ day of _____, _____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

Change in Responsibility for Maintenance on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

ATTACHMENTS – FORM 0590

ATTACHMENT B – Narrative of Proposed Modification

The proposed Veritas Academy Gym Addition and Campus Improvements site plan is located on 96.60 acres of developed land. The site is located at the southernmost end of the Avana subdivision at 13401 Escarpment Boulevard, Austin, Texas 78739. The project is located in Northern Hays County within the City of Austin's full purpose jurisdiction. The project site is within the Bear Creek Watershed which is classified as the Barton Springs Zone by the City of Austin. The project site is subject to the Bradley Settlement Agreement, an agreement between the original owner and the City of Austin regarding the required water quality controls. To meet the requirements of the agreement, the water quality controls have been designed in conformance with the City of Austin's SOS Ordinance requirements.

The site was undeveloped until Veritas Academy, a private school, was constructed in 2018. The approved and constructed Veritas Academy Plans For Site Development Improvements (previous site plan) included the construction of 3.95 acres of impervious area consisting of a main school building, auditorium, eight pre-manufactured units with decking serving as school classrooms/offices/facilities, parking, and a drive aisle. Batting cages, an outdoor pavilion, and two faculty offices have also been constructed.

There are two principal existing water quality drainage areas that comprise the site. The storm water runoff from the existing north driveway is captured and discharged into an existing flow spreader (built as part of the previous site plan) that discharges onto an existing natural vegetative filter strip (built as part of the previous site plan). Because flow spreaders are not allowed by the TCEQ, the vegetative filter strip was not considered as a permanent BMP for purposes of receiving water quality credit. Runoff from the remainder of the developed areas of the site is captured and conveyed to the existing retention-irrigation water quality pond. The existing retention-irrigation pond was oversized to provide compensatory water quality for the northern driveway. The runoff from all remaining areas of the site is from pervious areas and in the existing condition except for the existing water quality pond and existing detention pond. Based on the contributing drainage area and associated impervious cover at the time of approval, the City of Austin SOS ordinance required a water quality capture volume of 51,891 cubic feet for the retention-infiltration pond. The TCEQ required a water quality capture volume of 17,722 CF for the retention-irrigation pond. The existing retention-irrigation pond provides 57,464 CF.

The existing drainage system currently conveys developed runoff to the existing onsite water quality pond which overflows into the existing detention pond during larger storm events. These improvements were constructed as part of the previous site plan. The northern portion of the existing site driveway sheet flows onto an existing vegetative filter strip that is located just west of the existing driveway and is not detained onsite. Runoff from this area was included in the detention analysis for the previously approved and constructed Avana Subdivision. Developed runoff from the remainder of the site is conveyed to the existing onsite retention-irrigation water quality pond. The existing onsite retention-irrigation pond includes sedimentation and filtration chambers for purposes of pre-treatment.

Stormwater is captured onsite by existing storm inlets, which is then conveyed to the existing splitter box (built as part of the previous site plan) via existing storm sewers. The splitter box weir is set to the water quality elevation. When the required water quality volume is collected in the water quality pond, the splitter box diverts the remainder to the existing detention pond. The existing water quality pond contains a sedimentation basin and a retention basin. The sedimentation basin collects sediment and debris. Stormwater then filters through a rock gabion onto a sand bed which traps additional small particles. Stormwater infiltrates into the sand bed and is collected by perforated underdrains. The perforated underdrains subside at a solid-walled PVC pipe which drains to the wet well. An existing motorized plug valve in the wet well remains closed for 12 hours until the pressure sensors (located in the existing wet well) are activated and the irrigation system comes online. Multiple sprinkler heads are positioned throughout the irrigation field to allow for uniform spraying and infiltration within the irrigation field. The existing pond is empty of stormwater within 72 hours of the rainfall event.

An existing lift station (constructed as part of the previous site plan) is located at the south end (the lowest end) of the site. Approximately 2,303 linear feet of existing 3-inch force main mechanically conveys flow northward, where it connects to an existing 3-inch force main stub out that was constructed as part of the Avana Subdivision Improvements. The main school building, auditorium, and individual pre-manufactured units are served by a system of existing 4", 6" and 8" wastewater collection lines before all flow ultimately reaches the existing lift station.

This SCS & WPAP modification is being proposed to incorporate the improvements proposed by the Veritas Academy Gym Addition and Campus Improvements site plan into the approved existing SCS and WPAP. Improvements will include the removal of 0.67 acres of existing impervious area and construction of 2.97 acres of new impervious area to consist of a gym, expanded driveway immediately surrounding the guard shack, relocated pre-manufactured units with wood decking to serve as school classrooms, two separate student and faculty restrooms, additional parking, a looped drive aisle and drop-off area, required fire lanes, and required accessible paths. A portion of the existing drive aisle, sidewalks, wood decking, 320 linear feet of 8-inch water line, 329 linear feet of 6-inch wastewater line (not part of the existing SCS), a restroom, a 3:1 safety end treatment, storm sewer pipes, and several inlets will be demolished. A transformer, two separate meter banks, two fire hydrants, and two portable classrooms will be relocated onsite. After the proposed improvements are constructed, the site will consist of 6.25 acres of impervious area. The proposed limits of construction will encompass 15.39 acres.

During construction, the principal potential pollutant in stormwater will most likely be sediment caused by the disturbance of construction. Temporary BMPs (Silt Fence and Rock Berm) will control sediment and other pollutants during construction. Predevelopment runoff coefficients for the 25-year and 100-year events for the entire site are calculated to be 0.45 and 0.52, respectively. The post improvements runoff coefficients for the 25-year and 100-year events, as proposed by this project, are calculated to be 0.47 and 0.54, respectively.

After construction there will be runoff from the new building rooftops, paved areas, and managed lawn/landscape areas. All areas disturbed by construction which will not be developed will be revegetated.

There are three principal water quality drainage areas that comprise the proposed site plan. A small portion of the site, the northern driveway drainage area D4 (1.22 acres), sheet flows onto an existing natural VFS located just west of this area. The natural VFS area drains directly into Bear Creek and not into any identified sensitive features. Based on our analysis, 0.446 acres of impervious cover will be treated by the VFS. A 1.124-acre vegetative filter strip is required per Appendix R-9 of the City of Austin Environmental Criteria Manual. The existing VFS is 1.32 acres and thus enough VFS area is provided. Because flow spreaders are not allowed by the TCEQ, the VFS is not being considered as a permanent BMP for purposes of receiving water quality credit.

The storm water runoff from drainage area D3 (4.64 acres with 58.62% impervious cover, shown on sheet DM02 of the plans, will be captured and conveyed to the proposed retention/irrigation water quality pond to be constructed near the proposed gym building. Runoff from drainage area D2 (8.98 acres with 34.30% impervious cover), also shown on sheet DM02 of the plans, will be captured and conveyed to the existing retention/irrigation water quality pond. Both the existing and proposed water quality ponds are oversized to collectively provide water quality for the maximum allowable onsite impervious cover (6.5 acres). The water quality control for drainage area D2, which is the existing retention-irrigation pond, is designed to treat 37.08% impervious cover within drainage area D2. The runoff from all remaining areas of the site will remain pervious and in the existing condition with the exception of the proposed water quality pond and detention pond improvements. Based on the contributing drainage areas and associated impervious cover, the City of Austin SOS ordinance requires a water quality capture volume of 54,438 cubic feet for the existing retention/irrigation pond and 16,815 cubic feet for the proposed retention/irrigation pond. The TCEQ requires a water quality capture volume of 18,333 cubic feet for the existing retention/irrigation pond and 8,654 cubic feet for the proposed retention/irrigation pond. The existing retention/irrigation pond provides 57,464 cubic feet and the proposed retention/irrigation pond will provide 18,202 cubic feet of water quality volume.

Considering the existing and proposed improvements, stormwater will still be captured onsite by storm inlets and conveyed to the applicable splitter box via storm sewers. The splitter box weirs are set to the respective water quality elevations. When the required water quality volumes are collected in the respective water quality ponds, the splitter boxes divert the overflow discharge to the detention pond. As part of the proposed project, the detention pond is being enlarged to account for ATLAS-14 rainfall.

The existing water quality pond contains a sedimentation basin and a filtration basin, which cumulatively serve as the overall retention pond. The sedimentation basin collects sediment and debris. Stormwater then filters through a rock gabion into the retention basin, where a sand bed traps additional small particles. Stormwater is then conveyed by under-drain piping to an existing wet well.

Stormwater that flows into the proposed water quality pond from the storm system is first treated by the sedimentation forebay, where sediment settles out of the stormwater. The stormwater then passes through a 6” riser pipe with a trash rack, under an earthen berm via a 6” SCH 40 PVC pipe extending from the riser pipe, and into the retention basin. The stormwater then filters through a second riser pipe with a trash rack. A 1⅝” removable orifice cap will be installed at the flow line of the riser pipe to ensure the pond empties in 60 hours. Then, a 6” SCH 40 PVC pipe conveys the stormwater from the retention basin to a 1⅝” control valve. 12 hours after the end of the rainfall event, the control valve will open and the existing pumps in the existing wet well

will turn on. Once the control valve opens, the stormwater in the proposed retention/irrigation pond will be conveyed through a 6" SCH 40 PVC to an existing inlet and to the existing water quality pond's splitter box via a storm sewer pipe.

The water quality volume from both ponds will ultimately be filtered through the existing sand bed and then conveyed by the existing under drain piping to the existing wet well. The proposed pumps in the wet well will discharge the stormwater to the irrigation spray heads, which irrigate the stormwater over an infiltration area. 1.37 acres of irrigation area is proposed in addition to the 2.11 acres of existing irrigation area. Both ponds shall be empty of their respective water quality volumes within 72 hours of the rainfall event.

Wastewater utilities are also required for the proposed improvements. Wastewater generated by the proposed improvements will ultimately gravity flow to the existing onsite sewage collection system via proposed wastewater lines and an existing wastewater manhole. The proposed gym and restrooms will be served by a system of 4" and 6" wastewater collection lines before all wastewater flow ultimately reaches the existing lift station. Detailed information concerning the wastewater collection system is contained within the SCS application.

ATTACHMENTS – FORM 0590

ATTACHMENT C – Current Site Plan of the Approved Project

VERITAS ACADEMY
13401 ESCARPMENT BLVD.
SITE PLAN SHEET 1

MATCHLINE SP02
MATCHLINE SP01

4' POROUS CONCRETE WALK
8' DECKING
N=10031653.48
E=3060983.97
5' POROUS CONCRETE WALK
6' POROUS CONCRETE WALK
2 CL III BIKE SPACES
SEE COA STD DTL 710S-1
ON SHEET DT03
N=10031688.44
E=3060925.23
N=10031656.95
E=3060919.56
SEE STRUCTURAL PLANS (NOT INCLUDED HEREIN)
PORTABLE 8 1,536 SF FF=897.50 64' X 24' (TYP.)
PORTABLE 7 1,536 SF FF=897.50 64' X 24' (TYP.)
N=10031621.99
E=3060978.30
20' X 5' PASSENGER LOADING AREA
N=10031656.09
E=3060874.85
N=10031665.53
E=3060856.03
N=10031614.22
E=3060875.79
N=10031582.73
E=3060870.12
PORTABLE 6 1,536 SF FF=885.00 64' X 24' (TYP.)
PORTABLE 5 1,536 SF FF=885.00 64' X 24' (TYP.)
PORTABLE 9 RESTROOMS 720 SF FF=885.50
4 COMPACT @ 7.5' = 30.00'
9 SPACES @ 9' = 81.00'
22 SPACES @ 9' = 198.00'
24 SPACES @ 9' = 216.00'
N=10031649.18
E=3060817.05
N=10031617.69
E=3060811.38
RISER ROOM FDC
3' WIDE ROCK STRIP, SEE SHEET GP01
CURLEX MATTING, SEE SHEET GP01
NO EXISTING BUILDINGS EXIST WITHIN 50' OF THE VERITAS PROPERTY LINE
8 CL III BIKE SPACES SEE COA STD DTL 710S-1 ON SHEET DT03
DUMPSTER ENCLOSURE SEE DETAIL, THIS SHEET
10' GRAVEL ACCESS ROAD
5' SIDEWALK
12' SIDEWALK
40' X 5' PASSENGER LOADING AREA
GLASS ROOM BLDG. 1,536 SF (COVERAGE) 12,915 SF (GSF) 45,212 SF (GSF) FF=879.50 4-STORIES SLAB ON GRADE MAXIMUM HEIGHT 59'-0"
N=10031413.93
E=3060705.00
N=10031474.82
E=3060715.25
N=10031557.16
E=3061177.25
N=10031459.12
E=3061215.22
6' DECKING
PORTABLE 4 1,536 SF FF=879.00 64' X 24' (TYP.)
PORTABLE 3 1,536 SF FF=879.00 64' X 24' (TYP.)
PORTABLE 2 1,536 SF FF=879.00 64' X 24' (TYP.)
PORTABLE 1 1,536 SF FF=879.00 64' X 24' (TYP.)
N=10031426.95
E=3061124.23
N=10031465.33
E=3061090.28
6' DECKING
N=10031445.68
E=3060892.62
N=10031383.39
E=3060882.14
CS-1 ZONING
CR ZONING
(REMAINDER OF PROPERTY)
WOLTZ
MATCHLINE SP01
MATCHLINE SP04

NOTE: SEE ARCHITECTURAL SHEETS FOR ADDITIONAL DETAILS

GATE LATCHES TO BE PLUNGER - BAR TYPE OR APPROVED EQUAL
DUMPSTER BY OTHERS
SLOPE 1/4" - 1'-0" MAX.
SOLID GROUT CELLS WITH REBAR ONLY

DUMPSTER ENCLOSURE DETAIL
NO SCALE

40 20 0 40 80
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
		PROPOSED RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE WALKWAY
		PROPERTY BOUNDARY
		FIRE LANE
		ACCESSIBLE ROUTE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		RIBBON CURB
		CROSSWALK
		LEVEL SPREADER BERM
		VEGETATIVE FILTER STRIP
		DIVERSION BERM
	ST	STORM SEWER LINE
	WW	WASTEWATER LINE
	WL	WATER LINE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		STORMSEWER GRATE INLET
		STORMSEWER CURB INLET
		1/2" REBAR FOUND (OR AS NOTED)
	CH	1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
	E	ELEC. UTILITY
	E	ELEC. MANHOLE
		LIGHT POLE
	T	TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
	T	TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		FENCE
		TEMPORARY BENCHMARK
		DECKING C1

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB AND GUTTER OR BACK OF RIBBON CURB UNLESS OTHERWISE NOTED.
2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
3. ALL PAVEMENT SHALL BE ASPHALT WITH CURB AND GUTTER OR RIBBON CURB.
4. SEE LANDSCAPE PLAN FOR GRADING AND DETAILS OF SITE SIDEWALKS.
5. ALL EXTERIOR LIGHTING WILL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL PROPERTY. [SEC. 25-2-1064]
6. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MIN. OF TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE. [SEC. 25-2-1067]
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8. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 dba AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. [SEC. 25-2-1067]

AUSTIN FIRE DEPARTMENT
SF only
JUL 08 2019
APPROVED

SITE PLAN RELEASE NOTES:

A. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

B. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.

C. ALL SIGNS MUST COMPLY WITH REQUIREMENTS OF THE LAND DEVELOPMENT CODE (CHAPTER 25-10).

D. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.

E. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY SOUTHWEST WATER COMPANY (MID-TEX).

F. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

G. A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR PLANNING COMMISSION APPROVED SITE PLANS.

H. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.

COMPATIBILITY STANDARDS NOTES:

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B. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MINIMUM OF TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE. (SECTION 25-2-1067).

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D. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 DBA AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. (SECTION 25-2-1067)

SITE PLAN RELEASE

FILE NUMBER: SP-2014-0249C
EXPIRATION DATE:
CASE MANAGER: BRAD JACKSON
APPLICATION DATE: JUNE 26, 2014
APPROVED ADMINISTRATIVELY ON:
APPROVED BY PLANNING COMMISSION ON:
APPROVED BY CITY COUNCIL ON:
under Section 112 of Chapter 25-5 of the Austin City Code.

Director for Planning and Development Review Department
DATE OF RELEASE:
Zoning: CS-1, CR
Rev. No. 1
Correction No.5 7.5.19
Rev. No. 2
Correction No.2
Rev. No. 3

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OF NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

REVISIONS			
NO.	DESCRIPTION	BY	DATE
C1	ADD PORTABLE BLDGS, SIDEWALKS, & DECKING		
C2	REVISE PORTABLE BLDGS; CHANGE SIDEWALK TO DECKING		
C3	REVISE PARKING; ADD DUMPSTER PAD		
C5	DELETE PHASE 2; ADD PARKING; REVISE SIDEWALKS & GRADING		

DATE: 4/23/2019
DESIGNED BY: RBH
DRAWN BY: JK
CHECKED BY: RBH
DRAWING NAME: A219-401-SP01

REESE B. HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
04-25-2019

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

JOB NUMBER: A219-0401

SP01

SHEET NO. 5 OF 43 SHEETS

C5 C3 C2

SP-2014-0249C REPLACEMENT SHEET

I:\A219\A01\Submittal Drawings\A219-401-SP01.dwg
User: jkulac
Last Modified: Apr. 23, 19 - 14:09
Plot Date/Time: Apr. 23, 19 - 15:46:43

I:\A219\A01\Xbase\E-TOPO_and_cl.dwg
I:\A219\A01\Xbase\E-50ft_Buffer.dwg
I:\A219\A01\Xbase\E-BASE & Bnd(TOTAL).dwg
I:\A219\A01\Xbase\E-Storm-Elevations.dwg
I:\A219\A01\Xbase\E-Site Plan-C1.dwg
I:\A219\A01\Xbase\E-Misc.dwg

MATCHLINE SP03

MATCHLINE SP02

I-RR

NO EXISTING BUILDINGS EXIST WITHIN 50' OF THE VERITAS PROPERTY LINE

25.00' B.S.L.

20.00' B.S.L.

N47°23'01"W 178.22'

KARST FEATURE SETBACK

SR29

SR1

SR2

N39°05'51"W 325.95'

N24°51'13"W 418.24'

S54°32'02"W 397.96'

FLOW SPREADER SEE DETAIL SHEET ___

VEGETATIVE FILTER STRIP

MATCHLINE SP02

MATCHLINE SP01

AUSTIN FIRE DEPARTMENT
JUN 29 2015
APPROVED

SITE PLAN NOTES:

A. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

B. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.

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COMPATIBILITY STANDARDS NOTES:

A. ALL EXTERIOR LIGHTING WILL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL PROPERTY. (SECTION 25-2-1054)

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D. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 DBA AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. (SECTION 25-2-1067)

40 20 0 40 80
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
		PROPOSED RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE WALKWAY
		PROPERTY BOUNDARY
		FIRE LANE
		ACCESSIBLE ROUTE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		RIBBON CURB
		CROSSWALK
		LEVEL SPREADER BERM
		VEGETATIVE FILTER STRIP
		DIVERSION BERM
ST	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
WL	WL	WATER LINE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
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		STORMSEWER GRATE INLET
		STORMSEWER CURB INLET
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	CH	1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
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		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		FENCE
		TEMPORARY BENCHMARK

NOTES:

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SITE PLAN RELEASE

FILE NUMBER: SP-2014-0249C
EXPIRATION DATE: 7/28/18
CASE MANAGER: BRAD JACKSON
APPLICATION DATE: JUNE 26, 2014
APPROVED ADMINISTRATIVELY ON: 7/28/15
APPROVED BY PLANNING COMMISSION ON: _____
APPROVED BY CITY COUNCIL ON: _____
under Section 112 of Chapter 25-5 of the Austin City Code.

Director for Planning and Development Review Department

DATE OF RELEASE: _____
Zoning: CS-1, CR
Rev. No. 1 _____ Correction No.1 _____
Rev. No. 2 _____ Correction No.2 _____
Rev. No. 3 _____

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VERITAS ACADEMY
13401 ESCARPMENT BLVD.
SITE PLAN SHEET 2

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 6/17/2015
DESIGNED BY: DJB
DRAWN BY: JK
CHECKED BY: DJB
DRAWING NAME: A219-401-SP01

REESE B. HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
06-17-2015

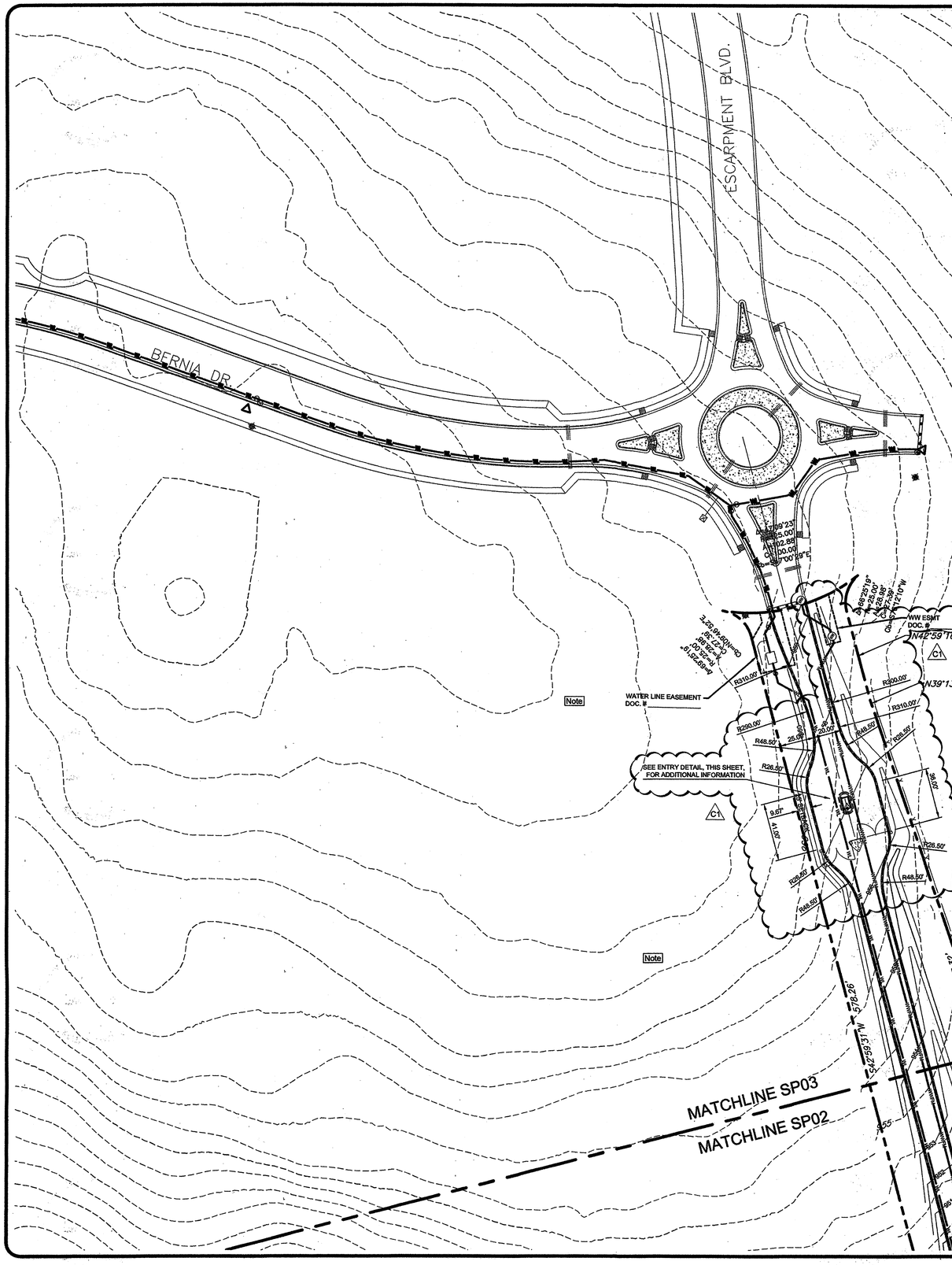
LJA Engineering, Inc.
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386
6316 Highway 290 West
Suite 150
Austin, Texas 78735

JOB NUMBER: A219-0401

SP02

SHEET NO. 6 OF 43 SHEETS

SP-2014-0249C



SITE PLAN NOTES:

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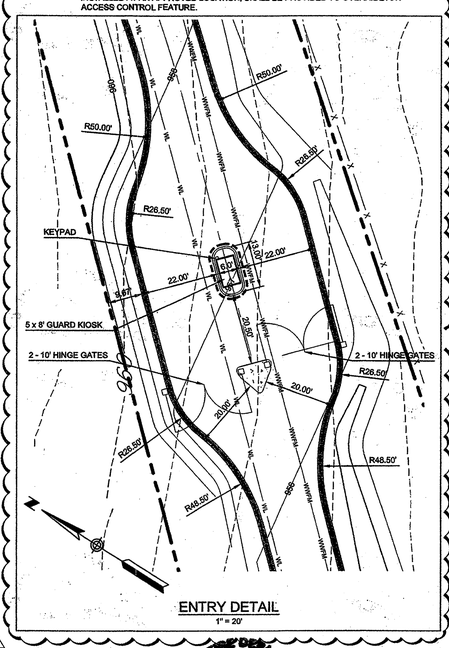
D. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 DBA AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. (SECTION 25-2-1067)

C1

ADDITIONAL NOTES:

A. MOTOR-OPERATED GATES OR BARRICADES INSTALLED ACROSS FIRE ACCESS ROADWAYS SHALL BE EQUIPPED WITH GATE OPERATORS COMPLYING WITH UL325. GATES OR BARRICADES SHALL COMPLY WITH ASTM F2200. AN APPROVED MEANS OF OPENING THE MOTER-OPERATED GATE IN THE EVENT UTILITY POWER IS LOST OR DISCONNECTED IS REQUIRED. AN APPROVED FIRE DEPARTMENT KEY SWITCH, INSTALLED AT AN APPROVED LOCATION, SHALL BE PROVIDED TO OVERRIDE ANY ACCESS CONTROL FEATURE.



ENTRY DETAIL
1" = 20'

AUSTIN FIRE DEPARTMENT
JAN 30 2017
APPROVED
Replacement Sheet

LEGEND

PROPOSED	EXISTING	
		PROPOSED RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE WALKWAY
		PROPERTY BOUNDARY
		FIRE LANE
		ACCESSIBLE ROUTE
		SIDEWALK RAMP
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		STORMSEWER GRATE INLET
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Development Services Department
JAN 30 2017

SITE PLAN RELEASE

FILE NUMBER: SP-2014-0249C EXPIRATION DATE: 7/28/18
CASE MANAGER: BRAD JACKSON APPLICATION DATE: JUNE 26, 2014
APPROVED ADMINISTRATIVELY ON: 7/28/15
APPROVED BY PLANNING COMMISSION ON:
APPROVED BY CITY COUNCIL ON:
under Section 112 A of Chapter 25-5 of the Austin City Code.

For
Director for Planning and Development Review Department
DATE OF RELEASE: Zoning: CS-1-CO 1-25-17
Rev No. 1 Correction No.1
Rev. No. 2 Correction No.2
Rev. No. 3

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VERITAS ACADEMY
13401 ESCARPMENT BLVD.
SITE PLAN SHEET 3

NO.	DESCRIPTION	BY	DATE
C1	REVISE ENTRY DRIVE & ADD KIOSK; ADD WW SAMPLE PORT		

DATE: 11/17/2016
DESIGNED BY: DJB
DRAWN BY: JK
CHECKED BY: DJB
DRAWING NAME: A219-401-SP01

REESE B. HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
11-17-2017

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

JOB NUMBER: A219-0401

SP03

SHEET NO. 7 OF 43 SHEETS

I:\A219_401\Submittal Drawings\A219-401-SP01.dwg
User: jkubos
Last Plotted: Nov. 16, 16 - 16:45
Plot Date/Time: Nov. 17, 16 - 08:22:54
I:\A219_401\Basis_Design\Civil\Storm-Plumbing.dwg
I:\A219_401\Basis_Design\Civil\Storm-Sanitary.dwg
I:\A219_401\Basis_Design\Civil\Water.dwg
I:\A219_401\Basis_Design\Civil\Site Plan-C1.dwg

MATCHLINE SP01
MATCHLINE SP04

WATER QUALITY POND #2

DETENTION POND

DETENTION POND

WATER QUALITY IRRIGATION AREA 70,650 s.f.

NO EXISTING BUILDINGS EXIST WITHIN 50' OF THE VERITAS PROPERTY LINE

100yr FLOODPLAIN

WQTZ

WQTZ

40 20 0 40 80
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
		PROPOSED RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE WALKWAY
		PROPERTY BOUNDARY
		FIRE LANE
		ACCESSIBLE ROUTE
		SIDEWALK RAMP
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		STORMSEWER CURB INLET
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		1/2" REBAR WITH CHAPARRAL CAP SET
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OU	OU	OVERHEAD UTILITIES
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		LIGHT POLE
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	T	TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		FENCE
		TEMPORARY BENCHMARK
		DECKING

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Development Services Department 03-28-2017

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D. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.

E. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN (OR IDENTIFY THE SERVICE PROVIDER IF OTHER THAN THE CITY OF AUSTIN).

F. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.

G. A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR PLANNING COMMISSION APPROVED SITE PLANS.

H. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.

COMPATIBILITY STANDARDS NOTES:

A. ALL EXTERIOR LIGHTING WILL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL PROPERTY. (SECTION 25-2-1064)

B. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MINIMUM OF TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE. (SECTION 25-2-1067).

C. THE USE OF HIGHLY REFLECTIVE SURFACES, SUCH AS REFLECTIVE GLASS AND REFLECTIVE METAL ROOFS, WHOSE PITCH IS MORE THAN A RUN OF SEVEN (7) TO A RISE OF TWELVE (12), WILL BE PROHIBITED. (SECTION 25-2-1067)

D. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 DBA AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. (SECTION 25-2-1067)

SITE PLAN RELEASE

FILE NUMBER: SP-2014-0249C
CASE MANAGER: BRAD JACKSON
APPROVED ADMINISTRATIVELY ON: 7/28/15
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 112 of Chapter 25-5 of the Austin City Code.

EXPIRATION DATE: 7/28/18
APPLICATION DATE: JUNE 26, 2014

Director for Planning and Development Review Department

DATE OF RELEASE: —
Zoning: CS-1, CO
Rev. No. 1 —
Rev. No. 2 —
Rev. No. 3 —
Correction No.2 —
Correction No.2 —

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

VERITAS ACADEMY
13401 ESCARPMENT BLVD.
SITE PLAN SHEET 4

NO.	DESCRIPTION	BY	DATE
C2	REVISE POND & IRRIGATION AREA		

DATE: 3/28/2017
DESIGNED BY: DJB
DRAWN BY: JK
CHECKED BY: DJB
DRAWING NAME: A219-sh5-SP01

Released
STATE OF TEXAS
REESE B. HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
03-28-2017

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

JOB NUMBER: A219-0401

SP04

SHEET NO. 8 OF 43 SHEETS

SP-2014-0249C REPLACEMENT SHEET C2

I:\A219\401\Submittal Drawings\A219-401-SP01.dwg
Last Modified: Mar. 28, 17 - 07:53
Plot Date/Time: Mar. 28, 17 - 08:05:10

I:\A219\401\Basis\E-BASE & BNDY(TOTAL).dwg
I:\A219\401\Basis\S-Storm-Elevations.dwg
I:\A219\401\Basis\S-Site Floor-01.dwg

LJA ENGINEERING

5316 Hwy 290 West, Suite 150, Austin, Texas 78735
t 512.439.4700 f 512.439.4716 LJA.com TBPE F-1386

July 31, 2018

Mr. David Van Soest
Regional Director
Texas Commission on Environmental Quality-Region 11
MC R11
P.O. Box 13087
Austin, Texas 78711-3087

RE: Veritas Academy (Edwards Aquifer ID No. 11-15051301)
LJA Job No. A219-0401.452

Dear Mr. Soest:

The purpose of this letter is to certify that the proposed permanent BMP's were constructed as designed for the above-named project and as approved by the TCEQ.

Project Name: **Veritas Academy**

Water Pollution Abatement Plan

Edwards Aquifer Protection Program ID No. 11-15051301

If you have any questions, please do not hesitate to contact me at 439-4700.

Sincerely,

Reese Hurley, P.E.
Project Manager
LJA Engineering, Inc.

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED
PROFESSIONAL ENGINEER

LJA ENGINEERING

5316 Hwy 290 West, Suite 150, Austin, Texas 78735
t 512.439.4700 f 512.439.4716 LJA.com TBPE F-1386

July 31, 2018

Mr. David Van Soest
Regional Director
Texas Commission on Environmental Quality-Region 11
MC R11
P.O. Box 13087
Austin, Texas 78711-3087

RE: Veritas Academy (Edwards Aquifer ID No. 11-15051302)
LJA Job No. A219-0401.452

Dear Mr. Soest:

The purpose of this letter is to certify that the proposed wastewater lines were constructed as designed for the above-named project and as approved by the TCEQ. The wastewater lines were tested as required per 30 TAC Chapters 213 and 217. Please find attached a copy of site utility plan highlighting the wastewater lines that were tested and are being certified as complying with the appropriate regulations.

Project Name: **Veritas Academy**

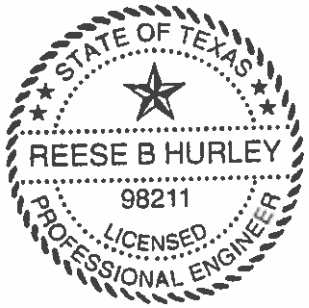
Sewage Collection System

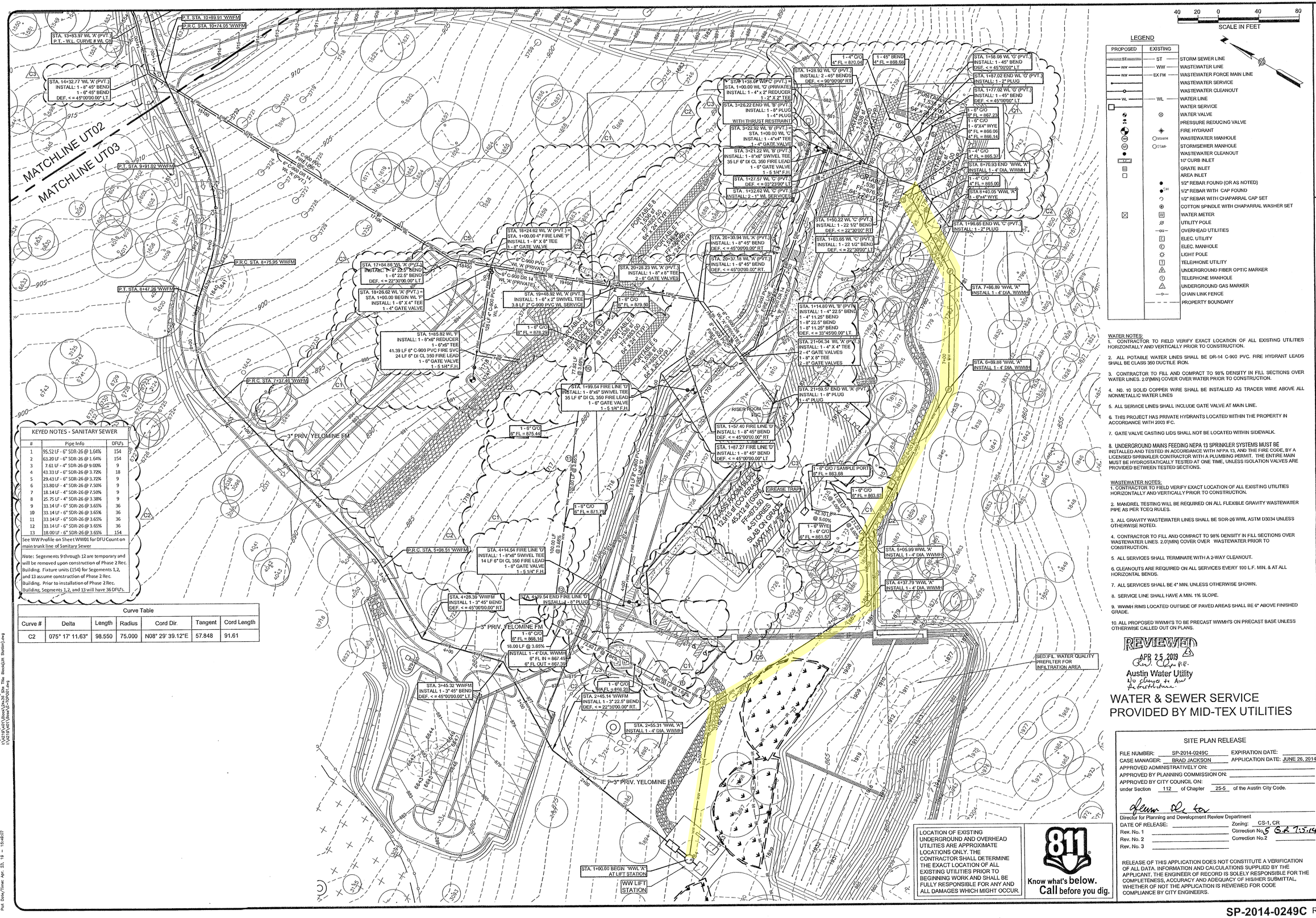
Edwards Aquifer Protection Program ID No. 11-15051302

If you have any questions, please do not hesitate to contact me at 439-4700.

Sincerely,

Reese Hurley, P.E.
Project Manager
LJA Engineering, Inc.





KEYED NOTES - SANITARY SEWER

#	Pipe Info	DFU's
1	95.52 LF - 6" SDR-26 @ 1.64%	154
2	63.20 LF - 6" SDR-26 @ 1.64%	154
3	7.61 LF - 4" SDR-26 @ 9.00%	9
4	43.33 LF - 6" SDR-26 @ 3.72%	18
5	29.43 LF - 6" SDR-26 @ 3.72%	9
6	33.80 LF - 4" SDR-26 @ 7.50%	9
7	18.14 LF - 4" SDR-26 @ 7.50%	9
8	25.75 LF - 4" SDR-26 @ 3.38%	9
9	33.14 LF - 6" SDR-26 @ 3.65%	36
10	33.14 LF - 6" SDR-26 @ 3.65%	36
11	33.14 LF - 6" SDR-26 @ 3.65%	36
12	33.14 LF - 6" SDR-26 @ 3.65%	36
13	18.00 LF - 6" SDR-26 @ 3.65%	154

See WW Profile on Sheet WW01 for DFU Count on main trunk line of Sanitary Sewer

Note: Segements 9 through 12 are temporary and will be removed upon construction of Phase 2 Rec. Building. Fixture units (154) for Segements 1,2, and 13 assume construction of Phase 2 Rec. Building. Prior to installation of Phase 2 Rec. Building, Segments 1,2, and 13 will have 36 DFU's.

Curve Table

Curve #	Delta	Length	Radius	Cord Dir.	Tangent	Cord Length
C2	075° 17' 11.63"	98.550	75.000	N08° 29' 39.12"E	57.848	91.61

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

40 20 0 40 80
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
ST	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
WW	EX FM	WASTEWATER FORCE MAIN LINE
●		WASTEWATER SERVICE
○		WASTEWATER CLEANOUT
WL	WL	WATER LINE
☐		WATER SERVICE
●	⊗	WATER VALVE
		PRESSURE REDUCING VALVE
●	⌖	FIRE HYDRANT
WW	○WWMH	WASTEWATER MANHOLE
ST	○SSMH	STORMSEWER MANHOLE
●		WASTEWATER CLEANOUT
▭		10' CURB INLET
▤		GRATE INLET
☐		AREA INLET
	●	1/2" REBAR FOUND (OR AS NOTED)
	●CH	1/2" REBAR WITH CAP FOUND
	○	1/2" REBAR WITH CHAPARRAL CAP SET
	⊛	COTTON SPINDLE WITH CHAPARRAL WASHER SET
☒	W	WATER METER
	⌀	UTILITY POLE
	ou	OVERHEAD UTILITIES
	E	ELEC. UTILITY
	Ⓔ	ELEC. MANHOLE
	☼	LIGHT POLE
	T	TELEPHONE UTILITY
	F	UNDERGROUND FIBER OPTIC MARKER
	Ⓣ	TELEPHONE MANHOLE
	G	UNDERGROUND GAS MARKER
	—o—	CHAIN LINK FENCE
	— — —	PROPERTY BOUNDARY

WATER NOTES:

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. ALL POTABLE WATER LINES SHALL BE DR-14 C-900 PVC. FIRE HYDRANT LEADS SHALL BE CLASS 350 DUCTILE IRON.
3. CONTRACTOR TO FILL AND COMPACT TO 98% DENSITY IN FILL SECTIONS OVER WATER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.
4. NO. 10 SOLID COPPER WIRE SHALL BE INSTALLED AS TRACER WIRE ABOVE ALL NONMETALLIC WATER LINES
5. ALL SERVICE LINES SHALL INCLUDE GATE VALVE AT MAIN LINE.
6. THIS PROJECT HAS PRIVATE HYDRANTS LOCATED WITHIN THE PROPERTY IN ACCORDANCE WITH 2003 IFC.
7. GATE VALVE CASTING LIDS SHALL NOT BE LOCATED WITHIN SIDEWALK.
8. UNDERGROUND MAINS FEEDING NEPA 13 SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.

WASTEWATER NOTES:

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. MANDREL TESTING WILL BE REQUIRED ON ALL FLEXIBLE GRAVITY WASTEWATER PIPE AS PER TCEQ RULES.
3. ALL GRAVITY WASTEWATER LINES SHALL BE SDR-26 WWL ASTM D3034 UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO FILL AND COMPACT TO 98% DENSITY IN FILL SECTIONS OVER WASTEWATER LINES. 2.0'(MIN) COVER OVER WASTEWATER PRIOR TO CONSTRUCTION.
5. ALL SERVICES SHALL TERMINATE WITH A 2-WAY CLEANOUT.
6. CLEANOUTS ARE REQUIRED ON ALL SERVICES EVERY 100 L.F. MIN. & AT ALL HORIZONTAL BENDS.
7. ALL SERVICES SHALL BE 4" MIN. UNLESS OTHERWISE SHOWN.
8. SERVICE LINE SHALL HAVE A MIN. 1% SLOPE.
9. WWMH RIMS LOCATED OUTSIDE OF PAVED AREAS SHALL BE 6" ABOVE FINISHED GRADE.
10. ALL PROPOSED WWMH'S TO BE PRECAST WWMH'S ON PRECAST BASE UNLESS OTHERWISE CALLED OUT ON PLANS.

REVIEWED
APR 25 2019 C5
Rod. Clayn P.E.
Austin Water Utility
No change to AW Infrastructure.

WATER & SEWER SERVICE PROVIDED BY MID-TEX UTILITIES

SITE PLAN RELEASE

FILE NUMBER: SP-2014-0249C EXPIRATION DATE: ____
CASE MANAGER: BRAD JACKSON APPLICATION DATE: JUNE 26, 2014
APPROVED ADMINISTRATIVELY ON: ____
APPROVED BY PLANNING COMMISSION ON: ____
APPROVED BY CITY COUNCIL ON: ____
under Section 112 of Chapter 25-5 of the Austin City Code.

Director for Planning and Development Review Department
DATE OF RELEASE: ____ Zoning: CS-1, CR
Rev. No. 1 ____ Correction No. 5 G.R 7.5.14
Rev. No. 2 ____ Correction No.2 ____
Rev. No. 3 ____

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA. INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OF NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

VERITAS ACADEMY
13401 ESCARPMENT BLVD.
UTILITY PLAN SHEET 3

REVISIONS

NO.	DESCRIPTION	BY	DATE
C1	ADD PORTABLE BLDGS & EXTEND W & WW SVCS		
C2	REVISE PORTABLE BLDGS & W & WW SVCS;		
	CHANCE SIDEWALK TO DECKING		
C3	ADD DOMESTIC WL LINE PARALLEL TO FIRE LINE;		
	REVISE PARKING; MOVE WW CO AT DUMPSTER PAD		
C5	DELETE PHASE 2; ADD PARKING; REVISE SIDEWALKS		

DATE: 4/23/2019
DESIGNED BY: RBH
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-401-UT01

REESE B. HURLEY
98211
04-23-2019

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

JOB NUMBER: A219-0401

UT03

SHEET NO. 31 OF 43 SHEETS

C5 C3 C2

SP-2014-0249C REPLACEMENT SHEET

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN

FOR

VERITAS ACADEMY GYM ADDITION AND CAMPUS IMPROVEMENTS

October 2023

PREPARED FOR

VERITAS ACADEMY
13401 ESCARPMENT BLVD.
AUSTIN, TEXAS 78739
512-891-1673

PREPARED BY

LJA ENGINEERING, INC.
7500 RIALTO BLVD. BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700
FRN-F-1386

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than

when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

    A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

    B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 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.

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.

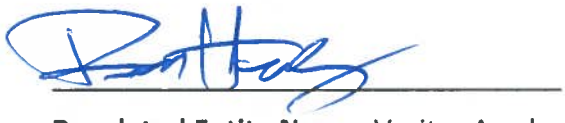
Signature

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: Reese Hutley, P.E.

Date: 10-27-2023

Signature of Customer/Agent:



Regulated Entity Name: Veritas Academy

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):96.60

3. Estimated projected population:870

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	63,887	÷ 43,560 =	1.47
Parking	188,690	÷ 43,560 =	4.33
Other paved surfaces	19,659	÷ 43,560 =	0.45
Total Impervious Cover	272,236	÷ 43,560 =	6.25

Total Impervious Cover 6.25 **÷ Total Acreage** 96.60 **X 100 =** 6.47**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. ☒ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

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

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

    ☐ A rest stop will not be included in this project.

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100% Domestic	5,096 Gallons/day
_____% Industrial	_____ Gallons/day
_____% 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 South Austin Regional (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 30'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Map #48209C0141FH, dated September 2, 2005

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 2 (#) 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.

ATTACHMENTS – FORM 0584

ATTACHMENT A – Factors Affecting Water Quality

Factors that could affect surface water quality include the disturbance of vegetative cover and transport of sediment during the construction phase, which will be mitigated by the use of silt fencing, rock berms, stabilized construction entrances, and other appropriate sediment/erosion control and soil stabilization methods. The utility trenches will be utilized as temporary sediment traps to the extent feasible during construction.

After construction, there will be runoff from buildings, paved areas, and sidewalks, which will be mitigated by permanent revegetation of disturbed areas and through use of a proposed retention/irrigation water quality pond and existing BMPs.

ATTACHMENT B – Volume and Character of Stormwater

During construction, the principal potential pollutant in stormwater will most likely be sediment caused by the disturbance of construction. Temporary BMPs will control sediment and other pollutants during construction. Predevelopment runoff coefficients for the 25-year and 100-year events for the entire site are calculated to be 0.45 and 0.52, respectively. The post improvements runoff coefficients for the 25-year and 100-year events, as proposed by this project, are calculated to be 0.47 and 0.54, respectively.

After construction there will be runoff from building surfaces, paved areas, and managed lawn/landscape areas. These areas will be mitigated by permanent revegetation of disturbed areas, through use of an existing retention/irrigation type water quality pond, a proposed retention/irrigation water quality pond, and a vegetative filter strip (VFS).

There are three principal water quality drainage areas that comprise the proposed site plan. A small portion of the site, the northern driveway drainage area D4 (1.22 acres), sheet flows onto an existing natural VFS located just west of this area. The natural VFS area drains directly into Bear Creek and not into any identified sensitive features. Based on our analysis, 0.446 acres of impervious cover will be treated by the VFS. A 1.124-acre vegetative filter strip is required per Appendix R-9 of the City of Austin Environmental Criteria Manual. The existing VFS is 1.32 acres and thus enough VFS area is provided. Because flow spreaders are not allowed by the TCEQ, the VFS is not being considered as a permanent BMP for purposes of receiving water quality credit.

The storm water runoff from the northern area of the site, identified as drainage area D3 (4.64 acres with 58.62% impervious cover) on sheet DM02 of the plans, will be captured and conveyed to the proposed retention/irrigation water quality pond. Runoff from drainage area D2 (8.98 acres with 34.30% impervious cover), also shown on sheet DM02 of the plans, will be captured and conveyed to the existing retention/irrigation water quality pond. The water quality ponds are oversized to provide water quality for the maximum allowable onsite impervious cover (6.5 acres). Therefore, the water quality controls are designed for 37.08% impervious cover in drainage area D2. The runoff from all remaining areas of the site will remain pervious and in the existing condition with the exception of the proposed water quality pond and detention pond improvements. Based on the contributing drainage areas and associated impervious cover, the City of Austin SOS ordinance requires a water quality capture volume of 54,438 cubic feet for the existing

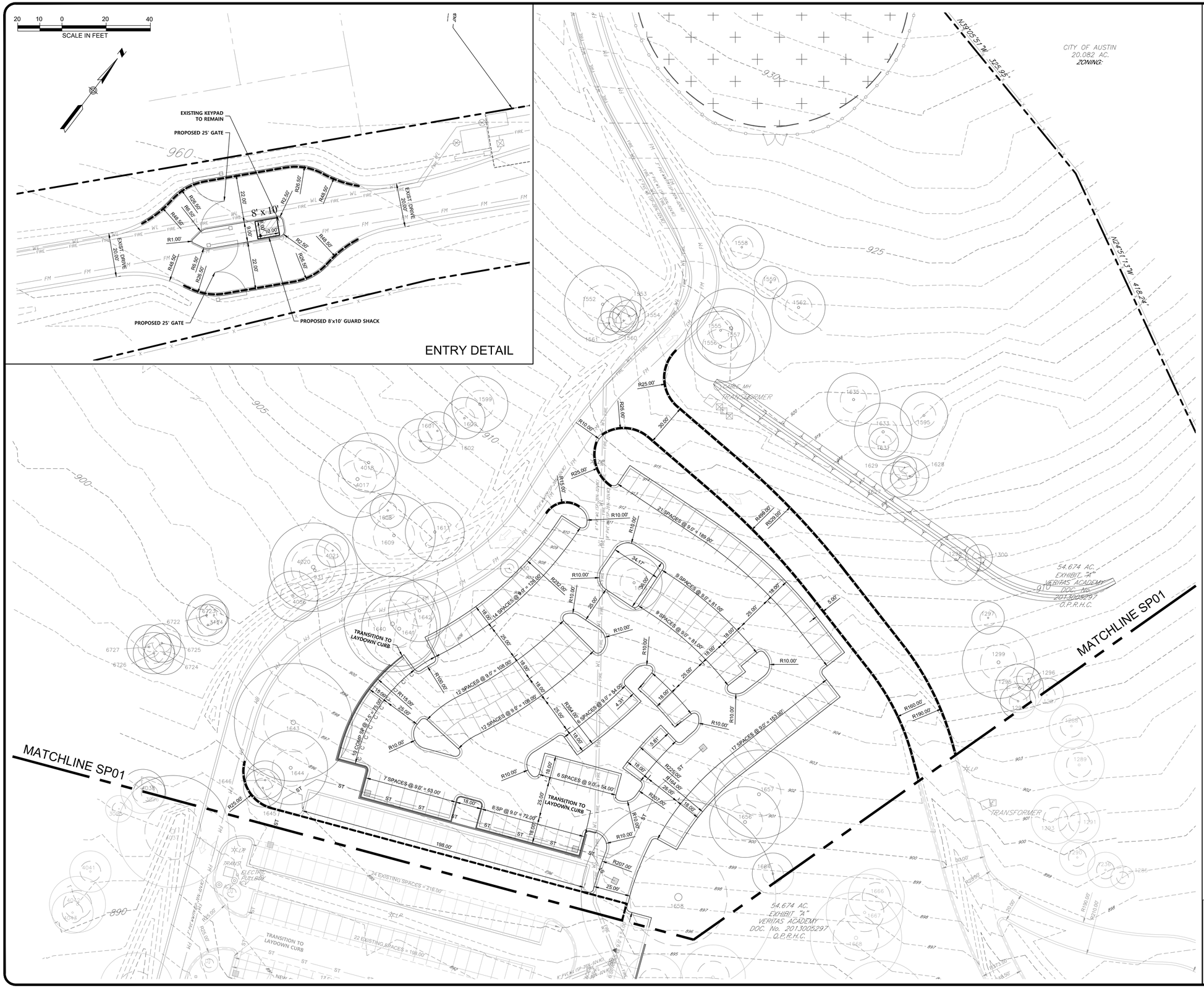
retention/irrigation pond and 16,815 cubic feet for the proposed retention/irrigation pond. The TCEQ requires a water quality capture volume of 18,333 cubic feet for the existing retention/irrigation pond and 8,654 cubic feet for the proposed retention/irrigation pond. The existing retention/irrigation pond provides 57,464 cubic feet and the proposed retention/irrigation pond will provide 18,202 cubic feet of water quality volume.

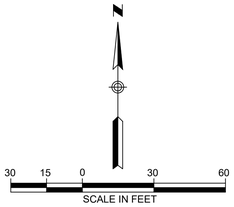
For both ponds, stormwater collected onsite by storm inlets is conveyed to the splitter box via storm sewers. The splitter box weirs are set to the respective water quality elevations. When the required water quality volume is collected in a water quality pond, the splitter box diverts the remainder to the detention pond. The existing detention pond has primarily 3:1 side slopes. To account for additional onsite runoff from the maximum allowable impervious cover, the sides of the detention pond will be excavated, and walls will be installed to increase the detention volume.

The existing water quality pond contains a sedimentation basin and a retention basin. The sedimentation basin collects sediment and debris. Water then filters through a rock gabion into the retention basin, where a sand bed traps additional small particles. Water is then conveyed by under-drain piping to an existing wet well.

Stormwater that flows into the proposed water quality pond from the storm system is first treated by the sedimentation forebay, where sediment settles out of the stormwater. The stormwater then passes through a 6” riser pipe with a trash rack, under an earthen berm via a 6” SCH 40 PVC pipe extending from the riser pipe, and into the retention basin. The stormwater then filters through a second riser pipe with a trash rack. A 1⅝” removable orifice cap will be installed at the flow line of the riser pipe to ensure the pond empties in 60 hours. Then, a 6” SCH 40 PVC pipe conveys the stormwater from the retention basin to a 1⅝” control valve. 12 hours after the end of the rainfall event, the control valve will open and the existing pumps in the existing wet well will turn on. Once the control valve opens, the stormwater in the proposed retention/irrigation pond will be conveyed through a 6” SCH 40 PVC to an existing inlet and to the existing water quality pond’s splitter box via a storm sewer pipe.

The water quality volume from both ponds will be filtered through an existing sand bed and then conveyed by existing under drain piping to an existing wet well. The proposed pumps in the wet well will convey the stormwater to the infiltration fields and irrigate the stormwater over an area to allow the water to infiltrate into the ground. Both ponds shall be empty of their respective water quality volumes within 72 hours of the rainfall event.





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
WW		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OH	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.

3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.

4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP01

SHEET NO. 17 OF 40 SHEETS

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OU	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

MATCHLINE SP01

MATCHLINE SP01

24 EXISTING SPACES = 216.00'

22 EXISTING SPACES = 198.00'

17 EXISTING SPACES = 153.00'

9 EXISTING SPACES = 81.00'

TRANSITION TO LAYDOWN CURB

NEW CURB & GUTTER

RE-STRIPE 3 EXISTING SPACES AS 2 ACCESSIBLE SPACES

6 SPACES @ 9.0' = 54.00'

8 SPACES @ 9.0' = 72.00'

12 SPACES @ 9.0' = 108.00'

17 SPACES @ 9.0' = 153.00'

PROPOSED GYM
FF = 891.00
FF= 877.00

433 WSFU'S

64,674 AC.
EXHIBIT "A"
VERITAS ACADEMY
DOC. No. 2013005297
O.P.R.H.C.

PORTABLE
64' x 24'
FF = 891.60

EXISTING OFFICE
25' x 30'
FF = 892.11

EXISTING OFFICE
25' x 30'
FF = 892.07

EXISTING PORTABLE 8
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

EXISTING PORTABLE 7
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

PORTABLE
64' x 24'
FF = 891.60

DROP-OFF

EXISTING PORTABLE 3
64' x 24' (TYP.)
FF=879.00
1,536 sf

EXISTING PORTABLE 1
64' x 24' (TYP.)
FF=876.50
1,536 sf

EXISTING PORTABLE 2
64' x 24' (TYP.)
FF=872.00
1,536 sf

EXISTING PORTABLE 4
64' x 24' (TYP.)
FF=874.00
1,536 sf

EXISTING CLASSROOM BLDG
(SP-2014-0249C)
12,915 sf (COVERAGE)
45,212 sf (GSF)
FF=873.50
4-STORIES
SLAB ON GRADE
MAXT HT. = 59'-6"

875
EXISTING COVERED PAVILION
1,960 sf
FF =

SR8

(RECOMMENDED) PROP. 6' TALL WROUGHT IRON FENCE AND GATE

EXISTING DUMPSTER TO REMAIN

EXISTING BIKE RACKS TO REMAIN

EXIST. WW LIFT STATION

WQ

WQTZ

WQTZ

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.
4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

30 15 0 30 60
SCALE IN FEET

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP02

SHEET NO. 18 OF 40 SHEETS

SP-

J:\A219\402 - Veritas Gym\Sheets\A219-0402-SP01.dwg
User: jkutac
Last Modified: Oct. 18, 23 - 19:45
Plot Date/Time: Nov. 13, 23 - 10:00:38

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

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

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

Regulated Entity Name: Reese Hurley, P.E.

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

Customer Information

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

   Contact Person: Cameron Cook
   Entity: Veritas Academy
   Mailing Address: 13401 Escarpment Blvd.
   City, State: Austin, Texas Zip: 78739
   Telephone: 512-891-1674 Fax: 512-891-1693
   Email Address: cameron.cook@veritasacademy.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

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

   Contact Person: Reese Hurley, P.E.
   Texas Licensed Professional Engineer's Number: 98211
   Entity: LJA Engineering
   Mailing Address: 7500 Rialto Blvd., Building II, Suite 100
   City, State:Austin, Texas Zip: 78735
   Telephone:512-439-4734 Fax:512-439-4716
   Email Address:rhurley@lja.com

Project Information

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

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

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

100% Domestic	5,096 gallons/day
_____% Industrial	_____ gallons/day
_____% Commingled	_____ gallons/day

   Total gallons/day: _____

6. Existing and anticipated infiltration/inflow is 2,080 gallons/day. This will be addressed by: All gravity lines will be SDR-26 PVC to minimize infiltration, will be low pressure air tested, and all manholes will be hydrostatically tested.

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

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on _____, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
6	307	PVC SDR-26	ASTM D3034

Total Linear Feet: 307

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.

(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the South Austin Regional (name) Treatment Plant. The treatment facility is:

☒ Existing
☐ Proposed

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

☒ The City of Austin standard specifications.
☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

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

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

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

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

Manholes and Cleanouts

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

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	31 Of 40	2+32.69	Manhole
A	31 Of 40	3+06.89	Clean-out
A	31 Of 40	4+06.89	Manhole
	Of		
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		
	Of		

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

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

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

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

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

Site Plan Scale: 1" = 30'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.

☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☒ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

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

Table 3 - 100-Year Floodplain

Line	***Sheet***	***Station***
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

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

Table 4 - 5-Year Floodplain

Line	***Sheet***	***Station***
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

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

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

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

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☐ There are no drop manholes associated with this project.
☒ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
A	A	4+06.89	31

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

☐ The placement and markings of all sewer line stub-outs are shown and labeled.
☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

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

☒ The placement and markings of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

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

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

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

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

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

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

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	N/A of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	32 & 33 of 40
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	N/A of
Typical trench cross-sections **[Required]**	33 of 40
Bolted manholes **[Required]**	33 of 40
Sewer Service lateral standard details **[Required]**	See notes 5, 7, & 8 on sheet 31 of 40
Clean-out at end of line **[Required, if used]**	33 of 40
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	N/A of

Standard Details	*Shown on Sheet*
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	33 of 40
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	32 of 40

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☐ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☒ Survey staking was completed on this date: Tree Survey Completed in May 2023

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

39. ☐ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

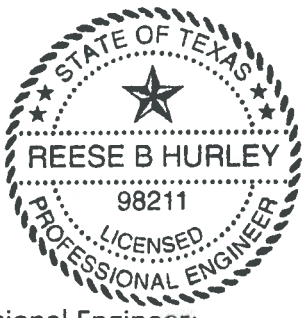
Signature

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

Print Name of Licensed Professional Engineer: Reese Hurley, P.E.

Date: 10-27-2023

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

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

Table 10 - Slope Velocity

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

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

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

Figure 1 - Manning's Formula

Where:

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

ORGANIZED SEWAGE COLLECTION SYSTEM (SCS)
ENGINEERING DESIGN REPORT

FOR

VERITAS ACADEMY GYM ADDITION AND CAMPUS IMPROVEMENTS

OCTOBER 2023

PREPARED FOR

VERITAS ACADEMY
13401 ESCARPMENT BLVD.
AUSTIN, TEXAS 78739
(512) 891-1673

PREPARED BY

LJA ENGINEERING, INC.
7500 RIALTO BLVD. BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700
FRN-F-1386

TABLE OF CONTENTS

Veritas Academy

SCS Engineering Design Report

A. SITE DESCRIPTION

1. Project Name: Veritas Academy Gym Addition and Campus Improvements

2. Location: 13401 Escarpment Blvd., Austin, Texas 78739

3. Treatment Facility: The South Austin Regional Wastewater Treatment plant will receive and treat flows from this project.

4. Project Summary: This project proposes to add a gym, looped driveway and drop-off area, parking improvements, required fire lanes, sidewalks and accessible paths, wood decking, drainage improvements, water quality improvements, detention improvements, and water and wastewater improvements. Two portable classrooms and a restroom will be relocated onsite. The existing guard shack will be demolished and replaced. To provide the site with wastewater service, approximately 347 LF of 4" domestic wastewater service, 51 linear feet of 6" domestic wastewater service, and 307 LF of 6" gravity wastewater pipe will be installed. Only the 307 LF of 6" gravity wastewater pipe is part of this SCS. Approximately 721 linear feet of water line, including both domestic and fire line, are also proposed.

B. CAPACITY DESIGN

1. Basis for Average Flow: A population-based method, based on the City of Austin's Utility Criteria Manual, was utilized to determine the average daily flow and peaks flow of the proposed gym and restroom trailer. The maximum population using the gym and restroom trailer was calculated to be 500 people. See Appendix B for the peak wet weather flow calculations.

2. Flow/Capacity Analysis:

6" Wastewater Pipe

Qmax (from Appendix B) = 98.78 gpm
Pipe Size = 6 in., n = 0.013
For the specified pipe at the design slope of 1.50%, the
Line Capacity (Qfull) = $(1.49/n) * A * R^{2/3} * S^{1/2}$ = 287.18 gpm
Qmax = 98.78 gpm < Qfull = 287.18 gpm
Therefore, the line is of sufficient size to carry the peak flows.

3. Minimum/Maximum Slopes: All pipes must be designed with a slope that will provide a minimum velocity of at least 2 ft/s and a maximum velocity of at least 10 ft/s when flowing full. All gravity pipes are 6 inches.

6" Pipe, S = 1.50%, n = 0.013, V = 3.25 ft/s 2 ft/s < 3.26 ft/s < 10 ft/s

4. Existing Sewage Collection System: The proposed SCS will tie into the existing Veritas Academy Sewage Collection System (Edwards Aquifer ID No. 11-15051301).

C. STRUCTURAL COMPONENTS

1. Type of Pipe:

6" SDR-26 ASTM D3034 Polyvinyl Chloride (PVC)

Product Standard:	ASTM 3034
Pipe Compound:	ASTM D1784 Cell Class 12454
Gasket:	ASTM F477
Integral Bell Joint:	ASTM D3212
Pipe Stiffness:	ASTM D2412, F/ΔY = 115 psi
Installation:	ASTM D2321
Tensile Strength:	7000 psi
Modulus of Elasticity:	400,000 psi
Nominal Inside Diameter:	5.793 inches
Average Outside Diameter:	6.28 inches
Wall Thickness:	0.241 inches
Approximate Weight:	3.11 lbs/ft

2. Pipe Bedding Class:

The pipe bedding class must comply with ASTM D2321 class IA, IB, II, or III for materials and densification. No sand bedding will be allowed. Class III material is assumed to be used, since it has the most conservative value for the Modulus of Soil Reaction, E'.

From Table 7.3, Pg. 207 of the UNI-BELL Handbook of PVC PIPE, 3rd Edition
Coarse-grained Soils with Fines (Bedding Class III) and 85% to 95% Compaction

E_b = 1000 psi

3. Manholes:

Manholes and/or cleanouts are provided at all changes in size, grade and alignment of pipe at all feasible locations. The maximum distance between manholes is less than the maximum spacing requirement of 500 feet allowed for all pipe sizes less than 15 inches in diameter. All manholes will be coated per the City of Austin standard specifications. Item number WW-511 from the City's Standard Products list includes several products which will achieve the design life and corrosion protection required. The site plan process took into account the existing topography, trees, and the natural aesthetics of the site, thus attempting to limit the use of large construction equipment in areas with trees and other natural areas. There are no vertical grade breaks proposed at the bend locations.

4. Buckling Analysis:

a) Allowable buckling pressure

$$R_w = 1 - 0.33 * (h_w / h)$$

$$B' = \frac{1}{1 + 4 * e^{-0.065H}}$$

$$I = (t^3 / 12) * (inches^4 / Linch)$$

$$q_a = 0.4 * \sqrt[2]{32 * R_w * B' * E_b * (E * I / D^3)}$$

q_a	=	allowable buckling pressure, pounds per square inch (psi)
h	=	height of soil surface above top of pipe in inches (in)
h_w	=	height of water surface above top of pipe in inches (in) (groundwater elevation)
R_w	=	Water buoyancy factor. If $h_w = 0$, $R_w = 1$. If $0 \leq h_w \leq h$ (groundwater elevation is between the top of the pipe and the ground surface), calculate R_w with Equation 2
H	=	Depth of burial in feet (ft) from ground surface to crown of pipe.
B'	=	Empirical coefficient of elastic support
E_b	=	modulus of soil reaction for the bedding material (psi)
E	=	modulus of elasticity of the pipe material (psi)
I	=	moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/lineal inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.
t	=	pipe structural wall thickness (in)
D	=	mean pipe diameter (in)

6" SDR-26 ASTM D3034 PVC

H = Deepest bury depth will not exceed 15' and is thus assumed for this calculation.
$h_w = 0$ (no ground water)
$I = t^3/12 = (0.241)^3/12 = 0.00117$ in^4/in
$Rw = 1+0.33(h_w/h) = 1$
$B' = 1/(1+4e^{-0.065H}) = 1/(1+4e^{-0.065(15)}) = 0.399$
$qa = 0.4*[32*1*0.399*1000*(400000*.00117/5.793^3)]^{0.5}$

qa = 69.99 psi

b) Calculate pressure applied to pipe under installed conditions:

$$W_c = \gamma_s * H * (D + t)/144$$

$$q_p = \gamma_w * h_w + R_w * (W_c / D) + L_l$$

q_p = pressure applied to pipe under installed conditions (psi)
γ_w = 0.0361 pounds per cubic inch (pci), specific weight of water
γ_s = specific weight of soil in pounds per cubic foot (pcf)
W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)
L_l = Live load = 0 (All bury depths are greater than 3 feet)

6" SDR-26 ASTM D3034 PVC

Wc = 120 * 15 * (5.793 + 0.241)/144 = 75.43 lb/in
q_p = (0.0361*0) + (1 * (75.43/5.793))+ (0)
q_p = 13.0200 psi

$q_p < q_a$ The buckling pressure under installed conditions is less than the allowable
13.02 < 69.99 , buckling pressure of the specified pipe.

5. Wall Crushing:

Wall crushing due to compressive stress can be calculated from the compressive stress formula, as referenced in Plastic Pipe Design Manual published by Vylon Pipe, Page 14.

6" SDR-26 ASTM D3034 PVC

D_o = outside pipe diameter, in. = 6.28 in.
P_c = compressive stress, lb/in^2 , = T / A , for typical PVC pipe assume 4,000 psi.
A = surface area of the pipe wall, in^2/ft = 0.241 in^2/ft
γ_s = specific weight of soil in pounds per cubic foot (pcf) = 120 pcf
P_y = vertical soil pressure, lb/in^2 = y_s * H / 144
T = wall thrust = $P_y D_o$ / 2
H = Depth of burial in feet(ft) from ground surface to crown of pipe

Substituting the Thrust equation into the compressive strength equation:
$P_c = P_y D_o / 2A$

Substitute the equation for P_y shown above
$P_c = [(y_s * H / 144) * D_o] / 2A$

Solving for H, the equation becomes:
$H = (288 * P_c * A) / (y_s * D_o)$
H = (288) * (4000) * (.241) / (120 * 6.28)

H_a = 368.41
$H_p < H_a$ The proposed maximum depth(H_p) is less that the maximum allowable
15.00 < 368.41, depth (Ha) before wall crushing would occur.

6. Deflection Analysis: Zeta Factor

Leonhard's Zeta Factor can be calculated using Equation 7.37 of the UNI-BELL Handbook of PVC PIPE, 3rd Edition.

$$zeta = \frac{1.44}{f + (1.44 - f) * (E_b / E_{n'})}$$

$$f = \frac{b/d_a - 1}{1.154 + 0.444 * (b/d_a - 1)}$$

f = pipe/trench width coefficient
b = trench width = 2.52 ft = 30.3 in for 6" Wastewater Pipe
d_a = pipe diameter = 6.28 in for 6" Wastewater Pipe
E_b = modulus of soil reaction for the bedding material (psi) = 1000
E'_n = modulus of soil reaction for the in-situ soil (psi) = 1000

6" Wastewater Pipe

f = (30.3/6.28-1) / (1.154 + 0.444*(30.3/6.28-1)) = 1.550
zeta = 1.44 / [1.550 + (1.44-1.550) * (1000/1000)]
zeta = 1.0

7. Pipe Stiffness:

Using equation 7.1, from the Uni-Bell Handbook of PVC Pipe, 3rd Edition.

$$P_s = \frac{EI}{0.149 * r^3}$$

Ps = Pipe Stiffness (psi)

E = modulus of elasticity of the pipe material (psi)
I = moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/lineal inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.
r = mean radius (in)

Ps = (400000*.00117) / (0.149*2.897) = 128.86 psi (6" SDR-26 ASTM D3034)

8. Pipe Stiffness to Soil Stiffness Factor Ration (Ps / SSF):

The Pipe Stiffness to Soil Stiffness Factor must be greater than 0.15
Ps = Pipe Stiffness (psi)
Eb = modulus of soil reaction for the bedding material = 1,000 psi
zeta = 1.0
SSF = soil stiffness factor (0.061*zeta *E_b) = 61

Ps/SSF = 128.86/61 = 2.11 (6" SDR-26 ASTM D3034)

9. Predicted Pipe Deflection:

Using equation 7.1, from the Uni-Bell Handbook of PVC Pipe, 3rd Edition.

$$\frac{\%\Delta Y}{D} = \frac{D_L K P (100)}{0.149 P_S + 0.061 E'}$$

P = y_S*H / 144

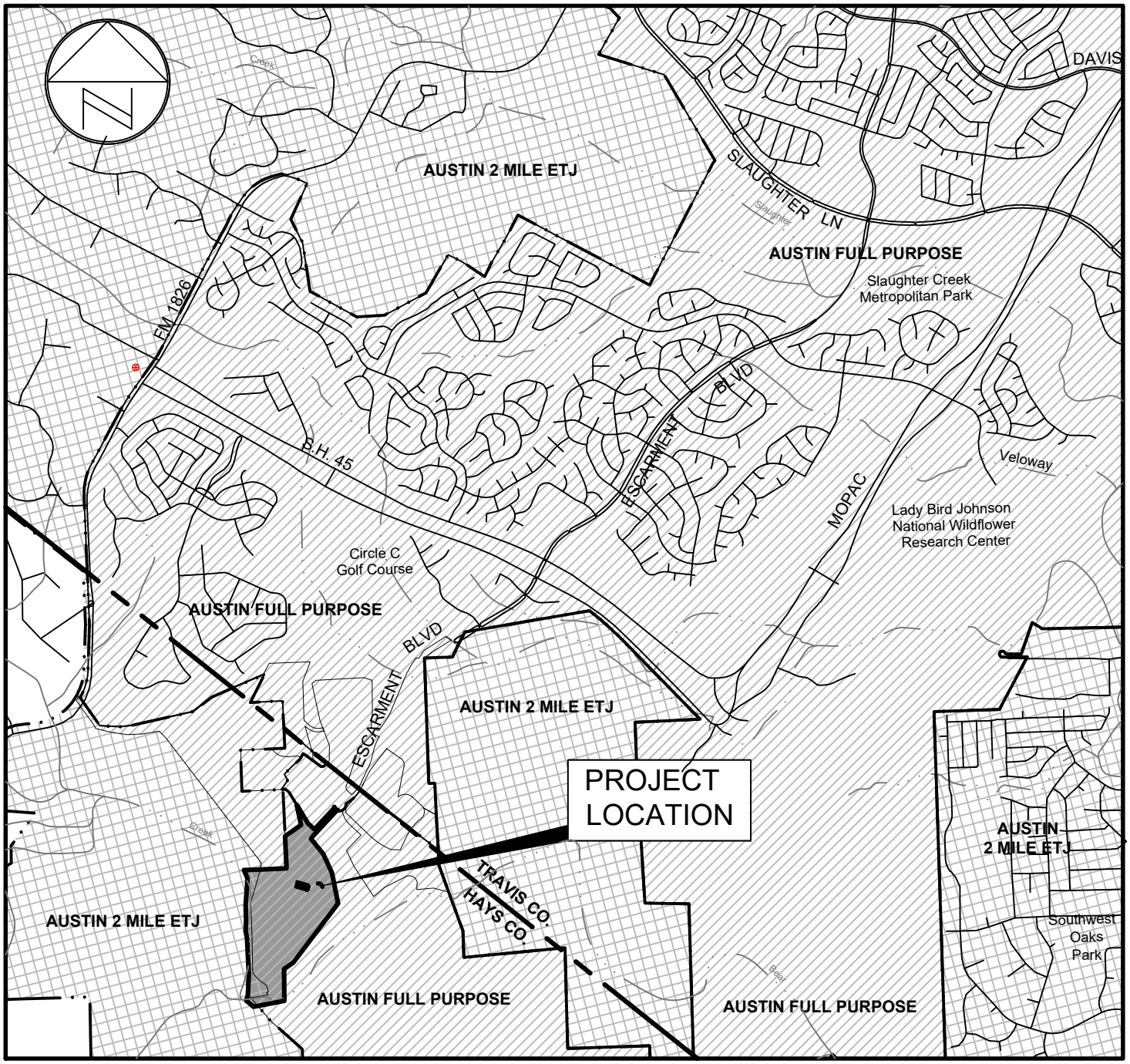
$\%\Delta Y/D$ = Predicted % vertical deflection under load

P = Prism Load (psi)
K = Bedding angle constant. Assumed to be 0.1
E' = Modulus of soil reaction = 1000 psi
D_L = Deflection lag factor = 1.5
y_S = Unit weight of soil = 120 pcf
H = Depth of burial (ft) from ground surface to crown of pipe

P = 120*15.0/144 = 12.50 psi (6" SDR-26 ASTM D3034 PVC)

6" SDR-26 ASTM D3034 PVC
$\%\Delta Y/D$ = (1.5)(0.1)(12.50)(100) / [(.149)(128.86) + (0.061)(1000)] = 2.34%

APPENDIX A - PROJECT LOCATION MAP



(NTS)

GRID NO.: A-13, A-14, WZ13

MAPSCO PAGE: 670V, 670Z, 671N, 671S, 671W

LJA Engineering, Inc.
5316 Highway 290 West
Suite 150
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

Veritas Academy
Gym Addition and Campus Improvements
Road Map

13401 Escarpment Boulevard, Austin TX

FORM 0587, ATTACHMENT A

1 OF 3

APPENDIX B - WASTEWATER FLOW CALCULATIONS

Veritas Academy

WASTEWATER CALCULATIONS

Source **Prop. Gym and Trailer**

Population 500

AVERAGE DRY WEATHER FLOW

F = 70 gal./person/day x Population/1440 gpm

PEAK FLOW FACTOR (>= 4)

$PFF = [(18+(0.0206 \times F)^{0.5})/(4+(0.0206 \times F)^{0.5})]$

PEAK DRY WEATHER FLOW (gpm)

Qpdwf = PFF X F

INFLOW / INFILTRATION

(I/I) = 750 gal./day/acre = 0.521 gpm/acre

PEAK WET WEATHER FLOW (gpm)

Qpwwf = Qpdwf + I/I

WASTEWATER LINE	STATION FROM	STATION TO	Population	AVERAGE DRY WEATHER FLOW F (gpm)	PEAK FLOW FACTOR PFF	PEAK DRY WEATHER FLOW Qpdwf (gpm)	INFLOW / INFLITRATION I/I (gpm)	PEAK WET WEATHER FLOW Qpwwf (gpm)	PIPE SIZE (IN)	PIPE SLOPE (%)	PEAK DRY WEATHER VELOCITY Vpdwf (ft/s)	PEAK DRY WEATHER DEPTH d_{pdwf} (ft)	PEAK WET WEATHER VELOCITY Vpwwf (ft/s)	PEAK WET WEATHER DEPTH d_{pwwf} (ft)
WWL 'A'	1+00.00	4+06.89	500	24.31	4.00	97.22	1.56	98.78	6	1.50	3.10	0.190	3.12	0.190

APPENDIX C - TCEQ SCS GENERAL CONSTRUCTION NOTES

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.

8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet 32 of 40.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: No curvature of sewer lines is proposed.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: No flexure is proposed within the Sewage Collection System.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals). There are no stub-outs proposed for future lateral connections.

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet 31 of 40 and marked after backfilling as shown in the detail on Plan Sheet 31 of 40.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:

(a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:

(1) *Low Pressure Air Test.*

(A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.

(B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.

(i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.

(ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3 $$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds

K = 0.000419 X D X L, but not less than 1.0

D = average inside pipe diameter in inches

L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter *(inches)*	**Minimum Time** *(seconds)*	**Maximum Length for Minimum Time** *(feet)*	**Time for Longer Length** *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.

(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.

(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.

(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*

(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.

(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.

(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.

(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.

(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:

(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.

(A) *Mandrel Sizing.*

(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.

(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.

(iii) All dimensions must meet the appropriate standard.

(B) *Mandrel Design*.

(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.

(ii) A mandrel must have nine or more odd number of runners or legs.

(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.

(iv) Each size mandrel must use a separate proving ring.

(C) *Method Options.*

(i) An adjustable or flexible mandrel is prohibited.

(ii) A test may not use television inspection as a substitute for a deflection test.

(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.

(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.

(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.

(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.

(5) Gravity collection system pipe deflection must not exceed five percent (5%).

(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.

(a) All manholes must pass a leakage test.

(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

(1) Hydrostatic Testing.

(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.

(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.

(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing.

(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.

(B) No grout must be placed in horizontal joints before testing.

(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.

(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.

(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.

(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.

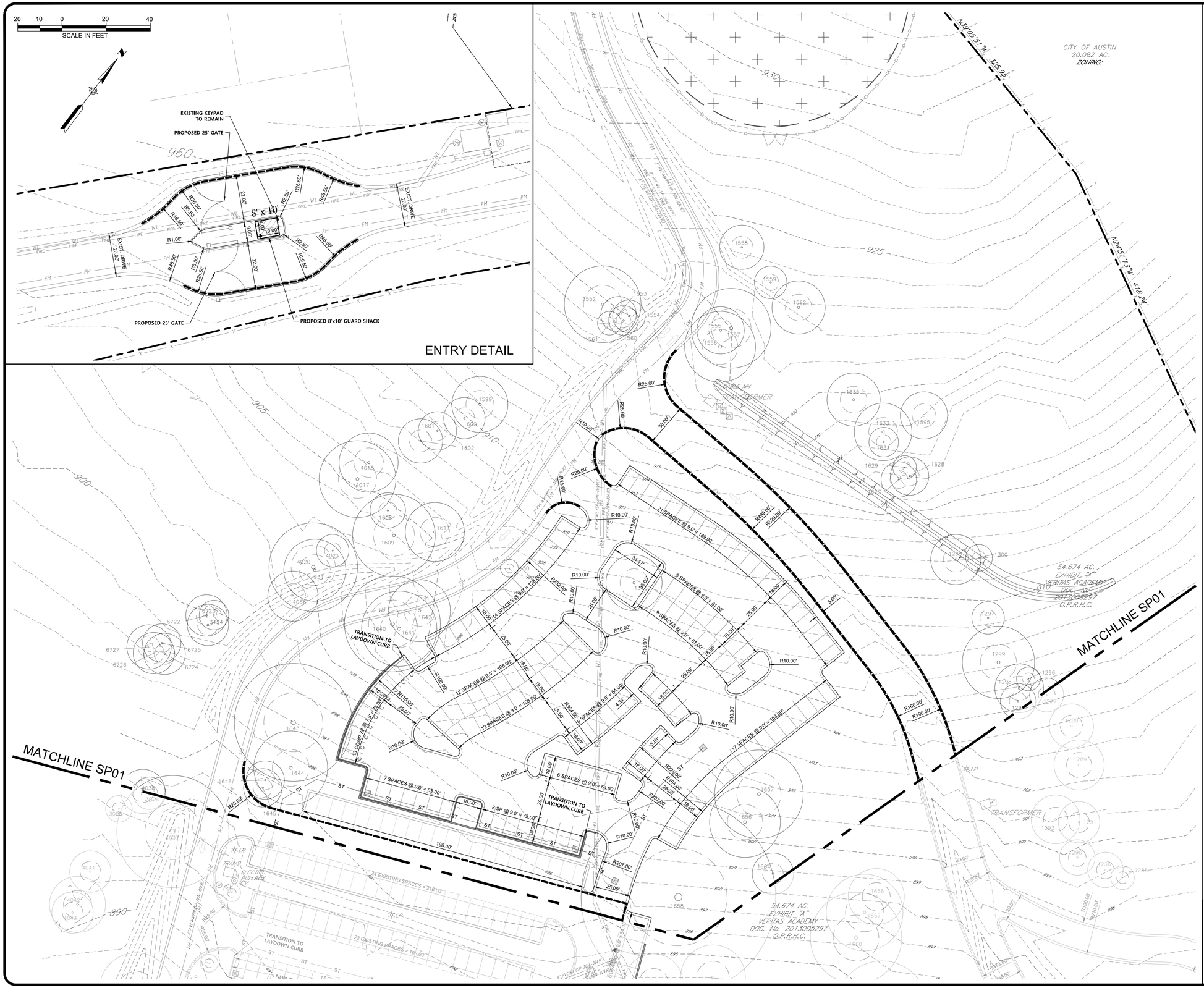
(G) A test does not begin until after the vacuum pump is off.

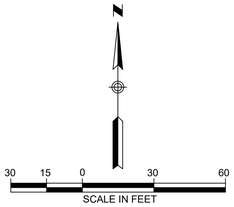
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 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.





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
WW		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OH	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.

3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.

4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP01

SHEET NO. 17 OF 40 SHEETS

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OU	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

MATCHLINE SP01

MATCHLINE SP01

24 EXISTING SPACES = 216.00'

22 EXISTING SPACES = 198.00'

17 EXISTING SPACES = 153.00'

9 EXISTING SPACES = 81.00'

TRANSITION TO LAYDOWN CURB

NEW CURB & GUTTER

RE-STRIPE 3 EXISTING SPACES AS 2 ACCESSIBLE SPACES

6 SPACES @ 9.0' = 54.00'

8 SPACES @ 9.0' = 72.00'

12 SPACES @ 9.0' = 108.00'

17 SPACES @ 9.0' = 153.00'

PROPOSED GYM
FF = 891.00
FF= 877.00

433 WSFU'S

64,674 AC.
EXHIBIT "A"
VERITAS ACADEMY
DOC. No. 2013005297
O.P.R.H.C.

PORTABLE
64' x 24'
FF = 891.60

EXISTING OFFICE
25' x 30'
FF = 892.11

EXISTING OFFICE
25' x 30'
FF = 892.07

EXISTING PORTABLE 8
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

EXISTING PORTABLE 7
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

PORTABLE
64' x 24'
FF = 891.60

DROP-OFF

EXISTING PORTABLE 3
64' x 24' (TYP.)
FF=879.00
1,536 sf

EXISTING PORTABLE 1
64' x 24' (TYP.)
FF=876.50
1,536 sf

EXISTING PORTABLE 2
64' x 24' (TYP.)
FF=872.00
1,536 sf

EXISTING PORTABLE 4
64' x 24' (TYP.)
FF=874.00
1,536 sf

EXISTING CLASSROOM BLDG
(SP-2014-0249C)
12,915 sf (COVERAGE)
45,212 sf (GSF)
FF=873.50
4-STORIES
SLAB ON GRADE
MAXT HT. = 59'-6"

875
EXISTING COVERED PAVILION
1,960 sf
FF =

SR8

(RECOMMENDED) PROP. 6' TALL WROUGHT IRON FENCE AND GATE

EXISTING DUMPSTER TO REMAIN

EXISTING BIKE RACKS TO REMAIN

EXIST. WW LIFT STATION

WQ

WQTZ

WQTZ

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.
4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

30 15 0 30 60
SCALE IN FEET

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP02

SHEET NO. 18 OF 40 SHEETS

SP-

J:\A219\402 - Veritas Gym\Sheets\A219-0402-SP01.dwg
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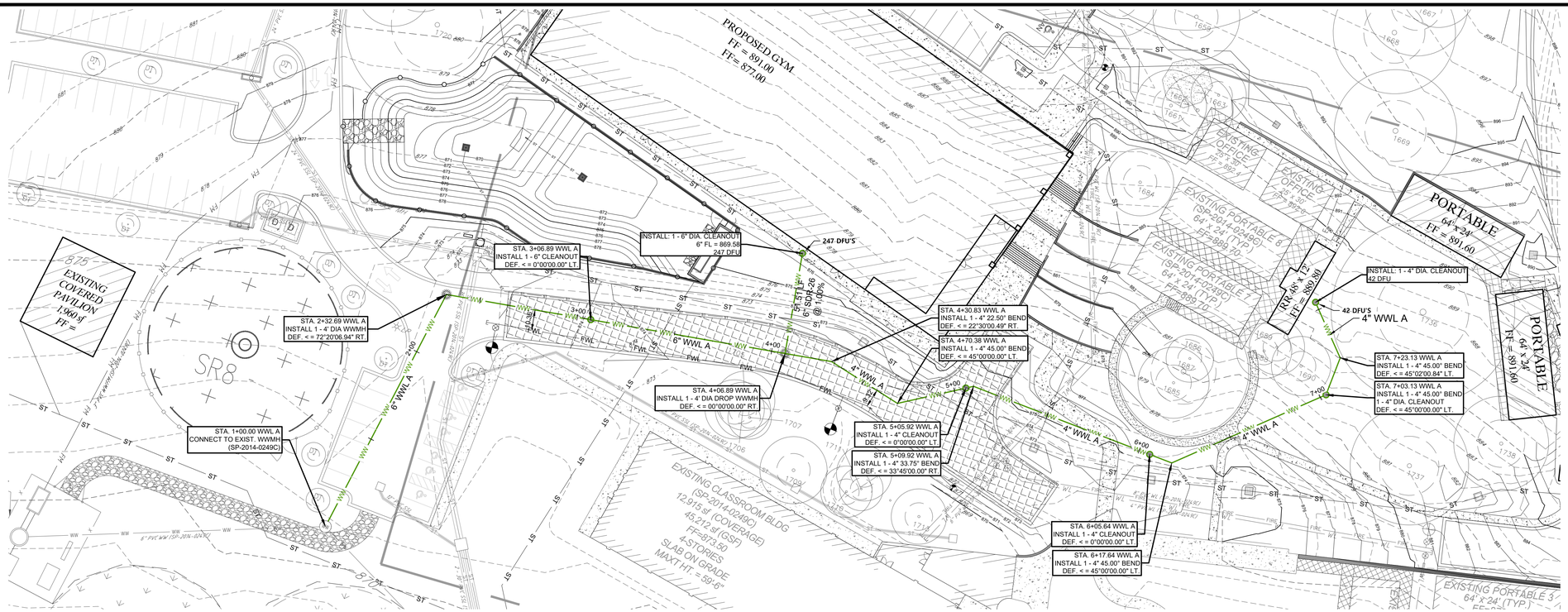
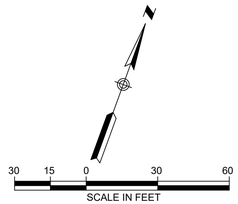
Plot Date/Time: Nov. 13, 23 - 10:00:38





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		PAVER/BRICK SIDEWALK
		GRASSCRETE
		DECK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FENCE
		FENCE
	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OU	OVERHEAD UTILITY
	FO	FIBER OPTIC
	2743	TREE TO REMAIN
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

WWL A (PRIVATE)

SCALE: 1" = 30' HOR
1" = 3' VERT

WASTEWATER NOTES:

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. MANDREL TESTING WILL BE REQUIRED ON ALL FLEXIBLE GRAVITY WASTEWATER PIPE AS PER TCEQ RULES.
3. ALL GRAVITY WASTEWATER LINES SHALL BE SDR-26 WWL ASTM D3034 UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO FILL AND COMPACT TO 98% DENSITY IN FILL SECTIONS OVER WASTEWATER LINES. 2.0'(MIN) COVER OVER WASTEWATER PRIOR TO CONSTRUCTION.
5. ALL SERVICES SHALL TERMINATE WITH A 2-WAY CLEANOUT.
6. ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED (SECTION 25-2-1125).
7. SERVICE LINE SHALL HAVE A MIN. 1% SLOPE.
8. ALL SERVICES SHALL BE 4" MIN. UNLESS OTHERWISE SHOWN.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

WASTEWATER LINE LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS			
NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/28/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-WWL01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

WW01

SHEET NO. 31 OF 40 SHEETS

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: Reese Hurley, P.E.

Date: 10-27-2023

Signature of Customer/Agent:

Regulated Entity Name: Veritas Academy

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: Bear 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.

ATTACHMENTS TO FORM 0602

ATTACHMENT A - Spill Response Actions

Possible sources of a hydrocarbon or other hazardous substance spill would be from a construction vehicle leaking fuel, lubricants, coolants, etc. Potential leakage is not likely to be significant and any soil that appears to be contaminated will be removed and disposed of in a TCEQ certified landfill. If it is determined that a reportable spill has occurred as defined in 30 TAC Chapter 327, the TCEQ shall be notified by phone at the regional office (512) 339-2929 or at the State Emergency Response Center (800) 832-8224 as soon as possible. Requirements under 30 TAC Chapter 327 will be followed to ensure that the spill is contained and disposed of in an expedient and thorough manner and that proper authorities are kept informed throughout the process.

ATTACHMENT B – Potential Sources of Contamination

Other potential sources of contamination could come from the use of asphaltic products during the construction of the site driveways and parking areas, thus tracking offsite onto area streets during wet weather periods and stockpiling solid waste. During the construction of the site, silt fencing will remain in place and collect any contaminants should they migrate due to an unforeseen rain event. The stabilized construction entrances will remain in place to minimize vehicle tracking and wheel washing will occur should the contractor wish to continue construction during wet site conditions. Solid waste will be placed in on-site containers and will be disposed of in permitted dump sites.

ATTACHMENT C – Sequence of Major Activities

The sequencing of construction will generally take place in the following manner. Most of the activities following rough grading will not further disturb the site.

1. Assign an environmental project manager who will be onsite greater than 90% of the time during construction activity and be responsible for the activities list under section 1.2.2.3 of the City of Austin environmental criteria manual. Call City Public Works Department (PWD) Environmental Inspection at 512-974-2278, 48 hours prior to beginning any work. Call the TESS at 1-800-344-8377 for utility locations and obtain permit for any work within City right-of-way.

2. Install temporary erosion controls and tree/natural area protection fencing as indicated on the approved plans prior to preconstruction meeting and any site clearing and grubbing. (± 15.39 Ac)

3. The Environmental Project Manager must contact the Watershed Protection and Development Review Department to schedule a preconstruction coordination meeting to be held on site. The Environmental Project Manager must also notify COA Environmental Inspection at 974-2278 and Project Engineer at 439-4700 for preconstruction meeting at least 3 days prior to the meeting. The owner/developer shall notify the City Arborist (Naomi Rotramel) 3 days prior to the preconstruction meeting.

4. Erosion controls will be revised, if needed, to comply with City of Austin inspectors' directives and revised construction schedule relative to the water quality plan

4. Erosion controls will be revised, if needed, to comply with City of Austin inspectors' directives and revised construction schedule relative to the water quality plan requirements and the erosion/sedimentation control and tree protection plan. (Typically, only minor localized soil disturbances would be required for this activity.)

5. Rough cut water quality pond prior to rough grading site. Either the permanent outlet structure or a temporary outlet will be constructed prior to development of any embankment or excavation that leads to ponding conditions. The outlet system must consist of a low-level outlet and an emergency overflow meeting the requirements of the City of Austin's Drainage Criteria Manual (Section 8.3) and/or the City of Austin's Environmental Criteria Manual (Section 1.4.2.K) as required. The outlet system shall be protected from erosion and shall be maintained throughout the course of construction until final restoration is achieved. Water Quality Pond (± 0.25 acres).

6. Temporary Controls to be inspected and maintained weekly and prior to anticipated rainfall events, and after rainfall events, as needed. (Typically, only minor localized soil disturbances would be required for this activity.)

7. Rough grade site. (± 5.50 Ac)

8. Trench and install all utilities to be located under the proposed pavement. (± 2.00 Ac)

9. Environmental Project Manager will schedule a mid-construction conference to coordinate changes in the construction schedule and evaluate effectiveness of the erosion/sedimentation control and tree protection plan after possible construction alterations to the site. Participants shall include the City Inspector, Project Engineer, General Contractor and Environmental Project Manager. The anticipated completion date and final construction sequence and inspection schedule will be coordinated with the appropriate City Inspector. A mid-construction conference is required for each phase, if phasing is proposed, with the watershed protection and development review department staff, which will be coordinated based upon completion of buildings, drainage facilities, water quality controls and temporary erosion controls by phase.

10. Complete all underground utility installations, including irrigation system. (Some additional soil disturbance is anticipated during this activity to install the irrigation system, < 2.00 acres). All other trenching activities will have already been completed; thus minor localized disturbances may be required for adjustments.)

11. Re-grade site to sub-grade. (± 5.50 Ac)

12. Ensure that all underground utility crossings are completed. This task is only a check on the already installed utility lines. (No additional soil disturbance is anticipated during this activity as trenching activities will have already been completed.)

13. Lay first course base material on parking areas and driveways. (No additional soil disturbance is anticipated during this activity because site grading activities will have already disturbed this area down to sub-grade.)

14. Install curb and gutter. (No additional soil disturbance is anticipated during this activity as the rough grading will have already disturbed this area down to sub-grade.)

15. Lay final base course on all parking areas and driveways. (No additional soil disturbance is anticipated during this activity because site grading activities will have already disturbed this area down to sub-grade.)

16. Lay asphalt. (This activity will not require additional soil disturbance.)

17. Install site signs. (< 200 SF)

18. Complete construction of permanent structural controls, including irrigation system. Permanent controls will be cleaned out and filter media will be installed prior to/concurrently with revegetation of site.

19. Start revegetation of the site and installation of any required landscaping. (± 2.0 Ac).

20. Upon completion of the site construction and revegetation of the project site, the Design Engineer shall submit an Engineer's Letter of Concurrence to the Planning and Development Review Department indicating that construction, including revegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate City Inspector.

21. Upon completion of landscape installation of a project site, the Landscape Architect shall submit a Letter of Concurrence to the Planning and Development Review Department indicating that the required landscaping is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate City Inspector.

22. After a final inspection has been conducted by the City Inspector and with approval from the City inspector, remove the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the water quality ponds or controls.

ATTACHMENT D – Temporary Best Management Practices and Measures

a. The site will not receive appreciable up-gradient stormwater from offsite. Upstream runoff from the Avana Subdivision development is captured within its boundary and routed via drainage improvements to the respective water quality and detention facilities. A small amount of contributing offsite drainage from the northwest will flow along the edge of the site, but not flow into or across the limits of construction.

b. Silt fence is used throughout the project to prevent pollution of stormwater runoff for areas that exhibit sheet flow characteristics. Before construction begins, silt fence and tree protection will be in place. The principal potential pollutant on site is sediment caused by disturbance during construction. The controls installed will be monitored on a regular basis and after any significant rainfall to ensure effective operation. Throughout construction, inspection forms will be used to

record the condition of the controls after rainfall events. Rock berms and energy dissipaters are installed at discharge locations to prevent erosion and transport of sediment from the site and also decrease flow velocities.

c. Runoff from the site (±14.42 acres) will be captured by proposed inlets and existing inlets and conveyed by storm sewer to the proposed retention/irrigation water quality pond and existing retention/irrigation water quality pond. The inlets will be protected during construction with sediment traps. Discharge from the water quality ponds will be retained until discharged via sprinklers onto the designated irrigation area. Any runoff from the irrigation area will flow directly into Bear Creek. Larger storm events will flow over the splitter box weir into the detention pond before being released over a 24 hour period. The detention pond outlet will be protected until final restoration of the site has been achieved. The detention pond also discharges into Bear Creek and not into any identified sensitive features.

d. As described above, there are no naturally occurring sensitive features identified by the geological assessment that will receive developed discharge from the proposed site. Setbacks for identified sensitive features were delineated and approved by the City of Austin as part of the overall Avana Subdivision preliminary plan. At that time, the TCEQ agreed with the City of Austin's determination of the required/needed setbacks. The setbacks allow undeveloped runoff to flow into these features.

ATTACHMENT E – Request to Temporarily Seal a Feature

No request is anticipated for this project.

ATTACHMENT F – Structural Practices

Contractor will construct and maintain silt fence, rock berms, a stabilized construction entrance, and other temporary and permanent erosion and sedimentation controls as appropriate to prevent pollutants from exiting the site during construction.

ATTACHMENT G – Drainage Area Map

The onsite drainage area map is included with the attached set of plans.

ATTACHMENT H – Temporary Sediment Pond(s) Plans and Calculations

The proposed retention/irrigation water quality pond and existing retention/irrigation water quality pond will act as sediment traps should any of the other erosion controls fail. Since ±14.42 acres will drain to the water quality ponds, using 3,600 cf per acre of drainage, 51,912 cf of volume is required to be provided during construction. The water quality ponds will provide a total volume of 75,716 cf, which is sufficient to provide temporary controls. The sequence of construction indicates that the proposed water quality pond shall be rough cut to provide full volume prior to site grading.

ATTACHMENT I – Inspection and Maintenance for BMPs.

Inspection and maintenance for Best Management Practices is taken from the TCEQ Manual, "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices", dated July 2005.

Silt Fence:

1. Inspect all fencing weekly, and after any rainfall.

2. Remove sediment when buildup reaches 6 inches.

3. Replace any torn fabric or install a second line of fencing parallel to the torn section.

4. Replace or repair any section 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 vehicular access points.

5. 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.

Rock Berms:

1. Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

3. Repair any loose wire sheathing.

4. The berm should be reshaped as needed during inspection.

5. 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.

6. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt is removed.

Stabilized Construction Entrance:

1. The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

2. All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

3. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

4. 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.

5. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Concrete Washout Area:

1. Routine inspection in accordance with section 1.4.18 of TCEQ Manual: RG-348 of the area to ensure that sufficient quantity and volume remain to contain all liquid and concrete waste generated by washout operations.

2. Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.

3. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

4. When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

ATTACHMENT J – Schedule of Interim and Permanent Soil Stabilization Practices

The following are the proposed stabilization (temporary and permanent) practices:

Temporary Vegetative Stabilization:

1. From September 15 to March 1, seeding shall be with cool season cover crops (Wheat at 0.5 pounds per 1000 SF, Oats at 0.5 pounds per 1000 SF, Cereal Rye Grain at 0.5 pounds per 1000 SF) with a total rate of 1.5 pounds per 1000 SF. Cool season cover crops are not permanent erosion control.
2. From March 2 through September 14, seeding shall be with hulled Bermuda at a rate of 1 pound per 1000 SF.

    A. Fertilizer shall be water soluble with an analysis of 15-15-15 to be applied once at planting and once during the period of establishment at a rate of 1/2 pound per 1000 SF.

    B. Hydro-mulch shall comply with Table 1, below.

Material	Description	Longevity	Typical Applications	Application Rates
100 % or any blend of wood, cellulose, straw, and/or cotton plant material (except no mulch shall exceed 30% paper)	70% or greater Wood/Straw 30% or less Paper or Natural Fibers	0-3 months	Moderate slopes; from flat to 3:1	1500 to 2000 lbs per acre

    C. Temporary erosion control 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.

    D. When required, native grass seeding shall comply with requirements of the City of Austin Environmental Criteria Manual.

Permanent Vegetative Stabilization:

1. From September 15 to March 1, seeding is considered to be temporary stabilization only. If cool season cover crops exist where permanent vegetative stabilization is desired, the grasses shall be mowed to a heigh of less than one-half (1/2) inch and the area shall be re-seeded in accordance with 2, below.

2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 1 pound per 1,000 square feet with a purity of 95% with 85% germination. Bermuda grass is a warm season grass and is considered permanent erosion control.

    A. Fertilizer shall be water soluble with an analysis of 15-15-15 to be applied once at planting and once during the period of establishment at a rate of 1/2 pound per 1000 SF.

B. Hydro-mulch shall comply with Table 2, below.

Material	Description	Longevity	Typical Applications	Application Rates
Bonded Fiber Matrix (BFM)	80% Organic defibrated fibers 10% Tackifier	6 months	On slopes up to 2:1 and erosive soil conditions	2500 to 4000 lbs per acre (see manufacturers recommendations)
Fiber Reinforced Matrix (FRM)	65% Organic defibrated fibers 25% Reinforcing Fibers or less 10% Tackifier	Up to 12 months	On slopes up to 1:1 and erosive soil conditions	3000 to 4500 lbs per acre (see manufacturers recommendations)

C. 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 daily intervals (minimum) during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week.

D. Permanent erosion control 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.

E. When required, native grass seeding shall comply with requirements of the City of Austin Environmental Criteria Manual.

TPDES Construction Inspection and Maintenance Report Form

Project Name: Veritas Academy Gym Addition and Campus Improvements

Permit Number: _____

Facility Operators: _____

_____

_____

Inspector's Name: _____
(attach qualifications summary for each inspector) _____

Date of Last Rainfall: _____
Amount of Last Rainfall: _____
Date of Inspection: _____

Inspection Notes

Condition Code*	Area Inspected	Changes Required (if any)
☐	Stabilized Construction Entrance(s)	
☐	Silt fencing and rock berms downstream of improvements	
☐	Silt fencing downstream of Temporary Spoils/ Construction Staging Areas	
☐	Areas temporarily and/or finally stabilized (inspect at least once every month)	
☐	Concrete Washout Area	
☐		
☐		
☐		

*Condition Codes
01 - In compliance with the storm water pollution prevention plan and perm
02 - To be repaired or replaced within 24 hours
03 - To be repaired or replaced within 48 hours
04 - To be repaired or replaced within 7 days

Please note major construction activities taking place. Include dates when major grading activities and/or disturbances occur, dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated. Major observations should include: The locations of discharges of sediment or other pollutants from the site; locations of controls that need to be maintained; locations of controls that failed to operate as designed or proved inadequate for a particular location; and locations where additional controls are needed. (Attach additional pages as required and/or attach daily construction reports.)

_____

_____

_____

_____

_____

_____

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: _____

Signature: _____ Date: _____

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: Reese Hurley, P.E.

Date: 10-27-2023

Signature of Customer/Agent

Regulated Entity Name: Veritas Academy

Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☒ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: The COA Environmental Criteria Manaul was also used regarding the SOS ordinance requirements for water quality capture volume for the proposed retention/infiltration pond.

☐ 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

ATTACHMENTS – FORM 0600

ATTACHMENT A – 20% or Less Impervious Cover Waiver

Not Applicable.

ATTACHMENT B – BMPs for Up-gradient Stormwater

The proposed development is located in the Bear Creek Watershed. The site drains primarily from north to the south. The proposed grading of the site will divert runoff from the up-gradient area (± 1.0 acre), that could potentially contribute runoff to the developed site area, back towards Bear Creek. The up-gradient stormwater originates from an undeveloped area to the north and west of the northern driveway. No developed runoff from the Avana Subdivision to the north contributes to the site as it is captured within its boundary.

ATTACHMENT C – BMPs for On-Site Stormwater

Temporary Controls: Prior to site clearing, grading and excavation, the stabilized construction entrance will be installed, tree protection/limit of construction fencing will be installed, and silt fences will be installed at the downstream edge of disturbed areas where shallow sheet runoff occurs. Rock berms will be placed where more concentrated flow occurs. The water quality ponds will act as a sediment trap for the project. During all aspects of construction, the contractor shall maintain these controls. The contractor will be responsible for stabilization practices (revegetation). The contractor will be responsible for removing the temporary controls once the revegetation is established.

Permanent Controls: After construction there will be runoff from building surfaces, paved areas, and managed lawn/landscape areas. These areas will be mitigated by permanent revegetation of disturbed areas and through use of an existing retention/irrigation type water quality pond, a proposed retention/irrigation type water quality pond, and a vegetative filter strip. There are three water quality drainage areas for the proposed project as described below.

A small portion of the site, the northern driveway drainage area D4 (1.22 acres), sheet flows onto an existing natural VFS located just west of this area. The natural VFS area drains directly into Bear Creek and not into any identified sensitive features. Based on our analysis, 0.446 acres of impervious cover will be treated by the VFS. A 1.124-acre vegetative filter strip is required per Appendix R-9 of the City of Austin Environmental Criteria Manual. The existing VFS is 1.32 acres and thus enough VFS area is provided. Because flow spreaders are not allowed by the TCEQ, the VFS is not being considered as a permanent BMP for purposes of receiving water quality credit.

The storm water runoff from the northern area of the site, identified as drainage area D3 (4.64 acres with 58.62% impervious cover) on sheet DM02 of the plans, will be captured and conveyed to the proposed retention/irrigation water quality pond. Runoff from drainage area D2 (8.98 acres with 34.30% impervious cover), also shown on sheet DM02 of the plans, will be captured and conveyed to the existing retention/irrigation water quality pond. The water quality ponds are oversized to provide water quality for the maximum allowable onsite impervious cover (6.5 acres). Therefore, the water quality controls are designed for 37.08% impervious cover in drainage area D2. The

runoff from all remaining areas of the site will remain pervious and in the existing condition with the exception of the proposed water quality pond and detention pond improvements. Based on the contributing drainage areas and associated impervious cover, the City of Austin SOS ordinance requires a water quality capture volume of 54,438 cubic feet for the existing retention/irrigation pond and 16,815 cubic feet for the proposed retention/irrigation pond. The TCEQ requires a water quality capture volume of 18,333 cubic feet for the existing retention/irrigation pond and 8,654 cubic feet for the proposed retention/irrigation pond. The existing retention/irrigation pond provides 57,464 cubic feet and the proposed retention/irrigation pond will provide 18,202 cubic feet of water quality volume.

For both ponds, stormwater collected onsite by storm inlets is conveyed to the splitter box via storm sewers. The splitter box weirs are set to the respective water quality elevations. When the required water quality volume is collected in a water quality pond, the splitter box diverts the remainder to the detention pond. The existing detention pond has primarily 3:1 side slopes. To account for additional onsite runoff from the maximum allowable impervious cover, the sides of the detention pond will be excavated, and walls will be installed to increase the detention volume.

The existing water quality pond contains a sedimentation basin and a retention basin. The sedimentation basin collects sediment and debris. Water then filters through a rock gabion into the retention basin, where a sand bed traps additional small particles. Water is then conveyed by under-drain piping to an existing wet well.

Stormwater that flows into the proposed water quality pond from the storm system is first treated by the sedimentation forebay, where sediment settles out of the stormwater. The stormwater then passes through a 6” riser pipe with a trash rack, under an earthen berm via a 6” SCH 40 PVC pipe extending from the riser pipe, and into the retention basin. The stormwater then filters through a second riser pipe with a trash rack. A 1⅝” removable orifice cap will be installed at the flow line of the riser pipe to ensure the pond empties in 60 hours. Then, a 6” SCH 40 PVC pipe conveys the stormwater from the retention basin to a 1⅝” control valve. 12 hours after the end of the rainfall event, the control valve will open and the existing pumps in the existing wet well will turn on. Once the control valve opens, the stormwater in the proposed retention/irrigation pond will be conveyed through a 6” SCH 40 PVC to an existing inlet and to the existing water quality pond’s splitter box via a storm sewer pipe.

The water quality volume from both ponds will be filtered through an existing sand bed and then conveyed by existing under drain piping to an existing wet well. The proposed pumps in the existing wet well will convey the stormwater to the infiltration fields and irrigate the stormwater over an area to allow the water to infiltrate into the ground. Both ponds shall be empty of their respective water quality volumes within 72 hours of the rainfall event.

ATTACHMENT D – BMPs for Surface Streams

Temporary Controls: Prior to site clearing, grading and excavation, the stabilized construction entrance will be installed, tree protection/limit of construction fencing will be installed, and silt fences will be installed at the downstream edge of disturbed areas where shallow sheet runoff occurs. Rock berms will be placed where more concentrated flow occurs. The water quality ponds will act as a sediment trap for the project. During

all aspects of construction, the contractor shall maintain these controls. The contractor will be responsible for stabilization practices (revegetation). The contractor will be responsible for removing the temporary controls once the revegetation is established.

Permanent Controls: After construction there will be runoff from building surfaces, paved areas, and managed lawn/landscape areas. These areas will be mitigated by permanent revegetation of disturbed areas and through use of an existing retention/irrigation type water quality pond, a proposed retention/irrigation type water quality pond, and a vegetative filter strip. There are three water quality drainage areas for the proposed project as described below.

A small portion of the site, the northern driveway drainage area D4 (1.22 acres), sheet flows onto an existing natural VFS located just west of this area. The natural VFS area drains directly into Bear Creek and not into any identified sensitive features. Based on our analysis, 0.446 acres of impervious cover will be treated by the VFS. A 1.124-acre vegetative filter strip is required per Appendix R-9 of the City of Austin Environmental Criteria Manual. The existing VFS is 1.32 acres and thus enough VFS area is provided. Because flow spreaders are not allowed by the TCEQ, the VFS is not being considered as a permanent BMP for purposes of receiving water quality credit.

The storm water runoff from the northern area of the site, identified as drainage area D3 (4.64 acres with 58.62% impervious cover) on sheet DM02 of the plans, will be captured and conveyed to the proposed retention/irrigation water quality pond. Runoff from drainage area D2 (8.98 acres with 34.30% impervious cover), also shown on sheet DM02 of the plans, will be captured and conveyed to the existing retention/irrigation water quality pond. The water quality ponds are oversized to provide water quality for the maximum allowable onsite impervious cover (6.5 acres). Therefore, the water quality controls are designed for 37.08% impervious cover in drainage area D2. The runoff from all remaining areas of the site will remain pervious and in the existing condition with the exception of the proposed water quality pond and detention pond improvements. Based on the contributing drainage areas and associated impervious cover, the City of Austin SOS ordinance requires a water quality capture volume of 54,438 cubic feet for the existing retention/irrigation pond and 16,815 cubic feet for the proposed retention/irrigation pond. The TCEQ requires a water quality capture volume of 18,333 cubic feet for the existing retention/irrigation pond and 8,654 cubic feet for the proposed retention/irrigation pond. The existing retention/irrigation pond provides 57,464 cubic feet and the proposed retention/irrigation pond will provide 18,202 cubic feet of water quality volume.

For both ponds, stormwater collected onsite by storm inlets is conveyed to the splitter box via storm sewers. The splitter box weirs are set to the respective water quality elevations. When the required water quality volume is collected in a water quality pond, the splitter box diverts the remainder to the detention pond. The existing detention pond has primarily 3:1 side slopes. To account for additional onsite runoff from the maximum allowable impervious cover, the sides of the detention pond will be excavated, and walls will be installed to increase the detention volume.

The existing water quality pond contains a sedimentation basin and a retention basin. The sedimentation basin collects sediment and debris. Water then filters through a rock gabion into the retention basin, where a sand bed traps additional small particles. Water is then conveyed by under-drain piping to an existing wet well.

Stormwater that flows into the proposed water quality pond from the storm system is first treated by the sedimentation forebay, where sediment settles out of the stormwater. The stormwater then passes through a 6" riser pipe with a trash rack, under an earthen berm via a 6" SCH 40 PVC pipe extending from the riser pipe, and into the retention basin. The stormwater then filters through a second riser pipe with a trash rack. A 1⅝" removable orifice cap will be installed at the flow line of the riser pipe to ensure the pond empties in 60 hours. Then, a 6" SCH 40 PVC pipe conveys the stormwater from the retention basin to a 1⅝" control valve. 12 hours after the end of the rainfall event, the control valve will open and the existing pumps in the existing wet well will turn on. Once the control valve opens, the stormwater in the proposed retention/irrigation pond will be conveyed through a 6" SCH 40 PVC to an existing inlet and to the existing water quality pond's splitter box via a storm sewer pipe.

The water quality volume from both ponds will be filtered through an existing sand bed and then conveyed by existing under drain piping to an existing wet well. The proposed pumps in the existing wet well will convey the stormwater to the infiltration fields and irrigate the stormwater over an area to allow the water to infiltrate into the ground. Both ponds shall be empty of their respective water quality volumes within 72 hours of the rainfall event.

ATTACHMENT E– Request to Seal Features

Not Applicable.

ATTACHMENT F – Construction Plans

Construction plans for the proposed project are submitted in conjunction with this Water Pollution Abatement Plan (WPAP) application.

ATTACHMENT G – Inspection, Maintenance, Repair, and Retrofit Plan

See attached document labeled "Maintenance Plan for Permanent Best Management Practices for Veritas Academy Gym Addition and Campus Improvements."

ATTACHMENT H – Pilot Scale Field Testing Plan

Not Applicable.

ATTACHMENT I – Measures for Minimizing Surface Stream Contamination

The drainage for the proposed improvements generally consists of overland flow that drains through the developed site to proposed and existing inlets which discharge into proposed and existing storm sewers. The stormwater conveyance systems utilized as part of this project have been designed to convey the 25-year and 100-year storms within the developed areas of the site. The detention pond improvements have been designed to result in no increase in flow at the point of analysis for the 2-, 10-, 25-, and 100-Year design storm events.

As a result of these measures, the volume and character of the stormwater runoff from the site will be effectively unchanged from predevelopment levels. Consequently, there will not be increased stream flashing or in-stream velocities.

Maintenance Plan
For Permanent Best Management Practices
Veritas Academy Gym Addition and
Campus Improvements

PROJECT NAME *Veritas Academy Gym Addition and Campus Improvements*

ADDRESS: *The proposed Veritas Academy Gym Addition and Campus Improvements is located on 96.60 acres of land, at 13401 Escarpment Blvd.*

CITY, STATE ZIP *Austin, Texas 78739*

The Best Management Practices associated with Water Quality for this project includes the use of a vegetative filter strip, an existing retention / irrigation pond, and a proposed retention / irrigation pond.

MAINTENANCE FOR VEGETATED BMPS

Routine Maintenance for All Vegetated BMPs

Once a vegetated area is well established, a little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Once established, all vegetated BMPs require some basic maintenance to ensure the health of the plants including:

All vegetated BMPs shall be inspected twice annually for erosion or damage to vegetation. Additional inspections after periods of heavy runoff is most desirable.

Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored. Construction of a level spreader device may be necessary to re-establish shallow overland flow.

Sediment built up in vegetated BMPs, especially along the upstream boundary and in the level spreader, must be removed during semi-annual inspections.

If level spreaders are needed, they shall be inspected at least semi-annually and repairs made as necessary.

Irrigation system shall be inspected at least semi-annually during operation. Maintenance and spray adjustments shall occur to maintain proper operation.

MAINTENANCE FOR STRUCTURAL (STORMWATER CAPTURE) SYSTEMS

Routine Maintenance for All Structural Systems

Water quality ponds of all types have similar routine maintenance requirements, although most ponds have some unique maintenance needs, as detailed in this section. The following general maintenance requirements apply to all pond BMPs.

BMP facilities must be inspected at least two times 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.

Grass areas in and around earthen ponds must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower must be used, or grass clippings must be caught and removed, as with all water quality BMPs.

Debris and litter accumulated in the facility must be removed during each inspection.

Excessive sediment must be removed and properly disposed of in an approved off-site disposal area. Remove excessive sediment at least two times per year or when accumulations reach 3 inches in depth.

Design drawdown times must not be exceeded by more than 24 hours. The design drawdown time is 72 hours from the first accumulation of stormwater or when the pond reaches full capacity. If drawdown times are excessive, repairs should occur immediately.

With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, gabions, retaining walls, etc.) must be identified and repaired immediately.

A maintenance access route shall extend to the pond from a public or private road. The maintenance access shall have a slope of no great than 15 percent.

Inlet and outlet structures should be inspected and cleaned out of any debris or sediment. If there are major damage to either the inlet or outlet controls, the damaged areas should be repaired.

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SPECIFIC STRUCTURAL (STORMWATER CAPTURE) BMPS

Retention/Irrigation Pond, Pump Station and Irrigation system

Remove sediment from sediment chamber area in front of rock gabion, and from the pump sump area at least 2 times annually or when depth reaches 6 inches.

Rake the sand bed area to break up any crust that has been formed. Remove all grass from the sand bed area. If sand bed area has any accumulation of sediment on surface, the sediment must be removed. This procedure is performed by hand operations. No mechanized machinery should be allowed on top of the sand bed area.

The pumping and irrigation system must be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. At least two of these inspections must occur during or immediately following wet weather.

Immediately repair any leaks, broken spray heads, or other malfunctions with the irrigation system.

RECORD KEEPING OF INSPECTIONS, MAINTENANCE AND REPAIRS SHALL BE MAINTAINED BY THE RESPONSIBLE PARTY.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party for Maintenance: Veritas Academy

Address: 13401 Escarpment Blvd.

City, State Zip: Austin, Texas 78739

Telephone Number: (512) 891-1673

Signature of Responsible Party

11/20/23
Date

Texas Commission on Environmental Quality

TSS Removal Calculations for Vegetative Filter Strip 08-16-2023

Project Name: Veritas Academy
Date Prepared: 10/24/2023

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:

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.57	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	3	

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

Drainage Basin/Outfall Area No. =	D4	
Total drainage basin/outfall area =	1.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.45	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ =	400	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips

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 =	1.22	acres
A_I =	0.45	acres
A_P =	0.77	acres
L_R =	445	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	400	lbs.
F =	0.90	

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 =	1.70	inches
Post Development Runoff Coefficient =	0.29	
On-site Water Quality Volume =	2186	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 =	437	
Total Capture Volume (required water quality volume(s) x 1.20) =	2624	cubic feet

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.
If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

Texas Commission on Environmental Quality

Project Name: Veritas Academy Gym Addition and campus Improvements

TSS Removal Calculations for Existing Water Quality Pond 08-16-2023

Date Prepared: 10/24/2023

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:

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.57	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	3	

The RI pond will provide compensatory water quality for Area D2 (See DM02)

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

Drainage Basin/Outfall Area No. =	D2	
Total drainage basin/outfall area =	8.98	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ =	2989	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Retention / Irrigation

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 =	**8.98**	acres		
A_I =	**3.33**	acres		
A_P =	**5.65**	acres		
L_R =	**3903**	lbs		

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

Desired $L_{M\ THIS\ BASIN}$ =	**3490**	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 =	**1.60**	inches		
Post Development Runoff Coefficient =	**0.29**			
On-site Water Quality Volume =	**15278**	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 =	**3056**			
Total Capture Volume (required water quality volume(s) x 1.20) =	**18333**	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 =	**18333**	cubic feet	
Provided Water Quality Volume for retention basin =	**57464**	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 =	**73333**	square feet	
	1.68	acres	
Provided Irrigation area =	**91912**	square feet	
	2.11	acres	

Texas Commission on Environmental Quality

Project Name: Veritas Academy Gym Addition and campus Improvements

TSS Removal Calculations for Proposed Water Quality Pond 8-16-2023

Date Prepared: 10/24/2023

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:

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.57	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	3	

The RI pond will provide compensatory water quality for Area D2 (See DM02)

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

Drainage Basin/Outfall Area No. =	D3	
Total drainage basin/outfall area =	4.37	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.72	acres
Post-development impervious fraction within drainage basin/outfall area =	0.62	
$L_{M\ THIS\ BASIN}$ =	2441	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Retention / Irrigation

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 =	**4.37**	acres		
A_I =	**2.72**	acres		
A_P =	**1.65**	acres		
L_R =	**3135**	lbs		

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

Desired $L_{M\ THIS\ BASIN}$ =	**2490**	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 =	**0.44**			
On-site Water Quality Volume =	**7212**	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 =	**1442**			
Total Capture Volume (required water quality volume(s) x 1.20) =	**8654**	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 =	**8654**	cubic feet	
Provided Water Quality Volume for retention basin =	**18202**	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 =	**34616**	square feet	
	0.79	acres	
Provided Irrigation area =	**59677**	square feet	
	1.37	acres	

TCEQ Water Quality Calculations Summary Table - Veritas Academy Gym Addition and Campus Improvements

Water Quality Drainage Area	Drainage Area to BMP AC.	Proposed Impervious Area AC.	Pre-Development Impervious Area AC.	Total % IC In Drainage Area	Description
D2	8.98	3.33	0.00	37.08%	Site to existing RI Pond
D3	4.37	2.72	0.00	62.24%	Site to proposed RI Pond
D4	1.22	0.45	0.00	36.89%	No permanent BMP per TCEQ Standards
Total	14.57	6.50	0.00	44.61%	Total Site

Proposed BMP	Required Removal (Lbs.)	Maximum BMP Removal (Lbs.)	Provided Removal (Lbs.)	F
Existing VFS	400	0	0	0
Existing RI Pond	2989	3903	3490	0.89
Proposed RI Pond	2441	3135	2490	0.79
Total	5834	7038	5980	0.85

Existing Water Quality Pond	Required	Provided
Capture Volume	18,333	57,464 cf
Water Quality Elevation	865.31 ft-elev.	867.00 ft-elev.
Splitter Weir Elevation	865.31 ft-elev.	867.00 ft-elev.

Proposed Water Quality Pond	Required	Provided
Capture Volume	8,654	18,202 cf
Water Quality Elevation	873.08 ft-elev.	874.50 ft-elev.
Splitter Weir Elevation	873.08 ft-elev.	874.50 ft-elev.

Existing Water Quality Pond - Stage Storage Table

Elevation (FT)	Area (SF)	Average Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
864.00	8,169	0	0	0
865.00	16,065	12,117	12,117	12,117
866.00	24,159	20,112	20,112	32,229
867.00	26,310	25,235	25,235	57,464
868.00	35,457	30,884	30,884	88,347

Proposed Water Quality Pond - Stage Storage Table

Elevation (FT)	Area (SF)	Average Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
869.50	0	0	0	0
870.00	577	289	144	144
871.00	1279	928	928	1,072
872.00	3457	2,368	2,368	3,440
873.00	5894	4,676	4,676	8,116
874.00	7001	6,448	6,448	14,563
874.50	7444	7,223	3,611	18,175
875.00	7811	7,628	3,814	21,988

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

I Cameron Cook,
Print Name

Head of School,
Title - Owner/President/Other

of Veritas Academy,
Corporation/Partnership/Entity Name

have authorized Reese Hurley
Print Name of Agent/Engineer

of LJA Engineering, 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:

Applicant's Signature

11/20/23
Date

THE STATE OF TX §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Cameron Cook known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 27 day of November 2023.

STEPHANIE JOHNSON
MY COMMISSION EXPIRES
February 10, 2024
NOTARY ID: 1228888-4

Stephanie Johnson
NOTARY PUBLIC

Stephanie Johnson
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: February 10, 2024

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Veritas Academy
Regulated Entity Location: 13401 Escarpment Blvd., Austin, TX 78739
Name of Customer: Veritas Academy
Contact Person: Cameron Cook Phone: 512-891-1674
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☒ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	96.60 Acres	$ 8,000
Sewage Collection System	307 L.F.	$ 650
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: 11/20/23

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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 604817940		RN 108353129

SECTION II: Customer Information

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

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

Veritas Academy

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0800383672	12016327459	20-1632745	606124035

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: Private School

12. Number of Employees

☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

13401 Escarpment Blvd

City	State	ZIP	ZIP + 4
Austin	TX	78739	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

cameron.cook@veritasacademy.net

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

(512) 891-1674		(512) 891-1693

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.)*

Veritas Academy

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	13401 Escarpment							
	City	Austin	**State**	TX	**ZIP**	78739	**ZIP + 4**	
24. County	Hays							

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

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

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:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
8211		611110	

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

Private Educational facility.

34. Mailing Address:	**13401 Escarpment Blvd**							
	City	**Austin**	**State**	**TX**	**ZIP**	**78739**	**ZIP + 4**	
35. E-Mail Address:								

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 891-1673		**(512) 891-1693**

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

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

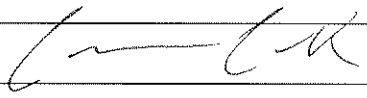
SECTION IV: Preparer Information

40. Name:	Reese Hurley	41. Title:	P.E., Senior Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 439-4700	4734	(512) 439-4716	rhurley@ljaengineering.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:	Veritas Academy	Job Title:	Head of School
Name *(In Print)*:	Cameron Cook	Phone:	(512) 891- 1674
Signature:		Date:	11/20/23

VERITAS ACADEMY
GYM ADDITION AND CAMPUS IMPROVEMENTS

TRAFFIC CONTROL PLAN NOTE:

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
A219-0402

PLANS FOR SITE IMPROVEMENTS

SUBMITTED FOR APPROVAL BY:

LJA ENGINEERING, INC.

STATE OF TEXAS
REESE B. HURLEY
98211
LICENSED PROFESSIONAL ENGINEER

10/18/2023
REESE B. HURLEY, P.E. #98211 — DATE
LICENSED PROFESSIONAL ENGINEER

REVIEWED BY:

DEVELOPMENT SERVICES DEPARTMENT — DATE

DEVELOPMENT PERMIT NUMBER

C81-2013-0317
LAND STATUS DETERMINATION FILE NUMBER

AUSTIN WATER UTILITY — DATE

INDUSTRIAL WASTE — DATE

SUBMITTAL DATE

CITY OF AUSTIN FIRE DEPARTMENT — DATE

1. THIS PROPERTY IS LOCATED WITHIN THE FULL PURPOSE JURISDICTION OF THE CITY OF AUSTIN.
2. THIS PROJECT HAS PRIVATE HYDRANTS LOCATED WITHIN THE PROPERTY. THE PROPERTY OWNER IS REQUIRED TO COMPLY WITH AUSTIN FIRE CODE. FAILURE TO COMPLY MAY RESULT IN CIVIL AND/OR CRIMINAL REMEDIES AVAILABLE TO THE CITY. THE PERFORMANCE OF THIS OBLIGATION SHALL ALWAYS REST WITH THE OWNER OF RECORD. FIRE HYDRANTS ON PRIVATE PROPERTY ARE REQUIRED TO BE SERVICED, MAINTAINED AND FLOWED ANNUALLY, USING A CONTRACTOR REGISTERED WITH THE CITY TO PROVIDE THE SERVICE.
3. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
4. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE.
5. THE DISTURBED AREAS WITHIN THIS PROJECT SHALL BE REVEGETATED AND ALL PERMANENT EROSION/SEDIMENTATION CONTROLS COMPLETED PRIOR TO THE RELEASE OF FISCAL SURETY FOR THAT PHASE. TEMPORARY EROSION/SEDIMENTATION CONTROLS SHALL BE ADJUSTED AS NEEDED PRIOR TO THIS RELEASE TO ENSURE THAT SUBSEQUENT PHASE DISTURBED AREAS ARE ADEQUATELY COVERED. ANY AREA WITHIN THE LIMIT OF DISTURBANCE OF THE PROJECT WHICH IS NOT ADEQUATELY REVEGETATED SHALL BE BROUGHT INTO COMPLIANCE PRIOR TO THE RELEASE OF THE FINAL PHASE.
6. APPLICABLE WATERSHED ORDINANCE SOS/BRADLEY SETTLEMENT AGREEMENT
   OPERATING PERMIT WHERE APPLICABLE UNDER 25-8-233 OP-15-0514A
   DSD SIGN-OFF AND DATE
8. AN ADMINISTRATIVE VARIANCE WAS GRANTED PER LDC 25-8-42(B)(S) OF THE LDC FOR CUT & FILL UP TO 8 FEET ASSOCIATED WITH THE EXISTING WATER QUALITY AND DETENTION FACILITIES.
9. THIS PROJECT IS LOCATED IN THE BEAR CREEK WATERSHED, WHICH IS CLASSIFIED AS BARTON SPRINGS ZONE.
10. WATER AND WASTEWATER SERVICE IS PROVIDED BY MID-TEX.
11. ELECTRIC SERVICE IS PROVIDED BY PEDERNALES ELECTRIC COOPERATIVE (PEC).
12. THIS PROJECT IS SUBJECT TO AN INTEGRATED PEST MANAGEMENT PLAN AS PER DOC. NO. 2015118166, OFFICIAL PUBLIC RECORDS, TRAVIS COUNTY, TEXAS.

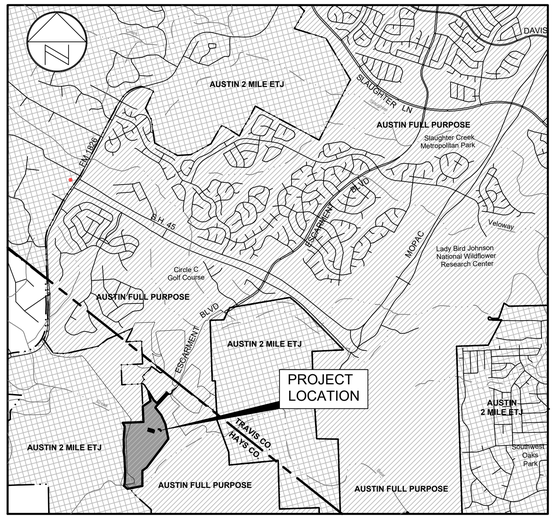
AUSTIN FIRE DEPARTMENT	
DESIGN STANDARDS	IBC 2021 / IFC 2021
FIRE FLOW DEMAND @ 20 PSI	3,500 GPM
INTENDED USE	ACADEMIC BUILDING
CONSTRUCTION CLASSIFCATION	II-A (SPRINKLED), ALLOWS 75% REDUCTION
BUILDING FIRE AREA	61,160 SF (4-STORIES, SPRINKLED)
AUTOMATIC FIRE SPRINKLER SYSTEM	NFPA 13R
REDUCED FIRE FLOW DEMAND @ 20 PSI	1,500 GPM
FIRE HYDRANT FLOW TEST DATE	MAY 31, 2023
FIRE HYDRANT FLOW TEST LOCATION	6600 BLK BERNIA DR
HIGH RISE	NO
ALTERNATIVE METHOD OF COMPLIANCE	N/A

DAM CERTIFICATION FOR DETENTION POND

I, REESE B. HURLEY, P.E., TEXAS LICENSE NUMBER 98211, CERTIFY THAT THE DESIGN OF THE DETENTION POND DAM IN THIS SET OF PLANS CAN SAFELY PASS 75-PERCENT OF THE PROBABLE MAXIMUM FLOOD BASED ON THE HYDROLOGIC, HYDRAULIC, STRUCTURAL, AND GEOTECHNICAL ANALYSIS USING STANDARD ACCEPTED ENGINEERING PRACTICES.

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10/18/2023

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



LOCATION MAP
(NTS)
GRID NO.: A-13, A-14, WZ13
MAPSCO PAGE: 670V, 670Z, 671N, 671S, 671W

SUBMITTAL DATE:_____

LEGAL DESCRIPTION

A 5.568 ACRE TRACT OUT OF THE H.W. COCKE SURVEY NO. 83, ABSTRACT NO. 196 IN HAYS COUNTY, TEXAS, CONVEYED TO VERITAS ACADEMY, A TEXAS NON-PROFIT CORPORATION, BY DEED RECORDED IN DOCUMENT NO. 2013-13000827 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS.

A 36.353 ACRE TRACT OUT OF THE H.W. COCKE SURVEY NO. 83, ABSTRACT NO. 196 IN HAYS COUNTY, TEXAS, CONVEYED TO VERITAS ACADEMY, A TEXAS NON-PROFIT CORPORATION, BY DEED RECORDED IN DOCUMENT NO. 2013-13000827 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS.

A 54.674 ACRE TRACT OUT OF THE H.W. COCKE SURVEY NO. 83, ABSTRACT NO. 196 IN HAYS COUNTY, TEXAS, CONVEYED TO VERITAS ACADEMY, A TEXAS NON-PROFIT CORPORATION, BY DEED RECORDED IN DOCUMENT NO. 2013-13000826 OF THE OFFICIAL PUBLIC RECORDS OF HAYS COUNTY, TEXAS.

OWNER: VERITAS ACADEMY
13401 ESCARPMENT BLVD.
AUSTIN, TX 78739
CONTACT PERSON: CAMERON COOK
PHONE # (512) 891-1674

ENGINEER : LJA ENGINEERING, INC.
7500 RIALTO BLVD., BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
CONTACT PERSON : REESE HURLEY, P.E.
PHONE # (512) 439-4734

LANDSCAPE ARCHITECT: ARTIS
1405 W. KOENIG LN.
AUSTIN, TEXAS 78756
CONTACT PERSON: KENDRICK YEH, PLA
PHONE # (512) 507-6384

SURVEYOR : CAPITAL SURVEYING COMPANY INC.
925 CAPITAL OF TEXAS HIGHWAY
SOUTH BUILDING B, SUITE 115
AUSTIN, TEXAS 78746
PHONE: (512) 327-4006

CONTOUR DATA : - ON THE GROUND SURVEY BY CAPITAL SURVEYING (1 FOOT INTERVAL) & CITY OF AUSTIN LIDAR

SHEET LIST TABLE

NOTE:
THIS SITE IS SERVED BY MID-TEX UTILITY AND THEREFORE AN AW NOTES SHEET IS NOT REQUIRED.

REVISIONS / CORRECTIONS

Number	Description	Revise (R) Add (A) Void (V) Sheet No.'s	Total # of Sheets in Plan Set.	Net Change Imp. Cover (sq. ft.)	Total Site Imp. Cover (sq. ft.) %	City of Austin Approval Date	Date Imaged

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

SITE PLAN RELEASE

FILE NUMBER: _____ EXPIRATION DATE: _____
CASE MANAGER: _____ APPLICATION DATE: _____
APPROVED ADMINISTRATIVELY ON: _____
APPROVED BY PLANNING COMMISSION ON: _____
APPROVED BY CITY COUNCIL ON: _____
under Section _____ of Chapter _____ of the Austin City Code.

_____
Director for Planning and Development Review Department
DATE OF RELEASE: _____ Zoning: _____
Rev. No. 1 _____ Correction No.1 _____
Rev. No. 2 _____ Correction No.2 _____
Rev. No. 3 _____

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OF NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

SP-2023-

FIRE DEPARTMENT NOTES

1. THE AUSTIN FIRE DEPARTMENT REQUIRES FINAL ASPHALT OR CONCRETE PAVEMENT ON REQUIRED ACCESS ROADS PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION. ANY OTHER METHOD OF PROVIDING 'ALL-WEATHER DRIVING CAPABILITIES' SHALL BE REQUIRED TO BE DOCUMENTED AND APPROVED AS AN ALTERNATE METHOD OF CONSTRUCTION IN ACCORDANCE WITH THE APPLICABLE RULES FOR TEMPORARY ROADS OUTLINED IN THE CITY OF AUSTIN FIRE PROTECTION CRITERIA MANUAL.

2. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE FOUR (4) INCH OPENING (STEAMER) LOCATED AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE STEAMER OPENING OF FIRE HYDRANTS SHALL FACE THE APPROVED FIRE ACCESS DRIVEWAY OR PUBLIC STREET AND SET BACK FROM THE CURB LINE(S) AN APPROVED DISTANCE, TYPICALLY THREE (3) TO SIX (6) FEET. THE AREA WITHIN THREE (3) FEET IN ALL DIRECTIONS FROM ANY FIRE HYDRANT SHALL BE FREE OF OBSTRUCTIONS, AND THE AREA BETWEEN THE STEAMER OPENING AND THE STREET OR DRIVEWAY GIVING EMERGENCY VEHICLE ACCESS SHALL BE FREE OF OBSTRUCTIONS.

3. TIMING OF INSTALLATIONS: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE CONTRACTOR, SUCH FACILITIES SHALL INCLUDE SURFACE ACCESS ROADS. EMERGENCY ACCESS ROADS OR DRIVES SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHEN THE FIRE DEPARTMENT APPROVES AN ALTERNATE METHOD OF PROTECTION, THIS REQUIREMENT MAY BE MODIFIED AS DOCUMENTED IN THE APPROVAL OF THE ALTERNATE METHOD.

4. ALL EMERGENCY ACCESS ROADWAYS AND FIRE LANES, INCLUDING PERVIOUS/DECORATIVE PAVING, SHALL BE ENGINEERED AND INSTALLED AS REQUIRED TO SUPPORT THE AXLE LOADS OF EMERGENCY VEHICLES. A LOAD CAPACITY SUFFICIENT TO MEET THE REQUIREMENTS FOR HS-20 LOADING (16 KIPS/WHEEL) AND A TOTAL VEHICLE LIVE LOAD OF 80,000 POUNDS IS CONSIDERED COMPLIANT WITH THIS REQUIREMENT.

5. FIRE LANES DESIGNATED ON SITE PLANS SHALL BE REGISTERED WITH THE CITY OF AUSTIN FIRE DEPARTMENT AND INSPECTED FOR FINAL APPROVAL.

6. THE MINIMUM VERTICAL CLEARANCE REQUIRED FOR EMERGENCY VEHICLE ACCESS ROADS OR DRIVES IS 14 FEET FOR THE FULL WIDTH OF THE ROADWAY OR DRIVEWAY.

7. VERTICAL CLEARANCE REQUIRED FOR FIRE APPARATUS IS 14' - 0" FOR FULL WIDTH OF ACCESS DRIVE.

SPECIAL NOTES

Onsite pavement sections are to be constructed as follows:

Pavement Component		Material Thickness (Inches)
Asphaltic Concrete	Type C	2
	Type B	-
Crushed Limestone Base CLB)		8.0
Moisture Conditioned Subgrade (MCS)		6.0
Total Thickness (Including MCS)		16.0

Dumpster pads shall be 6" concrete with #3 reinforcing bars 18" OCEW with 6" MCS.

Presented below are our recommended material requirements for the various pavement components tabulated above.

Hot Mix Asphaltic Concrete (HMAC) - As tabulated above, the asphaltic concrete should be plant mixed, hot laid Type C (Coarse-Graded Surface Course) or hot laid Type B (HMAC Base Course) meeting the master specification requirements in COA Item 340S. The mixes should be designed for stability and compacted as outlined in COA Item 340S.4.D. In accordance with TxDOT Item 340, compacted lift thicknesses should be between 2 and 4 inches for Type C HMAC and between 1.5 and 3 inches for Type B HMAC. Acceptance criteria are outlined in COA Item 340S.12.

Crushed Limestone Base (CLB) - Base material should be composed of crushed limestone meeting the requirements of COA Item 210S. The CLB should be compacted to a minimum of 100 percent of the TEX-113-E maximum dry density at -3 to +3 percent of optimum moisture content. Each lift of CLB should be thoroughly proofrolled just prior to placement of subsequent lifts and/or asphalt. Particular attention should be paid to areas along curbs and adjacent to landscape areas and storm drain inlets. Placement and compaction of CLB should extend at least 18 inches behind curbs.

Moisture Conditioned Subgrade (MCS) - The soil subgrade should be scarified to a depth of 6 inches, moisture conditioned, and recompacted to at least 95 percent of the maximum dry density as determined by TEX-114-E. The Stratum I fat clay soils that remain in place after the recommended stripping should be moisture conditioned to between optimum (0) and +4 percent of optimum moisture content. Imported fills and Stratum II soils should be moisture conditioned to between -3 and +3 percent of optimum moisture content.

Care should be taken such that the subgrade does not dry out or become saturated prior to pavement construction. Moisture conditioning is not necessary in intact limestone subgrade areas. The pavement subgrade should be thoroughly proofrolled with a rubber-tired vehicle (fully loaded water or dump truck) immediately prior to placement of base material. Particular attention should be paid to areas along curbs and adjacent to landscape areas and storm drain inlets. Placement and compaction of MCS should extend at least 18 inches behind curbs.

Pavement design methods are intended to provide structural sections with adequate thickness over a particular subgrade such that wheel loads are reduced to a level the subgrade can support. However, support characteristics of the subgrade can be greatly affected by moisture and shrink/swell movements of clay subgrade. Thus, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell related movement of the subgrade. It is, therefore, important to control moisture changes in the subgrade to reduce shrink/swell movements. Proper perimeter drainage should be provided so that infiltration of surface water from unpaved areas surrounding the pavement is minimized. We should note that post-construction subgrade movements and some cracking of asphaltic pavements is common for conditions such as those observed at this site.

On most projects, rough site grading is accomplished relatively early in the construction phase. Fills are placed and compacted in a uniform manner. However, as construction proceeds, excavations are made into these areas; dry weather may desiccate some areas; rainfall and surface water saturates some areas; heavy traffic from concrete and other delivery vehicles disturbs the subgrade; and many surface irregularities are filled in with loose soils to temporarily improve subgrade conditions. As a result, the pavement subgrade should be carefully evaluated as the time for pavement construction approaches. This is particularly important in and around utility trench cuts, manholes, and storm drain inlets, as well as any landscaped and irrigated areas. All pavement areas should be moisture conditioned and properly compacted to the recommendations in this report immediately prior to paving. Thorough proofrolling of pavement areas using a fully-loaded water truck or dump truck (rubber-wheeled vehicle that can impart point wheel loads) should be performed no more than 24 hours prior to surface paving. Any problematic areas should be reworked and compacted at that time. Proofrolling should be re-performed if the subgrade and/or base are exposed to rainfall prior to subsequent construction activities, after replacement of the wet materials or reworking of the wet materials.

Earthwork

Construction areas should be stripped of vegetation, trees, topsoil, and other unsuitable material such as wet/loose/soft soils. Roots of trees to be removed within construction areas should be grubbed to full depths, including the dry soil around the roots. Site stripping/excavation operations in cut areas could loosen limestone rocks/boulders which should either be properly broken down or removed from the site. We recommend that Terracon be retained to assist in evaluating exposed subgrades during earthwork so that unstable materials can be repaired and unsuitable materials, if any, are removed at the time of construction.

After stripping or cutting to design grade in areas above design grade or prior to fill placement in areas below design grade, the exposed subgrade should be carefully proofrolled with a 20-ton pneumatic roller or a fully loaded dump truck to detect weak zones in the subgrade. Weak areas detected during proofrolling, as well as zones containing debris or organics should be removed and replaced with soils exhibiting similar classification, moisture content, and density as the adjacent in-situ soils. Proper site drainage should be maintained during construction so that ponding of surface runoff does not occur and causes construction delays and/or inhibit site access.

Subsequent to proofrolling, and just prior to placement of fill, the exposed subgrade within the construction areas should be evaluated for moisture and density. If the moisture and/or density requirements do not meet the criteria described in the table below, the subgrade should be scarified to a minimum depth of 6 inches; moisture adjusted and compacted to at least 95 percent of the TEX-114-E maximum dry density (or TEX-113-E as appropriate). Moisture conditioning is not required in areas where Stratum III weathered limestone is exposed.

4.1.1 Fill Compaction Requirements

All fill material should be placed in uniform lifts not to exceed 8 inches loose measure, with compacted thickness not to exceed 6 inches, unless stated otherwise. Fill should be compacted to at least 95 percent of the maximum dry density determined by TEX-113-E or TEX-114-E (depending upon soil type).

Imported fill to be used for grade adjustments in pavement or general areas or proposed embankments should meet the requirements of a Type B borrow material as outlined in TXDOT Item 132. Excavated Stratum II soils consisting of lean clays (CL), gravelly clays (GC) and clayey sand (SC) soils as well as Type B borrow material should be compacted at a moisture content ranging between -3 and +3 percent of optimum moisture content.

Fat clay (CH) soils (such as the Stratum I clay soils observed in some of the borings) should not be used as fill in pavement or structural areas on site and should only be used in landscape or other general areas, as needed. After stripping operations are performed as recommended in **Section 4.3 - Pavements** to remove the surficial Stratum I clay soils, the upper 6 inches of the remaining Stratum I clay soils should be moisture conditioned between optimum and +4 percent of optimum moisture content.

Use of On-Site Material for Fill in Pavement Areas

The Stratum I clay soils should not be used as fill in pavement or structural areas. Excavated on-site Stratum II soils and Stratum III limestone, if free of organics, debris, and rocks larger than 4 inches, may be considered for use as fill in pavement or other general areas. The Stratum II tan to light brown soils should be moisture conditioned to between -3 and +3 percent of optimum.

Pavement Design Subgrades - The Stratum I dark brown to brown fat clay soils exhibited very high plasticity and generally extended to depths of about ½ to 1 foot in most borings and to depths of about 2 to 3 feet in borings B-13, B-15, B-16 and B-18. These soils were also not encountered in several borings. Site stripping is expected to be performed until the bottom of the design pavement base layer is reached or deeper in cut areas. Hence, the Stratum I clay soils are expected to be removed in most areas. In fill areas and areas where Stratum I clays are exposed after stripping, the clay soils should be removed to a depth of at least 12 inches of or until Stratum II soils/Stratum III limestone is exposed, whichever is less.

After completion of the stripping recommended here along with anticipated cuts and fills, the majority of the pavement subgrades are expected to consist of imported select fills, Stratum II soils and/or Stratum III weathered limestone. Thus in our pavement designs, we considered only the scenario of subgrades consisting of imported fills, exposed Stratum II soils and/or Stratum III weathered limestone. The final subgrade should be verified by the General Contractor and the Materials Testing Firm (designated by the City of Austin on public projects) during construction. Please contact Terracon if disagreement occurs and/or if otherwise needed.

Cut Slopes

For any cut slopes into the natural on-site Stratum I/II soils, we recommend that permanent slopes be cut no steeper than 3(H):1(V). In Stratum III weathered limestone, permanent cut slopes should be no steeper than 1(H):1(V) due to the possible presence of clay layers and solution features and its tendency to undergo further weathering and erosion when exposed. In our opinion, cut slopes at the inclinations discussed above should be stable against a large-scale slide, although the potential for sloughing of loose soil zones exists.

Exposed cut slopes will also be susceptible to further erosion due to the nature of the on-site limestone that contains clay/sand seams. Installation of erosion control measures in such areas would be beneficial in reducing potential slope instability which could result from excessive erosion. In addition to initial erosion control measures, the cut slopes should be periodically checked for erosion (particularly after heavy rainfall events) and maintenance performed on areas exhibiting erosion.

In regards to worker safety, Occupational Safety and Health Administration (OSHA) Safety and Health Standards require the protection of workers adjacent to excavations. The OSHA guidelines and directives should be adhered to by the Contractor during construction to provide a safe working environment.

Embankment Fill Slopes

We recommend that fill embankments (and/or berms) be constructed such that the final embankment sides are sloped at 3(Horizontal):1(Vertical), or flatter. For embankments constructed at this inclination or flatter, fill placement for the embankments can proceed as outlined in **Section 4.1 - Earthwork** of this report. Please note that the compaction requirements indicated in **Section 4.1 - Earthwork** apply to all portions of the embankment slopes.

The embankment slopes should be properly protected from erosion. (The use of rock rip-rap, erosion control fabrics, and/or vegetation is common.) In addition to initial erosion control measures, the embankments should be periodically checked for erosion (particularly after heavy rainfall events) and maintenance performed on areas exhibiting erosion.

Embankment Construction

All fill should be placed and compacted as outlined in **Section 4.1 - Earthwork**. Earthen/rock embankments, which may consist of the on-site soils and/or processed rock, should be constructed as generally outlined in TxDOT Item 132.

Embankments which are constructed on natural subgrade sloping steeper than 5(H):1(V) should be "keyed" into the subgrade at the toe of the embankment. The keyed-in toe should consist of a 12-foot wide section which is excavated into the subgrade such that a horizontal working surface is attained for compaction of the first embankment lift. Successive lifts should remain horizontal and should not tend to follow the slope of the natural subgrade.

The edges of fill embankments are often undercompacted in the field due to loose material being pushed off the edges as the embankment lifts are compacted. To reduce the possibility of this impacting the stability of the embankment fill, the embankments should be overbuilt and compacted to the specifications given above. Then the embankment fill should be cut back to the slopes recommended above.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

13401 ESCARPMENT BLVD., AUSTIN TEXAS

GENERAL NOTES

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-GN01.DWG

REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

GN01

SHEET NO. 2 OF 40 SHEETS

ATLAS 14 UNPAVED 16.1345 PAVED 20.3282

Time of Concentration Calculations - Existing Conditions

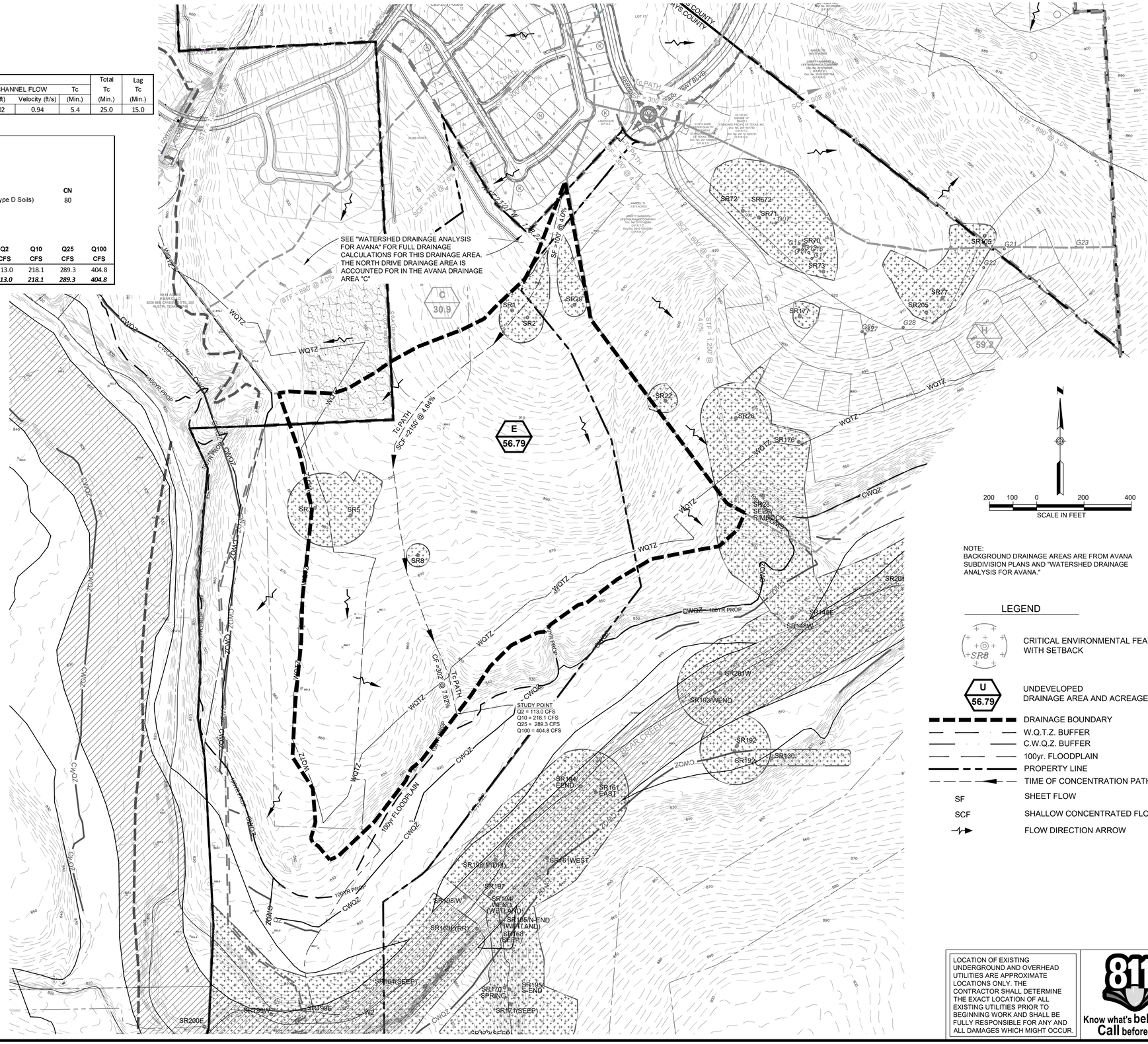
Drainage Area	SHEET				Tc	SCF			Tc	CHANNEL FLOW			Tc	Total Tc	Lag Tc
	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Paved?	Slope	(Min.)	L(ft)	Velocity (ft/s)		(Min.)	(Min.)	(Min.)
E	100	4.00%	4.14	0.24	9.5	2150	NO	4.84%	10.1	302	0.94		5.4	25.0	15.0

HEC-HMS
Drainage Area Calculations
COA Full Purpose, Travis County, Texas
NOAA ATLAS 14 24Hr Rainfall Distribution Precipitation Data

Existing Ground Cover	CN
Pasture, Good Condition (Type D Soils)	80

Existing Conditions Drainage Calculations (Per HEC-HMS Drainage Model)

AREA NAME	AREA AC.	AREA MI.²	IMPERVIOUS COVER %	IMPERVIOUS COVER Ac.	IMPERVIOUS COVER MI.²	Type D Pasture (CN: 80) Ac.	Type D Pasture (CN: 80) MI.²	Composite CN	Tc min.	Q2 CFS	Q10 CFS	Q25 CFS	Q100 CFS
E	56.79	0.088734	0.00%	0.000	0.0000	56.790	0.0887	80	25.0	113.0	218.1	289.3	404.8
								STUDY POINT #1		***113.0***	***218.1***	***289.3***	***404.8***



NOTE:
BACKGROUND DRAINAGE AREAS ARE FROM AVANA SUBDIVISION PLANS AND "WATERSHED DRAINAGE ANALYSIS FOR AVANA."

LEGEND

- CRITICAL ENVIRONMENTAL FEATURE WITH SETBACK
- U 56.79 — UNDEVELOPED DRAINAGE AREA AND ACREAGE
- DRAINAGE BOUNDARY
- W.Q.T.Z. BUFFER
- C.W.Q.Z. BUFFER
- 100yr. FLOODPLAIN
- PROPERTY LINE
- TIME OF CONCENTRATION PATH
- SF — SHEET FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- FLOW DIRECTION ARROW

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
EXISTING CONDITIONS DRAINAGE AREA MAP
13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-DM01.DWG

STATE OF TEXAS
REESE B HURLEY
99211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

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Phone 512.439.4700
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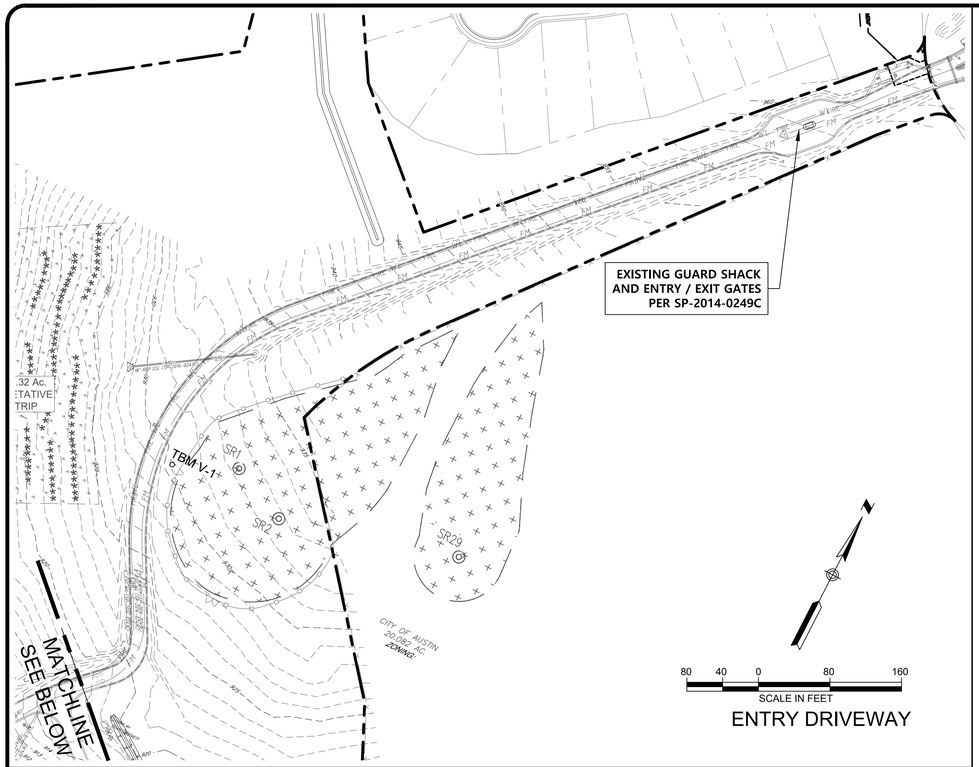
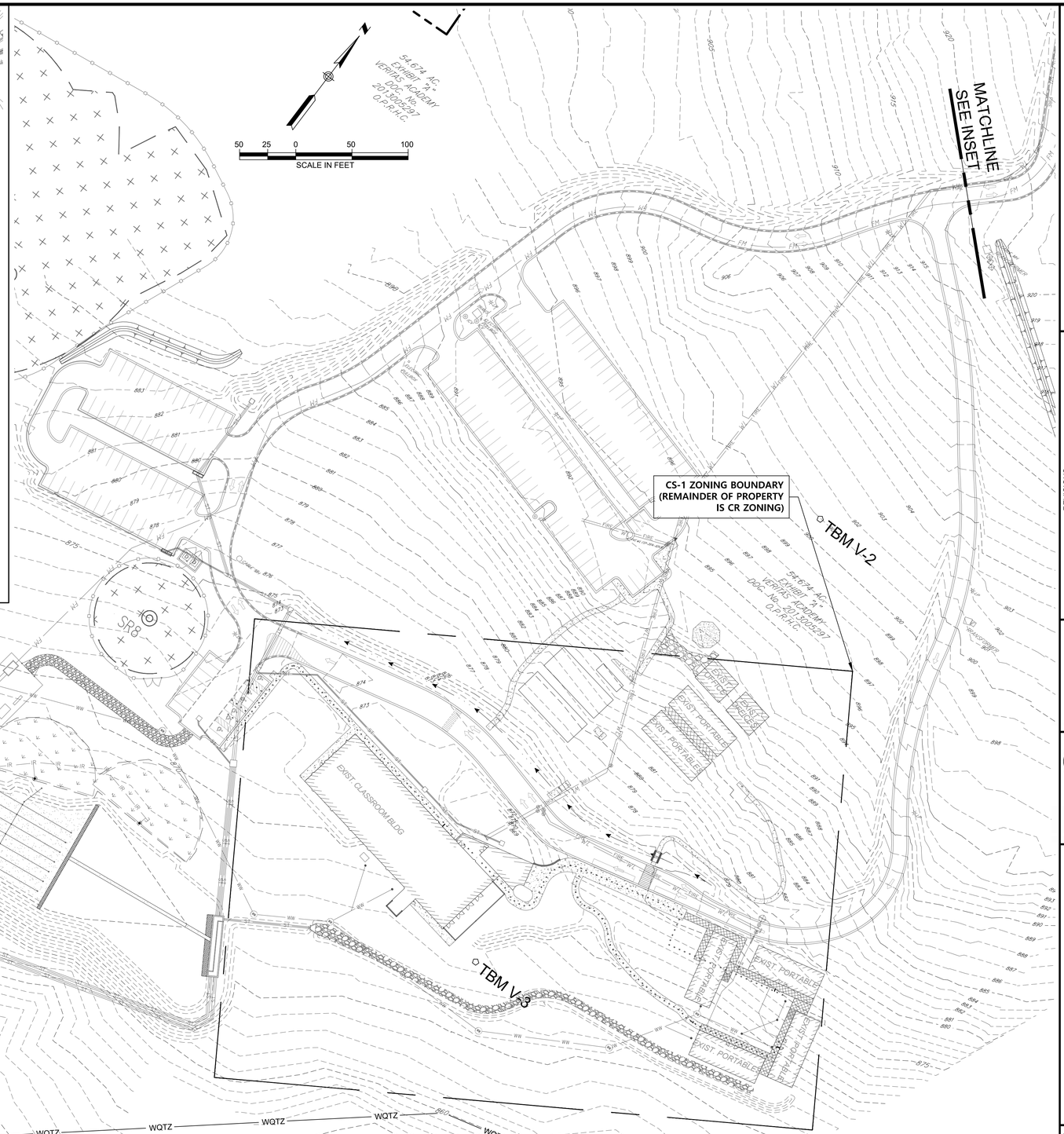
FRN-F-1386

JOB NUMBER: A219-0402

DM01

SHEET NO. 3 OF 40 SHEETS





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		DECKING
		GRASSCRETE
		CROSSWALK
		RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
872	872	SURVEYED CONTOUR LINE
	871	GIS CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
WQBZ		WATER QUALITY BUFFER ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
25YR PROP	25YR EX	25 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		SIGN

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
EXISTING CONDITIONS
OVERALL PROJECT LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

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DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
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DRAWING NAME: A219-0402-OP01.DWG

STATE OF TEXAS
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FRN-F-1386

JOB NUMBER: A219-0402

OP01

SHEET NO. 4 OF 40 SHEETS

SP-

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
PROPOSED CONDITIONS
OVERALL PROJECT LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		DECKING
		GRASSCRETE
		CROSSWALK
		RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
872	872	SURVEYED CONTOUR LINE
	872	GIS CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
WQBZ		WATER QUALITY BUFFER ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
25YR PROP	25YR EX	25 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		SIGN
		PROPOSED IMPROVEMENTS

ENTRY DRIVEWAY

60 30 0 60 120
SCALE IN FEET

PROPOSED 8'x10' GUARD SHACK

60 30 0 60 120
SCALE IN FEET

54.674 AC.
EXHIBIT "A"
VERITAS ACADEMY
DOC. No. 2013005297
O.P.R.H.C.

36.353 AC.
EXHIBIT "A-2"
VERITAS ACADEMY
DOC. No. 2013002416
O.P.R.H.C.

EXISTING BATTING CAGES
5,296 SF
FF =

EXISTING PRIVATE WASTEWATER LIFT STATION PER SP-2014-0249C

EXISTING BIKE RACK

PROP. 1.37 ACRES WATER QUALITY IRRIGATION AREA

EXIST. 2.11 ACRES WATER QUALITY IRRIGATION AREA

TBM V-2

TBM V-3

TBM V-4

TBM V-5

CS-1 ZONING BOUNDARY (REMAINDER OF PROPERTY IS CR ZONING)

EXIST CLASSROOM BLDG

EXIST PORTABLES

PROP PORTABLE

PROP CLASSROOM BLDG

PROP GYM

PROP PARKING

CITY OF AUSTIN ZONING

Note that Allowable Impervious Cover for the Avana project and the Veritas Academy project is based on information provided by the City of Austin (as of Revision 38) related to the Bradley Settlement Agreement. 24.64 acres of impervious cover for development of Tract 18 has yet to be frozen. With this site plan, 4.246 acres of the available 6.50 acres will be allocated.

Note: Decking area included in impervious cover table is counted as 50% (1/2) of actual decking area as there are gaps between boards that drain onto pervious surfaces. This is allowed per ECM 1.8.1 B, for uncovered decking.

Total Site Area	=	96.60	Ac.
Zoning	=	CR & CS-1	
Allowable Imp Cover	=	See Zoning District Calcs	
Allowable FAR	=	See Zoning District Calcs	
Allowable Bldg Coverage	=	See Zoning District Calcs	
Prop Land Use	=	School & Accessory Uses (CS-1)	
	=	Community Recreation Private (CR)	

	EXISTING			EXISTING TO BE REMOVED			NEW PROPOSED (WITH THIS PROJECT)			TOTAL PROPOSED (OVERALL)		
Imp Cover =	3,949	Ac. (Total)	4.09%	0.670	Ac. (Total)		2.971	Ac. (Total)		6.250	Ac. (Total)	6.47%
Bldg Coverage =	34,023	SF (Total)	0.81%	160	SF (Total)		30,024	SF (Total)		63,887	SF (Total)	1.52%
Parking/Drives =	126,778	SF (Total)		25,018	SF (Total)		86,930	SF (Total)		188,690	SF (Total)	
Walks =	8,670	SF (Total)		3,061	SF (Total)		11,720	SF (Total)		17,329	SF (Total)	
*Decks =	5,102	SF (Total)		1,896	SF (Total)		1,454	SF (Total)		4,660	SF (Total)	
Open Space =	4,035,874	SF (Total)		NA	SF (Total)		NA	SF (Total)		3,995,661	SF (Total)	
FAR =										See Zoning District Calcs		
Gross Floor Area =	57,500	SF (Total)		160	SF (Total)		31,080	SF (Total)		88,420	SF (Total)	

* Actual deck area is reported above, but counts as 50% (1/2) impervious cover in final calculation due to separation gaps between boards, as allowed per ECM 1.8.1 B, for uncovered decking.

Site Plan Calcs Per CS-1 Zoning District

Prop Land Use	=	School & Accessory Uses	
Zoning Area	=	5.0	Ac.
Allowable Imp. Cover	=	95	%
	=	4.776	Ac.
Allowable FAR	=	437,830	SF 2:1
Allowable Bldg. Coverage	=	95	%
Prop Imp Cover	=	1.912	Ac. 38.05% < 95%
Prop. Bldg Coverage	=	54,609	SF 24.95% < 95%
Prop. Parking/Drives	=	12,030	SF
Prop. Walks	=	14,546	SF
*Prop. Decks	=	4,223	SF
Prop. Open Space	=	135,619	SF
Prop FAR	=	0.400	:1 < 2:1
Gross Floor Area	=	87,630	SF

Site Plan Calcs Per CR Zoning District

Prop Land Use	=	Community Recreation (Private)	
Zoning Area	=	91.6	Ac.
Allowable Imp. Cover	=	60	%
	=	54.945	Ac.
Allowable FAR	=	997,245	SF 0.25:1
Allowable Bldg. Coverage	=	25	%
Prop Imp Cover	=	4.337	Ac. 4.74% < 60%
Prop. Bldg Coverage	=	9,278	SF 0.23% < 25%
Prop. Parking/Drives	=	176,660	SF
Prop. Walks	=	2,783	SF
*Prop. Decks	=	437	SF
Prop. Open Space	=	3,800,042	SF
Prop FAR	=	0.000	:1 < 0.25:1
Gross Floor Area	=	790	SF

APPENDIX Q-1
NET SITE AREA

Gross Site Area	=	**96.60** Acres
Site Deductions:		
Critical Water Quality Zone (CWQZ)	=	21.50 Acres
Water Quality Transition Zone (WQTZ)	=	27.02 Acres
Wastewater Irrigation Areas	=	N/A Acres
Deduction Subtotal	=	**48.940** Acres
Upland Area (Gross Site Area Minus Deduction Subtotal)	=	**47.66** Acres

Net Site Area Calculations:

Area of Uplands with Slopes 0-15%	47.24	x 100% =	47.24 Acres
Area of Uplands with Slopes 15-25%	0.25	x 40% =	0.10 Acres
Area of Uplands with Slopes 25-35%	0.09	x 20% =	0.02 Acres
Area of Uplands with Slopes > 35%	0.08	x 0% =	0.000 Acres
		Net Site Area=	**47.358 Acres**

APPENDIX Q-2
IMPERVIOUS COVER

Water Quality Transition Zone (WQTZ)		
WQTZ Outside Of 100-Year Floodplain (Non-FP WQTZ)	=	27.02 Acres
Allowable Impervious Cover		
Impervious Cover Allowed At 0% X (Non-FP WQTZ)	=	0 Acres
Impervious Cover Allowed At 15% X (Net Site Area)	=	7.10 Acres
Total Allowed Impervious Cover	=	7.10 Acres
Proposed Impervious Cover		
Impervious Cover In Non-FP WQTZ		
a. Existing Proposed To Remain	=	0 Acres
b. Proposed New	=	0 Acres
Subtotal	=	**0 Acres**
Impervious Cover In Upland Zones		
a. Existing Proposed To Remain	=	3.072 Acres
b. Proposed New	=	3.036 Acres
c. Subtotal	=	6.108 Acres
Total Proposed Impervious Cover	=	**6.108 Acres**

ALLOWABLE IMPERVIOUS COVER BREAKDOWN BY SLOPE CATEGORY

Total Acreage With Slopes 15-25%	=	0.25	Acres x 10% = 0.02 Acres

PROPOSED IMPERVIOUS COVER ON SLOPES

SLOPE CATEGORIES	ACRES	IMPERVIOUS COVER: BUILDING & OTHER IMPERVIOUS COVER ACRES	DRIVES / ROADWAYS ACRES	% OF CATEGORY
0-15%	47.24	1.19	4.918	12.93
15-25%	0.25	0.000	0	0
25-35%	0.09	0.000	0	0
Over 35%	0.08	0.000	0	0
Gross Site Area	47.66			

Required Parking	=	68	45 Staff/Admin, 1.5 per each staff member	
		24	72 Students, 1 for each 3 students enrolled in 11th and 12 grades	
		92		
* **Required Bike Spaces**	=	9		
* Per LDC, 25-6-477, Appendix A				

Existing Parking		**Removed Parking**	**Proposed Parking**	**Total Provided**
Standard Spaces	= 166	8	134	292
Compact Spaces	= 3	3	10	10
Accessible Spaces	= 6	0	2	8
Total	= 175	11	146	310
Existing Bike Spaces	= 10	0	0	10

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REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-OP02.DWG

STATE OF TEXAS
REESE B HURLEY
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LICENSED PROFESSIONAL ENGINEER
10-18-2023

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FRN-F-1386

JOB NUMBER: A219-0402

OP02

SHEET NO. 5 OF 40 SHEETS

SP-

J:\A219\402 - Veritas Gym\Sheets\A219-0402-OP02.dwg
User: jkurtac
Last Modified: Oct. 18, 23 - 19:48
Plot Date/Time: Nov. 13, 23 - 10:20:24

ATLAS 14 UNPAVED 16.1345 PAVED 20.3282

Time of Concentration Calculations - Developed Conditions

Drainage Area	SHEET L(ft)	Slope	2-Year P	n	Tc (Min.)	SCF L(ft)	Paved?	Slope	Tc (Min.)	CHANNEL FLOW L(ft)	Velocity (ft/s)	Tc (Min.)	Total Tc (Min.)	Lag Tc (Min.)
D1	100	5.00%	4.14	0.24	8.7	1533	NO	4.40%	7.5	337	1.07	5.2	21.5	12.9
D2	5 Minutes Assumed												5.0	3.0
D3	5 Minutes Assumed												5.0	3.0

HEC-HMS
Drainage Area Calculations
COA Full Purpose, Travis County, Texas
NOAA ATLAS 14 24Hr Rainfall Distribution Precipitation Data

Developed Ground Cover	CN
Pasture, Good Condition (Type D Soils)	80
Impervious Pavement, Buildings, Sidewalks	98

Developed Conditions Drainage Calculations (Per HEC-HMS Drainage Model)

AREA NAME	AREA AC.	AREA MI.²	IMPERVIOUS COVER %	IMPERVIOUS COVER Ac.	IMPERVIOUS COVER MI.²	Type D Pasture (CN: 80) Ac.	Type D Pasture (CN: 80) MI.²	Composite CN	Tc (Lag) min.	Q2 CFS	Q10 CFS	Q25 CFS	Q100 CFS
D1	43.47	0.06792188	0.00%	0.000	0.000000	43.470	0.0679	80	12.90	105.0	187.3	243.7	336.0
D2	8.98	0.01403125	37.08%	3.330	0.005203	5.650	0.0088	87	3.00	38.8	64.9	82.3	110.7
D3	4.64	0.00725000	58.71%	2.724	0.004256	1.916	0.0030	91	3.00	21.5	35.0	43.9	58.2
DRAINAGE CALCULATIONS ASSUME MAXIMUM ALLOWABLE IMPERVIOUS COVER (6.5 ACRES). ONLY 6.25 ACRES ARE PROPOSED WITH THIS SITE PLAN. (SEE SITE CALCS)						**DETENTION POND DISCHARGE**				6.8	8.3	12.9	72.1
						STUDY POINT				***111.4***	***194.9***	***252.1***	***404.1***

DETENTION POND			
STORM EVENT	INFLOW (CFS)	OUTFLOW (CFS)	WS ELEV.
2YR	52.1	6.8	850.7
10YR	89.5	8.3	852.3
25YR	114.4	12.9	853.5
100YR	155.0	72.1	854.0

STUDY POINT		
STORM	Q(EX) CFS	Q(DEV) CFS
2YR	113.0	111.4
10YR	218.1	194.9
25YR	289.3	252.1
100YR	404.8	404.1

Veritas Academy Gym
Dam Safety Calculations

Maximum Water Surface Elevations in Spillway (ft., msl.)

1 Hr. PMP	2 Hr. PMP	3 Hr. PMP	6 Hr. PMP	12 Hr. PMP	24 Hr. PMP	48 Hr. PMP	72 Hr. PMP
854.5	854.6	854.5	854.3	854.1	854.0	853.7	853.6

Detention Pond Stage - Storage - Discharge

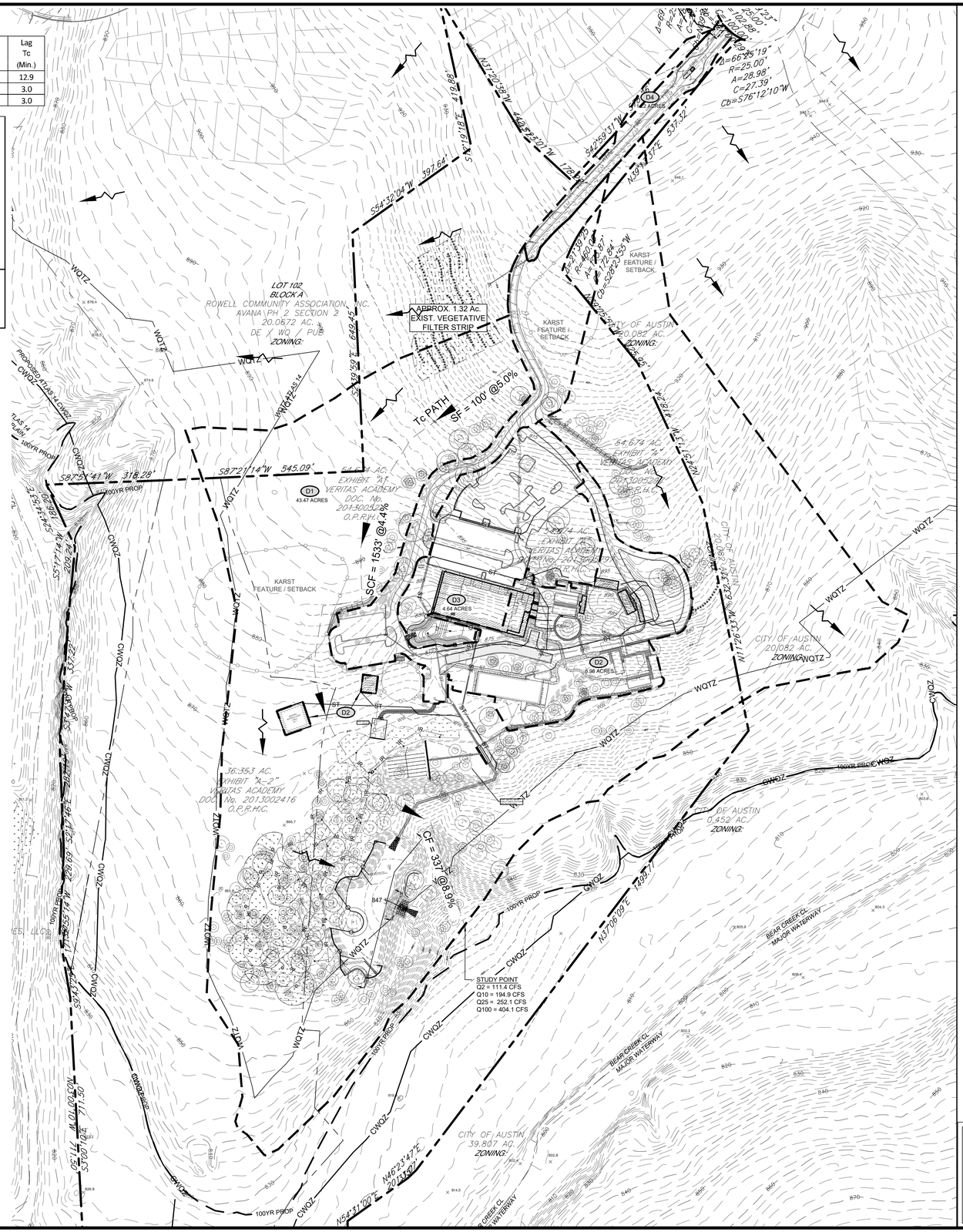
Elevation	Area (sf)	Volume (cf)	Cum. Volume (cf)	Volume (ac-ft)	Weir 1 (cfs)	Orifice (cfs)	Total (cfs)
847.0	-	0	-	0.000	0.00	0.00	0.00
848.0	4,622	2311	2,311	0.053	0.00	2.67	2.67
849.0	17,710	11166	13,477	0.309	0.00	4.63	4.63
850.0	32,708	25209	38,686	0.888	0.00	5.98	5.98
851.0	40,683	36696	75,382	1.731	0.00	7.07	7.07
852.0	42,500	41592	116,973	2.685	0.00	8.02	8.02
853.0	43,879	43190	160,163	3.677	0.00	8.87	8.87
854.0	45,284	44582	204,744	4.700	60.01	9.64	69.65
855.0	46,900	46092	250,836	5.758	249.73	10.36	260.08

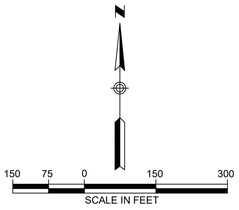
40	Weir 1 Length	853.37	Weir 1 Elevation

Weir Discha $C_w*L*h^{3/2}$
Orifice Disct $C_d*A*(2*g*h)^{1/2}$

Where Cw is assumed to be 3.
0.6 Cd

PIPE	PIPE OR ORIFICE? (PIPE, OR)
12	Pipe Diameter or Orifice Height (in)
0.79	Area of Pipe
1.00	Number of Pipes / Orifices
0.79	Total Area





LEGEND

- 10 / 2.59 ACRES — DRAINAGE AREA NUMBER AND ACREAGE
- DRAINAGE AREA
- PROPERTY LINE
- TC PATH
- SF — SHEET FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- Q25 = 16.64 cfs / Q100 = 23.62 cfs — Q_{25} / Q_{100}
- FLOW DIRECTION ARROW

NOTE:
1. DRAINAGE CALCULATIONS ASSUME MAXIMUM ALLOWABLE IMPERVIOUS COVER (6.5 ACRES). ONLY 6.12 ACRES ARE PROPOSED WITH THIS SITE PLAN. (SEE SITE CALCS)
2. ONSITE DRAINAGE ANALYSIS IS SHOWN FOR REFERENCE ONLY. REGIONAL DETENTION IS PROVIDED (PER PLAT NOTE 10 OF THE AMARRA DRIVE PHASE 3 SUBDIVISION RECORDED IN DOCUMENT NUMBER 209000074 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TX) FOR THE INCREASED FLOWS RESULTING FROM THE PROPOSED DEVELOPMENT. WATER QUALITY IS PROVIDED AS DETAILED ON SHEET WQ01.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
PROPOSED CONDITIONS DRAINAGE AREA MAP
13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DM02.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

DM02

SHEET NO. 6 OF 40 SHEETS

RATIONAL METHOD - COA Drainage Criteria and Design Standards
Onsite Drainage Area Calculations

City of Austin ATLAS 14 Intensity-Duration-Frequency Curves

	2 Yr	10 Yr	25 Yr	100 Yr
a	45.24	61.25	69.96	77.31
b	9.339	8.352	7.941	6.832
c	0.7399	0.7147	0.6954	0.6524

Rational Method Runoff Coefficients for Composite Analysis

	25-YR	100-YR
DEVELOPED		
Asphaltic	0.86	0.95
Concrete	0.88	0.97
GRASS, Good Cond.		
Steep, over 7%	0.44	0.51
Average, 2-7%	0.39	0.46

Q = CiA

Where:

Q = peak runoff in cubic feet per second.
C = the coefficient of runoff
A = the area in acres contributing runoff to the point of design.
i = the average intensity of rainfall in inches per hour

$i = a/(t+b)^c$

Where,

t = Time of concentration for the entire drainage area of interest

T(sht flow) = $Ln/(42s^{0.5})$ T(shallow concentrated flow) = $Ln/(60s^{0.5})$

where,

L = Length of the reach in ft.
n = Manning's n
s = Slope of the ground in ft/ft

Developed Conditions Drainage Calculations (Onsite Calculations)

DRAINAGE AREA	AREA (AC)	PERV. (AC)	IMP. (AC)	C25	C100	ToC (min.)	I25	I100	Q25 (cfs)	Q100 (cfs)
OS-1	1.522	1.522	0.000	0.440	0.510	5	11.79	15.42	7.90	11.98
OS-2	1.197	1.197	0.000	0.440	0.510	5	11.79	15.42	6.21	9.41
OS-3	0.910	0.910	0.000	0.440	0.510	5	11.79	15.42	4.72	7.15
A-1	0.588	0.106	0.482	0.800	0.887	5	11.79	15.42	5.55	8.05
A-2	0.178	0.033	0.145	0.800	0.886	5	11.79	15.42	1.68	2.43
A-3	0.300	0.034	0.266	0.831	0.918	5	11.79	15.42	2.94	4.25
A-4	0.440	0.072	0.368	0.808	0.894	5	11.79	15.42	4.19	6.07
A-5	0.255	0.120	0.136	0.674	0.754	5	11.79	15.42	2.03	2.97
A-6	1.017	0.112	0.905	0.832	0.919	5	11.79	15.42	9.97	14.42
A-7	0.253	0.038	0.215	0.814	0.901	5	11.79	15.42	2.43	3.52
A-8	0.517	0.497	0.020	0.457	0.527	5	11.79	15.42	2.78	4.20
A-9	0.305	0.303	0.002	0.442	0.513	5	11.79	15.42	1.59	2.41
A-10	0.181	0.181	0.000	0.440	0.510	5	11.79	15.42	0.94	1.42
A-11	0.138	0.138	0.000	0.440	0.510	5	11.79	15.42	0.71	1.08
A-12	0.019	0.000	0.019	0.880	0.970	5	11.79	15.42	0.20	0.28
B-1	0.406	0.167	0.239	0.699	0.781	5	11.79	15.42	3.35	4.89
B-2	0.070	0.003	0.067	0.861	0.950	5	11.79	15.42	0.71	1.03
B-3	0.181	0.005	0.176	0.868	0.957	5	11.79	15.42	1.85	2.67
B-4	0.430	0.430	0.000	0.440	0.510	5	11.79	15.42	2.23	3.39
B-5	0.125	0.072	0.052	0.624	0.703	5	11.79	15.42	0.92	1.35
B-6	0.558	0.389	0.169	0.573	0.649	5	11.79	15.42	3.77	5.59
B-7	0.219	0.146	0.073	0.586	0.663	5	11.79	15.42	1.51	2.24
B-8	0.403	0.305	0.098	0.547	0.622	5	11.79	15.42	2.60	3.87
B-9	0.342	0.258	0.084	0.548	0.623	5	11.79	15.42	2.21	3.28
B-10	0.119	0.114	0.006	0.460	0.531	5	11.79	15.42	0.65	0.98
B-11	0.137	0.113	0.024	0.518	0.592	5	11.79	15.42	0.84	1.25
B-12	3.035	2.446	0.589	0.525	0.599	5	11.79	15.42	18.80	28.05
B-13	0.229	0.057	0.172	0.770	0.855	5	11.79	15.42	2.08	3.01
B-14	0.304	0.069	0.234	0.780	0.865	5	11.79	15.42	2.79	4.05
B-15	0.317	0.170	0.147	0.644	0.724	5	11.79	15.42	2.41	3.54
B-16	0.162	0.023	0.139	0.818	0.905	5	11.79	15.42	1.56	2.26
B-17	1.553	1.010	0.543	0.594	0.671	5	11.79	15.42	10.87	16.07
B-18	0.045	0.000	0.045	0.880	0.970	5	11.79	15.42	0.47	0.67
B-19	0.119	0.000	0.119	0.880	0.970	5	11.79	15.42	1.24	1.79
B-20	0.225	0.023	0.202	0.835	0.923	5	11.79	15.42	2.22	3.20
C-1	1.222	0.777	0.446	0.569	0.646	5	11.79	15.42	8.20	12.18

AREA INLET CALCULATIONS FOR 25 YR STORM
MODELED AS A WEIR
Q=Cw P d1.5 , Cw =3.0

AREA #	Q (CFS)	Flow Area (Sq. In.)	Inlet Size	A (SF)	P (FT)	d_{weir} (FT)	D_{allow} (FT)	Is dweir > d_{allow} ?
B-5	0.92	1728	48"x48"	12.00	6.93	0.12	0.50	NO
B-7	1.51	1728	48"x48"	12.00	6.93	0.17	0.50	NO
B-8	2.60	1728	48"x48"	12.00	6.93	0.25	0.50	NO
B-9	2.21	1728	48"x48"	12.00	6.93	0.22	0.50	NO
B-15	2.41	1728	48"x48"	12.00	6.93	0.24	0.50	NO

AREA INLET CALCULATIONS FOR 100 YR STORM
MODELED AS A WEIR
Q=Cw P d1.5 , Cw =3.0

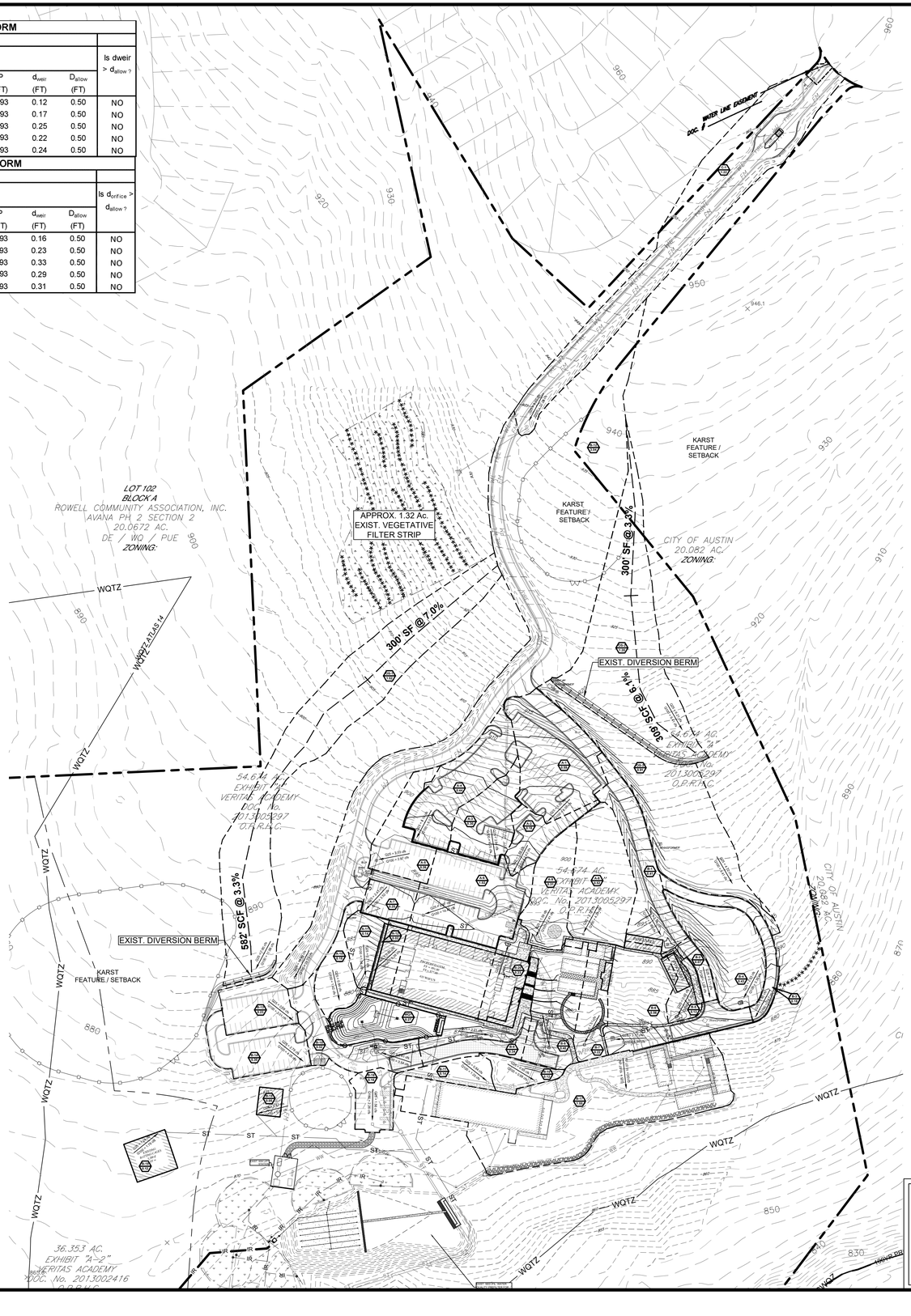
AREA #	Q (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	A (SF)	P (FT)	d_{weir} (FT)	D_{allow} (FT)	Is d_{orfice} > d_{allow} ?
B-5	1.35	1728	48"x48"	12.00	6.93	0.16	0.50	NO
B-7	2.24	1728	48"x48"	12.00	6.93	0.23	0.50	NO
B-8	3.87	1728	48"x48"	12.00	6.93	0.33	0.50	NO
B-9	3.28	1728	48"x48"	12.00	6.93	0.29	0.50	NO
B-15	3.54	1728	48"x48"	12.00	6.93	0.31	0.50	NO

GRATE INLET CALCULATIONS FOR 25 YR STORM (WITH 50% REDUCTION)
MODELED AS AN ORIFICE **MODELED AS A WEIR**
$Q=C_o A_G (2 g d)^{.5}$, C_o=0.67 $Q=C_w P d^{1.5}$, Cw =3.0
Note: All inlets are grate inlets.

AREA #	Q (CFS)	Flow Area (Sq. In.)	Inlet Size	A (SF)	A x 50% (SF)	P (FT)	$d_{ORIFICE}$ (FT)	d_{weir} (FT)	D_{allow} (FT)	Is d_{orfice} > d_{allow} ?
A-1	5.55	1728	48"x48"	12.00	6.00	6.93	0.03	0.41	0.50	NO
A-2	1.68	1728	48"x48"	12.00	6.00	6.93	0.00	0.19	0.50	NO
A-3	2.94	1728	48"x48"	12.00	6.00	6.93	0.01	0.27	0.50	NO
A-4	4.19	1728	48"x48"	12.00	6.00	6.93	0.02	0.34	0.50	NO
A-5	2.03	1728	48"x48"	12.00	6.00	6.93	0.00	0.21	0.50	NO
A-6	9.97	1728	48"x48"	12.00	6.00	6.93	0.10	0.61	0.50	NO
A-7	2.43	1728	48"x48"	12.00	6.00	6.93	0.01	0.24	0.50	NO
A-8	2.78	972	36"x36"	6.75	3.38	5.20	0.02	0.32	0.50	NO
A-9	1.59	432	24"x24"	3.00	1.50	3.46	0.04	0.29	0.50	NO
A-11	0.71	108	12"x12"	0.75	0.38	1.73	0.13	0.27	1.50	NO
A-12	0.20	13440	10"X1344"	93.33	46.67	19.32	0.00	0.02	2.50	NO
B-1	3.35	1728	48"x48"	12.00	6.00	6.93	0.01	0.30	0.50	NO
B-2	0.71	4200	14" x 300"	29.17	14.58	10.80	0.00	0.08	0.50	NO
B-3	1.85	5100	17" x 300"	35.42	17.71	11.90	0.00	0.14	0.50	NO
B-4	2.23	1728	48"x48"	12.00	6.00	6.93	0.00	0.23	0.50	NO
B-6	3.77	1728	48"x48"	12.00	6.00	6.93	0.01	0.32	0.50	NO
B-20	2.22	432	24"x24"	3.00	1.50	3.46	0.08	0.36	0.50	NO

GRATE INLET CALCULATIONS FOR 100 YR STORM (WITH 50% REDUCTION)
MODELED AS AN ORIFICE **MODELED AS A WEIR**
$Q=C_o A_G (2 g d)^{.5}$, C_o=0.67 $Q=C_w P d^{1.5}$, Cw =3.0
Note: All inlets are grate inlets.

AREA #	Q (CFS)	Flow Area (Sq. In.)	Inlet Size (SF)	A (SF)	A x 50% (SF)	P (FT)	$d_{ORIFICE}$ (FT)	d_{weir} (FT)	D_{allow} (FT)	Is d_{orfice} > d_{allow} ?
A-1	8.05	1728	48"x48"	12.00	6.00	6.93	0.06	0.53	0.50	NO
A-2	2.43	1728	48"x48"	12.00	6.00	6.93	0.01	0.24	0.50	NO
A-3	4.25	1728	48"x48"	12.00	6.00	6.93	0.02	0.35	0.50	NO
A-4	6.07	1728	48"x48"	12.00	6.00	6.93	0.04	0.44	0.50	NO
A-5	2.97	1728	48"x48"	12.00	6.00	6.93	0.01	0.27	0.50	NO
A-6	14.42	1728	48"x48"	12.00	6.00	6.93	0.20	0.78	0.50	NO
A-7	3.52	1728	48"x48"	12.00	6.00	6.93	0.01	0.31	0.50	NO
A-8	4.20	972	36"x36"	6.75	3.38	5.20	0.05	0.42	0.50	NO
A-9	2.41	432	24"x24"	3.00	1.50	3.46	0.09	0.38	0.50	NO
A-11	1.08	108	12"x12"	0.75	0.38	1.73	0.29	0.35	1.50	NO
A-12	0.28	13440	10"X1344"	93.33	46.67	19.32	0.00	0.03	2.50	NO
B-1	4.89	1728	48"x48"	12.00	6.00	6.93	0.02	0.38	0.50	NO
B-2	1.03	4200	14" x 300"	29.17	14.58	10.80	0.00	0.10	0.50	NO
B-3	2.67	5100	17" x 300"	35.42	17.71	11.90	0.00	0.18	0.50	NO
B-4	3.39	1728	48"x48"	12.00	6.00	6.93	0.01	0.30	0.50	NO
B-6	5.59	1728	48"x48"	12.00	6.00	6.93	0.03	0.42	0.50	NO
B-20	3.20	432	24"x24"	3.00	1.50	3.46	0.16	0.46	1.50	NO



100 50 0 100 200
SCALE IN FEET

LEGEND

- DRAINAGE AREA
- PROPERTY LINE
- B-1 / 0.97 — DEVELOPED DRAINAGE AREA AND ACREAGE
- FLOW DIRECTION ARROW
- Q25 = 7.9 cfs / Q100 = 10.9 cfs — Q_{25} / Q_{100}

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
DEVELOPED CONDITIONS DRAINAGE AREA MAP
13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DM03.DWG

STATE OF TEXAS
REESE B HURLEY
99211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

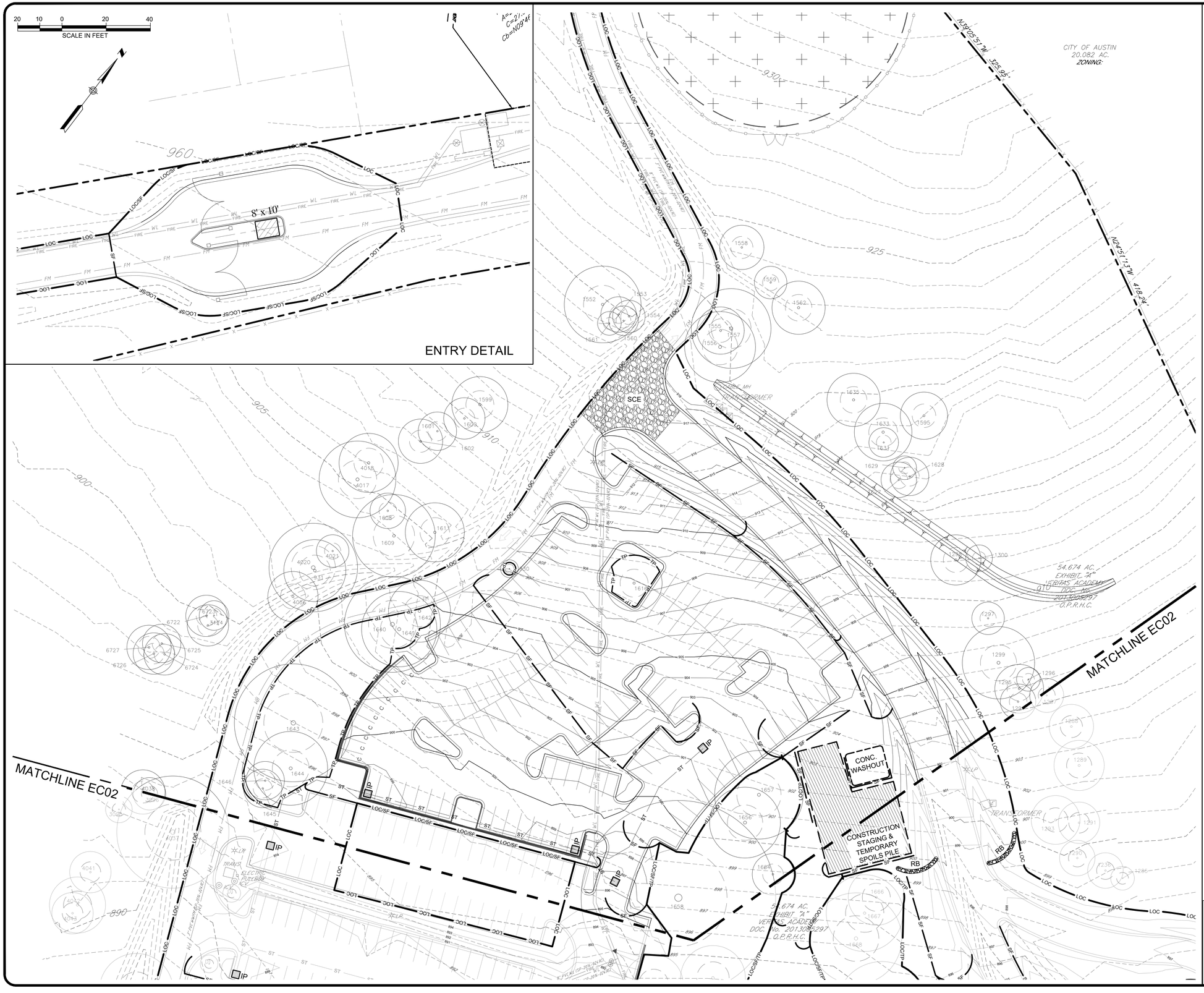
DM03

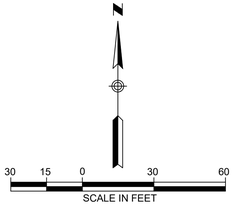
SHEET NO. 7 OF 40 SHEETS

SP-

J:\A219\402 - Veritas Gym\Sheets\A219-0402-DM03.dwg
User: jkurtac
Last Modified: Nov. 10, 23 - 10:47
Plot Date/Time: Nov. 13, 23 - 10:06

ENTRY DETAIL





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
972	972	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		CRITICAL WATER QUALITY ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
WW		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
LOC		LIMITS OF CONSTRUCTION
LOC/TFD		LIMITS OF CONSTRUCTION \ TRIANGULAR FILTER DIKE
LOC/TP		LIMITS OF CONSTRUCTION \ TREE PROTECTION
LOC/MS		LIMITS OF CONSTRUCTION \ MULCH SOCK
LOC/SF		LIMITS OF CONSTRUCTION \ SILT FENCE
LOC/SF/TP		LIMITS OF CONSTRUCTION \ SILT FENCE \ TREE PROTECTION
TP		TREE PROTECTION
SF		SILT FENCE
SF/TP		SILT FENCE \ TREE PROTECTION
MS		MULCH SOCK
		MULCH SOCK
IP		GRATE / AREA INLET PROTECTION
IP		CURB INLET PROTECTION
RB		ROCK BERM
SCE		STABILIZED CONSTRUCTION ENTRANCE
		CONSTRUCTION STAGING / SPOILS / VEHICLE USE LOCATION
CONC. WASHOUT		CONCRETE WASHOUT
		SEDIMENT TRAP
	2743	TREE TO REMAIN
	2743	TREE TO BE REMOVED

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

EROSION - SEDIMENTATION CONTROL PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-EC01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

EC01

SHEET NO. 8 OF 40 SHEETS

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
872	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		CRITICAL WATER QUALITY ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
FWL	FIRE	FIRE WATER LINE
		WATER SERVICE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET

LEGEND

PROPOSED	EXISTING	
LOC		LIMITS OF CONSTRUCTION
LOC/TFD		LIMITS OF CONSTRUCTION \ TRIANGULAR FILTER DIKE
LOC/TP		LIMITS OF CONSTRUCTION \ TREE PROTECTION
LOC/MS		LIMITS OF CONSTRUCTION \ MULCH SOCK
LOC/SF		LIMITS OF CONSTRUCTION \ SILT FENCE
LOC/SF/TP		LIMITS OF CONSTRUCTION \ SILT FENCE \ TREE PROTECTION
TP		TREE PROTECTION
SF		SILT FENCE
SF/TP		SILT FENCE \ TREE PROTECTION
MS		MULCH SOCK
		MULCH SOCK
IP		GRATE / AREA INLET PROTECTION
IP		CURB INLET PROTECTION
RB		ROCK BERM
SCE		STABILIZED CONSTRUCTION ENTRANCE
		CONSTRUCTION STAGING / SPOILS / VEHICLE USE LOCATION
CONC. WASHOUT		CONCRETE WASHOUT
		SEDIMENT TRAP

LEGEND

PROPOSED	EXISTING	
	2743	TREE TO REMAIN
	2743	TREE TO BE REMOVED

30 15 0 30 60
SCALE IN FEET

MATCHLINE EC01

MATCHLINE EC03

CONC. WASHOUT

CONSTRUCTION STAGING & TEMPORARY SPOILS PILE

25.674 AC. EXHIBIT "A" VERITAS ACADEMY DOC. NO. 2013039297 O.P.R.H.C.

PROPOSED GYM
FF = 891.00
FF= 877.00
433 WSFU'S

PROPOSED WATER QUALITY POND SEE SHEET WQ01

EXISTING CLASSROOM BLDG (SP-2014-0249C)
12,915 sf (COVERAGE)
45,212 sf (GSF)
FF=873.50
4-STORIES
SLAB ON GRADE
MAXT HT. = 59'-6"

EXISTING PORTABLE 8 (SP-2014-0249C) 64' x 24' (TYP.) FF=889.70

EXISTING PORTABLE 7 (SP-2014-0249C) 64' x 24' (TYP.) FF=889.70

EXISTING OFFICE 25' x 30' FF = 892.4

EXISTING OFFICE 25' x 30' FF = 892.6

PORTABLE 64' x 24' FF = 891.60

PORTABLE 64' x 24' FF = 891.60

DROP-OFF

EXISTING PORTABLE 3 64' x 24' (TYP.) FF=879.00 1,536 sf

EXISTING PORTABLE 1 64' x 24' (TYP.) FF=876.00 1,536 sf

EXISTING PORTABLE 2 64' x 24' (TYP.) FF=872.00 1,536 sf

EXISTING PORTABLE 4 64' x 24' (TYP.) FF=874.00 1,536 sf

CITY OF AUSTIN 2.00 GR AC. ZONING

N11°36'32"W 632.31'

TRANSFORMER

ELECTRIC PULLBOX

FDC

DEWATERING SKIMMER KEYED NOTES

1. FLOATING INTAKE / DEWATERING SKIMMER. SEE DETAIL ON SHEET WQ03.
2. TEMPORARY PUMP TO DISHARGE TO 5'X5' DESIGNATED ENCLOSED SILT FENCE AREA FOR DEWATERING DURING CONSTRUCTION FOLLOWED BY DOWNSTREAM SILT FENCE.
3. ENCLOSED SILT FENCE AREA, 5'X5' MINIMUM, FOR PUMP DISCHARGE.
4. DOWNSTREAM SILT FENCE

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

EROSION - SEDIMENTATION CONTROL PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

REVISIONS

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219x402-EC01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

EC02

SHEET NO. 9 OF 40 SHEETS

PROP. 1.37 ACRES WATER QUALITY IRRIGATION AREA

EXIST. 2.11 ACRES WATER QUALITY IRRIGATION AREA

EXISTING WATER QUALITY POND SEE SHEET WQ01

EXISTING COVERED PAVILION 1,960 sf FF = 875

EXIST. WW LIFT STATION

MATCHLINE EC03

MORTARED ROCK WALL (SEE STRUCTURAL SHEETS)

6' FENCE

1.75%

353 AC. "HIBIT A" VERITAS ACADEMY PLAT# 201902416 JC. No. 0-PRHLC-

30 15 0 30 60
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
872	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		CRITICAL WATER QUALITY ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
MH	MH	WASTEWATER MANHOLE
	WW	WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
LOC		LIMITS OF CONSTRUCTION
LOC/TFD		LIMITS OF CONSTRUCTION \ TRIANGULAR FILTER DIKE
LOC/TP		LIMITS OF CONSTRUCTION \ TREE PROTECTION
LOC/MS		LIMITS OF CONSTRUCTION \ MULCH SOCK
LOC/SF		LIMITS OF CONSTRUCTION \ SILT FENCE
LOC/SF/TP		LIMITS OF CONSTRUCTION \ SILT FENCE \ TREE PROTECTION
TP		TREE PROTECTION
SF		SILT FENCE
SF/TP		SILT FENCE \ TREE PROTECTION
MS		MULCH SOCK
		MULCH SOCK
IP		GRATE / AREA INLET PROTECTION
IP		CURB INLET PROTECTION
		ROCK BERM
RB		STABILIZED CONSTRUCTION ENTRANCE
SCE		
		CONSTRUCTION STAGING / SPOILS / VEHICLE USE LOCATION
CONC. WASHOUT		CONCRETE WASHOUT
		SEDIMENT TRAP
	2743	TREE TO REMAIN
	2743	TREE TO BE REMOVED

DEWATERING SKIMMER KEYED NOTES

1. FLOATING INTAKE / DEWATERING SKIMMER. SEE DETAIL ON SHEET WQ03.
2. TEMPORARY PUMP TO DISHARGE TO 5'X5' DESIGNATED ENCLOSED SILT FENCE AREA FOR DEWATERING DURING CONSTRUCTION FOLLOWED BY DOWNSTREAM SILT FENCE.
3. ENCLOSED SILT FENCE AREA, 5'X5' MINIMUM, FOR PUMP DISCHARGE.
4. DOWNSTREAM SILT FENCE

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

EROSION - SEDIMENTATION CONTROL PLAN 3

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS			
NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-EC01.DWG

STATE OF TEXAS
REESE B HURLEY
99211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

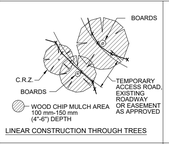
JOB NUMBER: A219-0402

EC03

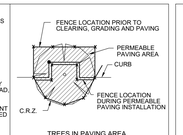
SHEET NO. 10 OF 40 SHEETS

SP-

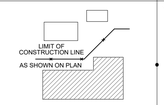
J:\A219-A02 - Veritas Gym\Sheets\A219-0402-EC01.dwg
User: jkurisc
Last RedPlot: Oct 25, 23 - 13:39
Plot Date/Time: Nov 13, 23 - 10:04



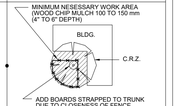
LINEAR CONSTRUCTION THROUGH TREES



TREES IN PAVING AREA



NATURAL AREAS

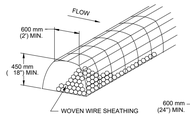


TREES NEAR CONSTRUCTION ACTIVITY

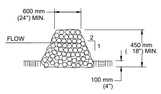
INDIVIDUAL TREE

GROUP OF TREES

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



ROCK BERM



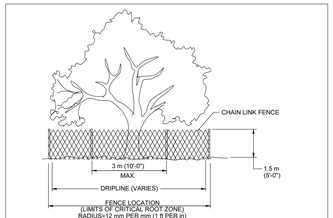
CROSS SECTION

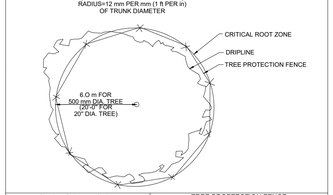
STANDARD SYMBOL FOR ROCK BERM (RB)
RB

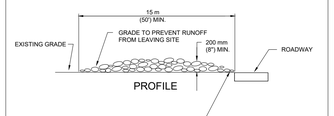
NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTATION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
RECORD COPY SIGNED BY MORGAN BYARS 8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1







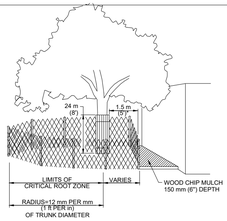
PROFILE

PLAN VIEW

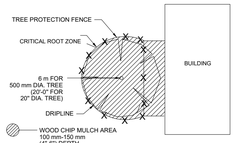
NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY APPROVED STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

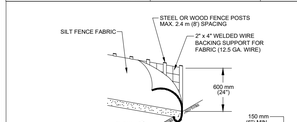
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



*AS NEEDED TO PROVIDE MINIMUM NECESSARY WORK SPACE. IF LESS THAN 1.5 m (5'), THEN ADD BOARDS STRAPPED TO TRUNK.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4



TRENCH CROSS SECTION

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1

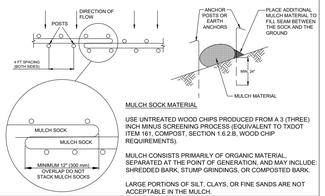
NOTES:

1. MATERIAL - THE FABRIC MUST CORRESPOND TO THE FOLLWING REQUIREMENTS:

PROPERTY	ASTM TEST METHOD	REQUIREMENTS
FABRIC WEIGHT	D 3776	±3.0 OUNCES/SQUARE YPAD
ULTRAVIOLET (UV) RADIATION STABILITY	D 4355	70% STRENGTH RETAINED MIN. AFTER 500 HOURS IN XENON ARC DEVICE
MULLEN BURST STRENGTH	D 3786	±120 POUND PER SQUARE INCH
WATER FLOW RATE	D 4491	±275 GALLONS/MINUTE/SQUARE FEET

2. THIS MATERIAL SHOULD HAVE A MAXIMUM EXPECTED USEFUL LIFE OF APPROXIMATELY EIGHTEEN (..18) MONTHS. THE INLET PROTECTION DEVICES SHOULD BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN OUT AND DISPOSAL OF TRAPPED SEDIMENT WHILE MINIMIZING INTERFERENCE WITH CONSTRUCTION ACTIVITIES. THEY SHOULD ALSO BE CONSTRUCTED SUCH THAT ANY PONDING OF STORM WATER WILL NOT CAUSE EXCESSIVE R.O.W. FLOODING (I.E. ≤ 4 INCHES OF STANDING WATER) OR DAMAGE TO THE STRUCTURE OR ADJACENT AREAS.
3. COVERAGE - THE FABRIC/WIRE SHOULD COMPLETELY COVER THE OPENING OF THE INLET AND DEVICES SHOULD BE INSTALLED WITHOUT PROTRUDING PARTS THAT COULD BE A TRAFFIC, WORKER, OR PEDESTRIAN HAZARD. WHERE SECTIONS OF THE FABRIC OVERLAP, THEY SHALL OVERLAP AT LEAST THREE(3) INCHES.
4. THE INLET FILTER SHALL BE ATTACHED IN A WAY THAT THEY CAN EASILY BE REMOVED AND ARE NOT SECURED OR ATTACHED BY THE USE OF SAND BAGS. THE INLET FILTER MUST BE REMOVED UPON COMPLETION OF WORK. IF REMOVAL DAMAGES THE CONCRETE CURB, THE CURB MUST BE REPAIRED IMMEDIATELY.
5. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN THE DEPTH REACHES 50 MM (2 INCHES) INCHES OR ONE - THIRD THE HEIGHT OF THE INLET THROAT,AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
6. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORMWATER BEGINS TO OVERTOP THE CURB.
7. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT HAS ACHIEVED FINAL STABILIZATION CONDITIONS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	FILTER DIKE CURB INLET PROTECTION	
RECORD COPY SIGNED BY MAPI VIGIL 10/30/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S-2



MULCH SOCK MATERIAL

USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

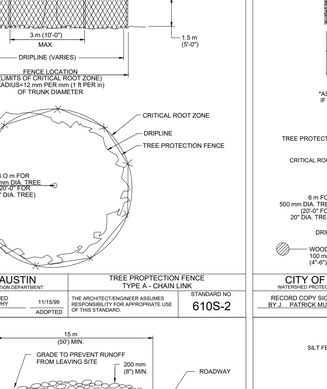
MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

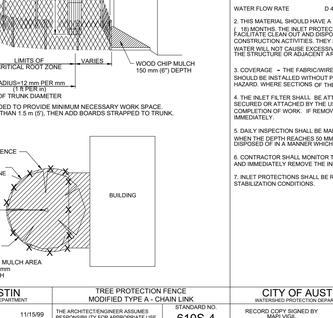
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK	
RECORD COPY SIGNED BY MORGAN BYARS 08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 648S-1



GENERAL NOTES :

1. ALL DIKES SHALL BE MACHINE COMPACTED.
2. ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. a. DIVERTED RUNOFF FROM A PROTECTED OR STABILIZED AREA SHALL HAVE ITS OUTLET FLOW DIRECTED TO AN UNDISTURBED STABILIZED AREA OR INTO A LEVEL SPREADER OR GRADE STABILIZATION STRUCTURE.
   b. DIVERTED RUNOFF FROM A DISTURBED OR EXPOSED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE, SUCH AS A ROCK BERM, BRUSH BERM, STONE OUTLET STRUCTURE, SEDIMENT TRAP OR SEDIMENT BASIN OR TO AN AREA PROTECTED BY ANY OF THESE PRACTICES.
4. UNLESS OTHERWISE SPECIFIED, EROSION STABILIZATION SHALL BE OPEN GRADED ROCK 75 TO 125 mm (3 TO 5 inches) IN DIAMETER EMBEDDED IN SOIL SURFACE.
5. INSPECTION SHALL BE CONDUCTED WEEKLY OR AFTER EACH RAINFALL EVENT.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	DIVERSION DIKE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 622S-1



SILT FENCE PLACEMENT FOR PERIMETER CONTROL

§ 25-8-604 - DEVELOPMENT APPLICATION REQUIREMENTS.

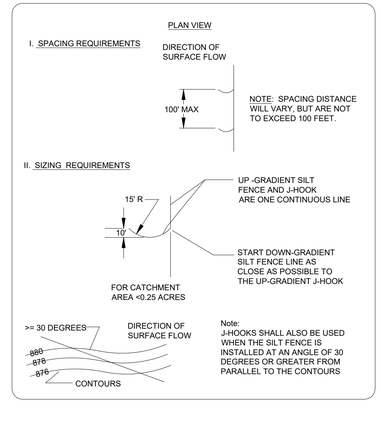
(A) AN APPLICATION FOR SITE PLAN APPROVAL MUST:

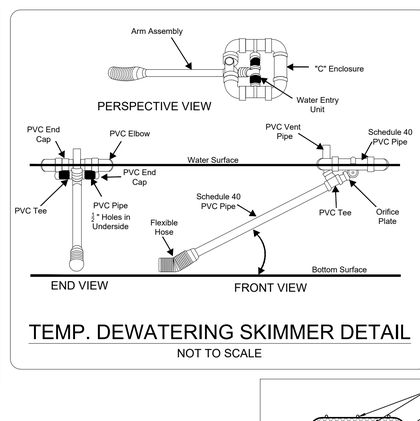
(1)INCLUDE A GRADING AND TREE PROTECTION PLAN, AS PRESCRIBED BY THE ADMINISTRATIVE MANUAL AND THE ENVIRONMENTAL CRITERIA MANUAL; AND
(2) DEMONSTRATE THAT THE DESIGN WILL PRESERVE THE EXISTING NATURAL CHARACTER OF THE LANDSCAPE, INCLUDING THE RETENTION OF TREES EIGHT INCHES OR LARGER IN DIAMETER TO THE EXTENT FEASIBLE.

(B) IF DEVELOPMENT UNDER A PROPOSED SITE PLAN WILL REMOVE A TREE EIGHT INCHES OR LARGER IN DIAMETER, THE CITY MAY REQUIRE MITIGATION, INCLUDING THE PLANTING OF REPLACEMENT TREES, AS A CONDITION OF SITE PLAN APPROVAL. THE DIRECTOR MAY NOT RELEASE THE SITE PLAN UNTIL THE APPLICANT SATISFIES THE CONDITION OR POSTS FISCAL SECURITY TO ENSURE PERFORMANCE OF THE CONDITION.

(C) FOR AN APPLICATION FOR PRELIMINARY PLAN, FINAL PLAT, BUILDING PERMIT, OR SITE PLAN APPROVAL THAT PROPOSES THE REMOVAL OF A PROTECTED TREE, THE CITY ARBORIST MUST REVIEW THE APPLICATION AND MAKE A RECOMMENDATION BEFORE THE APPLICATION MAY BE ADMINISTRATIVELY APPROVED OR PRESENTED TO THE LAND USE COMMISSION OR CITY COUNCIL.

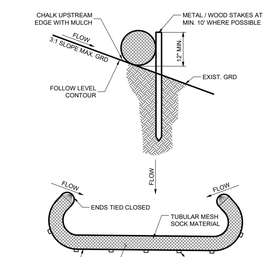
(D) FOR AN APPLICATION FOR PRELIMINARY PLAN, FINAL PLAT, BUILDING PERMIT, OR SITE PLAN APPROVAL THAT PROPOSES THE REMOVAL OF A HERITAGE TREE, THE APPLICANT MUST FILE A REQUEST FOR A VARIANCE TO REMOVE THE HERITAGE TREE UNDER DIVISION 3 OF THIS ARTICLE BEFORE THE APPLICATION MAY BE ADMINISTRATIVELY APPROVED OR PRESENTED TO THE LAND USE COMMISSION OR CITY COUNCIL.





TEMP. DEWATERING SKIMMER DETAIL

NOT TO SCALE



PLAN

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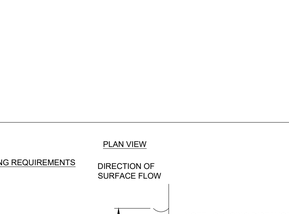
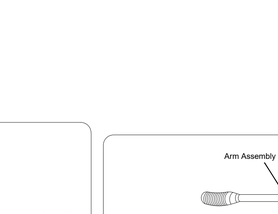
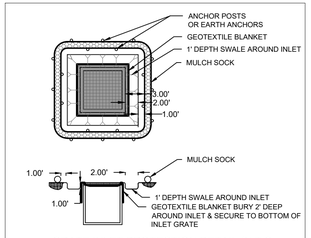
NTS





NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.



GRATE INLET PROTECTION DETAIL (N.T.S.)

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

EROSION CONTROL DETAILS

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-ESC NOTES01.DWG

STATE OF TEXAS
REESE B HURLEY
88211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SHEET NO. EC05

SHEET NO. 12 OF 40 SHEETS

APPENDIX P-1 - EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING. THE CHECKLIST BELOW CONTAINS THE BASIC ELEMENTS THAT SHALL BE REVIEWED FOR PERMIT APPROVAL BY COA EV PLAN REVIEWERS AS WELL AS COA EV INSPECTORS.

   -- PLAN SHEETS SUBMITTED TO THE CITY OF AUSTIN MUST SHOW THE FOLLOWING:

   ✓ DIRECTION OF FLOW DURING GRADING OPERATIONS.

   ✓ LOCATION, DESCRIPTION, AND CALCULATIONS FOR OFF-SITE FLOW DIVERSION STRUCTURES.

   ✓ AREAS THAT WILL NOT BE DISTURBED; NATURAL FEATURES TO BE PRESERVED.

   ✓ DELINEATION OF CONTRIBUTING DRAINAGE AREA TO EACH PROPOSED BMP (E.G., SILT FENCE, SEDIMENT BASIN, ETC.)

   ✓ LOCATION AND TYPE OF E&S BMPS FOR EACH PHASE OF DISTURBANCE.

   ✓ CALCULATIONS FOR BMPS AS REQUIRED.

   ✓ LOCATION AND DESCRIPTION OF TEMPORARY STABILIZATION MEASURES.

   ✓ LOCATION OF ON-SITE SPOILS, DESCRIPTION OF HANDLING AND DISPOSAL OF BORROW MATERIALS, AND DESCRIPTION OF ON-SITE PERMANENT SPOILS DISPOSAL AREAS, INCLUDING SIZE, DEPTH OF FILL AND REVEGETATION PROCEDURES.

   ✓ DESCRIBE SEQUENCE OF CONSTRUCTION AS IT PERTAINS TO ESC INCLUDING THE FOLLOWING ELEMENTS:

1. INSTALLATION SEQUENCE OF CONTROLS (E.G. PERIMETER CONTROLS, THEN SEDIMENT BASINS, THEN TEMPORARY STABILIZATION, THEN PERMANENT, ETC.)
2. PROJECT PHASING IF REQUIRED (LOC GREATER THAN 25 ACRES)
3. SEQUENCE OF GRADING OPERATIONS AND NOTATION OF TEMPORARY STABILIZATION MEASURES TO BE USED
4. SCHEDULE FOR CONVERTING TEMPORARY BASINS TO PERMANENT WQ CONTROLS
5. SCHEDULE FOR REMOVAL OF TEMPORARY CONTROLS
6. ANTICIPATED MAINTENANCE SCHEDULE FOR TEMPORARY CONTROLS

   -- CATEGORIZE EACH BMP UNDER ONE OF THE FOLLOWING AREAS OF BMP ACTIVITY AS DESCRIBED BELOW:

   3.1 MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL

   3.2 CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT

   3.3 STABILIZE SOILS

   3.4 PROTECT SLOPES

   3.5 PROTECT STORM DRAIN INLETS

   3.6 ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS

   3.7 RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES

   3.8 ESTABLISH STABILIZED CONSTRUCTION EXITS

   3.9 ANY ADDITIONAL BMPS

   -- NOTE THE LOCATION OF EACH BMP ON YOUR SITE MAP(S).

   -- FOR ANY STRUCTURAL BMPS, YOU SHOULD PROVIDE DESIGN SPECIFICATIONS AND DETAILS AND REFER TO THEM.

   -- FOR MORE INFORMATION, SEE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL 1.4.

3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.
5. 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 REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED COA STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR WITH EITHER A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), CERTIFIED EROSION, SEDIMENT AND STORMWATER INSPECTOR (CESSWI) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND 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.
7. 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 IN APPROVED SPOIL DISPOSAL SITES.
8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
9. TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:

1. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.

   TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE, BUT IT SHOULD MEET THE STANDARDS SET FORTH IN 601S.

   AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE CRITERIA OF STANDARD SPECIFICATION 601S BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.

   SOD AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

TEMPORARY VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP: (WESTERN WHEATGRASS (*PASCOPYRUM SMITHII*) AT 5.6 POUNDS PER ACRE, OATS (*AVENA SATIVA*) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAIN (*SECALE CEREALE*) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS (*LOLIUM MULTIFLORUM*) OR PERENNIAL RYEGRASS (*LOLIUM PERENNE*). COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX CONFORMING TO ITEMS 604S OR 609S.
   A. FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST AND SHALL CONFORM TO ITEM NO. 606S, FERTILIZER. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.
   B. HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.
   C. TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
   D. WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, AND STANDARD SPECIFICATIONS 604S OR 609S.

TABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION

Material	Description	Longevity	Typical Applications	Application Rates
100% or any blend of wood, cellulose, straw, and/or cotton plant material (except no mulch shall exceed 30% paper)	70% or greater Wood/Straw 30% or less Paper or Natural Fibers	0-3 months	Moderate slopes; from flat to 3:1	1500 to 2000 lbs per acre

PERMANENT VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (½) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH TABLE 2 BELOW, ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUDAGRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL. PERMANENT VEGETATIVE STABILIZATION CAN ALSO BE ACCOMPLISHED WITH A NATIVE PLANT SEED MIX CONFORMING TO ITEMS 604S OR 609S.
   A. FERTILIZER USE SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. SEE ITEM 606S, FERTILIZER. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF AUSTIN'S IPM COORDINATOR.
   B. HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
   C. WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDBED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE AUSTIN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.
   D. PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95 PERCENT FOR THE NON-NATIVE MIX, AND 95 PERCENT COVERAGE FOR THE NATIVE MIX SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR STABILITY MUST BE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 16 SQUARE FEET.
   E. WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, ITEMS 604S AND 609S.

TABLE 2: HYDROMULCHING FOR PERMANENT VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	TYPICAL APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS		
10% TACKIFIER	6 MONTHS	2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURER'S RECOMMENDATIONS)	
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEFIBRATED FIBERS 25% REINFORCING FIBERS OR LESS 10% TACKIFIER	ON SLOPES UP TO 1:1 AND EROSIVE SOIL CONDITIONS	3,000 TO 4,500 LBS PER ACRE (SEE MANUFACTURER'S RECOMMENDATIONS)

10. DEVELOPER INFORMATION:

    VERITAS ACADEMY
    13401 ESCARPMENT BOULEVARD
    AUSTIN, TEXAS 78739
    PH: (512) 891-1674

    OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:

    LJA ENGINEERING, INC.
    7500 RIALTO BOULEVARD, BUILDING II SUITE 150
    AUSTIN, TEXAS 78735
    PH: (512) 439-4700 FAX: (512) 439-4716

    PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE: _____

    PHONE # _____

    PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE: _____

    PHONE # _____

11. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT AT 974-2278 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

SOURCE: RULE NO. R161-15.13, 1-4-2016.

CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
2. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.
3. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
4. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
5. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) , FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ABORIST;
   C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
6. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE. TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   B. WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
   C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
   D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE CITY ARBORIST AT 974-1876 TO DISCUSS ALTERNATIVES.

   SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
8. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
11. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
12. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
13. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE CITY ARBORIST).
14. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

SPECIAL CONSTRUCTION TECHNIQUES

PRIOR TO EXCAVATION WITHIN TREE DRIPLINES OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.

IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC, PER STANDARD SPECIFICATION 620S, SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.

PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.

WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.

WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

APPENDIX P-6 REMEDIAL TREE CARE NOTES

AS A COMPONENT OF AN EFFECTIVE REMEDIAL TREE CARE PROGRAM PER ENVIRONMENTAL CRITERIA MANUAL SECTION 3.5.4, PRESERVED TREES WITHIN THE LIMITS OF CONSTRUCTION MAY REQUIRE SOIL AERATION AND SUPPLEMENTAL NUTRIENTS. SOIL AND/OR FOLIAR ANALYSIS SHOULD BE USED TO DETERMINE THE NEED FOR SUPPLEMENTAL NUTRIENTS. THE CITY ARBORIST MAY REQUIRE THESE ANALYSES AS PART OF A COMPREHENSIVE TREE CARE PLAN. SOIL PH SHALL BE CONSIDERED WHEN DETERMINING THE FERTILIZATION COMPOSITION AS SOIL PH INFLUENCES THE TREE'S ABILITY TO UPTAKE NUTRIENTS FROM THE SOIL. IF ANALYSES INDICATE THE NEED FOR SUPPLEMENTAL NUTRIENTS, THEN HUMATE/NUTRIENT SOLUTIONS WITH MYCORRHIZAE COMPONENTS ARE HIGHLY RECOMMENDED. IN ADDITION, SOIL ANALYSIS MAY BE NEEDED TO DETERMINE IF ORGANIC MATERIAL OR BENEFICIAL MICRORORGANISMS ARE NEEDED TO IMPROVE SOIL HEALTH. MATERIALS AND METHODS ARE TO BE APPROVED BY THE CITY ARBORIST (512-974-1876) PRIOR TO APPLICATION. THE OWNER OR GENERAL CONTRACTOR SHALL SELECT A FERTILIZATION CONTRACTOR AND IENSURE COORDINATION WITH THE CITY ARBORIST.

PRE-CONSTRUCTION TREATMENT SHOULD BE APPLIED IN THE APPROPRIATE SEASON, IDEALLY THE SEASON PRECEDING THE PROPOSED CONSTRUCTION. MINIMALLY, AREAS TO BE TREATED INCLUDE THE ENTIRE CRITICAL ROOT ZONE OF TREES AS DEPICTED ON THE CITY APPROVED PLANS. TREATMENT SHOULD INCLUDE, BUT NOT LIMITED TO, FERTILIZATION, SOIL TREATMENT, MULCHING, AND PROPER PRUNING.

POST-CONSTRUCTION TREATMENT SHOULD OCCUR DURING FINAL REVEGETATION OR AS DETERMINED BY A QUALIFIED ARBORIST AFTER CONSTRUCTION. CONSTRUCTION ACTIVITIES OFTEN RESULT IN A REDUCTION IN SOIL MACRO AND MICRO PORES AND AN INCREASE IN SOIL BULK DENSITY. TO AMELIORATE THE DEGRADED SOIL CONDITIONS, AERATION VIA WATER AND/OR AIR INJECTED INTO THE SOIL IS NEEDED OR BY OTHER METHODS AS APPROVED BY THE CITY ARBORIST. THE PROPOSED NUTRIENT MIX SPECIFICATIONS AND SOIL AND/OR FOLIAR ANALYSIS RESULTS NEED TO BE PROVIDED TO AND APPROVED BY THE CITY ARBORIST PRIOR TO APPLICATION (FAX # 512-974-3010). CONSTRUCTION WHICH WILL BE COMPLETED IN LESS THAN 90 DAYS MAY USE MATERIALS AT ½ RECOMMENDED RATES. ALTERNATIVE ORGANIC FERTILIZER MATERIALS ARE ACCEPTABLE WHEN APPROVED BY THE CITY ARBORIST. WITHIN 7 DAYS AFTER FERTILIZATION IS PERFORMED, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF THE WORK PERFORMED TO THE CITY ARBORIST, PLANNING AND DEVELOPMENT REVIEW DEPARTMENT, P.O. BOX 1088, AUSTIN, TX 78767. THIS NOTE SHOULD BE REFERENCED AS ITEM #1 IN THE SEQUENCE OF CONSTRUCTION.

EROSION CONTROL NOTES

1. DESIGNATION OF AN ENVIRONMENTAL PROJECT MANAGER WHO IS ON SITE >90% OF THE TIME. WHO IS REQUIRED TO BE AT THE PRECONSTRUCTION AND MID-CONSTRUCTION MEETINGS, AND IS RESPONSIBLE FOR COMPLIANCE ON SITE OF THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS. THE ENVIRONMENTAL PROJECT MANAGER IS RESPONSIBLE FOR ENSURING COMPLIANCE OF THE CONTROLS DURING THE CONSTRUCTION PERIOD. SHOULD THE PROJECT MANAGER NEED TO BE ABSENT FROM THE SITE FOR AN EXTENDED PERIOD (IN EXCESS OF ONE WEEK), THE ENVIRONMENTAL INSPECTOR WITH THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT SHOULD BE INFORMED OF THE NAME OF A DESIGNATED REPLACEMENT. 2. THE MAXIMUM LENGTH OF TIME BETWEEN CLEARING AND FINAL REVEGETATION OF A PROJECT SHALL NOT EXCEED 18 MONTHS, UNLESS EXTENDED BY THE DIRECTOR OF THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT (THIS DOES NOT AFFECT THE EXPIRATION OF THE SITE PLAN OR BUILDING PERMIT. THIS REQUIREMENT APPLIES TO SITES THAT HAVE SUSPENDED WORK AND ARE EXPERIENCING EROSION CONTROL PROBLEMS DUE TO DISTURBED SOIL CONDITIONS.) DISTURBED AREAS MUST BE MAINTAINED TO PREVENT EROSION AND SEDIMENT LOADING OF ANY WATERWAYS OR DRAINAGE FACILITIES. 3. IT IS A VIOLATION OF THE CODE AND THIS DEVELOPMENT PERMIT TO ALLOW SEDIMENT FROM A CONSTRUCTION SITE TO ENTER A CLASSIFIED WATERWAY DUE TO A FAILURE TO MAINTAIN THE REQUIRED EROSION AND SEDIMENTATION CONTROLS OR TO FOLLOW THE APPROVED CONSTRUCTION SEQUENCE.

3.5.2 - TREE PRESERVATION CRITERIA

A. CRITICAL ROOT ZONE IMPACTS.

AS NOTED IN SECTION 3.4.0, A TREE'S ROOT SYSTEM RANGES WELL BEYOND THE DRIPLINE. THE CRITICAL ROOT ZONE (CRZ) HAS BEEN ESTABLISHED (SEE SECTION 3.3.2 D 2) TO SET A PRACTICAL LIMIT BEYOND WHICH ANY LOSS OF ROOTS WOULD NOT HAVE A SIGNIFICANT IMPACT ON A TREE'S SURVIVAL. CERTAIN CONDITIONS MAY REQUIRE LARGER CRITICAL ROOT ZONES TO EXPECT TREE SURVIVAL. STAFF MAY REQUEST A LARGER PRESERVED AREA FOR SPECIES THAT ARE LESS RESILIENT TO THE IMPACTS OF DEVELOPMENT, SUCH AS POST OAK (QUERCUS STELLATA). HIGH VALUE TREES, RARE TREES, AND TREES IN SENSITIVE SITE CONDITIONS. THIS REQUEST COULD IDENTIFY A CRITICAL ROOT ZONE 1¼ TO 1½ TIMES LARGER THAN THE MINIMUM STANDARD.
THE ACTUAL ROOT STRUCTURE MAY NOT ALWAYS BE ALIGNED WITHIN THE REGULATED CRITICAL ROOT ZONE. EXAMPLES OF THIS INCLUDE ENCROACHMENT OF EXISTING CODE-COMPLIANT STRUCTURES, RETAINING WALLS WHICH HAVE HISTORICALLY ALTERED THE GRADE, AND COMPACTED SURFACES (E.G. DRIVEWAYS), ALL WITHIN THE REGULATED CRITICAL ROOT ZONE. IN THESE TYPES OF SITUATIONS, STAFF CAN EXERCISE THEIR PROFESSIONAL JUDGMENT TO DETERMINE THE LIKELIHOOD OF IMPACTS TO THE ROOT STRUCTURE. OTHER FACTORS WHICH MAY ASSIST WITH MINIMIZING TREE IMPACTS INCLUDE AN ASSESSMENT OF THE EXISTING NATURAL CONDITIONS, LOW IMPACT CONSTRUCTION METHODS, AND REMEDIAL TREE CARE.
DESIGN CONSTRAINTS, SUCH AS SITE CONDITIONS, OFTEN DICTATE THAT TREES SLATED FOR PRESERVATION HAVE SOME ROOT ZONE DISTURBANCE. WEIGHING THIS FACT WITH WHAT APPEARS TO BE AN ACCEPTABLE DEGREE OF RISK TO MOST TREES, THE FOLLOWING MINIMUM DESIGN CRITERIA (MAXIMUM ALLOWABLE IMPACTS) HAVE BEEN ESTABLISHED (SEE FIGURE 3-6 IN APPENDIX V OF THIS MANUAL):

• A MINIMUM OF 50 PERCENT OF THE CRITICAL ROOT ZONE MUST BE PRESERVED AT NATURAL GRADE, WITH NATURAL GROUND COVER.
• NO CUT OR FILL GREATER THAN FOUR (4) INCHES WILL BE LOCATED CLOSER TO THE TREE TRUNK THAN ½ THE CRZ RADIUS DISTANCE.
• NO CUT OR FILL WITHIN THE DISTANCE FROM THE TREE WHICH IS THREE (3) TIMES THE TRUNK DIAMETER (ALSO CAN BE DETERMINED BY CALCULATING THE ¼ CRZ). FOR EXAMPLE, NO CUT IS ALLOWED WITHIN 60-INCHES OF A TREE WHICH HAS A 20-INCH DIAMETER TRUNK.

THIS STANDARD REQUIRES THAT CONSTRUCTION IMPACTS ASSOCIATED WITH VARIOUS DESIGN FEATURES BE CONSIDERED. FOR EXAMPLE, THE INSTALLATION OF A CURB TYPICALLY REQUIRES EXCAVATION OF TWO (2) FEET BEHIND THE BACK OF CURB. IN SUCH A CASE, THE LINE OF IMPACT ON THE CRZ WILL BE TWO (2) FEET BEHIND THE CURB LINE SHOWN ON THE PLAN (SEE FIG

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWER COLLECTION SYSTEM CONSTRUCTION NOTES
TCEQ-0596 (REV. JULY 15, 2015)

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES – LEGAL DISCLAIMER
THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET 32 OF 40.

IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: NO CURVATURE OF SEWER LINES IS PROPOSED.

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED:
NO FLEXTURE IS PROPOSED WITHIN THE SEWAGE COLLECTION SYSTEM.

SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __. (FOR POTENTIAL FUTURE LATERALS). THERE ARE NO STUB-OUTS PROPOSED FOR FUTURE LATERAL CONNECTIONS.

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 31 OF 40 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 31 OF 40.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

(a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

(1) LOW PRESSURE AIR TEST.

(A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH OF THIS PARAGRAPH.

(B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

(i) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

(ii) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

WHERE:
T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

(C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
(E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.
(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) INFILTRATION/EXFILTRATION TEST.

(A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.
(B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.
(C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.
(D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.
(E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

(b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO EQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

(1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL

(A) MANDREL SIZING.

(I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

(II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

(III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDREL DESIGN.

(i) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

(ii) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

(iii) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

(iv) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

(C) METHOD OPTIONS.

(i) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

(ii) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

(iii) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

(2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
(3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.
(4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
(5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
(6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
(a) ALL MANHOLES MUST PASS A LEAKAGE TEST.
(b) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
(1) HYDROSTATIC TESTING.
(A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
(B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.
(C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.
(2) VACUUM TESTING.
(A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
(B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
(C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
(D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
(E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
(F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
(G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
(H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
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.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES
TCEQ-0592 (REV. JULY 15, 2015)

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES – LEGAL DISCLAIMER
THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

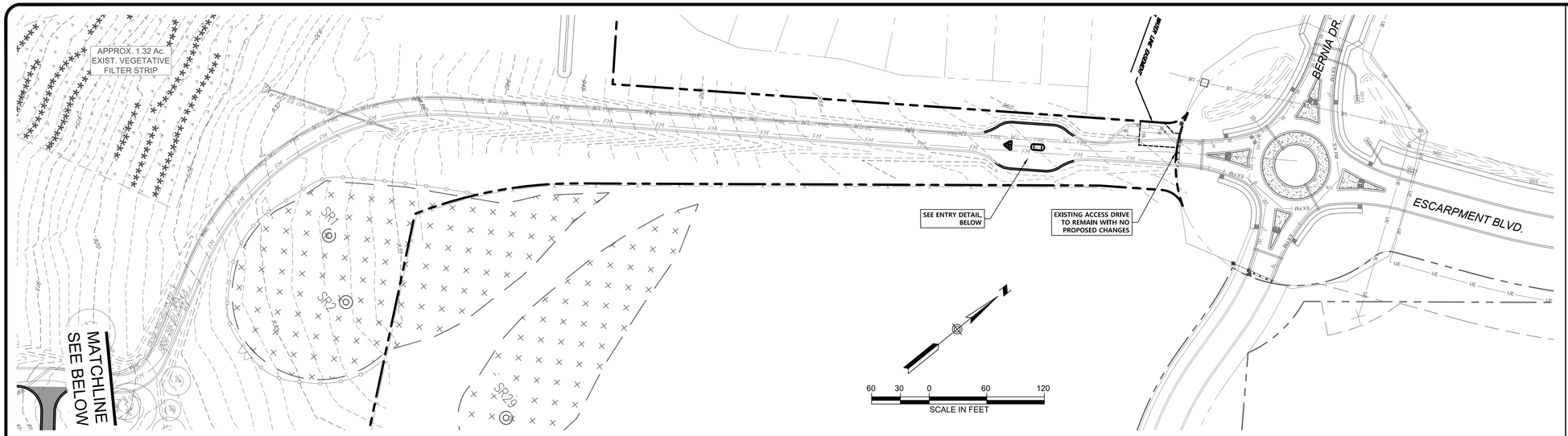
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

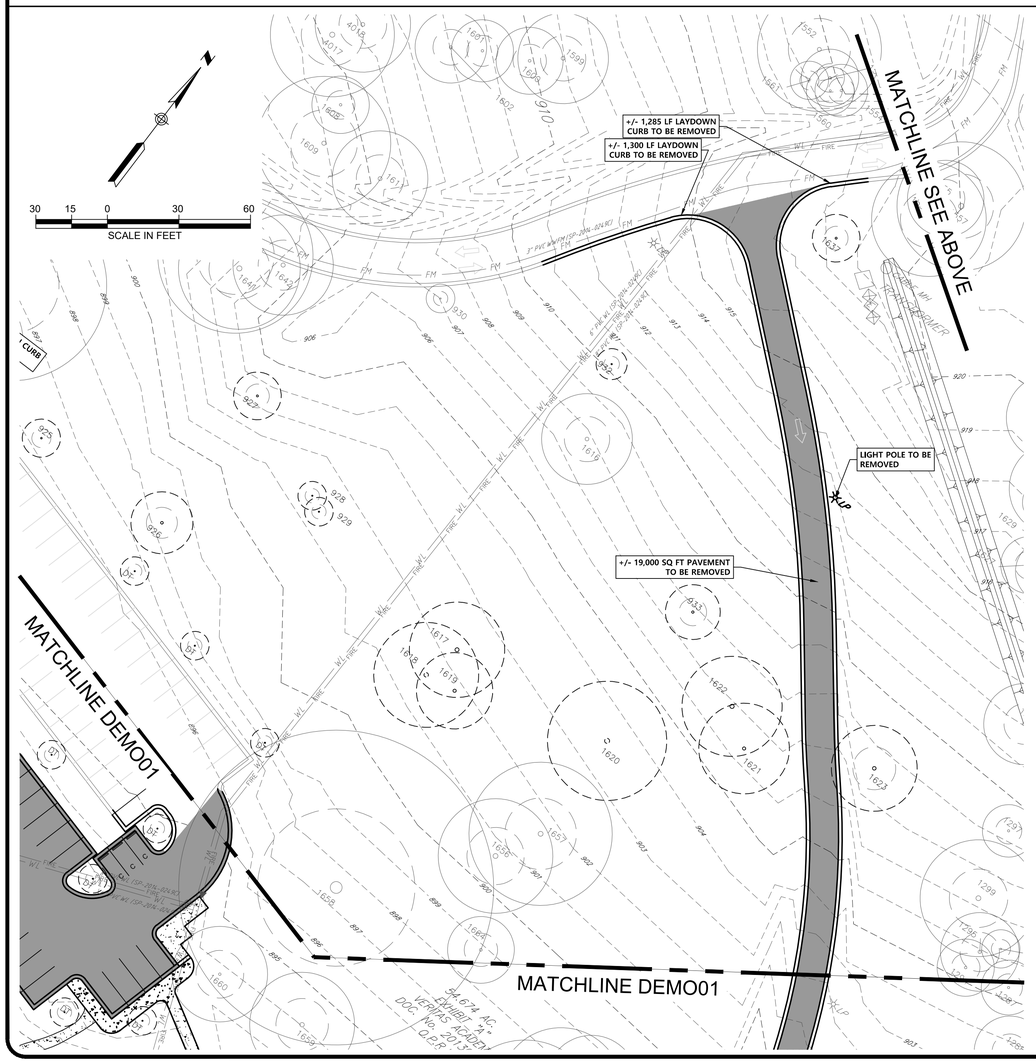
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
- THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
- THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

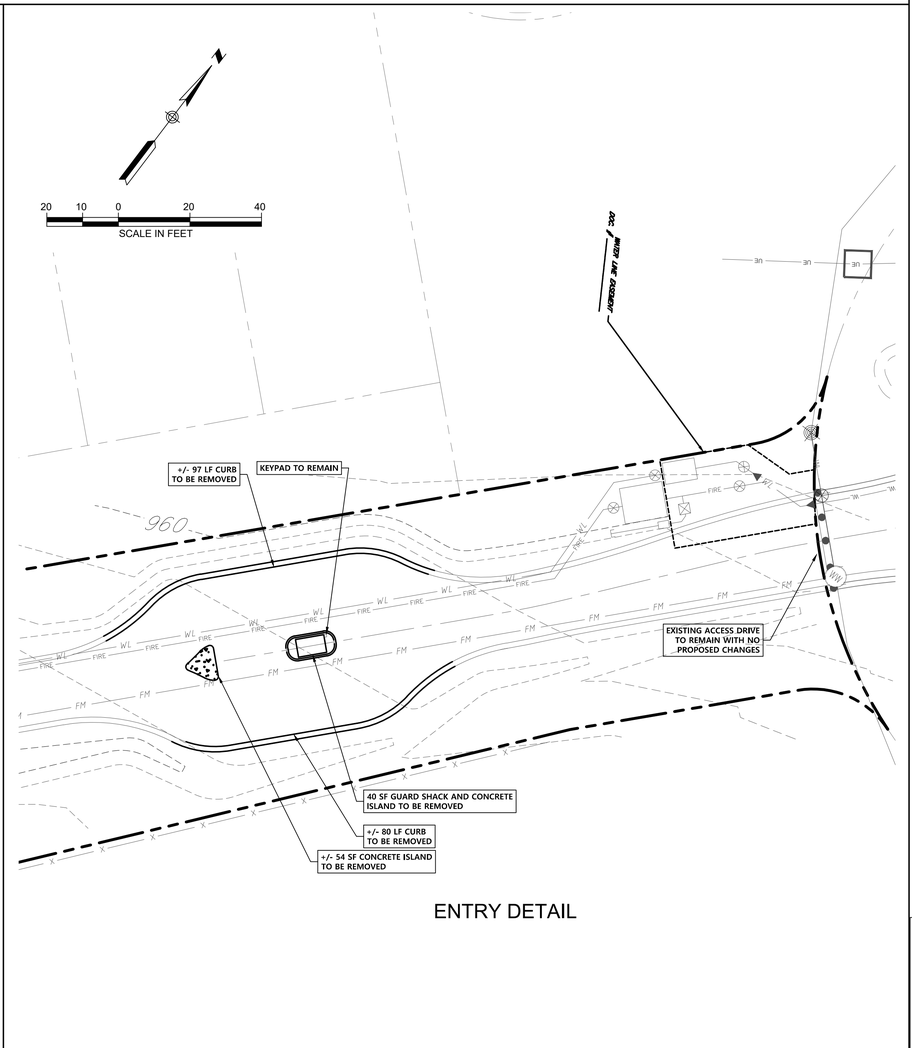
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL O



LEGEND

TO DEMOLISH	TO REMAIN	
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		DECK
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
IR		IRRIGATION LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
274	274	TREE (SEE EROSION CONTROL SHEETS)





ENTRY DETAIL

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

DEMOLITION PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DEMO01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1366

JOB NUMBER: A219-0402

DEMO01

SHEET NO. 15 OF 40 SHEETS

MATCHLINE DEMO01

MATCHLINE DEMO01

+/- 44 LF LAYDOWN CURB TO BE REMOVED

+/- 1,700 SQ FT PAVEMENT TO BE REMOVED

+/- 35 LF LAYDOWN CURB TO BE REMOVED

+/- 35 LF LAYDOWN CURB TO BE REMOVED

+/- 377 LF LAYDOWN CURB TO BE REMOVED

+/- 150 LF LAYDOWN CURB TO BE REMOVED

+/- 1,249 SQ FT SIDEWALK TO BE REMOVED

+/- 736 SQ FT ROCK PATH TO BE REMOVED

+/- 40 LF 4" WL TO BE REMOVED

+/- 18,415 SQ FT PAVEMENT TO BE REMOVED

EXIST. FIRE HYDRANT TO BE REMOVED AND REUSED

+/- 64 LF 8" WL TO BE REMOVED

+/- 291 LF LAYDOWN CURB TO BE REMOVED

+/- 120 SQ FT PORTABLE RESTROOM TO BE REMOVED

PORTABLE RESTROOM 120 sf (20' X 6') FF=885.50

+/- 800 SQ FT SIDEWALK TO BE REMOVED

2 PORTABLE CLASSROOM BUILDINGS TO BE RELOCATED

PORTABLE 6 1,536 sf FF=883.00 64' x 24' (TYP.)

PORTABLE 5 1,536 sf FF=883.00 64' x 24' (TYP.)

+/- 329 LF 6" PVC WWL AND CLEANOUTS TO BE REMOVED

+/- 320 LF 8" WL TO BE REMOVED

AREA DRAIN TO BE REMOVED

+/- 74 LF LAYDOWN CURB TO BE REMOVED; +/- 365 SQ FT PAVEMENT TO BE REMOVED

+/- 220 LF 30" PVC SSL TO BE REMOVED

+/- 26 LF LAYDOWN CURB TO BE REMOVED

+/- 125 SF CONCRETE TO BE REMOVED

METER BANK TO BE REMOVED AND RELOCATED.

+/- 1,285 LF LAYDOWN CURB TO BE REMOVED

+/- 1,300 LF LAYDOWN CURB TO BE REMOVED

1 WASTEWATER MANHOLE TO BE REMOVED

EXIST. FIRE HYDRANT TO BE REMOVED AND REUSED

EXISTING LIGHT POLE TO REMAIN

+/- 157 LF 6" PVC WWL TO BE REMOVED

EXISTING CLASSROOM BLDG (SP-2014-0249C) 12,915 sf (COVERAGE) 45,212 sf (GSF) FF=873.50 4-STORIES SLAB ON GRADE MAXT HT. = 59'-6"

EXISTING OFFICE 25' x 30' FF=892.4

EXISTING OFFICE 25' x 30' FF=892.4

EXISTING PORTABLE 6 (SP-2014-0249C) 64' x 24' (TYP.) FF=889.70

EXISTING PORTABLE 7 (SP-2014-0249C) 64' x 24' (TYP.) FF=889.70

+/- 1481 SF DECK TO BE REMOVED

+/- 60 SF CONCRETE TO BE REMOVED

+/- 40 SF WOOD DECKING TO BE REMOVED

+/- 375 SF DECK TO BE REMOVED

+/- 19,000 SQ FT PAVEMENT TO BE REMOVED

TRANSFORMER AND METER BANK TO BE REMOVED AND RELOCATED.

+/- 65 LF 18" PVC SSL TO BE REMOVED

AREA DRAIN TO BE REMOVED

+/- 995 SF SIDEWALK TO BE REMOVED

3:1 SAFETY END TREATMENT TO BE REMOVED

+/- 115 LF WALL TO BE REMOVED

EXISTING PORTABLE 3 64' x 24' (TYP.) FF=879.00 1,536 sf

EXISTING PORTABLE 4 64' x 24' (TYP.) FF=876.50 1,536 sf

EXISTING PORTABLE 2 64' x 24' (TYP.) FF=872.00 1,536 sf

EXISTING PORTABLE 1 64' x 24' (TYP.) FF=874.00 1,536 sf

54.674 AC. EXHIBIT "A" VERITAS ACADEMY DOC. NO. 2013005297 O.P.R.H.C.

TRANSFORMER

TRANSFORMER

METER BANK

4-EM

WWMH

CABLE TV

ELECTRIC PULLBOX

ELECTRIC PULLBOX

TRANS.

SR8

WQTZ

WQTZ

WQTZ

6" PVC WW (SP-2016-0242D)

8" PVC WW (SP-2016-0242D)

30" PVC SS (SP-2016-0242D)

8" PVC WL (SP-2016-0242D)

12" PVC SS (SP-2016-0242D)

8" PVC SS (SP-2016-0242D)

4" PVC WL (SP-2016-0242D)

8" PVC WL (SP-2016-0242D)

30 15 0 30 60

SCALE IN FEET

LEGEND

TO DEMOLISH	TO REMAIN	
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		DECK
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
IR		IRRIGATION LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
2743	2743	TREE (SEE EROSION CONTROL SHEETS)

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

DEMOLITION PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

REVISIONS

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-DEMO01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

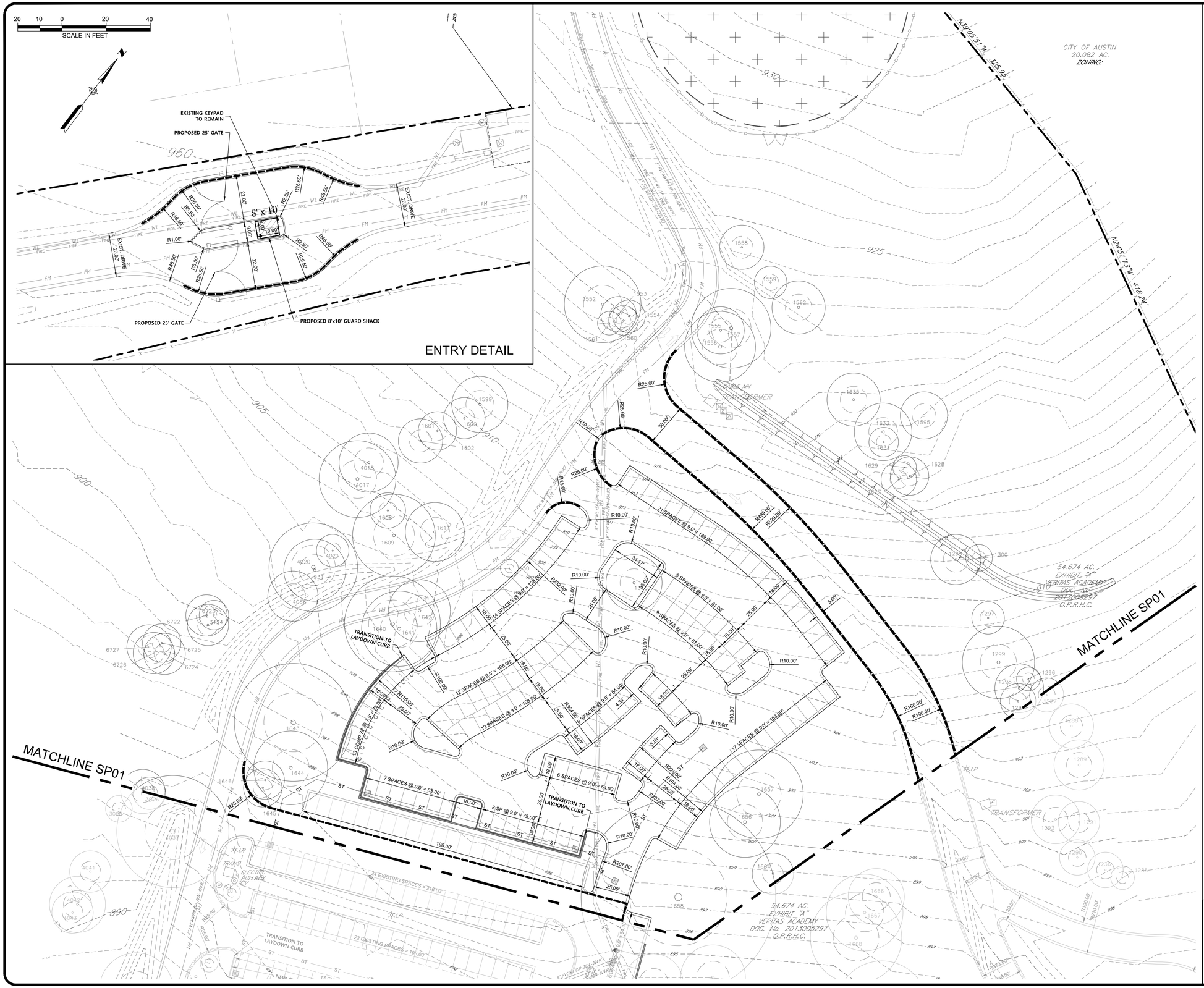
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

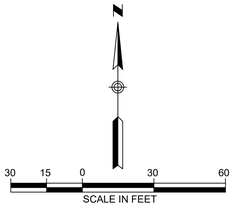
JOB NUMBER: A219-0402

DEMO02

SHEET NO. 16 OF 40 SHEETS

SP-





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
WW		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OH	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.

3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.

4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP01

SHEET NO. 17 OF 40 SHEETS

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		SIDEWALK RAMP
		HANDICAPPED PARKING SPACE & SIDEWALK RAMP
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE
		DECK
		CROSSWALK
		BIKE RACK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FIRE LANE
		ACCESSIBLE ROUTE
		FENCE
		FENCE
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OU	OVERHEAD UTILITY
	FO	FIBER OPTIC
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

MATCHLINE SP01

MATCHLINE SP01

24 EXISTING SPACES = 216.00'

22 EXISTING SPACES = 198.00'

17 EXISTING SPACES = 153.00'

9 EXISTING SPACES = 81.00'

TRANSITION TO LAYDOWN CURB

NEW CURB & GUTTER

RE-STRIPE 3 EXISTING SPACES AS 2 ACCESSIBLE SPACES

6 SPACES @ 9.0' = 54.00'

8 SPACES @ 9.0' = 72.00'

12 SPACES @ 9.0' = 108.00'

17 SPACES @ 9.0' = 153.00'

PROPOSED GYM
FF = 891.00
FF= 877.00

433 WSFU'S

64,674 AC.
EXHIBIT "A"
VERITAS ACADEMY
DOC. No. 2013005297
O.P.R.H.C.

PORTABLE
64' x 24'
FF = 891.60

EXISTING OFFICE
25' x 30'
FF = 892.11

EXISTING OFFICE
25' x 30'
FF = 892.07

EXISTING PORTABLE 8
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

EXISTING PORTABLE 7
(SP-2014-0249D)
64' x 24' (TYP.)
FF=889.70

PORTABLE
64' x 24'
FF = 891.60

DROP-OFF

EXISTING PORTABLE 3
64' x 24' (TYP.)
FF=879.00
1,536 sf

EXISTING PORTABLE 1
64' x 24' (TYP.)
FF=876.50
1,536 sf

EXISTING PORTABLE 2
64' x 24' (TYP.)
FF=872.00
1,536 sf

EXISTING PORTABLE 4
64' x 24' (TYP.)
FF=874.00
1,536 sf

EXISTING CLASSROOM BLDG
(SP-2014-0249C)
12,915 sf (COVERAGE)
45,212 sf (GSF)
FF=873.50
4-STORIES
SLAB ON GRADE
MAXT HT. = 59'-6"

875
EXISTING COVERED PAVILION
1,960 sf
FF =

SR8

(RECOMMENDED) PROP. 6' TALL WROUGHT IRON FENCE AND GATE

EXISTING DUMPSTER TO REMAIN

EXISTING BIKE RACKS TO REMAIN

EXIST. WW LIFT STATION

WQ

WQTZ

WQTZ

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.
4. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

30 15 0 30 60
SCALE IN FEET

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

SITE PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-SP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP02

SHEET NO. 18 OF 40 SHEETS

SP-

J:\A219\402 - Veritas Gym\Sheets\A219-0402-SP01.dwg
User: jkutac
Last Modified: Oct. 18, 23 - 19:45
Plot Date/Time: Nov. 13, 23 - 10:00:38

SITE PLAN RELEASE NOTES

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE DEVELOPMENT SERVICES DEPARTMENT.
2. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
3. ALL SIGNS MUST COMPLY WITH REQUIREMENTS OF THE LAND DEVELOPMENT CODE (CHAPTER 25-10).
4. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
5. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
6. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN DEVELOPMENT SERVICES DEPARTMENT.
7. A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR PLANNING COMMISSION APPROVED SITE PLANS.
8. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE ON TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.
9. FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
10. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A CONCRETE PERMIT IS REQUIRED.
11. COMPLIANCE WITH THE COMMERCIAL AND MULTI-FAMILY RECYCLING ORDINANCE IS MANDATORY FOR MULTI-FAMILY COMPLEXES WITH 100 OR MORE UNITS AND BUSINESS AND OFFICE BUILDINGS WITH 100 OR MORE EMPLOYEES ON SITE.
12. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.

ADDITIONAL SITE PLAN NOTES

1. CONTRACTOR AND/OR SUBCONTRACTOR SHALL TAKE EVERY PRECAUTION TO NOT DAMAGE CONSTRUCTED CURB AND GUTTER, PAVEMENT AND/OR SIDEWALKS. ANY DAMAGE TO CONSTRUCTED CURB AND GUTTER, PAVEMENT AND/OR SIDEWALKS MAY RESULT IN THE RECONSTRUCTION OF THE DAMAGED AREA(S) BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
2. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E
3. THE PROPERTY IS ZONED PUD AND IS LOCATED IN THE MIXED USE DISTRICT (LOW-MEDIUM DENSITY). THE BASE ZONING DISTRICT FOR THIS TRACT IS GR-MU.
4. THIS PROPERTY IS SUBJECT TO ZONING ORDINANCE NOS. 20130620-077 AND 20141211-177.

COMPATIBILITY STANDARDS NOTES

1. ALL EXTERIOR LIGHTING WILL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL PROPERTY. [SECTION 25-2-1064].
2. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MINIMUM OF TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE. [SECTION 25-2-1067).
3. THE USE OF HIGHLY REFLECTIVE SURFACES, SUCH AS REFLECTIVE GLASS AND REFLECTIVE METAL ROOFS, WHOSE PITCH IS MORE THAN A RUN OF SEVEN (7) TO A RISE OF TWELVE (12), WILL BE PROHIBITED. [SECTION 25-2-1067].
4. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 DBA AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES. [SECTION 25-2-1067).
5. SIDEWALK CROSS-SLOPES CAN BE NO STEEPER THAN 2% AND RUNNING SLOPES CAN BE NO STEEPER THAN 5%.

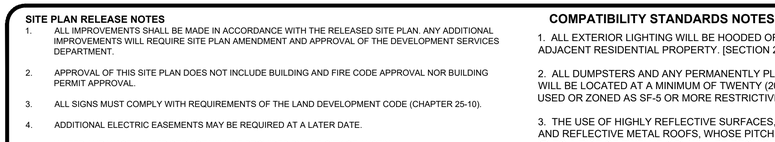
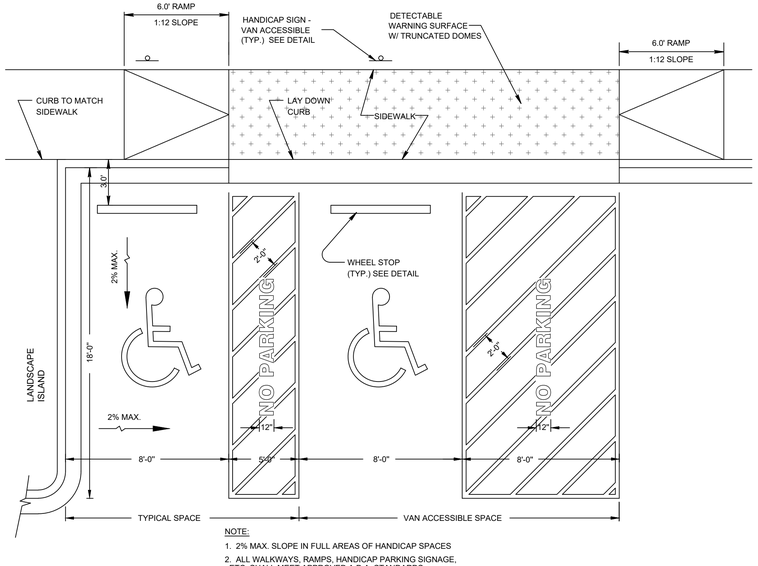
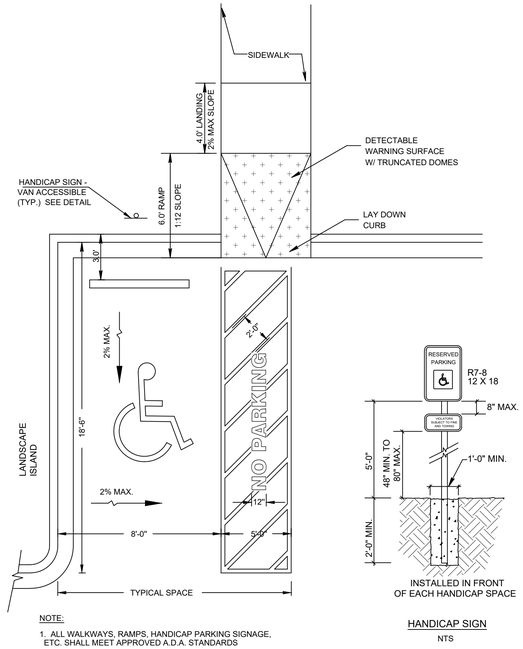


Figure 34:
Examples of fully-shielded light fixtures.



NOTE:
1. 2% MAX. SLOPE IN FULL AREAS OF HANDICAP SPACES
2. ALL WALKWAYS, RAMPS, HANDICAP PARKING SIGNAGE, ETC. SHALL MEET APPROVED A.D.A. STANDARDS

HANDICAP PARKING/RAMP DETAIL
NTS

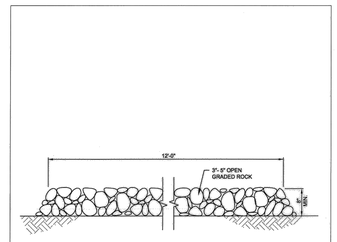


NOTE:
1. ALL WALKWAYS, RAMPS, HANDICAP PARKING SIGNAGE, ETC. SHALL MEET APPROVED A.D.A. STANDARDS

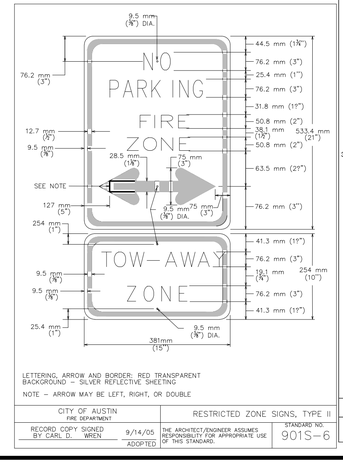
RAMP (PERPINDICULAR) DETAIL
NTS

INSTALLED IN FRONT OF EACH HANDICAP SPACE

HANDICAP SIGN
NTS



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	POND MAINTENANCE ROAD CROSS SECTION
E. J. R.E. 11/9/2004 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 662S-2

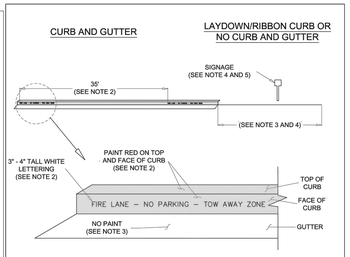


LETTERING, ARROW AND BORDER: RED TRANSPARENT
BACKGROUND – SILVER REFLECTIVE SHEETING
NOTE – ARROW MAY BE LEFT, RIGHT, OR DOUBLE

CITY OF AUSTIN FIRE DEPARTMENT	RESTRICTED ZONE SIGNS, TYPE II
RECORD COPY SIGNED BY CARL D. WREN 9/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 901S-6

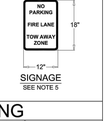
CURB AND GUTTER

LAYDOWN/RIBBON CURB OR NO CURB AND GUTTER



NOTE:
1. ALL CURBS TOUCHING THE FIRE LANE AS SHOWN ON THE STRIPING PLAN SHALL BE STRIPED AS SHOWN ON THIS DETAIL.
2. TOP AND FACE OF CURB PAINTED RED WITH 3" - 4" TALL WHITE LETTERS ON THE FACE OF CURB "FIRE LANE - NO PARKING - TOW AWAY ZONE" EVERY 35'.
3. NO PAINT ON GUTTERS, PAVEMENT, OR LAYDOWN CURBS.
4. SIGNAGE MAY BE REQUIRED IN AREAS WHERE THE CURB FOR A FIRE LANE DOES NOT EXIST.
5. WHERE REQUIRED, SIGNS SHALL BE SPACED NO MORE THAN 50' APART AND COMPLY WITH SECTION D103.6 OF THE INTERNATIONAL FIRE CODE.

WHITE REFLECTIVE BACKGROUND RED LETTERING AND BORDER



SIGNAGE
SEE NOTE 5

FIRE LANE STRIPING	
Travis County Fire Marshal's Office	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 900-FLS-TC
	N.T.S. STANDARD DETAIL

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
SITE PLAN NOTES & DETAILS
13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-SP NOTES01.DWG

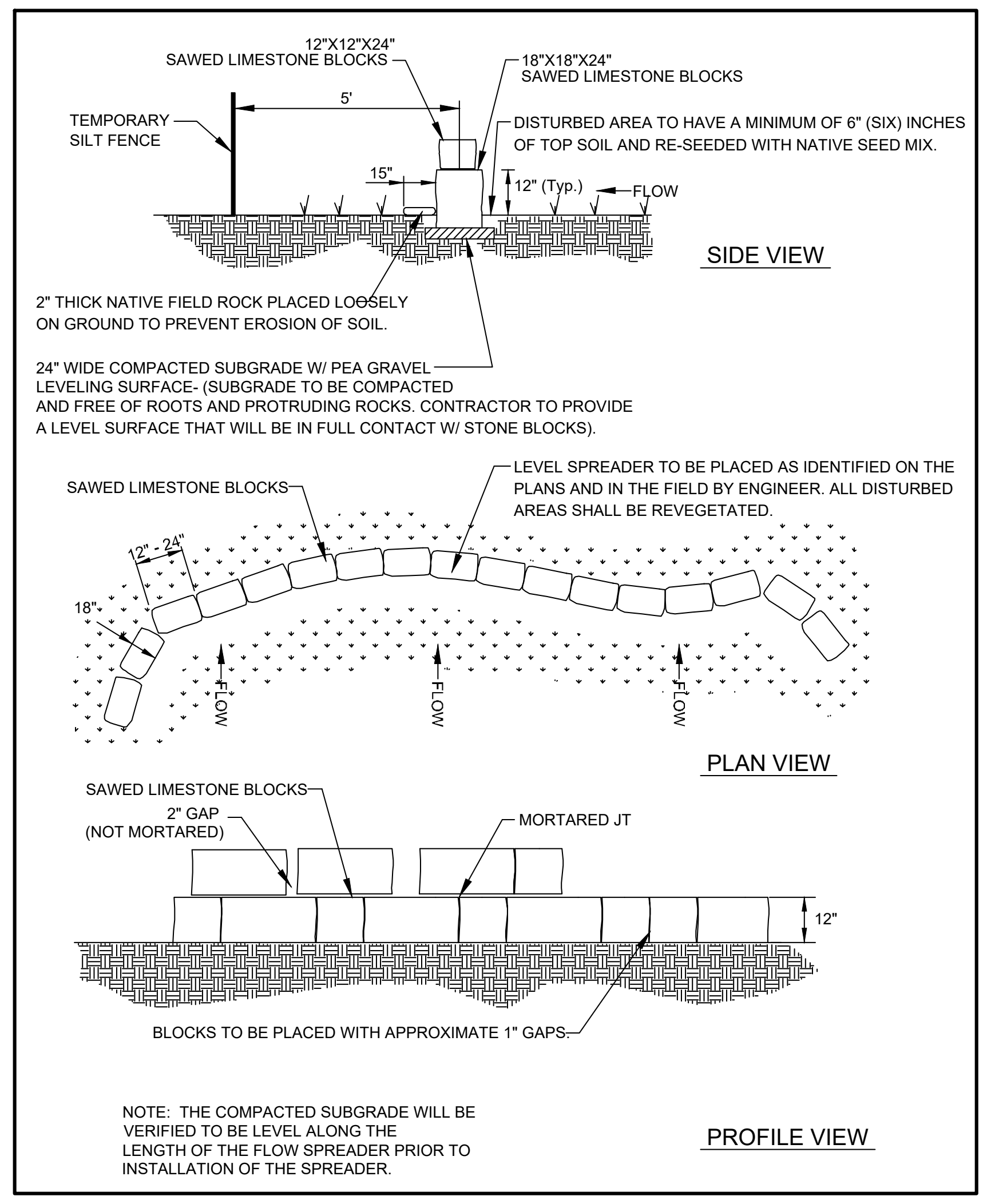
STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

SP04

SHEET NO. 20 OF 40 SHEETS



NOTE: THE COMPACTED SUBGRADE WILL BE VERIFIED TO BE LEVEL ALONG THE LENGTH OF THE FLOW SPREADER PRIOR TO INSTALLATION OF THE SPREADER.

LEVEL SPREADER DETAIL

NOT TO SCALE

N

30 15 0 30 60
SCALE IN FEET

LEGEND

PROPOSED	EXISTING	
━━ ━ ━ ━━		SITE PROPERTY BOUNDARY
—— — — ——		ADJ. PROPERTY BOUNDARY
— — — —	— — — —	EASEMENT LINE
—872—	– –872– –	SURVEYED CONTOUR LINE
	— 872 —	GIS CONTOUR LINE
———— · · ————		DRAINAGE SWALE
×800		ELEVATION ONLY
×800FG		FINISHED GROUND
×800HP		HIGH POINT
×800NG		NATURAL GROUND
×800TW		TOP OF WALL
×800BW		BOTTOM OF WALL
×800FL		FLOW LINE
×800TG		TOP OF GRATE
×800EX		EXISTING ELEVATION
▬		RETAINING WALL
▬		RETAINING W/ FENCE
▬		GRAVITY RETAINING WALL
▨	▨	CONCRETE SIDEWALK
▨	▨	DECOMPOSED GRANITE
▦		GRASSCRETE PAVEMENT
☒		DECK
— WW —	— WW —	WASTEWATER LINE
— FM —	— FM —	WASTEWATER FORCE MAIN
◉	○	WASTEWATER MANHOLE
— WL —	— WL —	WATER LINE
◐	◎	FIRE HYDRANT
●	⊗	WATER VALVE
— ST —	— ST —	STORMSEWER LINE
◎	○	STORMSEWER MANHOLE
▭	▭	CURB INLET
▦		GRATE INLET
	○ 2743	TREE TO REMAIN

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
3. ALL SIDEWALKS ADJACENT TO BACK OF CURB SHALL BE 5' WIDE. ALL OTHER SIDEWALKS SHALL BE 4' WIDE UNLESS OTHERWISE NOTED.
4. ALL SPOT ELEVATIONS ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
5. ALL SIDEWALKS SHALL HAVE A MAX. RUNNING SLOPE OF 5%.
6. ALL SIDEWALKS SHALL HAVE A MAX. CROSS SLOPE OF 2%.
7. RAMPS SHALL NOT EXCEED 8.33%. RAMPS LONGER THAN 6' REQUIRE HANDRAILS. RAMPS LONGER THAN 30' REQUIRE A LEVEL LANDING.
8. ALL PAVEMENT SHALL BE CONCRETE WITH CURB AND GUTTER.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

GRADING PLAN 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-GP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED
PROFESSIONAL ENGINEER
10-18-2023

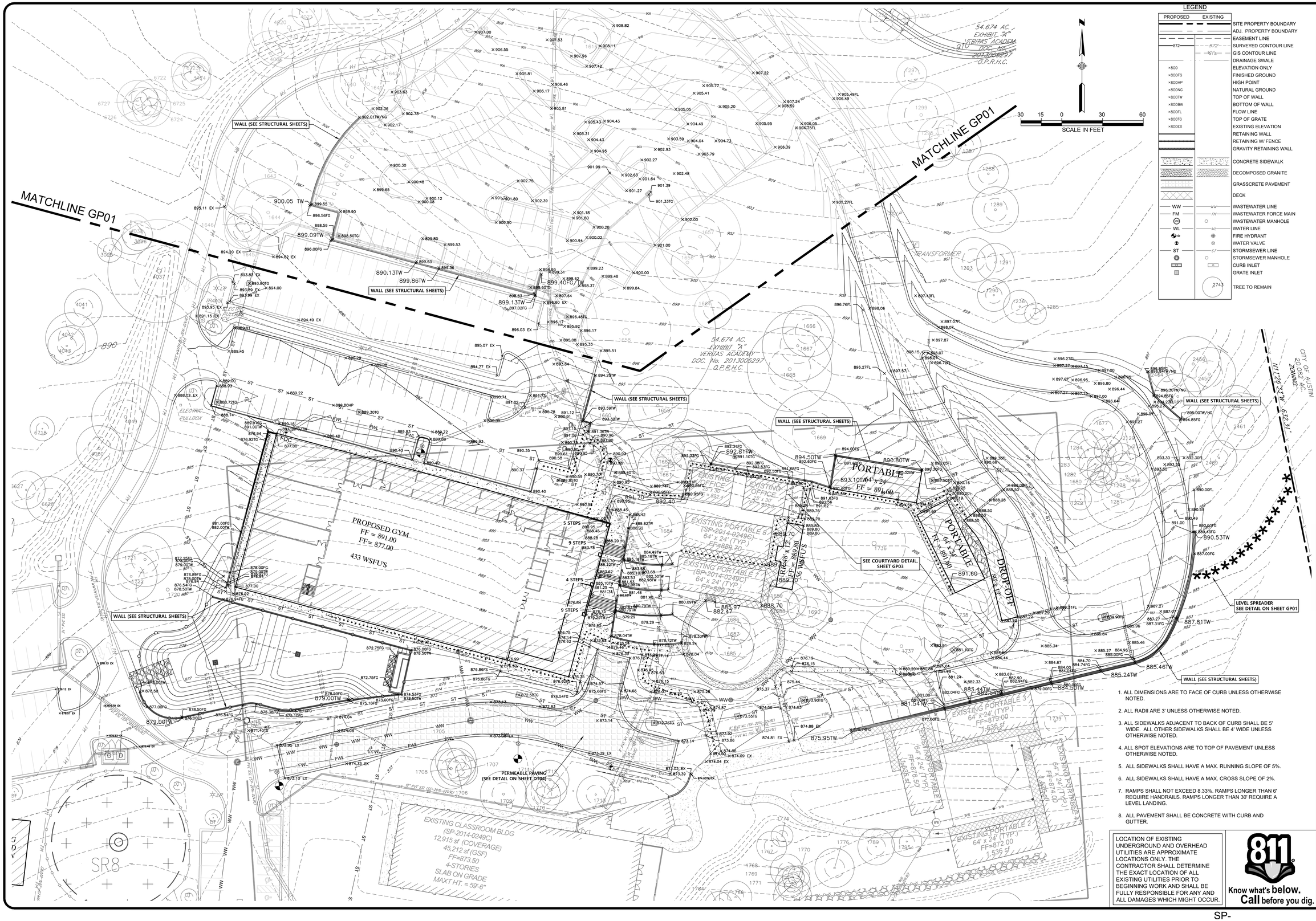
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER:
A219-0402

GP01

SHEET NO.
21
OF 40 SHEETS

I:\A219\402 - Veritas Gym\Sheets\A219-0402-GP01.dwg
User: dmurray
Last Modified: Nov. 13, 23 - 14:15
Plot Date/Time: Nov. 13, 23 - 14:16:45



LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
872	872	SURVEYED CONTOUR LINE
	871	GIS CONTOUR LINE
		DRAINAGE SWALE
×800		ELEVATION ONLY
×800FG		FINISHED GROUND
×800HP		HIGH POINT
×800NG		NATURAL GROUND
×800TW		TOP OF WALL
×800BW		BOTTOM OF WALL
×800FL		FLOW LINE
×800TG		TOP OF GRATE
×800EX		EXISTING ELEVATION
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE PAVEMENT
		DECK
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
WL	WL	WATER LINE
		FIRE HYDRANT
		WATER VALVE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
	2743	TREE TO REMAIN

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

GRADING PLAN 2

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-GP01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

GP02

SHEET NO. 22 OF 40 SHEETS

PORTABLE
64' x 24'
FF = 891.60

PORTABLE
64' x 24'
FF = 891.60

RR 48' x 12'
FF = 889.80
56 WSFU'S

DROP-OFF
80' x 12'

EXISTING OFFICE
25' x 30'
FF = 892.4

EXISTING OFFICE
25' x 30'
FF = 892.6

EXISTING PORTABLE 8
(SP-2014-0249C)
64' x 24' (TYP.)
FF=889.70

EXISTING PORTABLE 7
(SP-2014-0249C)
64' x 24' (TYP.)
FF=889.70

EXISTING PORTABLE 3
64' x 24' (TYP.)
FF=879.00
1,536 sf

SCALE IN FEET
10 5 0 10 20

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
872	872	SURVEYED CONTOUR LINE
ST	ST	GIS CONTOUR LINE
		DRAINAGE SWALE
×800	×800	ELEVATION ONLY
×800FG	×800FG	FINISHED GROUND
×800HP	×800HP	HIGH POINT
×800NG	×800NG	NATURAL GROUND
×800TW	×800TW	TOP OF WALL
×800BW	×800BW	BOTTOM OF WALL
×800FL	×800FL	FLOW LINE
×800TG	×800TG	TOP OF GRATE
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		GRASSCRETE PAVEMENT
		DECK
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
MH		WASTEWATER MANHOLE
WL	WL	WATER LINE
		FIRE HYDRANT
		WATER VALVE
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
2743		TREE TO REMAIN

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

GRADING PLAN - COURTYARD DETAIL

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-GP01.DWG

STATE OF TEXAS
REESE B HURLEY
88211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

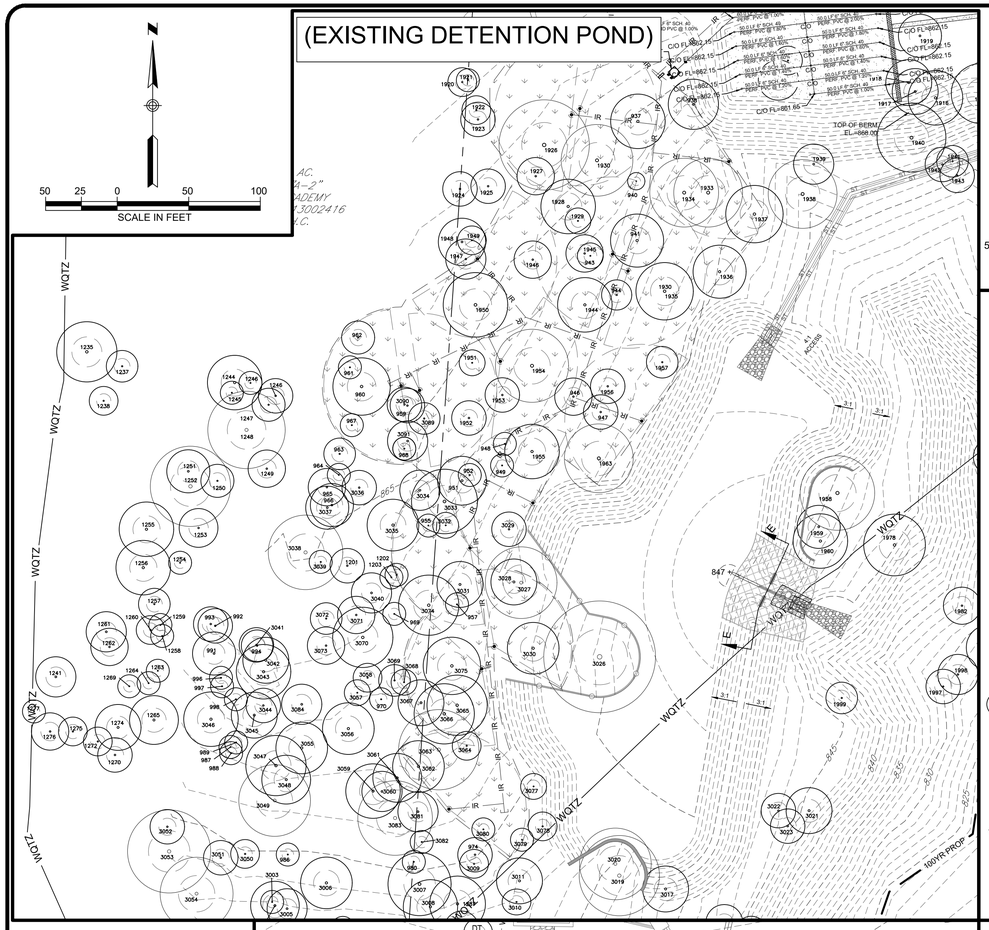
JOB NUMBER: A219-0402

GP03

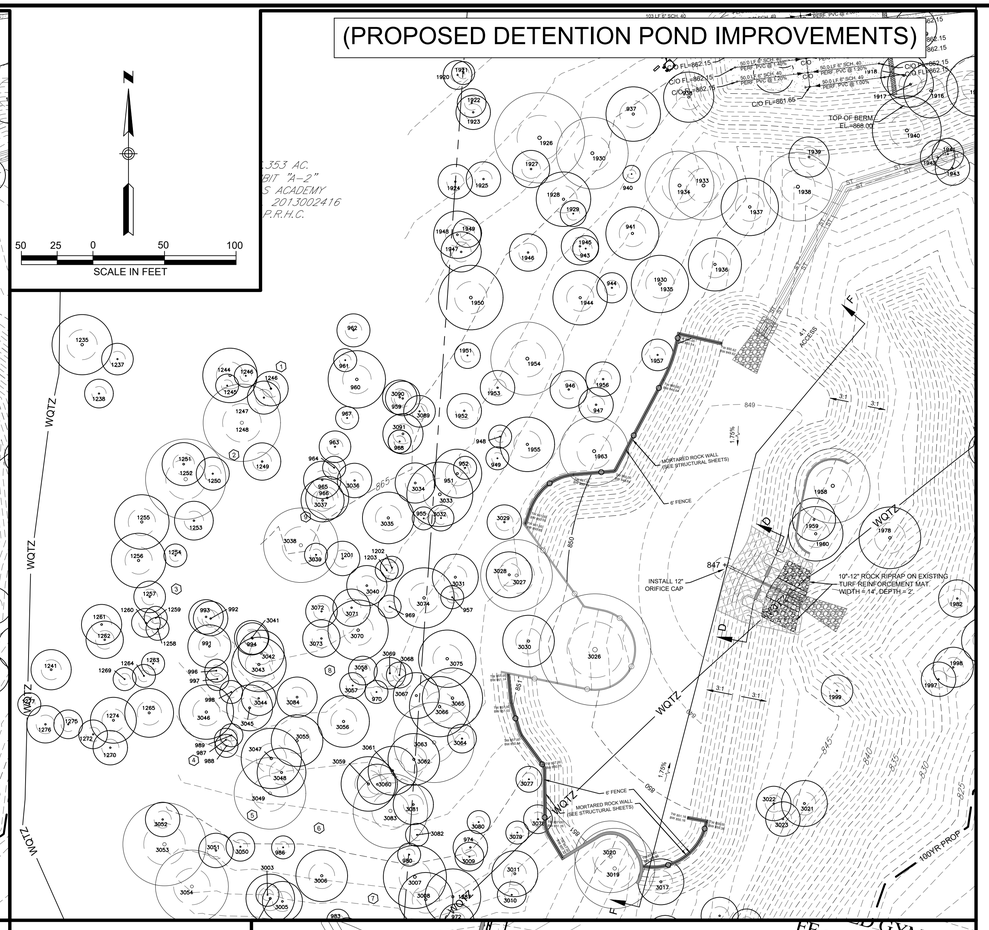
SHEET NO. 23 OF 40 SHEETS

J:\A219\402 - Veritas Gym\Sheets\A219-0402-GP01.dwg
User: jkunsc
Last Modified: Nov. 09, 23 - 18:29
Plot Date/Time: Nov. 13, 23 - 10:04:47

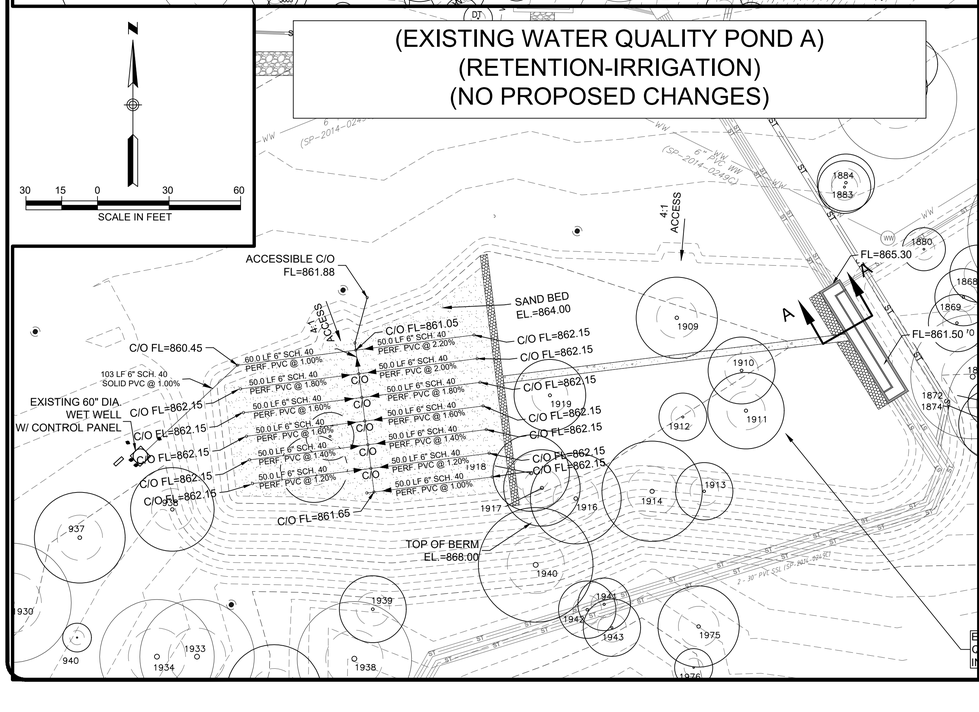
(EXISTING DETENTION POND)



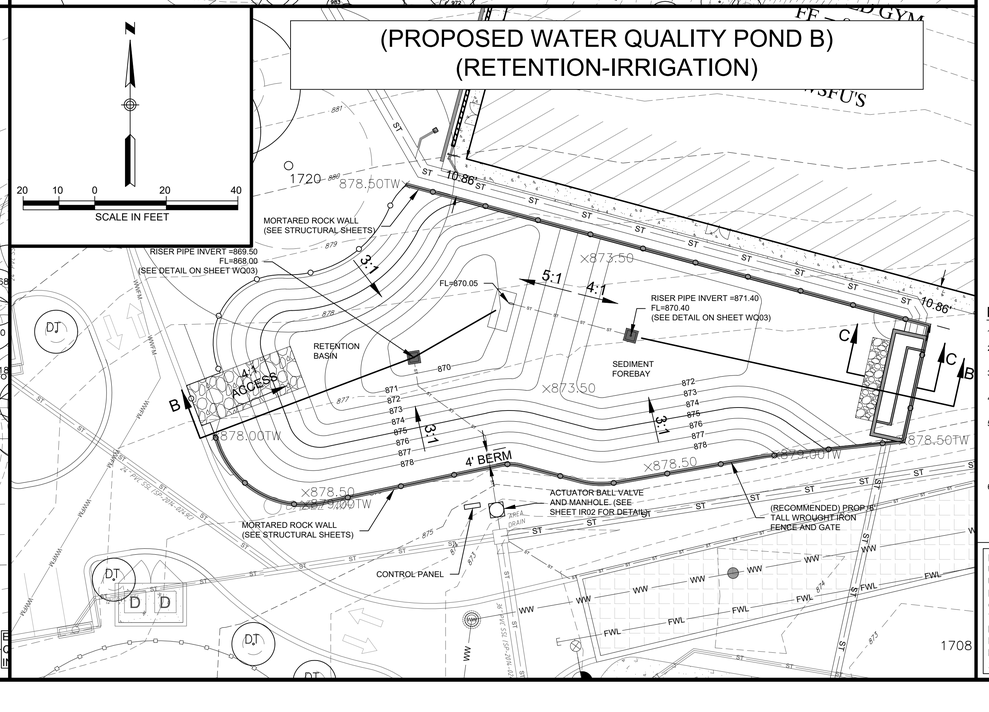
(PROPOSED DETENTION POND IMPROVEMENTS)



(EXISTING WATER QUALITY POND A)
(RETENTION-IRRIGATION)
(NO PROPOSED CHANGES)



(PROPOSED WATER QUALITY POND B)
(RETENTION-IRRIGATION)



LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		PAVER/BRICK SIDEWALK
		POROUS CONCRETE
		GRASSPAVE2 FIRE LANE
		PAVER/BRICK ROADWAY
		RIPRAP ROAD
		COARSE-FINISH CONCRETE
		DECK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FENCE
		FENCE
		PHASE LINE
872	872	SURVEYED CONTOUR LINE
872	872	GIS CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
WQBZ		WATER QUALITY BUFFER ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
25YR PROP	25YR EX	25 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
WW		WASTEWATER MANHOLE
	WW	WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
RWL	RWL	RECLAIMED WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
SWL		SPRINKLER WATER LINE
IR		IRRIGATION LINE
FD		FRENCH DRAIN LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		AIR RELEASE VALVE
	W	WATER METER
		FDC
ST	ST	STORMSEWER LINE
RD		ROOF DRAIN
CRD		CONDENSATE DRAIN
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
GAS	GAS	GAS LINE
NG	NG	NATURAL GAS
PG	PG	PROPANE GAS
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
OU	OU	OVERHEAD UTILITY
FO	FO	FIBER OPTIC
	2743	TREE TO REMAIN
	IRL	1/2" REBAR WITH ILLEGIBLE CAP FOUND
	IRP	1/2" REBAR WITH "PAYNE BOUNDARY" CAP FOUND
	IR	1/2" REBAR FOUND (OR AS NOTED)
	IP	1/2" IRON PIPE FOUND (OR AS NOTED)
	SB	SQUARE BOLT FOUND
	CM	CONTROL POINT/BENCHMARK LOCATION
	UP	UTILITY POLE
	MP	METAL ELECTRIC TRANSMISSION LINE POLE
	GW	GUY WIRE
	B	BOLLARD
	EM	ELECTRIC MANHOLE
	LP	LIGHT POLE
	S	SIGN
	UV	UTILITY VAULT

NOTES:

1. ALL WORK SHALL BE PERFORMED WITHIN SITE LIMITS OF CONSTRUCTION.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR POSITIVE DRAINAGE IN SEDIMENT BASIN AREA.
3. EMBANKMENT SHALL BE INSTALLED IN LIFTS AND COMPACTED PER GEOTECHNICAL REPORT.
4. CONTRACTOR TO OVER EXCAVATE IN POND AREAS AS REQUIRED FOR PLACEMENT OF TOPSOIL AND LINER PLACEMENT.
5. FOLLOWING INSTALLATION OF GEO-MEMBRANE POND LINER, NO HEAVY EQUIPMENT SHALL BE PERMITTED TO BE USED WITHIN WATER QUALITY POND. POND STRUCTURES SHOULD BE INSTALLED PRIOR TO INSTALLATION OF GEO-MEMBRANE LINER. GEO-MEMBRANE LINER SHALL BE ANCHORED TO STRUCTURES (RETAINING WALLS AND SPLITTER BOXES) PER MANUFACTURER'S RECOMMENDATIONS.
6. WATER QUALITY POND B INSTALLATION SHALL COMPLY WITH QA/QC PLAN PREPARED BY MLA LABS, DATED 10/12/2023 TO BE PLACED ON FILE WITH THE DEVELOPMENT SERVICES DEPARTMENT.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
DETENTION POND & WATER QUALITY PLAN
13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-WQ01.DWG

STATE OF TEXAS
REESE B HURLEY
99211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

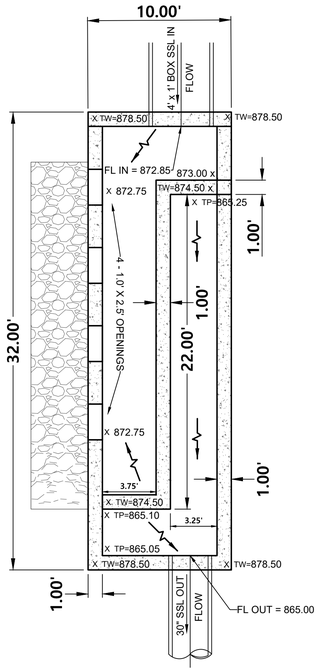
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

WQ01

SHEET NO. 24 OF 40 SHEETS

SP-

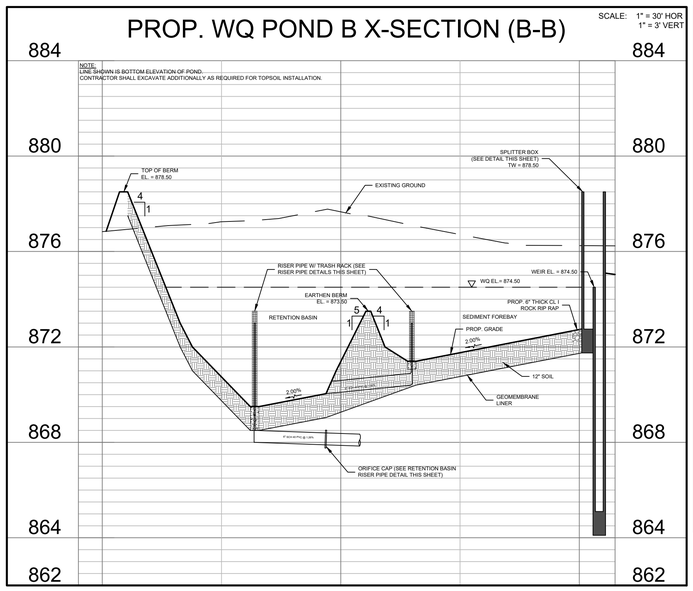


PROP. WQ POND B SPLITTER BOX DETAIL

SCALE: 1" = 5'

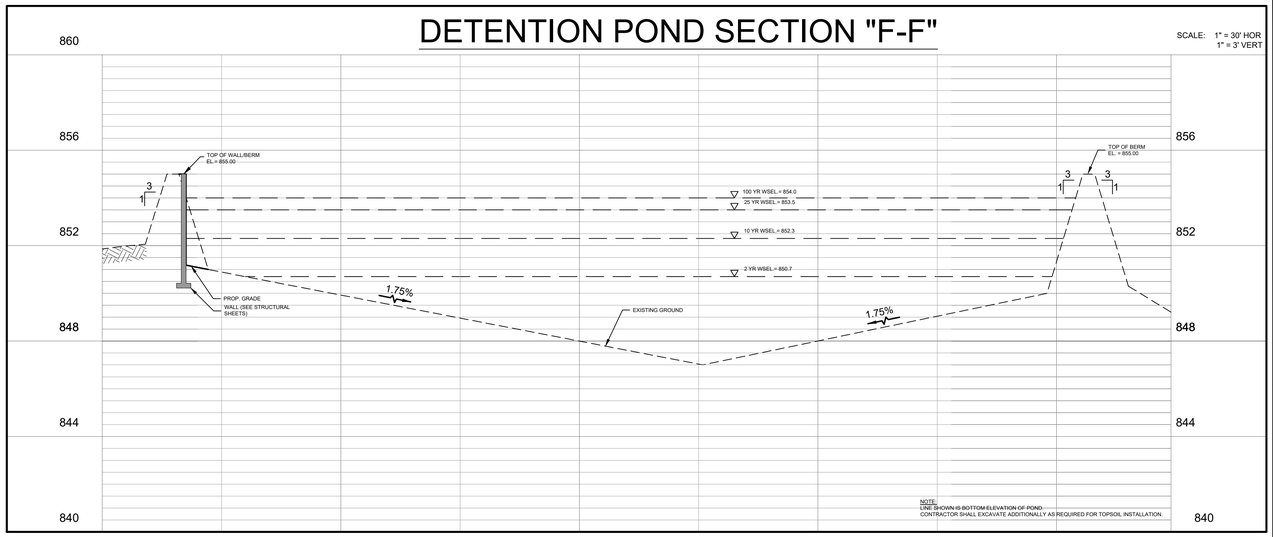
PROP. WQ POND B X-SECTION (B-B)

SCALE: 1" = 30' HOR
1" = 3' VERT



DETENTION POND SECTION "F-F"

SCALE: 1" = 30' HOR
1" = 3' VERT



THE PROPOSED WATER QUALITY POND REQUIRES A GEO-MEMBRANE LINER PER SECTION 1.6.7.5 (A)(2.C) OF THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL.

MINIMUM GEOMEMBRANE LINER REQUIREMENTS:

1) ALL GEOMEMBRANE LINER CONSTRUCTION MUST MEET THE APPLICABLE REQUIREMENTS OF THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL, SECTION 1.6.2.C. BASIN LINERS.
2) GEOMEMBRANE LINERS MUST HAVE: A MINIMUM THICKNESS OF THIRTY (30) MILS AND BE ULTRAVIOLET RESISTANT, A MINIMUM UNIT WEIGHT OF 8 OZ./SQ. YD., A MINIMUM PUNCTURE STRENGTH OF 125 LBS., A MINIMUM MULLEN BURST STRENGTH OF 400 PSI, AND A MINIMUM TENSILE STRENGTH OF 200 LBS.
3) ALL GEOMEMBRANE LINER CONSTRUCTION, INSTALLATION, AND TESTING MUST COMPLY WITH THE REQUIREMENTS AND GUIDELINES SPECIFIED IN THE QA/QC PLAN PUBLISHED BY THE MANUFACTURER. THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S INSTALLATION RECOMMENDATIONS FOR REVIEW BY THE GEOTECHNICAL ENGINEER.
4) THE OWNER OR CONTRACTOR MUST RETAIN A QUALIFIED THIRD PARTY / INDEPENDENT TESTING LABORATORY FOR TESTING OF THE GEOMEMBRANE LINER AS SPECIFIED BY THE QA/QC PLAN. THE THIRD PARTY LABORATORY SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF THE REQUIRED SOILS AND LINER EVALUATION REPORT (SLER), AS DESCRIBED IN SECTION 1.6.2 C. 1. I.

GEOTEXTILE FABRIC SPECIFICATIONS

Property	Test Method	Unit	Specification
Material	Nonwoven geotextile fabric		
Unit Weight	Oz/Sq. Yd.	8 (min.)	
Filtration Rate	In/Sec	0.08 (min.)	
Puncture Strength	ASTM D-751 (Modified)	Lb.	125 (min.)
Mullen Burst Strength	ASTM D-751	Psi	400 (min.)
Tensile Strength	ASTM D-1682	Lb.	200 (min.)
Equiv. Opening Size	US Standard Sieve	No.	80 (min.)

Equivalent methods for protection of the geomembrane liner will be considered by the Environmental and Conservation Services Department on a case by case basis. Equivalency will be judged on the basis of ability to protect the geomembrane from puncture, tearing and abrasion.

Source: City of Austin

Figure 1.4.5.K.1

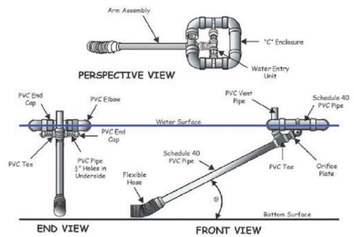


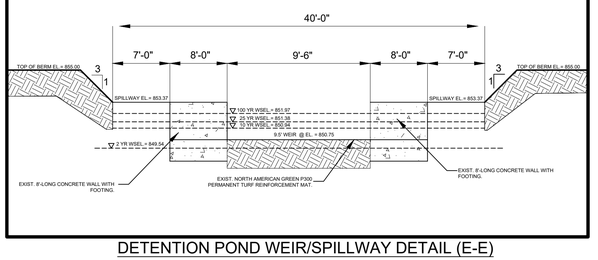
Figure 6.64a Schematic of a skimmer. from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

TEMPORARY DEWATERING SKIMMMER

NO SCALE

(EXISTING SPILLWAY)

(WSEL CALCULATIONS USE PRE-ATLAS 14 RAINFALL INTENSITY DATA.)

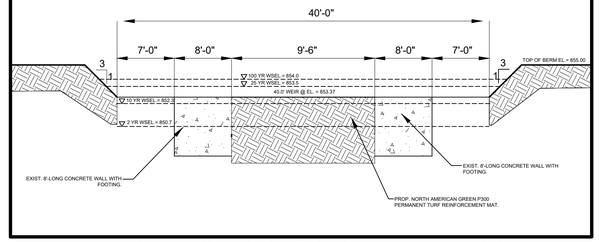


DETENTION POND WEIR/SPILLWAY DETAIL (E-E)

NTS

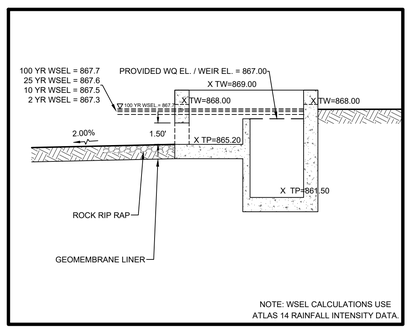
(PROPOSED SPILLWAY)

(WSEL CALCULATIONS USE ATLAS 14 RAINFALL INTENSITY DATA.)



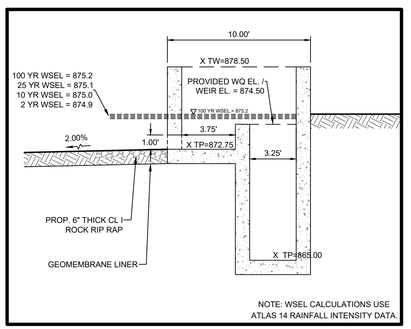
DETENTION POND WEIR/SPILLWAY DETAIL (D-D)

NTS



EXIST. WQ POND A SPLITTER BOX X-SECTION "A-A"

SCALE: 1" = 5'

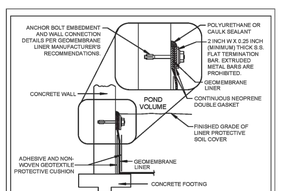


PROP. WQ POND B SPLITTER BOX X-SECTION "C-C"

SCALE: 1" = 5'

NOTES:

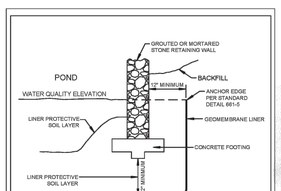
1. THE POND BOTTOM SHOULD BE MOWED AT LEAST TWICE A YEAR. VEGETATION GROWING WITHIN THE BASINS MUST NOT BE ALLOWED TO EXCEED 18 INCHES IN HEIGHT.
2. SILT REMOVED FROM THE BASIN AS A RESULT OF MAINTENANCE SHOULD BE DISPOSED OF ON SITE IF PROPERLY STABILIZED ACCORDING TO PRACTICES OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL CRITERIA OF THE CITY OF AUSTIN.
3. ALL EARTHEN EMBANKMENTS AND POND BOTTOMS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH COA STANDARD SPECIFICATIONS. FOR THE PROPOSED WATER QUALITY POND, THE POND BOTTOM NEED NOT BE COMPACTED TO 95% DUE TO POND LINER CONSTRUCTION PER DCM 1.2.4 8. a. i.
4. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
5. REFER TO STRUCTURAL DETAILS (BY OTHERS) FOR ALL RETAINING WALLS AND ASSOCIATED FOOTINGS. STRUCTURAL DETAILS FOR WALLS EXCEEDING 4' IN HEIGHT MUST BE SUBMITTED FOR REVIEW AND BE APPROVED BY BUILDING REVIEW PRIOR TO ISSUANCE OF BUILDING PERMIT.
6. EXPANSION JOINTS ON FREESTANDING WALLS SHALL HAVE WATERTIGHT SEALS. THE PROPOSED WATER QUALITY POND WALLS AND BOTTOM SHALL BE LEAK-PROOF AS DICTATED BY THE CITY'S TESTING REQUIRMENTS FOR SOS PONDS.
7. FOLLOWING INSTALLATION OF GEO-MEMBRANE POND LINER, NO HEAVY EQUIPMENT SHALL BE PERMITTED TO BE USED WITHIN WATER QUALITY POND. POND STRUCTURES SHOULD BE INSTALLED PRIOR TO INSTALLATION OF GEO-MEMBRANE LINER. GEO-MEMBRANE LINER SHALL BE ANCHORED TO STRUCTURES (RETAINING WALLS, SPLITTERS BOXES, GABION FOOTING) PER MANUFACTURER'S RECOMMENDATIONS.
8. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S RECOMMENDATIONS FOR ALL POND LINER HANDLING AND INSTALLATION PROCEDURES INCLUDING ANCHORING TO STRUCTURES AND LINER PENETRATIONS.
9. ALL PIPE CONNECTIONS TO WATER QUALITY POND STRUCTURES SHALL BE WATERTIGHT.
10. ALL JOINT FITTINGS ASSOCIATED WITH PIPES THAT CONNECT TO THE WATER QUALITY POND SPLITTER BOX STRUCTURE AT OR BELOW AN ELEVATION OF 977.50 FT. SHALL BE WATERTIGHT.
11. PROVIDE A SIGN AT THE WET WELL DISPLAYING THE NAME AND PHONE NUMBER OF A RESPONSIBLE PARTY TO CONTACT IF ALARM IS ACTIVATED.
12. STORM WATER MANAGEMENT PONDS THAT ARE CONSIDERED DAMS AS DEFINED IN SECTION 8.3.3 OF THE DRAINAGE CRITERIA MANUAL MUST BE VEGETATED WITH GRASSES THAT DO NOT EXCEED 12 INCHES IN HEIGHT AND CAN BE MOWED AS FREQUENTLY AS WEEKLY. EXAMPLES INCLUDE BERMUDA GRASS AND BUFFALO GRASS.



NOTES:

1. THIS SPECIFICATION IS FOR SUBMERGED GEOMEMBRANE LINER TERMINATIONS ON CONCRETE WALLS ONLY.
2. ALL TERMINATION BATTENS AND FASTENERS MUST BE STAINLESS STEEL (SS). THE TERMINATION BAR DETAIL MUST HAVE A MINIMUM THICKNESS OF 1/4" (ONE QUARTER INCH) AND MINIMUM WIDTH OF 2" (TWO INCHES). EXTRUDED METAL BARS ARE PROHIBITED.
3. GEOMEMBRANE LINERS MUST MEET THE MINIMUM GUIDELINES OF ECM 1.6.2 AND BE INSTALLED PER THOSE GUIDELINES UNDER THE SUPERVISION OF A LICENSED GEOTECHNICAL ENGINEER.
4. ALL GASKETS, SEALANTS, CONCRETE WALL PREPARATION, AND ANCHORS MUST BE INSTALLED PER SPECIFICATIONS BY A CERTIFIED TECHNICIAN FOR THAT SPECIFIC MANUFACTURER.
5. PROTECTIVE SOIL COVER MUST MEET THE GUIDELINES OF ECM 1.6.2. THE TERMINATION BAR SHOULD BE ANCHORED JUST BELOW THE FINISH GRADE OF THE PROTECTIVE COVER.
6. GEOTEXTILE SHALL MEET MINIMUM MANUFACTURERS GUIDELINES AND ECM 1.6.
7. CONCRETE RETAINING WALLS MUST BE WATER-TIGHT AND PROVIDE WATERSTOPS PER STANDARD SPECIFICATION #446.
8. DEVIATIONS FROM THIS DETAIL MAY BE PERMITTED PER MANUFACTURER GUIDELINES IF APPROVED BY THE CITY'S LOCATION AND A LICENSED GEOTECHNICAL ENGINEER.

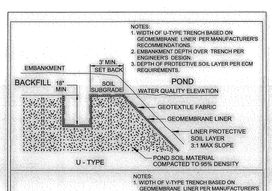
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	CONCRETE WALL GEOMEMBRANE LINER ATTACHMENT	STANDARD NO.
3/23/2023 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	661-4A



NOTES:

1. RETAINING WALL AND FOOTING PER ENGINEERING DESIGN.
2. PROTECTIVE SOIL LAYER PER ECM 1.6.2.
3. GEOMEMBRANE LINER MUST BE LOCATED UNDERNEATH THE FOOTING AND BEHIND THE RETAINING WALL.
4. AT A MINIMUM, THE GEOMEMBRANE LINER MUST EXTEND UP TO THE WATER QUALITY ELEVATION BEHIND THE RETAINING WALL.
5. GEOMEMBRANE LINER MUST BE ANCHORED BEHIND THE WALL USING ACCEPTABLE METHOD SHOWN IN STANDARD DETAIL 661-5.
6. FREE STANDING DRY STACKED ROCK WALLS ARE NOT ACCEPTABLE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	GROUTED OR MORTARED STONE RETAINING WALL GEOMEMBRANE LINER	STANDARD NO.
3/23/2023 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	661-4B



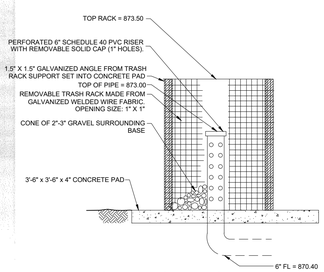
NOTES:

1. WIDTH OF U-TYPE TRENCH BASED ON GEOMEMBRANE LINER PER MANUFACTURER'S RECOMMENDATIONS.
2. EMBANKMENT DEPTH OVER TRENCH PER ENGINEER'S DESIGN.
3. DEPTH OF PROTECTIVE SOIL LAYER PER ECM REQUIREMENTS.

NOTES:

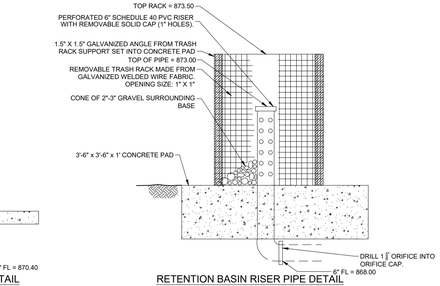
1. WIDTH OF V-TYPE TRENCH BASED ON GEOMEMBRANE LINER PER MANUFACTURER'S RECOMMENDATIONS.
2. EMBANKMENT DEPTH OVER TRENCH PER ENGINEER'S DESIGN.
3. DEPTH OF PROTECTIVE SOIL LAYER PER ECM REQUIREMENTS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ANCHOR TRENCHES FOR GEOMEMBRANE LINERS	STANDARD NO.
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	661-5



SEDIMENT FOREBAY RISER PIPE DETAIL

NTS



RETENTION BASIN RISER PIPE DETAIL

NTS

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

POND SECTIONS AND DETAILS

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/1/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-WQ01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED
PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building I, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

WQ02

SHEET NO. 25 OF 40 SHEETS

SP-

SLAT — STORMWATER LOAD ANALYSIS TOOL 2.1

Quick Guide

1. Enable Macros in the worksheet.
2. Click "Restore Defaults" button to the right.
3. Fill all **yellow cells** with project specifics, moving from top to bottom.
4. Click "View Full Results" button.
5. Project Passes if Green "COMPLIANT" button appears.

Find the **Full User Manual** at austintexas.gov/department/stormwater-management

Questions? Email SLAT@austintexas.gov

Click Here To **Restore Defaults** — For a New Analysis

Click Here To **View Results**

KEY: Required User Input | **Key User Input** | Internal Calculation | Error | Calculator Output | Does Not Apply

Step 1: Input site characteristics in yellow highlighted cells

Veritas 02	Dylan Murray	8/7/2023	SLAT 2.1 - 08/2022

Is your site within the Barton Springs Zone (BSZ)? **Yes**

How many drainage areas, n_{drain}, does your site have? **2**

	Drainage Area A	Drainage Area B
Drainage area to the control, A_c (acres)	4.37	8.98
Base impervious cover of the drainage area, IC_B (%)	0.0	0.0
Developed impervious cover of the drainage area, IC_D (%)	62.3	37.1

Step 2: Input SCM characteristics in yellow highlighted cells

	Drainage Area A	Drainage Area B
SCM 1 (First in Series)	*SCM A1*	*SCM B1*
SCM Type	Retention Basin	Retention Basin
Is SCM 1 **off-line**?	Yes (Off-Line)	Yes (Off-Line)
What is the Water Quality Volume, *WQV* (inches) [aka Capture Depth]	1.06	1.67
Minimum water quality volume allowed (in)	0.92	0.67
SCM 1 Actual Volume (ft^3)	16815	54438
Do you know the **drawdown time** or the **flow rate**?	Drawdown Time	Drawdown Time
Drawdown Time, *DDT* (hrs) [tot. time to empty full SCM	60	60
Flow Rate (gpm) [use only for "alternative" controls]		
Treatment Rate, Ω (in/hr)	0.018	0.028
Do you already know the **runoff capture efficiency**?	No	No
User Entered Runoff Capture Efficiency, RCE (%)		
Runoff Capture Efficiency, RCE (%)	92.0%	97.7%
Conveyance		
How is effluent from SCM 1 discharged?	Pumped	Pumped
Delay after end of rainfall before discharging SCM 1 (hrs)	12	12
SCM 2 (Second in Series)	*SCM A2*	*SCM B2*
SCM Type	Infiltration Field	Infiltration Field
Do you know the infiltrated or reused water quantity?	No; infiltrate all routed water	No; infiltrate all routed water
User-entered infilt. water quality volume, WQV_{inf} (in)		
-OR- Percent of yearly runoff infiltrated, RCE_{inf} (%)		
Soil infiltration rate (in/hr)	0.2	0.2
Ratio of drawdown time / irrigation time, for any zone	2	2
Approximate Minimum Field Area (Ac)	0.77	2.50

Texas Commission on Environmental Quality

TSS Removal Calculations for Vegetative Filter Strip 08-16-2023

Project Name: Veritas Academy
Date Prepared: 10/1/2023

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.87	acres
Predevelopment impervious area within the limits of the plan * =	6.50	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs
Number of drainage basins / outfalls areas leaving the plan area =	3	

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

Drainage Basin/Outfall Area No. =	02	
Total drainage basin/outfall area =	8.98	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ =	2989	lbs

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	8.98	acres
A_I =	3.33	acres
A_P =	5.65	acres
L_R =	3903	lbs

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

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.29	
On-site Water Quality Volume =	16278	cubic feet

Calculations from RG-348 — Pages 3-34 to 3-36

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 =	2086	
Total Capture Volume (required water quality volume(s) x 1.20) =	19333	cubic feet
Required Water Quality Volume for retention basin =	19333	cubic feet
Provided Water Quality Volume for retention basin =	87464	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 G48 will show NA.

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

Irrigation Area Calculations:		
Soil infiltration/permeability rate =	0.1	in/hr
Irrigation area =	73333	square feet
	1.68	acres
Provided Irrigation area =	91913	square feet
	2.11	acres

Enter determined permeability rate or assumed value of 0.1

15. Vegetated Filter Strips — Designed as Required in RG-348 — Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.
If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

Texas Commission on Environmental Quality

TSS Removal Calculations for Existing Water Quality Pond 08-16-2023

Project Name: Veritas Academy Gym Addition and campus Improvements
Date Prepared: 10/16/2023

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.87	acres
Predevelopment impervious area within the limits of the plan * =	6.50	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs
Number of drainage basins / outfalls areas leaving the plan area =	3	

The RI pond will provide compensatory water quality for Area D2 (See DMD2).

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

Drainage Basin/Outfall Area No. =	02	
Total drainage basin/outfall area =	8.98	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ =	2989	lbs

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Retention / Irrigation**

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	8.98	acres
A_I =	3.33	acres
A_P =	5.65	acres
L_R =	3903	lbs

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

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.29	
On-site Water Quality Volume =	16278	cubic feet

Calculations from RG-348 — Pages 3-34 to 3-36

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 =	2086	
Total Capture Volume (required water quality volume(s) x 1.20) =	19333	cubic feet
Required Water Quality Volume for retention basin =	19333	cubic feet
Provided Water Quality Volume for retention basin =	87464	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 G48 will show NA.

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

Irrigation Area Calculations:		
Soil infiltration/permeability rate =	0.1	in/hr
Irrigation area =	73333	square feet
	1.68	acres
Provided Irrigation area =	91913	square feet
	2.11	acres

Enter determined permeability rate or assumed value of 0.1

Texas Commission on Environmental Quality

TSS Removal Calculations for Proposed Water Quality Pond 8-16-2023

Project Name: Veritas Academy Gym Addition and campus Improvements
Date Prepared: 10/16/2023

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:
$L_{M\ TOTAL\ PROJECT}$ = 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 =	Hays	
Total project area included in plan * =	14.87	acres
Predevelopment impervious area within the limits of the plan * =	6.50	acres
Total post-development impervious area within the limits of the plan* =	6.50	acres
Total post-development impervious cover fraction * =	0.45	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	5834	lbs
Number of drainage basins / outfalls areas leaving the plan area =	3	

The RI pond will provide compensatory water quality for Area D2 (See DMD2).

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

Drainage Basin/Outfall Area No. =	03	
Total drainage basin/outfall area =	4.37	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.72	acres
Post-development impervious fraction within drainage basin/outfall area =	0.62	
$L_{M\ THIS\ BASIN}$ =	3441	lbs

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Retention / Irrigation**

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	4.37	acres
A_I =	2.72	acres
A_P =	1.65	acres
L_R =	3135	lbs

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

Rainfall Depth =	1.04	inches
Post Development Runoff Coefficient =	0.44	
On-site Water Quality Volume =	7210	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 =	1442	
Total Capture Volume (required water quality volume(s) x 1.20) =	8654	cubic feet
Required Water Quality Volume for retention basin =	8654	cubic feet
Provided Water Quality Volume for retention basin =	18202	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 G48 will show NA.

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

Irrigation Area Calculations:		
Soil infiltration/permeability rate =	0.1	in/hr
Irrigation area =	34416	square feet
	0.79	acres
Provided Irrigation area =	86677	square feet
	1.97	acres

Enter determined permeability rate or assumed value of 0.1

APPENDIX R-5
RETENTION/IRRIGATION POND CALCULATIONS FOR DEVELOPMENT PERMITS
VERITAS ACADEMY
EXISTING WQ POND

DRAINAGE AREA DATA:

DRAINAGE AREA TO CONTROL (DA)	8.98 ac.	
DRAINAGE AREA IMPERVIOUS COVER (IC)	37.08% %	3.33 ac.
CAPTURE DEPTH (CD) = PER SLAT TOOL	1.67 in.	

WATER QUALITY CONTROL CALCULATIONS:	REQUIRED	PROVIDED
THE WATER QUALITY CONTROL IS TO BE		
RETENTION IRRIGATION		
25-YR PEAK FLOW RATE TO CONTROL (Q25)	66.48 cfs	
100-YR PEAK FLOW RATE TO CONTROL (Q100)	98.13 cfs	
WATER QUALITY VOLUME (WQV = CD*DA*3630)	54,438 cf	57,464 cf
RETENTION POND VOLUME	MINIMUM WQV cf	88347 cf
WATER QUALITY ELEVATION	866.79 ft. msl	
ELEVATION OF SPLITTER/OVERFLOW WEIR	MIN. WQ ELEV ft. msl	867.00 ft. msl
LENGTH OF SPLITTER WEIR		53.00 ft
REQUIRED HEAD TO PASS Q100	MAXIMUM 1.0 FT	0.73 ft
POND FREEBOARD PROVIDED TO PASS Q100	MINIMUM 0.25 FT	0.27 ft

Sed/Fil Volume Calculations

ELEV.	AREA (SF)	VOLUME (CF)	POND VOLUME (CF)
864	8169	0	0
865	16065	12117	12117
866	24159	20112	32229
867	26310	25235	57464
868	35457	30884	88347

Pond Hydraulic Calculations

WEIR EQUATION
Q=CLH^1.5

for Q100 =	98.20	cfs
C =	3.0	
L (length of w eir) =	53	ft
H (calc) =	0.73	ft
Q =	98.20	> 98.13 ok

Weir elevation set at 867.00
Top of Pond at 868.00

Pond Drawdown Calculations

Filtration Pond Draw dow n Time (Maximum = 60 hours)	60	hr
Underdrain Orifice Size (diameter)	3.00	in.
Underdrain Orifice Size (area)	7.069	si
Provided Filtration Pond Draw dow n Time (Td)	47.75	hr

APPENDIX R-5
RETENTION/IRRIGATION POND CALCULATIONS FOR DEVELOPMENT PERMITS
VERITAS ACADEMY
PROPOSED WQ POND

DRAINAGE AREA DATA:

DRAINAGE AREA TO CONTROL (DA)	4.37 ac.	
DRAINAGE AREA IMPERVIOUS COVER (IC)	62.33% %	2.72 ac.
CAPTURE DEPTH (CD) = PER SLAT TOOL	1.06 in.	

WATER QUALITY CONTROL CALCULATIONS:	REQUIRED	PROVIDED
THE WATER QUALITY CONTROL IS TO BE		
RETENTION IRRIGATION		
25-YR PEAK FLOW RATE TO CONTROL (Q25)	36.79 cfs	
100-YR PEAK FLOW RATE TO CONTROL (Q100)	53.67 cfs	
WATER QUALITY VOLUME (WQV = CD*DA*3630)	16,815 cf	18,202 cf
RETENTION POND VOLUME	MINIMUM WQV cf	18,202 cf
WATER QUALITY ELEVATION	874.50 ft. msl	
ELEVATION OF SPLITTER/OVERFLOW WEIR	MIN. WQ ELEV ft. msl	874.50 ft. msl
LENGTH OF SPLITTER WEIR		30.00 ft
REQUIRED HEAD TO PASS Q100	MAXIMUM 1.0 FT	0.71 ft
POND FREEBOARD PROVIDED TO PASS Q100	MINIMUM 0.25 FT	0.29 ft

SEDIMENTATION FOREBAY:

ELEV.	AREA (SF)	VOLUME (CF)	CUMULATIVE VOLUME (CF)
871.4	0	0	0
872	1455	436	436
873	3110	2282	2719
873.5	3347	1614	4333

RETENTION:

ELEV.	AREA (SF)	VOLUME (CF)	CUMULATIVE VOLUME (CF)
869.5	0	0	0
870	577	144	144
871	1279	928	1072
872	3457	2368	3440
873	5894	4676	8116
873.50	6502	3099	11215
874	7001	3376	14591
874.50	7444	3611	18202
875	7811	3814	22016
876	8641	8226	30242

Calculations for 100-yr Flows Over Weir

Design Peak Flow Rate (Q100)	53.67 cfs	
Length of Splitter Weir	30.00	
Required Head to Pass Q100	0.71	
Pond Freeboard Provided to Pass Q100	0.29	ft

Pond Drawdown Calculations

Pond Draw dow n Time (Maximum = 60 hours)		60	hr
Underdrain Orifice Size (diameter)	1.5/8"	1.625	in.
Underdrain Orifice Size (area)		2.074	si
Provided Pond Draw dow n Time (Td)		51.55	hr

Note: VFS previously approved with SP-2014-0249C

APPENDIX R-9
VEGETATIVE FILTER STRIP POND CALCULATIONS FOR DEVELOPMENT PERMITS

DRAINAGE AREA AND WATER QUALITY VOLUME DATA:

Drainage Area (DA)	14.670 ac.	
Drainage Area Impervious Cover	44.31 %	6.500 ac
Capture Depth (CD)	1.12 in.	
Total Site Required Water Quality Volume (WQV=CD*DA*3630)	59,642 cf	

VEGETATIVE FILTER STRIP CALCULATIONS:

Drainage Area to Proposed Vegetative Filter Strip	1.222 ac	
Impervious Cover of area treated by Vegetative Filter Strip (Treated IC)	0.446 ac	
Impervious Cover of area treated by Vegetative Filter Strip (Treated IC)	36.50 %	
Soil Type (Type A, B C, D, Amended C, or Amended D)	Amended D	

	Required	Provided
Size of Vegetative Filter Strip per ECM 1.6.7(B) - Figure B-1 = 0.92*DA	1.124 ac	1.320 ac
Width of Vegetative Filter Strip (VFS_{WIDTH})		320 ft
Hydraulic Loading Rate ($HLR_{VFS}=Q_{PEAK}/VFS_{WIDTH}$)		0.0381 cfs/ft
WATER QUALITY CREDIT:		
Impervious Area Factor (IAF = Treated IC/IC)	maximum 1.0	0.069
Percent Infiltration Provided by VFS (I_{VFS}) per ECM 1.6.7.5(B) - Figure B-2		54 %
BMP Design Factor (BMPDF)		
For HLF<0.05 cfs/ft: BMPDF=I_{VFS}/65	maximum 1.0	0.83
For HLR>0.05 and <0.15 cfs/ft: BMPDF = (I_{VFS}/65)*(0.05/HLR_{VFS})	maximum 1.0	N/A
Water Quality Credit (WQC = IAF*BMPDF)	maximum 1.0	0.057004
Water Quality Volume Reduction (WQV*WQC)		3,400 cf

TCEQ Water Quality Calculations Summary Table - Veritas Academy Gym Addition and Campus Improvements

Water Quality Drainage Area	Drainage Area to BMP AC.	Proposed Impervious Area AC.	Pre-Development Impervious Area AC.	Total % IC In Drainage Area	Description
D2	8.98	3.33	0.00	37.08%	Site to existing RI Pond
D3	4.37	2.72	0.00	62.24%	Site to proposed RI Pond
D4	1.22	0.45	0.00	36.89%	No permanent BMP per TCEQ Standards
Total	14.57	6.50	0.00	44.61%	Total Site

Proposed BMP	Required Removal (Lbs.)	Maximum BMP Removal (Lbs.)	Provided Removal (Lbs.)	F
Existing VFS	400	0	0	0
Existing RI Pond	2989	3903	3490	0.89
Proposed RI Pond	2441	3135	2490	0.79
Total	5834	7038	5980	0.85

Existing Water Quality Pond	**Required**	**Provided**
Capture Volume	18,333	57,464 cf
Water Quality Elevation	865.31 ft-elev.	867.00 ft-elev.
Splitter Weir Elevation	865.31 ft-elev.	867.00 ft-elev.

Proposed Water Quality Pond	**Required**	**Provided**
Capture Volume	8,654	18,202 cf
Water Quality Elevation	873.08 ft-elev.	874.50 ft-elev.
Splitter Weir Elevation	873.08 ft-elev.	874.50 ft-elev.

Existing Water Quality Pond - Stage Storage Table

Elevation (FT)	Area (SF)	Average Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
864.00	8,169	0	0	0
865.00	16,065	12,117	12,117	12,117
866.00	24,159	20,112	20,112	32,229
867.00	26,310	25,235	25,235	57,464
868.00	35,457	30,884	30,884	88,347

Proposed Water Quality Pond - Stage Storage Table

Elevation (FT)	Area (SF)	Average Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
869.50	0	0	0	0
870.00	577	289	144	144
871.00	1279	928	928	1,072
872.00	3457	2,368	2,368	3,440
873.00	5894	4,676	4,676	8,116
874.00	7001	6,448	6,448	14,563
874.50	7444	7,223	3,611	18,175
875.00	7811	7,628	3,814	21,988

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
DETENTION POND & WATER QUALITY CALCULATIONS
13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-WQ01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

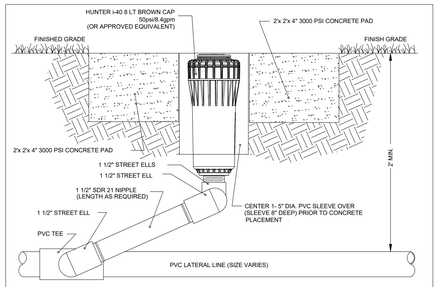
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

WQ03

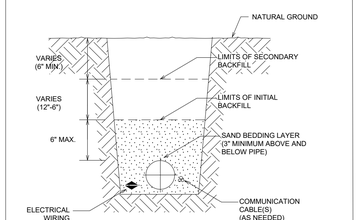
SHEET NO. 26 OF 40 SHEETS

SP-



SWING INSTALLATION DETAIL

NO SCALE



IRRIGATION PIPE BACKFILL DETAIL

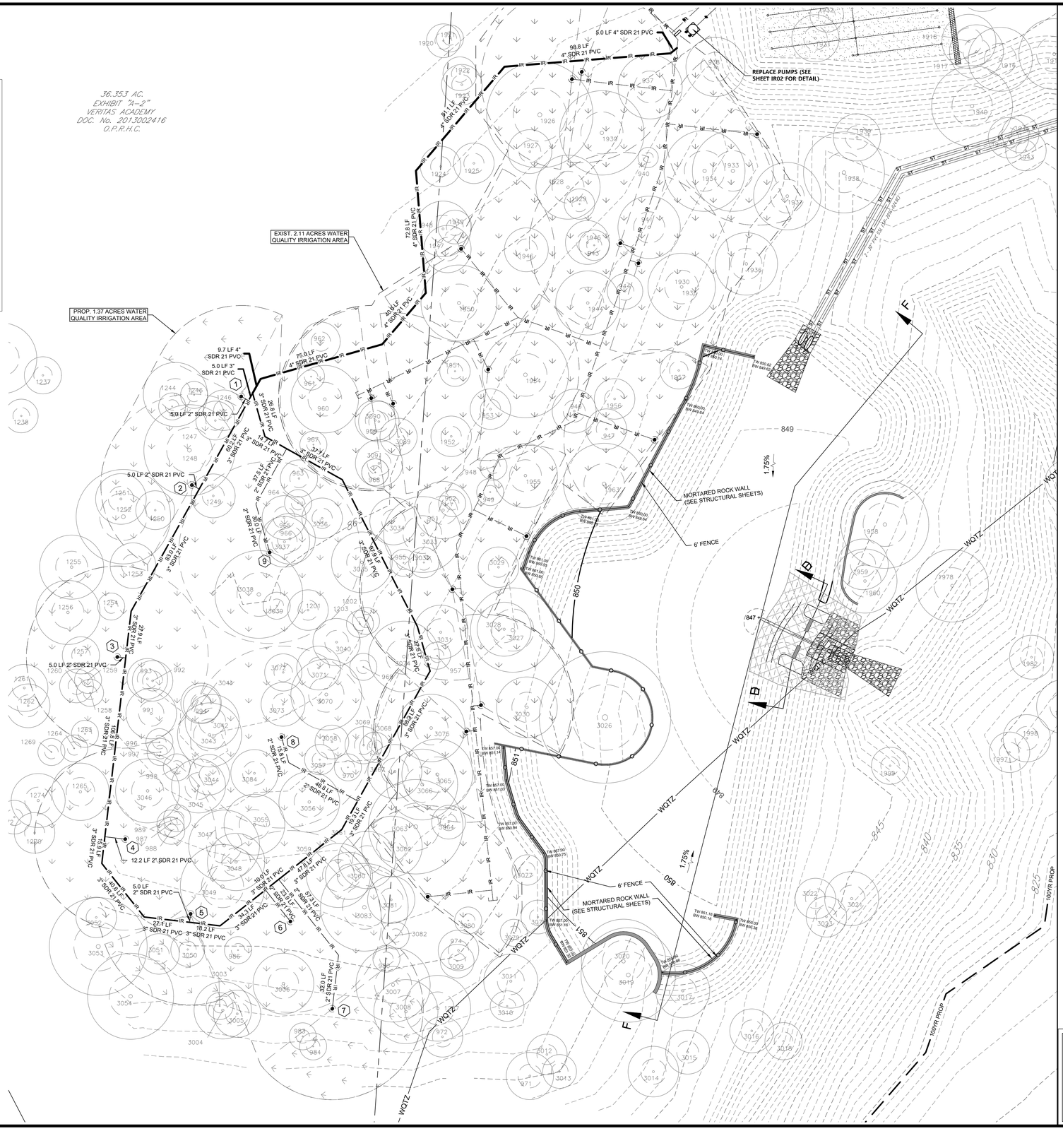
NO SCALE

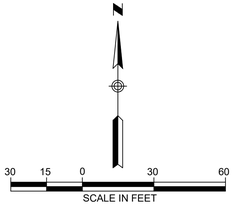
Required Irrigation Calculations

The pump cycles "on" one hour and "off" one hour for a total of 60 hours elasped time to empty the ponds.

Total Water Quality Ponds Volume	75,666	cf
Provided Drawdown Time (Td)	72	hrs
Pump Delay Time	12	hrs
Required Pumping Time (Max)	30	hrs
Required Pumping Rate	314	gpm
Soil Permeability	0.2	in/hr
Application Rate	0.2	in/hr
Required Irrigation Area = (Vol/Td) / App. Rate	3.474	ac.
Provided Irrigation Area	3.480	ac.

Sprinkler Head Point Table		
Sprinkler #	Northing	Easting
1	10030982.99	3060159.26
2	10030930.43	3060129.96
3	10030828.36	3060085.75
4	10030720.25	3060090.45
5	10030675.85	3060129.24
6	10030671.37	3060188.48
7	10030619.58	3060213.35
8	10030780.82	3060183.18
9	10030890.40	3060176.19





LEGEND

PROPOSED	EXISTING	
800	800	CONTOURS
ST	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
IR		4" IRRIGATION LINE
IR		3" IRRIGATION LINE
IR		2" IRRIGATION LINE
		VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		SPRINKLER HEAD
		IRRIGATION FIELD
		TREE TO REMAIN

IRRIGATION NOTES:

1. THE RETENTION BASIN MUST BE EMPTIED WITHIN 72-HOURS AFTER A RAIN EVENT ENDS.

2. IRRIGATION MUST BE INITIATED NO SOONER THAN 12 HOURS AFTER THE RAIN EVENT CEASES.

3. THE IRRIGATION CONTROLLER MUST BE SET TO PROVIDE ALTERNATING, EQUIVALENT IRRIGATION AND REST PERIODS UNTIL THE BASIN IS EMPTIED.

4. THE TIME OF IRRIGATION ON ANY AREA MUST NOT EXCEED THE REST TIME. CONTINUOUS APPLICATION ON ANY AREA MUST NOT EXCEED TWO HOURS.

5. AN ADJUSTABLE RAIN SENSOR MUST BE PROVIDED WHICH WILL NORMALLY BE SET TO TEMPORARILY HALT IRRIGATION DURING RAINFALLS EXCEEDING ONE HALF INCH. THE RAIN SENSOR MUST BE ABLE TO INTERRUPT IRRIGATION (STOP PUMPS) IN THE EVENT OF SUBSEQUENT RAIN EVENTS PRIOR TO EMPTYING BASIN. THE 12 HOUR PUMP DELAY MAY INITIATE AFTER THE RAIN SENSOR SENSES THE RAIN EVENT HAS TERMINATED.

6. DIVISION OF THE IRRIGATION AREA INTO TWO OR MORE SECTIONS SUCH THAT IRRIGATION OCCURS ALTERNATELY IN EACH SECTION IS AN ACCEPTABLE WAY TO MEET THE REQUIREMENT FOR A REST PERIOD.

7. ALL IRRIGATION PIPING SHALL BE PURPLE SDR-21 SCH 40 PVC, SIZE AS NOTED ON PLAN.

8. SEE THIS SHEET (TOP LEFT) FOR IRRIGATION PIPE BACKFILL DETAIL.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

IRRIGATION PLAN

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS			
NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-IR01.DWG

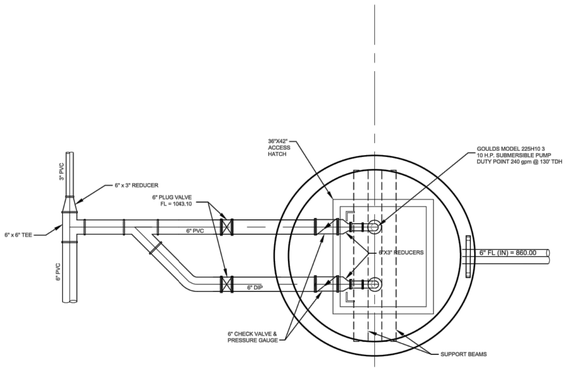
STATE OF TEXAS
REESE B HURLEY
98211
LICENSED
PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

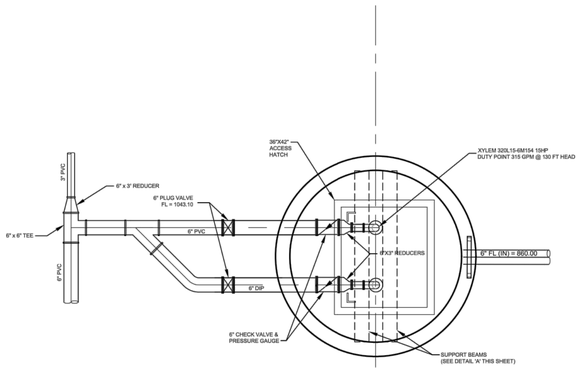
IR01

SHEET NO. 27 OF 40 SHEETS



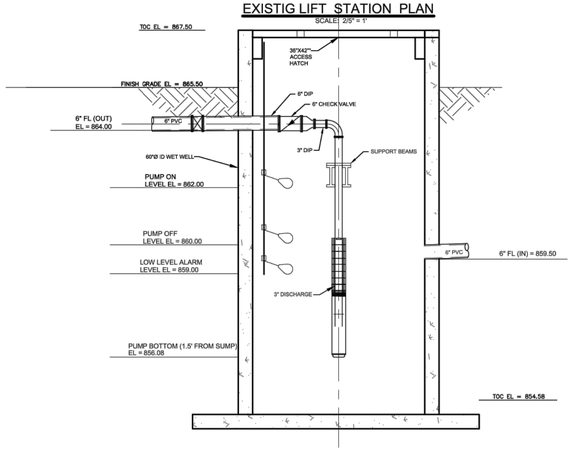
EXISTIG LIFT STATION PLAN

SCALE: 2/5" = 1'



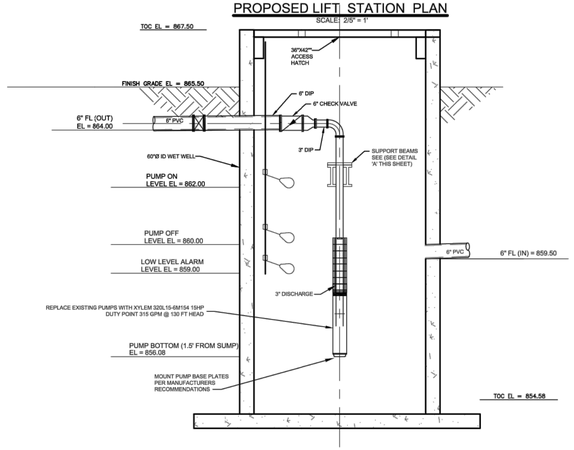
PROPOSED LIFT STATION PLAN

SCALE: 2/5" = 1'



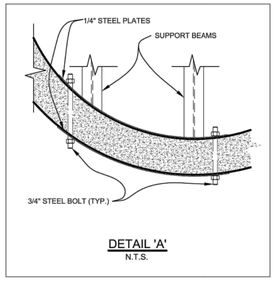
EXISTING LIFT STATION SECTION

SCALE: 2/5" = 1'



PROPOSED LIFT STATION SECTION
(NO CHANGE TO EXISTING WET WELL)

SCALE: 2/5" = 1'



DETAIL 'A'

N.T.S.

NOTES:

1. REFER TO STRUCTURAL AND ELECTRICAL SHEETS FOR ADDITIONAL DETAILS.
2. THE PUMP FOR THE WATER QUALITY POND SHALL BE VERTICAL DEEP-WELL SUBMERSIBLE TYPE, ENCLOSED POLISHED BRONZE IMPELLERS WITH STAINLESS STEEL SHAFTING. CONTRACTOR SHALL ALSO PROVIDE A SHROUD FOR THE PUMP AND MOTOR. THE PUMP SHALL BE NON-OVERLOADING THROUGHOUT THE ENTIRE RANGE OF OPERATION. THE PUMP SHALL RETAIN A MINIMUM SERVICE FACTOR OF 1.15.
3. PUMP CABLES SHALL BE AIR AND WATER RATED AND SHALL BE INTERNALLY SPLICED IN THE MOTOR.
4. PUMP OPERATION:
   a. PRIMARY LEVEL SENSING FOR PUMP OPERATION SHALL BE BY FLOATS.
   b. PUMPING SEQUENCE SHALL BEGIN 12 HOURS AFTER "PUMP ON" WATER LEVEL IS REACHED IN THE WET WELLS.
   c. PUMPING SHALL BE REPEATED IN CYCLES OF ONE HOUR ON, ONE HOUR OFF UNTIL "PUMP OFF" FLOAT DROPS, EXCEPT AS NOTED BELOW:
   a. IF WATER LEVEL CONTINUES TO RISE TO THE FULL WATER QUALITY VOLUME, THE "PUMP ON" SENSOR IS ENERGIZED AGAIN.
   b. FLASHING ALARM LIGHT SHALL BE ACTIVATED IF 1) PUMPS ARE NOT RUNNING WITHIN 36 HOURS OF "PUMP ON" SIGNAL; 2) PUMP HAS FAILED TO OPERATE, 3) LOW LEVEL PUMP DROPS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES, PERMITS, INSPECTIONS, ETC. UNTIL THE PROJECT HAS BEEN GRANTED FINAL ACCEPTANCE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MANUFACTURER'S WARRANTY. ALL COMPONENTS TO BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
7. DUCTILE IRON PIPE INSIDE THE WET WELLS SHALL BE COATED WITH 14-20 MILS TNEMEC SERIES 46 H-413 HI-BUILD COAL TAR EPOXY. SURFACE PREPARATION SHALL BE AS PER MANUFACTURER'S INSTRUCTIONS.
8. ALARM LIGHT SHALL BE MOUNTED A MINIMUM OF 5 FEET ABOVE NATURAL GROUND, ALONG WITH A GREEN PUMP RUN LIGHT. ALARM SHALL INCLUDE AN A VISUAL ALARM. PUMPS SHALL ALTERNATE ON STARTUP.
9. SYSTEM SHALL INCLUDE RAINFALL/TEMPERATURE/WIND SENSORS TO INTERRUPT IRRIGATION AT SELECTED RAINFALL LEVEL, TEMPERATURE, AND WIND SPEED. SENSOR SHALL BE HUNTER MINI-WEATHER STATION OR APPROVED EQUAL. SENSOR SHALL BE MOUNTED TO AVOID INFLUENCE BY IRRIGATION SPRAY OR ADJACENT TREES AND STRUCTURES.
10. AFTER THE INITIAL 12 HOUR DELAY, THE WEATHER STATION SHALL ACT TO OVERRIDE PUMP CONTROLS WHENEVER A PUMP IS OPERATING OR INTENDED TO OPERATE.
11. IF THE WEATHER STATION IS IN OVERRIDE MODE, IRRIGATION WILL NOT BEGIN UNTIL WEATHER STATION INDICATES ACCEPTABLE CONDITIONS. PUMP ALTERNATION SHALL OCCUR ANY TIME AN OPERATING PUMP IS TURNED OFF DUE TO A SIGNAL FROM THE WEATHER STATION. PUMP ALTERNATION SEQUENCE SHALL BE MAINTAINED IF WEATHER STATION ACTS TO OVERRIDE PUMP CONTROLS.
12. ALARM LIGHT SHALL BE MOUNTED A MINIMUM OF 5 FEET ABOVE NATURAL GROUND, ALONG WITH A GREEN PUMP RUN LIGHT.

OPERATING AND MAINTENANCE GUIDELINES FOR WATER QUALITY SYSTEM

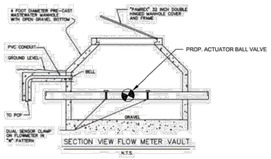
1. THE POND BOTTOM SHOULD BE MOWED AT LEAST TWICE A YEAR. VEGETATION GROWING WITHIN THE BASINS MUST NOT BE ALLOWED TO EXCEED 18 INCHES IN HEIGHT.

2. SILT REMOVED FROM THE BASIN AS A RESULT OF MAINTENANCE SHOULD BE DISPOSED OF ON SITE IF PROPERLY STABILIZED ACCORDING TO PRACTICES OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL CRITERIA OF THE CITY OF AUSTIN.

3. THE FLOAT BULBS, THE CONTROL STATION, THE PUMP, AND THE ELECTRONIC CONTROLS SHOULD BE INSPECTED PERIODICALLY, AT LEAST EVERY TWO MONTHS, TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. DURING THE INITIAL CONTRACTOR ONE-YEAR WARRANTY PERIOD, THE OWNER'S DESIGNATED REPRESENTATIVE WILL BE RESPONSIBLE FOR THESE PERIODIC INSPECTIONS (MINIMUM EVERY 2 MONTHS).

OPERATION NARRATIVE:

THE SYSTEM IS DESIGNED FOR THE PUMP TO BEGIN EMPTYING THE WET WELL 12 HOURS AFTER THE PUMP IS ACTIVATED BY WATER FILLING THE WET WELL TO THE ''PUMP ON" FLOAT. THE PUMPS WILL CONTINUE TO RUN IN CYCLES UNTIL THE "PUMP OFF" FLOAT DROPS. .



PROPOSED ACTUATOR BALL VALVE IN MANHOLE DETAIL

xylem Let's Solve Water

GOULDS WATER TECHNOLOGY

320L15-6M154 | Configuration Summary

PUMP	
Installation	Liquid End + Motor
MOTOR	
Power	11 kW
Series	CentriPro Motors
Motor Diameter	15 cm
Phase (°)	3
Frequency (Hz)	60
Poles	2
Voltage	460 V
3 Phase Starter	
Include 3 Phase Starter	No

xylem Let's Solve Water

GOULDS WATER TECHNOLOGY

320L15-6M154 | Product Details

Material Details

Diffuser (9)	Stainless Steel	Discharge Head (1)	Stainless Steel
Shaft Coupling (16)	Stainless Steel	Shaft Sleeve and Bushing (6)	Tungsten Carbide
Elastomers (4)	Ethylene Propylene	Motor Adaptor (17)	Stainless Steel
Impeller (8)	Stainless Steel	Strainer (14)	Stainless Steel
Tie Rod (11)	Stainless Steel	Shaft (13)	Stainless Steel
Wear Rings (13)	Technopolymer PPO	Thrust Bearing (7)	PTFE+Graphite
Spacer (10)	Stainless Steel	Check Valve Support (2)	Stainless Steel
Check Valve (3)	Stainless Steel	Cable Guard (12)	Stainless Steel
Bolts and Screws (5)	Stainless Steel		

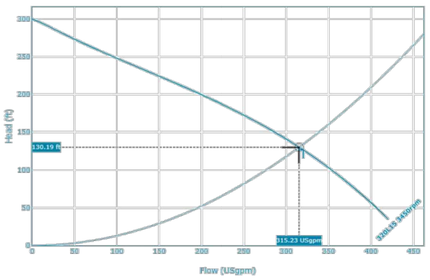
Motor Data

Speed	3,450 rpm	SLA	23
Rated Power	11 kW		
Rated Voltage	460 V		
Phase	3		
FLA	21		

xylem Let's Solve Water

GOULDS WATER TECHNOLOGY

320L15-6M154 | Hydraulic Data & Performance Curve



Selection Criteria

Series	L (6 inch Submersible)
Model	320L15 3450rpm
Stages	4
Frequency	60 Hz
Total Flow	315.00 USgpm
Total Head	130.00 ft
Pump Flow	315.00 USgpm
Pump Head	130.00 ft
Nature of System	Single Pump
Operating Pumps	1
Rated Power	15 Hp
Max Operating Pressure	129.87 psi
Max P2	0 Hp

Design Point

Flow	315.23 USgpm
Head	130.19 ft
Efficiency	0.00 %
Shaft power (P2)	0 Hp
NPSHr	0 ft

Design Curve Data

Rated Motor Speed	3,450 RPM
Max Flow	420 USgpm
H@QMax	35 ft
H@QMin	300 ft
BEP	0 %
BEP Flow	320 USgpm
BEP Head	126.72 ft
Impeller Diameter	0 in

Fluid Data

Fluid Type	Water
Fluid Temperature	68 °F
Specific Gravity	1
Density	62.31322 lb/ft³
Dynamic Viscosity	1.00165 cP
Fluid Vapor Pressure	0.33929 psi

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

IRRIGATION NOTES & DETAILS

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 10/17/2023
DESIGNED BY: LC
DRAWN BY: DSM
CHECKED BY: LC
DRAWING NAME: A219-0402-IR01.DWG

LAUREN CRONE
128018
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
10-17-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

IR02

SHEET NO. 28 OF 40 SHEETS

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

STORM SEWER LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-ST01.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

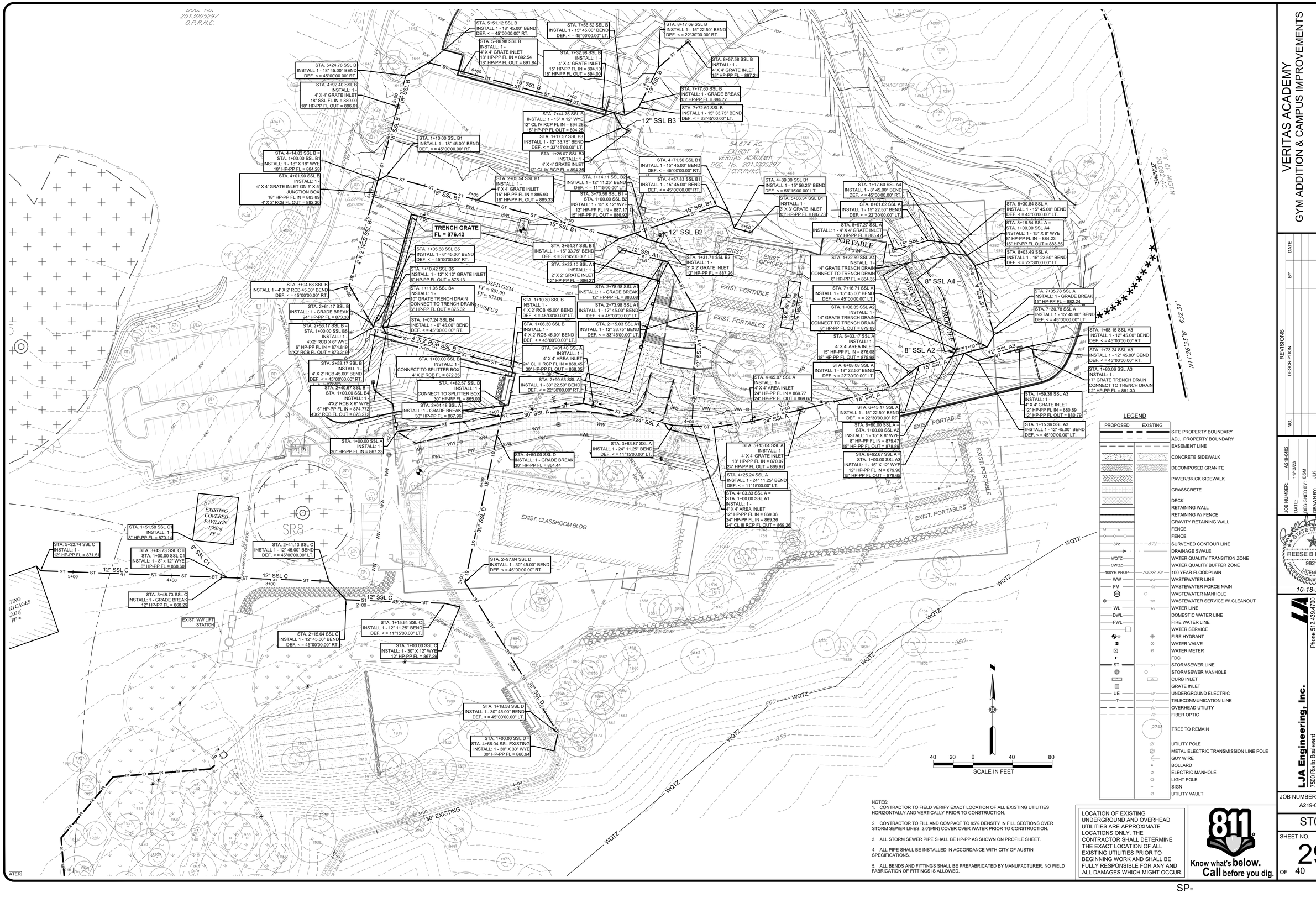
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

ST01

SHEET NO. 29 OF 40 SHEETS

SP-



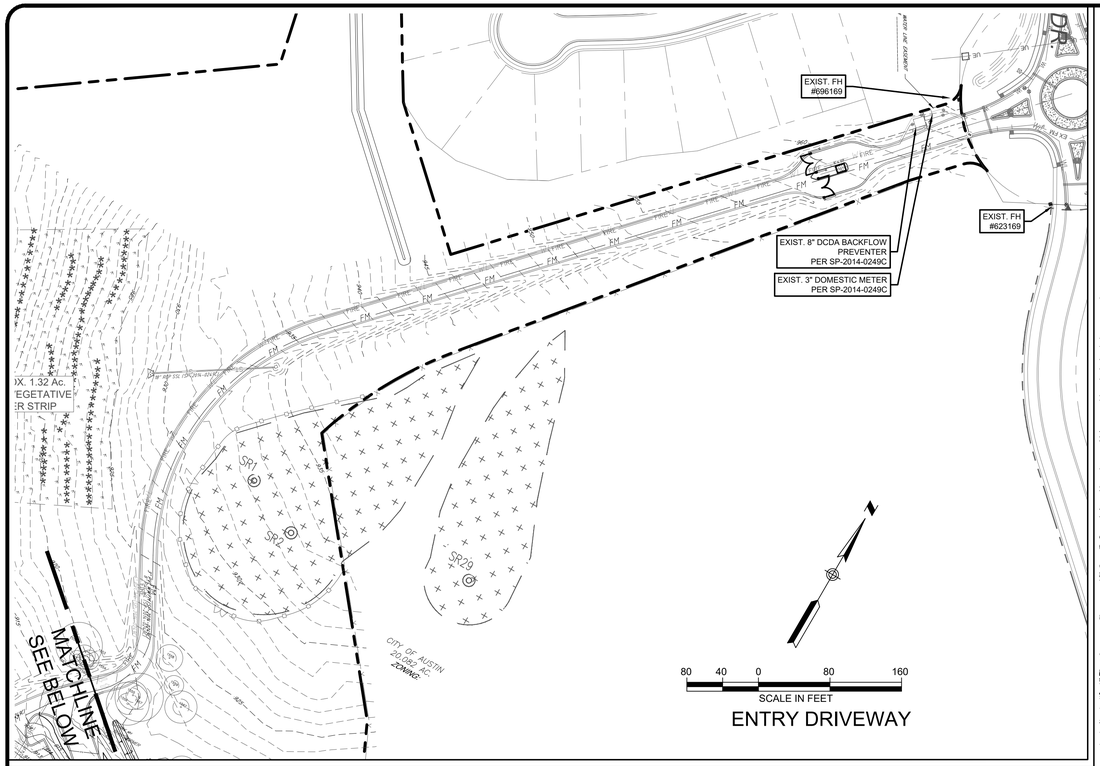
NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.
3. ALL STORM SEWER PIPE SHALL BE HP-PP AS SHOWN ON PROFILE SHEET.
4. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF AUSTIN SPECIFICATIONS.
5. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

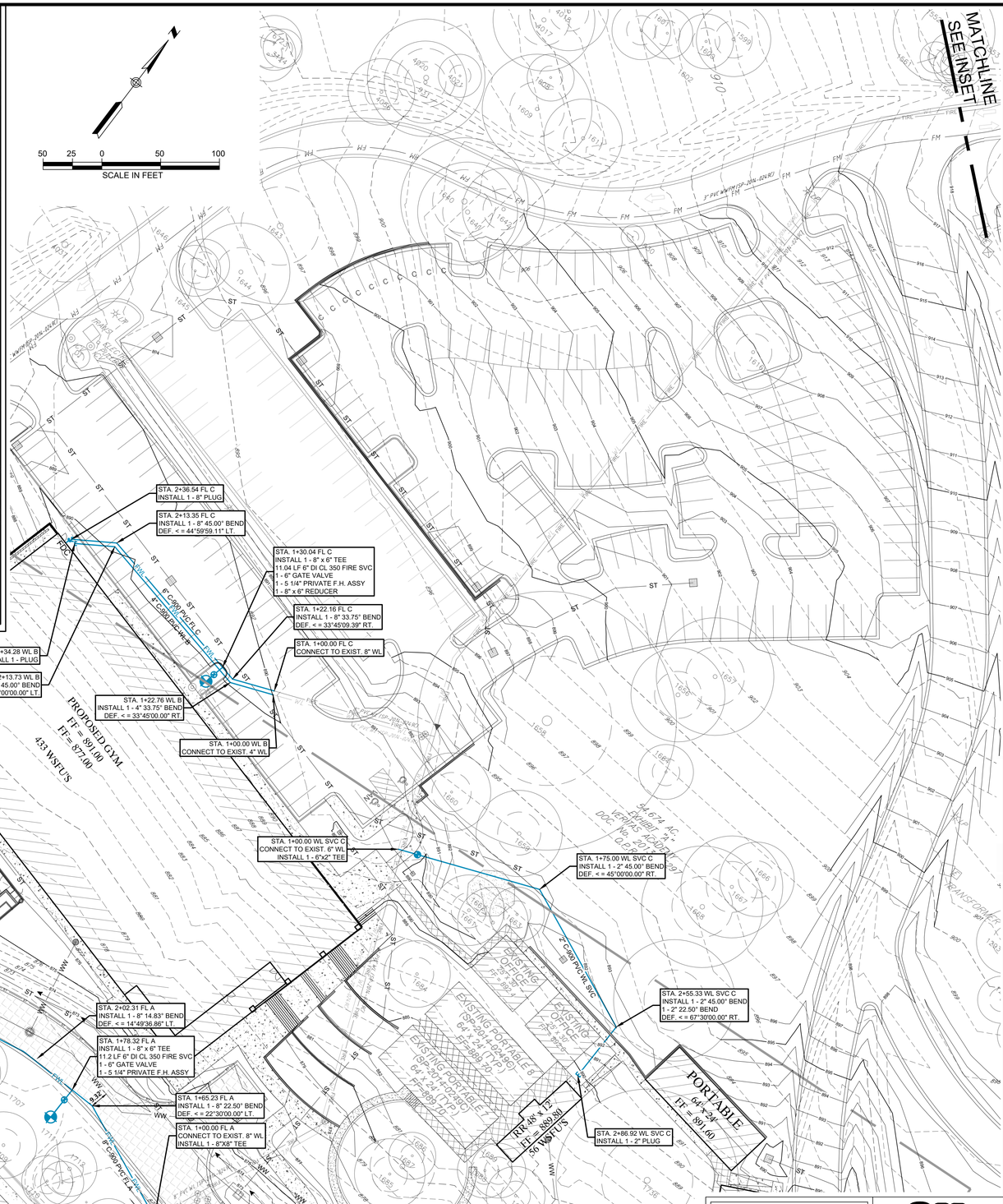
LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		PAVER/BRICK SIDEWALK
		GRASSCRETE
		DECK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FENCE
		FENCE
872	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
DWL		DOMESTIC WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
OU	OU	OVERHEAD UTILITY
FO	FO	FIBER OPTIC
		TREE TO REMAIN
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		PAVER/BRICK SIDEWALK
		GRASSCRETE
		DECK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FENCE
		FENCE
872	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W/ CLEANOUT
W	W	WATER LINE
FWL	FWL	FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
OU	OU	OVERHEAD UTILITY
FO	FO	FIBER OPTIC
2743		TREE TO REMAIN
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

WATER NOTES:

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. PRIVATE POTABLE WATER LINES SHALL BE DR-14 C-900 PVC OR CL 350 DIP. FIRE HYDRANT LEADS SHALL BE CLASS 350 DUCTILE IRON.
3. CONTRACTOR TO FILL AND COMPACT TO 98% DENSITY IN FILL SECTIONS OVER WATER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.
4. TRACER TAPE PER SPL WW-597 SHALL BE PLACED OVER ALL NON-METALLIC PIPE.
5. ALL SERVICE LINES SHALL INCLUDE GATE VALVE AT MAIN LINE.
6. ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED (SECTION 25-2-1125).
7. MINIMUM FOUR (4') FOOT OF COVER IS REQUIRED ON ALL WATER LINES.
8. ALL PROPOSED FILL OUTSIDE OF PAVEMENT SHALL BE COMPACTED IN LIFTS TO 95%.
9. CHANGES IN DIRECTION OF PVC WATER PIPE SHALL ONLY BE BY USE OF FITTINGS OR BY DEFLECTING STRAIGHT PIPE SECTIONS AT JOINTS. LONGITUDINAL BENDING OF PVC PIPE IS NOT ALLOWED. DEFLECTION OF PVC PIPE AT FITTINGS IS NOT ALLOWED. DEFLECTION OF STRAIGHT PVC PIPE SECTIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS AT EACH JOINT, NOT TO EXCEED MANUFACTURER'S RECOMMENDATION. DEFLECTION OF PIPE JOINTS AT FITTINGS IS ONLY ALLOWED ON DUCTILE IRON PIPE.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

WATER LINE LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-WL01.DWG

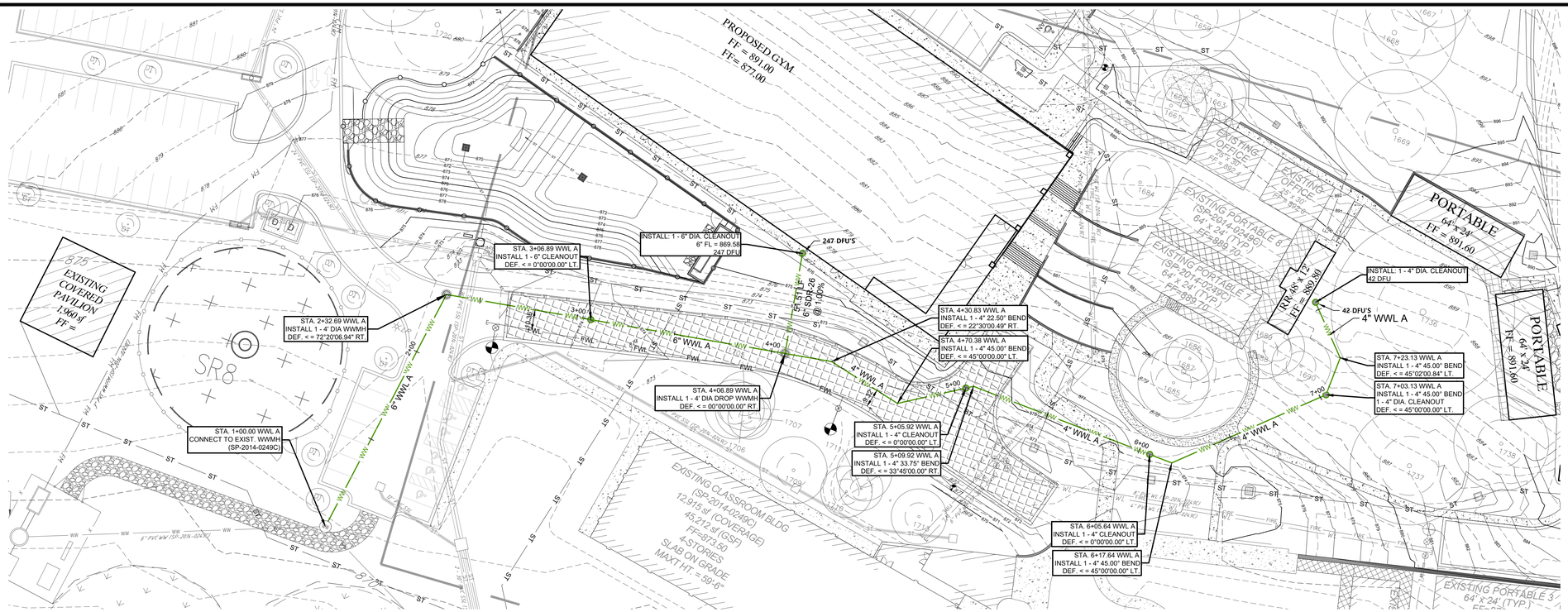
STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

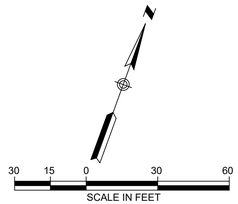
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

WL01

SHEET NO. 30 OF 40 SHEETS





LEGEND

PROPOSED	EXISTING	
		SITE PROPERTY BOUNDARY
		ADJ. PROPERTY BOUNDARY
		EASEMENT LINE
		CONCRETE SIDEWALK
		DECOMPOSED GRANITE
		PAVER/BRICK SIDEWALK
		GRASSCRETE
		DECK
		RETAINING WALL
		RETAINING W/ FENCE
		GRAVITY RETAINING WALL
		FENCE
		FENCE
	872	SURVEYED CONTOUR LINE
		DRAINAGE SWALE
WQTZ		WATER QUALITY TRANSITION ZONE
CWQZ		WATER QUALITY BUFFER ZONE
100YR PROP	100YR EX	100 YEAR FLOODPLAIN
WW	WW	WASTEWATER LINE
FM	FM	WASTEWATER FORCE MAIN
		WASTEWATER MANHOLE
		WASTEWATER SERVICE W\ CLEANOUT
WL	WL	WATER LINE
FWL		FIRE WATER LINE
		WATER SERVICE
		FIRE HYDRANT
		WATER VALVE
		WATER METER
		FDC
ST	ST	STORMSEWER LINE
		STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOMMUNICATION LINE
	OU	OVERHEAD UTILITY
	FO	FIBER OPTIC
	2743	TREE TO REMAIN
		UTILITY POLE
		METAL ELECTRIC TRANSMISSION LINE POLE
		GUY WIRE
		BOLLARD
		ELECTRIC MANHOLE
		LIGHT POLE
		SIGN
		UTILITY VAULT

WWL A (PRIVATE)

SCALE: 1" = 30' HOR
1" = 3' VERT

WASTEWATER NOTES:

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. MANDREL TESTING WILL BE REQUIRED ON ALL FLEXIBLE GRAVITY WASTEWATER PIPE AS PER TCEQ RULES.
3. ALL GRAVITY WASTEWATER LINES SHALL BE SDR-26 WWL ASTM D3034 UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO FILL AND COMPACT TO 98% DENSITY IN FILL SECTIONS OVER WASTEWATER LINES. 2.0'(MIN) COVER OVER WASTEWATER PRIOR TO CONSTRUCTION.
5. ALL SERVICES SHALL TERMINATE WITH A 2-WAY CLEANOUT.
6. ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED (SECTION 25-2-1125).
7. SERVICE LINE SHALL HAVE A MIN. 1% SLOPE.
8. ALL SERVICES SHALL BE 4" MIN. UNLESS OTHERWISE SHOWN.

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VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

WASTEWATER LINE LAYOUT

13401 ESCARPMENT BLVD., AUSTIN TEXAS

REVISIONS			
NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/28/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: REH
DRAWING NAME: A219-0402-WWL01.DWG

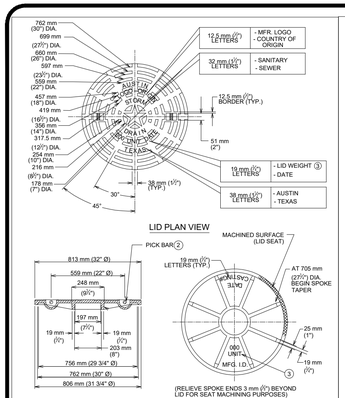
STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

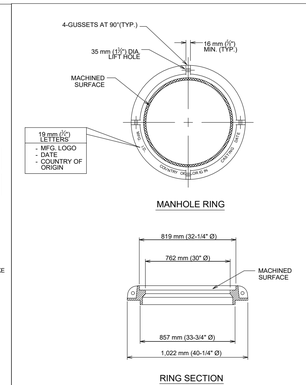
JOB NUMBER: A219-0402

WW01

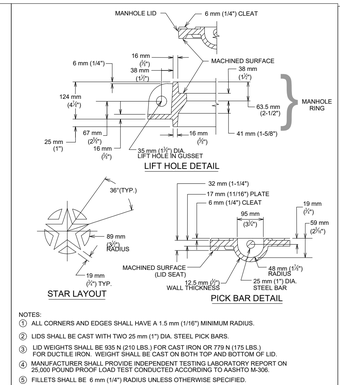
SHEET NO. 31 OF 40 SHEETS



CITY OF AUSTIN	STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-4S 1 OF 3

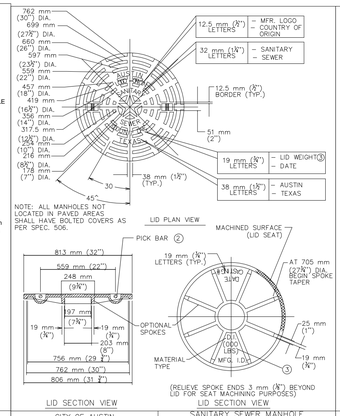


CITY OF AUSTIN	STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-4S 2 OF 3



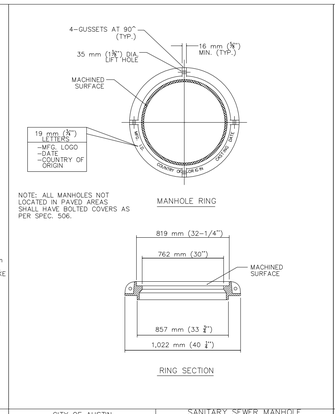
NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE 935 N (210 LBS.) FOR CAST IRON OR 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
④ MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 25,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-306.
⑤ FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.

CITY OF AUSTIN	STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-4S 3 OF 3



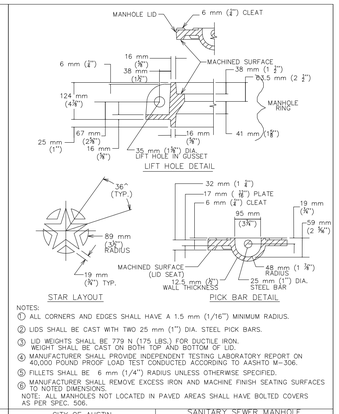
NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
④ MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 40,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-306.
⑤ FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
NOTE: ALL MANHOLES NOT LOCATED IN PAVED AREAS SHALL HAVE BOLTED COVERS AS PER SPEC. 506.

CITY OF AUSTIN	SANITARY SEWER MANHOLE RING AND 813 mm (32") COVER	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L. FLOWERS 9/23/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 505S-4W 1 OF 3



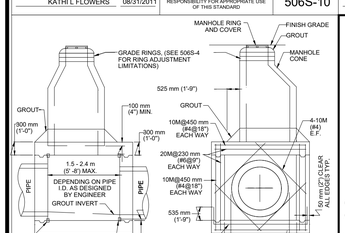
NOTE: ALL MANHOLES NOT LOCATED IN PAVED AREAS SHALL HAVE BOLTED COVERS AS PER SPEC. 506.

CITY OF AUSTIN	SANITARY SEWER MANHOLE RING AND 813 mm (32") COVER	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L. FLOWERS 9/23/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 505S-4W 2 OF 3



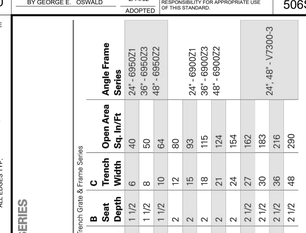
NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
④ MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 40,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-306.
⑤ FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
NOTE: ALL MANHOLES NOT LOCATED IN PAVED AREAS SHALL HAVE BOLTED COVERS AS PER SPEC. 506.

CITY OF AUSTIN	SANITARY SEWER MANHOLE RING AND 813 mm (32") COVER	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L. FLOWERS 9/23/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 505S-4W 3 OF 3

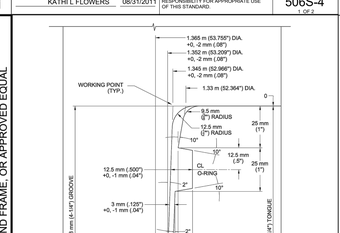


NOTE:
1. THE MANHOLE BASE SHALL BE BEDDED ON 150 mm (6") COARSE AGGREGATE. THE CONTRACTOR SHALL LEVEL AND PLUMB THE BASE PRIOR TO SETTING THE PRECAST MANHOLE RISER SECTIONS ON THE PRECAST CONCRETE BASE.
2. MH FOUNDATION SHALL MEET OR EXCEED STD. SPEC. 506.5B.

CITY OF AUSTIN	WASTEWATER MANHOLE ON PRECAST BASE	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	STANDARD NO. 506S-10



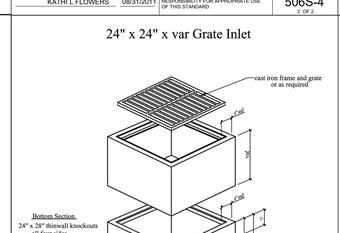
CITY OF AUSTIN	STORM DRAIN MANHOLE DETAIL	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		
RECORD COPY SIGNED BY GEORGE E. OSWALD 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-11



Ⓐ VERTICAL FACE = ALLOWABLE THROAT OR CHIMNEY HEIGHT
= NEW CONSTRUCTION = 525mm = (21") Max.
= EXISTING CONSTRUCTION = 675mm (27") Max.

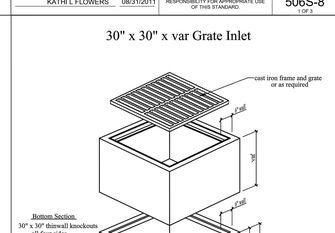
NOTES:
1. NON-SHRINK GROUT SHALL NOT EXCEED 25 mm (1") IN ANY DIMENSION.
2. SUB-GRADE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO ITEMS 201S AND 210S, RESPECTIVELY, OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. REFER TO STANDARD 1100S-1 FOR REPAIRS AROUND MANHOLES.
4. SEE STANDARD 506S-4A FOR HDPE RING INSTALLATION (FOR USE IN PAVED AREAS ONLY).

CITY OF AUSTIN	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 1 OF 2



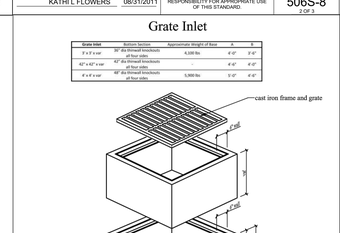
NOTES:
1. FOR USE IN UNPAVED AREAS ONLY
2. WHEN USED WITHIN 100-YEAR FLOODPLAIN, SEE DTL. 506S-6 FOR ADDITIONAL M.H. REQUIREMENTS.
3. DIMENSION B=150-300 mm (6"-12") FOR M.H. LOCATED IN 100-YR FLOOD PLAIN. =50-300 mm (2"-12") FOR M.H. OUTSIDE 100-YR FLOOD PLAIN.

CITY OF AUSTIN	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 2 OF 2

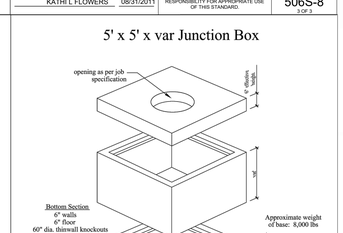


NOTES:
1. THE MANHOLE BASE SHALL BE BEDDED ON 150mm (6") COARSE AGGREGATE. THE CONTRACTOR SHALL LEVEL AND PLUMB THE BASE PRIOR TO SETTING THE PRECAST MANHOLE RISER SECTIONS ON THE PRECAST CONCRETE BASE.
2. MANHOLE FOUNDATION SHALL MEET OR EXCEED STD. SPEC 506.5B.

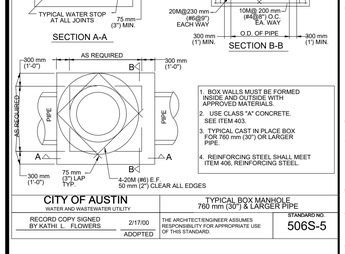
CITY OF AUSTIN	PRECAST MANHOLE WITH DROP INLET ON PRECAST BASE	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-8 1 OF 3



CITY OF AUSTIN	PRECAST MANHOLE WITH DROP INLET ON PRECAST BASE	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-8 2 OF 3



CITY OF AUSTIN	PRECAST MANHOLE WITH DROP INLET ON PRECAST BASE	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-8 3 OF 3



1. BOX WALLS MUST BE FORMED INSIDE AND OUTSIDE WITH APPROVED MATERIALS.
2. USE CLASS "A" CONCRETE. SEE ITEM 403.
3. TYPICAL CAST IN PLACE BOX FOR 760 mm (30") OR LARGER PIPE.
4. REINFORCING STEEL SHALL MEET ITEM 406. REINFORCING STEEL.

CITY OF AUSTIN	TYPICAL BOX MANHOLE 760 mm (30") & LARGER PIPE	
WATER AND WASTEWATER UTILITY		
RECORD COPY SIGNED BY KATHI L. FLOWERS 2/17/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-5

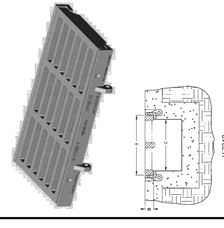
V-7340 CROSS DRAINAGE TRENCH GRATE AND FRAME SERIES

Heavy Duty, Type C
Designed for cross-street drainage with slot openings perpendicular to traffic
Standard trench grates are furnished in 2.3 /6" lengths
Frames are available in 24", 36" and 48" lengths

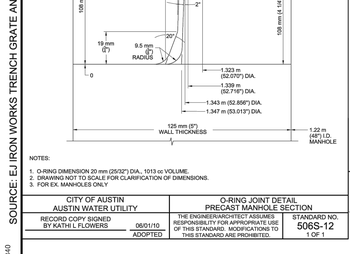
V-7340 Cross Drainage Trench Grate & Frame Series

Series Number	A Grate Width	B Seat Depth	C Trench Width	Open Area Sq. in/Ft	Angle Frame Series
V-7341	8	1 1/2	6	40	24" - 690521
V-7342	10	1 1/2	8	50	36" - 690523
V-7343	12	1 1/2	10	64	48" - 690522
V-7344	14	2	12	80	24" 690021
V-7345	17	2	15	93	36" 690023
V-7346	20	2	18	115	48" 690022
V-7347	23	2	21	124	
V-7348	26	2	24	154	
V-7349	30	2 1/2	27	162	
V-7350	33	2 1/2	30	183	24", 48" - V7300-3
V-7352	39	2 1/2	36	216	
V-7354	51	2 1/2	48	290	

Note: All dimensions are in inches.



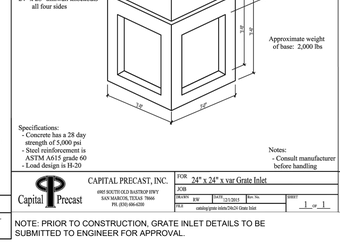
SOURCE: EJ IRON WORKS TRENCH GRATE AND FRAME, OR APPROVED EQUAL



NOTES:
1. O-RING DIMENSION 20 mm (25/32") DIA. .1013 in³ VOLUME.
2. DRAWING NOT TO SCALE FOR CLARIFICATION OF DIMENSIONS.
3. FOR EX. MANHOLES ONLY

CITY OF AUSTIN	O-RING JOINT DETAIL PRECAST MANHOLE SECTION	
AUSTIN WATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 06/01/10 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 506S-12 1 OF 1

24" x 24" x var Grate Inlet



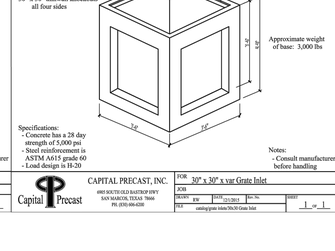
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20

Notes:
- Consult manufacturer before handling

Capital Precast	CAPITAL PRECAST, INC. 4905 SOUTH OLD BASTROP HWY SAN MARCOS, TEXAS 78666 PH. (830) 606-4200	FOR 24" x 24" x var Grate Inlet JOB SCALE: NTS DRAWN: RW DATE: 2/1/2013 Rev. No. SHEET 1 OF 1 REF catalog/grate inlets/24x24 Grate Inlet

NOTE: PRIOR TO CONSTRUCTION, GRATE INLET DETAILS TO BE SUBMITTED TO ENGINEER FOR APPROVAL.

30" x 30" x var Grate Inlet



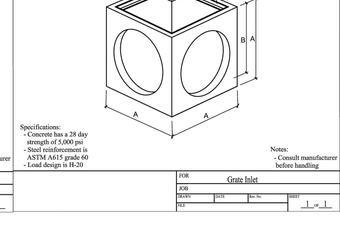
Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20

Notes:
- Consult manufacturer before handling

Capital Precast	CAPITAL PRECAST, INC. 4905 SOUTH OLD BASTROP HWY SAN MARCOS, TEXAS 78666 PH. (830) 606-4200	FOR 30" x 30" x var Grate Inlet JOB SCALE: NTS DRAWN: RW DATE: 2/1/2013 Rev. No. SHEET 1 OF 1 REF catalog/grate inlets/30x30 Grate Inlet

Grate Inlet

Grate Inlet	Bottom Section	Approximate Weight of Base	A	B
3' x 3' x var	30" dia thinwall knockouts all four sides	4,100 lbs	4'-0"	3'-6"
42" x 42" x var	42" dia thinwall knockouts all four sides		4'-6"	4'-0"
4' x 4' x var	48" dia thinwall knockouts all four sides	5,900 lbs	5'-0"	4'-6"

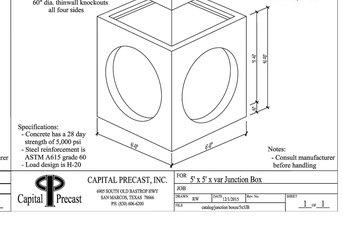


Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design is H-20

Notes:
- Consult manufacturer before handling

Capital Precast	CAPITAL PRECAST, INC. 4905 SOUTH OLD BASTROP HWY SAN MARCOS, TEXAS 78666 PH. (830) 606-4200	FOR Grate Inlet JOB SCALE: DATE: Rev. No. SHEET REF

5' x 5' x var Junction Box



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

Notes:
- Consult manufacturer before handling

Capital Precast	CAPITAL PRECAST, INC. 4905 SOUTH OLD BASTROP HWY SAN MARCOS, TEXAS 78666 PH. (830) 606-4200	FOR 5' x 5' x var Junction Box JOB SCALE: DATE: 2/1/2012 Rev. No. SHEET 1 OF 1 REF catalog/junction boxes/5x5JB

I:\A219-402 - Veritas Gym\Sheets\A219-0402-DTL.dwg
User: jpuntus
Plot Scale: 0.4 P4 23 - 1918
Plot Date/Time: Nov. 13, 23 - 10:40:3

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS

STANDARD DETAILS 1

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: RBH
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DTL.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

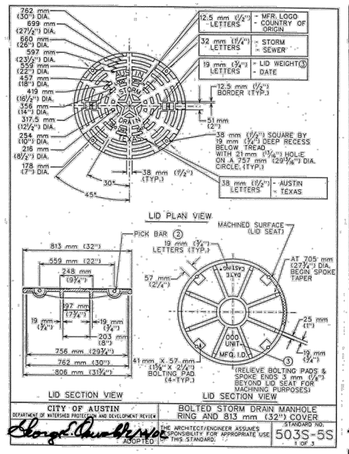
JOB NUMBER: A219-0402

DT01

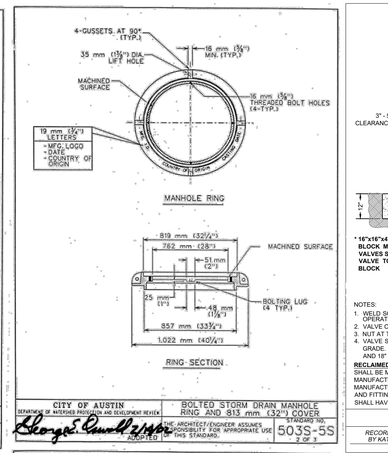
SHEET NO. 32 OF 40 SHEETS

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

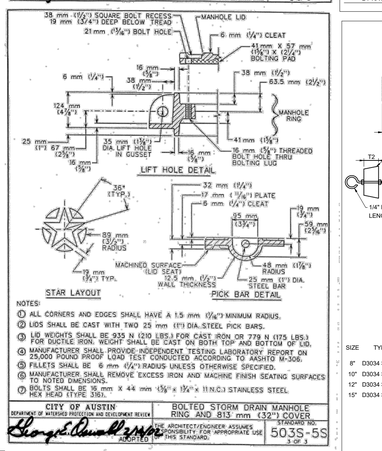
811 Know what's below. Call before you dig.



CITY OF AUSTIN	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 1 OF 3
George E. Russell 2nd 11/19/08 ADOPTED		



CITY OF AUSTIN	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 2 OF 3
George E. Russell 2nd 11/19/08 ADOPTED		



NOTES:
1. ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16") MINIMUM RADIUS.
2. LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
3. LID WEIGHTS SHALL BE 835 N (230 LBS.) FOR CAST IRON OR 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
4. MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 25,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M-306.
5. FILLETS SHALL BE 6 mm (1/4") RADIUS UNLESS OTHERWISE SPECIFIED.
6. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
7. BOLTS SHALL BE 16 mm X 44 mm (5/8" x 1¾") x 11 N.C.) STAINLESS STEEL HEX HEAD (TYPE 316).

CITY OF AUSTIN	BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 3 OF 3
George E. Russell 2nd 11/19/08 ADOPTED		

UTILITY CROSSING DETAIL
N.T.S.

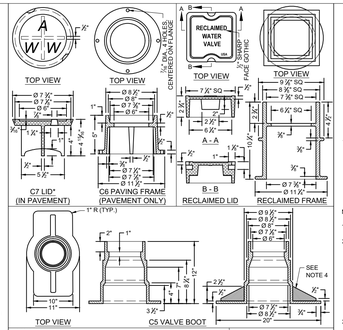
NOTES:
1. WELD SOCKET 20" x 2" DEEP TO 1" SCH .40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 24" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-2C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

WEIGHTS:
C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS
* LETTERING SHALL BE 1 ½" 2 PICK BAR SLOTS REQUIRED

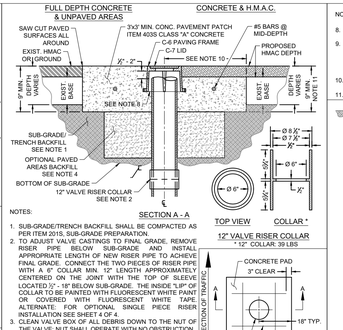
NOTES:
1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

CITY OF AUSTIN	TYPICAL GATE VALVE 4" - 16"	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 1 OF 4

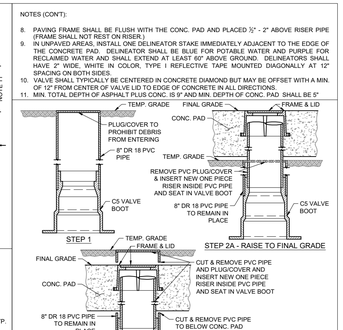


NOTES:
1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ½" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE, ALTERNATE, FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 4065.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.

CITY OF AUSTIN	TYPICAL GATE VALVE 4" - 16"	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 2 OF 4



CITY OF AUSTIN	TYPICAL GATE VALVE 4" - 16"	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 3 OF 4



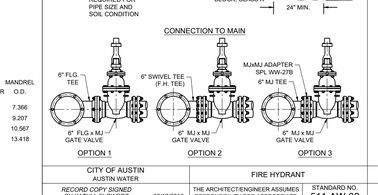
CITY OF AUSTIN	TYPICAL GATE VALVE 4" - 16"	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 4 OF 4

NOTE: WELD ALL RODS TO FRAME
MANDREL SHALL BE CONSTRUCTED FROM METAL OR RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

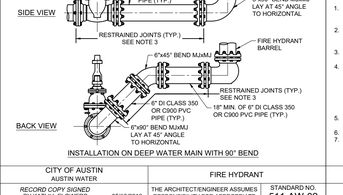
MANDREL DIMENSIONS
5% DEFLECTION
FOR O.D. CONTROLLED PVC PIPE
(ALL DIMENSIONS IN INCHES)

SIZE	TYPE	O.D. AVERAGE	MIN. WALL THICKNESS	L1	L2	R1	R2	T1	T2	ROD DIAMETER	MANDREL O.D.
8"	D3034 SDR26	8.40	0.323	6.00	6	3.78	1.25	0.375	1.0	0.375	7.366
10"	D3034 SDR26	10.50	0.404	7.50	6	4.72	1.50	0.375	1.0	0.375	9.207
12"	D3034 SDR26	12.50	0.481	9.00	6	5.59	1.75	0.375	1.0	0.375	10.567
15"	D3034 SDR26	15.30	0.588	11.25	6	7.08	2.00	0.375	1.0	0.375	13.418

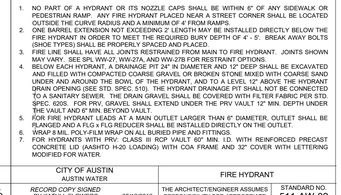
TYPICAL MANDREL DETAILS
N.T.S.



CITY OF AUSTIN	FIRE HYDRANT	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 1 OF 3

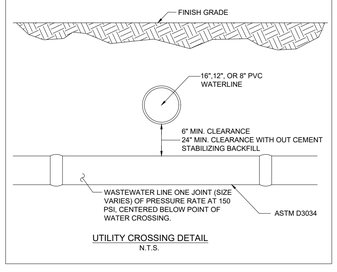


CITY OF AUSTIN	FIRE HYDRANT	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 2 OF 3



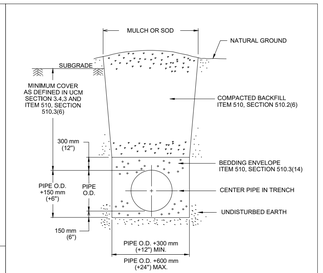
NOTES: APPLICABLE TO ALL INSTALLATION TYPES.
1. NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 6" OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 4' FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 4' - 5'. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 24" IN DIAMETER AND 12" DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 12" ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S. FOR PRV, GRAVEL SHALL EXTEND UNDER THE PRV VAULT 12" MIN. DEPTH UNDER THE VAULT AND 6" MIN. BEYOND VAULT.
5. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 6" DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
6. WRAP 8 MIL. POLY FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
7. FOR HYDRANTS WITH PRV, CLASS III RCP VAULT 60" MIN. I.D. WITH REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING) WITH COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.

CITY OF AUSTIN	FIRE HYDRANT	
AUSTIN WATER		
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 3 OF 3



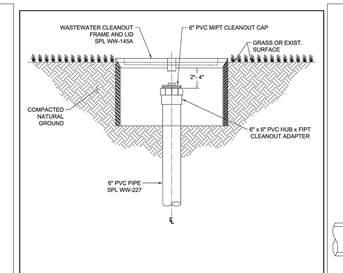
NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 300 mm (12") WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 150 mm (6") WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALTIC CONCRETE.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 250 mm (10"), WHICHEVER IS GREATER.
5. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 200 mm (8") OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
6. SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 50 mm (2"), WHICHEVER IS GREATER.

CITY OF AUSTIN	TYPICAL TRENCH WITH PAVED SURFACE	
WATER AND WASTEWATER UTILITY		
RECORD COPY SIGNED BY KATHI L FLOWERS 8/19/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-3



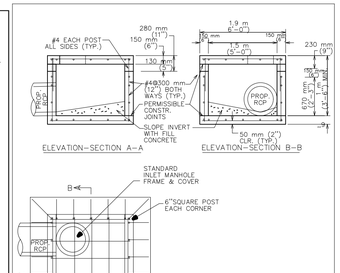
REFERENCES:
1. UTILITY CRITERIA MANUAL SECTION 3.4.3. "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
DEPARTMENT OF PUBLIC WORKS		
RECORD COPY SIGNED BY BILL GARDNER 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5



NOTE:
1. WASTEWATER CLEANOUT FRAME AND LID SHALL NOT BE PLACED IN PAVED AREAS, INCLUDING SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

CITY OF AUSTIN	WASTEWATER CLEANOUT FRAME AND LID	
AUSTIN WATER		
JEFF A. KYLE 06/16/2019 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-03 1 OF 1



CITY OF AUSTIN	4-SIDED AREA INLET	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		
RECORD COPY SIGNED BY BILL GARDNER 12/09/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-9

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
STANDARD DETAILS 2
13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DT1.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

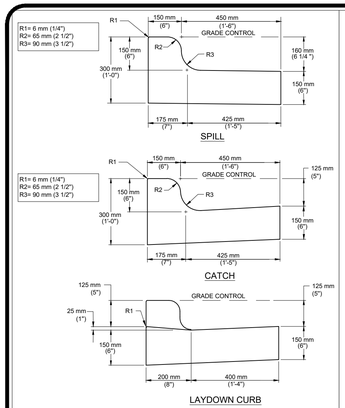
LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

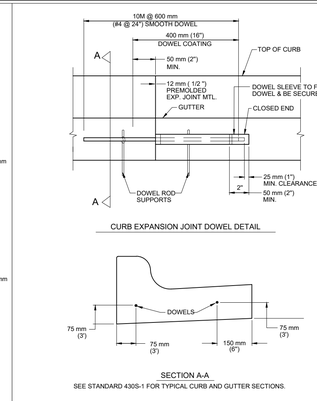
JOB NUMBER: A219-0402

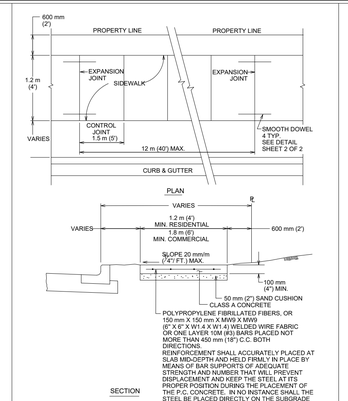
SHEET NO. DT02

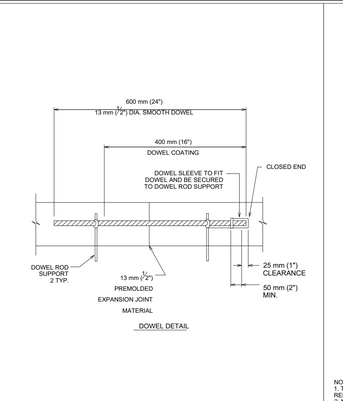
33 OF 40 SHEETS

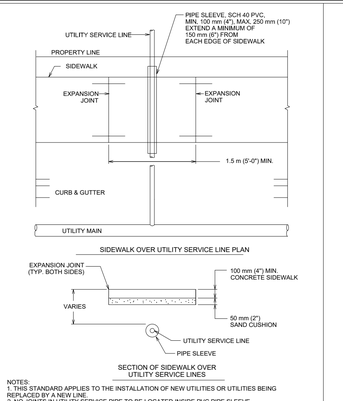
SP-



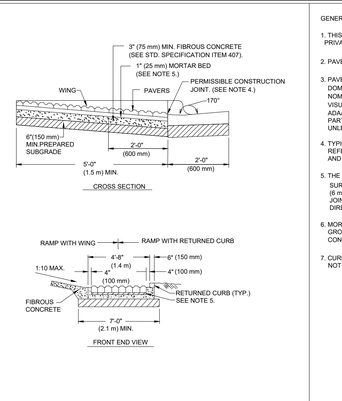








NOTES:
1. THIS STANDARD APPLIES TO THE INSTALLATION OF NEW UTILITIES OR UTILITIES BEING REPLACED BY A NEW LINE.
2. NO JOINTS IN UTILITY SERVICE PIPE TO BE LOCATED INSIDE PVC PIPE SLEEVE.



GENERAL NOTES:

1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION WITHIN PRIVATE PROPERTY ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO 1/4" (6 mm) JOINT SIZE. GAPS LARGER THAN 1/4" (6 mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5. MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	CURB AND GUTTER SECTION	
RECORD COPY SIGNED BY LINO RIVERA 9/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-1

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	CURB EXPANSION JOINT DOWEL DETAIL	
RECORD COPY SIGNED BY LINO RIVERA 9/29/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-3

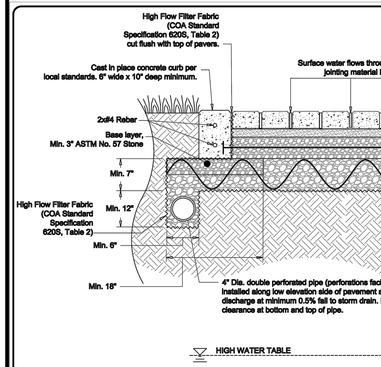
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
RECORD COPY SIGNED BY BILL GARDNER 03/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
RECORD COPY SIGNED BY BILL GARDNER 03/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
RECORD COPY SIGNED BY BILL GARDNER 03/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 3 OF 3

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (PRIVATE PROPERTY)	
RECORD COPY SIGNED BY BILL GARDNER 06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2B 1 OF 2

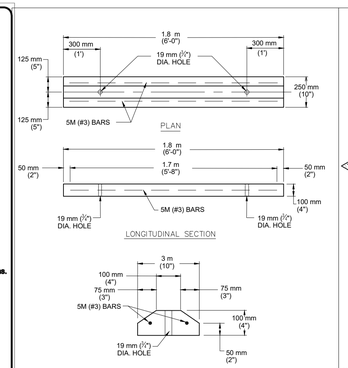
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNING-PAVER (PRIVATE PROPERTY)	
RECORD COPY SIGNED BY BILL GARDNER 06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2B 2 OF 2



Design Notes:

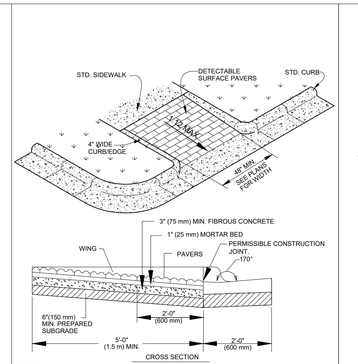
1. **This Section Design performs to HS-20 loading requirements.**
2. **Paver dimensions for Belgard Aqua Roc will be 4 3/4"W x9"L x3 1/8"D (nominal).**
3. **Elevation of horizontal discharge pipe(s) subject to storage reservoir requirements. Ensure proper cover over the horizontal pipes.**
4. **Where the filtration geotextile is used, verify with the manufacturer that the material is not subject to clogging and meets requirements of AASHTO M-288.**
5. **ASTM No. 2 stone may be substituted with No. 3 or No. 4 stone.**
6. **Refer to the geotechnical report addendum dated August 12, 2022 "Geotechnical Recommendations for Permeable Pavement System" prepared by ECS.**

belgardcommercial.com 877-235-4273 details@belgard.com	Belgard Permeable Paving Detail HS-20 Loading Pavement Design	Scale: N.T.S. Drawn by: Date: Drawing number: PICP_2



ALL CONCRETE SHALL BE CLASS "A" IN ACCORDANCE WITH ITEM 403S.

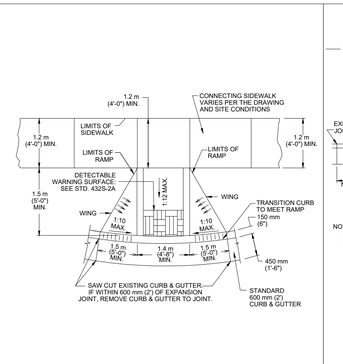
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PARKING LOT BUMPER CURB	
RECORD COPY SIGNED BY BILL GARDNER 3/15/05 APPROVED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 439S-1



NOTES:

1. FOLIAGE WILL BE TRIMMED IN A MANNER NOT TO BE CONSTRUCTED AS A PROTRUDING OBJECT ON ACCESSIBLE ROUTES AS DEFINED BY TEXAS ACCESSIBILITY STANDARDS (TAS) 4.4.1.
2. ALL DETECTABLE WARNING SURFACES SHALL CONSIST OF TRUNCATED DOME PAVERS ONLY. GROOVES ARE NOT PERMISSIBLE.

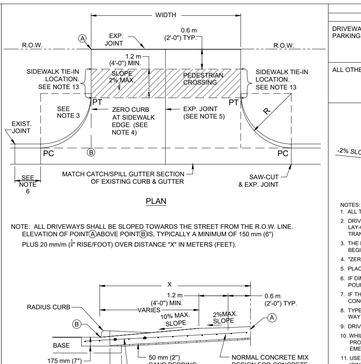
TYPICAL ON-SITE (PRIVATE) RAMP



GENERAL NOTES:

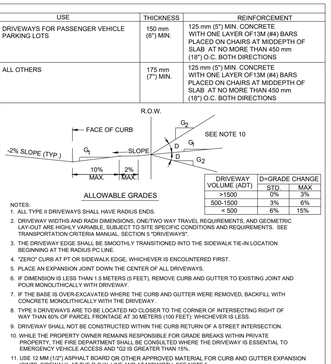
1. RACKS SHALL COMPLY WITH CITY STANDARD DETAIL 710S–1, TYPE III RACK FOR 1 TO 2 BIKES.
2. BIKE RACKS SHALL BE LOCATED WITHIN 7.32 m (24') OF EITHER THE MAIN BUILDING ENTRY OR THE ENTRY TO THE PRIMARY LOCAL USE. BIKE RACKS ARE TO BE PLACED PERPENDICULAR TO THE CURB WITH THE CENTERLINE OF THE RACK ON LINE WITH TREES AND LIGHT POLES.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE 1 SIDEWALK CURB RAMP	
RECORD COPY SIGNED BY BILL GARDNER 9/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5



NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT Ⓐ ABOVE POINT Ⓑ IS, TYPICALLY A MINIMUM OF 150 mm (6") PLUS 20 mm/m (¼" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).

USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS



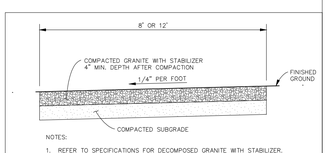
DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE STD.	MAX.
>1500	0%	3%
500-1500	3%	6%
< 500	6%	15%

NOTES:

1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
4. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF ALL DRIVEWAYS.
6. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET) WHICHEVER IS LESS.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND *22 IS GREATER THAN 15%.
11. USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 5.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS
13. THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	
RECORD COPY SIGNED BY CUONG TRAN 02/24/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 1 OF 2

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	
RECORD COPY SIGNED BY CUONG TRAN 02/24/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 2 OF 2

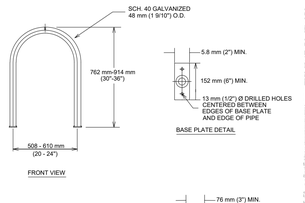


NOTES:

1. REFER TO SPECIFICATIONS FOR DECOMPOSED GRANITE WITH STABILIZER.
2. CONTRACTOR MUST NOTIFY ENGINEER PRIOR TO CONSTRUCTION OF GRANITE TRAIL TO HOLD AN ONSITE MEETING TO IDENTIFY AREAS WHERE SPECIAL TREATMENT MAY BE NECESSARY TO PREVENT TRAIL EROSION.

DECOMPOSED GRANITE TRAIL

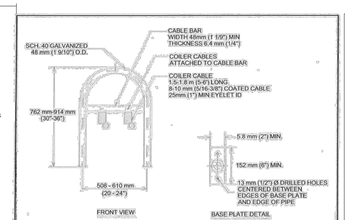
NTS



GENERAL NOTES:

1. RACK INSTALLATION METHOD SHALL COMPLY WITH CITY STANDARD DETAIL 710S-3, 710S-4, OR 710S-5.
2. RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
3. BASE PLATES TO BE 6.35 mm (1/4") PLATES, ASTM A-36 1010-1018 LOW CARBON PRIME STEEL

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CLASS III STYLE BICYCLE PARKING	
RECORD COPY SIGNED BY CUONG TRAN 09/26/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-1 1 OF 1



GENERAL NOTES:

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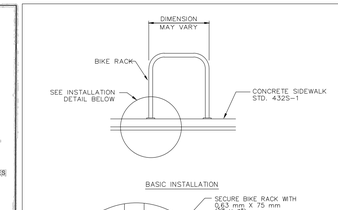
2. RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
3. BASE PLATES TO BE 6.35 mm (1/4") PLATES, ASTM A-36 1010-1018 LOW CARBON PRIME STEEL

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CLASS II STYLE BICYCLE PARKING:	
9/16/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-2 1 OF 1



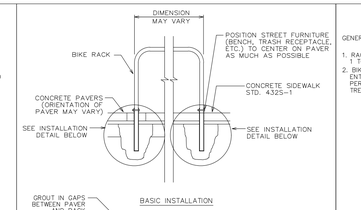
*MOUNTING FLANGE SHALL BE ROUND, SQUARE OR RECTANGULAR WITH A MINIMUM OF TWO MOUNTING POINTS PER LEG. MOUNTING POINTS SHALL BE OFFSET FROM THE CENTERLINE OF THE RACK.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE RACK INSTALLATION IN CONCRETE SIDEWALK–ALTERNATE 1	
RECORD COPY SIGNED BY BILL GARDNER 11/21/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S–4 1 OF 2

GENERAL NOTES:

1. RACKS SHALL COMPLY WITH CITY STANDARD DETAIL 710S–1, TYPE III RACK FOR 1 TO 2 BIKES.
2. BIKE RACKS SHALL BE LOCATED WITHIN 7.32 m (24') OF EITHER THE MAIN BUILDING ENTRY OR THE ENTRY TO THE PRIMARY LOCAL USE. BIKE RACKS ARE TO BE PLACED PERPENDICULAR TO THE CURB WITH THE CENTERLINE OF THE RACK ON LINE WITH TREES AND LIGHT POLES.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE RACK INSTALLATION IN CONCRETE SIDEWALK–ALTERNATE 1	
RECORD COPY SIGNED BY BILL GARDNER 11/21/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S–4 2 OF 2



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CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE RACK INSTALLATION IN SIDEWALKS–ALTERNATE 1	
RECORD COPY SIGNED BY BILL GARDNER 11/21/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S–5 1 OF 2

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE RACK INSTALLATION IN SIDEWALKS–ALTERNATE 2	
RECORD COPY SIGNED BY BILL GARDNER 11/21/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S–5 2 OF 2

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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

VERITAS ACADEMY
GYM ADDITION & CAMPUS IMPROVEMENTS
STANDARD DETAILS 3
13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: DSM
DRAWN BY: JLK
CHECKED BY: RBH
DRAWING NAME: A219-0402-DT1.DWG

STATE OF TEXAS
REESE B HURLEY
98211
LICENSED PROFESSIONAL ENGINEER
10-18-2023

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

DT03

SHEET NO. 34 OF 40 SHEETS

SP-

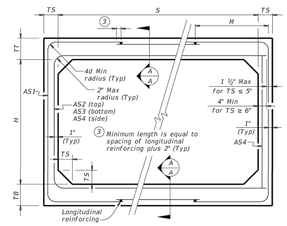
DATE:
FILE:

BOX DATA

SECTION DIMENSIONS							REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	Fill Height (ft.)	M (Min) (in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
4	2	7.5	6	5	< 2	-	0.18	0.27	0.15	0.12	0.18	0.18	0.14	4.5
4	2	5	5	5	2 < 3	38	0.18	0.19	0.17	0.12	-	-	-	3.6
4	2	5	5	5	3 - 5	38	0.13	0.13	0.13	0.12	-	-	-	3.6
4	2	5	5	5	10	38	0.12	0.12	0.12	0.12	-	-	-	3.6
4	2	5	5	5	15	38	0.14	0.16	0.16	0.12	-	-	-	3.6
4	2	5	5	5	20	38	0.18	0.20	0.21	0.12	-	-	-	3.6
4	2	5	5	5	25	38	0.23	0.25	0.25	0.12	-	-	-	3.6
4	2	5	5	5	30	38	0.28	0.30	0.30	0.12	-	-	-	3.6
4	3	7.5	6	5	< 2	-	0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4	3	5	5	5	2 < 3	38	0.15	0.23	0.20	0.12	-	-	-	4.1
4	3	5	5	5	3 - 5	38	0.12	0.16	0.16	0.12	-	-	-	4.1
4	3	5	5	5	10	38	0.12	0.14	0.14	0.12	-	-	-	4.1
4	3	5	5	5	15	38	0.12	0.18	0.18	0.12	-	-	-	4.1
4	3	5	5	5	20	38	0.14	0.23	0.24	0.12	-	-	-	4.1
4	3	5	5	5	25	38	0.17	0.29	0.29	0.12	-	-	-	4.1
4	3	5	5	5	30	38	0.21	0.35	0.35	0.12	-	-	-	4.1
4	4	7.5	6	5	< 2	-	0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4	4	5	5	5	2 < 3	38	0.12	0.26	0.23	0.12	-	-	-	4.6
4	4	5	5	5	3 - 5	38	0.12	0.18	0.18	0.12	-	-	-	4.6
4	4	5	5	5	10	38	0.12	0.15	0.15	0.12	-	-	-	4.6
4	4	5	5	5	15	38	0.12	0.19	0.20	0.12	-	-	-	4.6
4	4	5	5	5	20	38	0.12	0.25	0.25	0.12	-	-	-	4.6
4	4	5	5	5	25	38	0.14	0.31	0.31	0.12	-	-	-	4.6
4	4	5	5	5	30	38	0.17	0.37	0.37	0.12	-	-	-	4.6

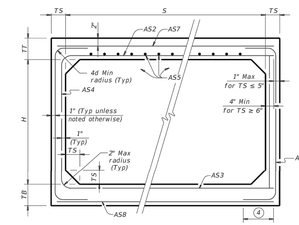
(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

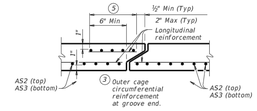
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS PRECAST
4'-0" SPAN

SCP-4

File: CD-SCP04-20.dgn	ck: TxDOT	dw: TxDOT	ck: TxDOT	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB		HIGHWAY
REVISIONS	DIST	COUNTY			SHEET NO.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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GYM ADDITION & CAMPUS IMPROVEMENTS

TXDOT BOX CULVERT DETAIL

13401 ESCARPMENT BLVD., AUSTIN TEXAS

NO.	DESCRIPTION	BY	DATE

JOB NUMBER: A219-0402
DATE: 11/13/23
DESIGNED BY: TXDOT
DRAWN BY: TXDOT
CHECKED BY: RBH
DRAWING NAME: A219-0402-DTL.DWG

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN-F-1386

JOB NUMBER: A219-0402

DT04

SHEET NO. 35 OF 40 SHEETS