STEGER BIZZELL
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WEB STEGERBIZZELL.COM
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TEXAS REGISTERED ENGINEERING FIRM F-181
SERVICES >> ENGINEERS >> PLANNERS >> SURVEYORS

Water Pollution Abatement Plan Modification

For

Toolmen Business Park

and

M3 Glass Technologies

In the

City of Georgetown

Williamson County, Texas

Submitted: 11/28/2023

Job Number: 22751-ADD

Water Pollution Abatement Plan
Modification

For

Toolmen Business Park
And
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In

City of Georgetown
Williamson County, Texas

Steger Bizzell Job Number: 22751



11/29/23

Prepared by:

STEGER BIZZELL
Texas Register Professional Engineering Firm-181
1978 S. Austin Avenue
Georgetown, Texas 78626

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: Toolmen Business Park						**2. Regulated Entity No.:** 111278933			
3. Customer Name: 878 Westinghouse LLC						**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):**		10.89	
9. Application Fee:	$6500		**10. Permanent BMP(s):**			Batch Detention Basin			
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Brushy 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 ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence _X_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. James M. Cummins, P.E. Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — 11/29/23 Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

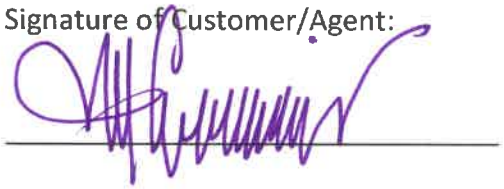
Signature

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

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

Date: 11/28/2023

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Toolmen Business Park and M3 Glass Technologies
2. County: Williamson
3. Stream Basin: Chandler Branch - Brushy Creek
4. Groundwater Conservation District (If applicable): _____
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

Contact Person: Brooks Burgum, Manager
Entity: 878 Westinghouse LLC
Mailing Address: 118 Broadway North, Ste. 501
City, State: Fargo, ND Zip: 58102
Telephone: 701-371-0541 FAX: _____
Email Address: brooks@lwopps.com

8. Agent/Representative (If any):

Contact Person: James M. Cummins, P.E.
Entity: Steger Bizzell
Mailing Address: 1978 S. Austin Ave.
City, State: Georgetown, TX Zip: 78626
Telephone: 512-930-9412 FAX: _____
Email Address: jcummins@stegerbizzell.com

9. Project Location:

☒ The project site is located inside the city limits of Georgetown, TX.
☐ 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.

From Austin, take I35N towards Georgetown, take exit 257 and remain on frontage, turn right at Westinghouse Rd, destination will be on right after around 0.9 miles

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: 6/4/2021

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:

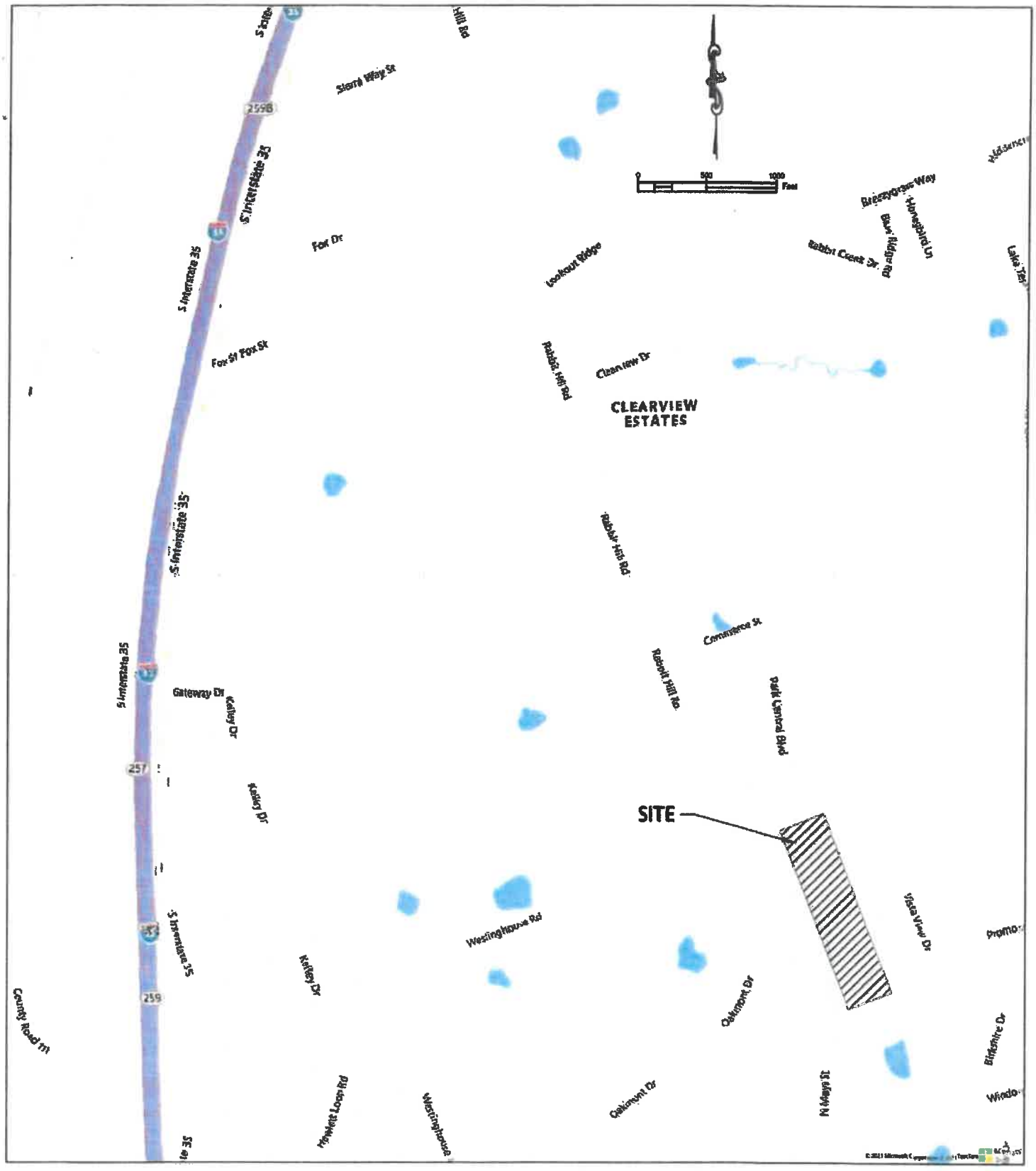
- ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an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



ATTACHMENT A
ROAD MAP

STEGER BIZZELL

ADDRESS	1978 S. AUSTIN AVENUE		GEORGETOWN, TX 78626
METRO 512.930.9412	TEXAS REGISTERED ENGINEERING FIRM F-151 TBPLS FIRM No.10003700	WEB	STEGERBIZZELL.COM
SERVICES	>>ENGINEERS >>PLANNERS >>SURVEYORS		

DATE: APRIL 2021 **JOB NO. 22751**

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

USGS science for a changing world

The National Map US Topo

ROUND ROCK QUADRANGLE
TEXAS-WILLIAMSON CO.
7.5-MINUTE SERIES

CONTRIBUTING ZONE

RECHARGE ZONE

SITE

RECHARGE ZONE

CONTRIBUTING ZONE

RECHARGE ZONE

TRANSITION ZONE

GEORGETOWN

ROUND ROCK

AUSTIN

BRUSHY CREEK

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 (central zone)

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

UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
MN 4° 20' 77 MILS
GN 0° 40' 12 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

Leander NE	Georgetown	Weir
Leander	Round Rock	Hutto
Jollyville	Pflugerville West	Pflugerville East

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION
Interstate Route
US Route
Ramp
State Route
Local Road
4WD
Interstate Route
US Route
State Route

ROUND ROCK, TX
2013

Attachment C – Project Description

878 Westinghouse LLC is proposing to construct a building addition and associated parking improvements on a 10.89 acre tract of land in Georgetown, Texas. The project site is located on Westinghouse Road approximately 0.9 miles East bound from the I-35 North intersection. The site is in Georgetown's city limits.

The existing conditions of the site include three buildings with offices and warehouses. Development of the site will include expanding the existing building situated at the northwest corner of the site ("F" on the site plan). Moreover, development will also involve the adjustment and expansion of associated drives, parking, fire line utilities, and the placement of two earthen batch detention ponds. Westinghouse Road/County Road 111 provides access to the site.

The upstream off-site runoff of 118 acres of land is routed and released on-site by four box culverts across Westinghouse Drive. This off-site runoff drains to a natural dry creek that runs along the center of the property, the dry creek is routed in its north portion with corrugated storm pipes and undisturbed in its downstream section. The combined off-site and on-site runoff exit the property on the southern boundary where flow converges with the FEMA floodplain. The neighboring site on the West remains undeveloped. The property to the Southeast is currently being developed and the Northeast section currently holds a recently developed gas station and convenience store. To the South of the property there are apartment complexes.

The Northern part of the site is in the transition zone of the Edwards Aquifer but drains to the recharge zone situated on its southern part. The owner acquired the site in the current conditions and with no previous knowledge of Permit Requirements by the TCEQ. All development, including existing, will be taken into account for Water Quality treatment required by the WPAP.

The existing impervious cover consists of three buildings used as offices, storage and as a mechanical/machining shop, as well as pavement, concrete and gravel surfaces primarily used as a driveway and for parking. For this submittal, the site will be considered undeveloped with no existing impervious cover. Developed conditions will amount to 92,966 sf of impervious cover. This represents 19.6% of the 10.89 acre project site. Two batch detention basins will be the permanent BMP used to treat the runoff from the site. The site will be graded to route the onsite drainage outside of the main channel to the batch detention basins.

According to the TCEQ TSS Removal Calculations spreadsheet, a total of 1,854 pounds of total suspended solids must be removed for the site for 80% TSS Removal. The batch detention basins have been sized for an 85% TSS removal rate (1972 pounds).

The construction plans have been submitted to the City of Georgetown for review. Construction will not commence until the plans have been approved by the City of Georgetown and the TCEQ.

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: Kenneth L Crider Telephone: 512-930-1600

Date: 5/8/2015 Fax: 512-930-9389

Representing: N/A (Name of Company and TBPG or TBPE registration number)

Signature of Geologist: Steger & Bizzelle F-81

8-17-15

Regulated Entity Name: Toolman Corporation

STATE OF TEXAS
KENNETH L. CRIDER
GEOLOGY
No. 4555
LICENSED
PROFESSIONAL GEOSCIENTIST

Project Information

1. Date(s) Geologic Assessment was performed: 4/30/2015
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☒ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)

Soil Name	Group*	Thickness(feet)
HuC2 Houston Block Clay	D	3.2
HsE Heiden Extremely Stony Clay	D	3.0

** 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" = n/a'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 100'

9. Method of collecting positional data:

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

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

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

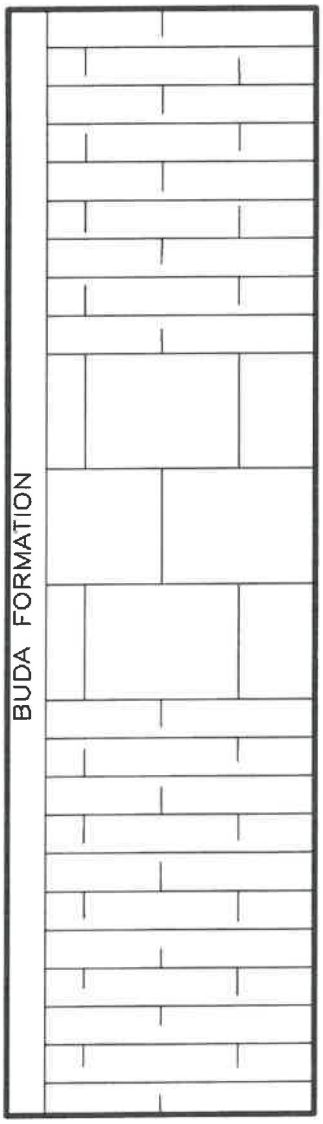
    ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

ATTACHMENT B, STRATIGRAPHIC COLUMN
TOOLMEN CORPORATION

JOB NO: 15197-00



BUDA FORMATION (Kbu): LIMESTONE, LOWER PART SLIGHTLY FOSSILIFEROUS, UPPER PART HARD, RESISTANT BURROWED AND CONTAINS SHELL FRAGMENTS, BEDS ARE MASSIVE TO SLIGHTLY NODULAR, TAN TO ORANGE BROWN, WEATHERS BROWN

Texas Land Surveying, Inc.
3613 Williams Drive, Suite 903 – Georgetown, Texas 78628
(512) 930-1600/(512) 930-9389 fax
www.texas-ls.com
TBPLS FIRM NO.10056200

STATE OF TEXAS
KENNETH L. CRIDER
GEOLOGY
NO. 4555
LICENSED
PROFESSIONAL GEOSCIENTIST

8-17-12

KENNETH L. CRIDER
P.G. #4555

Attachment C – Site Geology
Job #15197-00
Date: May 9, 2015

The site is approximately 10.9 acres located at the intersection of Park Central Blvd. and Westinghouse Road on the south end of the City of Georgetown, Williamson County, Texas. Approximately one third of the tract is being used for industrial buildings. Approximately one third of the tract is covered by fill material. The remainder of the site is undeveloped and is heavily wooded with thick underbrush.

The geologic formation within the site is the Buda Limestone formation.

There were no karst features such as sinkholes or caves found within the site.

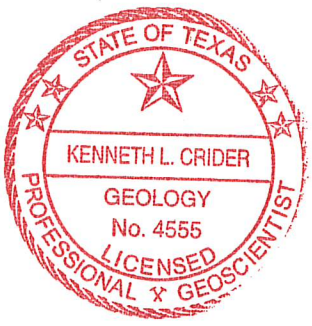
There were no structural features such as faults or fractures found within the site. There is a dominate northeast trending fault located approximately 315 feet southwesterly along Westinghouse Road from the northwest corner of the site as shown on The Geologic Atlas of Texas, Austin Sheet and also on the Geology of the Round Rock Quadrangle as prepared by E.W. Collins.

With regards to the City of Georgetown's Water Quality Regulations (Ordinance 2013-59), the features identified in the Geologic Assessment Table, S-1, S-2 and S-3 are all small springs. The springs located are not all of the springs in the area. There are other smaller springs and seeps within the immediate area designated on the site geologic map as a zone of seeps and springs. The water comes to the surface along the base of a massive bed in the Buda Formation. There is enough water flowing to the surface to support Texas Sedge. Also S-2 has a 12" Willow tree growing in it. This indicates that the spring had enough flow for the Willow to survive the extreme drought of 2010-2011. The owner of the property also told me the springs have not gone dry as long as he has been there. The spring and seep zone has the potential to be habitat to endangered species and should be looked at by a qualified biologist. There is a small wet weather stream through the site. From Westinghouse Road to roughly 200' south of the existing buildings and parking, the stream has been channeled by fill. The stream continues south with a natural channel for roughly 700' where it exits the site. The stream was dry the date of this assessment.

Given the lack of recharge features, the thick clay soil cover, and the discharge of water going on in the site the potential for rapid fluid movement to the Edwards Aquifer is very low.

It is the intent of this assessment to identify all potential recharge features. The assessment is based on surface evidence only. Some features could be covered or otherwise camouflaged. In the event a sensitive feature is uncovered during the construction phase of this project, work around the feature should be halted and TCEQ notified.

10-23-20



Kenneth L. Crider, PG. #4555
Texas Land Surveying, Inc.
3613 Williams Drive, Suite 903
Georgetown, Texas 78628
Geosciece FIRM #50538

GEOLOGIC ASSESSMENT TABLE | **PROJECT NAME:** TOOLMEN CORPORATION

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	30°34'41.4"	97°40'34.6"	O	5	Kbu									5	10	10			DRAINAGE
S-2	30°34'42.1"	97°40'34.5"	O	5	Kbu									5	10	10			DRAINAGE
S-3	30°34'42.2"	97°40'34.7"	O	5	Kbu									5	10	10			DRAINAGE

* DATUM:

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

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

KENNETH L. CRIDER
GEOLOGY
No. 4555
LICENSED
PROFESSIONAL GEOSCIENTIST

Date: 8-17-15

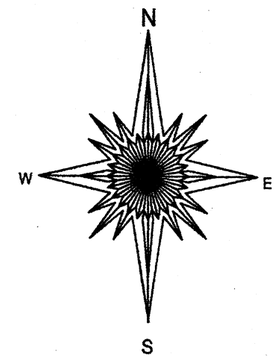
Sheet 1 of 1

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

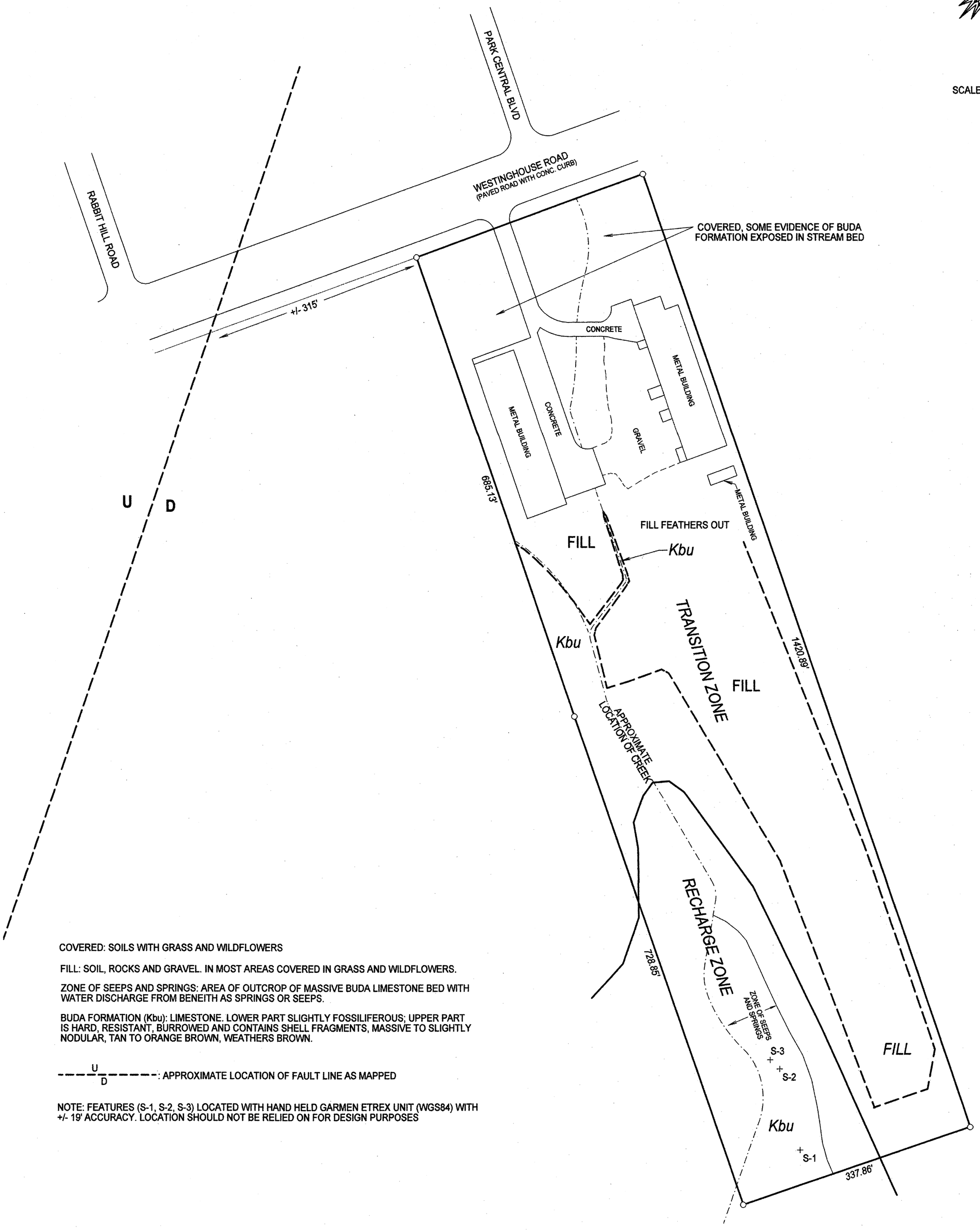
ATTACHMENT D - SITE GEOLOGIC MAP

JOB No. 15197-00

TOOLMEN CORPORATION: 11.058 ACRES AS RECORDED UNDER DOCUMENT #2005014912, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAVE AND ACCEPT 0.165 ACRES TO WILLIAMSON COUNTY RECORDED UNDER DOCUMENT #2007074529, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS.



SCALE: 1"=100'



COVERED: SOILS WITH GRASS AND WILDFLOWERS

FILL: SOIL, ROCKS AND GRAVEL. IN MOST AREAS COVERED IN GRASS AND WILDFLOWERS.

ZONE OF SEEPS AND SPRINGS: AREA OF OUTCROP OF MASSIVE BUDA LIMESTONE BED WITH WATER DISCHARGE FROM BENEITH AS SPRINGS OR SEEPS.

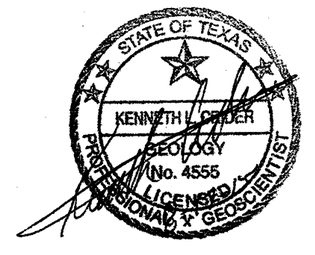
BUDA FORMATION (Kbu): LIMESTONE. LOWER PART SLIGHTLY FOSSILIFEROUS; UPPER PART IS HARD, RESISTANT, BURROWED AND CONTAINS SHELL FRAGMENTS, MASSIVE TO SLIGHTLY NODULAR, TAN TO ORANGE BROWN, WEATHERS BROWN.

U / D: APPROXIMATE LOCATION OF FAULT LINE AS MAPPED

NOTE: FEATURES (S-1, S-2, S-3) LOCATED WITH HAND HELD GARMEN ETREX UNIT (WGS84) WITH +/- 19' ACCURACY. LOCATION SHOULD NOT BE RELIED ON FOR DESIGN PURPOSES

TEXAS LAND SURVEYING, Inc.

3613 WILLIAMS DRIVE, SUITE 903 - GEORGETOWN, TEXAS 78628
(512) 930-1600 / FAX (512) 930-9389
www.texas-ls.com
TBLS FIRM No. 10056200



KENNETH L. CRIDER, PG #4555
DATE:

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.

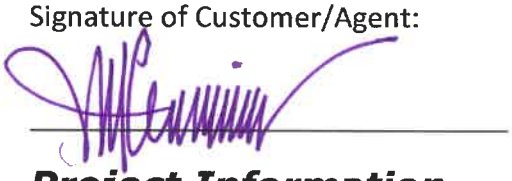
Signature

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: James M. Cummins, P.E

Date: 11/28/2023

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Toolmen Business Park and M3 Glass Technologies
   Original Regulated Entity Name: Toolmen Business Park
   Regulated Entity Number(s) (RN): 111278933
   Edwards Aquifer Protection Program ID Number(s): 11002550
   ☒ The applicant has not changed and the Customer Number (CN) is: _____
   ☐ 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	10.89	10.89
Type of Development	Commercial	Commercial
Number of Residential Lots	n/a	n/a
Impervious Cover (acres)	4.36	2.13
Impervious Cover (%	40	19.6
Permanent BMPs	Batch Detention	Batch Detention
Other	_____	_____

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	666	Onsite Sewage Facility
Pipe Diameter	8"	_____
Other	Manholes	_____

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.

ATTACHMENT A

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 27, 2021

Mr. John Potts
JJCIV Property, LLC.
878 Westinghouse Rd.
Georgetown, Texas 78626

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Toolmen Business Park; Located at 878 Westinghouse Rd., Georgetown, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP) and an Organized Sewage Collection System (SCS); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID Nos. 11002550 (WPAP) and 11002551 (SCS); Regulated Entity No. RN111278933

Dear Mr. Potts:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP and SCS applications for the above-referenced project submitted to the Austin Regional Office by Steger Bizzell on behalf of JJCIV Property, LLC. on June 9, 2021. Final review was completed after additional material was received on August 24, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. 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

WPAP DESCRIPTON

The proposed non-residential development has a total area of approximately 10.89 acres. The existing development at the site includes three buildings used as offices, warehouse, and mechanical shop, driveways, and parking spaces. As the existing development does not currently have an EAPP plan approved, stormwater runoff treatment will be provided for the

entire impervious cover area (existing and proposed). The proposed project will include the demolition of an existing building and expansion of another , as well as the construction of two additional buildings with associated parking and driveways, utilities, and two water quality basins. The proposed impervious cover will be 4.36 acres (40 percent).

SCS DESCRIPTION

The proposed SCS consists of approximately 666 linear feet of 8-inch SDR 26 PVC ASTM D3034 with associated manholes. The wastewater generated by this project will be conveyed to the existing Dove Springs Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Georgetown and will conform to all applicable codes, ordinances, and requirements of the City of Georgetown.

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, two batch detention basins 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 3,795 pounds of TSS generated from the 4.36 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surface geology of the area consists of Buda Limestone formation, located partially in the Edwards Aquifer Recharge Zone and partially in the Edwards Aquifer Transition Zone. No sensitive geologic features were identified in the GA. The TCEQ site assessment conducted on August 12, 2021 revealed the site to be generally as described by the GA.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

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

III. By the responsible engineer's dated signature and seal on the Engineering Design Report attached to the submitted application, all information therein accurately reflects the information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer in accordance with the requirements of 30 TAC 213.5 (c) and Chapter 217.

STANDARD CONDITIONS

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

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the 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.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the 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.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

19. 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 site completion.
20. 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. Such 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. A copy of the transfer form (TCEQ-10263) is enclosed.
21. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

22. 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 and manholes that were tested and are being certified as complying with the appropriate regulations. 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. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
23. 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. 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 and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
24. 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.
25. 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.
26. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mihaela (Miki) Chilarescu, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/mec

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

Attachment B – Narrative of Proposed Modification

Previously approved description of Project (2021):

JJCIV Property LLC is proposing to develop additional buildings on a 10.89 acre tract of land in Georgetown, Texas. The project site is located on Westinghouse Road approximately 0.9 miles East bound from the I-35 North intersection. The site is in Georgetown's city limits.

The existing conditions of the site include three buildings with offices and warehouses. Development of the site will include the demolition of the southernmost building, replacement of on-site storm pipes with 2 – 3'x5' box culverts, developing two additional buildings (labeled "B" and "C" on the site plan) and expanding the existing building situated at the northwest corner of the site ("F" on the site plan). Moreover, development will also involve the adjustment and expansion of associated drives, parking, utilities, and the placement of two concrete batch detention ponds. Westinghouse Road/County Road 111 provides access to the site.

The upstream off-site runoff of 118 acres of land is routed and released on-site by four box culverts across Westinghouse Drive. This off-site runoff drains to a natural dry creek that runs along the center of the property, the dry creek is routed in its north portion with corrugated storm pipes and undisturbed in its downstream section. The combined off-site and on-site runoff exit the property on the southern boundary where flow converges with the FEMA floodplain. The neighboring site on the West remains undeveloped. The property to the Southeast is currently being developed and the Northeast section currently holds a recently developed gas station and convenience store. To the South of the property there are apartment complexes.

The Northern part of the site is in the transition zone of the Edwards Aquifer but drains to the recharge zone situated on its southern part. The owner acquired the site in the current conditions and with no previous knowledge of Permit Requirements by the TCEQ. All development, including existing, will be taken into account for Water Quality treatment required by the WPAP.

The existing impervious cover consists of three buildings used as offices, storage and as a mechanical/machining shop, as well as pavement, concrete and gravel surfaces primarily used as a driveway and for parking. For this submittal, the site will be considered undeveloped with no existing impervious cover. Developed conditions will amount to 192,629 sf of impervious cover. This represents 41% of the 10.89 acre project site. Two batch detention basins will be the permanent BMP used to treat the runoff from the site. The site will be graded to inlets with storm sewer pipes that route the drainage to the batch detention basins. All other

proposed drainage will be surface drainage graded toward the batch detention basins.

According to the TCEQ TSS Removal Calculations spreadsheet, a total of 3,847 pounds of total suspended solids must be removed for the site for 80% TSS Removal. The batch detention basins have been sized for an 85% TSS removal rate (4092 pounds).

Narrative of Proposed Modification:

The modification to the approved scope of work is proposed in response to funding issues by the developer. The overall scope of work has been reduced to the planned addition (G) to existing Building F and associated required parking, fire lane and fire line improvements.

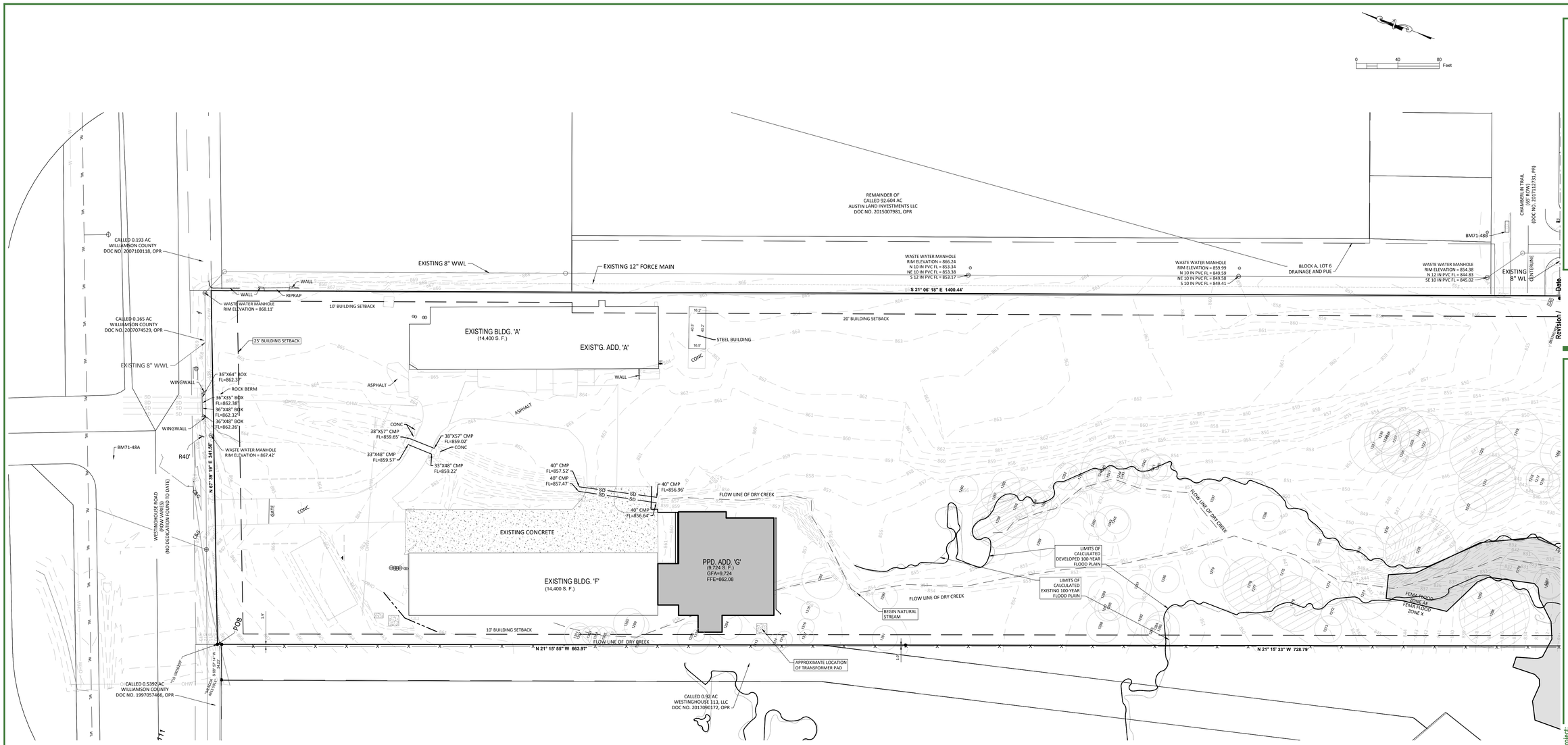
In August of 2021, the TCEQ was notified concerning the start of construction under the approved WPAP. Work commenced on Building addition G and is now complete. The developer was unable to secure funding for the remainder of the project.

Earlier this year, a Site Development Plan was processed through the City of Georgetown limiting the scope of work to the Building G addition and associated required parking, fire lane and fire line improvements. The city has approved the Site Development Plan.

The purpose of the modification is to adjust the scope of work to include two earthen Batch Detention ponds to mitigate the increase in TSS associated with planned site improvements and existing site improvements that were constructed without an approved WPAP. Overall, the planned amount of impervious cover has been reduced from 40% to 19.6%.

Buildings F and G are connected to an existing approved septic system located to the north of Building F. No additional sewer improvements are proposed with this project.

Attachment C: Current Site Plan of Approved Project



M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

Project:

Revision / Date

STEGER BIZZELL

1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

EXISTING SITE PLAN

Job No.	Sheet No.
Drawn By: ARB	
Date: 04-21-23	

2021-18-SDP

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

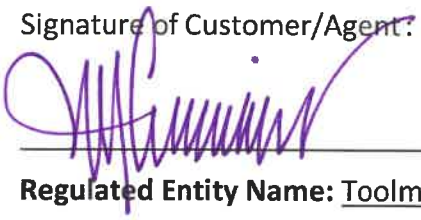
Signature

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

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

Date: 7/21/2023

Signature of Customer/Agent:



Regulated Entity Name: Toolmen Business Park and M3 Glass Technologies

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):10.89

3. Estimated projected population:60

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	38,524	÷ 43,560 =	0.88
Parking		÷ 43,560 =	
Other paved surfaces	54,442	÷ 43,560 =	1.25
Total Impervious Cover	92,966	÷ 43,560 =	2.13

Total Impervious Cover 2.13 **÷ Total Acreage** 10.89 **X 100 =** 19.6**% 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	600 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day 600	

15. Wastewater will be disposed of by:

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

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

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

☐ Sewage Collection System (Sewer Lines):

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

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

☐ The SCS was previously submitted on_____.

☐ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☐ The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:

☐ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40'.

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 48491CO485F eff.12/20/2019

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

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

Attachment A – Factors Affecting Water Quality

The following factors are anticipated to adversely affect surface water and groundwater quality:

- Disturbance of vegetated areas
- Leaking oil from parked vehicles
- Malfunctioning septic system and spill on site
- Loss of vegetative ground cover due to inadequate watering or mismanagement
- Use of roads by automotive traffic and subsequent oil/grease pollutants from normal use
- Accidental or improper discharge of the following:
    - Concrete
    - Cleaning solvents
    - Detergents
    - Petroleum based products
    - Paints
    - Paint solvents
    - Acids
    - Concrete additives

Attachment B – Volume and Character of Storm Water

The character of the storm water generated by this project is typical of a commercial type development. Drainage Calculations for developed conditions are included on the Developed Drainage Plan sheet in the construction plans. Reference Sheet C14.

Attachment C – Suitability Letter from Authorized Agent

Williamson County and Cities Health District

Environmental Health Services
303 Main Street
Georgetown, TX 78626
(512) 943-3620

NOTICE OF APPROVAL TO OPERATE AN OSSF

Permit #: 2011-74

Location: 878 CR 111, GEORGETOWN TX 78626
Block: Lot: 3.00AC
Owner: TOOLMEN CORPORATION,
Mailing address: 878 CR 111 GEORGETOWN TX 78626

Permit Date: 5/18/2011
Phone: (512) 922-2307

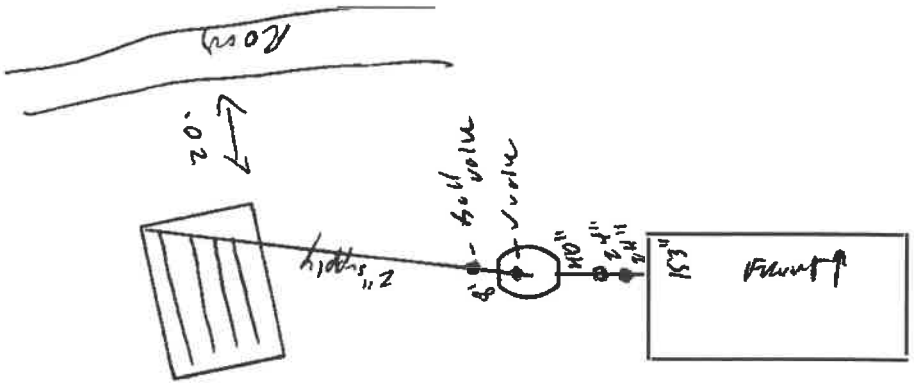
THIS IS TO CERTIFY that the on site sewage facility meets or exceeds the basic requirements established by the District.

LICENSE TO OPERATE this facility is hereby granted to the owner. This license simply grants permission to operate this facility; it does not guarantee its successful operation. Routine maintenance and proper functioning are the sole responsibility of the owner.

KEEP THIS LICENSE with important papers. You may need it when selling your house or if a malfunction occurs.

THIS LICENSE REMAINS in effect until the system, water usage, or structure is changed or such time as there is evidence that this facility is not operating properly and may constitute a threat to the health of the people of Williamson County. SEE ALSO LIMITATIONS ON AUTHORIZATION TO CONSTRUCT LETTER & PROFESSIONAL DESIGN

DRAWING OF SYSTEM (Not to scale):



Agency Official

MAY 21 2013
Date

WCCHD-ENV

8/8/2011 03:42 PM Page 1

M: 5-22-13

1st Inspection 7-26-11 AM 2nd Inspection 8-8-11 OSSF # 11-74

WILLIAMSON COUNTY AND CITIES HEALTH DISTRICT
ALTERNATIVE SEPTIC SYSTEM INSPECTION – FIELD NOTES

SITE LOCATION: 878 Cr 111

INSTALLER: J. Wood **INSTALLER #** 1711 **/EXP** 11-30-11 **PHONE #** 635-5161
APPRENTICE _____ APPRENTICE# _____ /EXP _____ PHONE # _____
AUTHORIZATION TO CONSTRUCT GRANTED: ***If no, then no inspection can take place.*** 5-18-11 (yes/no)
INSTALLER APPROPRIATELY LICENSED: II (yes/no)

I. TANK TYPE:
1. Concrete ✓ Other ____ Type: **Box** ____ g/ ____ c **Oval** 1250 g/ 3 c **Pump Tank** ____ g/ ____ c

II. SOIL DISPOSAL FIELDS:
1. **Method:** A. Trenches ✓ B. Mound ____ C. Pumped Conventional ____ D. Other: ____
2. **Setbacks:** Tank to well 100'+ ft Disposal to well 100'+ ft Water lines 12' ft House/Improvements 7'+ ft
Property line 30'+ ft Body of water — ft Break in grade — ft Easements ____ ft Other ____
3. **Dimensions of Fields:** A. Field #1 4 ' x 64 ' = 256 Ft²
B. Field #2 ____ ' x ____ ' = ____ Ft² **Total** 1280 Ft² 36" trenches 3' islands
C. **Depth of Fields** 12-16 ".
4. **Sand** on Site: ✓ Amount ____ Yards, estimated.
5. **Gravel** on Site: ✓ Amount 36 Yards, estimated.
6. **Backfill** on Site: ✓ Amount 54 Yards, estimated **Class/Type:** class II
7. Type of **Diversion Valve** _____, Type of **Pressure Valve** _____

III. GENERAL CONDITIONS AND WORKMANSHIP OPEN PIT: Date: 7-26-11 **Inspector:** SLS

	Yes	No
1. Sch. 40 (min) pipe glued in place from structure to tank with 1/8" per foot min fall	✓	
2. All needed clean-outs with screw caps in place	✓	
3. Holes around inlet and outlet grouted or sealed	✓	
4. Tank is watertight (filled to flow line)	✓	
5. Tank is set correct/level, sand padded and tank hole is clear of debris	✓	
6. T's & extensions installed in tank / effluent filter	✓	
7. Bed or trench bottom essentially level (1" in 25' / 3" overall) Elevations on reverse	✓	
8. Correct pipe size and spacing of holes in the pipe	✓	
9. Evidence of seeps or shallow groundwater		✓
10. Tank lids sealed or fitted with secure water tight caps	✓	

Traffic 1-05

not applicable

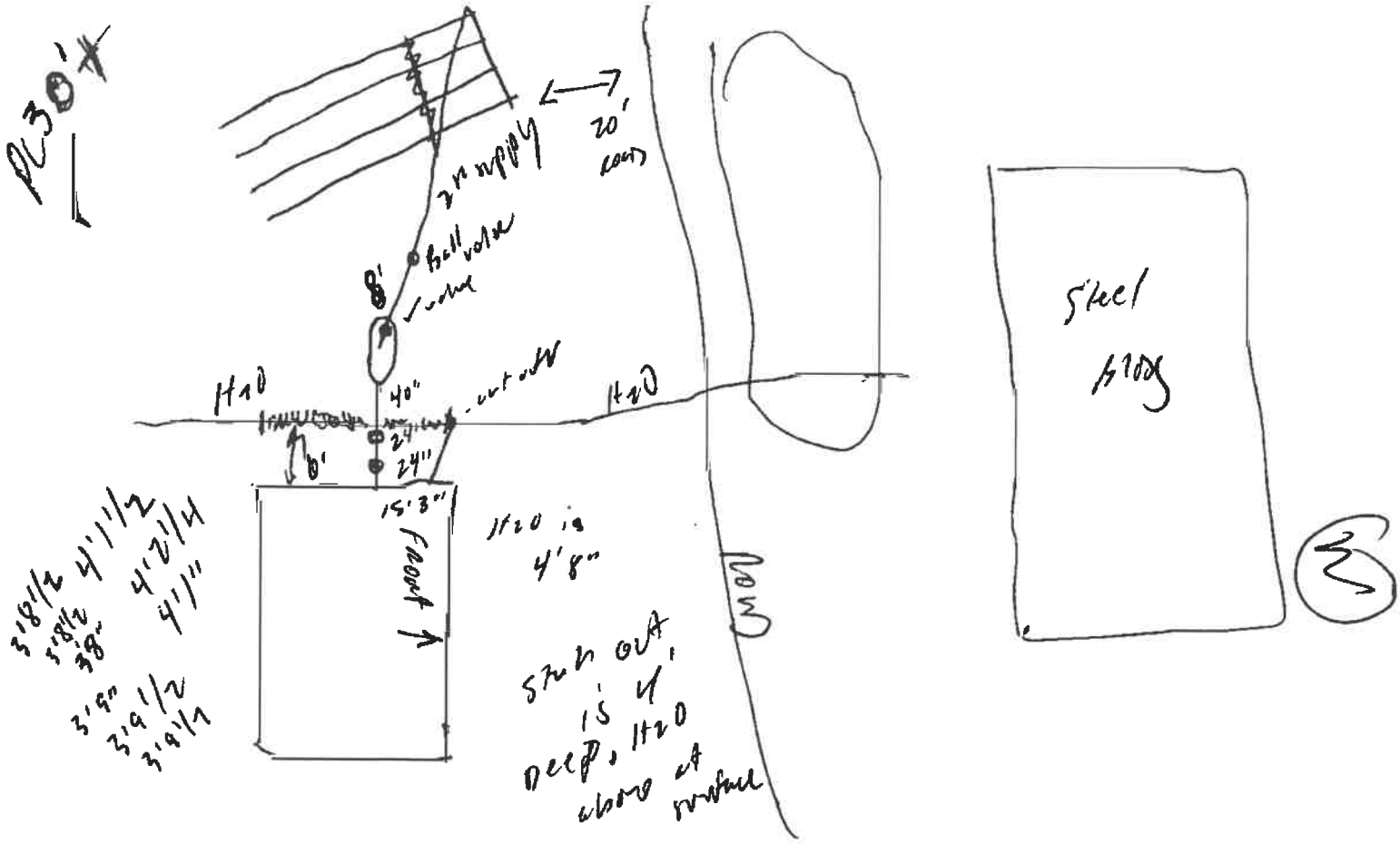
IV. HEAD PRESSURE/ LANDSCAPE INSPECTION: Date: 8-8-11 **Inspector:** Dm

	Yes	No
1. Correct pipe size & schedule (S/40 min) from tank to valve and beds	✓	
2. Pipe and field covered with correct gravel size & grade	✓	
3. Head pressure set	✓	
4. Soil conditions dry during installation	✓	
5. Correct pump: Mfg: Liberty Model: 253 HP Size: 1/3 hp	✓	
6. Alarm & alarm float are functional	✓	
7. Visible Disconnects/Junction Box/Rigid Conduit 8-8-11 Dm on Final	✓	
8. The fields are mounded 4" and 6" 8-8-11 Dm	✓	
9. The fields are seeded, hydro-mulched or sodded 8-8-11 Dm	✓	
10. Berm or swale in place (if needed) 8-8-11 Dm	✓	

Approved 8-8-11 Dm

V. FINAL SYSTEM APPROVAL: Inspector: Dm **DI#** OS 8626 **Date:** 8-8-11

REMARKS: Need proposal for H2O line crossing on moving of water line. SLS 7-26-11
installer moved water line, closest point is 12' Dm 8-8-11


PL 30'
20' road
2" supply
Ball valve
8'
valve
H2O
40"
cut off
H2O
24"
24"
6'
15'3"
Front
H2O is 4'8"
Stub out is 4' deep, H2O above at surface
Steel Bldg
3'8 1/2
4'1 1/2
3'8 1/2
4'2 1/4
3'8"
4'1"
3'9"
3'9 1/2
3'9 1/2

W. S. Riggins Jr., MD, MPH, WCCHD Executive Director/Health Authority

M 5-18-11
TNB

May 18, 2011

Toolmen Corporation
878 CR 111
Georgetown, TX 78626

RE: PROFESSIONAL DESIGN FOR 878 CR 111, Georgetown, TX, OSSF# 2011-74

To Whom It May Concern:

The Williamson County & Cities Health District (WCCHD) received the design submittal for the above-mentioned location. The proposed system, submitted by Kevin Moore, R.S., appears to meet the minimum requirements of the WCCHD. **Authorization to construct has hereby been granted.**

NOTE: THE FOLLOWING CRITERIA APPLY TO THIS LICENSE. FAILURE TO COMPLY WITH THESE CRITERIA WILL VOID THE LICENSE AND MAY RESULT IN A PUBLIC HEALTH NUISANCE:

- **The daily wastewater disposed in this OSSF will not exceed 128 gallons.**
- **This system is designed to only treat domestic strength wastewater for a maximum of 16 office/warehouse employees.**
- **The OSSF is designed to handle facilities with a normal business day (8 hours a day). Shift work is not permitted in the facilities served by this OSSF.**
- **No public use restrooms or retail use is included in this permit.**
- **No food preparation is allowed in the facilities served by this OSSF. Warming prepared foods for employees only is permitted.**
- **No manufacturing or chemical waste shall be disposed of into this OSSF.**
- **No showers are to be installed in the facilities served by this OSSF.**
- **The approval of this OSSF design does not allow for the inclusion of discharge from water softeners. Consult with your OSSF designer if such discharge is to take place.**
- **Any change in the use of this facility will require the permit to be renewed and upgraded.**
- **Any change in the type of use or increase in flow will require a new permit.**

Any changes in the above design must have written approval by the engineer prior to construction. The written specifications of such changes along with an **"as built"** drawing must be furnished to WCCHD for evaluation. If required, the license to operate the system will not be issued until all needed documentation is received from the designing engineer.

If any well easements encroach upon the drainfield area or groundwater is encountered, this design is void. Stop construction immediately and contact our office to receive instructions on how to proceed. If you should have any questions regarding this matter, please feel free to contact me at this office.

Sincerely,

Sam Thomas, OS 27485
Environmental Services

C: Kevin Moore, RS

WCCHD CHECK LIST FOR PROFESSIONAL DESIGNS - ON SITE SEWAGE FACILITIES

DATE: 4-11-11 **OWNER:** TOOLMAN CORP **OSSF #:** 2011-74

LOCATION: 878 CR 111, GEORGETOWN

DESIGNER: KEVIN MOORE, RS **SITE EVALUATOR:** SAME 0500 11071

Commercial?: YES

Type of System: 3542 LPD

~~Bedrooms~~ Employees on Permit: 16 Sq Ft: 14160

Wastewater Design Flow (Gal/Day): 128

~~Bedrooms~~ on Design: 16 Sq Ft: 14,160

Soil/Surface Application Rate: .1 Ra

Equivalent ~~Bedrooms~~: 16 16 @ 8 GPD = 128

SITE EVALUATION (Most restrictive conditions)

Evaluator Class of Native Soil: 0" - 34"

Restrictive layers (Rock, Clay, etc...) Rock → Depth: 34"

Evidence of Groundwater: NO → Depth: N/A

Inspector Class of Native Soil: III 0" - 34"

Restrictive layers (Rock, Clay, etc...) Rock → Depth: 34"

Evidence of Groundwater: NO → Depth: N/A

SLR required: YES

Flood Plain: NO

EARZ: YES

NO FEATURE 50' FROM TANK 150' FROM DISPOSAL AREA

TREATMENT PROCESS

Septic / Trash Tank (gallons): 1250 3/C

Pump Tank (gallons): IN 3/C

DISPOSAL PROCESS

Drain Field (Linear Feet): 256

Drain Field (Square Feet): 1280

Depth Min/Max (inches): 12" / 22"

Width Min/Max (inches): 36" / 36"

Diversion Valve: —

Pressure Valve: BALL

Gravel Size & Depth: .75" - 2" @ 12"

Backfill Class/Height above grade: 6" lb, II or III

DOSING & DISTRIBUTION

Dosing Rate (gal/minute): 26

Dosing Volume (gallons): 69.45

Reserve capacity in pump tank (gal): 138.9

Head Pressure: 2'

Check Valve: YES

Syphon Hole: —

EQUIPMENT SPECIFICATIONS

High Water Alarm: ON @ 29" SERIES

Audible: YES

Visual: YES

Pump Size (hp) / Model: 1/3 HP LIBERTY 250

Pump on separate circuit from alarm? YES

Filtration / Model: —

CONSTRUCTION PLAN (SITE PLAN/CROSS SECTIONS)

Contour lines/slope - esp. in disposal area: SHOWN

Well locations shown: SHOWN

Water line shown: SHOWN

Profile Holes shown and near drain field: SHOWN

Property lines shown: SHOWN

Setbacks shown/stated: SHOWN

Float settings (inches & gal) in pump tank: SHOWN

Cross section of tanks: SHOWN

Cross Sections Labeled: SHOWN

Landscape/Vegetation Notes: SEEDED, HYDROMULCHED or SODDED

CONTRACTURAL / ADMINISTRATIVE

Signed/Sealed/Dated by designer: KEVIN MOORE 3-18-11

Fees Due: $ ~~80~~ PD Due

Supply Line Diameter (inches): 2" S/NO PVC

Lateral Diameter (inches): 1" S/NO PVC

Hole Size (inches): 5/32

Hole Spacing: SEE CHART

Pipe separation: 6.5' CENTERS

Minimum Dosing Volume met: YES

Trench	Length	# Holes	Trench	Length	# Holes
1	64'	16			
2	64'	15			
3	104'	14			
4	64'	13			

DESIGN APPROVED: YES ~~NO~~

(REC'D FOR REVIEW 4-25)

ADDITIONAL NOTES:

1) NEED COMMERCIAL QUESTIONAIRE. — CONFLICT OF DATA 5-11-11

Sam Thomas, 0527485

Inspector / Date

~~4-25-11~~ NO

~~5-11-11~~ NO

5-18-11

KPT, LPD, Last Revised: 04/25/01

W. S. "Chip" Riggins, Jr., MD, MPH, WCCHD Executive Director/Health Authority

M 5-12-11
TNB

May 11, 2011

Toolmen Corporation
878 CR 111
Georgetown, TX 78626

RE: Professional design for 878 CR 111, Georgetown, OSSF # 2011-74

To whom it may concern,

On May 3rd and May 9th, the Williamson County & Cities Health District received requested documentation. The design is not approved and authorization to construct cannot be given at this time for the following reason(s):

- WCCHD received two Commercial Use Questionnaires (one on May 3rd and one on May 9th) containing conflicting data. Please review the two attached Questionnaires, resolve the conflicts and make any needed design changes based on the results.

Once all required criteria have been submitted to this office it will be reviewed. If you have any questions concerning this matter, please contact this office.

Sincerely,

Sam Thomas, OS 27485, RS 4365
WCCHD Environmental Services

cc. Kevin Moore, R.S.
Enclosures

W. S. "Chip" Riggins, Jr., MD, MPH, WCCHD Executive Director/Health Authority

M-4-27-11

April 27, 2011

Toolmen Corporation
878 CR 111
Georgetown, TX 78626

RE: Professional design for 878 CR 111, Georgetown, OSSF # 2011-74

To whom it may concern,

On April 11th, the Williamson County & Cities Health District received a submittal for an On-Site Sewage Facility (OSSF) application from Kevin Moore, R.S. The design is not approved and authorization to construct cannot be given at this time for the following reason(s):

5-11-11 Conflict of Data –

- Please have the owner or company representative fill out, sign, date and return the attached Commercial Use Questionnaire. Only limited review of your OSSF package can be completed without this critical information. Pd 5-3-11 TNB
- For lots that have not been "Legally" subdivided or have not completed an Environmental Review there must be a "Single Lot Review" process completed. The fee for this review is ~~$80~~; please submit the addition fee at your convenience. All documents needed for this review have already been received.
- On the OSSF design under the "Proposed OSSF Design" it calls for a 1250 two compartment tank. This should read "three" compartment tank.
- On the OSSF design under the "Dosing Volumes" in the "As designed" & "Duration of each dose" sections the dosing volume should be 69.45 gallons per design under the "Pump Tank Data" section.
- On the OSSF design under the "Trench Specifications" design shows a depth of trench range of 12" to 24"; however, profile hole #3 was limited to 34" both on the submitted site evaluation and confirmed by the WCCHD site visit. Please review submitted trench depth range.
- Please submit an OSSF site plan that shows all property lines and dimensions for the property.
- Please show all water lines to structures on the site plan.

Once all required criteria have been submitted to this office it will be reviewed. If you have any questions concerning this matter, please contact this office.

Sincerely,

Sam Thomas, OS 27485, RS 4365
WCCHD Environmental Services

cc. Kevin Moore, R.S.
Enclosures

OSSF # 2011-74

To: General Public
Re: OSSF Requirements for Single Lot Subdivisions
From: Environmental Services

Lots that have not been "legally" subdivided or have not completed an Environmental Review must submit information regarding site suitability for on-site sewage facilities as required by the Texas Environmental Services Commission (TCEQ). OSSF permits will not be granted unless the following information has been submitted to this office.

- [x] Provide a copy of a professional survey of the property that addresses floodplain and square footage of lot. All existing structures with water & electric service must be shown on the survey or OSSF design.
- [x] Provide a map to property in relationship to major roads.

A qualified Site Evaluator can generally provide the additional items mentioned below.

- [x] Indicate if property is or is not located within the Edwards Aquifer Recharge Zone.
- [x] Provide a drainage plan. This report must include how drainage patterns will or will not affect the proper function of the OSSF. This report must show any drainage improvements needed to ensure that the lot would have positive drainage, meaning that water will not pool on lot. The report must state if positive drainage already exists.
- [x] Indicate if the lot is served by private wells, public wells, or a public water supply. A minimum of 1 acre of surface area is required for each house if served by public water. A minimum of 2 acres of surface area is required per residence if served by private well.
- N/A [ ] If lot is to be served by a water company, then a letter will be needed from the Water Company stating that it has the capability and capacity to serve water to said lot.
- [x] If lot is to be served by wells, the well locations must be located on the survey with the required 100-foot sanitary easement labeled. Wells must be located 50 feet from all property lines. If the sanitary easement encroaches on neighboring properties, a letter of easement acceptance is required form affected property owner. ON OSSF DESIGN.
- [x] Provide a topographic map or state direction and percentage of slope on the lot. Additional topographic information may be required depending on the nature of the lot and system location.
- [x] A subsoil and groundwater report must be submitted that indicates the depth and type of soils, depth to rock or other restrictive layers, depth to groundwater or evidence of groundwater (mottling). Two test holes are required for the installation of septic system. These holes are to be a depth of at least 5 feet and must be left uncovered for Williamson County inspectors to evaluate.
- [x] Provide a report detailing the types of OSSF to be considered for this lot.
- [x] Indicate 75-foot setbacks from creeks, lakes, drainage-ways, and drainage easements. Indicate 25-foot setbacks from breaks in grade. Indicate 150-foot setbacks from recharge features.

Once all required criteria have been submitted to this office, the design can be reviewed for approval. If you have any questions concerning this matter, please contact this office.

Sam Thomas 0527405 4-25-11

Williamson County and Cities Health District
Environmental Health Services
303 Main Street
Georgetown, TX 78626
(512) 943-3620

4-14-11
TNB

Review of Soil Evaluation

April 14, 2011

THIS LETTER IS NOT AN AUTHORIZATION TO CONSTRUCT.

Toolmen Corporation
878 C.R. 111
Georgetown, TX. 78626

RE: ON-SITE SEWAGE FACILITY (OSSF) PERMIT #: 2011-74

SITE LOCATION: 878 C.R. 111, Georgetown, TX, 78626

This letter is sent to notify you of the status of your application and any actions you or your site evaluator may need to take. A site evaluation was received for this OSSF application and WCCHD has performed a verification site visit to your property.

The soil profile evaluation IS approved.

Your site evaluation received (date): **4-12-2011**
WCCHD site visit requested (date): **4-13-2011**
WCCHD site visit performed (date): **4-13-2011**

INSPECTOR COMMENTS (if any):

REQUIRED ACTION / STATUS:

Paperwork is being forwarded to design review. Soil found was generally as described. Additional questions may be generated during the OSSF design review process.

If you have any questions concerning this matter, please contact this office.
Sincerely,

D. E. McPeters, Douglas Earl McPeters, D.R. #OS8626.

Copy Site Evaluator: Kevin Moore

OS 8626

Williamson County and Cities Health District
Environmental Health Services
303 Main Street
Georgetown, TX 78626
(512) 943-3620

Soil Evaluation Work Sheet

OSSF#: 11-74

Site Address: 878 C R 111 **S/E Requested Date:** 4-13-11

NOTES: P3 34" Brown silty clay III Less 30% Rock
Rock Bottom

EVALUATION OF PROFILE HOLE #1	
DEPTH (in inches) To include: Horizon Depths, Soil Classification, and Percentage of Rock	SOIL DESCRIPTION
26"	Brown silty clay III Less 30% rock
56"	Lt. Brown/Orange/White silty clay loam Less 30% rock III Rock Bottom
Bottom Conditions:	

EVALUTION OF PROFILE HOLE #2	
DEPTH (in inches) To include: Horizon Depths, Soil Classification, and Percentage of Rock	SOIL DESCRIPTION
39"	Brown silty clay III Less 30% Rock Rock Bottom
Bottom Conditions:	

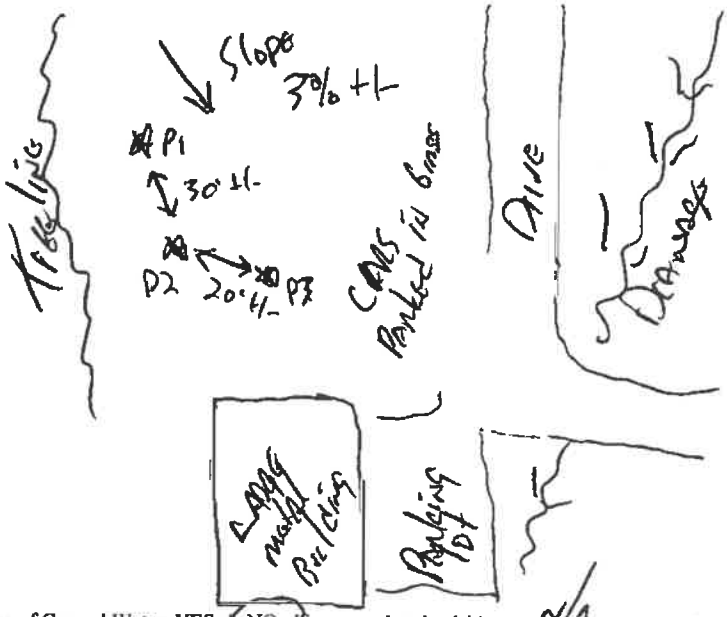
APPROVAL OF SOIL EVALUATION: (YES) / NO

IF NO; REASONS:

SITE SKETCH:

C.R. 111

Overhead Power lines from Ditch



Evidence of Ground Water: YES (NO) If yes, at what depth(s) N/A

INSPECTOR: D. Don DR# OS 8626

DATE: 4-13-11

Williamson County and Cities Health District

Environmental Health Services
303 Main Street
Georgetown, TX 78626
(512) 943-3620

Pd 610.00
TNB

WCCHD OSSF APPLICATION - COMMERCIAL ENGINEERED
Permit #: 2011-74

Location: 878 CR 111, GEORGETOWN TX 78626
Block: Lot: 3.00AC
Owner: TOOLMEN CORPORATION,
Mailing address: 878 CR 111 GEORGETOWN TX 78626

Phone: (512) 922-2307

Permit application only. Application does not guarantee that a permit to operate an On-Site Sewage Facility (OSSF) will be granted. The WCCHD recommends that construction of the home/structure begin only after receipt of a Permit To Construct an OSSF and a Certificate of Compliance permit from the County Engineers Office is granted. To prevent additional fees the application identification tag must be posted at all times of construction. The WCCHD will issue a Permit to Construct the OSSF after receipt and review of all required planning material. A notice of approval to operate the system will be issued after the WCCHD has completed required inspections as requested by a licensed installer.

APPLICATION FOR A LICENSE TO OPERATE AN ON-SITE SEWAGE FACILITY
VALID FOR ONE YEAR FROM DATE OF APPLICATION

Warning:
Part of the complete application requires a flood plain determination from the County Engineers office. For a determination please contact Jim Loyd, 512-943-3356, at 3151 SE Innerloop Suite B, Georgetown, Texas, 78626. The flood hazard boundary maps and other flood data used by the County and Williamson County and Cities Health District (WCCHD) in evaluating flood hazards for proposed developments are considered reasonable and accurate for regulatory purposes. Flood Plain determinations are based solely on the property owner's indication of the proposed home-site/ structure. On occasion greater floods can and will occur and flood heights may be increased by man-made and natural causes. The County cannot guarantee the property will not flood. Exempting the property owner from the Flood Plain Management Regulations does not create any liability on the part of the county or the WCCHD or any officer or employee of the County or the WCCHD in the event that flooding and/or flood damage does occur. Ultimate responsibility of locating the home/structure outside of the flood plain rests with the property owner. The WCCHD recommends that the property owner contact a surveyor prior to construction for precise flood plain determination.

Signature Jack Wan Date: 4-12-2011

I acknowledge the above warning. I certify I am the property owner / designated agent, and the above statements and the site profile information are true and correct. I understand that I must follow the steps set forth and/or compliance schedules in order to have an OSSF installed or repaired. The property must be accessible (no locked gates) for inspection at all times. Fees will be due to reschedule inspections.

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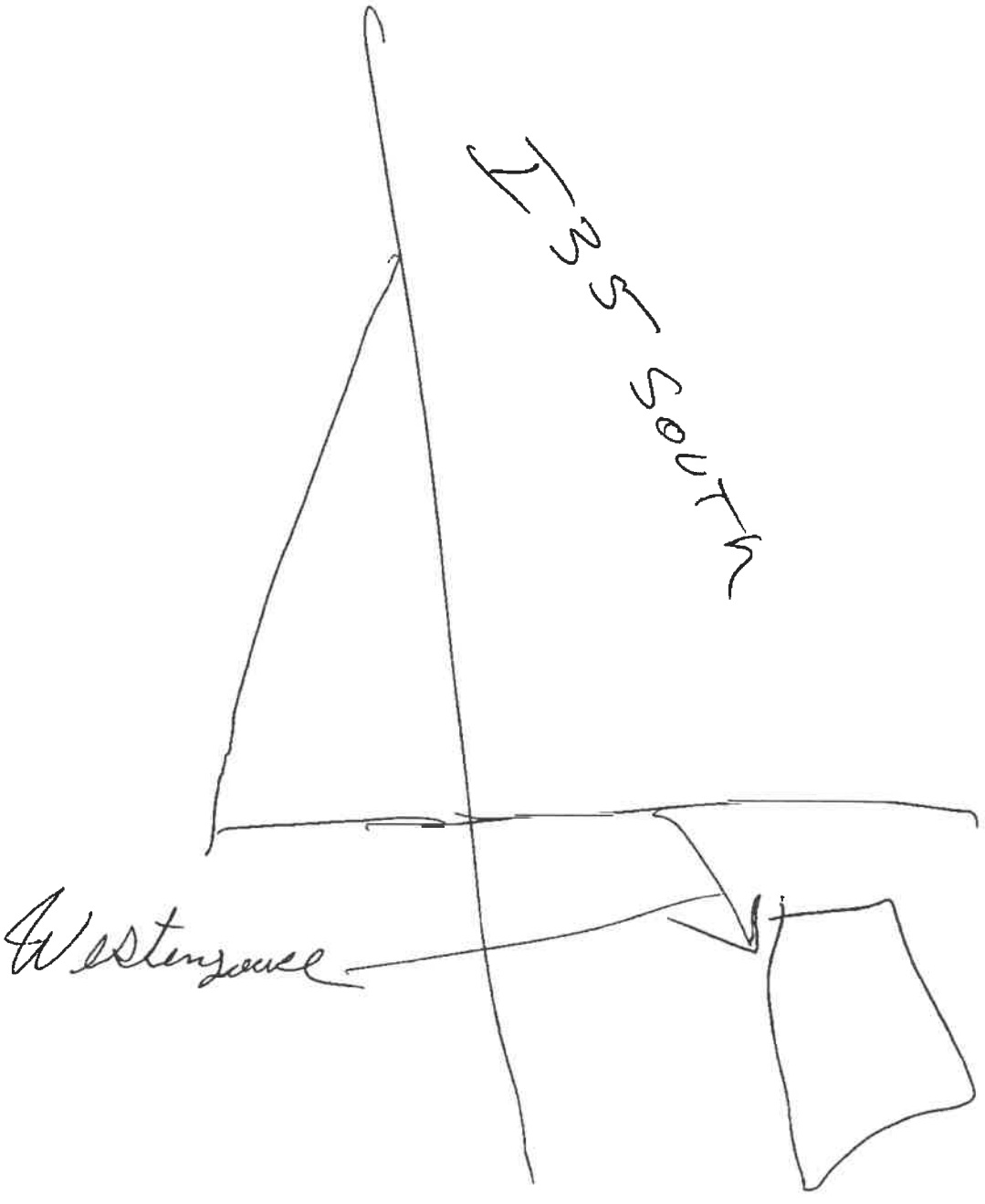
Agency Official Tracy Bailey Date


I35 SOUTH
Westinghouse

SITE PROFILE

OSSF Permit #: 2011-74

TYPES OF PERMITS: ☑ OSSF permit

PROPERTY ADDRESS: 878 CR 111, GEORGETOWN TX 78626
NAME OF OWNER: TOOLMEN CORPORATION
MAILING ADDRESS: 878 CR 111 GEORGETOWN TX 78626 JOHN POTTS
Work Phone: (512) 863-9685 **Cell:** (512) 635-5161
Home Phone: (512) 922-2307 **Fax:**

14/60 ← 16 ← From Questionnaire 5-18-11

Septic Type: **Reason:** New **Sq Ft** **0 Employees**
Purchased: 4/11/11 **Revision:** **License Date:** **Field:** 0
Plans: **Final Inspection:** **Printed:** 0 0 0 0
Authorization: **Approved By:** **Installed:**
Other Information: ☐ Rainwater Collection ☐ City limits ☐ Public Sewer ☐ ETJ
☑ Well ☐ Water saving fixtures ☐ Public Water ☐ Recharge zone ☐ Meter / Timer Required

WaterSupply Company:
Record Set: **Volume:** **Page:** **Williamson County**
Lot/Tract: 3.00AC **Block:** **Lot size:** 11.058AC **Precinct/Zone:**
Affidavit File Date: **Survey:** **Grid/Section:**
Subdivision: **Reference:**

Evaluator's Information: **Site Evaluator:** **Type of soil:** **Soil Date:** 0 GPD

System Information:

Manufacturer: **Distributor:**
Designer: **Installer:**
Treatment Type: **Disinfectant:** **Flood Plain Permit:**
Disposal: **Drainfield:** 0 x 0 x 0 - 0 **Flood Plain Status:**

	Brand / Model	Serial Number	Date
System:			
Aerator:			
Discharge:			

Flood Plain Date:
Flood Plain Certificate:
Flood Plain Complete:
Expiration Date:

Service and Maintenance Information

Service Provider:
Date Maintenance Contract Started: **Insp./year:** 2
Date Maintenance Contract Expires:

Location of System: **GPS Latitude:** N **GPS Longitude:** W **Map Code:**
Legal Description: *BARNEY C. LOW SURVEY, ABST NO. 385*

TOOLMEN

COMPUTER INTEGRATED MECHANICS

Application for Commercial Non-Aerobic (ATU) OSSF Permit via Agent

I, John Potts, business owner of commercial property located at 878 County Road 111, Georgetown, Williamson County, Texas give permission to our agent, Ward Septic Tank and Backhoe Service, to apply for an OSSF permit at this location.

WITNESS MY HAND ON THIS 28th **DAY OF** March, 2011.

_____

PROPERTY OWNER

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 28th **DAY OF** March, 2011.
BY:

John Potts

PRINTED NAME OF PROPERTY OWNER

_____

NOTARY PUBLIC, STATE OF TEXAS

Andrew M. Mitchell

NOTARY'S PRINTED NAME

My Commission Expires: 12/29/2014

ANDREW M. MITCHELL
My Commission Expires
December 29, 2014

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NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

DEED OF TRUST

Date: February 28, 2005

Grantor: TOOLMEN CORPORATION

Grantor's Mailing Address (including county): 2425 Arbor Drive
Round Rock, Williamson County, Texas 78681

Trustee: ROBERT N. RAY

Trustee's Mailing Address (including county): 4502 Centerview, Suite 200
San Antonio, Bexar County, Texas 78228

Beneficiary: W. P. MURPHY LIVING TRUST

Beneficiary's Mailing Address (including county): P. O. Box 8
Converse, Bexar County, Texas 78109

Note(s)

Date: February 28, 2005

Amount: $675,000.00

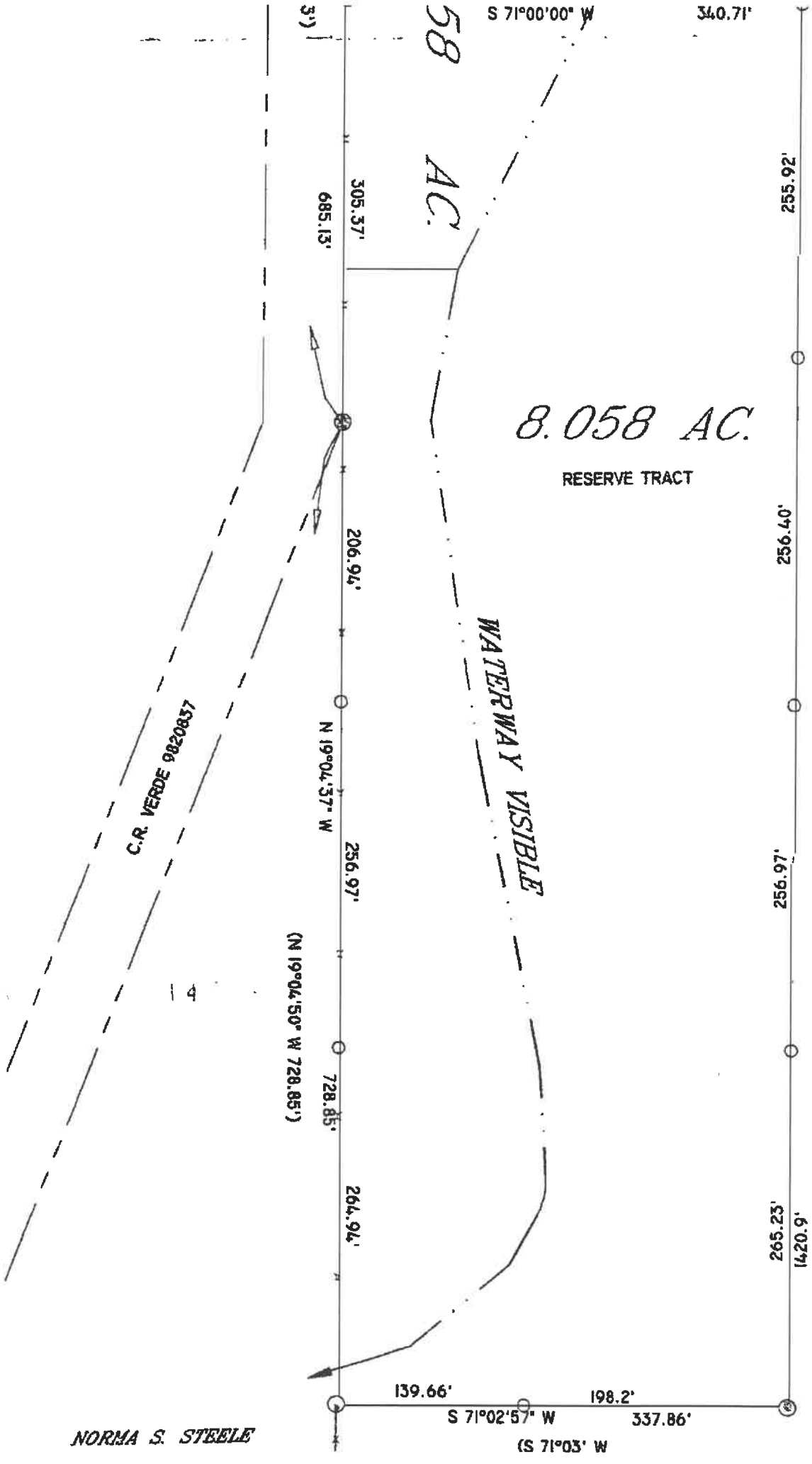
Maker: TOOLMEN CORPORATION

Payee: W. P. MURPHY LIVING TRUST

Maturity Date: As Therein Provided

Property (including any improvements):

Being 11.058 acres of the Barney C. Low Survey, Abstract No. 385, in Williamson County, Texas; the same tract called 11.058 acres as described in a deed to Charles J. Johnson recorded in Vol. 848, Pg. 817, Official Records of Williamson County, Texas. Surveyed on the ground in November of 2000 by William F. Forest, Jr., Registered Professional Land Surveyor No. 1847, and being more fully described by metes and bounds on Exhibit "A" attached hereto and made a part hereof for all purposes.


S 71°00'00" W
340.71'
(S 18°54'25" E 1420.
BEARING BASIS
255.92'
305.37'
685.13'
8.058 AC.
RESERVE TRACT
206.94'
256.40'
WATERWAY VISIBLE
C.R. VERDE 9820837
N 19°04'37" W
256.97'
256.97'
(N 19°04'50" W 728.85')
728.85'
264.94'
265.23'
1420.9'
139.66'
198.2'
S 71°02'57" W
337.86'
(S 71°03' W
NORMA S. STEELE

SUR

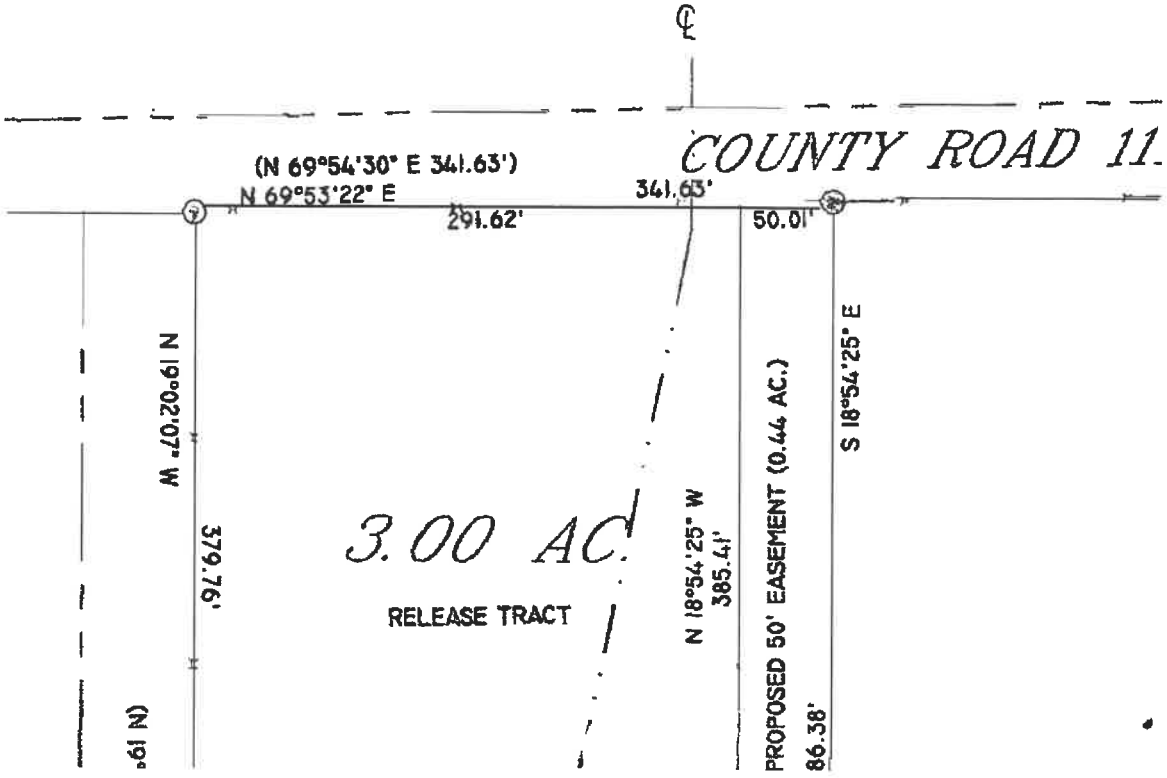
BILL

11.

CHARLES
THE SA
VOL. 8
IN THE BARNEY
IN WILLIAMS

LEGEND

IRON PIN FOUND	⊕
CORNER NOT FOUND, REPLACED WITH 1/2" IRON PIN	●
IRON PIN SET	○
IRON PIPE FOUND	◎
NAIL FOUND	△
CONCRETE MONUMENT FOUND	⊠
EXISTING WIRE FENCE	——— X ———
CHAINLINK FENCE	——— o ———
BOARD FENCE	——— □ ———
CENTER LINE OF CHANNEL	— · · ℄ · · —
RECORD CALLS (BEARING / DISTANCE)	
DATA THIS SURVEY BEARING/ DISTANCE	
100 YEAR FLOOD PLAIN (APPROXIMATE LIMIT WILL VARY WITH CONDITIONS)	— · · — · · — · · —
TRACT LINES	— — — — — —
LAND GRANT LINES	— · — ——— —



E) PHASED SUBDIVISION (A9B)
F) VARIANCES APPROVED BY PROPER AUTHORITY

STATE RULES MAY REQUIRE ADDITIONAL PROCEDURES FOR SITE EVALUATION BY THE WILLIAMSON COUNTY HEALTH DISTRICT PRIOR TO ISSUANCE OF ANY ADDITIONAL DEVELOPMENT PERMITS FOR THIS PROPERTY.

(IN CITY JURISDICTIONS CITY PLAT REQUIREMENTS MAY APPLY FOR ANY LOT WHICH IS LESS THAN 5 ACRES, OR ANY LOT THAT USES CITY UTILITIES. SEE CITY SUBDIVISION REGULATIONS AND STATE LAW.)

ANDERSON
348/511

[illegible] hereby certify that this survey was this [illegible] on the ground [illegible] correct, and that there are no significant boundary [illegible] in area, protrusions, intrusions, overlapping [illegible] except as shown hereon, and that said property [illegible] except as shown hereon.

[illegible] is not within [illegible] as identified by the Federal [illegible] boundary [illegible] Effective [illegible] 1991 [illegible] areas of special flood [illegible] has not been [illegible] as a part of this survey.

[illegible] been shown [illegible] identified [illegible] current [illegible] the owner. Easements listed [illegible] not addressed [illegible]

[illegible]

William F. Forest, Jr. R.P.L.S. 1847

[illegible] NOT AVAILABLE [illegible]

[illegible] existing on the premises at the time of survey [illegible] shown

STATE OF TEXAS
REGISTERED
WM. F. FOREST JR.
1847
PROFESSIONAL
LAND SURVEYOR

[illegible]ST SURVEYING
[illegible]MAPPING COMPANY
[illegible]02 ASH STREET
[illegible]RGETOWN, TEXAS
[illegible]12-930-5927

[illegible]URPHEY
[illegible]4 D25J19

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OSSF # 2011 - 74

Commercial Use Questions:

Include information about the type of waste and quantity of waste that will be disposed of in the OSSF. (Residential strength waste, high strength waste from kitchens, any chemicals or wastewater byproduct from manufacturing products, toilets only etc...) toilets only

Will there be a normal 8 hour business day? ( ) yes ( ) no

If no, please describe shifts:

Mon-Fri 8-5

For non-restaurant kitchens, provide a FULL description, including size of the kitchen and how it will be used (for example, preparation of meals versus heating food that is brought-in, employee only use, etc...)

10x10 Kitchen breakroom employee only kitchen

Types of use check all that apply. Include number of employees/rooms/unit #s.

Boarding school (per room capacity)	(X) no	( ) yes	# =
Country Club member	(X) no	( ) yes,	# =
Are there showers?	(X) no	( ) yes	# =
Are there toilets?	( ) no	(X) yes	# = 3
Are there bathroom sinks?	( ) no	(X) yes	# = 3
Is there a kitchen?	( ) no	(X) yes	# = 1
Factory/manufacturing	(X) no	(X) yes	# =
Day Care (children)	(X) no	( ) yes	# =
Hospital beds	(X) no	( ) yes	# =
Hotel beds	(X) no	( ) yes	# =
Nursing home beds	(X) no	( ) yes	# =

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Laundries	(X) no	( ) yes	# = _____
Lounges	(X) no	( ) yes	# = _____
Movie theatre	(X) no	( ) yes	# = _____
Church seats	(X) no	( ) yes	# = _____
Office Employees (no food)	(X) no	( ) yes	# = _____
Office Employees (with food)	( ) no	(X) yes	# = 16
Park (persons with bathhouse)	(X) no	( ) yes	# = _____
Park (persons w/o bathhouse)	(X) no	( ) yes	# = _____
Schools (with food per student)	(X) no	( ) yes	# = _____
Schools (w/o food service)	(X) no	( ) yes	# = _____
Service station (vehicles)	(X) no	( ) yes	# = _____
Retail (public washroom)	(X) no	( ) yes	# = _____
Pool bathhouse (per person)	(X) no	( ) yes	# = _____
Travel Trailer/RV (per space)	(X) no	( ) yes	# = _____
Vet clinic (per animal)	(X) no	( ) yes	# = _____
Construction sites (workers)	(X) no	( ) yes	# = _____
Youth Camp (per camper)	(X) no	( ) yes	# = _____
Restaurant seats	(X) no	( ) yes	# = _____
Restaurant (fast food per seat)	(X) no	( ) yes	# = _____

Describe the proposed use for, for restaurants list or describe type of use/ provide a menu:

This is a commercial company that employees office & warehouse. We need the capacity for 16 employees. The total of building is 116.000 sq ft. which includes 2,000 sq ft. of office.

Signature: _____ **Date:** 5-19-11

Date: 05-19-11
To: Sam Thomas
From: Kevin Moore

RE: OSSF # 2011-74, 878 CR 111, GEORGETOWN, TX.

DESIGN CONCLUSION

- Building square footage: 16,000 square feet
- Building use: office space
- Number of employees: 16 @ 8GPD
- Number of showers: none
- Number of toilets: 3
- Number of sinks: 3
- Kitchen facilities: yes - employee break room
- Manufacturing on-site: no
- Hours of operation: 8 a.m. - 5 p.m.
- Maximum Daily Discharge Rate: 128 GPD

Sincerely,

Kevin Moore

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MAY 19 2011
WCCHD-ENV

Kevin J. Moore, R. S.

Registered Professional Sanitarian
R. S. # 3542
S. E. # 11071
Installer II # 19037

P.O. BOX 170998
AUSTIN, TX 78717
(512) 689-9293
(512) 758-8037 fax
email: ossf@sbcglobal.net
www.affordableseptic.com

ON-SITE SEWAGE FACILITY SITE EVALUATION & DESIGN

LOCATION OF PROPERTY:
878 CR 111
Georgetown, TX

DATE:
03-18-11



03-18-11

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03-18-11 878 CR 111, Georgetown, TX

SITE EVALUATION

profile #1

0 - 26"	Class IV dark brown silty clay. No evidence of ground water. No restrictions. Less than 30% gravel.
26 - 58"	Class III tan silty clay loam. No evidence of ground water. No restrictions. Less than 30% gravel.
58 - ?"	Fractured limestone.

profile #2

0 - 39"	Class IV dark brown silty clay. No evidence of ground water. No restrictions. Less than 30% gravel.
39 - ?"	Fractured limestone.

profile #3

0 - 34"	Class IV dark brown silty clay. No evidence of ground water. No restrictions. Less than 30% gravel.
34 - ?"	Fractured limestone.

- This property is well vegetated with natural grasses.
- This property is not located within the 100-year floodplain.
- This property is located over the E.A.R.Z.
- Positive drainage exists at this property.

Based on the above-mentioned site evaluation, the following OSSF's may be utilized:

- Low Pressure Dose
- A.T.U. drip irrigation

S. E. performed: 03-17-10

DESIGN CONCLUSION

- Building square footage: 14,160 square feet
- Building use: office space
- Number of employees: 16 @ 8GPD
- Number of showers: none
- Number of toilets: 8
- Number of sinks: 8
- Kitchen facilities: none (break room if wanted)
- Manufacturing on-site: no
- Hours of operation: 8 a.m. - 5 p.m.
- Maximum Daily Discharge Rate: 128 GPD

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The strength of wastewater will be no greater than that of residential strength wastewater. There will be absolutely no commercial or domestic food preparation. There will be no public use of restrooms.

Based on the results of the site evaluation, a **low-pressure dose OSSF** was selected for this site.

PROPOSED OSSF DESIGN

- A two-way cleanout placed within three feet of the house and every 50 feet between the house and tank.
- A Buchanan 1250-gallon two-compartment septic tank. Tank must have a minimum 5' setback from the foundation and be level within 1". Tank should be bedded with a minimum of 4" of washed sand. The tank will be connected to the house with 3 or 4-inch SCH 40 PVC. The inlet and outlet devices for the septic tank(s) shall consist of "T" branch fittings. The outlet "T" of the 2-compartment tank will protrude the effluent to a depth of 9 – 18 inches (tank bottom 36 inches from bottom of outlet). There will not be a "T" branch fitting installed on the outlet of the pump tank or pump chamber as the outlet will remain sealed and the supply line will exit the top of the tank.
- There will be a minimum of 1/8 inch of fall per linear foot between the structure and septic tank.
- Approximately 70' of 2 inch supply line (SCH 40 PVC).
- The drain field will consist of 256 linear feet. These trenches shall be separated by 3 - 3.5 feet of undisturbed soil (pipes placed on 6.5-foot centers).

CALCULATIONS

- Maximum daily discharge rate: 128 GPD (*Q*)
- Soil application rate: 0.1 for class IV soil (*Ra*)
- Total absorptive area: A
- Total feet of lateral line: L

Total absorptive area (A) = *Q / Ra* Therefore, 128 / .1 = 1280 square feet.
Total feet of lateral line (L) = A / (w+2)
1280 / (3+2)
1280 / 5
L = 256'

DRAINFIELD CRITERIA

- Lateral line: 1" schedule 40 PVC
- Head pressure: 2 feet of head at 0.87 psi
- Hole diameter: 5/32''

Trench #1 highest in elevation, Trench #4 lowest in elevation

#	length	head loss	inset	hole space	# holes	hole diameter	gpm hole	gpm line
1	64'	2.00'	24"	4.00'	16	5/32	0.410	06.560
2	64'	2.31'	27"	4.25'	15	5/32	0.440	06.600
3	64'	2.61'	13.5"	4.75'	14	5/32	0.465	06.510
4	64'	2.92'	24"	5.00'	13	5/32	0.495	06.435
	256 ft.				**58**	**5/32 in.**		**26.105**

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APR 11 2011
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STORAGE VOLUMES

SUPPLY LINE

16.2 GALLONS WITH 100 LINEAR FEET OF 2 INCH SCHEDULE 40 PVC

70' feet = 11.34 gallons

LATERAL LINE

4.1 GALLONS WITH 100 LINEAR FEET OF 1 INCH SCHEDULE 40 PVC

256 feet = 10.496 gallons

DOSING VOLUMES

Minimum

V (dose) = 11.34 + 5 (10.496 Gal) = 63.82 gallons

As designed

128 gpd

Dosing volume as designed is 63.82 gallons

Therefore, 128 gallons / 63.82 gallons = 2 doses per day

Duration of each dose

63.82 gallons / 26.105 gpm = 2.4 minutes per dose (2 min., 27 sec.)

HEAD PRESSURE CALCULATIONS

Total Head: pump depth - elevation to field ends

4' + 2'	=	06.0	elevation head
70' of 1.5" supply line @ 26.105 gpm	=	01.5	friction head
Head Pressure Setting	=	02.0	pressure head
	=	09.5	total head

Head pressure will be set with a two-foot riser pipe attached to the highest trench in each drain field and will be regulated by a ball valve.

PUMP TO BE USED

- Liberty 250-Series
- This pump can push 27 gallons per minute @ 11 feet of total head.

PUMP TANK DATA

A Buchanan 1250-gallon three-compartment septic tank. A minimum of 128 gallons after the alarm on float will be achieved (1 days full reserve). A Check valve will be needed on this design for the supply line exiting the pump tank. Here are the alarm settings:

Inlet @ 39 above the floor (541.67 gallons / 39" = 13.89 gallons per inch) ***with outlet sealed***
Alarm on at 29" above the floor (138.9 gallon reserve)
Start pump at 12" above the floor (69.45 gallon dose)
Stop pump at 7" above the floor (97.23 gallon constant level)

ALARM SYSTEM

An audio/visual high water alarm will be installed on this system at a highly visible location. The pump and the alarm will be wired on separate circuits.

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TRENCH SPECIFICATIONS

- Schedule 40 PVC or greater
- 256 feet of lateral line
- Trench depth: 12 – ~~24"~~ 22" 5-11-11 [illegible] 5-9-11 RW
- Trench width: 36"
- Trench bottoms should be level within 1 inch every 25' (maximum difference of 3 inches).
- Each drain field pipe shall be placed on a minimum of 6" of uniform grade (washed gravel 0.75 - 2.0 inches). Turn-ups will be installed on the ends of the lateral lines for future servicing.
- Each trench shall consist of a minimum of 12" of uniform grade (washed gravel 0.75 - 2.0 inches).
- The gravel will then be covered with a geotextile fabric
- The entire field area is to be covered with a minimum of 6" of class Ib, II, or III backfill ensuring positive drainage off the drain field.
- The field then must be seeded, hydro-mulched or sodded immediately after installation.
- Fields must be maintained at all times (mowed).
- No part of the disposal area shall be located within 10 feet of a potable water line.
- There are no recharge features located within 150 feet of the disposal area or 50 feet of the septic tank(s).

OSSF MAINTENANCE & LIMITATIONS

This OSSF design is intended to meet the minimum state requirements provided by *TCEQ's Title 30 Texas Administrative Code, Chapter 285- On-Site Sewage Facility Regulations.* The homeowner should be aware that a septic system of limited capacity would not tolerate prolonged abuse. The operational requirements listed below should be followed at all times:

- Water saving devices shall be utilized throughout the life of this system. Never place a greater wastewater load on your system than prescribed by the rules and regulations as described within this report. (128 gpd)
- Garbage disposals should be avoided. The use of garbage disposals could cause complete system failure.
- Avoid the use of water softeners with an OSSF. They have been proven to have adverse effects on septic systems. They may also void all equipment warranties.
- Do not dispose grease into the OSSF.
- Do not dispose of any objects into the system other than toilet paper.
- Do not add any treatment items to the system, such as, toilet tank chlorine tablets, yeast, enzymes etc.
- Repair all leaky faucets and toilets immediately.
- Rainfall runoff, surface water runoff, and sub-surface water seepage must be diverted from the OSSF by the homeowner.
- Do not operate heavy machinery over tanks, supply lines, and drain field.
- Maintain vegetation over the drain field. Keep the vegetation over the drain field mowed. It is imperative that the homeowner establish and maintain vegetation.
- Have your system evacuated every 1 to 3 years to prevent sludge buildup and to enhance your system's overall performance.

NO DEVIATION IN THESE RULES AND REGULATIONS IS PERMITTED WITHOUT PRIOR VARIANCE APPROVAL BY THE REGULATING AUTHORITY. THE DESIGNER MUST BE NOTIFIED PRIOR TO ANY CONSTRUCTION OF THE OSSF TO OVERVIEW PLANNING CRITERIA. FAILURE TO CONSULT WITH DESIGNER NEGATES ALL LIABILITY FROM DESIGNER. THE DESIGNER MUST BE NOTIFIED PRIOR TO ANY CHANGE IN THE INSTALLATION OF THIS OSSF AS SHOWN IN THIS DESIGN.

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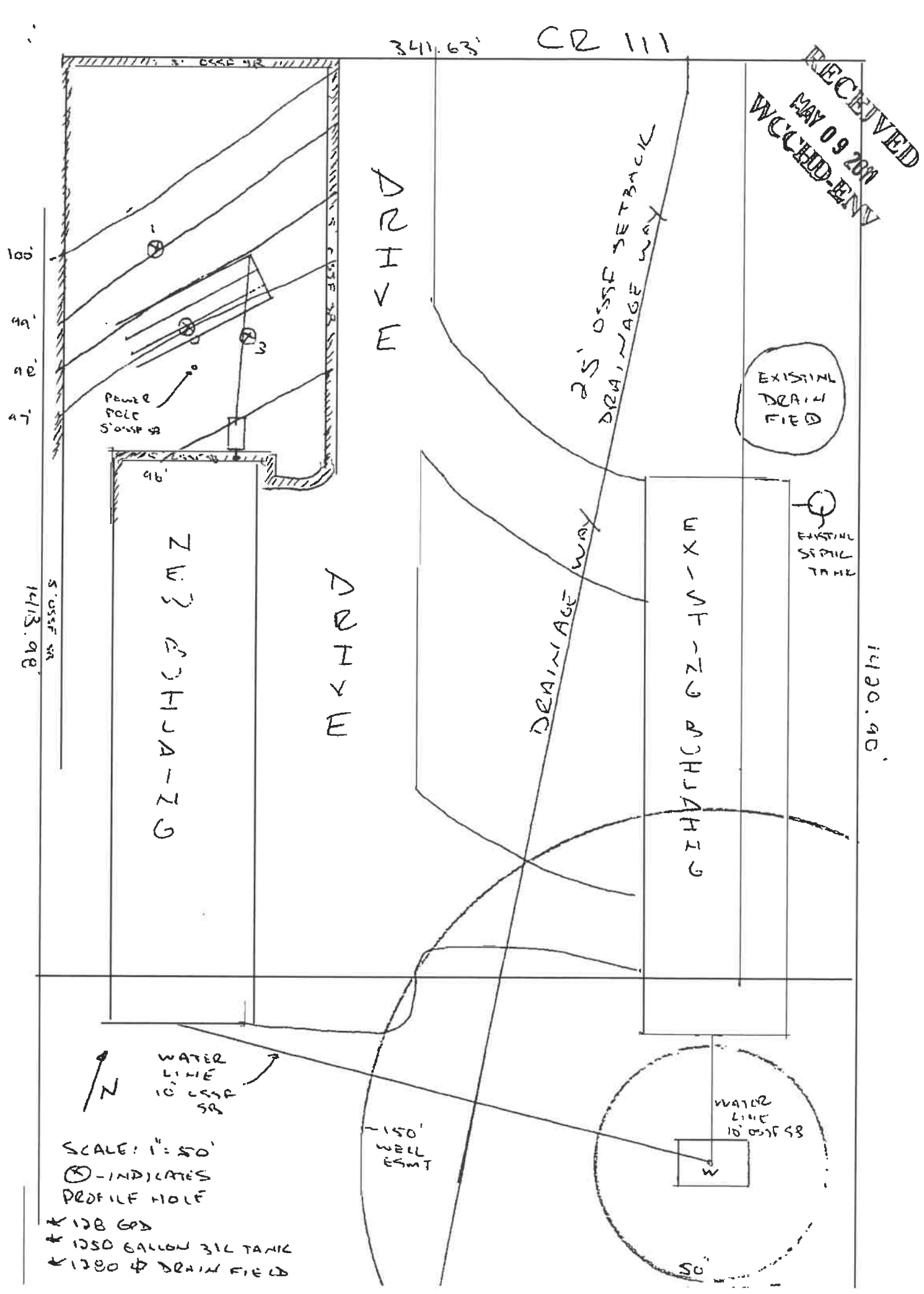

CR 111
341.63'
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DRIVE
DRIVE
25' OSSF SETBACK
DRAINAGE WAY
DRAINAGE WAY
EXISTING DRAIN FIELD
EXISTING SEPTIC TANK
NEW BUILDING
EXISTING BUILDING
100'
99'
98'
97'
96'
POWER POLE 5' OSSF SB
5' OSSF SB
1413.98'
1420.90'
WATER LINE 10' OSSF SB
N
~150' WELL ESMT
WATER LINE 10' OSSF SB
W
50'
SCALE: 1" = 50'
⊗ - INDICATES PROFILE HOLE
* 128 GPD
* 1250 GALLON 3/C TANK
* 1280 Φ DRAIN FIELD

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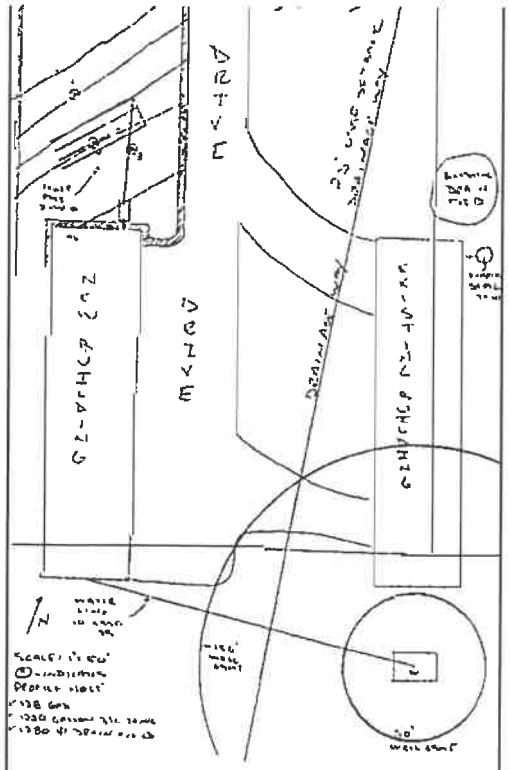
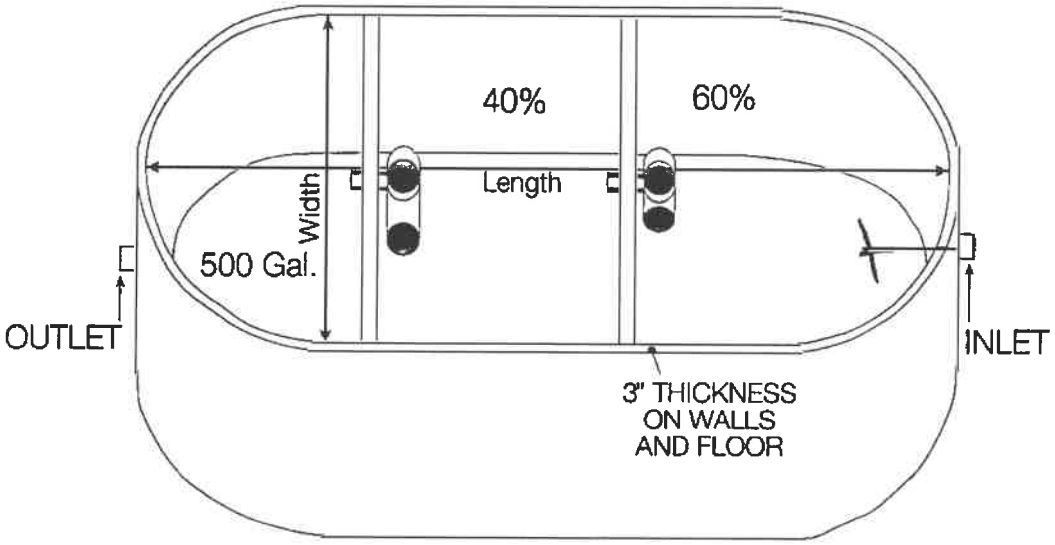
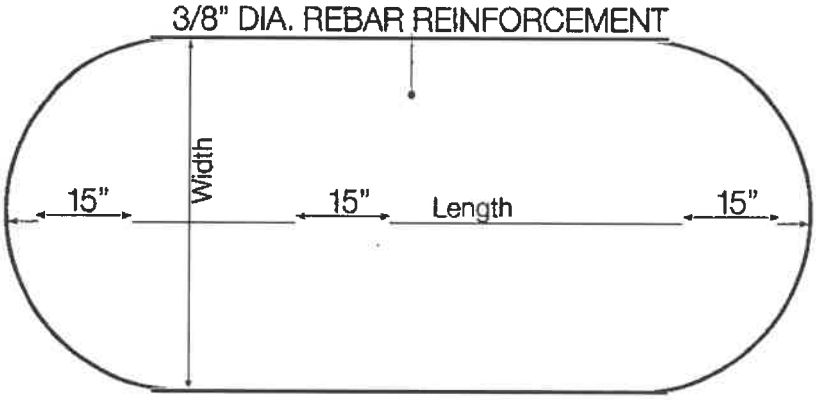
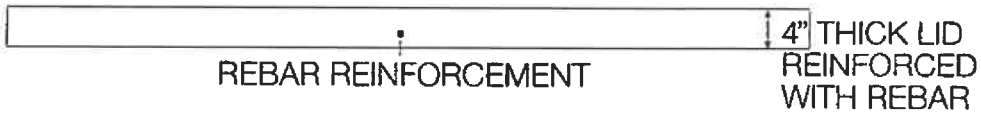


PreCast Concrete Tanks







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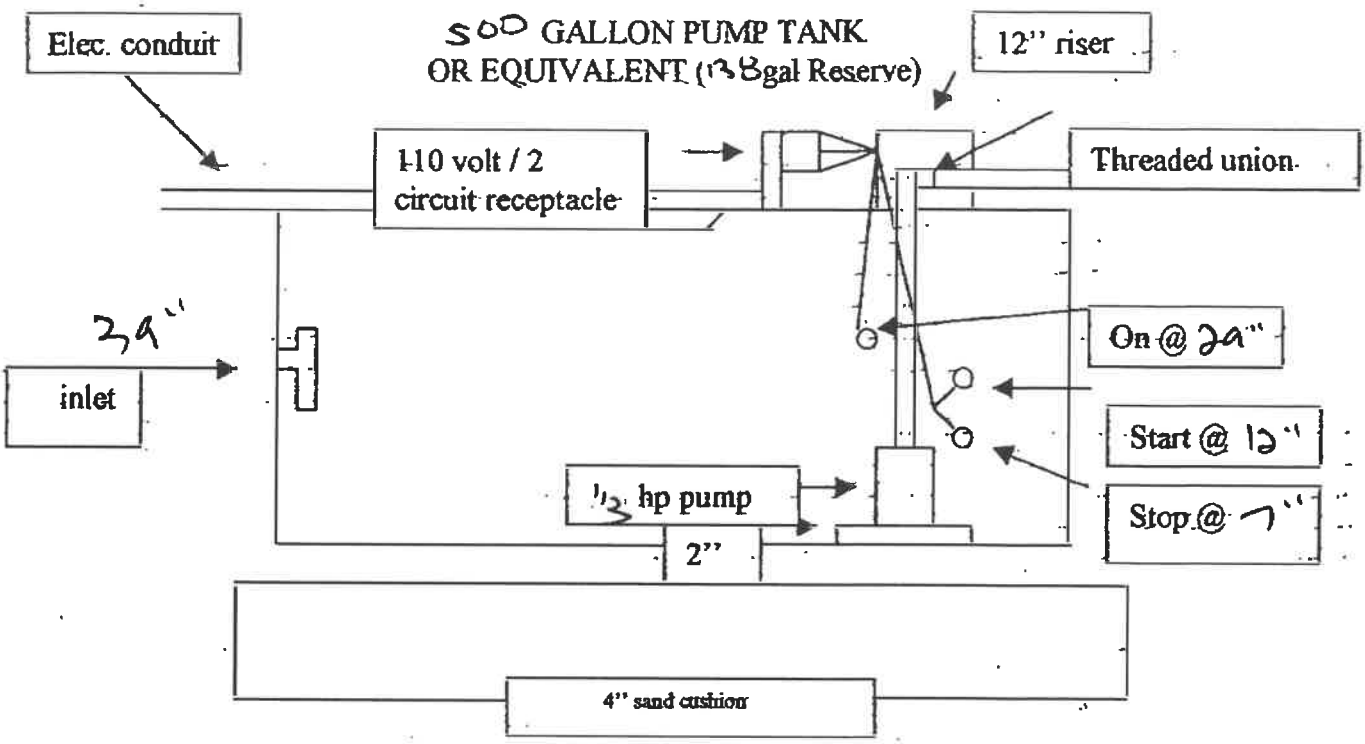
CONCRETE TANKS

PRECAST CONCRETE TANK SIZES:

	500	750	1000	1250	1500	1750	AS4
Length	82"	90"	110"	132"	154"	134"	147"
Width	82"	82"	82"	82"	82"	82"	74"
Height	46"	52"	52"	52"	52"	66"	84"
Inlet	36"	43"	43"	43"	43"	57"	73"
Outlet	33"	40"	40"	40"	40"	54"	0

*Inlet and outlet measurement is the bottom of the tank to the bottom of the hole.



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250-SERIES, 270-SERIES

1/3 hp Sump/Effluent Pumps for Professionals!

ALL MODELS FEATURE:

- Rugged 1/3 hp motor, oil filled with thermal overload protection.
- 1/2" solids handling.
- 1-1/2" discharge.
- Hermetically sealed motor and switch cavities, and permanently lubricated bearings.
- Liberty's UNI-BODY casting – a solid, one-piece housing that eliminates the lower motor seal ring found on other pumps.
- Epoxy powder coat finish
- Vortex style impeller for superior solids-handling. Made of high temperature engineering polymer.
- Carbon and ceramic shaft seal.
- 10' quick-disconnect power cord – standard. Allows removal of cord in seconds without breaking seals to the motor. UL approved. Available also in 20' and 30' lengths. Add "-2" or "-3" suffix to model number. Example: 257-2 (20' cord)
- Fasteners – all non-corrosive stainless steel.
- 416 stainless steel rotor shaft.
- ***2 YEAR LIMITED WARRANTY***

MOTOR SPECIFICATIONS:

1/3 hp 115V 5.2 amps 60Hz 1725 RPM
Thermally Protected & Permanently Lubricated

Maximum Fluid Temperature: 140°F

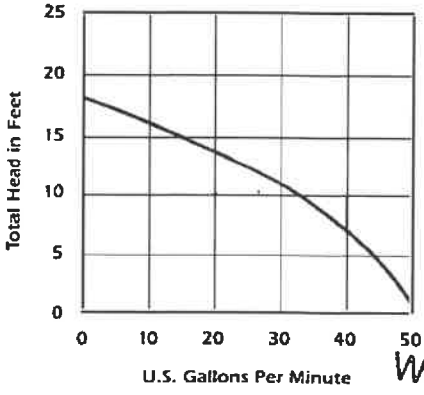
DIMENSIONAL DATA:

Weight: Model 257: 21 lbs.
Model 277: 25 lbs.

Height: 10.5"

Major Width: 9.6" (manual model 250)

PERFORMANCE CURVE



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EFFLUENT MODELS

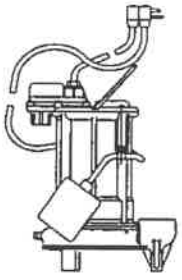


Models 250, 270
Manual, no switch.



Models 251, 271
Quick-disconnect wide-angle float, mercury-free.

SUMP



Models 253, 273
Wide-angle float with series (piggy-back) plug, allows manual operation of pump.



Models 257, 277 VMF
(U.S. Patent #5324171)
VMF switch, magnetically operated vertical float – operates in a 10" diameter sump.

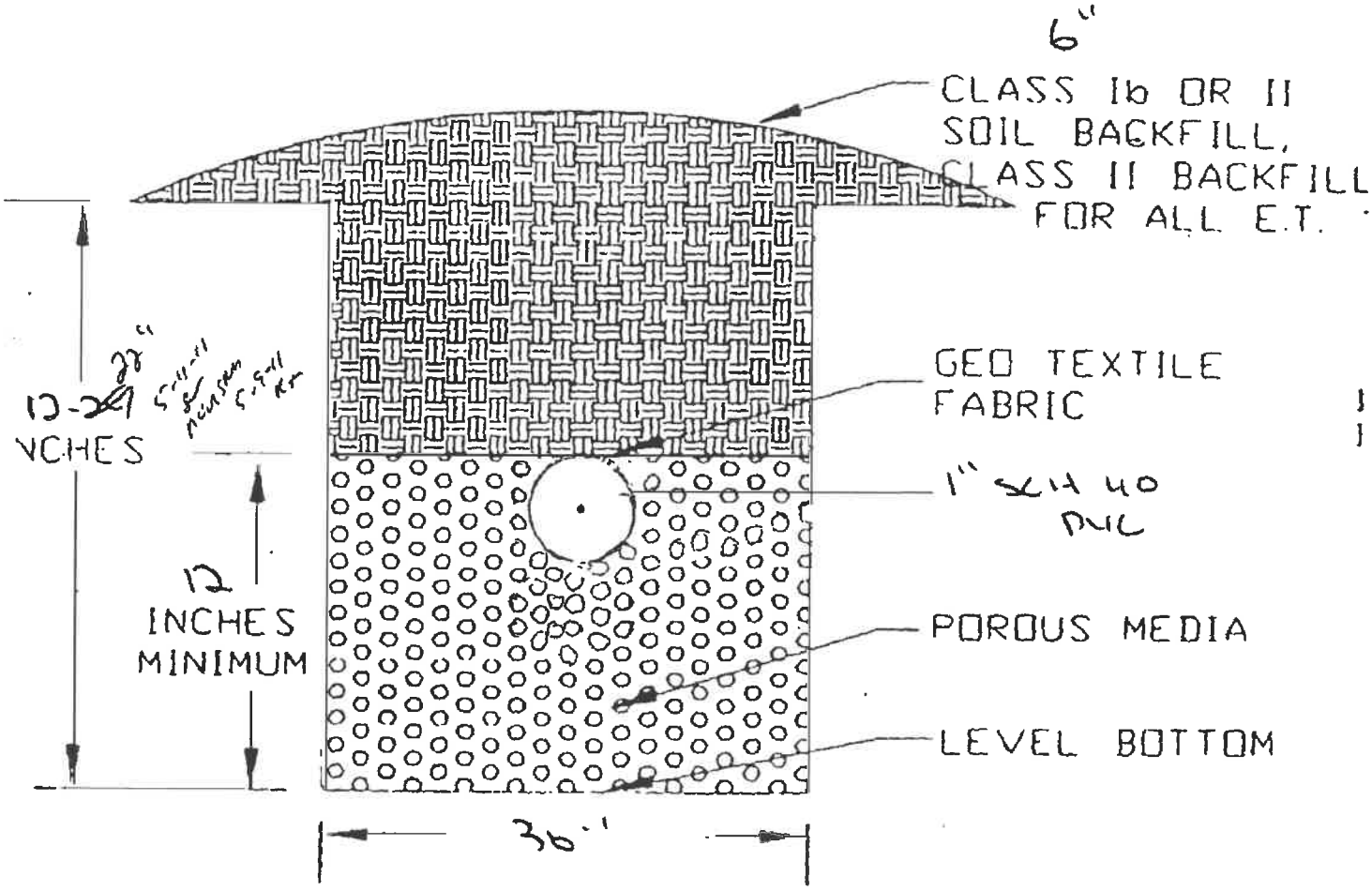
SSPMA Certified

CSA C US

Dual safety certification for the United States and Canada.

Specifications are subject to change without notice.

Liberty Pumps • 7000 Apple Tree Avenue • Bergen, New York 14416 • Phone 800-543-2550 Fax (585) 494-1839
www.libertypumps.com



SINGLE PIPE DRAWING
ABSORPTIVE OR E.T.

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APR 11 2011
WCCHD-ENV

Date: 05-09-11
To: Sam Thomas
From: Kevin Moore

RE: OSSF # 2011-74, 878 CR 111, GEORHETOWN, TX.

- A Buchanan 1250-gallon three-compartment septic tank.

DOSING VOLUMES

Minimum
V (dose) = 11.34 + 5 (10.496 Gal) = 63.82 gallons

As designed
128 gpd
Dosing volume as designed is 63.82 gallons
Therefore, 128 gallons / 69.45 gallons = 1.8 doses per day (11 doses / 6 days)

Duration of each dose
69.45 gallons / 26.105 gpm = 2.7 minutes per dose (2 min., 40 sec.)

- Trench depth: 12 – 22"

Sincerely,

Kevin Moore

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Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

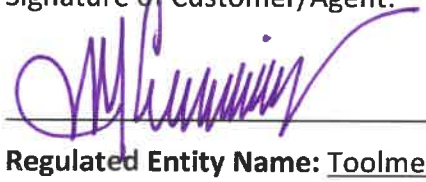
Signature

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

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

Date: 11/28/2023

Signature of Customer/Agent:



Regulated Entity Name: Toolmen Business Park and M3 Glass Technologies

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: Brushy 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.

Attachment A – Spill Response Actions

No on-site containment procedures are provided for in this WPAP, because fuels and hazardous substances will be provided by an off-site facility.

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

Education

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

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2. Store hazardous materials and wastes in covered containers and protect from vandalism.
3. Place a stockpile of spill cleanup materials where it will be readily accessible.
4. Train employees in spill prevention and cleanup.
5. Designate responsible individuals to oversee and enforce control measures.
6. Spills should be covered and protected from storm water run-on during rainfall to the extent that it doesn't compromise clean-up activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

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

Cleanup

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

Minor Spills

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

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

5. If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

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

Vehicle and Equipment Maintenance

1. If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of storm water and the runoff of spills.
2. Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
3. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
4. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
5. Place drip pans or absorbent materials under paving equipment when not in use.
6. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
7. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
8. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute storm water. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

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

Vehicle and Equipment Fueling

1. If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of storm water and the runoff of spills.
2. Discourage "topping off" of fuel tanks.
3. Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

If a spill should occur, the person responsible for the spill should contact the TCEQ at (512) 339-2929 or call 911. Soil contaminated by spills that occur on-site will be removed and disposed at an approved disposal site.

Attachment B – Potential Sources of Contamination

- Hydraulic and diesel
- Portable toilet systems (sanitary waste)
- Trash from construction workers
- Paints, paint solvents, glues, concrete and other building materials
- Plant fertilizers and pesticides
- Inadequate maintenance of temporary water pollution abatement measures
- Stock piles or spoils of materials

Attachment C – Sequence of Major Activities

The following sequence of activities is suggested. The sequence of construction will take place in one phase. The actual sequence may vary slightly depending on the contractor or weather conditions.

1. Construction activities will commence with the installation of the required silt fences, rock berms, and stabilized construction entrance. **Silt fence, rock berms and stabilized construction entrance (S.C.E.) are the control measures.**
2. Areas of vegetative cover will be cleared for the proposed parking, sidewalk, fire lane, batch detention ponds and building addition. Spoils of this material may be placed at a location on the project site as directed by the contractor and approved by the engineer. These spoils and any other loose granular material will be enclosed by a silt fence. The total area disturbed by construction is approximately 43,840 s.f. [1 Ac.]. This represents 9% of the site. **Silt fence, rock berm, and S.C.E. are the control measures.**
3. Grading on the site will consist of removing material for the batch detention pond and the placement and compaction of base or select fill material under and/or around the proposed parking areas/driveway and excavation and/or fill for the proposed building pad. The portion of the site that is subject to grading is approximately 43,840 s.f. [1 Ac.]. This represents 9% of the site. **Silt fence, rock berm and S.C.E. are the control measures.**
4. The installation of the fire line will disturb approximately 16,000 s.f. [0.37 Ac.] of the site. The represents 3% of the site. **Silt fence and rock berm are the control measures.**
5. Pond outlet structures, parking areas, sidewalks, and building foundation will be poured with concrete. This will disturb approximately 28,200 s.f. [0.65 Ac.], representing 6% of the site. **Silt fence, rock berm and S.C.E. are the control measures and concrete washouts will be used as the control measure.**
6. After construction of the building addition, parking, etc., disturbed areas will be hydro-mulched or seeded. **Silt fence, rock berm and S.C.E. are the control measures.**
7. Temporary sediment and erosion controls will be removed after the project is completed.

Attachment D – Temporary Best Management Practices and Measures

There is surface runoff originating up-gradient. All on-site runoff will be contained within the proposed silt fence, rock berm and/or inlet protection and/or in the batch detention basin. In addition, a concrete washout area has been located on the site. The stabilized construction entrance will reduce the amount of sediment leaving the site. These temporary BMPs will trap most pollutants and prevent them from entering off-site surface streams, sensitive features, or the aquifer.

Attachment F – Structural Practices

The following structural practices will be used to limit the runoff discharge of sediments from exposed soils on the site: silt fence, rock berm, inlet protection, concrete washout area and stabilized construction entrance.

Attachment G – Drainage Area Map

Please see Sheets C13, C14 and C15, "Existing Drainage Plan", "Developed Drainage Plan" and "Developed Subdrainage Areas & Floodplain plan" from the attached construction plans.

The largest area disturbed in a common drainage area is 1 acre. No areas greater than 10 acres within a common drainage area that will be disturbed at one time.

Attachment I – Inspection and Maintenance for BMPs

Silt Fence

1. Inspect all fences weekly and after any rainfall.
2. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

Stabilized Construction Entrance

1. Inspection should be made weekly or after each rainfall event and repair or replacement should be made promptly as needed by the contractor.
2. All sediment spilled, dropped, washed or tracked on to public rights-of-way should be removed immediately by contractor.
3. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Curb Inlet Protection

1. Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Rock Berm

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 rocks, washout, construction traffic damage, etc.

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

Concrete Washout

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For on-site washout:

- 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.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. 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.

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.

The following sample form should be utilized to document the inspection and maintenance of the proposed temporary BMPs as described above. This form shall be kept on site with the WPAP until the project is completed.

Temporary BMP Log

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Vehicular traffic should be limited to areas of the project site where construction will take place or where existing driveway and parking are provided. The contractor should endeavor to preserve existing vegetation as much as practicable to reduce erosion and lower the cost associated with stabilization. **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.**

All disturbed areas shall be stabilized as described below:

Except as provided for below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

A. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
B. Where construction activity on a portion of the site has temporarily ceased, and earth-disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of the site.
C. In areas experiencing drought, where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Stabilization measures are described as follows:

All disturbed grass areas should be planted in drought resistant species normally grown as permanent lawns, such as Zoysia, Bermuda, and Buffalo. Grass areas may be sodded, plugged, sprigged or seeded except that solid sod shall be used in swales or other areas subject to erosion. All planted areas shall be provided with a readily available water supply and watered as necessary to ensure continuous healthy growth and development. Maintenance shall include the replacement of all dead plant material if that material was used to meet the requirements of this section.

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)(li), (E), and (5), Effective June 1, 1999

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

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

Signature

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

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

Date: 11/28/2023

Signature of Customer/Agent

Regulated Entity Name: Toolmen Business Park and M3 Glass Technologies

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

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

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

   ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

   ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

   ☐ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

   ☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

   ☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

    ☒ Design calculations (TSS removal calculations)
    ☒ TCEQ construction notes
    ☒ All geologic features
    ☒ All proposed structural BMP(s) plans and specifications

    ☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

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

    ☐ N/A

Attachment B – BMPs for Upgradient Stormwater

The upstream off-site runoff will not be treated since its flow will be kept virtually intact. Currently, the offsite runoff enters the property in the north boundary through 4 culverts of varying size. Runoff drains downstream towards the center of the site for approximately 190 feet, where flow is captured by a corrugated metal pipe (CMP) culvert and routed to another culvert that releases at the dry creek, and after approximately 240 feet it reaches the undisturbed section. No BMPs are proposed to treat upstream offsite runoff.

Attachment C – BMPs for On-site Stormwater

Batch detention, as described in the Addendum to TCEQ's "Complying with the Edwards Rules: Technical Guidance Manual on Best Management Practices" Section 3.2.17 (RG-348), will be utilized as the BMP for this development.

Two batch detention basins will be used to remove the Total Suspended Solids (TSS) load. Batch detention basin has a TSS removal efficiency of 91% according to the above referenced manual. For 80% TSS removal, 1,854 pounds of solids must be removed for the site. The City of Georgetown Water Quality Ordinance requires 85% TSS removal when a structural BMP is used. The basins have been sized for an 85% TSS removal rate (1,972 pounds).

Runoff will be captured by the proposed site grading and routed toward the permanent BMPs. Once the required capture volume is collected, the weir within the batch detention basin will release runoff below existing peak flow rates onto rock riprap to reduce erosion. After the capture volume is collected in the batch detention basin and held for the required 12-hour detention time, a programmed controller will open a valve and allow the treated runoff to flow off-site.

Calculations to determine the pollutant load and sizing for each BMP are attached directly behind this sheet.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: M3 GLASS TECH
Date Prepared: 5/9/2023

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 = 85% 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 =	Williamson	
Total project area included in plan * =	10.89	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.13	acres
Total post-development impervious cover fraction * =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1854	lbs.

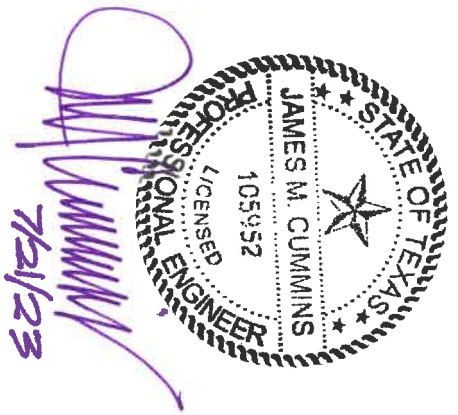
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = A

Total drainage basin/outfall area =	2.32	acres	0
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	0
Post-development impervious area within drainage basin/outfall area =	1.70	acres	70%
Post-development impervious fraction within drainage basin/outfall area =	0.73		
$L_{M\ THIS\ BASIN}$ =	1480	lbs.	



3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (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 = 2.32 acres
A_I = 1.70 acres
A_P = 0.62 acres
L_R = 1723 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1723 lbs.

F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.54

On-site Water Quality Volume =	18199	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 =	3640	
Total Capture Volume (required water quality volume(s) x 1.20) =	**21839**	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.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: M3 GLASS TECH
Date Prepared: 5/9/2023

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 = 85% 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 =	Williamson	
Total project area included in plan * =	10.89	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.13	acres
Total post-development impervious cover fraction * =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1854	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = B

Total drainage basin/outfall area =	0.90	acres	0
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	0
Post-development impervious area within drainage basin/outfall area =	0.30	acres	70%
Post-development impervious fraction within drainage basin/outfall area =	0.33		
$L_{M\ THIS\ BASIN}$ =	261	lbs.	



3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (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 = 0.90 acres
A_I = 0.30 acres
A_P = 0.60 acres
L_R = 312 lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 249 lbs.

F = 0.80

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 = 1.08 inches
Post Development Runoff Coefficient = 0.27

On-site Water Quality Volume =	**970**	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 =	**194**	
Total Capture Volume (required water quality volumé(s) x 1.20) =	**1164**	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.

CITY OF GEORGETOWN 85% REMOVAL REQUIREMENTS

Basin	B	
Drainage Area	10.89	ac
Existing IC	0.00	ac
Developed IC	2.13	ac
Net increase	2.13	ac
Rainfall	32	in
Req. Removal	85.00%	
Lm	1972	lbs

Attachment D – BMPs for Surface Streams

There are no additional BMPs for minimizing pollutants from entering surface streams. The site will use a batch detention basin to regulate and treat storm water runoff which will help to minimize surface stream contamination.

Attachment F – Construction Plans

Included at the end of the WPAP application.

Attachment G –Inspection, Maintenance, Repair and Retrofit Plan

The following can be found in the TCEQ's Addendum to "Complying with the Edwards Rules: Technical Guidance Manual on Best Management Practices," Section 3.5.20.

Maintenance Guidelines for Batch Detention Basins

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active storm water controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed. Debris and litter removal will be by hand using shovels and buckets. Access to the basin will be via a removable ladder.

Erosion control. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regarding and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice

a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

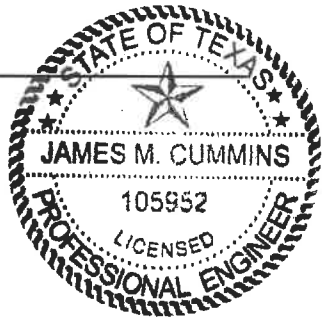
Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin every year, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance. Sediment removal will be by hand using shovels and buckets or other types of handheld equipment.

Logic Controller. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

NOTE: This Inspection, Maintenance, Repair and Retrofit Plan was created and designed by the engineer of these BMPs. Maintenance should be followed in accordance with this plan in order to keep the BMPs operating correctly.

James M. Cummins, P.E.



7/21/23
Date

Permanent BMP Log

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Responsible Party: 878 Westinghouse LLC, Brooks Burgum, Manager
Mailing Address: 118 Broadway North, Ste. 501
City, State: Fargo, ND
Zip Code: 58102
Telephone: 701-371-0541

Brooks Burgum
Signature of Responsible Party

Nov 29 2023
Date

Attachment I – Measures for Minimizing Surface Stream Contamination

The site will use a batch detention basin to regulate and treat storm water runoff. The batch detention basin will help to minimize surface stream contamination.

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

I Brooks Burgum,
Print Name

Manager,
Title - Owner/President/Other

of 878 Westinghouse LLC,
Corporation/Partnership/Entity Name

have authorized James M. Cummins, P.E.
Print Name of Agent/Engineer

of Steger Bizzell
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:

BF Burgum
Applicant's Signature

11/29/2023
Date

THE STATE OF Missouri §

County of St. Louis §

BEFORE ME, the undersigned authority, on this day personally appeared Brooks Burgum 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 29 day of November, 2023.

BRENDAN MCNAB
Notary Public, Notary Seal
State of Missouri
St. Louis City
Commission # 23990151
My Commission Expires 04-02-2027

Brendan McNab
NOTARY PUBLIC

Brendan McNab
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 04-02-2027

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Toolmen Business Park and M3 Glass Technologies
Regulated Entity Location: 878 Westinghouse Road. Georgetown, Tx.
Name of Customer: 878 Westinghouse LLC; Brooks Burgum, Manager
Contact Person: James M. Cummins, P.E. Phone: 512-930-9412
Customer Reference Number (if issued):CN ____
Regulated Entity Reference Number (if issued):RN 111278933

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	10.89 Acres	$ 6,500
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 11/28/2023

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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 Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN		RN 111278933

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)*

878 Westinghouse LLC

If new Customer, enter previous Customer below:

Brooks Burgum, Manager

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
805300127	32092454530	93-4393196	n/a

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: LLC

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 ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

878 Westinghouse LLC

118 Broadway North, Ste. 501

City	Fargo	State	ND	ZIP	58102	ZIP + 4	

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

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

brooks@lwopps.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(701) 371-0541		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ 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 Agency 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.)*

Toolmen Business Park and M3 Glass Technologies

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	878 Westinghouse Road							
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	From Austin, take I35N towards Georgetown, take exit 257 and remain on frontage, turn right at Westinghouse Rd, destination will be on right after around 0.9 miles

26. Nearest City	**State**	**Nearest ZIP Code**
Georgetown	Tx	78626

27. Latitude (N) In Decimal:	30.579549	**28. Longitude (W) In Decimal:**	-97.676746

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)
4225	3599	493110	332710

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

Computer Integrated Mechanics/Machining; Office/Warehouse

34. Mailing Address:	**878 Westinghouse Road**							
	City	**Georgetown**	**State**	**TX**	**ZIP**	**78626**	**ZIP + 4**	

35. E-Mail Address:	

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(701) 371-0541		( ) -

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
		WPAP Modification		
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	James M. Cummins, P.E.	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 930-9412		( ) -	jcummins@stegerbizzell.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:	Steger Bizzell	**Job Title:**	Project Manager
Name *(In Print):*	James M. Cummins, P.E.	**Phone:**	(512) 930- 9412
Signature:		**Date:**	11/29/23

WHEN RECORDED MAIL TO:
Wick Phillips Gould & Martin, LLP
3131 McKinney Avenue, Suite 500
Dallas, Texas 75204
Attention: Rob Wills

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

QUITCLAIM DEED WITHOUT WARRANTY

STATE OF TEXAS §
§ KNOW ALL PERSONS BY THESE PRESENTS:
COUNTY OF WILLIAMSON §

THAT **BOWIE FUND, L.P.**, a Texas limited partnership ("**Grantor**"), whose mailing address is 2519 Fairmount Street, Dallas, Texas 75219, for and in consideration of the sum of One Hundred and 00/100 Dollars ($100.00) and other good and valuable consideration paid in cash to Grantor by the Grantee herein named, has GRANTED, SOLD and CONVEYED, and by these presents does GRANT, SELL and CONVEY, without representation or warranty of any kind, unto **878 WESTINGHOUSE LLC**, a Texas limited liability company ("**Grantee**"), whose mailing address is 2519 Fairmount Street, Dallas, Texas 75219, that certain real property situated in Williamson County, Texas, as more particularly described on Exhibit A attached hereto and made a part hereof for all purposes, together with all improvements thereon and appurtenances relating thereto ("**Property**").

All warranties that might arise by common law as well as the warranties in section 5.023 of the Texas Property Code (or its successor) are excluded.

This conveyance is made and accepted expressly subject to any and all taxes and assessments, all matters of survey, all conditions, restrictions, reservations, encumbrances, easements and other matters of record, and any leases, and rights of third parties thereunder, affecting the Property.

[Signatures to follow]

IN WITNESS WHEREOF, Grantor has executed this Quitclaim Deed to be effective as of the 17 day of November, 2023.

GRANTOR:

BOWIE FUND, L.P.,
a Texas limited partnership

By: BF B
Name: Brooks Burgum
Title: Partner

STATE OF North Dakota §
§
COUNTY OF Cass §

This instrument was acknowledged before me on this 17 day of November, 2023, by Brooks Burgum, in his capacity as partner of Bowie Fund, L.P., a Texas limited partnership, on behalf of said limited partnership.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on the date above.

Notary Public, State of ~~Texas~~ North Dakota

My commission expires:

SARA VAN DE STREEK
Notary Public
State of North Dakota
My Commission Expires Feb. 20, 2026

Exhibit A
Legal Description

BEING 10.89 ACRES OUT OF THE BARNEY C. LOW SURVEY, ABSTRACT No. 385, SITUATED IN WILLIAMSON COUNTY, TEXAS, BEING THAT SAME TRACT MENTIONED IN A DEED TO JJCIV PROPERTY LLC, RECORDED AS DOCUMENT No. 2018005202 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS AND FURTHER DESCRIBED AS 11.085 ACRES IN A DEED TO TOOLMEN CORPORATION, RECORDED AS DOCUMENT No. 2005014912 OF SAID OFFICIAL PUBLIC RECORDS, SAVE AND EXCEPT THAT TRACT DESCRIBED AS 0.165 ACRE IN A DEED TO WILLIAMSON COUNTY, TEXAS AND RECORDED AS DOCUMENT No. 2007074529 OF SAID OFFICIAL PUBLIC RECORDS.

SITE DEVELOPMENT PLAN
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS
2021-18-SDP

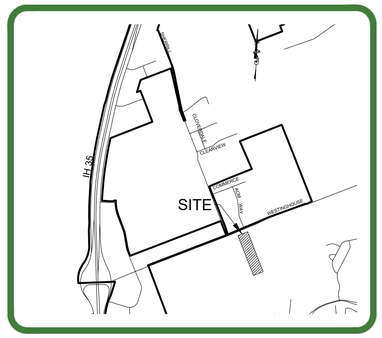
PROJECT INFORMATION:

PROPOSED USE:	Manufacturing
ZONING INFORMATION:	Base Zoning District BP Business Park (PUD-2018-006-ORD 2019-11)
ACREAGE:	10.89 ac. (474,220 S.F.)
EXISTING IMPERVIOUS COVER:	Building , Pavement, Concrete and Gravel 65,549 s.f. Total - 65,549 s.f. (1.50 ac.) 1.50 acres / 10.89 acres * 100 = 13.8%
PROP. IMPERVIOUS COVER:	Building , Pavement and Sidewalk 27,417 s.f. Total - 27,417 s.f. (0.63 ac.)
TOTAL IMPERVIOUS COVER:	Building, Pavement, and Sidewalk 92,966 s.f. Total - 92,966 s.f. (2.13 ac.) 2.13 acres / 10.89 acres * 100 = 19.6%
LEGAL DESCRIPTION:	10.893 Acres, Barney C. Low Survey. Abstract 385
OWNER:	JJCIV PROPERTY LLC 878 Westinghouse Road Georgetown, Texas 78626 512-663-3131 john.potts@toolmen1.com
LESSEE:	M3 Glass Technologies 2924 Rock Island Rd Irving, TX 75060 214-716-4722 djackson@m3glass.com
ARCHITECT:	Elsasser Architectural Inc. 411 Williams Dr Suite #104 Georgetown, TX 78628 512-930-5353 relsasser@eai-tx.com https://www.eai-tx.com/
LANDSCAPING:	Covey Landscape Architect 800 S Austin Ave Georgetown, TX 78626 512-887-5311 trichburg@coveylandscape.com https://coveylandscape.com/
CIVIL ENGINEER/SURVEYOR:	Steger Bizzell 1978 S. Austin Avenue Georgetown, TX 78626 512-930-9412 info@stegerbizzell.com https://stegerbizzell.com
UTILITY PROVIDERS:	Domestic Water - City of Georgetown Wastewater - City of Georgetown/On-site Septic Field Electric - City of Georgetown
ADDRESS:	878 Westinghouse Road Georgetown, Texas 78626
ADT CALCULATION:	No additional traffic will be generated by this project.
SUBMITTAL DATE:	04/19/2021
REVISION DATE:	05/19/2023

SITE PLAN NOTES:

1. It is the responsibility of the property owner, and successors to the current property owner, to ensure the subject property and any improvements are maintained in conformance with this Site Development Plan.
2. This development shall comply with all standards of the Unified Development Code (UDC), the City of Georgetown Construction Standards and Specifications Manual, and the Development Manual.
3. This Site Plan shall meet the UDC Stormwater requirements.
4. All signage requires a separate application and approval from the Inspection Services Department. No signage is approved with the Site Plan.
5. Sidewalks shall be provided in accordance with with UDC.
6. Driveways will require approval by the Development Engineer of the City of Georgetown.
7. Outdoor lighting shall comply with Section 7.05 of the UDC.
8. Screening of mechanical equipment, dumpsters and parking shall comply with Chapter 8 of the UDC. The screening is shown on the Landscape and Architectural Plans, as applicable.
9. The companion Landscape Plan has been designed and plant materials shall be installed to meet all requirements of the UDC. No additional outdoor lighting is proposed.
10. All maintenance of required landscape shall comply with the maintenance standards of Chapter 8 of the UDC.
11. A separate Irrigation Plan shall be required at the time of building permit application.
12. Fire flow requirements of 1,500 gallons per minute are being met by this plan.
13. Any Heritage Tree as noted on this Site Plan is subject, in perpetuity, to the maintenance, care, pruning and removal requirements of the Unified Development Code.
14. The construction portion of these plans were prepared, sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the Standard Construction Specifications and Details Manual and all other applicable City, State, and Federal Requirements and Codes.
15. This project is subject to all City Standard Specifications and Details in effect at the time of submittal of the project to the City.
16. The property subject to this application is subject to the Water Quality Regulations of the City of Georgetown.
17. A Geologic Assessment, in accordance with the City of Georgetown Water Quality Regulations, was completed 05/26/2020. Any springs and streams as identified in the Geologic Assessment are shown herein.
18. Where no existing overhead infrastructure exists, underground electric utility lines shall be located along the street and within the site. Where existing overhead infrastructure is to be relocated, it shall be re-installed underground and the existing facilities shall be removed at the discretion of the Development Engineer.
19. All electric and communication infrastructure shall comply with UDC Section 13.06.18.
20. An Administrative Exception 2021-11-AE for an Alternative Landscape Plan was approved by the Planning Director on 06/04/2021 to waive the required bufferyard along the western and southern boundary.

NOTE:
CONTRACTOR SHALL UNCOVER AND VERIFY LOCATIONS, BOTH HORIZONTALLY AND VERTICALLY, OF ALL EXISTING UTILITIES ALONG THE PROPOSED ROUTE. IF A CONFLICT EXISTS BETWEEN THE PROPOSED PROJECT AND ANY EXISTING UTILITY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED.



Location Map
1" = 2000'

BEFORE YOU DIG Texas811.com

GEORGETOWN TEXAS

Approved for construction by the City of Georgetown Planning & Zoning Commission on:

June 20, 2023

This SDP will expire 24 months from the date of approval if the applicable conditions of UDC Section 3.09.090 are not met.

Warning!
There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The Contractor shall contact all appropriate companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer who shall revise the design as necessary.

Sheet List Table

Sheet Number	Sheet Title
C01	COVER
C02	GENERAL NOTES
C03	EXISTING CONDITIONS
C04	EROSION, SEDIMENTATION & TREE PROTECTION PLAN
C05	EROSION, SEDIMENTATION & TREE PROTECTION DETAILS
C06	SITE PLAN
C07	DEMOLITION PLAN
C08	DETAILED GRADING PLAN
C09	WATER PLAN
C10	WATER DETAILS
C11	INLET AREA CALCULATIONS
C12	PAVING PLAN
C13	EXISTING DRAINAGE PLAN
C14	DEVELOPED DRAINAGE PLAN
C15	DEVELOPED SUBDRAINAGE AREAS & FLOODPLAIN PLAN
C16	PAVING & DRAINAGE DETAILS
C17	STRIPING PLAN
C18	STRIPING DETAILS
C19	WATER QUALITY PONDS
C20	WATER QUALITY DETAILS
C21	WATER QUALITY DETAILS (CON'T)
ARCHITECTURAL	
A 2.0	BUILDING G
A 3.0	BUILDING G
AR 3.0	BUILDING ARTICULATION
LANDSCAPE	
LS-00	LANDSCAPE REFERENCE PLAN, SCHEDULES, NOTES AND DETAILS
LS-01	LANDSCAPE SITE PLAN

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

STEGER BIZZELL
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL ENGINEER
5/19/23

COVER

Job No.	Sheet No.
Drawn By: ARB	C01
Date: 04-21-23	

2021-18-SDP

P:\22000-22999\22731-Potts\CAD\Plans\C01 COVER.dwg, C01 COVER, 5/19/2023 3:00:20 PM
These drawings are the sole property of STEGER & BIZZELL ENGINEERING, INC. The use of these drawings is hereby restricted to the original site for which they were prepared. Reproduction or reuse of these drawings in whole or in part without written permission of STEGER & BIZZELL ENGINEERING, INC. is strictly prohibited.

GENERAL CONSTRUCTION NOTES

1. Prior to beginning construction, the Owner or his authorized representative, shall convene a Pre-Construction Conference between the City of Georgetown, Engineer, Contractor, County Engineer (if applicable), Texas Commission on Environmental Quality Field Office, and any other affected parties. Notify all such parties at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction.

2. Any existing utilities, pavement, curbs, and/or sidewalks damaged or removed shall be repaired by the Contractor at his expense before acceptance of the project.

3. The location of any existing water, wastewater lines or other utilities shall be verified by the City of Georgetown & other utility providers prior to construction.

4. Manhole frames, covers, water valve covers, etc., shall be raised to finished pavement grade at the Contractor's expense by a qualified contractor with City inspection. All utility adjustments shall be completed prior to final paving construction.

5. Steger Bizzell has endeavored to design these plans compliant with ADA/TDLR and other accessibility requirements. However, the contractor shall not be relieved of any responsibility for constructing these improvements compliant with all applicable accessibility standards. If the contractor notices any discrepancies between these plans and accessibility laws/rules, he is to stop work in the area of conflict and notify Steger Bizzell immediately for a resolution and/or revision to these plans. Steger Bizzell shall not be held responsible for constructing this site compliant with accessibility laws/rules regardless of what is shown in these plans.

SEQUENCE OF CONSTRUCTION PER APPROVED WPAP

Note: Other contractors could be working on this site. Coordinate all activities with the activities of others.

1. Construction activities will commence with the installation of the required erosion and sedimentation control. The project will be constructed in one phase.
2. Excavation will take place where the proposed building, underground detention, parking and utilities will be situated. Spoils of this material may be placed at a location on the project site as directed by the contractor and approved by the engineer or hauled off-site. These spoils and any other loose granular material will be enclosed by a silt fence. The total area disturbed by construction is approximately 1 acre.
3. Grading on the site will consist of the placement and compaction of base or select fill material under and/or around the proposed parking and building addition. Approximately 1 acre will be disturbed.
4. The installation of underground detention utilities will disturb all of the site. Proposed utility improvements include the construction of an 8" water line.
5. Subsequent to the construction of the subdivision improvements. disturbed areas will be hydro-mulched or seeded.
6. Once vegetation is established on the site, Temporary BMPs will be removed as allowed by the engineer.

TEMPORARY EROSION CONTROL NOTES

1. The Contractor shall install erosion/sedimentation controls and tree 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 EROSION & SEDIMENTATION CONTROL PLAN & DETAILS.

3. Any significant variation in materials or locations of controls or fences from those shown on the approved plans must be approved by the City Engineer.

4. The Contractor is required to inspect all 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.

5. Prior to final acceptance, 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.

6. Field revisions to the EROSION & SEDIMENTATION CONTROL PLAN & DETAILS may be required by the Engineer or field inspector with the Texas Commission on Environmental Quality (TCEQ) during the course of construction to correct control inadequacies. Major revisions must be approved by the TCEQ.

PERMANENT EROSION CONTROL NOTES

1. All disturbed areas outside the public right-of-way & drainage easements shall be restored as noted below:

   1.1. A minimum of four inches of imported sandy loam topsoil or approved equal shall be placed in all drainage channels (except rock) and on all cleared areas.

   1.2. The seeding for permanent erosion control shall be applied over areas disturbed by construction as follows, unless specified elsewhere:

      1.2.1. From September 15 to March 1, seeding shall be with a combination of 1 pound per 1,000 square feet of unhulled Bermuda and 7 pounds per 1,000 square feet of Winter Rye with a purity of 95% with 90% germination.

      1.2.2. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 3 pounds per 1,000 square feet with a purity of 95% with 85% germination.

   1.3. Fertilizer shall be slow release granular or pelleted type and shall have an analysis of 15-15-15 and shall be applied at the rate of 23 pounds per acre once at the time of planting and again once during the time of establishment.

   1.4. The planted area shall be irrigated or sprinkled in a manner that will not erode the top soil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at ten-day intervals during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week.

   1.5. Mulch shall be applied at a rate of 1,500 pounds per acre.

2. Disturbed areas within areas to become public shall be revegetated to the City of Georgetown requirements. See Section G7 of the city of Georgetown specifications.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. Construction for public water systems must always, at a minimum, meet TCEQ's "Rules and Regulations for Public Water Systems.
2. An appointed engineer shall notify in writing the local TCEQ's Regional Office when construction will start. Please keep in mind that upon completion of the water works project, the engineer or owner shall notify the commission's Water Supply Division, in writing, as to its completion and attest to the fact that the work has been completed essentially according to the plans and change orders on file with the commission as required in 30 TAC §290.39(h)(3).
3. All newly installed pipes and related products must conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61-G and must be certified by an organization accredited by ANSI, as required by 30 TAC §290.44(a)(1).
4. Plastic pipe for use in public water systems must bear the National Sanitation Foundation Seal of Approval (NSF pw-G) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less, as required by 30 TAC §290.44(a)(2).
5. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply, as required by 30 TAC §290.44(a)(3).
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface, as required by 30 TAC §290.44(a)(4).
7. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
   - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

     $$Q = \frac{LD\sqrt{P}}{148{,}000}$$

     Where:
     - Q = the quantity of makeup water in gallons per hour,
     - L = the length of the pipe section being tested, in feet,
     - D = the nominal diameter of the pipe in inches, and
     - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
   - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

     $$L = \frac{SD\sqrt{P}}{148{,}000}$$

     Where:
     - L = the quantity of makeup water in gallons per hour,
     - S = the length of the pipe section being tested, in feet,
     - D = the nominal diameter of the pipe in inches, and
     - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
8. Projects constructed on or after January 4, 2014 must comply with changes to the Safe Drinking Water Act that reduce the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures to 0.25 percent.
9. The system must be designed to maintain a minimum pressure of 35 psi at all points within the distribution network at flow rates of at least 1.5 gallons per minute per connection. When the system is intended to provide firefighting capability, it must also be designed to maintain a minimum pressure of 20 psi under combined fire and drinking water flow conditions as required by 30 TAC §290.44(d).
10. The contractor shall install appropriate air release devices in the distribution system at all points where topography or other factors may create air locks in the lines. All vent openings to the atmosphere shall be covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent as required by 30 TAC §290.44(d)(1).
11. Pursuant to 30 TAC §290.44(d)(4), accurate water meters shall be provided. Service connections and meter locations should be shown on the plans.
12. Pursuant to 30 TAC §290.44(d)(5), sufficient valves and blowoffs to make repairs. The engineering report shall establish criteria for this design.
13. Pursuant to 30 TAC §290.44(d)(6), the system shall be designed to afford effective circulation of water with a minimum of dead ends. All dead-end mains shall be provided with acceptable flush valves and discharge piping. All dead-end lines less than two inches in diameter will not require flush valves if they end at a customer service. Where dead ends are necessary as a stage in the growth of the system, they shall be located and arranged to ultimately connect the ends to provide circulation.
14. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes and septic tank drainfields. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet 30 TAC §290.44(e)(1-4) of the current rules.
15. Pursuant to 30 TAC §290.44(e)(5), the separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant.
16. Pursuant to 30 TAC §290.44(e)(6), fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction.
17. Pursuant to 30 TAC §290.44(e)(7), suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line.
18. Pursuant to 30 TAC §290.44(e)(8), waterlines shall not be installed closer than ten feet to septic tank drainfields.
19. Pursuant to 30 TAC §290.44(f)(1), the contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation.
20. Pursuant to 30 TAC §290.44(f)(2), when waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the water main shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested.
21. The contractor shall disinfect the new water mains in accordance with AWWA Standard C-651 and then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed water line will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer, in accordance with 30 TAC §290.44(f)(3).

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.

CITY OF GEORGETOWN GENERAL NOTES

1. These construction plans were prepared, sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the standard Construction Specifications and Details Manual and all other applicable City, State and Federal Requirements and Codes.
2. This project is subject to all City Standard Specifications and Details in effect at the time of submittal of the project to the City.
3. The site construction plans shall meet all requirements of the approved site plan.
4. Wastewater mains and service lines shall be SDR 26 PVC.
5. Wastewater mains shall be installed without horizontal or vertical bends.
6. Maximum distance between wastewater manholes is 500 feet.
7. Wastewater mains shall be low pressure air tested and mandrel tested by the contractor according to the City of Georgetown and TCEQ requirements.
8. Wastewater manholes shall be vacuum tested and coated by the contractor according to City of Georgetown and TCEQ requirements.
9. Wastewater mains shall be camera tested by the contractor and submitted to the City on DVD format prior to paving the streets.
10. Private water system fire lines shall be tested by the contractor to 200 psi for 2 hours.
11. Private water system fire lines shall be ductile iron piping from the water main to the building sprinkler system, and 200 psi C900 PVC for all others.
12. Public water system mains shall be 150 psi C900 PVC and tested by the contractor at 150 psi for 4 hours.
13. After satisfactorily completing the leakage test, each valved section over the entire project, shall be tested at 200 psi for a sufficient period (approximately 10 min) to discover all leaking or defective materials and/or workmanship.
14. All bends and changes in direction on water mains shall be restrained and thrust blocked.
15. Long fire hydrant leads shall be restrained.
16. All water lines are to be bacteria tested by the contractor according to the City standards and specifications.
17. Water and Sewer main crossings shall meet all requirements of the TCEQ and the City.
18. Flexible base material for public streets shall be TXDOT Type A Grade 1.
19. Hot mix asphaltic concrete pavement shall be Type D unless otherwise specified and shall be a minimum of 2 inches thick on public streets and roadways.
20. All sidewalk ramps are to be installed with the public infrastructure.
21. A maintenance bond is required to be submitted to the City prior to acceptance of the public improvements. This bond shall be established for 1 year in the amount of 25% of the cost of the public improvements and shall follow the City format.
22. Record drawings of the public improvements shall be submitted to the City by the design engineer prior to acceptance of the project. These drawings shall be on mylar or on TIFF or PDF disk (300 dpi). If a disk is submitted, a bond set shall be included with the disk.

FIRE PROTECTION NOTES

1. Approval of this site plan does not imply approval to install underground fire lines. Prior to installation of underground fire lines, a separate permit shall be submitted, Under Ground Fire Line Supply.
2. Backflow protection will be provided in accordance with The City of Georgetown requirements when required. Backflow protection will be installed in accordance with the detail provided in the utility drawings.
3. All private fire lines and what they provide service to will be installed in accordance with NFPA 24 Instullation of Private Service Mains and Their Appurtenances.
4. All tees, plugs, caps, bends, reducers, valves shall be restrained against movement. Thrust blocking and joint restrained will be installed in accordance with NFPA 24.
5. All underground shall remain uncovered until a visual inspection is conducted by The Georgetown Fire Marshal's Office (FMO). All joint restraints and thrust blocking shall be uncovered for visual inspection.
6. All underground shall be flushed per the requirements of NFPA Standard 24 and witnessed by Georgetown FMO.
7. All underground shall pass a hydrostatic test witnessed by Georgetown FMO. All joints shall be uncovered for hydrostatic testing. All piping and attachments subjected to system working pressure shall be tested at 200 psi. or 50 psi in excess of the system working pressure, whichever is greater, and shall maintain that pressure + or - 5 psi for 2 hours.
8. Fences, landscaping and other items will not be installed within 3 Ft, and where they will obstruct the visibility or access to hydrants, or remote FDCs.
9. License requirements of either RME-U or G. When connecting by underground to the water purveyor's main from the point of connection or valve where the primary purpose of water is for fire protection sprinkler system.

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

STEGER BIZZELL
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

GENERAL NOTES

Job No.	Sheet No. C02
Drawn By: ARB	
Date: 04-21-23	

2021-18-SDP

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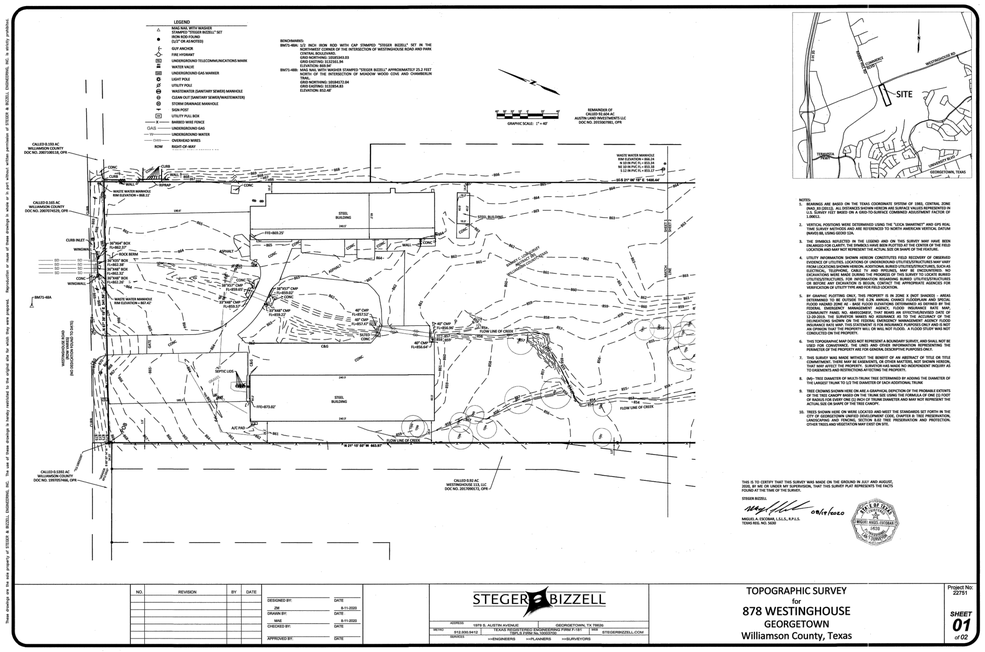
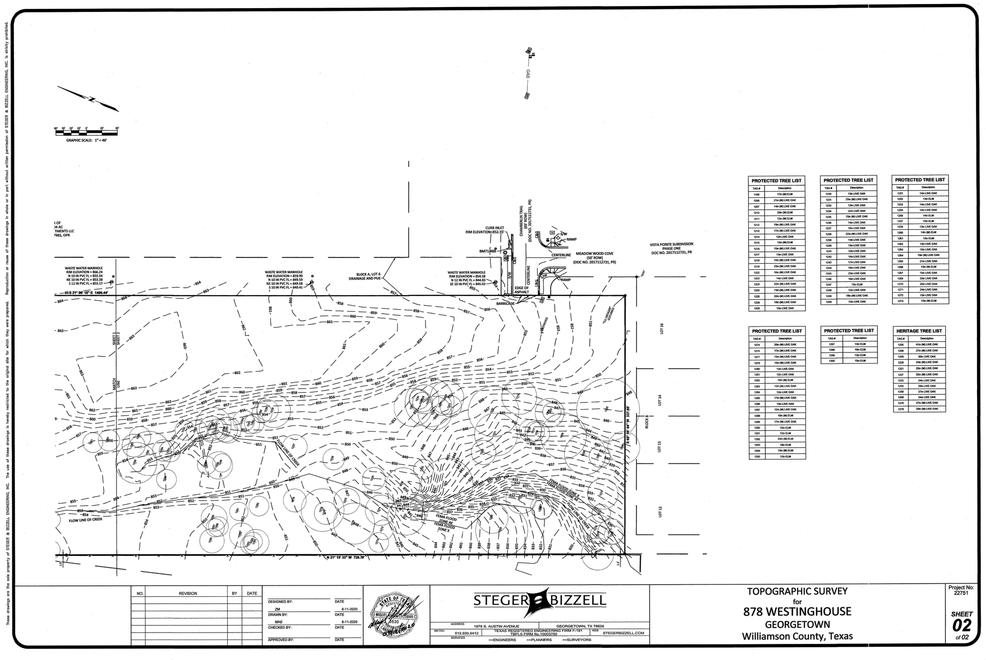

LEGEND
BENCHMARKS:
BM73-484: 1/2 INCH IRON ROD WITH CAP STAMPED "STEGER BIZZELL" SET IN THE NORTHEAST CORNER OF THE INTERSECTION OF WESTINGHOUSE ROAD AND PARK CENTRAL BOULEVARD
GRID NORTHING: 10163424.83
GRID EASTING: 3133189.39
ELEVATION: 859.54'
BM73-485: NAIL SET IN WOOD STAMPED "STEGER BIZZELL" APPROXIMATELY 25.2 FEET NORTH OF THE CENTERLINE OF MOHICAN WOOD COVE AND 15 FEET EAST OF THE CENTERLINE OF WESTINGHOUSE ROAD
GRID NORTHING: 10164217.84
GRID EASTING: 3133084.83
ELEVATION: 853.68'
GRAPHIC SCALE: 1" = 50'
REMAINDER OF
CALLED 93.644 AC
AUSTIN COMMUNITY COLLEGE
DOC.NO. 2010067761, OPR
CALLED 0.193 AC
WILLIAMSON COUNTY
DOC NO. 2007106124, OPR
CALLED 0.165 AC
WILLIAMSON COUNTY
DOC NO. 2007074129, OPR
CALLED 0.165 AC
WILLIAMSON COUNTY
DOC NO. 2007074130, OPR
CALLED 0.532 AC
WESTINGHOUSE 2 LLC
DOC NO. 2017095272, OPR
STEEL BUILDING
CONC
CMU
FLOW LINE OF CREEK
SITE
VICINITY MAP
GEORGETOWN, TEXAS
NOTES:
1. BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE (4203), (NAD83/2011). ALL DISTANCES SHOWN HEREON ARE SURFACE VALUES REPRESENTED IN U.S. SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.00012.
2. VERTICAL POSITIONS WERE DETERMINED USING THE "LEICA SMARTNET" AND GPS REAL TIME KINEMATIC (RTK) METHODS AND ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) 88, USING GEOID 12A.
3. THE SYMBOLS DEPICTED IN THE LEGEND (IRS) ON THIS SURVEY MAY HAVE BEEN ENLARGED FOR GRAPHIC CLARITY AND THEREFORE MAY NOT BE SHOWN AT THE TRUE LOCATION AND MAY NOT REPRESENT THE ACTUAL SIZE OR SHAPE OF THE FEATURE.
4. UTILITY INFORMATION SHOWN HEREON CONSTITUTES FIELD RECONNOT OF OBSERVED EVIDENCE OF UTILITIES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES, SUCH AS FOOTINGS, MAY EXIST. THE SURVEYOR MAKES NO GUARANTEE THAT ALL UTILITIES OR EXCAVATIONS WERE NOTED DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES, CONTACT THE APPROPRIATE UTILITY COMPANIES TO FIELD LOCATE OR BEFORE ANY EXCAVATION IS BEGUN, CONTACT THE APPROPRIATE AGENCIES FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATION.
5. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE X (NOT SHADED) AREAS DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN, ZONE X (SHADED) AREAS FLOOD HAZARD ZONE AE, BASE FLOOD ELEVATIONS DETERMINED AS SHOWN BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, COMMUNITY NUMBER 480624, PANEL NUMBER 0585E, EFFECTIVE DATE OF 12/20/2019, FOR FLOOD INSURANCE RATE MAP, EFFECTIVE DATE OF 12/20/2019. THE SURVEYOR MAKES NO ASSURANCE AS TO THE ACCURACY OF THE INFORMATION SHOWN ON THE FLOOD INSURANCE RATE MAP. THE FLOOD INSURANCE RATE MAP AND THIS STATEMENT IS FOR INSURANCE PURPOSES ONLY AND IS NOT AN INDICATION OF WHETHER OR NOT LIFE WILL OR WILL NOT FLOOD. A FLOOD STUDY WAS NOT CONDUCTED ON THE PROPERTY.
6. THIS TOPOGRAPHIC MAP DOES NOT REPRESENT A BOUNDARY SURVEY, AND SHALL NOT BE USED FOR CONVEYANCE. THE LINES AND OTHER INFORMATION REPRESENTING THE BOUNDARY OF THE PROPERTY ARE APPROXIMATE AND ARE SHOWN FOR REFERENCE ONLY.
7. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE OR TITLE COMMITMENT. THERE MAY BE EASEMENTS, OR OTHER MATTERS, NOT SHOWN HEREON, THAT MAY AFFECT THE PROPERTY. SURVEYOR HAS MADE NO INDEPENDENT INQUIRY AS TO EASEMENTS AND RESTRICTIONS AFFECTING THE PROPERTY.
8. (NO.) TREE DIAMETER OF 48.0 IN (14.0x3.1) TREE DETERMINED BY ADDING THE DIAMETER OF THE TRUNK TO THE DIAMETER OF THE TREE CANOPY BASED ON THE FORMULA:
9. TREE LOCATED CLOSER HERE THE AXE-X CERTIFICAL DIRECTION OF THE PROBABLE EXTENTS OF THE TREE CANOPY BASED ON THE TRUNK SIZE USING THE FORMULA OF ONE (1) FOOT OF CANOPY RADIUS FOR EACH INCH OF TRUNK DIAMETER AND MAY NOT REPRESENT THE ACTUAL SIZE OR SHAPE OF THE TREE CANOPY.
10. TREES SHOWN HERE ON WERE LOCATED AND MEET THE STANDARDS SET FORTH IN THE CITY OF GEORGETOWN UNIFIED DEVELOPMENT CODE, CHAPTER 8 TREE PRESERVATION, LANDSCAPING AND FENCING, SECTION 8.02 TREE PRESERVATION AND PROTECTION, OTHER TREES ARE RESTRICTION MAY EXIST ON SITE.
THIS IS TO CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND IN JULY AND AUGUST 2020, BY ME OR UNDER MY SUPERVISION, THAT THIS SURVEY PLAT REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY.
STEVEN RODDA
MIGUEL A. SYDOWA, L.S.L.S., R.P.L.S.
TEXAS REG. NO. 5499
STATE OF TEXAS
MIGUEL ANGEL SYDOWA
5499
REGISTERED PROFESSIONAL LAND SURVEYOR
NO.
REVISION
BY
DATE
DESIGNED BY:
DM
DATE
9-11-2020
DRAWN BY:
MAE
DATE
9-11-2020
CHECKED BY:
APPROVED BY:
DATE
STEGER BIZZELL
ADDRESS
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
METRO
512.930.9412
TEXAS REGISTERED ENGINEERING FIRM F-181
TEXAS REGISTERED SURVEYING FIRM 10124500
WEB
WWW.STEGERBIZZELL.COM
SERVICES
>>ENGINEERS
>>PLANNERS
>>SURVEYORS
TOPOGRAPHIC SURVEY
for
878 WESTINGHOUSE
GEORGETOWN
Williamson County, Texas
Project No:
22751
SHEET
01
of 02


GRAPHIC SCALE: 1" = 50'
LOT
12-A-2
TARROW LLC
1995, OPR
WASTE WATER MANHOLE
RIM ELEVATION = 856.24
N 10.00 W FC 0 = 853.94
N 10.00 W FC 1 = 853.84
S 32.36 W FC 0 = 853.57
CURB INLET
RIM ELEVATION = 856.24
BM73-484
BLOCK A, LOT 2
DRAINAGE AND PUE
WASTE WATER MANHOLE
RIM ELEVATION = 856.24
N 10.00 W FC 0 = 849.64
N 10.00 W FC 1 = 849.54
S 32.36 W FC 0 = 849.27
CONCRETE PAD
CONCRETE PAD
ELECTRIC BOX
TELEPHONE
MEADOW WOOD COVE
(50' ROW)
(DOC.NO. 2017121512, PR)
VISTA POINTE SUBDIVISION
(DOC.NO. 2017121512, PR)
LOT 36
LOT 34
LOT 33
LOT 32
BLOCK A
FLOW LINE OF CREEK
PROTECTED TREE LIST
TAG #
Description
1000
27in MESQUITE
1001
27in LIVE OAK
1002
27in LIVE OAK
1003
27in LIVE OAK
1004
27in LIVE OAK
1005
27in LIVE OAK
1006
27in LIVE OAK
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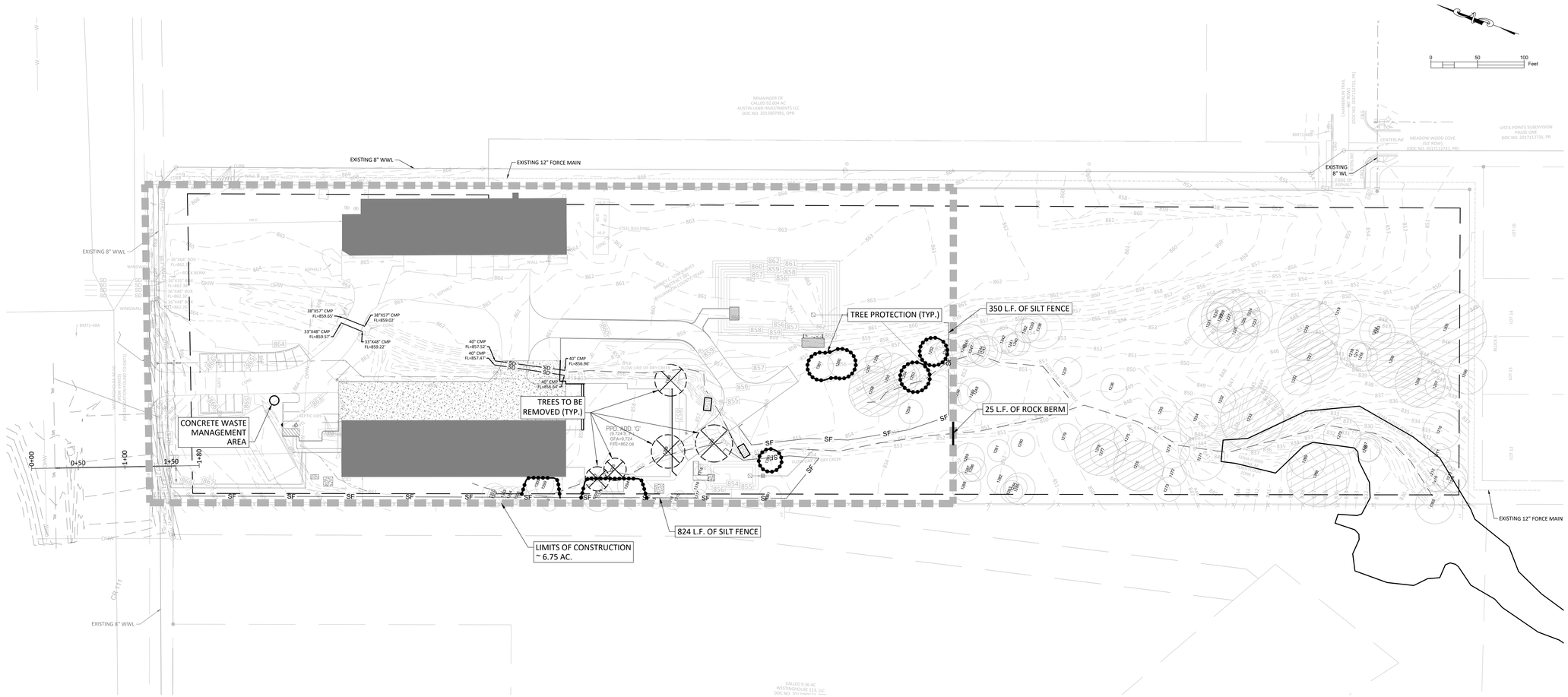
27in LIVE OAK
1010
27in LIVE OAK



PROTECTED TREE LIST	
TAG #	Description
1100	17in (M) ELM
1206	21in (M) LIVE OAK
1207	14in (M) LIVE OAK
1210	20in (M) ELM
1211	12in (M) ELM
1212	19in (M) LIVE OAK
1213	17in (M) LIVE OAK
1214	12in LIVE OAK
1215	12in (M) ELM
1216	15in (M) LIVE OAK
1217	13in LIVE OAK
1218	15in (M) LIVE OAK
1219	23in (M) LIVE OAK
1222	16in (M) LIVE OAK
1223	14in LIVE OAK
1224	22in (M) LIVE OAK
1225	13in (M) LIVE OAK
1226	22in (M) LIVE OAK
1228	19in (M) LIVE OAK
1229	13in LIVE OAK

PROTECTED TREE LIST	
TAG #	Description
1230	13in LIVE OAK
1231	25in (M) LIVE OAK
1232	19in LIVE OAK
1234	22in LIVE OAK
1235	15in (M) LIVE OAK
1236	14in LIVE OAK
1237	16in LIVE OAK
1238	22in (M) LIVE OAK
1239	14in LIVE OAK
1240	13in LIVE OAK
1241	12in LIVE OAK
1242	14in LIVE OAK
1243	17in LIVE OAK
1244	16in LIVE OAK
1245	23in LIVE OAK
1246	16in LIVE OAK
1247	13in ELM
1248	12in LIVE OAK
1249	18in (M) LIVE OAK
1250	12in LIVE OAK

PROTECTED TREE LIST	
TAG #	Description
1251	14in LIVE OAK
1252	13in ELM
1253	14in LIVE OAK
1254	14in LIVE OAK
1256	14in ELM
1257	15in ELM
1259	13in LIVE OAK
1260	14in (M) ELM
1261	13in ELM
1262	13in LIVE OAK
1263	12in LIVE OAK
1264	16in (M) LIVE OAK
1265	21in LIVE OAK
1266	13in (M) ELM
1267	15in LIVE OAK
1269	20in LIVE OAK
1270	20in LIVE OAK
1271	24in LIVE OAK
1272	13in LIVE OAK
1273	13in (M) ELM

PROTECTED TREE LIST	
TAG #	Description
1274	20in (M) LIVE OAK
1275	17in (M) LIVE OAK
1277	15in (M) LIVE OAK
1279	15in (M) LIVE OAK
1280	13in LIVE OAK
1281	12in LIVE OAK
1282	16in (M) ELM
1283	12in (M) LIVE OAK
1284	12in LIVE OAK
1285	17in (M) LIVE OAK
1286	13in LIVE OAK
1287	12in (M) LIVE OAK
1288	16in (M) ELM
1289	17in (M) LIVE OAK
1290	12in ELM
1291	12in ELM
1292	20in (M) ELM
1293	19in ELM
1294	13in (M) ELM
1295	12in ELM

PROTECTED TREE LIST	
TAG #	Description
1297	13in ELM
1298	16in ELM
1299	12in ELM
1300	15in ELM

HERITAGE TREE LIST	
TAG #	Description
1205	41in (M) LIVE OAK
1208	27in (M) LIVE OAK
1209	30in LIVE OAK
1220	33in (M) LIVE OAK
1221	28in (M) LIVE OAK
1227	32in (M) LIVE OAK
1233	34in LIVE OAK
1255	29in LIVE OAK
1258	27in LIVE OAK
1268	34in LIVE OAK
1276	27in (M) LIVE OAK
1278	28in (M) LIVE OAK

NOTE: SEE LANDSCAPING PLANS FOR TREES LESS THAN 12" IN DIAMETER THAT ARE BEING USED FOR MITIGATION.

LEGEND

- SF — SILT FENCE
- TREE PROTECTION
- TREE TO BE REMOVED
- LIMITS OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- INLET PROTECTION

Revision / Date

Project:

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
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JAMES M. CUMMINS
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LICENSED PROFESSIONAL ENGINEER

EROSION, SEDIMENTATION & TREE PROTECTION PLAN

Job No.	Sheet No.
Drawn By: ARB	C04
Date: 04-27-23	

2021-18-SDP

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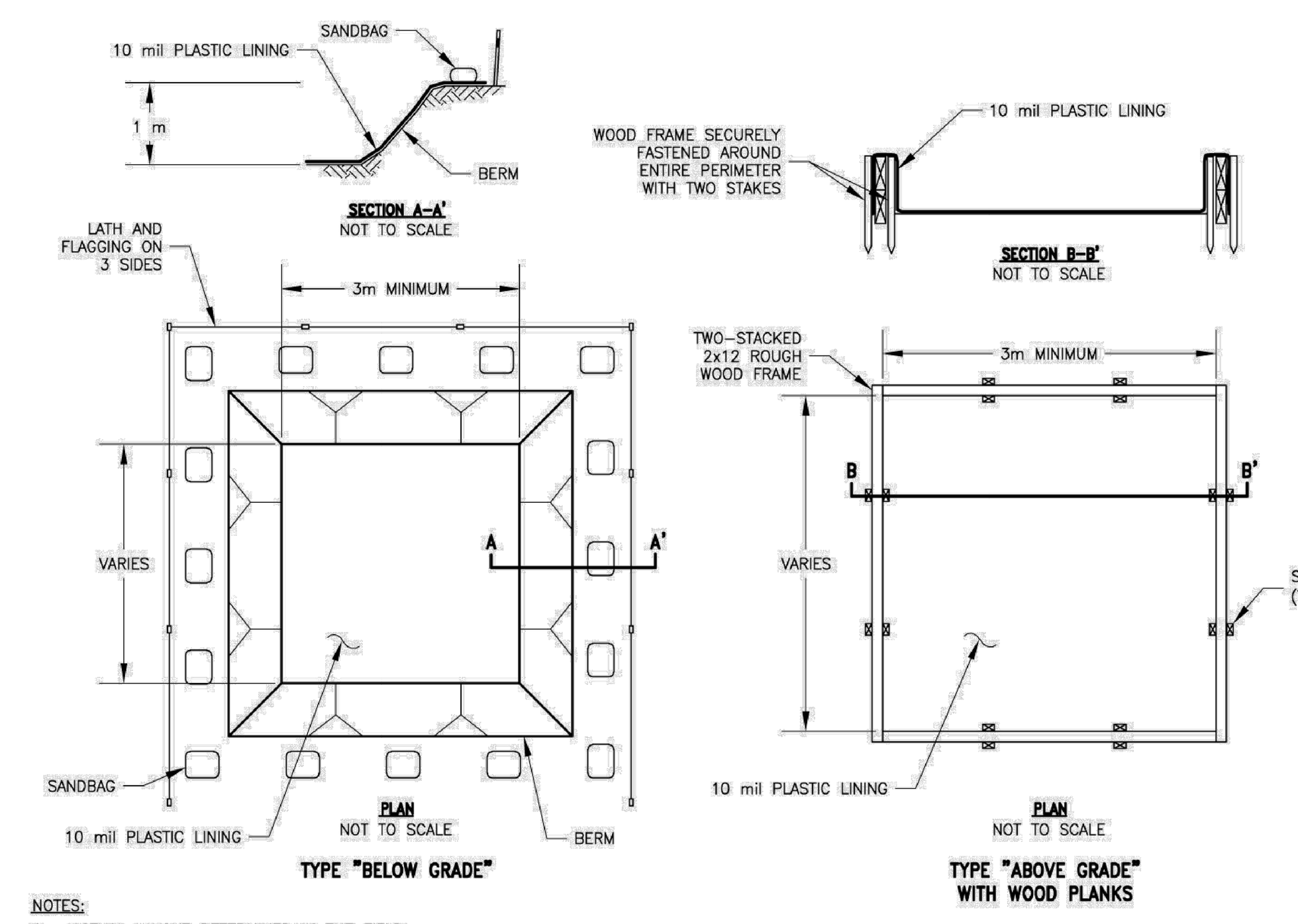
Concrete Waste Management

WM-8



NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

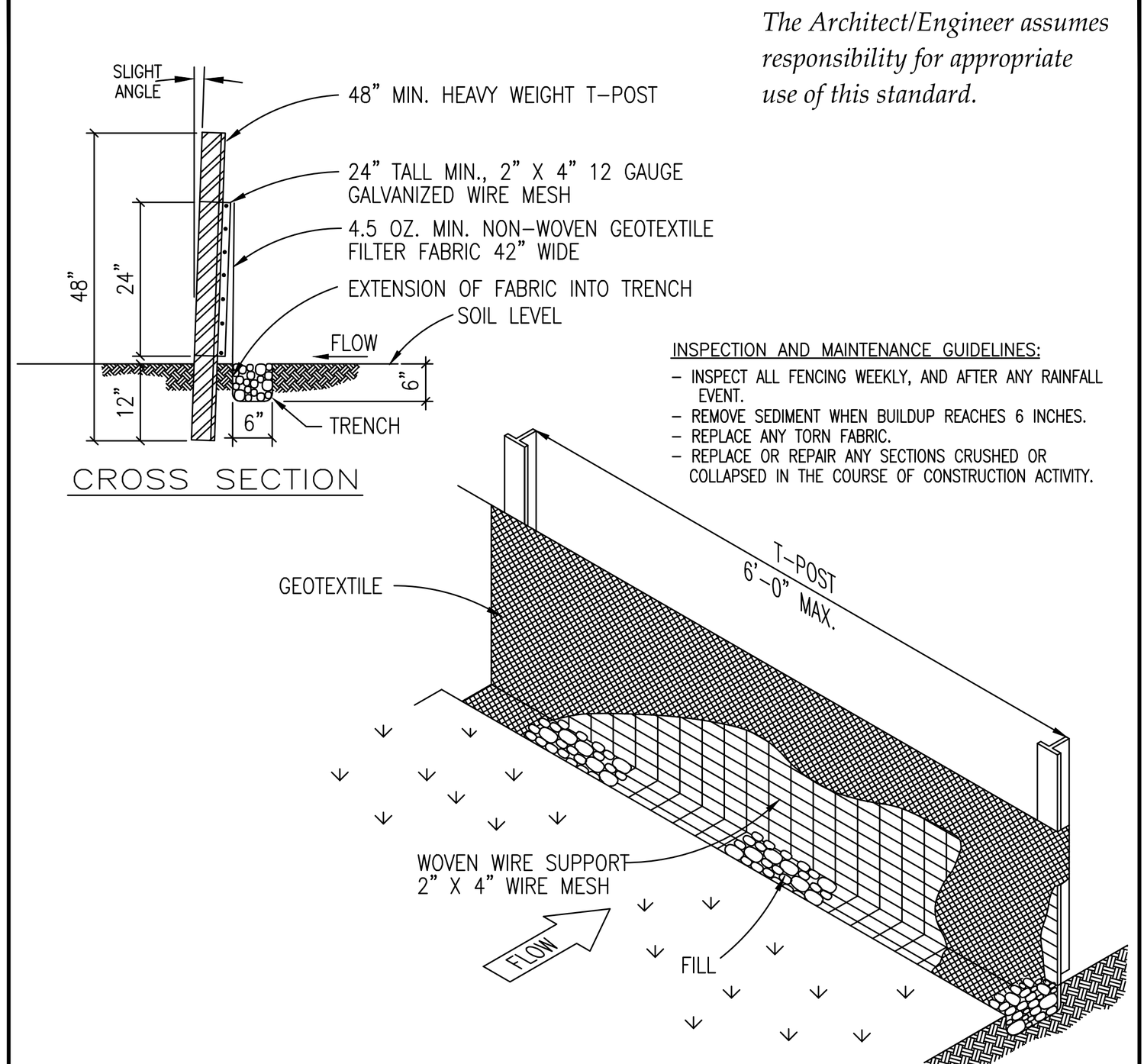
NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% *COVERAGE,* PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC01A SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

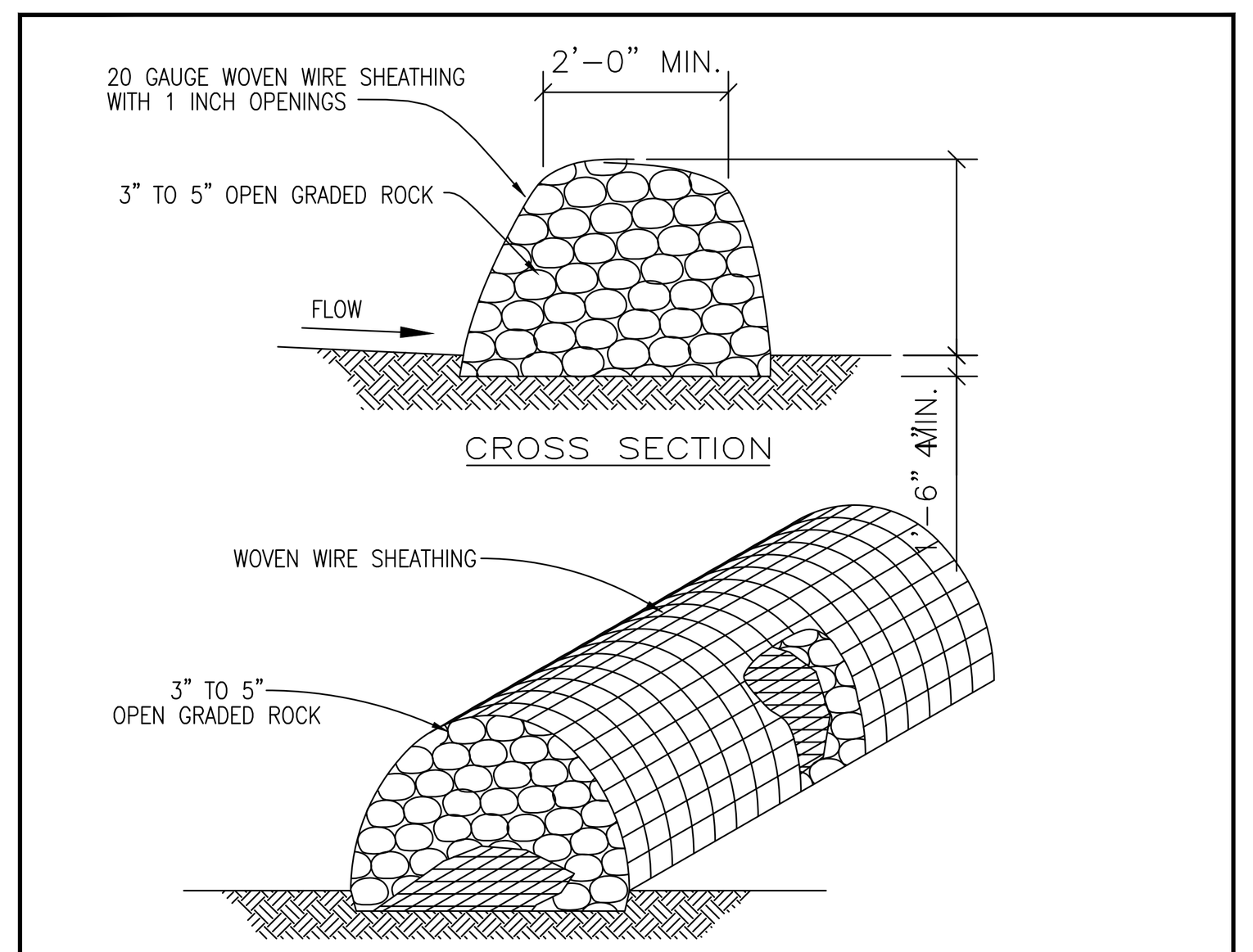
The Architect/Engineer assumes responsibility for appropriate use of this standard.



INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SILT FENCE DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC02 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

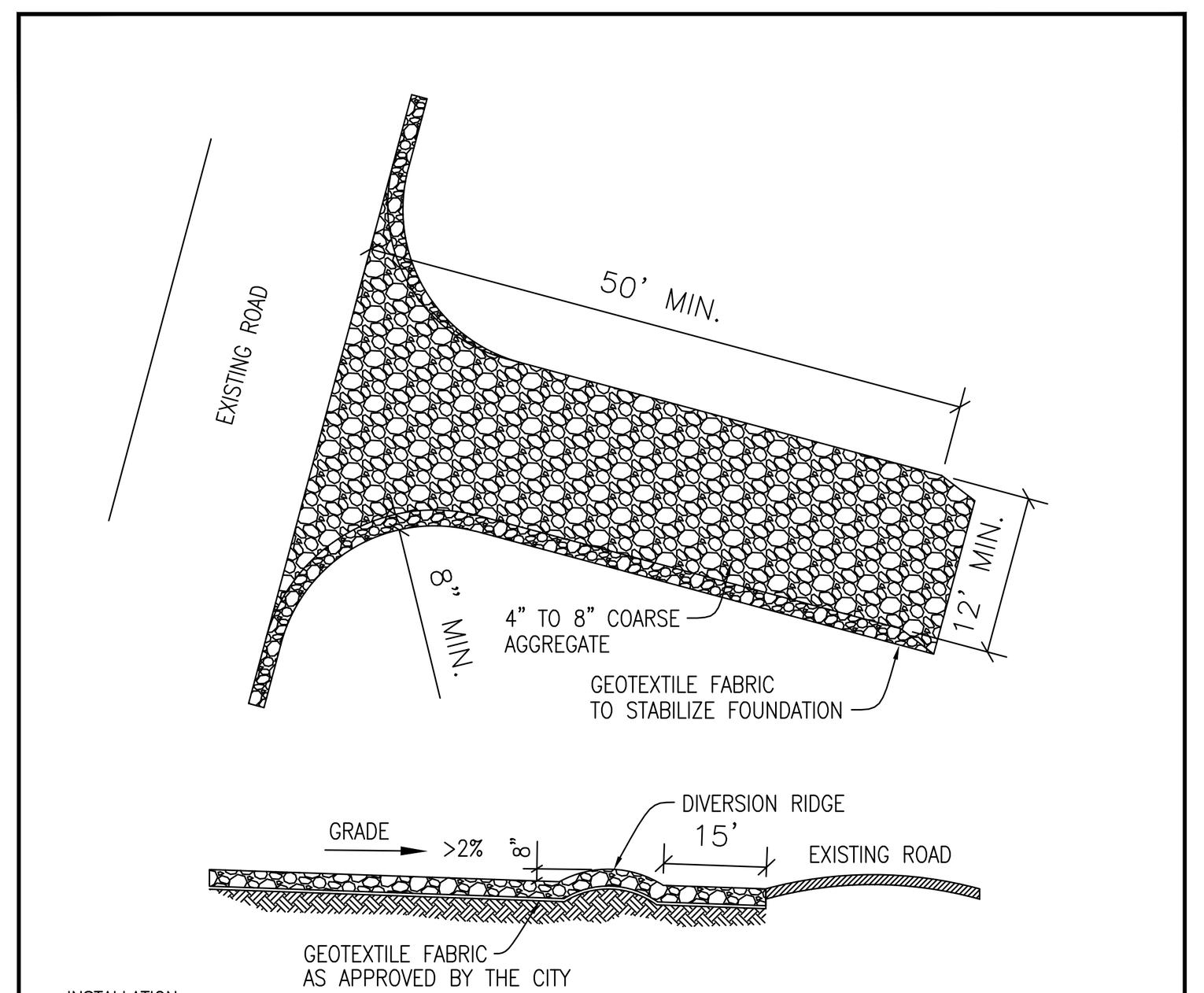


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- 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.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS ROCK BERM DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC03 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

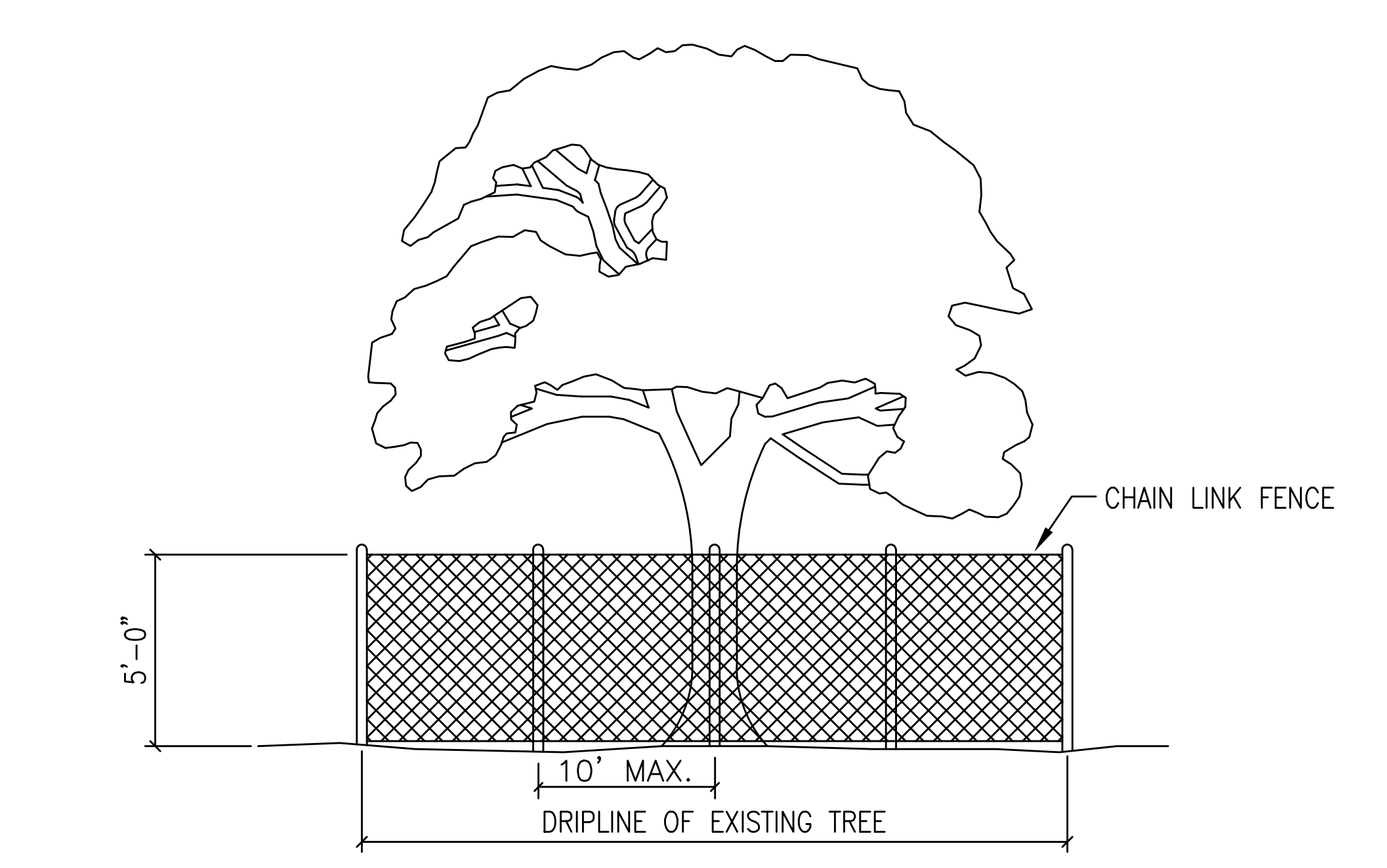


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

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

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STABILIZED CONSTRUCTION ENTRANCE	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC06 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



NOTES:

1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT 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 SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TREE PROTECTION – CHAIN LINK FENCE	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC09 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

Revision / Date

Project:
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STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

EROSION, SEDIMENTATION & TREE PROTECTION DETAILS

Job No.	Sheet No.
Drawn By: ARB	C05
Date: 04-21-23	

2021-18-SDP

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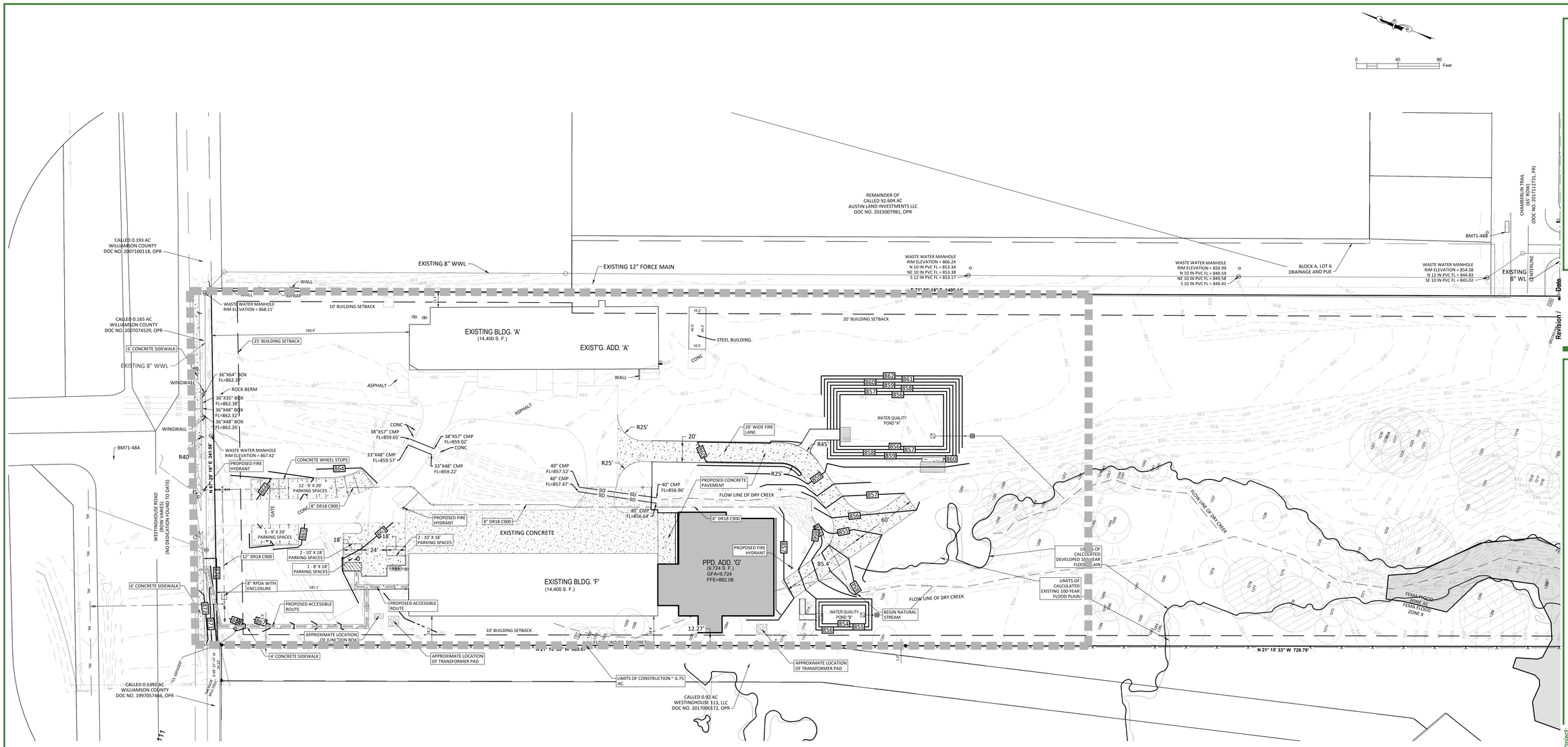

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STEGER BIZZELL JOB # 22751-ADD

LOT AREA:	474,220 S.F. (10.89 Ac.)
EXIST. IMPERVIOUS COVER:	65,549 S.F. (1.50 Ac.) 1.50 Ac. / 10.89 Ac. * 100 = 14%
MAX. IMPERVIOUS COVER:	306,820 S.F. (7.04 Ac.) [0.70 x 5 Acres] + [0.55 x 5.89 Acres]/10.89 x 100 = 64.7%
PROP. IMPERVIOUS COVER PH 1:	27,417 S.F. (0.63 Ac.) 0.63 Ac. / 10.89 Ac. * 100 = 5.8%
TOTAL PROP. IMPERVIOUS COVER PH 1:	92,966 S.F. (2.13 Ac.) 2.13 Ac. / 10.89 Ac. * 100 = 19.6%
BUILDING GROSS FLOOR AREA:	Bldg "G" - 9,724 S.F.
EXISTING PARKING:	0 Parking Spaces
REQUIRED PARKING:	Building "F": 1 parking space per 500 GFA of Office/Manufacturing 5,580 sf / 500 = 11 parking spaces Required 1 parking space per 2500 GFA of Storage 8,820 sf / 2,500 = 4 parking spaces Required Building "G": 1 parking space per 2,500 GFA of Storage 9,724 sf / 2,500 = 4 parking spaces Required
TOTAL PARKING:	19 Parking Spaces Required 22 Total Parking Spaces Provided (1 Accessible Parking Space)

LEGEND

- MAG NAIL WITH WASHER STAMPED "STEGER BIZZELL" SET
- IRON ROD FOUND (1/2" OR AS NOTED)
- GUY ANCHOR
- FIRE HYDRANT
- UNDERGROUND TELECOMMUNICATIONS MARKER
- WATER VALVE
- UNDERGROUND GAS MARKER
- LIGHT POLE
- UTILITY POLE
- WASTEWATER (SANITARY SEWER) MANHOLE
- CLEAN OUT (SANITARY SEWER/WASTEWATER)
- STORM DRAINAGE MANHOLE
- SIGN POST
- UTILITY PULL BOX
- X — BARBED WIRE FENCE
- GAS — UNDERGROUND GAS
- W — UNDERGROUND WATER
- OHW — OVERHEAD WIRES
- ROW — RIGHT-OF-WAY
- OPR — OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
- POB — POINT OF BEGINNING
- PEDESTRIAN ACCESS ROUTE

PROTECTED TREE LIST

TAG #	Description
1100	17in (M) ELM
1206	21in (M) LIVE OAK
1207	14in (M) LIVE OAK
1210	20in (M) ELM
1211	12in (M) ELM
1212	19in (M) LIVE OAK
1213	17in (M) LIVE OAK
1214	12in LIVE OAK
1215	12in (M) ELM
1216	15in (M) LIVE OAK
1217	13in LIVE OAK
1218	15in (M) LIVE OAK
1219	23in (M) LIVE OAK
1222	16in (M) LIVE OAK
1223	14in LIVE OAK
1224	22in (M) LIVE OAK
1225	13in (M) LIVE OAK
1226	22in (M) LIVE OAK
1228	19in (M) LIVE OAK
1229	13in LIVE OAK

PROTECTED TREE LIST

TAG #	Description
1230	13in LIVE OAK
1231	25in (M) LIVE OAK
1232	13in LIVE OAK
1234	22in LIVE OAK
1235	15in (M) LIVE OAK
1236	14in LIVE OAK
1237	16in LIVE OAK
1238	22in (M) LIVE OAK
1239	14in LIVE OAK
1240	13in LIVE OAK
1241	12in LIVE OAK
1242	14in LIVE OAK
1243	17in LIVE OAK
1244	16in LIVE OAK
1245	23in LIVE OAK
1246	16in LIVE OAK
1247	13in ELM
1248	12in LIVE OAK
1249	18in (M) LIVE OAK
1250	12in LIVE OAK

PROTECTED TREE LIST

TAG #	Description
1251	14in LIVE OAK
1252	13in ELM
1253	14in LIVE OAK
1254	14in LIVE OAK
1256	14in ELM
1257	15in ELM
1259	13in LIVE OAK
1260	14in (M) ELM
1261	13in ELM
1262	13in LIVE OAK
1263	12in LIVE OAK
1264	19in (M) LIVE OAK
1265	21in LIVE OAK
1266	13in (M) ELM
1267	15in LIVE OAK
1269	20in LIVE OAK
1270	20in LIVE OAK
1271	24in LIVE OAK
1272	13in LIVE OAK
1273	13in (M) ELM

PROTECTED TREE LIST

TAG #	Description
1274	20in (M) LIVE OAK
1275	17in (M) LIVE OAK
1277	15in (M) LIVE OAK
1279	15in (M) LIVE OAK
1280	13in LIVE OAK
1281	12in LIVE OAK
1282	16in (M) ELM
1283	12in (M) LIVE OAK
1284	12in LIVE OAK
1285	17in (M) LIVE OAK
1286	13in LIVE OAK
1287	12in (M) LIVE OAK
1288	16in (M) ELM
1289	17in (M) LIVE OAK
1290	12in ELM
1291	12in ELM
1292	20in (M) ELM
1293	18in ELM
1294	13in (M) ELM
1295	12in ELM

PROTECTED TREE LIST

TAG #	Description
1297	13in ELM
1298	16in ELM
1299	12in ELM
1300	15in ELM

HERITAGE TREE LIST

TAG #	Description
1205	41in (M) LIVE OAK
1208	27in (M) LIVE OAK
1209	30in LIVE OAK
1220	33in (M) LIVE OAK
1221	28in (M) LIVE OAK
1227	32in (M) LIVE OAK
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1258	27in LIVE OAK
1268	34in LIVE OAK
1276	27in (M) LIVE OAK
1278	28in (M) LIVE OAK

NOTE: SEE LANDSCAPING PLANS FOR TREES LESS THAN 12" IN DIAMETER THAT ARE BEING USED FOR MITIGATION.

SITE PLAN NOTES:

1. All lighting fixtures shall be designed to completely conceal, fully shield within opaque housing the light source from visibility from any street right-of-way. The cone of light shall not cross any adjacent property line. The illumination shall not exceed two (2) foot candles at a height of three (3) feet at the property line. Only incandescent, fluorescent, color-corrected high-pressure sodium or metal halide may be used. All vehicle or pedestrian access shall be sufficiently lighted to ensure security of property and persons.
2. All roof, wall and ground mounted mechanical equipment must be screened in accordance with Section 8 of the UDC. If roof and wall mounted equipment of any type including duct work and large vents is proposed, it shall be shown on the site plan and screening identified. Screening of mechanical equipment shall result in the mechanical equipment blending in with the primary building and not appearing separate from the building and shall be screened from view from any rights-of-way or adjoining properties.
3. The dumpster enclosures must be one (1) foot above the height of the waste container. Use protective poles in corners and at impact areas. Fence posts shall be of rust protected metal or concrete. A minimum 6" slab is required and must be sloped to drain. The enclosure must have steel framed gates with spring loaded hinges and fasteners to keep closed. Screening must be on all four (4) sides by masonry wall or approved fence or screening with opaque gates.

STATE OF TEXAS
JAMES M. CUMMINS
105952
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07/14/23

SITE PLAN

Job No.	Sheet No.
Drawn By: ARB	C06
Date: 04-21-23	

2021-18-SDP

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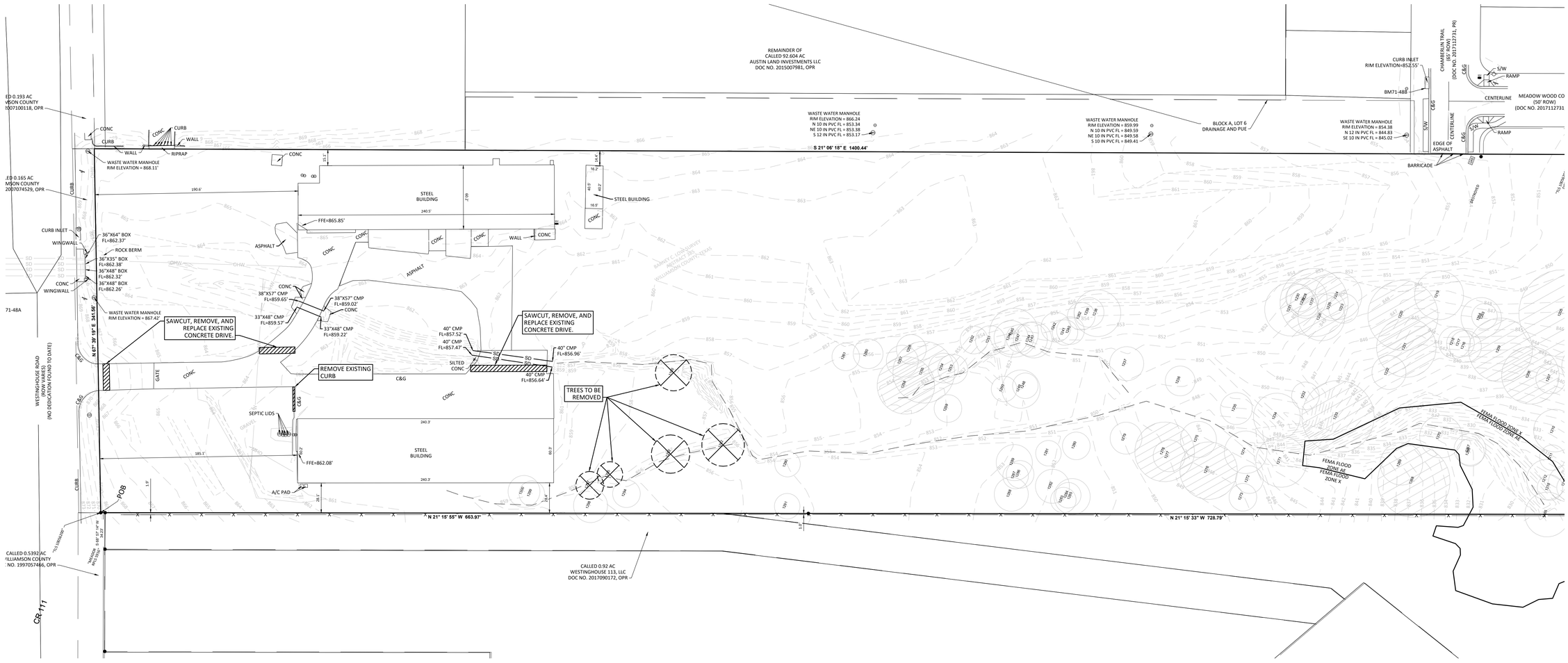

LEGEND

- MAG NAIL WITH WASHER STAMPED "STEGER BIZZELL" SET
- IRON ROD FOUND (1/2" OR AS NOTED)
- GUY ANCHOR
- FIRE HYDRANT
- UNDERGROUND TELECOMMUNICATIONS MARKER
- WATER VALVE
- UNDERGROUND GAS MARKER
- LIGHT POLE
- UTILITY POLE
- WASTEWATER (SANITARY SEWER) MANHOLE
- CLEAN OUT (SANITARY SEWER/WASTEWATER)
- STORM DRAINAGE MANHOLE
- SIGN POST
- UTILITY PULL BOX
- BARBED WIRE FENCE
- UNDERGROUND GAS
- UNDERGROUND WATER
- OVERHEAD WIRES
- ROW — RIGHT-OF-WAY
- OPR — OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
- POB — POINT OF BEGINNING
- PEDESTRIAN ACCESS ROUTE

PROTECTED TREE LIST

TAG #	Description
~~1100~~	~~17in (M) ELM~~
1206	21in (M) LIVE OAK
1207	14in (M) LIVE OAK
1210	20in (M) ELM
1211	12in (M) ELM
1212	19in (M) LIVE OAK
1213	17in (M) LIVE OAK
1214	12in LIVE OAK
1215	12in (M) ELM
1216	15in (M) LIVE OAK
1217	13in LIVE OAK
1218	15in (M) LIVE OAK
1219	23in (M) LIVE OAK
1222	16in (M) LIVE OAK
1223	14in LIVE OAK
1224	22in (M) LIVE OAK
1225	13in (M) LIVE OAK
1226	22in (M) LIVE OAK
1228	19in (M) LIVE OAK
1229	13in LIVE OAK

PROTECTED TREE LIST

TAG #	Description
1230	13in LIVE OAK
1231	25in (M) LIVE OAK
1232	13in LIVE OAK
1234	22in LIVE OAK
1235	15in (M) LIVE OAK
1236	14in LIVE OAK
1237	16in LIVE OAK
1238	22in (M) LIVE OAK
1239	14in LIVE OAK
1240	13in LIVE OAK
1241	12in LIVE OAK
1242	14in LIVE OAK
1243	17in LIVE OAK
1244	16in LIVE OAK
1245	23in LIVE OAK
1246	16in LIVE OAK
1247	13in ELM
1248	12in LIVE OAK
1249	16in (M) LIVE OAK
1250	12in LIVE OAK

PROTECTED TREE LIST

TAG #	Description
1251	14in LIVE OAK
1252	13in ELM
1253	14in LIVE OAK
1254	14in LIVE OAK
1256	14in ELM
1257	15in ELM
1259	13in LIVE OAK
1260	14in (M) ELM
1261	13in ELM
1262	13in LIVE OAK
1263	12in LIVE OAK
1264	19in (M) LIVE OAK
1265	21in LIVE OAK
1266	13in (M) ELM
1267	15in LIVE OAK
1269	20in LIVE OAK
1270	20in LIVE OAK
1271	24in LIVE OAK
1272	13in LIVE OAK
1273	13in (M) ELM

PROTECTED TREE LIST

TAG #	Description
1274	20in (M) LIVE OAK
1275	17in (M) LIVE OAK
1277	15in (M) LIVE OAK
1279	15in (M) LIVE OAK
1280	13in LIVE OAK
1281	12in LIVE OAK
1282	16in (M) ELM
1283	12in (M) LIVE OAK
1284	12in LIVE OAK
1285	17in (M) LIVE OAK
1286	13in LIVE OAK
1287	12in (M) LIVE OAK
1288	16in (M) ELM
1289	17in (M) LIVE OAK
1290	12in ELM
1291	12in ELM
~~1292~~	~~20in (M) ELM~~ TREE TO BE REMOVED (TYP.)
~~1293~~	~~15in ELM~~ TREE TO BE REMOVED (TYP.)
1294	13in (M) ELM
~~1295~~	~~12in ELM~~ TREE TO BE REMOVED (TYP.)

PROTECTED TREE LIST

TAG #	Description
~~1297~~	~~13in ELM~~
1298	16in ELM
1299	12in ELM
1300	15in ELM

HERITAGE TREE LIST

TAG #	Description
1205	41in (M) LIVE OAK
1208	27in (M) LIVE OAK
1209	30in LIVE OAK
1220	33in (M) LIVE OAK
1221	28in (M) LIVE OAK
1227	32in (M) LIVE OAK
1233	34in LIVE OAK
1255	29in LIVE OAK
1258	27in LIVE OAK
1268	34in LIVE OAK
1276	27in (M) LIVE OAK
1278	28in (M) LIVE OAK

NOTE! : REFER TO LANDSCAPING PLANS FOR INSTRUCTIONS CONCERNING TREE REMOVAL AND PROTECTION.

LEGEND

PAVEMENT/CONCRETE TO BE DEMOLISHED AND HAULED OFF

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
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ENGINEER

DEMOLITION PLAN

Job No.	Sheet No.
Drawn By: ARB	C07
Date: 04-21-23	

2021-18-SDP

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LEGEND:

TP - TOP OF PAVEMENT
TC - TOP OF CURB
FG - FINISH GRADE
TW - TOP OF WALL
FL - FLOW LINE
FFE - FINISH FLOOR ELEVATION
TB - TOP OF BERM
BERM - EARTHEN BERM
- ACCESSIBLE/PEDESTRIAN ROUTE

0 20 40 Feet

EXISTING 8" WWL
EXISTING 12" FORCE MAIN
CONC
CURB
WALL
RIPRAP
EXISTING BLDG. 'A'
(14,400 S. F.)
EXIST'G. ADD. 'A'
STEEL BUILDING
36"X64" BOX
FL=862.37'
ROCK BERM
36"X35" BOX
FL=862.38'
36"X48" BOX
FL=862.32'
36"X48" BOX
FL=862.26'
ASPHALT
TB = 864.00
FG = 863.00
1' HIGH EARTHEN BERM WITH 3:1 SIDE SLOPES.
BERM
TB = 863.50
FG = 862.50
TB = 863.00
FG = 862.00
MATCH EXIST.
TC = 860.80
TP = 860.30
TC = 861.50
TB = 861.50
FG = 861.00
TC = 861.47
TP = 860.97
INSTALL 6" HIGH CONCRETE CURB ON EXISTING CONCRETE PAVEMENT.
TP = 862.00
TC = 859.90
TP = 859.40
TC = 859.40
TP = 858.90
CONCRETE CHANNEL
TW = 860.50
FG = 858.00
TW = 856.50
FG = 856.00
TC = 860.30
TP = 859.80
END CURB
TC = 860.10
TP = 859.60
TC = 860.30
TP = 859.80
END CURB
TP = 856.53
TP = 857.00
TP = 856.26
TP = 856.40
TP = 856.00
TP = 855.45
TP = 854.00
TP = 854.50
TP = 853.80
TP = 853.80
TP = 854.00
TP = 857.20
TP = 857.00
6" COLLECTION PIPE CONNECT PIPES TO DOWNSPOUT. FITTINGS AS REQUIRED.
SLOPE PIPE TO DRAIN TO WQ POND "B"
DISCHARGE
PPD. ADD. 'G'
(9,724 S. F.)
GFA=9,724
FFE=862.08
EXISTING BLDG. 'F'
(14,400 S. F.)
TP = 866.55
TP = 865.20
TP = 864.27
MATCH EXIST. TP = 864.07
TP = 865.00
MATCH EXIST. TP = 866.45
MATCH EXIST. TP = 865.13
TP = 865.33
TP = 866.65
GATE
CONC
SEPTIC LIDS
TP = 864.00
TP = 863.50
TP = 863.70
MATCH EXIST. TP = 862.27
TP = 862.07
END CURB
TC = 862.60
TP = 862.10
TC = 862.70
TP = 862.20
TC = 862.90
TP = 862.40
TP = 862.85
TP = 862.70
TP = 862.85
TP = 862.70
TC = 863.00
TP = 862.50
FG = 862.55
FG = 862.50
FG = 862.30
FG = 861.74
FG = 862.05
FG = 861.70
PROPOSED ACCESSIBLE ROUTE
FG = 871.36
FG = 871.45
FG = 869.06
PROPOSED ACCESSIBLE ROUTE
FG = 863.00
FG = 861.30
GRASS LINED SWALE
FG = 861.00
SILTED CONC
A/C P&D
CALLED 0.92 AC
WESTINGHOUSE 113, LLC
S 68°37'34" W
185.1'
190.6'
16.2'
40.9'
40.2'
16.9'
13.5'
12.3'
14.4'

Revision / Date

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

Project:

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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
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5/19/23

DETAILED GRADING PLAN

Job No.	Sheet No.
Drawn By: ARB	C08
Date: 04/25/23	

2021-18-SDP

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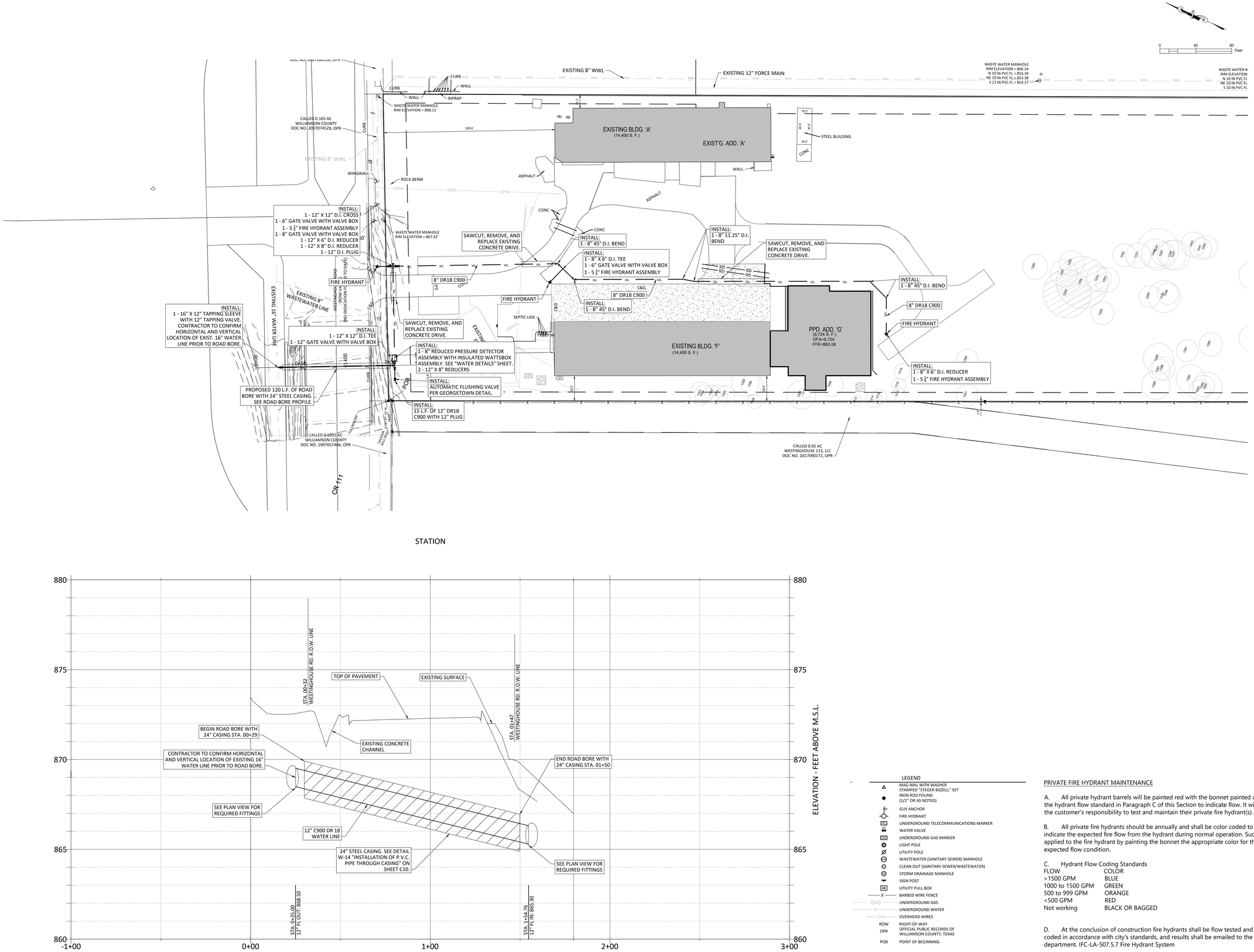

WESTINGHOUSE ROAD BORE PROFILE

SCALE
H: 1" = 20'
V: 1" = 2'

LEGEND

△	MAG NAIL WITH WASHER STAMPED "STEGER BIZZELL" SET
●	IRON ROD FOUND (1/2" OR AS NOTED)
	GUY ANCHOR
	FIRE HYDRANT
TC	UNDERGROUND TELECOMMUNICATIONS MARKER
	WATER VALVE
GAS	UNDERGROUND GAS MARKER
	LIGHT POLE
	UTILITY POLE
SD	WASTEWATER (SANITARY SEWER) MANHOLE
	CLEAN OUT (SANITARY SEWER/WASTEWATER)
SD	STORM DRAINAGE MANHOLE
	SIGN POST
	UTILITY PULL BOX
X	BARBED WIRE FENCE
GAS	UNDERGROUND GAS
W	UNDERGROUND WATER
OHW	OVERHEAD WIRES
ROW	RIGHT-OF-WAY
OPR	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
POB	POINT OF BEGINNING

PRIVATE FIRE HYDRANT MAINTENANCE

A. All private hydrant barrels will be painted red with the bonnet painted using the hydrant flow standard in Paragraph C of this Section to indicate flow. It will be the customer's responsibility to test and maintain their private fire hydrant(s).

B. All private fire hydrants should be annually and shall be color coded to indicate the expected fire flow from the hydrant during normal operation. Such color applied to the fire hydrant by painting the bonnet the appropriate color for the expected flow condition.

C. Hydrant Flow Coding Standards

FLOW	COLOR
>1500 GPM	BLUE
1000 to 1500 GPM	GREEN
500 to 999 GPM	ORANGE
<500 GPM	RED
Not working	BLACK OR BAGGED

D. At the conclusion of construction fire hydrants shall be flow tested and color coded in accordance with city's standards, and results shall be emailed to the fire department. IFC-LA-507.5.7 Fire Hydrant System

Revision / Date

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GEORGETOWN, TEXAS 78628

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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
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5/19/23

WATER PLAN

Job No.	Sheet No. C09
Drawn By: AKB	
Date: 04-21-23	

2021-18-SDP

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ZURN Model 375DA
Reduced Pressure Detector Assembly



LEAD FREE

NSF/ANSI 61

Application
Designed for installation on water lines in fire protection systems to protect against both backsiphonage and back-pressure of contaminated water into the potable water supply. The Model 375DA shall provide protection where a potential health hazard exists. Incorporates metered by-pass to detect leaks and unauthorized water use.

Standards Compliance
(Unless otherwise noted, applies to sizes 2 1/2" thru 10")
- ASSE® Listed 1047
- UL® Classified
- AWWA Compliant C550
- CSA® Certified B64.4 (4" & 6")
- C-UL® Classified
- FM® Approved
- NYC MEA 218-01-M VOL 3
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
- Meets the requirements of NSF/ANSI 61*

*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

By-Pass Backflow Assembly 3/4" Model 975XLD

Materials

Main valve body	Ductile Iron ASTM A 536
Access covers	Ductile Iron ASTM A 536
Coatings	NSF Approved fusion epoxy finish
Internals	Stainless steel, 300 Series NORYL™
Fasteners	Stainless Steel, 300 Series
Elastomers	EPDM (FDA approved) Buna Nitrile (FDA approved) NORYL™
Polymers	Stainless steel, 300 series
Springs	Stainless steel, braided hose
Sensing line	

Features
Sizes: 2 1/2", 3", 4", 6", 8", 10"

Maximum working water pressure	175 PSI
Maximum working water temperature	140°F
Hydrostatic test pressure	350 PSI
End connections (Grooved for steel pipe)	AWWA C606
(Flanged bolt pattern)	ASME B16.42 Class 150

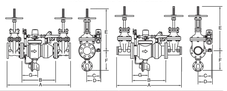
Options
(Suffixes can be combined)
- ☐ - with OS & Y gate valves (standard)
- ☐ L - less shut-off valves (flanged body connections)
- ☐ LM - less water meter
- ☐ - with gpm meter (standard)
- ☐ CFM - with cu ft/min meter
- ☐ G - with groove end gate valves
- ☐ FG - with flanged inlet gate connection and grooved outlet gate connection
- ☐ PI - with Post Indicator Gate Valve
- ☐ GF - with flanged inlet connection and grooved outlet connection
- ☐ BG - with grooved end butterfly valves with integral monitor switches (2 1/2" - 10")

Accessories
- ☐ Air gap (Model AG)
- ☐ Repair kit (rubber only)
- ☐ Thermal expansion tank (Model XT)
- ☐ OS & Y Gate valve tamper switch (OSY-40)
- ☐ QT-SET Quick Test Fitting Set

Attention: Model 375DA (flange body) and Model 375ADA (grooved body) have different lay lengths.

Relief Valve discharge port:
2 1/2" - 6" - 2.75 sq. in.
8" - 10" - 3.69 sq. in.

Model 375DAG SHOWN BELOW



Dimensions & Weights (do not include pkg.)

MODEL 375DA SIZE	DIMENSION (approximate) A	A WITH BUTTERFLY VALVES	B LESS GATE VALVES	C	D	E OS&Y OPEN	E OS&Y CLOSED	E WITH BUTTERFLY VALVES	F	G	WEIGHT LESS SHUT-OFF VALVES	OS&Y GATE VALVES FLANGED	OS&Y GATE VALVES GROOVED	BUTTERFLY VALVES GROOVED
	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	lbs. kg	lbs. kg	lbs. kg	lbs. kg
2 1/2	80 31	787 29	711 15.78	403 7 1/4	184 9	229 17 3/4	451 13 3/8	390 13 3/4	349 9 1/2	241 8 5/8	213 75	34 185	84 187	76 147	67
3	80 33	813 28 1/2	724 15.78	403 7 1/4	184 9	229 20 1/4	514 17	432 13 3/4	349 9 1/2	241 8 5/8	213 78	35 208	94 192	73 130	59
4	100 37 5/8	956 32 5/8	829 19 1/2	495 8	203 9	229 22 1/2	572 18 1/4	464 17	432 11	279 9 1/4	235 116	53 306	139 292	132 200	91
6	150 44 5/8	1133 37 5/8	956 25 1/2	597 10	254 10 1/2	267 30 1/2	775 28 1/8	718 17 1/2	445 12 3/8	314 8 1/4	209 194	88 494	224 469	212 312	142
8	200 50 7/8	1549 37 7/8	1369 37 3/4	959 11	279 11 1/2	292 39	990 28 1/2	724 16 15/16	430 13 3/8	341 8 1/4	209 282	173 858	389 810	367 556	252
10	250 63 7/8	1622 37 7/8	1472 37 3/4	959 11	279 11 1/2	292 44 5/8	1132 39 1/4	980 19 7/16	430 13 3/8	341 8 1/4	209 413	187 1200	544 1104	528 800	363

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
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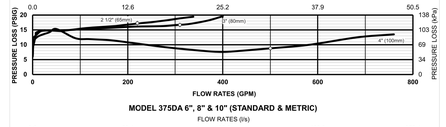
www.zurn.com

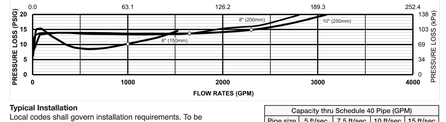
Rev. N
Date: 3/20
Document No. 9F-375DA
Patent No. 5, 013, 331
Product No. Model 375DA

Flow Characteristics
©Rated Flow (established by approval agencies)

MODEL 375DA 2 1/2", 3" & 4" (STANDARD & METRIC)
FLOW RATES (l/s)

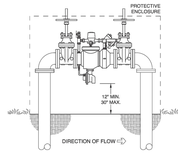


MODEL 375DA 6", 8" & 10" (STANDARD & METRIC)
FLOW RATES (l/s)

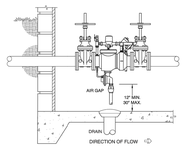


Typical Installation
Local codes shall govern installation requirements. To be installed in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
2 1/2"	75	112	149	224
3"	115	173	230	346
4"	198	298	397	595
6"	450	675	900	1351
8"	780	1169	1559	2339
10"	1229	1843	2458	3687
12"	1763	2644	3525	5288



OUTDOOR INSTALLATION



INDOOR INSTALLATION

Specifications
The Reduced Pressure Detector Backflow Prevention Assembly shall be certified to NSF/ANSI 61, ASSE® Listed 1047, and supplied with full port OS & Y gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The checks and the relief valve shall be accessible for maintenance without removing the device from the line. The Reduced Pressure Detector Backflow Prevention Assembly shall be a ZURN WILKINS Model 375DA.

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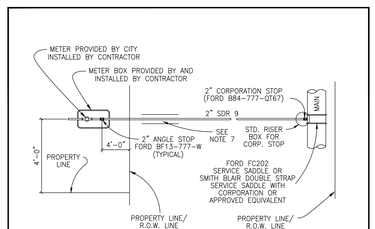
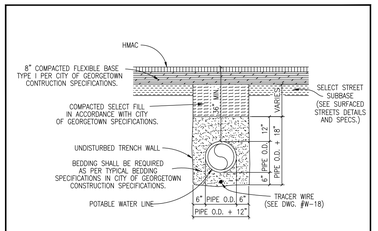


NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR–9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W–03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN
W04
SCALE: NTS DATE: 1/2013
DRAWN BY: MRS CHECKED BY: TRB



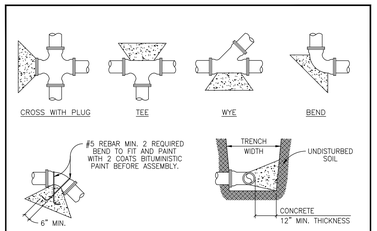
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY
W22
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB



*DEADMAN

TYPICAL SECTION

ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOIL, AT POINTS OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

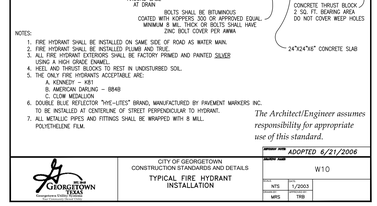
PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN
W11
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB

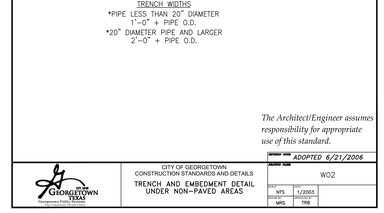


NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYE–LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELINE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION
W10
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB

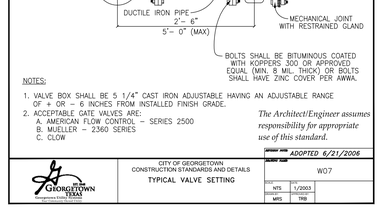


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS
W02
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB

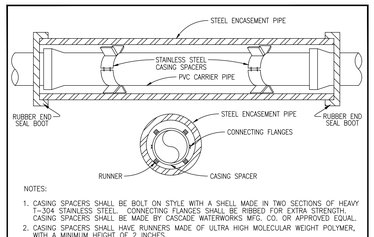


NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING
W07
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB



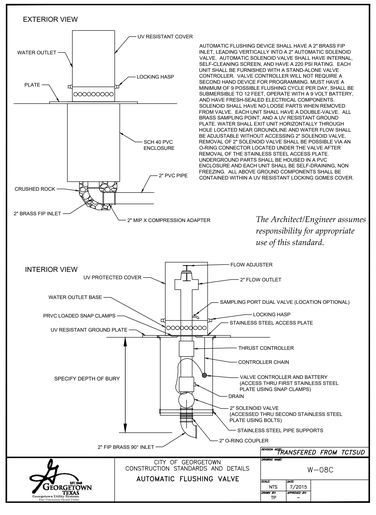
NOTES:
1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T–304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH THICKNESS ACCORDING TO THE FOLLOWING TABLE:
7. WHEN CASING IS REQUIRED UNDER PAVEMENT WITHIN THE R.O.W., THE CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.
8. ALL JOINTS SHALL BE RESTRAINED ON PVC CARRIER PIPE.

PIPE SIZE–CARRIER (DIAMETER)	PIPE SIZE–CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"		
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" – 14"	24"	3/8	0.3750
16" – 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

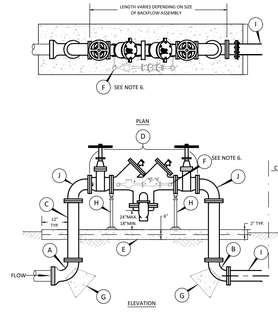
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
INSTALLATION OF P.V.C. PIPE THROUGH CASING
W14
SCALE: NTS DATE: 1/2003
DRAWN BY: MRS CHECKED BY: TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

TRANSFERED FROM TCTSUD

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
AUTOMATIC FLUSHING VALVE
W–08C
SCALE: NTS DATE: 7/2015
DRAWN BY: GF CHECKED BY: –



MATERIALS:

A - 8" D.I. 90° BEND M.J. X M.J. W/ RESTRAINTS
B - 8" D.I. 90° BEND M.J. X M.J. W/ RESTRAINTS
C - 8" D.I. SPOOL F.E. x F.E. LENGTH AS REQUIRED
D - ZURN 375DA 8" REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WITH RISING STEM RESILIENT WEDGE GATE ASSEMBLY.
E - 6" THICK P.C.C. SLAB, REINFORCE WITH W.W.F. 1.6 X 1.6
F - FACTORY INSTALLED BY-PASS METER ASSEMBLY CONSISTING OF APPROVED POSITIVE DISPLACEMENT METER, REDUCED PRESSURE PRINCIPAL DEVICE AND ASSOCIATED PIPING. METER TO BE USED FOR FIRE SYSTEMS ONLY. METER READS IN CUBIC FEET.
G - THRUST BLOCK PER CITY OF GEORGETOWN STD.
H - ADJUSTABLE PIPE SUPPORT FOR ASSEMBLIES 8" DIAMETER AN LARGER PER CITY OF GEORGETOWN STD.
I - 8" C-900 P.V.C. DR-18 PIPE SECTION, CL. 200
J - 8" D.I. 90° BEND F.E. x F.E. FOR 8" REDUCED PRESSURE PRINCIPAL BACKFLOW ASSEMBLY.

NOTES:

1. NOTIFY CITY OF GEORGETOWN PRIOR TO INSTALLATION OF BACKFLOW DEVICE.
2. FIRE DEPARTMENT CONNECTION AND POST-INDICATOR VALVES SHALL NOT BE PART OF THE BACKFLOW ASSEMBLY AND MUST BE INSTALLED ON THE CUSTOMER SPECIFIED PIPING SIDE.
3. BACKFLOW ASSEMBLY SHALL BE A MINIMUM OF 36" FROM ANY STRUCTURE, CURB OR SIDEWALK.
4. BACKFLOW ASSEMBLY AND CITY OF GEORGETOWN PIPING SHALL BE WITHIN A DEDICATED CITY OF GEORGETOWN EASEMENT OR PUBLIC RIGHT OF WAY.
5. PLACE BRASS PLUGS IN ALL TEST VALVES OUTLETS.
6. BY-PASS METER TO BE USED FOR FIRE SYSTEMS ONLY. DO NOT INSTALL BY-PASS METERS WHERE SUPPLY TO DEVICE IS ALREADY METERED.
7. PIPES AND FITTINGS TO BE DUCTILE IRON.
8. NO RISING STEM OR WHEEL OPERATED VALVES.
9. ROD RESTRAINT REQUIRED AT ALL MECHANICAL OR PUSH-ON TYPE JOINTS.
10. TOP OF BOX MUST BE 6" ABOVE GROUND.
11. DOUBLE HARNESS MJ W/ TIE ROD. ALL OTHER FITTING IN VAULT TO BE FLANGED.
12. AN INSULATED WATTSBOX OR APPROVED EQUAL ENCLOSURE IS REQUIRED FOR THE RPDA. COORDINATE DIMENSIONS WITH THE ENGINEER.

REDUCED PRESSURE DETECTOR ASSEMBLY
NTS

Revision / Date

Project:

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

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TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL ENGINEER
5/19/23

WATER DETAILS

Job No.	Sheet No.
Drawn By: ARB	C10
Date: 04-21-23	

2021-18-SDP

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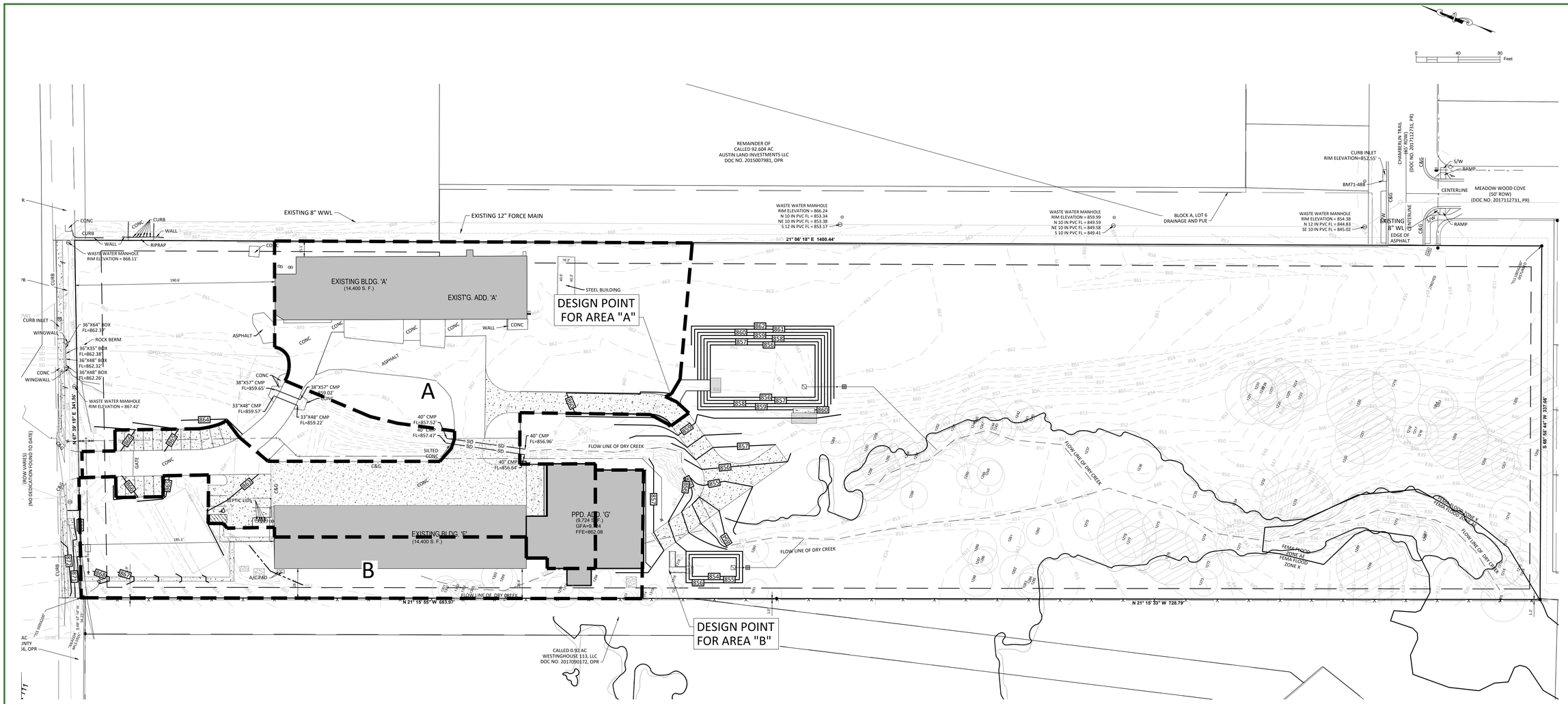

LEGEND

- MAG NAIL WITH WASHER STAMPED "STEGER BIZZELL" SET
- IRON ROD FOUND (1/2" OR AS NOTED)
- GUY ANCHOR
- FIRE HYDRANT
- UNDERGROUND TELECOMMUNICATIONS MARKER
- WATER VALVE
- UNDERGROUND GAS MARKER
- LIGHT POLE
- UTILITY POLE
- WASTEWATER (SANITARY SEWER) MANHOLE
- CLEAN OUT (SANITARY SEWER/WASTEWATER)
- STORM DRAINAGE MANHOLE
- SIGN POST
- UTILITY PULL BOX
- X — BARBED WIRE FENCE
- GAS — UNDERGROUND GAS
- W — UNDERGROUND WATER
- OHW — OVERHEAD WIRES
- ROW — RIGHT-OF-WAY
- OPR — OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
- POB — POINT OF BEGINNING
- DEVELOPED INLET SUBDRAINAGE AREA
- LIMITS OF CALCULATED DEVELOPED 100-YEAR FLOOD PLAIN
- LIMITS OF CALCULATED EXISTING 100-YEAR FLOOD PLAIN

M3 GLASS TECH
DEVELOPED FLOW TO POND "A" SPLITTER AND POND "B"
Job. no. 22751 ADD
5/9/2023

DEVELOPED FLOW

Area No.	Area (ac.)	SF Length	SF "n"	SF Slope	SCF Length	SCF "n"	SCF Slope	Tc	C 25	C 100	I 25	I 100	Q 25	Q 100
A	2.32							5.00	0.78	0.80	9.84	11.88	17.81	22.05
B	0.90							5.00	0.52	0.56	9.84	11.88	4.60	5.99

* Note: Tc is for Sheet flow + Shallow concentrated Flow

Sheet Flow

Tc=Ln/(42*s^.5)

L = Length of reach in ft.
Tc = Time of concentration
n = Manning's n value
s = Slope of ground in ft/ft

POND "A"

25 DEVELOPED		100 DEVELOPED	
.96 ASPHALT/ROOF		.96 ASPHALT/ROOF	
.31 GRASS		.36 GRASS	

POND "B"

25 DEVELOPED		100 DEVELOPED	
.96 ASPHALT/ROOF		.96 ASPHALT/ROOF	
.31 GRASS		.36 GRASS	

Shallow concentrated Flow

Tc=Ln/(60*s^.5)

L = Length of reach in ft.
Tc = Time of concentration
n = Manning's n value
s = Slope of ground in ft/ft

C 25	%	C 25 composite
0.96	0.73	0.701
0.31	0.27	0.084
		0.78

C100	%	C 100 composite
0.96	0.73	0.701
0.36	0.27	0.097
		0.80

C 25	%	C 25 composite
0.96	0.33	0.3168
0.31	0.67	0.2077
		0.52

C100	%	C 100 composite
0.96	0.33	0.3168
0.36	0.67	0.2412
		0.56

Intensity Calculations

i = a/(t+b)^c

i = Average rainfall intensity (in/hr)
t = Storm duration in minutes
a,b, c = Coefficients for different storm frequencies

Austin Intensity-Duration-Frequency Curve Coefficients

	a	b	c
25-Year	111.07	17.23	0.7815
100-Year	129.03	17.83	0.7625

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
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PROFESSIONAL ENGINEER
5/9/23

INLET AREA CALCULATIONS

Job No.	Sheet No.
Drawn By: ARB	C11
Date: 04-21-23	

2021-18-SDP

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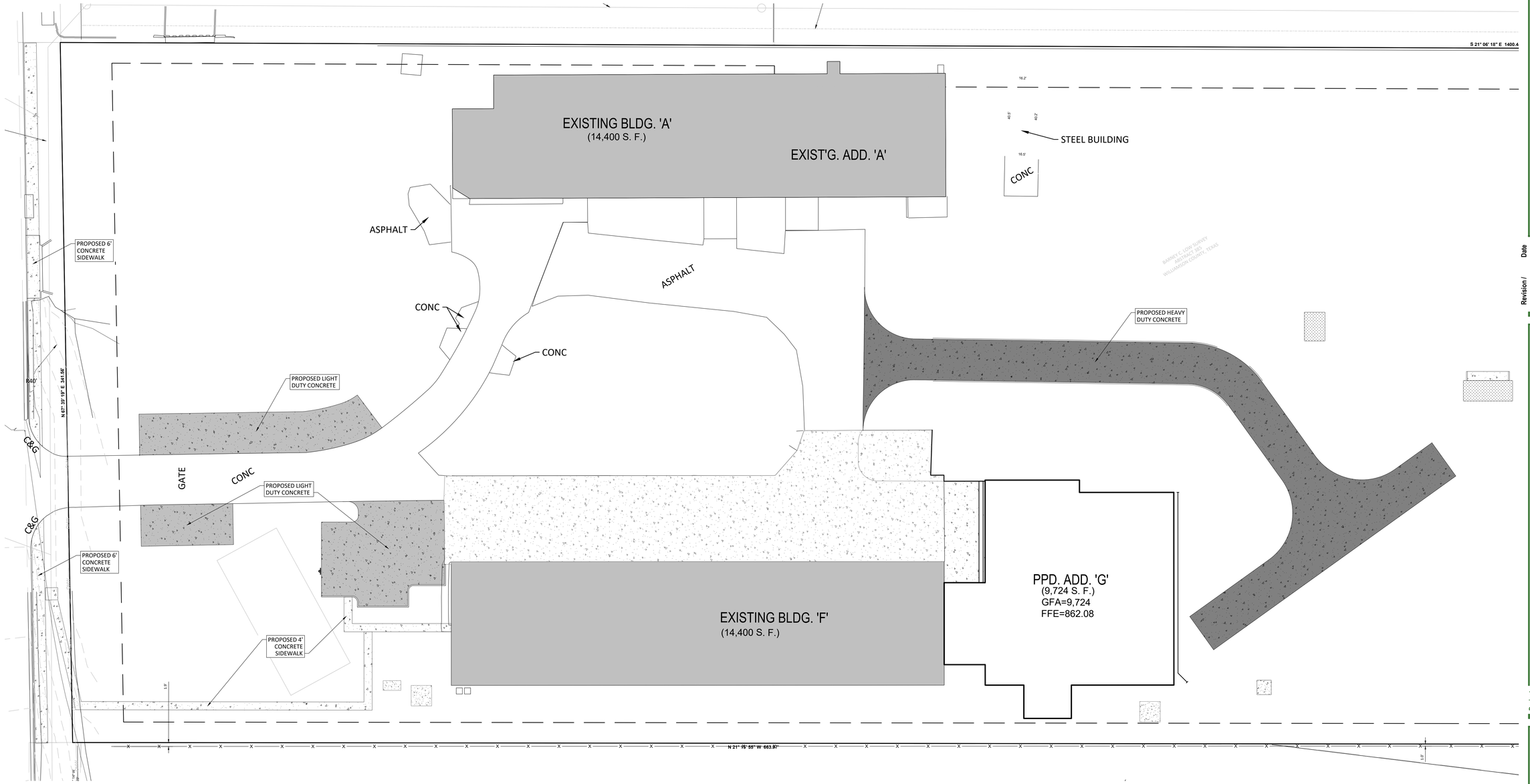

LEGEND:

- PROPOSED ASPHALT PAVEMENT
- PROPOSED SIDEWALK
- PROPOSED LIGHT DUTY CONCRETE
- EXISTING CONCRETE TO REMAIN
- PROPOSED HEAVY DUTY CONCRETE

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
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5/19/23

PAVING PLAN

Job No.	Sheet No.
Drawn By: ARB	C12
Date: 04-21-23	

2021-18-SDP

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Existing Impervious Cover and RCN Values

Drainage Area	Total Area ft²	Total Area mi.²	Total Area AC.	Impervious Area ft²	Impervious Area mi.²	Impervious Area AC.	% Impervious Cover	% Pervious Cover	Soil Group	Land Group	Cover Type	Cover Type/Hydrologic Condition	RCN Pervious	RCN Weighted
Basin A	474220	0.017010	10.9	0			0.00%	100.00%	D	Urban Areas	Open Space (lawns, parks, golf courses, cemeteries, etc.	Fair Condition (grass cover>50%)	84	84
OS Basin	5140085	0.184375	118.0	1988823	0.071339	45.7	38.69%	61.31%	D	Urban Areas	Open Space (lawns, parks, golf courses, cemeteries, etc.	Fair Condition (grass cover>50%)	84	89.4

Existing Time of Concentration

Drainage Area	Sheet Flow Length (ft)	Sheet Flow Surface Condition	Sheet Flow Initial Elevation	Sheet Flow Final Elevation	Sheet Flow Roughness	Sheet Flow Slope (%)	Sheet Flow Tc sf (min)	Shallow Concentrated Length (ft)	Shallow Concentrated Surface Condition	Shallow Concentrated Initial Elevation	Shallow Concentrated Final Elevation	Shallow Concentrated Slope (%)	Shallow Concentrated Avg Vel (fps)	Shallow Concentrated Tc-sc (min)	Open Channel Length (ft)	Open Channel Avg Vel (fps)	Open Channel Tc-ch	Tc Total (min)	T lag (min)
Basin A	150	Range (Natural)	868	862	0.13	4.00%	8.0	343	unpaved	862	859	2.10%	2.34	1.0	1250	4	5.21	14	8.5
Offsite Combined	300	Range (Natural)	925	923	0.13	0.67%	28.5	1000	unpaved	923	888	3.50%	3.02	5.5	1722	5	5.74	40	23.9
Onsite Lag		Range (Natural)			0.13				unpaved						1487	4	6.20	6	

Project: Toolmen beat the peak Simulation Run: 2 YEAR EX

Start of Run: 01Jan2000, 00:00 Basin Model: EXISTING
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 2 YR
Compute Time: 23Apr2021, 10:32:53 Control Specifications: 3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	225.9	01Jan2000, 01:56	1.50
Lag	0.184375	225.9	01Jan2000, 02:02	1.47
BASIN A	0.017010	26.4	01Jan2000, 01:40	1.20
POI A	0.201385	233.9	01Jan2000, 02:02	1.44

Project: Toolmen beat the peak Simulation Run: 10 YEAR EX

Start of Run: 01Jan2000, 00:00 Basin Model: EXISTING
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 10 YR
Compute Time: 23Apr2021, 10:32:50 Control Specifications: 3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	395.0	01Jan2000, 01:56	2.95
Lag	0.184375	395.0	01Jan2000, 02:02	2.88
BASIN A	0.017010	48.8	01Jan2000, 01:39	2.64
POI A	0.201385	411.7	01Jan2000, 02:01	2.86

Project: Toolmen beat the peak Simulation Run: 25 YEAR EX

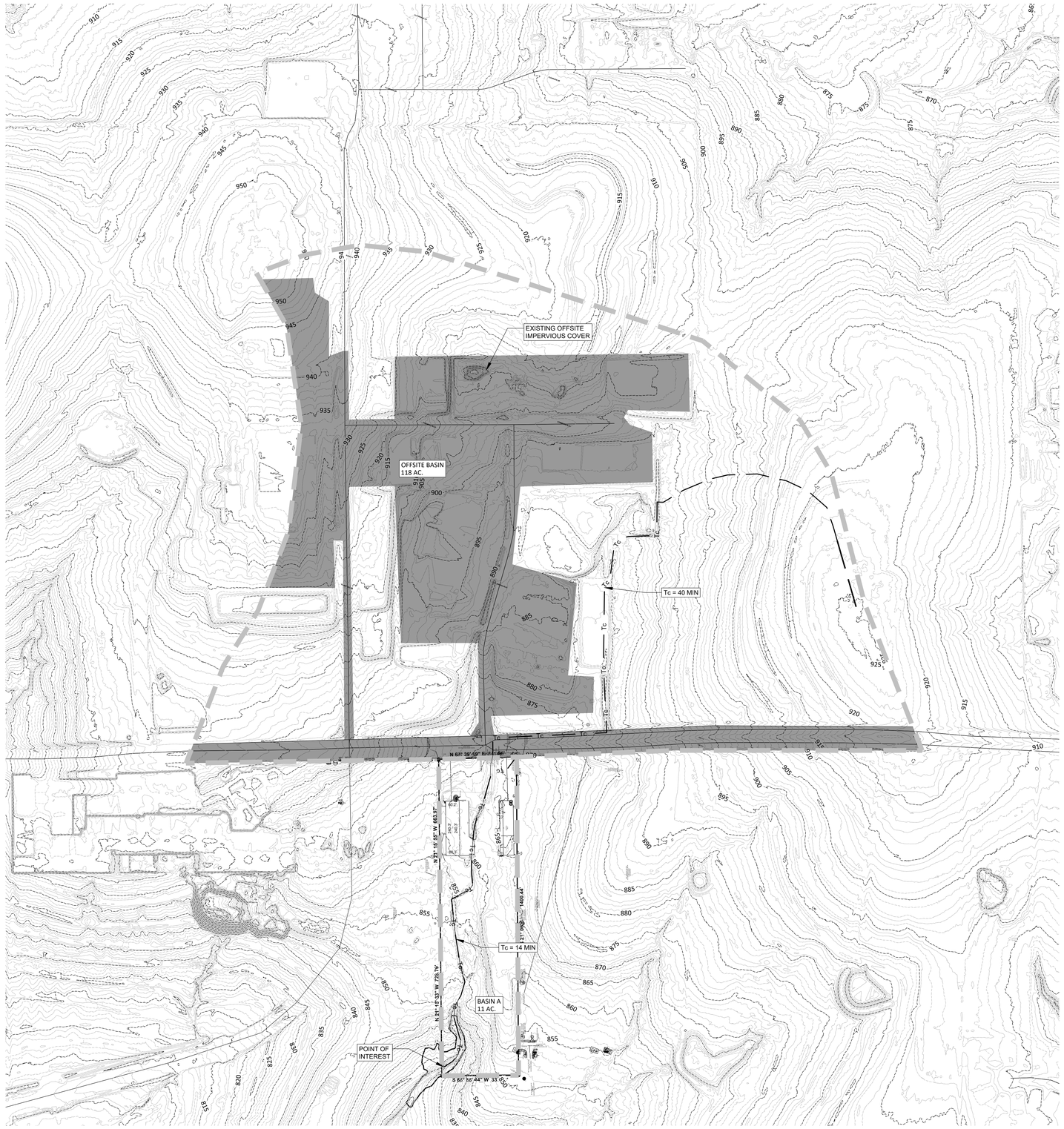
Start of Run: 01Jan2000, 00:00 Basin Model: EXISTING
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 25 YR
Compute Time: 23Apr2021, 10:32:55 Control Specifications: 3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	496.3	01Jan2000, 01:55	3.85
Lag	0.184375	496.3	01Jan2000, 02:01	3.76
BASIN A	0.017010	61.3	01Jan2000, 01:38	3.54
POI A	0.201385	518.4	01Jan2000, 02:00	3.74

Project: Toolmen beat the peak Simulation Run: 100 YEAR EX

Start of Run: 01Jan2000, 00:00 Basin Model: EXISTING
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 100 YR
Compute Time: 23Apr2021, 10:32:52 Control Specifications: 3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	638.8	01Jan2000, 01:55	5.14
Lag	0.184375	638.8	01Jan2000, 02:01	5.03
BASIN A	0.017010	80.7	01Jan2000, 01:39	4.88
POI A	0.201385	668.3	01Jan2000, 02:00	5.01



0 200 400 Feet

Revision / Date

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

Project:

STEGER BIZZELL
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

EXISTING DRAINAGE PLAN

Job No.
Sheet No. C13
Drawn By: ABB
Date: 04-21-23

2021-18-SDP

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Developed Impervious Cover and RCN Values

Drainage Area	Total Area			Impervious Area			% Impervious Cover	% Pervious Cover	Soil Group	Land Group	Cover Type	Cover Type/Hydrologic Condition	RCN Pervious	RCN Weighted
	ft^2	$mi.^2$	AC.	ft^2	$mi.^2$	AC.								
Basin A	474220	0.017010	10.9	213399	0.009655	4.9	20.05%	80.00%	D	Urban Areas	Open Space (lawns, parks, golf courses, cemeteries, etc.	Fair Condition (grass cover<50%)	84	86.8
OS Basin	3140085	0.184375	118.0	1988823	0.071339	45.7	38.69%	61.31%	D	Urban Areas	Open Space (lawns, parks, golf courses, cemeteries, etc.	Fair Condition (grass cover<50%)	84	89.4

Developed Time of Concentration

Drainage Area	Sheet Flow							Shallow Concentrated						Open Channel					
	Length (ft)	Surface Condition	Initial Elevation	Final Elevation	Roughness	Slope (%)	Tc of (min)	Length (ft)	Surface Condition	Initial Elevation	Final Elevation	Slope (%)	Avg Vel (fps)	Tc-sc (min)	Length (ft)	Avg Vel (fps)	Tc-ch	Tc Total (min)	T lag (min)
Basin A	150	Range (Natural)	868	862	0.13	4.00%	8.0	143	unpaved	862	859	2.10%	2.34	1.0	1250	4	5.21	14	8.5
Offsite Combined	300	Range (Natural)	925	923	0.13	0.67%	28.5	1000	unpaved	923	888	3.50%	3.02	5.5	1722	5	5.74	40	23.9
Onsite Lag		Range (Natural)			0.13				unpaved						1487	4	6.20	6	

Project: Project 1 Simulation Run: 2 YEAR DEV

Start of Run: 01Jan2000, 00:00 Basin Model: DEVELOPED
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 2 YR
Compute Time: 17May2023, 14:01:54 Control Specifications:3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	225.9	01Jan2000, 01:56	1.50
Lag	0.184375	225.9	01Jan2000, 02:02	1.47
BASIN A	0.017010	30.6	01Jan2000, 01:39	1.38
POI A	0.201385	234.7	01Jan2000, 02:02	1.46

Project: Project 1 Simulation Run: 10 YEAR DEV

Start of Run: 01Jan2000, 00:00 Basin Model: DEVELOPED
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 10 YR
Compute Time: 17May2023, 14:01:50 Control Specifications:3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	395.0	01Jan2000, 01:56	2.95
Lag	0.184375	395.0	01Jan2000, 02:02	2.88
BASIN A	0.017010	53.2	01Jan2000, 01:39	2.89
POI A	0.201385	412.5	01Jan2000, 02:01	2.88

Project: Project 1 Simulation Run: 25 YEAR DEV

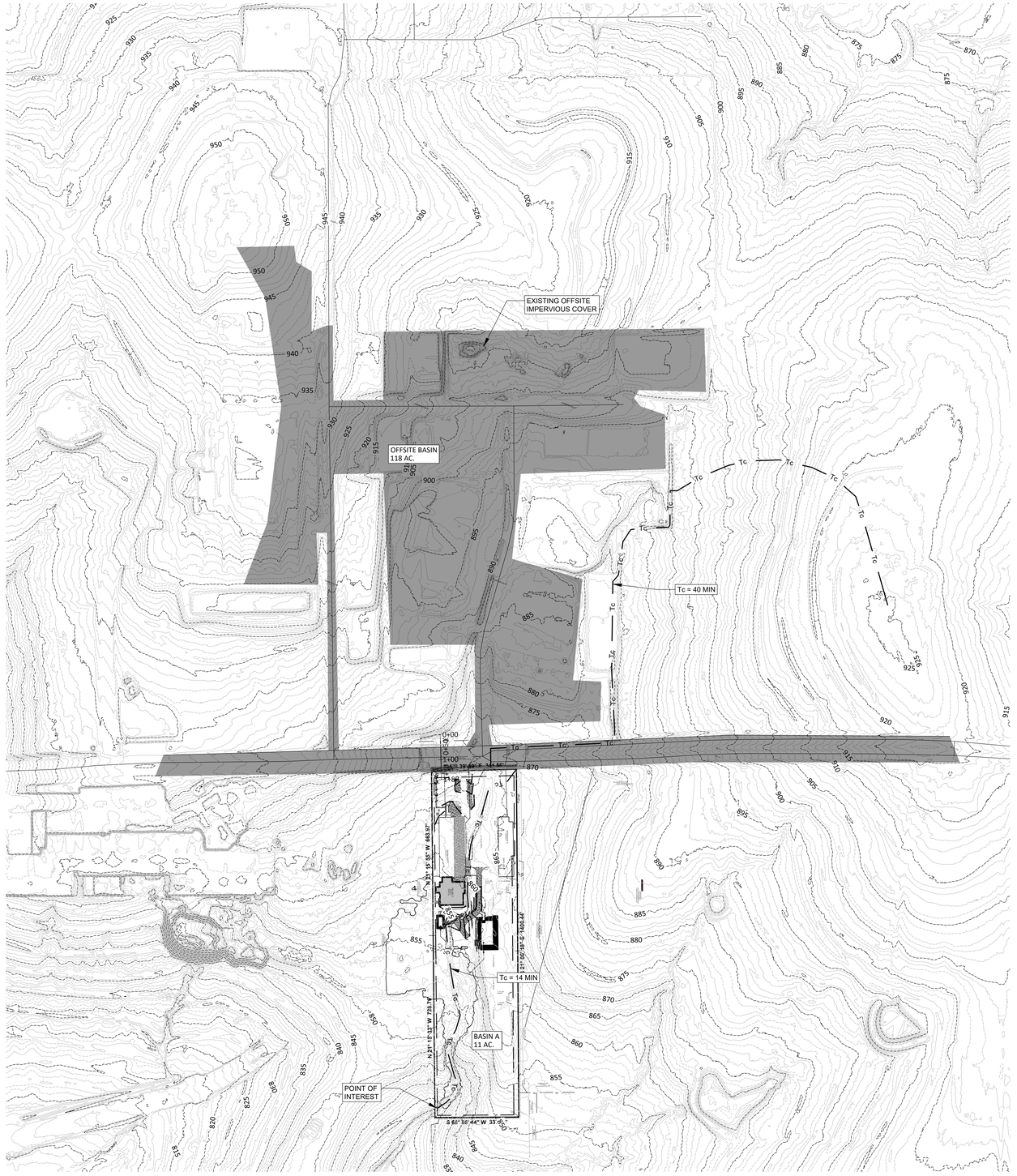
Start of Run: 01Jan2000, 00:00 Basin Model: DEVELOPED
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 25 YR
Compute Time: 17May2023, 14:01:56 Control Specifications:3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	496.3	01Jan2000, 01:55	3.85
Lag	0.184375	496.3	01Jan2000, 02:01	3.76
BASIN A	0.017010	65.6	01Jan2000, 01:38	3.83
POI A	0.201385	519.3	01Jan2000, 02:00	3.77

Project: Project 1 Simulation Run: 100 YEAR DEV

Start of Run: 01Jan2000, 00:00 Basin Model: DEVELOPED
End of Run: 01Jan2000, 03:00 Meteorologic Model: COA 3 Hr - 100 YR
Compute Time: 17May2023, 14:01:52 Control Specifications:3 HR

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
OFFSITE W ROAD	0.184375	638.8	01Jan2000, 01:55	5.14
Lag	0.184375	638.8	01Jan2000, 02:01	5.03
BASIN A	0.017010	84.8	01Jan2000, 01:39	5.19
POI A	0.201385	669.1	01Jan2000, 02:00	5.04



Revision / Date

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

DEVELOPED DRAINAGE PLAN

Job No.	Sheet No.
Drawn By: ARB	C14
Date: 04-21-23	

2021-18-SDP

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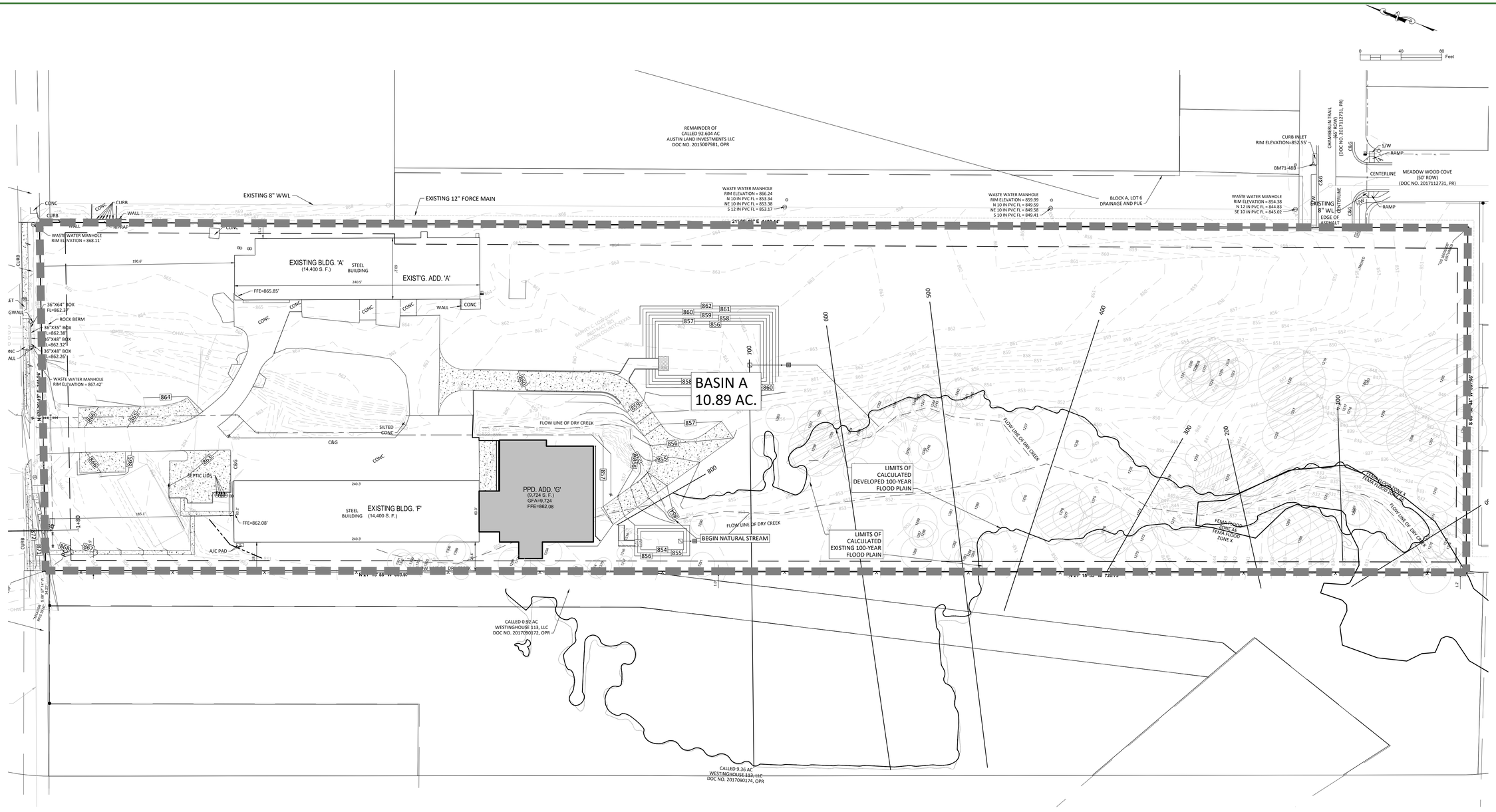

LEGEND

- MAG NAIL WITH WASHER STAMPED "STEGER BIZZELL" SET
- IRON ROD FOUND (1/2" OR AS NOTED)
- GUY ANCHOR
- FIRE HYDRANT
- UNDERGROUND TELECOMMUNICATIONS MARKER
- WATER VALVE
- UNDERGROUND GAS MARKER
- LIGHT POLE
- UTILITY POLE
- WASTEWATER (SANITARY SEWER) MANHOLE
- CLEAN OUT (SANITARY SEWER/WASTEWATER)
- STORM DRAINAGE MANHOLE
- SIGN POST
- UTILITY PULL BOX
- X — BARBED WIRE FENCE
- GAS — UNDERGROUND GAS
- W — UNDERGROUND WATER
- OHW — OVERHEAD WIRES
- ROW — RIGHT-OF-WAY
- OPR — OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
- POB — POINT OF BEGINNING
- DEVELOPED SUBDRAINAGE AREA
- LIMITS OF CALCULATED DEVELOPED 100-YEAR FLOOD PLAIN
- LIMITS OF CALCULATED EXISTING 100-YEAR FLOOD PLAIN

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 700 Profile: 100yr

E.G. Elev (ft)	855.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.035	
W.S. Elev (ft)	855.55	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	855.46	Flow Area (sq ft)		179.89	
E.G. Slope (ft/ft)	0.013311	Area (sq ft)		179.89	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	271.37	Top Width (ft)		271.37	
Vel Total (ft/s)	3.71	Avg. Vel. (ft/s)		3.71	
Max Chl Dpth (ft)	1.80	Hydr. Depth (ft)		0.66	
Conv. Total (cfs)	5792.5	Conv. (cfs)		5792.5	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		272.35	
Min Ch El (ft)	853.75	Shear (lb/sq ft)		0.55	
Alpha	1.00	Stream Power (lb/ft s)		2.04	
Frctn Loss (ft)	1.48	Cum Volume (acre-ft)		2.07	
C & E Loss (ft)	0.00	Cum SA (acres)		2.48	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 600 Profile: 100yr

E.G. Elev (ft)	854.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.035	
W.S. Elev (ft)	854.04	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	853.98	Flow Area (sq ft)		170.84	
E.G. Slope (ft/ft)	0.016600	Area (sq ft)		170.84	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	280.68	Top Width (ft)		280.68	
Vel Total (ft/s)	3.91	Avg. Vel. (ft/s)		3.91	
Max Chl Dpth (ft)	1.94	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	5186.9	Conv. (cfs)		5186.9	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		282.48	
Min Ch El (ft)	852.10	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		2.45	
Frctn Loss (ft)	1.38	Cum Volume (acre-ft)		1.67	
C & E Loss (ft)	0.02	Cum SA (acres)		1.84	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 500 Profile: 100yr

E.G. Elev (ft)	852.87	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	
W.S. Elev (ft)	852.71	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	852.58	Flow Area (sq ft)		204.28	
E.G. Slope (ft/ft)	0.011701	Area (sq ft)		204.28	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	338.22	Top Width (ft)		338.22	
Vel Total (ft/s)	3.27	Avg. Vel. (ft/s)		3.27	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.60	
Conv. Total (cfs)	6178.3	Conv. (cfs)		6178.3	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		339.76	
Min Ch El (ft)	851.08	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		1.44	
Frctn Loss (ft)	1.44	Cum Volume (acre-ft)		1.24	
C & E Loss (ft)	0.03	Cum SA (acres)		1.13	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 400 Profile: 100yr

E.G. Elev (ft)	851.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.035	
W.S. Elev (ft)	850.93	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	850.93	Flow Area (sq ft)		122.08	
E.G. Slope (ft/ft)	0.018259	Area (sq ft)		122.08	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	130.67	Top Width (ft)		130.67	
Vel Total (ft/s)	5.47	Avg. Vel. (ft/s)		5.47	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.93	
Conv. Total (cfs)	4945.7	Conv. (cfs)		4945.7	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		130.96	
Min Ch El (ft)	848.61	Shear (lb/sq ft)		1.06	
Alpha	1.00	Stream Power (lb/ft s)		5.82	
Frctn Loss (ft)	1.71	Cum Volume (acre-ft)		0.86	
C & E Loss (ft)	0.03	Cum SA (acres)		0.59	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 300 Profile: 100yr

E.G. Elev (ft)	848.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.035	
W.S. Elev (ft)	847.84	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	847.84	Flow Area (sq ft)		98.27	
E.G. Slope (ft/ft)	0.016120	Area (sq ft)		98.27	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	68.95	Top Width (ft)		68.95	
Vel Total (ft/s)	6.80	Avg. Vel. (ft/s)		6.80	
Max Chl Dpth (ft)	2.85	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	5263.7	Conv. (cfs)		5263.7	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		69.35	
Min Ch El (ft)	844.99	Shear (lb/sq ft)		1.43	
Alpha	1.00	Stream Power (lb/ft s)		9.70	
Frctn Loss (ft)	1.52	Cum Volume (acre-ft)		0.61	
C & E Loss (ft)	0.04	Cum SA (acres)		0.36	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 200 Profile: 100yr

E.G. Elev (ft)	839.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.15	Wt. n-Val.		0.035	
W.S. Elev (ft)	837.97	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	837.97	Flow Area (sq ft)		77.54	
E.G. Slope (ft/ft)	0.014368	Area (sq ft)		77.54	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	34.10	Top Width (ft)		34.10	
Vel Total (ft/s)	8.62	Avg. Vel. (ft/s)		8.62	
Max Chl Dpth (ft)	2.94	Hydr. Depth (ft)		2.27	
Conv. Total (cfs)	5575.3	Conv. (cfs)		5575.3	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		35.18	
Min Ch El (ft)	835.03	Shear (lb/sq ft)		1.98	
Alpha	1.00	Stream Power (lb/ft s)		17.04	
Frctn Loss (ft)	1.54	Cum Volume (acre-ft)		0.41	
C & E Loss (ft)	0.13	Cum SA (acres)		0.25	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 100 Profile: 100yr

E.G. Elev (ft)	834.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.035	
W.S. Elev (ft)	833.71	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	833.71	Flow Area (sq ft)		99.10	
E.G. Slope (ft/ft)	0.016586	Area (sq ft)		99.10	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	71.48	Top Width (ft)		71.48	
Vel Total (ft/s)	6.74	Avg. Vel. (ft/s)		6.74	
Max Chl Dpth (ft)	3.71	Hydr. Depth (ft)		1.39	
Conv. Total (cfs)	5189.2	Conv. (cfs)		5189.2	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		72.35	
Min Ch El (ft)	830.00	Shear (lb/sq ft)		1.42	
Alpha	1.00	Stream Power (lb/ft s)		9.57	
Frctn Loss (ft)	1.55	Cum Volume (acre-ft)		0.20	
C & E Loss (ft)	0.04	Cum SA (acres)		0.12	

Plan: EXISTING TOOLMEN CREEK CREEK-CL RS: 0 Profile: 100yr

E.G. Elev (ft)	830.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.10	Wt. n-Val.		0.035	
W.S. Elev (ft)	829.25	Reach Len. (ft)			
Crit W.S. (ft)	853.98	Flow Area (sq ft)		79.46	
E.G. Slope (ft/ft)	0.014568	Area (sq ft)		79.46	
Q Total (cfs)	668.30	Flow (cfs)		668.30	
Top Width (ft)	36.64	Top Width (ft)		36.64	
Vel Total (ft/s)	8.41	Avg. Vel. (ft/s)		8.41	
Max Chl Dpth (ft)	4.13	Hydr. Depth (ft)		2.17	
Conv. Total (cfs)	5536.9	Conv. (cfs)		5536.9	
Length Wtd. (ft)		Wetted Per. (ft)		37.79	
Min Ch El (ft)	825.12	Shear (lb/sq ft)		1.91	
Alpha	1.00	Stream Power (lb/ft s)		16.08	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 700 Profile: 100yr

E.G. Elev (ft)	855.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.035	
W.S. Elev (ft)	855.55	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	855.46	Flow Area (sq ft)		180.19	
E.G. Slope (ft/ft)	0.013277	Area (sq ft)		180.19	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	270.97	Top Width (ft)		270.97	
Vel Total (ft/s)	3.72	Avg. Vel. (ft/s)		3.72	
Max Chl Dpth (ft)	1.80	Hydr. Depth (ft)		0.66	
Conv. Total (cfs)	5813.9	Conv. (cfs)		5813.9	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		271.97	
Min Ch El (ft)	853.75	Shear (lb/sq ft)		0.55	
Alpha	1.00	Stream Power (lb/ft s)		2.04	
Frctn Loss (ft)	1.48	Cum Volume (acre-ft)		2.07	
C & E Loss (ft)	0.00	Cum SA (acres)		2.48	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 600 Profile: 100yr

E.G. Elev (ft)	854.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.035	
W.S. Elev (ft)	854.04	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	853.98	Flow Area (sq ft)		170.96	
E.G. Slope (ft/ft)	0.016644	Area (sq ft)		170.96	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	280.72	Top Width (ft)		280.72	
Vel Total (ft/s)	3.92	Avg. Vel. (ft/s)		3.92	
Max Chl Dpth (ft)	1.94	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	5192.5	Conv. (cfs)		5192.5	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		282.51	
Min Ch El (ft)	852.10	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		2.46	
Frctn Loss (ft)	1.38	Cum Volume (acre-ft)		1.67	
C & E Loss (ft)	0.02	Cum SA (acres)		1.84	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 500 Profile: 100yr

E.G. Elev (ft)	852.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	
W.S. Elev (ft)	852.71	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	852.58	Flow Area (sq ft)		204.73	
E.G. Slope (ft/ft)	0.011676	Area (sq ft)		204.73	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	338.32	Top Width (ft)		338.32	
Vel Total (ft/s)	3.27	Avg. Vel. (ft/s)		3.27	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	6199.7	Conv. (cfs)		6199.7	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		339.86	
Min Ch El (ft)	851.08	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		1.44	
Frctn Loss (ft)	1.44	Cum Volume (acre-ft)		1.24	
C & E Loss (ft)	0.03	Cum SA (acres)		1.13	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 400 Profile: 100yr

E.G. Elev (ft)	851.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.035	
W.S. Elev (ft)	850.93	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	850.93	Flow Area (sq ft)		122.28	
E.G. Slope (ft/ft)	0.018259	Area (sq ft)		122.28	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	130.76	Top Width (ft)		130.76	
Vel Total (ft/s)	5.48	Avg. Vel. (ft/s)		5.48	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	4957.6	Conv. (cfs)		4957.6	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		131.04	
Min Ch El (ft)	848.61	Shear (lb/sq ft)		1.06	
Alpha	1.00	Stream Power (lb/ft s)		5.83	
Frctn Loss (ft)	1.71	Cum Volume (acre-ft)		0.86	
C & E Loss (ft)	0.03	Cum SA (acres)		0.59	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 300 Profile: 100yr

E.G. Elev (ft)	848.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.035	
W.S. Elev (ft)	847.84	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	847.84	Flow Area (sq ft)		98.55	
E.G. Slope (ft/ft)	0.016104	Area (sq ft)		98.55	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	69.14	Top Width (ft)		69.14	
Vel Total (ft/s)	6.80	Avg. Vel. (ft/s)		6.80	
Max Chl Dpth (ft)	2.85	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	5278.8	Conv. (cfs)		5278.8	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		69.54	
Min Ch El (ft)	844.99	Shear (lb/sq ft)		1.42	
Alpha	1.00	Stream Power (lb/ft s)		9.69	
Frctn Loss (ft)	1.52	Cum Volume (acre-ft)		0.61	
C & E Loss (ft)	0.04	Cum SA (acres)		0.36	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 200 Profile: 100yr

E.G. Elev (ft)	839.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.16	Wt. n-Val.		0.035	
W.S. Elev (ft)	837.97	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	837.97	Flow Area (sq ft)		77.60	
E.G. Slope (ft/ft)	0.014374	Area (sq ft)		77.60	
Q Total (cfs)	669.90	Flow (cfs)		669.10	
Top Width (ft)	34.10	Top Width (ft)		34.10	
Vel Total (ft/s)	8.62	Avg. Vel. (ft/s)		8.62	
Max Chl Dpth (ft)	2.94	Hydr. Depth (ft)		2.28	
Conv. Total (cfs)	5580.8	Conv. (cfs)		5580.8	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		35.19	
Min Ch El (ft)	835.03	Shear (lb/sq ft)		1.98	
Alpha	1.00	Stream Power (lb/ft s)		17.06	
Frctn Loss (ft)	1.54	Cum Volume (acre-ft)		0.41	
C & E Loss (ft)	0.13	Cum SA (acres)		0.25	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 100 Profile: 100yr

E.G. Elev (ft)	834.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.035	
W.S. Elev (ft)	833.71	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	833.71	Flow Area (sq ft)		99.38	
E.G. Slope (ft/ft)	0.016526	Area (sq ft)		99.38	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	71.54	Top Width (ft)		71.54	
Vel Total (ft/s)	6.74	Avg. Vel. (ft/s)		6.74	
Max Chl Dpth (ft)	3.71	Hydr. Depth (ft)		1.39	
Conv. Total (cfs)	5211.0	Conv. (cfs)		5211.0	
Length Wtd. (ft)	100.00	Wetted Per. (ft)		72.41	
Min Ch El (ft)	830.00	Shear (lb/sq ft)		1.42	
Alpha	1.00	Stream Power (lb/ft s)		9.55	
Frctn Loss (ft)	1.55	Cum Volume (acre-ft)		0.21	
C & E Loss (ft)	0.04	Cum SA (acres)		0.12	

Plan: PROPOSED TOOLMEN CREEK CREEK-CL RS: 0 Profile: 100yr

E.G. Elev (ft)	830.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.10	Wt. n-Val.		0.035	
W.S. Elev (ft)	829.25	Reach Len. (ft)			
Crit W.S. (ft)	847.84	Flow Area (sq ft)		79.63	
E.G. Slope (ft/ft)	0.014568	Area (sq ft)		79.63	
Q Total (cfs)	669.90	Flow (cfs)		669.90	
Top Width (ft)	36.70	Top Width (ft)		36.70	
Vel Total (ft/s)	8.41	Avg. Vel. (ft/s)		8.41	
Max Chl Dpth (ft)	4.13	Hydr. Depth (ft)		2.17	
Conv. Total (cfs)	5550.2	Conv. (cfs)		5550.2	
Length Wtd. (ft)		Wetted Per. (ft)		37.86	
Min Ch El (ft)	825.12	Shear (lb/sq ft)		1.91	
Alpha	1.00	Stream Power (lb/ft s)		16.09	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

FLOOD PLAIN WSEL

STA.	EX	DEV	DELTA
700	855.55	855.55	0.00
600	854.04	854.04	0.00
500	852.71	852.71	0.00
400	850.93	850.93	0.00
300	847.84	847.84	0.00
200	837.97	837.98	0.01
100	833.71	833.71	0.00
0	829.25	829.25	0.00

Revision / Date

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STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL
ENGINEER
5/19/23

DEVELOPED SUBDRAINAGE AREAS & FLOODPLAIN PLAN

Job No.

Drawn By: ARB

Date: 04-21-23

Sheet No. C15

2021-18-SDP

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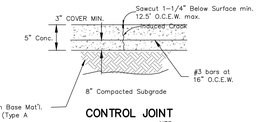
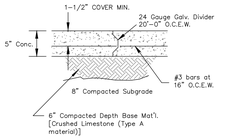


CONTROL JOINT
NTS



CONSTRUCTION JOINT
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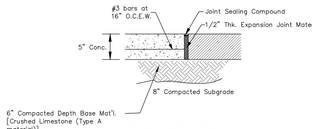


EXPANSION JOINT
NTS

THE EXPOSED SUBGRADE SHALL BE PREPARED BY REMOVING THE TOP 8" OF ORGANIC SOILS, ROOTS, AND SOFT MATERIALS.

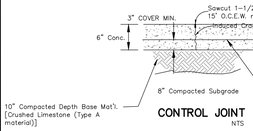
THE CRUSHED LIMESTONE BASE (TYPE A MATERIAL) SHALL CONFORM TO CITY OF GEORGETOWN TECHNICAL SPECIFICATIONS, SECTION SD4 – FLEXIBLE BASE AND SHALL BE OBTAINED FROM AN APPROVED SOURCE FREE OF ALL DELETERIOUS MATERIALS.

ALL CONCRETE SHALL BE 6 SK (MIN.) TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150 WITH 20–25% OF THE ACTIVE CEMENTICIOUS SUBSTITUTED WITH FLY ASH AND A MINIMUM 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL CONCRETE SHALL BE BATCHED WITH A MAXIMUM WATER/CEMENT RATIO OF 0.41 AND SUFFICIENT MASTER BUILDERS "POLYHEED" 1000 HIGH WATER REDUCING AGENT WITH 2–4% MB AE 90 TO PRODUCE A WORKABLE MIX. AT AMBIENT TEMPERATURE GREATER THAN 75° F, ADDITIONAL MASTER BUILDERS POZZOLITH 100–XR MUST BE ADDED TO THE MIX IN PROPORTIONS DEPENDING UPON TEMPERATURE AS RECOMMENDED BY MASTER BUILDERS.

FOR MORE INFORMATION ON CONCRETE PAVEMENT AND JOINT DESIGN PLEASE REFER TO ACI 330R–01 "GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS".

SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS

LIGHT DUTY CONCRETE PAVEMENT
NTS



CONTROL JOINT
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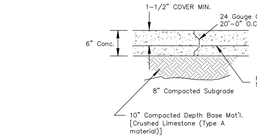

CONSTRUCTION JOINT
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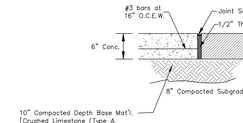


EXPANSION JOINT
NTS

THE EXPOSED SUBGRADE SHALL BE PREPARED BY REMOVING THE TOP 8" OF ORGANIC SOILS, ROOTS, AND SOFT MATERIALS.

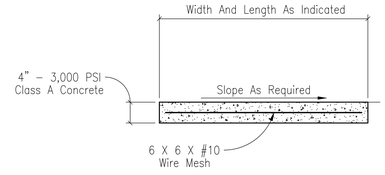
THE CRUSHED LIMESTONE BASE (TYPE A MATERIAL) SHALL CONFORM TO CITY OF GEORGETOWN TECHNICAL SPECIFICATIONS, SECTION SD4 – FLEXIBLE BASE AND SHALL BE OBTAINED FROM AN APPROVED SOURCE FREE OF ALL DELETERIOUS MATERIALS.

ALL CONCRETE SHALL BE 6 SK (MIN.) TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150 WITH 20–25% OF THE ACTIVE CEMENTICIOUS SUBSTITUTED WITH FLY ASH AND A MINIMUM 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL CONCRETE SHALL BE BATCHED WITH A MAXIMUM WATER/CEMENT RATIO OF 0.41 AND SUFFICIENT MASTER BUILDERS "POLYHEED" 1000 HIGH WATER REDUCING AGENT WITH 2–4% MB AE 90 TO PRODUCE A WORKABLE MIX. AT AMBIENT TEMPERATURE GREATER THAN 75° F, ADDITIONAL MASTER BUILDERS POZZOLITH 100–XR MUST BE ADDED TO THE MIX IN PROPORTIONS DEPENDING UPON TEMPERATURE AS RECOMMENDED BY MASTER BUILDERS.

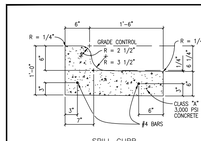
FOR MORE INFORMATION ON CONCRETE PAVEMENT AND JOINT DESIGN PLEASE REFER TO ACI 330R–01 "GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS".

SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS

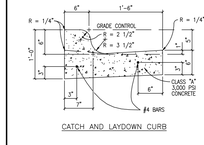
HEAVY DUTY CONCRETE PAVEMENT
NTS



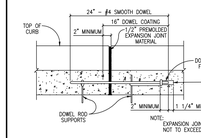
CONCRETE RIP–RAP
NTS



SPILL CURB



CATCH AND LAYDOWN CURB

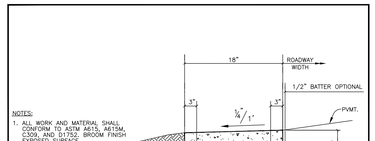


CURB DOWEL DETAIL

NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752, BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D–1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP–RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED, THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

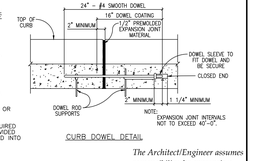
The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS CURB AND GUTTER DETAILS	ADOPTED 6/21/2006 SD06 SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; CHECKED BY: TRB



RIBBON CURB

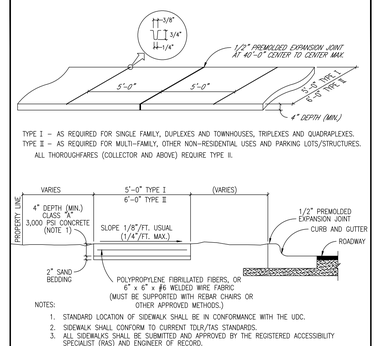
NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752, BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D–1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP–RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR TH CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE REQUIRED, THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: THREE #4.
   B. ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.



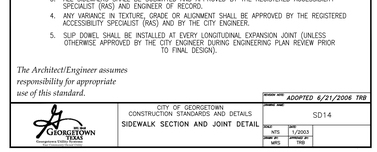
CURB DOWEL DETAIL

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS RIBBON CURB DETAILS	ADOPTED 6/21/2006 SD08 SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; CHECKED BY: TRB



TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES, TRIPLEXES AND QUADRAPLEXES.
TYPE II – AS REQUIRED FOR MULTI–FAMILY, OTHER NON–RESIDENTIAL USES AND PARKING LOTS/STRUCTURES.
ALL THOROUGHFARES (COLLECTOR AND ABOVE) REQUIRE TYPE II.



NOTES:
1. STANDARD LOCATION OF SIDEWALK SHALL BE IN CONFORMANCE WITH THE UDC.
2. SIDEWALK SHALL CONFORM TO CURRENT TDLR/TAS STANDARDS.
3. ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND ENGINEER OF RECORD.
4. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT SHALL BE APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND BY THE CITY ENGINEER.
5. SLIP DOWEL SHALL BE INSTALLED AT EVERY LONGITUDINAL EXPANSION JOINT (UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER DURING ENGINEERING PLAN REVIEW PRIOR TO FINAL DESIGN).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SIDEWALK SECTION AND JOINT DETAIL	ADOPTED 6/21/2006 TRB SD14 SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; CHECKED BY: TRB

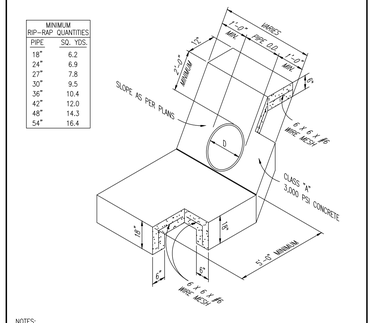
The Architect/Engineer assumes responsibility for appropriate use of this standard.

NOTES:
1. COMMERCIAL SIDEWALKS WIDTHS – 6'
   RESIDENTIAL SIDEWALKS WIDTHS – 5'
2. ALL SLOPES ARE MAXIMUM ALLOWABLE FLATTER SLOPES THAT WILL STILL DRAIN PROPERLY ARE ENCOURAGED.
3. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
4. FOR PURPOSES OF WARNING, THE CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.
5. TEXTURES MAY CONSIST OF PAVERS WITH TRUNCATED DOMED SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
6. COLOR CONTRAST, FOR EXAMPLE, MAY BE ACCOMPLISHED WITH COLORED CONCRETE PAVERS THAT HAVE TRUNCATED DOMES WHICH WOULD PROVIDE A CONTRAST WITH TYPICALLY LIGHT COLORED CONCRETE.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. MEDIAN CROSSING SHALL BE A MINIMUM OF 5' WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR TROUGH THEM.
9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY "REGISTERED ACCESSIBILITY SPECIALIST" (RAS).
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GRATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL MEET THE REQUIREMENTS OF A RAMP PER TAS 405.THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE OR ACT PROTRUDING OBJECTS.
12. ALL SIDEWALKS SHALL BE DOWELED INTO EXISTING SIDEWALKS, DRIVEWALKS, DRIVEWAYS, INLET BOXES, RETAINING WALLS, ETC.
13. ALL SIDEWALK CROSS–SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.

(PENETRATES) A CURB.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS PEDESTRIAN RAMPS GENERAL NOTES	REVISED 6/25/2015 WBD ADOPTED 6/21/2006 TRB SD28 SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; CHECKED BY: TRB

MINIMUM RIP–RAP QUANTITIES	
PIPE	SQ. YDS.
18"	6.2
24"	6.9
27"	7.8
30"	9.5
36"	10.4
42"	12.0
48"	14.3
54"	16.4



NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATERS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING WIRE MESH REQUIRED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TYPICAL CONCRETE RIP–RAP AT PIPE	ADOPTED 6/21/2006 SD19 SCALE: NTS; DATE: 1/2003; DRAWN BY: MRS; CHECKED BY: TRB

Revision / Date

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STEGER BIZZELL JOB # 22751-ADD



PAVING & DRAINAGE DETAILS

Job No.	Sheet No.
Drawn By: ARB	C16
Date: 04-21-23	

2021-18-SDP

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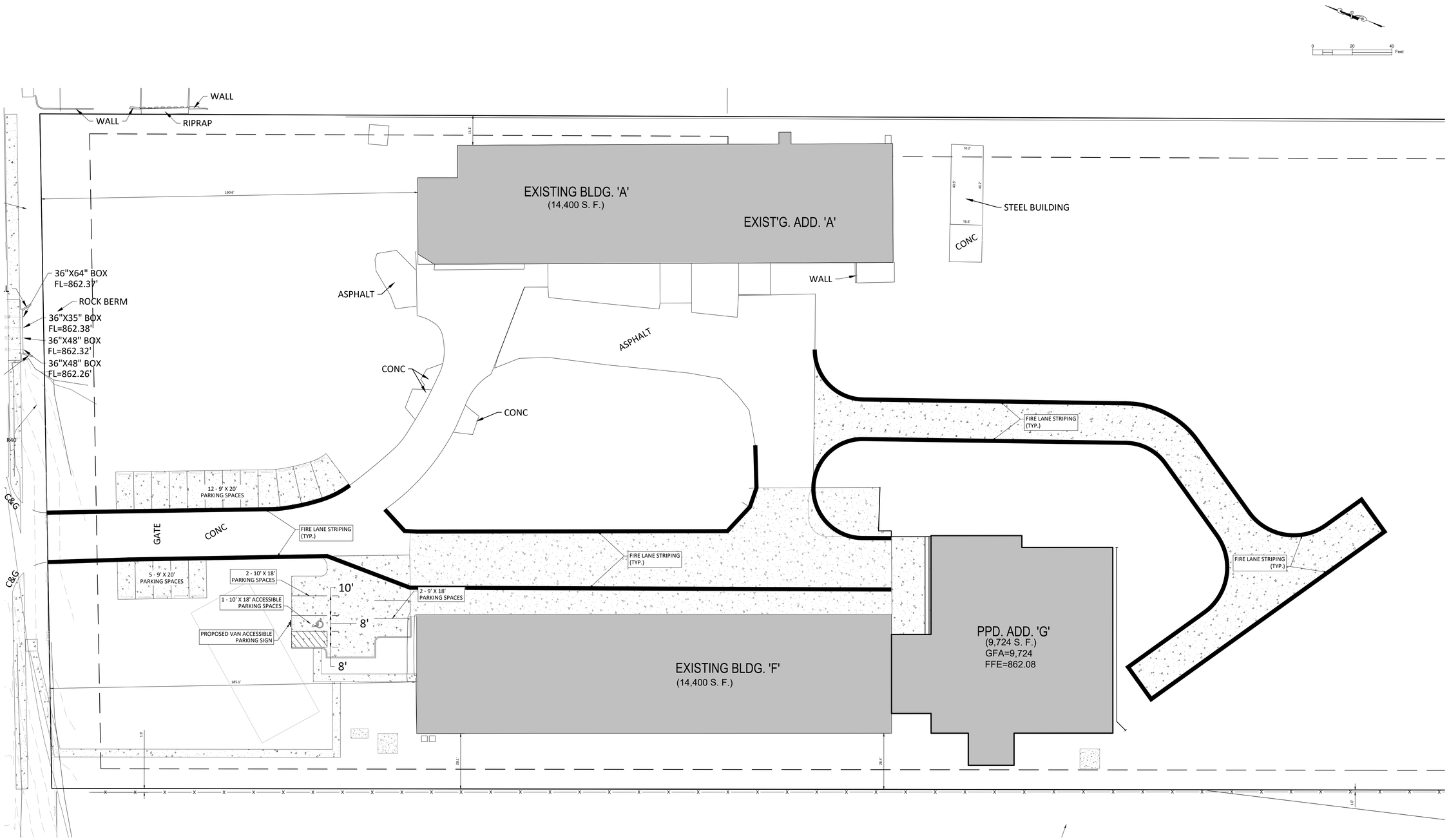

Revision / Date

Project:

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

STEGER BIZZELL
1978 S. AUSTIN AVENUE
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TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL ENGINEER
5/19/23

STRIPING PLAN

Job No.	Sheet No.
Drawn By: ARB	C17
Date: 04-21-23	

2021-18-SDP

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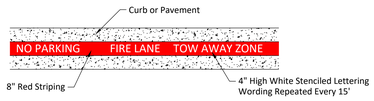


FIRE LANE STRIPING
NTS

FIRE LANE STRIPING NOTES:

1. FIRE LANES SHALL BE COMPLIANT WITH 2012 IFC 503.3 AND SECTION 10.16.070 OF THE CITY OF GEORGETOWN CODE OF ORDINANCES.
2. ALL CURBS AND CURB ENDS SHALL BE PANTED RED WITH FOUR-INCH WHITE LETTERING STATING "NO PARKING -- FIRE LANE -- TOW AWAY ZONE". THE WORDS "FIRE LANE" BY THEMSELVES ARE NOT ACCEPTABLE.
3. WORDING MAY NOT BE SPACED MORE THAN 30 FEET APART.

FIRE DEPARTMENT CONNECTION

ALL FIRE DEPARTMENT CONNECTIONS (FDCs) SHALL BE MARKED AS APPROVED BY THE FIRE CODE OFFICIAL. TWO RED STREET LANE REFLECTORS (STIMSONITE MODEL 88AB OR SIMILAR) SHALL BE INSTALLED SIX INCHES FROM CENTERLINE OF THE FIRE APPARATUS ACCESS ROADWAY ON THE SIDE CLOSET TO THE FDC. MARKERS SHALL BE PARALLEL TO THE FDC HAVING THE REFLECTIVE ENDS OF THE STREET MARKERS FACING THE DIRECTOR OF TRAFFIC. 2012 IFC 912.7

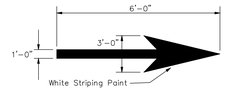
INSTALL A SIGN ABOVE THE FIRE DEPARTMENT CONNECTION STATING "FDC". THE SIGN SHALL BE 7' ABOVE GRADE. THE SIGN SHALL HAVE REFLECTIVE WHITE LETTERS UPON A REFLECTIVE RED BACKGROUND. THE LETTERING SHALL BE MINIMUM 2 INCH STROKE AND MINIMUM 6 INCHES IN HEIGHT.
THE SIGN SHALL ALSO HAVE THE ADDRESS/BUILDING NUMBER OF THE STRUCTURE PROTECTED IF A REMOTE FDC IS USED. THE ADDRESS LETTERING SHALL BE MINIMUM 2 INCH STROKE.

NOTE:

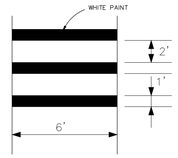
All striping shall be white paint. All striping widths shall be 4" unless otherwise noted. Stripes are dimensioned to the centerline of stripe. "NO PARKING"shall be written in capital letters with a min. height of 12" and a min. width of 2"

Typical Parking Space Sizes:

Standard - 9' x 18'
Accessible - 9' x 18'
Access - As Indicated x 18'

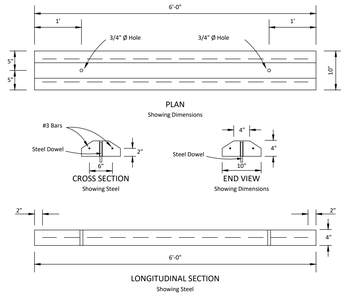


DIRECTION ARROW
NTS

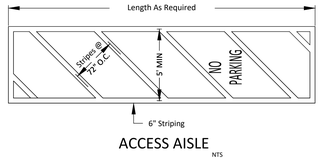


CROSS WALK STRIPING
NTS

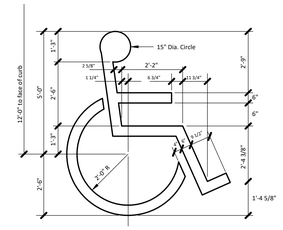
NOTE:
DIRECTION ARROWS AND CROSS WALK STRIPING SHALL BE THERMOPLASTIC TRAFFIC MARKINGS PER TXDOT ITEM 666.



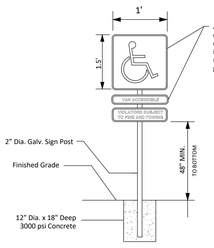
CONCRETE WHEEL STOP
NTS



ACCESS AISLE
NTS

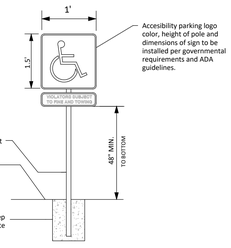


ACCESSIBILITY STRIPING
NTS



Accessibility parking logo color, height of pole and dimensions of sign to be installed per governmental requirements and ADA guidelines.

VAN ACCESSIBLE PARKING SIGN
NTS



Accessibility parking logo color, height of pole and dimensions of sign to be installed per governmental requirements and ADA guidelines.

ACCESSIBLE PARKING SIGN
NTS

Note:

These signs shall be placed at the location(s) designated in the review of this project by the TEXAS DEPARTMENT OF LICENSING AND REGULATIONS, Architectural Barriers Section.

ACCESSIBILITY NOTES:

1. ACCESSIBLE AISLES SHALL BE A MINIMUM OF 5 FEET WIDE. VAN ACCESSIBLE AISLES SHALL BE A MINIMUM OF 8 FEET WIDE.

2. TEXTURES SHALL CONSIST OF EXPOSED CRUSHED STONE AGGREGATE, ROUGHENED CONCRETE, RUBBER, RAISED ABRASIVE STRIPS, OR GROOVES EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP. SURFACES THAT ARE RAISED, ETCHED, OR GROOVED IN A WAY THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.

3. FOR PURPOSES OF WARNING, THE FULL WIDTH AND DEPTH OF CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.

4. ACCESSIBLE PARKING SPACES SHALL BE AT LEAST 8 FEET WIDE.

5. PARKING SPACES AND AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS.

6. ADDITIONAL INFORMATION ON CURB RAMPS, PARKING SPACES AND AISLES MAY BE FOUND IN THE CURRENT ADDITION OF TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE T.D.L.R. ALL ADA SIGNAGE AND STRIPING SHALL CONFORM WITH THE CURRENT REQUIREMENTS OF THE TEXAS ACCESSIBILITY STANDARDS.

7. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GRATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB. CURB RAMPS ARE GENERALLY INTERPRETED AS ONLY THE PORTION TYING DIRECTLY INTO THE ROADWAY.

8. ALL SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.

9. UNDER NO CIRCUMSTANCE, REGARDLESS OF WHAT IS SHOWN IN THESE PLANS, IS THE CONTRACTOR RELIEVED OF HIS SOLE RESPONSIBILITY FOR COMPLIANCE WITH ALL ACCESSIBILITY LAWS AND/OR RULES BY THE ADA, TDLR OR OTHER REGULATORY AGENCY. SEE GENERAL NOTES SHEET FOR ADDITIONAL INFO.

Date
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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL
ENGINEER
5/19/23

STRIPING DETAILS

Job No.	Sheet No.
Drawn By: ARB	C18
Date: 04-21-23	

2021-18-SDP

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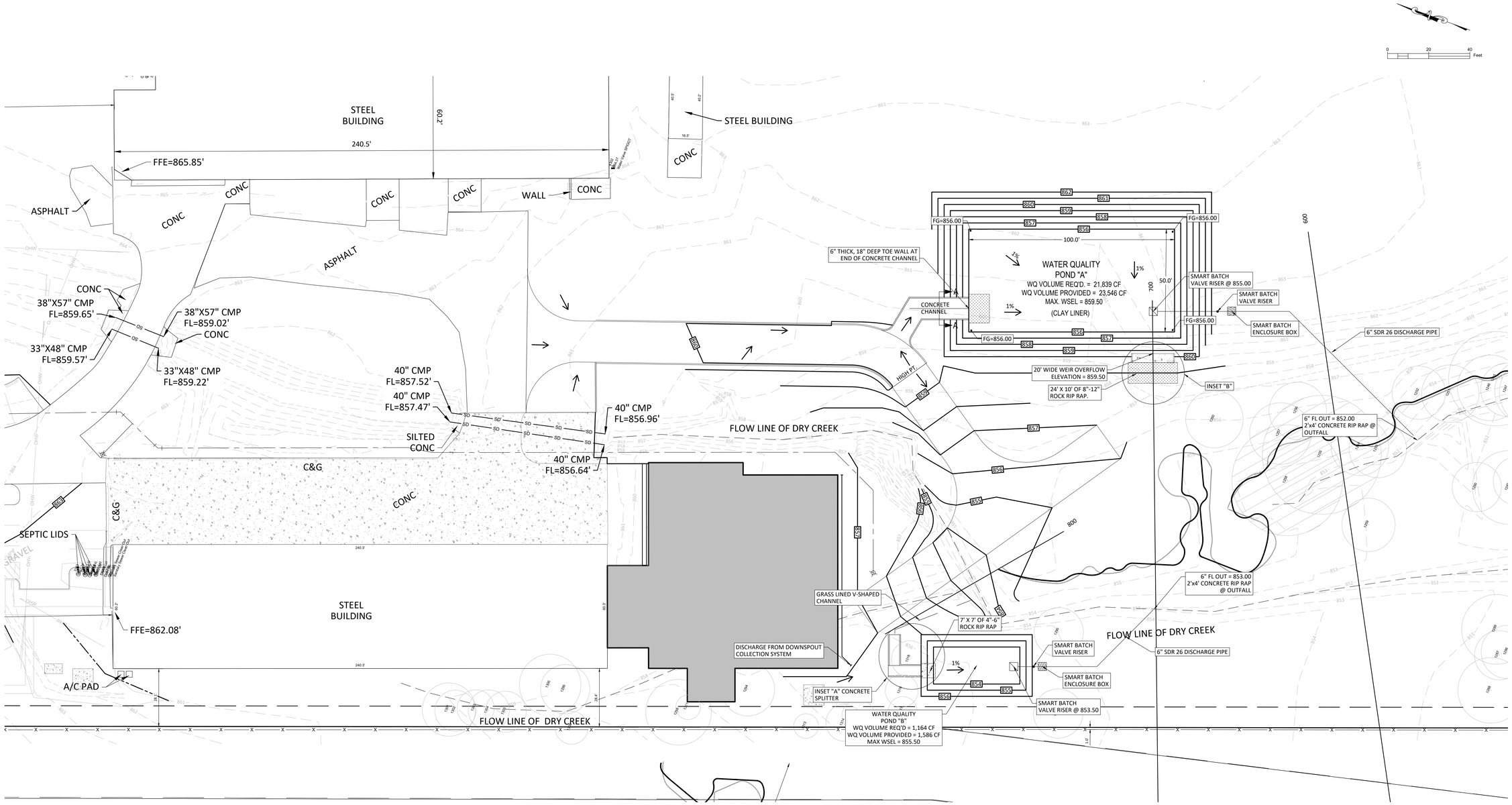
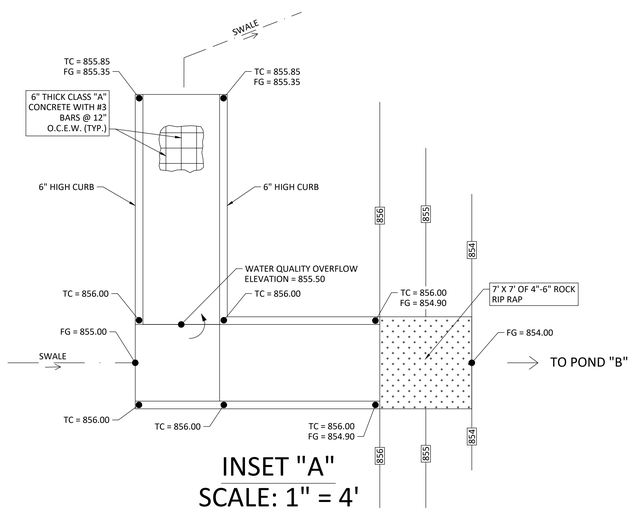
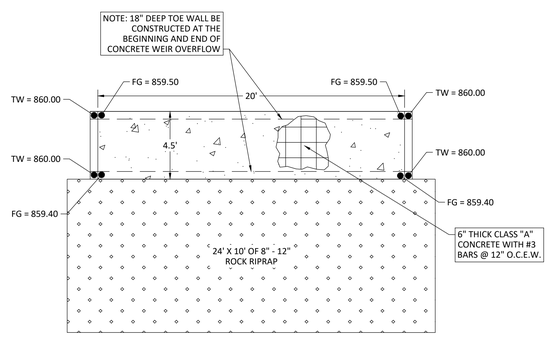


Pond A Stage-Storage			
Elevation (ft)	Stage (ft)	Area (ft^2)	Storage (ft^3)
856	0	5000	0
857	1	5936	5468
858	2	6944	11908
859	3	8024	19392
859.5	3.5	8591	23545.75
860	4	9176	27992

Pond B Stage-Storge			
Elevation (ft)	Stage (ft)	Area (ft^2)	Storage (ft^3)
854	0	756	0
855	1	1152	954
855.5	1.5	1377	1586.25
856	2	1620	2340



INSET "A"
SCALE: 1" = 4'



INSET "B"
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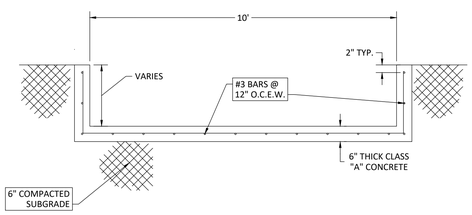

SECTION "A-A"
SCALE: 1" = 2'

Revision / Date

Project:

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STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/19/23

WATER QUALITY PONDS

Job No.	Sheet No.
Drawn By: ARB	C19
Date: 04/21/23	

2021-18-SDP

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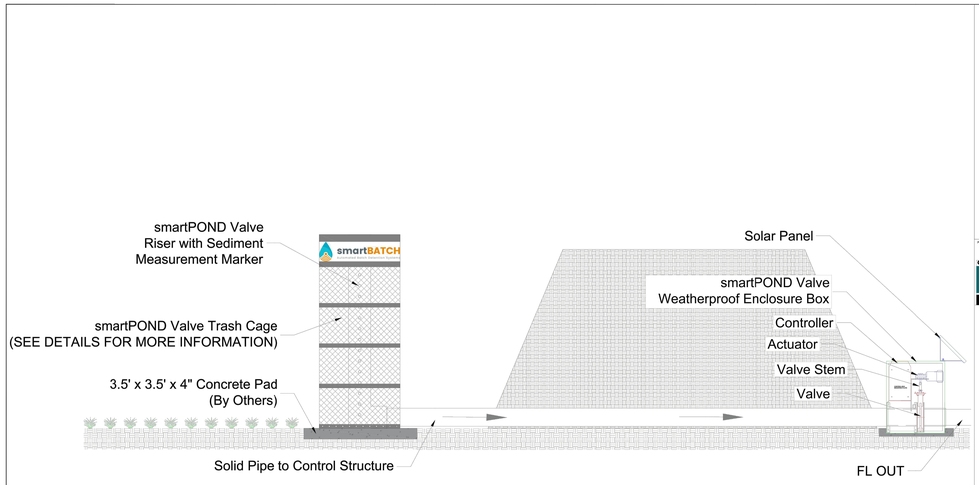


smartPOND Automated Stormwater Control.

FOR ADDITIONAL INFORMATION PLEASE CONTACT: CONSTRUCTION ECO SERVICES, 832-456-1000, www.ecosvs.com

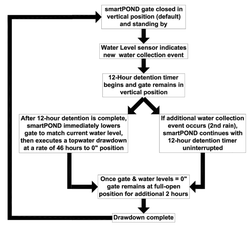
CONSTRUCTION ECO SERVICES

smartPOND Valve with Berm

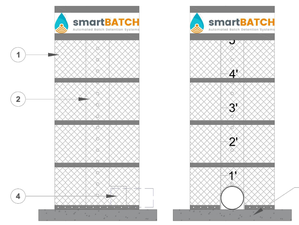
REVISION NO. 0
DATE 5/14/2019
SHEET NO.

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

PROGRAMMABLE LOGIC FLOW CHART



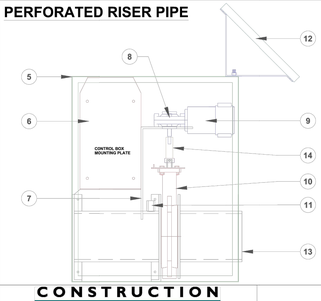
TRASH CAGE WITH PERFORATED RISER PIPE



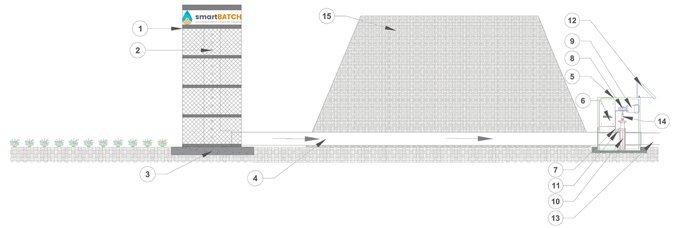
Parts List

Item	smartPOND Valve Component
1	30" DIAMETER CAGE WITH 1 $\frac{1}{2}$" GALVANIZED MESH SCREEN
2	8" SQUARE PERFORATED TUBING WITH 1" PERFORATION, WITH 4" VERTICAL SPACING ON CENTERS WITH WATER DEPTH MARKER
3	3 $\frac{1}{2}$' X 3 $\frac{1}{2}$' X 4" CONCRETE PAD (BY OTHERS)
4	6" PVC OUTFALL PIPE (BY OTHERS)
5	WEATHERPROOF ELECTRONIC BOX
6	CONTROL BOX
7	PEDESTAL
8	ACTUATOR
9	MOTOR
10	6" VALVE
11	LEVEL TRANSDUCER
12	SOLAR PANEL
13	OUTLET PIPE (BY OTHERS)
14	VALVE STEM
15	BERM (BY OTHERS)

PERFORATED RISER PIPE



smartPOND Valve with Berm



CONSTRUCTION ECO SERVICES

smartPOND Automated Stormwater Control.

FOR ADDITIONAL INFORMATION PLEASE CONTACT: CONSTRUCTION ECO SERVICES, 832-456-1000, www.ecosvs.com

CONVERGENT WATER TECHNOLOGIES

smartPOND Valve SPECIFICATION

Continuously Monitored Automated Stormwater System with Valve

1. Introduction
The following specifications describe the components, general functions, and applications of a smartPOND Continuously Monitored Automated Stormwater System (C-MASS) with Valve. The system functions as an electronically controlled, solar powered stormwater management device, providing precision management capabilities and real-time data. Using sensors, solar power, an electronic actuator, and an internet-based control interface, the smartPOND valve connects to a specialized perforated riser inside the stormwater impoundment to enable managers to precisely control water retention and detention automatically or in real time.

2. smartPOND Valve Applications in Stormwater Management
The smartPOND valve is a device for active Stormwater management. As opposed to passive devices such as floating skimmers or stationary weirs, active water management dramatically increases the efficiency and effectiveness of a detention or retention pond. Where a passive stormwater detention system allows water to leave immediately upon collection, the smartPOND valve can detain newly caught Stormwater and allow it to settle for a programmed period before automatically dewatering the impoundment completely. For stormwater retention systems, it is possible to manage the treatment volume while maintaining a specified amount of capacity for flood storage or other use.

2.1 Pre-Programmed Control
Many functions can be pre-programmed without any human interactions, leaving the valve to automatically receive commands based on environmental conditions and respond as programmed.

2.1.1 Batch Detention Function for Stormwater Quality
The smartPOND valve meets TCEQ Batch Detention specifications for a 91% Total Suspended Solid removal rate. The function proceeds as follows. With the valve in the closed position and the impoundment dry, the system will stand by and wait for a water collection event. At the first sign of water collection, the unit will begin a 12-hour detention timer. At the end of the 12-hour detention period, the valve will open and release all of the water that has been collected. After the water level drops to 0", the valve will remain open for an additional 2 hours to facilitate final drainage, then return to the closed position to stand by for the next water collection event.

2.1.2 Predevelopment Hydrograph Function for Flood Control
The smartPOND valve predevelopment hydrograph function takes in site specific variables to determine a maximum release rate based on predevelopment conditions. The valve reads water depth in the pond every 15 minutes to determine the maximum release rate desirable to ensure the impoundment neither overtops, nor exceeds its maximum release based on predevelopment flows.

2.1.3 Hazmat Function for Spill Containment
smartPOND when specified for hazmat spill containment can be equipped with pollutant specific sensors that when triggered automatically close the valve until the command is overridden.

2.2 Real Time Monitoring
smartPOND comes standard with telemetry available on each unit and access to the user app available at no additional cost for 1 year. This option allows for real time monitoring of the unit and the data that comes along with it. From the real time monitoring app, a user can:
- Control the valve, either open or close
- See the water level
- See if trash or debris is surrounding the inlet
- Get maintenance alerts (Low Battery, Valve Failure, Etc.)
- Maintain specified water level

3. Components
The smartPOND valve may be implemented either above or below ground, and is comprised of the following components:

3.1 Hardware and Configuration
The standard smartPOND valve features a cast 6" valve. An extended spool and mounting flange on each side of the valve allows it to be attached to the outfall pipe in various configurations. The valve is actuated with an electric motor connected by an extendable drive shaft for underground applications.

For above ground applications, the entire system including all necessary components for operation assemble into one kit and are housed under a single lockable steel enclosure with the solar panel mounted on top. In this configuration, the unit can be installed on a stable, level pad and be bolted onto the back of the outfall pipe with six ¾" bolts and then switched to the "ON" position.

For underground applications, the valve is installed in a vault or concrete encasement as needed. An extended drive shaft connects between the underground valve and the rest of the components, including the motor and all electronics, which are housed in the lockable steel enclosure directly above ground.

3.2 Electronics and Software Specifications
- **Main board** - The main board of the smartPOND valve's electronics box serves as the main connection terminal for all sensors and additional control boards
- **Motor Controller Board -** The motor controller board of the smartPOND valve regulates the connection between the battery and the motor and receives inputs from the main board to control motor direction. It also powers the main board.
- **Motor** - The smartPOND valve's motor operates on 12-volts and has two wires connecting to the motor controller board. It is mounted on a bracket and connects to the directly to the valve with a driveshaft.
- **Battery** - The smartPOND valve is powered by a 12-volt, 30 amp/hour gel battery. Two terminals at the top connect the power wires to the motor controller board and the solar charge controller to the battery.
- **Solar Panel -** The solar panel of the smartPOND valve is 12-volts with 15 watt charging capability. It connects to a solar charge controller which regulates the voltage and current before connecting with two wires to the positive and negative battery terminals.
- **Sensors**
  - *Pressure Transducer* - The water level sensor is a pressure transducer sensor capable of staying submersed in water indefinitely. It mounts on the side of the smartPOND valve's center spool.
  - *Valve position sensor* - A proximity sensor senses the position of the valve's drive shaft in order to control and determine the position of the valve.
- **(Optional)**
  - *Cell data modem* - A cellular data modem will be required for real time control and alert options as well as predevelopment hydrograph functions.
  - *Hydrocarbon Sensor* - This optional sensor may be fitted to the smartPOND valve to perform specific functions based on the presence of hydrocarbon contamination.

4. Real Time Monitoring Interface (optional)
If the real time monitoring option is selected, the smartPOND valve may be monitored in real time through the Autoflow app. Live and historical data from each unit may be viewed in the app, as well as alerts (detailed in section 5).

4.1 Accessing unit data
To access live and historical data in the Autoflow app, select the unit of interest on the home page by clicking on the unit's name. From there, select the "Data" button, and the data page for that unit will be displayed.

4.2 Sending a command
To send a remote-control command to the SmartPOND valve, click the "Send New Command" button on the unit's home page. The unit's current position will be displayed at the top. To change the unit's position, simply select "OPEN" or "CLOSE". Within 1-3 minutes, the unit will move to the new position and update its status in the app.

5. Alerts
The smartPOND valve will indicate the following alerts by illuminating an exteriorly visible red LED light
- Low battery
- Loss of function
- Valve malfunction
- Hydrocarbon contamination (optional)

If the telemetry option is selected, the unit will upload the above alerts to the Autoflow app and notify the operator via text or email.

6. In Case of Failure
To bypass the smartPOND valve's normal automated functions and control the valve position in case of failure:

6.1 Removal of motor and manual direct control
In case of a total electronic or motor failure, the motor and motor bracket can be uninstalled together by removing the two bolts at the bottom of the motor bracket. With the motor and motor bracket removed, the output shaft on the butterfly valve can be manually controlled with a socket wrench, or any other tool that can grip the output shaft.

7. Additional Components List

7.1 Perforated Riser
The smartPOND valve system includes a stackable perforated steel riser which installs on the inlet side of the outfall pipe within the impoundment area. The perforated riser features an 8-inch steel perforated square tube within a 24" round steel mesh tube. At the bottom of the 8-inch square tube, there is a female threaded fitting for a six inch PVC outfall pipe to connect. The steel tube is perforated with 1-inch holes every 4" on center to the height of the impoundment.

7.2 Trash Cage
The trash cage attaches to the perforated riser with a coupling and calder pin. The trash cage will be comprised of steel banding and a 1.5" x 1.5" mesh to prevent floatable's and other contaminants from entering and clogging the perforated riser. The trash cage will sit 0.5" above the bottom of the impoundment to allow the last 0.5" out of the impoundment.

7.3 Valve Stem Extension
The drive shaft/valve stem of the smartPOND system may be extended to any length necessary for instances where the valve will be in an underground vault or manhole. The valve stem will connect the valve to the above ground controls.

8. Maintenance

8.1 Grease
The smartPOND valve includes a grease fitting on the valve itself which should be greased twice per year. It is also recommended that a thick, mildly heat-resistant grease be used to avoid grease melting out of the groove in warmer temperatures.

8.2 Flange Bolts
There are 6 bolts connecting the smartPOND valve's flange to the outfall pipe or fixture. During routine maintenance intervals, these bolts should be checked for tightness. All bolts should be tightened evenly.

8.3 Perforated Riser
Silt, sediment, and debris can build up around the perforated riser with time. An annual inspection of the unit is necessary to ensure that excess debris or sediment has not limited the drainage capacity of the perforated riser. To access the perforated riser for maintenance, lift the trash cage off of the riser, dig out any accumulated sediment, and clear all perforations.

8.4 Trash Cage
As a part of routine maintenance, it is advisable to remove trash and debris that has accumulated on the trash cage and properly dispose.

8.5 Solar Panel
On all inspection visits, it is necessary to confirm that the solar panel is facing south and is well secured. The solar panel is commonly utilized by birds and insects. It is important to keep the surface clean of bird litter, insect nests and debris in order to maintain optimal performance.

8.6 Battery
Over time, battery terminals may corrode. Check annually for corrosion and clean as needed. The battery should be replaced every 4 to 6 years.

8.7 Storage
The smartPOND valve is shipped in a near-fully assembled configuration and should be stored likewise. The systems are transported and stored on pallets and must remain secured via straps or steel bands to said pallet at all times. The solar panel is not installed at times of transport or storage and should not be installed until the unit is ready to begin operation. The battery may be stored inside the electronics box and if removed, should never be stored on a concrete surface.

9. Installation
The smartPOND valve can be installed in a near-completely assembled configuration. Only the solar panel should be removed during the installation process. There are several ways to install the smartPOND valve with the key being structured support.

9.1 Structural Support
If the smartPOND valve is mounted to a steel pipe in an above ground/fully assembled configuration, the weight of the unit may be supported by the steel pipe. For plastic or concrete pipes, it is recommended that the weight of the unit be supported by either a concrete pad or steel frame. For below ground installations, the upper unit (electronics and actuator) should be fastened to the surface of the concrete vault. For vault installations, see design details for standard vault design.

10. Important Safety Information and Warnings:
- Always keep hands clear of the valve and motor when unit is in operation.
- Turn the power switch off when doing any electrical work.
- Do not enter the water when the device is actively draining water
- Always use proper PPE and confined space protocol when servicing a valve beneath ground.

11. PRODUCTS
Manufacturer/Supplier/Reseller shall be an established stormwater company that has at least 5 installations of automated stormwater management devices that have been in use and functional for the past 3 or more years.

A. Acceptable smartPOND Valve
"smartBATCH" Automated Batch Detention System
"smartPOND" Automated Detention System

B. Acceptable System Supplier
Convergent Water Technologies, Inc.
(800)711-5428
www.convergentwater.com

C. Authorized Value Added Reseller
Construction EcoServices
(800)456-1000
www.ecosvs.com

12. Quality Assurance and Performance Specifications
The quality of all system components and all other appurtenances and their assembly process shall be subject to inspection upon delivery of the system to the work site.Installation is to be performed only by skilled work people with satisfactory record of performance on earthworks, pipe, welding, chamber, or pond/landfill construction projects of comparable size and quality.

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

smartPOND Automated Stormwater Control.

FOR ADDITIONAL INFORMATION PLEASE CONTACT: CONSTRUCTION ECO SERVICES 832-456-1000 www.ecosvs.com

CONSTRUCTION ECO SERVICES

smartPOND Valve Specifications

REVISION NO. 0
DATE 5/14/2019
SHEET NO.

Revision / Date

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

Project:

STEGER BIZZELL
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED PROFESSIONAL ENGINEER
5/14/23

WATER QUALITY DETAILS

Job No.	Sheet No.
Drawn By: ARB	C20
Date: 04-21-23	

2021-18-SDP

P:\22000-22999\22751-Rotto\CAD\Plans\C20 WATER QUALITY DETAILS.dwg, C20 WATER QUALITY DETAILS, 5/19/2023 1:08:18 PM

LINER DATA

IMPERMEABLE LINERS MAY BE CLAY, CONCRETE OR GEOMEMBRANE.

CLAY LINERS SHOULD MEET THE SPECIFICATIONS AS SHOWN BELOW AND HAVE A MINIMUM THICKNESS OF 12 INCHES.

CLAY LINER SPECIFICATIONS (MIN. THICKNESS = 12")			
PROPERTY	TEST METHOD	UNIT	SPECIFICATION
PERMEABILITY	ASTM D-2434	Cm/Sec	$1X10^{(-6)}$
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR AT OR ABOVE OPTIMUM MOISTURE CONTENT

IF A GEOMEMBRANE IS USED IT SHALL HAVE A MINIMUM THICKNESS OF (30) THIRTY MILS AND BE ULTRAVIOLET RESISTANT. CONTRACTOR TO USE A GeoCHEM LLDPE 3000B GEOMEMBRANE OR APPROVED EQUAL. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NONWOVEN GEOTEXTILE FABRIC AND MEET THE SPECIFICATIONS AS SHOWN BELOW. SUITABLE GEOTEXTILE FABRIC SHOULD BE PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION AND THE LINERS COVERED WITH A MINIMUM OF 6 INCHES OF COMPACTED TOPSOIL. THE TOPSOIL SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION. SEE SECTION G7 – "LOAMING, HYDROSEEDING AND PERMANENT EROSION CONTROL" SPECIFICATIONS FOR TOPSOIL AND SEEDING REQUIREMENTS. REFER TO APPROVED WPAP FOR ADDITIONAL INSTALLATION, QA/QC AND MAINTENANCE REQUIREMENTS.

GEOTEXTILE FABRIC DATA			
PROPERTY	TEST METHOD	UNIT	SPECIFICATION
MATERIAL	NON-WOVEN GEOTEXTILE FABRIC		
UNIT WEIGHT		OZ./SQ. YD.	8 (MIN.)
FILTRATION WEIGHT		IN./SEC.	0.08 (MIN)
PUNCTURE STRENGTH	ASTM D-751 (MODIFIED)	LB.	125 (MIN)
MULLEN BURST STRENGTH	ASTM D-751	P.S.I.	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	200 (MIN.)
EQUIV. OPENING SIZE	U.S. STANDARD SIEVE	NO.	80 (MIN.)

BASIN "A"

NOTE: FOR THE SITE, TOTAL TSS REMOVAL FOR 85% REDUCTION IS 1,972 LBS.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: M3 GLASS TECH
Date Prepared: 5/9/2023

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 = 85% 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 =	Williamson	
Total project area included in plan * =	10.89	acres
Predevelopment impervious area within the limits of the plan* =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.13	acres
Total post-development impervious cover fraction * =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1854	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = A

Total drainage basin/outfall area =	2.32	acres	0
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	0
Post-development impervious area within drainage basin/outfall area =	1.70	acres	70%
Post-development impervious fraction within drainage basin/outfall area =	0.73		
$L_{M\ THIS\ BASIN}$ =	1480	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A 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 =	2.32	acres
A_I =	1.70	acres
A_P =	0.62	acres
L_R =	1723	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1723 lbs.

F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.54

On-site Water Quality Volume = 18199 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 =	3640	
Total Capture Volume (required water quality volume(s) x 1.20) =	21839	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.

BASIN "B"

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2006

Project Name: M3 GLASS TECH
Date Prepared: 5/9/2023

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

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 = 85% 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 =	Williamson	
Total project area included in plan* =	10.89	acres
Predevelopment impervious area within the limits of the pla* =	0.00	acres
Total post-development impervious area within the limits of the pl* =	2.13	acres
Total post-development impervious cover fractio* =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1854	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = B

Total drainage basin/outfall area=	0.90	acres	0
Predevelopment impervious area within drainage basin/outfall ar =	0.00	acres	0
Post-development impervious area within drainage basin/outfall ar =	0.30	acres	70%
Post-development impervious fraction within drainage basin/outfall ar =	0.33		
$L_{M\ THIS\ BASIN}$ =	261	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A 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 =	0.90	acres
A_I =	0.30	acres
A_P =	0.60	acres
L_R =	312	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 249 lbs.

F = 0.80

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 = 1.08 inches
Post Development Runoff Coefficient = 0.27

On-site Water Quality Volume = 970 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 =	194	
Total Capture Volume (required water quality volume(s) x 1.20) =	1164	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.

Revision / Date

Project:
M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

STEGER BIZZELL
1978 S. AUSTIN AVENUE
GEORGETOWN, TX 78626
512.930.9412 VOICE
512.930.9416 FAX
WWW.STEGERBIZZELL.COM
TX REG. ENG. FIRM - F181

STEGER BIZZELL JOB # 22751-ADD

STATE OF TEXAS
JAMES M. CUMMINS
105952
LICENSED
PROFESSIONAL ENGINEER
5/19/23

WATER QUALITY DETAILS (CON'T)

Job No.	Sheet No.
Drawn By: ARB	C21
Date: 04-21-23	

2021-18-SDP

P:\22000-22999\22751-Points\CAD\Plans\C21 WATER QUALITY DETAILS (CON'T).dwg, C21 WATER QUALITY DETAILS (CON'T), 5/19/2023 3:08:22 PM

ROOM FINISH SCHEDULE (BUILDING C)

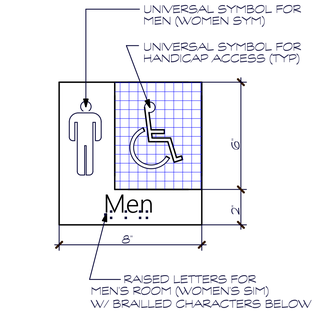
	ROOM NAME	WALLS		CLG.		FLOORS			BASE		REMARKS
		PAINTED GYPSUM BOARD	PAINTED EXPOSED STRUCTURE	PAINTED EXPOSED STRUCTURE	PAINTED GYPSUM BOARD	CERAMIC TILE	SEALED CONCRETE		NONE	CERAMIC TILE BASE	
100	WAREHOUSE		●	●			●		●		
101	UNISEX RESTROOM	●			●	●				●	PROVIDE WATER RESISTANT GYP. BOARD
102	UNISEX RESTROOM	●			●	●				●	PROVIDE WATER RESISTANT GYP. BOARD
103	MECH. ROOM	●		●			●		●		
104	FIRE RISER ROOM	●		●			●		●		PROVIDE 1 HOUR GYP. BOARD

DOOR SCHEDULE

	DOOR			FRAME		
DR. NO.						
1	12'-0" x 16'-0"	STL	4	STL.	-	INSULATED GLAZING
2	12'-0" x 16'-0"	STL	4	STL.	-	INSULATED GLAZING
3	3x7'-0"x1 5/8"	STL.	2	H.M	1	INSULATED EXT. DOOR
4	3x7'-0"x1 5/8"	STL.	2	H.M	1	INSULATED EXT. DOOR
5	3x7'-0"x1 5/8"	S.W.	1	H.M	1	INTERIOR DOOR
6	3x7'-0"x1 5/8"	S.W.	1	H.M	1	INTERIOR DOOR
7	3x7'-0"x1 5/8"	S.W.	1	H.M	1	INTERIOR DOOR
8	12'-0" x 12'-0"	STL	3	STL.	-	1 1/2 HOUR RATED
9	3x7'-0"x1 5/8"	STL.	2	H.M	1	INSULATED EXT. DOOR

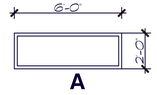
NOTE:
ALL SUITES TO BE TYPICAL

KEY
H.M.= - - HOLLOW METAL
S.W.= - - SOLID WOOD
G.L.= - - GLASS
STL.= - - STEEL
ALUMIN. - ALUMINUM
GM.= - - GALVANIZED METAL



RESTROOM SIGN DETAIL

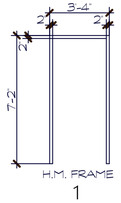
SCALE 3" = 1'-0"



WINDOW TYPES

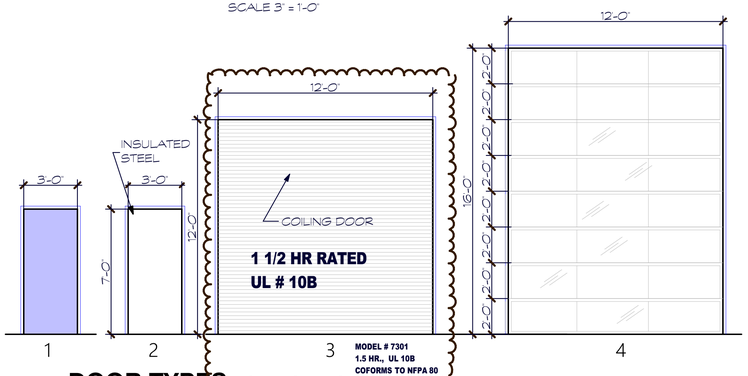
ALUM. INSULATED GLAZED WINDOWS

SCALE 1/4" = 1'-0"



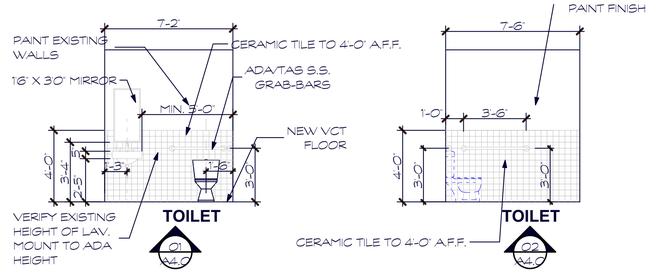
FRAME TYPES

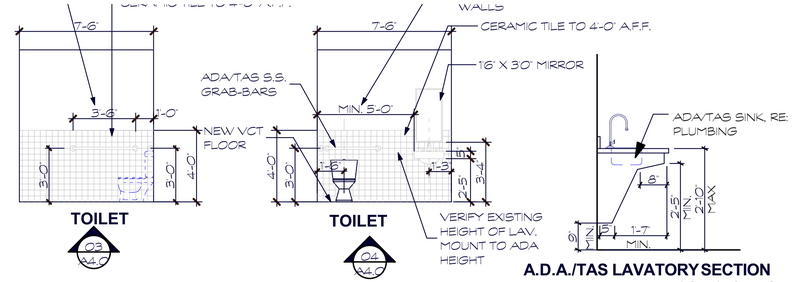
SCALE 1/4" = 1'-0"



DOOR TYPES

SCALE 1/4" = 1'-0"





A.D.A./TAS LAVATORY SECTION

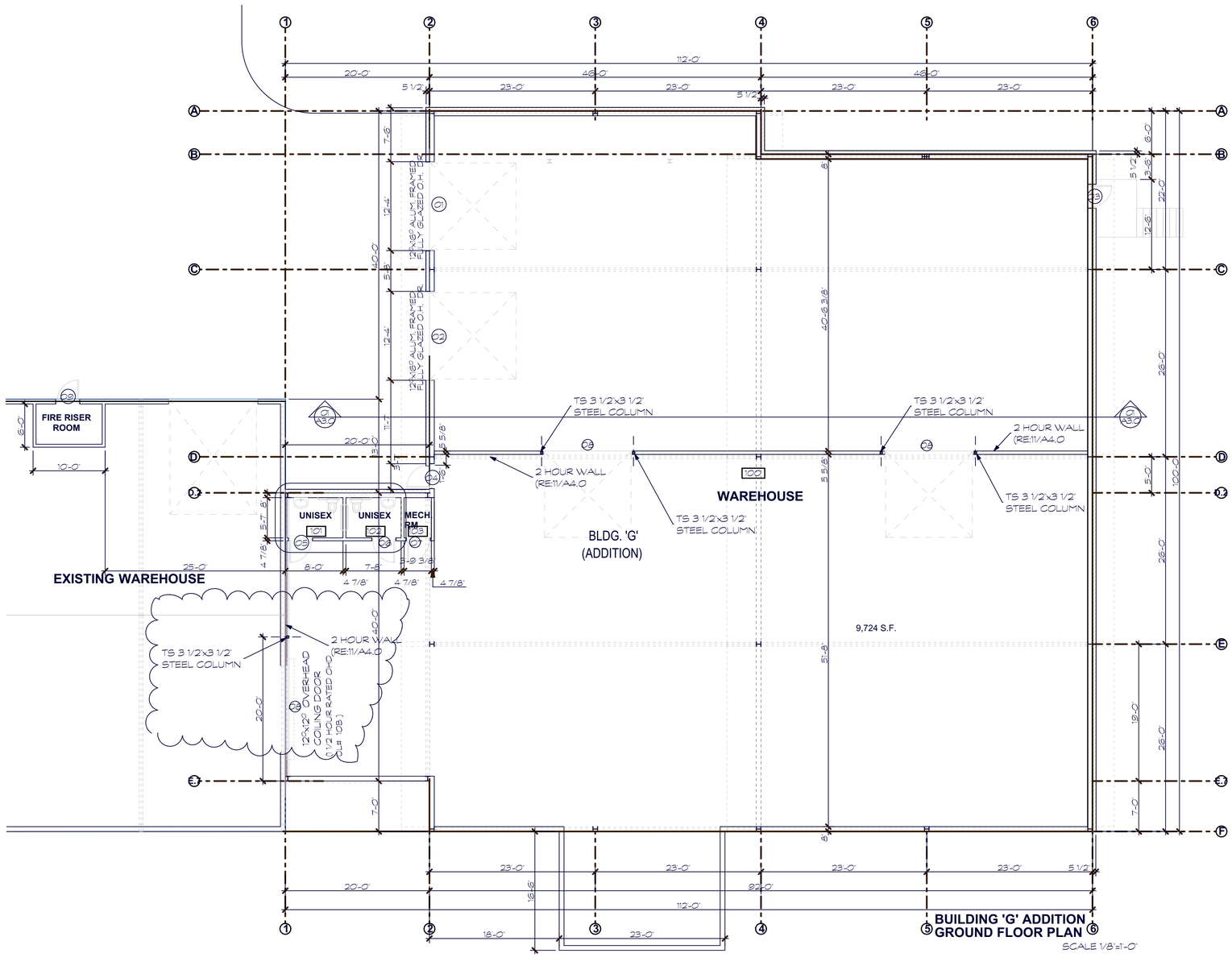
SCALE 1/2" = 1'-0"

INTERIOR ELEVATIONS

SCALE 1/4" = 1'-0"

WINDOW SCHEDULE

WIN. LTR.	WINDOW SIZE	TRANSOM SIZE	FRAME TYPE	WINDOW TYPE	COMMENT
A	6020	-0-	ALUM.	INSUL. FIXED GLASS	



BUILDING 'G' ADDITION GROUND FLOOR PLAN

SCALE 1/8"=1'-0"

ELSASSER ARCHITECTURAL INC.
ARCHITECTURE DESIGN / PLANNING
P.O. BOX 833
GEORGETOWN, TEXAS78627
(512) 930-5353, (512) 863-5558 FAX
WWW.EAI-TX.COM

PLAN REVISIONS

NO.	DESCRIPTION	DATE

AN OFFICE/WAREHOUSE BUSINESS PARK:

TOOLMEN BUSINESS PARK

978 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

05/16/2023

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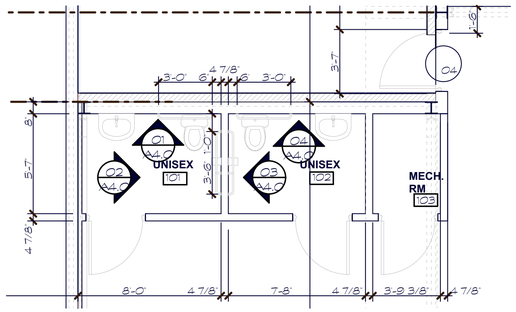
DATE
11/23/21

ARCHITECTS PROJECT NUMBER
20012-G

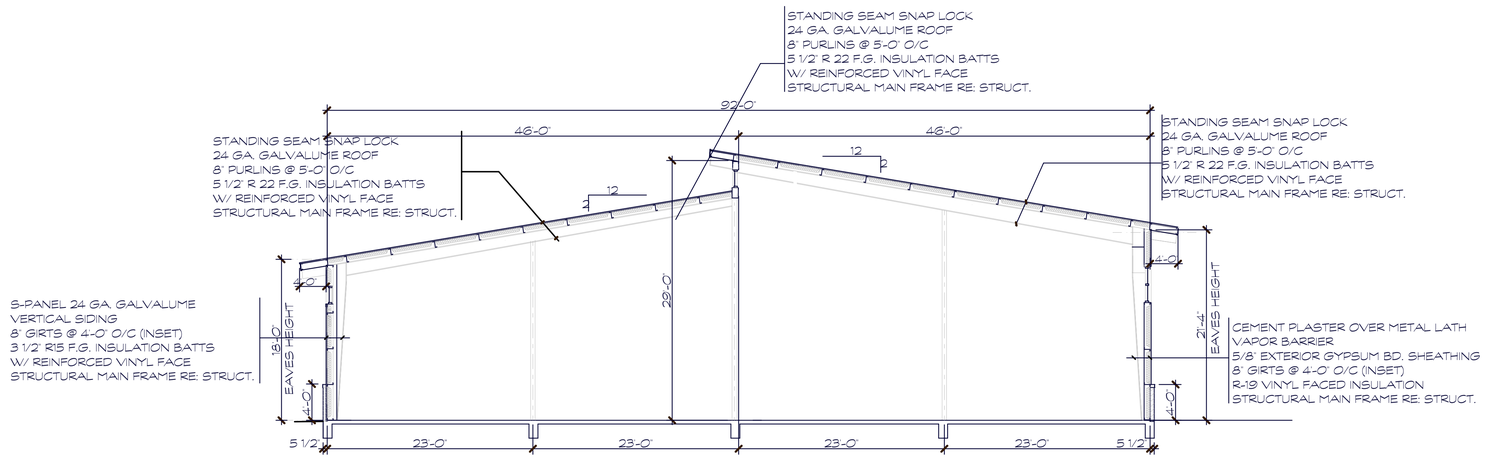
BUILDING 'G'

A2.0



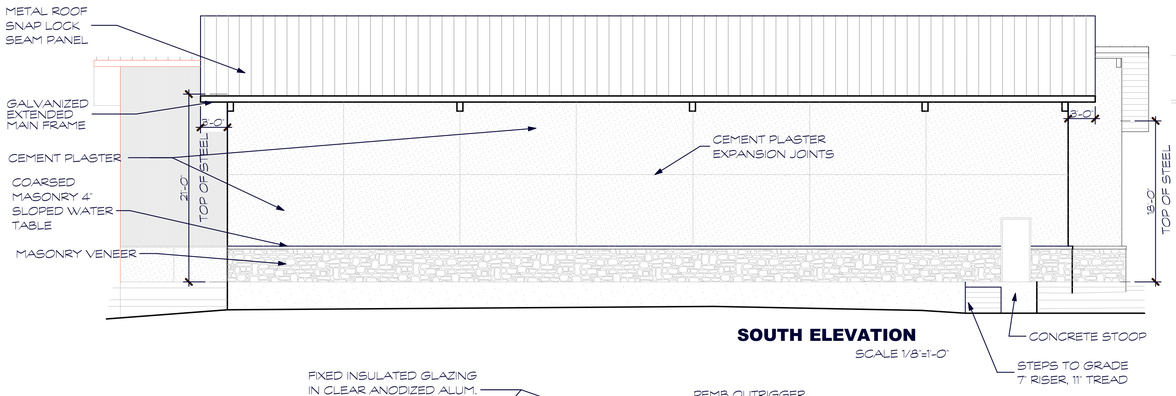
ENLARGED FLOOR PLAN

SCALE: 1/4" = 1'-0"



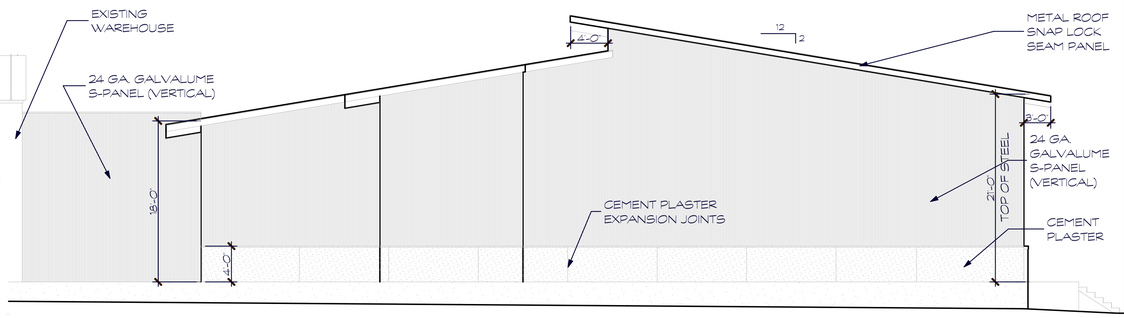
01 24.0 **CROSS SECTION**

SCALE: 1/8" = 1'-0"



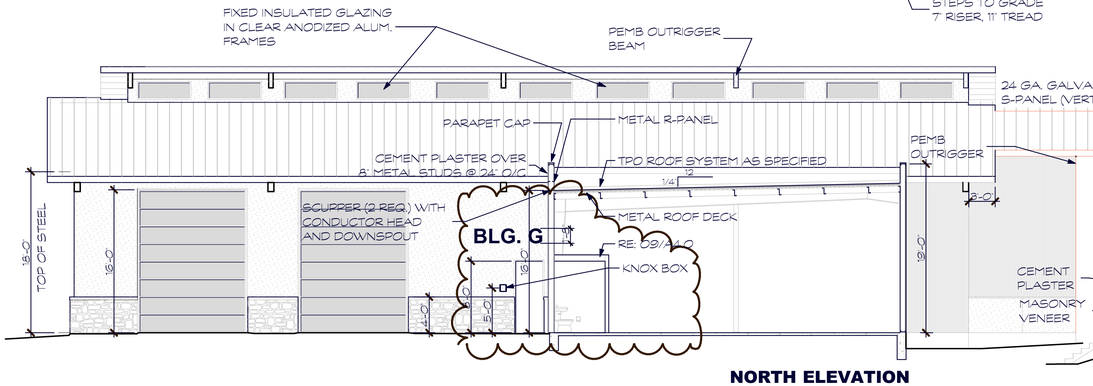
SOUTH ELEVATION

SCALE 1/8"=1'-0"



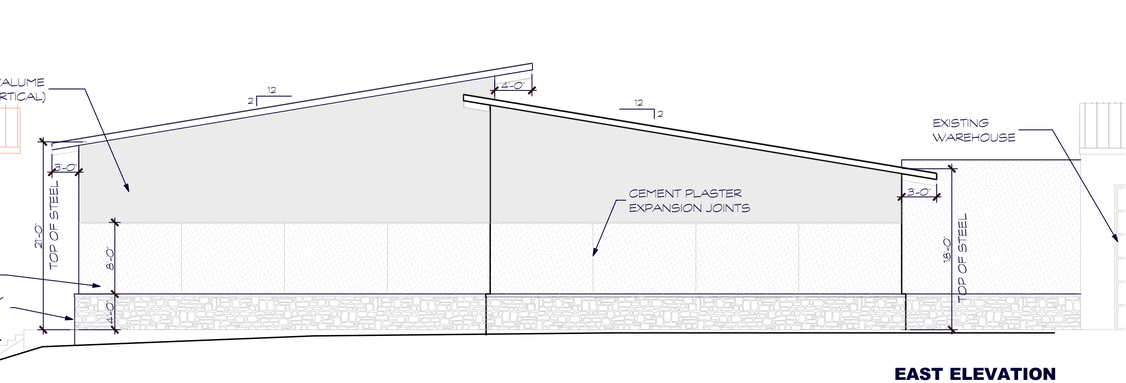
WEST ELEVATION

SCALE 1/8"=1'-0"



NORTH ELEVATION

SCALE 1/8"=1'-0"



EAST ELEVATION

SCALE 1/8"=1'-0"

ELSASSER
ARCHITECTURAL
INC.

ARCHITECTURE
DESIGN / PLANNING

P.O. BOX 833
GEORGETOWN, TEXAS78627
(512) 930-5353, (512) 863-5558 FAX
WWW.EAI-TX.COM

PLAN REVISIONS

NO.	DESCRIPTION	DATE
01	SDP REVIEW REVISIONS	05/16/2023

AN OFFICE/WAREHOUSE BUSINESS PARK:

TOOLMEN BUSINESS PARK

978 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

REGISTERED ARCHITECT
STATE OF TEXAS

05/16/2023

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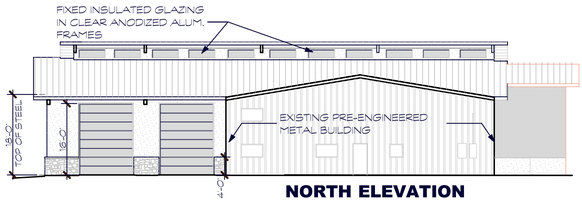
DATE
11/23/21

ARCHITECTS PROJECT NUMBER
20012-G

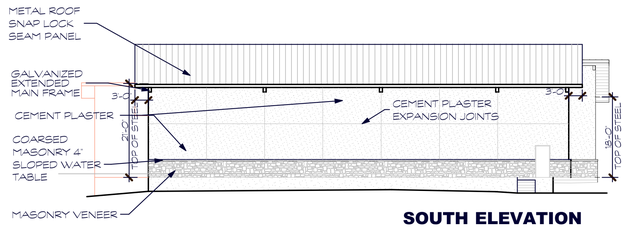
BUILDING 'G'

A3.0



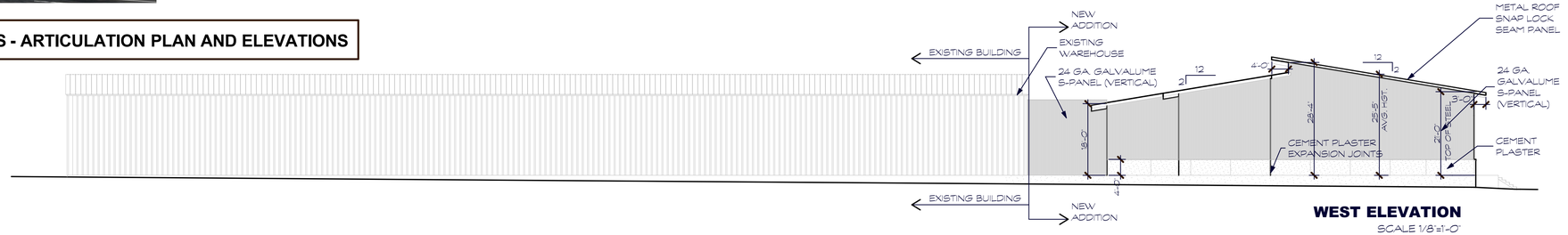


NORTH ELEVATION
SCALE 1/8"=1'-0"



SOUTH ELEVATION
SCALE 1/8"=1'-0"

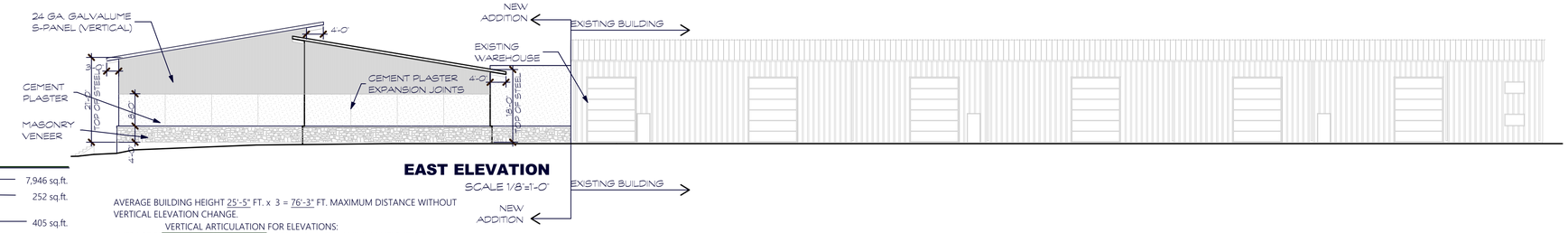
ARCHITECTURAL PLAN AND ELEVATIONS - ARTICULATION PLAN AND ELEVATIONS



WEST ELEVATION
SCALE 1/8"=1'-0"

ARTICULATION MATERIAL COLORS

OVERALL WALL AREA:	7,946 sq.ft.	
WALL AREA WITHOUT DOORS AND WINDOWS:	7,289 sq.ft.	91%
CEMENT PLASTER AREA:(LT. GREY)	3,708 sq.ft.	50%
LIMESTONE VENEER AREA:(BLUES/GREYS)	844 sq.ft.	12%
METAL SIDING AREA:(GALVALUME-SILVER)	2,736 sq.ft.	38%



EAST ELEVATION
SCALE 1/8"=1'-0"

ARTICULATION MATERIALS DATA

OVERALL WALL AREA:	7,946 sq.ft.
WINDOW GLAZING AREA: (MAX. 50%)	252 sq.ft.
DOOR AREA:	405 sq.ft.
REMAINING SOLID SURFACE WALL AREA:	7,289 sq.ft.
REQUIRED MASONRY: (MIN. 80%)	5,831 sq.ft.
NON-MASONRY:	1,458 sq.ft.

AVERAGE BUILDING HEIGHT 25'-5" FT. x 3 = 76'-3" FT. MAXIMUM DISTANCE WITHOUT VERTICAL ELEVATION CHANGE.

VERTICAL ARTICULATION FOR ELEVATIONS:

AVERAGE BUILDING HEIGHT 25'-5" FT. x 25% = 6'-4" FT. MINIMUM HEIGHT OF VERTICAL ELEVATION CHANGE.

AVERAGE BUILDING HEIGHT 25'-5" FT. x 75% = 19'-0" FT. MINIMUM LENGTH OF ELEVATION CHANGE.

ARTICULATION MATERIALS DATA

OFFSETS, VARIATION IN BUILDING MATERIAL, VARIED WALL SURFACES, AND WINDOWS

AVERAGE BUILDING HEIGHT 25'-5" FT. x 3 = 76'-3" FT. MAXIMUM DISTANCE WITHOUT PERPENDICULAR OFFSET.

HORIZONTAL ARTICULATION FOR FOOTPRINT:

AVERAGE BUILDING HEIGHT 25'-5" FT. x 25% = 6'-4" FT. MINIMUM HEIGHT OF PERPENDICULAR OFFSET.

AVERAGE BUILDING HEIGHT 25'-5" FT. x 75% = 19'-0" FT. MINIMUM LENGTH OF PERPENDICULAR OFFSET.

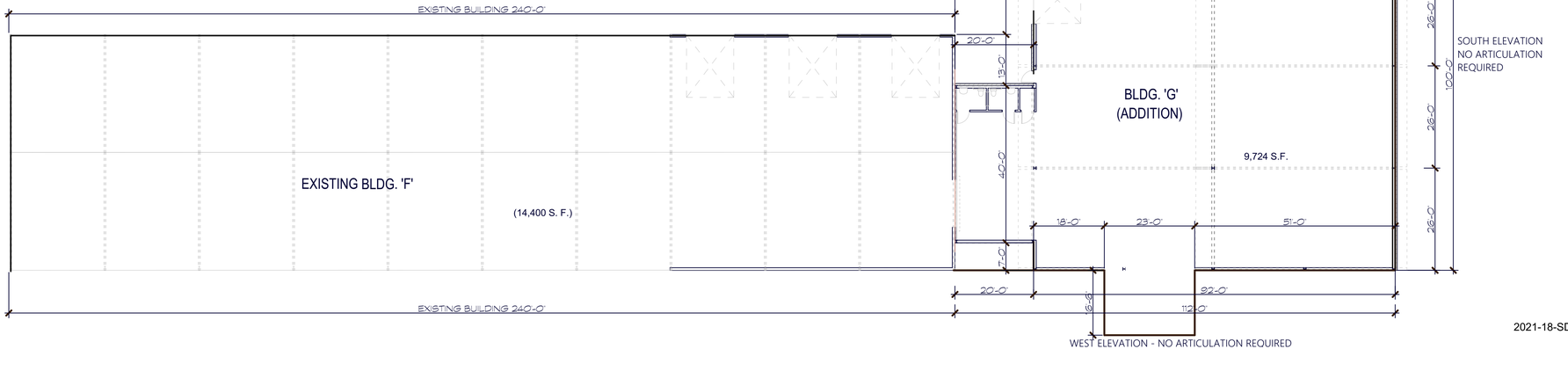
BUILDING "G"

ARCHITECTURAL PLAN NOTES:

1. ALL SIGNAGE REQUIRES A SEPERATE APPLICATION AND APPROVAL FROM THE BUILDING INSPECTIONS DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE PLAN.
2. COLOR SELECTION IS NOT APPROVED WITH THE SITE PLAN AND MAY BE COUNTED TOWARD THE SIGNAGE CALCULATION IF IT IS FOUND TO REFLECT COLOR THAT IS CONSIDERED SIGNAGE ACCORDING TO THE DEFINITION OF SIGNAGE IN THE UDC.
3. THIS SITE PLAN SHALL MEET ALL DESIGN STANDARDS FOR ARTICULATION, BUILDING DESIGN, BUILDING MATERIALS AND ELEMENTS AND ARCHITECTURAL FEATURES OF SECTION 7.03 OF THE UDC
4. ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE SCREENED USING THE FLOLLOWING METHODS:

ROOF A/C UNITS SCREENED BY PARAPET WALLS,
GROUND A/C UNITS SCREENED BY PLANTING SCREENS,
DUMPSTER SCREENED BY MASONRY WALLS ON 3 SIDES WITH CEDAR PICKET COVERED STEEL FRAMED GATES,
TRANSFORMER SHALL BE SCREENED BY PLANTING SCREENS

5. FOUNDATIONS TO BE SLAB ON GRADE



2021-18-SDP

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(512) 930-5353, (512) 863-5558 FAX
WWW.EAI-TX.COM

PLAN REVISIONS

NO.	DESCRIPTION	DATE
01	SDP REVIEW REVISIONS	05/16/2023

AN OFFICE/WAREHOUSE BUSINESS PARK:

TOOLMEN BUSINESS PARK

978 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

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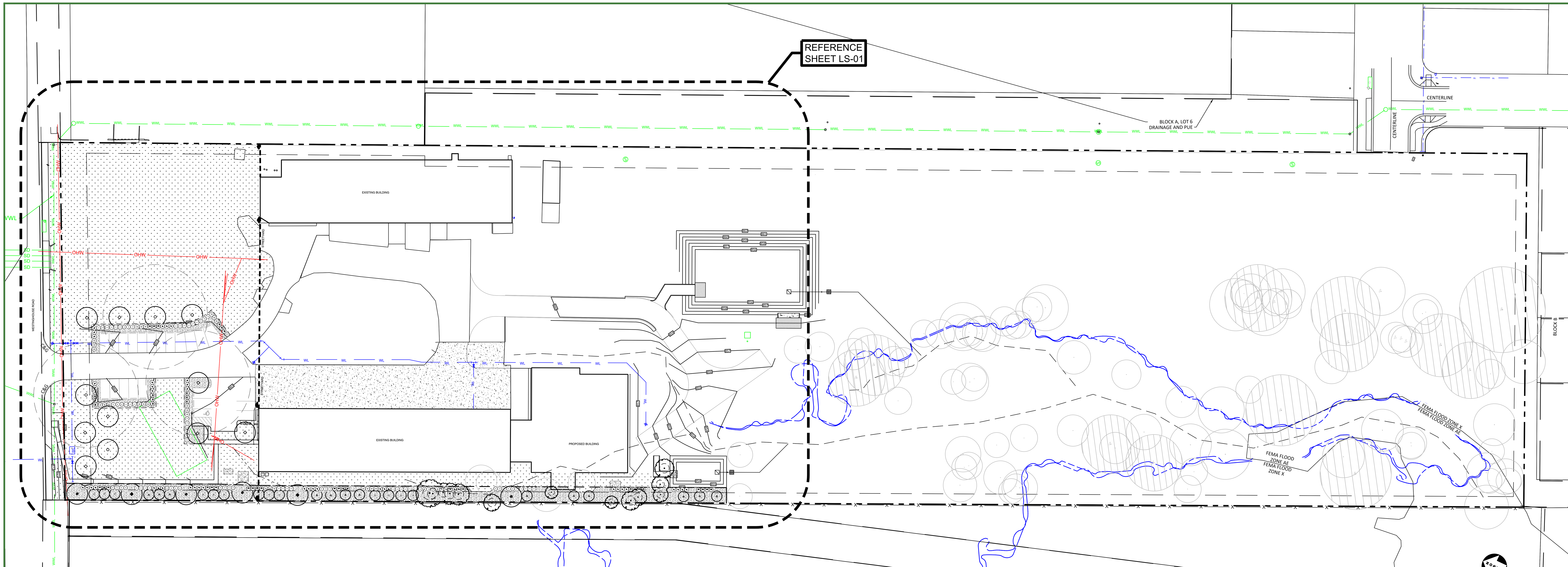
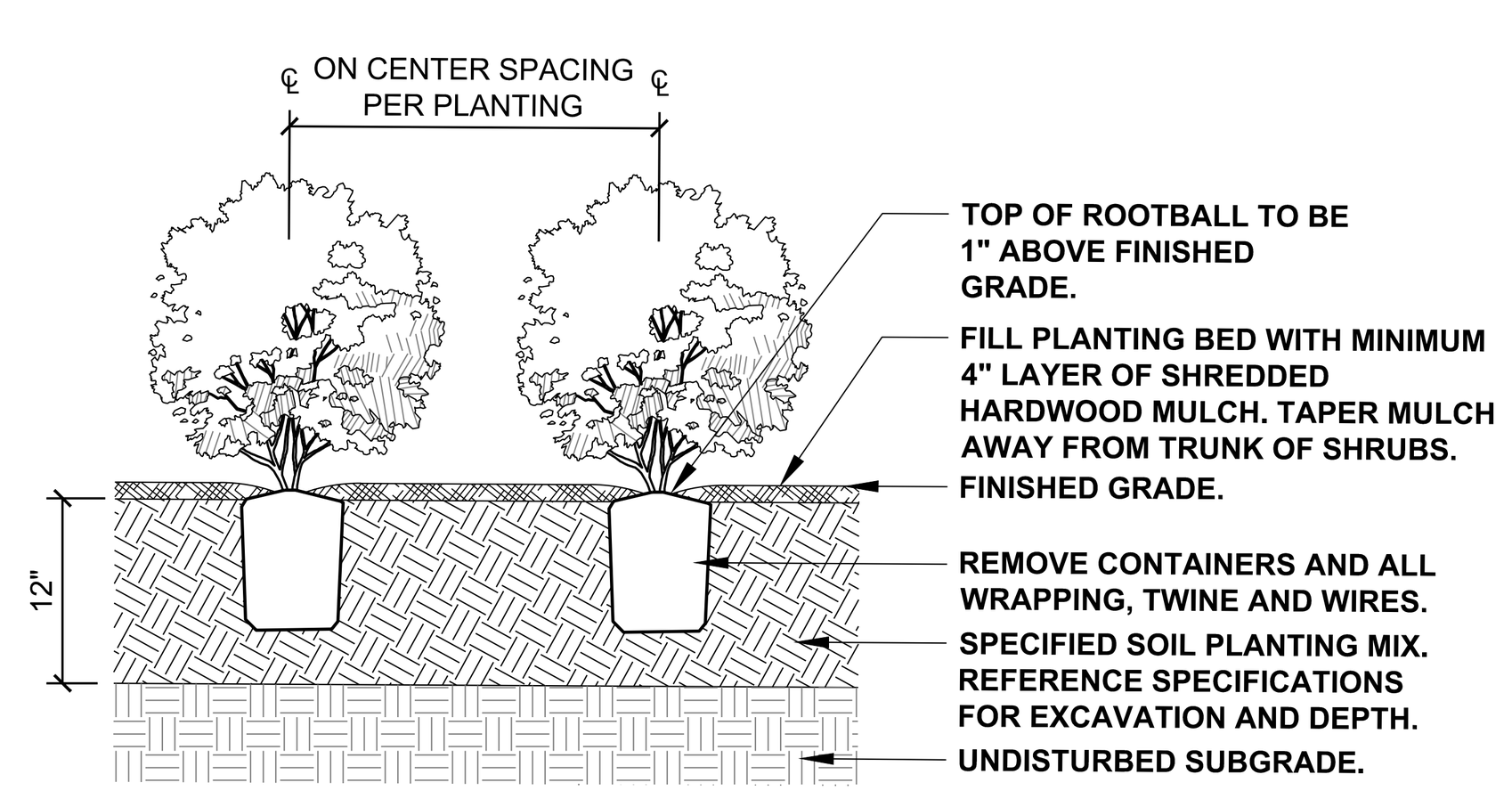
DATE
11/23/21

ARCHITECTS PROJECT NUMBER
20012-G

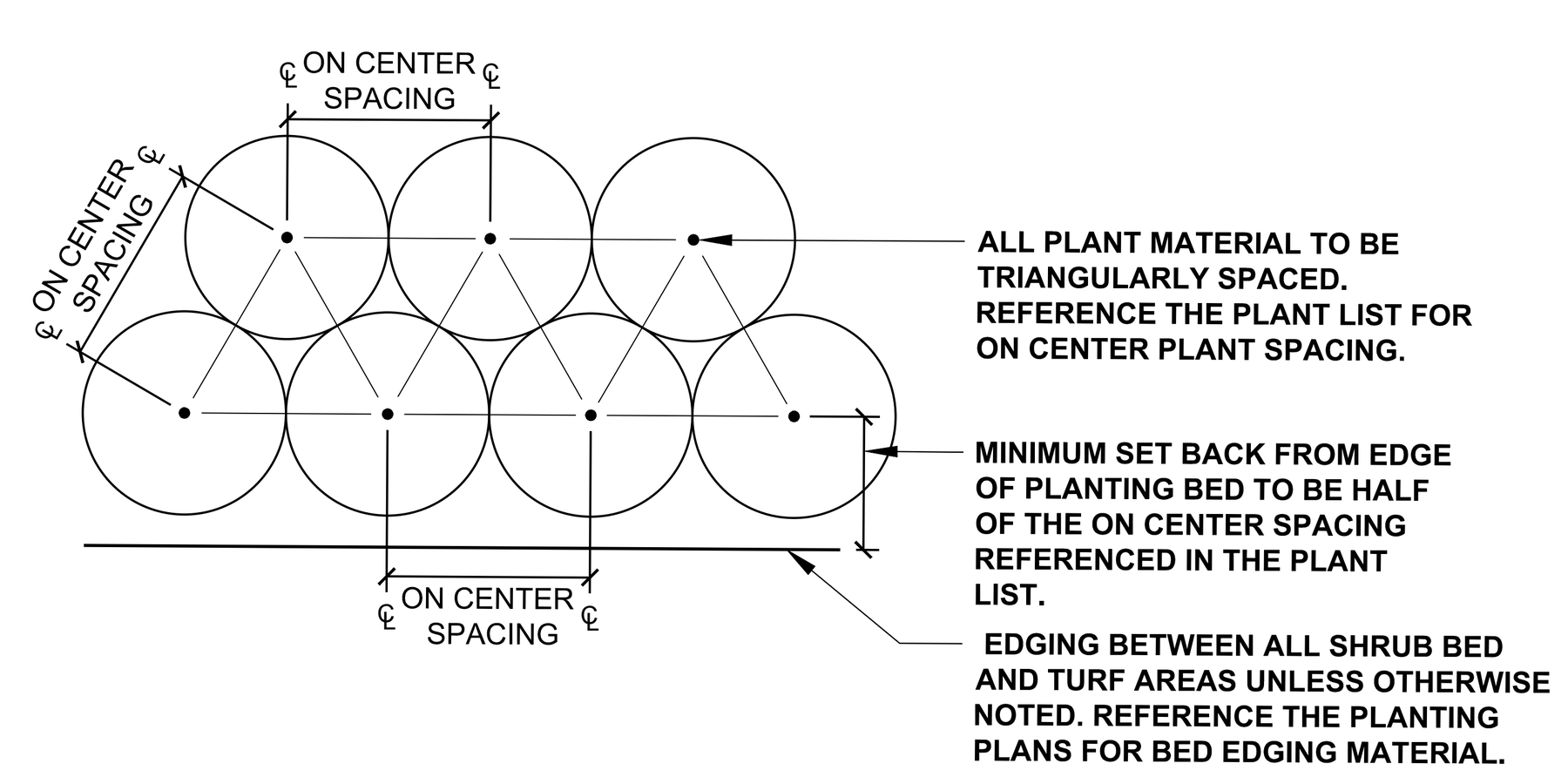
BUILDING ARTICULATION AR 3.0





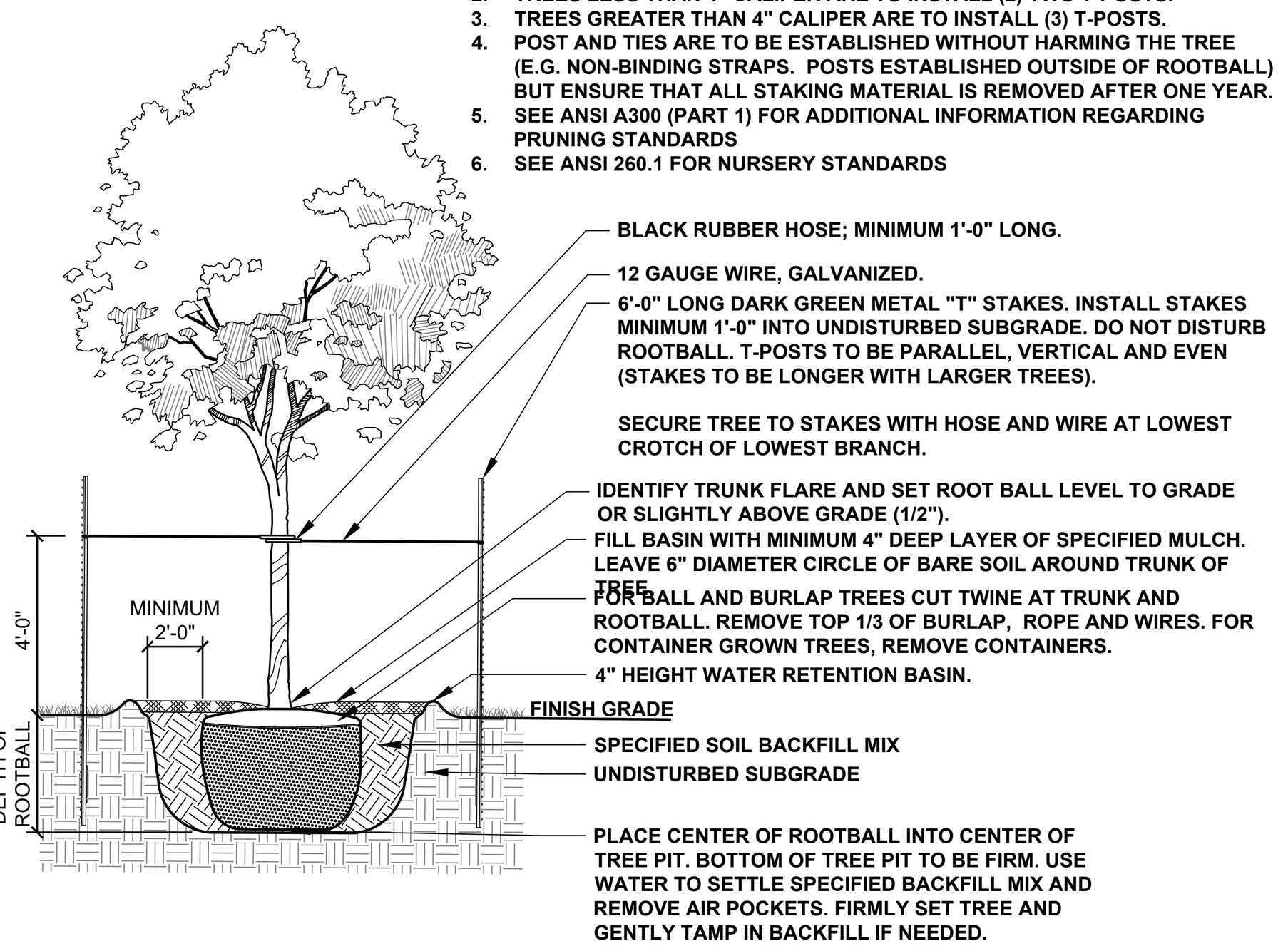
NOTE:
REFERENCE 4/LS-25 FOR PLANT SPACING LAYOUT

3 SHRUB BED PLANTING
SECTION SCALE:N.T.S.



4 PLANT SPACING LAYOUT
PLAN SCALE:N.T.S.

NOTES:
1. REFERENCE TECHNICAL SPECIFICATION SECTION "32 9300 PLANTING" FOR ADDITIONAL REQUIREMENTS.
2. TREES LESS THAN 4" CALIPER ARE TO INSTALL (2) TWO T-POSTS.
3. TREES GREATER THAN 4" CALIPER ARE TO INSTALL (3) T-POSTS.
4. POST AND TIES ARE TO BE ESTABLISHED WITHOUT HARMING THE TREE (E.G. NON-BINDING STRAPS. POSTS ESTABLISHED OUTSIDE OF ROOTBALL) BUT ENSURE THAT ALL STAKING MATERIAL IS REMOVED AFTER ONE YEAR.
5. SEE ANSI A300 (PART 1) FOR ADDITIONAL INFORMATION REGARDING PRUNING STANDARDS
6. SEE ANSI 260.1 FOR NURSERY STANDARDS



1 SINGLE TRUNK TREE PLANTING DETAIL
SECTION SCALE:N.T.S.

NOTES:
1. REFERENCE TECHNICAL SPECIFICATION SECTION "32 9300 PLANTING" FOR ADDITIONAL REQUIREMENTS.
2. TREES LESS THAN 4" CALIPER ARE TO INSTALL (2) TWO T-POSTS.
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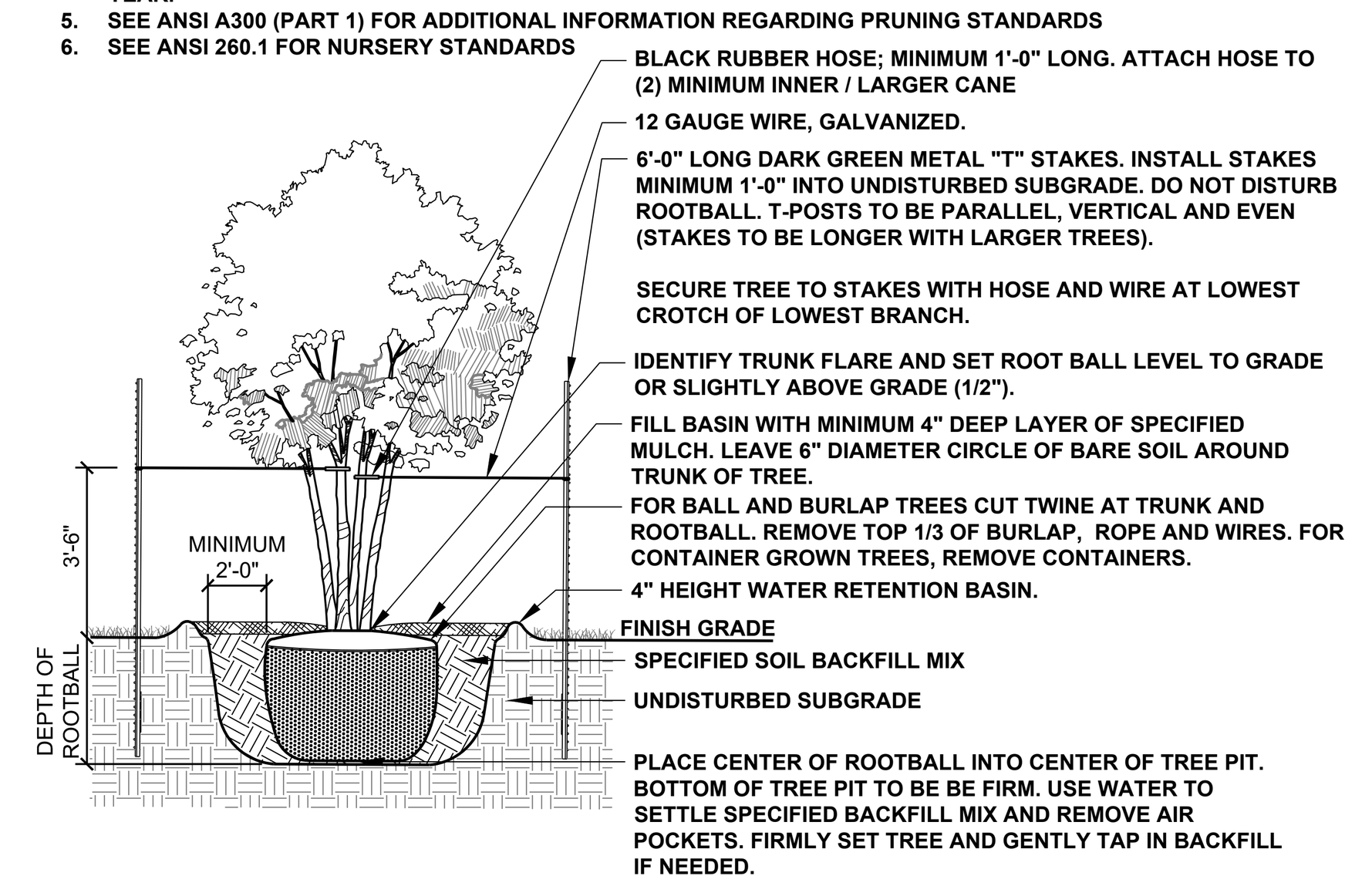

2 MULTI-TRUNK TREE PLANTING DETAIL
SECTION SCALE:N.T.S.

LANDSCAPE PLANTING REQUIREMENTS	REQUIRED	PROVIDED
SECTION 8.04.030 - STREET YARD LANDSCAPING		
STREET YARD BETWEEN 50,000 AND 500,000 S.F.: 70,315 S.F.		
LANDSCAPE AREA TOTALING 20% OF STREET YARD	14,063 S.F.	55,050 S.F.
10 SHADE TREES PLUS 1 PER 10,000 S.F. OVER 50,000 OF STREET YARD	12	12
30 SHRUBS PLUS 3 PER 10,000 S.F. OVER 50,000 OF STREET YARD	36	78
SECTION 8.04.040 - PARKING LOT LANDSCAPING		
PARKING LOT STALLS: REQUIRED 22 PROVIDED 21 + 1 ADA		
PERVIOUS LANDSCAPE AREA — STALL #		
20 S.F. FOR STALL BETWEEN FRONT OF BUILDING OF ROW — 22	440 S.F.	2,998 S.F.
10 S.F. FOR STALL NOT BETWEEN FRONT OF BUILDING OF ROW — 0	0 S.F.	0 S.F.
STALL #		
1 TREE PER 12 PARKING STALLS REQUIRED — 22	2	3
1 TREE PER 8 PARKING STALLS IN EXCESS OF REQUIRED PARKING — 0	0	0
NO PARKING STALL SHALL BE FURTHER THAN 50' FROM A SHADE TREE		50' RADIUS SHOWN ON TREES
SCENIC / NATURAL GATEWAY: NOT APPLICABLE		
SCENIC / NATURAL GATEWAY WIDTH	N/A	N/A
SCENIC / NATURAL GATEWAY VEGETATIVE COVERAGE 80% EXCLUDING SIDEWALKS	N/A	N/A
TWO SHADE TREES PER 1,000 S.F.	N/A	N/A
5 SHRUBS PER 1,000 S.F.	N/A	N/A
SECTION 8.04.060 - BUFFERYARDS		
MEDIUM BUFFERYARD: 630 LINEAR FEET		
ONE (1) SHADE TREE PER EACH 50 LINEAR FEET	13	3 NEW + 10 EXISTING
TWO (2) EVERGREEN ORNAMENTAL TREES PER EACH 50 LINEAR FEET	26	26
EIGHT (8) EVERGREEN SHRUBS PER EACH 50 LINEAR FEET	104	104
SECTION 8.04.070 - SCREENING		
PARKING LOT SCREEN, LIVE SCREEN, MINIMUM 2' HT AT TIME OF PLANTING		INDICATED ON PLANS

PROTECTED TREE CALCULATIONS

NUMBER OF 6" OR GREATER TREES TO BE SAVED 104
NUMBER OF LESS THAN 6" TREES TO BE SAVED 0
NUMBER OF PROTECTED TREES TO BE SAVED 80
NUMBER OF HERITAGE TREES TO BE SAVED 12
NUMBER OF PROTECTED TREES TO BE REMOVED 5
NUMBER OF HERITAGE TREES TO BE REMOVED 0

TREE DENSITY CALCULATIONS
NUMBER OF PROTECTED TREES 85
PROTECTED TREE PRESERVATION CALCULATION:
(85 TREES / 10.89 ACRE = 8 TREE DENSITY
8 X .3 = TOTAL 2.5 PROTECTED TREES REQUIRED TO REMAIN ON SITE
NUMBER OF PROTECTED TREES REQUIRED TO REMAIN 3

REQUIRED PROTECTED TREE PERCENTAGE
PROJECT ACREAGE: 10.89
TOTAL NUMBER OF PROTECTED TREES EXISTING ON-SITE: 85
AVERAGE NUMBER OF PROTECTED TREES PER ACRE: 8
APPLICABLE REQUIRED PROTECTED TREE PRESERVATION PERCENTAGE: 30%
NUMBER OF EXISTING PROTECTED TREES REQUIRED TO REMAIN ON-SITE: 3
NUMBER OF EXISTING PROTECTED TREES TO BE SAVED 80

OWED MITIGATION FOR PROTECTED REMOVALS
OVERALL PROTECTED TREE MITIGATION INCHES OWED: 80 INCHES
MITIGATION PROVIDED AT 1:1 FOR 40% OF 80 INCHES OWED : 32 INCHES

CREDIT TREES EXISTING- ON-SITE TREES
OVERALL PROTECTED TREE MITIGATION INCHES PROVIDED: 24
- 75% MAXIMUM ALLOWED REQUIREMENT OF ON-SITE MITIGATION

TREE MITIGATION THROUGH NEW TREE PLANTING
OVERALL PROTECTED TREE MITIGATION INCHES PROVIDED: 8



NOTE:
REFERENCE CIVIL ENGINEER'S DRAWINGS FOR TREE SCHEDULE AND TREES TO BE REMOVED.

ADDITIONAL TREE LIST

TAG #	DESCRIPTION	CREDIT TREE
1301	13IN BALD CYPRESS	
1302	10IN BALD CYPRESS	
1303	9IN BALD CYPRESS	
1304	10IN BALD CYPRESS	
1305	10IN BALD CYPRESS	
1308	8IN ELM	
1311	6IN ELM	
1313	6IN ELM	
1314	9IN ELM	
1315	8IN ELM	
1316	8IN ELM	YES
1317	7IN ELM	YES
1318	9IN ELM	YES

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS	VERY LOW	LOW	MEDIUM	HIGH
TREES												
	QM2	4	QUERCUS MUEHLENBERGII	CHINQUAPIN OAK	4" CAL.	100 GAL.		SINGLE TRUNK, STRAIGHT CENTRAL LEADER, FULL AND UNIFORM CANOPY; CONTAINER GROWN		X		
	QP	9	QUERCUS POLYMORPHA `MONTEREY`	MONTEREY OAK	4" CAL.	100 GAL.		SINGLE TRUNK, STRAIGHT CENTRAL LEADER, FULL AND UNIFORM CANOPY; CONTAINER GROWN	X			
	QV	3	QUERCUS VIRGINIANA	LIVE OAK	4" CAL.	100 GAL.		SINGLE TRUNK, STRAIGHT CENTRAL LEADER, FULL AND UNIFORM CANOPY; CONTAINER GROWN		X		
	UC2	2	ULMUS CRASSIFOLIA	CEDAR ELM	4" CAL.	100 GAL.		SINGLE TRUNK, STRAIGHT CENTRAL LEADER, FULL AND UNIFORM CANOPY; CONTAINER GROWN		X		
ORNAMENTAL EVERGREEN TREES												
	IV2	13	ILEX VOMITORIA	YAUPON HOLLY	8` H X 4` S	45 GAL		MULTI-TRUNK, FULL AND UNIFORM CANOPY; CONTAINER GROWN		X		
ORNAMENTAL TREES												
	SS	13	SOPHORA SECUNDIFLORA	TEXAS MOUNTAIN LAUREL	8` H X 4` S	45 GAL		MULTI-TRUNK, FULL AND UNIFORM CANOPY; CONTAINER GROWN		X		
SHRUBS												
	AG	44	ABELIA X GRANDIFLORA	GLOSSY ABELIA	24" H X 24" S	3 GAL.	48" o.c.	FULL AND UNIFORM AND CONTAINER		X		
	LF	35	LEUCOPHYLLUM FRUTESCENS	TEXAS SAGE	24" H X 24" S	5 GAL.	48" o.c.	FULL AND UNIFORM AND CONTAINER		X		
	LG	36	LOROPETALUM CHINENSE	LOROPETALUM	24" H X 24" S	5 GAL.	48" o.c.	FULL AND UNIFORM AND CONTAINER		X		
	R3	28	ROSA X `RADRAZZ` TM	KNOCKOUT SHRUB ROSE	24" H X 24" S	5 GAL.	48" o.c.	FULL AND UNIFORM AND CONTAINER			X	
ORNAMENTAL GRASSES, YUCCAS AND SUCCULANTS												
	MSA	39	MISCANTHUS SINENSIS `GRACILLIMUS`	MAIDEN GRASS `GRACILLIMUS`	24" H X 24" S	5 GAL.	48" o.c.	FULL AND UNIFORM AND CONTAINER			X	
SOD/SEED												
	CD3	49,600 SF	CYNODON DACTYLON	BERMUDA HYDROSEED	HYDROSEED			CONTRACTOR TO FIELD VERIFY AMOUNT OF HYDROSEED REQUIRED.		X		
IRRIGATION												
AUTOMATIC UNDERGROUND IRRIGATION SYSTEM TO BE DESIGN / BUILD FOR ALL TURF, SHRUB BEDS, AND TREES. REFERENCE CITY OF GEORGETOWN IRRIGATION TECHNICAL SPECIFICATIONS.												

MATERIAL SCHEDULE

SYMBOL	QUANTITY	ITEM	DESCRIPTION	SUPPLIER	REMARKS
MI-01	1,000 LF	STEEL EDGING	JD RUSSEL DURAEDGE 3/16" X 4' STAKED, BROWN OR APPROVED EQUIVALENT	LOCAL SOURCE	CONTRACTOR TO PROVIDE PRODUCT DATA SUBMITTAL PRIOR TO ORDERING AND INSTALLATION
MI-02	12,000 SF	SHREDDED HARDWOOD MULCH	DOUBLE SHREDDED HARDWOOD MULCH COLOR: BROWN	LOCAL SOURCE	CONTRACTOR TO PROVIDE PRODUCT DATA SUBMITTAL PRIOR TO ORDERING AND INSTALLATION

GENERAL SITE DEVELOPMENT PLAN NOTES:

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. FIRE FLOW REQUIREMENTS OF 1,500 GPM PER MINUTE (INCLUDE AMOUNT) ARE BEING PERMIT APPLICATION.
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
15. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
16. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN. (FOR PROPERTIES LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE)

Texas811

CAUTION!!!
EXISTING UNDERGROUND UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURRED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES ON THE PLANS.

GENERAL NOTES:

1. LOCATE AND VERIFY THE CONDITION OF EXISTING UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT LINE LOCATION SERVICES AND COST INCURRED FOR BODILY INJURY AND OR DAMAGE OF OWNER'S PROPERTY OR SAID UTILITIES.
2. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED BY THE CONTRACTOR OF ANY DISCREPANCIES DISCOVERED BETWEEN THE PLANS AND ACTUAL SITE CONDITIONS BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL BE LIABLE FOR ALL MODIFICATIONS AND DAMAGES IF WORK PROCEEDS WITHOUT THIS NOTIFICATION.
3. DURING PERFORMANCE OF THE WORK, THE CONTRACTOR SHALL EXERCISE UTMOST CARE TO PREVENT ACCIDENTS TO PERSONS OR PROPERTY AND SHALL PROVIDE AND MAINTAIN BARRIERS AND SAFEGUARDS NECESSARY FOR THE PREVENTION OF ACCIDENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING IMPROVEMENTS BOTH ON SITE AND ADJACENT TO THE WORK SITE AND SHALL REPAIR ANY DAMAGE DONE TO THESE IMPROVEMENTS TO THE SATISFACTION OF THE OWNER.
4. CONTRACTOR SHALL NOTIFY THE OWNER AND LANDSCAPE ARCHITECT 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
5. ANY CHANGES TO THE DRAWINGS OR SPECIFICATIONS RESULTING FROM THE ACCEPTANCE OF CONTRACTOR'S ALTERNATES AND / OR SUBSTITUTIONS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT / OWNER FOR APPROVAL.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF TRASH ON A DAILY BASIS BY END OF WORK DAY.
7. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE ORDINANCES. PRIOR TO CONSTRUCTION, ALL PERMITS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE THE CONSTRUCTION OF THE PROJECT SHALL BE APPLIED, PAID AND SECURED BY THE CONTRACTOR.
8. THE CONTRACTOR SHALL COORDINATE WORK WITH SUBCONTRACTORS TO ACCOMPLISH THE SCOPE OF WORK AS SHOWN AND NOTED IN THE CONTRACT DOCUMENTS AS WELL AS, COORDINATE CONSTRUCTION WITH OTHER CONTRACTORS WORKING ON THE SITE.
9. THE CONTRACTOR SHALL COORDINATE THE STORING OF MATERIALS, PARKING OF VEHICLES AND RESTRICTIONS OF WORK AND ACCESS WITH THE OWNER. UNDER NO CIRCUMSTANCES SHALL ANY CONTRACTOR STORE MATERIALS OR PARK VEHICLES UNDER THE CANOPY OF EXISTING TREES.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND SERVICING TEMPORARY TOILET FACILITIES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND PAYING ALL TEMPORARY UTILITIES AND SERVICES NECESSARY TO COMPLETELY INSTALL ALL WORK AS SHOWN AND NOTED IN THE CONTRACT DOCUMENTS, UNLESS SPECIFIED BY THE LANDSCAPE ARCHITECT / OWNER.
12. ALL SAFETY EXPOSURES OR VIOLATIONS SHALL BE RECTIFIED IMMEDIATELY BY THE CONTRACTOR.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LEGAL OFF-SITE DISPOSAL OF SURPLUS MATERIAL AND DEBRIS.
14. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL APPROVAL, CONTRACTOR SHALL THOROUGHLY CLEAN UP THE PROJECT SITE OF ALL TRASH. REPAIR ALL DAMAGE TO FINISH GRADING INCLUDING TAILINGS FROM EXCAVATIONS, WHEEL RUTS OR ANY SETTLING OR EROSION OCCURRING PRIOR TO COMPLETION. ALL AREAS OF THE PROJECT SITE SHALL BE LEFT IN A NEAT AND PRESENTABLE CONDITION SATISFACTORY TO THE OWNER PRIOR TO SUBMITTAL OF THE FINAL PAYMENT.

LANDSCAPE PLAN NOTES:

1. THE CONVENTIONAL AND DRIP OR LEAKY-PIPE SYSTEM SYSTEM FOR IRRIGATION HAS BEEN SELECTED FOR THIS DEVELOPMENT. WATER WELL FED SYSTEM. NON-POTABLE WATER SOURCE. (CHOOSE ONE FROM BELOW)
   • CONVENTIONAL SYSTEM: AN AUTOMATIC OR MANUAL UNDERGROUND IRRIGATION SYSTEM, WHICH MAY HAVE CONVENTIONAL SPRAY OR BUBBLER TYPE HEADS.
   • DRIP OR LEAKY-PIPE SYSTEM: AN AUTOMATIC OR MANUAL UNDERGROUND IRRIGATION SYSTEM IN CONJUNCTION WITH A WATER-SAVING SYSTEM, WHICH IS A DRIP OR A LEAKY PIPE SYSTEM.
   • TEMPORARY AND ABOVE-GROUND WATERING: LANDSCAPE AREAS UTILIZING XERISCAPING PLANTS AND INSTALLATION TECHNIQUES, INCLUDING AREAS PLANTED WITH NATIVE GRASSES, WILDFLOWERS, AND TREES MAY USE A TEMPORARY AND ABOVE GROUND SYSTEM, AND SHALL BE REQUIRED TO PROVIDE IRRIGATION FOR THE FIRST THREE (3) GROWING SEASONS.
2. A SEPARATE IRRIGATION PLAN SHALL BE PROVIDED AT THE TIME OF APPLICATION FOR A BUILDING PERMIT.
3. MAINTENANCE: THE CURRENT OWNER AND SUBSEQUENT OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPED AREAS AND MATERIALS, REQUIRED BUFFER YARD AREAS AND MATERIALS AND REQUIRED SCREENING MATERIALS. SAID AREAS MUST BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE AT

   ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. MAINTENANCE WILL INCLUDE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE UDC. ALL SUCH PLANTS SHALL BE REPLACED WITHIN SIX (6) MONTHS OF NOTIFICATION, OR BY THE NEXT PLANTING SEASON, WHICHEVER COMES FIRST. A PROPERTY/ HOMEOWNERS ASSOCIATION MAY ASSUME RESPONSIBILITY FOR MAINTENANCE OF COMMON AREAS.
4. THIS LANDSCAPE PLAN HAS BEEN PREPARED AND CERTIFIED BY A LANDSCAPE ARCHITECT TO MEET ALL REQUIREMENTS OF THE CITY OF GEORGETOWN UNIFIED DEVELOPMENT CODE. (PROVIDE INDIVIDUALS CONTACT INFORMATION AND CERTIFICATION ON LANDSCAPE PLAN.)
5. ALL PLANT SELECTIONS HAVE BEEN CHOSEN FROM THE CITY OF GEORGETOWN PREFERRED PLANT LIST.
6. NO MORE THAN 25% OF PLANTINGS HAVE BEEN SELECTED FROM ANY ONE SPECIES. (IF PLANTING MORE THAN 5 TREES OR 10 SHRUBS)
7. AT LEAST 50% OF THE REQUIRED PLANT MATERIALS ARE LOW WATER USERS AS IDENTIFIED ON THE PREFERRED PLANT LIST.

I,

SUBMITTED BY:

RONALD STAFFORD , HEREBY CERTIFY THAT THIS LANDSCAPE PLAN COMPLIES WITH THE REQUIREMENTS OF CHAPTER 8 OF THE UNIFIED DEVELOPMENT CODE.

REGISTERED LANDSCAPE ARCHITECT — RONALD STAFFORD — STATE OF TEXAS

LANDSCAPE ARCHITECT'S NAME AND SEAL

MAY 19, 2023
DATE

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

Project:

Revision / Date

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512.887.5311

STEGER BIZZELL JOB # 22751-ADD

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LANDSCAPE REFERENCE PLAN, SCHEDULES, NOTES, AND DETAILS

Job No.
Drawn By: TWR
Date: 04-17-23
Sheet No. LS-00 OF 01 SHEETS

2021-18-SDP

NORTH

0 10 20 30 40

HORIZONTAL SCALE IN FEET

REMAINDER OF
CALLED 92.604 AC
AUSTIN LAND INVESTMENTS LLC
DOC NO. 2015007981, OPR

EXISTING BUILDING

PROPOSED BUILDING

WESTINGHOUSE ROAD

STREETYARD

WASTEWATER

SEWER FM

OVERHEAD ELECTRIC

STORM DRAIN

(36,000 sf) BERMUDA HYDROSEED

(13,600 sf) BERMUDA HYDROSEED

SHREDDED HARDWOOD MULCH

NOTE: ROUGH LOCATION OF EXISTING SEPTIC FIELD. LOCATE AND ADJUST PARKING LOT PLANTING AS TO MEET ALL SCREENING REQUIREMENTS.

NOTE: DRY UTILITIES INSTALLED WITHIN DESIGNATED BUFFERYARD. LOCATE AND ADJUST AS TO MEET ALL BUFFERYARD PLANTING REQUIREMENTS.

15' BUFFERYARD

EXISTING TREE TO REMAIN (TYPICAL)

CALLED 0.92 AC
WESTINGHOUSE 113, LLC
DOC NO. 2017090172, OPR

TREE LEGEND

MT - MITIGATION TREE
SY - STREET YARD TREE
CT - CREDIT TREE
BY - BUFFER YARD TREE
PL - PARKING LOT TREE

Texas 811

CAUTION!!!
EXISTING UNDERGROUND UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURRED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES ON THE PLANS.

Revision / Date

Project:

M3 GLASS TECHNOLOGIES
878 WESTINGHOUSE ROAD
GEORGETOWN, TEXAS 78628

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LANDSCAPE SITE PLAN

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