Site Development Data

Unity Rec Center Contact Person: Amir Maknojia 1410 Whitestone Blvd. Cedar Park, Texas 78613

Phone: (512) 577-9314 Email: amir\_mak1@yahoo.com

Engineer: Bleyl Engineering

Contact Person: Steve Ihnen, PE 7701 San Felipe Blvd., Suite 200 Austin, Texas 78729 Phone: (512) 454-2400

Email: sihnen@bleylengineering.com

Surveyor 4Ward Land Surveying

> Contact Person: John Brautigam, RPLS 4120 Freidrich Lane, Suite 200 Austin, Texas 78744 Phone: (737) 249-0467

Email: jbrautigam@4wardls.com

Legal Description:

Owner:

Caspita / Hopper Sub, Lot 2, Acres 3

PO - Professional Office Limits of Construction:

This project is located within the South Brushy Creek Watershed. All storm flows from this site will be directed to the South Brushy Creek Watershed. No portion of this tract is within the boundaries of the 100 year flood plain of any waterway that is within the limits of study of the Federal Flood Insurance Administration FIRM panel #48491C0605F, dated December 20, 2019 for Williamson County

All detention basins, water quality ponds and appurtenances which receive stormwater runoff from commercial or multi-family development shall be maintained by the record owner in accordance with the maintenance standards in the Drainage and Environmental Criteria Manual.

PROJECT

**LOCATION** 

Edwards Aquifer Note This project is located within the Edwards Aquifer Recharge Zone.

Contractor is responsible for filing all necessary forms with the Environmental Protection Agency for all projects involving 5 acres or more of disturbed area or part of a larger development which will eventually disturb 5 acres or more. Note The contractor and the owner both must file a Notice of Intent.

All temporary spoils and equipment storage areas shall have silt fence placed along the perimeter of the downslope side. Additional erosion/sedimentation controls may be required at the direction of the City's Environmental and Conservation Services Department Officer/Inspector. The contractor shall work closely with all City Personnel to insure adequacy of placement and maintenance of all erosion/sedimentation control devices. Only those construction entrances shown on the approved site plan shall be used for ingress and egress to and from site. In the event that additional entrance locations are required to facilitate placement of materials, the contractor shall construct a stabilized construction entrance in accordance with City of Austin Standard Details in order to comply with all provisions of the City's Land Development Code and Environmental Protection Ordinances.

Any project, as defined under Chapter 245 of the Texas Local Government Code, as amended shall expire on the Fifth anniversary of the date the first permit application was filed for the project, pursuant to Section 245.005 of the Texas Local Government Code, as amended (Sec. 14.03.009(b)).

Storm Sewer

City of Cedar Park

Engineering Department

Cedar Park, Texas 78613

450 Cypress Creek Road, Bldg. 1

These plans are in full compliance with the Landscape and Tree ordinance of the City of Cedar Park, Texas

Water & Wastewater City of Cedar Park Engineering Department 450 Cypress Creek Road, Bldg. 1 Cedar Park, Texas 78613

City of Cedar Park **Building Construction Department** 450 Cypress Creek Road, Bldg. 1 Cedar Park, Texas 78613 Phone: (512) 401-5100 Phone: (512) 401-5000 Email: permits@cedarparktexas.gov Phone: (512) 401-5000

Pedernales Electric Coop 1949 W. Whitestone Blvd. Cedar Park, Texas 78613 Phone: (512) 401-2602 Contact: Ben Woods

Center Point Energy 1005 Congress Ave Austin, Texas 78701 Phone: (512) 392-6673

WPAP: Edwards Aquifer Protection Program ID No. 11-15032602; Investigation No. 1241017; Regulated Entity No.

SCS: Edwards Aquifer Protection Program ID No. 11-15041403; Investigation No. 1241017; Regulated Entity No. RN108190398

TABS Registration #2022025592

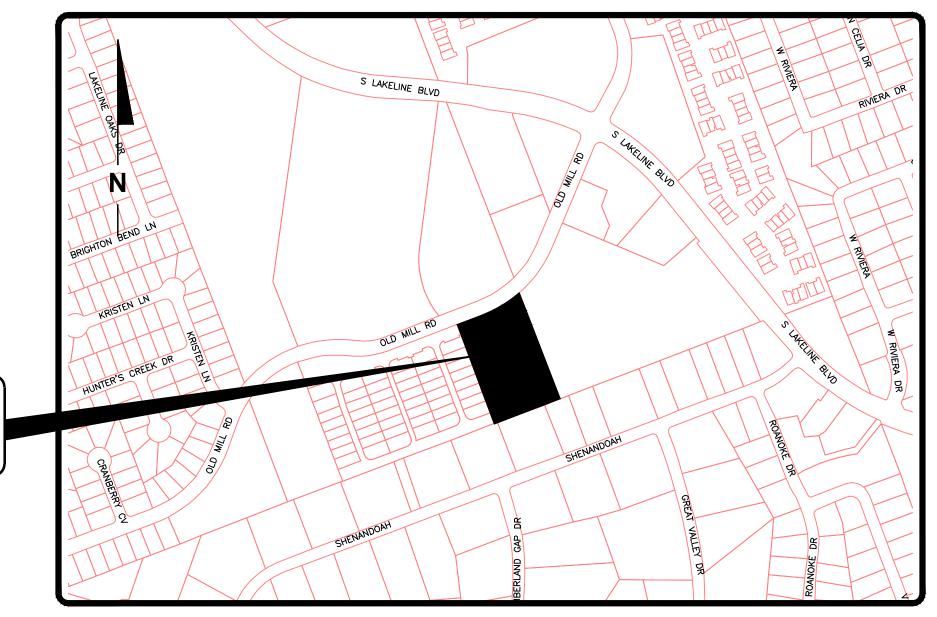
# Site Development Plans For Unity Rec Center

820 Old Mill Road Cedar Park, Texas 78613

2022-25-SD

**Submittal Date: October 2022** 

Project Description: This project consists of the construction of a Recreational Center for a total of 76,367 sq. ft. (GSF) on a 3.00 acre site with associated parking, drainage and utility improvements. The total impervious cover



**Project Location Map** 1" = 400'

City Service Address Note: During construction of any structure, the city service address must be posted on a sign in such a position as to be plainly visible and legible from the street indicated in the city service address.

# BLEYL ENGINEERING PLANNING • DESIGN • MANAGEMENT

7701 San Felipe Blvd., Ste. 200, Austin TX 78729 Texas Firm Registration No. F-678 Tel. 512-454-2400 www.bleylengineering.com

AUSTIN

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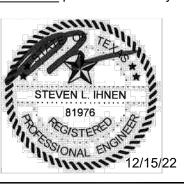
BRYAN

CONROE

Houston

the Texas Engineering Practice Act, including Section 131.152(e). I hereby acknowledge that any misrepresentation regarding this certification constitutes a violation of the Act, and may result in criminal, civil and/or administrative penalties against me, as authorized by the Act. The plan or plat is complete, accurate and in compliance with Chapter 25-8 Subchapter A of the Land Development Code.

I certify that these engineering documents are complete, accurate and adequate for the intended purposes. including construction, but are not authorized for construction prior to formal City approval.



Sheet List Table						
Sheet Number	Sheet Title					
1	Cover					
2	Subdivision Plat 1					
3	General Notes					
4	Fire Standard Notes					
5	TCEQ Notes					
6	Demolition Plan					
7	Existing Conditions					
8	Erosion & Sedimentation Plan					
9	Erosion Control Notes					
10	Erosion Control Details					
11	Dimensional Control					
12	Fire Protection Plan					
13	Grading Plan					
14	Storm Sewer Plan					
15	Existing Drainage Area Map					
16	Proposed Drainage Area Map					
17	Inlet Drainage Area Map & TCEQ Calculations					
18	Pond Plan					
19	Utility Tap Plan					
20	Construction Details					

21	Water Details
22	Wastewater Details
23	AS1.0 Site Plan
24	AS1.1 Site Details
25	AS1.2 Fence Types
26	A2.0 Exterior Elevations
27	MEP Site Plan
28	Electrical Site Plan
29	Site Lighting Calculation
30	L1.1 Landscape Plan 1
31	L1.2 Landscape Plan 2
32	L1.3 Landscape Details

Planning	Date
Engineering Services	Date
Industrial Pretreatment	Date
Fire Marshall	Date
Landscape Planner	Date
Addressing	Date
2022-25-SD	
Site Development Permit Number	Date
TCEQ, Edwards Aquifer Protection Program No.	Date

All responsibility for the adequacy of these plans remains with the Engineer who prepared them. In reviewing these plans, the City of Cedar Park must rely upon the adequacy of the work of the Design Engineer

Bleyl Engineering and its associates will not be held responsible for the accuracy of the survey or for design errors or omissions resulting from survey inaccuracies.

Release of this application does not constitute a verification of all data, information and calculations supplied by the applicant. The engineer of record is solely responsible for the completeness, accuracy and adequacy of his/her submittal, whether or not the application is reviewed for Code compliance by City engineers.

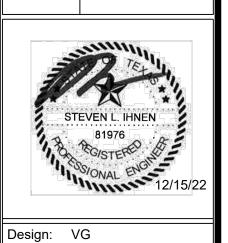
A civil engineer registered in Texas must certify a plan or plat as complete, accurate, and in compliance with Chapter 25-8 Subchapter A of the Land Development Code. The director may waive this requirement after making a determination that the plan or plat includes only minor alterations or improvement that do not require the services of an

# **Traffic Control Plan Note**

This note is being placed on the plan set in place of a temporary traffic control strategy with the full understanding that at a minimum of 6 weeks prior to the start of construction, a temporary traffic control plan must be reviewed and approved by the Right of Way Management Division. The owner/ representative further recognizes that a review fee, as prescribed by the most current version of the City's fee ordinance, shall be paid each time a plan or plan revision is submitted to Right of Way Management Division for review.

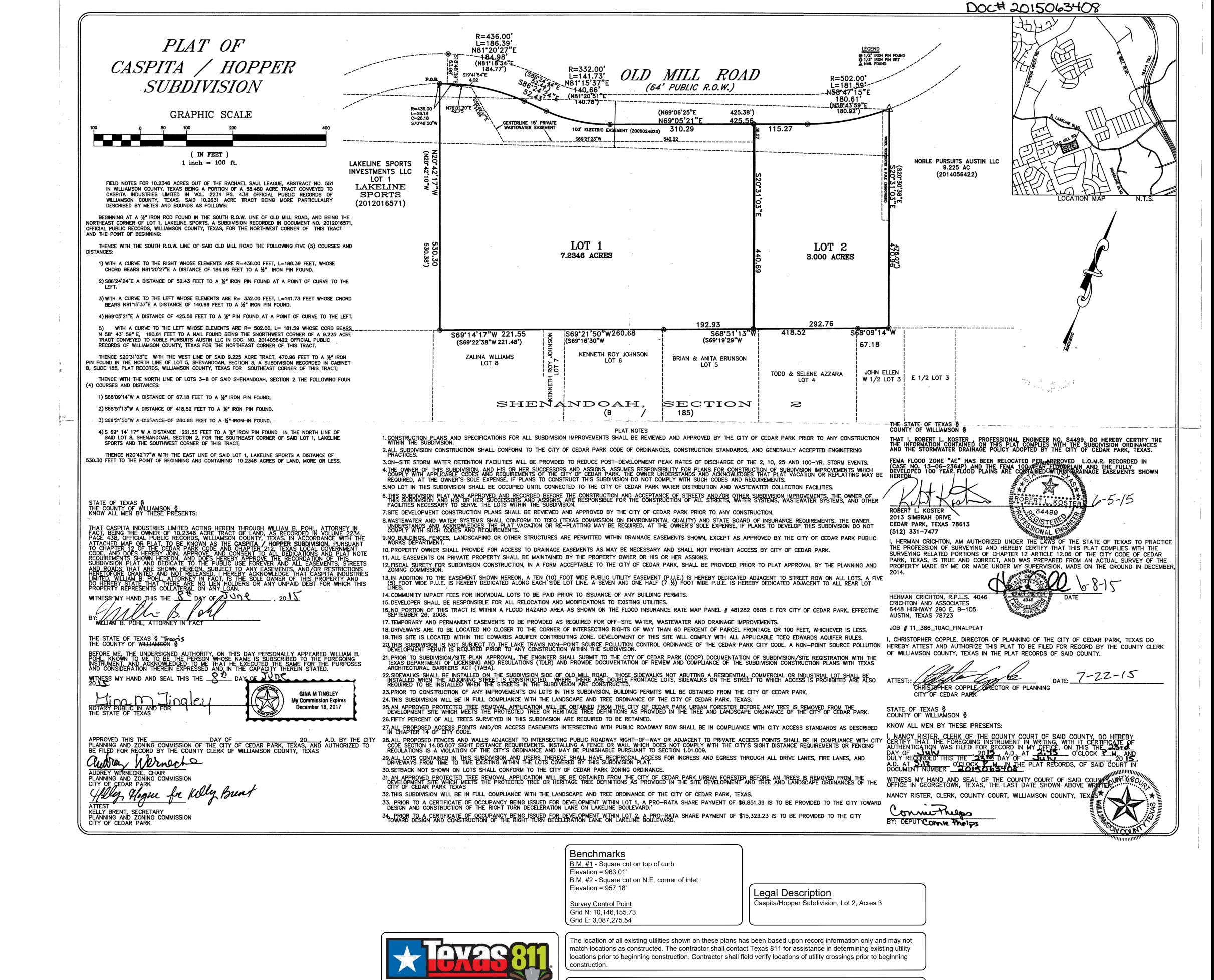
The following must be taken into consideration when developing future traffic control strategies:

- Pedestrian and bicycle traffic access must be maintained at all times, unless otherwise authorized by Right of
- No long-term lane closures will be authorized, unless Right of Way Management determines that adequate accommodations have been made to minimize traffic impact.
- Project should be phased so that utility installation minimally impacts existing or temporary pedestrian facilities.



CAD: AE Review: VG

AKM 70370



Call Before You Dig!!

Release of this application does not constitute a verification of all data, information and calculations supplied by the

applicant. The engineer of record is solely responsible for the completeness, accuracy and adequacy of his/her

submittal, whether or not the application is reviewed for Code compliance by City engineers.

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022-

Unity | 820 cedar Power Power

**Plat** 

GINEERIN

Design: VG

CAD: AE Review: VG

Project No: AKM 70370

Sheet: **2** of **32 2022-25-SD** 

#### **General Notes:**

- General Contractor shall call for all utility locates prior to any construction. Water & wastewater owned by the City of Cedar Park can be located by calling Texas 811 at 1-800-344-8377. Allow three business days for utility locates by
- All construction shall be in accordance with the latest City of Austin Standard Specifications. City of Austin standards shall be used unless otherwise noted.
- Design procedures shall be in general compliance with the City of Austin Drainage Criteria Manual. All variances to the manual are listed below: **NONE**
- Benchmarks should be tied to the City of Cedar Park benchmarks and be correctly "geo-referenced" to state plane coordinates. A list of the City's benchmarks can be found at: http://www.cedarparktexas.gov/index.aspx?page=793.

B.M. #01 - Square cut on top of curb. City of Cedar Park Elevation = 963.01' GPS Monument No. 47 B.M. #02 - Square cut on northeast corner of inlet. Grid N: 10,145,795.98 (M) Elevation = 957.18'

Grid E: 3,089,467.17 (M) Grid N: 10,146,118.58 Elevation = 945.60' (M) Grid E: 3,088,225.59 Survey Control Point Record Information

Grid N: 10,146,155.73 Grid N: 10, 145,795.93 (REC) Grid E: 3,087,275.54 Grid E: 3,089,467.22 (REC) Elevation = 945.62' (REC)

#### Tie From Cedar Park Monument #47 to BM #02.

(M) = Measured (REC) = Record Information

- Prior to issuance of a certificate of occupancy for a site development permit, the right of way between the property line and edge of pavement / back of curb shall be revegetated according to COA specification 602S and 606S. Prior to City acceptance of subdivision improvements all graded and disturbed areas shall be re-vegetated in accordance with the City of Austin Specification Item #604 native seeding unless non-native is specifically approved.
- The Contractor shall provide the City of Cedar Park copies of all test results prior to acceptance of subdivision
- City, owner, engineer, contractor, representatives of all utility companies, and a representative from the testing lab shall attend pre-construction conference prior to start of construction. The contractor shall schedule the meeting with the City of Cedar Park Engineering Department a minimum of 48 hours prior to this pre-construction meeting (512-401-5000). Final construction plans shall be delivered to Engineering a minimum of seven business days prior to requesting a pre-construction meeting.
- Excess soil shall be removed at the contractor's expense. Notify the City of Cedar Park if the disposal site is inside the City's jurisdictional boundaries.
- Burning is prohibited.
- 10. Any changes or revisions to these plans must first be submitted to the City by the design engineer for review and written approval prior to construction of the revision. All changes and revisions made to the design of utilities or impacts utilities shall use revision clouds to highlight all revisions or changes with each submittal. Revision triangles shall be used to mark revisions. All clouds and triangle markers from previous revisions may be removed. Revision information shall be updated in the appropriate areas of the Title Block.
- . Minimum setback requirements for existing and newly planted trees from the edge of pavement to conform to the requirements as shown in Table 6-1 of the City of Austin's Transportation Criteria Manual.
- 12. The Contractor will reimburse the City for all cost incurred as a result of any damage to any City utility or any infrastructure within the Right-of-Way by the Contractor, regardless of these plans.
- 13. An engineer's concurrence letter and electronic 22"x34" record drawings shall be submitted to the Engineering Department prior to the issuance of certificate of occupancy or subdivision acceptance. The Engineer and Contractor shall verify that all final revisions and changes have been made to record drawings prior to City submittal. Record construction drawings, including roadway and all utilities, shall be provided to the City in AutoCad ". dwg" files and ".PDF" format on a CD or DVD. Line weights, line types and text size shall be such that if half-size prints (11"x 17") were produced, the plans would still be legible. All required digital files shall contain a minimum of two (2) control points referenced to the State Plane Grid Coordinate System - Texas Central Zone (4203), in US feet and shall include rotation information and scale factor required to reduce surface coordinates to grid coordinates in US feet.
- 14. The City of Cedar Park has not reviewed these plans for compliance with the Americans With Disabilities Act. It is the responsibility of the owner to provide compliance with all legislation related to accessibility within the limits of construction shown in these plans.
- 15. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS. THE CITY OF CEDAR PARK MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- 16. No blasting is allowed on this project.
- 17. A traffic control plan, in accordance with the Texas Manual on Uniform Traffic Control Devices, shall be submitted to the City for review and approval prior to any partial or complete roadway closures. Traffic control plans shall be site specific and seal by a registered professional engineer.
- 18. The contractor shall keep the site clean and maintained at all times, to the satisfaction of the City. The subdivision will not be accepted (or Certificate of Occupancy issued) until the site has been cleaned to the satisfaction of the
- Signs are not permitted in Public Utility Easements, Set Backs or Drainage Easements.
- 20. It shall be the responsibility of the Contractor to inspect temporary erosion controls on a daily basis. Adjust the controls and/or remove any sediment buildup as necessary. A stop work order and/or fine may be imposed if the
- A final certificate of occupancy will not be issued on commercial sites until all disturbed areas have been re-vegetated. Substantial grass cover, as determined by Engineering Department, must be achieved prior to the issuance of a final certificate of occupancy. All erosion controls must remain in place and maintained until all disturbed areas have been re-vegetated to the acceptance of the City of Cedar Park Engineering Department. Prior to issuance of a certificate of occupancy for a site development permit, the right of way between the property line and edge of pavement / back of curb shall be revegetated according to COA specification 602S and 606S.
- Contractor will be responsible for keeping roads and drives adjacent to and near the site free from soil, sediment and debris. Contractor will not remove soil, sediment or debris from any area or vehicle by means of water, only shoveling and sweeping will be allowed. Contractor will be responsible for dust control from the site. Failure to comply with this 3. requirement may result in a stop work order or a fine.
- . All wet utilities shall be installed and all densities must have passed inspection(s) prior to the installation of dry
- 24. A minimum of seven days of cure time is required for HMAC prior to the introduction of vehicular traffic to any streets. 25. Prior to plan approval, the Engineer shall submit to the Engineering Department documentation of subdivision/site registration with the Texas Department of Licensing and Regulations (TDLR) and provide documentation of review
- and compliance of the subdivision/site construction plans with Texas Architectural Barriers Act (TABA). 26. Prior to subdivision/site acceptance, the engineer/developer-owner shall submit to the Engineering Department documentation that the subdivision/site was inspected by TDLR or a registered accessibility specialist (RAS) and the subdivision/site is in compliance with the requirements of the TABA.
- All construction and construction related activities shall be performed Monday thru Friday from 7:00 A.M. to 6:00 P.M. However, construction activities within one hundred feet (100') of a dwelling or dwelling unit shall be performed between the hours of 8:00 a.m. and 6:00 p.m. Otherwise all construction and construction related activities shall conform to City of Cedar Park Code of Ordinances, specifically ARTICLE 8.08.
- Approval for construction activities performed on Owner's Holidays and/or Saturdays, outside of Monday through Friday 8 am to 5 pm, or in excess of 8 hours per day shall be obtained in writing 48 hours in advance, and inspection 9. fees at 1.5 times the hourly inspection rate shall be billed directly to the contractor. There shall be no construction or construction related activities performed on Sunday. The City reserves the right to require the contractor to uncover all work performed without City inspection.
- 29. All poles to be approved by City and PEC, no conduit shall be installed down lot lines / between homes. All conduit shall be located in the public ROW or in an easement adjacent to and parallel to the public ROW.
- 30. Dry utilities shall be installed after subgrade is cut and before first course base. No trenching of compacted base. It necessary dry utilities installed after first course base shall be bored across the full width of the ROW.
- No ponding of water shall be allowed to collect on or near the intersection of private driveway(s) and a public street. Reconstruction of the driveway approach shall be at the Contractor's expense.
- 32. All driveway approaches shall have a uniform two percent slope within the ROW unless approved in writing by the
- 33. Contractors on site shall have an approved set of plans at all times. Failure to have an approved set may result in a . Contractor to clear five feet beyond all right of way to prevent future vegetative growth into the sidewalk areas.
- 35. There shall be no water or wastewater appurtenances, including but not limited to, valves, fittings, meters, clean-outs, manholes, or vaults in any driveway, sidewalk, traffic or pedestrian area.
  - Sidewalks shall not use curb inlets as a partial walking surface. Sidewalks shall not use traffic control boxes, meter,

or check valve vaults, communication vaults, or other buried or partially buried infrastructure as a vehicular or pedestrian surface.

- No trenching of compacted base will be allowed. A penalty and/or fine may be imposed to the general contractor if trenching of compacted base occurs without City approval, regardless of who performed the trenching. 2. All sidewalks shall comply with the Americans With Disabilities Act. The City of Cedar Park has NOT reviewed these 21. All wastewater manholes to be coated with organic materials and procedures listed in City of Austin Qualified plans for compliance with the Americans With Disabilities Act, or any other accessibility legislation, and does not warranty or approve these plans for any accessibility standards.
- 3. Street barricades shall be installed on all dead end streets and as necessary during construction to maintain job
- 4. Any damage caused to existing pavement, curbs, sidewalks, ramps, etc., shall be repaired by the contractor to the
- satisfaction of the City prior to acceptance of the subdivision. 5. At intersections, which have valley drainage, the crown to the intersecting street will be culminated at a distance of 40 ft. from the intersecting curb line unless otherwise noted.
- 6. The subgrade material was tested by (Name, Address & Phone Numbers) on Date the pavement sections were designed accordingly. The pavement sections are to be constructed as follows:

	Minimum Thickness (inches)
Light Traffic	
Portland Cement Concrete	5
Minimum Lime Stabilized Subgrade	6
Compacted Subgrade Soils	6
Heavy Traffic	
Portland Cement Concrete	6
Minimum Lime Stabilized Subgrade	6
Compacted Subgrade Soils	6

# \*\* Refer to geotechnical report prepared by GeoScience Engineers, LLC. for additional instruction.

500 foot intervals.

7. Density testing of compacted subgrade material, first course and second course compacted base, shall be made at

- 8. All density testing is the responsibility of the owner or contractor and shall be witnessed by the City of Cedar Park's project representative. The contractor is to notify the City 48 hours prior to scheduled density testing.
- Traffic control signs and pavement markings shall be in accordance with the Texas Manual on Uniform Traffic
- Control Devices and installed as directed by the City of Cedar Park prior to City acceptance of the Subdivision. 10. Slope of natural ground adjacent to the right-of-way shall not exceed 3:1. If a 3:1 slope is not possible, a retaining
- wall or some other form of slope protection approved by the City shall be placed in a location acceptable to the City. 11. The City, engineer, contractor, and a representative from the asphalt testing lab shall attend a pre-paving conference
- prior to the start of HMAC paving. The contractor shall give the City a minimum of 48 hours notice prior to this meeting (512-401-5000). 12. The Contractor or owner is responsible for conducting tests on asphalt pavement in accordance with the requirements set forth in the City of Austin Standard Specification No. 340. Any re-testing of the asphalt pavement shall be conducted under the supervision of the engineer and the City of Cedar Park. Re-testing of the asphalt
- pavement shall be limited to one retest per project. 13. All pavement markings and signage shall comply with MUTCD standards. Street name letter sizing shall be in accordance with MUTCDTable2D-2.Pavement markings shall be thermoplastic unless otherwise noted.
- 15. No Fencing or Wall is allowed to be constructed so that it obstructs the sight lines of drivers from an intersecting public roadway or from an intersecting private driveway. Sight lines are to be maintained as described in City Code Section 14.05.007. Installing a fence or wall which does not comply with the City's Sight Distance Requirements or Fencing Regulations is a violation of the City's Ordinance and may be punishable pursuant to Section 1.01.009 of City Code.
- 16. Temporary rock crushing operations are not allowed. All sources for flexible base material are required to be approved by the City. Prior to base placement all current triaxial test reports for the proposed stockpiles are to be submitted to the City's project representative for review and approval.
- 17. Utility service boxes or other utility facilities shall not be installed within areas determined to be required sight lines of two intersecting public streets or within sight lines of a private driveway. Sight lines are to be maintained compliant with Table 1-1 of the Austin Transportation Criteria Manual. Utilities determined by the Director of Engineering to be placed within required sight lines may be required to be relocated at the expense of the contractor prior to the City issuing a Certificate of Occupancy or prior to the City's Acceptance of the Project Im
- 18. All lane closures shall occur only between the hours of 9 AM and 4 PM. Any night time lane closures require approval by the Director of Engineering and shall occur between the hours of 8 PM and 6 AM. Lane closures observed by City during the peak hours of 6 AM to 9 AM, or 4 PM to 8 PM will be subject to fine per Chapter 1 of City Ordinance, and/or subsequent issuance of Work Stoppage.
- 19. Improvements that include reconstruction of an existing Type II driveway shall be done in a manner which retains operations of not less than half of the driveway at all times. Full closure of such driveway can be considered with written authorization retained by the Contractor from the property owner(s) or access easement right holder(s) of the 18. City to be given 48 hours notice prior to all testing of water and wastewater lines. City inspection is required for all driveway allowing full closure of the driveway.
- 20. Trees must not overhang within 10' vertically of a sidewalk, or 18' vertically of a roadway or driveway. **Wastewater Notes:**
- Refer to the City of Cedar Park Public Works Utility Policy and Specifications manual.
- Manhole frames and covers and water valve boxes shall be raised to finished pavement grade at the owner's expense by the contractor with the City approval. All utility adjustments shall be completed prior to final paving
- The location of any existing utility lines shown on these plans may not be accurate. Any damage to existing utility lines, both known and unknown, shall be repaired at the expense of the contractor. The contractor shall locate all utilities prior to bidding the project.
- 4. All iron pipe and fittings shall be wrapped with at least 8 mil. Polyethylene wrap.
- 5. All water mains, wastewater mains and service lines shall meet City of Austin minimum cover specifications. All streets are to be cut to subgrade prior to installation of water mains or cuts will be issued by the engineer.
- Where 48-inches of cover below subgrade cannot be achieved for wastewater service lines alternate materials may be used. A minimum of 36-inches of cover below subgrade shall be achieved. Any wastewater service line with cover between 36-inch and 48-inches shall be SDR-26 PVC pressure pipe.
- Gasketed PVC sewer main fittings shall be used to connect SDR-35 PVC to SDR-26 PVC pressure pipe or C-900.
- 8. Pipe materials to be used for construction of utility lines:

14. All street name signs shall be high intensity retro grade.

Wastewater- NA Force Main- NA

# (Note: If using PVC, SDR-26 is required, SDR-35 WW is not allowed.

- Forcemains shall be epoxy lined ductile iron)
- All sanitary sewers, excluding service lines, shall be mandrel tested per TCEQ (Texas Commission on Environmental Quality) criteria. A mandrel test will not be performed until backfill has been in place for a minimum of 30 days.
- 10. All wastewater lines 10" and larger shall be video recorded according to COA 510 at the Contractor's expense. The contractor shall supply two copies to the City's Field Representative. No separate pay unless noted on the bid form.
- 11. All sanitary sewers, including service lines, shall be air tested per City of Austin Standard Specifications. 12. Density testing of compacted backfill shall be made at a rate of one test per two foot lifts per 500 feet of installed
- 13. City shall be given 48 hours notice prior to all testing of water and wastewater lines. City inspection is required for all testing of water and wastewater lines.
- 14. Where a water or wastewater line crosses above (or below) a storm sewer structure and the bottom (or top) of the pipe is within 18 inches of the top (or bottom) of the utility structure, the pipe shall be encased with concrete for a distance of at least 1 ft. on either side of the ditch line of the utility structure or the storm sewer. Concrete encasement will not be required for ductile iron (thickness Class 50), AWWA C-900 (SDR-18) 150 psi rated PVC in sizes to 12 inches or AWWA C-905 (SDR-25) 165 psi rated PVC in sizes larger than 12 inches. Concrete encasement shall conform to C.O.A. standard detail 505-1.
- 15. The allowable (maximum) adjustment for a manhole shall be 12" (inches) or less.
- 16. Where a sewer line crosses a water line, the sewer line shall be one 20 ft. joint of 150 psi rated PVC centered on

- 17. All manhole and inlet covers shall read "City of Cedar Park".
- 18. Contractor to notify, and obtain approval from, the City of Cedar Park 48 hours prior to connecting to existing City
- 19. All pipe bedding material shall conform to City of Austin Standard Specifications.
- 20. Unless otherwise specified by the Engineer all concrete is to be Class "A" (5 sack, 3000 psi ~ 28-days), and all reinforcing steel to be ASTM A615 60.
- Products List No. WW-511 (WW-511A and WW-511B are not allowed unless manhole is being structurally rehabilitated with approval by Public Works). All manholes will be pre-coated or coated AFTER testing.
- 22. Polybrid Coatings on wastewater manholes will not be allowed. Any other product appearing on the COA SPL WW-511 is acceptable
- 23. All penetrations of existing wastewater manholes are required to be re-coated in accordance with the specifications listed in Note 20.
- All manholes will be vacuum tested only.
- 25. Tracer tape AND marking tape shall be installed on all water and wastewater mains in accordance with City of Austin additional details appropriate for the particular development. Standards, regardless of the type of pipe.
- 26. All pressure pipe shall have mechanical restraint and concrete thrust blocking at all valves, bends, tees, plugs, and other fittings.

#### Water Notes: 1. Refer to the City of Cedar Park Public Works Utility Policy and Specifications manual.

- 2. The top of valve stems shall be at least 18", and no more than 36", below finished grade. Valve stem risers shall be
- welded on each end to the City's satisfaction.
- 3. Fire hydrant leads to be ductile iron, Class 350, and installed per City of Austin standard specifications and detail. 4. Prior to installation of fire hydrants, the engineer will provide the Contractor one (1) cut from a hub pin, establishing
- 5. The engineer shall provide cuts for all water lines at all storm sewer crossings to the City of Cedar Park.
- 6. Pipe materials to be used for construction of utility lines:
  - Water NA
  - Copper pipe and fittings are not permitted within the Right-of-Way.
- Minumum DR-14 12" dia and smaller. Minumum Class 250 DI larger than 12" dia.
- Approved 5 ¼" fire hydrants:
  - American Flow Control, B84B
  - Mueller Company, Super Centurion 250
  - Clow Medallion Hydrant
  - American AVK Company, Series 27 (Model 2780)
- All fire hydrants must meet City of Cedar Park thread specifications (National Thread) Blue reflector markers shall be located on the centerline of the pavement across from all fire hydrants.
- Pavement markers at intersections shall be four-sided Should a Tapping Saddles be approved by Public Works, the saddle shall be Smith-Blair 662 Stainless Steel Tapping Sleeves with all stainless hardware, or approved equal. Requests for alternate providers shall be made to
- the City of Cedar Park Public Works. No tap excessing 2" in diameter will be approved 9. All water lines, including service lines, shall be pressure and leak tested per City of Austin Standard Specifications and witnessed by the City of Cedar Park representative. All testing is to be the responsibility of the contractor, and the contractor may be required to re-test lines if the testing is not witnessed by the City. Contractor must notify the
- City of Cedar Park 48 hours prior to any testing. 10. All water lines shall be sterilized and bacteriologically tested in accordance with City of Austin Standards. The contractor is responsible for sterilization and the City of Cedar Park is responsible for submitting bacteriological samples to the State. Public Works will require a contractor specialized in disinfection for large diameter lines or critical infrastructure, subsidiary to pipe installation.
- 11. Density testing of compacted backfill shall be made at a rate of one test per two foot lifts per 500 feet of installed 12. Contractor to obtain a water meter from the City of Cedar Park for any water that may be required during
- construction. (512-401-5000)
- 13. ALL WATER METER BOXES SHALL BE FORD GULF METER BOX WITH LOCKING LID.
  - SINGLE G-148-233
  - DUAL DG-148-243
  - 1" METER YL111 444

testing of water and wastewater lines.

- 1 ½" 2" METER 1730-R (LID) & 1730-12 (BOX)/ACCEPTABLE BOXES FOR THIS SIZE OF METER Manhole frames and covers and water valve boxes shall be raised to finished pavement grade, when in public streets, at the owner's expense by the contractor with City inspection. All utility adjustments shall be completed prior to final paving construction.
- 15. The location of any existing utility lines shown on these plans is the best available and may not be accurate. Any damage to existing utility lines, both known and unknown, shall be repaired at the expense of the contractor.
- 16. All iron pipe and fittings shall be wrapped with at least 8 mil. Polyethylene wrap. 17. All water mains, wastewater mains and service lines shall meet City of Austin Specifications for minimum cover requirements. All streets are to be cut to subgrade prior to installation of water mains or cuts will be issued by the
- 19. Where a water or wastewater line crosses above (or below) a storm sewer structure and the bottom (or top) of the pipe is within 18 inches of the top (or bottom) of the utility structure, the pipe shall be encased with concrete for a distance of at least 1 ft. on either side of the ditch line of the utility structure or the storm sewer. Concrete encasement will not be required for ductile iron (thickness Class 50), AWWA C-900 (SDR-18) 150 psi rated PVC in sizes to 12 inches or AWWA C-905 (SDR-25) 165 psi rated PVC in sizes larger than 12 inches. Concrete encasement shall conform to C.O.A. standard detail 505-1.
- 20. Contractor to notify the City of Cedar Park 48 hours prior to connecting to existing utilities.
- 21. All pipe bedding material shall conform to City of Austin Standard Specifications.
- 22. Tracer tape shall be installed on all water and wastewater mains regardless of the type of pipe of depth of pipe
- 23. Unless otherwise specified by the Engineer all concrete is to be Class "A" (5 sack, 3000 psi ~ 28-days), and all reinforcing steel to be ASTM A615 60. 24. The City considers protection of its water system paramount to construction activities. City personnel will operate, or authorize the contractor to operate, all water valves that will pass through the City's potable water. The contractor may not operate any water valve, existing or proposed, that will allow water from the City's water system to flow to a

proposed or existing water system without the express consent of the City. Notify the City two business days in

advance of any request to operate a water valve. The general contractor may be fined \$500 or more, including

- additional theft of water fines, if a water valve is operated in an unauthorized manner, regardless of who operated the 25. All water valves over 24" in size shall have a by-pass line and valve installed. By-pass valves and lines are
- subsidiary to the cost of the valve unless speciafically identified on the bid form.
- 26. All water valves, including those over 12" in size, shall be gate valves. 27. A double check backflow device in a vault shall be installed at the property line on all private fire lines. A detector water meter will be installed on this backflow device, and it must be a Sensus SRII $\frac{3}{4}$ " meter with AMI radio read capability. The city will provide this meter. Please reference the City of Cedar Park Double Check Backflow Prevention Assembly Detail.
- 28. All potable water system components installed after January 4, 2014, shall be "lead free" according to the United States Safe Drinking Water Act. The only components exempt from this requirement are fire hydrants. Components that are not clearly identified by the manufacturer as meeting this requirement by marking, or on the product packaging, or by pre-approved submittal, will be rejected for use. A NSF certification will be adequate if the certification has not expired as of January 4, 2014 and remains unexpired at the time of construction.
- 29. All pressure pipe shall have mechanical restraint and concrete thrust blocking at all valves, bends, tees, plugs, and other fittings.

# **Storm Sewer Notes:**

1. Manhole frames and covers and water valve boxes shall be raised to finished pavement grade at the owner's expense by the contractor with City inspection. All utility adjustments shall be completed prior to final paving construction. Contractor shall backfill around manholes and junction boxes with Class A concrete.

2. All manhole lids shall be 32" or larger, unless expressly approved in writing by the Engineering Department.

3. The location of any existing utility lines shown on these plans is the best available and may not be accurate. Any damage to existing utility lines, both known and unknown, shall be repaired at the expense of the contractor

- 4. Pipe materials to be used for construction of utility lines: Unless otherwise specified by the Engineer, all storm sewer RCP shall be Class III. Corrugated Metal Pipe is not permitted.
- 5. All manhole and inlet covers shall read "City of Cedar Park"
- 6. Contractor to notify the City of Cedar Park 48 hours prior to connecting to existing utilities.
- 7. All pipe bedding material shall conform to City of Austin Standard Specifications.
- 8. Unless otherwise specified by the Engineer all concrete is to be Class "A" (5 sack, 3000 psi ~ 28-days), and all reinforcing steel to be ASTM A615 60.
- 9. Contractor to install and maintain geo-textile fabric barrier (inlet protection) around storm sewer leads
- and inlets to prevent silt and other material from entering the storm sewer collection system.
- 10. Install concrete safety end treatments to all culverts and ends of drainage pipe 11. All curb inlets shall have an Almetek 4" Disc "No Dumping Drains to Waterway" marker.
- **Sequence of Construction Notes**
- The following sequence of construction shall be used for all development. The applicant is encouraged to provide any
- 1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan or subdivision construction plan and in accordance with the Erosion Sedimentation Control Plan (ESC) and Stormwater Pollution Prevention Plan (SWPPP) that is required to be posted on the site. Install tree protection and initiate tree mitigation measures.
- 2. The General Contractor must contact the City Inspector at 512-401-5000, 72 hours prior to the scheduled date of the required on-site preconstruction meeting.
- The General Contractor will follow the Erosion Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion plan.
- 4. Rough grade the pond(s) at 100% proposed capacity. Either the permanent outlet structure or a temporary outlet must be constructed prior to development of embankment or excavation that leads to ponding conditions. The outlet system must consist of a sump pit outlet and an emergency spillway meeting the requirements of the City of Austin Drainage Criteria Manual, as required. The outlet system shall be protected from erosion and shall be maintained
- throughout the course of construction until installation of the permanent water quality pond(s). 5. Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the Erosion
- Sedimentation Control Plan (ESC) and Storm Water Pollution Prevention Plan (SWPPP) posted on the site. 6. Begin site clearing/construction (or demolition) activities.
- 7. Underground utilities will be installed, including fire hydrants.
- 8. Fire Department access will be installed where required by approved site plan.

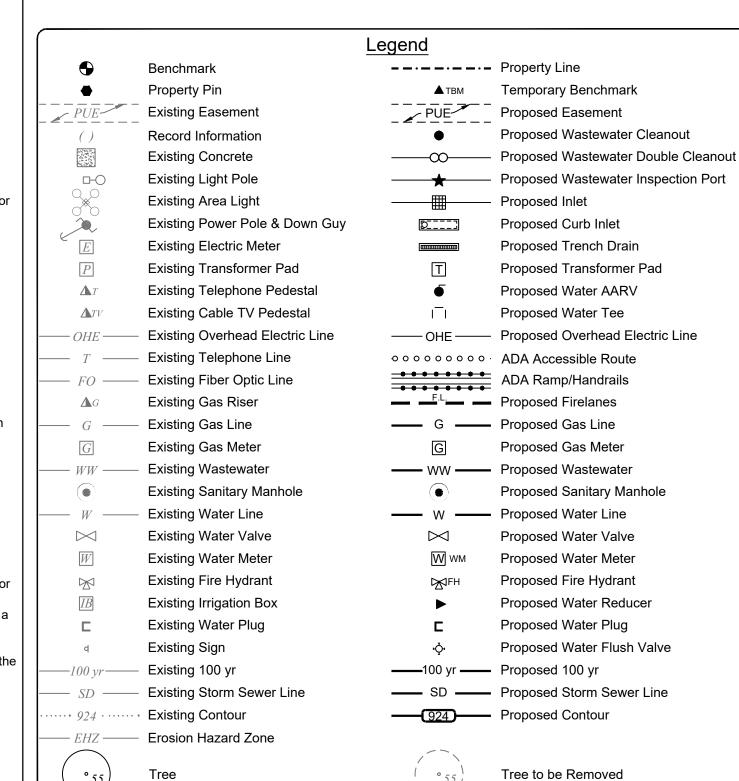
11. Complete construction and start revegetation of the site and installation of landscaping.

- 9. Vertical construction may occur after the Pre-vertical Inspection has been cleared by the Fire Marshal.
- 10. Permanent water quality ponds or controls will be cleaned out and filter media will be installed prior to/concurrently with revegetation of site.
- 12. Upon completion of the site construction and revegetation of a project site, the design engineer shall submit an
- engineer's letter of concurrence bearing the engineer's seal, signature, and date to the City indicating that construction, including revegetation, is complete and in substantial compliance with the approved plans. After receiving this letter, a final inspection will be scheduled by the City Inspector.
- 13. Upon completion of landscape installation of a project site, the Landscape Architect shall submit a letter of concurrence to the City indicating that the required landscaping is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the City Inspector.

removal of the controls. Conduct any maintenance and rehabilitation of the water quality ponds or controls.

14. After a final inspection has been conducted by the City Inspector and with approval from the City Inspector, remove

the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from



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Design: VG

CAD: AE Review: VG

Project No: AKM 70370

# City of Cedar Park Fire Prevention Document

# Standard Notes – Site Development

Revision: 3 | Effective Date: June 28, 2022

Pages: 3

Page 1 of 3

## 0.1 Purpose

- **A.** This document is intended to provide an applicant for a site development plan with the list of common notes that must be included on the Fire Protection sheet.
- **B.** Please list all of the following notes on the Fire Protection sheet contained within the site development plan. List in the order and format shown below.
- 1. Emergency Responder Radio Coverage (ERCC) is a critical component of all site development and building construction and must be contemplated early in the development process. ERCC is required for all new and existing buildings.
  - a. Testing for ERCC is the responsibility of the building owner or representative.
  - b. Testing must be in compliance with 2021 IFC Section 510.
  - c. Testing is required for:

Number: FP-2

- i. Buildings with any sub-grade floor, including parking.
- ii. Any building over 50,000 square feet.
- iii. Any building more than 3 stories above grade plane.
- iv. Any multi-story tilt wall building.
- v. Any building where loss of signal strength becomes evident.
- Exception: 1- and 2-family dwellings and townhomes.
   Testing must be completed after the building has the interior walls, exterior walls, elevator shafts, stair shafts, and roof completed, and remediation, if necessary, must be complete prior to issuance of a Certificate of Occupancy.
- e. Remediation must be in compliance with 2021 IFC Section 510.
  - i. Exception: Plans may state that testing and remediation will be in accordance with 2021 IFC Section 510, however a combination of the two codes will not be allowed. Testing and remediation must both be in accordance with the same standard.
- 2. Fire Apparatus Access Roads (Fire Lanes)
  - a. Must comply with 2021 International Fire Code (IFC) Chapter 5 and Appendices B through I, L and N, and City of Cedar Park Code of Ordinances Section 5.01 (fire code amendments).
  - b. Must be constructed of asphalt or concrete to support an imposed vehicle load of 90,000 pounds.
  - i. Grass pavers and other alternative materials are not allowed.
  - c. Must provide access to within 150 feet of all portions of the exterior of the building.
    - i. Access allowance is extended to 175 feet for a fully-sprinkled building.
  - d. Must have an unobstructed width of not less than 20 feet, except that at least 26 feet shall be required where hydrants are required along the fire lane or dead-end distances reach 500 feet or greater, or where required by other departments for mobility purposes.
  - e. Must have a minimum inside turning radius of 25 feet, and a minimum outside turning radius of 50 feet.
    - i. The minimum radii must be carried throughout the turning movement, from and to all required fire lanes. Example: a fire lane that turns 180-degrees must have a median depth of at least 50 feet.

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- f. Must not have a dead-end of more than 150 feet without an approved turn-around at the dead-end.
  - i. Drawings for approved turn-arounds may be found in the 2021 IFC, Appendix D as amended.
    - 1. Must be 26 feet wide if the dead end is 500 feet or longer.
    - **2.** Must have enlarged radii, per illustration.
    - **3.** 150-500-foot dead end requires 96-foot diameter cul-de-sac, 120-foot hammerhead, or the alternative to the hammerhead.
    - 4. 501-750-foot dead end requires 96-foot diameter cul-de-sac
    - 5. 751-1000-foot dead end requires 108-foot diameter cul-de-sac6. Dead-ends over 1000 feet not allowed.
- g. Shall not exceed a grade of more than 10% along any section of fire lane.
- h. Shall not exceed an algebraic difference of more than 8% along the angles of approach and departure, measured on a rolling 50-stretch of fire lane. This includes transitions across sidewalks and cross-connecting streets, drives, and fire lanes.
- i. Must be marked with red traffic paint or dye along both sides of the fire lane in an continuous stripe a minimum of 4 inches wide.
  - i. Stripe must use the curb face where available, and must continue along the pavement where no curb face is present.
  - ii. Must stencil FIRE LANE TOW AWAY ZONE in white letters a minimum of 3 inches high, no further than 35 feet between stencils. Place on curb face where available.
- 3. Fire Lanes During Construction
  - a. All fire lanes shown on the Fire Protection sheet must be in place prior to the onset of vertical construction, and prior to the delivery of any combustible materials to the site.
    - i. Compacted base may be used as fire apparatus access road during construction if approved by the Fire Prevention Division.
      - 1. Permission must be granted in writing.
      - 2. A compaction report shall be submitted by a third-party group prior to vertical construction and at any time throughout the construction process when deemed necessary by the Fire Prevention Division. Report must show 100% of optimal density throughout the fire lane, measured every 50 feet.
      - 3. Failure to maintain compacted base may result in a halt in construction until access is restored according to these standards.
      - 4. Even with compacted base, ALL CONCRETE DRIVEWAY APPROACHES MUST BE INSTALLED.
      - 5. Temporary fire lanes must still be identified as fire lanes method to be approved by the Fire Prevention Division.

Page 2 of 3

- b. Fire lanes must be maintained throughout the construction process, and must be kept clear at all time. Blocking the fire lane with construction equipment or materials is not permitted.
- 4. Fire Protection During Construction

Battalion Chief Matt Simpson

City of Cedar Park Fire Department

- a. In addition to the fire lane, all fire hydrants need to be installed, tested, and functional prior to the onset of vertical construction, and prior to the delivery of combustible materials.
- b. No burning of materials on site allowed.

c. No smoking allowed inside any building under construction, nor within 10 feet of combustible construction. Site supervisor shall designate smoking areas away from the building under construction.

d. Site and building shall be kept free of debris and waste materials.

- e. Standpipe for fire protection, if required, shall be installed before a building under construction reaches 40 feet in height, and shall be extended per floor up to one floor below the highest progressed floor.
- Buildings shall not be occupied, nor shall any combustible items not related to the construction process be brought into the building prior to acceptance of all required fire protection systems.
- g. All construction vehicles and those driven by the contractors and their sub-
- contractors shall be maintained on the lot that is under construction.

  h. Buildings under construction shall have portable fire extinguishers:
  - i. At each stairway on all floor levels.
  - ii. In every storage and construction shed.
- iii. Anywhere a special hazard exists, such as flammable liquid storage or use.
- 5. Fire Hydrants
  - a. Fire hydrants shall be installed in accordance with 2021 IFC Chapter 5 and Appendices B and C, including all footnotes in Table C102.1.
  - b. Any hydrant used to serve the fire flow for a building must be within 400 feet of the building, and must be positioned along a fire lane.
  - c. Hydrants shall be installed at least 3 feet from back of curb on the fire lane, but not more than 6 feet
  - d. Hydrants shall be installed such that the center of the 5" cap measures at least 18 inches from finished grade, but not more than 24 inches.
  - e. Hydrants are required within 100 feet of a fire department connection or standpipe system, measured as the hose would lay along the fire lane. This hydrant shall not substitute for the hydrant(s) required by section 507.5.1.
  - f. The 5" cap must face the fire lane.
- 6. Approved Fire Apparatus Turn-arounds
  - a. Drawings for approved turn-arounds may be found in the 2021 IFC, Appendix D as
    - i. 150-500-foot dead end requires 96-foot diameter cul-de-sac, 120-foot hammerhead, or the alternative to the hammerhead.
    - ii. 501-750-foot dead end requires 96-foot diameter cul-de-sac
    - iii. 751-1000-foot dead end requires 108-foot diameter cul-de-sac
    - iv. Dead-ends over 1000 feet not allowed.

Battalion Chief Matt Simpson
City of Cedar Park Fire Department
Page 3 of 3

 BLEYL ENGINEERING

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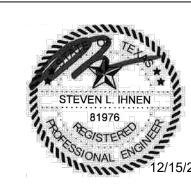
 Austin, TX 78750

 Revision
 Date

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re Standard Notes

Unity 820 Cedar F



Design: VG

CAD: AE Review: VG

Project No: AKM 70370

Sheet: **4** of **2022-25-SD** 

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# 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

- 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 14<sup>th</sup> day of inactivity. If activity will resume prior to the 21<sup>st</sup> day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14<sup>th</sup> 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;
  - any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 12100 Park 35 Circle, Building A	San Antonio Regional Office 14250 Judson Road
Austin, Texas 78753-1808	San Antonio, Texas 78233-4480
Phone (512) 339-2929 Fax (512) 339-3795	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.

Cross Connection Notes

- . The Texas Commission on Environmental Quality (TCEQ) has established minimum standards for the "Assessment of Hazards and Selection of Assemblies" for users connected to public water systems. These standards are located in publication RG-195, Revised February 2004, "Rules and Regulations for Public Water Systems, 30 TAC Chapter 290, Subchapter D: 290.47(i) Appendix I". Based on these rules and the currently adopted Plumbing Code, a hazard assessment will be done on all future users connecting to the City's public water system. If applicable, appropriate backflow prevention may be required at the service connection and/or
- 2. The City's Industrial Pretreatment Program may require the installation of appropriate cross connection protection at the service connection, if the isolation backflow prevention assembly(s), required by the City's Building Inspection Department, are not properly identified on the architectural plans.
- 3. All backflow prevention assemblies installed shall be certified for operation by a TCEQ accredited Backflow Prevention Assembly Tester and the original test report for each assembly shall be submitted to the City's Building Inspections Department prior to the system being operational.
- Building Inspections Department prior to the system being operational.

  4. A backflow prevention assembly installed on a fireline and/or to isolate a private fire hydrant shall only be tested by a TCEQ accredited Backflow Prevention Assembly Tester who is permanently employed by an Approved
- 5. The customer is responsible for any pressure loss and/or thermal expansion caused by installation of a backflow prevention assembly.

#### General Sequence of Construction

Fireline Contractor.

internally to meet the hazard assessment.

- Install temporary erosion/sedimentation control measures and stabilized construction entrance according to the City of Cedar Park prior to clearing, grading, excavating, etc.
- 2. The contractor shall contact City of Cedar Park and TCEQ at least 72 hours prior to any construction to arrange a
- pre-construction meeting.3. Pre-construction meeting at site.
- 4. Grade the site as indicated on the Grading Plan sheets.
- Install all underground utilities, including water and wastewater lines, as indicated on the Utility Plan sheets.

  Construct the proposed buildings, sidewalks, pavement areas and all other ancillary construction.
- Complete testing requirements for the Texas Commission on Environmental Quality and other agencies.
   Clean site and revegetate all disturbed areas in accordance with restoration requirements of the City of Cedar
- Park and the Landscape Plan.

  10. Remove all temporary erosion and sedimentation controls upon completion of permanent revegetation of all
- 11. Civil Engineer to provide concurrence letter and as-built plans to City Engineer.

van-accessible parking spaces and along the vehicular thereto.

Tree List (Surveyed 3-10-2022)

- 11. Civil Engineer to provide concurrence letter and as-built plans to City Engineer.

  12. At all times, contractor shall inspect temporary erosion controls on a regular basis and remove any sediment
- At all times, contractor shall inspect temporary erosion controls on a regular basis and remove any sedimer build-up and comply with the National Pollutant Discharge Elimination System Stormwater Program.

#### Handicap Parking and Accessible Route Notes

- All handicapped parking spaces are to be signed as per City of Austin Specifications for van-accessible parking.
   Each accessible parking space must be identified by a sign centered at a minimum of five feet above the parking surface at the head of the parking space. The sign must include the international symbol of accessibility and state "Reserved" or equivalent language and must not be obscured by a vehicle parked in the accessible space.
   The maximum longitudinal slope and cross slope for the handicapped space and aisle is 2%.
- 4. All curb ramps will have a detectable warning texture extending the full width of the ramp including flares.
- 5. The slope for accessible routes can not exceed 5% along the horizontal slope and 2% for the cross-slope.
  6. A minimum vertical clearance of 114" must be provided at accessible passenger loading zones and along vehicle access routes to such areas from site entrances. A minimum vertical clearance of 98" must be provided for

#### Architectural Standards Note:

- 1. At least seventy five(75) percent of all exterior walls shall consist of masonry construction. EIFS shall not be used for exterior walls.
- 2. Mirrored glass is not permitted.
- 3. Awnings and canopies may be made of sheet metal or canvas membrane. Plastic or vinyl awnings are not permitted.
- 4. No building shall contain an exterior wall that exceeds one hundred (100) feet in length, unless one or a combination of architectural elements listed below is used to bring the building to a pedestrian scale. These standards shall be applied separately for each building face of each floor or building level:
- a.) at least 75 percent of the length of the exterior wall shall included a shade awning(s) or arbor(s) having a minimum depth of ten feet;
- b.)at least seventy-five (75) percent of the length of the exterior wall between two and ten feet in height shall be comprised of an minimum of sixty (60) percent transparent windows that allow views of the indoor space or product displays.

#		City Code		Species	Species Trunks De		Caliper Equivalent	Status
6004	P	M		Elm	3	10", 9", 8"	18.5	Removed
6005				Elm	1	13"	13	Removed
6006				Elm	1	15"	15	
6007				Post Oak	1	9"	9	
6008	Н	M		Post Oak	2	21", 12"	27	
6009	P			Post Oak	1	17"	17	
6010	P			Post Oak	1	16"	16	
6011	Р	M		Post Oak	2	12", 9"	16.5	
6012	P			Post Oak	1	21"	21	
6013	P	M		Post Oak	2	17", 13"	23.5	
6014	P			Post Oak	1	18"	18	
6016	P			Post Oak	1	21"	21	
6024	Н	M		Post Oak	2	23", 21"	33.5	Removed

#### Erosion Control Notes

- 1. The contractor shall install erosion/sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing or excavation).
- 2. Contractor to coordinate proposed location of construction entrance and staging and storage area with City of Cedar Park inspectors prior to construction.
- 3. The placement of erosion/sedimentation controls shall be in accordance with the City of Austin Environmental Criteria Manual and the approved Frosion and Sedimentation Control Plan
- Criteria Manual and the approved Erosion and Sedimentation Control Plan.

  4. The placement of tree/natural area protective fencing shall be in accordance with the approved Erosion and
- Sedimentation Controls Plan.

  Inspect roadway for tracking at the end of each work day. Any debris tracked onto road shall be cleaned off
- 6. Permanent or temporary soil stabilization must be applied to denuded areas within fifteen (15) days after final grade is reached on any portion of the site. Soil stabilization must also be applied within fifteen (15) days to denuded areas which may not be at final grade but will remain dormant (undisturbed) for longer than sixty (60)
- days. (includes application of base material on areas to be paved.)
  7. Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing Engineer, Environmental Specialist or City Arborist as appropriate. Major revisions must be approved by the City Planning Department. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector
- during the course of construction to correct control inadequacies.

  8. The contractor is required to inspect the controls and fences at weekly intervals and after significant rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt/debris accumulation at controls

must be removed as necessary or when requested by the City Inspector.

. Contractor is responsible for maintaining the inspection records located in the Storm Water Pollution Prevention Plan (SWPPP) for this project.

#### Special Construction Techniques

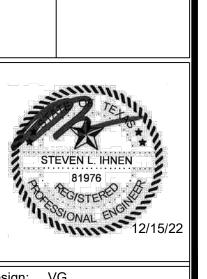
Prior to excavation within tree driplines, or the removal of trees adjacent to the other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to

- 2. In critical root zone areas that cannot be protected during construction with fencing, and where heavy vehicular traffic is anticipated, cover hose areas with four (4) inches of organic mulch to be produced on site, to minimize soil compaction.
- 3. Perform all grading within critical root zone areas with small equipment to minimize root damage.
- Water all trees most heavily impacted by construction activities deeply as necessary during periods of hot, dry weather. Spray tree crowns with water periodically to reduce dust accumulation on the leaves.
- 5. When installing concrete adjacent to the root zone of a tree, use a plastic vapor barrier behind the concrete to prohibit leaching of lime in the soil.

#### Dumpster Note:

All dumpster enclosures shall be screened on three sides by walls other than wood, with the resilience of concrete, or not less than the height of the bin or container.

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



Unity

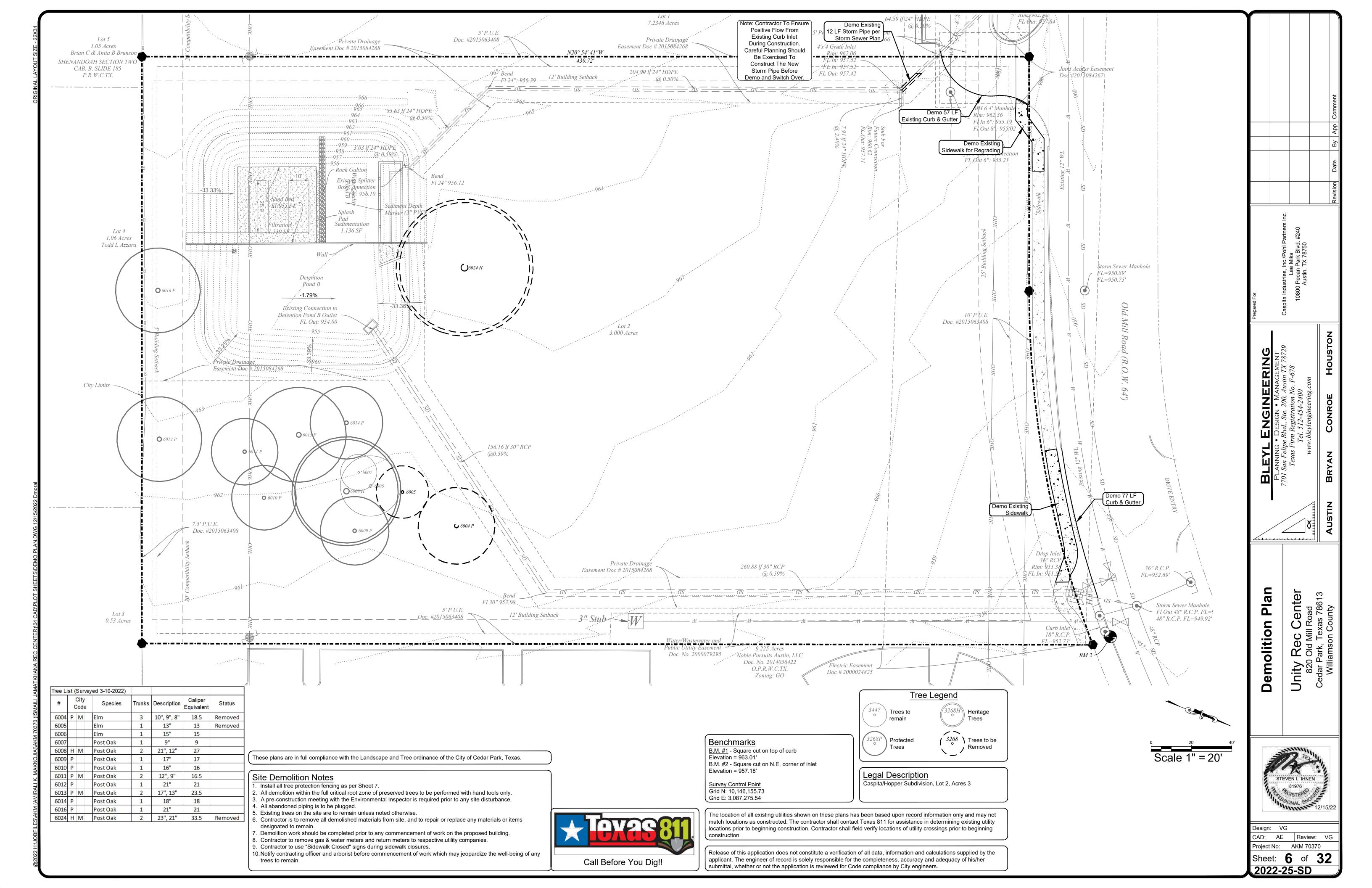
Design: VG

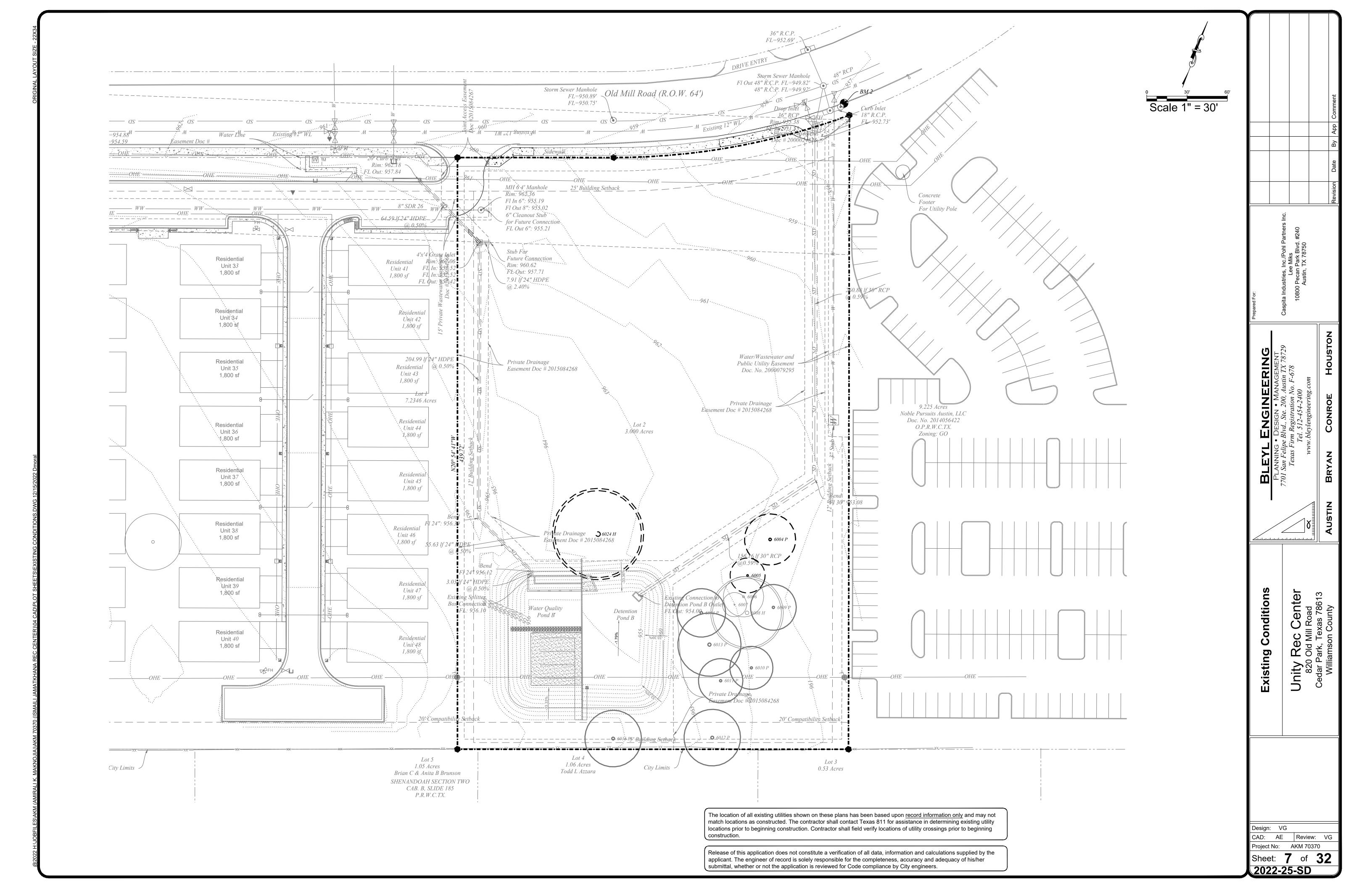
CAD: AE Review: VG

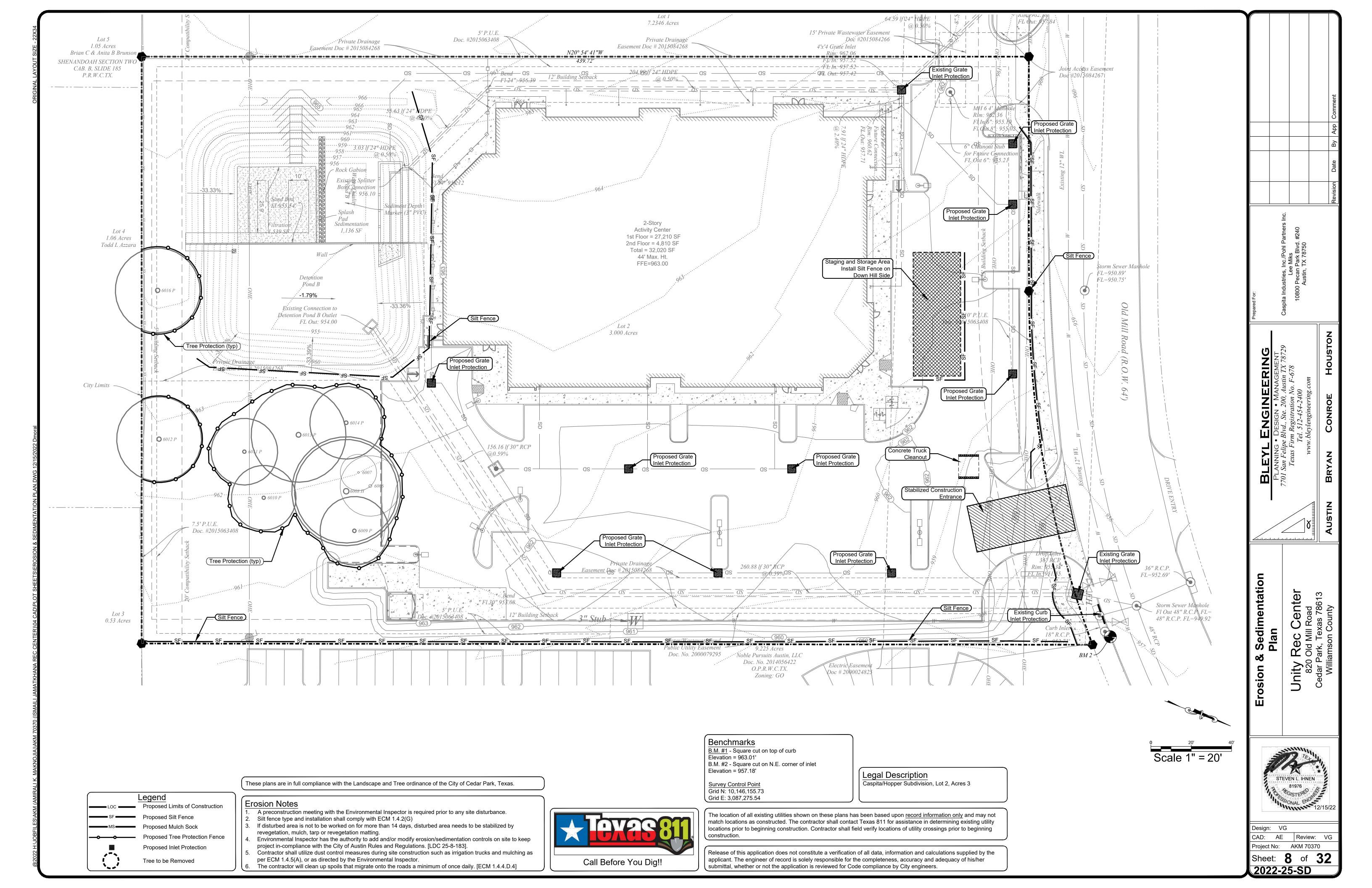
Project No: AKM 70370

Note

CEQ







#### **Erosion Control Notes**

- The contractor shall install erosion/sedimentation controls, tree/natural area protective fencing, and conduct "Pre-Construction" tree fertilization (if applicable) prior to any site preparation work (clearing, grubbing or excavation).
- The placement of erosion/sedimentation controls shall be in accordance with the Environmental Criteria Manual and the approved Erosion and Sedimentation Control Plan. The COA ESC Plan shall be consulted and used as the basis for a TPDES required SWPPP. If a SWPPP is required, it shall be available for review by the City of Austin Environmental Inspector at all times during construction, including at the Pre-Construction meeting. The checklist below contains the basic elements that shall be reviewed for permit approval by COA EV Plan Reviewers as well as COA EV Inspectors.
  - Plan sheets submitted to the City of Austin MUST show the following:
  - Direction of flow during grading operations.
  - Location, description, and calculations for off-site flow diversion structures.
  - Areas that will not be disturbed; natural features to be preserved.
  - Delineation of contributing drainage area to each proposed BMP (e.g., silt fence, sediment basin, etc.) • Location and type of E&S BMPs for each phase of disturbance.
  - Calculations for BMPs as required.
  - Location and description of temporary stabilization measures.
  - Location of on-site spoils, description of handling and disposal of borrow materials, and description of on-site permanent spoils disposal areas, including size, depth of fill and revegetation procedures.
- Describe sequence of construction as it pertains to ESC including the following elements: 1. Installation sequence of controls (e.g. perimeter controls, then sediment basins, then temporary
- stabilization, then permanent, etc.) 2. Project phasing if required (LOC greater than 25 acres)
- 3. Sequence of grading operations and notation of temporary stabilization measures to be used
- 4. Schedule for converting temporary basins to permanent WQ controls
- 5. Schedule for removal of temporary controls 6. Anticipated maintenance schedule for temporary controls
- Categorize each BMP under one of the following areas of BMP activity as described below:
- 3.1 Minimize disturbed area and protect natural features and soil
- 3.2 Control Stormwater flowing onto and through the project
- 3.3 Stabilize Soils
- 3.4 Protect Slopes
- 3.5 Protect Storm Drain Inlets
  - 3.6 Establish Perimeter Controls and Sediment Barriers
  - 3.7 Retain Sediment On-Site and Control Dewatering Practices 3.8 Establish Stabilized Construction Exits
- 3.9 Any Additional BMPs
- Note the location of each BMP on your site map(s).
- For any structural BMPs, you should provide design specifications and details and refer to them.
- For more information, see City of Austin Environmental Criteria Manual 1.4. The Placement of tree/natural area protective fencing shall be in accordance with the City of Austin standard
- Notes for Tree and Natural Area Protection and the approved Grading/Tree and Natural Area Plan.
- A pre-construction conference shall be held on-site with the contractor, design Engineer/permit applicant and Environmental Inspector after installation of the erosion/sedimentation controls, tree/natural area protection measures and "Pre-Construction" tree fertilization (if applicable) prior to beginning any site preparation work. The owner or owner's representative shall notify the Development Services Department, (512) 974-2278 or by email at environmental.inspections@austintexas.gov at least three days prior to the meeting date. COA approved ESC Plan and TPDES SWPPP (if required) should be reviewed by COA EV Inspector at this time.
- Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing Engineer, Environmental Specialist or City Arborist as appropriate. Major revisions must be approved by authorized COA staff. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies.
- The contractor is required to provide a certified inspector that is either a licensed engineer (or person directly supervised by the licensed engineer) or Certified Professional in Erosion and Sediment Control (CPESC pr CPESC-IT), Certified Erosion, Sediment and Stormwater- Inspector (CESSWI or CESSWI) or Certified Inspector of Sedimentation and Erosion Controls (CISEC or CISEC-IT) certification to inspect the controls and fences at weekly or bi-weekly intervals and after one-half (1/2) inch or greater 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 or one-third (1/3) of the installed height of the control whichever is less.
- Prior to final acceptance by the City, haul roads and waterway crossings constructed for temporary contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved spoil disposal sites.
- All work must stop if a void in the rock substrate is discovered which is; one square foot in total area; blows air from within the substrate and/or consistently receives water during any rain event. At this time it is the responsibility of the Project Manager to immediately contact a City of Austin Environmental Inspector for further investigation. In addition, if the project site is located within the Edwards Aquifer, the Project Manager must notify the Travis County Balcones Canyonlands Conservation Preserve (BCCP) by email at bccp@traviscountytx.gov. Construction activities within 50 feet of the void must stop.
- Temporary and Permanent Erosion Control: All disturbed areas shall be restored as noted below:
- A. All disturbed areas to be revegetated are required to place a minimum of six (6) inches of topsoil [see Standard Specification Item No. 601S.3(A)]. Do not add topsoil within the critical root zone of existing trees. • Topsoil salvaged from the existing site is encouraged for use, but it should meet the standards set forth in
- An owner/engineer may propose use of onsite salvaged topsoil which does not meet the criteria of Standard Specification 601S by providing a soil analysis and a written statement from a qualified professional in soils, landscape architecture, or agronomy indicating the onsite topsoil will provide an equivalent growth media and specifying what, if any, soil amendments are required.
- Soil amendments shall be worked into the existing onsite topsoil with a disc or tiller to create a well-blended

# The vegetative stabilization of areas disturbed by construction shall be as follows:

# TEMPORARY VEGETATIVE STABILIZATION:

- From September 15 to March 1, seeding shall be with or include a cool season cover crop: (Western Wheatgrass (Pascopyrum smithii) at 5.6 pounds per acre, Oats (Avena sativa) at 4.0 pounds per acre, Cereal Rye Grain (Secale cereale) at 45 pounds per acre. Contractor must ensure that any seed application requiring a cool season cover crop does not utilize annual ryegrass (Lolium multiflorum) or perennial ryegrass (Lolium perenne). Cool season cover crops are not permanent erosion control.
- From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 45 pounds per acre or a native plant seed mix conforming to Item 604S or 609S.
- A. Fertilizer shall be applied only if warranted by a soil test and shall conform to Item No. 606S, Fertilizer. Fertilization should not occur when rainfall is expected or during slow plant growth or dormancy. Chemical fertilizer may not be applied in the Critical Water Quality Zone.
- B. Hydromulch shall comply with Table 1, below.
- C. Temporary erosion control shall be acceptable when the grass has grown at least 1½ inches high with a minimum of 95% total coverage so that all areas of a site that rely on vegetation for temporary stabilization are uniformly vegetated, and provided there are no bare spots larger than 10 square feet.
- D. When required, native plant seeding shall comply with requirements of the City of Austin Environmental Criteria Manual, and Standard Specification 604S or 609S.

# Table 1: Hydromulching for Temporary Vegetative Stabilization

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

# PERMANENT VEGETATIVE STABILIZATION:

- From September 15 to March 1, seeding is considered to be temporary stabilization only. If cool season cover crops exist where permanent vegetative stabilization is desired, the grasses shall be mowed to a height of less than one-half (½) inch and the area shall be re-seeded in accordance with Table 2 below. Alternatively, the cool season cover crop can be mixed with Bermudagrass or native seed and installed together, understanding that germination of warm-season seed typically requires soil temperatures of 60 to 70 degrees.
- From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 45 pounds per acre with a purity of 95% and a minimum pure live seed (PLS) of 0.83. Bermuda grass is a warm season grass and is considered permanent erosion control. Permanent vegetative stabilization can also be accomplished with a native plant seed mix conforming to Item 604S or 609S.

- A. Fertilizer use shall follow the recommendation of a soil test. See Item 606S, Fertilizer. Applications of fertilizer (and pesticide) on City-owned and managed property requires the yearly submittal of a Pesticide and Fertilizer Application Record, along with a current copy of the applicator's license. For current copy of the record template contact the City of Austin's IPM Coordinator.
- B. Hydromulch shall comply with Table 2, below.
- C. Water the seeded areas immediately after installation to achieve germination and a healthy stand of plants that can ultimately survive without supplemental water. Apply the water uniformly to the planted areas without causing displacement or erosion of the materials or soil. Maintain the seedbed in a moist condition favorable for plant growth. All watering shall comply with City Code Chapter 6-4 (Water Conservation), at rates and frequencies determined by a licensed irrigator or other qualified professional, and as allowed by the Austin Water Utility and current water restrictions and water conservation initiatives.
- D. Permanent erosion control shall be acceptable when the grass has grown at least 1½ inches high with a minimum of 95 percent for the non-native mix, and 95 percent coverage for the native mix so that all areas of site that rely on vegetation for stability must be uniformly vegetated, and provided there are no bare spots larger than 10 square feet.
- E. When required, native plant seeding shall comply with requirements of the City of Austin Environmental Criteria Manual, Items 604S and 609S.

#### Table 2: Hydromulching for Permanent Vegetative Stabilization

Material	Description	Longevity	Typical Application	Application Rates
Bonded Fiber Matrix (BFM)	80% Organic defibrated fibers			
10% Tackifier		6 Months	On slopes up to 2:1 and erosive soil conditions	2,500 to 4,000 lbs per acre (see manufacturer specifications)
Fiber Reinforced Matrix (FRM)	65% Organic defibrated fibers 25% Reinforcing Fibers or less 10% Tackifier	Up to 12 months	On slopes up to 1:1 and erosive soil conditions	3000 to 4500 lbs per acre (see manufacturers recommendations)

#### 10. Developer Information:

Owner: Amir Maknojia Phone: (512) 577-9314

Address: 1410 Whitestone Blvd. Cedar Park, Texas 78613

Owner's representative responsible for plan alterations:

Bleyl Engineering Phone # (512) 454-2400

Person or firm responsible for erosion/sedimentation control maintenance:

Amir Maknojia Phone # (512) 577-9314

Person or firm responsible for tree/natural area protection Maintenance:

Phone # (512) 577-9314

The contractor shall not dispose of surplus excavated material from the site without notifying the Development Services Department at (512) 974-2278 at least 48 hours prior with the location and a copy of the permit issued to

12. All disturbed areas shall be re-vegetated to meet the requirements of the City of Cedar Park's ordinances.

### Tree and Natural Area Protection Notes

- All trees and natural areas shown on plan to be preserved shall be protected during construction with temporary fencing.
- Protective fences shall be erected according to City of Austin Standards for Tree Protection. Protective fences shall be installed prior to the start of any site preparation work (clearing, grubbing or grading),
- and shall be maintained throughout all phases of the construction project. Erosion and sedimentation control barriers shall be installed or maintained in a manner which does not result in
- soil build-up within tree drip lines. Protective fences shall surround the trees or group of trees, and will be located at the outermost limit of branches (drip line), for natural areas, protective fences shall follow the Limit of Construction line. in order to
- prevent the following: a. Soil compaction in the root zone area resulting from vehicular traffic or storage of equipment or materials;
- b. Root zone disturbances due to grade changes (greater than 6 inches cut or fill), or trenching not reviewed and authorized by the City Arborist;
- Wounds to exposed roots, trunk or limbs by mechanical equipment; Other activities detrimental to trees such as chemical storage, cement truck cleaning and fires.
- Exceptions to installing fences at tree drip lines may be permitted in the following cases: Where there is to be an approved grade change, impermeable paving surface, tree well, or other such site
- development, erect the fence approximately 2 to 4 feet beyond the area disturbed; Where permeable paving is to be installed within a tree's drip line, erect the fence at the outer limits of the permeable paving area (prior to site grading so that this area is graded separately prior to paving installation to minimized root damage);
- c. Where trees are close to proposed buildings, erect the fence to allow 6 to 10 feet of work space between the fence and the building;
- d. Where there are severe space constraints due to tract size, or other special requirements, contact the City Arborist at 974-1876 to discuss alternatives.

#### **Special Note:** For the protection of natural areas, no exceptions to installing fences at the Limit of Construction line will be

- Where any of the above exceptions result in a fence being closer than 4 feet to a tree trunk, protect the trunk with strapped-on planking to a height of 6 ft. (or to the limits of lower branching) in addition to the reduced
- Trees approved for removal shall be removed in a manner which does not impact trees to be preserved. Any roots exposed by construction activity shall be pruned flush with the soil. Backfill root areas with good quality top soil as soon as possible. If exposed root areas are not backfilled within 2 days, cover them with
- organic material in a manner which reduces soil temperature and minimizes water loss due to evaporation. 10. Any trenching required for the installation of landscape irrigation shall be placed as far from existing tree trunks
- 11. No landscape topsoil dressing greater than 4 inches shall be permitted within the drip line of trees. No soil is permitted on the root flare of any tree.
- 12. Pruning to provide clearance for structures, vehicular traffic and equipment shall take place before damage occurs. (ripping of branches, etc.)
- 13. All finished pruning shall be done according to recognized, approved standards of the industry (Reference the
- National Arborist Association Pruning Standards for Shade Trees available on request from the City Arborist). 14. Deviations from the above notes may be considered ordinance violations if there is substantial non-compliance or if a tree sustains damage as a result.

## **Special Construction Techniques**

- Prior to excavation within tree driplines, or the removal of trees adjacent to the other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to
- In critical root zone areas that cannot be protected during construction with fencing, and where heavy vehicular traffic is anticipated, cover those areas with four (4) inches of organic mulch to be produced on site, to minimize
- Perform all grading within critical root zone areas with small equipment to minimize root damage.
- Water all trees most heavily impacted by construction activities deeply as necessary during periods of hot, dry weather. Spray tree crowns with water periodically to reduce dust accumulation on the leaves.
- When installing concrete adjacent to the root zone of a tree, use a plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil.

#### Remedial Tree Care Notes

Aeration and Supplemental Nutrient requirements for trees within construction areas

As a component of an effective remedial tree care program per Environmental Criteria Manual section 3.5.4, preserved trees within the limits of construction may require soil aeration and supplemental nutrients. Soil and/or foliar analysis should be used to determine the need for supplemental nutrients. The City Arborist may require these analyses as part of a comprehensive tree care plan. Soil pH shall be considered when determining the fertilization composition as soil pH influences the tree's ability to uptake nutrients from the soil. If analyses indicate the need for supplemental nutrients, then humate/nutrient solutions with mycorrhizae components are highly recommended. In addition, soil analysis may be needed to determine if organic material or beneficial microorganisms are needed to improve soil health. Materials and methods are to be approved by the City Arborist (512-974-1876) prior to application. The owner or general contractor shall select a fertilization contractor and iensure coordination with the City Arborist.

Pre-construction treatment should be applied in the appropriate season, ideally the season preceding the proposed construction. Minimally, areas to be treated include the entire critical root zone of trees as depicted on the City approved plans. Treatment should include, but not limited to, fertilization, soil treatment, mulching, and proper

Post-construction treatment should occur during final revegetation or as determined by a qualified arborist after construction. Construction activities often result in a reduction in soil macro and micro pores and an increase in soil bulk density. To ameliorate the degraded soil conditions, aeration via water and/or air injected into the soil is needed or by other methods as approved by the City Arborist. The proposed nutrient mix specifications and soil and/or foliar analysis results need to be provided to and approved by the City Arborist prior to application (Fax # 512-974-3010). Construction which will be completed in less than 90 days may use materials at ½ recommended rates. Alternative organic fertilizer materials are acceptable when approved by the City Arborist. Within 7 days after fertilization is performed, the contractor shall provide documentation of the work performed to the City Arborist, Development Services Department. P.O. Box 1088, Austin, TX 78767. This note should be referenced as item #1 in the Sequence of Construction.

#### Dust Control Note

Contractor shall utilize dust control measures during site construction such as irrigation trucks and mulching as per ECM 1.4.5(A), or as directed by the Environmental Inspector.

# Environmental Inspector Note

Environmental Inspector has the authority to add and/or modify erosion/sedimentation controls on site to keep project in-compliance with the City of Austin Rules and Regulations.

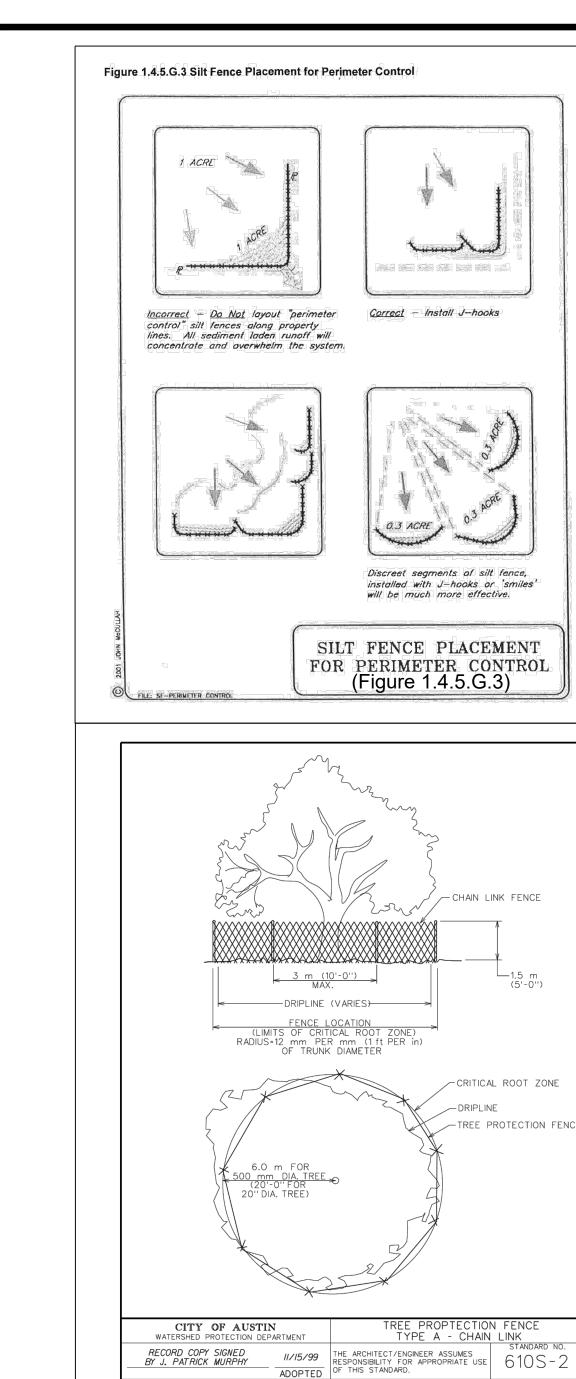
#### Spoils Control Note

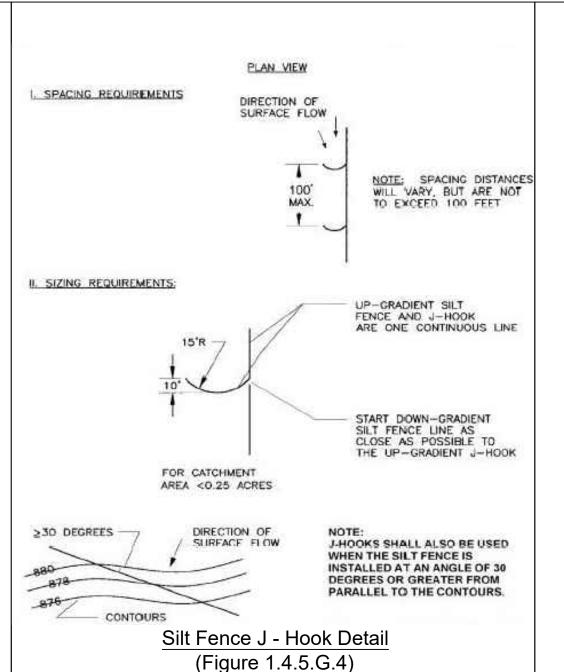
All spoils will be cleaned off of all roads, driveways, and any other impervious cover located outside the LOC at the end of each day.

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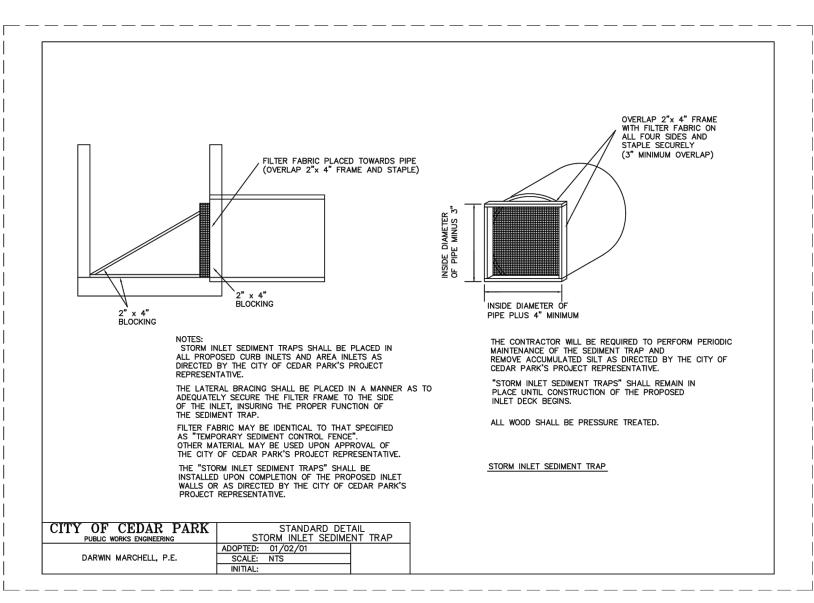
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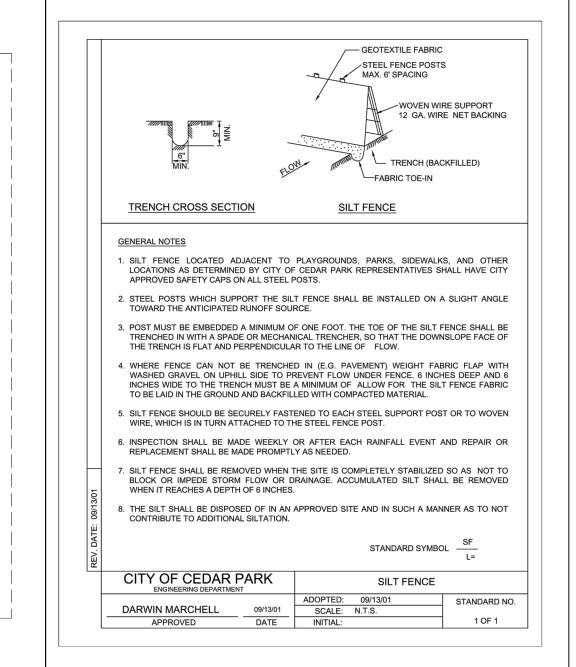
AKM 70370

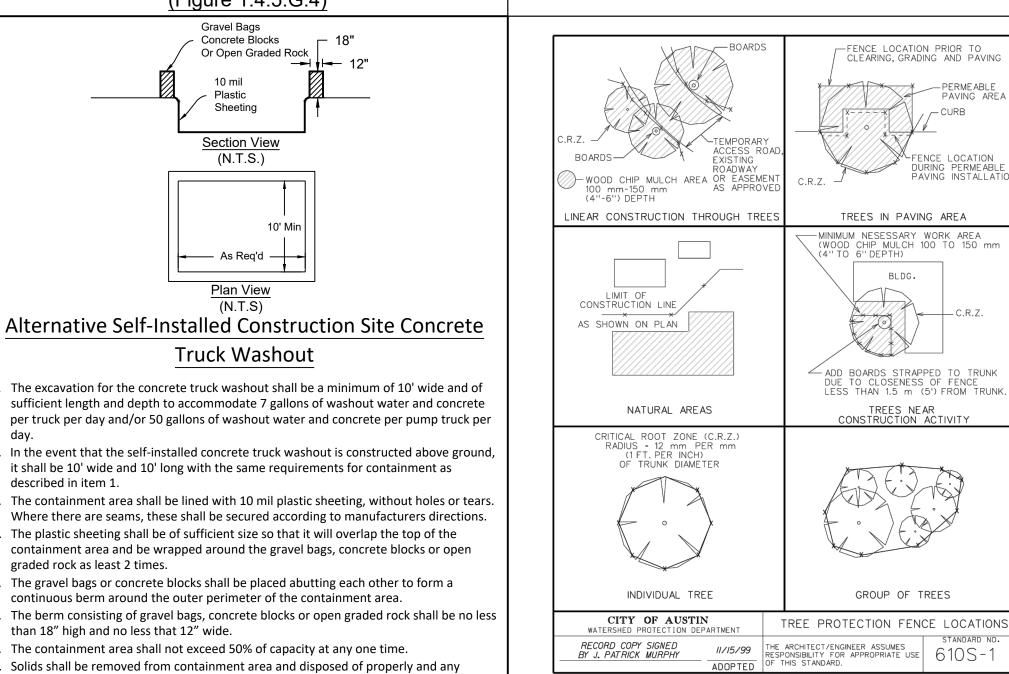


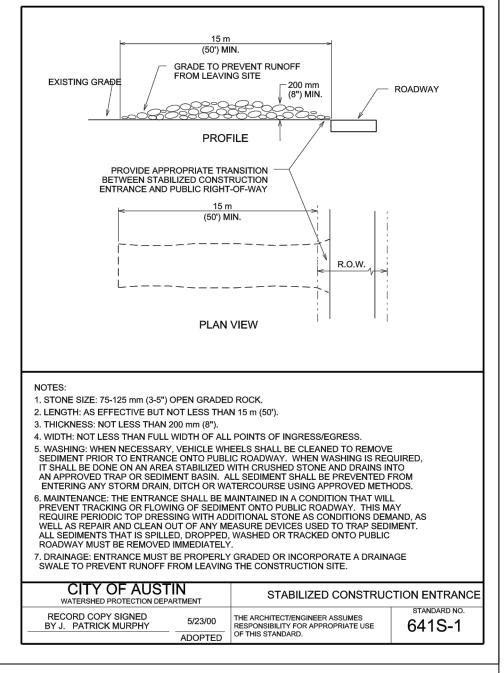


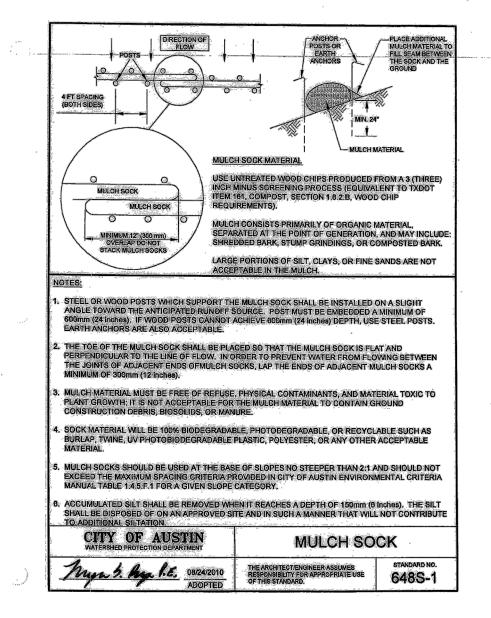
damage to the plastic sheeting shall be repaired or sheeting replaced before next use.

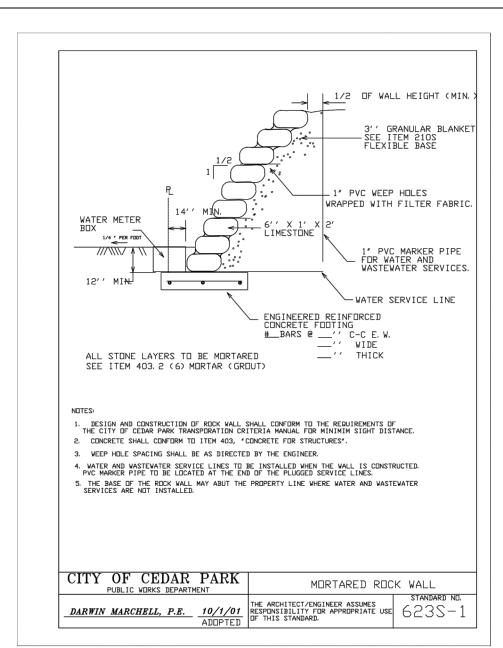


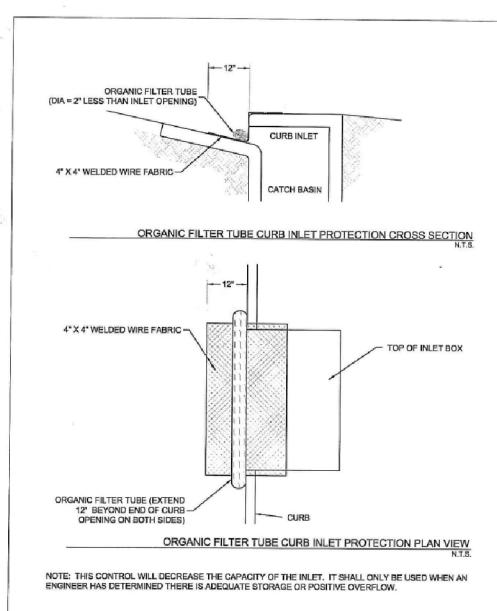


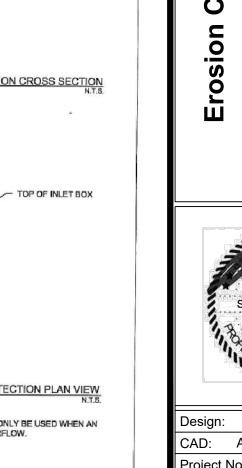








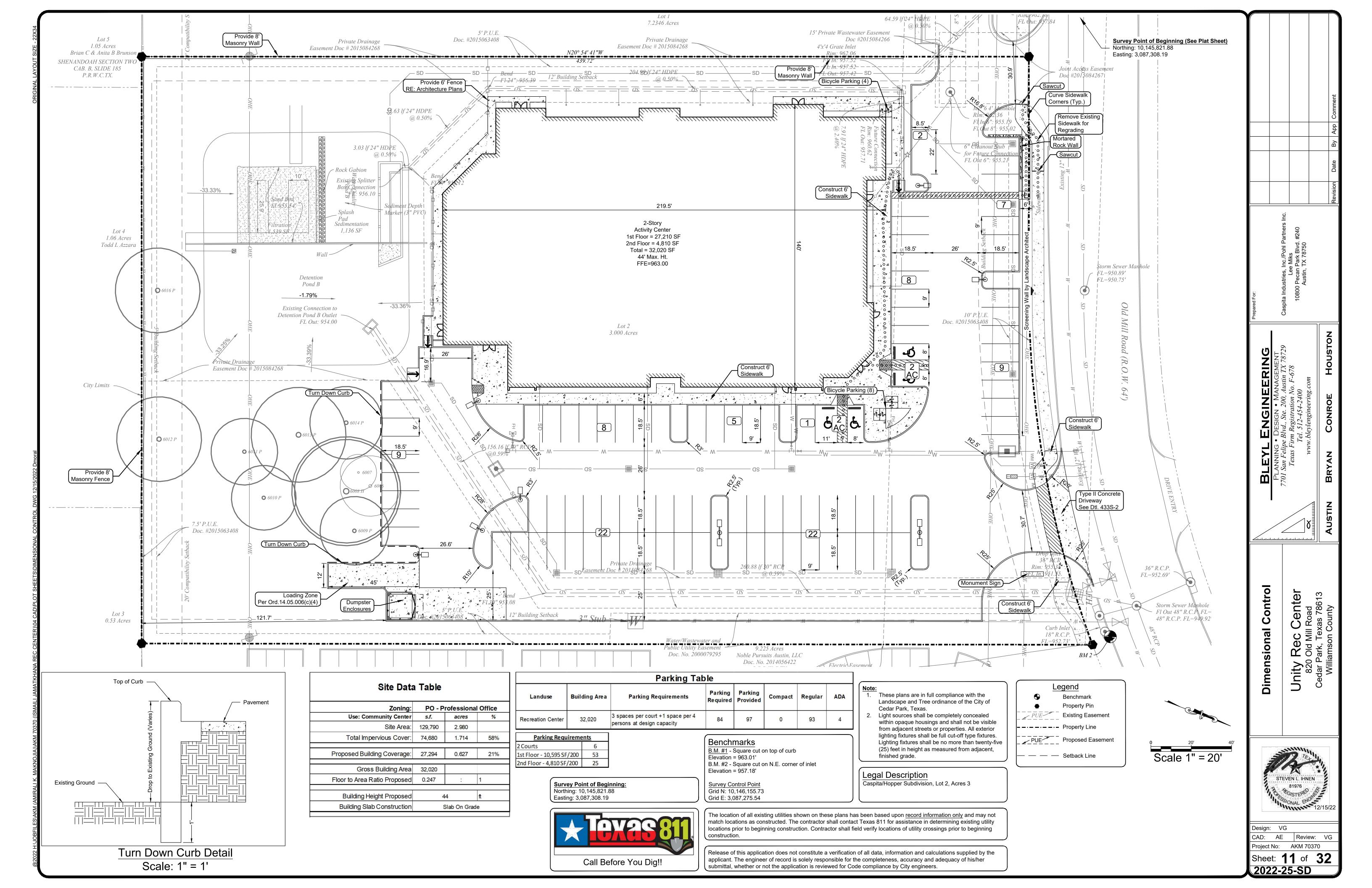


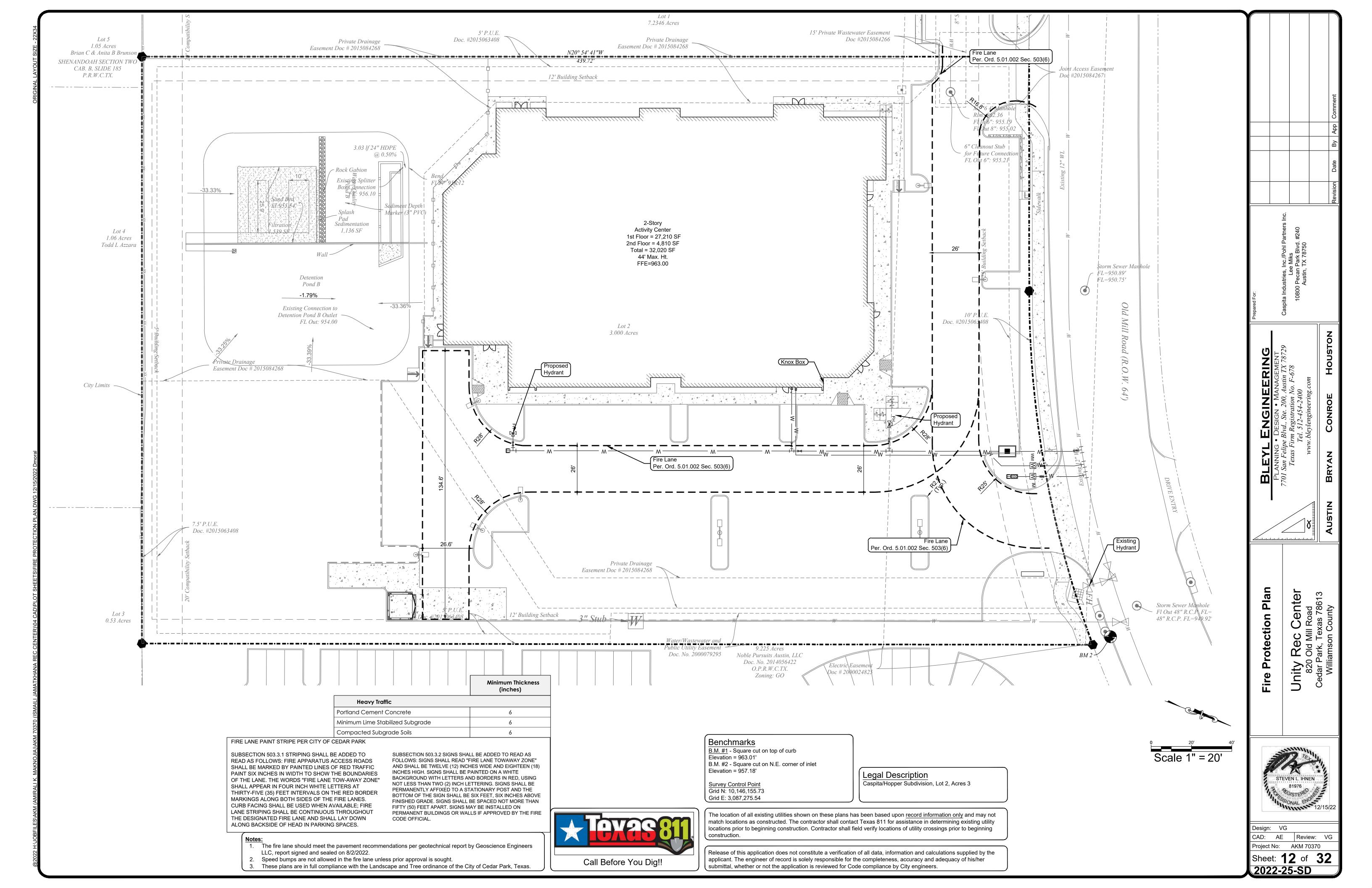


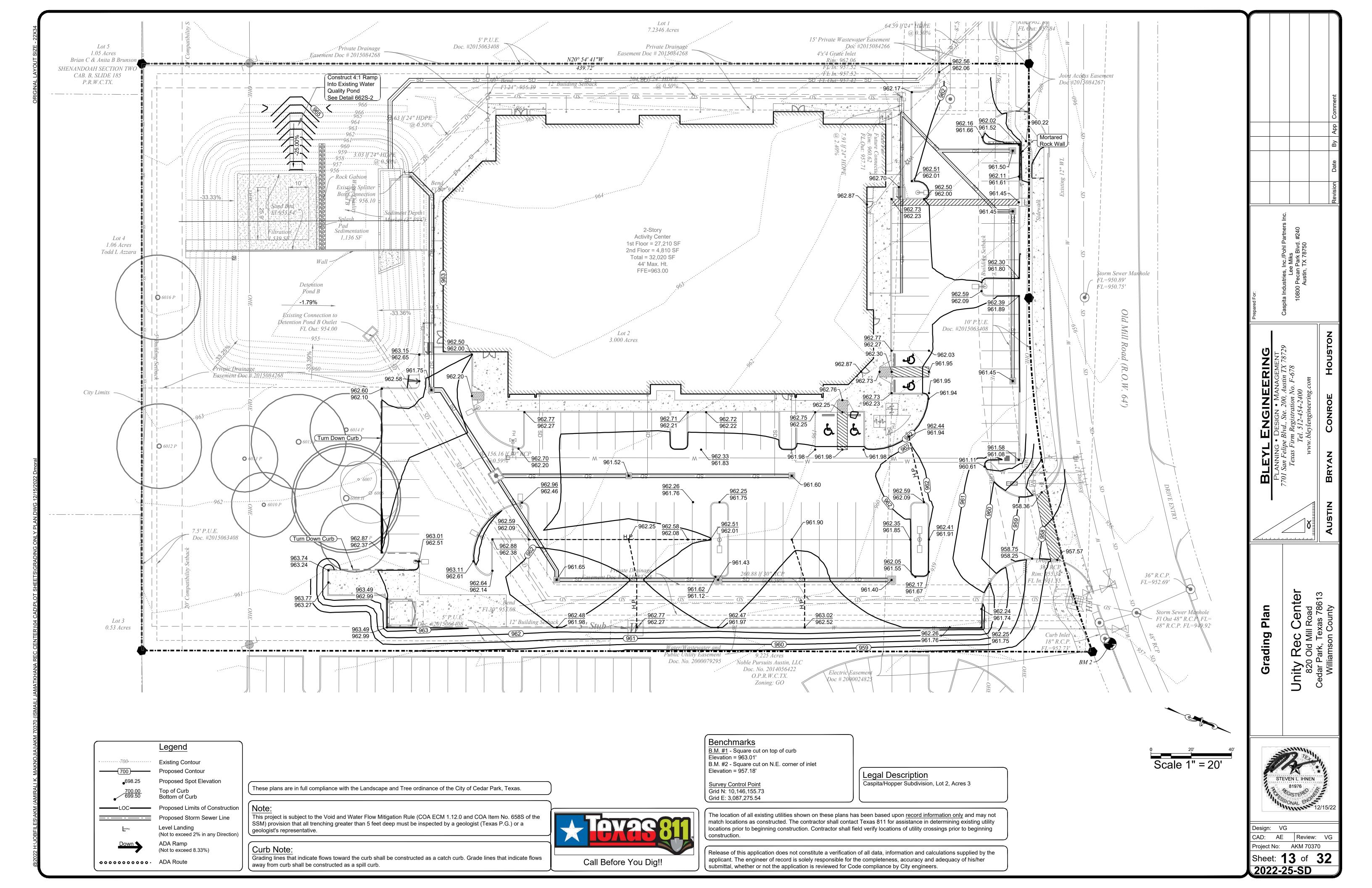
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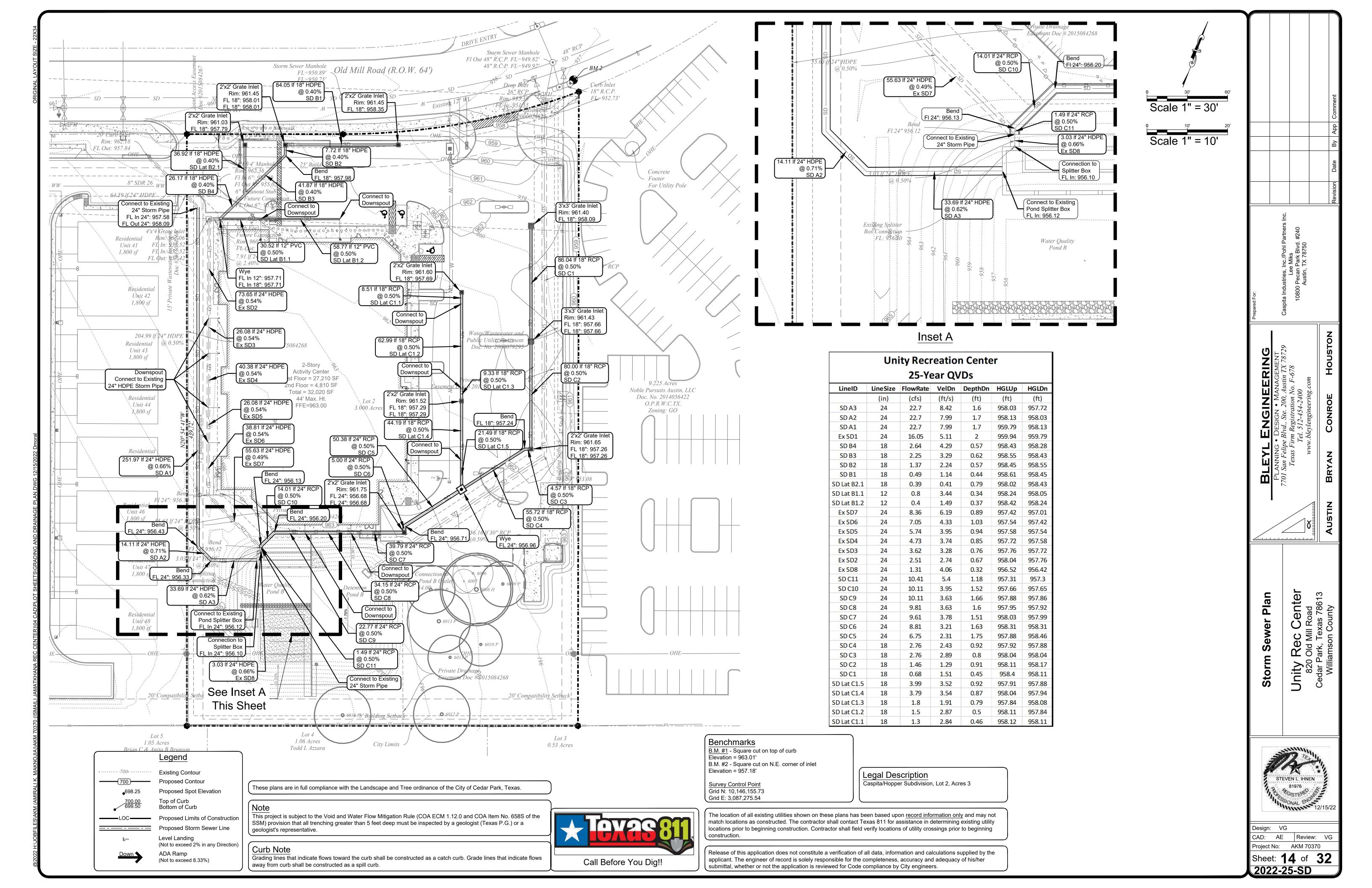
**Control Details** 

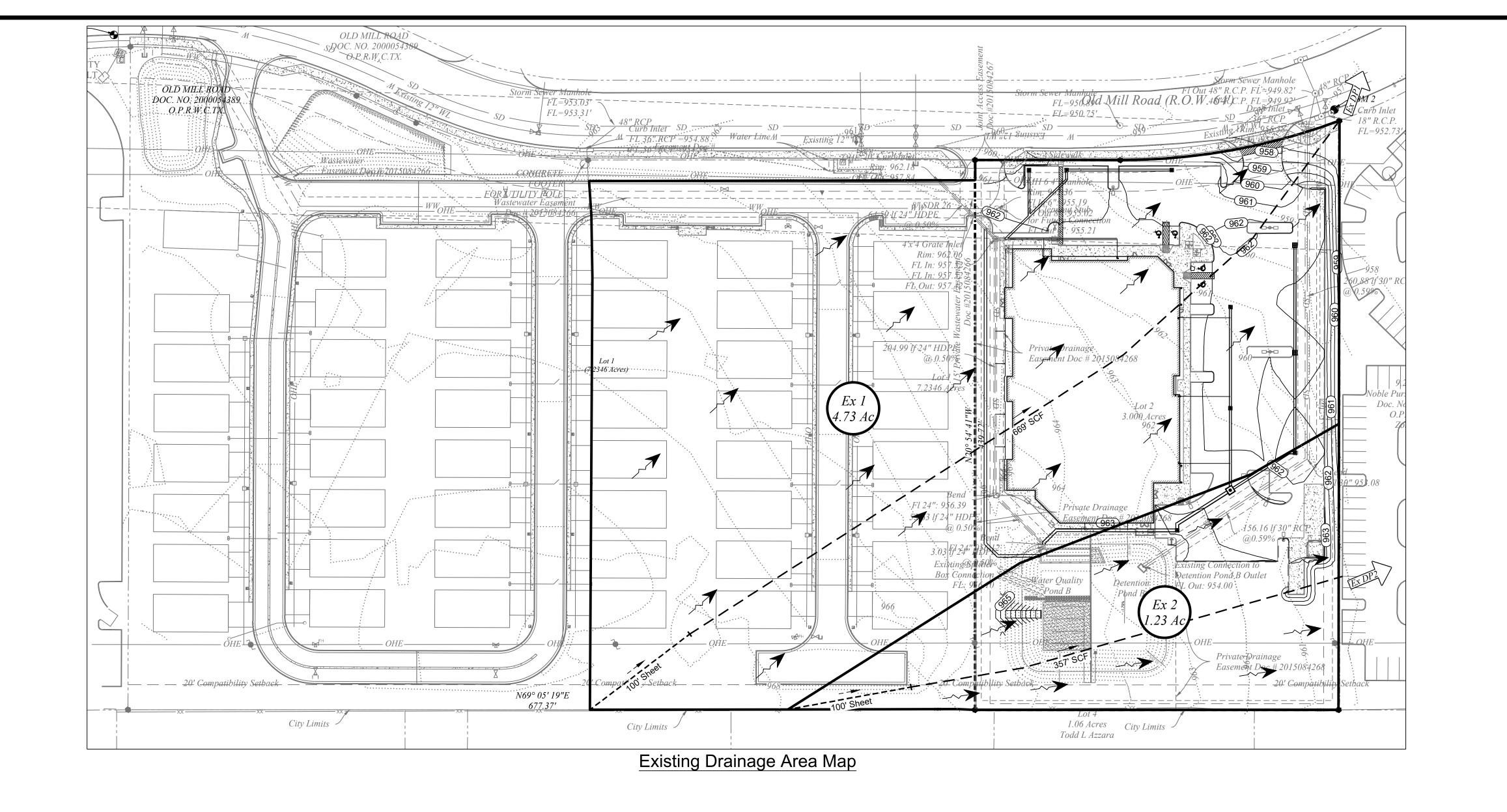
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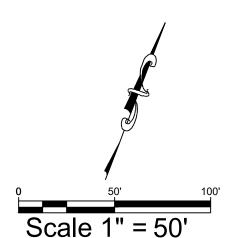


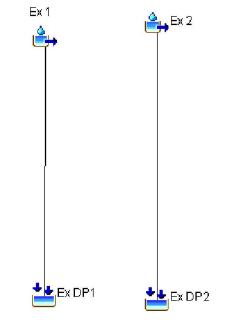




Drainage Area Calculations Summary											
Label	Area	1	С	NRCS CN	Lag Time	NRCS Atlas 14, 24 hr Storm Water F			Flows (cfs)		
Label	acres	acres	%	IVICS CIV	mins	2-yr	10-yr	25-yr	100-yr		
Ex 1	4.73	0.00	0.00	80	3.31	15.9	30.30	40.30	57.70		
Ex 2	1.23	0.00	0.00	80	6.92	3.5	6.70	9.00	12.90		
Pro A	3.42	2.02	59.06								
Pro 1.1	2.85	1.80	63.13	91	3.31	14.5	23.60	29.70	40.20		
Pro 1.2	1.63	1.62	99.41	98	3.00	9.3	14.20	17.50	23.30		
Pro 1.3	0.30	0.13	43.20	88	3.00	1.4	2.30	3.00	4.00		
Pro 1.4	0.63	0.01	1.72	80	17.52	1.1	2.20	2.90	4.20		

	TIME OF CONCENTRATION																
		OVERLA	AND SHEE	TFLOW			SHALL	OW CONCE	NTRATED	FLOW		CHANNEL FLOW			TOTAL	TOTAL	TOTAL
Drainage Area ID	c	Length	<b>.</b> *2	Slope	Overland Travel Time	Slope	Distance	Surface ("Paved" or "Unpaved")	Velocity Coefficient**	Velocity	Shallow Concentrated Flow Travel Time	Velocity	Distance	Channel Travel Time	Travel Distance	Time of Concentration (Computational)	Time of Concentration (Computational)
Name	none	ft	inches	ft/ft	min	ft/ft	ft	type	none	ft/s	min	ft/s	ft	min	ft	min	min
Ex 1	0.015	100.00	4.06	0.0200	1.38	0.0175	669.00	Paved	20.33	2.69	4.15			0.00	769.00	5.52	3.31
Ex 2	0.150	100.00	4.06	0.0200	8.70	0.0170	357.00	Unpaved	16.13	2.10	2.83			0.00	457.00	11.53	6.92
Pro 1.1	0.015	100.00	4.06	0.0200	1.38	0.0175	349.00	Paved	20.33	2.69	2.16	5.00	308.00	0.00	757.00	5.52	3.31
Pro 1.2	0.015	19.00	4.06	0.0160	0.40	0.0000	0.00	Unpaved	16.13	0.00	0.00	5.00	299.00	1.00	318.00	5.00	3.00
Pro 1.3	0.015	77.00	4.06	0.0400	0.85	0.0600		Paved	20.33	4.98	0.00			0.00	77.00	5.00	3.00
Pro 1.4	0.150	100.00	4.06	0.0010	28.83	0.1000	111.00	Unpaved	16.13	5.10	0.36			0.00	211.00	29.19	17.52
Pro 2.1	0.150	100.00	4.06	0.0130	10.33	0.0240	113.00	Unpaved	16.13	2.50	0.75			0.00	213.00	11.09	6.65

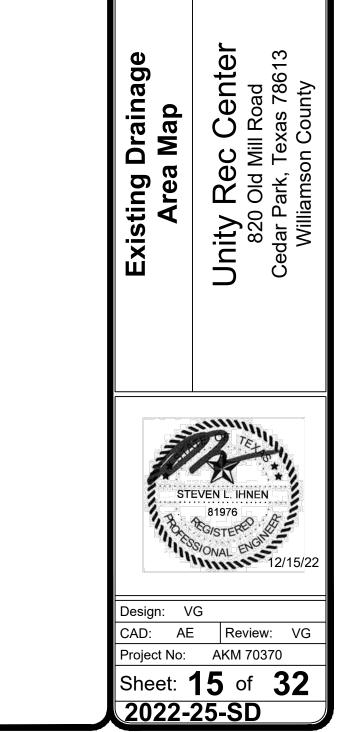


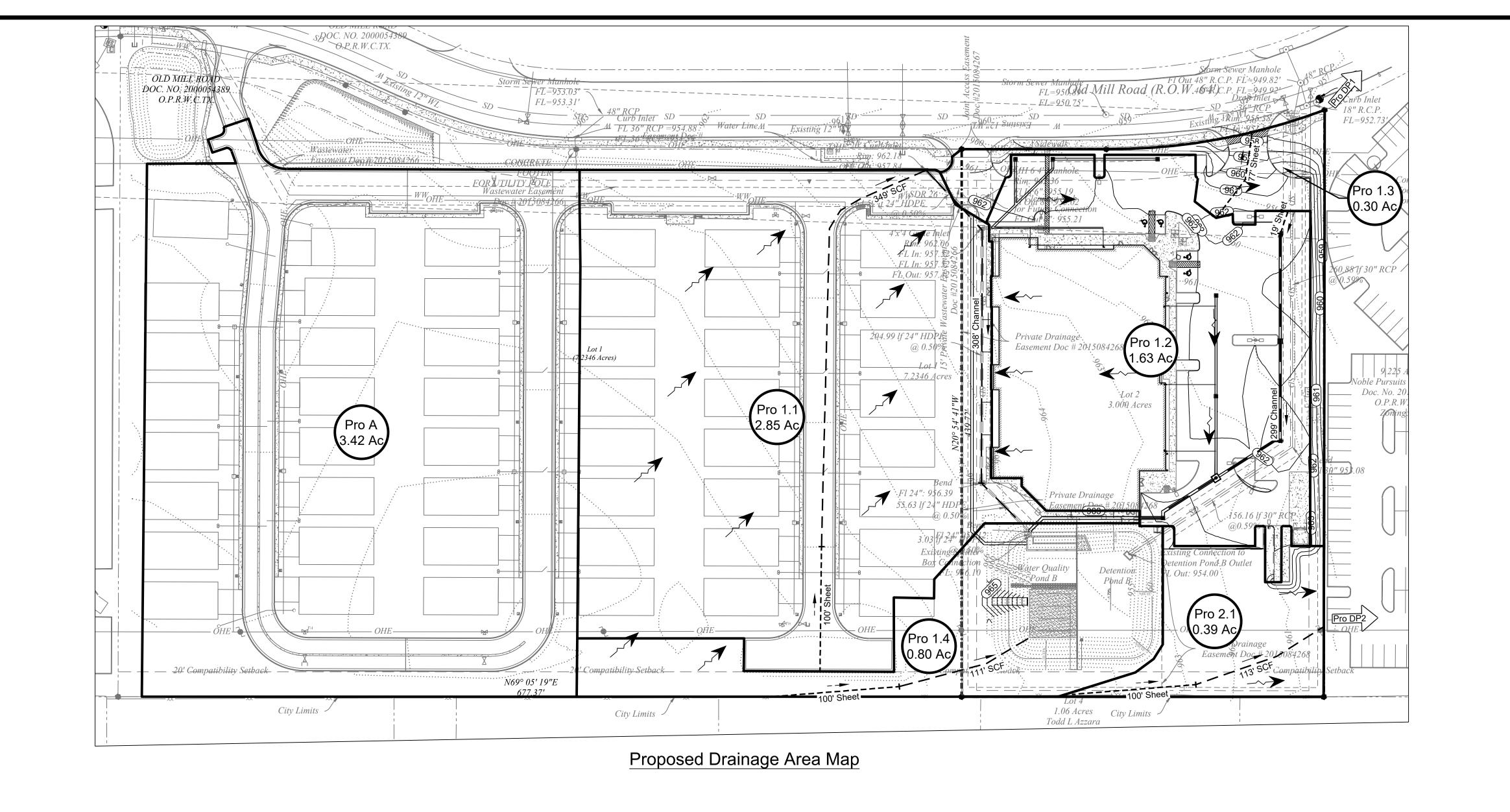


Routing Diagrams

	CN	Calculati	ions	
Drainage Area	Open Space (Lawns, parks, golf coures, cemeteries, etc), Good Condition - 80	Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D - 98	Total Area	Average Sum CN
ID	AC	AC	AC	CN
	80	98		
Ex 1	4.73	0.00	4.73	80
Ex 2	Ex 2 1.23		1.23	80
Pro 1.1	1.05	1.80	2.85	91
Pro 1.2	Pro 1.2 0.01		1.63	98
Pro 1.3	0.17	0.13	0.30	88
Pro 1.4	0.62	0.01	0.63	80

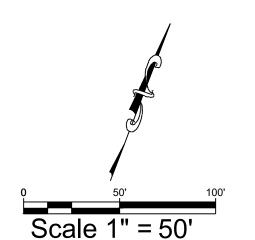
Site Discharge Summary										
Analysis Point	NRCS Atlas 14, 24 hr Storm Water Flows (cfs)									
Allalysis Polit	2-yr	10-yr	25-yr	100-yr						
Ex DP1	15.9	30.3	40.3	57.7						
Pro DP1	11.5	22.1	26.8	40.2						
Ex DP2	3.5	6.7	9.0	12.9						

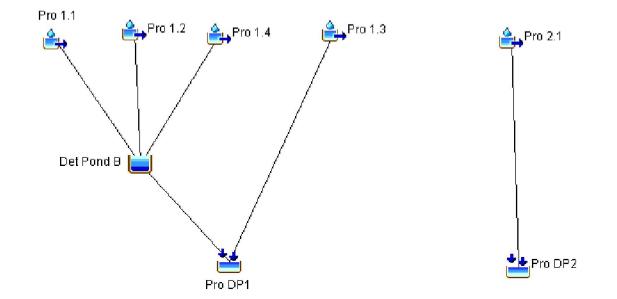




	Drainage Area Calculations Summary											
Label	Area	J	C	NRCS CN	Lag Time	NRCS Atlas 14, 24 hr Storm Water Flows (cf:						
Labei	acres	acres	%	INKC3 CIV	mins	2-yr	10-yr	25-yr	100-yr			
Ex 1	4.73	0.00	0.00	80	3.31	15.9	30.30	40.30	57.70			
Ex 2	1.23	0.00	0.00	80	6.92	3.5	6.70	9.00	12.90			
Pro A	3.42	2.02	59.06									
Pro 1.1	2.85	1.80	63.13	91	3.31	14.5	23.60	29.70	40.20			
Pro 1.2	1.63	1.62	99.41	98	3.00	9.3	14.20	17.50	23.30			
Pro 1.3	0.30	0.13	43.20	88	3.00	1.4	2.30	3.00	4.00			
Pro 1.4	0.63	0.01	1.72	80	17.52	1.1	2.20	2.90	4.20			
Pro 2.1	0.39	0.00	0.00	80	6.65	1.1	2.10	2.70	3.90			

						,		TIT	ME OF CON	CENTRAT	ION							
1			OVERLA	AND SHEE	TFLOW			SHALL	OW CONCE	NTRA TED	FLOW		CH	IANNEL FLO	OW	TOTAL	TOTAL	TOTAL
, - -	Drainage Area ID	=	Length	P <sub>2</sub> *	Slope	Overland Travel Time	Slope	Distance	Surface ("Paved" or "Unpaved")	Velocity Coefficient**	Velocity	Shallow Concentrated Flow Travel Time	Velocity	Distance	Channel Travel Time	Travel Distance	Time of Concentration (Computational)	Time of Concentration (Computational)
_	Name	none	ft	inches	ft/ft	min	ft/ft	ft	type	none	ft/s	min	ft/s	ft	min	ft	min	min
	Ex 1	0.015	100.00	4.06	0.0200	1.38	0.0175	669.00	Paved	20.33	2.69	4.15			0.00	769.00	5.52	3.31
	Ex 2	0.150	100.00	4.06	0.0200	8.70	0.0170	357.00	Unpaved	16.13	2.10	2.83			0.00	457.00	11.53	6.92
	Pro 1.1	0.015	100.00	4.06	0.0200	1.38	0.0175	349.00	Paved	20.33	2.69	2.16	5.00	308.00	0.00	757.00	5.52	3.31
_	Pro 1.2	0.015	19.00	4.06	0.0160	0.40	0.0000	0.00	Unpaved	16.13	0.00	0.00	5.00	299.00	1.00	318.00	5.00	3.00
	Pro 1.3	0.015	77.00	4.06	0.0400	0.85	0.0600		Paved	20.33	4.98	0.00			0.00	77.00	5.00	3.00
	Pro 1.4	0.150	100.00	4.06	0.0010	28.83	0.1000	111.00	Unpaved	16.13	5.10	0.36			0.00	211.00	29.19	17.52
	Pro 2.1	0.150	100.00	4.06	0.0130	10.33	0.0240	113.00	Unpaved	16.13	2.50	0.75			0.00	213.00	11.09	6.65





	CN	Calculati	ions	
Drainage Area	Open Space (Lawns, parks, golf coures, cemeteries, etc), Good Condition - 80	Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D - 98	Total Area	Average Sum CN
ID	AC	AC	AC	CN
	80	98		
Ex 1	4.73	0.00	4.73	80
Ex 2	1.23	0.00	1.23	80
Pro 1.1	1.05	1.80	2.85	91
Pro 1.2	0.01	1.62	1.63	98
Pro 1.3	0.17	0.13	0.30	88
Pro 1.4	0.62	0.01	0.63	80

Site	Site Discharge Summary									
Analysis Point	NRCS Atlas 14, 24 hr Storm Water Flows (cfs)									
Allalysis Follic	2-yr	10-yr	25-yr	100-yr						
Ex DP1	15.9	30.3	40.3	57.7						
Pro DP1	11.5	22.1	26.8	40.2						
Ex DP2	3.5	6.7	9.0	12.9						

Notes
The flow off the site has not been increased from the existing conditions. Per Ref. Section 12.16.001(4)

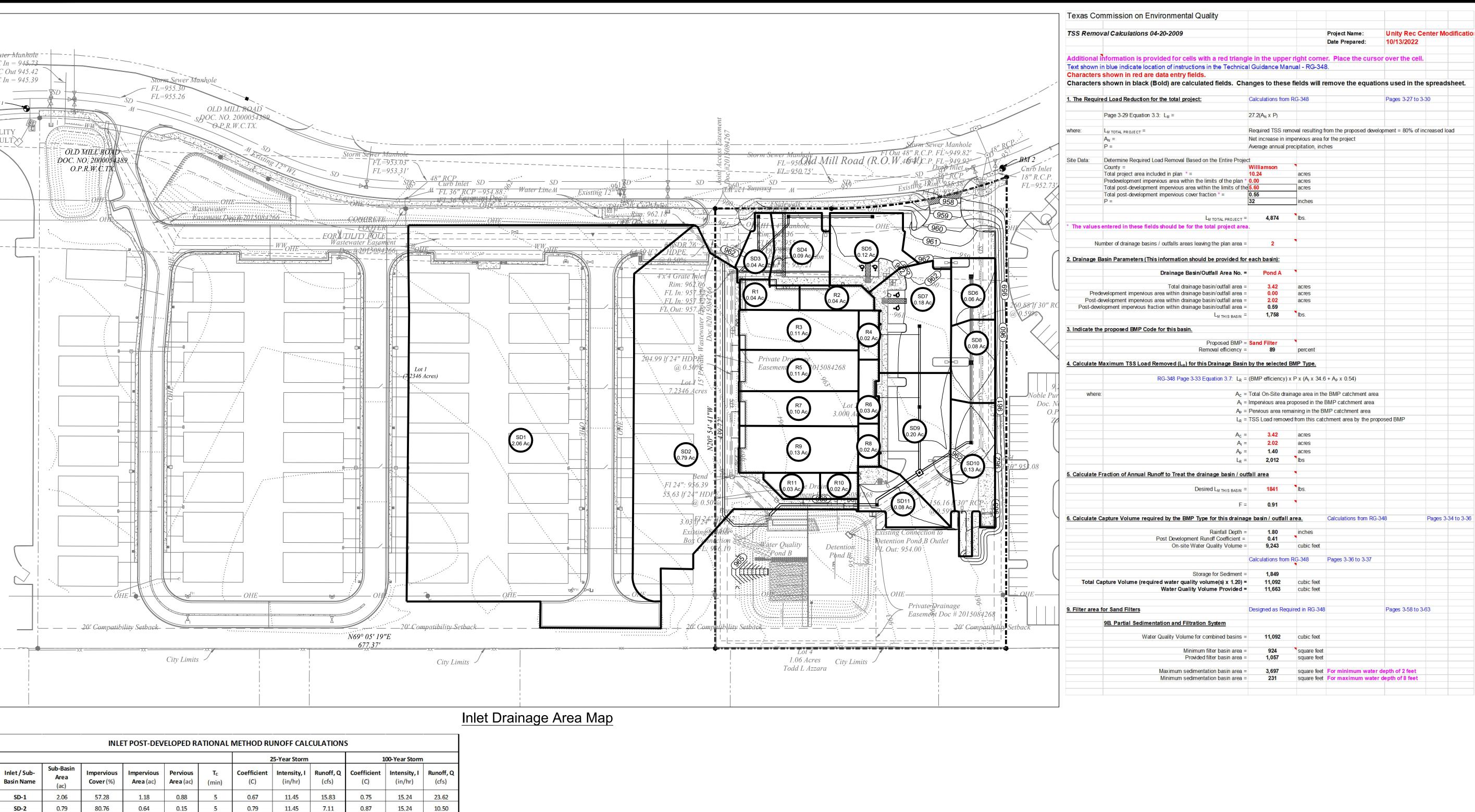
Engineer has reviewed plans pertaining to the design of the existing detention facilities and agrees with their design. Proposed development does not adversely affect any downstream properties. Per Ref. Section 12.13.002(g)



Design: VG CAD: AE Review: VG Project No: AKM 70370

Proposed Drainage Area Map

Sheet: **16** of **32** 



\* Inlet Capacity of a Grate Inlet is reduced by fifty (50) percent to allow for clogging.

\* Inlet Capacity of a Curb Inlet is reduced by ten (10) percent to allow for clogging

S	Sca	ile	1"	= 50'	
0			50'		10

Inlet / Sub- Basin Name	Sub-Basin Area (ac)	Impervious Cover (%)	Impervious Area (ac)	Pervious Area (ac)	T <sub>C</sub> (min)	Coefficient (C)	Intensity, I (in/hr)	Runoff, Q (cfs)	Coefficient (C)	Intensity, I (in/hr)	Runoff, C
SD-1	2.06	57.28	1.18	0.88	5	0.67	11.45	15.83	0.75	15.24	23.62
SD-2	0.79	80.76	0.64	0.15	5	0.79	11.45	7.11	0.87	15.24	10.50
SD-3	0.04	92.50	0.04	0.00	5	0.84	11.45	0.39	0.93	15.24	0.57
SD-4	0.09	94.44	0.09	0.00	5	0.85	11.45	0.88	0.94	15.24	1.29
SD-5	0.12	100.00	0.12	0.00	5	0.88	11.45	1.21	0.97	15.24	1.77
SD-6	0.06	108.33	0.07	-0.01	5	0.92	11.45	0.63	1.01	15.24	0.93
SD-7	0.18	100.00	0.18	0.00	5	0.88	11.45	1.81	0.97	15.24	2.66
SD-8	0.08	93.75	0.08	0.01	5	0.85	11.45	0.78	0.94	15.24	1.14
SD-9	0.20	97.50	0.20	0.01	5	0.87	11.45	1.99	0.96	15.24	2.92
SD-10	0.13	98.46	0.13	0.00	5	0.87	11.45	1.30	0.96	15.24	1.91
SD-11	0.08	97.50	0.08	0.00	5	0.87	11.45	0.80	0.96	15.24	1.17
R1	0.04	100.00	0.04	0.00	5	0.88	11.45	0.40	0.97	15.24	0.59
R2	0.04	100.00	0.04	0.00	5	0.88	11.45	0.40	0.97	15.24	0.59
R3	0.11	100.00	0.11	0.00	5	0.88	11.45	1.11	0.97	15.24	1.63
R4	0.02	100.00	0.02	0.00	5	0.88	11.45	0.20	0.97	15.24	0.30
R5	0.11	100.00	0.11	0.00	5	0.88	11.45	1.11	0.97	15.24	1.63
R6	0.03	100.00	0.03	0.00	5	0.88	11.45	0.30	0.97	15.24	0.44
R7	0.10	100.00	0.10	0.00	5	0.88	11.45	1.01	0.97	15.24	1.48
R8	0.02	100.00	0.02	0.00	5	0.88	11.45	0.20	0.97	15.24	0.30
R9	0.13	100.00	0.13	0.00	5	0.88	11.45	1.31	0.97	15.24	1.92
R10	0.02	100.00	0.02	0.00	5	0.88	11.45	0.20	0.97	15.24	0.30
R11	0.03	100.00	0.03	0.00	5	0.88	11.45	0.30	0.97	15.24	0.44

1. Rainfall intensities account for NOAA Atlas 14 (Cedar Park)

	ON-SITE											
Inlet Name	Sub-Basin Area (acres)	Q <sub>25</sub> (cfs)	In	let Size (ft)		Inlet Type	A <sub>g</sub> (sf)	h (ft)	Q(cap.)* (cfs)	Q(cap.)- Q(25) (cfs)	Qcap. > Q25 Yes / No	
SD-1	2.06	15.83		20.0		Curb Inlet	11.67	0.50	24.06	8.23	Yes	
SD-2	0.79	7.11	4.0	X	4.0	Grate Inlet	12.05	0.50	20.51	13.40	Yes	
SD-3	0.04	0.39	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.74	Yes	
SD-4	0.09	0.88	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.25	Yes	
SD-5	0.12	1.21	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.92	Yes	
SD-6	0.06	0.63	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.49	Yes	
SD-7	0.18	1.81	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.31	Yes	
SD-8	0.08	0.78	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.35	Yes	
SD-9	0.20	1.99	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.14	Yes	
SD-10	0.13	1.30	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.83	Yes	
SD-11	0.08	0.80	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.33	Yes	
Formulas:	Intercept Flow, C	Q i = C*A*(2* <sub>{</sub> Q i = C*L*H^(:		. 4-6) ((	COA - DO	CM Section 4.3.	.1 (b), Eq. 4-	1)				

			100	YK - INI	V-10-10-10-10-10-10-10-10-10-10-10-10-10-	LCULATION -SITE	I IABLE				
Inlet Name	Sub-Basin Area (acres)	Q100 (cfs)	15098	let Size (ft x ft)		Inlet Type	A <sub>g</sub> (sf)	h (ft)	Q(cap.)* (cfs)	Q(cap.)- Q(100) (cfs)	Qcap. > Q100 Yes / No
SD-1	2.06	23.62		20.0		Curb Inlet	11.67	0.50	24.06	0.44	Yes
SD-2	0.79	10.50	4.0	X	4.0	Grate Inlet	12.05	0.50	20.51	10.01	Yes
SD-3	0.04	0.57	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.56	Yes
SD-4	0.09	1.29	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.84	Yes
SD-5	0.12	1.77	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.35	Yes
SD-6	0.06	0.93	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	4.20	Yes
SD-7	0.18	2.66	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	2.47	Yes
SD-8	0.08	1.14	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.98	Yes
SD-9	0.20	2.92	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	2.21	Yes
SD-10	0.13	1.91	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.22	Yes
SD-11	0.08	1.17	2.0	X	2.0	Grate Inlet	3.01	0.50	5.13	3.96	Yes

Intercept Flow, Q i =  $4.82*A_g*h^0.5$  (Eq. 4-6) (COA - DCM Section 4.3.1 (b), Eq. 4-1)  $Qi = C*L*H^{3/2}$ 

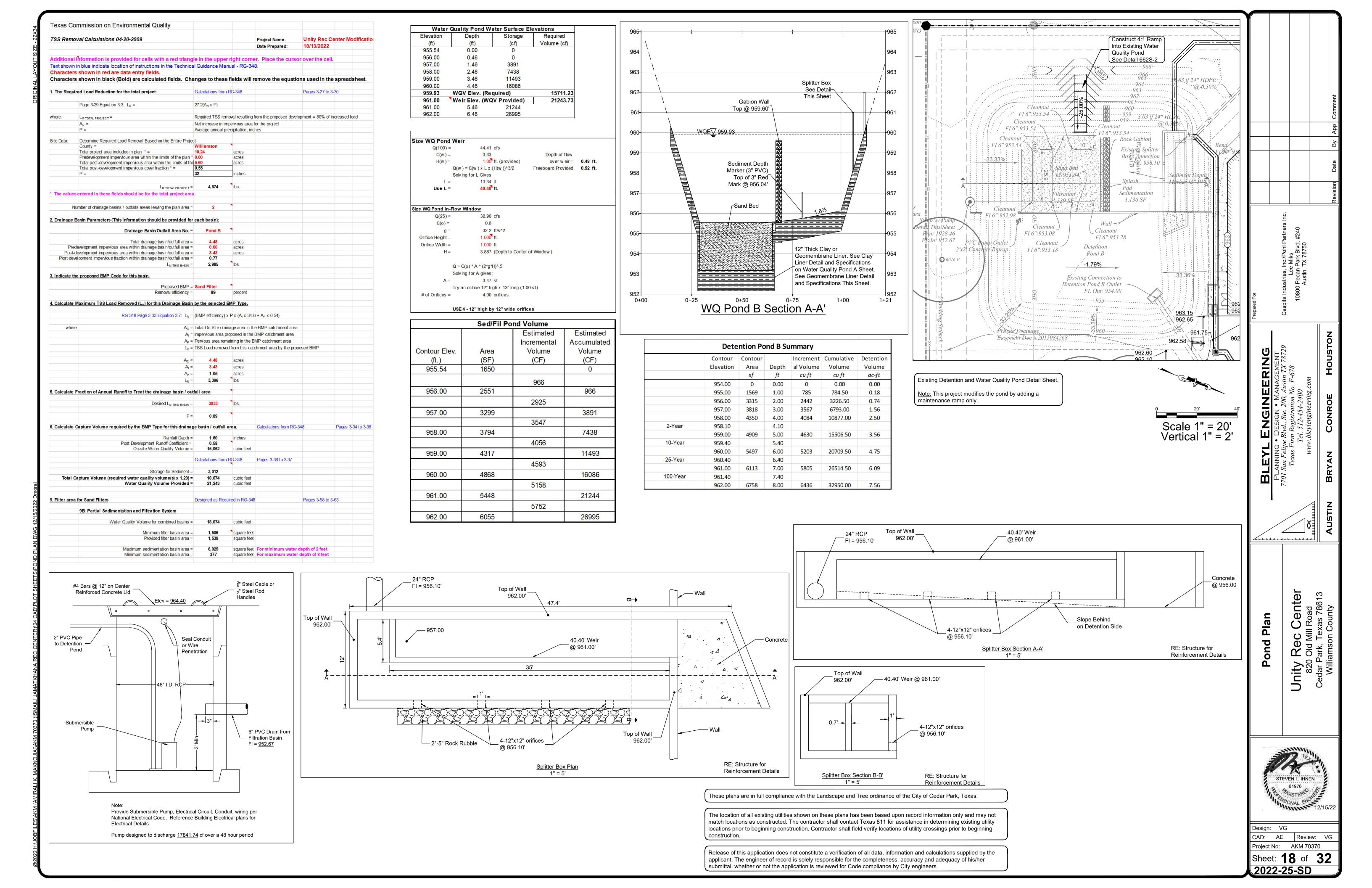
> \* Inlet Capacity of a Grate Inlet is reduced by fifty (50) percent to allow for clogging. \* Inlet Capacity of a Curb Inlet is reduced by ten (10) percent to allow for clogging.

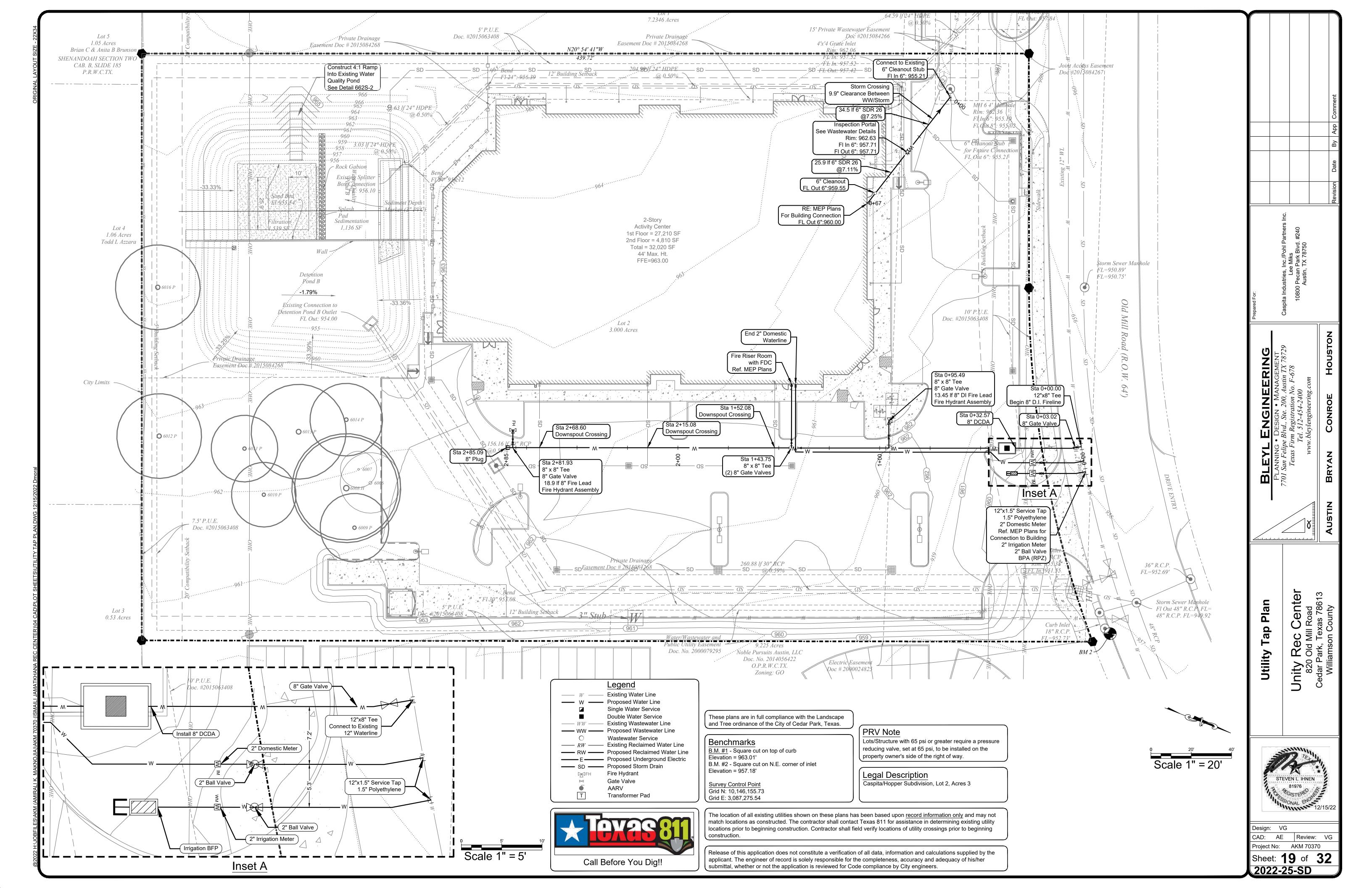
STEVEN L. IHN 81976 G/STERES SONAL EN	
Design: VG	

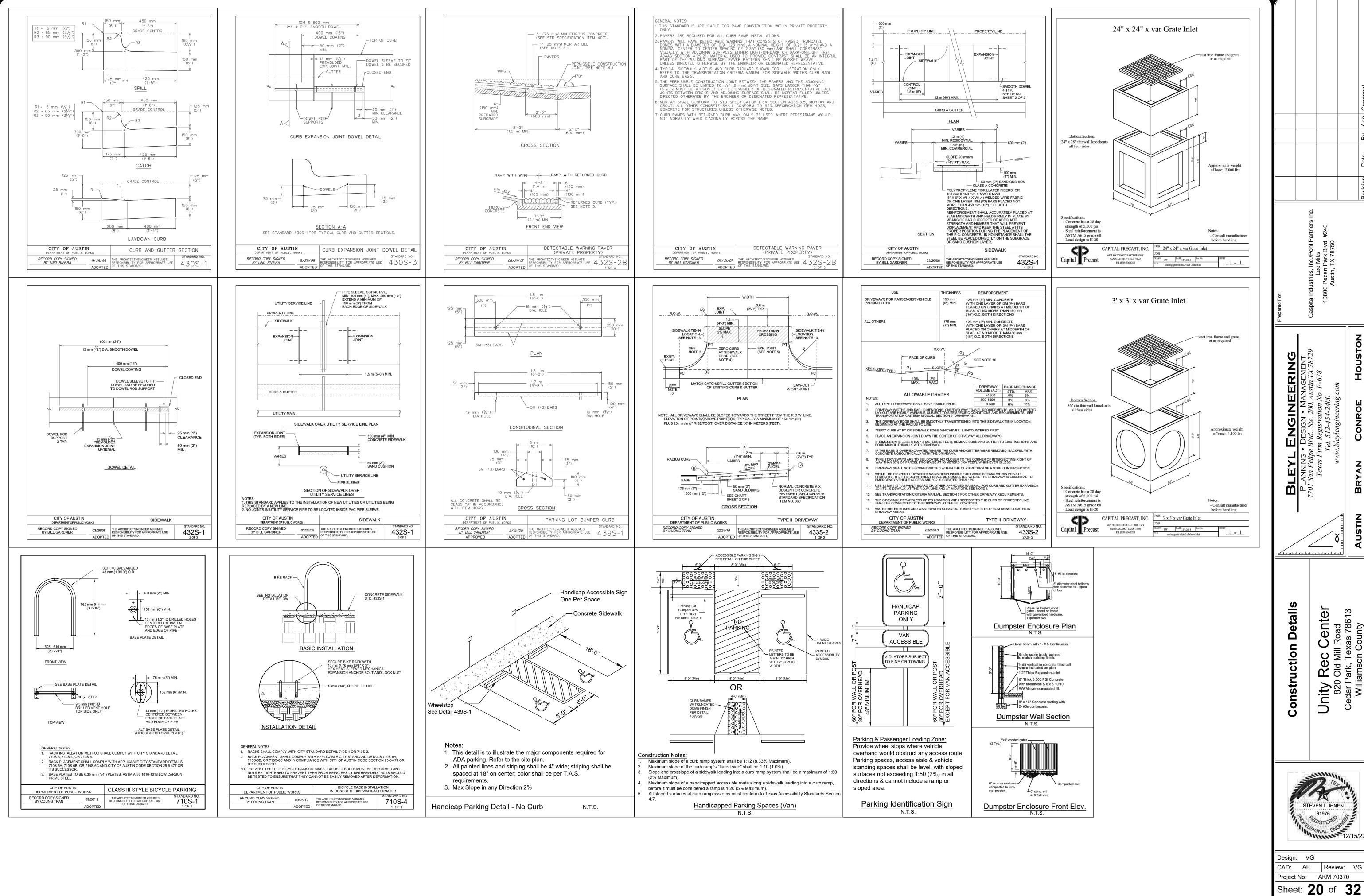
Inlet Drainage Area Map TCEQ Calculations

CAD: AE Review: VG Project No: AKM 70370

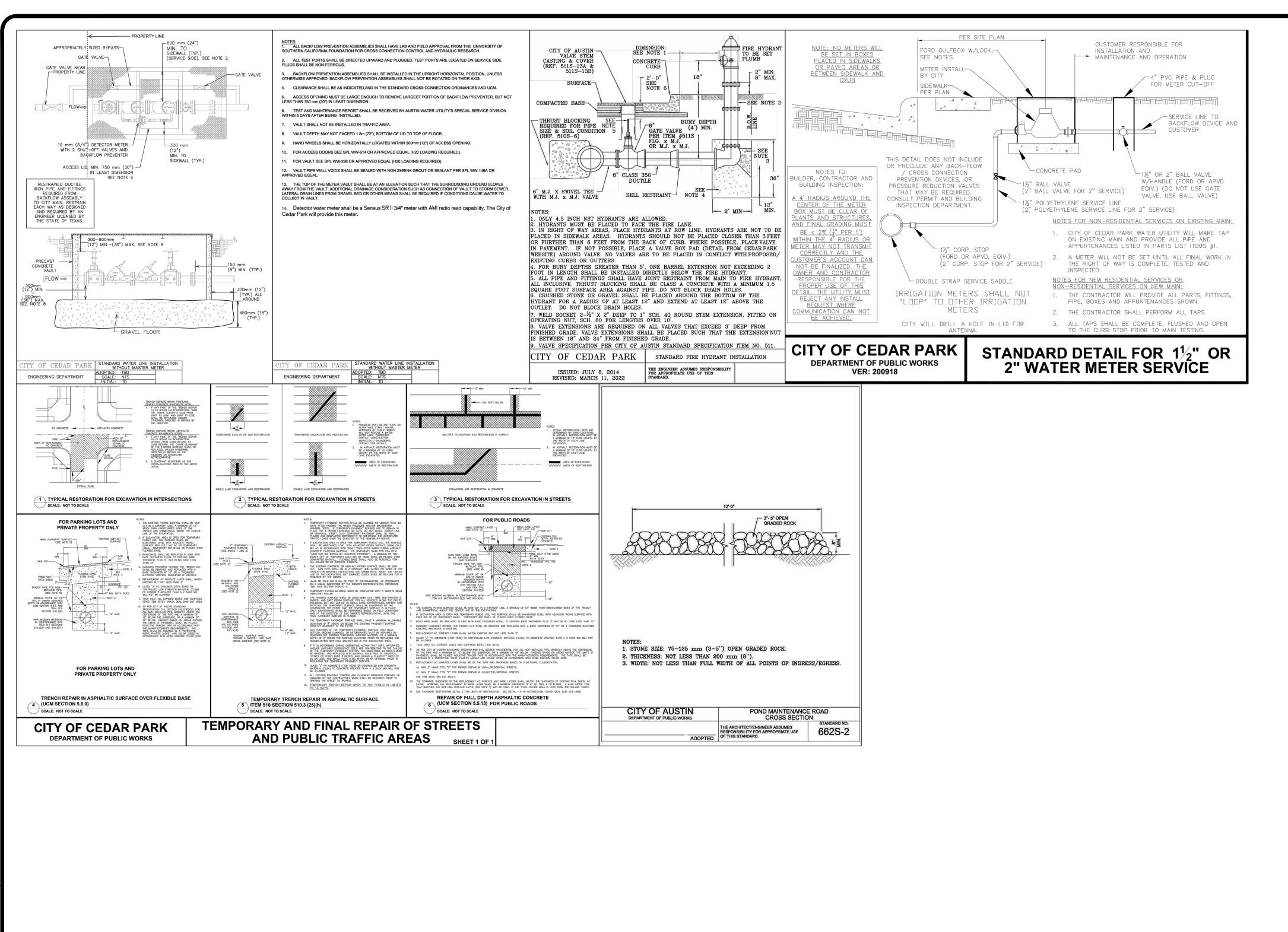
Sheet: **17** of **32 2022-25-SD** 







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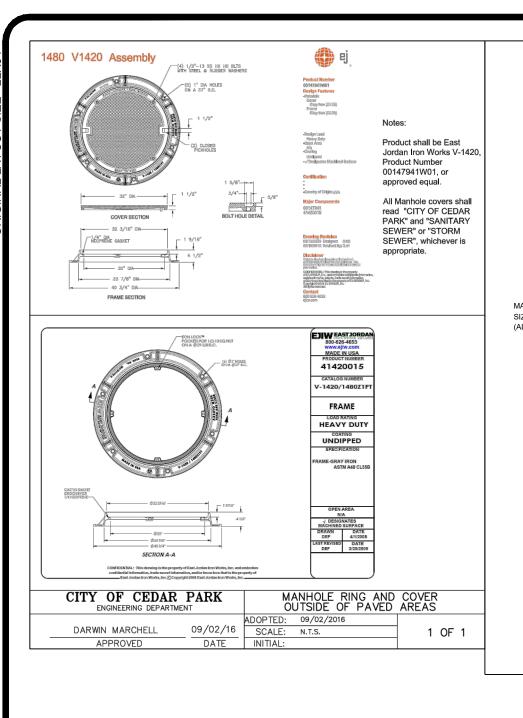


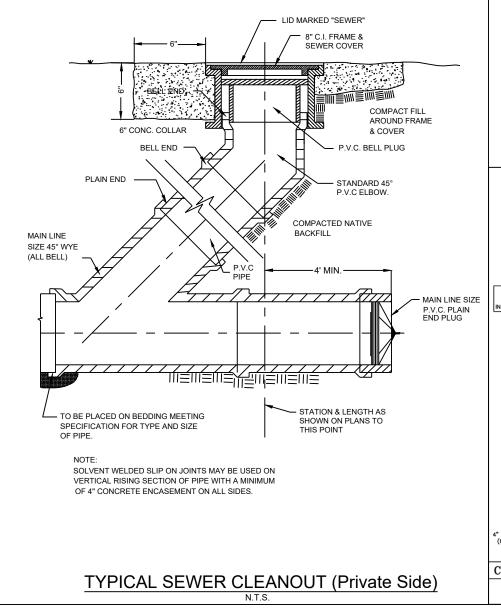
EERING STATES Water Details Unity Design: VG

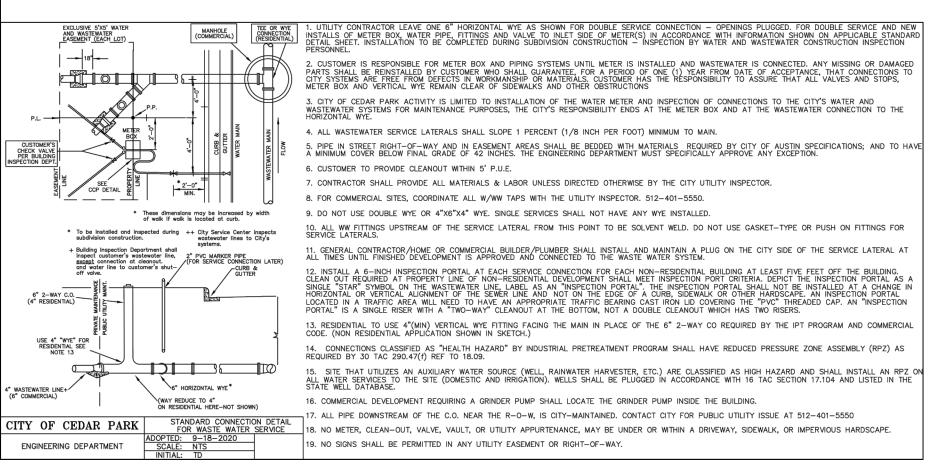
CAD: AE Review: VG
Project No: AKM 70370

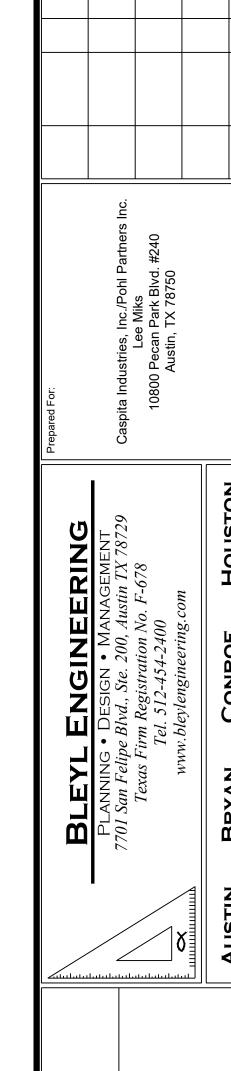
Sheet: **21** of **32 2022-25-SD** 

IA)\AKM 70370 (ISMAILI JAMATKHANA REC CENTER)\04 CAD\PLOT SHEETS\









Unity Rec 820 Old Mill

Design: VG

CAD: AE Review: VG

Project No: AKM 70370

Wastewater Details

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