

CITY OF ROCKWALL

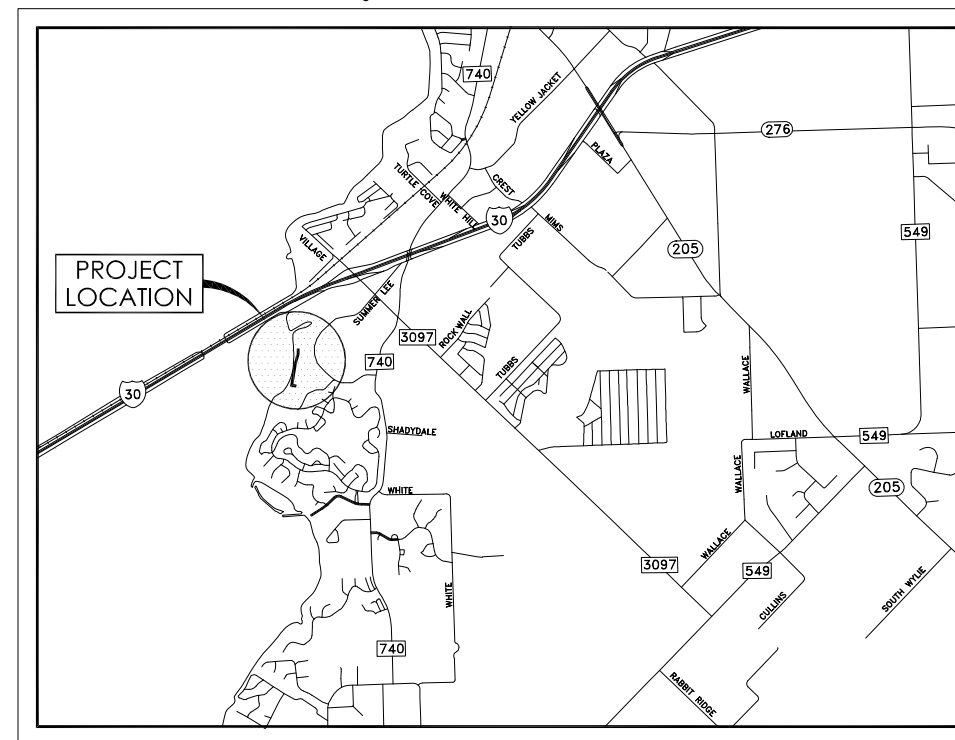
CONSTRUCTION PLANS FOR

SIGNAL RIDGE SANITARY SEWER

PIPE BURSTING



City of Rockwall



LOCATION MAP

G&A JOB NO. 1236-15

FEBRUARY 2016

CIP 2015-020

CITY OF ROCKWALL

MAYOR:

JIM PRUITT

CITY COUNCIL:

DAVID WHITE
JOHN HOHENSHELT
KEVIN FOWLER
DENNIS LEWIS, MAYOR PRO-TEM
SCOTT MILDER
MIKE TOWNSEND

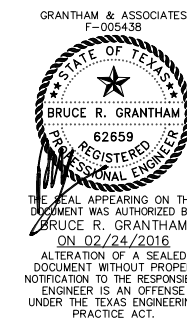
CITY MANAGER:

RICK CROWLEY

SHEET INDEX

- | | |
|---|---|
| 1 | GENERAL NOTES & QUANTITIES |
| 2 | EROSION CONTROL & CONSTRUCTION FENCE PLAN |
| 3 | EROSION CONTROL DETAILS |
| 4 | SURVEY CONTROL & CONSTRUCTION ACCESS PLAN |
| 5 | SANITARY SEWER PIPE BURST - SHEET 1 |
| 6 | SANITARY SEWER PIPE BURST - SHEET 2 |
| 7 | SANITARY SEWER PIPE BURST - SHEET 3 |

RECORD DRAWING
BASED ON CONTRACTOR MARKUPS
NOT FIELD SURVEY



OWNER:

CITY OF ROCKWALL
385 S. GOLIAD STREET
ROCKWALL, TEXAS 75087

ENGINEER:

Grantham & Associates, Inc.
Civil Engineering & Surveying
"Serving with Integrity"

6570 NAAMAN FOREST BLVD., SUITE 200, L.B. 2
GARLAND, TEXAS 75044

(972) 864-2333 (TEL)
(972) 864-2334 (FAX)

GENERAL NOTES

- All materials and workmanship shall conform to the City of Rockwall, Standards and Specifications and the North Central Texas Council of Government (NCTCOG) Standards and Specifications 3rd Edition, except as noted. In the event of a conflict, the City of Rockwall Standards and Specifications shall govern.
- All locations of underground utility lines are approximate. CONTRACTOR shall notify all applicable utility companies 48 hours prior to construction so that underground lines can be marked.
- The CONTRACTOR shall be responsible for public safety during construction and will provide the necessary traffic barricades and warning signage to protect the construction site. Construction barricades shall be in conformance with the Texas Manual on Uniform Traffic Control Devices. In areas where long term nighttime barricades are used, barricades should include high intensity reflective sheeting. The Contractor shall notify local fire/police in advance of any lane closures or detours.
- All concrete shall have a minimum compressive strength of 3,600 psi at 28 days (minimum 6 sacks of cement per cubic yard for machine placed, 6.5 sack for hand placed) unless otherwise noted. All reinforcing steel and dowel bars in pavement shall be supported and maintained at the correct clearances by the use of bar chairs or other approved support.
- The CONTRACTOR is responsible for keeping streets, parking areas, sidewalks, etc., adjacent to the project free of mud and debris from construction.
- The CONTRACTOR shall assume responsibility for protection of public utilities in the construction of this project. All manholes, valve boxes, fire hydrants, etc., must be adjusted to proper line and grade by the CONTRACTOR prior to and/or after placing of permanent paving. The CONTRACTOR shall also be responsible for support of existing utility poles, street signs, etc., when excavating in the vicinity of such poles.
- The City of Rockwall Public Works Department and construction inspector is to be notified 48 hours (2 working days) prior to any construction of paving and utilities in rights-of-way, easements and alleys.
- All disturbed earth areas are to be finish graded to original or proposed contours, fertilized and sodded according to NCTCOG specifications immediately after construction. Backfill behind new curb is to be select material free of rock and other debris. CONTRACTOR shall thoroughly water the sod immediately after placement. The CONTRACTOR shall also be responsible for continued maintenance and watering of the newly sodded areas until the entire project is completed and accepted by the City of DeSoto. Watering of the sod shall be done in a manner and quantity as directed by City of Rockwall Inspection Personnel.
- Arrangements for construction water shall be made through the City of Rockwall Water Department.
- CONTRACTOR shall maintain adequate sanitary facilities for use by workers throughout construction.
- No existing trees shall be removed without approval of the City.
- Any temporary asphalt to be placed to facilitate traffic movements during construction shall not be paid for separately but shall be included in other items of work.
- Bid items provided are intended to be all-inclusive of the work required on this project. Work required by the plans or specifications but not provided with a specific pay item shall be considered incidental to other items of work.
- The Contractor shall furnish a Trench Safety Plan certified by a Professional Engineer registered in the State of Texas.
- Contractor shall video tape construction work zone and adjacent properties prior to construction.
- The CONTRACTOR is responsible for maintaining adequate site drainage throughout the duration of this project.
- The CONTRACTOR shall replace all fences damaged during construction in as good or better condition than before. (NO SEPARATE PAY)
- The CONTRACTOR shall take all necessary precautions to ensure that electric power and telephone poles are not disturbed during construction. All costs incurred for shoring electric power and telephone poles shall be included in the price bid for the construction of the project. (No separate pay item)
- The CONTRACTOR shall restore all property including driveways, public streets and sidewalks removed or damaged during construction to as good or better condition than before. Restoration shall be made immediately after the property no longer interferes with construction.
- The CONTRACTOR shall not place fill or waste material on any private property without prior written permission from the property owner and the OWNER. No excess excavated material shall be deposited in low areas or along natural drainage ways that will restrict the natural flow of water. If the CONTRACTOR places excavated material in low areas that will cause flood damage, he will be responsible for all damage resulting from such fill, and he shall remove the fill at his expense.
- All streets within the scope of the Contract shall be kept accessible to fire trucks, ambulances and other emergency vehicles.
- The CONTRACTOR shall keep excavated trenches free of groundwater during construction. If necessary, the CONTRACTOR shall utilize dewatering procedures in order to control groundwater during construction such that it does not affect his construction work. (No separate pay item)
- No existing private sprinkler systems have been shown on the plans, however, some sprinkler systems may exist. The CONTRACTOR shall coordinate with the property owners to determine the existence and extent of any existing sprinkler systems. If the CONTRACTOR encounters any sprinkler systems during construction that require modification or are damaged by construction, he shall repair and/or replace in as good or better condition than before. (No separate pay item).
- The CONTRACTOR shall use the construction easement, public right-of-ways, and existing utility easements for access to the job site. The CONTRACTOR may use the construction easement of an adjacent property when approved by the OWNER and ENGINEER.

GENERAL NOTES CONT'D

- The CONTRACTOR shall not trim or remove any shrubs or trees without the approval of the City of Rockwall. Any trimming or removal required shall be considered subsidiary to the clearing and grubbing pay item.
- The City of Rockwall may request the installation of temporary 4-foot high temporary construction fencing to protect adjacent properties and trees during construction. (No separate pay)
- CONTRACTOR shall distribute letters to all property owners prior to beginning work on each property. The letter shall include name and phone numbers of CONTRACTOR contacts. A description of the work to be done and time frame for doing the work. CONTRACTOR should notify residents 48 hrs. in advance of performing any work on private property.
- CONTRACTOR is responsible for maintaining water and sewer connections to homes in working order at all times. In no case shall services be allowed to remain out of service.
- CONTRACTOR shall submit written request to the City for approval of all areas to be used for staging, mobilization, equipment, material storage and general project construction management. Request shall be submitted to city within five days of notice to proceed.

GENERAL EARTHWORK NOTES

- After completion of the necessary stripping, clearing and excavating, and prior to placing any required fill, the exposed subgrade shall be carefully inspected by probing and testing. Any undesirable material (organic material, wet, soft, or loose soil) still in place shall be removed.
- The exposed subgrade shall be further inspected by proof-rolling with a heavy pneumatic tired roller, loaded dump truck, or similar equipment weighing approximately 10 tons to check for pockets of soft or loose material hidden beneath a thin crust of possibly better soil.
- Any unsuitable materials exposed should be removed and replaced with well-compacted material.
- Sandy materials with a plasticity index below 25 shall be compacted to a dry density of at least 95 percent standard Proctor maximum dry density (ASTM D-698) and within 1 percentage point below to 3 percentage points above the material's optimum moisture content.
- Clay soils with a plasticity index equal to or greater than 25 shall be compacted to a dry density between 95 and 100 percent of standard Proctor maximum dry density (ASTM D-698). The compacted moisture content of the clays during placement shall be within the range of 0 to 4 percentage points above optimum. Clay fill shall be processed and the largest particle or clod shall be less than 6 inches prior to compaction.
- Limestone or other rock-like materials used as random fill shall be compacted to at least 95 percent of standard Proctor dry density. If the material's moisture content during placement is within 3 percentage points of optimum, the compactive effort required to achieve the minimum compaction criteria may be minimized. Individual rock pieces larger than 6 inches in dimension shall not be used as fill. However, if rock fill is utilized within 1-foot below the bottom of pavement, the maximum allowable size of individual rock pieces shall be reduced to 3 inches.
- In cases where utility line fill is more than 10 feet deep, the fill/backfill below 10 feet shall be compacted to at least 100 percent of standard Proctor maximum dry density (ASTM D-698) and within 2 percentage points of the material's optimum moisture content. The portion of the fill/backfill shallower than 10 feet shall be compacted as outlined above.
- Compaction shall be accomplished by placing fill in loose lifts no thicker than 8 inches. Each lift shall be compacted to at least the specified minimum dry density. Field density and moisture content tests shall be performed on each lift as necessary to assure adequate compaction is achieved. Utility trench backfill shall be tested at a rate of one test per lift per each 300 lineal feet of trench.

UTILITY NOTES:

- Contractor shall exhibit caution in the vicinity of all existing underground utilities.
- Contact Dig-Tess for all franchise utility locations and coordinate directly with each utility company for line depths prior to excavation. In the event of a potential conflict, request utility representative instructions regarding excavation procedure.
- Contact City inspector to confirm existing water and sanitary sewer main line and service locations and depths prior to excavation. Coordinate with City inspector for excavation procedure at all potential conflict locations.

PROJECT NOTES:

- Contractor shall coordinate with city inspector regarding property owner notification prior to construction. Disturbance of existing private property improvements: landscaping, grass, fences, etc., shall be minimized. Any such improvements disturbed by the contractor shall be restored to original or better condition at the contractors expense. (NO SEPARATE PAY)

LEGEND

○	CO	⊗	GAS METER	☼	MISC. TREE
①	TELEPHONE MH	⊗	FIRE HYDRANT	⊗	HACKBERRY TREE
②	ELECTRIC MH	⊗	MISC. MH	⊗	ASH TREE
③	SANITARY SEWER MH	⊗	MAILBOX	⊗	LAMP POST
④	STORM DRAIN MH	⊗	OAK TREE	⊗	WATER VALVE
⑤	GAS MH	⊗	WILLOW TREE	⊗	WATER METER
⑥	STREET SIGN	⊗	CREPE MYRTLE		
⑦	PP	⊗	PINE TREE		

ITEM NO.	DESCRIPTION	UNIT	SHEET NO. 4	SHEET NO. 5	SHEET NO. 6	SHEET NO. 7	BID TOTAL
BASE BID							
1	MOBILIZATION (MAXIMUM 5% OF CONTRACT)	LS					1
2	TEMPORARY CONSTRUCTION FENCING	LF	2,615				2,615
3	TYPE II BARRICADE W/ SIDEWALK CLOSED SIGN	EA	4				4
4	EROSION CONTROL	LS	1				1
5	FURNISH & IMPLEMENT CONSTRUCTION SEQUENCING PLAN INCLUDING BYPASS PUMPING	LS					1
6	REMOVE EXSTING MANHOLE	EA		3	2	2	7
7	SAWCUT, REMOVE, & DISPOSE EXISTING PAVEMENT	SY		138		210	348
8	EXTERNAL SERVICE RECONNECT (UNKNOWN SIZE, CONTRACTOR TO VERIFY)	EA		1		1	2
9	FURNISH & INSTALL STD 4' DIA MANHOLE WITH COATING (RAVEN, CONSHIELD, OR APPROVED EQUAL)	EA		3	2	2	7
10	POINT REPAIR	LF		10			10
11	LINE EXISTING MANHOLE WITH RAVEN COATING OR APPROVED EQUAL	EA				1	1
12	FURNISH & INSTALL CONCRETE PAVEMENT TO MATCH EXISTING (6" THICKNESS)	SY		138		210	348
13	REMOVE & REPLACE 24" RCP IF REQUIRED	LF			20		20
14	REMOVE & REPLACE 33" RCP IF REQUIRED	LF		20			20
15	REMOVE & REPLACE 36" RCP IF REQUIRED	LF		20			20
16	REMOVE, STORE, & REINSTALL LIGHT POLE IF REQUIRED	EA		4			4
17	REMOVE & REPLACE RIP RAP IF REQUIRED	SY				8	8
18	TRENCH SAFETY	LF		170	185	100	455
19	SOD (MATCH EXISTING TYPE)	SY		720	1110	330	2,160
BID ALTERNATE "A"							
20	FURNISH & INSTALL 14" IPS HDPE DR19 BY OPEN CUT	LF		61	500	163	724
21	FURNISH & INSTALL 14" IPS HDPE DR19 BY PIPE BURST	LF		439		109	548
BID ALTERNATE "B"							
22	FURNISH & INSTALL 14" DIPS HDPE DR19 BY OPEN CUT	LF		61	500	163	724
23	FURNISH & INSTALL 14" DIPS HDPE DR19 BY PIPE BURST	LF		439		109	548

NOTES:

- TRENCH SAFETY LIMITS ARE ESTIMATED. PAYMENT SHALL BE MADE ON ACTUAL OPEN CUT TRENCHING.
- THE QUANTITIES FOR PAVEMENT REMOVAL/REPLACEMENT INCLUDE A PLAN-MEASURED QUANTITY OF 223 SY AND A CONTINGENCY OF 125 SY TO BE USED, IF NEEDED, WITH CITY APPROVAL
- THE FOLLOWING ITEMS ARE SUBSIDIARY TO THE BID ITEMS PROVIDED:
 TELEVISION INSPECTION OF PIPEBURST SEWER
 VIDEO TAPING OF PROJECT SITE PRIOR TO CONSTRUCTION
 CONTRACTOR NEGOTIATIONS WITH PROPERTY OWNERS FOR TEMPORARY STAGING AREAS
 ALL FEES
 SEWER LINE TESTS
 REPAIR OF FENCES, WALLS, IRRIGATION SYSTEMS AND OTHER IMPROVEMENTS DAMAGED BY CONTRACTOR
 FINAL CLEANUP

RECORD DRAWING
 BASED ON CONTRACTOR MARKUPS
 NOT FIELD SURVEY

Grantham & Associates, Inc.
 Civil Engineering & Surveying

(972) 864-2333 (TEL)
 (972) 864-2334 (FAX)

4570 NAAMAN FOREST BLVD., SUITE 200, LB. 2
 GARLAND, TEXAS 75044

BRG							
7/29/16	REVISED ALIGNMENT 5+39 TO 12+27						
1	2	3	4	NO.	DATE	REVISION	APPROV.

GRANTHAM & ASSOCIATES
 F-005438



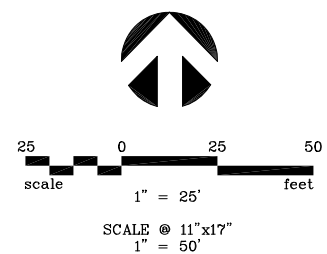
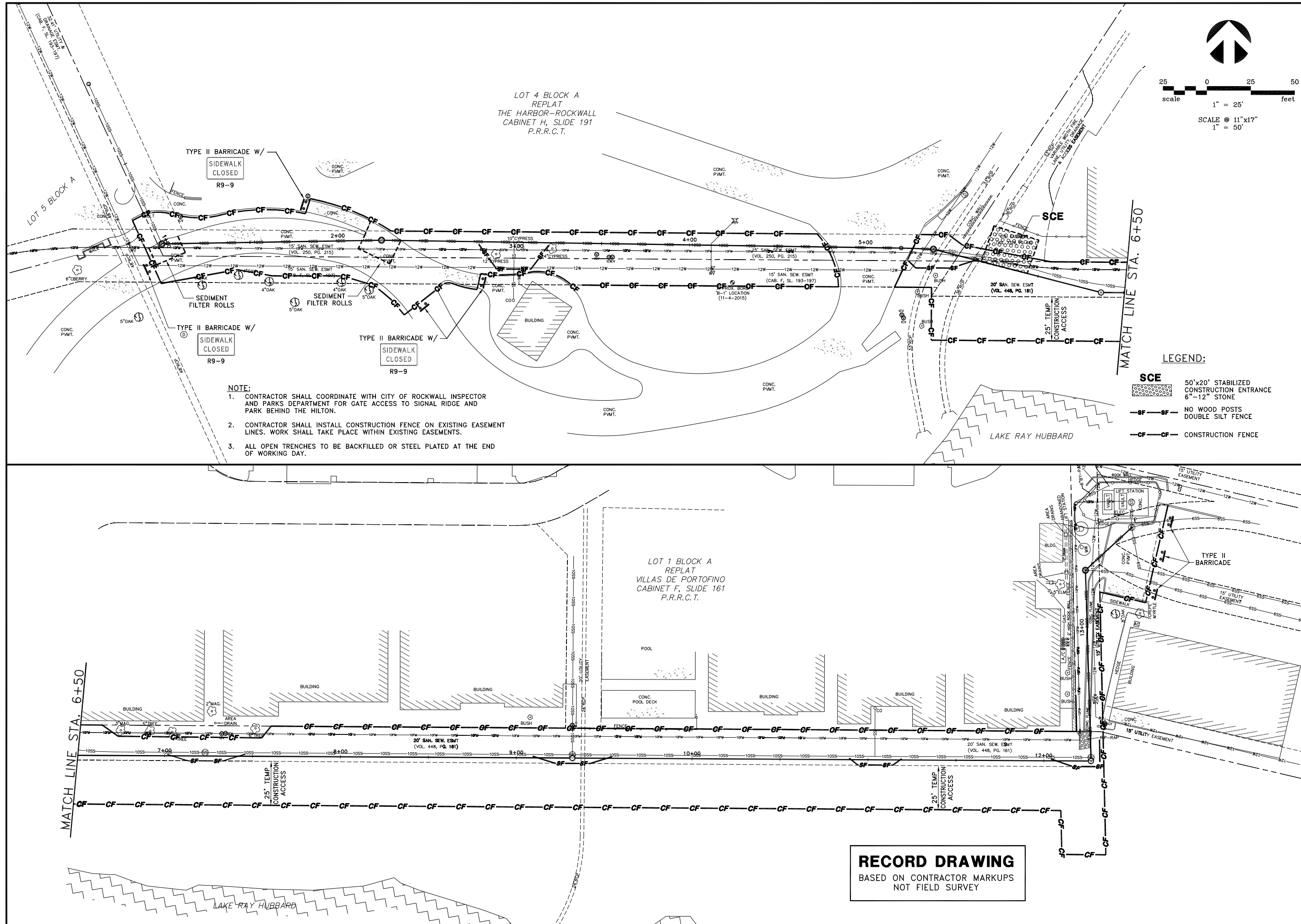
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
 BRUCE R. GRANTHAM
 ON 09/13/2016
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

SIGNAL RIDGE
 SANITARY SEWER
 PIPE BURSTING
 GENERAL NOTES & QUANTITIES
 CITY OF ROCKWALL

DATE:	FEBRUARY 2016
SCALE:	1"=20'(H) 1"=4'(V)
DRAWN BY:	G&A
DESIGN:	BRG
REVIEWED:	BRG
JOB NO.:	1236-15
DWG.:	1236GEN-NOTES
1	SHEET OF 7

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- NOTE:**
1. CONTRACTOR SHALL COORDINATE WITH CITY OF ROCKWALL INSPECTOR AND PARKS DEPARTMENT FOR GATE ACCESS TO SIGNAL RIDGE AND PARK BEHIND THE HILTON.
 2. CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE ON EXISTING EASEMENT LINES. WORK SHALL TAKE PLACE WITHIN EXISTING EASEMENTS.
 3. ALL OPEN TRENCHES TO BE BACKFILLED OR STEEL PLATED AT THE END OF WORKING DAY.

- LEGEND:**
- SCE** 50'x20' STABILIZED CONSTRUCTION ENTRANCE 6"-12" STONE
 - SF-SF** NO WOOD POSTS DOUBLE SILT FENCE
 - CF-CF** CONSTRUCTION FENCE

RECORD DRAWING
 BASED ON CONTRACTOR MARKUPS
 NOT FIELD SURVEY

Grantham & Associates, Inc.
 Civil Engineering & Surveying
 4570 NAAAMAN FOREST BLVD., SUITE 200, LB. 2
 GARLAND, TEXAS 75044
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NO.	DATE	REVISION	APPROV.
1			
2			
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4			

GRANTHAM & ASSOCIATES
 F-005438

STATE OF TEXAS
 BRUCE R. GRANTHAM
 62659
 REGISTERED PROFESSIONAL ENGINEER

THE APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY: BRUCE R. GRANTHAM ON 09/13/2016
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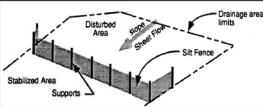
**SIGNAL RIDGE
 SANITARY SEWER PIPE BURSTING
 EROSION CONTROL
 & CONSTRUCTION FENCE PLAN**

CITY OF ROCKWALL

DATE: FEBRUARY 2016
 SCALE: 1"=20'(H)1"=4'(V)
 DRAWN BY: G&A
 DESIGN: BRG
 REVIEWED: BRG
 JOB NO: 1236-15
 DWG: 2

SHEET OF 7

3.10 Silt Fence



Description: A silt fence consists of geotextile fabric supported by wire mesh netting or other backing stretched between metal posts with the lower edge of the fabric securely embedded six inches in the soil. The fence is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. A silt fence provides both filtration and time for sediment settling by reducing the velocity of the runoff.

KEY CONSIDERATIONS

- Maximum drainage area of C25 acre per 100 linear feet of silt fence
- Maximum 200 feet distance of flow to silt fence; 50 feet if slope exceeds 10 percent
- Minimum fabric overlap of 3 feet at abutting ends; join fabric to prevent leakage
- Turn end of silt fence line upslope a minimum of 10 feet
- Install stone overflow structure at low points or spaced at approximately 300 feet if no apparent low point

ADVANTAGES / BENEFITS

- Economical means to treat sheet flow
- Most effective with coarse to silty soil types

DISADVANTAGES / LIMITATIONS:

- Limited effectiveness with clay soils due to clogging
- Localized flooding due to minor ponding at the upslope side of the silt fence
- Not for use as check dams in swales or low areas subject to concentrated flow
- Not for use where soil conditions prevent a minimum toe-in depth of 6 inches or installation of support posts to a depth of 12 inches
- Can fail structurally under heavy storm flow, creating maintenance problems and reducing effectiveness

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Repair undercutting, sag and other fence failures
- Remove sediment before it reaches half the height of the fence
- Repair or replace damaged or clogged filter fabric

TARGETED POLLUTANTS

- Sediment
- Nutrients & Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

APPLICATIONS

- Perimeter Control
- Slope Protection
- Sediment Barrier
- Channel Protection
- Temporary Stabilization
- Final Stabilization
- Waste Management
- Housekeeping Practices

Fe=0.50-0.75
(Depends on soil type)

IMPLEMENTATION CONSIDERATIONS

- Capital Costs
- Maintenance
- Training
- Suitability for Slopes > 5%

Other Considerations:

- Effects of ponding or the restriction of flow onto adjacent areas and property

Silt Fence Revised 04/10 CC-143

3.10.1 Primary Use

Silt fence is normally used as a perimeter control on the down slope side of disturbed areas and on side slopes where stormwater may runoff the area. It is only feasible for non-concentrated, sheet flow conditions. If it becomes necessary to place a silt fence where concentrated flows may occur (e.g. where two silt fences join at an angle, or across minor channels or gullies), it will be necessary to reinforce the silt fence at that area by a rock berm or sand bag berm, or other structural measures that will support the silt fence.

3.10.2 Applications

Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developers and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging and limited effectiveness, silt fences should be used with caution in areas that have predominantly clay soil types. In this latter instance, a soils engineer or soil scientist should confirm the suitability of silt fence for that application. Additional controls may be needed to remove fine silts and clay soils suspended in stormwater.

3.10.3 Design Criteria

- Fences are to be constructed along a line of constant elevation (along a contour line) where possible.
- Silt fence can interfere with construction operations; therefore, planning of access routes onto the site is critical.
- Maximum drainage area shall be 0.25 acre per 100 linear feet of silt fence.
- Maximum flow to any 20 foot section of silt fence shall be 1 CFS.
- Maximum distance of flow to silt fence shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- Maximum slope adjacent to the fence shall be 2:1.
- Silt fences shall not be used where there is a concentration of water in a channel, drainage ditch or swale, nor should it be used as a control on a pipe outfall.
- If 50 percent or less soil, by weight, passes the U.S. Standard Sieve No. 200, select the apparent opening size (A.O.S.) to retain 80 percent of the soil.
- If 85 percent or more of soil by weight, passes the U.S. Standard Sieve No. 200, silt fences shall not be used unless the soil mass is evaluated and deemed suitable by a soil scientist or geotechnical engineer concerning the erodibility of the soil mass, dispersive characteristics, and the potential granule characteristics of the material that is likely to be eroded.
- Stone overflow structures or other outlet control devices shall be installed at all low points along the fence or spaced at approximately 300 feet if there is no apparent low point.
- Filter stone for overflow structure shall be 1 1/2 inches washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
- Silt fence fabric must meet the following minimum criteria:
 - Tensile Strength, ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 90-lbs.
 - Puncture Rating, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 60-lbs.
 - Mullen Burst Rating, ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, 280-psi.

Silt Fence Revised 04/10 CC-144

3.10.4 Design Guidance and Specifications

- Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 291.5 Silt Fence and in the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (TxDOT 2004) Item 506.2.J and Item 506.4.C.9.
- The American Society for Testing and Materials has established standard specifications for silt fence materials (ASTM D6461) and silt fence installation (ASTM D6462).

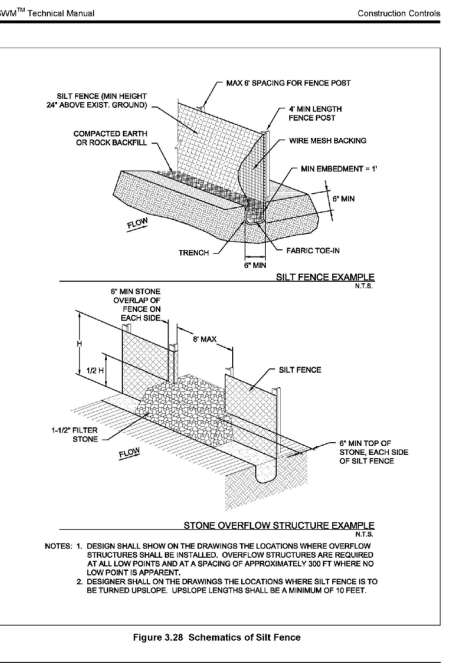
3.10.5 Inspection and Maintenance Requirements

- Silt fence should be inspected regularly (at least as often as required by the TPOES Construction General Permit) for buildup of excess sediment, undercutting, sag, and other failures. Sediment should be removed before it reaches half the height of the fence. In addition, determine the source of excess sediment and implement appropriate measures to control the erosion. Damaged or clogged fabric must be repaired or replaced as necessary.
- If a wheel cleaning system is used, the width of the stabilized exit may be reduced to funnel traffic into the system. Refer to Section 3.16 Wheel Cleaning Systems.

Silt Fence Revised 04/10 CC-145

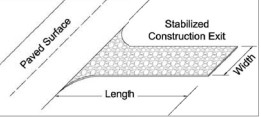
3.10.6 Example Schematics

The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function. The schematics are not for construction. They may serve as a starting point for creating a construction detail, but they must be site adapted by the designer. In addition, dimensions and notes appropriate for the application must be added by the designer.



Silt Fence Revised 04/10 CC-147

3.11 Stabilized Construction Exit



Description: A stabilized construction exit is a pad of crushed stone, recycled concrete or other rock material placed on geotextile filter cloth to dislodge soil and other debris from construction equipment and vehicle tires prior to exiting the construction site. The object is to minimize the tracking of soil onto public roadways where it will be suspended by stormwater runoff.

KEY CONSIDERATIONS

- Slope exit away from offset paved surface
- Minimum width and length dependent on size of disturbed area, which correlates to traffic volume
- 6 inches minimum thickness of stone layer
- Stone of 8 to 12 inches in size
- Add a wheel cleaning system when inspectors reveal the stabilized exit does not prevent tracking

ADVANTAGES / BENEFITS

- Reduces tracking of soil onto public streets
- Directs traffic to a controlled access point
- Protects other sediment controls by limiting the area disturbed

DISADVANTAGES / LIMITATIONS:

- Effectiveness dependent on limiting ingress and egress to the stabilized exit
- A wheel washing system may also be required to remove clay soil from tires, particularly in wet conditions

MAINTENANCE REQUIREMENTS:

- Inspect regularly
- Replace rock when sediment in the void area between the rocks is visible on the surface
- Periodically re-grade and top dress with additional stone to maintain efficiency

TARGETED POLLUTANTS

- Sediment
- Nutrients & Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

APPLICATIONS

- Perimeter Control
- Slope Protection
- Sediment Barrier
- Channel Protection
- Temporary Stabilization
- Final Stabilization
- Waste Management
- Housekeeping Practices

Fe=N/A

IMPLEMENTATION CONSIDERATIONS

- Capital Costs
- Maintenance
- Training
- Suitability for Slopes > 5%

Other Considerations:

- None

Stabilized Construction Exit Revised 04/10 CC-148

3.11.1 Primary Use

Stabilized construction exits are used to remove soil, mud and other matter from vehicles that drive off of a construction site onto public streets. Stabilized exits reduce the need to remove sediment from streets. When used properly, they also control traffic by directing vehicles a single (or two for larger sites) location. Controlling traffic onto and off of the site reduces the number and quality of disturbed areas and provides protection for other sediment controls by decreasing the potential for vehicles to drive over the control.

3.11.2 Applications

Stabilized construction exits are used on all construction sites with a disturbed area of one acre or larger and are a recommended practice for smaller construction sites. A stabilized exit is used on individual residential lots until the driveway is placed. Stabilized construction exits may be used in conjunction with wheel cleaning systems as described in Section 3.16 Wheel Cleaning Systems.

3.11.3 Design Criteria

- Limit site access to one route during construction, if possible, two routes for linear and larger projects.
- Prevent traffic from avoiding or shortcutting the full length of the construction exit by installing barriers. Barriers may consist of silt fence, construction safety fencing, or similar barriers.
- Design the access points to be at the upslope side of the construction site. Do not place construction access at the lowest point on the construction site.
- Stabilized construction exits are to be constructed such that drainage across the exit is directed to a controlled, stabilized outlet grate with provisions for storage, proper filtration, and removal of wash water.
- The exit must be sloped away from the paved surface so that stormwater from the site does not discharge through the exit onto roadways.
- Minimum width of exit shall be 15 feet.
- The construction exit material shall be a minimum thickness of 6 inches. The stone or recycled concrete used shall be 3 to 5 inches in size with little or no fines.
- The geotextile fabric must meet the following minimum criteria:
 - Tensile Strength, ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 300 lbs.
 - Puncture Strength, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 120 lbs.
 - Mullen Burst Rating, ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, 600 psi.
- Apparent Opening Size, ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 40 (max).
- Rock by itself may not be sufficient to remove clay soils from wheels, particularly in wet conditions. When necessary, vehicles must be cleaned to remove sediment prior to entering paved roads, streets, or parking lots. Refer to Section 3.16 Wheel Cleaning Systems for additional controls.
- Using water to wash sediment from streets is prohibited.
- Minimum dimensions for the stabilized exit shall be as follows:

Stabilized Construction Exit Revised 04/10 CC-149

Table 3.9 Minimum Exit Dimensions

Min. Width of Exit	Min. Length of Exit
20 feet	50 feet

- If a wheel cleaning system is used, the width of the stabilized exit may be reduced to funnel traffic into the system. Refer to Section 3.16 Wheel Cleaning.

3.11.4 Design Guidance and Specifications

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.10 Stabilized Construction Entrance and in the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (TxDOT 2004) Item 506.2.E and Item 506.4.C.5.

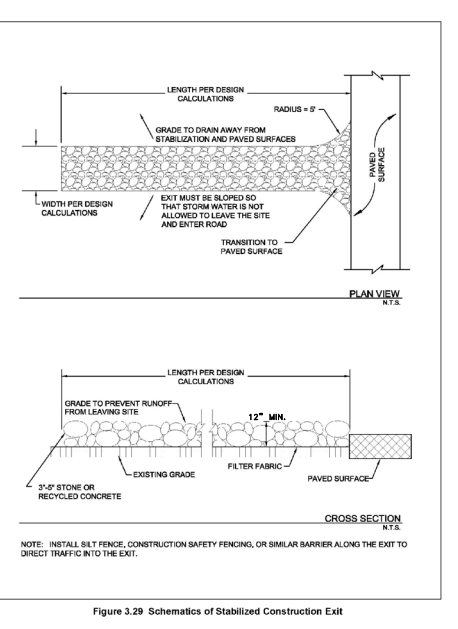
3.11.5 Inspection and Maintenance Requirements

Construction exits should be inspected regularly (at least as often as required by the TPOES Construction General Permit). The stabilized construction exit shall be maintained in a condition that prevents tracking or flow of sediment onto paved surfaces. Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the exit from diminishing. The rock shall be re-graded when ruts appear. Additional rock shall be added when soil is showing through the rock surface.

Additional controls are needed if inspections reveal a properly installed and maintained exit, but tracking of soil outside the construction area is still evident. Additional controls may be daily sweeping of all soil spilled, dropped, or tracked onto public rights-of-way or the installation of a wheel cleaning system.

3.11.6 Example Schematics

The following schematics are example applications of the construction control. They are intended to assist in understanding the control's design and function. The schematics are not for construction. They may serve as a starting point for creating a construction detail, but they must be site adapted by the designer. In addition, dimensions and notes appropriate for the application must be added by the designer.



Stabilized Construction Exit Revised 04/10 CC-151

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62659
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SIGNAL RIDGE
SANITARY SEWER
PIPE BURSTING
EROSION CONTROL DETAILS
CITY OF ROCKWALL

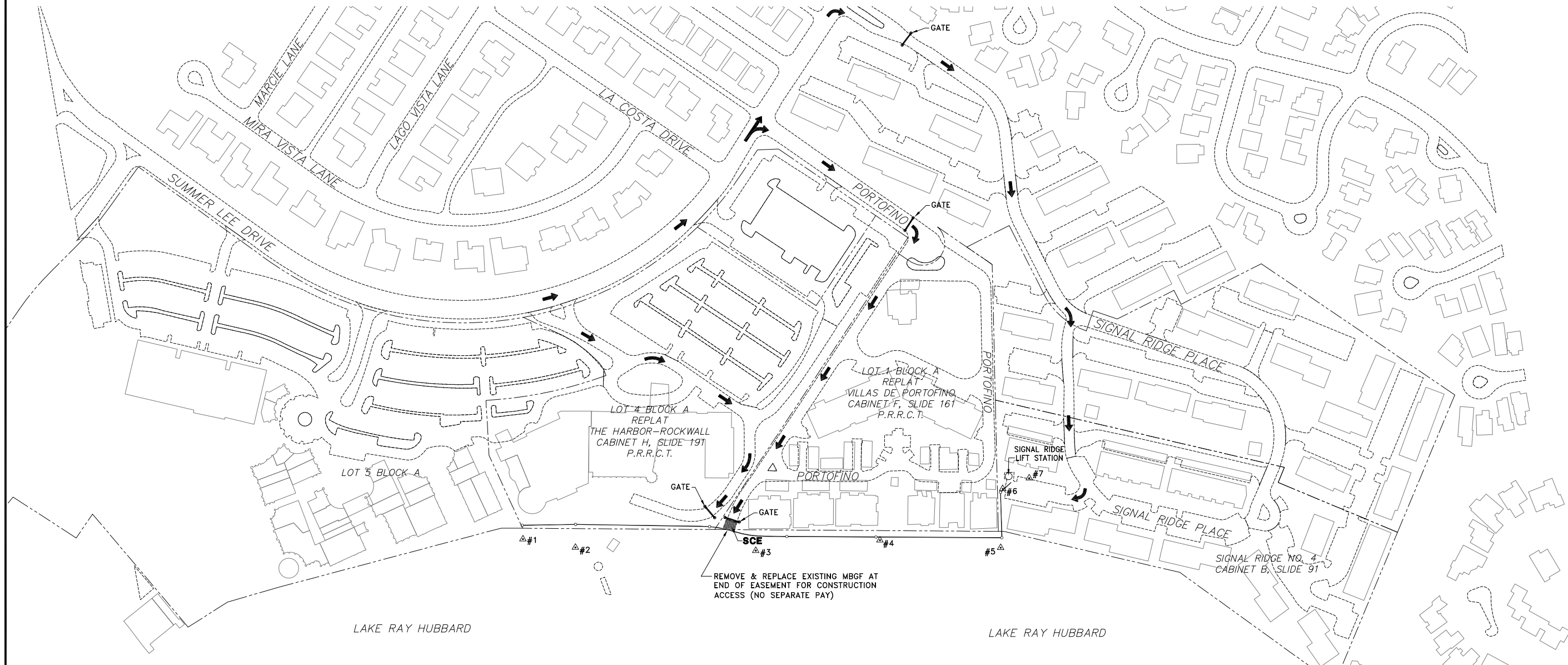
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DESIGN: BRG
REVIEWED: BRG
JOB NO: 1236-15
DWG:

RECORD DRAWING
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NOT FIELD SURVEY



50 0 50 100
scale feet
1" = 50'

SCALE @ 11"x17"
1" = 100'



RECORD DRAWING
BASED ON CONTRACTOR MARKUPS
NOT FIELD SURVEY

NOTE:
CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION INSPECTOR FOR GATE AND PROPERTY ACCESS DURING THE PROJECT.

LEGEND:

➔ CONSTRUCTION ACCESS ROUTE

POINT NO.	NORTHING	EASTING	DESCRIPTION
1	7013456.77	2588375.77	60d NAIL SET
2	7013339.21	2588335.10	60d NAIL SET
3	7012924.34	2588254.62	60d NAIL SET
4	7012633.65	2588228.24	60d NAIL SET
5	7012358.16	2588161.66	60d NAIL SET
6	7012329.48	2588296.64	60d NAIL SET
7	7012263.96	2588310.51	60d NAIL SET

ALL BEARINGS ARE ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD. 83 (1993 Adj.) NORTH CENTRAL ZONE, ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY TxDOT CONVERSION FACTOR OF 1.000146135.

SIGNAL RIDGE
SANITARY SEWER PIPE BURSTING
SURVEY CONTROL &
CONSTRUCTION ACCESS PLAN
CITY OF ROCKWALL

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6570 NAAMAN FOREST BLVD., SUITE 200, LB. 2
GARLAND, TEXAS 75044
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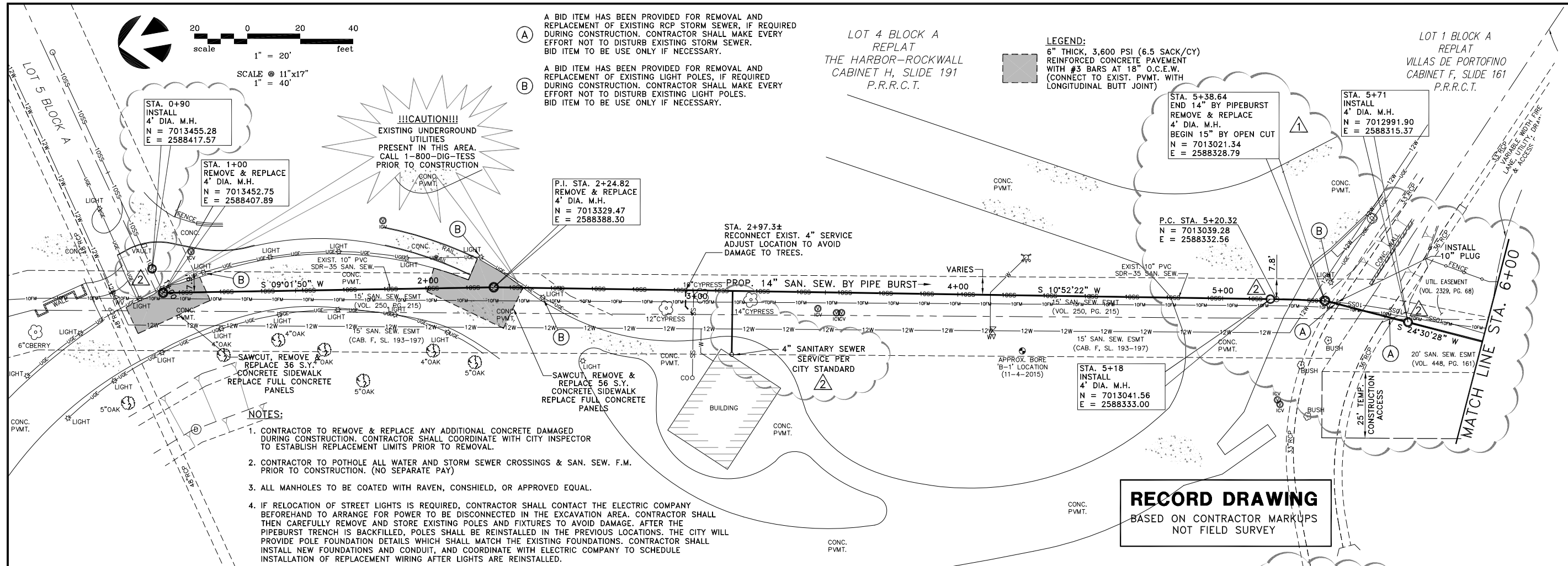


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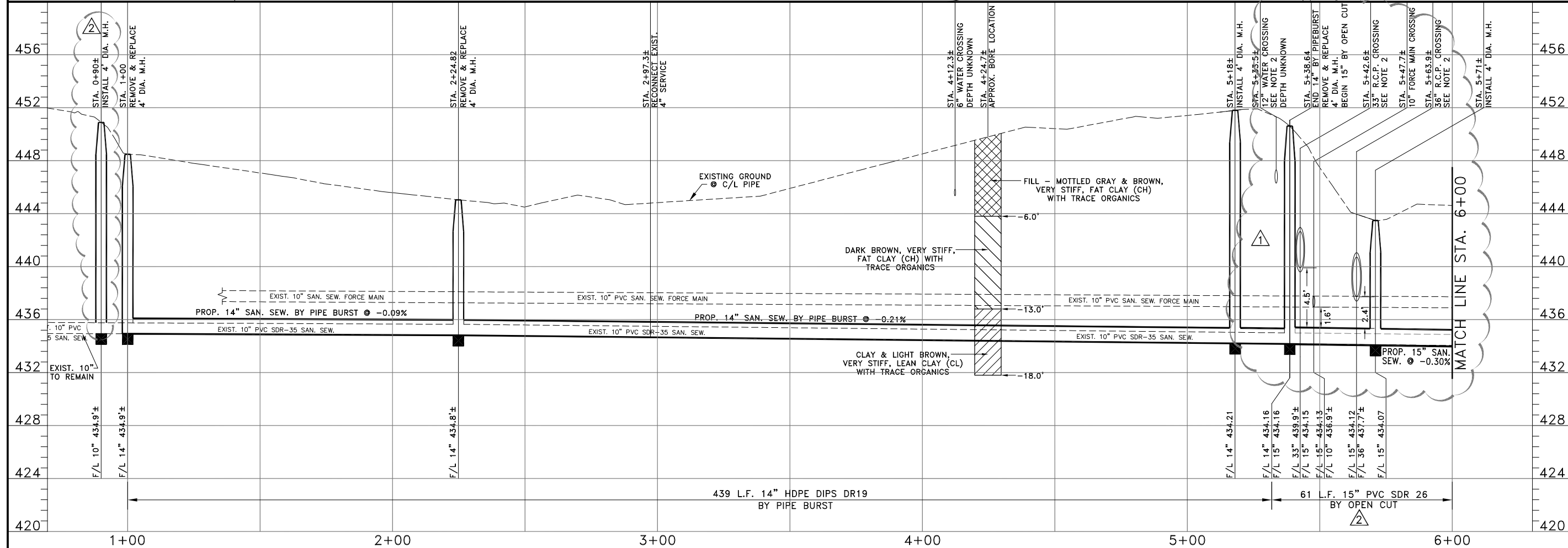
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RECORD DRAWING
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 NOT FIELD SURVEY



(A) A BID ITEM HAS BEEN PROVIDED FOR REMOVAL AND REPLACEMENT OF EXISTING RCP STORM SEWER, IF REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL MAKE EVERY EFFORT NOT TO DISTURB EXISTING STORM SEWER. BID ITEM TO BE USE ONLY IF NECESSARY.

(B) A BID ITEM HAS BEEN PROVIDED FOR REMOVAL AND REPLACEMENT OF EXISTING LIGHT POLES, IF REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL MAKE EVERY EFFORT NOT TO DISTURB EXISTING LIGHT POLES. BID ITEM TO BE USE ONLY IF NECESSARY.

!!!CAUTION!!!
 EXISTING UNDERGROUND UTILITIES PRESENT IN THIS AREA. CALL 1-800-DIG-TESS PRIOR TO CONSTRUCTION

- NOTES:**
- CONTRACTOR TO REMOVE & REPLACE ANY ADDITIONAL CONCRETE DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR TO ESTABLISH REPLACEMENT LIMITS PRIOR TO REMOVAL.
 - CONTRACTOR TO POTHOLE ALL WATER AND STORM SEWER CROSSINGS & SAN. SEW. F.M. PRIOR TO CONSTRUCTION. (NO SEPARATE PAY)
 - ALL MANHOLES TO BE COATED WITH RAVEN, CONSHIELD, OR APPROVED EQUAL.
 - IF RELOCATION OF STREET LIGHTS IS REQUIRED, CONTRACTOR SHALL CONTACT THE ELECTRIC COMPANY BEFOREHAND TO ARRANGE FOR POWER TO BE DISCONNECTED IN THE EXCAVATION AREA. CONTRACTOR SHALL THEN CAREFULLY REMOVE AND STORE EXISTING POLES AND FIXTURES TO AVOID DAMAGE. AFTER THE PIPEBURST TRENCH IS BACKFILLED, POLES SHALL BE REINSTALLED IN THE PREVIOUS LOCATIONS. THE CITY WILL PROVIDE POLE FOUNDATION DETAILS WHICH SHALL MATCH THE EXISTING FOUNDATIONS. CONTRACTOR SHALL INSTALL NEW FOUNDATIONS AND CONDUIT, AND COORDINATE WITH ELECTRIC COMPANY TO SCHEDULE INSTALLATION OF REPLACEMENT WIRING AFTER LIGHTS ARE REINSTALLED.

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BRG	BRG	BRG	BRG	BRG
9/13/16	9/8/17			
REVISED TO OPEN CUT 5+39 TO 12+27	REVISED PER CONTRACTOR MARK UP			
1	2	3	4	
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				DATE
				REVISION
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STATE OF TEXAS
 BRUCE R. GRANTHAM
 62659
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 SANITARY SEWER
 PIPE BURSTING
 SANITARY SEWER PIPE BURST - SHEET 1

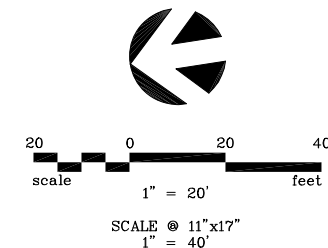
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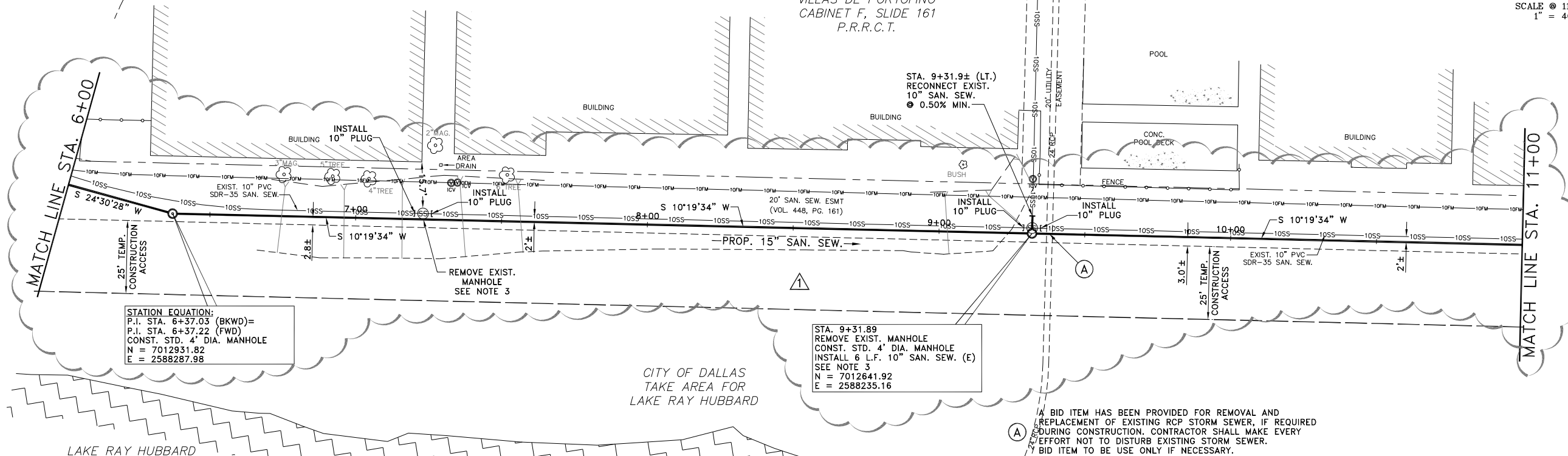
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- NOTES:**
1. CONTRACTOR TO POTHOLE ALL WATER AND STORM SEWER CROSSINGS & SAN. SEW. F.M. PRIOR TO CONSTRUCTION. (NO SEPARATE PAY)
 2. ALL MANHOLES TO BE COATED WITH RAVEN, CONSHIELD, OR APPROVED EQUAL.
 3. AFTER REMOVING MANHOLE, REROUTE EXISTING SEWER WITH TEMPORARY PIPE AND FITTINGS AS NEEDED TO ALLOW SPACE FOR NEW MANHOLE OR SEWER CONSTRUCTION. REMOVE TEMPORARY PIPE AND PLUG EXISTING LINE AFTER IT IS TAKEN OUT OF SERVICE.



LOT 1 BLOCK A
REPLAT
VILLAS DE PORTOFINO
CABINET F, SLIDE 161
P.R.R.C.T.



STATION EQUATION:
P.I. STA. 6+37.03 (BKWD)=
P.L. STA. 6+37.22 (FWD)
CONST. STD. 4" DIA. MANHOLE
N = 7012931.82
E = 2588287.98

STA. 9+31.89
REMOVE EXIST. MANHOLE
CONST. STD. 4" DIA. MANHOLE
INSTALL 6 L.F. 10" SAN. SEW. (E)
SEE NOTE 3
N = 7012641.92
E = 2588235.16

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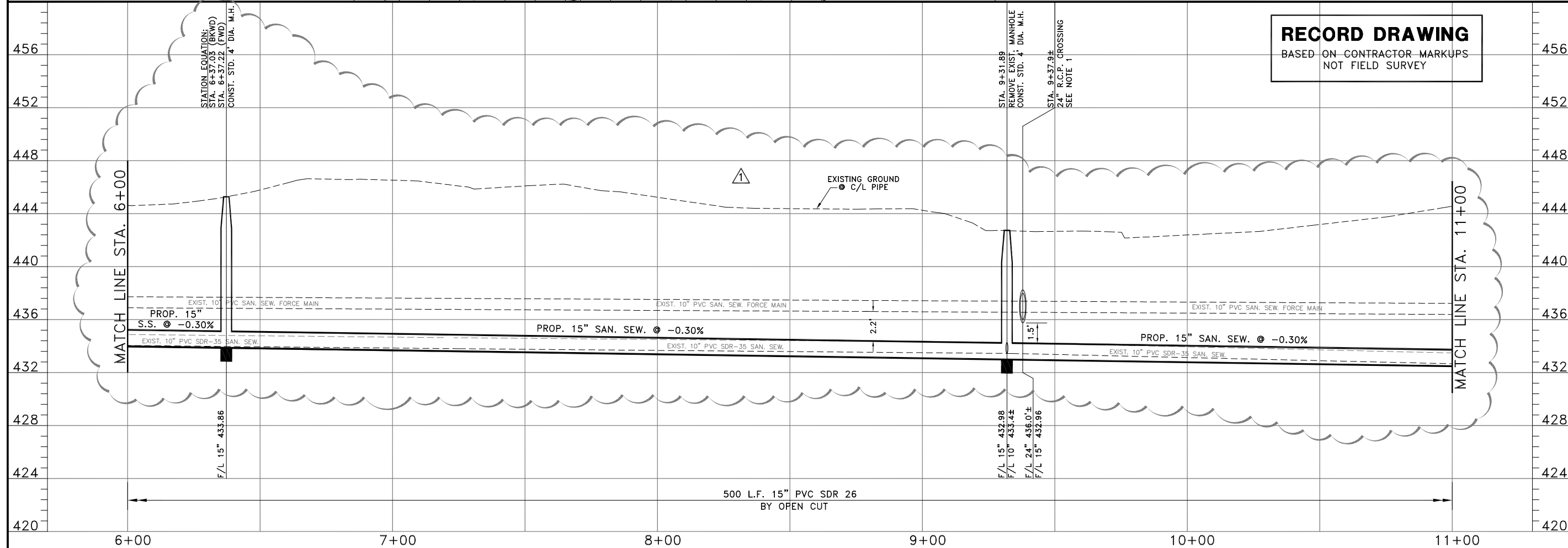


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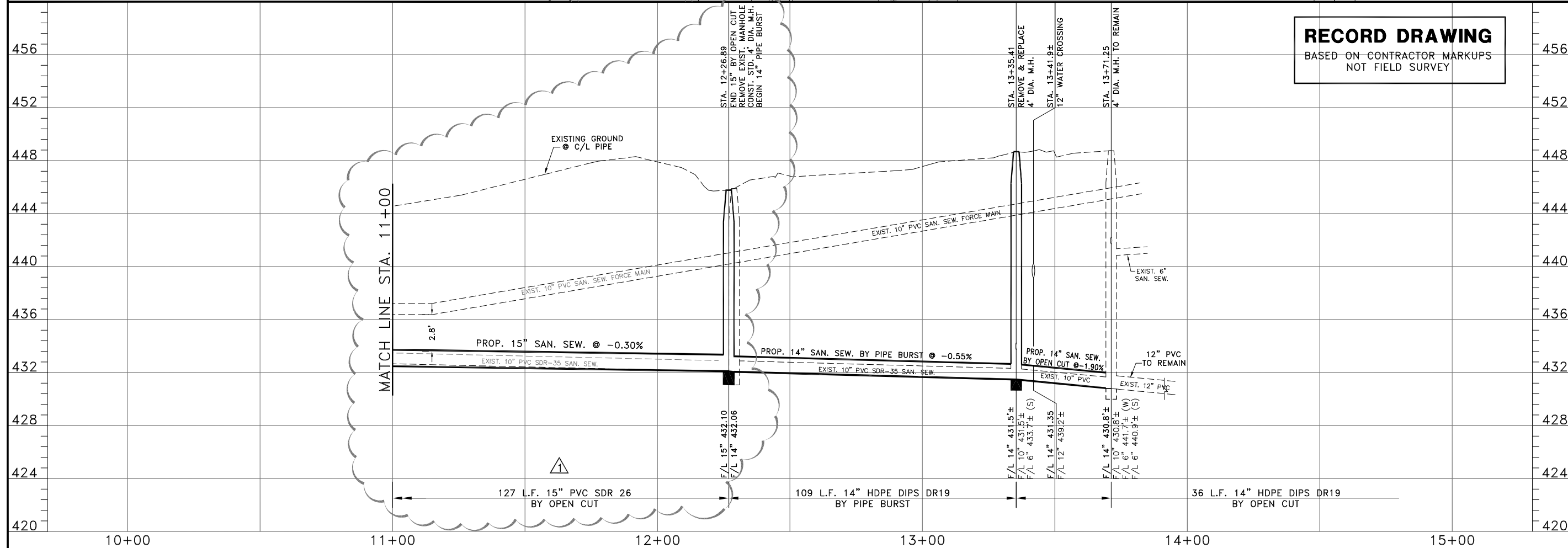
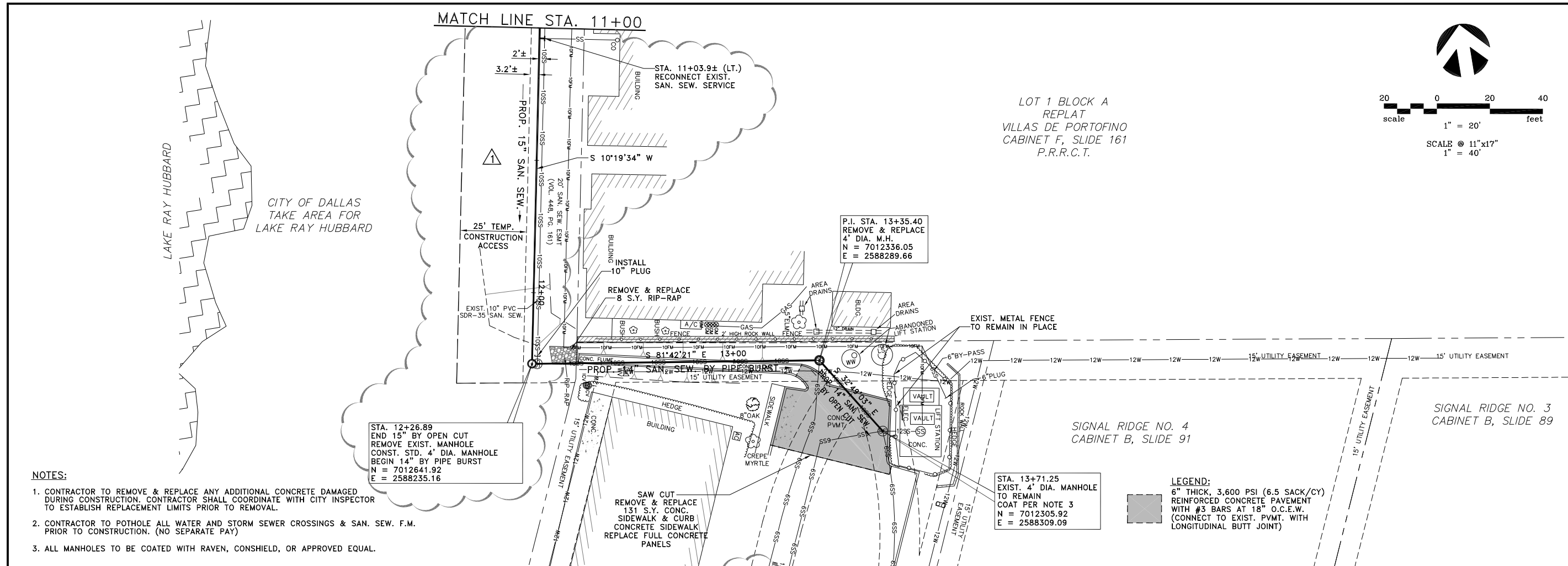
SIGNAL RIDGE
SANITARY SEWER
PIPE BURSTING
SANITARY SEWER PIPE BURST - SHEET 2
CITY OF ROCKWALL

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