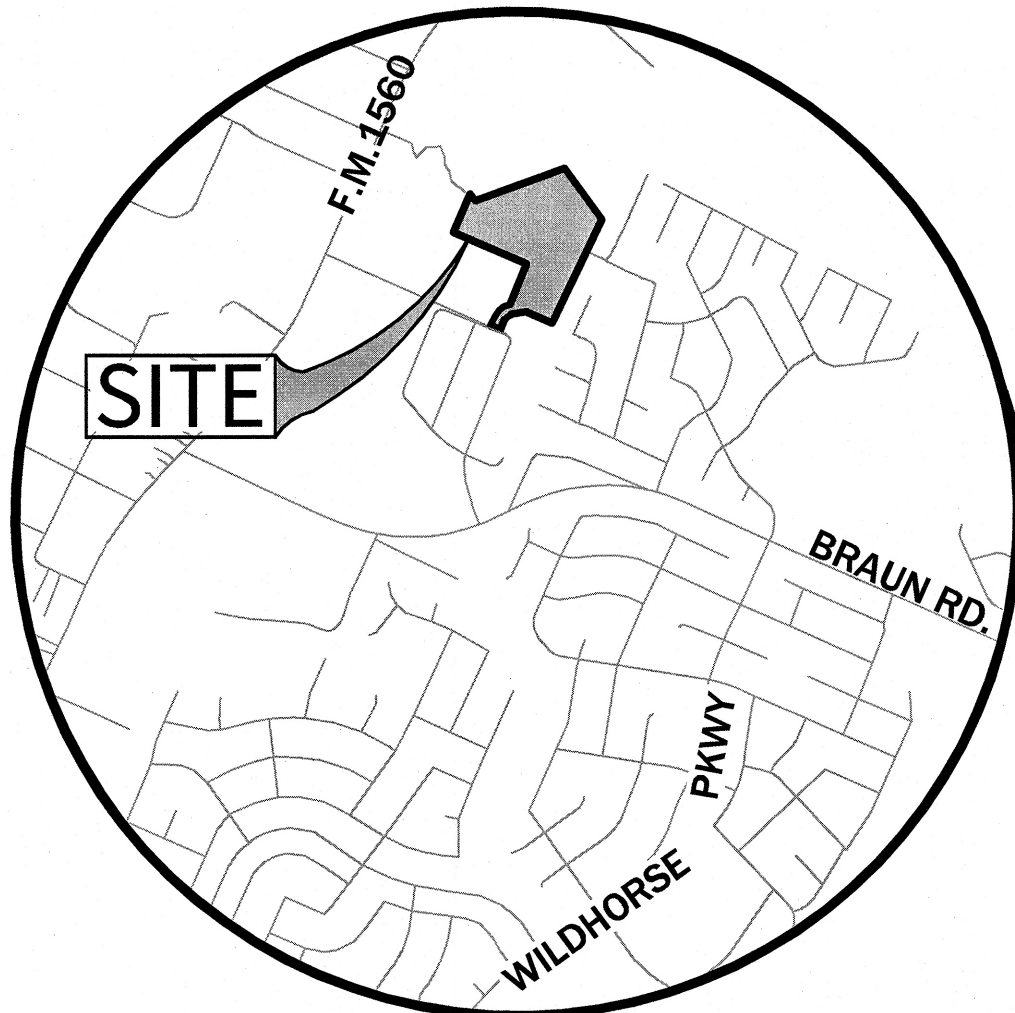
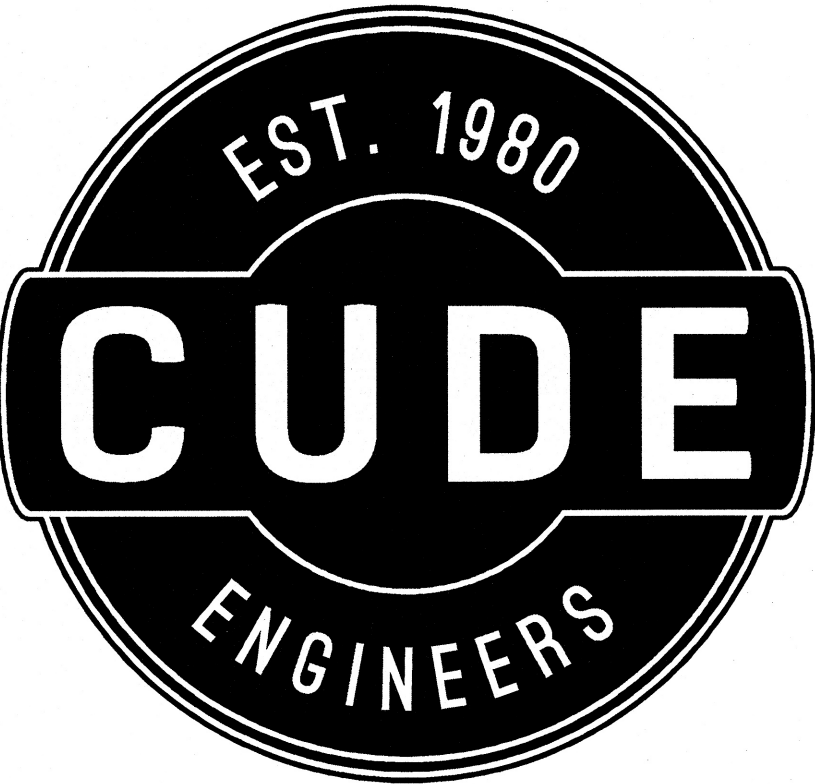


- SANITARY SEWER CONSTRUCTION PLANS**
- C24 OVERALL SANITARY SEWER PLAN
 - C25 SANITARY SEWER GENERAL NOTES
 - C26 SANITARY SEWER PLAN & PROFILE - LINE 'A'
 - C27 SANITARY SEWER PLAN & PROFILE - LINE 'B'
 - C28 SANITARY SEWER PLAN & PROFILE - LINE 'C'
 - C29 SANITARY SEWER STANDARD DETAILS



LOCATION MAP



VICINITY MAP

LANTANA II EXTENSION
SANITARY SEWER
CONSTRUCTION PLANS

PLAN OF RECORD

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

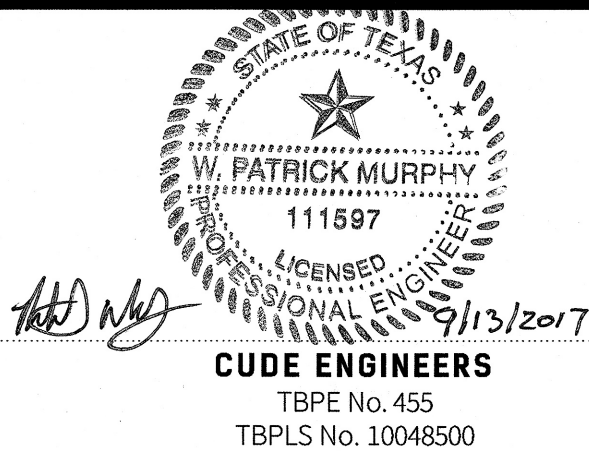
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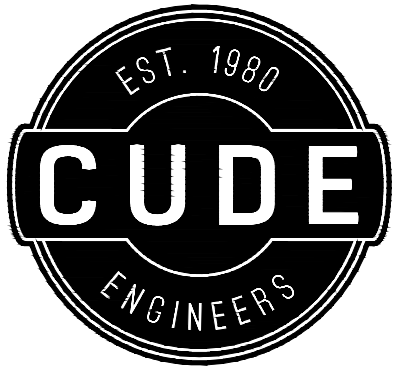
Developer's Name	PULTE HOMES OF TEXAS, L.P.		
Developer's Address	1718 DRY CREEK WAY, SUITE 120		
City	SAN ANTONIO	State	TEXAS
Zip	78259		
Phone #	(210) 496-1985	Fax #	(210) 496-0449
SAWS Block Map #	094-622	Total EDU's	95
Total Linear Footage of Pipe	1,847.45 L.F. OF 8" SS - SDR 26	Total Acreage	17.592
Plat No.	CP201603		
Number of Lots	95	SAWS Job No.	16-1527



DEVELOPER:
PULTE HOMES OF TEXAS, L.P.
CONTACT PERSON: EMILIANO GUERRERO, P.E.
1718 DRY CREEK WAY, SUITE 120
SAN ANTONIO, TX 78259
TEL: (210) 496-1985
FAX: (210) 496-0449

4122 Pond Hill Road, Suite 101 San Antonio, Texas 78231 P:(210) 681.2951 F: (210) 523.7112		
DRAWN BY BMO\SMR\TCD\BAS	DATE 12/23/2015	PLAT NO. CP201603
CHECKED BY W. PATRICK MURPHY, P.E.	PROJECT NO. 02975.010	SAWS JOB NO. 16-1527





4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

LANTANA II EXTENSION
UTILITY LAYOUT PLAN

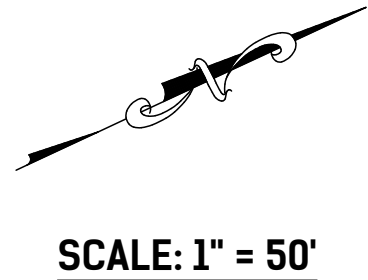
DATE
12/23/15
PROJECT NO.
02975.010
DRAWN BY
BMO/SMR/TC/D/BAS
CHECKED BY
WPM

REVISIONS
1. 03/10/16 - EXTEND WTR MAIN TO DESERT ROCK, REVISE WTR SERVICES
2. 06/06/16 - REVISED IRRIGATION SERVICE LOCATION
3.
4.
5.
6.
7.
8.
9.

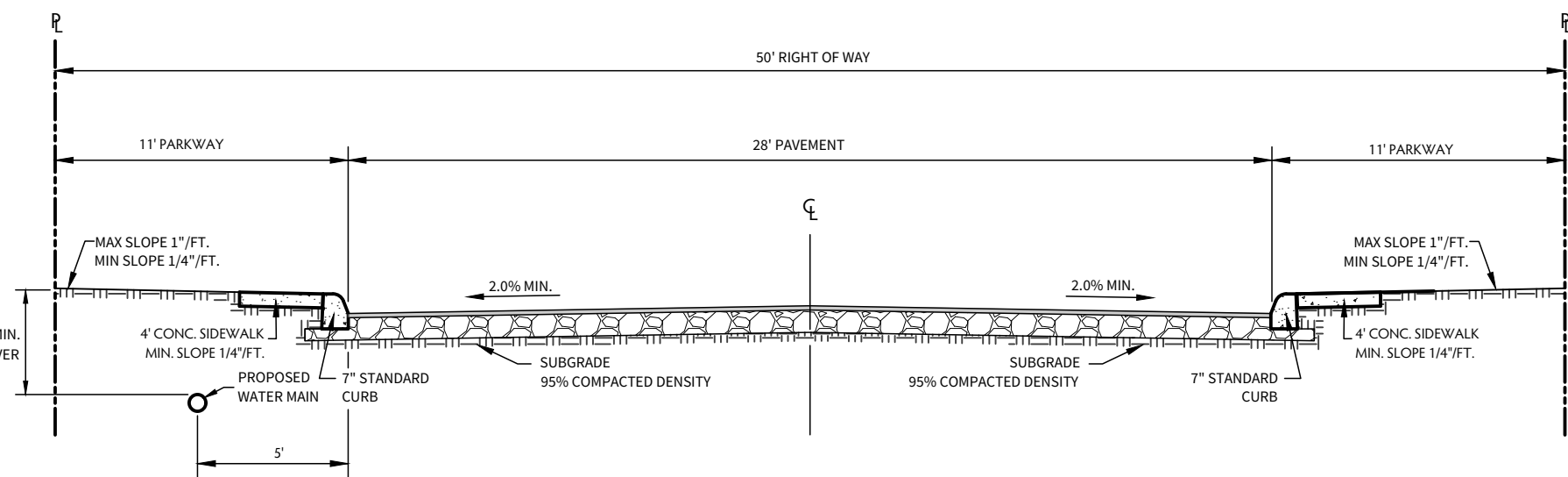
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

C32

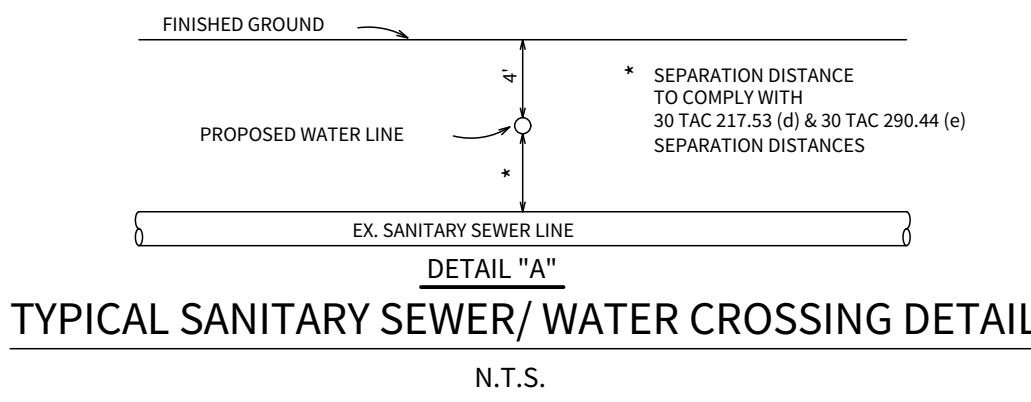
OF



SCALE: 1" = 50'



PROPOSED LOCAL "A" STREET CROSS SECTION



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

LEGEND

EXISTING SANITARY SEWER	— EX. S.S.
PROPOSED SANITARY SEWER	— P.S.S.
EXISTING SANITARY SEWER MANHOLE	— EX. S.W.
PROPOSED SANITARY SEWER MANHOLE	— P.S.W.
EXISTING WATER MAIN	— EX. W.M.
PROPOSED WATER MAIN	— P.W.M.
EXISTING STANDARD FIRE HYDRANT	— EX. F.H.
PROPOSED STANDARD FIRE HYDRANT	— P.F.H.
EXISTING STANDARD GATE VALVE	— EX. G.V.
PROPOSED STANDARD GATE VALVE	— P.G.V.
EXISTING PERMANENT BLOWOFF	— EX. B.O.
PROPOSED PERMANENT BLOWOFF	— P.B.O.
EXISTING OVERHEAD ELECTRIC	— EX. O.E.
PROPOSED OVERHEAD ELECTRIC	— P.O.E.
EXISTING GAS MAIN	— EX. G.M.
PROPOSED GAS MAIN	— P.G.M.
EXISTING UNDERGROUND ELECTRIC, GAS, UNDERGROUND TELEPHONE, & CABLE T.V.	— EX. U.E.T.C.A.
PROPOSED UNDERGROUND ELECTRIC, GAS, UNDERGROUND TELEPHONE, & CABLE T.V.	— P.U.E.T.C.A.
EXISTING POWER POLE	— EX. P.P.
PROPOSED POWER POLE	— P.P.P.
EXISTING POWER POLE & RISER POLE	— EX. P.P.R.P.
PROPOSED POWER POLE & RISER POLE	— P.P.R.P.P.
EXISTING LIGHT POLE	— EX. L.P.
PROPOSED LIGHT POLE	— P.L.P.
EXISTING TRANSFORMER	— EX. T.
PROPOSED TRANSFORMER	— P.T.
PROPOSED SECONDARY ENCLOSURE	— EX. S.E.
PROPOSED PULL BOX	— P.B.
U.S. POSTAL COLLECTION BOX	— U.S.P.C.B.
ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT	— E.G.T.C.A. ESMT.
BUILDING SETBACK LINE	— B.S.L.
LANDSCAPE	— L.S.
UTILITY CONDUIT CROSSING	— U.C.
IRRIGATION CONDUIT CROSSING	— I.C.

NOTES

THE LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT AND TO PROTECT THE SAME DURING CONSTRUCTION.

SAN ANTONIO WATER SYSTEM 233-2000
COSA DRAINAGE 207-2800
CITY SIDEWALK AND TRENCHING DIVISION 821-3240
COSA TRAFFIC SIGNAL OPERATIONS 207-7745
TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005
C.P.S. ENERGY
AT&T TIME WARNER CABLE
VALERO ENERGY CO.

AT&T AND TIME WARNER CABLE LINES TO GO IN JOINT TRENCH WITH C.P.S. ENERGY LOTS WITH CONFLICTING TRANSFORMER / SECONDARY ENCLOSURE ELECTRIC SERVICE AND WATER METER LOCATION SHALL HAVE WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.

TYPICAL UTILITY CROSSINGS WILL HAVE:
2-4" SCH 80 PVC CONDUIT WITH SWEEPS,
2-4" SCH 40 PVC CONDUIT WITH SWEEPS,
THE TOTAL AMOUNT OF CONDUIT TO BE USED WILL BE DETERMINED DURING CONSTRUCTION.

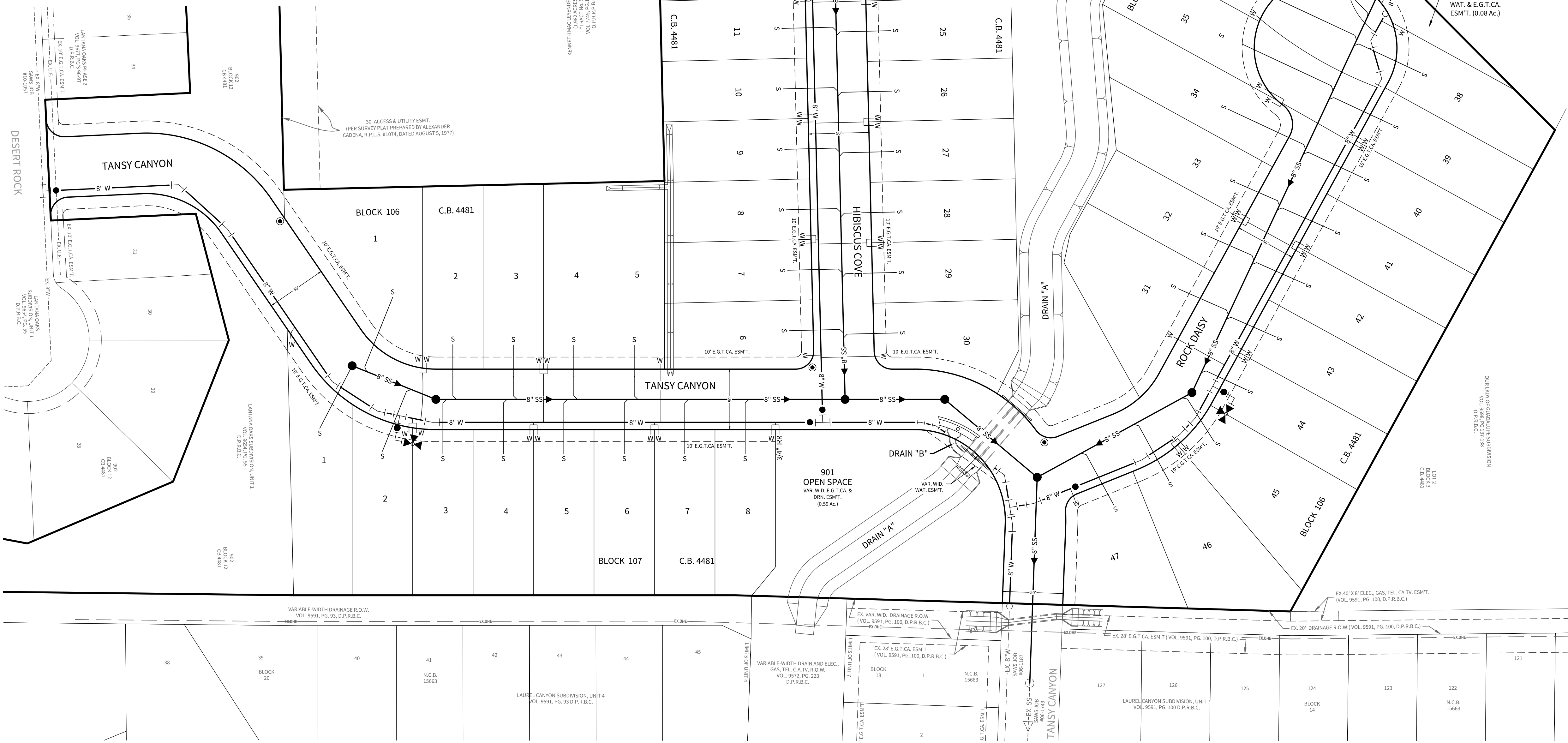
TYPICAL IRRIGATION CROSSING WILL HAVE:
3-4" SCH 40 PVC CONDUIT WITH SWEEPS.

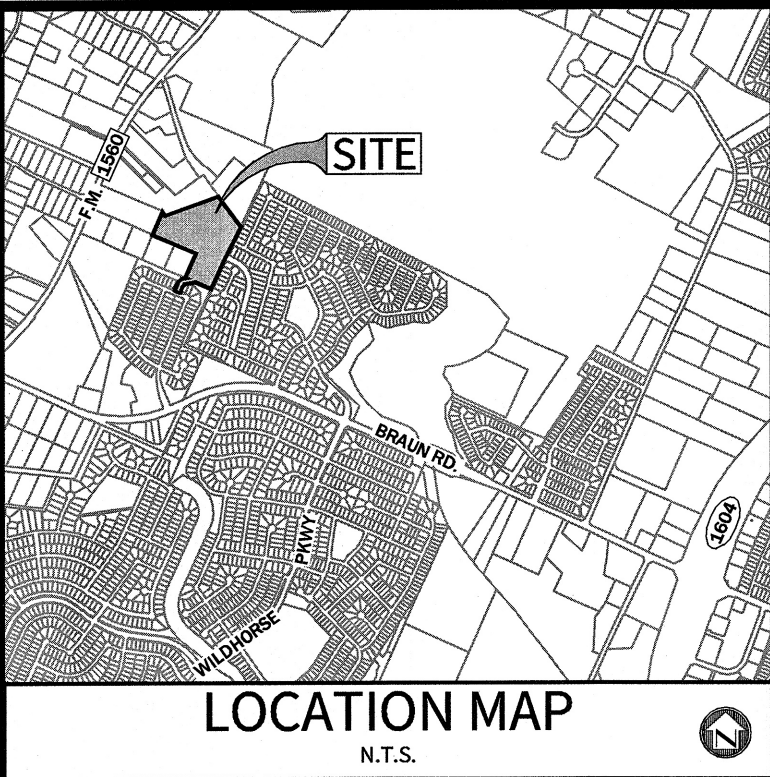
* CONDUIT ONLY TO BE INSTALLED IF:

- STREET BASE AND DRAINAGE COMPLETION PRECEDES CPS UTILITY LINE INSTALLATION.
- INSTALLATION IS AUTHORIZED BY THE DEVELOPER.

TRENCH EXCAVATION SAFETY PROTECTION

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





OWNER/DEVELOPER:
PULTE HOMES OF TEXAS, L.P.
CONTACT PERSON: EMILIANO Z. GUERRERO, P.E.
1718 DRY CREEK WAY, SUITE 120
SAN ANTONIO, TX 78259
TEL: (210) 496-1985

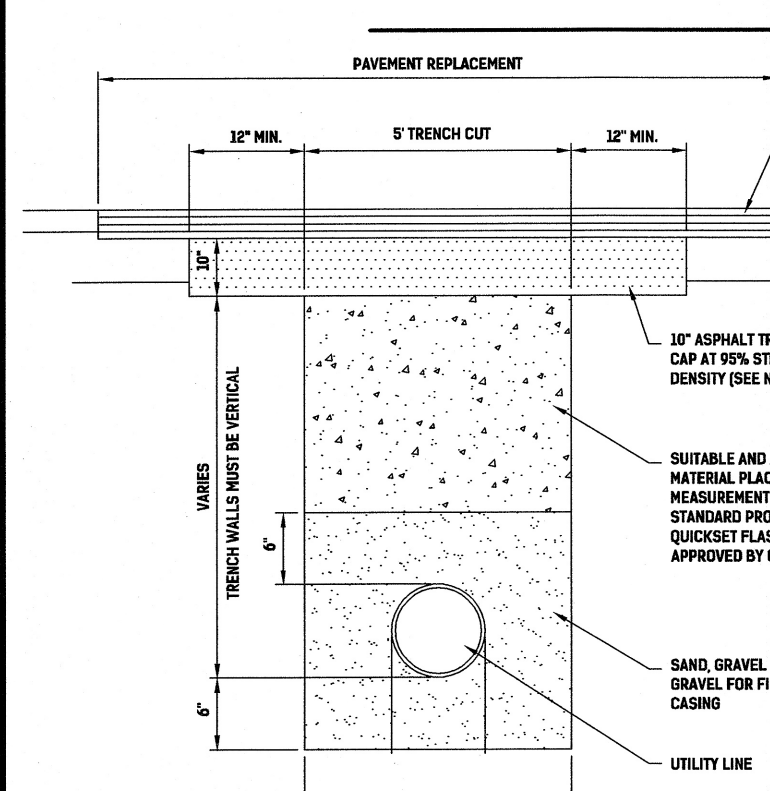
CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: W. PATRICK MURPHY, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

MANUFACTURER'S NOTES:

NORTH AMERICAN : PIPE
CHARLOTTE : MANHOLES
PLASTIC TRENDS : FITTINGS

PLAN OF RECORD

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- NOTES:**
- ALL UTILITIES WILL BE BORED UNDER EXISTING PAVEMENT. ONLY AT THOSE LOCATIONS AT WHICH IT IS PHYSICALLY IMPOSSIBLE TO BORE WILL THE PAVEMENT BE ALLOWED TO BE CUT AND RESTORED ACCORDING TO THIS DETAIL.
 - THE LIMITS OF THE PAVEMENT REPLACEMENT WILL BE DETERMINED AT THE TIME A PERMIT IS REVIEWED AND MUST BE SAW CUT STRAIGHT. TACK OIL AT A RATE OF 0.30 GALLY SHALL BE PLACED PRIOR TO PLACEMENT OF 2" HMAc TYPE "D" FINISHED SURFACE. LONGITUDINAL ROADWAY CUTS WILL BE PAVED WITH THE CLOSEST LINE EXTENSION OF THE EXISTING PAVEMENT EDGE AS A MINIMUM.
 - A 10" THICKNESS OF ASPHALT TREATED BASE, BENCHED A FEET EACH SIDE OF TRENCH, WILL BE USED FOR THE FINAL LIFT OF THE TRENCH REPAIR. THE ASPHALT TREATED BASE, PLACED IN 4" LIFTS, SHALL BE BROUGHT UP TO WITHIN 2 INCHES OF THE EXISTING PAVEMENT SURFACE.
 - THE UTILITY COMPANY WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STREET CUT THEREAFTER UNTIL AND IF THE COUNTY REMOVES THE STREET CUT THROUGH RECONSTRUCTION.
 - SEAL CUT TO BE DETERMINED AT THE TIME OF PERMIT REQUEST, SHALL BE EXTENDED A MINIMUM OF 20 FEET EACH DIRECTION FROM THE EDGE OF PAVEMENT REPLACEMENT FOR THE FULL WIDTH OF THE STREET.
 - WHEN REINFORCED OR OTHER GEOSYNTHETIC SUBGRADE/BASE REINFORCEMENT IS PRESENT, THE CONTRACTOR SHALL CONSIDER EXCAVATION TO PROVIDE APPROPRIATE OVERLAP OF 2' MIN AND TO EXISTING UNDISTURBED REINFORCEMENT AS REQUIRED BY MANUFACTURER FOR EACH LAYER OF REINFORCEMENT ENCOUNTERED.

STREET CUT REPAIR DETAIL
NOT TO SCALE

NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

CAUTION NOTE:

THE CONTRACTOR SHALL BE AWARE THAT A 8" WATER MAIN, 8" SEWER MAIN, AND OVERHEAD ELECTRIC LINE EXIST ALONG TANSY CANYON. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THESE UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THIS AREA. ANY DAMAGE DONE TO THESE EXISTING FACILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

TRENCH EXCAVATION SAFETY PROTECTION

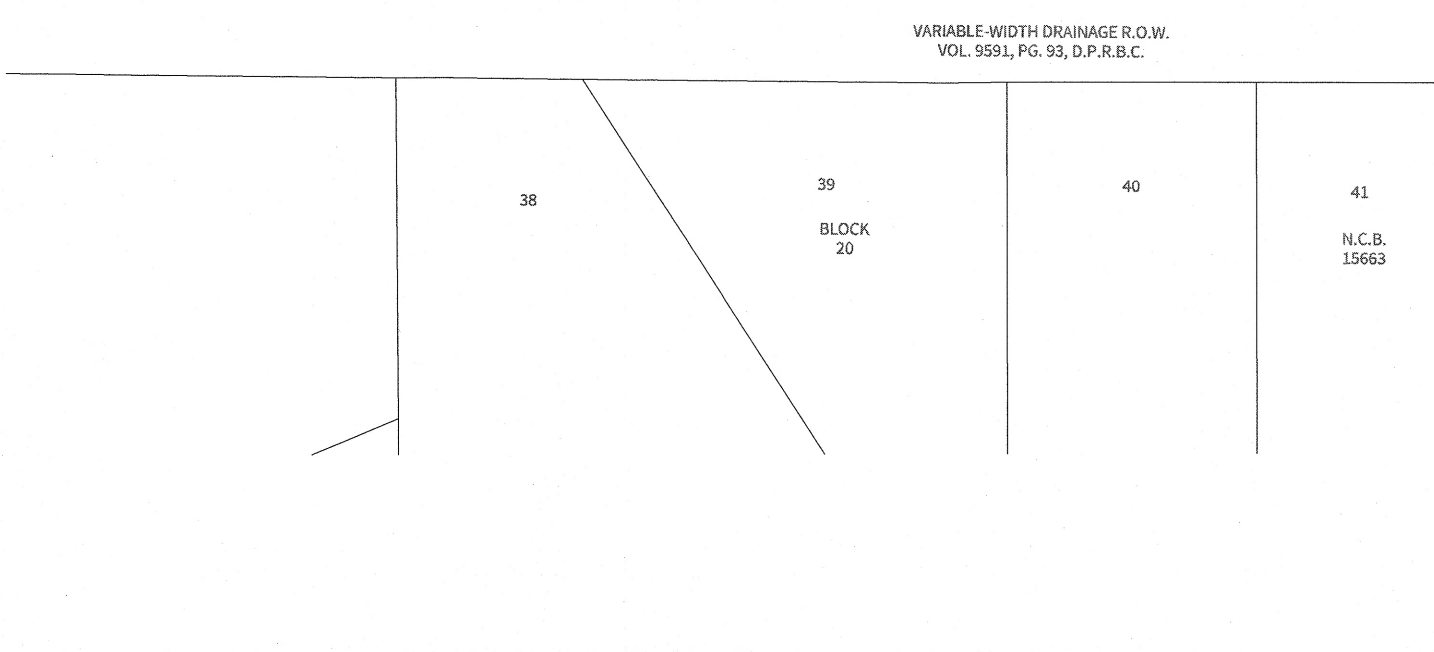
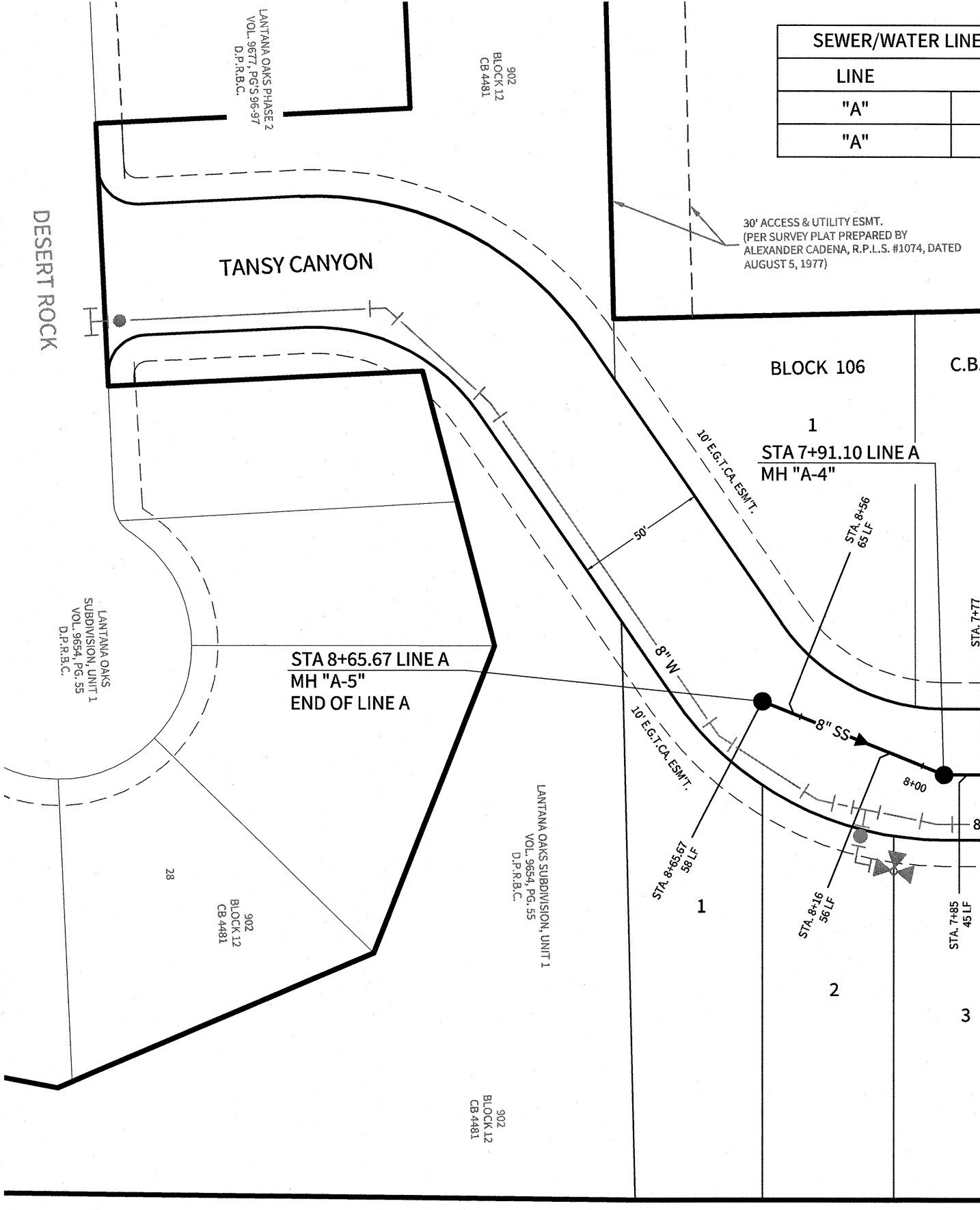
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

- NOTES:**
- ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPGRADE SIDE OF THE SEWER TRENCH THUS ALLOWING THE TRENCH TO INTERCEPT ANY SILT CONTAMINATED RUNOFF.
 - ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D-3034, SDR-26 UNLESS OTHERWISE NOTED.
 - ALL LATERALS TO BE INSTALLED @ MIN. 2.0% SLOPE. UNLESS OTHERWISE NOTED.
 - LATERALS TO BE BUILT TO FRONT BUILDING SETBACK LINE.
 - THE LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT AND TO PROTECT THE SAME DURING CONSTRUCTION.

SAN ANTONIO WATER SYSTEM	233-2010
COSA DRAINAGE	207-2800
CITY SIDEWALK AND TRENCHING DIVISION	821-3240
COSA TRAFFIC SIGNAL OPERATIONS	207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
CITY PUBLIC SERVICE	"
AT&T	"
TIME WARNER CABLE	"
VALERO ENERGY CO.	"
GREY FOREST UTILITIES	"

SAWS NOTES

- The contractor is responsible to ensure that no overflows or spillage of sewage occurs. Should this occur, the Contractor shall:
 - Identify the source of the spill and attempt to eliminate any additional spillage. Notify Construction Inspections.
 - Contain the spill in place and prevent contamination of streams.
 - Clean up the spill and dispose of contaminated materials.
 - Disinfect the the area of the spill with a mixture of HTH chlorine and water.
 - Identify and train personnel responsible for spillage prevention and control.No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the Texas Natural Resources Conservation Commission (NRCC) and the San Antonio Water System.
- Service Lateral Connections:
 - The exact location and elevation of the service laterals and manholes shall be field verified by the Contractor. (NSPI)
 - A minimum of 3 feet of cover is to be maintained over the sanitary sewer laterals at subgrade.
 - All sewer lateral services for future connections as identified on plan and profiles, shall be capped and sealed.
 - The Contractor shall be responsible for disconnecting each existing service line from the existing main and re-connecting the service to the new service main. The contractor shall be responsible for maintaining continuous service. (NSPI)
 - Laterals shall be constructed to serve all existing houses and vacant lots.
- The contractor shall provide By-pass pumping of sewage around each segment of pipe to be replaced, in accordance with SAWS special specification "Sanitary Sewer". Payment for such work will be made under the bid item "Sanitary Sewer (By-pass Pumping)" as per SAWS special specification "Sanitary Sewer".
- Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Inspection and/or SAWS Production groups at least one week or more in advance of the shutdown. The contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the contractor to sequence the work accordingly.

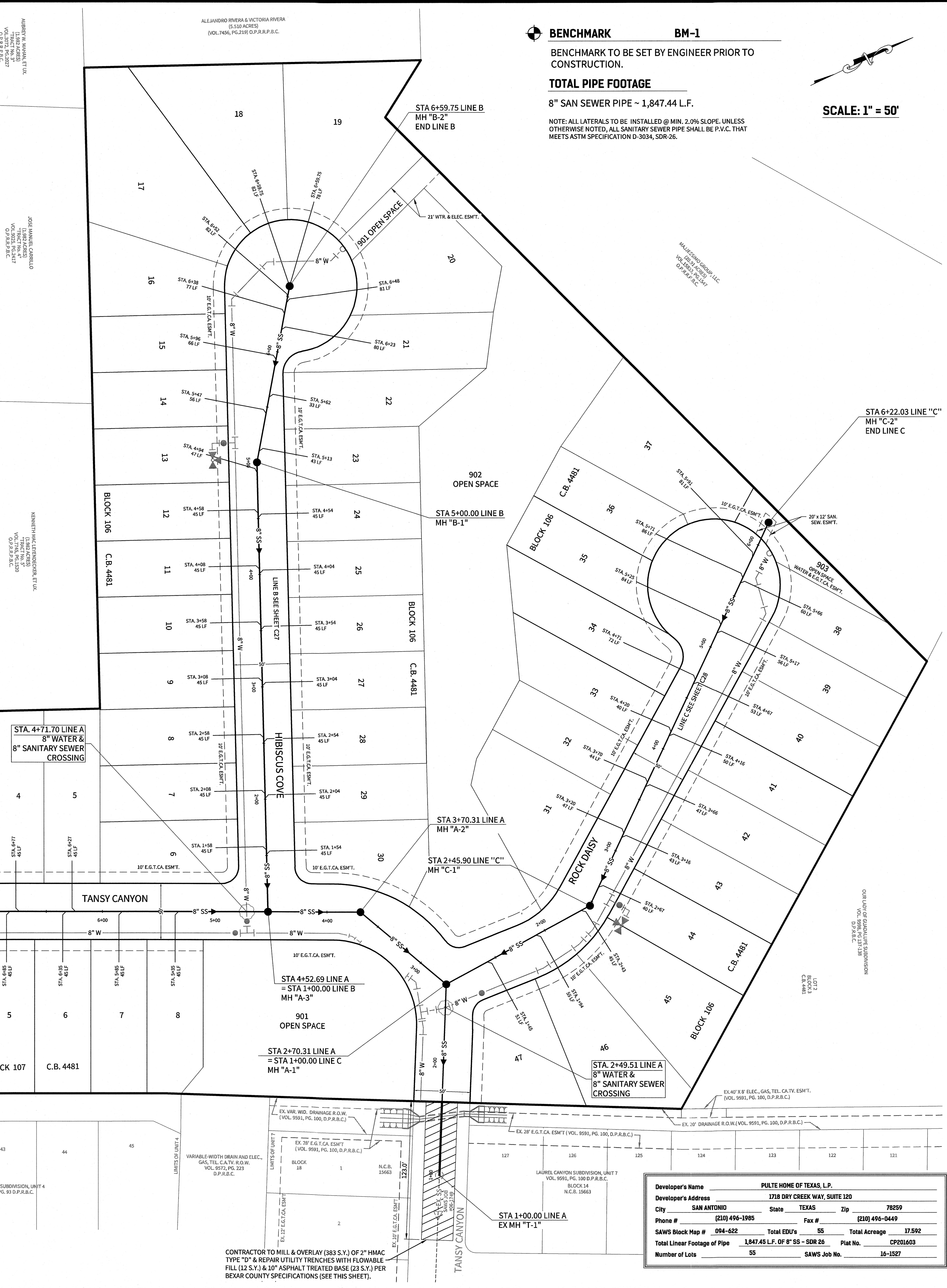


PLAN OF RECORD

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9/13/2017

LINE	STATION
"A"	2+49.51
"A"	4+71.70



BENCHMARK BM-1
BENCHMARK TO BE SET BY ENGINEER PRIOR TO CONSTRUCTION.
TOTAL PIPE FOOTAGE
8" SAN SEWER PIPE ~ 1,847.44 L.F.
NOTE: ALL LATERALS TO BE INSTALLED @ MIN. 2.0% SLOPE. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D-3034, SDR-26.

SCALE: 1" = 50'

CUDEENGINEERS.COM

EST. 1980
CUDE
ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

LANTANA II EXTENSION
OVERALL SANITARY SEWER PLAN

DATE
12/23/15
PROJECT NO.
02975.010
DRAWN BY
BMO(SMR)/TCD/BAS
CHECKED BY
WPM

REVISIONS

1.	03/31/2016 - ADD SAWS JOB NO., EXTEND LINE "C"
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

STATE OF TEXAS
W. PATRICK MURPHY
111597
LICENSED PROFESSIONAL ENGINEER
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
CP201603
SAWS JOB NO.
16-1527

C24
1 OF 6

NON-EDWARD'S AQUIFER RECHARGE ZONE
SANITARY SEWER SYSTEM
GENERAL NOTES
Revised September 2011

GENERAL

1. All materials and construction procedures within the scope of this contract shall be San Antonio Water System (SAWS) and comply with the plans, specifications, general conditions and with the following as applicable:

- A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 280.
B. Current Texas Department of Transportation (TxDOT) "Standard Specifications for Construction of Highways, Streets and Drainage."
C. Current San Antonio Water System "Standard Specifications for Water and Sanitary Sewer Construction."
D. Current City of San Antonio "Standard Specifications for Public Works Construction."
E. Current City of San Antonio "Utility Excavation Criteria Manual" .

2. The Contractor shall not proceed with any pipe installation work until they obtain a copy of the approved G.C.P. from the Consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements.

3. The Contractor shall verify the exact location of underground utilities and drainage structures at least 48 hours prior to construction whether shown on plans or not. The following contact information are supplied for verification purposes:

San Antonio Water System	233-2010	COSA Drainage	
207-2800	COSA Traffic Signal Operations	207-7765	Texas
State Wide One Call Locator	1-800-545-6005	City Public Service	
"	South Western Bell	"	Time Warner Cable
"	Valero Energy Co.	"	"

The Contractor shall be responsible for restoring to its original or better condition from damage done to existing fences, curbs, streets, driveways, landscaping and structures.

The Contractor shall avoid cutting roots larger than one inch in diameter when excavating near existing trees. Excavation in vicinity of trees shall proceed with caution.

4. The Contractor shall contact the City Arborist at 207-8053 for guidance. SAWS Construction Inspector shall also be notified.

5. The Contractor shall maintain service to existing sanitary sewers at all times during construction.

Due to Federal Regulations Title 49, Part 192.181, City Public Service must maintain access to gas valves at all times. The Contractor must protect and work around gas valves that are in the project areas.

6. All residential sewer service laterals shall be extended to the property line (or as specified on the plans) and capped and sealed.

7. On all manholes to be abandoned, the rings and covers shall be salvaged in accordance with the most current San Antonio Water System's Standard Specification for Construction, Item 101: Preparation of right-of-way. The hole should be backfilled to the satisfaction of the inspector.

8.

9.

approved by the

BLASTING

10. When allowable, blasting shall be performed in accordance with appropriate criteria established by the National Fire Protection Association [30 TAC 313.5(c)(6)].

11. Blasting for sewer line excavation must be done in such a manner as to minimize the fracturing of rock beyond the required excavation. The Contractor shall consider the elevation of the existing sanitary sewer main in relation to the blasting charge and the relative direction of existing and proposed trenches. Blasting within such areas shall be accomplished only by qualified blasting contractors who hold blasting licenses from a qualified agency such as the San Antonio Fire Department in Bexar County. Any damage to existing sanitary sewers resulting from blasting shall be repaired and retested by the contractor at his own expense.

No blasting shall be performed within 75 feet of existing utilities.

12. After construction, testing will be done by TV camera by the Contractor and observed by Inspector, and Wastewater Engineering personnel, as the camera is run through the lines. Any abnormalities, such as broken pipe or misaligned joints, must be replaced by the Contractor at his expense. Contractor to provide TV tapes to Construction Inspection for review prior to final inspection of the project.

No blasting shall be performed within 75 feet of existing utilities.

EXCAVATION

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

The Contractor shall not place any waste materials or spoils in the 100-year flood plain without first obtaining an approved Flood Plain Permit.

15. Water jetting the backfill within a street will not be permitted. Sanitary sewer trenches subject to traffic shall conform to the S.A.W.S. Standard Specifications for Construction, Item No. 550 & 804.

16.

WATER LINE CROSSING

17. Where the minimum 9 foot separation distance between sewer lines and water lines/ mains cannot be maintained, the installation of sewer lines shall be in strict accordance with the Texas Natural Resource Conservation Commission's Rules ([30 TAC 217.53(d) & 30 TAC 290.44 (e)]).

EROSION AND SEDIMENTATION CONTROL

18. The Texas Commission on Environmental Quality and Environmental Protection Agency (EPA) require erosion and sedimentation control for construction of sewer collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets.

19. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by the San Antonio Water System.

SUPPLEMENTARY

20. No extra-payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates.

21. The Developer dedicates the sanitary sewer mains upon completion by the Developer and acceptance by the San Antonio Water System. The San Antonio Water System will own and maintain said sanitary sewer mains which are located within this particular subdivision. (As applicable)

22. The Developer will be responsible for the lift station maintenance fee in effect at the time of certification. The current maintenance fee per lift station will be collected prior to plat recordation.

23. All PVC Sewer Pipe with over 14 feet of cover shall be extra strength pipe, Minimum Stiffness of 115 PSI.

24. WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE NOTICE TO PROCEED WITH THE SAN ANTONIO WATER SYSTEM CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

SAN ANTONIO WATER SYSTEM
CRITERIA FOR SEWER MAIN CONSTRUCTION
IN THE VICINITY OF WATER MAINS

I. WHERE A SEWER MAIN CROSSES OVER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE (9) FEET. ALL PORTIONS OF THE SEWER MAIN WITHIN NINE (9) FEET OF THE WATER LINE SHALL BE CONSTRUCTED USING 150 psi PRESSURE RATED DUCTILE IRON, CAST IRON OR PVC PIPE AND JOINED WITH EQUALLY PRESSURE RATED PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION FO 150 psi PRESSURE RATED PIPE AT LEAST EIGHTEEN (18) FEET IN LENGTH MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM)

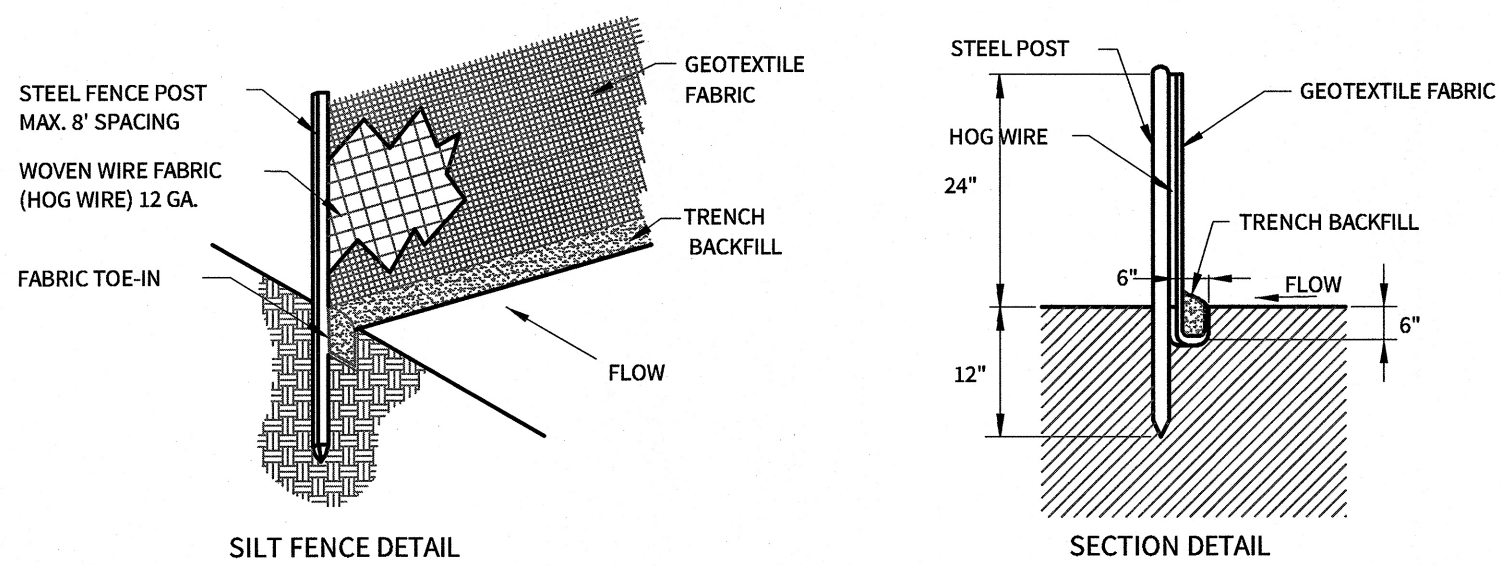
II. WHERE A SEMI-RIGID OR RIGID SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET BUT GREATER THAN TWO FEET, THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OR CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF THE SEWER WITHIN NINE FEET OF THE WATER MAIN.

III. WHERE A SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN TWO FEET, THE SEWER MAIN SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI WITHIN NINE FEET OF THE WATER MAIN. SHALL BE PLACED NO CLOSER THAN SIX INCHES BETWEEN OUTER DIAMETERS, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OR A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 psi PRESSURE RATED PIPE OF A LENGTH GREATER THAN EIGHTEEN (18) FEET MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM)

IV. WHERE A SEWER MAIN PARALLELS A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET, THE SEWER MAIN SHALL BE BELOW THE WATER MAIN. SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI FOR BOTH PIPE AND JOINTS FOR A DISTANCE OF NINE FEET BEYOND THE POINT OF CONFLICT, SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE BETWEEN OUTER DIAMETERS OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIALS.

V. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE FEET TO WATER MAINS.

VI. PLAN & PROFILE MUST SHOW TYPE OR CROSSING AND MATERIAL TO USE.

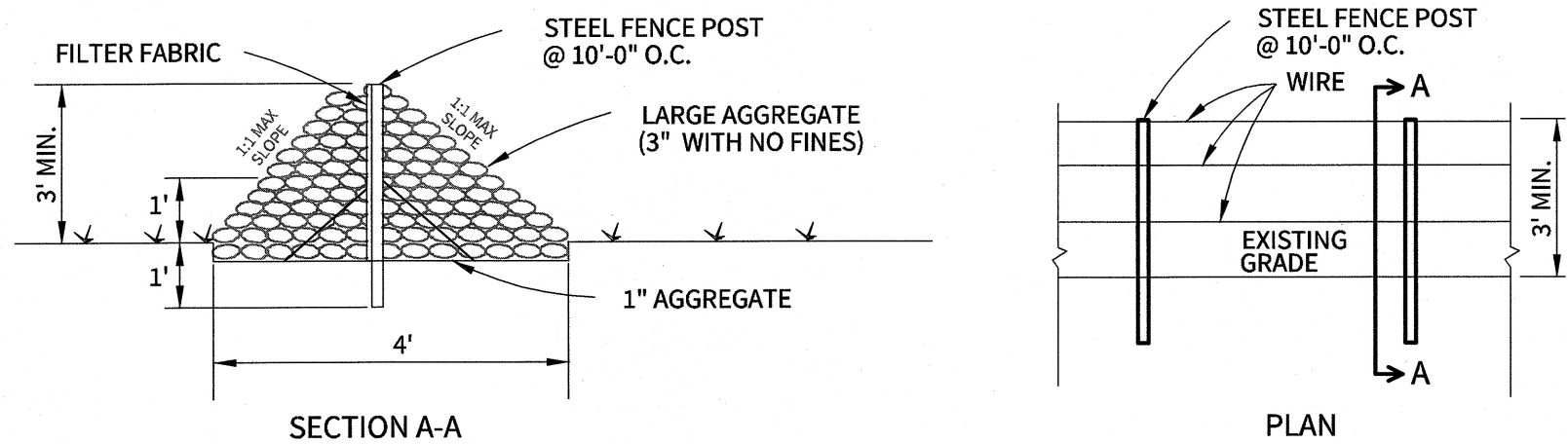


General Notes

1. Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of one foot.
2. The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement) weight fabric flap with washed gravel on uphill side to prevent flow under fence.
3. The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
4. Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post.
5. Inspection shall be made weekly or after each rainfall event and repair or replacement shall be made promptly as needed.
6. Silt fence shall be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.
7. Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to additional siltation.

SILT FENCE DETAIL

N.T.S.

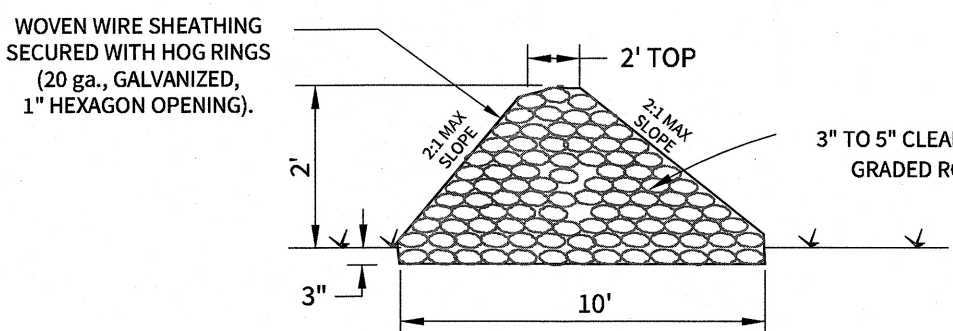


General Notes

1. The rock berm shall be inspected weekly or after each rain and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation, washout, etc.
2. When silt reaches a depth of 12", the silt shall be removed and disposed of at an approved site.

ROCK BERM W/ SILT FENCE DETAIL

N.T.S.

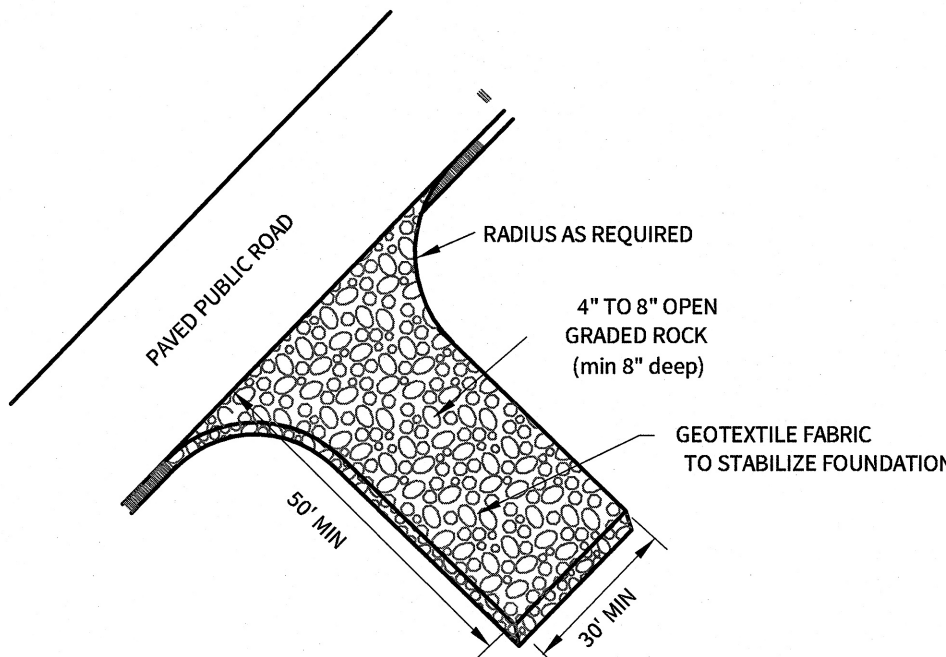


General Notes

1. The rock berm shall be secured with a woven wire sheathing having maximum 1 inch opening and minimum wire diameter of 20 gauge.
2. The rock berm shall be inspected weekly or after each rain, and the stone and/or fabric cover woven wire sheathing shall be replaced when the structure ceases to function as intended, due to silt accumulation among the rocks, washout, construction traffic damage, etc.
3. When silt reaches a depth equal to 6", it shall be removed and disposed of at an approved site and in a manner as to not create a situation problem.
4. When the site is completely stabilized, the berm and accumulated silt shall be removed and disposed of in an approved manner.

ROCK BERM DETAIL

N.T.S.



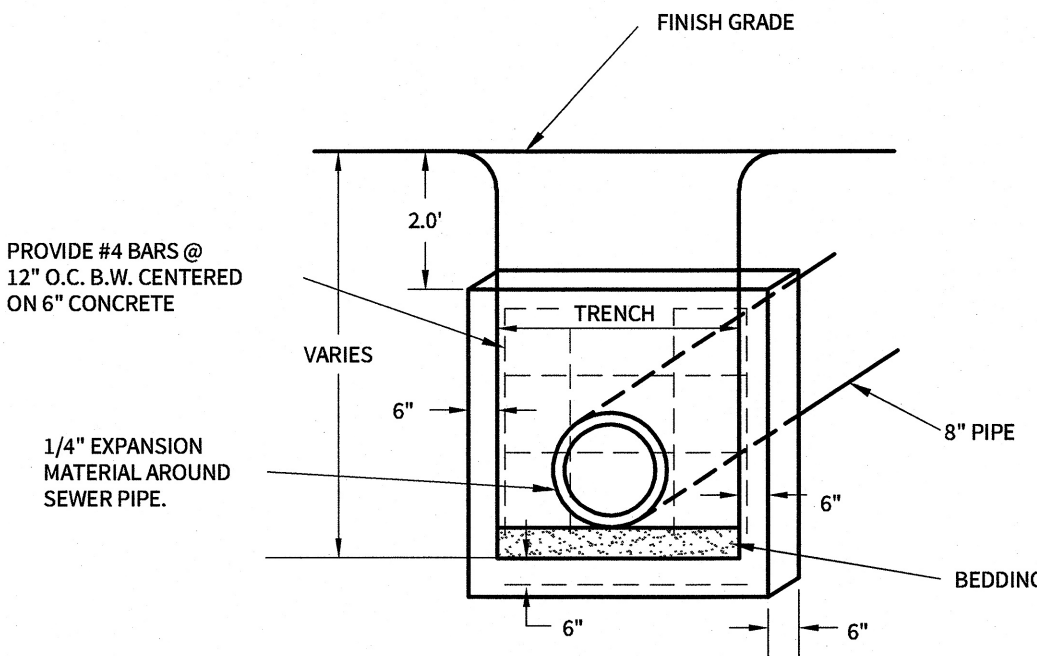
General Notes:

1. When necessary, wheels shall be cleaned to remove sediment prior to entrance on public roadway.
2. The exit shall be maintained in a condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or clean-out of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto public roadways must be removed immediately.

TEMPORARY CONSTRUCTION

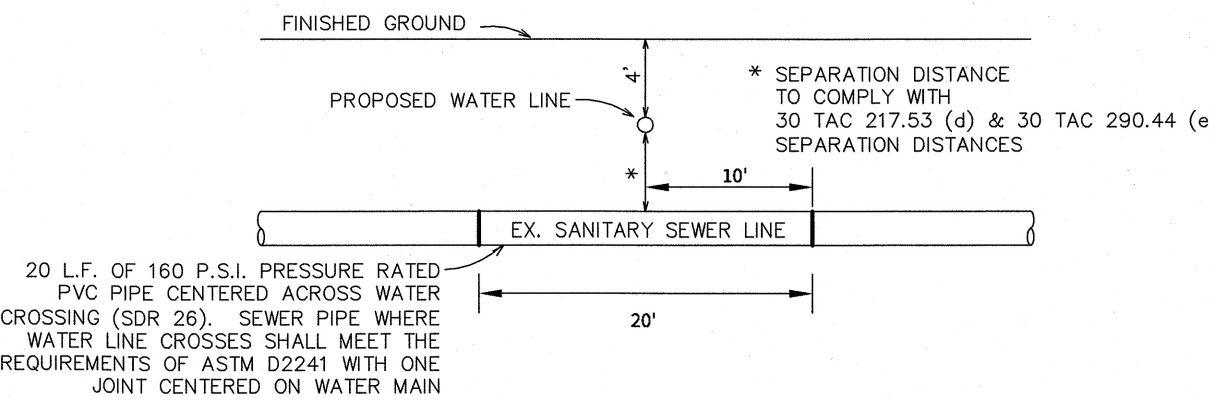
ENTRANCE/EXIT DETAIL

N.T.S.



BAFFLE DETAIL

N.T.S.



SANITARY SEWER / WATER LINE

CROSSING DETAIL

N.T.S.

PLAN OF RECORD

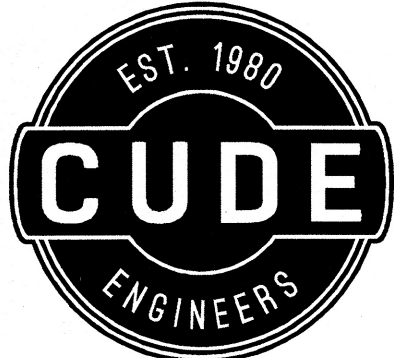
THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

9/13/2017

TRENCH EXCAVATION SAFETY PROTECTION

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

Developer's Name	PULTE HOME OF TEXAS, L.P.
Developer's Address	1718 DRY CREEK WAY, SUITE 120
City	SAN ANTONIO
State	TEXAS
Zip	78259
Phone #	(210) 496-1085
Fax #	(210) 496-0449
SAWS Block Map #	Total EDUs 55
Total Linear Footage of Pipe	1,847.45 L.F. OF 8" SS - SDR 26
Plot No.	CP201603
Number of Lots	55
SAWS Job No.	16-1527



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

LANTANA II EXTENSION

SANITARY SEWER GENERAL NOTES

DATE

12/23/15

PROJECT NO.

02975.010

DRAWN BY

BMO\SMR\TCD\BAS

CHECKED BY

WPM

REVISIONS

1. 03/31/2016 - ADD SAWS JOB NO.

2.

3.

4.

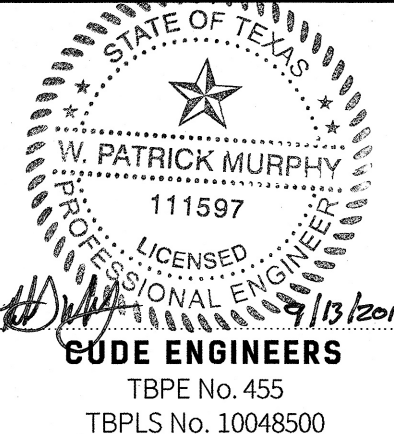
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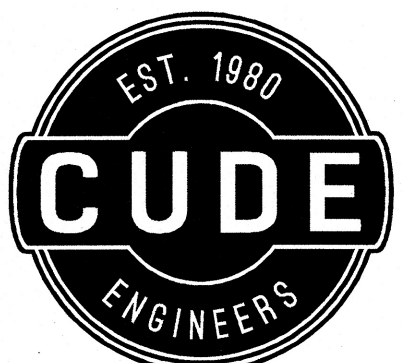
PLAT NO.

CP201603

SAWS JOB NO.

16-1527

C25



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

LANTANA II EXTENSION
SANITARY SEWER PLAN & PROFILE
LINE "A"

PLAN OF RECORD

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

[Signature] 9/13/2017

NOTE

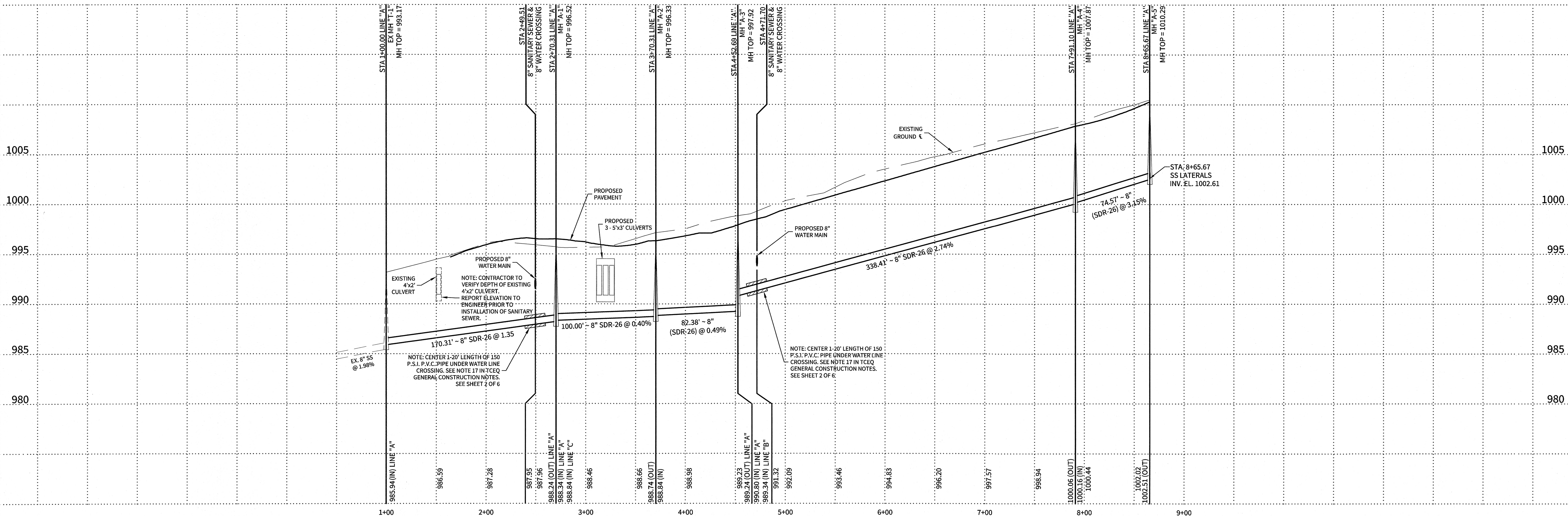
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAMS INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAMS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

LINE "A"

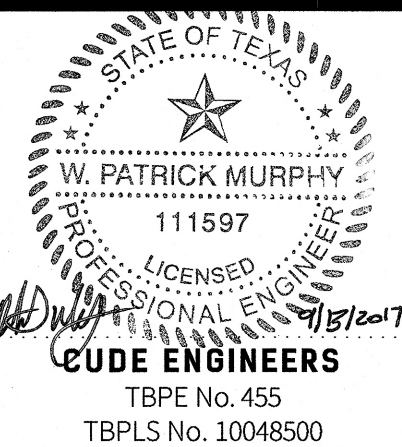
STA. 1+00.00 TO STA. 8+65.67

Developer's Name	PULTE HOME OF TEXAS, L.P.			
Developer's Address	1718 DRY CREEK WAY, SUITE 120			
City	SAN ANTONIO	State	TEXAS	Zip 78259
Phone #	(210) 496-1985	Fax #	(210) 496-0449	
SAWS Block Map #	094-622	Total EDUs	55	Total Acreage 17.592
Total Linear Footage of Pipe	1,847.45 L.F. OF 8" SS - SDR 26	Plot No.	CP201603	
Number of Lots	55	SAWS Job No.	16-1527	

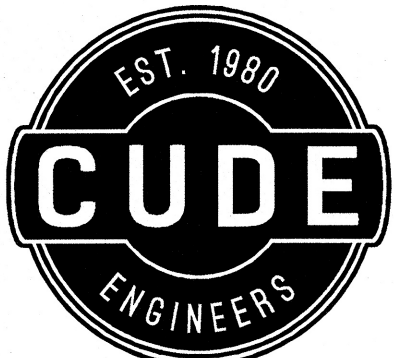
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



DATE	12/23/15
PROJECT NO.	02975.010
DRAWN BY	BMO/SMR/TCD/BAS
CHECKED BY	WPM
REVISIONS	
1.	03/31/2016 - ADD SAMS JOB NO.
2.	
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C26



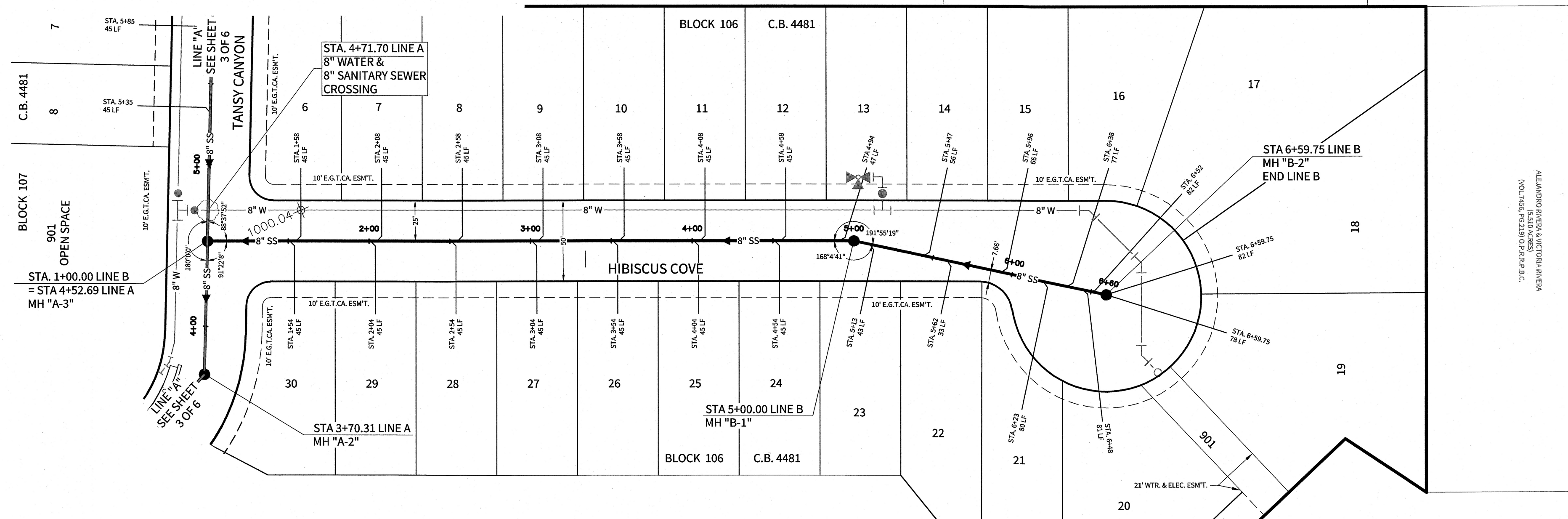
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

LANTANA II EXTENSION
SANITARY SEWER PLAN & PROFILE
LINE "B"

PLAN OF RECORD

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

[Signature] 9/13/2017



NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

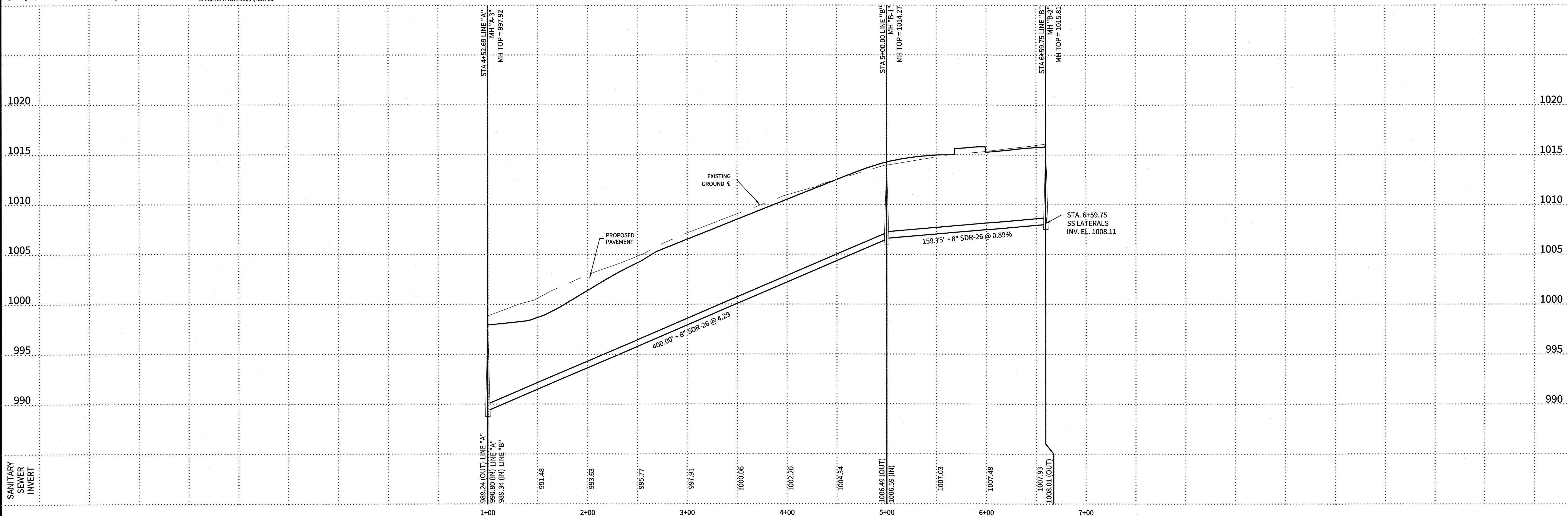
TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE: ALL LATERALS TO BE INSTALLED @ MIN. 2.0% SLOPE, UNLESS OTHERWISE NOTED. ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D3034, SDR-26.

LINE "B"

STA. 1+00.00 TO STA. 6+59.75



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

DATE
12/23/15

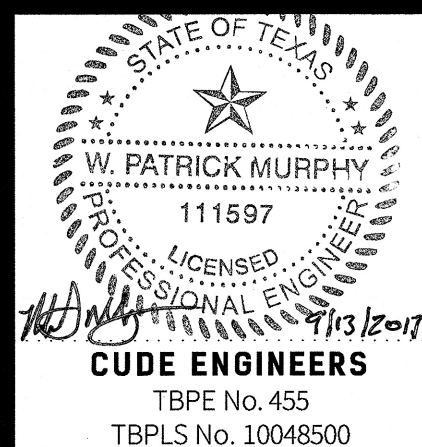
PROJECT NO.
02975.010

DRAWN BY
BMO\SMR\TCD\BAS

CHECKED BY
WPM

REVISIONS

- 03/31/2016 - ADD SAWS JOB NO.
- 05/18/2016 - REVISE MH A-3 IN-OUT
-
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-



PLAT NO.
CP201603
SAWS JOB NO.
16-1527

C27

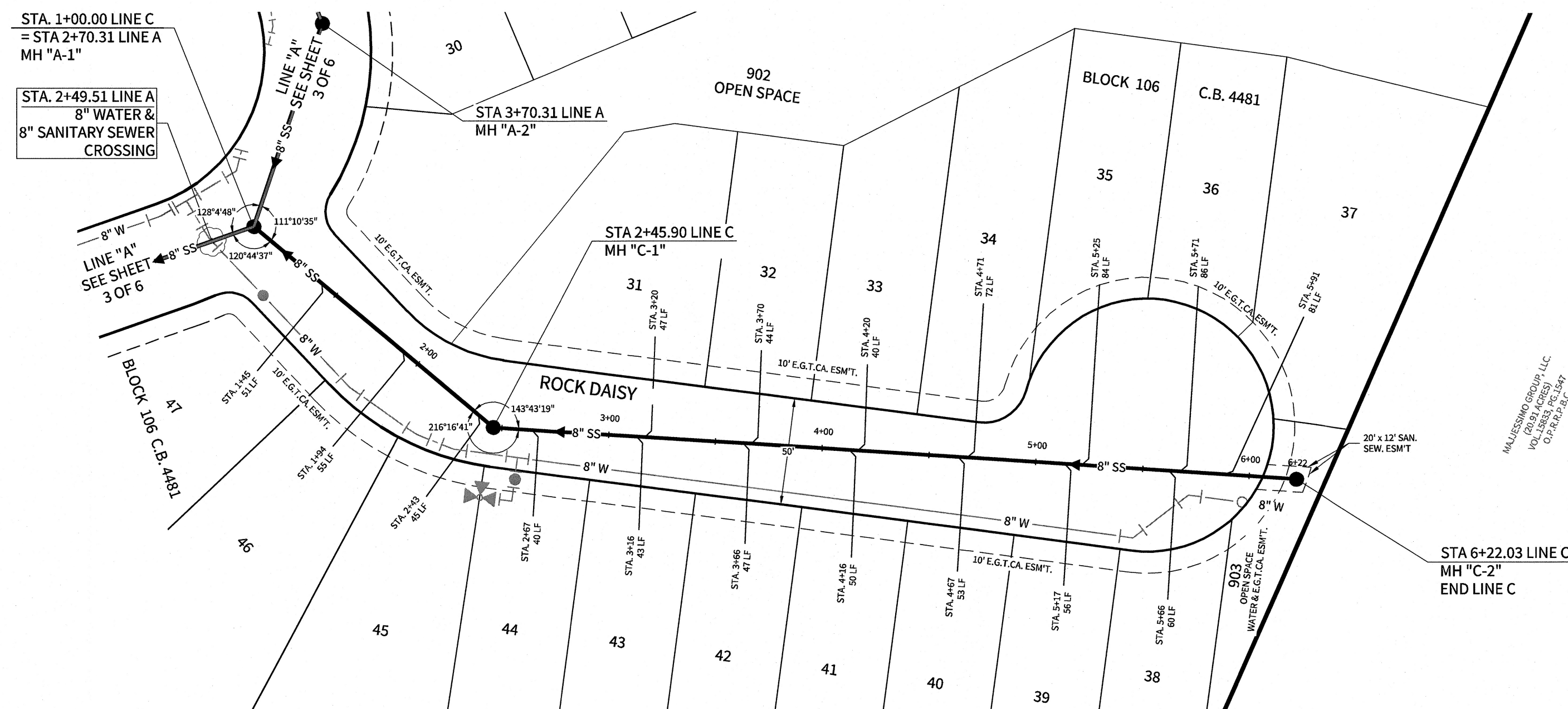
LANTANA II EXTENSION

SANITARY SEWER PLAN & PROFILE
LINE "C"

PLAN OF RECORD

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

the Dwyer 9/13/2017

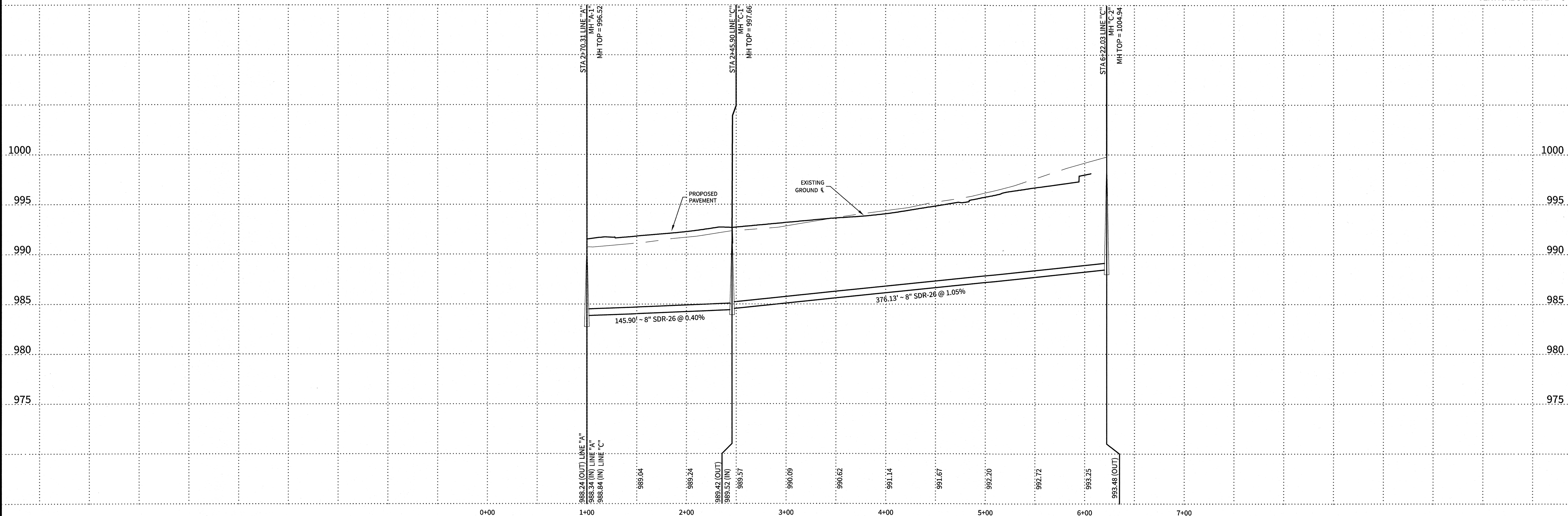


NOTE

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LINE "C"

STA. 1+00.00 TO STA. 6+22.03



Developer's Name		PULTE HOME OF TEXAS, L.P.	
Developer's Address		1718 DRY CREEK WAY, SUITE 120	
City	SAN ANTONIO	State	TEXAS
		Zip	78259
Phone #	(210) 496-1985	Fax #	(210) 496-0449
SAWS Block Map #		094-022	Total EDU's
			55
Total Acreage		17.592	
Total Linear Footage of Pipe		1,847.45 L.F. Of 8" SS - SDR 26	Plat No.
			CP201.603
Number of Lots		55	SAWS Job No.
			16-1527

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

DATE _____

12/23/15

PROJECT NO.

02975.010

DRAWN BY

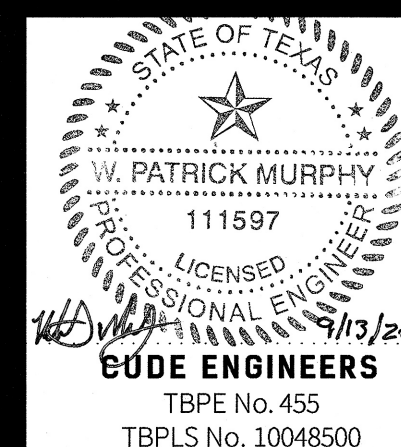
BMO\SMR\TCD\BAS

CHECKED BY

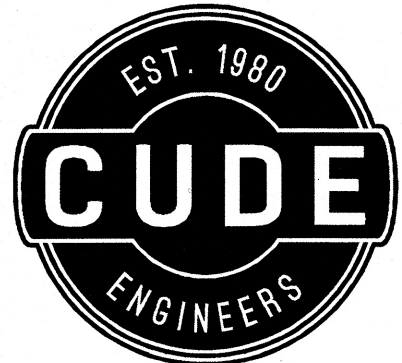
WPM

REVISIONS

1. 03/31/2016 - ADD SAWS JOB NO.,
EXTEND LINE "C".
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.



C28



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San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

LANTANA II EXTENSION
SANITARY SEWER STANDARD DETAILS

DATE
12/23/15

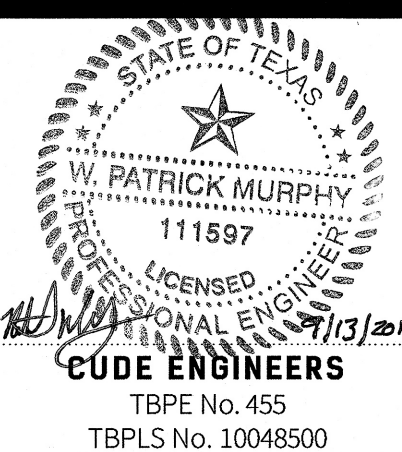
PROJECT NO.
02975.010

DRAWN BY
BMO\SMR\TCD\BAS

CHECKED BY
WPM

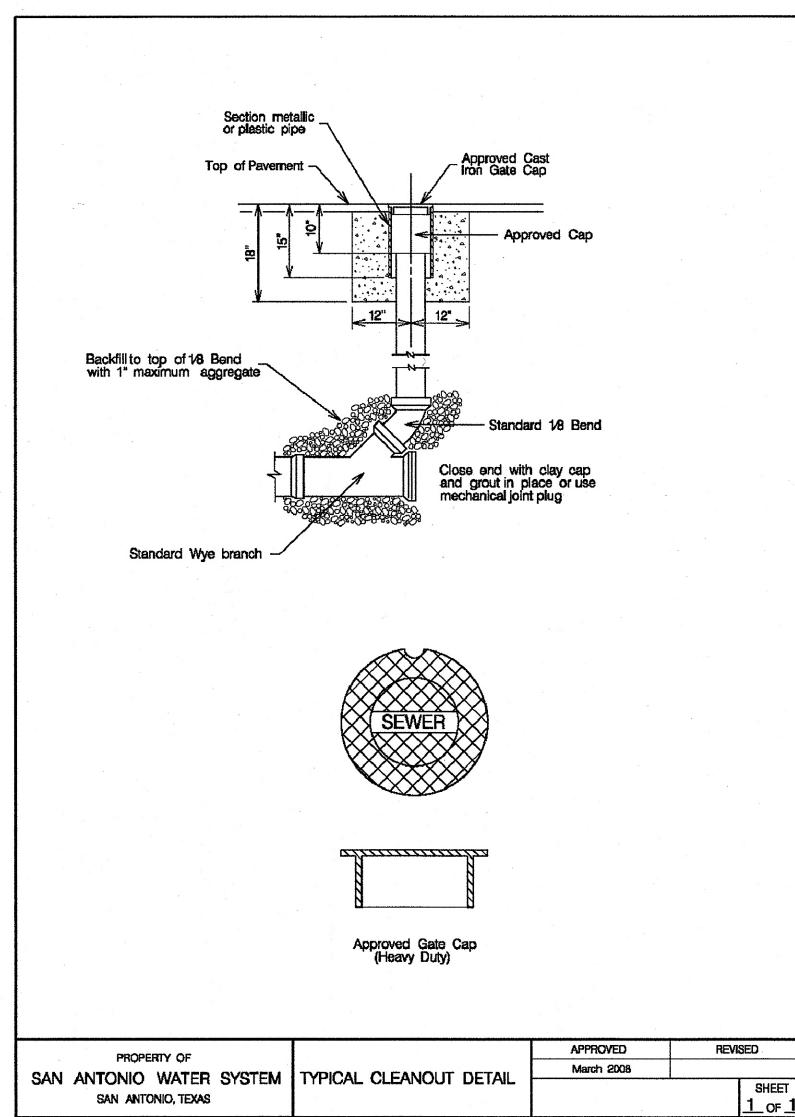
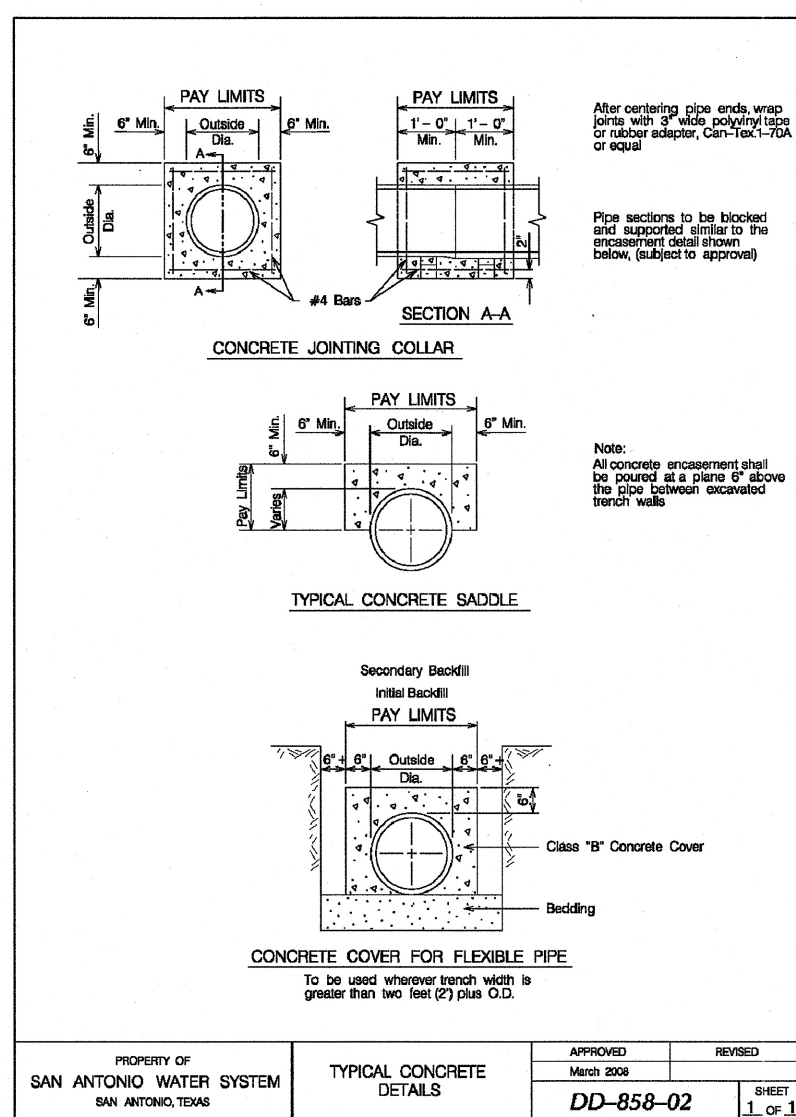
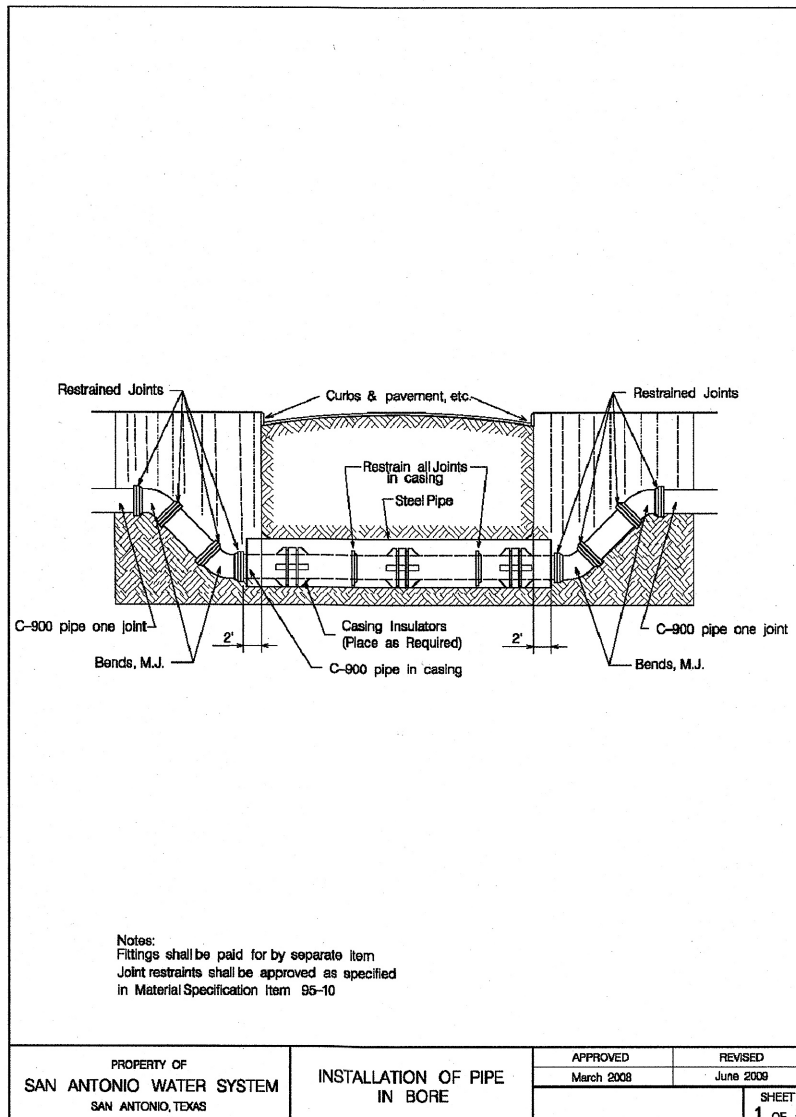
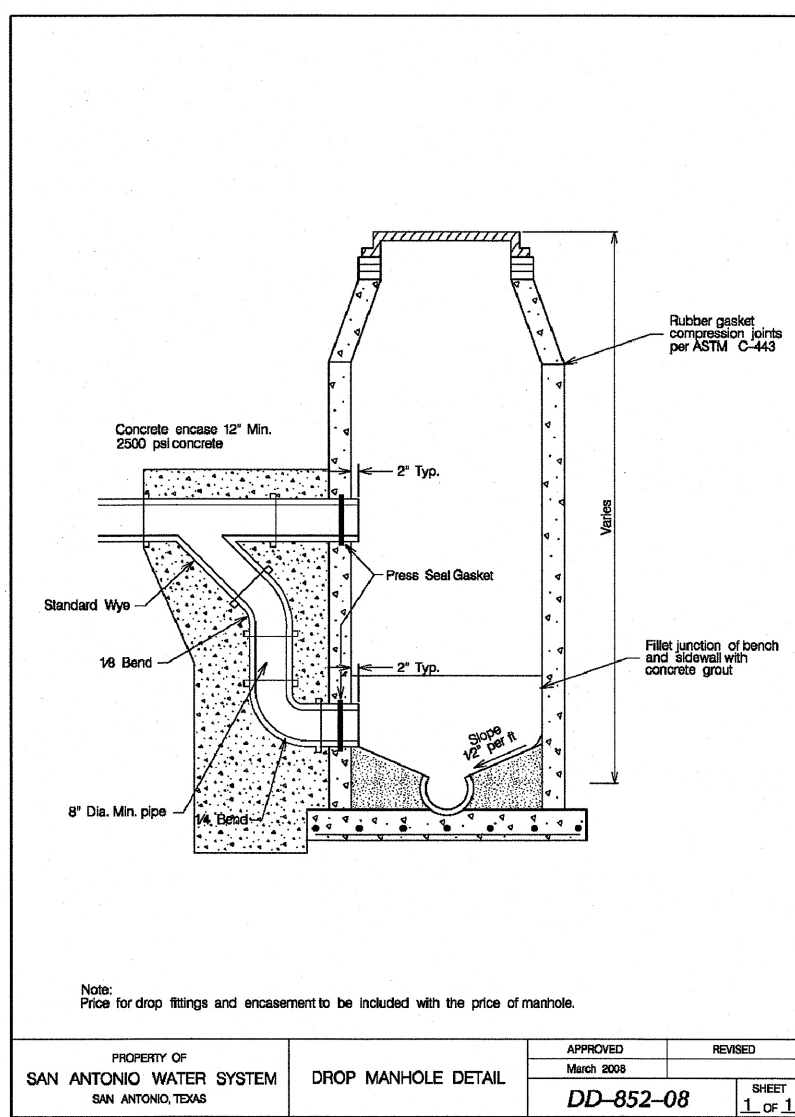
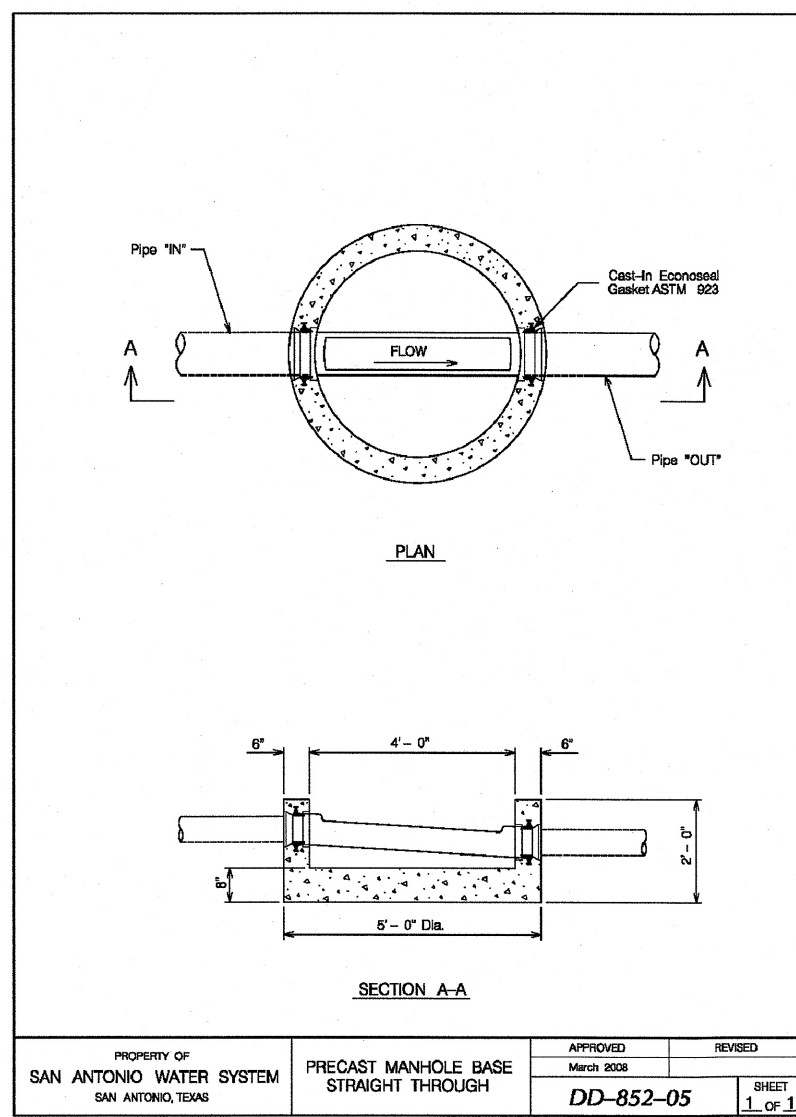
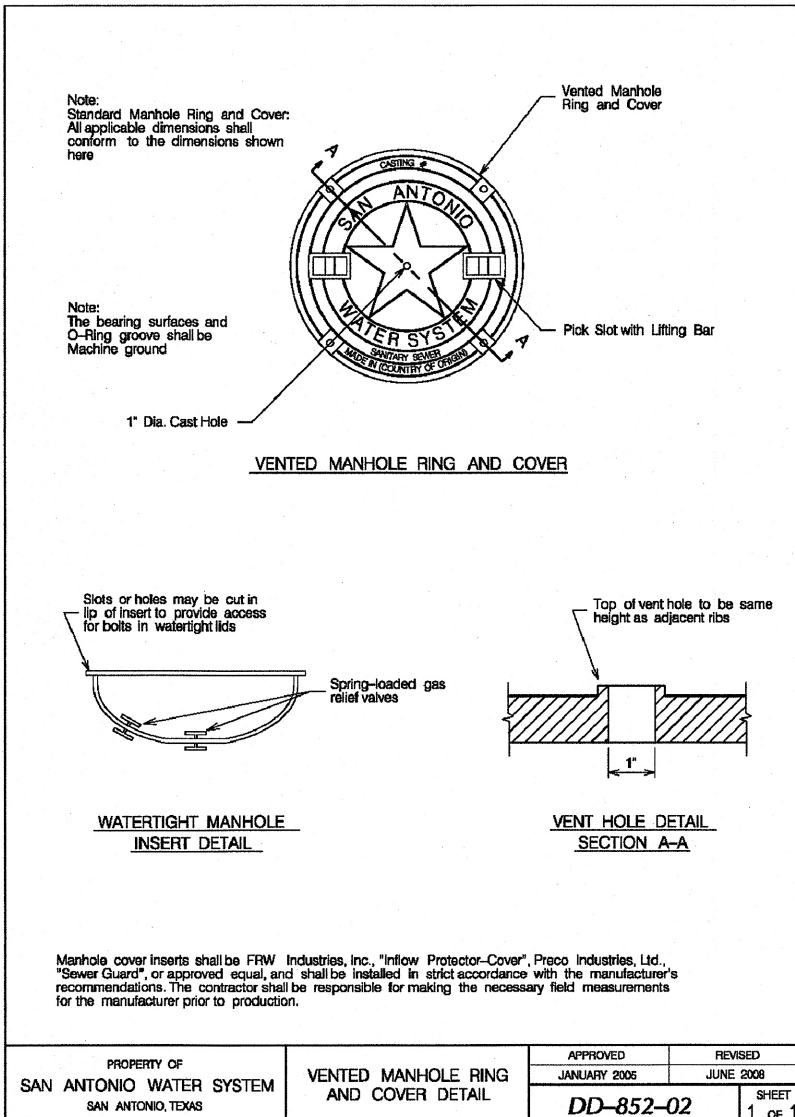
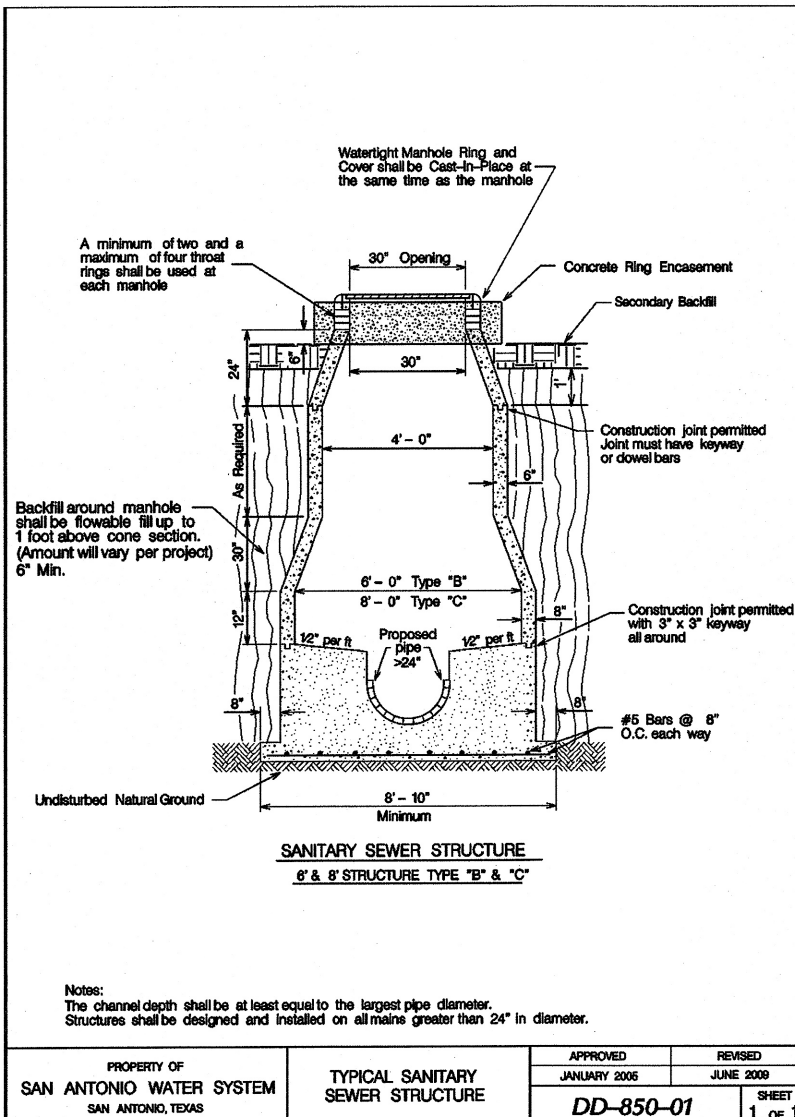
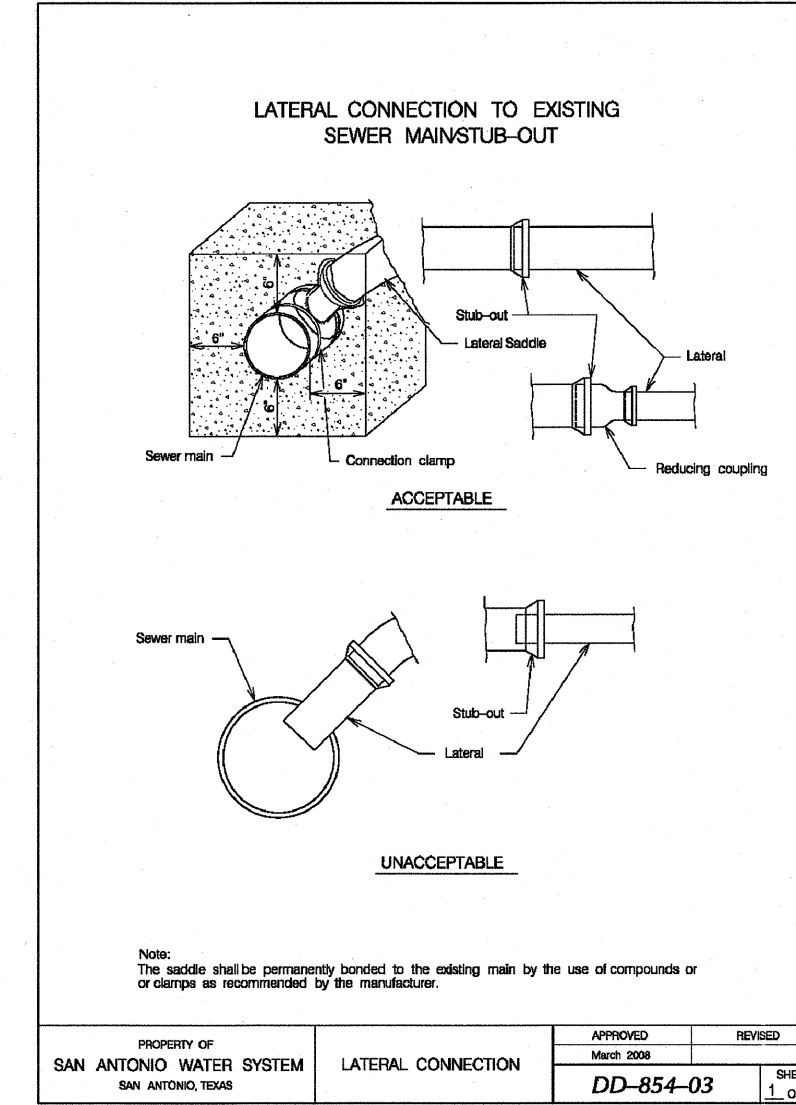
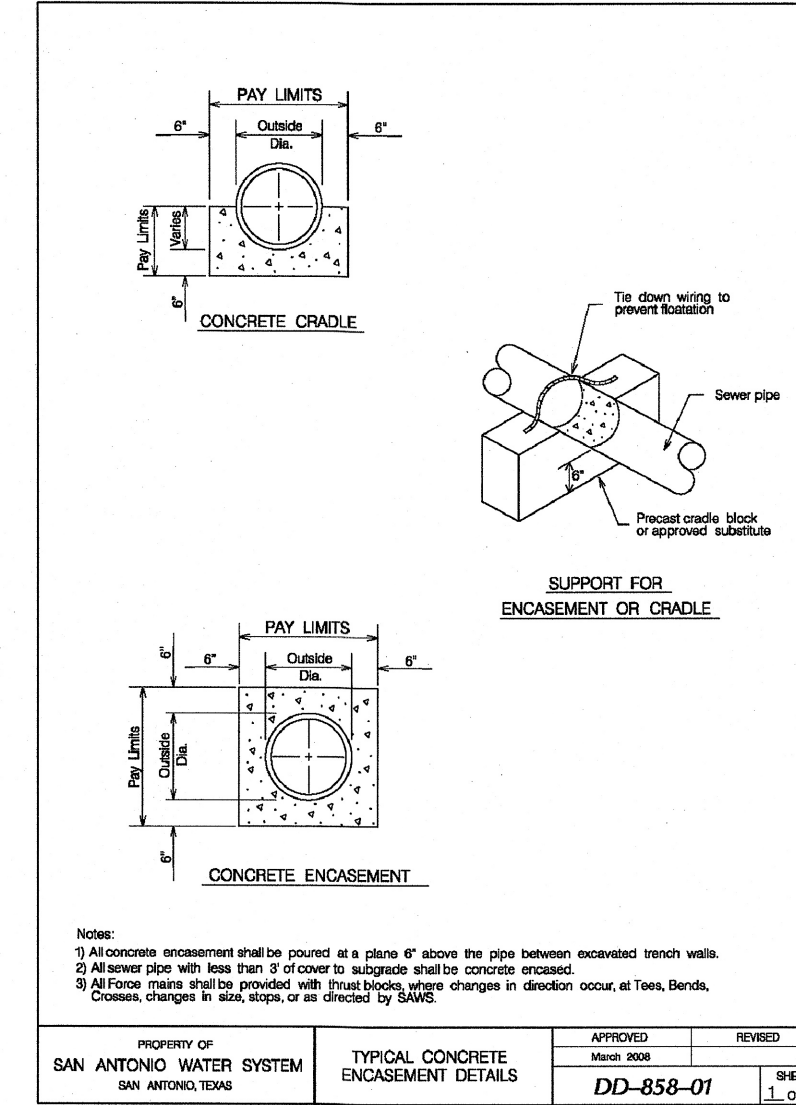
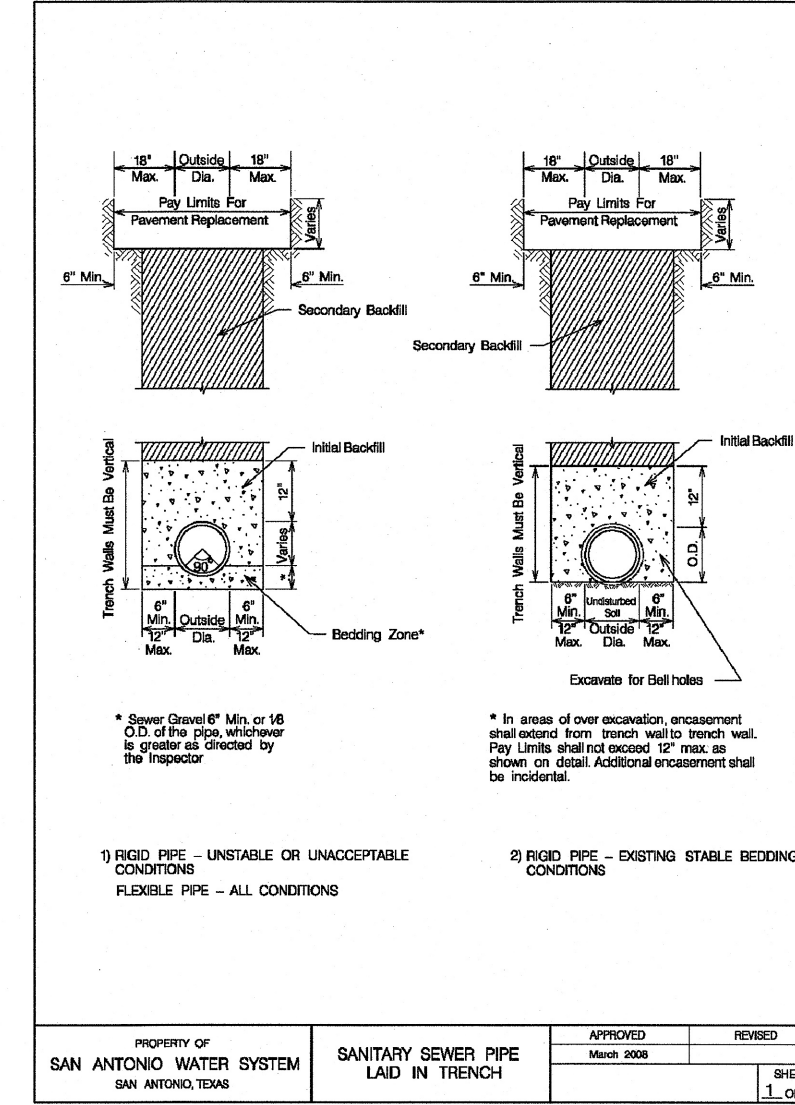
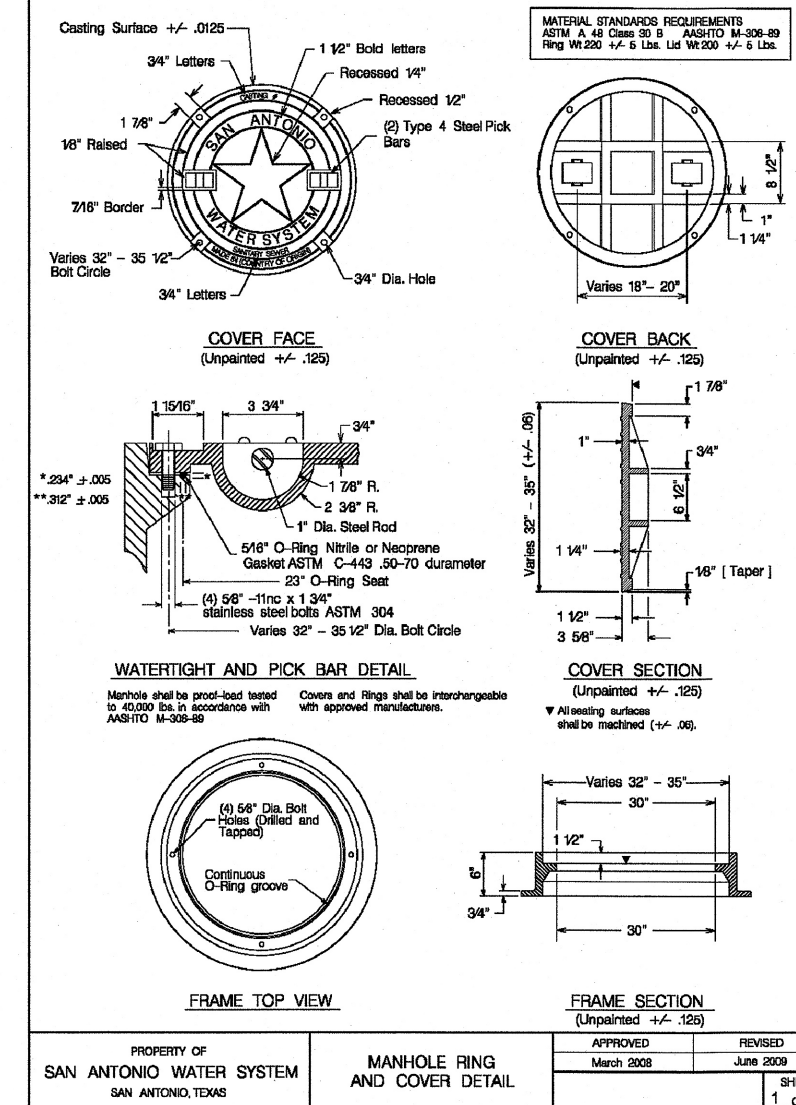
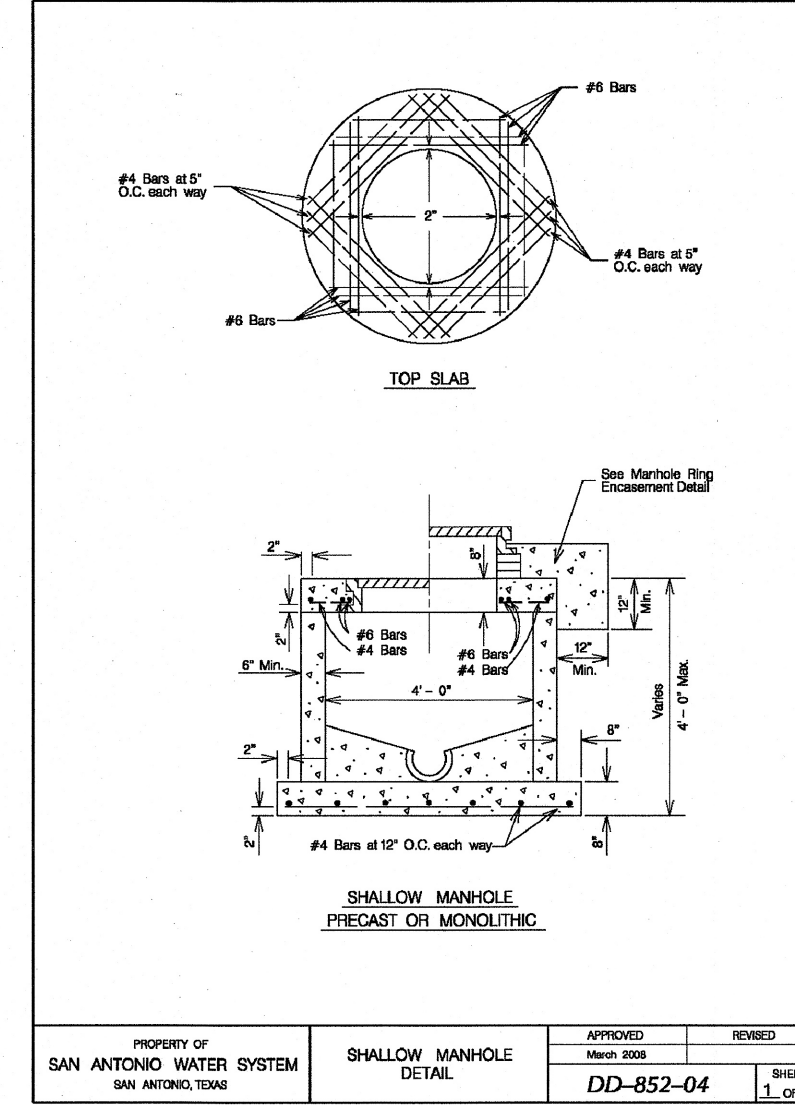
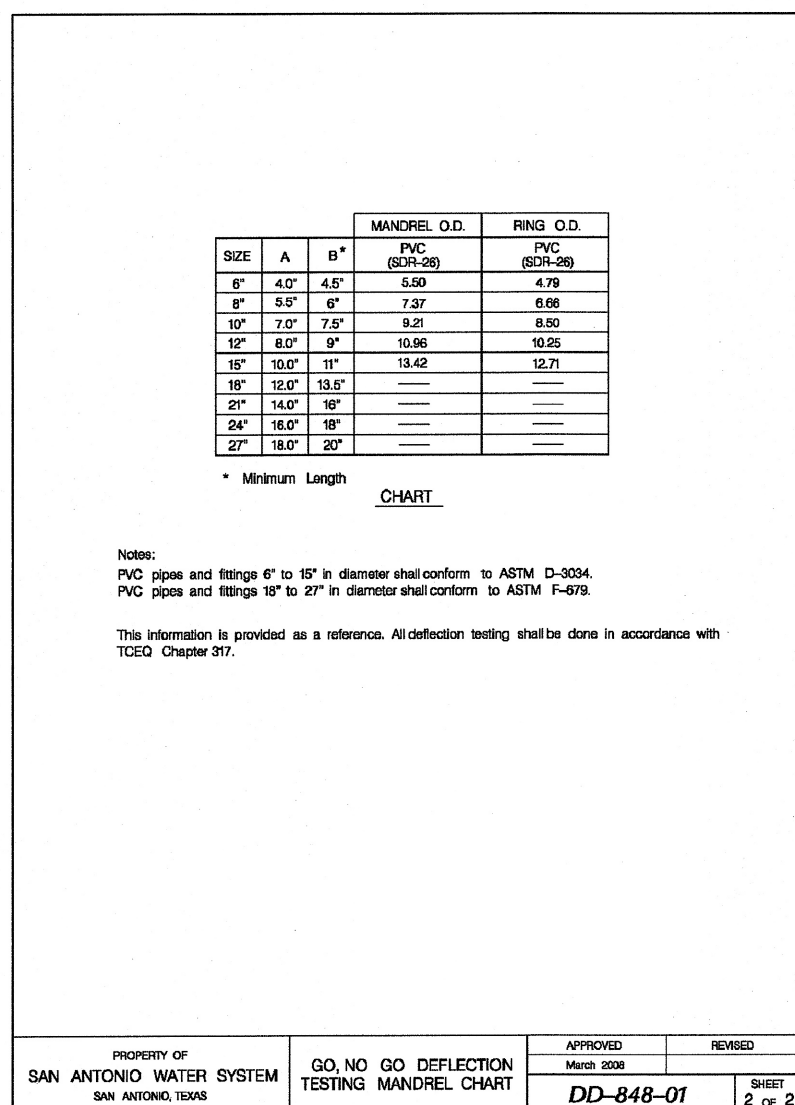
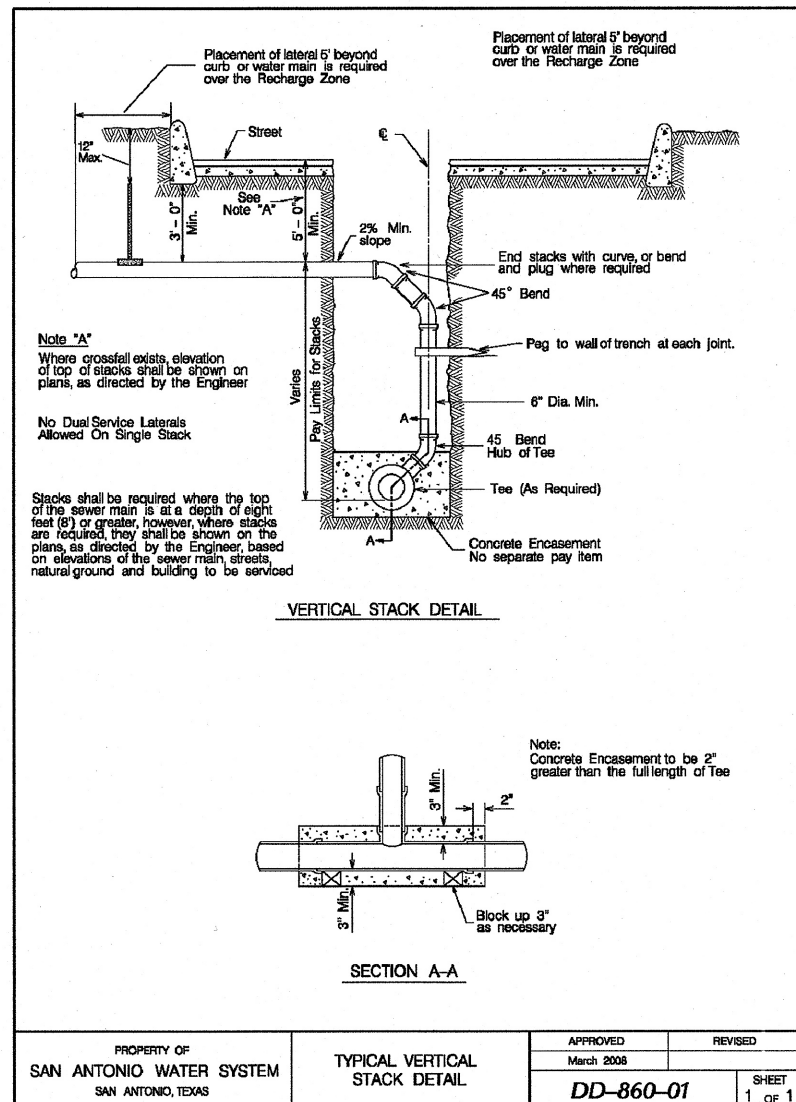
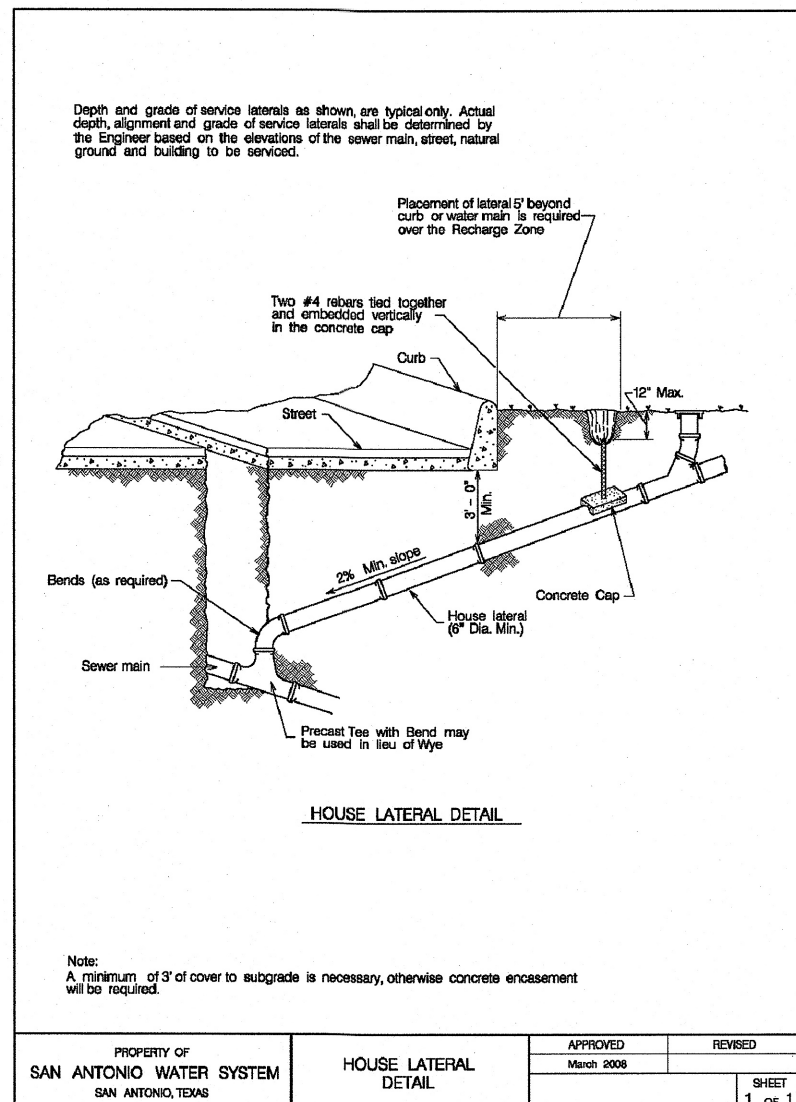
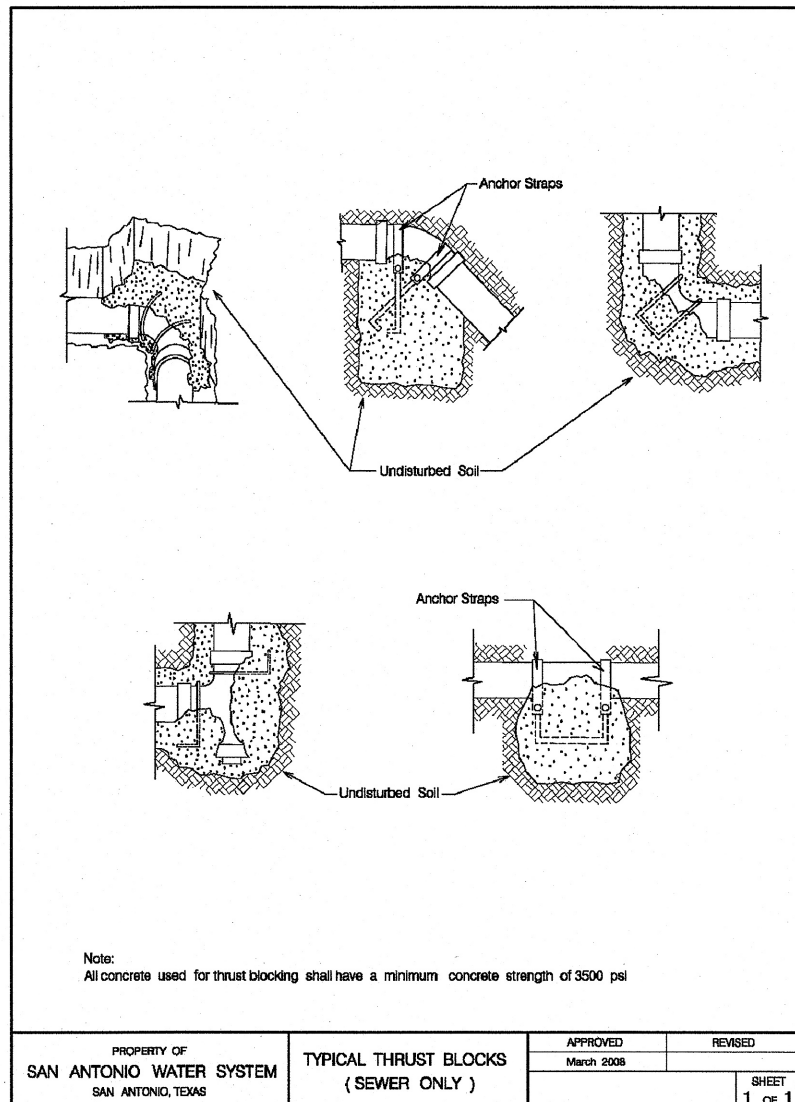
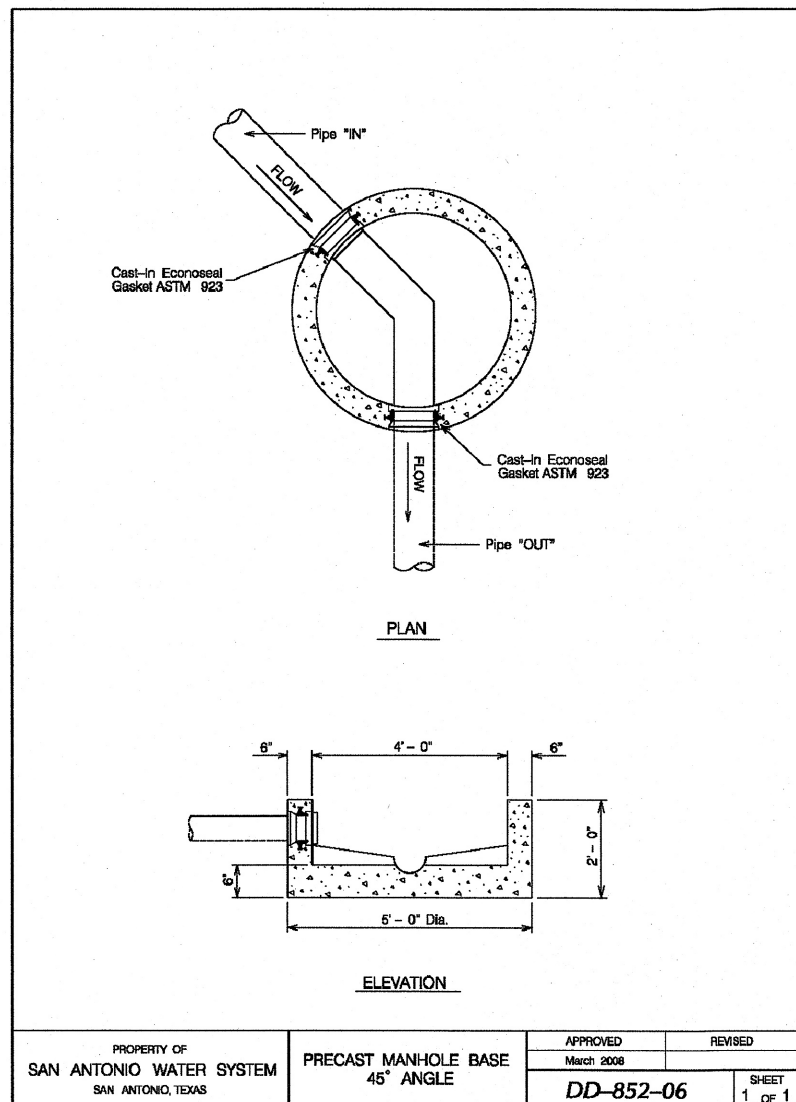
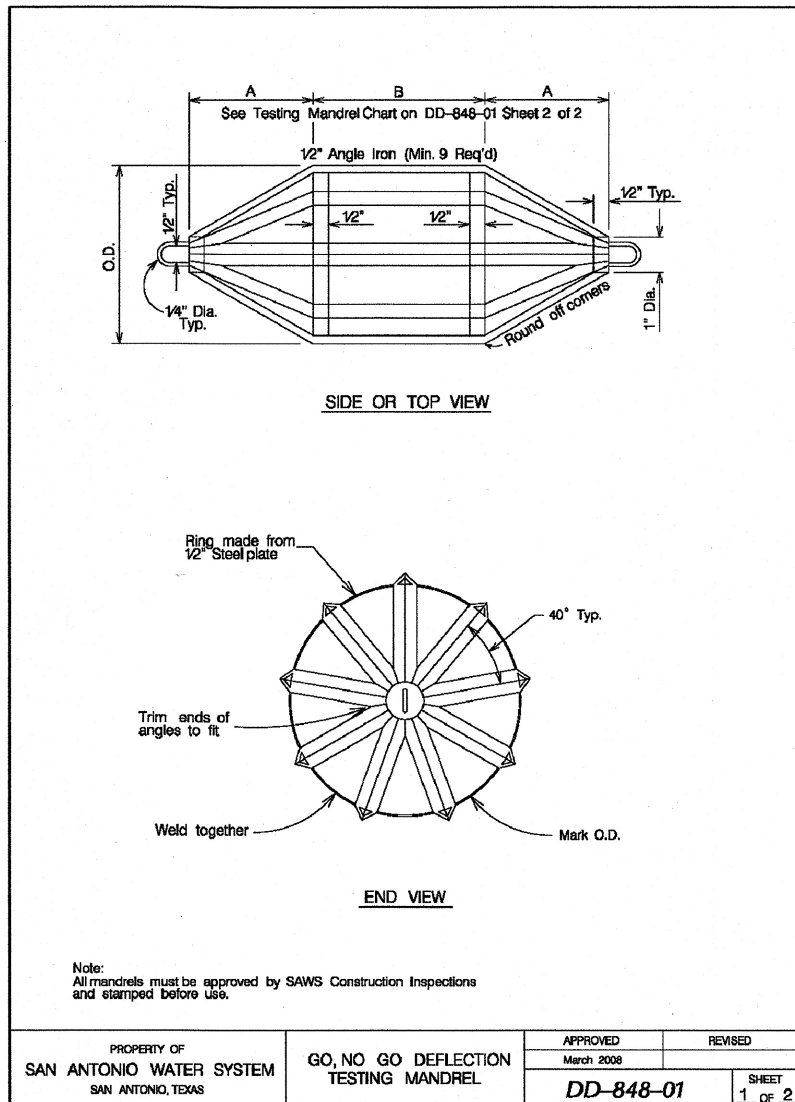
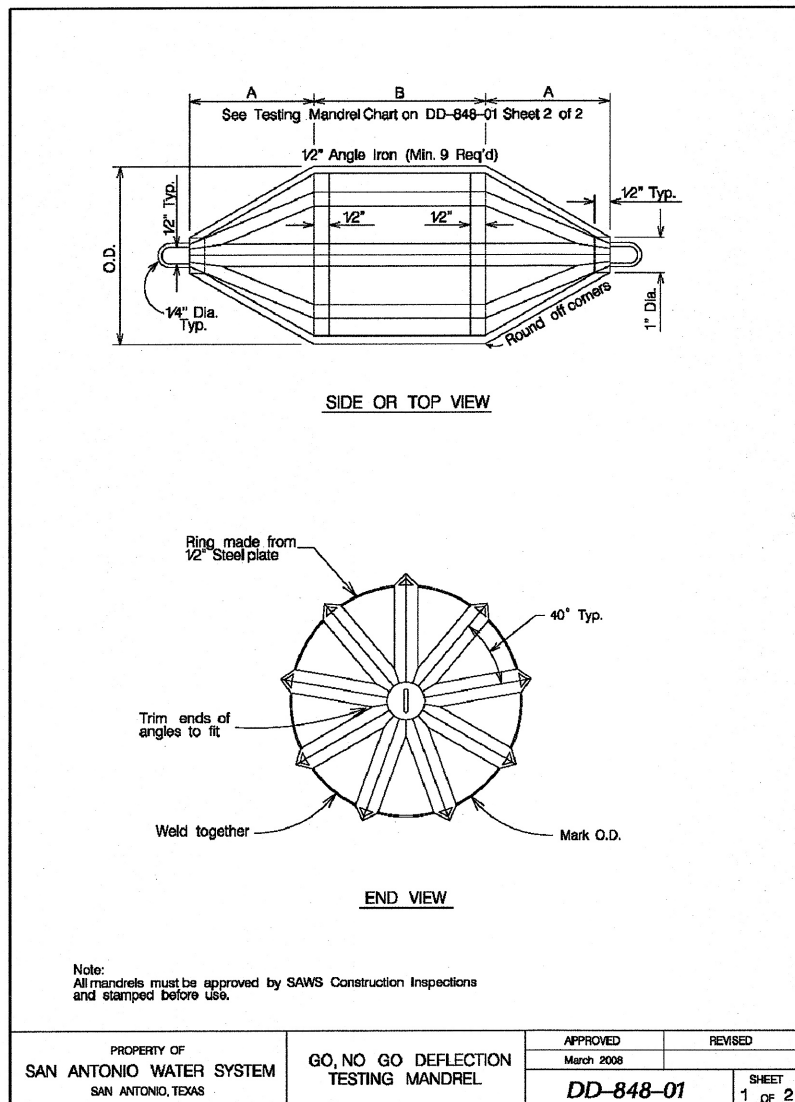
REVISIONS

- 03/31/2016 - ADD SAWS JOB NO.
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PLAT NO.
CP201603
SAWS JOB NO.
16-1527

C29



NOTE
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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

PLAN OF RECORD

THESE RECORD DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS CAUSED AS A RESULT.

9/13/2017

Developer's Name: PULTE HOME OF TEXAS, L.P.
Developer's Address: 1718 DRY CREEK WAY, SUITE 120
City: SAN ANTONIO State: TEXAS Zip: 78259
Phone #: (210) 496-1985 Fax #: (210) 496-0449
SAWS Block Map #: 094-622 Total EDU's: 65 Total Acreage: 17.592
Total Linear Footage of Pipe: 1,847.45 L.F. OF 8" SDR 26 Plat No.: CP201603
Number of Lots: 55 SAWS Job No.: 16-1527