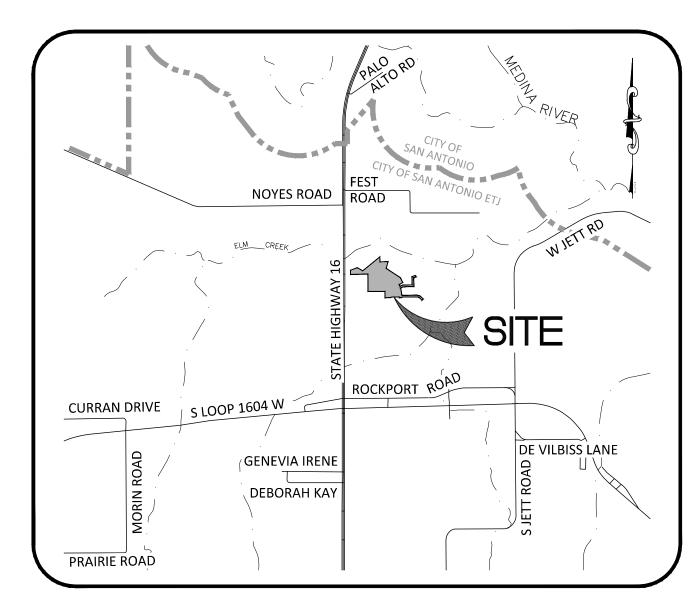
PLAT NO. 24-11800190

CLINE TRACT, UNIT 1



VICINITY MAP

SUBMITTAL DATE:

LEGAL DESCRIPTION:

AN 20.638 ACRE TRACT OF LAND SITUATED IN THE JOSE MARIA SAES SURVEY NUMBER 40, ABSTRACT NUMBER 418, COUNTY BLOCK 4201, BEXAR COUNTY, TEXAS, BEING A PORTION OF A 24.778 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY WARRANTY DEED AS RECORDED IN DOCUMENT NUMBER 20230134902 AND A PORTION OF A 29.243 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20230067413, BOTH OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.



Sheet List Table

Sheet Number COVER SHEET	Sheet Title
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TEXAS CO.0

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.

LEGEND

EXISTING WATER MAIN

PROPOSED WATER MAIN

PROPOSED FIRE HYDRANT

EXISTING FIRE HYDRANT

PROPOSED GATE VALVE

PROPOSED SANITARY SEWER MAIN EXISTING SANITARY SEWER MAIN

EXISTING UNDERGROUND ELECTRIC

EXISTING UNDERGROUND TELEPHONE

OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS

PROPOSED STREET LIGHT UG, 100W AND SINGLE ARM

PROPOSED STREET LIGHT UG, 250W AND SINGLE ARM

PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT

EXISTING OVERHEAD ELECTRIC

EXISTING GATE VALVE

EXISTING STREET LIGHT

EXISTING POWER POLE

PROPOSED POWER POLE

PROPOSED TRANSFORMER PROPOSED WATER SERVICE

EXISTING TRANSFORMER

EXISTING SECONDARY ENCLOSURE PROPOSED SECONDARY ENCLOSURE

EXISTING IRRIGATION CONTROL VALVE

UTILITY GENERAL NOTES

- LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES.
- 2. ALL EXCAVATION IS UNCLASSIFIED. THERE IS NO ADDITIONAL PAYMENT
- 3. ALL SPOIL AND UNUSABLE MATERIAL FROM THIS PROJECT SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT NO ADDITIONAL
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THE PROJECT.
- 5. CONSTRUCTION STAKING TO BE PROVIDED BY CONSULTANT IS AS
- A. STREET CENTERLINE STAKING FOR CLEARING. B. STREET STAKING (ONE SIDE) FOR STREET EXCAVATION AND WATER
- SEWER STAKING AT 100-FT INTERVALS.
- STAKING FOR WATER SERVICES. STAKING FOR DRAINAGE CHANNELS
- FINAL STREET STAKING. METER BOX STAKING. H. CPS STAKING.
- I. SETTING OF LOT CORNERS.

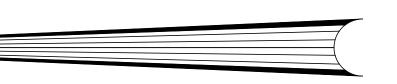
CPS NOTES:

1. CPS TO SUPPLY ALL ELECTRIC CONDUITS FOR TRENCH AS FOLLOW:

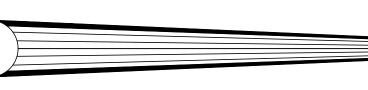
- PRIMARY 2 1/2" HDPE SCHEDULE 40 SERVICE STUBS - 2 1/2" PVC SCHEDULE 40
- 6" P.V.C. SCHEDULE 80 WILL BE REQUIRED FOR C.P.S. UTILITIES CROSSINGS WHEN DRAIN OR STREET CONSTRUCTION PRECEDES UTILITY INSTALLATION.
- 3. 4" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. IF ABOVE APPLIES.
- 4. P.V.C. CONDUIT WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.

TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH CITY

CONSTRUCTION PLANS FOR







SUBMITTED BY: MOY TARIN RAMIREZ ENGINEERS, LLC. 12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051

FAX: (210) 698-5085

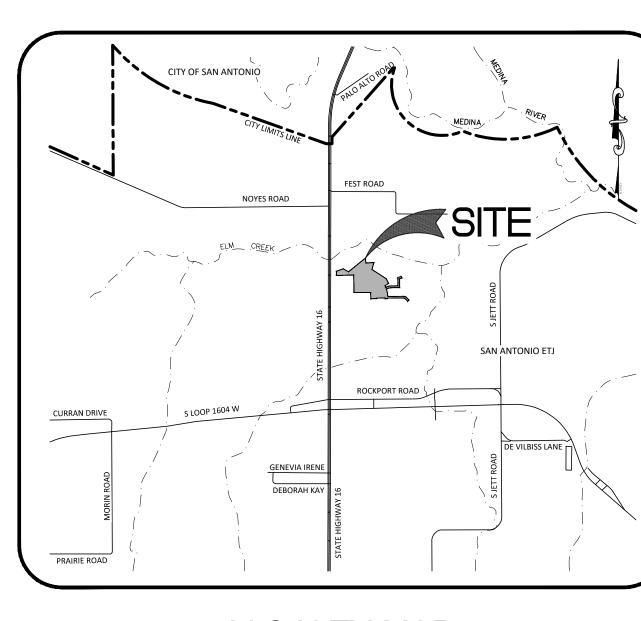
PLAT NO. 24-11800190

OWNER/DEVELOPER

TERRA HILLS DEVELOPMENT, LLC 16845 BLANCO RD, STE 206A SAN ANTONIO, TX 78232 956-237-0191

CLINE TRACT, UNIT 1

UTILITY IMPROVEMENTS



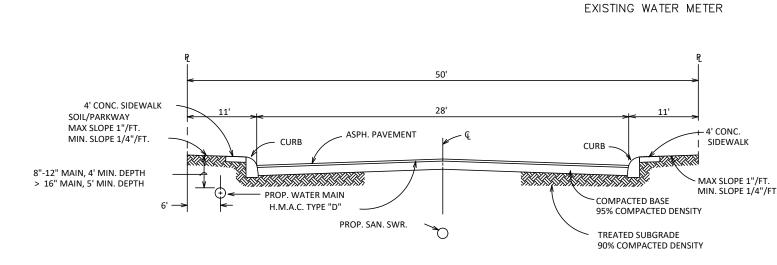
VICINITY MAP

SUBMITTAL DATE:

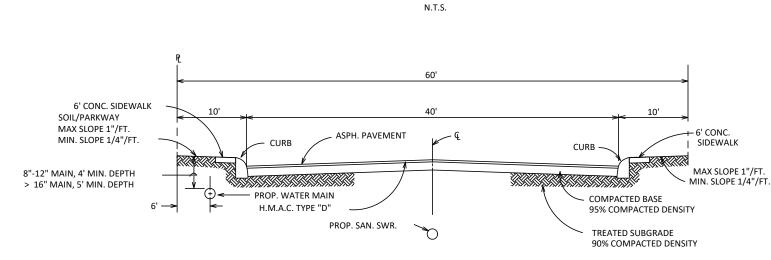
MARCH 2021

LEGAL DESCRIPTION:

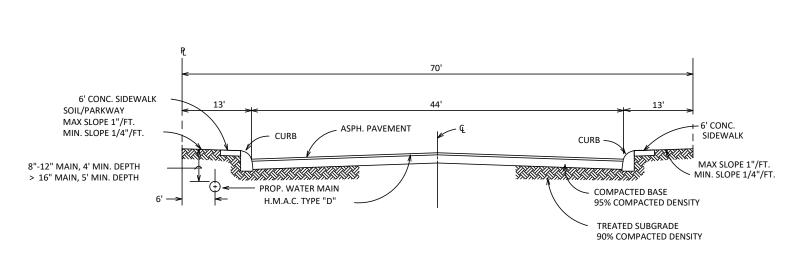
AN 19.932 ACRE TRACT OF LAND SITUATED IN THE JOSE MARIA SAES SURVEY NUMBER 40, ABSTRACT NUMBER 418, COUNTY BLOCK 4201, BEXAR COUNTY, TEXAS, BEING A PORTION OF A 24.778 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY WARRANTY DEED AS RECORDED IN DOCUMENT NUMBER 20230134902 AND A PORTION OF A 29.243 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20230067413 BOTH OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.



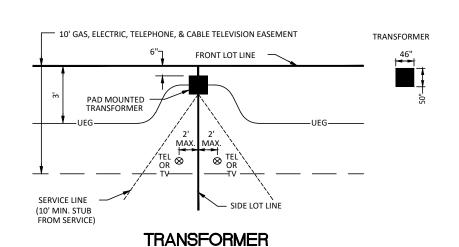
TYPICAL STREET CROSS-SECTION (28' PAVEMENT)



TYPICAL STREET CROSS-SECTION (40' PAVEMENT)



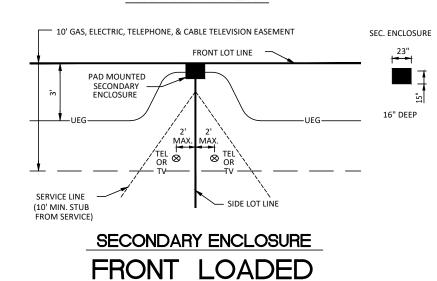
TYPICAL STREET CROSS-SECTION (44' PAVEMENT)



---- E8"W -----

D.P.R.B.C.T.

O.P.R.M.C.T.



NOTE TO CONTRACTOR

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.





Moy Tarin Ramirez Engineers, LLC

12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

• Planners FIRM TBPELS ENG F-5297 SVY F-10131500

Engineers

Surveyors

—SHEET C1. SHEET C1.2 INDEX MAP

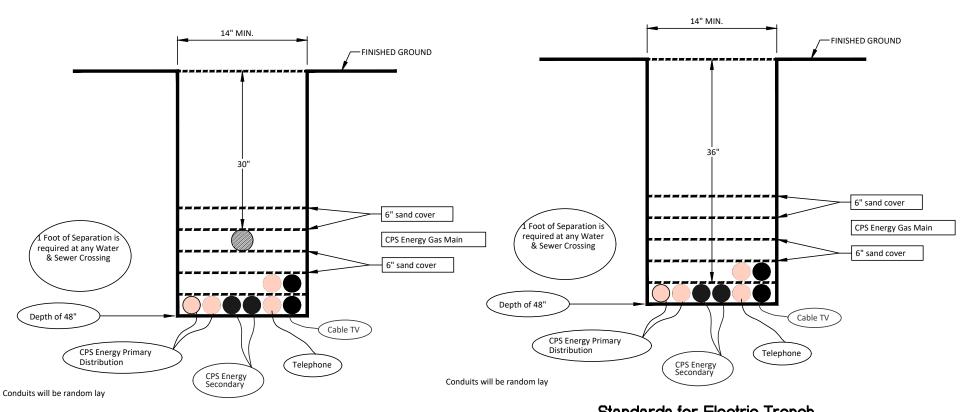
Sheet List Table

Sheet Number Sheet Title

UTILITY PLANS

UTILITY COVER

OVERALL UTILITY IMPROVEMENTS C1.1 OVERALL UTILITY IMPROVEMENTS



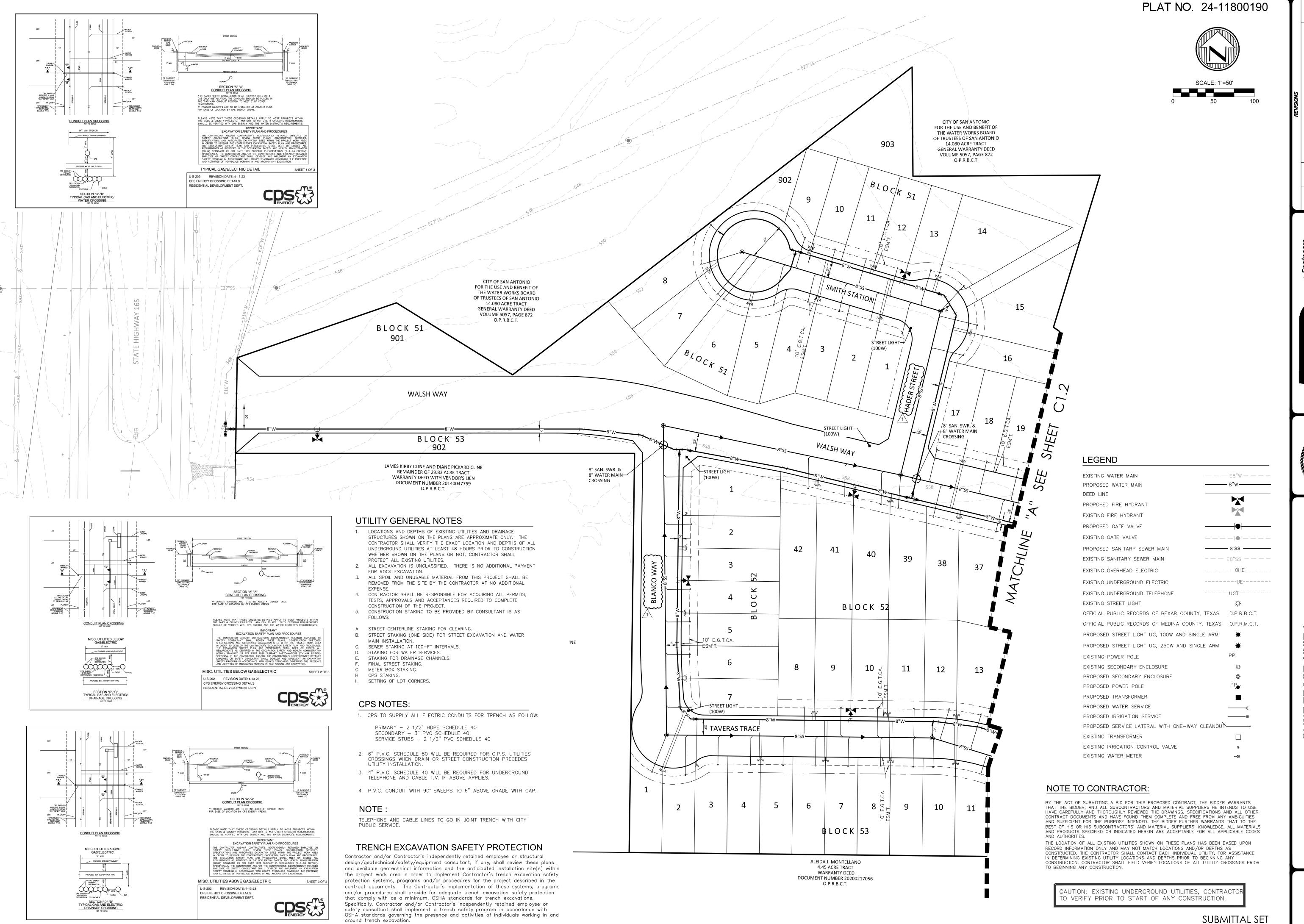
Standards for Gas and Electric Trench or Electric Trench with Joint Utilities

Standards for Electric Trench or Electric Trench with Joint Utilities

TRENCH DETAILS

SUBMITTAL SET TEXAS C1.0

BEXAR COUNTY



SHEET

OVE

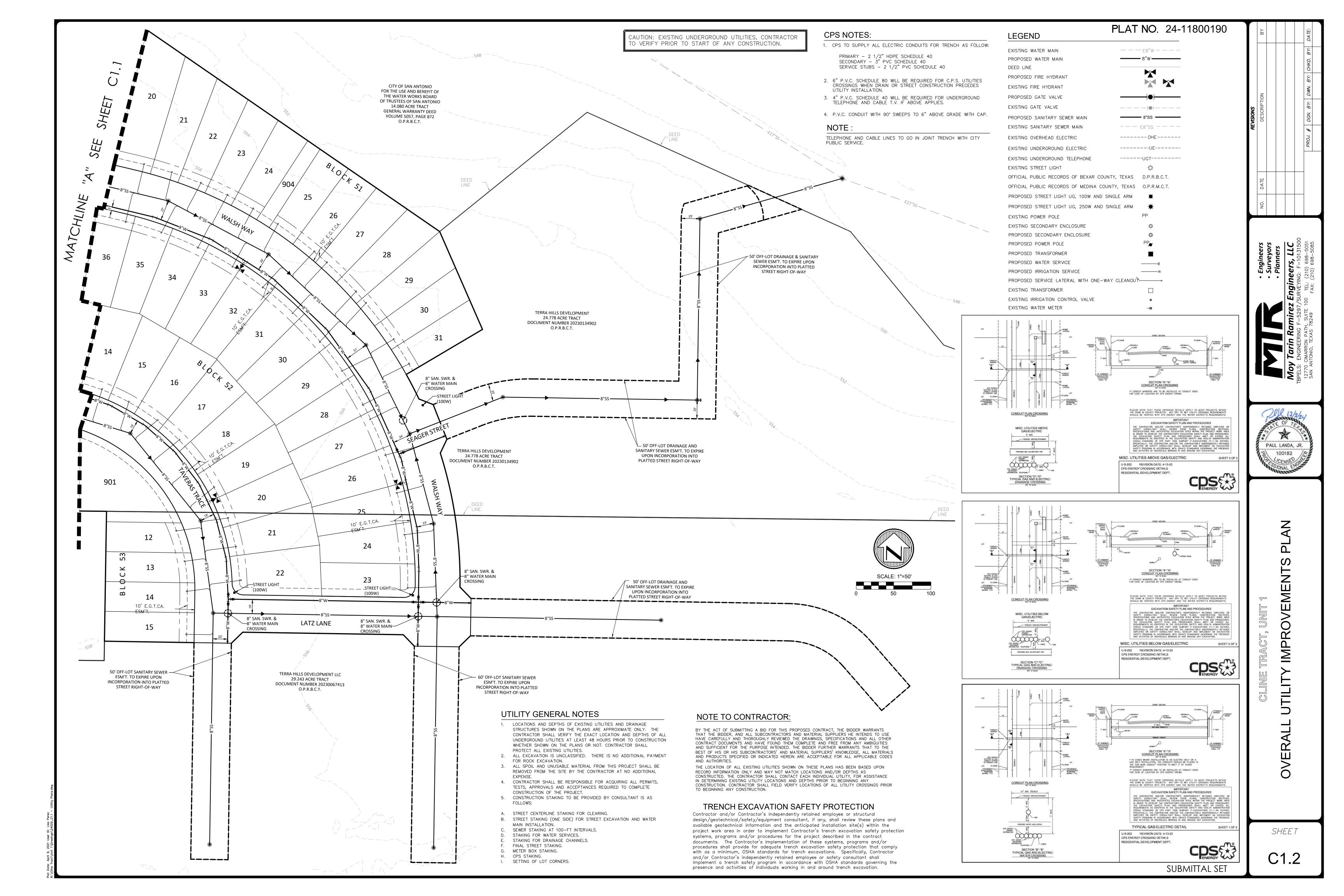
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MOY TARIN RAMIREZ ENGINEERS, LLC. 12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249 TEL: (210) 698-5051 FAX: (210) 698-5085

PLAT NO. 24-11800190

OWNER/DEVELOPER

TERRA HILLS DEVELOPMENT, LLC 16845 BLANCO RD, STE 206A SAN ANTONIO, TX 78232 956-237-0191

CLINE TRACT, UNIT 1 SANITARY SEWER IMPROVEMENTS

SAWS CONSTRUCTION NOTES COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

- 1. All materials and construction procedures within the scope of this contract shall be approved by the 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
- B. Current 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" (UECM).
- 2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) 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. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer
- 3. The Contractor shall obtain the SAWS Standard Details from the SAWS website,
- http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- 4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48
- 5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction
- 6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
- SAWS Utility Locates: http://www.saws.org/Service/Locates
- COSA Drainage (210) 207-0724 or (210) 207-6026
- COSA Traffic Signal Operations (210) 206-8480
- COSA Traffic Signal Damages (210) 207-3951 Texas State Wide One Call Locator 1-800-545-6005 or 811
- 7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and
- structures to its original or better condition if damages are made as a result of the project's construction. 8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- 9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating
- 10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood
- 11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to
- request weekend work. Request should be sent to constwork Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper
- 12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the 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. 13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

- 1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO
- Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210)
- 233-2014. Provide the address of the spill and an estimated volume or flow. Attempt to eliminate the source of the SSO.
- Contain sewage from the SSO to the extent of preventing a possible contamination of waterways. Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
- Clean the affected sewer mains and remove any debris.
- Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.
- Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the
- 2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass
- 3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week 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.
- 4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
- 5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI) 6. Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.

ADDITIONAL SEWER NOTES

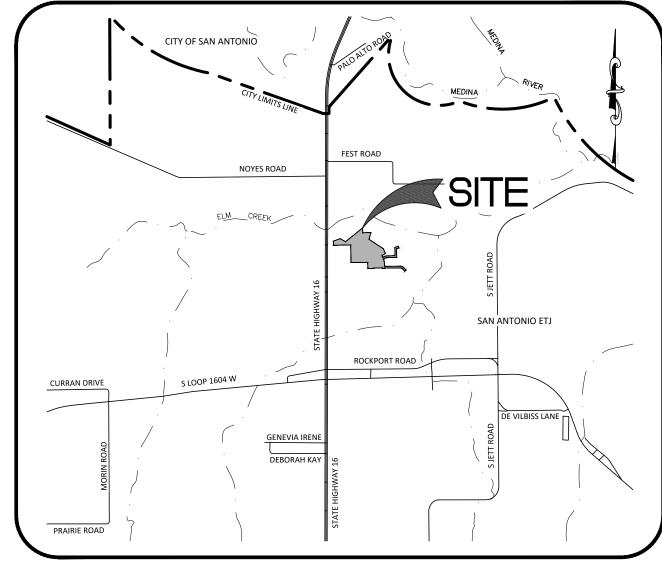
98% COMPACTION NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER 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.

- 1. SANITARY SEWER LATERALS TO BE LOCATED AS SHOWN ON THE SANITARY SEWER PLANS.
- 2. PAY CUTS FOR SANITARY SEWERS LOCATED IN STREETS ARE ESTIMATED TO THE FINISHED SUBGRADE ELEVATION. PAY CUTS ARE TO EXISTING
- 3. EXTEND ALL SANITARY SEWER LATERALS TO THE PROPERTY LINE OR TO THE EASEMENT LINE AS INDICATED. ALL LATERALS ARE 35' LONG UNLESS OTHERWISE NOTED.
- 4. SANITARY SEWER LINES AND LATERALS WILL BE PVC SDR 26 ASTM D 3034 UNLESS OTHERWISE NOTED ON PLAN AND PROFILE SHEETS.
- 5. SDR FITTINGS WILL MATCH SDR SEWER MAIN, NO SEPARATE PAY ITEM.
- 6. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPGRADIENT SIDE OF THE SEWER TRENCH THUS ALLOWING THE TRENCH TO
- INTERCEPT ANY SILT CONTAMINATED RUNOFF. 7. QUANTITIES ARE BASED ON CURRENT SAWS SPECIFICATIONS.
- 8. ALL MANHOLES TO HAVE WATERTIGHT RING AND COVERS.
- 9. ALL MANHOLES TO BE CONCRETE RING ENCASED.
- 10. MANHOLES TO BE VENTED AS SHOWN ON THE SANITARY SEWER PLANS.
- 11. AN "*" DENOTES AN EXISTING TEE.
- % SLOPE TO 12. ALL SANITARY SEWER LATERALS SHALL HAVE A MIN. 2.0
- 13. MINIMUM COVER FROM TOP OF SANITARY SEWER LATERALS TO TOP OF
- A. IF LATERALS DO NOT CROSS WATER MAINS, 5' COVER
- B. IF LATERALS CROSS WATER MAIN,
- WATER MAIN COVER 6" 5.5' 8" 5.7' 12" 6.0' 16"
- 14. ALL MANHOLE OPENINGS SHALL BE 30".

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 FEET (9) 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 OF 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 OF 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 HAVE A SEGMENT OF SEWER PIPE CENTERED ON 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 OF 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
- 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 MATERIAL.

SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE



VICINITY MAP

SUBMITTAL DATE:

LEGAL DESCRIPTION:

AN 19.932 ACRE TRACT OF LAND SITUATED IN THE JOSE MARIA SAES SURVEY NUMBER 40, ABSTRACT NUMBER 418, COUNTY BLOCK 4201, BEXAR COUNTY, TEXAS, BEING A PORTION OF A 24.778 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT. LLC BY WARRANTY DEED AS RECORDED IN DOCUMENT NUMBER 20230134902 AND A PORTION OF A 29.243 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20230067413, BOTH OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

ESTIMATED SEWER QUANTITIES

ГЕМ	DESCRIPTION	UNIT	EST/QTY
1	TIE INTO EXISTING SANITARY SEWER MAIN	E.A.	1
2	TRENCH EXCAVATION SAFETY PROTECTION	L.F.	4,882
3	8" SANITARY SEWER PIPE, SDR-26 (6'-10')	L.F.	1,496
4	8" SANITARY SEWER PIPE, SDR-26 (10'-14')	L.F.	1,723
5	8" SANITARY SEWER PIPE, SDR-26 (14'-18')	L.F.	1,663
6	STANDARD SANITARY SEWER MANHOLE	EA.	20
7	DROP MANHOLE	EA.	1
8	EXTRA DEPTH MANHOLE	V.F.	155.6
9	VERTICAL STACK	V.F.	302.4
10	6" SANITARY SEWER LATERALS, SDR-26	L.F.	3,418
11	8" SEWER MAIN TELEVISION INSPECTION	L.F.	4,882

Sheet List Table

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C2.11	SEWER LINE H PLAN & PROFILE
C2.12	SEWER LINE J PLAN & PROFILE

STANDARD SEWER DETAILS

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE

INDEX MAP

UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE

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.

_ Fax #__

BENCHMARK

STAMPED "MTR CONTROL" N 13701678.37

STAMPED "MTR CONTROL" N 13701670.64 E 2029470.06

BM CP-7: 1/2" IRON ROD W/PINK PLASTIC CAP E 2030644.90 ELEV.=996.29

BM CP-8: 1/2" IRON ROD W/PINK PLASTIC CAP ELEV.=1030.61

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS

NOTE TO CONTRACTOR:

THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON

RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED.

THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION. BEXAR COUNTY





Moy Tarin Ramirez Engineers, LLC

FIRM TBPELS ENG F-5297 SVY F-10131500 12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 FAX: (210) 698-5085 SAN ANTONIO, TEXAS 78249

Surveyors

City_SAN ANTONIO

Phone #____956-237-0191

Number of Lots<u>88</u>

SAWS Block Map <u>#</u> 132512

Total Linear Footage of Pipe 8" - 4,882 L.F.

Developer's Name__TERRA HILLS DEVELOPMENT, LLC

Developer's Address 16845 BLANCO RD, STE 206A

SAWS Job No. 24-1637

Total EDU's <u>88</u> Total Acreage <u>19.659</u>

DATE

DATE

DESCRIPTION

2/20/25 STREET NAME REVISION

SG

PROJ. # DGN. BY: DWN. BY: CHKD. BY: DATE:

• Surveyors
• Planners
• Planners
• Ramirez Engineers, LLC
• FRING F-5297/SURVEYING: F-10131500
• PATH, SUITE 100 TEL: (210) 698-5051
• EXAS 78249 FAX: (210) 698-5085



TARY SEWER OVERALL PLAN

SHEET

C2.1

SUBMITTAL SET



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SHEET

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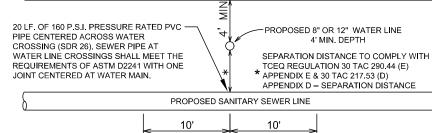
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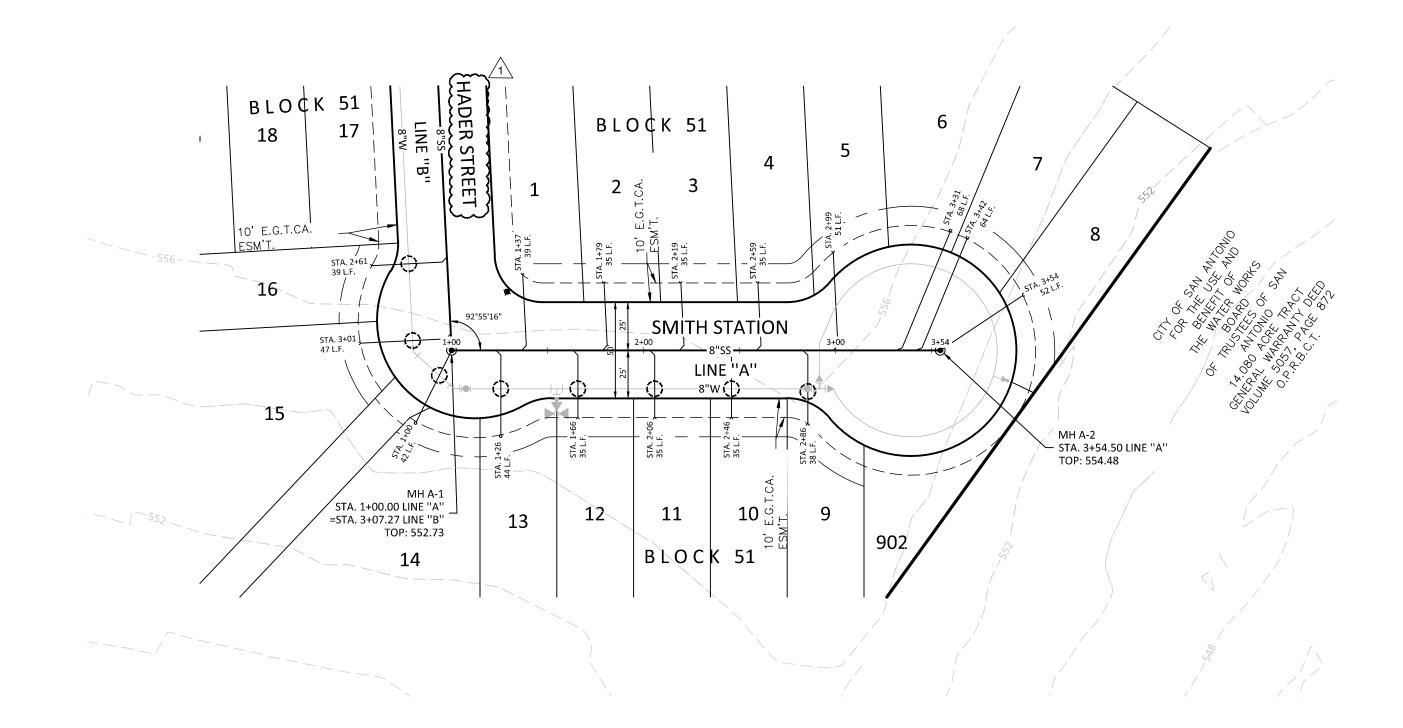
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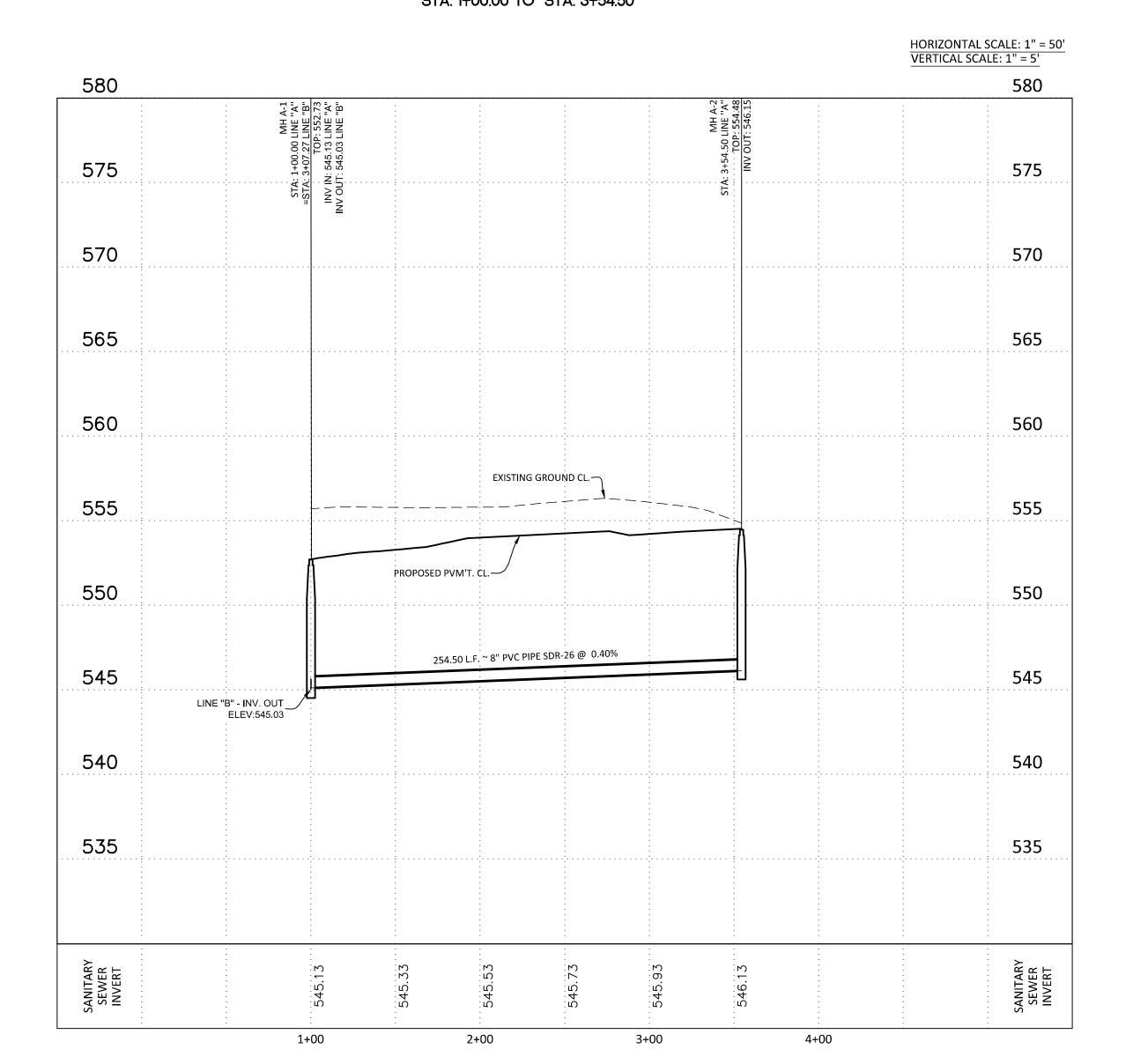
FINISHED GROUND ——

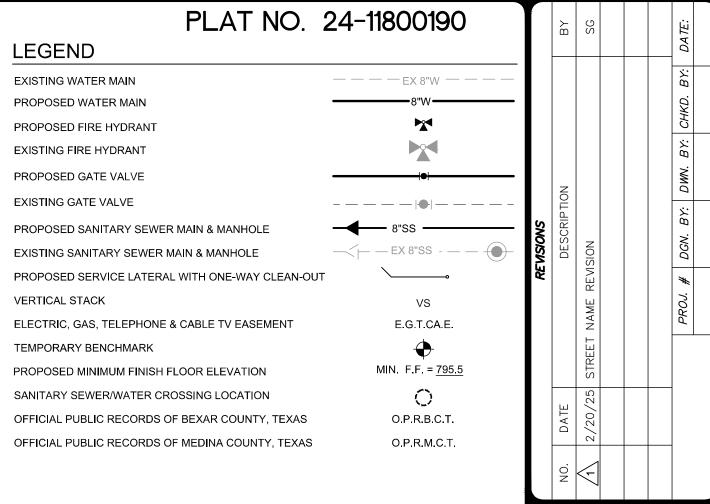


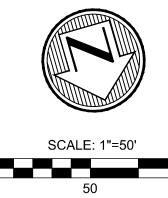
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL



LINE A STA. 1+00.00 TO STA. 3+54.50







Developer's Name__TERRA HILLS DEVELOPMENT, LLC

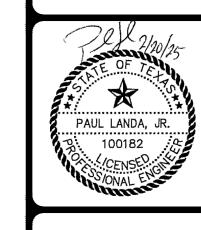
Developer's Address___16845 BLANCO RD, STE 206A

City_SAN ANTONIO______ State__TX _____ 78232

Phone #____956-237-0191 ______ Fax #______ SAWS Block Map #____132512 ______ Total EDU's _____ 88 ____ Total Acreage___19.659

Total Linear Footage of Pipe 8" - 4,882 L.F. ______ Plat No.__24-11800190

Number of Lots_____ 88 _____ SAWS Job No.____24-1637



SEWER PLAN & PROFILE
LINE A

SANITARY SEWE

SHEET

C2.3

SUBMITTAL SET

Date: April 9, 2021 User ID: Samuel Garcia Cline Tract\Unit 1\Drawings\24029_C2.3_Sewer Line / CAUTION: EXISTING UTILITIES:

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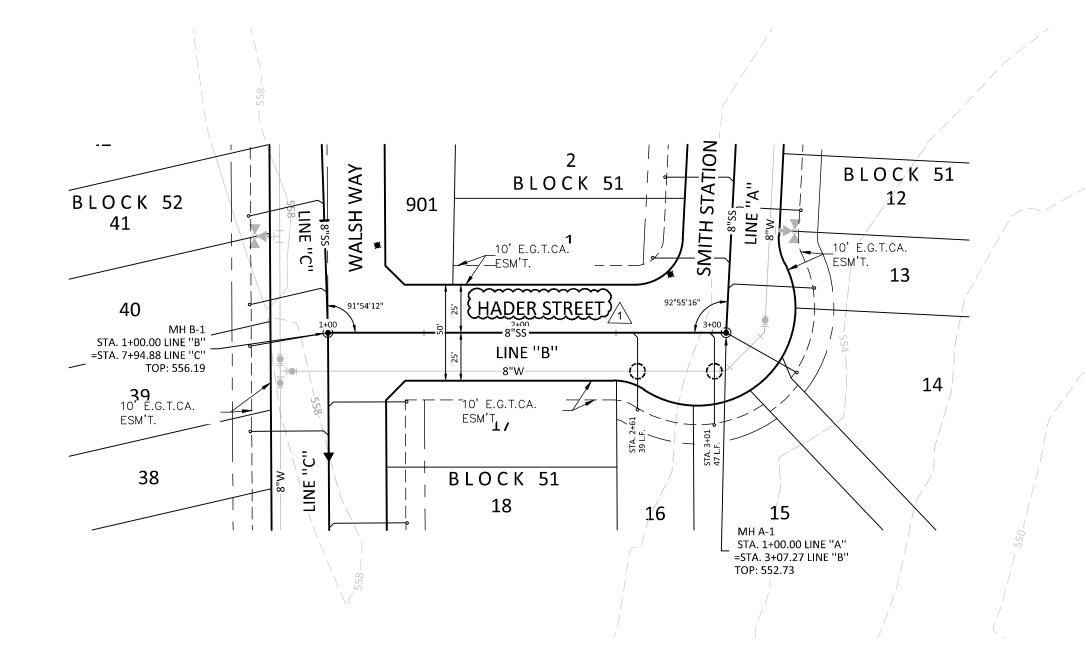
FINISHED GROUND

20 LF. OF 160 P.S.I. PRESSURE RATED PVC
PIPE CENTERED ACROSS WATER
CROSSING (SDR 26). SEWER PIPE AT
WATER LINE CROSSINGS SHALL MEET THE
REQUIREMENTS OF ASTM D2241 WITH ONE
JOINT CENTERED AT WATER MAIN.

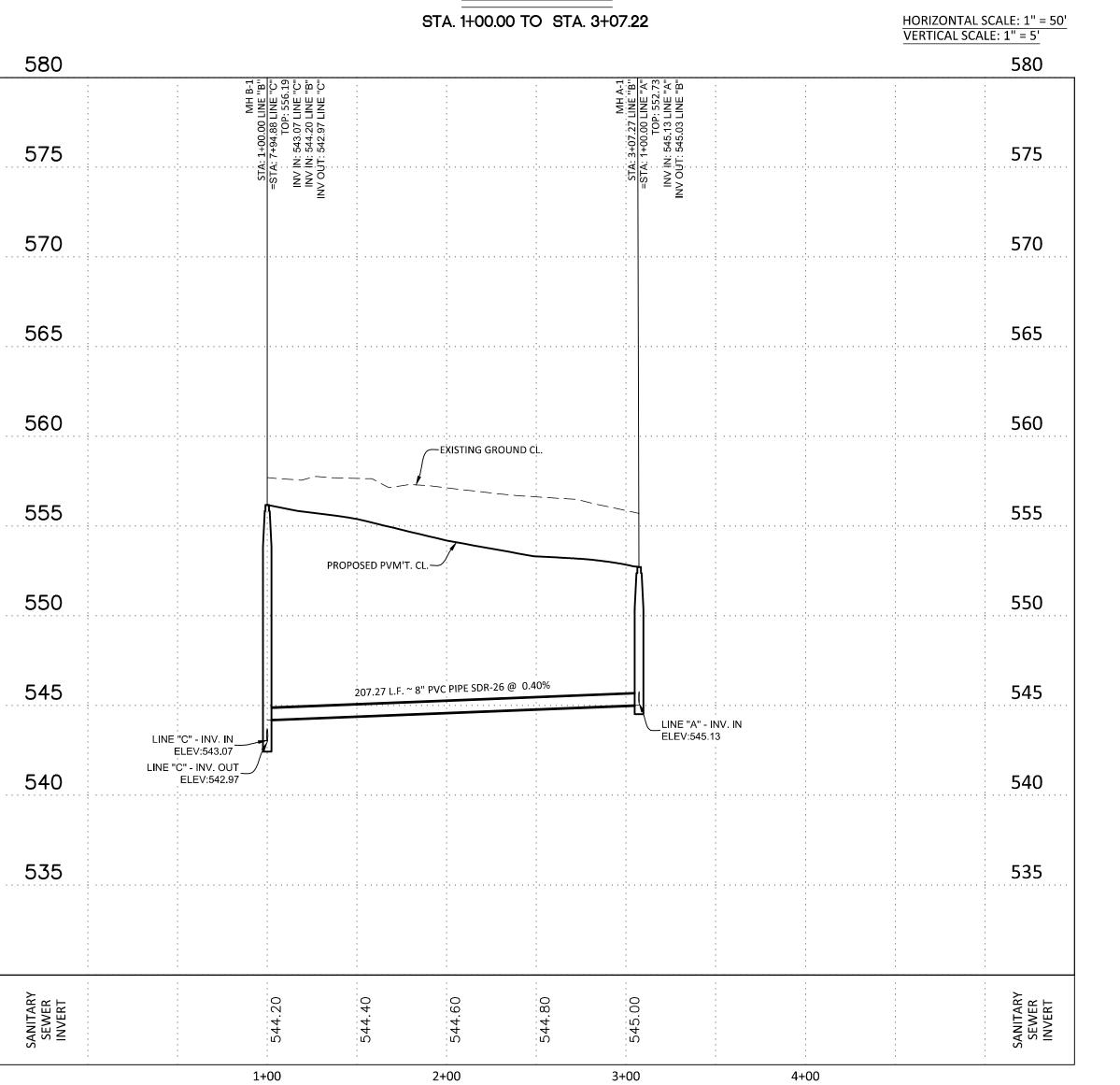
PROPOSED SANITARY SEWER LINE

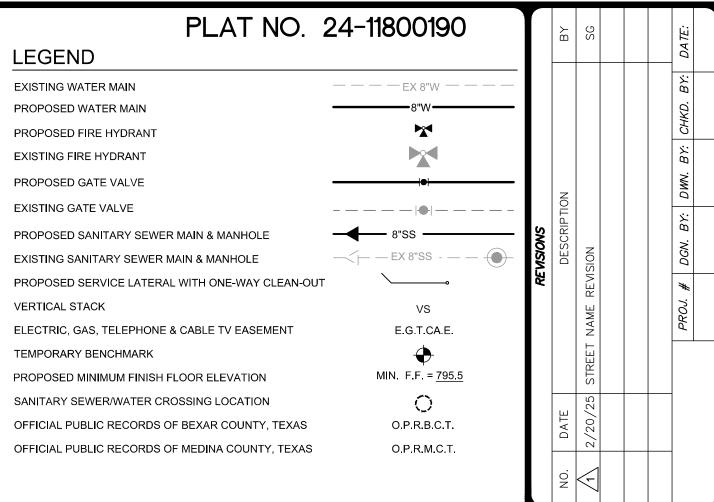
PROPOSED SANITARY SEWER LINE

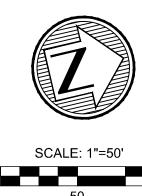
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL



LINE B







Developer's Name__TERRA HILLS DEVELOPMENT, LLC

Developer's Address___16845 BLANCO RD, STE 206A

City_SAN ANTONIO_____State__TX____Zip__78232

Phone #___956-237-0191_____Fax #____

SAWS_Block_Map__#__132512_____Total_EDU's__88___Total_Acreage__19.659

Total_Linear_Footage_of_Pipe_8" - 4,882 L.F. ______Plat_No.__24-11800190

Number_of_Lots__88_____SAWS_Job_No.__24-1637



EWER PLAN & PROFILE

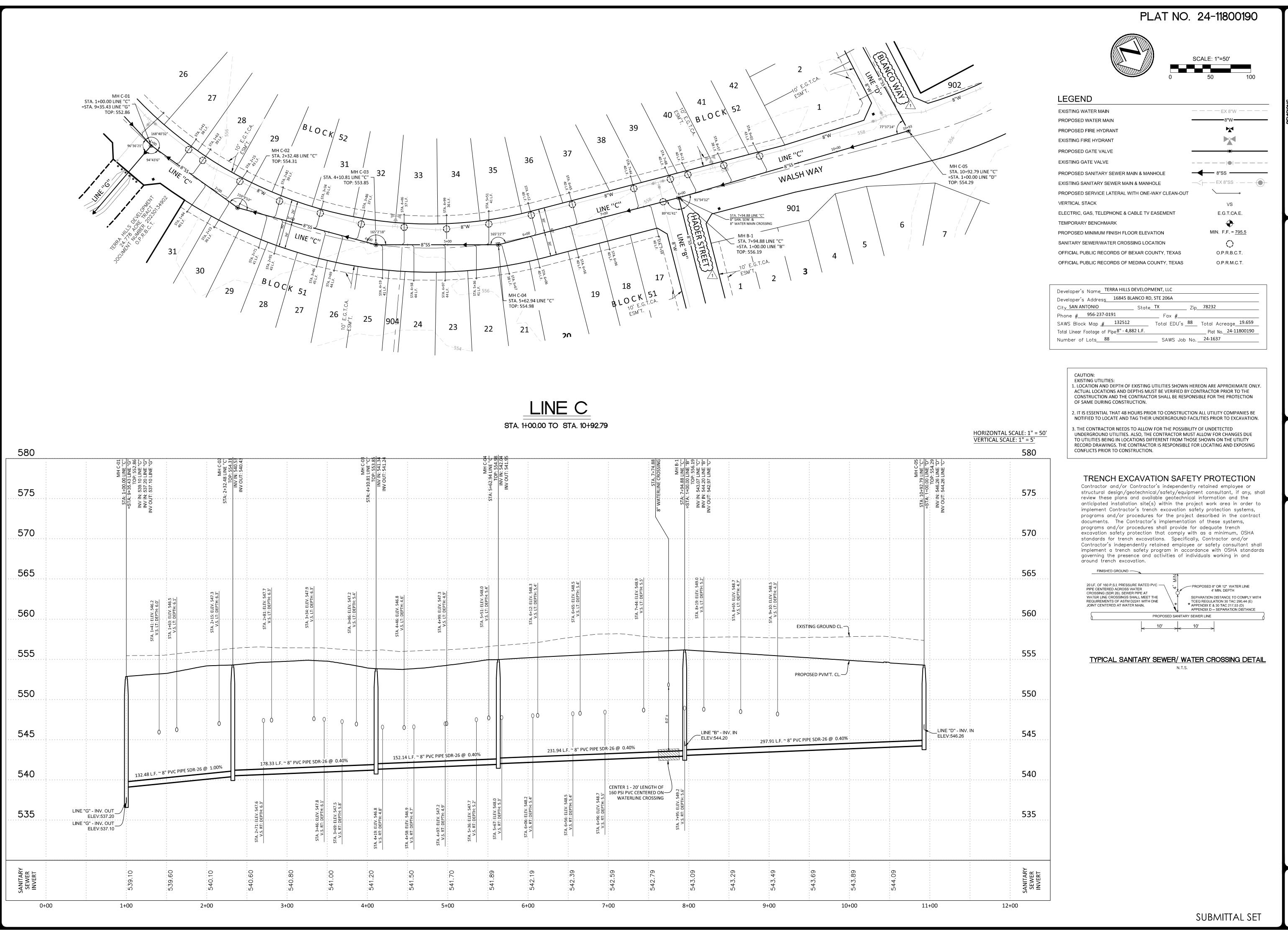
SANITARY SEWER PLAN

SHEET

C2.4

SUBMITTAL SET

Date: February 21, 2025 User ID: Samuel Garcia Jine Tract\Unit 1\Drawings\24029_C2.4_Sewer Line B.dw



PAUL LANDA, JR. 100182

> PROFIL ∞ AN EWER

S ANITAR

SHEET

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TRENCH EXCAVATION SAFETY PROTECTION

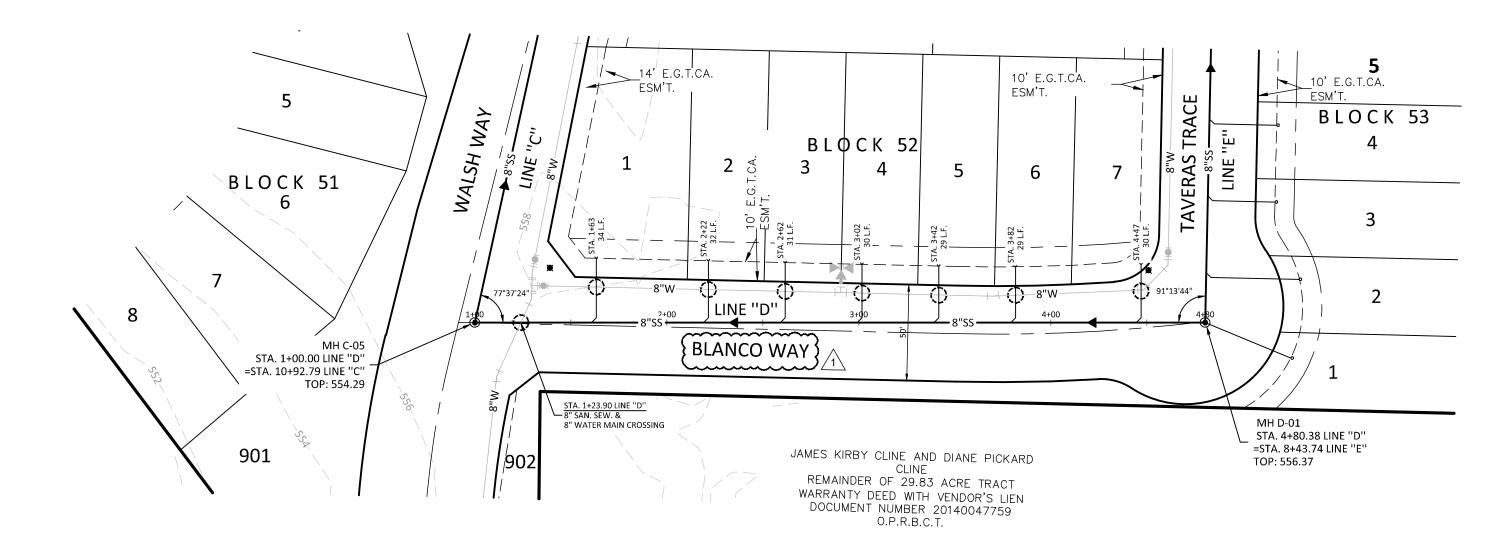
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FINISHED GROUND 20 LF. OF 160 P.S.I. PRESSURE RATED PVC — PROPOSED 8" OR 12" WATER LINE 4' MIN. DEPTH PIPE CENTERED ACROSS WATER CROSSING (SDR 26). SEWER PIPE AT WATER LINE CROSSINGS SHALL MEET THE SEPARATION DISTANCE TO COMPLY WITH REQUIREMENTS OF ASTM D2241 WITH ONE JOINT CENTERED AT WATER MAIN. TCEQ REGULATION 30 TAC 290.44 (E)

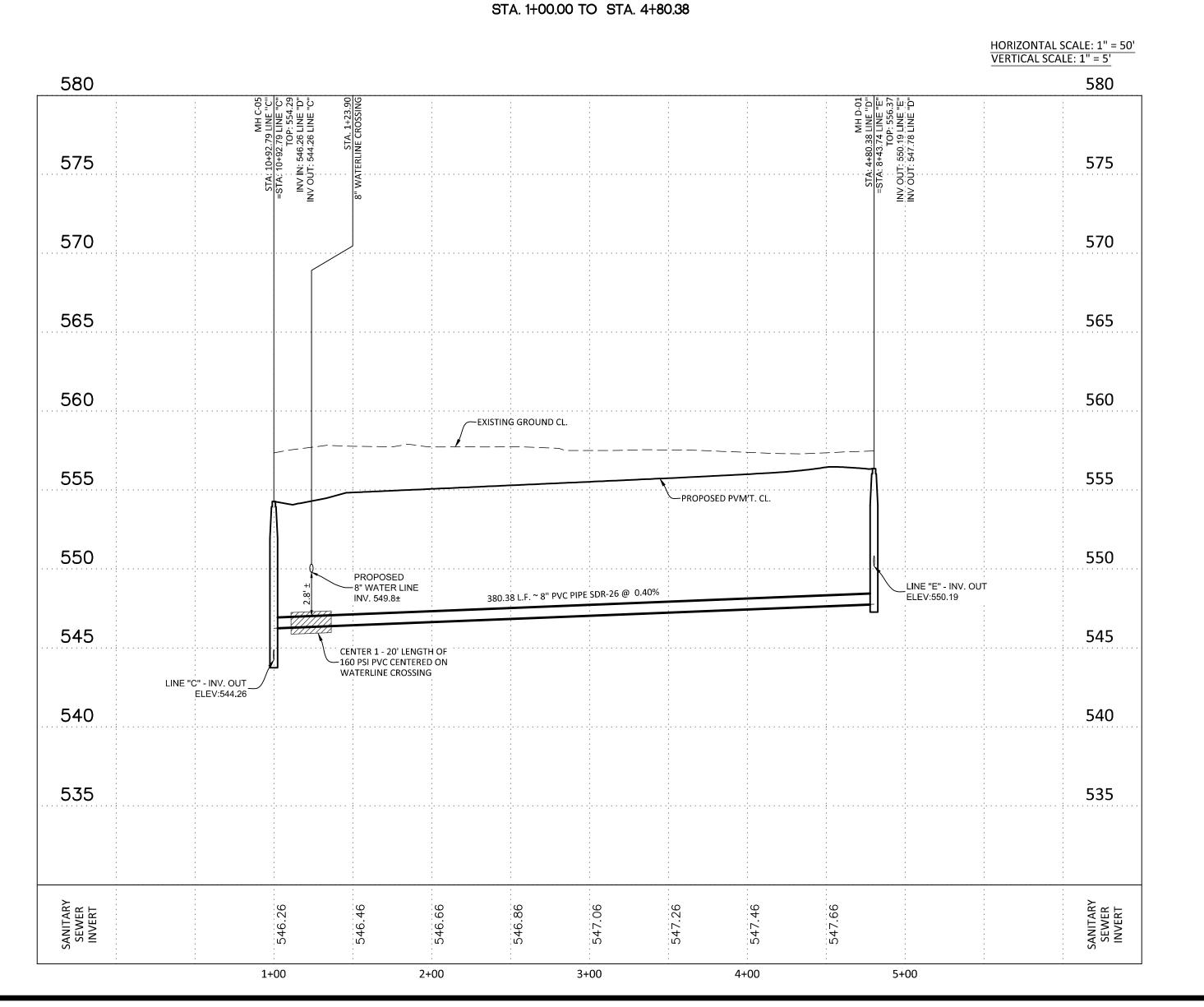
* APPENDIX E & 30 TAC 217.53 (D)

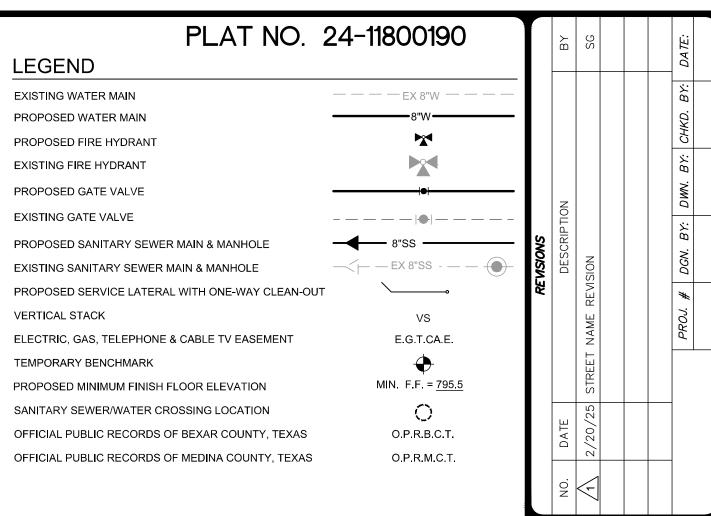
APPENDIX D - SEPARATION DISTANCE PROPOSED SANITARY SEWER LINE

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL



LINE D



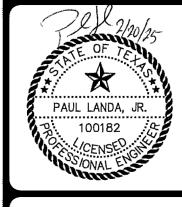




Developer's Name__TERRA HILLS DEVELOPMENT, LLC Developer's Address 16845 BLANCO RD, STE 206A City SAN ANTONIO Zip____78232

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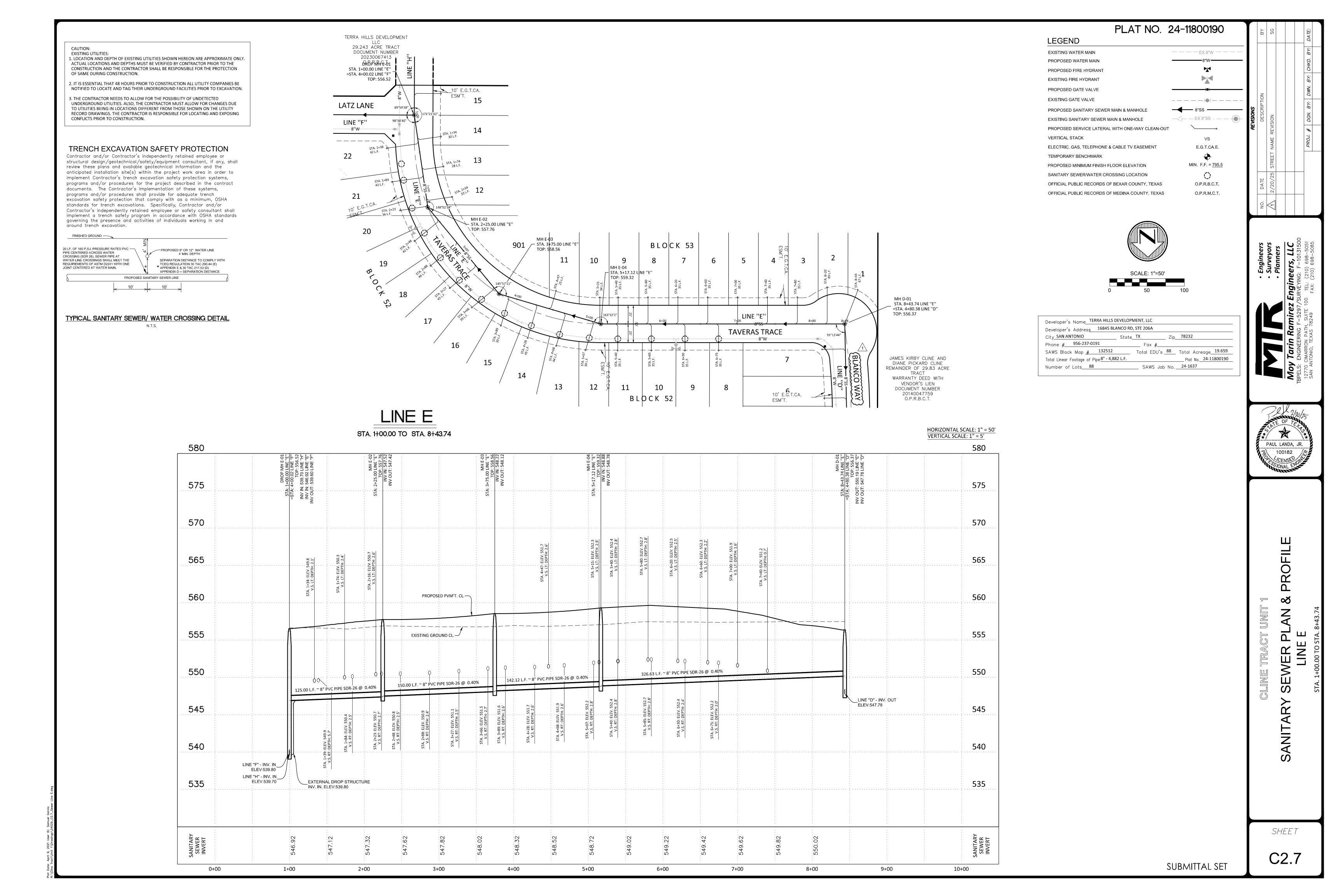




PROFILE A N LINE SEWER SANITARY

SHEET

C2.6



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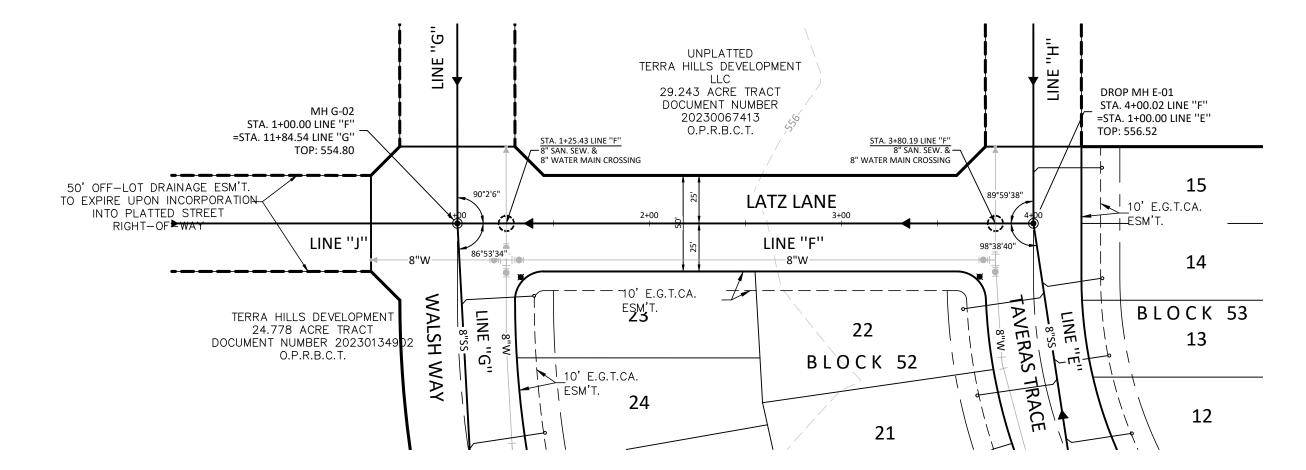
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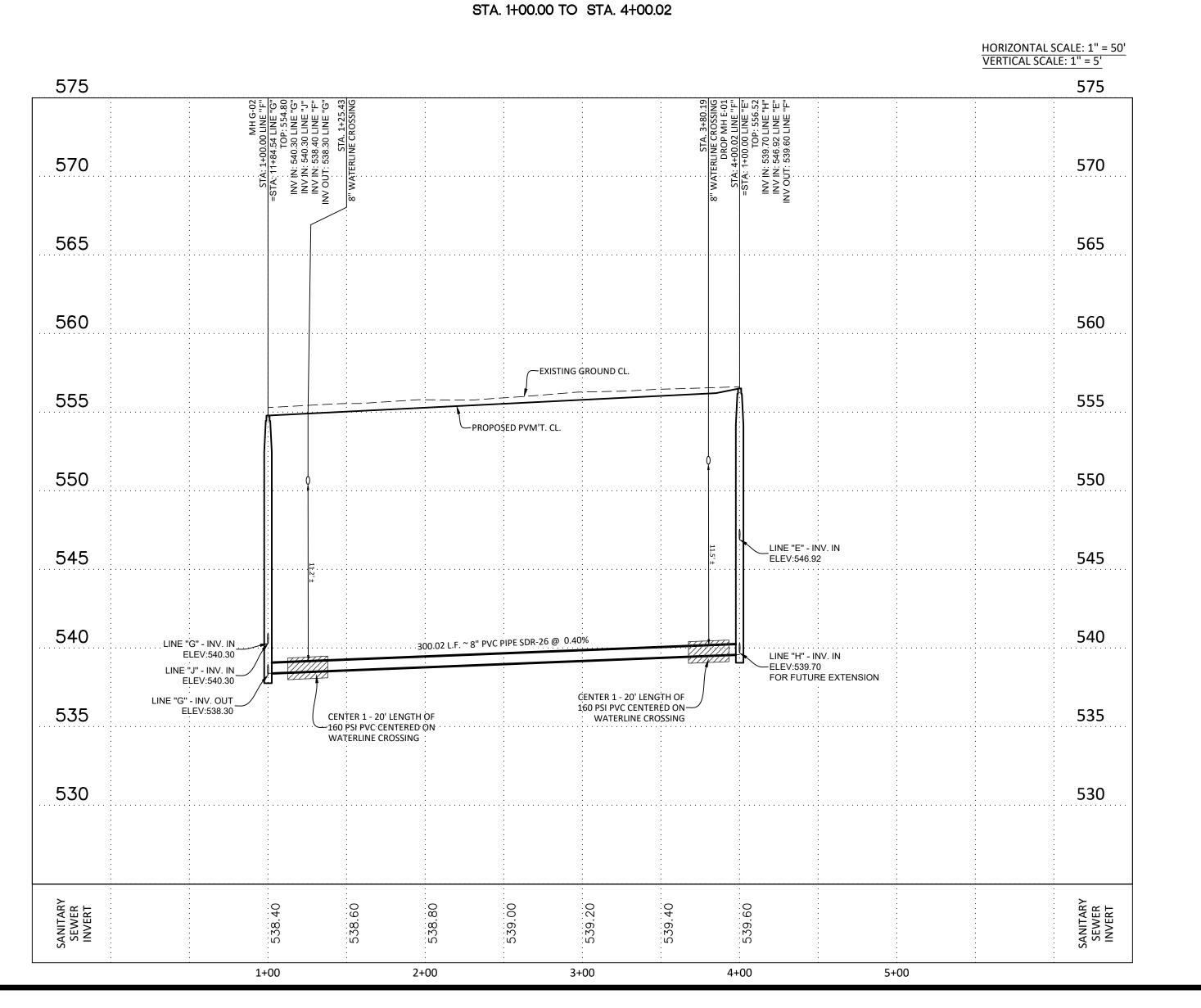
** APPENDIX E & 30 TAC 217.53 (D)

APPENDIX D -- SEPARATION DISTANCE PROPOSED SANITARY SEWER LINE

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

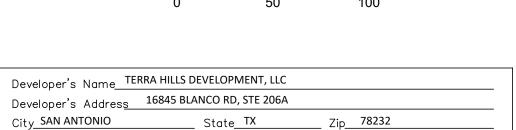
N.T.S.



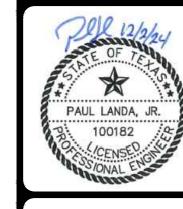


PLAT NO. 24-11800190 LEGEND EXISTING WATER MAIN — — — EX 8"W — — — PROPOSED WATER MAIN PROPOSED FIRE HYDRANT EXISTING FIRE HYDRANT PROPOSED GATE VALVE EXISTING GATE VALVE ----8"SS — PROPOSED SANITARY SEWER MAIN & MANHOLE **EXISTING SANITARY SEWER MAIN & MANHOLE** — EX 8"SS - — — € PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT VERTICAL STACK VS ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT E.G.T.CA.E. TEMPORARY BENCHMARK MIN. F.F. = <u>795.5</u> PROPOSED MINIMUM FINISH FLOOR ELEVATION SANITARY SEWER/WATER CROSSING LOCATION \circ OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS O.P.R.B.C.T. OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS O.P.R.M.C.T.





Phone #____956-237-0191 Total EDU's <u>88</u> Total Acreage <u>19.659</u> SAWS Block Map <u>#</u> 132512 Total Linear Footage of Pipe<u>8" - 4,882 L.F.</u> _ Plat No._ 24-11800190 SAWS Job No. <u>24-1637</u> Number of Lots<u>88</u>



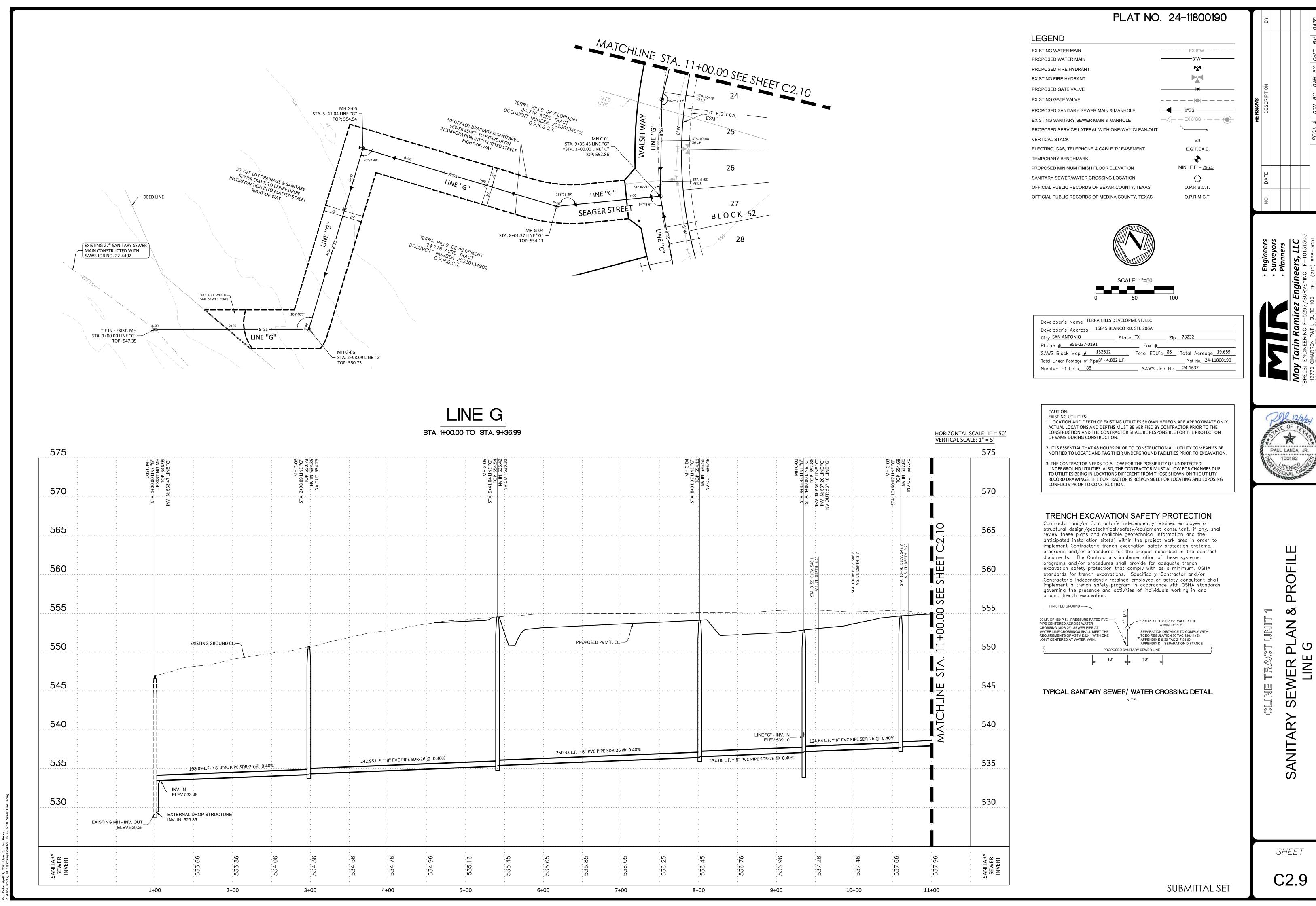
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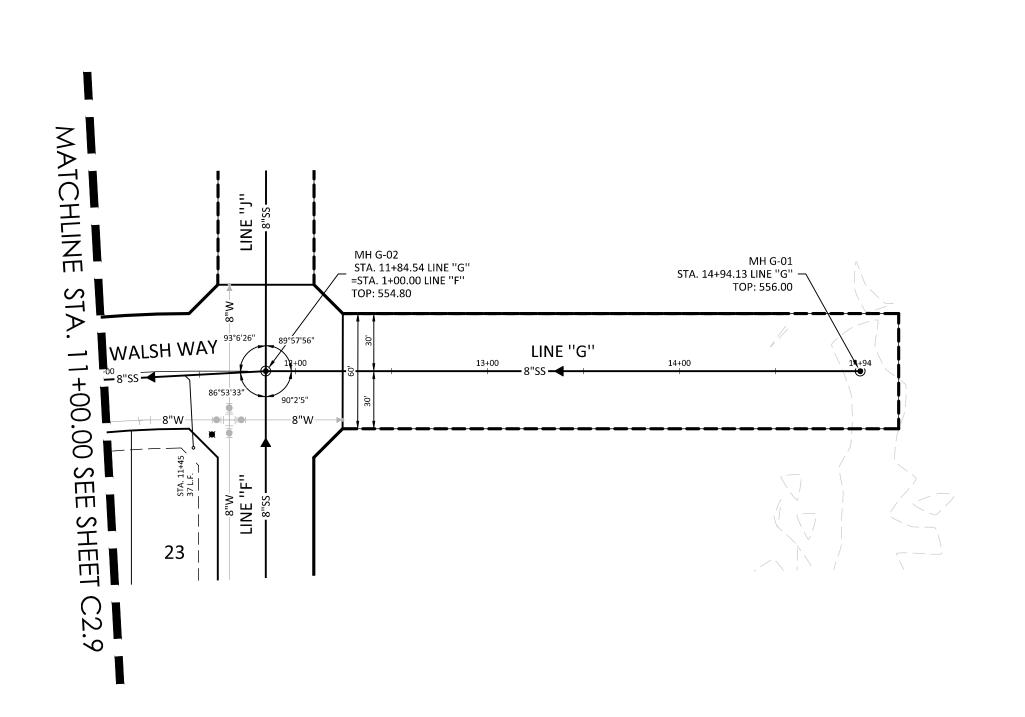
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SEWER SANITARY

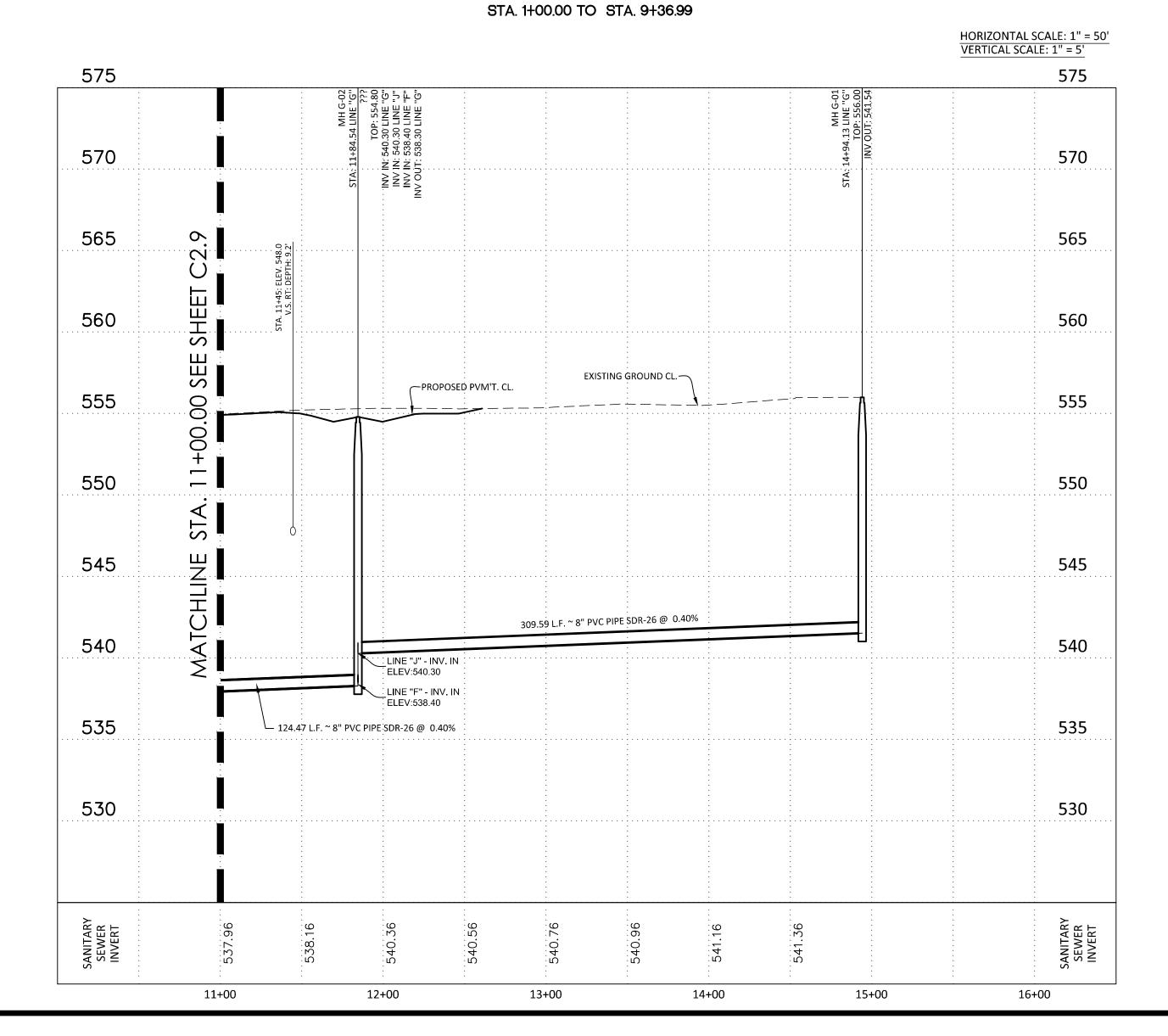
SHEET

C2.8





LINE G



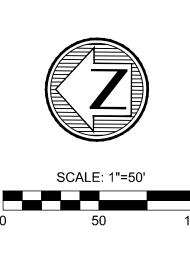
PLAT NO. 24-11800190

O.P.R.B.C.T. O.P.R.M.C.T.

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OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS

OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS



Developer's Name__TERRA HILLS DEVELOPMENT, LLC Developer's Address 16845 BLANCO RD, STE 206A City SAN ANTONIO Zip____**78232**____ Phone #____956-237-0191 Total EDU's <u>88</u> Total Acreage <u>19.659</u> SAWS Block Map # 132512 Total Linear Footage of Pipe<u>8" - 4,882 L.F.</u> _ Plat No. <u>24-118</u>00190 SAWS Job No. <u>24-1637</u> Number of Lots___88

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* APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE PROPOSED SANITARY SEWER LINE

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL N.T.S.

PAUL LANDA, JR. 100182

PROFIL ∞ Z V

EWER S ANITAR

SHEET

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TRENCH EXCAVATION SAFETY PROTECTION

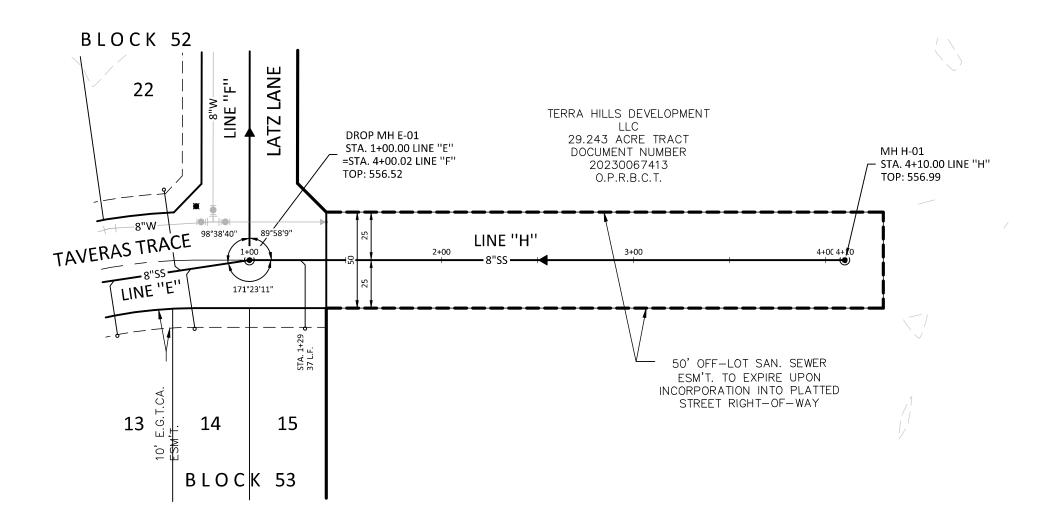
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FINISHED GROUND

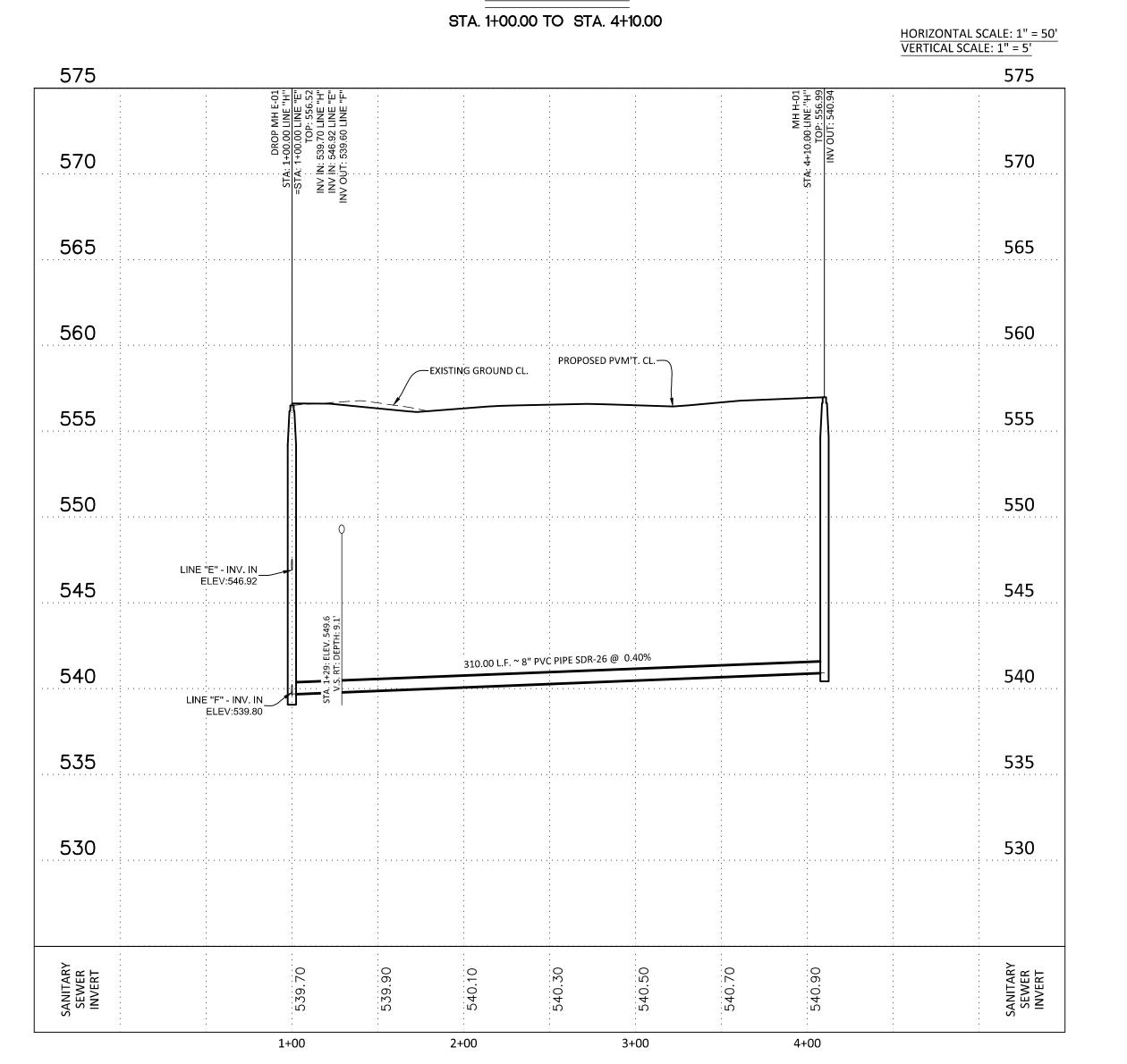
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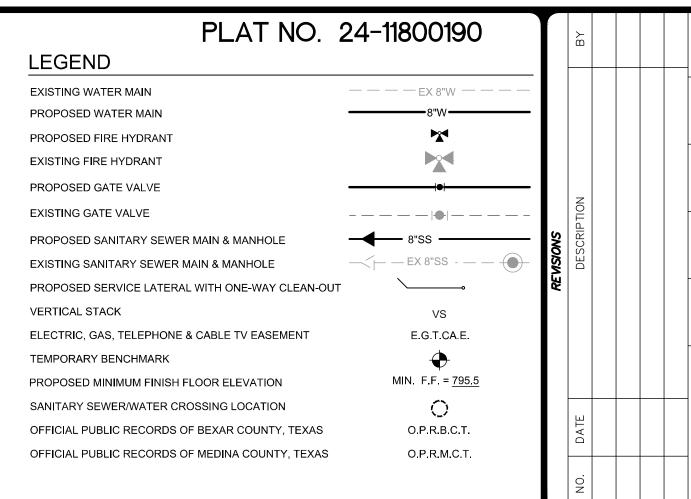
APPENDIX D - SEPARATION DISTANCE PROPOSED SANITARY SEWER LINE

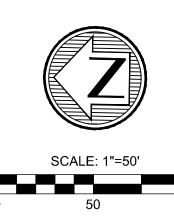
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL



LINE H







Developer's Name__TERRA HILLS DEVELOPMENT, LLC Developer's Address 16845 BLANCO RD, STE 206A City SAN ANTONIO Zip____78232 Phone # 956-237-0191 Total EDU's <u>88</u> Total Acreage <u>19.659</u> SAWS Block Map <u>#</u> 132512 Total Linear Footage of Pipe<u>8" - 4,882 L</u>.F. __ Plat No.__24-11800190 SAWS Job No. <u>24-1637</u> Number of Lots___88





PROFILE Z V LINE SEWER

SANITARY

SHEET

C2.11

CAUTION: **EXISTING UTILITIES:**

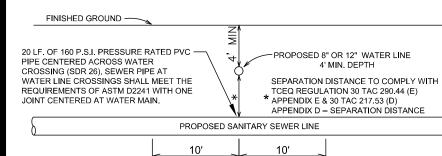
1. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY.
ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY CONTRACTOR PRIOR TO THE CONSTRUCTION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING CONSTRUCTION.

2. IT IS ESSENTIAL THAT 48 HOURS PRIOR TO CONSTRUCTION ALL UTILITY COMPANIES BE NOTIFIED TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.

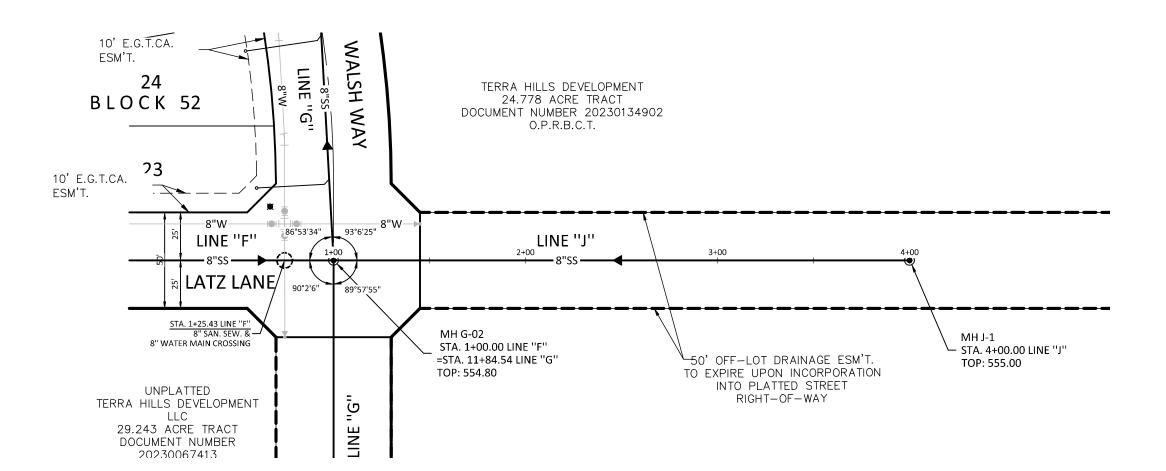
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

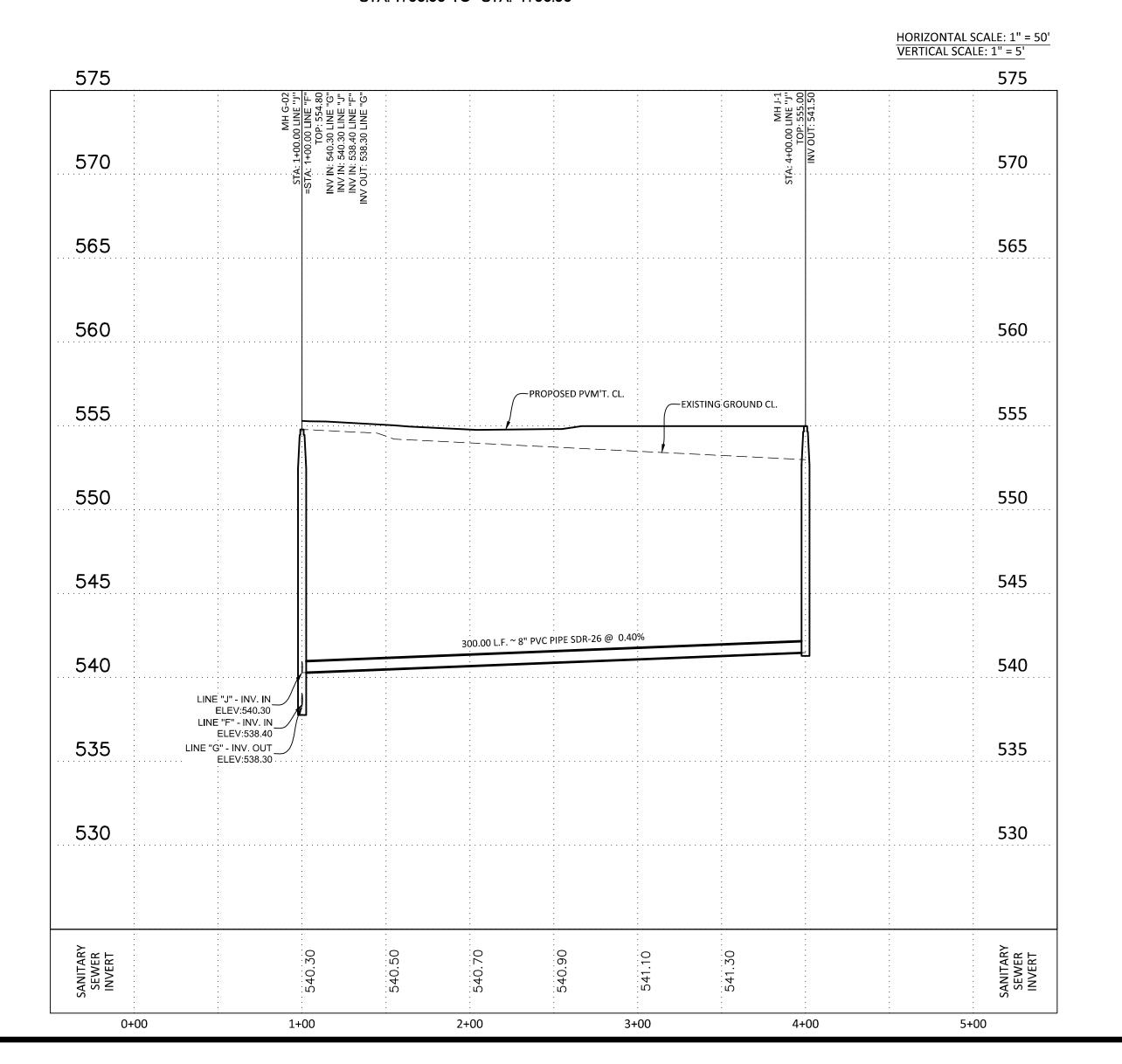
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's 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.



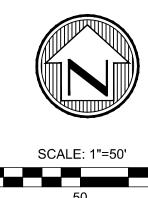
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

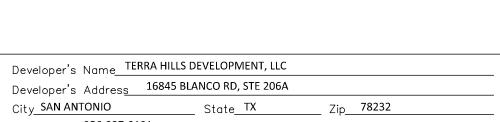


STA. 1+00.00 TO STA. 4+00.00

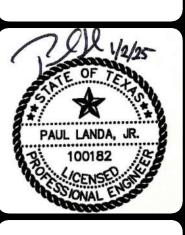


PLAT NO. 24-11800190 LEGEND EXISTING WATER MAIN — — — EX 8"W — — — PROPOSED WATER MAIN PROPOSED FIRE HYDRANT EXISTING FIRE HYDRANT PROPOSED GATE VALVE EXISTING GATE VALVE ----8"SS — PROPOSED SANITARY SEWER MAIN & MANHOLE EXISTING SANITARY SEWER MAIN & MANHOLE — EX 8"SS - — — PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT VERTICAL STACK VS ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT E.G.T.CA.E. TEMPORARY BENCHMARK MIN. F.F. = <u>795.5</u> PROPOSED MINIMUM FINISH FLOOR ELEVATION SANITARY SEWER/WATER CROSSING LOCATION \circ OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS O.P.R.B.C.T. OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS O.P.R.M.C.T.





City SAN ANTONIO Phone #____956-237-0191 Total EDU's <u>88</u> Total Acreage <u>19.659</u> SAWS Block Map <u>#</u> 132512 Total Linear Footage of Pipe<u>8" - 4,882 L.</u>F. __ Plat No.__24-11800190 SAWS Job No. <u>24-1637</u> Number of Lots___88

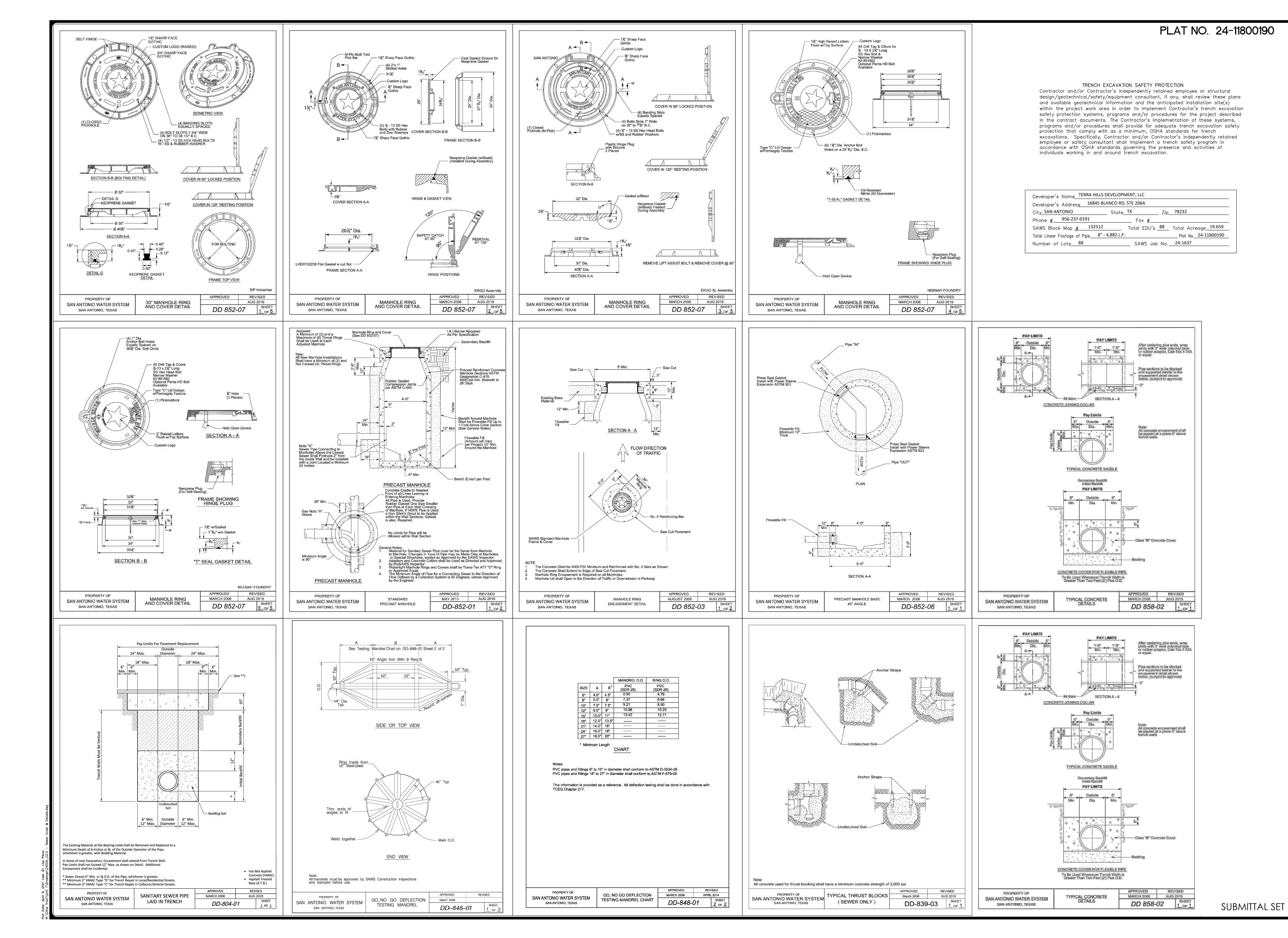


PROFILE AN SEWER

SANITARY

SHEET

C2.12



NO. DATE

DESCRIPTION

PROJ. # DGN. BY: DWN. BY:

• Surveyors
• Surveyors
• Planners
• Z Engineers, LLC
• TASURVEYING: F-10131500

Moy Tarin Ramirez En BPELS: ENGINEERING F-5297/SURV



ANITARY SEWER DETAILS

SHEET

C2.13

SAWS CONSTRUCTION NOTES COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

General Section

- 1. All materials and construction procedures within the scope of this contract shall be approved by the 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
- B. Current 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" (UECM).
- 2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) 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. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement
- at the expense of the contractors and/or the developer. 3. The Contractor shall obtain the SAWS Standard Details from the SAWS website,
- http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- 4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at
- (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48
- 5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS
- 6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location
- markers on SAWS facilities. The following contact information are supplied for verification purposes:
- SAWS Utility Locates: http://www.saws.org/Service/Locates COSA Drainage (210) 207-0724 or (210) 207-6026
- COSA Traffic Signal Operations (210) 206-8480
- COSA Traffic Signal Damages (210) 207-3951
- Texas State Wide One Call Locator 1-800-545-6005 or 811
- 7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and
- structures to its original or better condition if damages are made as a result of the project's construction. 8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- 9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating
- 10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood
- Plain Permit. 11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be
- sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to
- request weekend work. Request should be sent to constworkreg@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper
- 12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the 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.
- 13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

- 1. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division at least one week 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.
- For water mains 12" or higher: SAWS Emergency Operations Center (210) 233-2014
- 2. Asbestos Cement (AC) pipe, also known as transite pipe which is known to contain asbestos- containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".
- 3. Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSPI)
- 4. Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, the SAWS Standard Specifications for Construction.
- 5. All valves shall read "open right".
- 6. PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of 565 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 565 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if
- *PRV is/are required for such lot(s), only single service connections shall be allowed. *Note: A pressure regulator is also known as a pressure reducing valve (PRV).
- 7. Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item No. 847.3): Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.
- 8. Backflow Prevention Devices: All irrigation services within residential areas are required to have backflow prevention devices.
- All commercial backflow prevention devices must be approved by SAWS prior to installation. 9 Final connection to the existing water main shall not be made until the water main has been pressure tested
- chlorinated, and SAWS has released the main for tie-in and use.
- 10. Division Valves: Division Valves shown on plans or not shown on plans but found in the field shall only be operated by SAWS Distribution and Collection staff and only with prior written approval of the SAWS Director of Production and Operations and proper coordination with all SAWS departments. Contractor shall provide written notification to the inspector a minimum of two weeks in advance to start the coordination process and will be informed by the Inspector when the division valve will be operated by the SAWS Distribution and Collection staff. The Division Valve can only be operated by SAWS Distribution and Collection staff member not the inspector or the contractor. Operation of a Division Valve without the express prior written approval of the SAWS Distribution and Collection staff will constitute a material breach of any written SAWS contract or permit in addition to subjecting the Contractor to liability for any and all fines, fees, or other damages, direct or consequential, that may arise from or be caused by the operation of the valve without prior written permission. Please be informed that the approval of the operation or opening or closing of a division valve can take several weeks for approval. Division Valves will also have a valve lid labeled Division Valve and a locking mechanism installed with a key. The lock and key mechanism will be paid for by the contractor but will be installed by SAWS Distribution and Collection staff.

NOTE TO CONTRACTOR:

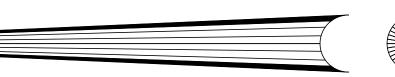
BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT. THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY. FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION

TRAFFIC CONTROL NOTE:

NECESSARY TRAFFIC CONTROL, FLAGMEN, DETOUR ROUTING AROUND WORK ACTIVITIES AND MAINTENANCE OF DETOUR SIGNS ARE THE CONTRACTOR'S RESPONSIBILITY. UNLESS DIRECTED OTHERWISE BY THE PLANS, IN ALL AREAS WHERE WORK IS ADJACENT TO OR CROSSING ROADWAYS, THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE OPEN TRAFFIC LANE (12 FT.), CONTROLLED WITH FLAGMEN, DURING WORKING HOURS. DURING ALL NON-WORKING HOURS A MINIMUM OF TWO TRAFFIC LANES (24 FT.) SHALL BE OPEN TO TRAFFIC. CONTRACTOR WILL FURNISH AND MAINTAIN ALL REQUIRED TRAFFIC CONTROL DEVICES PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), TO PROPERLY WARN, GUIDE AND CONTROL TRAFFIC AT ALL TIMES DURING CONSTRUCTION

CONSTRUCTION PLANS FOR





CLINE TRACT, UNIT 1 WATER IMPROVEMENTS

MISCELLANEOUS GENERAL NOTES

- MACHINE CHLORINATION BY THE SAN ANTONIO WATER SYSTEM FOR NEW WATER MAINS GREATER THAN 800 FEET. CONTRACTOR SHALL CHLORINATE NEW
- 2. JUMPER CONNECTIONS TO EXISTING WATER SERVICE TO BE PROVIDED AS

MAINS WITH HTH FOR NEW WATER MAINS 750 FEET AND LESS

- REQUIRED OR DIRECTED BY THE SAWS INSPECTOR.
- ALL MAINS ARE ON-SITE.
- 4. FITTINGS WEIGHT IS BASED ON M.J. DUCTILE IRON FITTINGS (COMPACT). . CONTRACTOR TO OBTAIN STREET CUT PERMITS AS NECESSARY FOR WATER
- MAIN INSTALLATION. REPLACEMENT OF CURB, SIDEWALKS, BASE AND PAVEMENT WILL BE SUBSIDIARY TO THE ITEMS THAT THE STREET CUT WAS NEEDED FOR.
- MINIMUM COVER OVER WATER MAIN BASED ON FINISHED GROUND. WATER LINE DIA. MIN. DEPTH

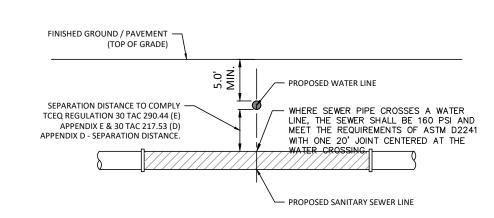
RESTRAINT LENGTH DESIGN

RESTRAINT LENGTHS WERE CALCULATED USING EBAA RESTRAINT DESIGN CALCULATION SOFTWARE VERSION 7.1.2. THE FOLLOWING PARAMETERS WERE USED:

> SOIL TYPE: CL TRENCH TYPE: 4 SAFETY FACTOR: 1.5 TO 1 DEPTH OF BURY: 5 TEST PRESSURE: 150 psi

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING FLECTRIC, SECONDARY FLECTRIC, PRIMARY FLECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON

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.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

SAN ANTONIO ETJ ROCKPORT ROAD

SUBMITTAL DATE:

LEGAL DESCRIPTION:

AN 19.932 ACRE TRACT OF LAND SITUATED IN THE JOSE MARIA SAES SURVEY NUMBER 40. ABSTRACT NUMBER 418. COUNTY BLOCK 4201, BEXAR COUNTY, TEXAS, BEING A PORTION OF A 24.778 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY WARRANTY DEED AS RECORDED IN DOCUMENT NUMBER 20230134902 AND A PORTION OF A 29.243 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20230067413. BOTH OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

ESTIMATED WATER QUANTITIES

ITEM	DESCRIPTION	UNIT	EST/QTY
1	8" WATER MAIN TIE-IN	L.S.	1
2	TRENCH EXCAVATION PROTECTION	L.F.	4,040
3	8" PIPE, C900 DR 18 PVC CLASS 235 (Includes Joint Restraints)	L.F.	3,758
4	8" GATE VALVE, M.J. (COMPLETE WITH RESTRAINTS)	EA.	16
5	STANDARD FIRE HYDRANT (COMPLETE WITH TEE, VALVE, BENDS AND RESTRAINTS)	EA.	8
6	2" PERMANENT BLOW-OFF	EA.	5
7	2" TEMPORARY BLOW-OFF	EA.	1
8	3/4" SINGLE SERVICE with 5/8" METER : SHORT	EA.	54
9	3/4" SINGLE SERVICE with 5/8" METER : LONG	EA.	34
10	D.I. FITTINGS (RESTRAINED)	TON	2.3
11	HYDROSTATIC TESTING	EA.	1
12	METER BOXES	EA.	88





Moy Tarin Ramirez Engineers, LLC FIRM TBPELS ENG F-5297 SVY F-10131500

12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051 FAX: (210) 698-5085

• Engineers

• Surveyors

• Planners

INDEX MAP -SHEET C3.1 SHEET C3.2 SOIL/PARKWAY SOIL/PARKWAY MAX. SLOPE 1"/FT. 4' CONC. SIDEWALK MAX. SLOPE 1"/FT. SIDEWALK MIN. SLOPE 1/4"/FT. MIN. SLOPE 1/4"/FT. ASPH, PAVEMENT 8"-12" MAIN, 5' MIN. DEPTH — > 16" MAIN, 5' MIN. DEPTH COMPACTED BASE 95% COMPACTED DENSITY TREATED SUBGRADE 90% COMPACTED DENSITY

PLAT NO. 24-11800190

MOY TARIN RAMIREZ ENGINEERS, LLC.

12770 CIMARRON PATH, SUITE 100

OWNER/DEVELOPER

TERRA HILLS DEVELOPMENT, LLC

16845 BLANCO RD, STE 206A

SAN ANTONIO, TX 78232

956-237-0191

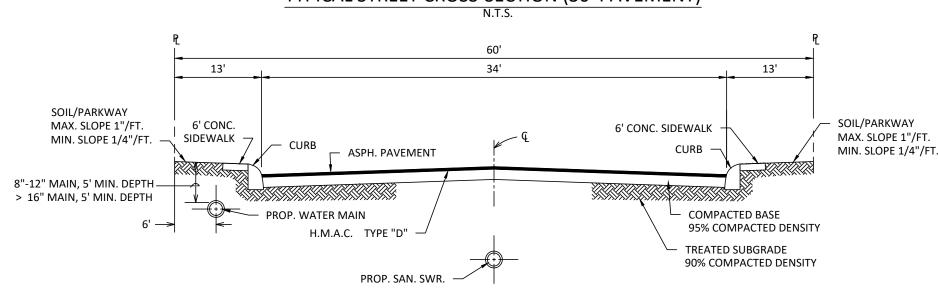
SAN ANTONIO, TEXAS 78249

SUBMITTED BY:

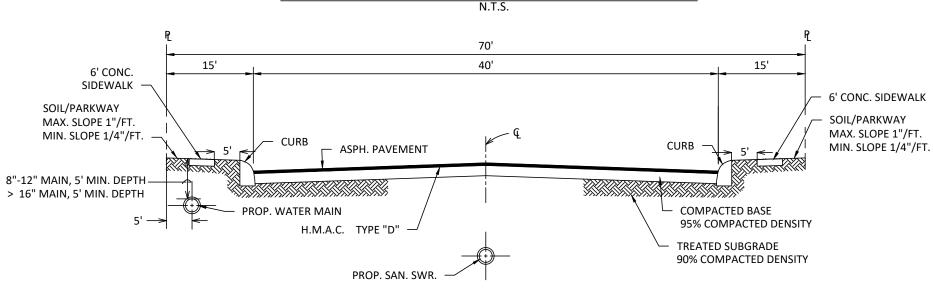
TEL: (210) 698-5051

FAX: (210) 698-5085

TYPICAL STREET CROSS-SECTION (30' PAVEMENT)



TYPICAL STREET CROSS-SECTION (34' PAVEMENT)



TYPICAL STREET CROSS-SECTION (40' PAVEMENT)

Sheet List Table

Sheet Number Sheet Title WATER COVER

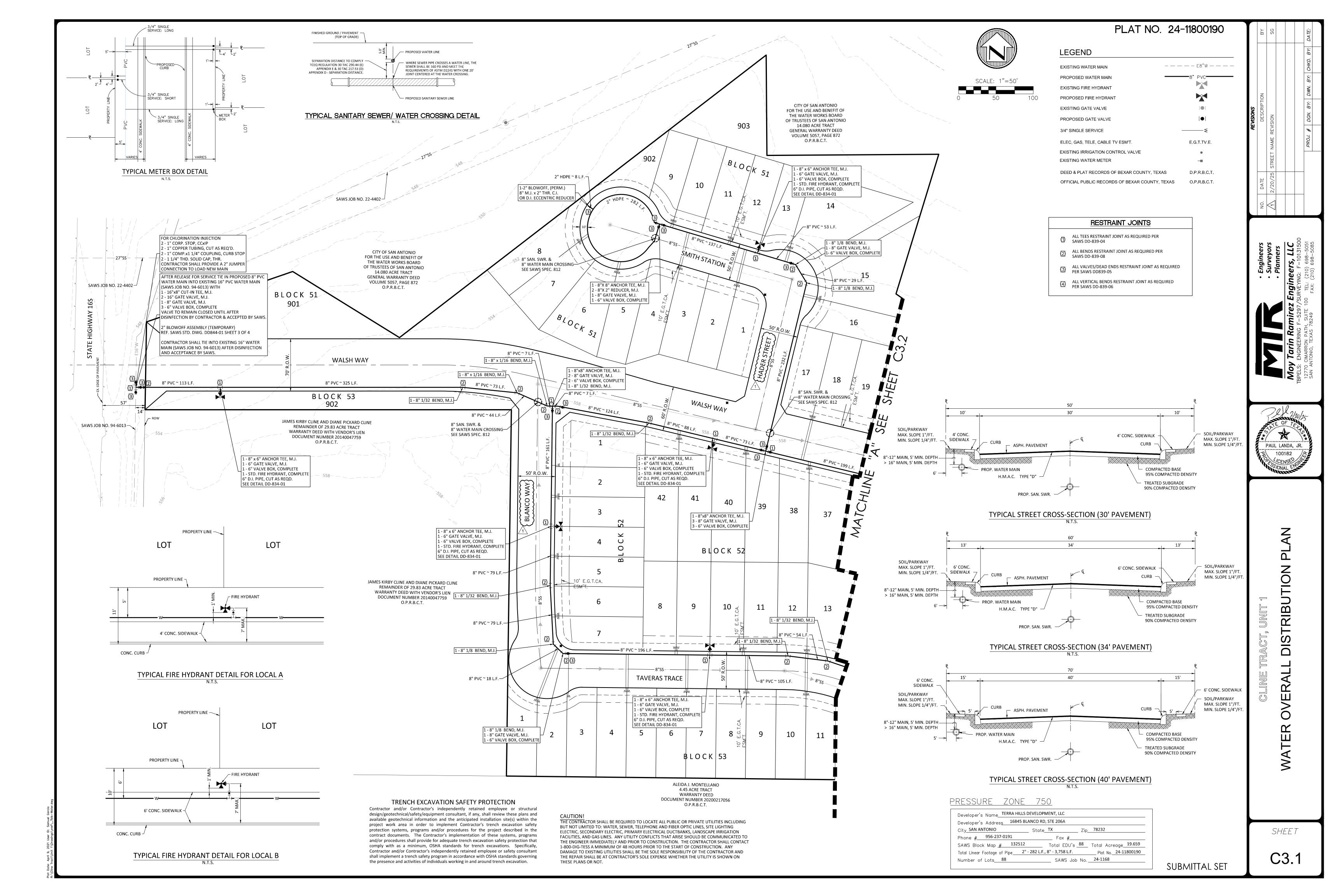
C3.1 WATER OVERALL C3.2 WATER OVERALL C3.3 WATER DETAILS SAWS

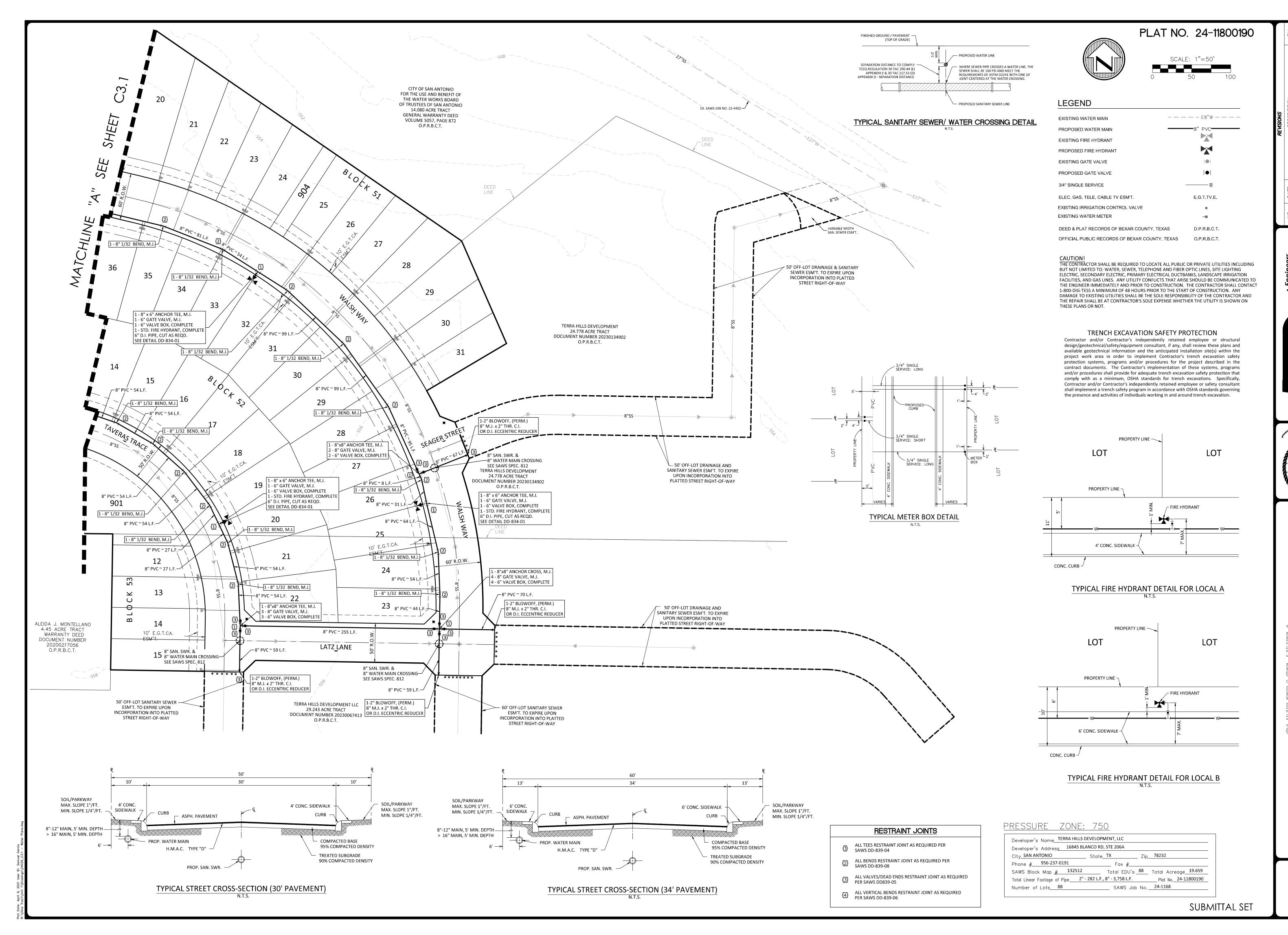
WATER DETAILS SAWS

C3.4

PRESSURE ZONE 750 Developer's Name__TERRA HILLS DEVELOPMENT, LLC Developer's Address 16845 BLANCO RD, STE 206A City SAN ANTONIO Phone #____956-237-0191 __ Fax #__ Total EDU's <u>88</u> Total Acreage <u>19.659</u> SAWS Block Map <u>#</u> 132512 Total Linear Footage of Pipe 2" - 282 L.F., 8" - 3,758 L.F. Number of Lots<u>88</u>

BEXAR COUNTY





Moy Tarin Ramirez Engineers, LLC

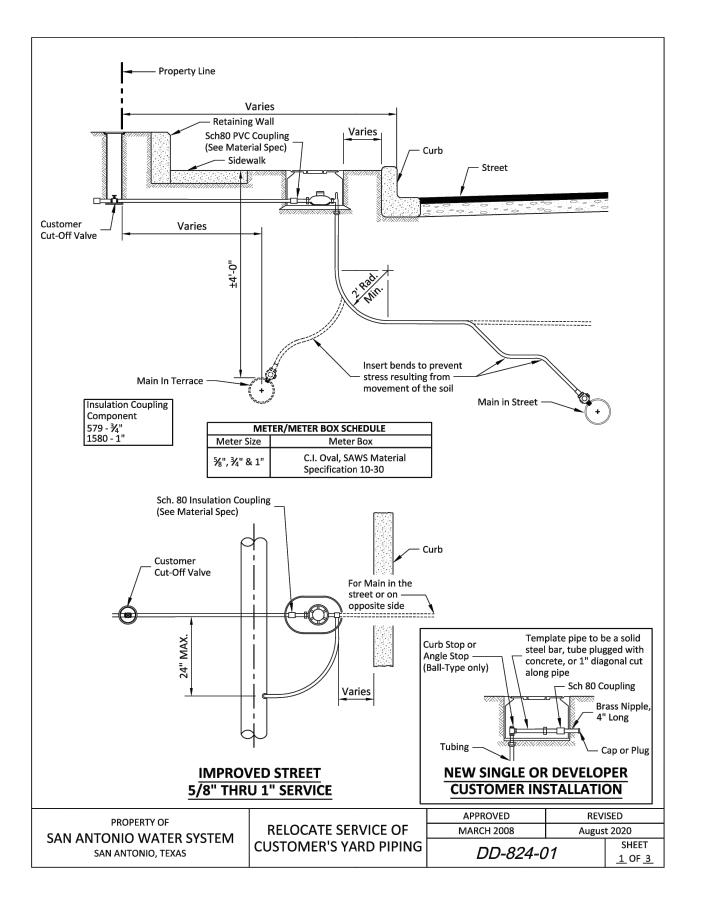
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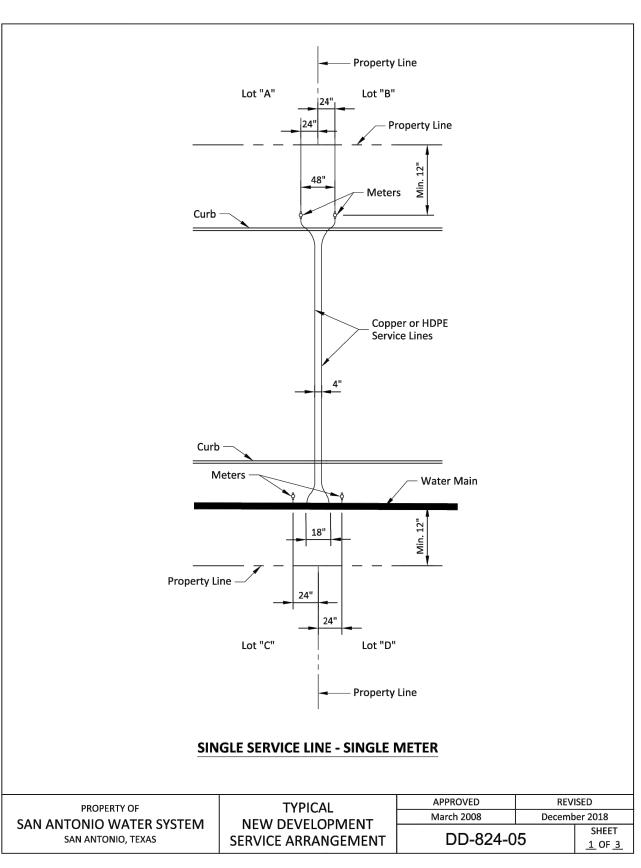
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051

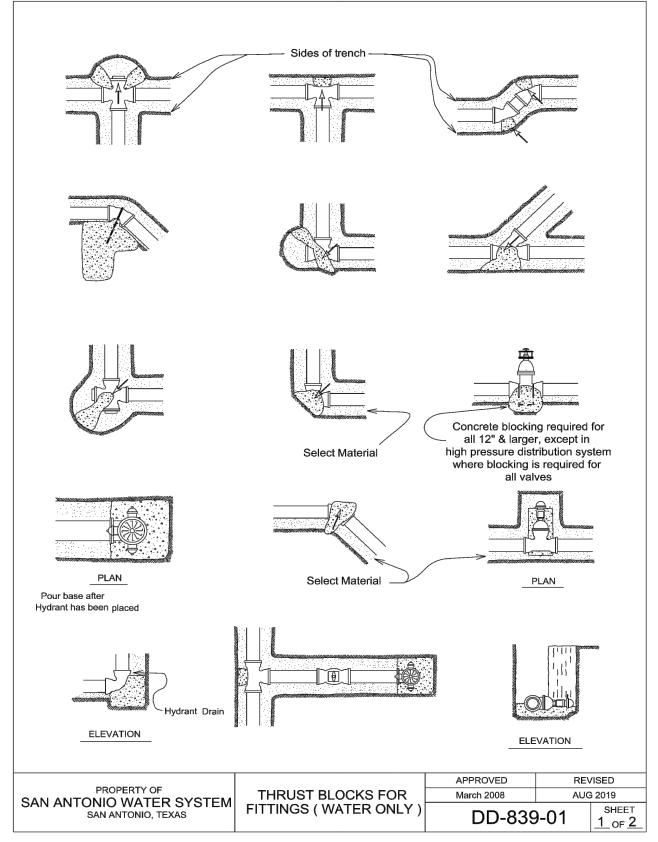
CLINE IRACI, UNIT 1 WATER OVERALL DISTRIBUTION PLAN

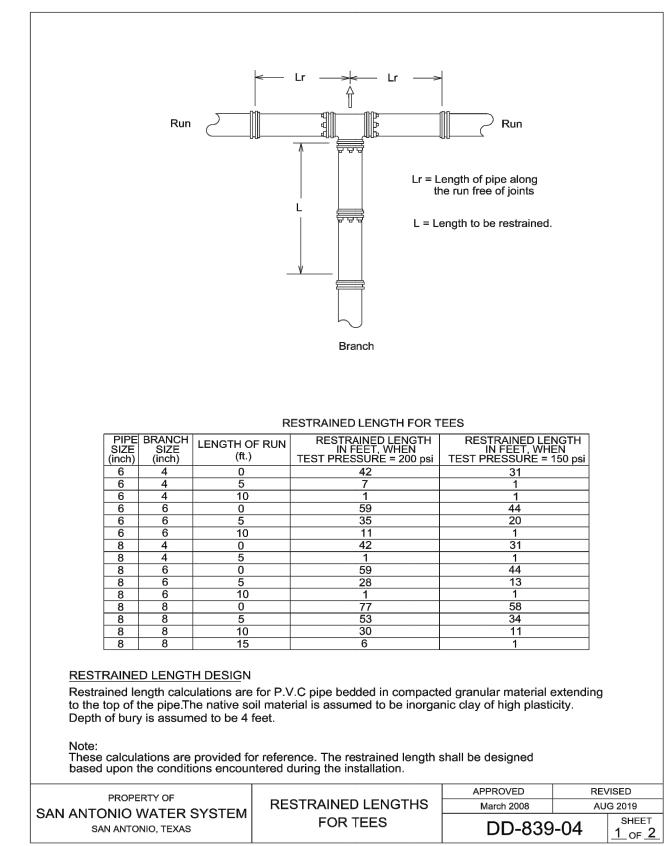
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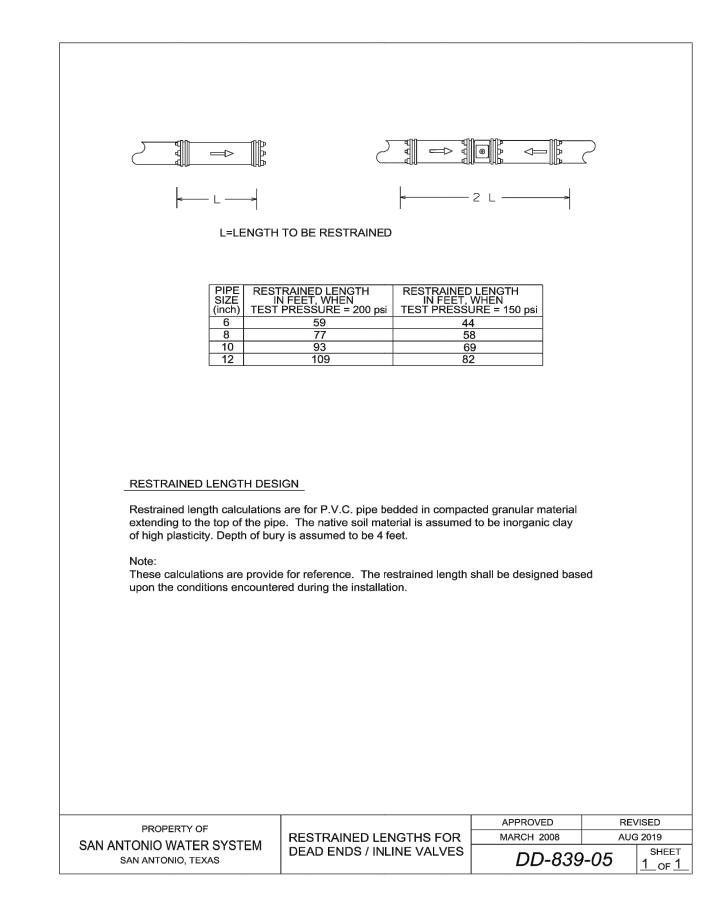
C3.2

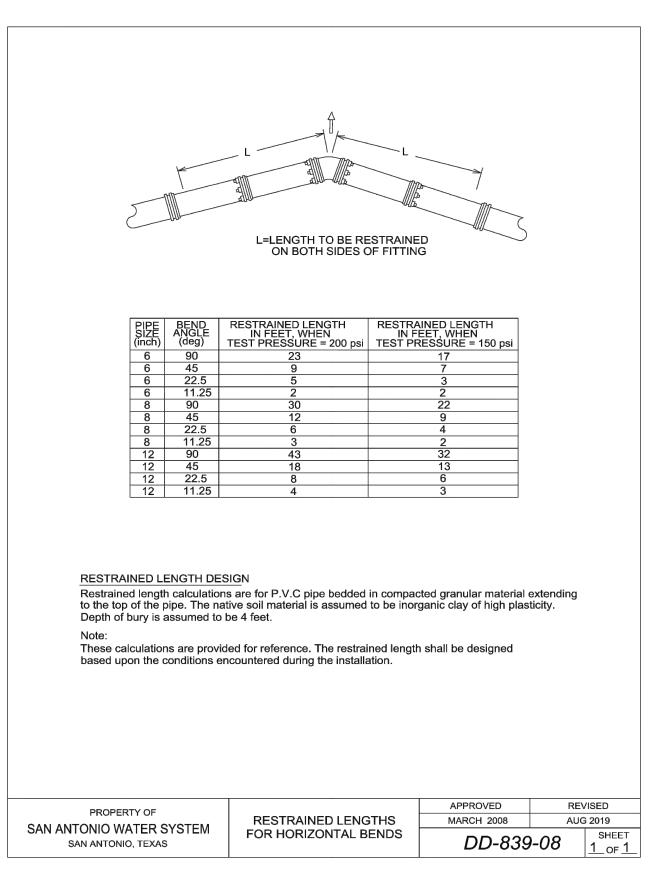


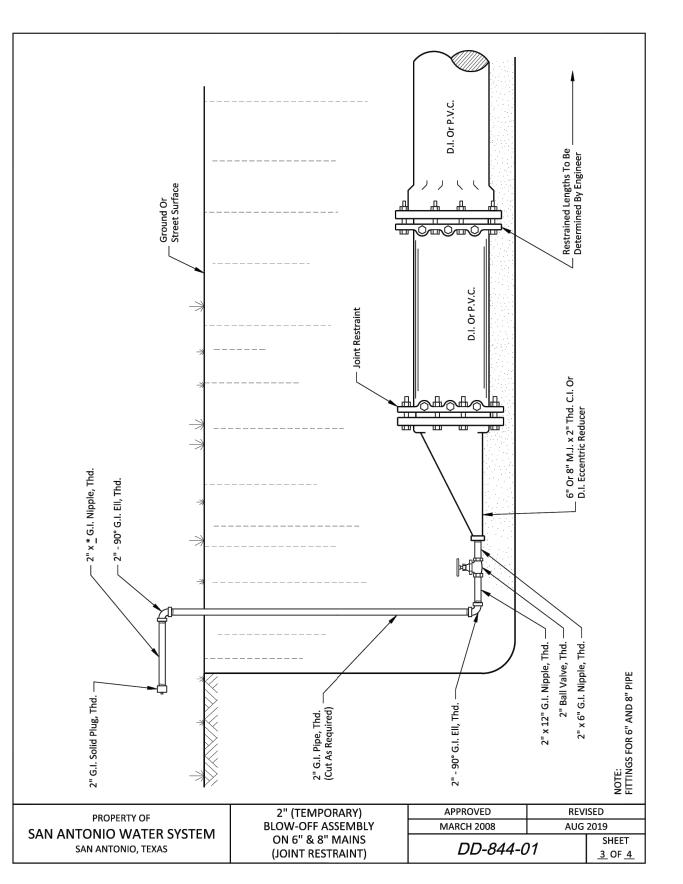


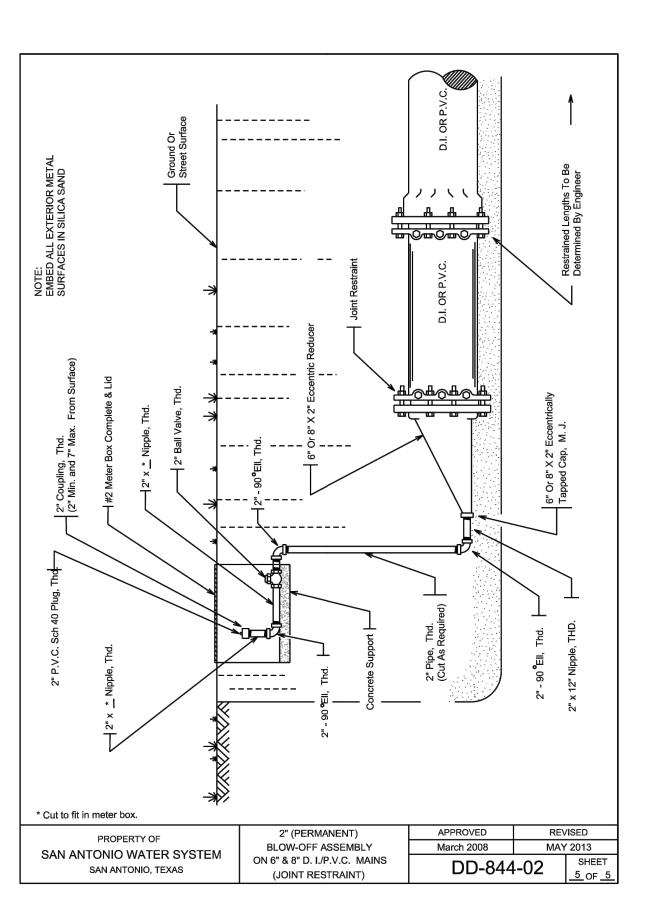












<u>Pressure</u> z	ONE 7	<u>50</u>				
Developer's Name_TER	RA HILLS DEVELO	PMENT, LLC				
Developer's Addres <u>s</u>	16845 BLANCO R	D, STE 206A				
City_SAN ANTONIO		e_TX	_ Zip_	78232		
Phone #956-237-019	1	Fax #				
SAWS Block Map <u>#</u>	132512	Total EDU's	88	Total Acre	eage_19.659	
Total Linear Footage of Pip		, 8" - 3,758 L.F.		Plat No	24-11800190	

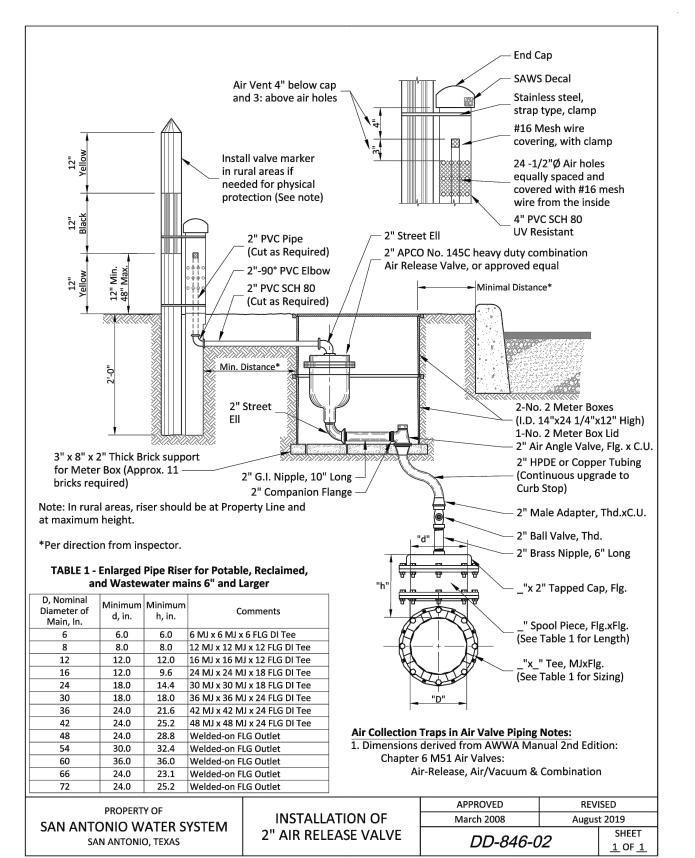
Number of Lots 88 SAWS Job No. ____

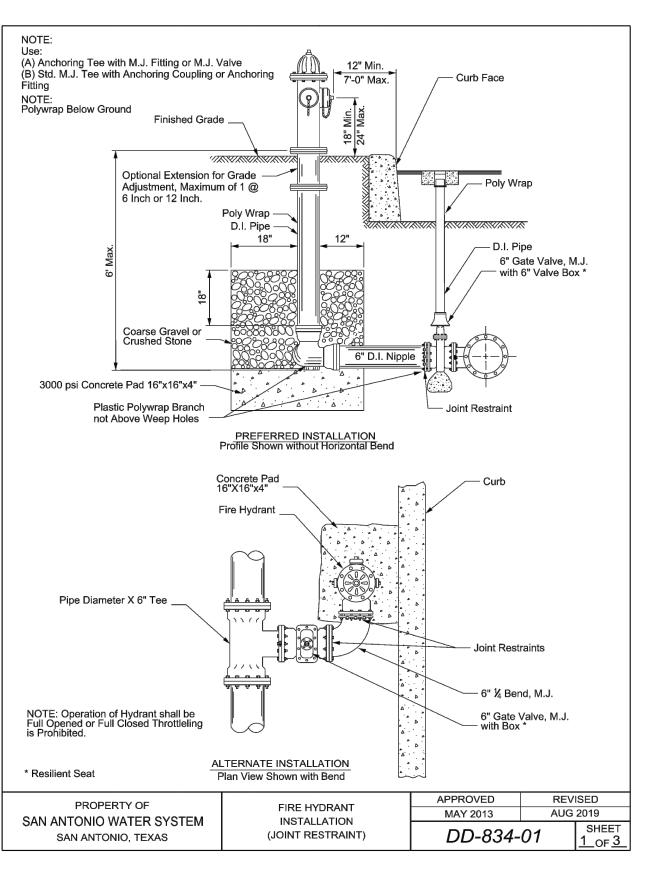
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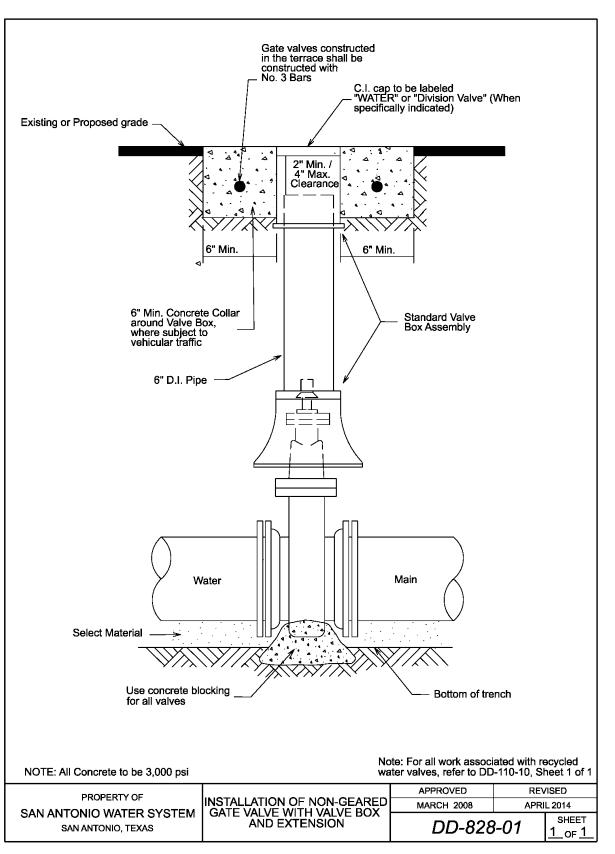
PAUL LANDA, JR. 100182

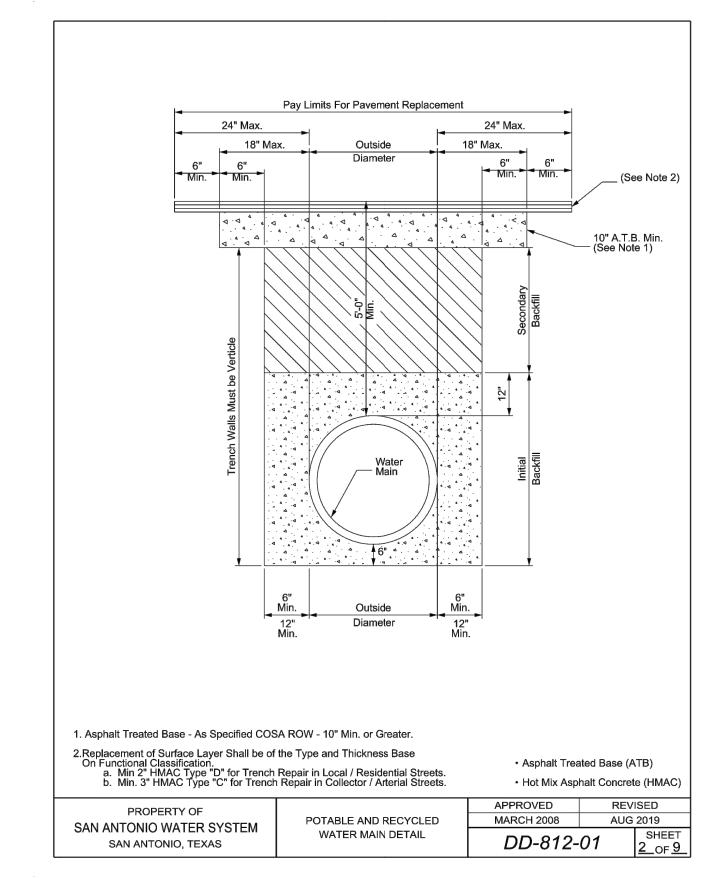
TAIL

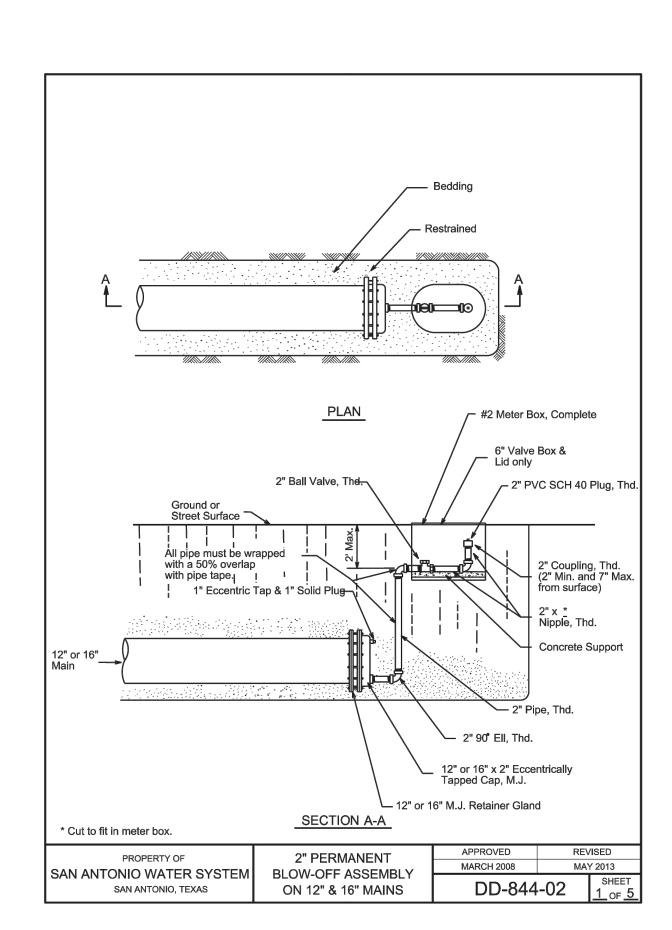
WATER

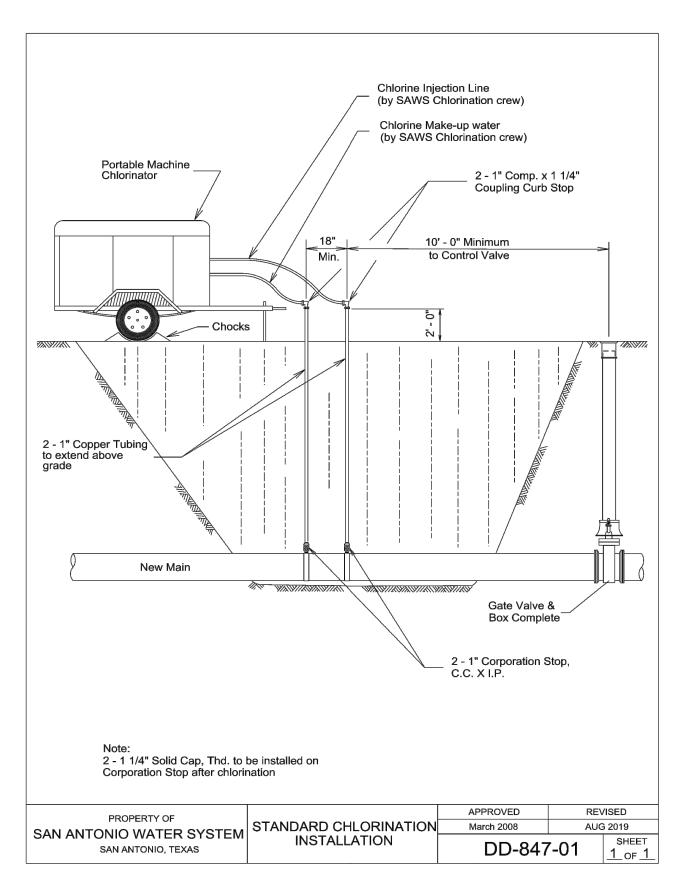












PRESSURE ZONE 750

Developer's Name TERRA HILLS DEVELOPMENT, LLC

Developer's Address 16845 BLANCO RD, STE 206A

City SAN ANTONIO State TX Zip 78232

Phone # 956-237-0191 Fax #

SAWS Block Map # 132512 Total EDU's 88 Total Acreage 19.659

Total Linear Footage of Pipe 2" - 282 L.F., 8" - 3,758 L.F. Plat No. 24-11800190

Number of Lots 88 SAWS Job No.



SHEET

C3.4

CONSTRUCTION PLANS FOR

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF SAN ANTONIO SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF SAN ANTONIO.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING CONSTRUCTION. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION:

SAN ANTONIO WATER SYSTEM TELE. NO.: 210-704-7109 TEXAS STATE WIDE ONE CALL LOCATOR TELE. NO.: 800-545-6005 CITY PUBLIC SERVICE

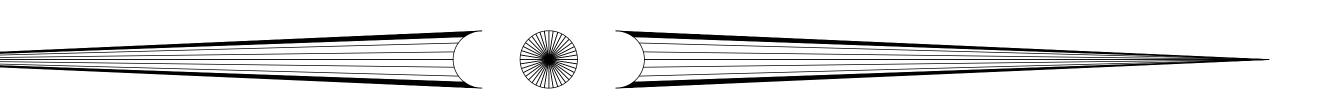
TIME WARNER CABLE

- 4. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- 5. THE CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT THE TELEPHONE COMPANY DURING CONSTRUCTION.
- 6. THE CONTRACTOR HAS THE RESPONSIBILITY OF RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGE DONE TO THE EXISTING PAVEMENT, STRUCTURES OR FENCES (NO SEPARATE PAY ITEM).
- 7. MATERIAL SPECIFICATIONS:
 - CONCRETE/CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS REINFORCING STEEL: CONFORM TO A.S.T.M. A-615, GRADE 60
 - (2" COVER UNLESS OTHERWISE NOTED ON PLANS) PIPE RAILING: CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501 STRUCTURAL STEEL: CONFORM TO A.S.T.M. A-36
- 8. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER (NO SEPARATE PAY ITEM).
- 9. TRANSITION TO/FROM WASHOUT CROWNS IN TWENTY-FIVE FEET (25').
- 10. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CANNEL FOR MAINTENANCE. REFER TO 16.2.1 OF THE CITY OF SAN ANTONIO STORM WATER DESIGN CRITERIA MANUAL. NO EXTRA PAY ITEM.

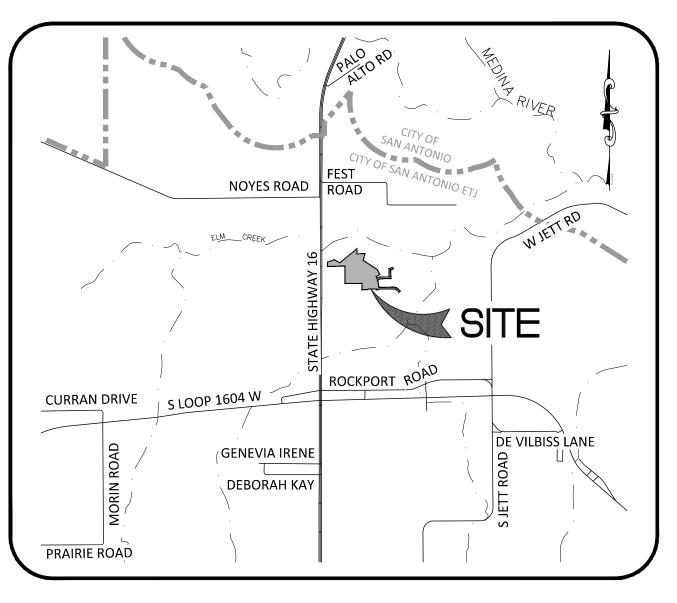
I ECEND

FLOW ARROW

LEGEND	
CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	(. 1)
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II	©
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED 4' SIDEWALK	
DEVELOPER INSTALLED 4' SIDEWALK	
EXISTING SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP	10000000000000000000000000000000000000
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE —	
EXISTING CONTOUR —	— — — 1120 — — -
PROPOSED CONTOUR —	1120
PROPOSED CONCRETE CURB =	



CLINE TRACT, UNIT 1 STREET AND DRAINAGE IMPROVEMENTS

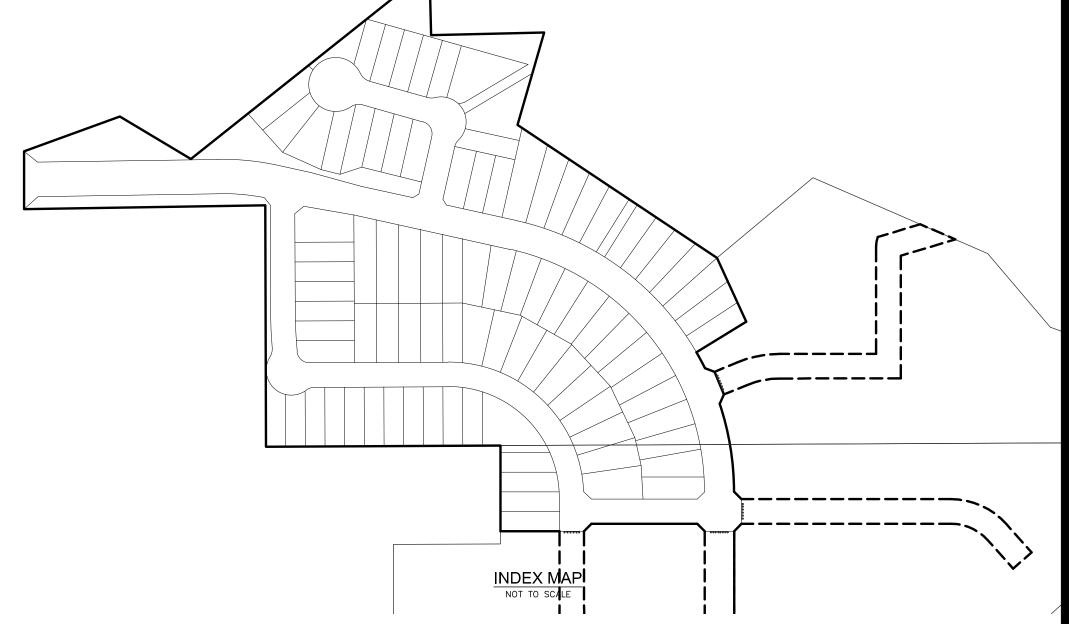


VICINITY MAP

SUBMITTAL DATE:

LEGAL DESCRIPTION:

AN 20.638 ACRE TRACT OF LAND SITUATED IN THE JOSE MARIA SAES SURVEY NUMBER 40, ABSTRACT NUMBER 418, COUNTY BLOCK 4201, BEXAR COUNTY, TEXAS, BEING A PORTION OF A 24.778 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY WARRANTY DEED AS RECORDED IN DOCUMENT NUMBER 20230134902 AND A PORTION OF A 29.243 ACRE TRACT AS CONVEYED TO TERRA HILLS DEVELOPMENT, LLC BY SPECIAL WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20230067413, BOTH OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.



PLAT NO. 24-11800190

MOY TARIN RAMIREZ ENGINEERS, LLC. 12770 CIMARRON PATH, SUITE 100

SUBMITTED BY:

TEL: (210) 698-5051 FAX: (210) 698-5085

SAN ANTONIO, TEXAS 78249

OWNER/DEVELOPER

TERRA HILLS DEVELOPMENT, LLC

16845 BLANCO RD, STE 206A

SAN ANTONIO, TX 78232

956-237-0191

Sheet List Table

Sheet Number Sheet Title

C4.0 STREET COVER	
C4.1 TRAFFIC PLAN	
C4.2 TRAFFIC PLAN	
C4.3 TRAFFIC DETAILS	
C4.4 TRAFFIC DETAILS	
C4.5 WALSH WAY PLAN & PROFILE	
C4.6 WALSH WAY PLAN & PROFILE	$\overline{}$
C4.7 BLÁNCO WÁY ÁND TAVERAS TRACE PLÁN & PROFI	LE)
C4.8 TAVERAS TRACE PLAN & PROFILE	~
C4.9 HADER STREET AND SMITH STATION PLAN & PROF	ILE)
C4.10 SEAGER STREET & LATZ LANE PLAN & PROFILE	_

C4.11 STANDARD DETAILS STANDARD DETAILS

C4.13 TYPICAL STREET SECTIONS C4.14 DRAIN "A" PLAN & PROFILE DRAIN "B" PLAN & PROFILE C4.16 DRAIN "C" PLAN & PROFILE

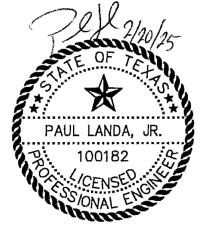
C4.16A TEMPORARY INTERCEPTOR CHANNEL "A" PLAN & PROFILE C4.16B TEMPORARY INTERCEPTOR CHANNEL "A" PLAN & PROFILE C4.16C TEMPORARY INTERCEPTOR CHANNEL "B" PLAN & PROFILE C4.16D TEMPORARY INTERCEPTOR CHANNEL "B" PLAN & PROFILE

C4.17 DRAIN DETAILS C4.18 DRAIN DETAILS

GRADING PLANS GRADING PLAN

C5.1 **GRADING PLAN** SW3P PLANS SW3P PLAN

C6.1 SW3P PLAN SW3P DETAILS





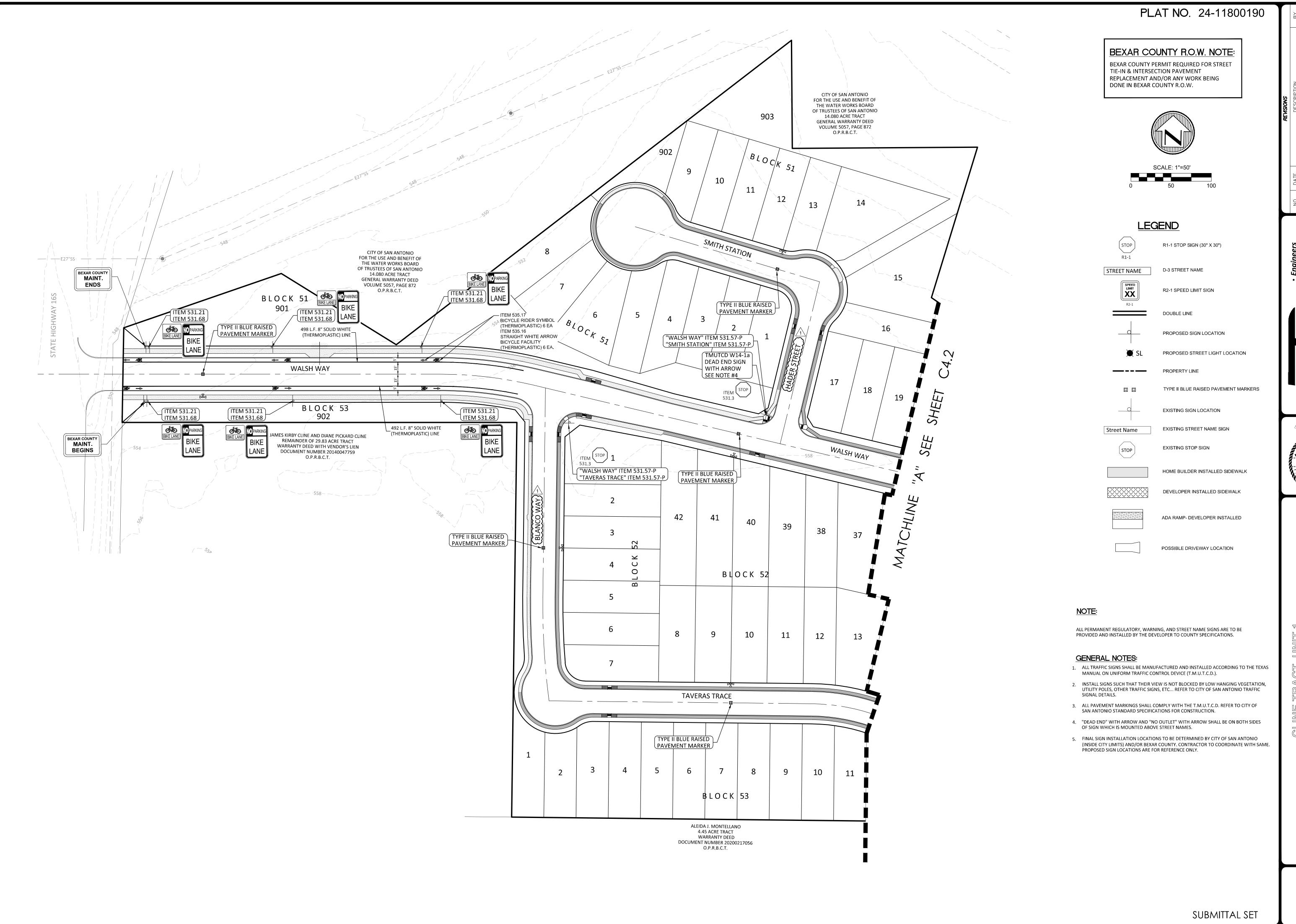
Moy Tarin Ramirez Engineers, LLC FIRM TBPELS ENG F-5297 SVY F-10131500

• Engineers

Surveyors

Planners

12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085



DATE
DESCRIPTION
2/20/25 STREET NAME REVISION
PROJ. # DGN. BY: CHKD. BY: DAY

EngineersSurveyorsPlanners

Moy Tarin Ramirez Eng PELS: ENGINEERING F-5297/SURV 2770 CIMARRON PATH, SUITE 100 TI

PAUL LANDA, JR.

PAUL LANDA, JR.

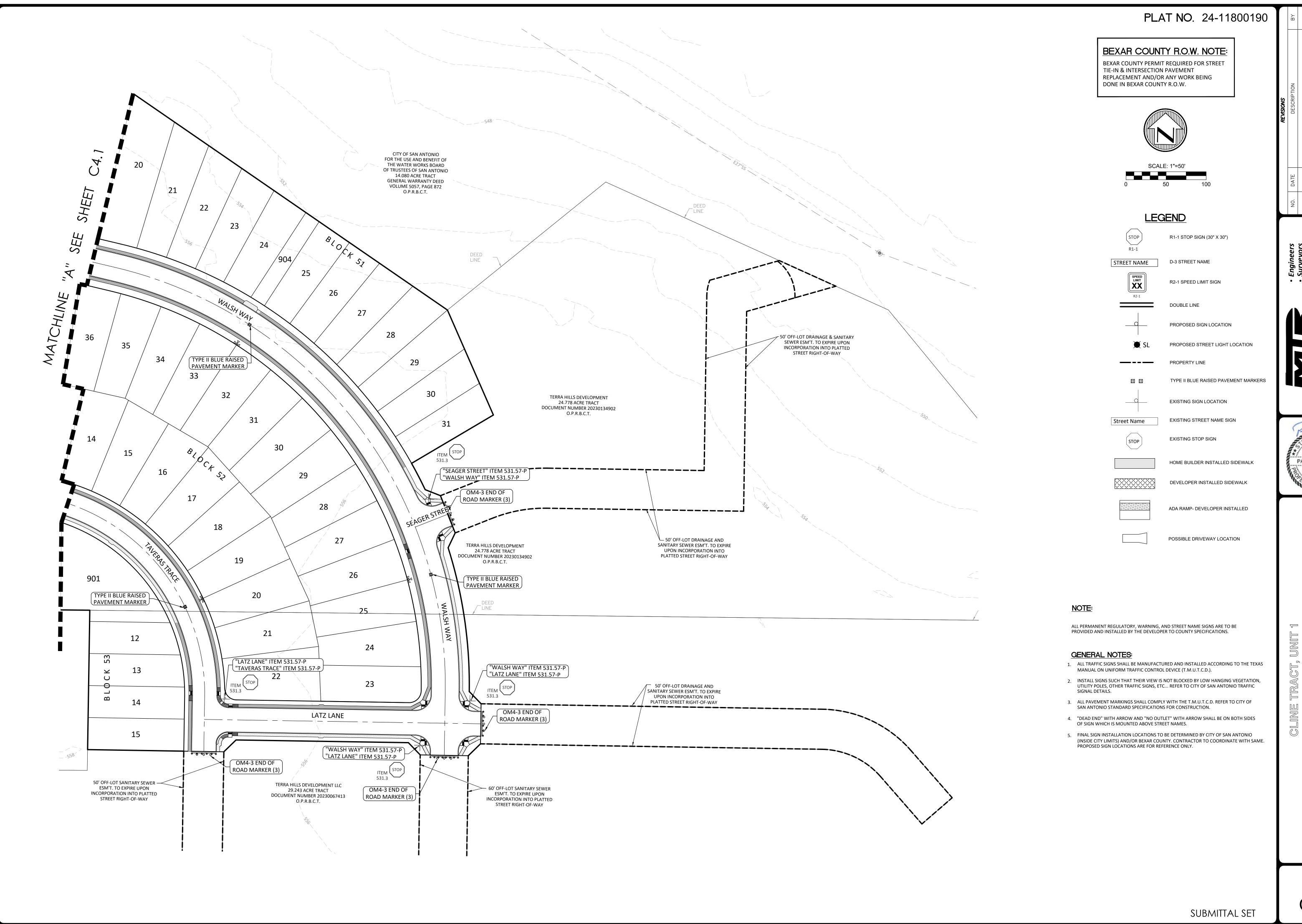
PAUL LANDA JR.

LL TRAFFIC PLAN

OVER/

SHEET

C4.1



PAUL LANDA, JR.

SHEET

OVER

C4.2

10.51gn Dianks shall be in Size on the plans.

11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.

12. Post open ends shall be fitted with Friction Caps.

10BWG(1)XX(P-BM) Y 10BWG(1)XX(T)

10BWG (1) XX (P-BM)

TY 10BWG(1)XX(T)

TY S80(1)XX(T)

TY 10BWG(1)XX(T)

TY S80(1)XX(T)

Y 10BWG(1)XX(T)

Y 10BWG(1)XX(T)

Y 10BWG(1)XX(T)

Texas Department of Transportation

Traffic Operations Division

REQUIRED SUPPOR

SIGN DESCRIPTION

48-inch STOP sign (R1-1)

60-inch YIELD sign (R1-2)

48x60-inch signs

48x60-inch signs

48x16-inch ONE-WAY sign (R6-1)

36x48, 48x36, and 48x48-inch signs

48x48-inch signs (diamond or square)

48-inch School X-ing sign (S2-1)

Large Arrow sign (W1-6 & W1-7)

48-inch Advance School X-ing sign (S1-1)

3/8" x 4" heavy hex

A307 galvanized per

T-Bracket

Sign Clamps (Specific or Universal)

3/8" x 4 1/2"

square head

bolt, nut, flat washer and lock washer per ASTM A307 galvanized

per Item 445, "Galvanizing."

Detail E

Use Extruded Alum. Windbeam as stiffeners

bolt with nut, lock washer and 2 flat washers per ASTM

Drill 7/16" hole

washers and

Extender __

stiffeners attached with

for additional

See Detail E

for clamp installation

nut, lock washer 2 flat washers per ASTM A307

galvanized per Item 445,

"Galvanizing."

Sign clamp —

Side View

2 7/8" O.D.

Sch. 80

6" panel should be placed at the top of

sign for proper mounting

Detail B

w variable

Typical Sign Mount

SM RD SGN ASSM TY S80(2)XX(P-EXAL)

* Additional stiffener placed at approximate center

of signs when sign width is greater than 10'.

See Detail (

SM RD SGN ASSM TY XXXXX(1)XX(U-XX)

Universal

5/16" x 4 1/2"

galvanized per

Nylon washer, 5/16" x 4 1/2"

hex bolt with

nut, lock washer, 2 flat washers per ASTM A307

Top View

Detail A

Sign Clamp

(Specific or

SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)

(* - See Note 12)

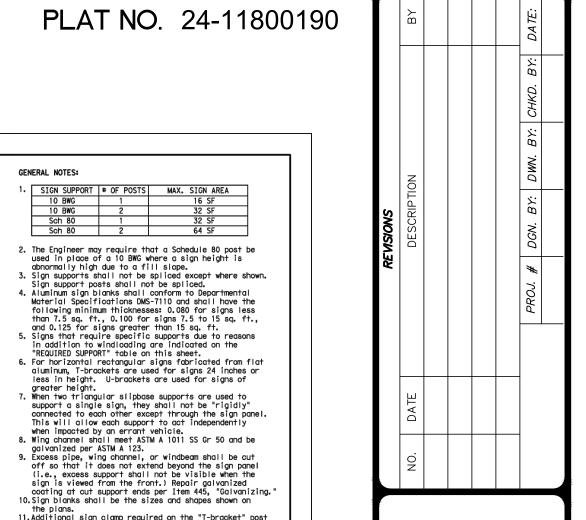
Extruded Alum. Windbeam (See Detail D on SMD (SLIP-2))

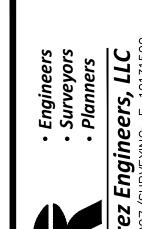
--- 0.15W ->---

(through) after — assembly and install bolt, nut, 2 flat

Detail C

Splices shall only be allowed behind the sign substrate.





ngi RVEY



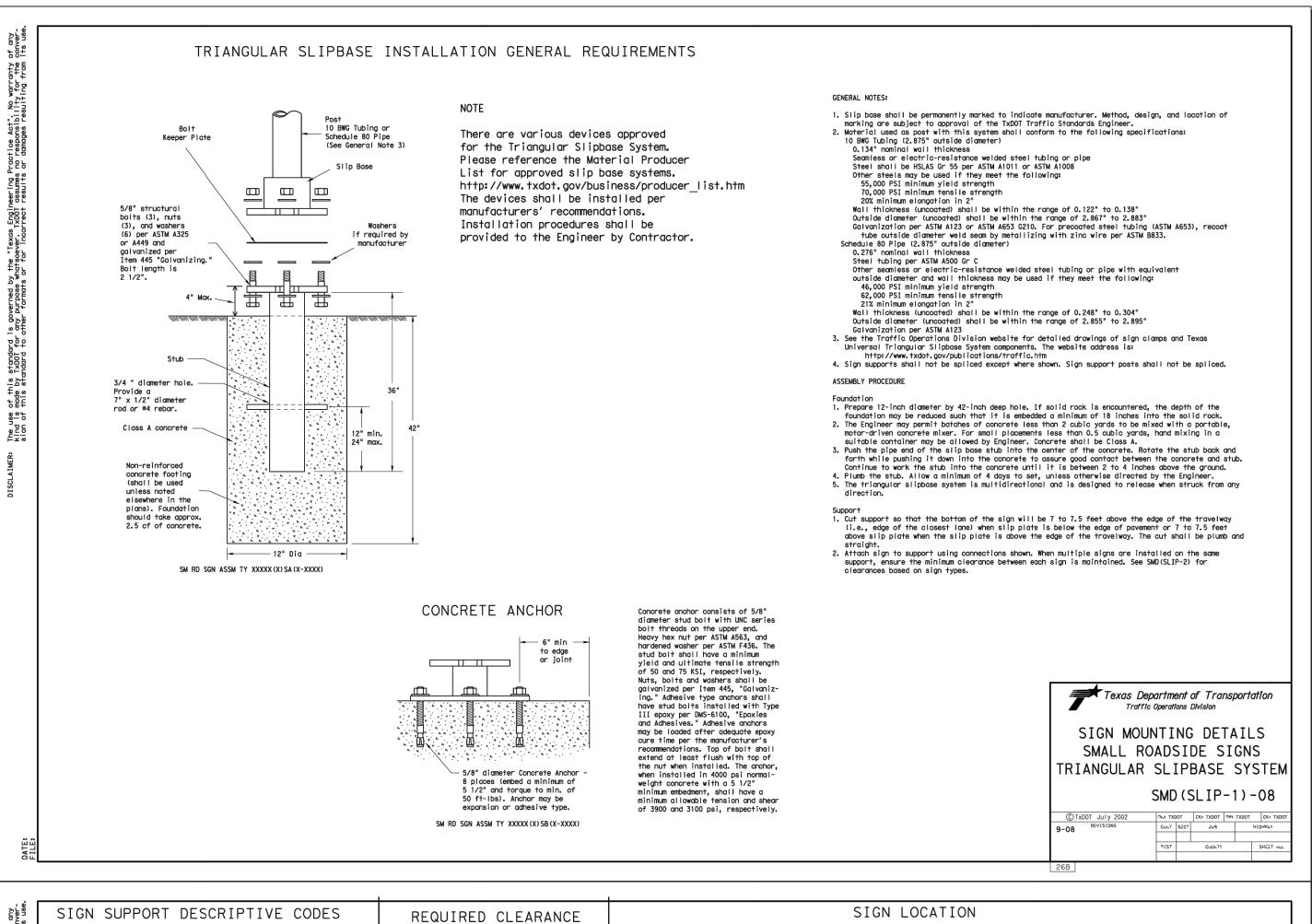


AF

H N



C4.3



PAVED SHOULDERS

BEHIND BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

6 ft min | -

Shoulder

edge of the shoulder.

2 ft min** -

Maximum

Greater

/HIGHWAY

INTERSECTION `

AHEAD

HIGHWAY

INTERSECTION

AHEAD

BEHIND GUARDRAIL

3713 ROAD

When a supplemental plaque

or secondary sign is used, the 7 ft sign height is measured to the bottom of

the supplemental plaque

or secondary sign.

7.0 ft min *

CURB & GUTTER OR RAISED ISLAND

/HIGHWAY

(INTERSECTION)

7.5 ft max

7.0 ft min *

7.5 ft max

→ 0 to 6 ft

LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from

Shoul der

5 ft min** -

the edge of the travel lane.

SIGNS WITH PLAQUES

/HIGHWAY

INTERSECTION

AHEAD

GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the

/HIGHWAY`

INTERSECTION

AHEAD

Barrier

BEHIND CONCRETE BARRIER

RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)

7.5 ft max

7.0 ft min *

Right-of-way restrictions may be created

In situations where a lateral restriction

prevents the minimum horizontal clearance from the edge of the travel lane, signs

should be placed as far from the travel

*** Post may be shorter if protected by

guardrail or if Engineer determines the post could not be hit due to extreme

by rocks, water, vegetation, forest,

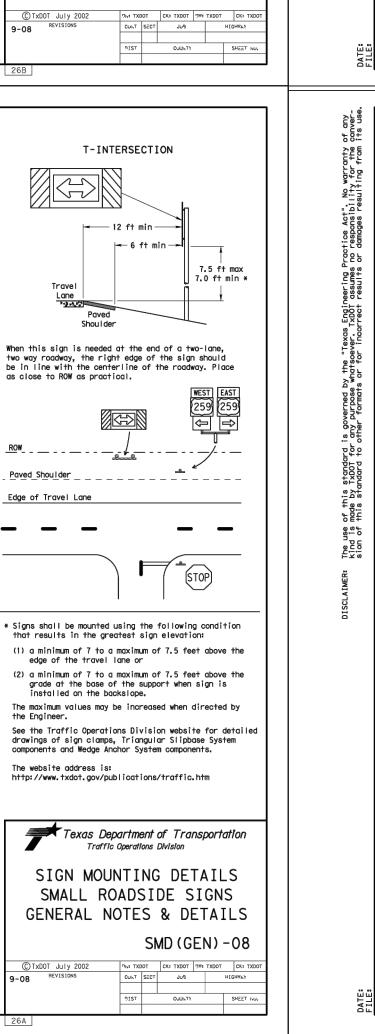
buildings, a narrow island, or other

HIGHWAY

INTERSECTION

AHEAD

7.0 ft min *

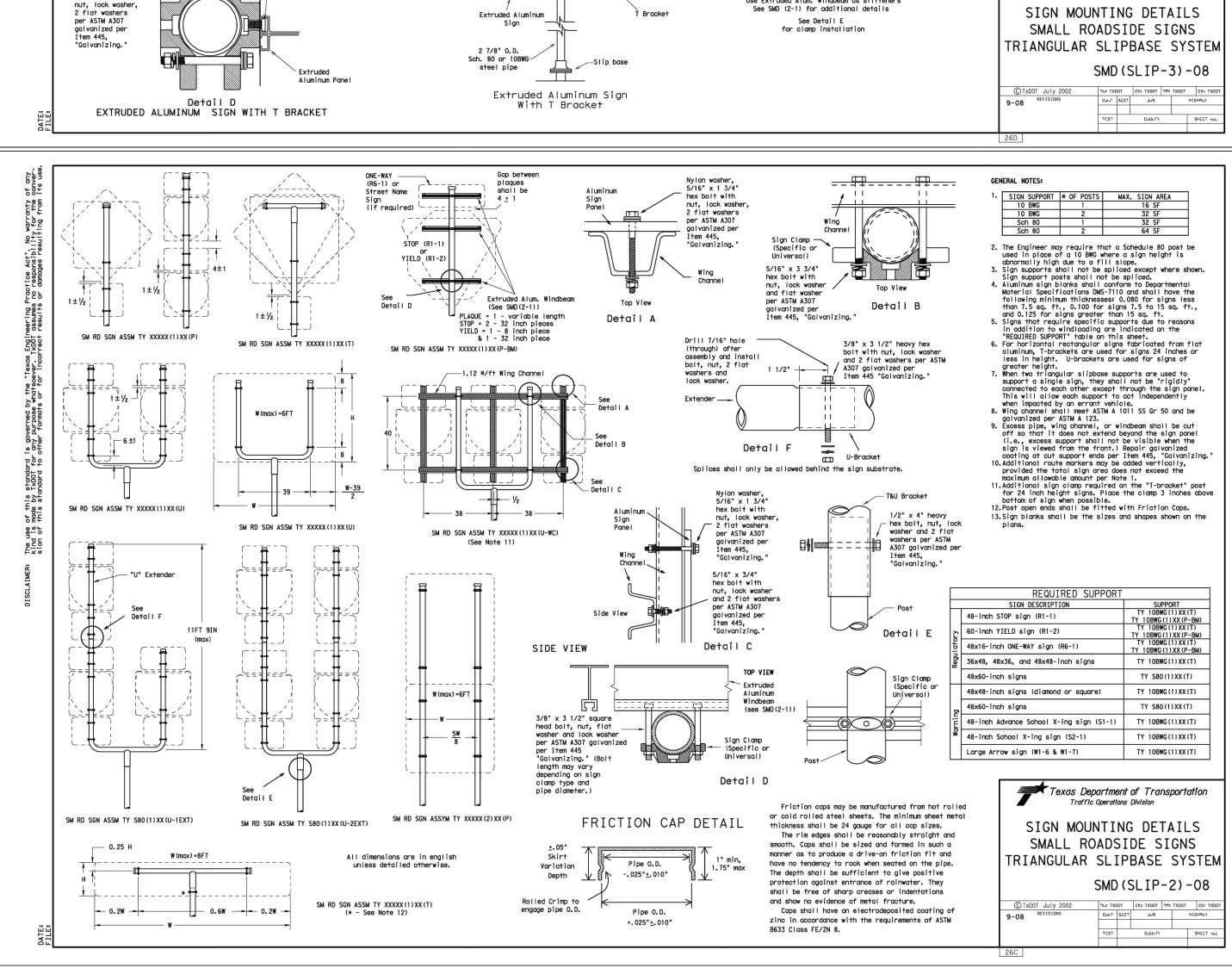


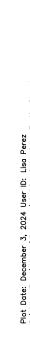
as close to ROW as practical.

Edge of Travel Lane

the Engineer.

The website address is:





SM RD SGN ASSM TY XXXXXX(X)XX(X-XXXXX)

(i.e., stub).

Acceptable

diameter circle

Back-to-Back

Signs

∠ Clamp Bolt 📆

3" nominal 3 1/2 or 4"

Approximate Bolt Length

4 1/2"

| Pipe Diameter | Specific Clamp | Universal Clamp | 2" nominal | 3" | 3 or 3 1/2" | 2 1/2" nominal | 3 or 3 1/2" | 3 1/2 or 4" | 4 (0")

Nylon washer, flat

Pipe Diameter

diameter

circle /

washer, lock washer,

TYPICAL SIGN ATTACHMENT DETAIL

To avoid vehicle undercarriage snagging, any

circle /

Not Acceptable

Not Acceptable

7.5 ft max-

7.0 ft min *

substantial remains of a breakaway support when it is broken away, should not project

more than 4 inches above a 60-inch chord

(i.e., typical space between wheel paths)

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))

TWT = Thin-Walled Tubing (see SMD(TWT))

10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))

S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

WS = Wedge Anchor Steel - (see SMD(TWT))

= Prefab. "U" (see SMD(SLIP-1) to (\$LIP-3))

No more than 2 sign

posts should be located

within a 7 ft. circle.

BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))

WC = 1.12 #/ff Wing Channel (see SMD(SLIP-1) to (SLIP-3))

EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))

WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))

SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))

EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))

Not Acceptable

____Nylon washer, flat

diameter

Single Signs

Sign Post

Bolts used to mount sign panels to the clamp are

5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex

head per ASTM A307 with nut and helical-spring lock

Sign clamps may be either the specific size clamp

washer. The approximate bolt lengths for various post

sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted

bolt length is 1 inch for aluminum.

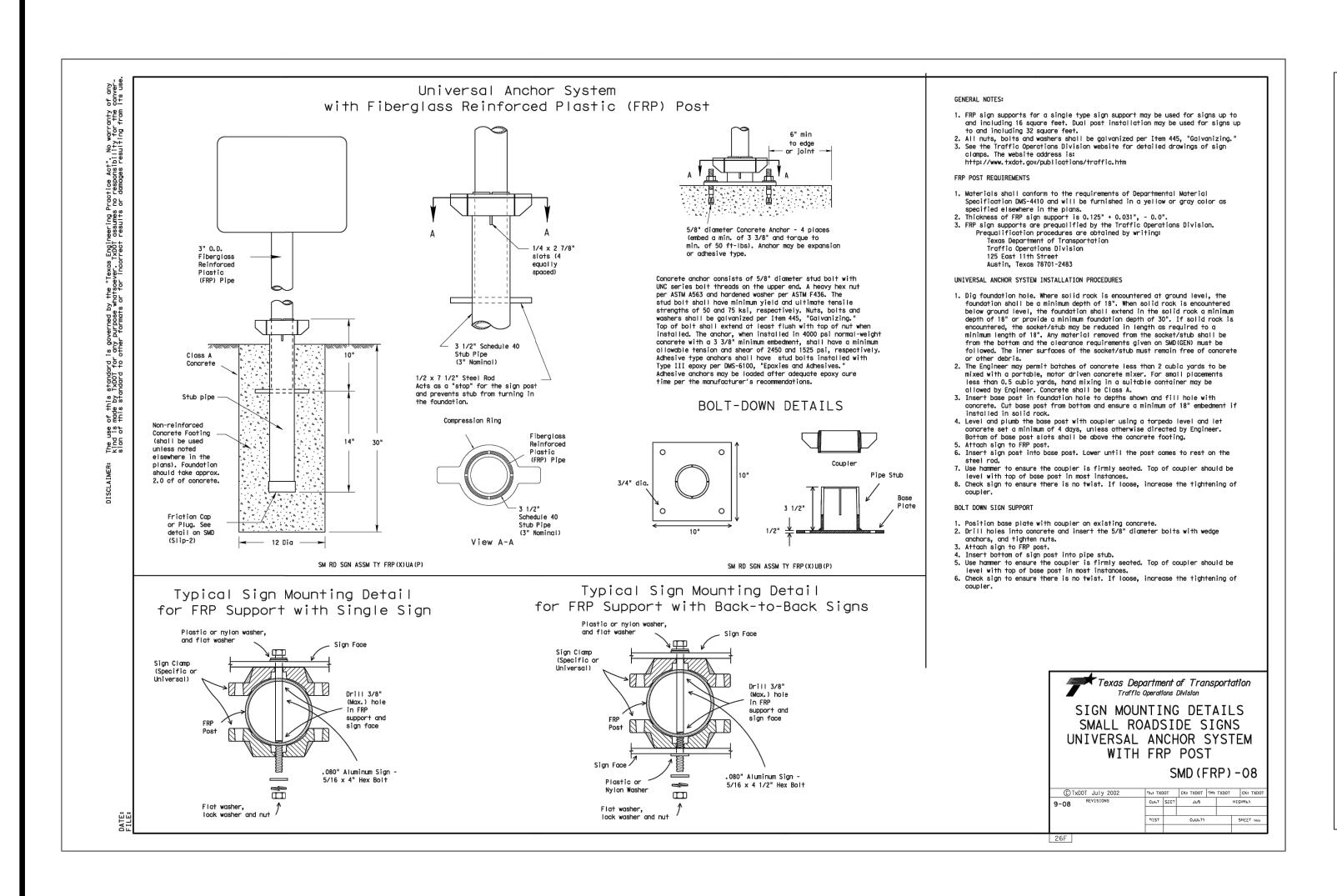
depending upon field conditions.

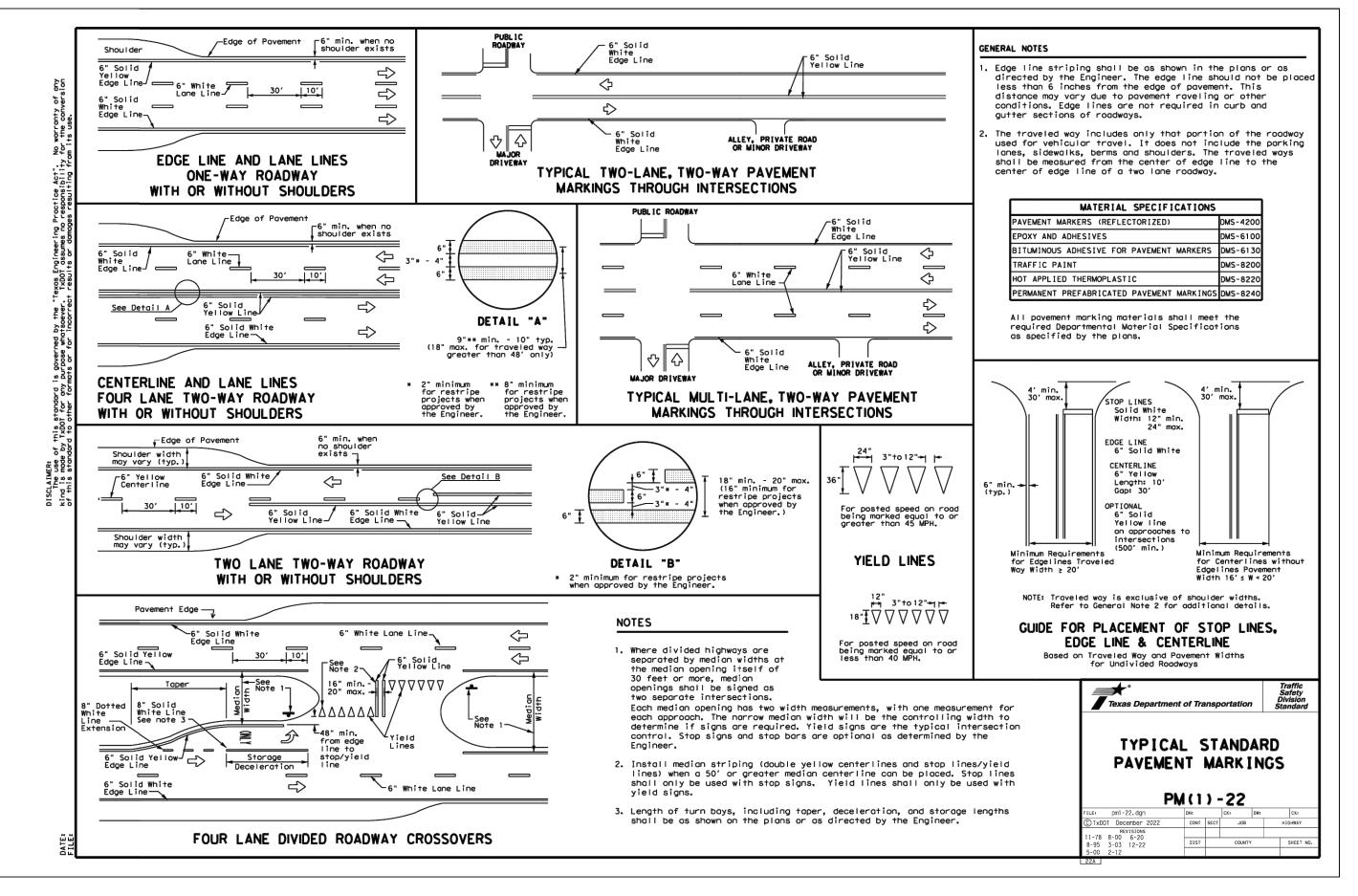
or the universal clamp.

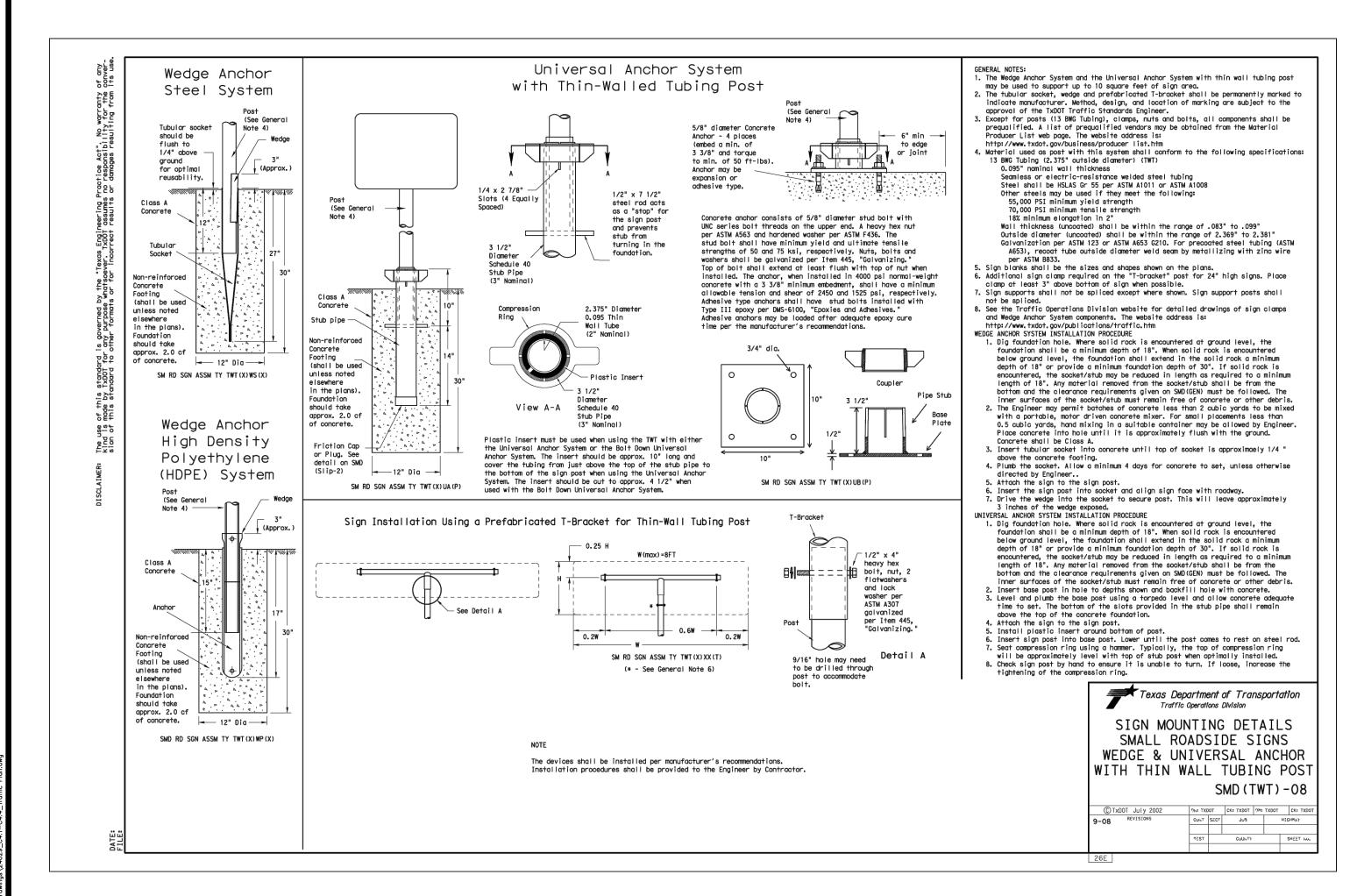
Number of Posts (1 or 2) -

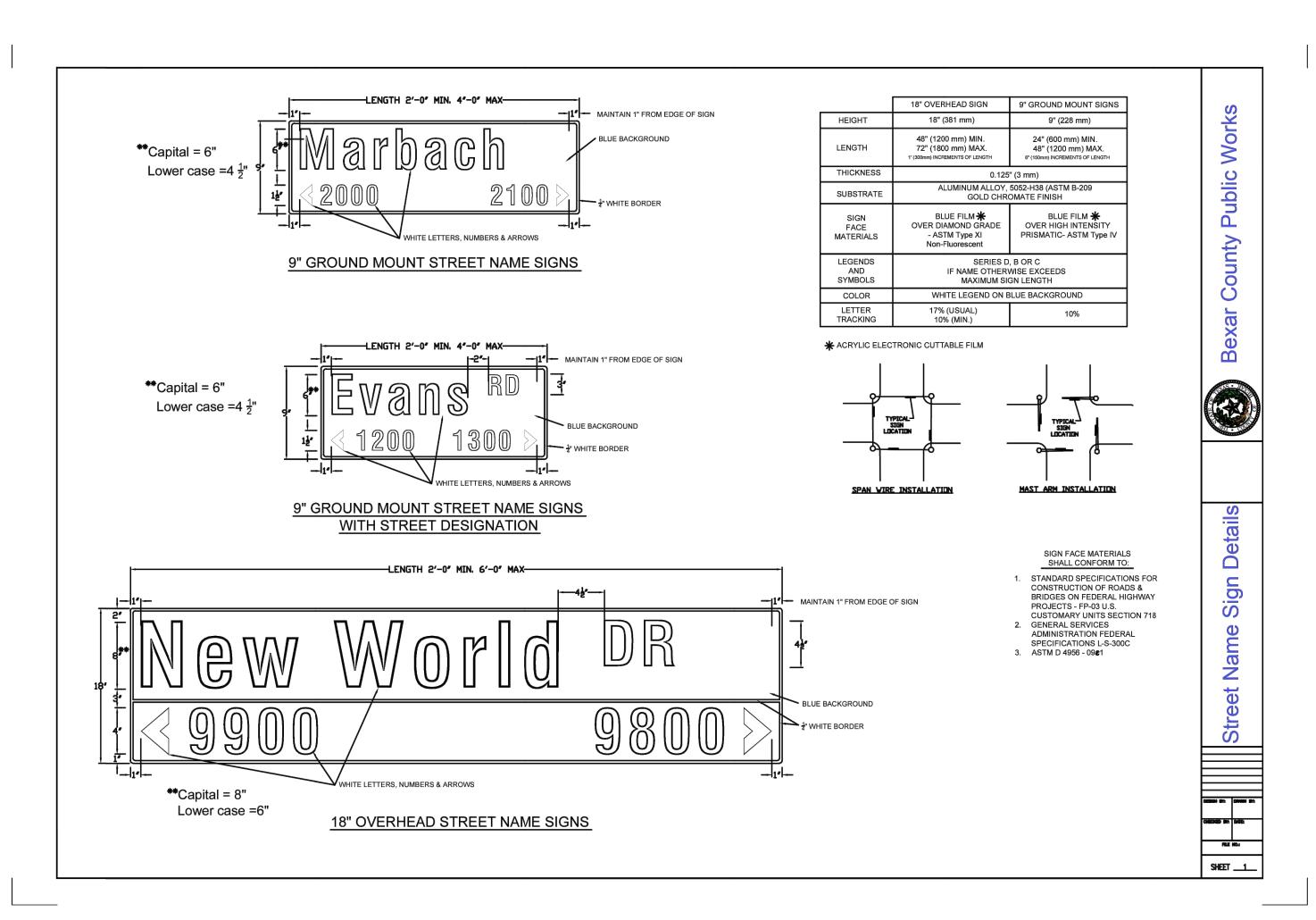
Sign Mounting Designation

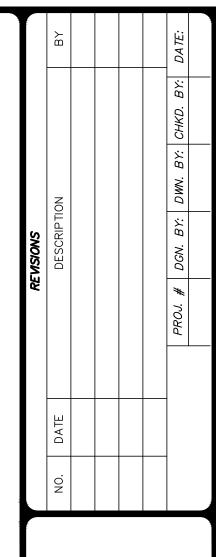
Anchor Type -











Surve

Surve

Tarin Ramirez Engineers,

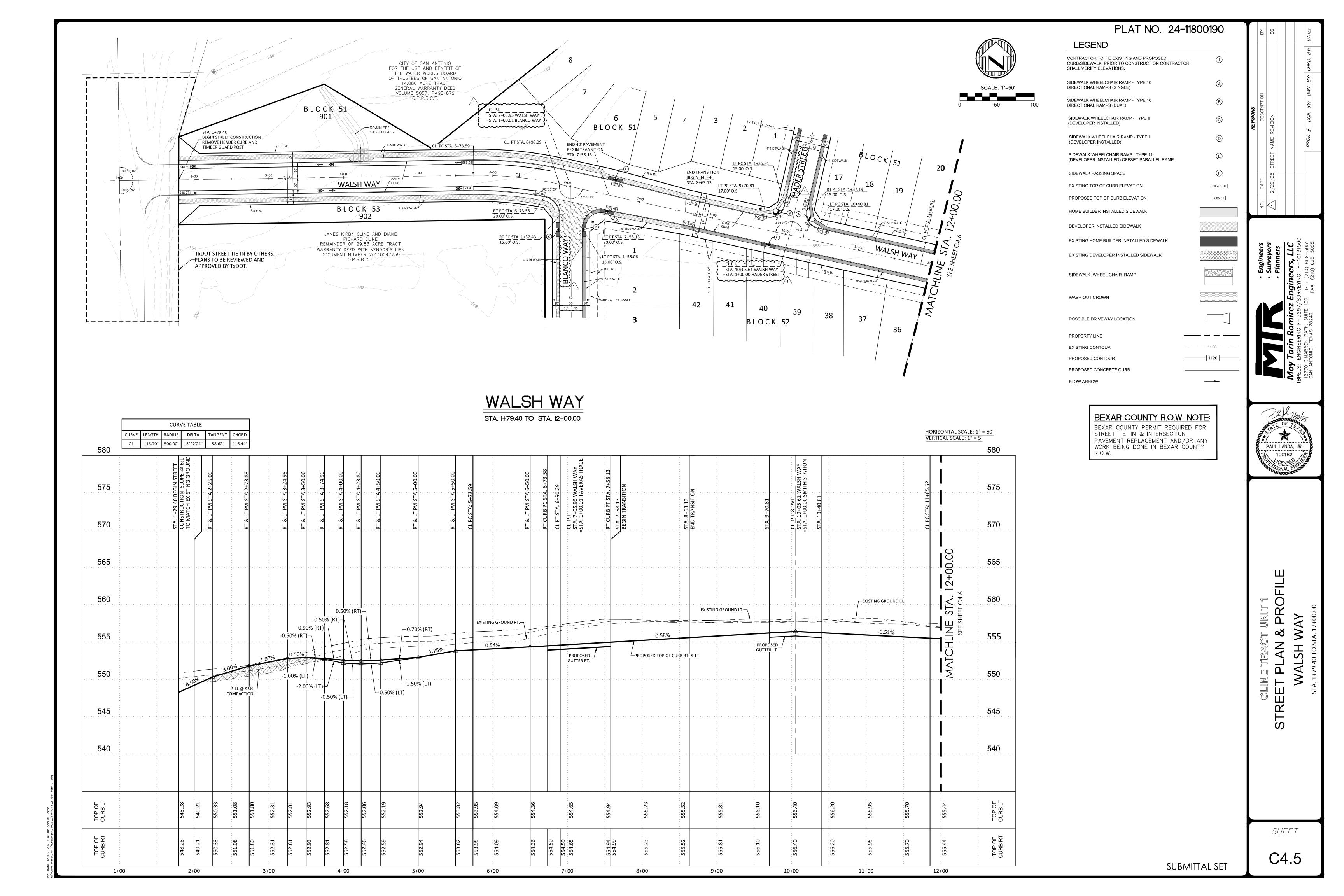
ENGINEERING F-5297/SURVEYING: F-1C

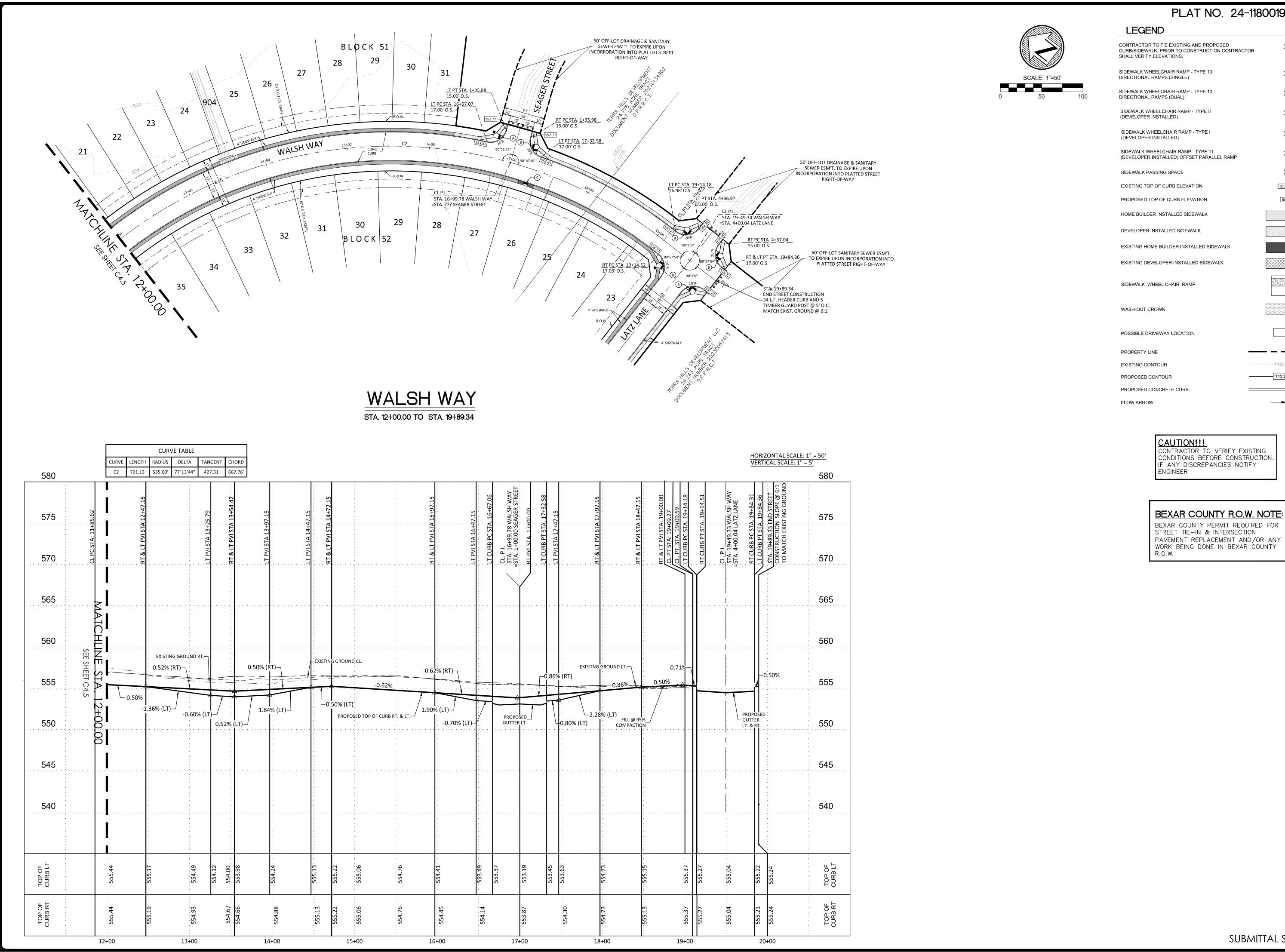
CIMARRON PATH, SUITE 100 TEL: (210) 698



CLINE TRACT, UNIT 1
TRAFFIC PLAN DETAILS

SHEET





PLAT NO. 24-11800190

 \bigcirc

805.81TC

805.81

SIDEWALK WHEELCHAIR RAMP - TYPE 10 SIDEWALK WHEELCHAIR RAMP - TYPE II

SIDEWALK WHEELCHAIR RAMP - TYPE I

(DEVELOPER INSTALLED) OFFSET PARALLEL RAMP

EXISTING HOME BUILDER INSTALLED SIDEWALK

EXISTING DEVELOPER INSTALLED SIDEWALK

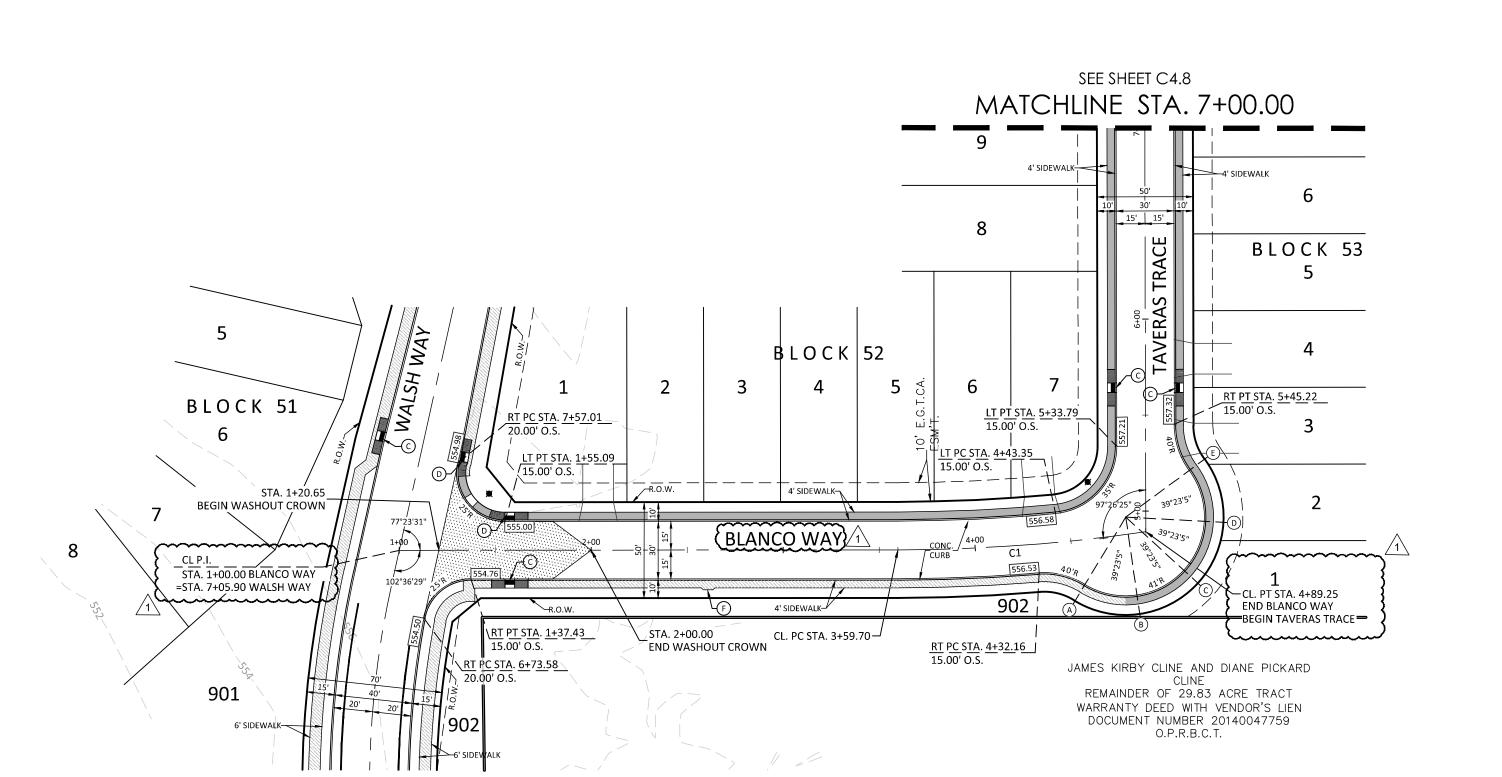
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY

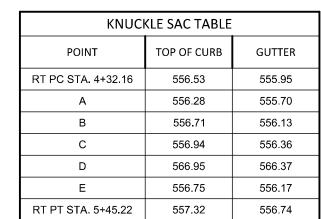
BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY



SHEET

C4.6

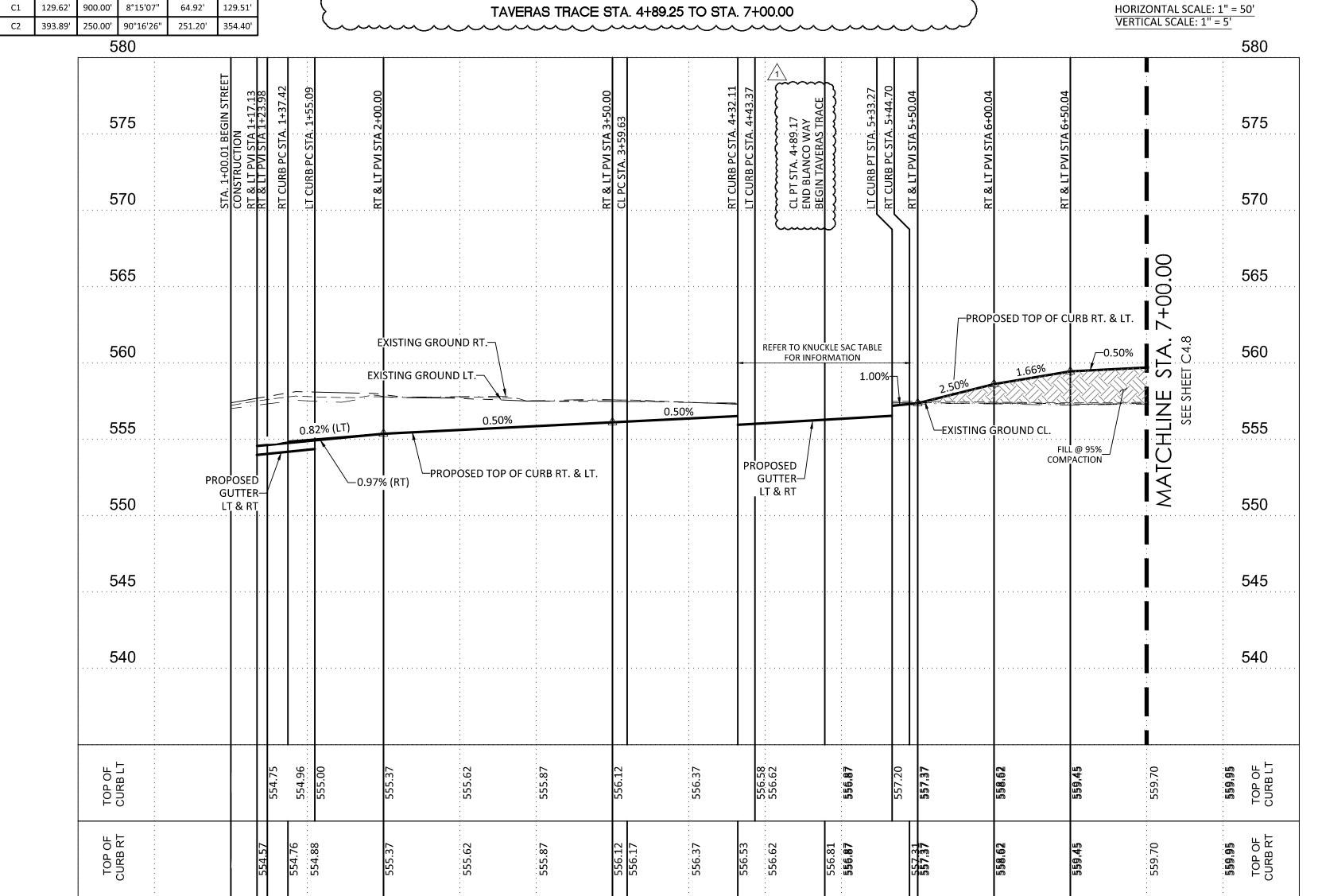




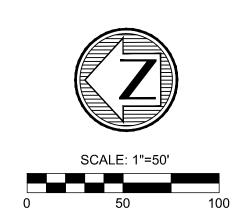
BLANCO WAY AND TAVERAS TRACE BLANCO WAY STA. 1+00.00 TO STA. 4+89.25

CURVE TABLE CURVE LENGTH RADIUS DELTA TANGENT CHORD

TAVERAS TRACE STA. 4+89.25 TO STA. 7+00.00



PLAT NO. 24-11800190



LEGEND CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS. SIDEWALK WHEELCHAIR RAMP - TYPE 10 \bigcirc DIRECTIONAL RAMPS (SINGLE) SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL) SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE 11

(DEVELOPER INSTALLED) OFFSET PARALLEL RAMP SIDEWALK PASSING SPACE EXISTING TOP OF CURB ELEVATION 805.81TC PROPOSED TOP OF CURB ELEVATION 805.81 HOME BUILDER INSTALLED SIDEWALK

DEVELOPER INSTALLED SIDEWALK EXISTING HOME BUILDER INSTALLED SIDEWALK EXISTING DEVELOPER INSTALLED SIDEWALK

SIDEWALK WHEEL CHAIR RAMP

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE **EXISTING CONTOUR** PROPOSED CONTOUR

WASH-OUT CROWN

PROPOSED CONCRETE CURB FLOW ARROW

CAUTION!!!

CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

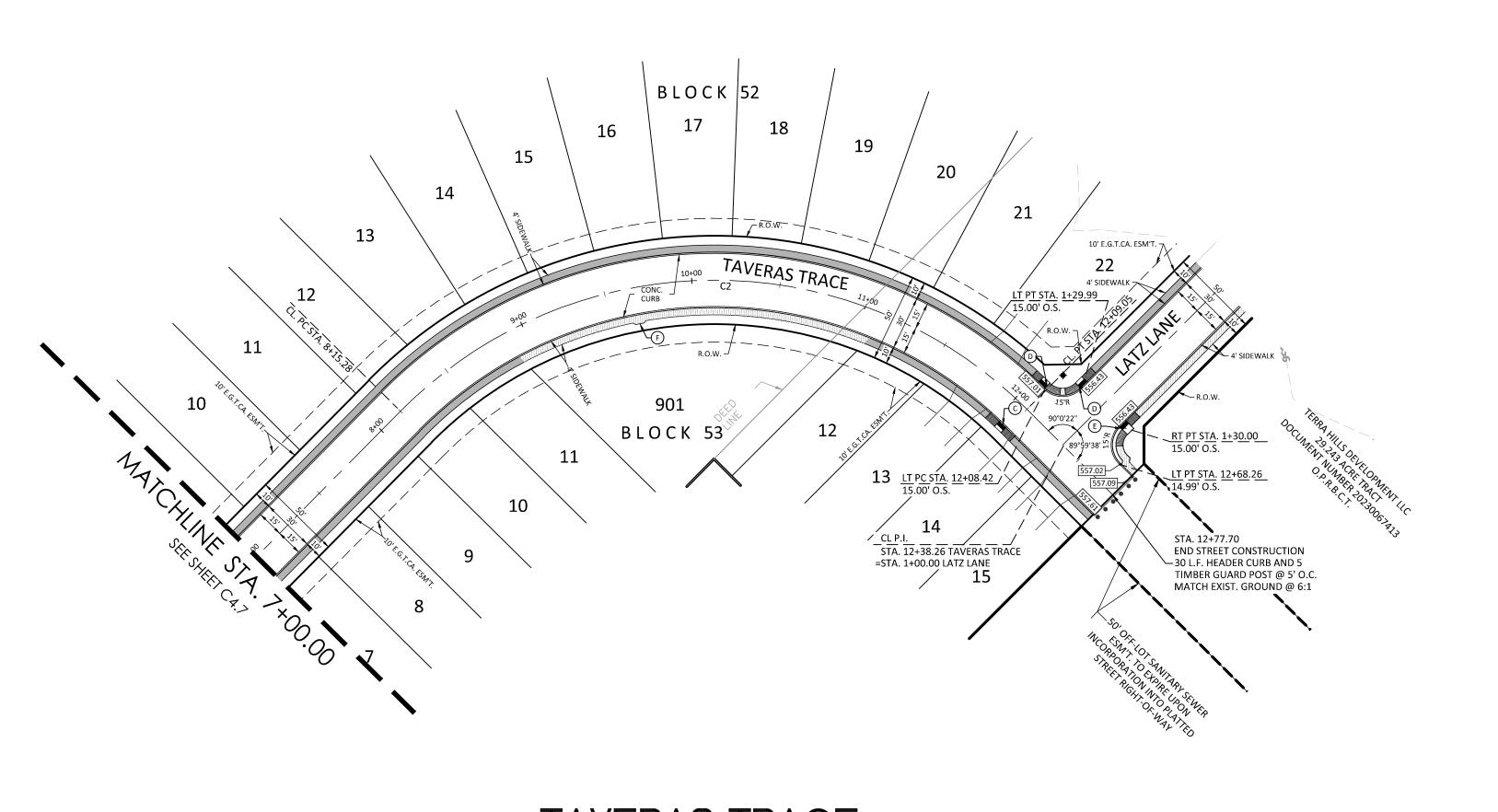
BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY

PAUL LANDA, JR. 100182

SHEET

面



		CURVE TAE	BLE							RACE	=					
С	RVE LENGTH 129.62' 2393.89' 580	900.00' 8°15'	07" 64.92'	CHORD 129.51' 354.40'			S	TA. 7+00.00) TO STA.	12+77.70					HORIZOI VERTICA	NTAL SCALE: 1" = 50' NL SCALE: 1" = 5' 580
		· · · · · · · · · · · · · · · · · · ·		<u> </u>								4	8 8	TRACE	ET @ 6:1 OUND	300
	575		: •	1 STA 7+50.04	8+15.38							STA 11+49.44	1 STA 11+99.44 12+09.05 F STA. 12+07.8 C STA. 12+09.1	7.70 TAVERAS 02 LATZ LANE	7.70 END STRE STION SLOPE (575
	570		<u> </u> 	RT & LT PV	CL PC STA:							RT & LT PV	RT & LT PV CL PT STA: LT CURB P	CL. P.I. STA. 12+3. =STA. 1+00.	STA. 12+7. CONSTRUC TO MATCH	570
	565		<u>.</u> 													565
	560	00.00	0.50%				PROPOSED TOP	OF CURB RT.	& LT.—			-0.50% (RT)			-0.50% (RT)	560
		7+0						3.53%				-0.50% (K1)				
	555	STA.	: 		EXISTING GR	· · · · · · · · · · · · · · · · · · ·	FILL @ COMPAC	95%	EXISTING GRO	OUND LT.		1.55% (LT)).70% (LT)		0.70% (LT) 555
	550	SEE SHE	Ī 			EXISTING GROUND R	T COMPAC	HON .					PRC GUT	DPOSED_ TER LT.		550
	545	MATC	! 													545
•																
	540															540
29.866	TOP OF CURB LT	559.45	559.70	559.95	559.68	559.42	559.16	558.89	558.63	558.37	558.11	557.85	557.07	556.80	557.55	TOP OF CURB LT
29.850	TOP OF CURB RT	559.45	559.70	559.95	559.68	559.42	559.16	558.89	558.63	558.37	558.11	557.85	557.59 557.55	557.40	557.61	TOP OF CURB RT

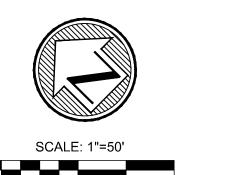
10+00

11+00

9+00

12+00

PLAT NO. 24-11800190



LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS. SIDEWALK WHEELCHAIR RAMP - TYPE 10 \bigcirc DIRECTIONAL RAMPS (SINGLE) SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)

SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)

SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP SIDEWALK PASSING SPACE

PROPOSED TOP OF CURB ELEVATION HOME BUILDER INSTALLED SIDEWALK

DEVELOPER INSTALLED SIDEWALK EXISTING HOME BUILDER INSTALLED SIDEWALK EXISTING DEVELOPER INSTALLED SIDEWALK

SIDEWALK WHEEL CHAIR RAMP

EXISTING TOP OF CURB ELEVATION

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE EXISTING CONTOUR PROPOSED CONTOUR

WASH-OUT CROWN

PROPOSED CONCRETE CURB FLOW ARROW

CAUTION!!!

CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.

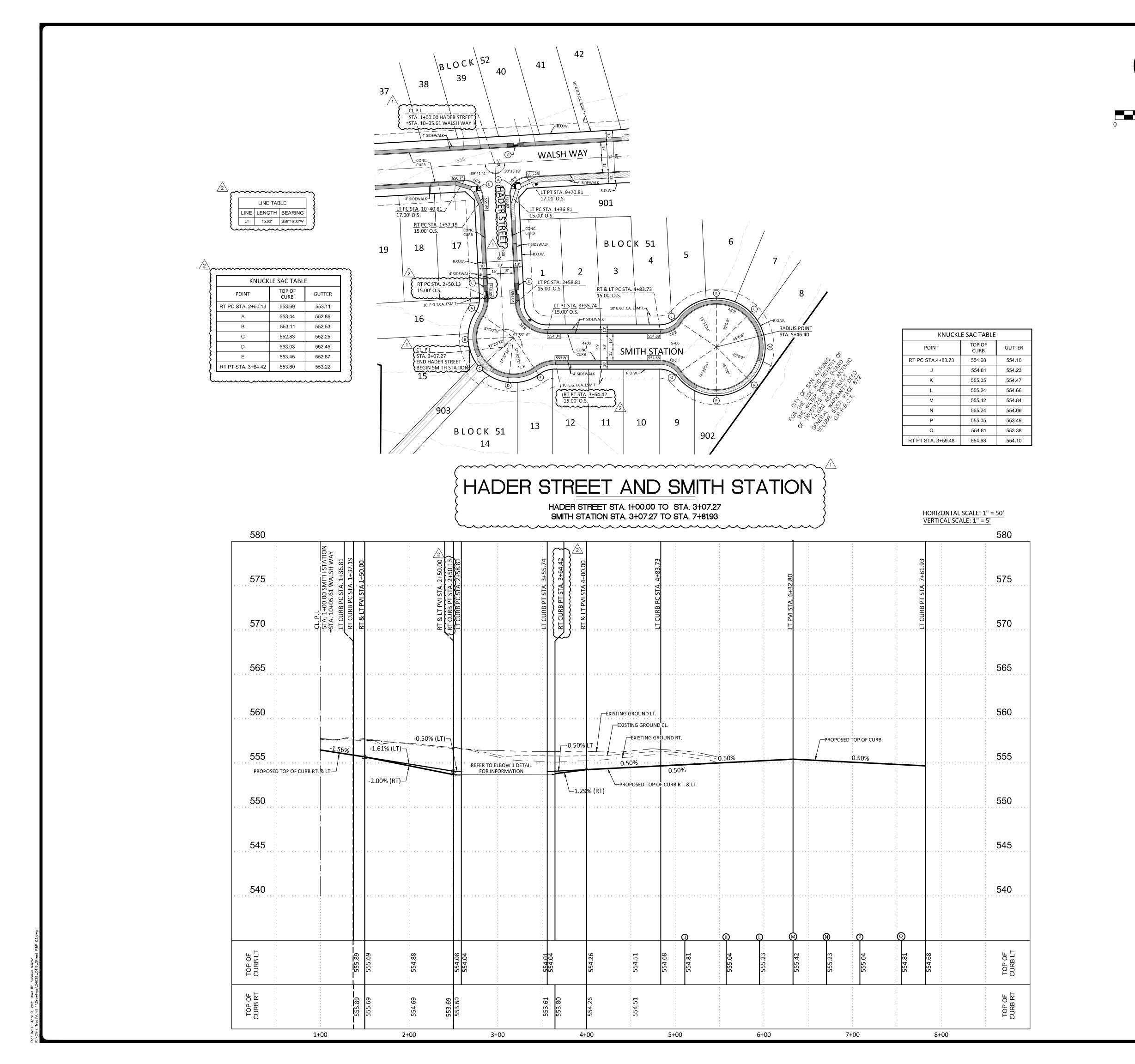
805.81TC

805.81

PAUL LANDA, JR. 100182

SHEET

C4.8



PLAT NO. 24-11800190

LEGEND CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS. SIDEWALK WHEELCHAIR RAMP - TYPE 10 \bigcirc DIRECTIONAL RAMPS (SINGLE)

SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL) SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE I

(DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP SIDEWALK PASSING SPACE

HOME BUILDER INSTALLED SIDEWALK

DEVELOPER INSTALLED SIDEWALK EXISTING HOME BUILDER INSTALLED SIDEWALK EXISTING DEVELOPER INSTALLED SIDEWALK

WASH-OUT CROWN

SIDEWALK WHEEL CHAIR RAMP

EXISTING TOP OF CURB ELEVATION

PROPOSED TOP OF CURB ELEVATION

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE **EXISTING CONTOUR** PROPOSED CONTOUR

PROPOSED CONCRETE CURB FLOW ARROW

CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY

805.81TC

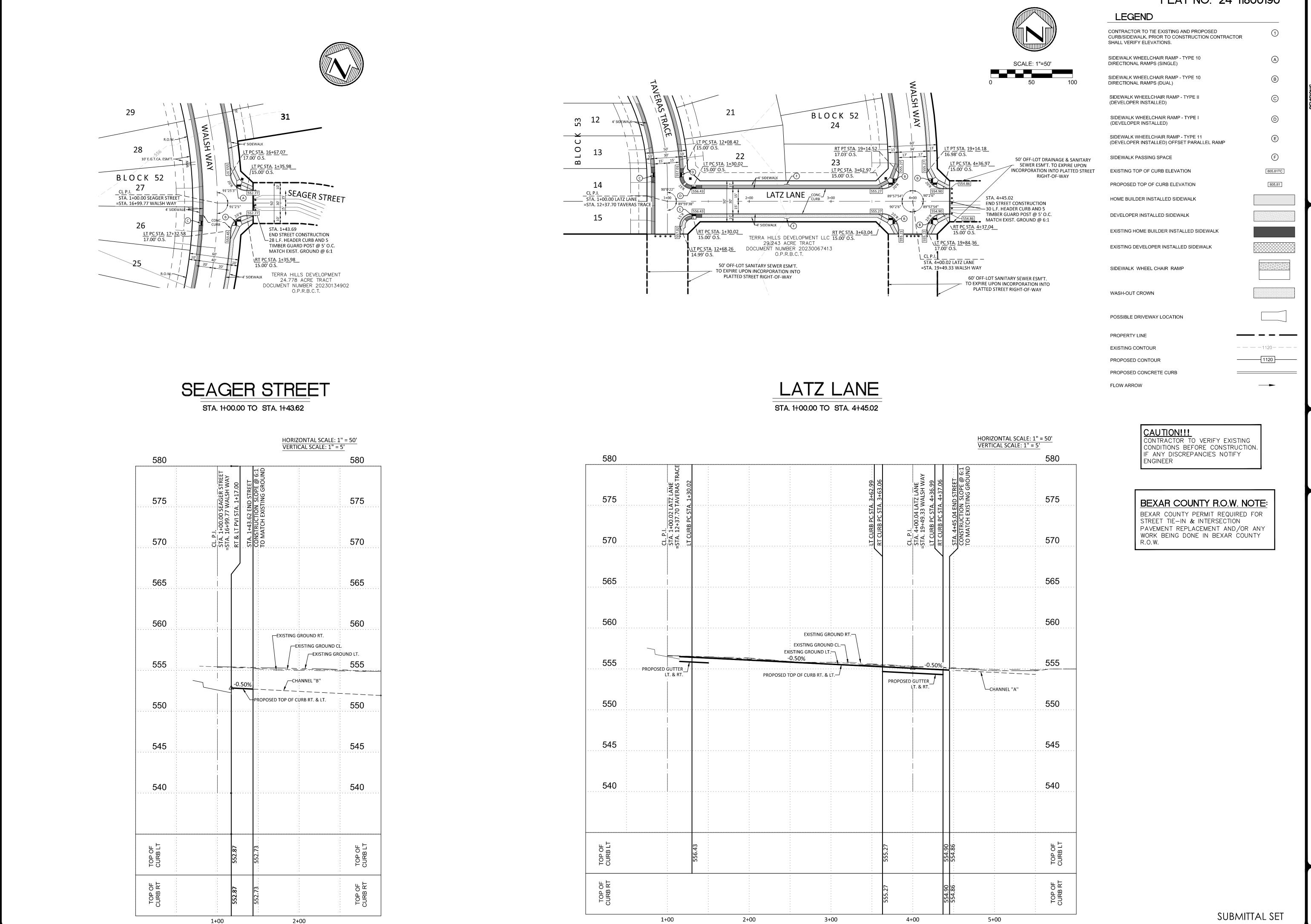
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SHEET

C4.9



PLAT NO. 24-11800190

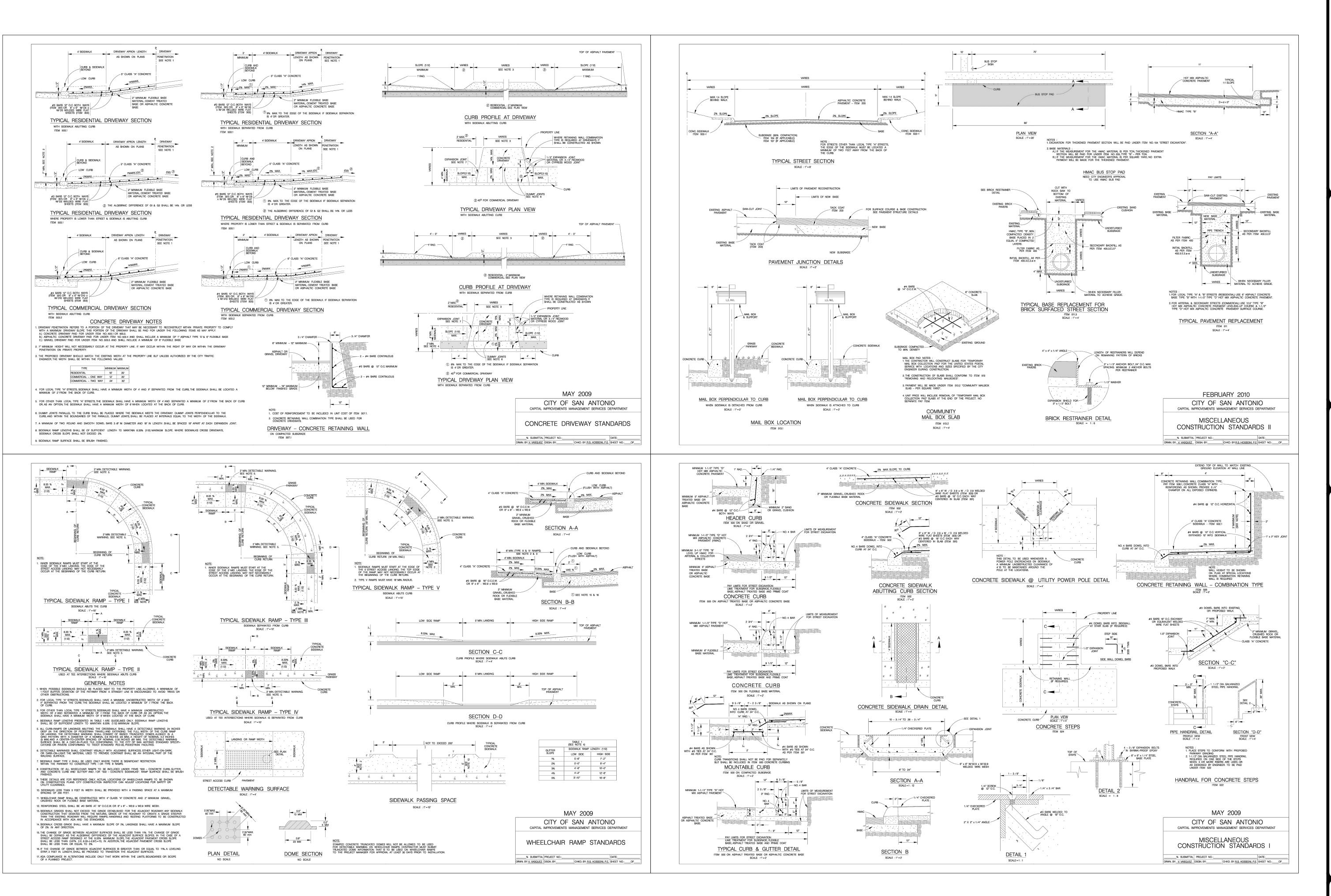
ET PLAN & PROFILE
R STREET & LATZ LANE

PAUL LANDA, JR.

100182

SHEET

C4.10



NO. DATE
DESCRIPTION

PROJ. # DGN. BY: CHKD. BY: L

Planners *

Planners *

In Ramirez Engineers, LLC *

NEERING F-5297/SURVEYING: F-101315C ***

RRON PATH, SUITE 100 TEL: (210) 698-5051 ***

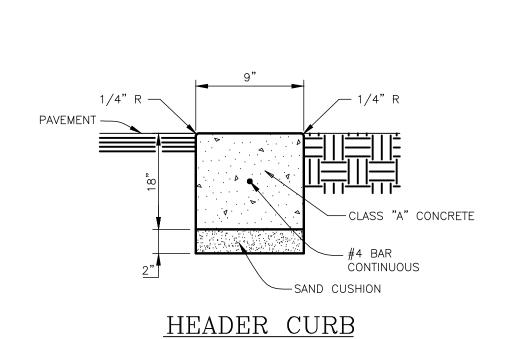
**TEXAS 78249 FAX: (210) 698-5085

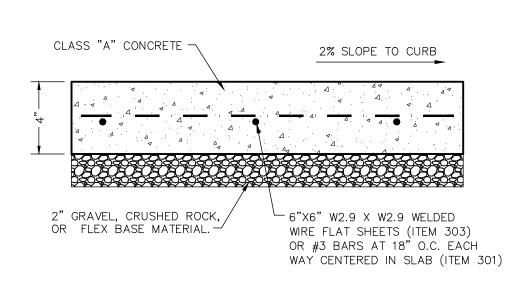


STREET PLAN & PROFILE
STANDARD DETAILS

SHEET

PAVEMENT JUNCTION DETAILS N.T.S.





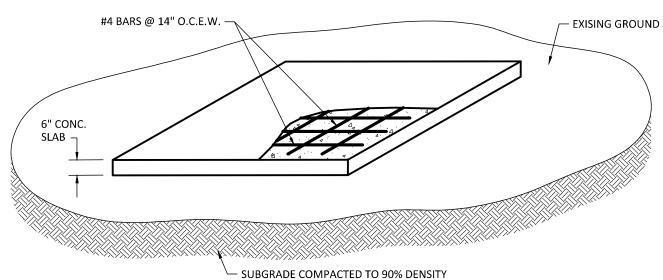
CONCRETE SIDEWALK DETAIL

CONCRETE DRIVEWAY NOTES:

1. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL — ONE WAY	12'	20'
COMMERCIAL — TWO WAY	24'	30'

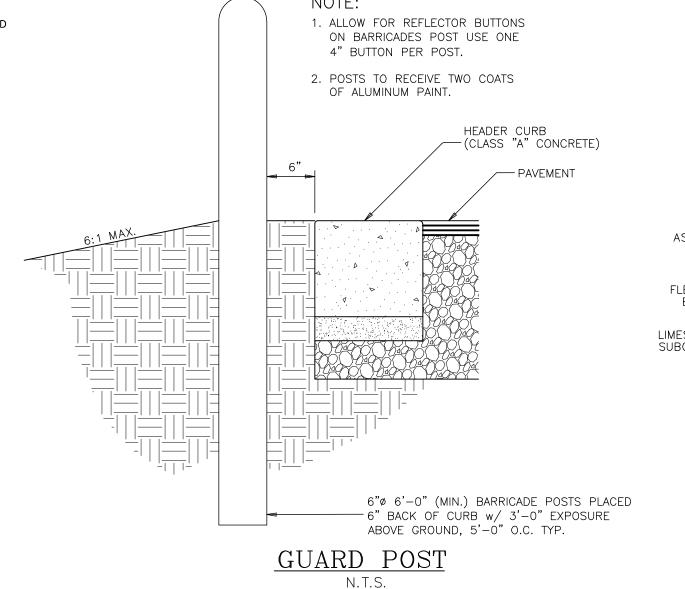
- 2. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
- 3. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- 4. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- 5. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
- 6. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%...
- 7. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.

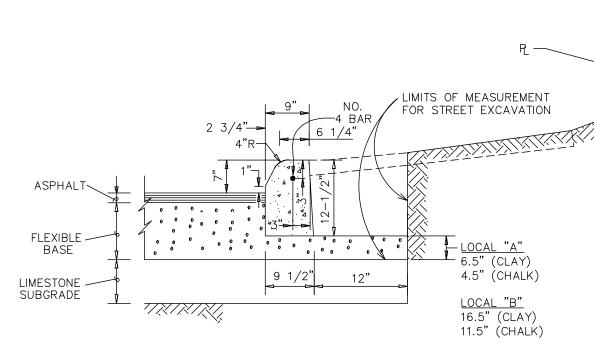


NOTES:

- THE CONTRACTOR WILL CONSTRUCT CONCRETE SLABS FOR "TEMPORARY MAIL BOX COLLECTION PAD" FOR THE UNITED STATES POSTAL SERVICE AT THE LOCATIONS AND SIZES SPECIFIED BY THE CITY ENGINEER DURING CONSTRUCTION.
- THE CONSTRUCTION OF SLABS SHALL CONFORM TO ITEM NO. 502 "CONCRETE SIDEWALKS AND DRIVEWAYS"
- 3) PAYMENT WILL BE MADE UNDER ITEM NO. 502-2 DRIVEWAYS PER SQUARE YARD.
- UNIT PRICE WILL INCLUDE REMOVAL OF "TEMPORARY MAIL BOX COLLECTION PAD" SLABS AT THE END OF THE PROJECT. NO SEPARATE PAY ITEM.

TEMPORARY MAIL BOX COLLECTION PAD





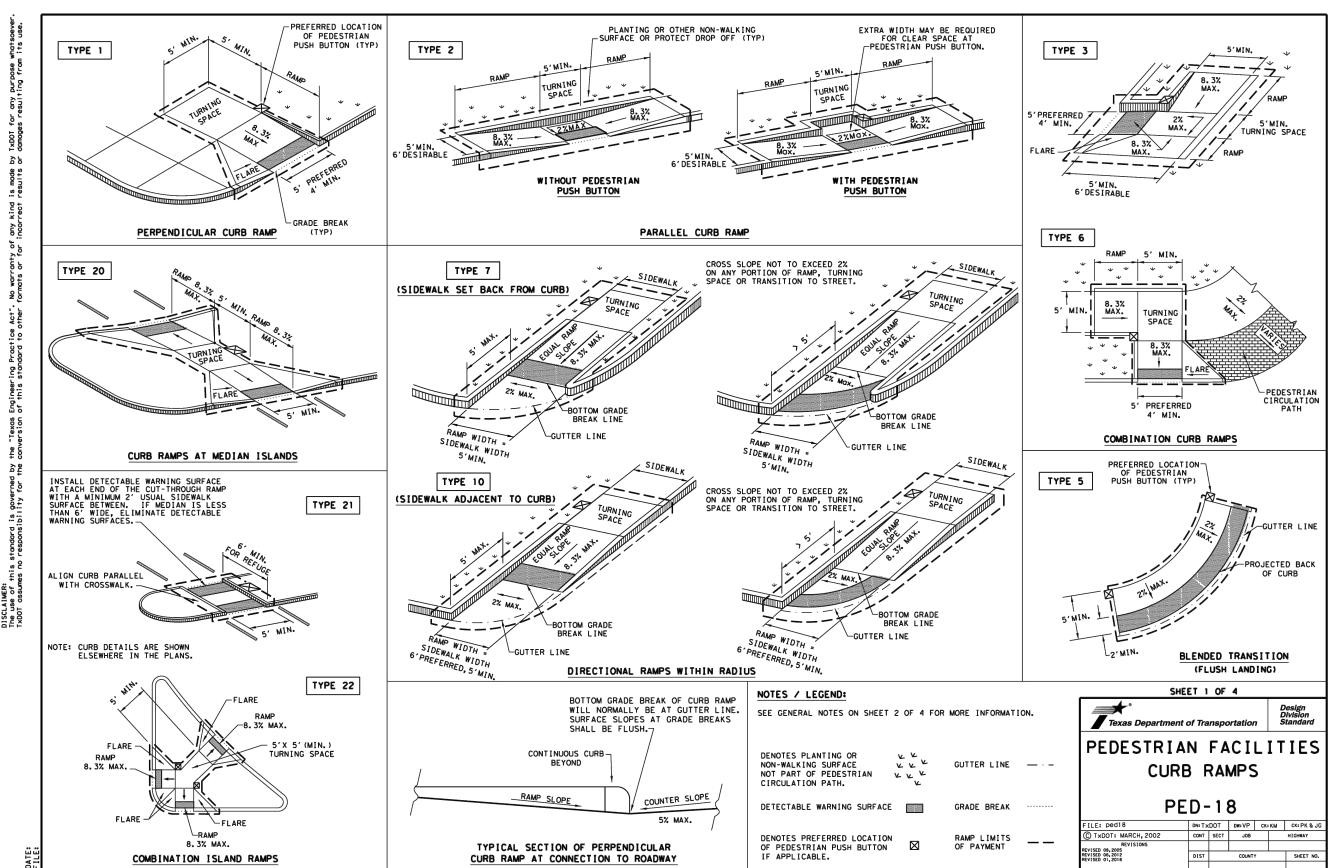
CURB NOTE: THE COST OF BASE MATERIAL UNDER & BEHIND THE CURB SHALL BE INCLUDED IN THE COST OF THE CURB.

MACHINE LAID CURB N.T.S. ITEM 500



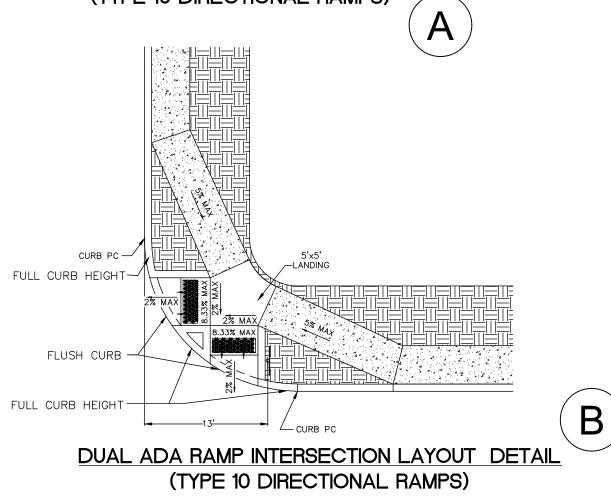
ETAIL

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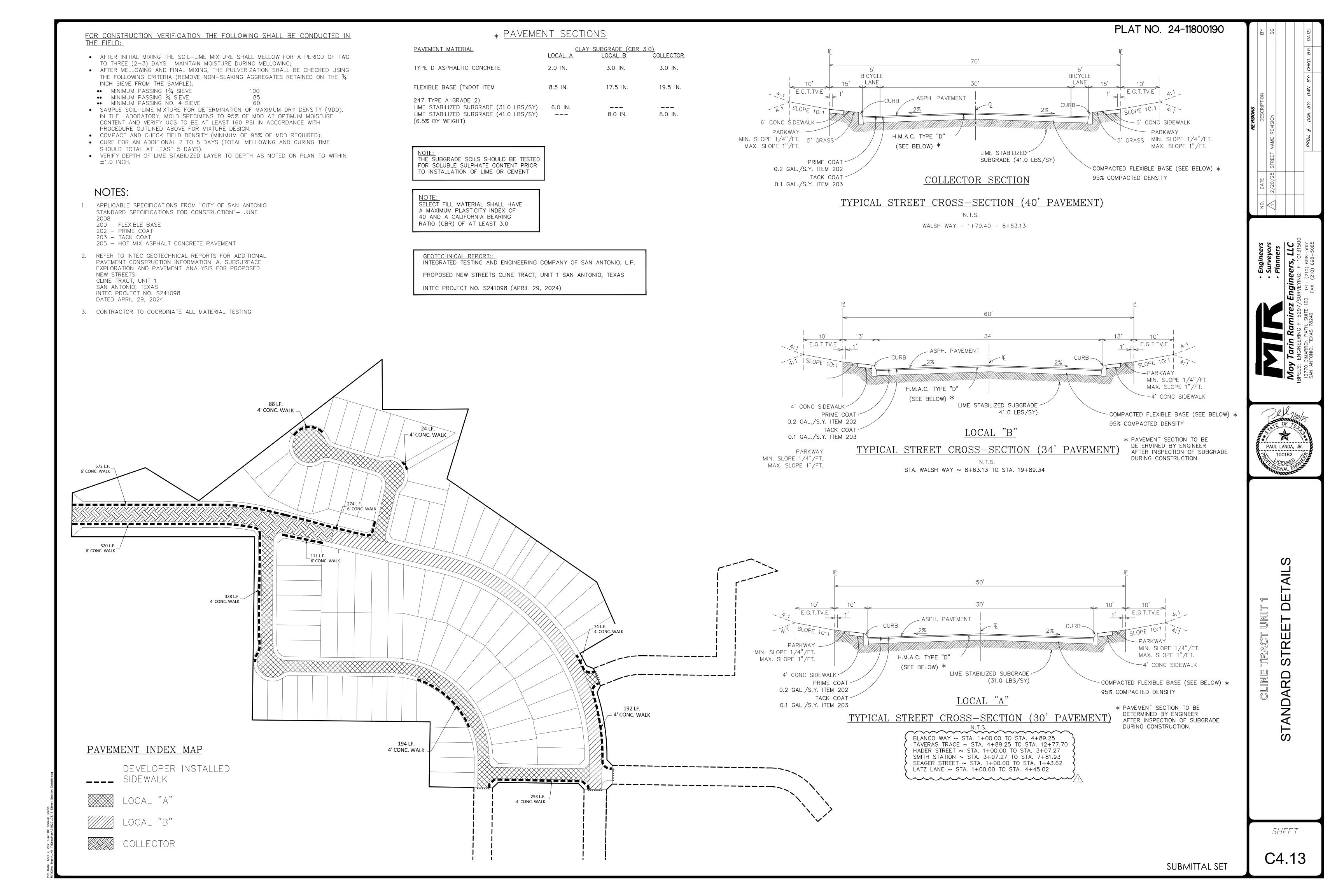
FULL CURB HEIGHT -FULL CURB HEIGHT -

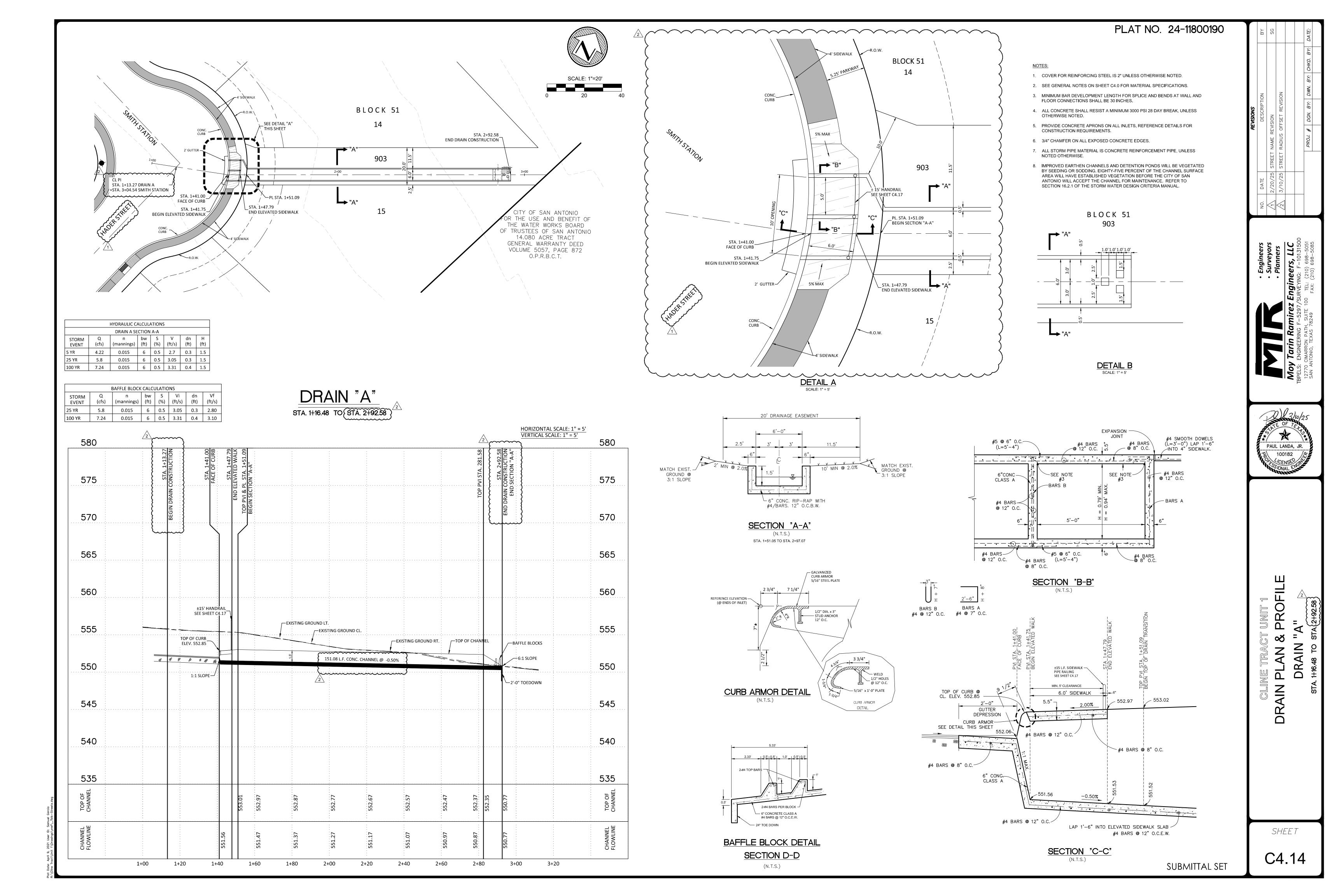
SINGLE ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS)

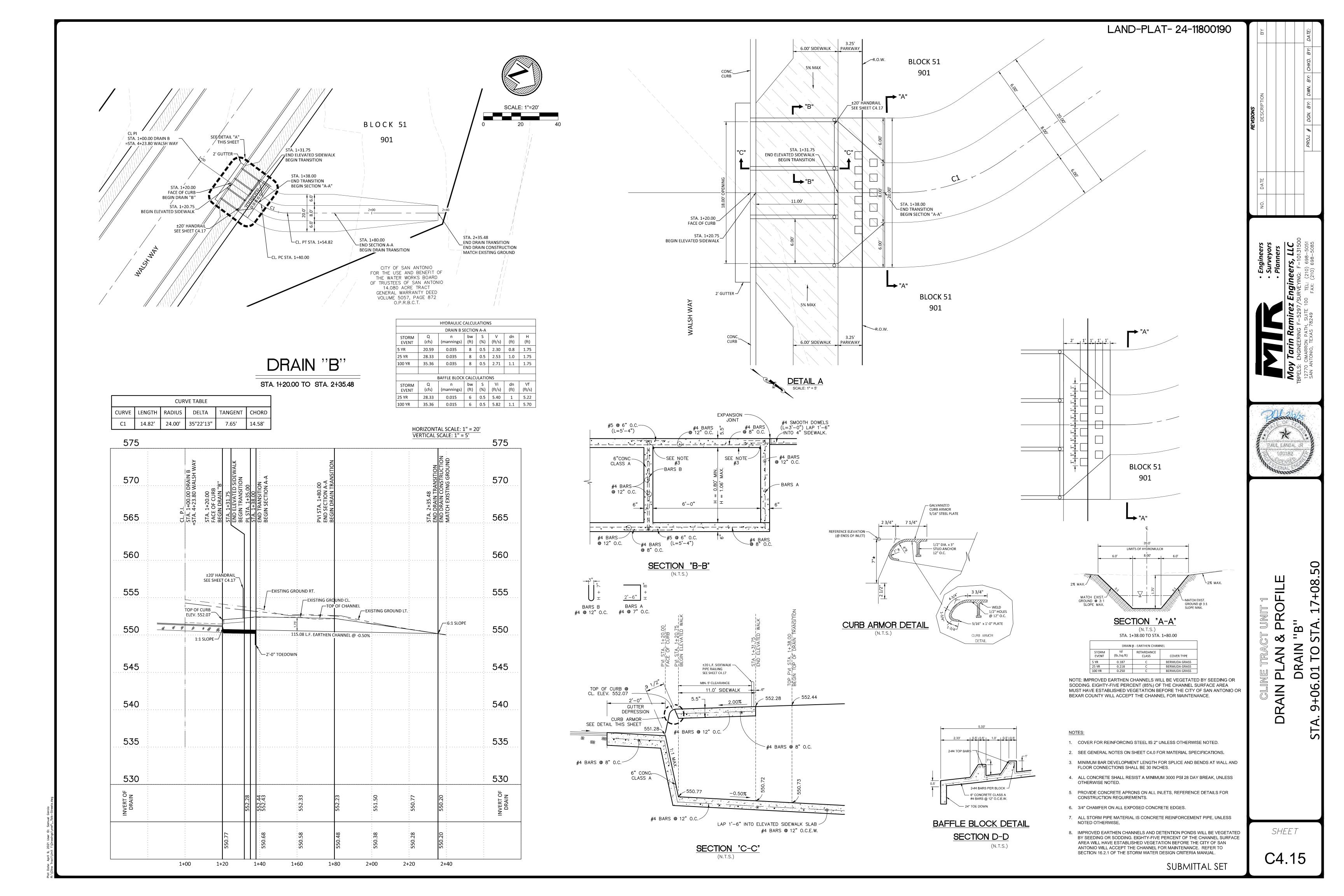


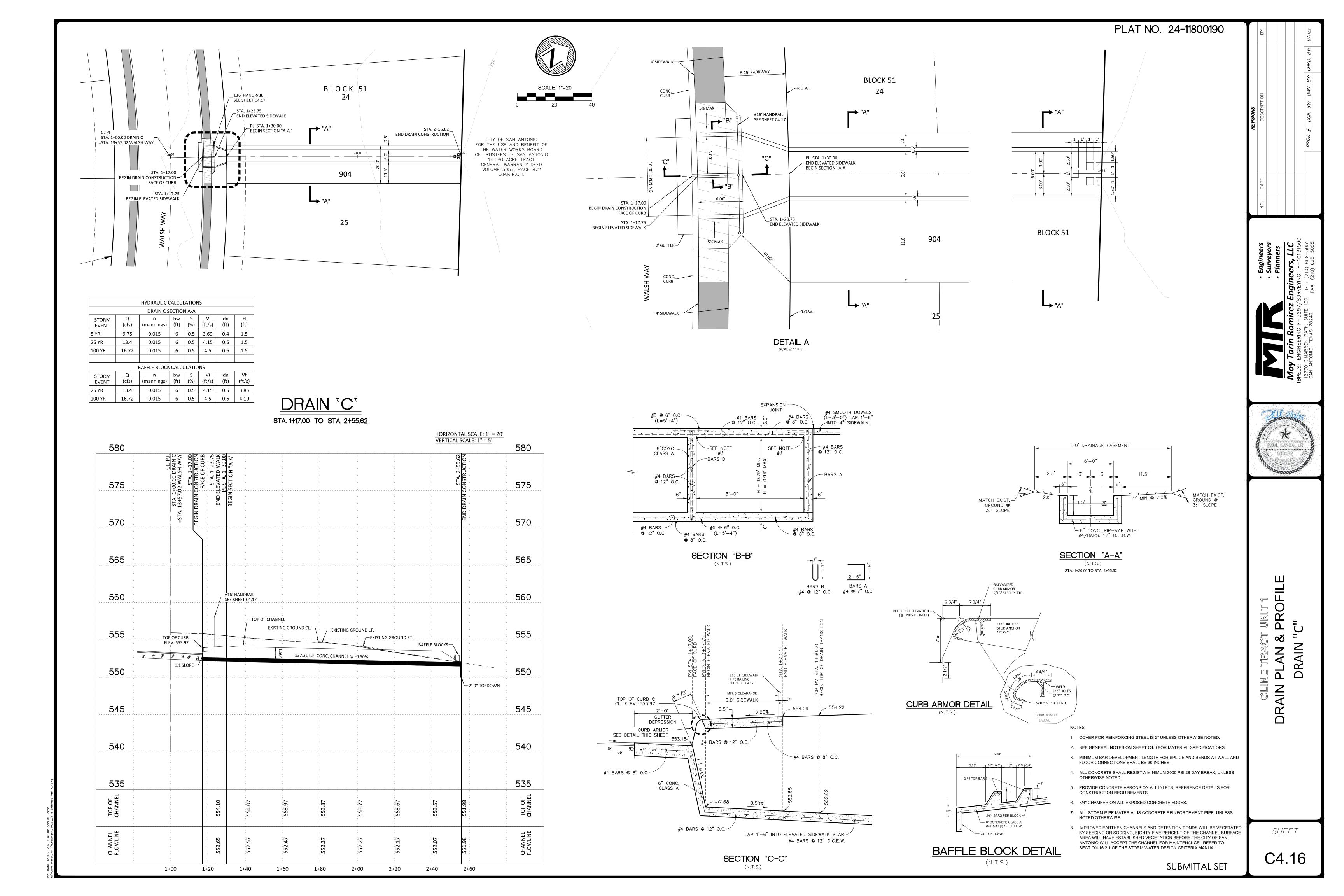
C4.12

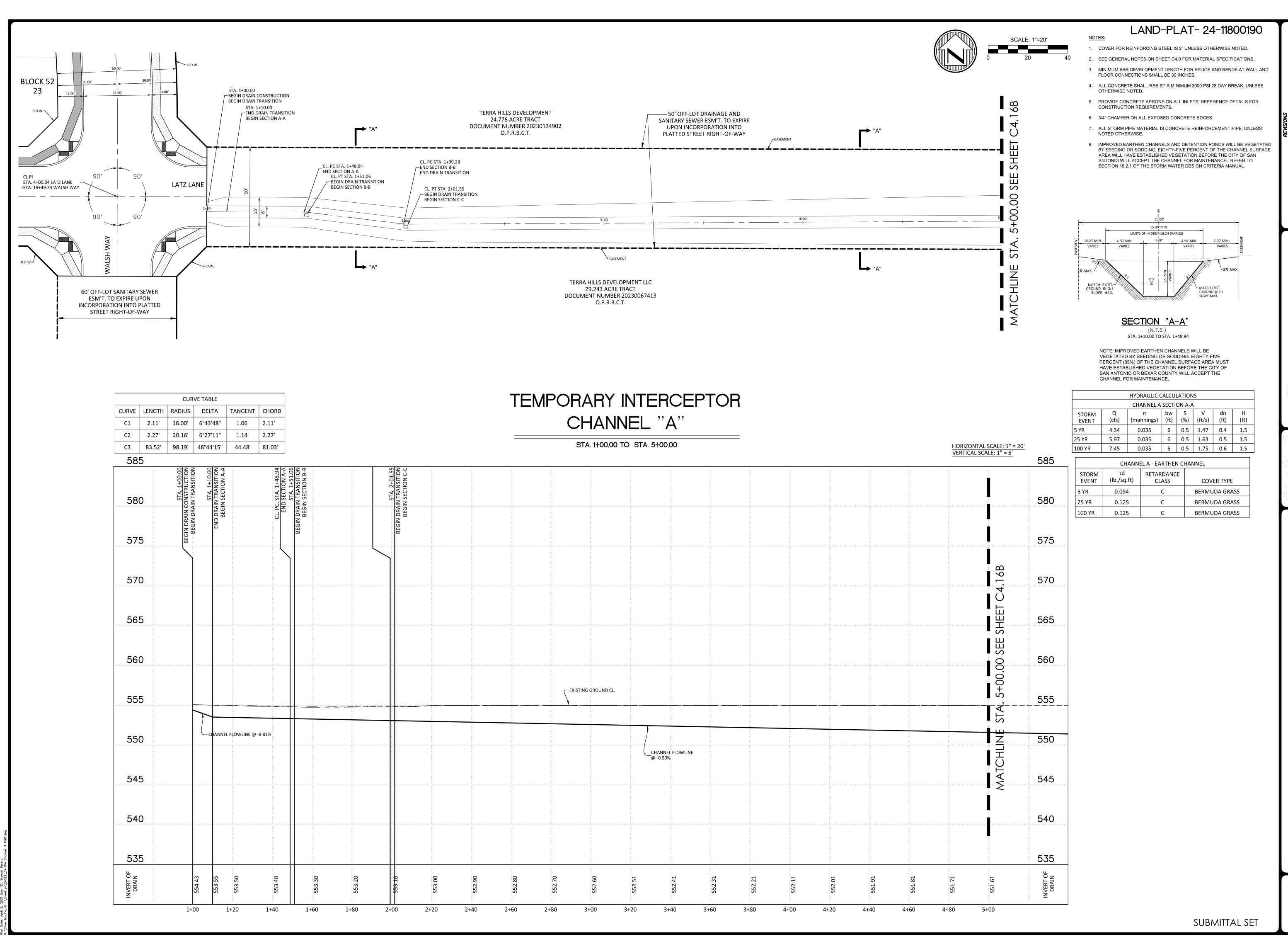
SHEET











NO. DATE

DESCRIPTION

PROJ. # DGN. BY: DWN. BY: CHKD. BY: DATE

Aloy Tarin Ramirez Engineers

Tels: Engineering F-5297/Surveying: F2770 CIMARRON PATH, SUITE 100 TEL: (210) 6
AN ANTONIO, TEXAS 78249 FAX: (210) 68



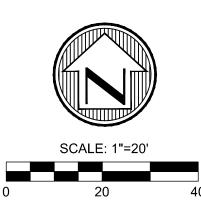
DRAIN PLAN & PROFILE
TEMPORARY INTERCEPTOR CHANNEL "A"
STA. 1+00.00 TO STA. 5+00.00

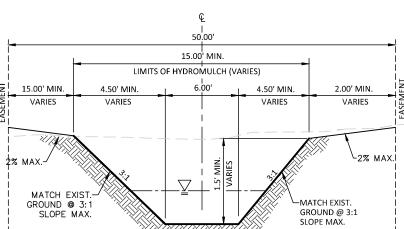
SHEET

C4.16A

NOTES:

- 1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
- 2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
- 3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
 - 4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
 - 5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR
 - CONSTRUCTION REQUIREMENTS.
 - 6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
- 7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
- 8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.



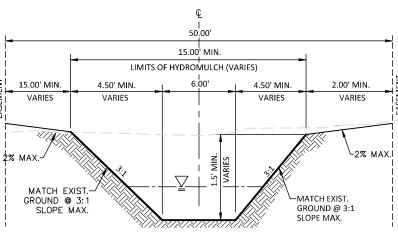


SECTION "A-A"

VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO OR BEXAR COUNTY WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

HYDRAULIC CALCULATIONS									
	CHANNEL A SECTION A-A								
STORM EVENT	Q (cfs)	n (mannings)	bw (ft)	S (%)	V (ft/s)	dn (ft)	H (ft		
5 YR	4.34	0.035	6	0.5	1.47	0.4	1.5		
25 YR	5.97	0.035	6	0.5	1.63	0.5	1.5		
100 YR	7.45	0.035	6	0.5	1.75	0.6	1.5		

	CHANNE	EL A - EARTHEN C	HANNEL
STORM EVENT	τd (lb./sq.ft)	RETARDANCE CLASS	COVER TYPE
5 YR	0.094	С	BERMUDA GRASS
25 YR	0.125	С	BERMUDA GRASS
100 YR	0.125	С	BERMUDA GRASS



(N.T.S.) STA. 1+10.00 TO STA. 1+48.94

NOTE: IMPROVED EARTHEN CHANNELS WILL BE

HYDRAULIC CALCULATIONS									
CHANNEL A SECTION A-A									
STORM EVENT	Q (cfs)	n (mannings)	bw (ft)	S (%)	V (ft/s)	dn (ft)	H (ft)		
5 YR	4.34	0.035	6	0.5	1.47	0.4	1.5		
25 YR	5.97	0.035	6	0.5	1.63	0.5	1.5		
100 YR	7.45	0.035	6	0.5	1.75	0.6	1.5		

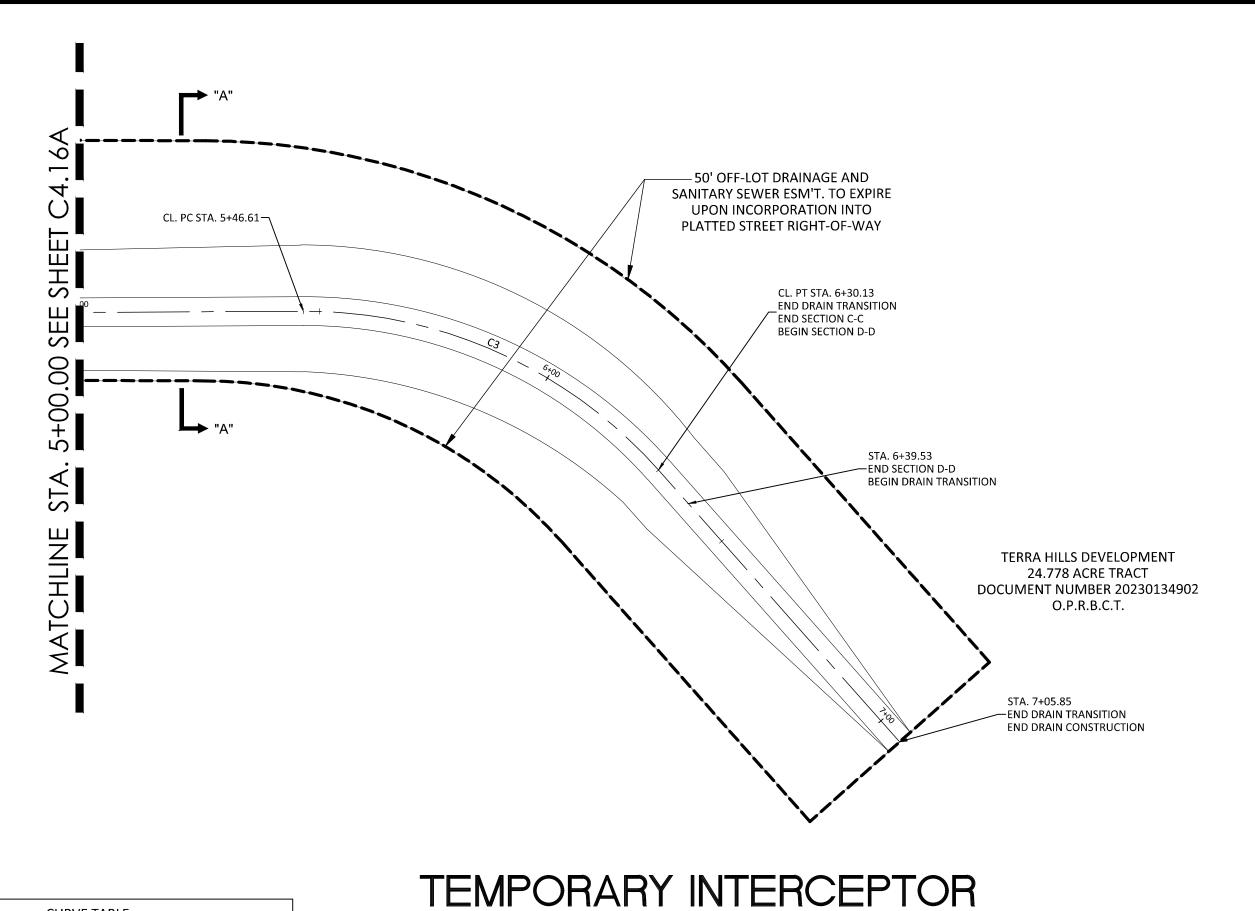
CHANNEL A - EARTHEN CHANNEL									
STORM EVENT	τd (lb./sq.ft)	RETARDANCE CLASS	COVER TYPE						
5 YR	0.094	С	BERMUDA GRASS						
25 YR	0.125	С	BERMUDA GRASS						
100 YR	0.125	С	BERMUDA GRASS						



TEMPORARY INTERCEPTOR CHANNEL STA. 5+00.00 TO STA. 7+05.85 DRAIN PLAN & PROFILE

SHEET

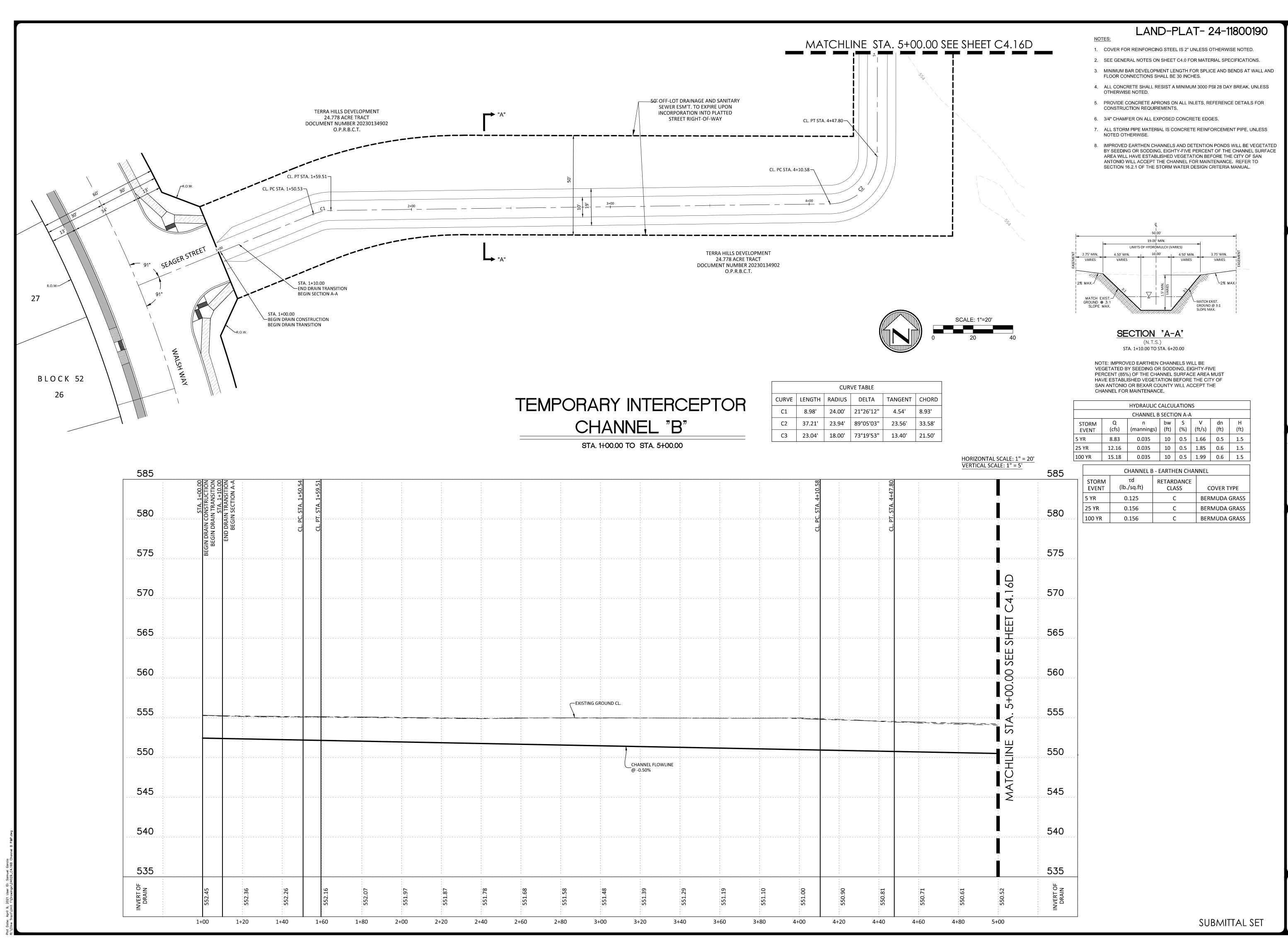
C4.16B



CURVE TABLE CURVE | LENGTH | RADIUS | DELTA | TANGENT | CHORD C1 | 2.11' | 18.00' | 6°43'48" | 1.06' | 2.11' C2 | 2.27' | 20.16' | 6°27'11" | 1.14' | 2.27'

IEMPONANTIMIE	
CHANNEL	"'A
STA. 5+00.00 TO STA. 7	+05.85

C3	83.52'	98.19'	48°44'15"	44.48'	81.03'									HO VEI	RIZONTAL SCALE: 1" = 20' RTICAL SCALE: 1" = 5'	
58	50 :		<u> </u>	<u> </u>	: 6	<u> </u>	· · · · · · · · · · · · · · · · · · ·	······································	. E Z	ب <u>م س</u>	0-0 0 N	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	85 NO	N Q	580
57	'5		:		TI PC STA 5+46				STA. 6+30.	ECTION ECTION TA: 6+3	END SECTION DRAIN TRANSI			STA. 7+05.8 DRAIN TRANSITIC	END DRAIN CONSTRUCTION MATCH EXISTING GROUND	575
57	0								END		BEGIN			END	END DRA MATCH	570
56	5	C4.16A														565
56	0	E SHEET														560
55	5	00.00 SEE					EXIST	FING GROUND CL.			······					555
55	0	STA. 5+0	:			CHA @ -0	NNEL FLOWLINE									550
54	-5	MATCHLINE														545
54	-0	MATO	: 													540
53	5															535
53	50				<u>:</u>									: : :		530
INVERT OF DRAIN			551.61	551.52	551.42	551.32	551.22	551.12	551.02		550.92	550.82	550.72	550.62		INVERT OF DRAIN



PROJ. # DGN. BY: DWN. BY: DA

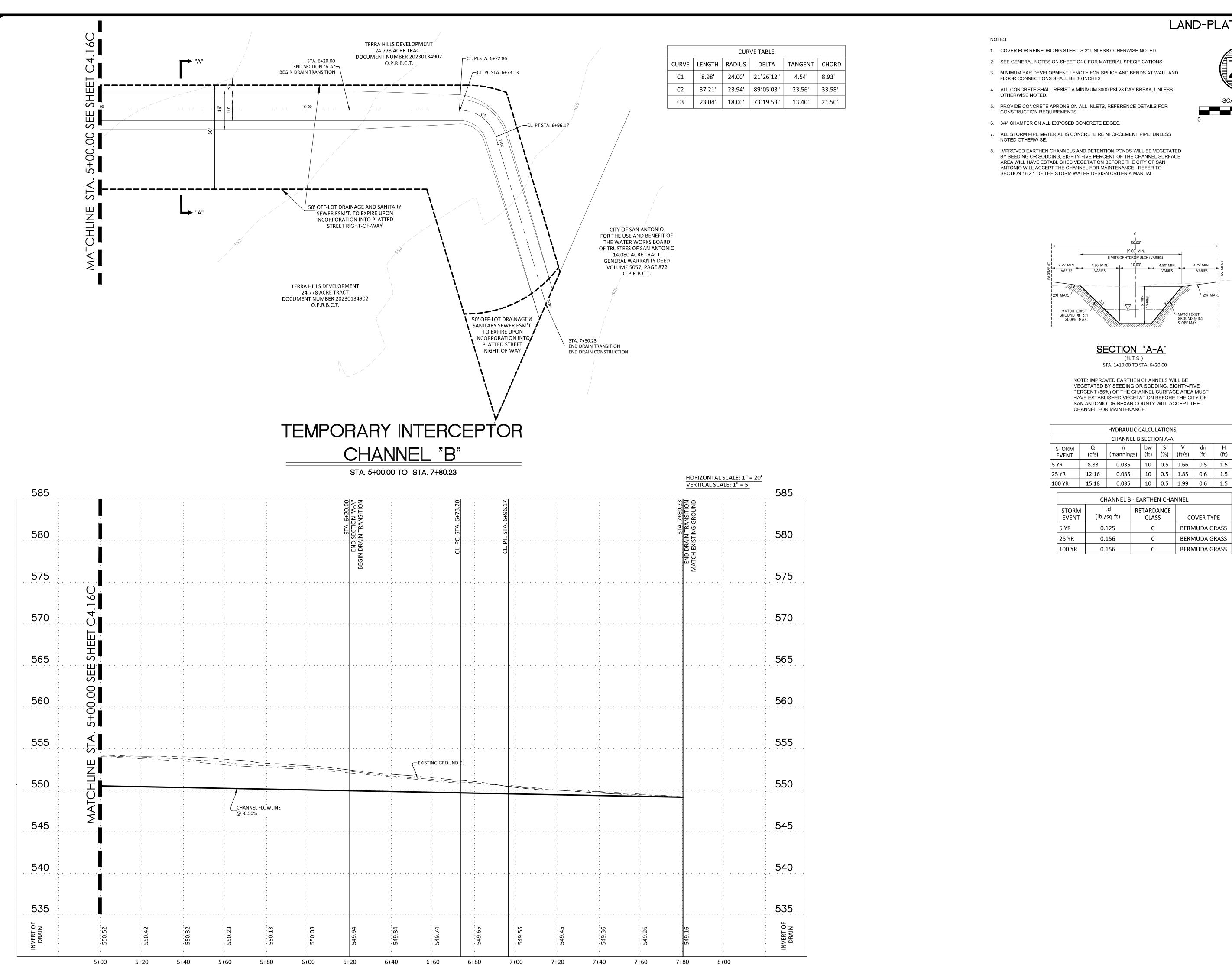
OY Tarin Ramirez Enginee S: ENGINEERING F-5297/SURVEYING: F 70 CIMARRON PATH, SUITE 100 TEL: (210) ANTONIO, TEXAS 78249 FAX: (210)



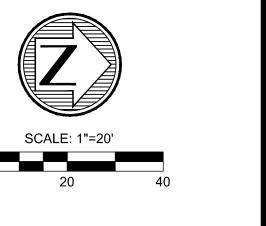
DRAIN PLAN & PROFILE
TEMPORARY INTERCEPTOR CHANNEL "B"
STA. 1+00.00 TO STA. 5+00.00

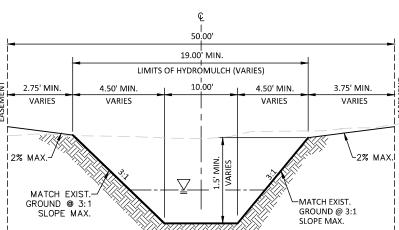
SHEET

C4.16C



LAND-PLAT- 24-11800190

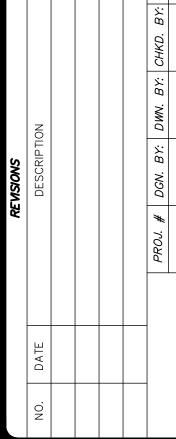




VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO OR BEXAR COUNTY WILL ACCEPT THE

	HYDRAULIC CALCULATIONS							
			CHANNEL B	SECTION	A-A NC			
STOF		Q (cfs)	n (mannings)	bw (ft)	S (%)	V (ft/s)	dn (ft)	H (ft)
5 YR		8.83	0.035	10	0.5	1.66	0.5	1.5
25 YR		12.16	0.035	10	0.5	1.85	0.6	1.5
100 YF	₹	15.18	0.035	10	0.5	1.99	0.6	1.5

CHANNEL B - EARTHEN CHANNEL									
STORM EVENT	τd (lb./sq.ft)	RETARDANCE CLASS	COVER TYPE						
5 YR	0.125	С	BERMUDA GRASS						
25 YR	0.156	С	BERMUDA GRASS						
100 VB	0.156	_	DEDIALIDA CDASS						

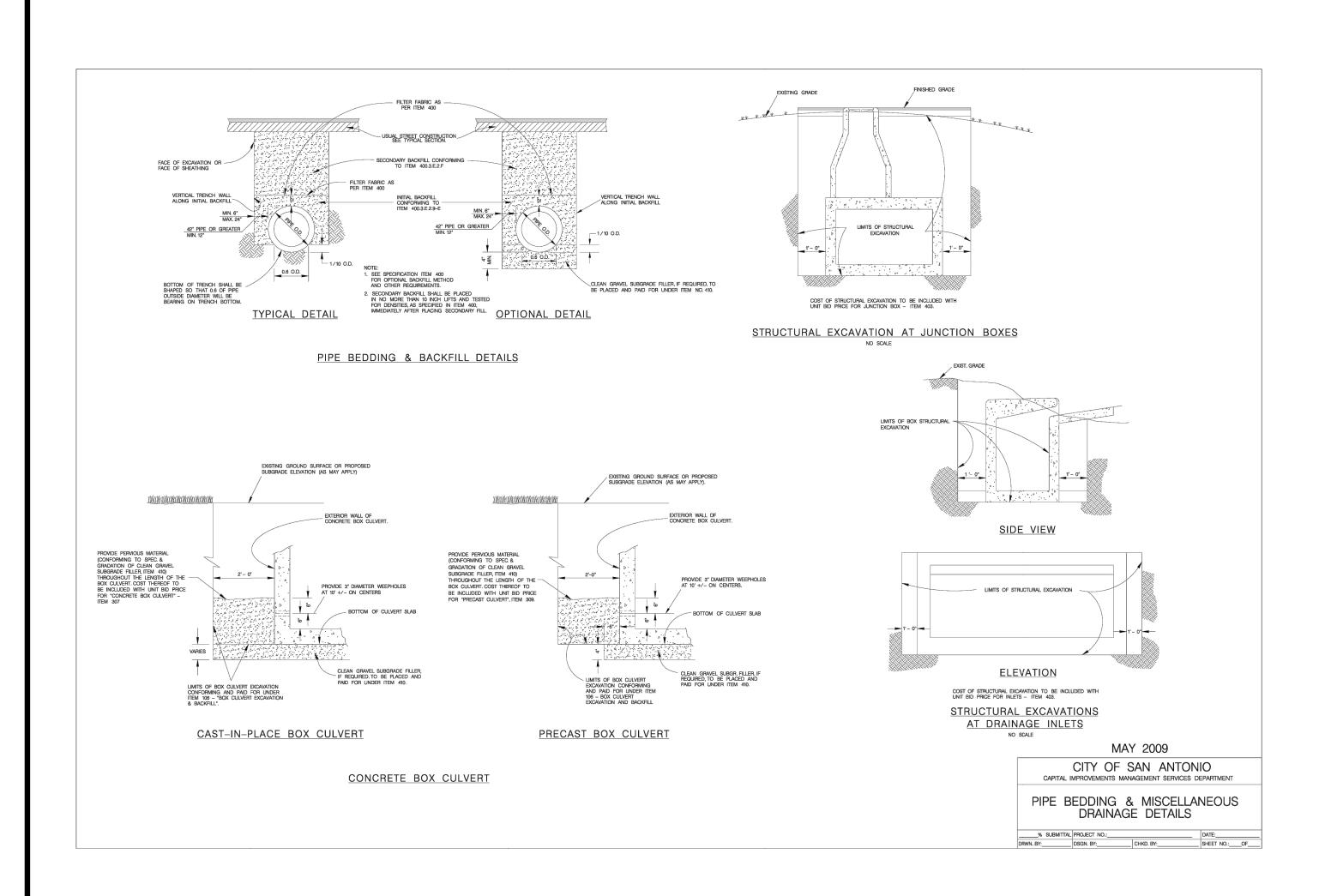


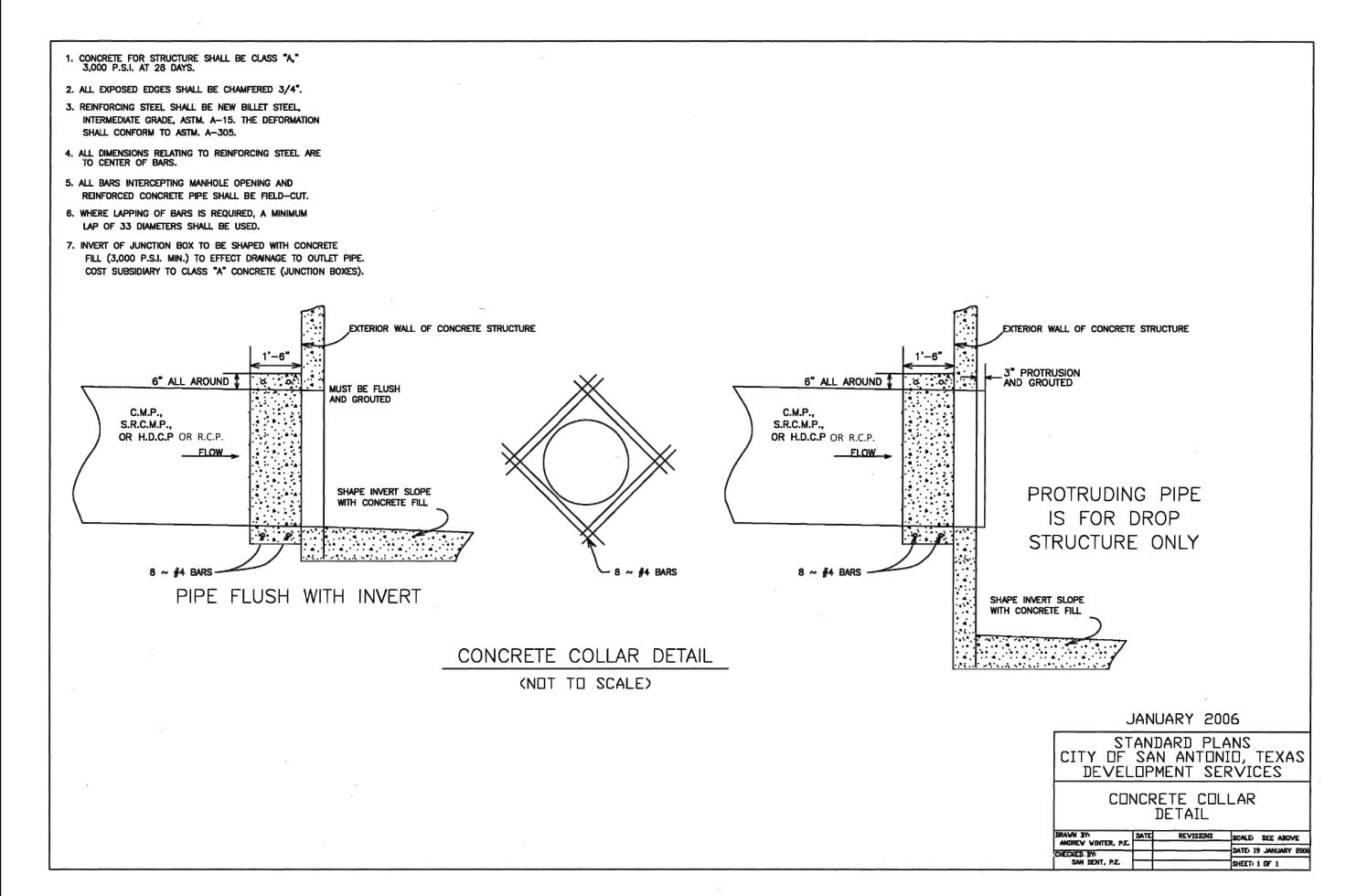


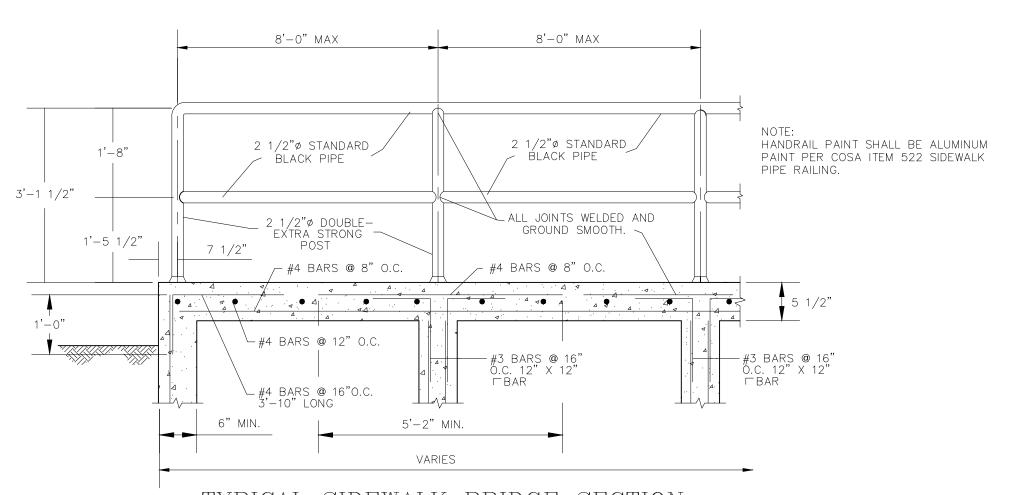
SHEET

SUBMITTAL SET

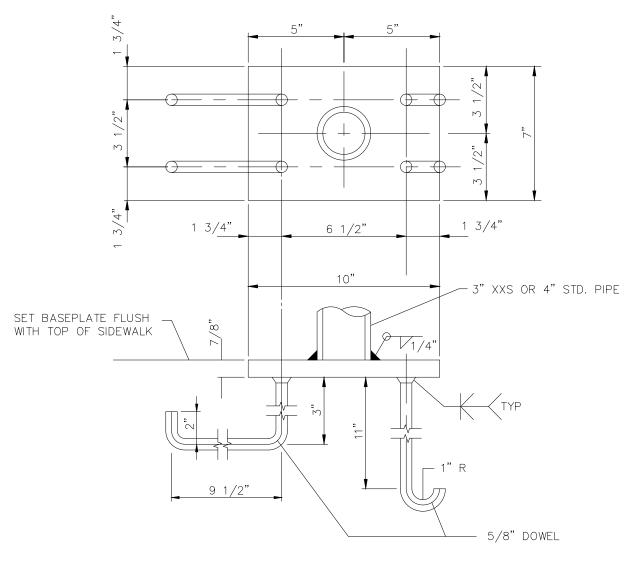
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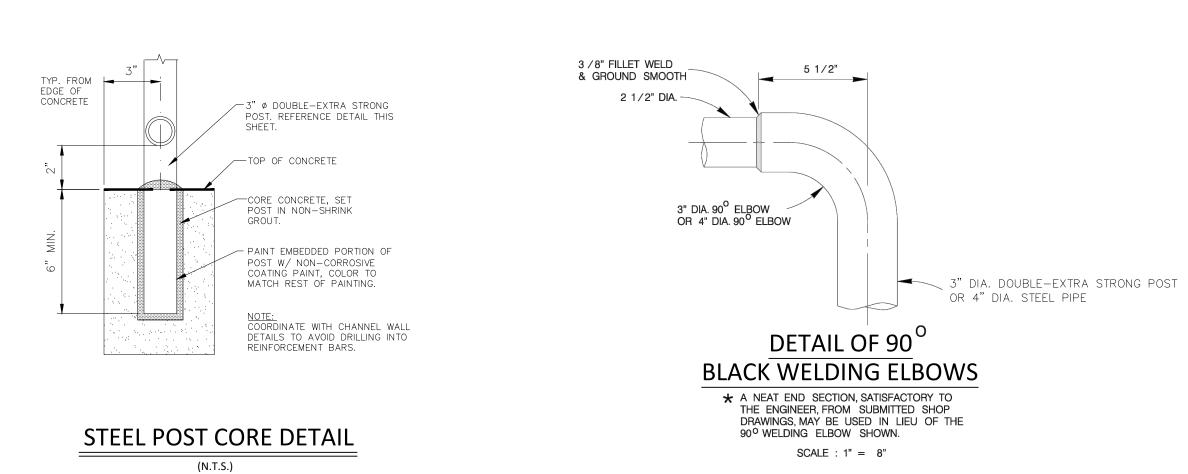


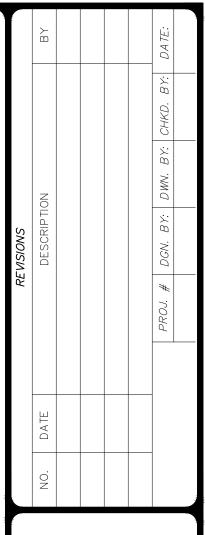




PIPE ANCHORAGE DETAILS

N.T.S.









DRAINAGE DETAILS

SHEET

C4.17

REINFORCING STEEL (FOR Hu=11")

CLASS "A" CONCRETE QUANTITIES (FOR Hu = 11")

10' INLET

(3' - |

N 50 0 (INLET) 10" =

(INLET) 10' - 10" (EXT.) 10' - 10"

(1' - 4" EXT.) 2' - 0"

(3' - 8" INLET) 4' - 4"

(5' - 0" INLET) 5' - 8"

BAR G

(UPPER UNIT)

MAX. SLOPE 50:1 FROM BACK TO FRONT OF INLET

RING & COVER --

(EXT.) 10' – 10"

TOTAL WEIGHT

UPPER UNIT (ONLY)

10' X 5'-0" CURB INLET

± (INLET) 10' − 4"

(EXT.) 10' – 4"

(1'- 4"EXT.) 1'~ 10" (3' - 8" INLET) 4' - 2"

BAR F (UPPER UNIT)

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)

& INLET EXTENSION STANDARDS

% SUBMITTAL PROJECT NO.:_____

SHEET 2 OF 3

DRWN. BY:V, VASQUEZ DSGN. BY:L.E. MALTOS, P.E. CHKD. BY:R.S. HOSSEINI, P.E. SHEET NO.:___OF___

3"

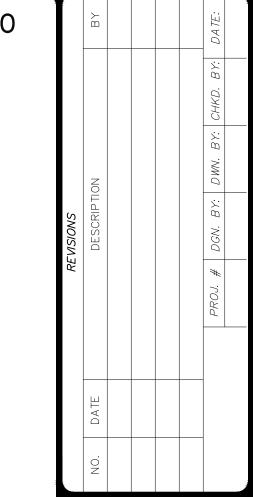
(5'- 0" (NLET) 5'- 6"

BARS B

1 1 1

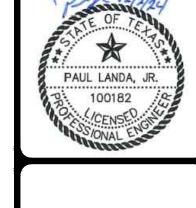
BAR L

(UPPER UNIT)







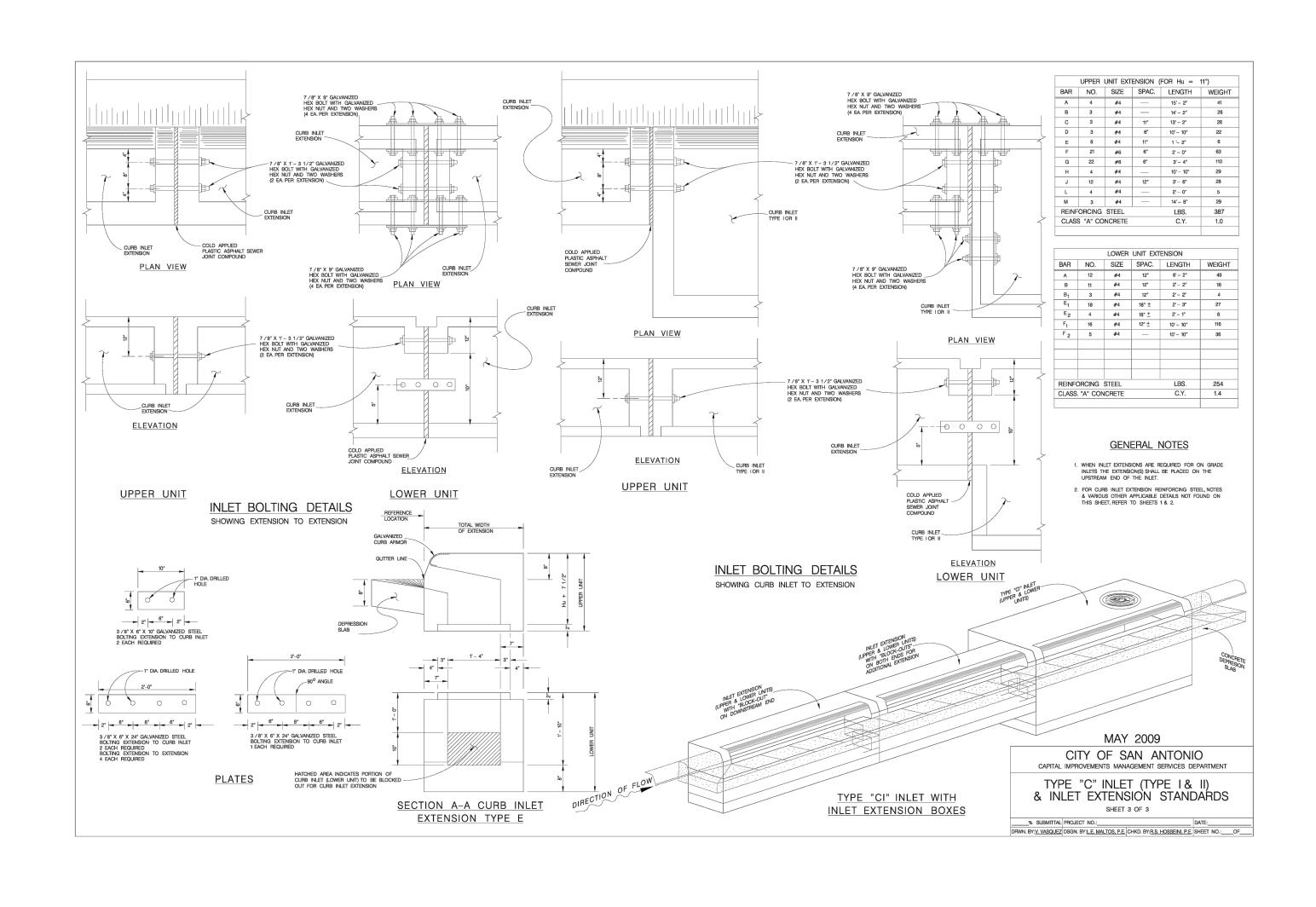


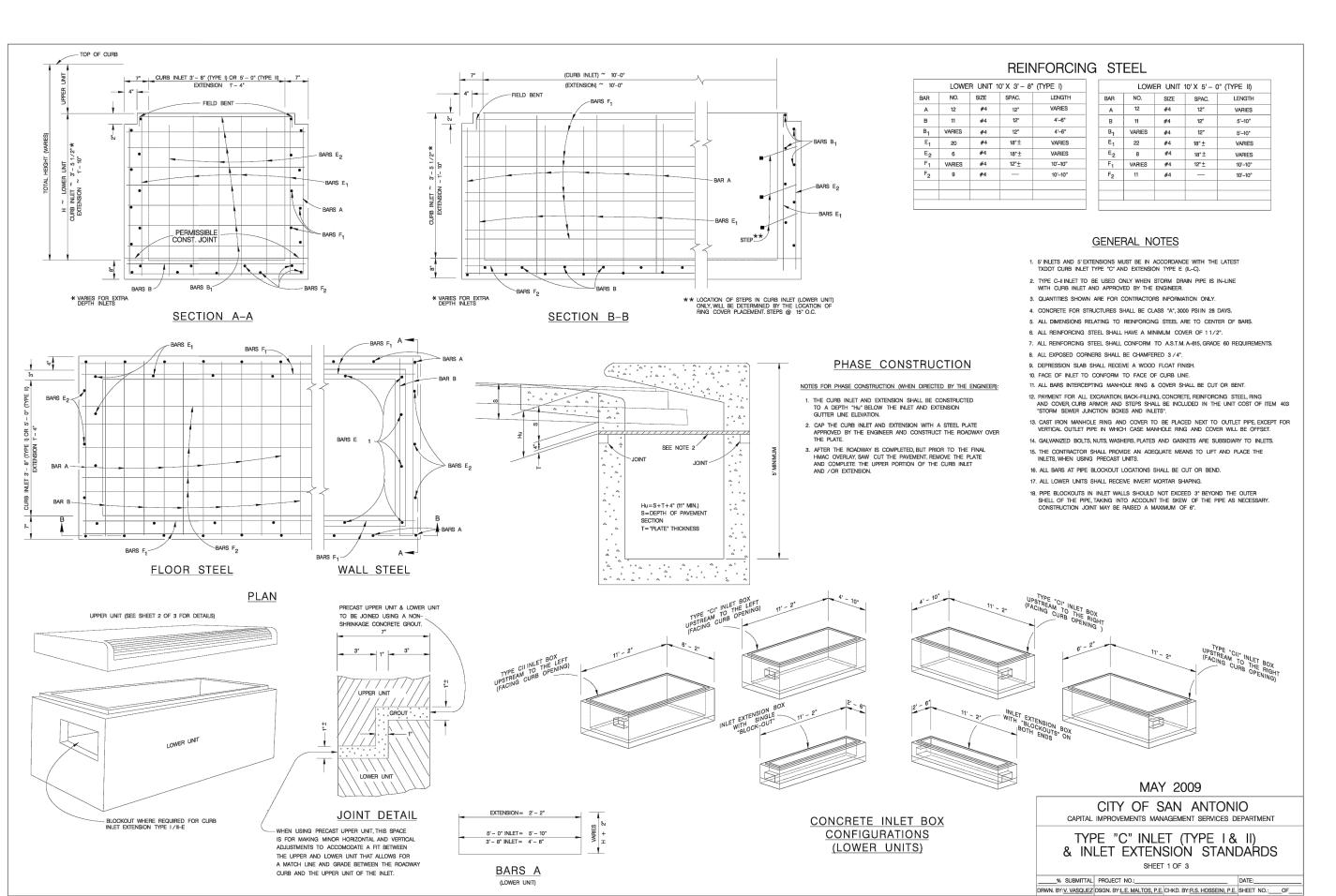


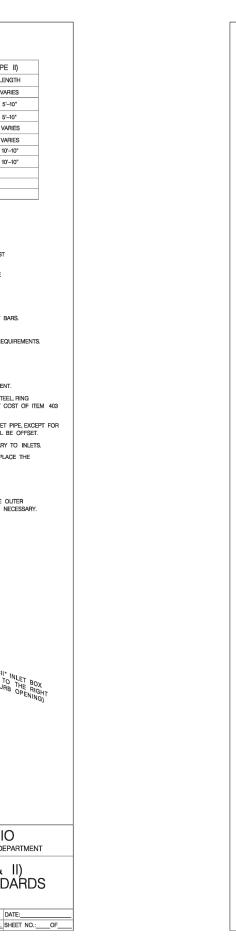


SHEET

C4.18







BARS A BARS B

DEPRESSION SLAB

TOTAL WIDTH OF CURB INLET OR EXTENSION

1'- 4", 3'- 6" OR 5'- 0"

SECTION A - A

BARS F

CONCRETE INLET LID

CONFIGURATIONS

(UPPER UNITS)

SECTION A-A

BARS B

4" -

BARS F

> BARS A BARS B **BACKWALL**

3'- 0" FLOW

END WALL

GALVANIZED CURB ARMOR ...

DIA. = 23 1/2"

DIA. = 23 3 /4"

MANHOLE LID & RING DETAIL (ITEM 409)

NOTES FOR MANHOLE LID AND RING

FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".

CASTING NUMBER AND MANUFACTURER'S I.D. ON LID
AND RING

4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.

THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

5 /16" X 1' - 0" PLATE

3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.

SEE SHEET 1 OF 3 FOR GENERAL NOTES.

TYPICAL CURB LINE

2'-0" 2 3 /4" 7 1 /4" /

INLET OPENING DETAIL

26" MAX. DIA.

• • • • • • •

#4 DIA. CURB BAR

CURB LINE ~

BARS M

BARS J-

O.P.R.B.C.T.

PLAT NO. 24-11800190

GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3, SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 799. HUD 799 REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 799 COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 799.

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING. WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD—TEX—113—E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

6. DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

7. <u>ROCK</u>

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES)

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER. ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR FOR GEOTECHNICAL ENGINEER TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12—IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.

3. FILLS SHALL BE TESTED A MAXIMUM OF EACH TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER, OF FILL.

4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6—IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

OTES:

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.18' ABOVE CURB ELEVATION.

CONTRACTOR TO VERIFY 1.5% MINIMUM SLOPE ON LOTS AND REGRADE TO MEET MINIMUM PROPOSED ELEVATIONS IF NECESSARY.

CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10" AND LARGER OUTSIDE OF THESE AREAS.

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2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM THE SITE.

3. SCARIFYING THE AREA TO BE FILLED ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING. WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

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PROPOSED STRUCTURES.

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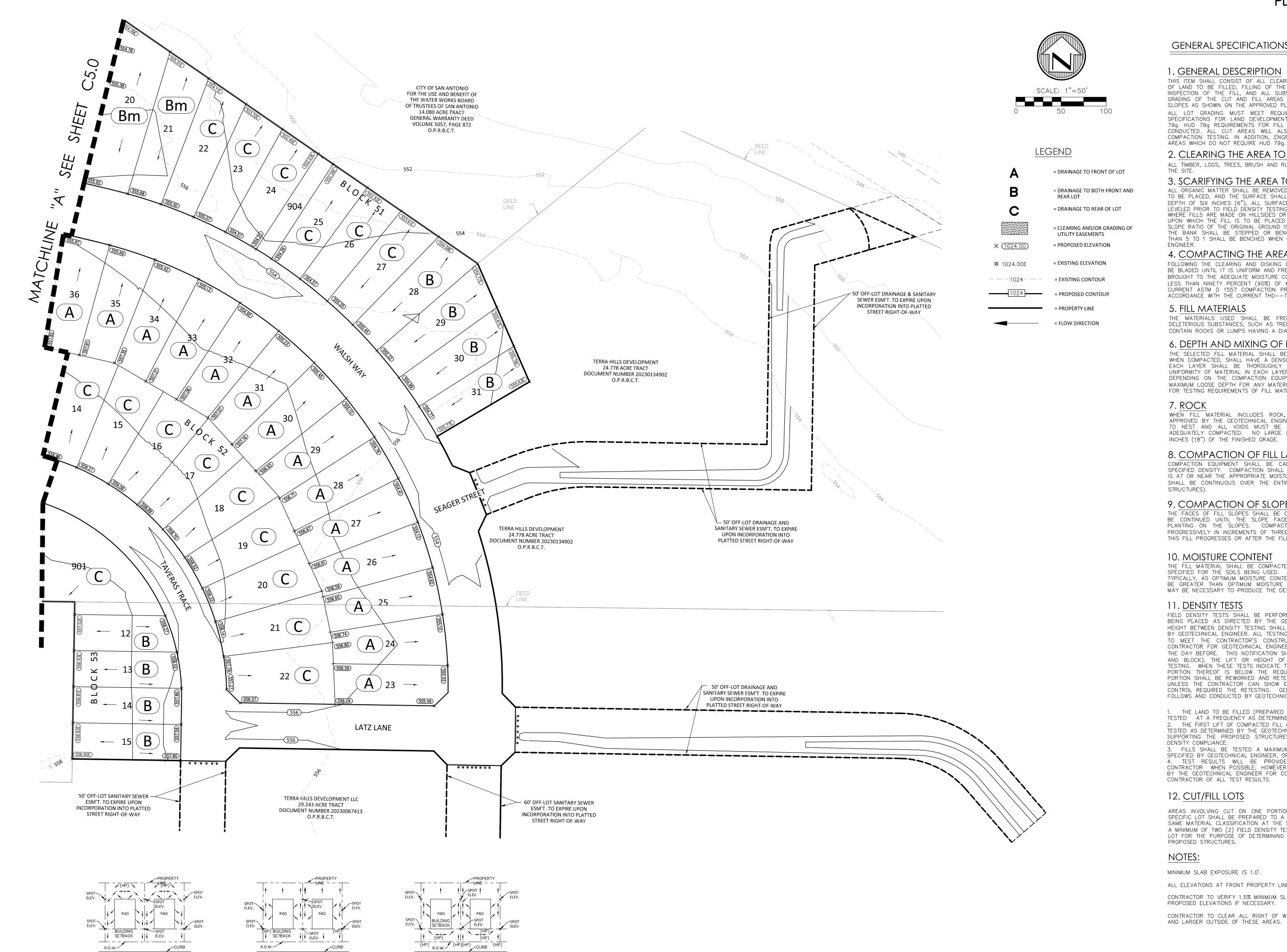
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CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10"

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LOCATION TO BE FIELD LOCATED FOR

EACH INDIVIDUAL

TYPICAL "B" LOT GRADING

LOCATION TO BE

EACH INDIVIDUAL

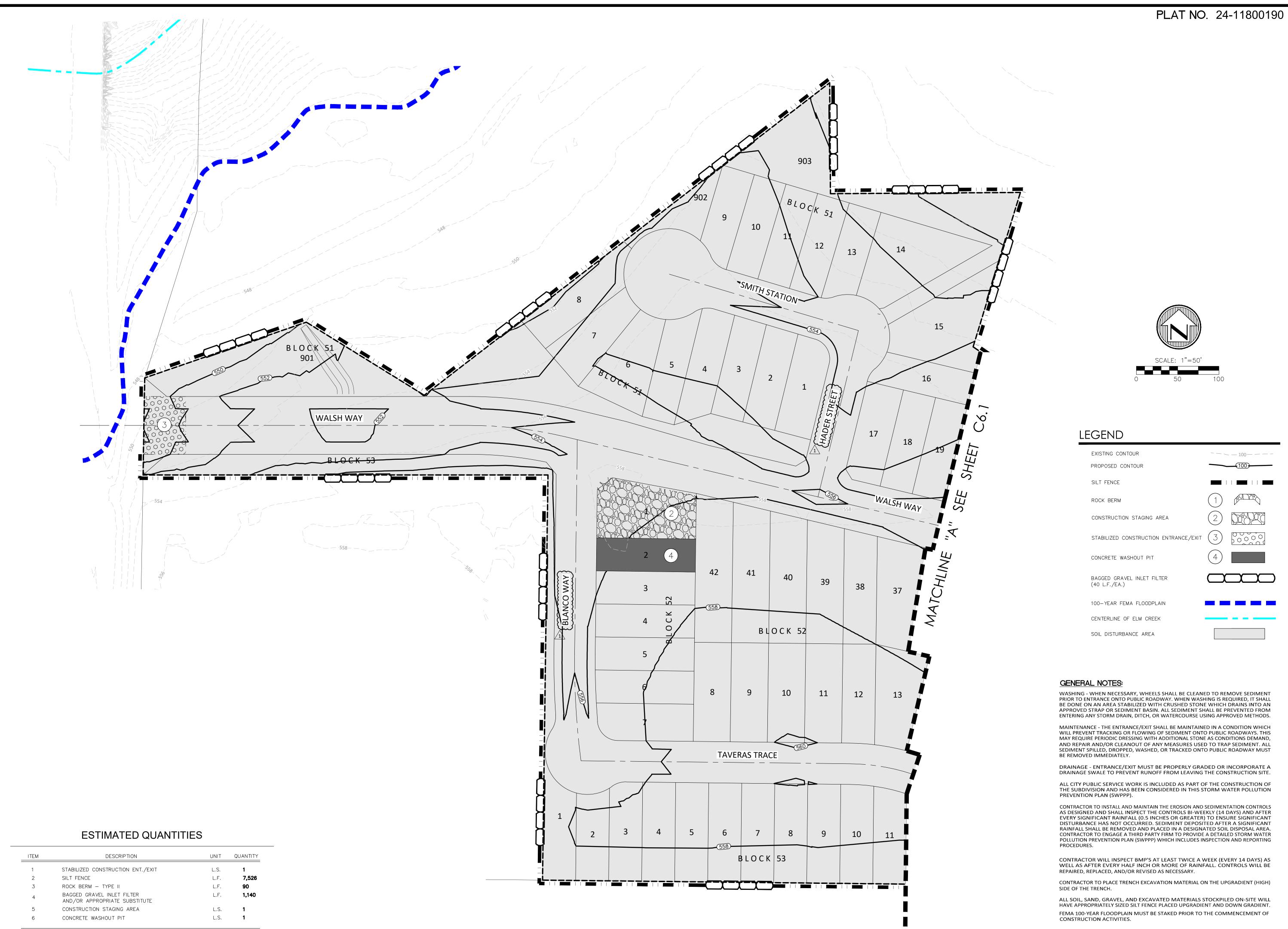
TYPICAL "A" LOT GRADING

LOCATION TO BE FIELD LOCATED FOR

EACH INDIVIDUAL

TYPICAL "C" LOT GRADING

SUBMITTAL SET





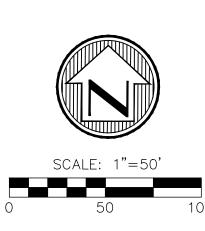
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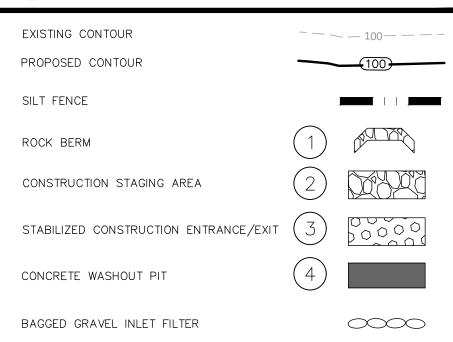
OVERALL

C6.0

SUBMITTAL SET



LEGEND



GENERAL NOTES:

WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.

MAINTENANCE - THE ENTRANCE/EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.

DRAINAGE - ENTRANCE/EXIT MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

ALL CITY PUBLIC SERVICE WORK IS INCLUDED AS PART OF THE CONSTRUCTION OF THE SUBDIVISION AND HAS BEEN CONSIDERED IN THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

CONTRACTOR TO INSTALL AND MAINTAIN THE EROSION AND SEDIMENTATION CONTROLS AS DESIGNED AND SHALL INSPECT THE CONTROLS BI-WEEKLY (14 DAYS) AND AFTER EVERY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO ENSURE SIGNIFICANT DISTURBANCE HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A SIGNIFICANT RAINFALL SHALL BE REMOVED AND PLACED IN A DESIGNATED SOIL DISPOSAL AREA. CONTRACTOR TO ENGAGE A THIRD PARTY FIRM TO PROVIDE A DETAILED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WHICH INCLUDES INSPECTION AND REPORTING PROCEDURES.

CONTRACTOR WILL INSPECT BMP'S AT LEAST TWICE A WEEK (EVERY 14 DAYS) AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAINFALL. CONTROLS WILL BE REPAIRED, REPLACED, AND/OR REVISED AS NECESSARY.

CONTRACTOR TO PLACE TRENCH EXCAVATION MATERIAL ON THE UPGRADIENT (HIGH) SIDE OF THE TRENCH.

ALL SOIL, SAND, GRAVEL, AND EXCAVATED MATERIALS STOCKPILED ON-SITE WILL HAVE APPROPRIATELY SIZED SILT FENCE PLACED UPGRADIENT AND DOWN GRADIENT. FEMA 100-YEAR FLOODPLAIN MUST BE STAKED PRIOR TO THE COMMENCEMENT OF

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
1	STABILIZED CONSTRUCTION ENT./EXIT	L.S.	1
2	SILT FENCE	L.F.	7,526
3	ROCK BERM - TYPE II	L.F.	90
4	BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	L.F.	1,140
5	CONSTRUCTION STAGING AREA	L.S.	1
6	CONCRETE WASHOUT PIT	L.S.	1



STORM WATE PREVENTION I

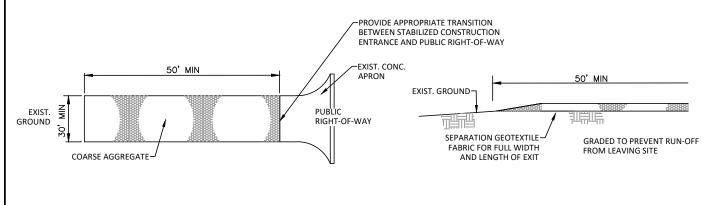
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SILT FENCE NOTES

- SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30. 2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
- 3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
- 4. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1 FOOT DEEP AND SPACED NOT MORE THAN 5 FEET ON CENTER. 5. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO
- THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE. 6. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- 7. 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.
- 8. 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. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- 9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. 10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
- 12. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

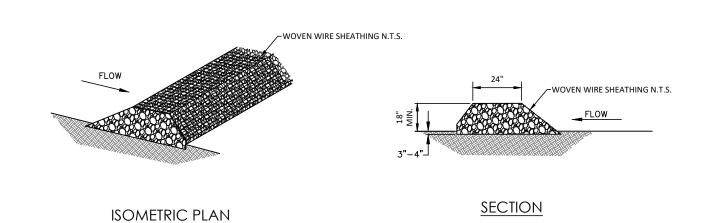


TEMPORARY CONSTRUCTION ENTRANCE/EXIT NOTES

- 1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
- 2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.

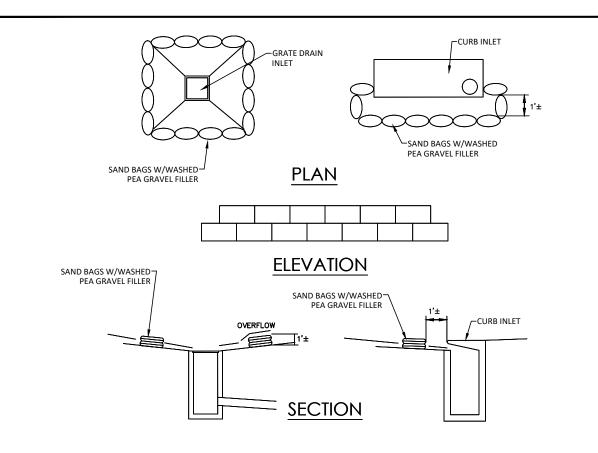
PLAN VIEW

- THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2 , AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
- AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
- 5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER. 6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
- 7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
- 8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE. 9. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC
- RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- 10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- 11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. 12. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED
- 13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.



ROCK BERM NOTES

- 1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
- 2. CLEAN, OPEN GRADED 3-TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
- 3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
- 4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- 5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
- 6. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
- 7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
- 8. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- 9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- 10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER
- 11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS,
- 12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.



- . THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
- 2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6
- 3. THE GRAVEL BAGS SHOULD BE FILLED WITH 3/4" GRAVEL .

MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

- 4. WHEN A GRAVEL BAG IS FILLED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR
- 5. THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
- 6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE
- 8. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE

7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

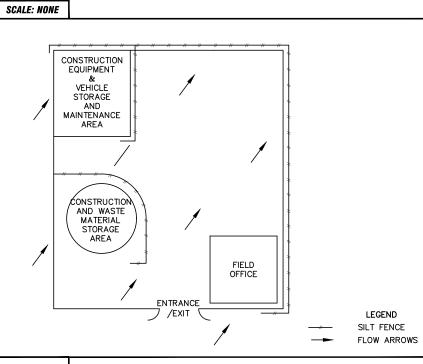
DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. 9. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

SCALE: NONE

BAGGED GRAVEL INLET FILTER

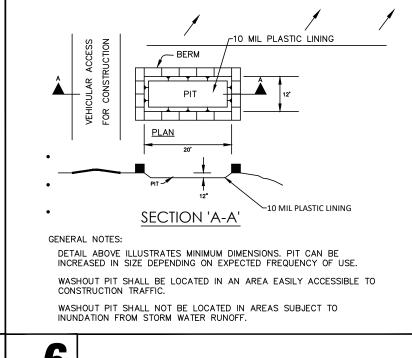
STABILIZED CONSTRUCTION ENTRANCE / EXIT ROCK BERM

PROFILE



SILT FENCE DETAIL

CONSTRUCTION STAGING AREA SCALE: NONE



SCALE: NONE

CONCRETE TRUCK WASHOUT PIT SCALE: NONE

PAUL LANDA, JR. 100182

> VENTION PR OLLUTION

STORM WATER

SHEET

C6.2