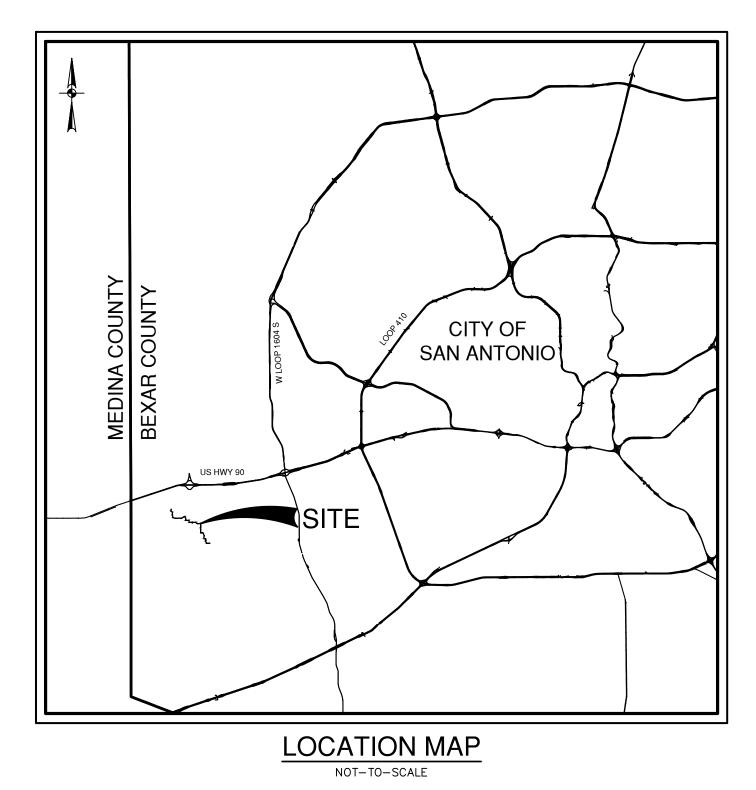
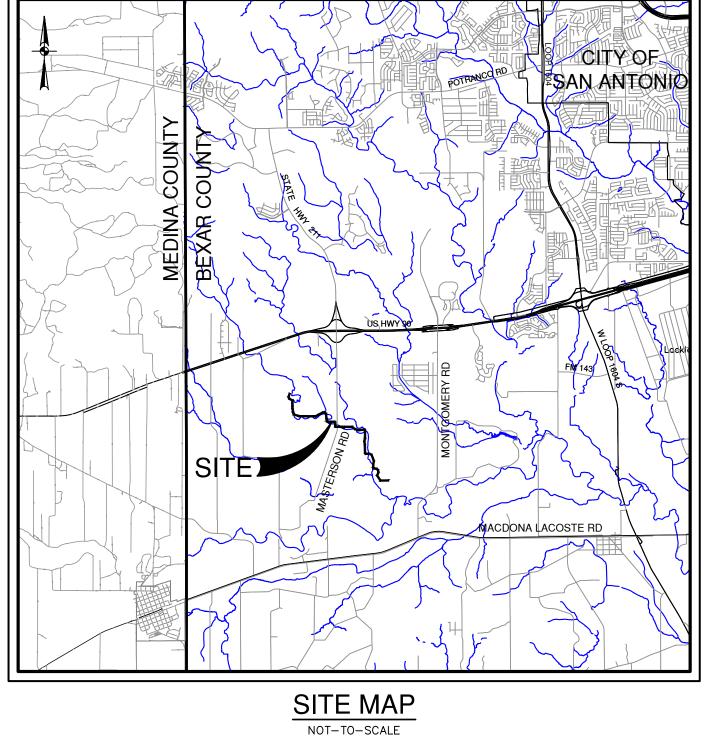
ECHTLE OFFSITE SEWER EXTENSION

BEXAR COUNTY, TEXAS

SAWS JOB # 21-4405 CO-00568

OVERALL QUANTITY TABLE						
ITEM DESCRIPTION	UNIT	TOTAL QTY				
8" SDR 26 PVC	LF	35				
12" SDR 26 PVC	LF	5				
30" FRP (ASTM D-3262) SN 72	LF	14,877				
36" FIBERGLASS REINFORCED PIPE (SN72) (35'-40')	LF	50				
30" FRP CARRIER PIPE (SN72) FOR PIPE JACKING	LF	613				
5' TEE-BASE FIBERGLASS MANHOLE, MITER	EA	46				
5' TEE-BASE FIBERGLASS MANHOLE	EA	1				
5' TEE-BASE FIBERGLASS MANHOLE, DROP	EA	2				





SHEET INDEX

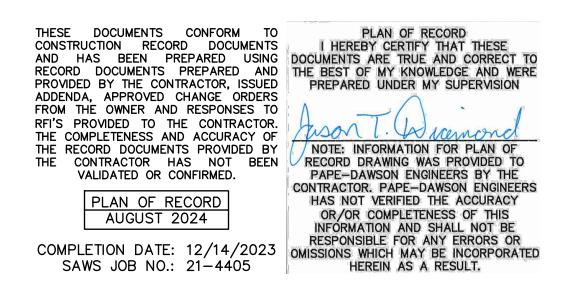
SHEET TITLE SHEET# C0.00 **COVER SHEET** GENERAL CONSTRUCTION NOTES SHEET C0.02 **OVERALL QUANTITY SHEET OVERALL LAYOUT PLAN SHEET 1 OVERALL LAYOUT PLAN SHEET 2** C1.02 C2.01 C2.02 SANITARY SEWER LINE PLAN & PROFILE STA 89+00 - 100+00 SANITARY SEWER LINE PLAN & PROFILE STA 100+00 - 111+00 SANITARY SEWER LINE PLAN & PROFILE STA 111+00 - 122+50 SANITARY SEWER LINE PLAN & PROFILE STA 122+50 - 134+00 SANITARY SEWER LINE PLAN & PROFILE STA 134+00 - 145+50 SANITARY SEWER LINE PLAN & PROFILE STA 145+50 - 157+00 SANITARY SEWER DETAILS SHEET 1 C2.15

PREPARED FOR:

ENTRADA DEVELOPMENT GROUP 1381 COUNTY ROAD 651 DEVINE, TEXAS 78016

JUNE 2022

AS-BUILT/PLAN OF RECORD CONTRACTOR: D. GUERRA COMPLETE DATE: 12/14/2023 MATERIALS NOTE HOBAS HOBAS







SEWER						
DEVELOPER'S NAME:E ADDRESS:1381_COU		MENT GROUI	P			
CITY: DEVINE	STATE:	TEXAS	ZIP:	78016		
PHONE# XX		FAX#X	(
SAWS BLOCK MAP# <u>XX</u> TOTAL EDU'S <u>XX</u> TOTAL ACREAGE <u>XX</u>						
TOTAL LINEAR FOOTAGE OF PIPE: 15,490 LF ~ 30" FRP PLAT NO. XXXXX						
NUMBER OF LOTS XX	X SAWS	JOB NO2	1-4405	J		

MANHOLES:

SAWS STANDARD GENERAL CONSTRUCTION NOTES ASSOCIATED WITH 2021 SAWS STANDARD SPECS

(UPDATED JANUARY 2022)

GENERAL CONSTRUCTION

- 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 CHAPTER 290
- CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE." CURRENT 'SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER
- CONSTRUCTION.
- D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
- E. CURRENT CITY OF SAN ANTONIO 'UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, HTTPS: //APPS.SAWS.ORG/BUSINESS_CENTER/SPECS/CONSTSPECS/ UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.
- THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 (DURING REGULAR SAWS WORKING HOURS) AND PROVIDE NOTIFICATION PROCEDURES THE CONTRACTOR WILL USE TO NOTIFY AFFECTED HOME RESIDENTS AND OR PROPERTY OWNERS TWO (2) WEEKS PRIOR TO EXCAVATION.
- IF NECESSARY, CONTRACTOR WILL COORDINATE USE OF SAWS PREMISES AT NO ADDITIONAL COST TO SAWS, SUCH EFFORTS INCLUDE, BUT ARE NOT LIMITED TO, OBTAINING SECURITY IDENTIFICATION BADGES REQUIRED FOR ACCESS TO

OUTSIDE OF REGULAR SAWS WORKING HOURS THE SAWS EOC SHOULD BE CONTACTED AT 210-704-7297.

- LOCATIONS AND DEPTHS 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 PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. AS-BUILTS FOR SAWS INFRASTRUCTURE CAN BE OBTAINED AT WEBSITE BELOW. CONTRACTOR SHALL COORDINATE PHYSICAL LOCATES FOR SAWS INFRASTRUCTURE THROUGH THE SAWS INSPECTOR. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS INFRASTRUCTURE. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
- SAN ANTONIO WATER SYSTEM:
- REQUEST AS-BUILTS: HTTPS://WWW.SAWS.ORG/SERVICE/LOCATES-SERVICE/
- COSA DRAINAGE 210-206-8433

DONE BY THE PROJECTS CONSTRUCTION.

ORDINANCES WHEN EXCAVATING NEAR TREES.

- COSA TRAFFIC SIGNAL OPERATIONS 210-207-7720 TEXAS STATEWIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING, AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES
- CONTRACTOR SHALL NOT MAKE USE OF DUMPSTERS OR WASTE BINS THAT ARE INTENDED TO SERVE RESIDENTS AND/OR BUSINESSES.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- O. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE
- 11. ALL WORK WITHIN THE 100-YEAR FLOODPLAIN SHALL BE DONE IN ACCORDANCE WITH FLOODPLAIN DEVELOPMENT
- 12. ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
- 13. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS.
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO SUBMIT REQUEST TO THE SAWS INSPECTION CONSTRUCTION

DEPARTMENT BY 12:00PM ON THE WEDNESDAY PRIOR TO THE WEEKEND BEING REQUESTED. REQUEST SHOULD BE

- SENT TO CONSTWORKREQ@SAWS.ORG. ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED
- FOR PROPER INSPECTION AT NO COST TO SAWS.
- 14. PRE-CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS(NSPI).
- 15. POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET. SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER, COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPANYS WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
- 6. CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.
- 17. CONTRACTOR SHALL COMPLY WITH APPLICABLE REGULATIONS INCLUDING, BUT NOT LIMITED TO, THOSE OVERSEEN BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA INFORMATION AND RELATED MATERIALS MAY BE OBTAINED AT HTTPS: //WWW.OSHA.GOV/ OR AT THE OSHA SAN ANTONIO OFFICE LOCATED AT FOUNTAINHEAD TOWER, SUITE 605 8200 W. INTERSTATE 10 SAN ANTONIO, TX 78230 WHICH IS ALSO REACHABLE BY PHONE AT (210)
- 18. 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 25. THE DEVELOPER DEDICATES THE SANITARY SEWER MAINS UPON COMPLETION BY THE DEVELOPER AND ACCEPTANCE BY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREAS IN ORDER TO IMPLEMENT CONTRACTORIS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORIS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR IS 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

- 19. 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 OCCUR, THE CONTRACTOR SHALL:
- A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER IMMEDIATELY AT 210-704-SAWS (210-704-7297). PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW. B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
- C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS. D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY
- DISPOSE OF CONTAMINATED SOIL/MATERIALS. E. 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.
- NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.
- 24. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED,

HIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

- IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION ITEM NO. 865, "BYPASS PUMPING SMALL DIAMETER SANITARY SEWER MAINS" AND STANDARD SPECIFICATION ITEM NO. 864, "BYPASS PUMPING LARGE DIAMETER SANITARY SEWER MAINS" AS APPLICABLE. PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE APPROPRIATE BID ITEM ASSOCIATED WITH SANITARY SEWER BYPASS PUMPING IN ACCORDANCE WITH SAWS STANDARD SPECIFICATIONS 865 AND 864.
- 25. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 AND/OR SAWS PRODUCTION GROUPS AT LEAST TWO WEEKS OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- 26. 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 PROJECTS IMPROVEMENTS (NSPI).
- 27. MANHOLE REMOVAL: WHERE EXISTING MANHOLES ARE TO BE REPLACED BY THE CONTRACTOR, THE EXISTING MANHOLES SHALL BE REMOVED. (NSPI)
- 28. SMART MANHOLE COVERS: THE CONTRACTOR SHALL NOTIFY SAWS EOC AT 210-704-SAWS (210-233-7297) AND EITHER AMERICA ESPINOZA AT 210-233-2934 OR JOSE A. MARTINEZ AT 210-233-3071 A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE SMART COVER. ANY DAMAGE DONE TO THE SMART COVER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.
- 29. FLOW METERS IN MANHOLES: THE CONTRACTOR SHALL NOTIFY BOBBY JOHNSON AT 210-233-3493 OR ABEL BORUNDA AT 210-233-3704 A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE FLOW METER IN THE MANHOLE. ANY DAMAGE DONE TO THE FLOW METER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.

ADDITIONAL MISCELLANEOUS SAWS NOTES

- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A NOTICE TO
- THE CONTRACTOR SHALL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES PRIOR 3. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE
 - 4. SEWER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS AS APPROVED BY SAWS, MECHANICAL JOINT "BOOT TYPE" CONNECTIONS ALONE WILL NOT BE ALLOWED. "BOOT TYPE JOINTS MAY BE USED IN CONJUNCTION WITH COMPRESSION JOINTS AS APPROVED BY SAWS. ANY CHANGES FROM THESE METHODS MUST BE APPROVED BY SAWS.
 - 5. WHERE REQUIRED, CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLANE 6" ABOVE THE TOP OF THE PIPE, WITH PAY LIMITS AS SHOWN ON THE ITEM NO. DD-858-01.
 - 6. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOODPLAIN WITHOUT FIRST OBTAINING AN APPROVAL FLOODPLAIN DEVELOPMENT PERMIT.

7. STORM WATER PROTECTION:

- A. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT'S PLAN AND PROFILE SHEETS.
- B. AT A MINIMUM THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION
- C. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL BE REMOVED WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED. ADDITIONAL PROTECTION MAY BE NECESSARY IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.
- 15. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE SAN ANTONIO WATER SYSTEM.
- 16. PLACEMENT OF SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO SEWER LINE CONSTRUCTION. THE CONTRACTOR AND CITY INSPECTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE SIGNIFICANT DISTURBANCE TO THE STRUCTURES HAS NO OCCURRED. SEDIMENT DEPOSITED AFTER A SIGNIFICANT RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN APPROVED DESIGNATED SOIL DISPOSAL AREA.
- 17. A DEFLECTION TEST SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER INITIAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. ITEM NO. 849
- 18. ALL MAINS MUST PASS AIR TESTING PER ITEM NO. 849 IN THE STANDARD SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE SAN ANTONIO WATER SYSTEM.
- 19. ALL MAINS MUST COMPLY WITH ITEM NO. 868 OF SEWER MAIN CLEANING.
- 20. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS
- 21. SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS ITEM 849.
- 22. AFTER CONSTRUCTION, TESTING WILL BE DONE BY T.V. CAMERA BY THE CONTRACTOR AND OBSERVED BY INSPECTOR AND WASTEWATER ENGINEERING PERSONNEL AS THE CAMERA IS RUN THROUGH THE LINES. ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- 23. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO THE SAN ANTONIO WATER SYSTEM CONSTRUCTION
- 24. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT
- THE SAN ANTONIO WATER SYSTEM. THE SAN ANTONIO WATER SYSTEM WILL OWN AND MAINTAIN SAID SANITARY SEWER MAINS WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION. (AS APPLICABLE)
- 26. WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED CONSENT OF THE SAN ANTONIO WATER SYSTEM CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
- 27. CONTRACTOR SHALL ABIDE BY ALL APPLICABLE GOVERNMENTAL AND REGULATORY STANDARDS AND REQUIREMENTS AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THE PIPELINE FACILITIES SHOWN IN
- 28. THE CONTRACTOR SHALL EXCAVATE THE TOP 12 INCHES OF TOPSOIL AND STOCKPILE IT SEPARATELY FROM THE GENERAL EXCAVATION. A SUITABLE VOLUME OF TOPSOIL SHALL BE EXCAVATED TO PLACE A MINIMUM OF 12 INCHES OF TOPSOIL OVER ALL EXCAVATED OR BACKFILLED AREAS. TOPSOILING IS NOT REQUIRED WHERE PAVEMENT, CONCRETE CAP, RIP-RAP OR OTHER FACILITIES ARE REQUIRED AT THE SURFACE. CONTRACTOR MAY MOUND EXCESS TRENCH EXCAVATED MATERIAL OVER PIPE UP TO 1 FOOT IN HEIGHT ABOVE NATURAL GRADE. MOUND SHALL BE COMPLETELY COVERED WITH 12 INCHES OF TOPSOIL. MOUND SHALL BE FREE OF BRUSH AND ROCK. MOUNDING IS NOT PERMITTED IN DEVELOPED PROPERTIES, ROADS, CREEKS, FLOODPLAINS, PAVED AREAS, CULTIVATED FIELDS OR OTHER AREAS DIRECTED BY SAWS'S REPRESENTATIVE. RESTORE GROUND TO ORIGINAL GRADE AND PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- 29. CONSTRUCTION SURVEYING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR INCLUDING BUT NOT LIMITED TO LIMITS OF PERMANENT EASEMENT AND TEMPORARY EASEMENTS, PIPE ALIGNMENT, APPURTENANCE LOCATION AND ROAD CROSSINGS. THE CONTRACTOR SHALL VERIFY ALL CONTROL MONUMENTATION PRIOR TO BEGINNING CONSTRUCTION.
- 30. ALL PIPELINES 24" AND LARGER SHALL HAVE A MINIMUM COVER OF 48". PIPE SMALLER THAN 24" SHALL HAVE A MINIMUM COVER OF 36" (UNLESS NOTED OTHERWISE). PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTORS REQUIRED TO MAKE THE ROUTING CHANGES. CONTRACTOR SHALL INCLUDE COST FOR
- 31. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, STRUCTURES, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTORS AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS, PROVIDE ALL SUPPORTS REQUIRED FOR A RIGID INSTALLATION AND TO HAVE A COMPLETE AND WORKING SYSTEM.
- 32. VARIOUS LOCATIONS OF THE WORK ARE SUBJECT TO FLOODING AND STANDING WATER DURING WET WEATHER PERIODS CONTRACTOR SHALL PLAN THIS WORK FOR DRY WEATHER PERIODS AND PROVIDE DEWATERING AND OTHER WET WEATHER PROVISIONS AS INCIDENTAL WORK.

- 33. CONTRACTOR SHALL COORDINATE HIS/HER PROPOSED CONSTRUCTION WITH OTHER CONTRACTORS IN THE EVENT OF THE OTHER CONTRACTORS DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH HIS/HER PROJECT. THIS INCLUDES, BUT NOT LIMITED TO, ALL CONNECTION POINTS OR OTHER SPECIAL ITEMS AS REQUIRED FOR TESTING.
- 34. CONTRACTOR SHALL DISPOSE OF ALL EXCESS MATERIAL, CONSTRUCTION, RUBBLE AND TRASH. ALL TRASH SHALL BE PICKED-UP AND REMOVED AT THE END OF EACH DAY.
- 35. NO BURNING OR BLASTING IS ALLOWED.
- 36. THE PERMANENT AND TEMPORARY EASEMENTS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR MAY ACQUIRE ADDITIONAL TEMPORARY CONSTRUCTION EASEMENTS AT HIS/HER OWN COST, IF HE/SHE SO CHOOSES. IF THE CONTRACTOR ACQUIRES ADDITIONAL TEMPORARY EASEMENTS, HE/SHE SHALL PROVIDE COPIES OF THE WRITTEN AGREEMENT TO SAWS. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR ANY DAMAGE AS A RESULT OF USE OF EASEMENTS.

SUPPLEMENTARY NOTES

- 1. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL PERMITS
- 4. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER IN ADVANCE OF ANY WORK IN THE OWNERS' PROPERTY. WITHIN THE U-BAR TRACT (STA 1+00 - STA 89+20), CONTRACTOR TO COORDINATE WITH KENT CLARK AT 830-275-3490.
- 5. CONTRACTOR TO ADD TEMPORARY FENCING (5-STRAND BARBED WIRE) AND TEMPORARY GATES ALONG PROJECT LIMITS WITHIN THE U-BAR TRACT (STA 1+00 - STA 89+20).
- 6. CONTRACTOR TO REVEGETATE DISTURBED AREAS WITHIN THE U-BAR TRACT (STA 1+00 STA 89+20) WITH COASTAL
- 7. WHEN WORKING IN AN AREA WITH LIVESTOCK, THE CONTRACTOR SHALL INSTALL AND MAINTAIN (AT CONTRACTOR'S EXPENSE) THE NECESSARY TEMPORARY FENCING TO KEEP THE LIVESTOCK FROM EXITING THE AREA. ANY ESCAPED LIVESTOCK WILL BE CAPTURED AND RETURNED TO THE AREA AT THE CONTRACTOR'S EXPENSE CONTRACTOR IS RESPONSIBLE FOR ANY INJURY, DEATH OR DAMAGES RESULTING FROM ESCAPED LIVESTOCK. SEE SPECIAL CONDITION
- 8. CONTRACTOR TO COORDINATE CONSTRUCTION PHASING WITH PROPERTY OWNER TO FACILITATE CATTLE MANAGEMENT
- 9. SMOKING IN THE PROJECT AREA IS PROHIBITED DUE TO TALL GRASS BEING A FIRE HAZARD.

UNDERGROUND TELEPHONE/COMMUNICATION LINES NOTE

- THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE AS SHOWN ON THESE PLANS HAS BEEN TAKEN FROM THE BEST INFORMATION AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR SHALL CONTACT THE TELEPHONE/COMMUNICATION COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR SHALL PROTECT AND (AS NECESSARY) INSTALL SHORING FOR TELEPHONE COMPANY FACILITIES DURING CONSTRUCTION.
- CONTRACTOR TO LOCATE AND MAINTAIN IN SERVICE EXISTING ELECTRIC SERVICE TO WELL AND WATER LINES. EXTENDING FROM THE WELL. IF THE EXISTING WELL ELECTRIC SERVICE IS FOUND TO BE WITHIN THE PERMANENT SEWER EASEMENT, CONTRACTOR TO RELOCATE THE ELECTRIC SERVICE OUTSIDE THE PERMANENT SEWER EASEMENT, CONTRACTOR TO RELOCATE THE ELECTRIC SERVICE OUTSIDE THE PERMANENT EASEMENT TO A LOCATION COORDINATED WITH THE PROPERTY OWNER.

TREE PROTECTION NOTES

- . CONTRACTOR TO PROTECT ALL TREES WHEREVER POSSIBLE. DAMAGE TO TREES IDENTIFIED TO BE PROTECTED WILL BE MITIGATED AT THE CONTRACTOR'S SOLE EXPENSE. ALSO, ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE CONTROLLING ENTITIES STANDARDS, SPECIFICATIONS AND PERMIT REQUIREMENTS.
- 2. PROTECT EXISTING TREES SIX INCH (6") DIAMETER AND LARGER. ALL TREES TO BE PRESERVED AS PART OF THE PROJECT SHALL BE PROTECTED AGAINST INJURY OR DAMAGE. INCLUDING CUTTING. SOIL COMPACTION. BREAKING OR SKINNING OF ROOTS, TRUNKS, OR BRANCHES DURING CONSTRUCTION OPERATIONS BY FENCING AS DESCRIBED BELOW. THE TREE PROTECTION SHALL BE PLACED BEFORE ANY EXCAVATION OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. PROTECTION WILL ENCOMPASS THE ROOT PROTECTION ZONE WHICH WILL BE AT MINIMUM ONE FOOT (1.0') RADIUS PER INCH DIAMETER OF THE TREE TRUNK AT 4.5' ABOVE GROUND. NO MATERIAL SHALL BE STORED OR CONSTRUCTION OPERATION SHALL BE CARRIED ON WITHIN THE TREE PROTECTION FENCING, UNLESS AUTHORIZED BY THE OWNER. THE PROTECTION SHALL REMAIN UNTIL ALL WORK IS COMPLETED.
- 3. NO CONSTRUCTION ACTIVITIES SHALL BE PERFORMED WITHIN 5' FROM THE TRUNK OF A TREE THAT IS PROTECTED. TRENCH SHORING WILL BE REQUIRED INSIDE OF A ROOT PROTECTION ZONE. THE ROOT PROTECTION ZONE IS CALCULATED AS A RADIUS FROM THE TREE TRUNK EQUAL TO ONE FOOT PER DIAMETER INCH OF THE TREE
- 4. THIS PROJECT IS SUBJECT TO REGULATIONS ESTABLISHED BY THE CITY OF SAN ANTONIO TREE ORDINANCE.

HAULING AND STORAGE

 HAULING AND/OR TEMPORARY STORAGE OF EQUIPMENT AND MATERIALS MAY BE NECESSARY, INCLUDING EXCAVATED MATERIAL AND SPOILS. CONTRACTOR SHALL INCLUDE IN HIS BID PRICE ALL COSTS ASSOCIATED WITH HAULING AND OFF-SITE STORAGE OF ALL MATERIALS AND/OR EQUIPMENT. ALSO REFER TO THE PROJECT SPECIFICATIONS.

EXISTING IMPROVEMENTS

 ALL EXISTING IMPROVEMENTS WITHIN THE PROJECT AREA, WHICH ARE NOT COVERED UNDER THE UNIT PRICE BID PROPOSAL, SHALL BE PROTECTED OR REMOVED AND REPLACED TO EXISTING CONDITION OR BETTER AT NO ADDITIONAL COST TO THE OWNER.

MISCELLANEOUS NOTES

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, MONITOR AND MAINTAIN THE STORMWATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.
- 2. ALL FENCING, GATES, OIL FIELD FACILITIES, SIGNS AND ANY OTHER EXISTING IMPROVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED TO ITS ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST TO THE OWNER.
- 3. THE CONTRACTOR, BY PERSONAL EXAMINATION OF THE SITE, SHALL SATISFY HIMSELF/HERSELF WITH THE LOCAL CONDITIONS AND MAKE HIS/HER ESTIMATE OF THE DIFFICULTIES AND UNCERTAINTIES THAT WILL ATTEND THE EXECUTION OF THE PROPOSED WORK. DERIVING INFORMATION FROM PLANS AND SPECIFICATIONS ONLY, WHILE FAILING TO EXAMINE THE SITE, SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM HIS/HER RESPONSIBILITIES OR AFFECT THE RISK OR OBLIGATION ASSUMED BY THE CONTRACTOR FROM FULFILLING ANY CONDITION OF THE CONTRACT.
- 4. THE CONTRACTOR SHALL MAKE EVERY ATTEMPT TO AVOID DAMAGING EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO WELLS, WATER LINES, PIPING, TANKS, HOSES AND ELECTRICAL.

TRAFFIC CONTROL NOTE

• CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN TO BEXAR COUNTY FOR REVIEW AND APPROVAL. NECESSARY TRAFFIC CONTROL, DETOUR ROUTING AROUND WORK ACTIVITIES, MAINTENANCE OF DETOUR SIGNS AND FLAGMEN ARE THE CONTRACTOR'S RESPONSIBILITY. UNLESS DIRECTED OTHERWISE, THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE OPEN TRAFFIC LANE (MINIMUM 12 FEET WIDE), CONTROLLED WITH FLAGMEN, DURING WORKING HOURS. DURING ALL NON-WORKING HOURS A MINIMUM OF TWO TRAFFIC LANES (EACH A MINIMUM 12 FEET WIDE) 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 THROUGHOUT CONSTRUCTION.

CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS

- WHERE A SEWER MAIN CROSSES OVER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE (9) FEET, ALL PORTIONS OF THE SEWER MAIN WITHIN NINE (9) FEET OF THE WATER LINE SHALL BE CONSTRUCTED USING 160 PSI PRESSURE RATED HDPE.
- 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
- 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 HDPE WITH A MINIMUM PRESSURE RATING OF 160 PSI WITHIN NINE FEET OF THE WATER MAIN, SHALL BE PLACED NO CLOSER THAN SIX (6") INCHES BETWEEN OUTER DIAMETERS.
- 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 HDPE WITH A MINIMUM PRESSURE RATING OF 160 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.
- V. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE FEET TO WATER MAINS.

THESE DOCUMENTS CONFORM

CONSTRUCTION RECORD DOCUMENTS

AND HAS BEEN PREPARED USING

RECORD DOCUMENTS PREPARED AND

PROVIDED BY THE CONTRACTOR, ISSUED

ADDENDA, APPROVED CHANGE ORDERS

FROM THE OWNER AND RESPONSES TO

THE COMPLETENESS AND ACCURACY OF

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THE CONTRACTOR HAS NOT BEEN

VALIDATED OR CONFIRMED.

PLAN OF RECORD AUGUST 2024

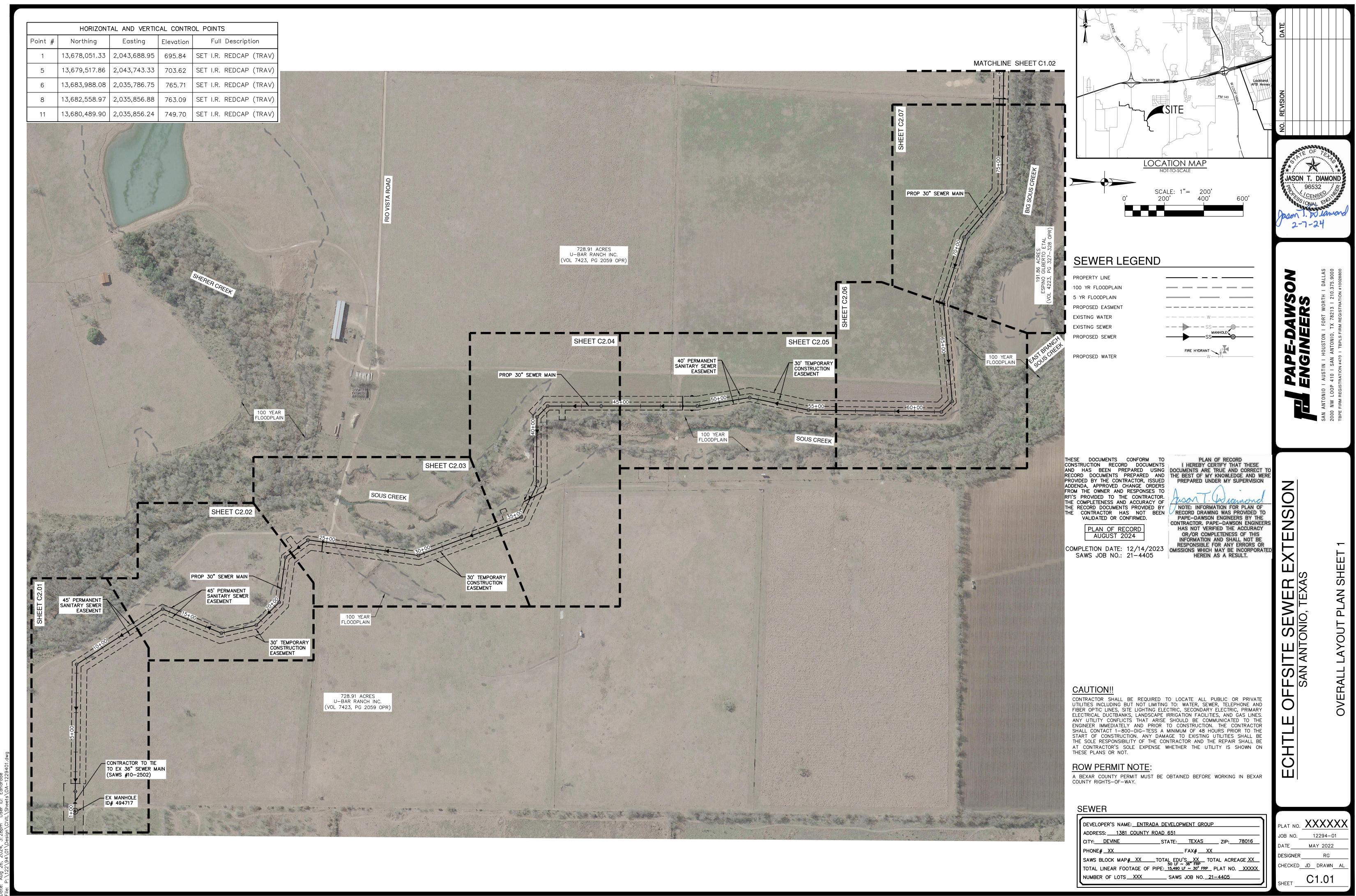
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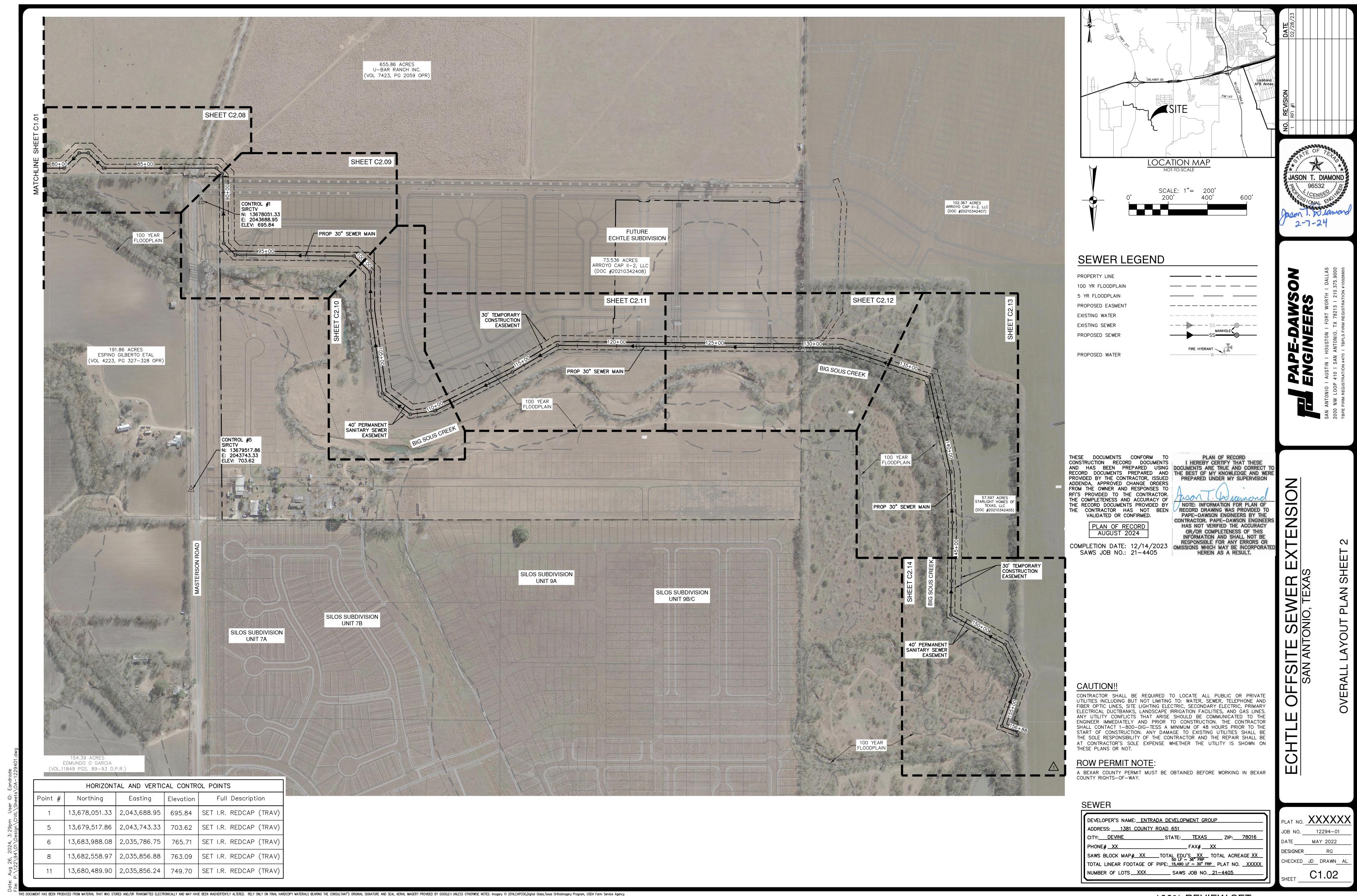
SAWS JOB NO.: 21-4405

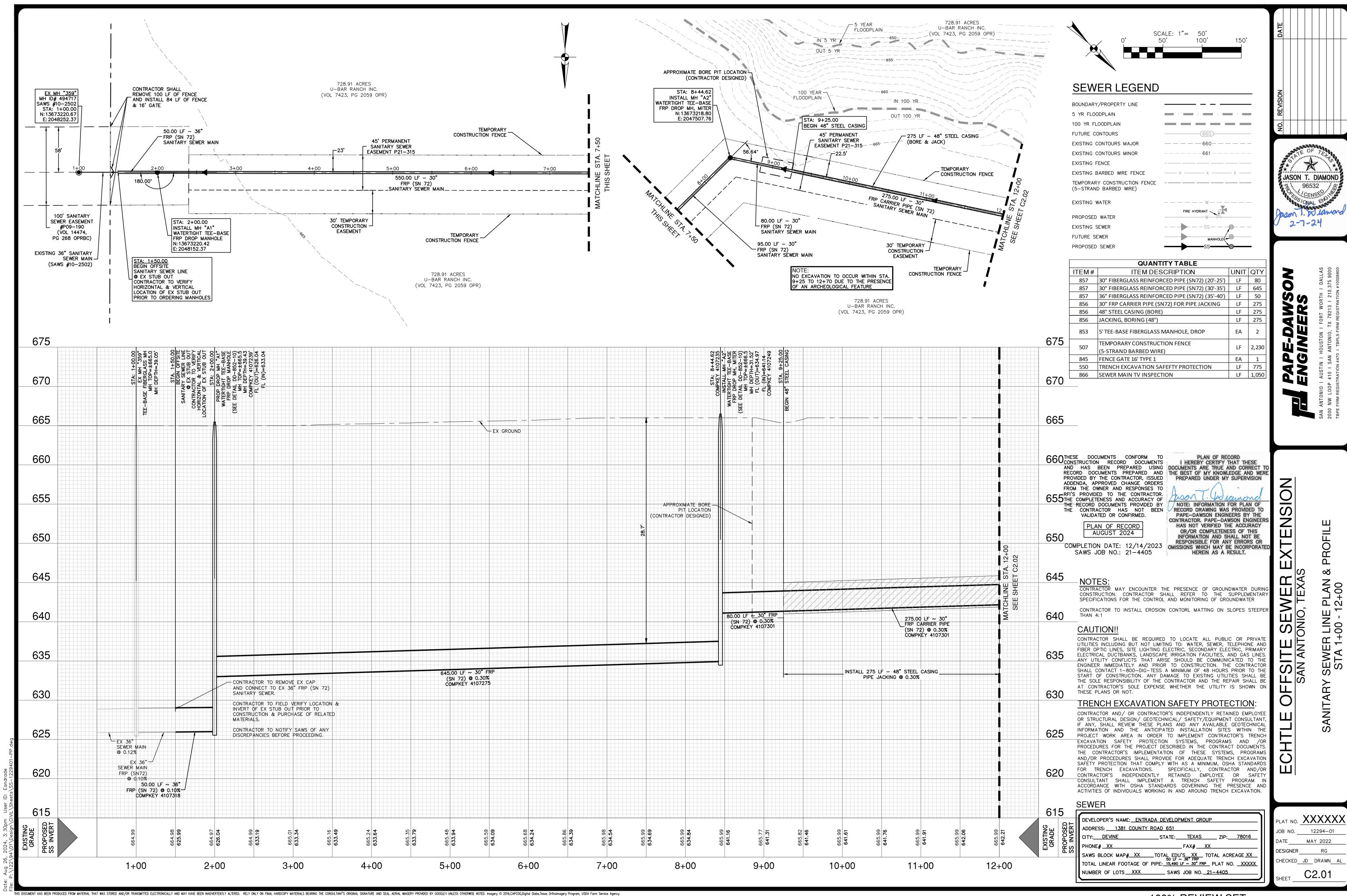
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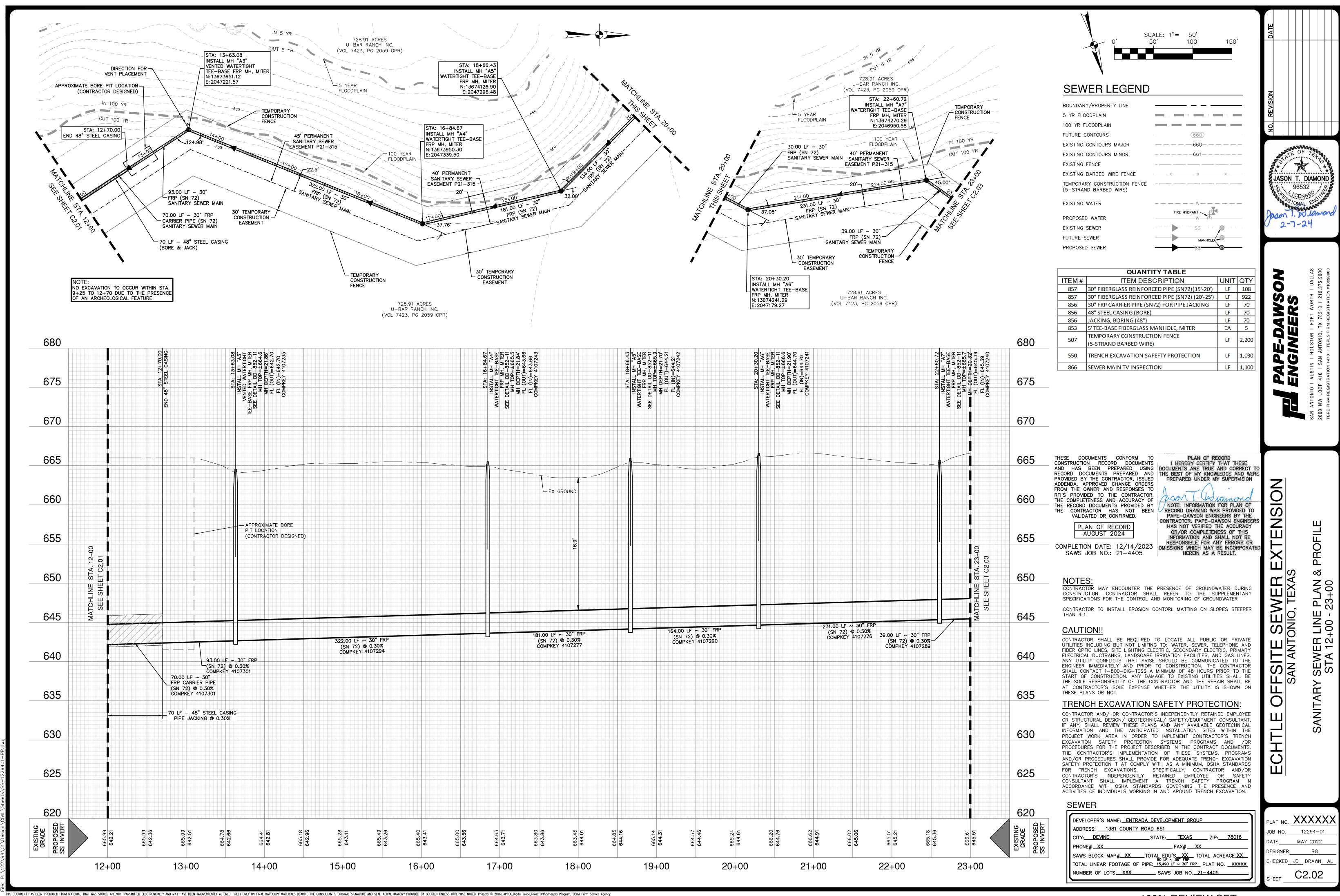
DEVELOPER'S NAME: ENTRADA DEVELOPMENT GROUP ADDRESS: <u>1381 COUNTY ROAD 651</u> _____STATE: <u>TEXAS</u> ZIP: <u>78016</u> SAWS BLOCK MAP# XX TOTAL EDU'S XX TOTAL ACREAGE XX
50 LF ~ 36" FRP TOTAL LINEAR FOOTAGE OF PIPE: 15,490 LF ~ 30" FRP PLAT NO. XXXXX NUMBER OF LOTS<u>XXX</u> SAWS JOB NO.<u>21-4405</u>

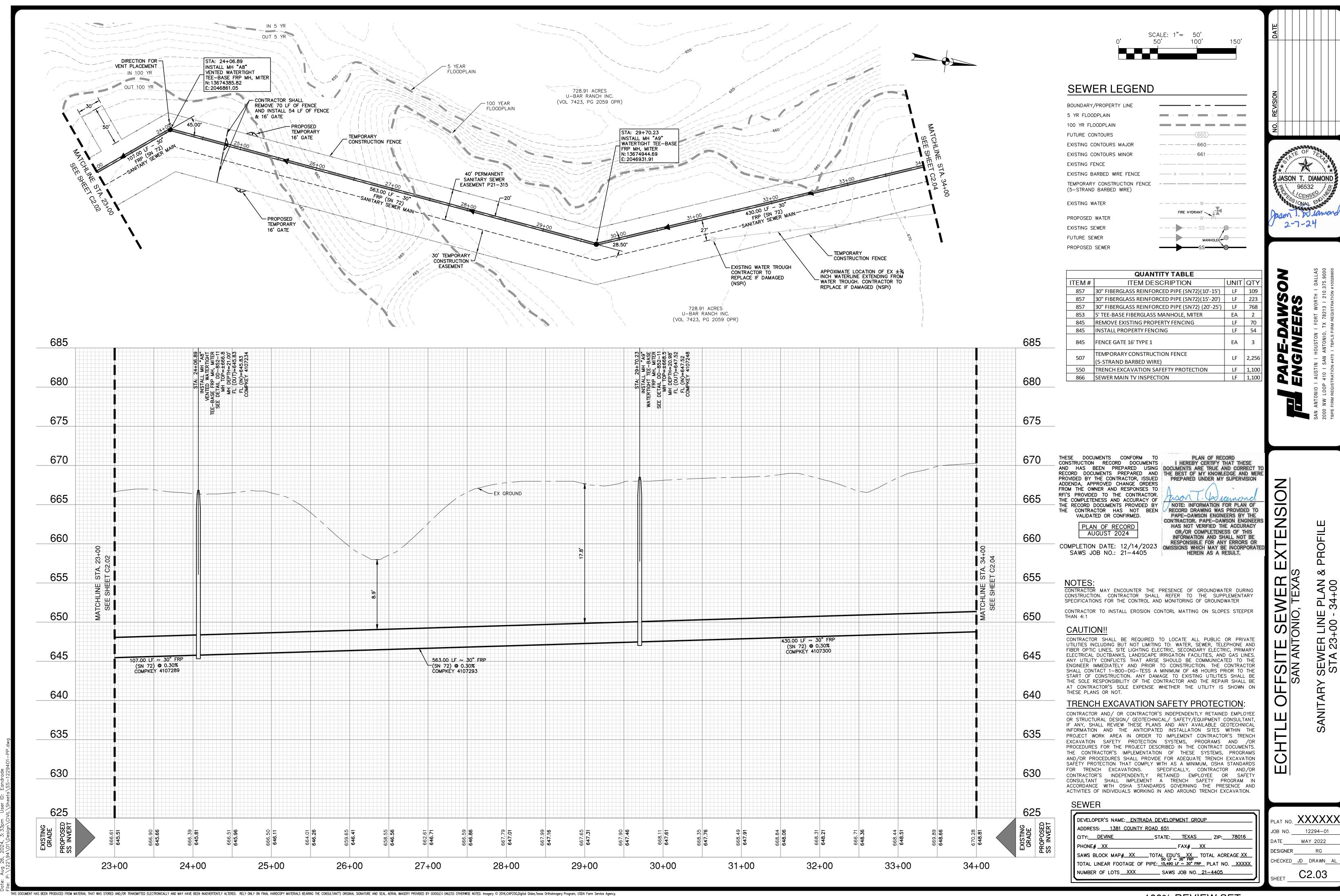
NO. XXXXXX 12294-01 ESIGNER HECKED JD DRAWN A

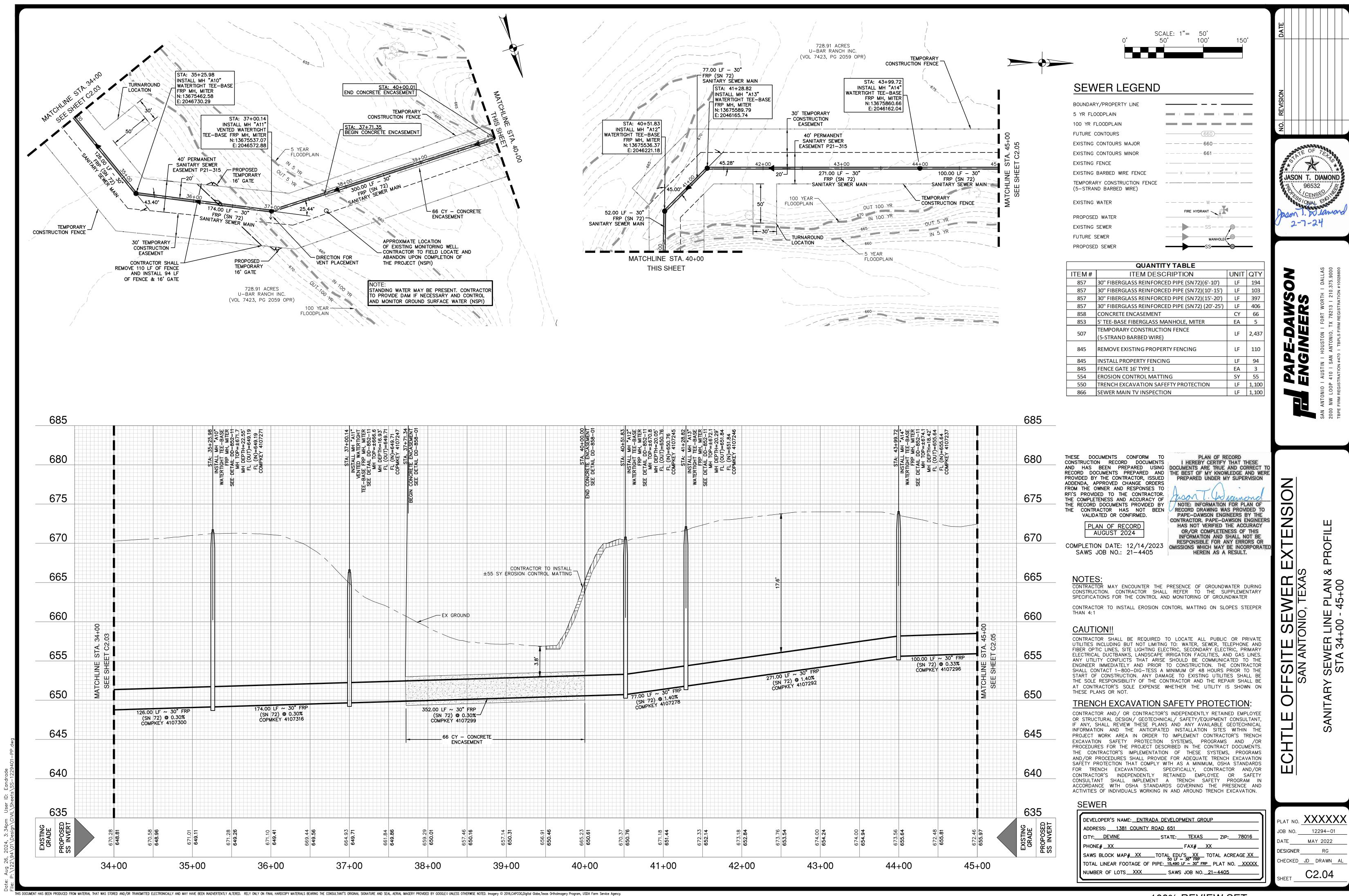


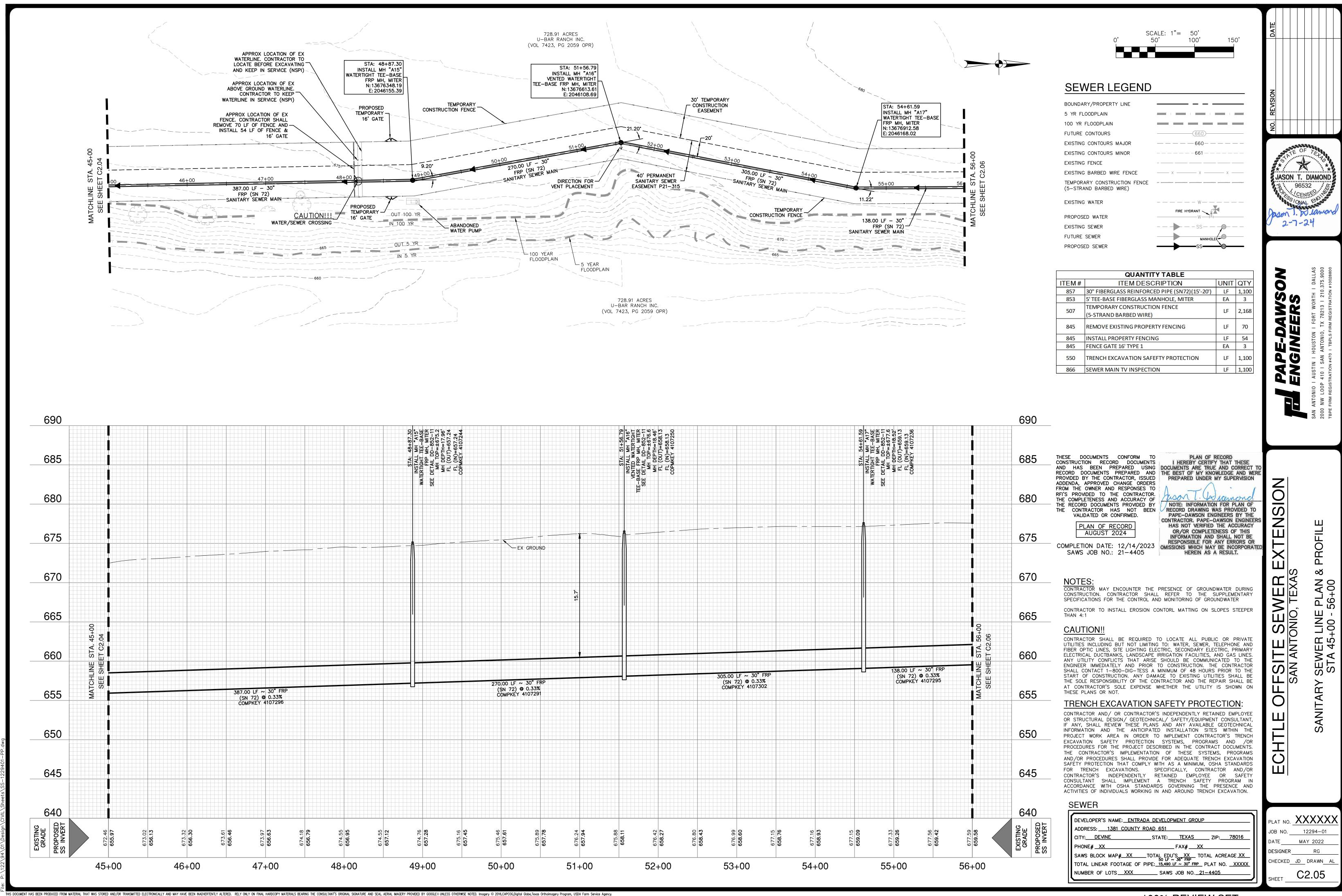


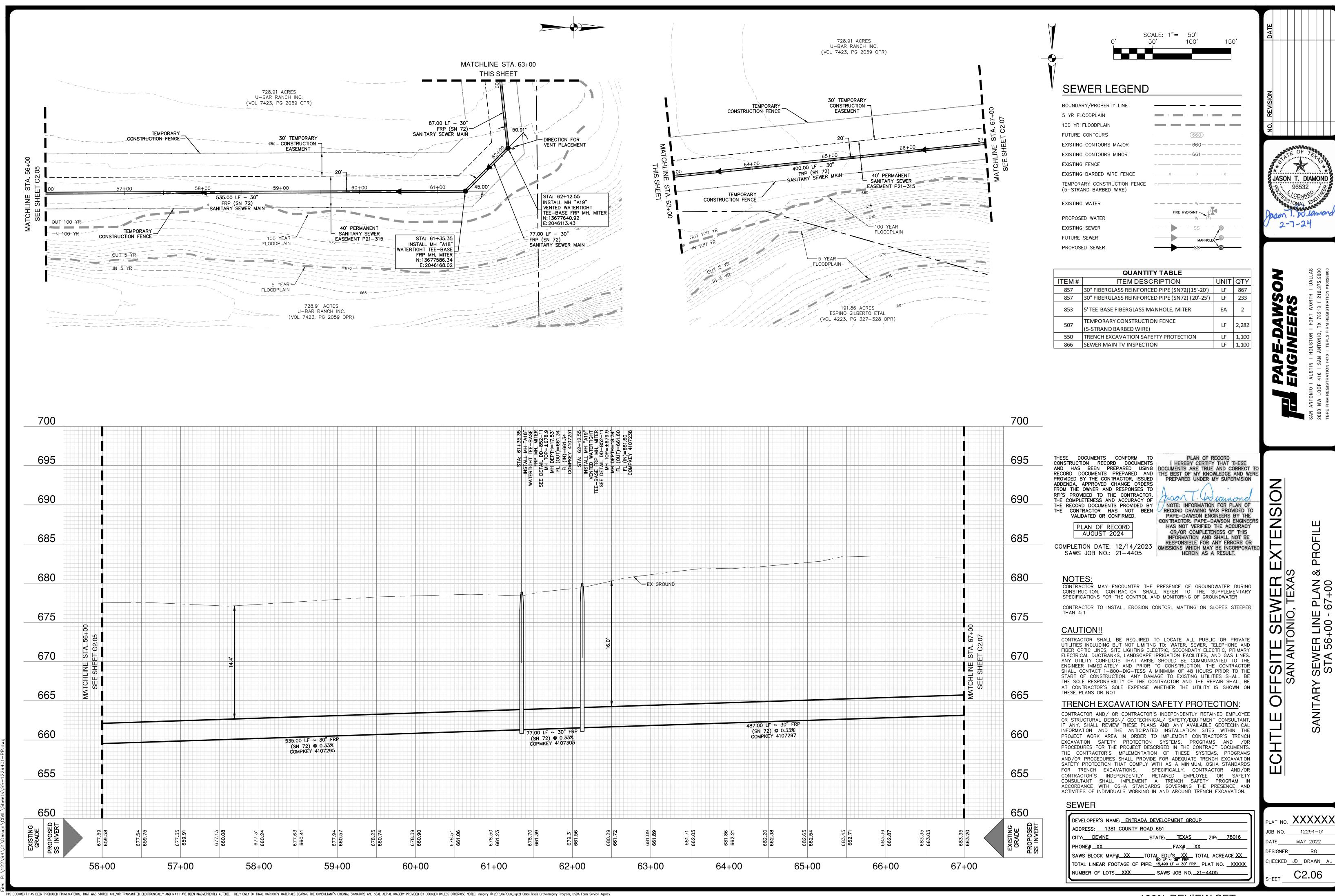


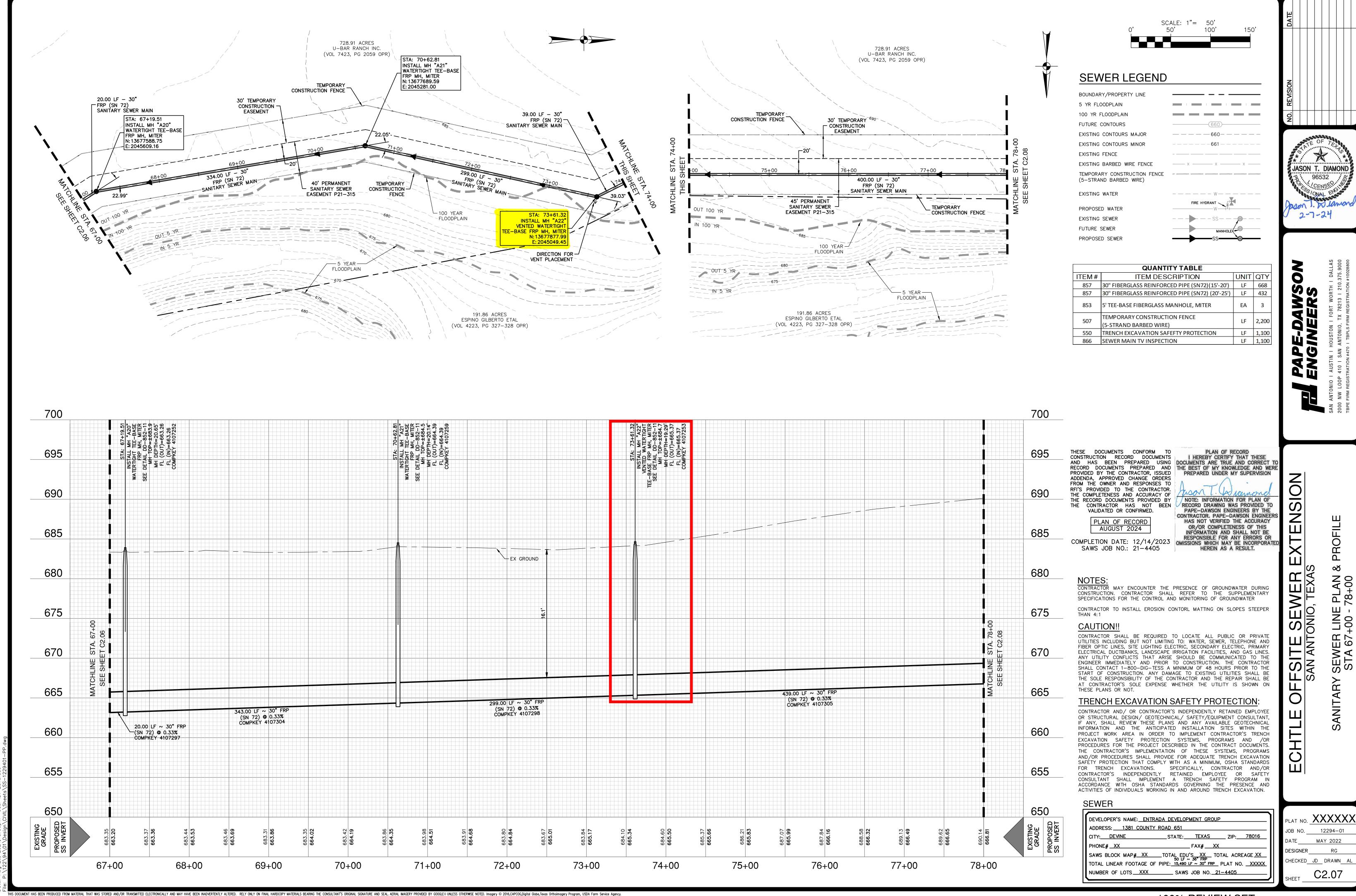


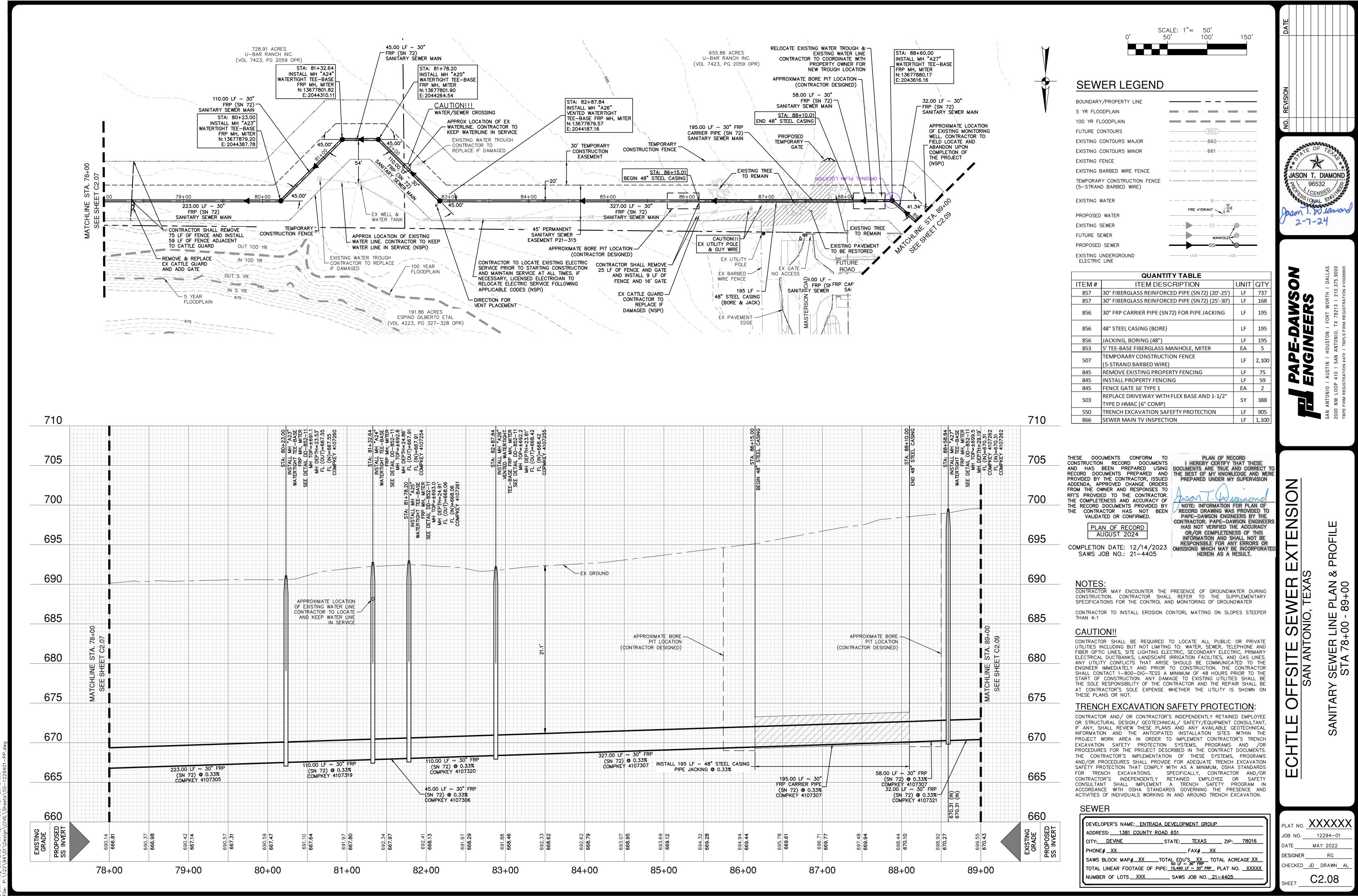




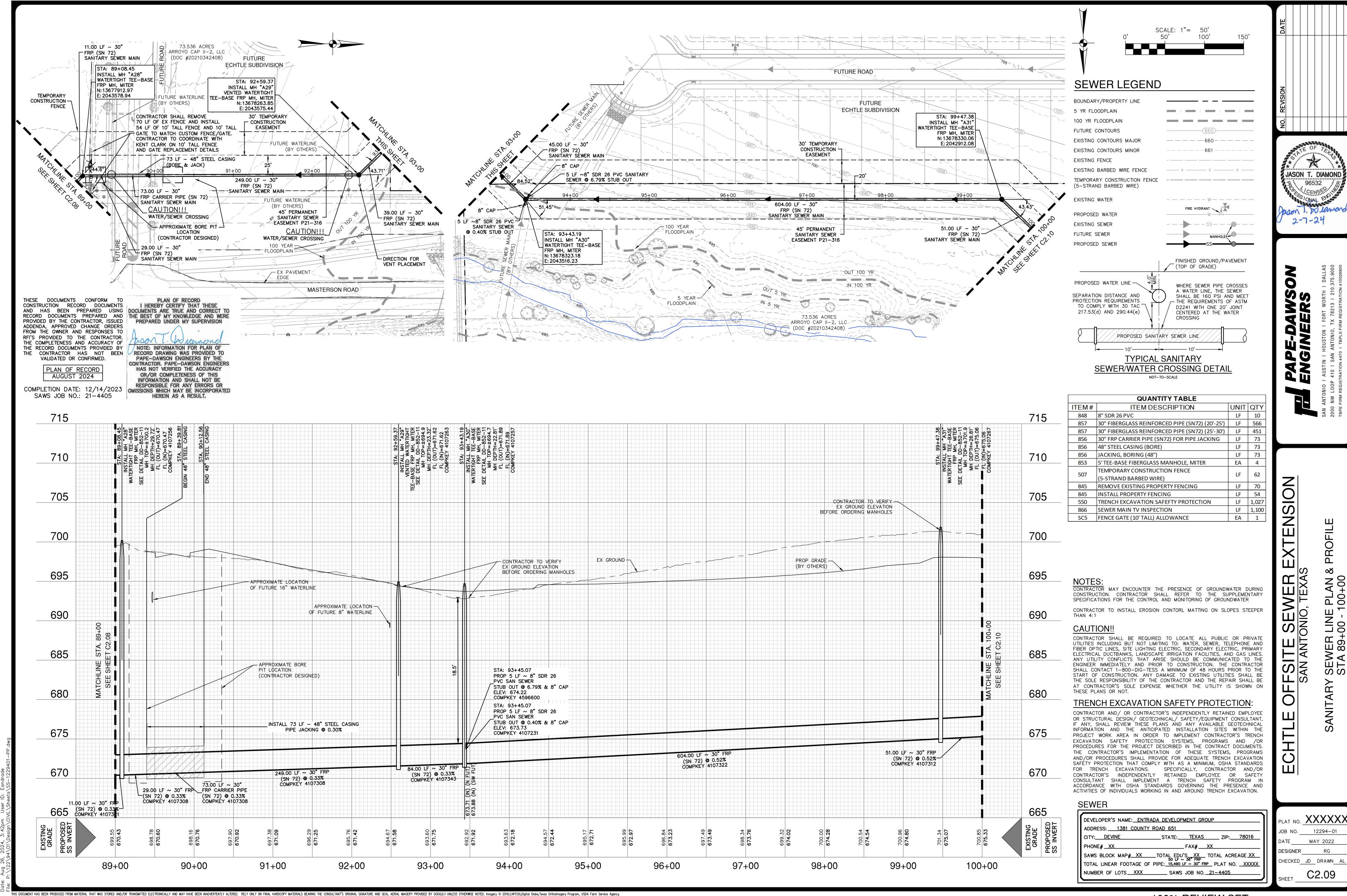


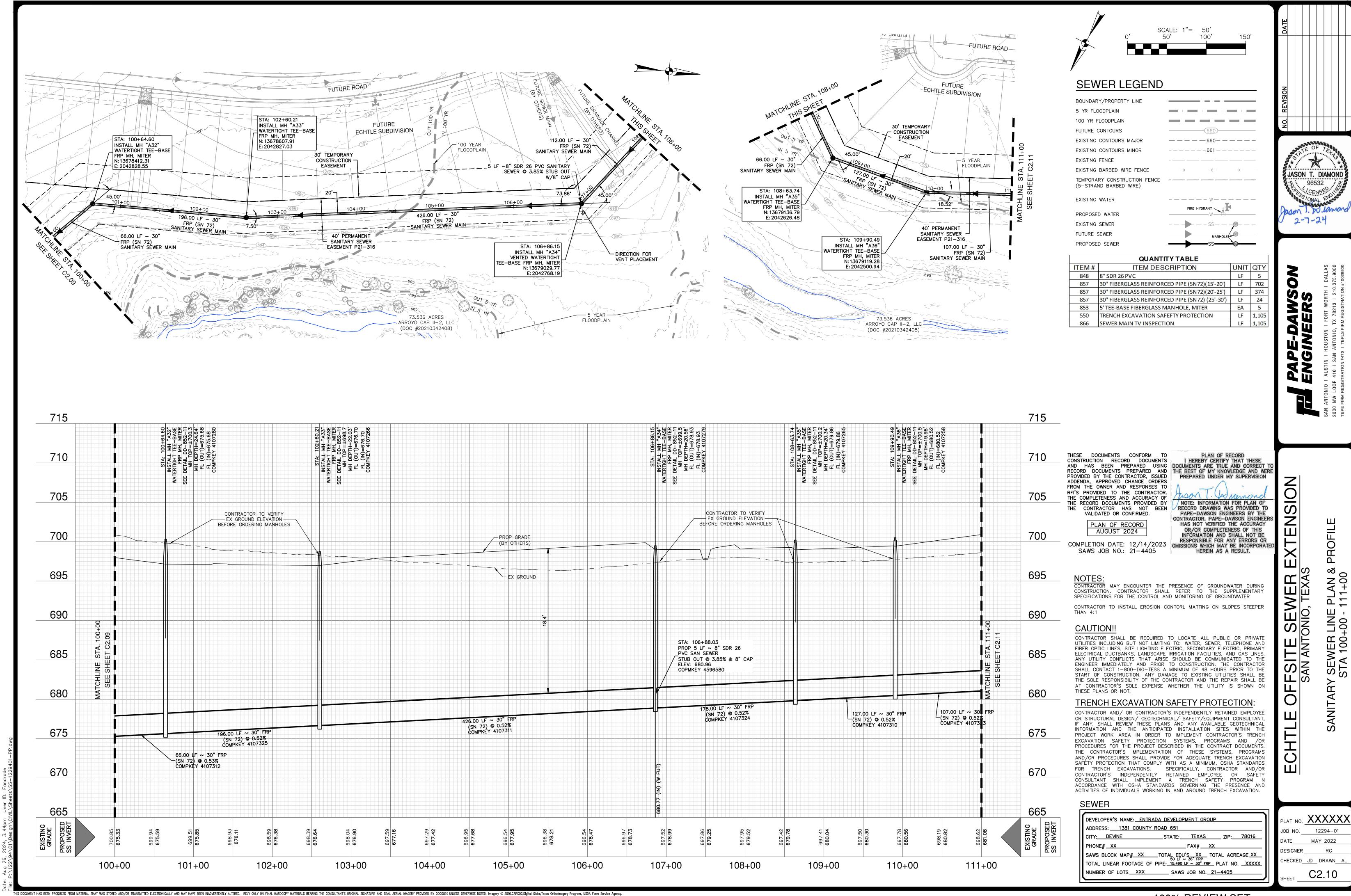


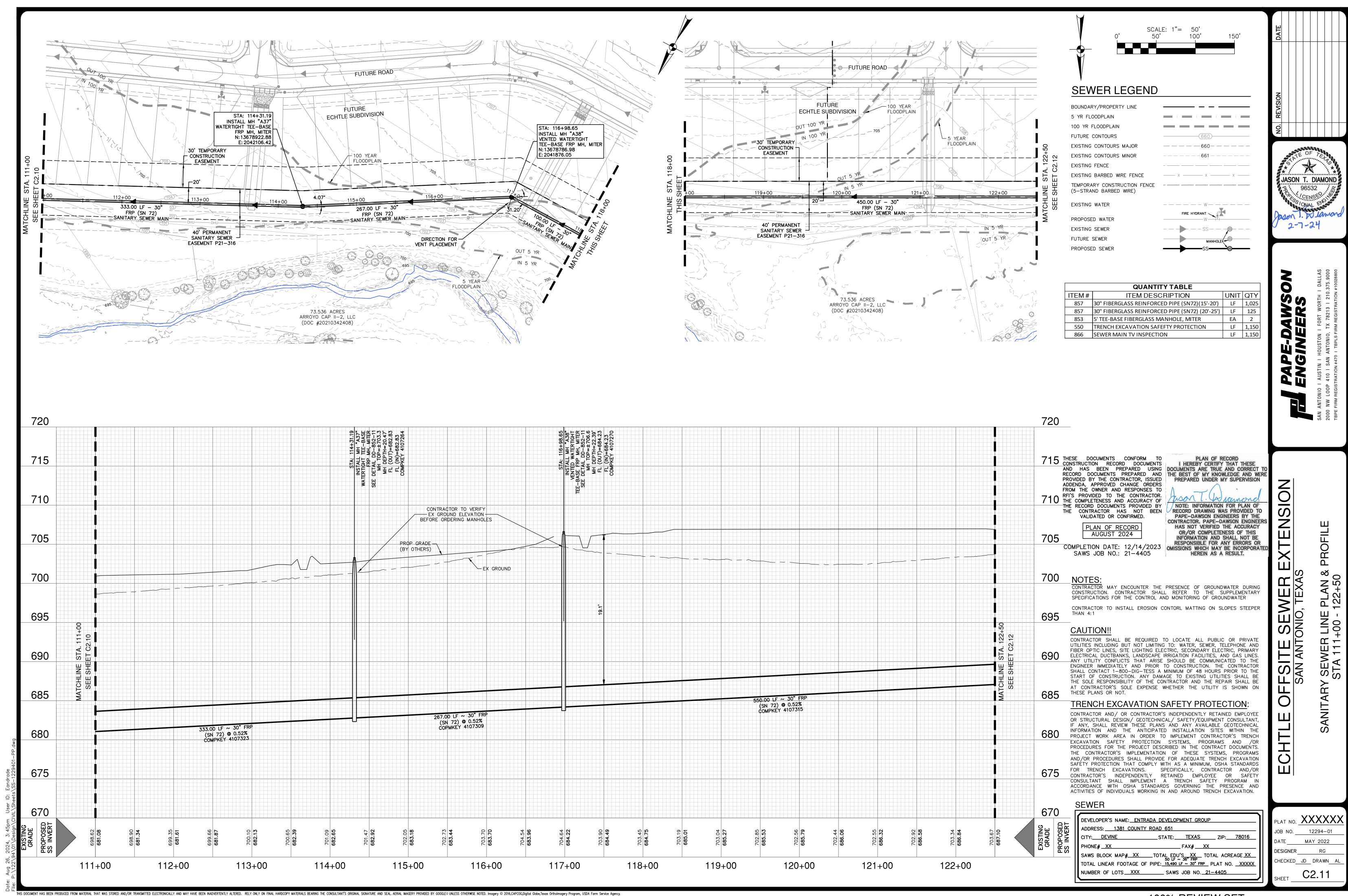


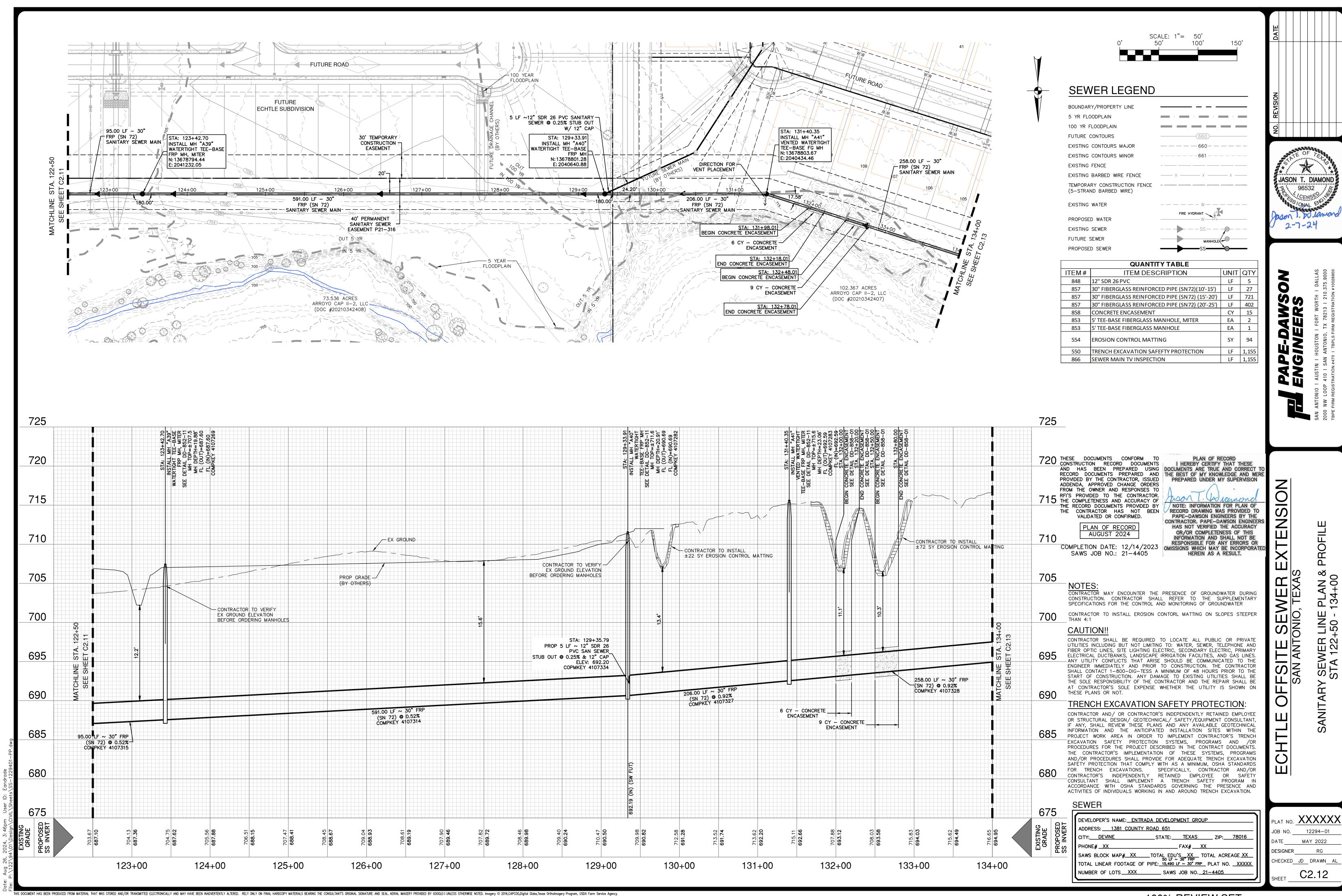


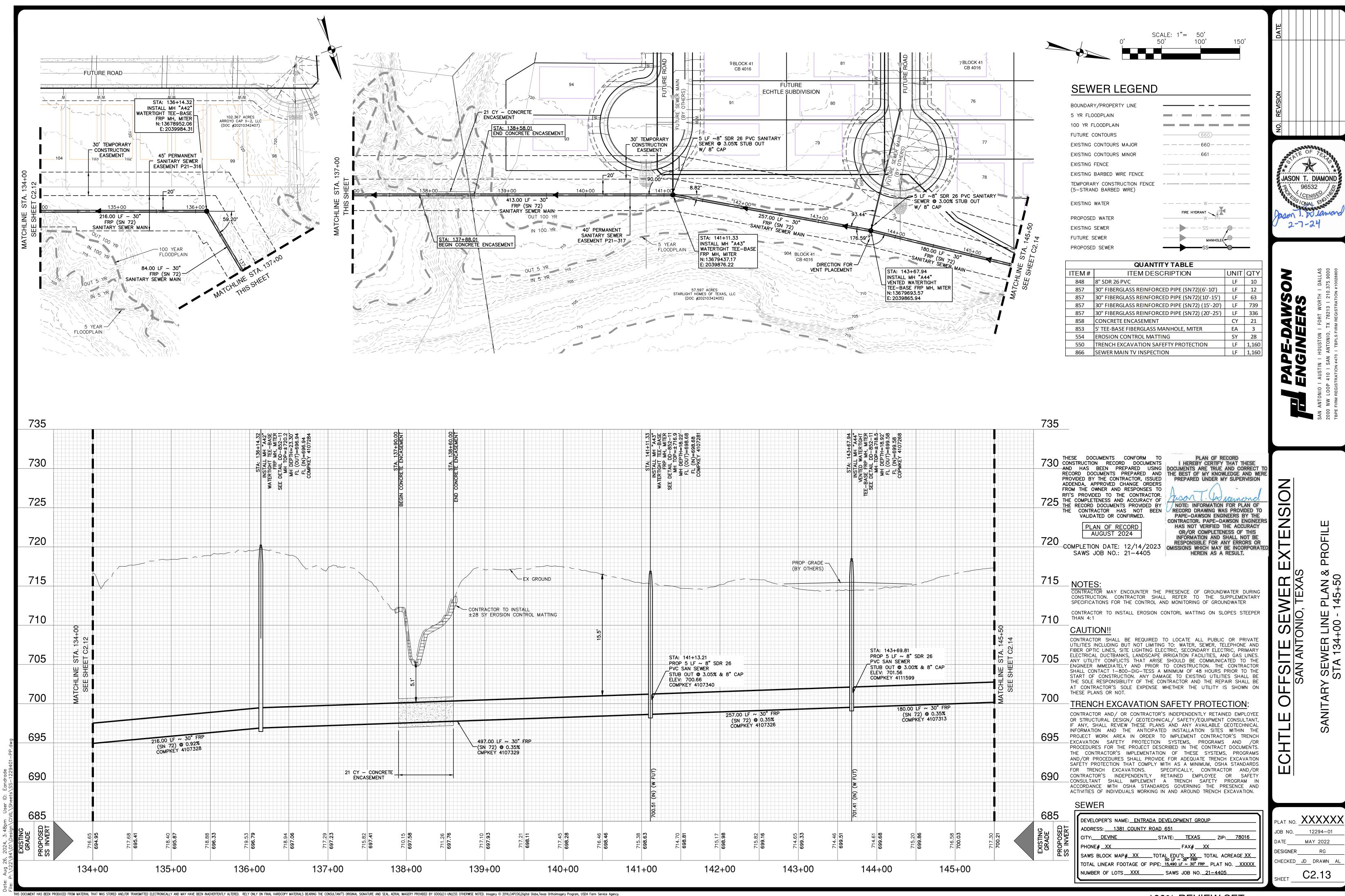
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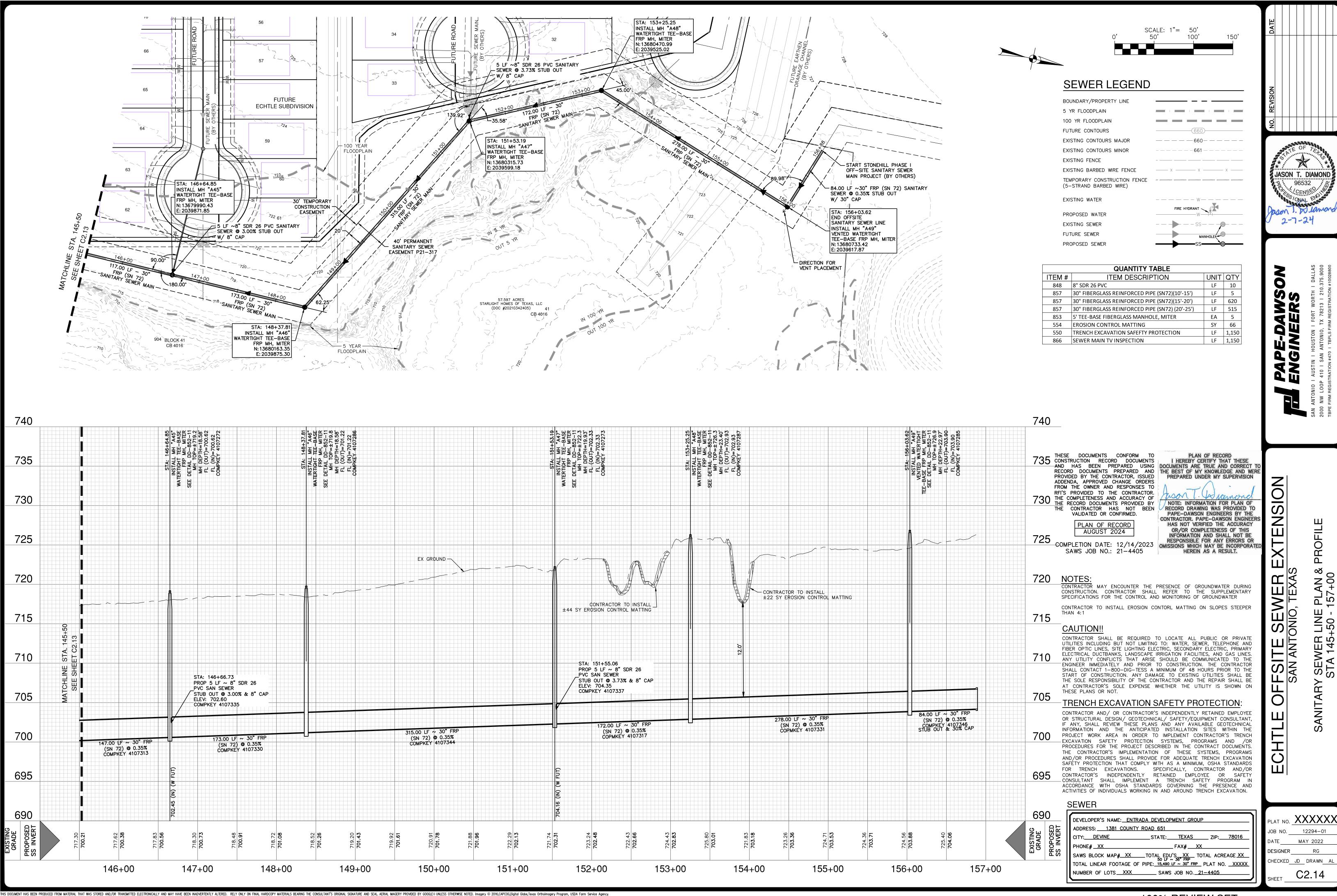












SAWS APPROVED #4 PLACED 12" ALL AROUND RING & COVER SHALL BE ADDED TO MANHOLES IN THE CREEK THAT ARE ABOVE GRADE. - SAWS STD CONCRETE RING ENCASEMENT TO INCLUDE TOE-DOWN TO EXTEND 3' BELOW EXISTING GROUND VARIES TOP OF EXISTING GROUND FRP CONIC SECTION FLOWABLE FILL (NSPI) -NON-SHRINK EPOXY GROUT EXCAVATION, TRENCHING, AND— BACKFILL REQUIREMENTS ARE AS GIVEN BY SPECIFICATION (OR ENGINEER APPROVED EQUAL) FIBERGLASS BOTTOM WITH 3"Wx1/2" THICK FLG. ANTI-FLOTATION NO. 804. REFER TO SPECIFICATIONS AND CONTRACT DOCUMENTS. -COUPLING 48" Ø OUTLET-FIBERGLASS SEWER PIPE —TEE BASE PLAIN END, TYP FIBERGLASS TRENCH WIDTH PER SEWER PIPE SAWS DETAIL

TEE BASE CONCRETE-ENCASEMENT.

> NOT SHOWN SECTION A

MANHOLE RAISED

STEEL REINFORCEMENT

CONSTRUCTION RECORD DOCUMENTS
AND HAS BEEN PREPARED USING
RECORD DOCUMENTS PREPARED AND
PROVIDED BY THE CONTRACTOR, ISSUED
ADDENDA, APPROVED CHANGE ORDERS
EPOLATIF OF THE BEST OF MY KNOWLEDGE AND WERE
PREPARED UNDER MY SUPERMISSION

COMPLETION DATE: 12/14/2023 OMISSIONS WHICH MAY BE INCORPORATED

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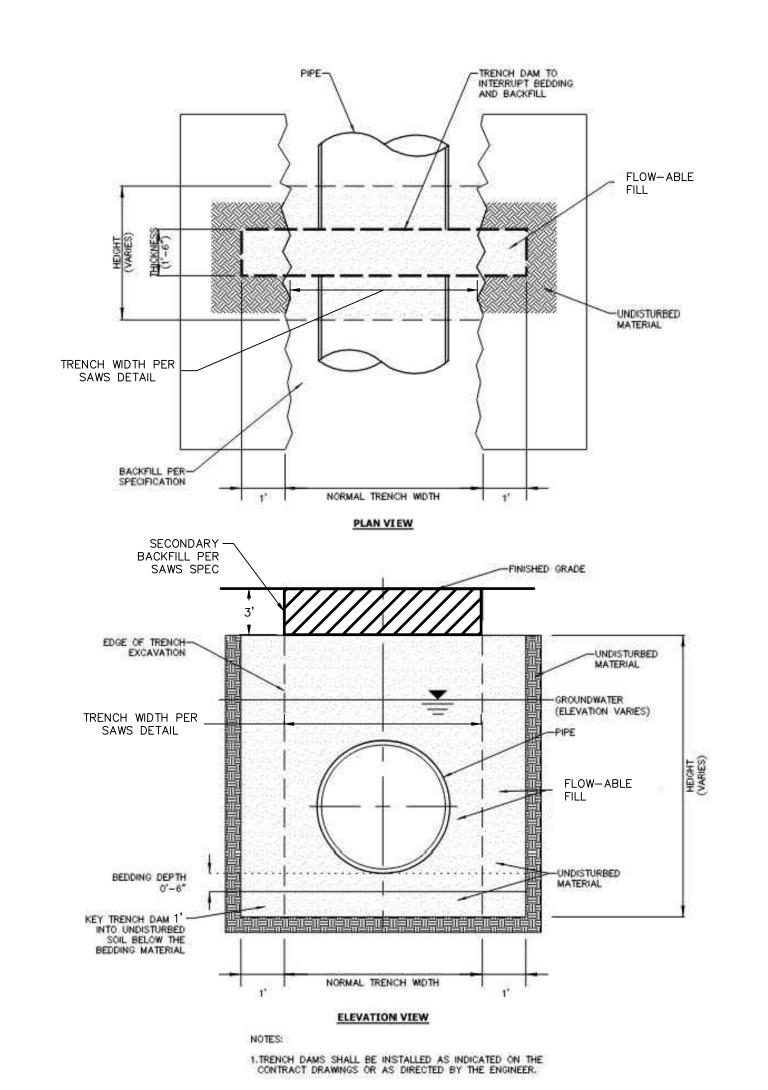
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PLAN OF RECORD
AUGUST 2024

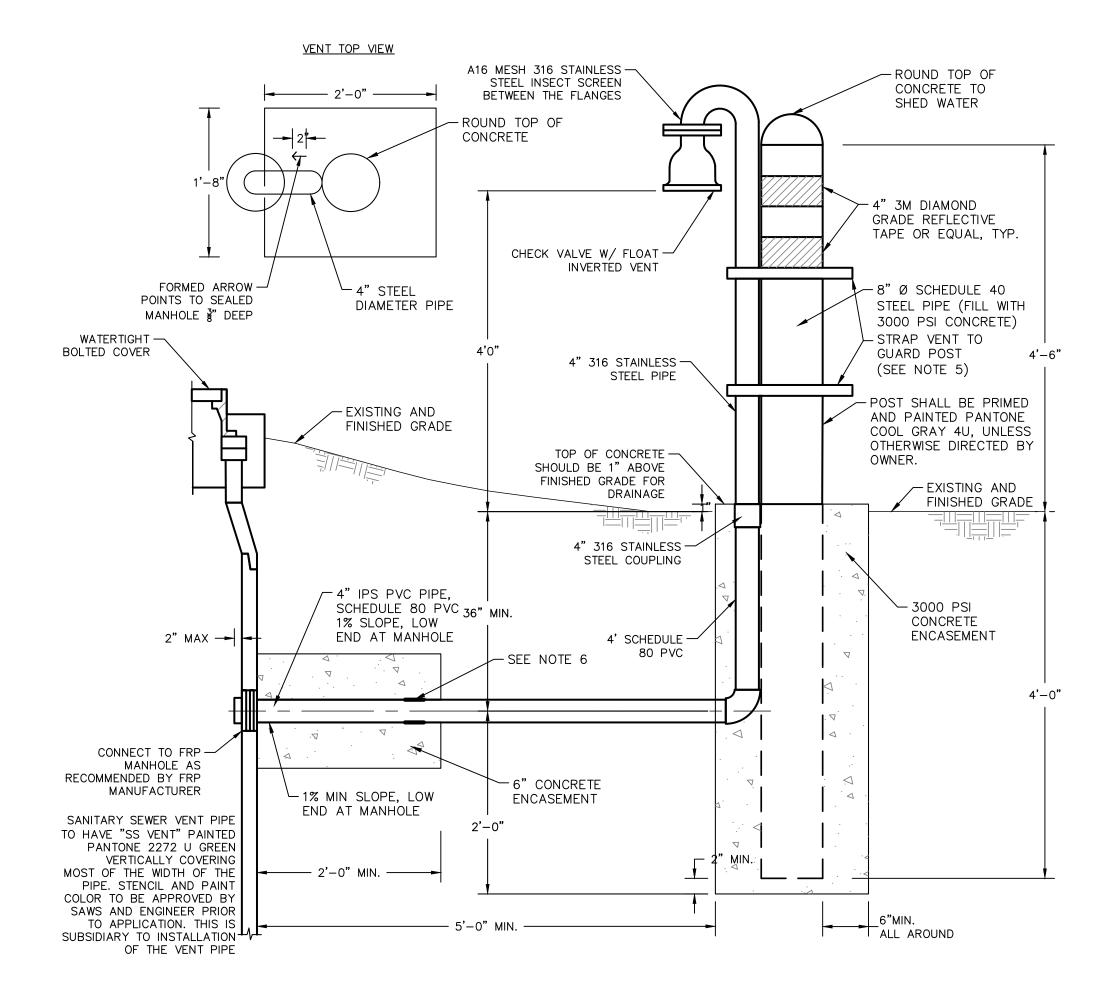
SAWS JOB NO.: 21-4405



ABOVE EXISTING GRADE SECTION

THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE. HTTPS://APPS.SAWS.ORG/BUSINESS_CENTER/SPECS/CONSTSPECS/ UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS

MANHOLE VENT TABLE											
STA	MANHOLE	VENT	EXISTING GROUND ELEVATION	EXISTING FLOODPLAIN ELEV. AT VENT	FUTURE GROUND ELEVATION	FUTURE FLOODPLAIN ELEV. AT VENT	MANHOLE TOP ELEVATION	VENT ELEVATION	INCLUDES VENT CHECK VALVE	LENGTH OF PIPE FROM MANHOLE TO VENT (FT)	VENT LOCATION (LT/RT OF MH)
13+63.08	MH A3	Υ	664.1	-	-	-	664.6	668.1	N	5	LT
24+06.89	MH A8	Υ	666.3	-	-	-	666.8	670.3	N	5	LT
37+00.12	MH A11	Υ	664.9	666.56	-	667.34	667.5	668.9	N	10	RT
51+56.78	MH A16	Υ	676.1	-	-	-	676.6	680.1	N	5	RT
62+12.53	MH A19	Υ	679.4	-	=	-	679.9	683.4	N	5	RT
73+61.31	MH A22	Υ	684.2	-	-	-	684.7	688.2	N	5	RT
82+87.83	MH A26	Υ	691.7	-	-	-	692.2	695.7	N	5	RT
92+61.25	MH A29	Υ	694.4	-	-	-	694.9	698.4	N	15	RT
106+88.03	MH A34	Υ	697.3	698.52	699.0	-	699.5	703.0	N	15	RT
117+00.53	MH A38	Υ	704.7	704.63	706.1	-	706.6	710.1	N	15	RT
131+42.22	MH A41	Υ	715.2	-	=	-	715.6	719.2	N	15	RT
143+69.81	MH A44	Υ	714.5	717.96	716.8	717.69	718.46	720.8	N	5	RT
156+79.37	MH A49	Υ	724.7	726.05	-	726.37	726.87	728.7	N	5	RT

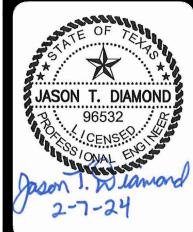


48" VENTED TEE BASE MANHOLE DETAIL N.T.S.

NOTES:

- 1. REFER TO TABLE FOR MINIMUM ELEVATIONS OF VENT OPENING 2. ALL PIPING BETWEEN MANHOLE AND GUARD POST MUST BE UNDERGROUND
- 3. BACKFILL AROUND 4" IPS PVC PIPE, SCH80, SHALL BE FLOWABLE FILL WITH A MINIMUM THICKNESS OF 12 INCHES AT NO SEPARATE PAY ITEM
- 4. MANHOLE VENTS SHALL BE SUBSIDIARY TO THE COST OF THE MANHOLE (NSPI) 5. MINIMUM OF 2 VENT STRAPS, VENT STRAPS TO BE 316 STAINLESS STEEL
- 6. WRAP PVC PIPE W/ 1" THICK CLOSED CELL FOAM AND TAPE IN PLACE PRIOR TO PLACING CONCRETE.

;	SEWER				
	DEVELOPER'S NAME: ENTRA)	
	CITY: DEVINE	STATE:	TEXAS		78016
	PHONE# XX SAWS BLOCK MAP# XX	TOTAL EDU	's XX TO	TAL ACR	EAGE XX
	TOTAL LINEAR FOOTAGE OF NUMBER OF LOTS XXX	PIPE: 15,490 I	LF ~ 30" FRP	PLAT NO	. XXXXX



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HEN.

PLAT NO. XXXXXX 12294-01 DESIGNER

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HECKED JD DRAWN A C2.15