CIVIL CONSTRUCTION DOCUMENTS FOR FIRESTONE PKWY MHP

5903 Firestone PKWY San Antonio, TX 78244

OWNER/DEVELOPER:

SHOWCASE DEVELOPERS 13423 BLANCO RD.

SAN ANTONIO. TX 78216

UP ENGINEERING a Bowman company 111 TOWER DR, SUITE 325 SAN ANTONIO, TEXAS 78232

CONTACT: RICHARD L. NEUBAUER III, R.P.L.S.

ENGINEER:

UP ENGINEERING a Bowman company 111 TOWER DR, SUITE 325 SAN ANTONIO, TEXAS 78232

CONTACT: RYAN R. PLAGENS, P.E.

InTEC OF SAN ANTONIO, L.P.

ADDRESS:

FIRESTONE PKWAY, SAN ANTONIO, TEXAS, 78244

FLOODPLAIN INFORMATION:

FIRM #48029, PANEL 0430 G 09/29/2010.

WATERSHED:

THIS SITE IS LOCATED IN THE MARTINEZ CREEK WATERSHED.

SURVEY BASIS:

BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, GRID.

LEGAL DESCRIPTION:

CB 5080B (THE ESTATES AT WOODLAKE), BLOCK 30 LOT 1 EX NE IRR 20.45FT (9.903 AC) & CB 5080 P-12E (0.0904 AC) ABS 420

UTILITY PROVIDERS:

CPS ENERGY 145 NAVARRO SAN ANTONIO, TX 78205

(210) 353-2376

(210) 353-2376

CABLE:

TIME WARNER CABLE 1900 BLUE CREST LANE SAN ANTONIO, TX 78247

(210) 244-0500

(210) 233-2010

100 EAST GUENTHER

SAN ANTONIO, TX 78204

SAN ANTONIO RIVER AUTHORITY

ELECTRIC:

CPS ENERGY 145 NAVARRO SAN ANTONIO, TX 78205 SAN ANTONIO WATER SYSTEM 2800 U.S HWY 281 NORTH SAN ANTONIO, TX 78212

WASTEWATER:

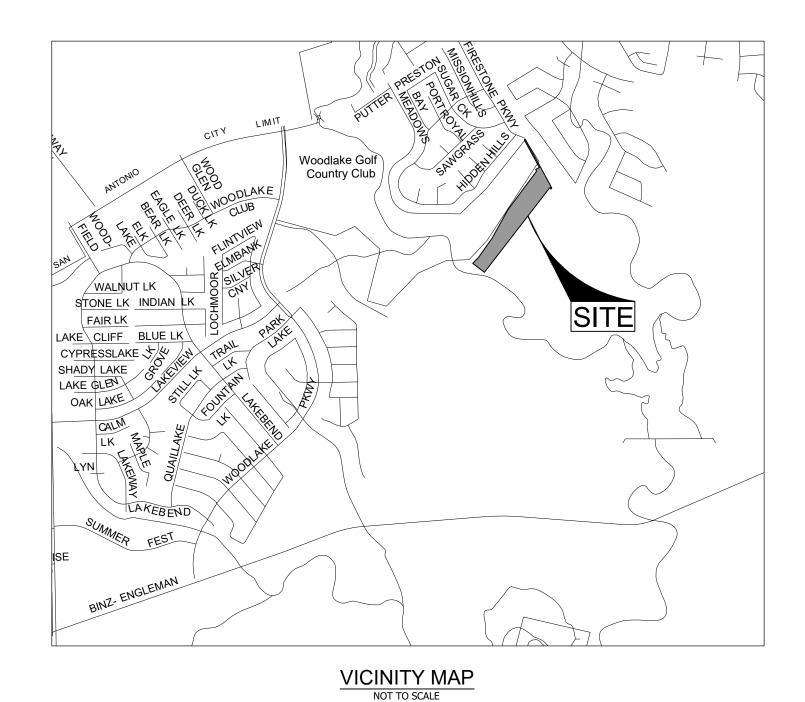
LAND USE SUMMARY:

PROPOSED SITE USE:

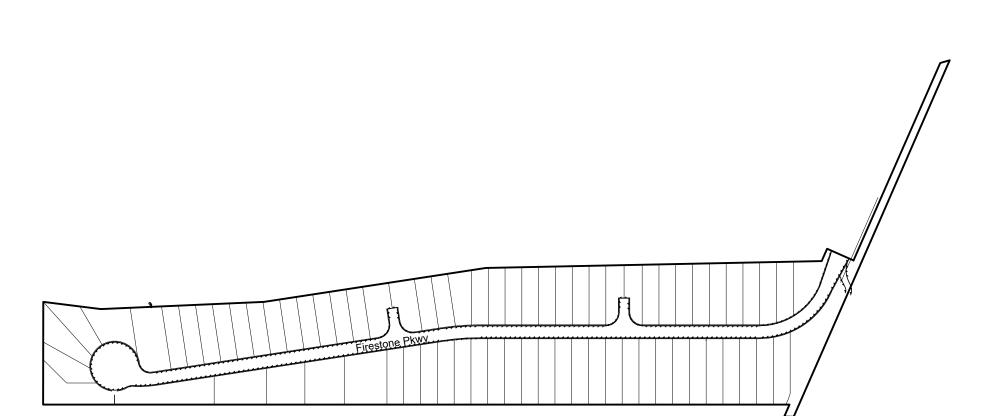
MANUFACTURED HOUSING

LOT SIZE:

- 1. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT.
 THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/ HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
- BY THE ACT OF SUBMITTING A BID FOR THE 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 AND SPECIFICATIONS AND 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 AND/OR A FIELD SURVEY, AND MAY NOT MATCH LOCATIONS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITY CROSSING PRIOR TO BEGINNING CONSTRUCTION.
- 4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, FOUNTAINHEAD TOWER, SUITE 605, 8200 W. INTERSTATE 10, SAN ANTONIO, TEXAS 78230).
- CONTRACTOR SHALL RESTORE ALL SIGNS AND PAVEMENT MARKINGS TO EXISTING CONDITIONS FOLLOWING THE COMPLETION OF EACH PHASE OF CONSTRUCTION. CONTRACTORS SHALL REFER TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FOR SIGN AND MARKING DIMENSIONS AND COLORS.



SUBMITTAL DATE:



INDEX MAP



Sheet List Table

COVER SHEET GENERAL NOTES UTILITY COVER **UTILITY OVERALL UTILITY OVERALL** SEWER COVER **SEWER NOTES SEWER OVERALL** SEWER OVERALL

SANITARY SEWER LINE "A" P&F

SANITARY SEWER LINE "B" P&F

SANITARY SEWER LINE "B" P&F

WATER OVERALL PRIVATE

WATER OVERALL PRIVATE

WATER OVERALL PUBLIC WATER DETAILS PUBLIC

TRAFFIC PLAN - SIGN PLAN

DRAIN B4-B5 STA BEGIN - 6+80

DRAIN B4-B5 STA 6+80 - END

FIRESTONE PKWY P&P FIRESTONE PKWY P&P

SEWER DETAILS

WATER COVER

STREET COVER

SIGN DETAILS

SIGN DETAILS

DRAIN A1-A2

POND SHEET

GRADING PLAN

GRADING PLAN

SWPPP DETAILS

SWPPP

DRAINAGE DETAILS 1 DRAINAGE DETAILS 2 DRAINAGE DETAILS 3

DRAIN B3

C5.3

C5.4

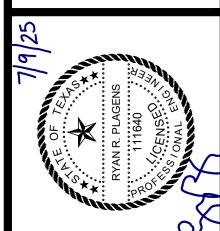
C5.6

C5.8

C5.9

C7.0

Sheet Number | Sheet Title



PKWY MHF). 070379 FIRESTONE |

DESIGNED BY: DRAFTED BY:

SHEET

CHECKED BY:

GENERAL NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, BEXAR COUNTY CONSTRUCTION SPECIFICATIONS, OR LATEST ADOPTED VERSION UNLESS OTHERWISE NOTED.
- NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. AL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". IF APPLICABLE, THE COUNTY'S CONSTRUCTION INSPECTOR AND TRAFFIC CONTROL REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC CONTROL REPRESENTATIVE AND TH CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTL' PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
- IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC CONTROL REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 C.P.S. 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.
- CONTRACTOR SHALL NOTIFY THE BEXAR COUNTY INSPECTOR (FOR WORK IN THE RIGHT OF WAY) AND THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR TESTING TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
- CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	210-233-2009
WATER & SEWER EMERGENCIES	210-227-137
STORM DRAINAGE (CITY OF SAN ANTONIO	210-207-8022
SIGNAL OPERATIONS (CITY OF SAN ANTONIO)	210-207-8022
FEXAS STATE WIDE ONE CALL LOCATOR	811
CPS ENERGY (GAS & ELECTRIC)	210-353-2000
CPS ELECTRIC/GAS ISSUES OR EMERGENCIES	210-353-4357
TIME WARNER	210-244-0500
NT&T	972-742-5892

- . THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- ALL UNUSABLE MATERIAL TO BE REMOVED AND SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO FILL MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE. USABLE MATERIAL SHALL BE PLACED AND COMPACTED AS SHOWN ON THE SWPPP SHEET AND/OR GRADING PLAN. ANY EXCESS MATERIAL THAT REMAINS AFTER PLACEMENT SHALL BE STOCKPILED ON THE ADJACENT ACREAGE WITHIN THE LIMITS OF CONSTRUCTION OR AS DIRECTED BY THE OWNER.
- . THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- . THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
- . IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.
- IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS. THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.
- IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
- . IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, THE ENGINEER AND DEVELOPER SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR ENGINEER OR BEXAR COUNTY APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE ENGINEER AND OWNER (AND COUNTY IF APPLICABLE). THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE OWNER.
- CONTRACTOR SHALL NOTIFY THE ENGINEER, PRIOR TO CONSTRUCTION, OF ANY ALTERNATE PIPE MATERIALS BEING CONSIDERED. I PLASTIC PIPE IS PROPOSED. THE INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321. USING CLASS I OR CLASS II SOILS FOR BACKFILL, AND A SUITABLE GEOTEXTILE FILTER MEDIA

UTILITY GENERAL NOTES

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY TO ALL APPLICABLE CITY OF SAN ANTONIO RULES AND REQUIREMENTS FOR STREETS, SIDEWALKS, ALLEYS AND ROADWAY DESIGN (LATEST EDITIONS), THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITIONS), THE SAN ANTONIO WATER SYSTEM (SAWS) SPECIFICATIONS FOR WATER WORKS CONSTRUCTION (LATEST EDITION), BEXAR COUNTY PUBLIC WORKS, AND OTHER CODES AS ADOPTED BY THE MUNICIPALITY UNLESS OTHERWISE NOTED.
- THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OF NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND MAINTAINING ALL PERMITS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR WATER AND WASTER WATER MAIN TESTING.
- CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
- ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER & SEWER MAIN AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY).
- NO WATER JETTING TO BACKFILL TRENCHES WILL BE ALLOWED ON THIS PROJECT.
- POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL BE SDR 26. FITTINGS AND JOINTS SHALL CONFORM TO COMPATIBLE SDR 26 PIPE. SOLVENT CEMENTS JOINTS SHALL NOT BE USED.
- WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
- ALL UNUSABLE MATERIAL TO BE REMOVED AND SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO FILL MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE. USABLE MATERIAL SHALL BE PLACED AND COMPACTED AS SHOWN ON THE SWPPP SHEET AND/OR GRADING PLAN. ANY EXCESS MATERIAL THAT REMAINS AFTER PLACEMENT SHALL BE STOCKPILED ON THE ADJACENT ACREAGE WITHIN THE LIMITS OF CONSTRUCTION OR AS DIRECTED BY THE
- WHETHER SHOWN ON THE PLANS OR NOT, ALL CLEANOUT TOPS AND MANHOLES SHALL BE INSTALLED AT LEAST 3" ABOVE FINISHED GRADE OUTSIDE PAVEMENT AND FLUSH WITH FINISHED GRADE WITHIN THE PAVEMENT AREAS. TOPS WITHIN PAVEMENT SHALL BE TRAFFIC RATED.
- . PRIVATE SANITARY SEWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE FOR PRIVATE MAINS, EXCEPT WHERE SPECIFIED, AND THE SAN ANTONIO RIVER AUTHORITY SPECIFICATIONS FOR PUBLIC MAINS.
- 4. THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM SPECIFICATIONS FOR PUBLIC WATER MAINS AND INTERNATIONAL PLUMBING CODE FOR PRIVATE WATER MAINS.
- UTILITY CONTRACTOR SHALL COORDINATE WITH CPS ENERGY FOR THE GAS AND ELECTRICAL SERVICE.
- 6. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES ≥ 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS STANDARD SPECIFICATIONS - ITEM #824.
- PRIVATE SEWER MAIN CLEANOUTS ON LINES SMALLER THAN 8" SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (EVERY 100').
- 3. FIRE LINE SHALL BE PVC C900, CLASS 200 AND SHALL COMPLY WITH AWWA STANDARDS AND SHALL WITHSTAND A WORKING PRESSURE OF NOT LESS THAN 200 P.S.I.
- 9. CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION & SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE BY OWNER.
- 0. ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THEMAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE OWNER AND ENGINEER WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
- . COMPACTION TESTING WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO BEXAR COUNTY SPECIFICATIONS AND REQUIREMENTS.
- 2. ALL PLUMBING MUST BE INSTALLED IN A MANNER CONFORMING TO THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE, INTERNATIONAL ENERGY CONSERVATION CODE (IF APPLICABLE), AND ANY LOCAL AMENDMENTS AS ADOPTED BY BEXAR COUNTY. ALL REQUIREMENTS OF THE AFOREMENTIONED CODES MUST BE ADHERED TO WHETHER SPECIFICALLY MENTIONED OR NOT AND FIELD VERIFIED BY INSPECTION.
- 3. CONTRACTOR SHALL COORDINATE WITH THE DEVELOPER'S PREFERRED TESTING LAB/GEOTECHNICAL ENGINEER REGARDING SOIL DENSITY, CONCRETE, ASPHALT, AND UTILITY TRENCH TESTING.

FIRE PREVENTION NOTES

- THE CONTRACTOR SHALL PROVIDE COMPACTED FLEXIBLE BASE PAVEMENT PRIOR TO CONSTRUCTION OF COMBUSTIBLE MATERIALS AS AN "ALL WEATHER DRIVING SURFACE".
- FIRE HYDRANTS MUST HAVE A 5" STORZ ADAPTER WITH A BLIND CAP AFFIXED TO THE STEAMER OUTLET. THE 2.5" DISCHARGES MUST NH THREAD. EACH HYDRANT MUST BE IDENTIFIED WITH A BLUE REFLECTOR AFFIXED TO THE ROADWAY IN LINE WITH THE HYDRANT INSTALLATION.

CITY PUBLIC SERVICE (CPS) NOTES

- CONTRACTOR SHALL REFERENCE FINAL CPS DESIGN AND RECORDED PLAT FOR LOCATION OF CPS INFRASTRUCTURE AND APPURTENANCES, EASEMENTS AND UTILITY CROSSINGS.
- CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY REQUIRED CPS UTILITY CROSSINGS BASED ON THE FINAL CPS DESIGN.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIRED CPS PRE-CONSTRUCTION MEETINGS AND ALL INSPECTIONS FOR UTILITY CROSSINGS.
- PROPOSED STREET LIGHTS SHALL BE LOCATED BETWEEN THE BACK OF CURB AND APPARENT STREET R.O.W. AND INSTALLED PER THE CPS DESIGN.

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 INSTALLATIONS SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, ROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF IHESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATIONS SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S NDEPENDENTLY 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.

GRADING AND DRAINAGE NOTES

- CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION. EXISTING CONTOURS BASED ON SURVEY TOPOGRAPHIC DATA.
- ALL GRADES AND CONTOURS SHOWN ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS, CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOPSOIL, MULCH, ...ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.
- POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER. MINIMUM SLOPE 0.50%.
- NO ABRUPT CHANGE OF GRADE SHALL OCCUR.
- ALL DISTURBED AREAS SHALL BE REVEGETATED BY HYDROMULCHING, BY THE CONTRACTOR, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, AND ARCHITECTURAL LANDSCAPING PLANS.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHE SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE CITY OF SAN ANTONIO SPECIFICATIONS FOR CONSTRUCTION, TXDOT STANDARD SPECIFICATIONS, AND BEXAR COUNTY PUBLIC WORKS STANDARD SPECIFICATIONS.
- THE MATERIALS USED FOR SITE FILL 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"), WHETHER OBTAINED ONSITE OR BROUGHT FROM OFFSITE.
- 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.
-). CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL, OR BETTER CONDITION ANY DAMAGES DONE TO EXISTING SIGNS UTILITIES, PAVEMENT, CURBS, SIDEWALKS OR DRIVEWAYS (NO SEPARATE ITEM).
- 1. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVE THAT ARE IN THE PROJECT AREA.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION.
- $oxed{13}$. Contractor shall verify the exact locations for underground utilities and drainage systems whether shown on PLANS OR NOT.
- 14. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT OR LIMITS, OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
- 15. $\,$ THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND MAINTAINING ALL PERMITS, APPROVALS AND ACCEPTANCES REQUIRED
- TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- 17. ALL EXCAVATION IS UNCLASSIFIED.

IN PAVEMENT WILL BE ACCEPTED.

- 18. SEE CIVIL COVER SHEET FOR PROJECT BENCHMARK.
- 19. CONTRACTOR TO RAISE/LOWER ALL UTILITY BOXES, COVERS, GRATES, VALVES BOXES, MANHOLES, CLEANOUTS, ETC., TO MATCH PROPOSED FINISHED GRADE ELEVATIONS.
- 20. ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED SHALL BE COVERED WITH 6" MIN. CLEAN TOPSOIL UNLESS OTHERWISE NOTED (NO SEPARATE PAY ITEM). CUT OR FILL SHALL BE ADJUSTED TO ALLOW FOR TOPSOIL IN ORDER TO MAINTAIN PROPOSED ELEVATIONS. AREAS FOR LANDSCAPING SHOULD BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTS PLANS. NO ADDITIONAL FILL SHOULD BE IMPORTED TO SATISFY THIS REQUIREMENT.
- $21.\,$ PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER (GEOTECH AND CIVIL).
- 22. A TESTING LABORATORY SHALL BE EMPLOYED BY THE DEVELOPER TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED IS BEING OBTAINED, AND TO TEST COMPACTION OF EXPOSED SUBGRADES, WHEN COMPACTION TESTS DOES NOT MEET GEOTECH REQUIREMENTS, FILL AND BACKFILL SHALL BE DRIED OUT OR MOISTENED AS NECESSARY, SCARIFIED, AND RECOMPACTED AT NO ADDITIONAL COSTS TO OWNER

DEMOLITION NOTES

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE BEXAR COUNTY AND CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
- ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM
- CURB RAMPS ARE TO BE CONSTRUCTED ON ALL PERMANENT CURB RETURNS AT THE INTERSECTION OF ALL STREETS OR AS DIRECTED BY THE BEXAR COUNTY INSPECTOR.
- ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG TEST" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.
- DISPOSAL OF ALL DEMOLISHED MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS.
- WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.
- ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN. ANY ITEM TO REMAIN WHICH IS REMOVED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. (NO SEPARATE PAY).
- CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY DEMOLITION PERMITS FOR THE PROJECT AND COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES FOR REMOVAL OF THEIR INDIVIDUAL SERVICES.
- CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER REGARDING QUESTIONS ON THE DEMOLITION PLAN.
- DEMOLITION CONTRACTOR SHALL CLEARLY MARK ALL EXISTING UTILITY SERVICES WHERE THEY CROSS PROPERTY LINES. THIS INFORMATION WILL BE USED BY UTILITY COMPANIES AND CONTRACTORS TO TIE INTO FOR THE PROPOSED UTILITY SERVICES.
- CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED & PROTECTED PRIOR TO COMMENCING CONSTRUCTION, DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREES TRUNKS. (IF APPLICABLE)
- 3. CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED. (IF APPLICABLE)
- 14. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE OF TREES THAT WERE TO REMAIN. (IF APPLICABLE)





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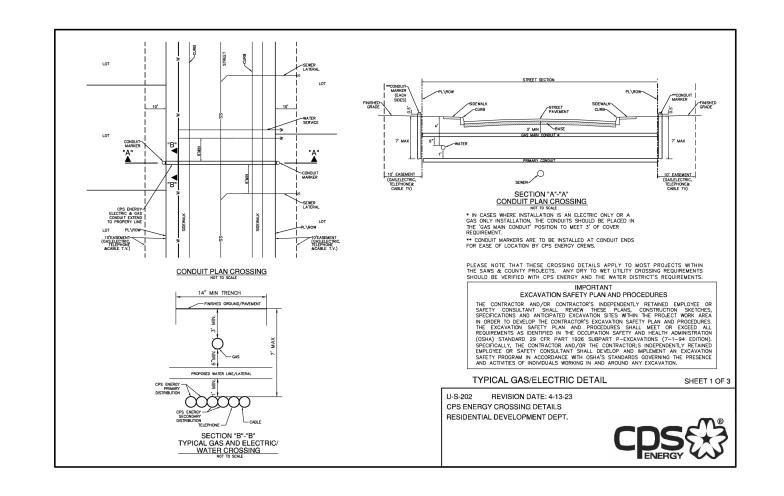
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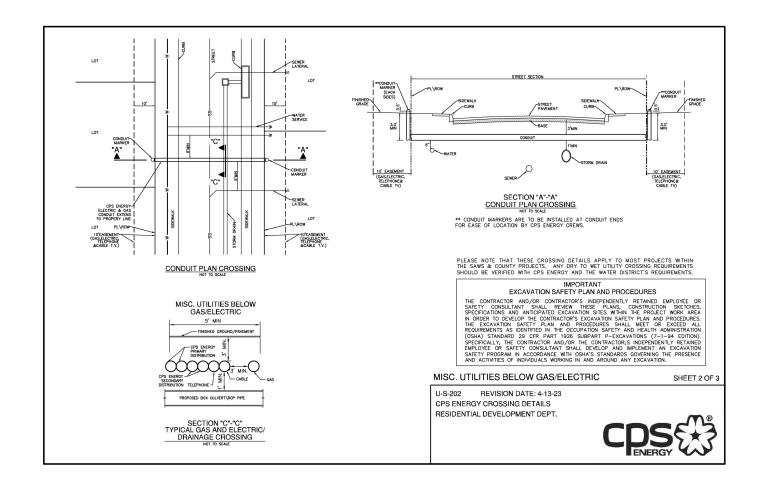
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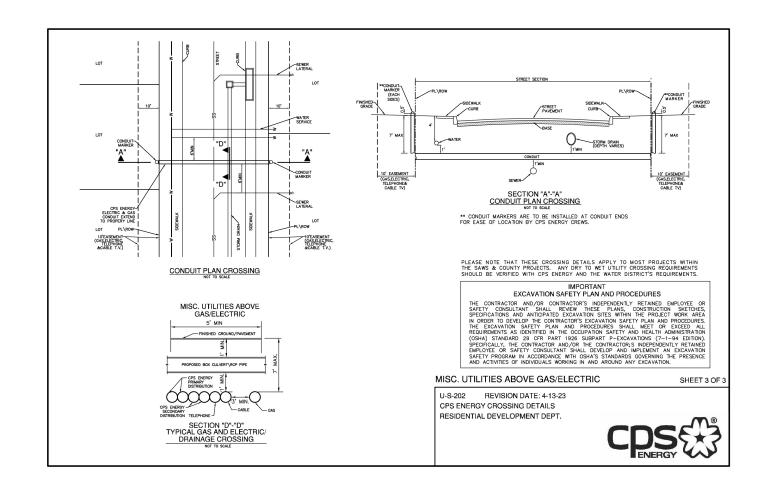
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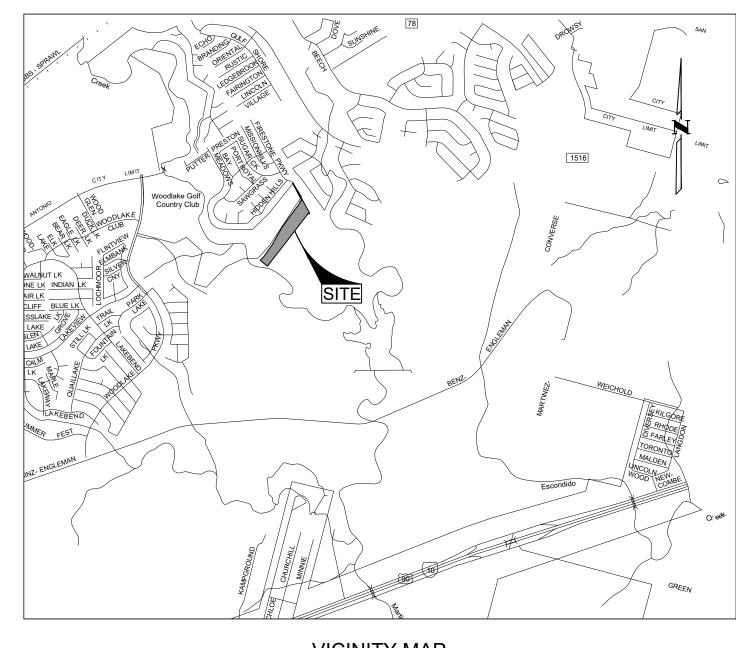
UTILITY CONSTRUCTION LAYOUT FIRESTONE PKWY MHP

5903 Firestone PKWY San Antonio, TX 78244









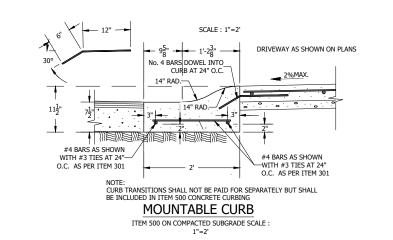
VICINITY MAP NOT TO SCALE

SUBMITTAL DATE: July 25

OWNER/DEVELOPER: SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

ENGINEER:

UP ENGINEERING a Bowman company 111 TOWER DR, SUITE 325 SAN ANTONIO, TEXAS 78232 (210) 774-5504 CONTACT: RYAN R. PLAGENS, P.E.



GENERAL NOTES:

INSTALLATION.

ALL EXISTING UTILITIES.

1. 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

2. ALL SPOIL AND UNUSABLE MATERIAL FROM THIS PROJECT SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT NO ADDITIONAL

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS.,

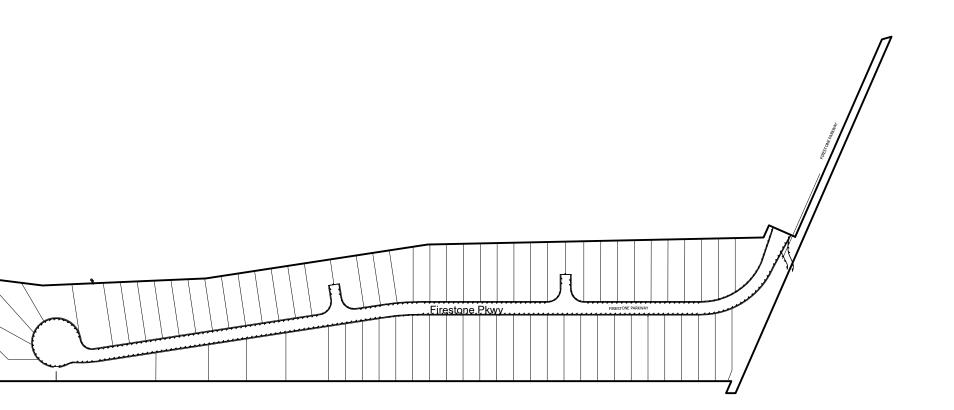
TESTS, APPROVALS REQUIRED TO COMPLETE CONSTRUCTION OF THIS

4. 6" PVC SCHEDULE 80 WILL BE REQUIRED FOR CPS UTILITY CROSSINGS WHEN STREET OR DRAIN CONSTRUCTION PRECEDES DRY UTILITY

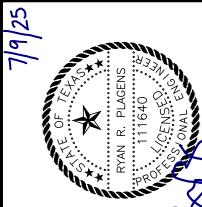
5. 4" PVC SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND

6. PVC CONDUIT WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.

TELEPHONE AND CABLE TV IF NOTE 4 ABOVE APPLIES.



INDEX MAP

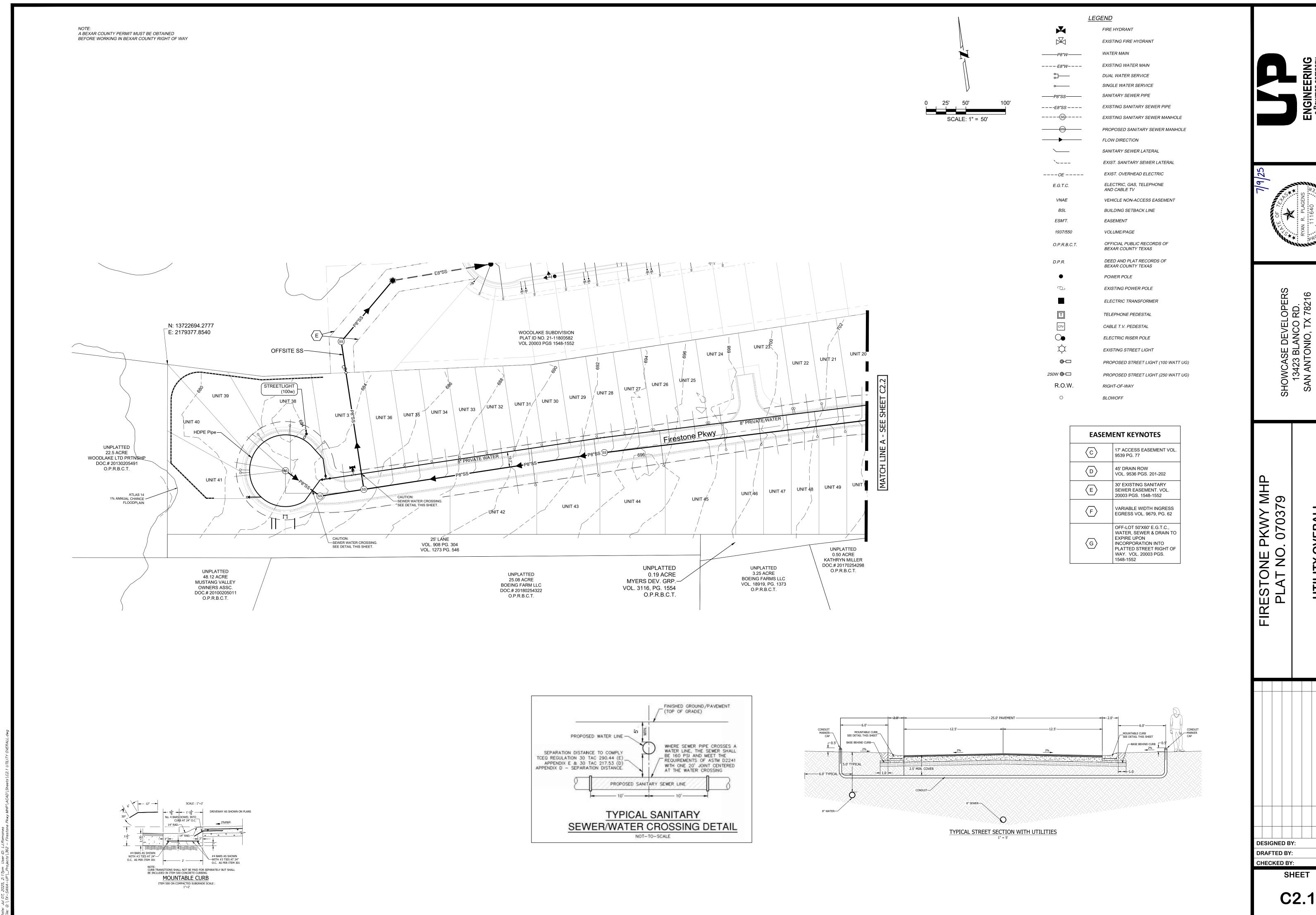


PKWY MHP). 070379 FIRESTONE F PLAT NO.

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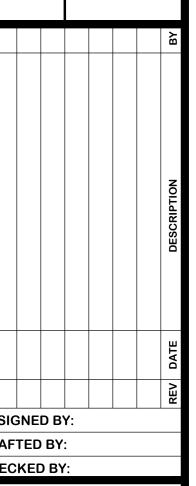
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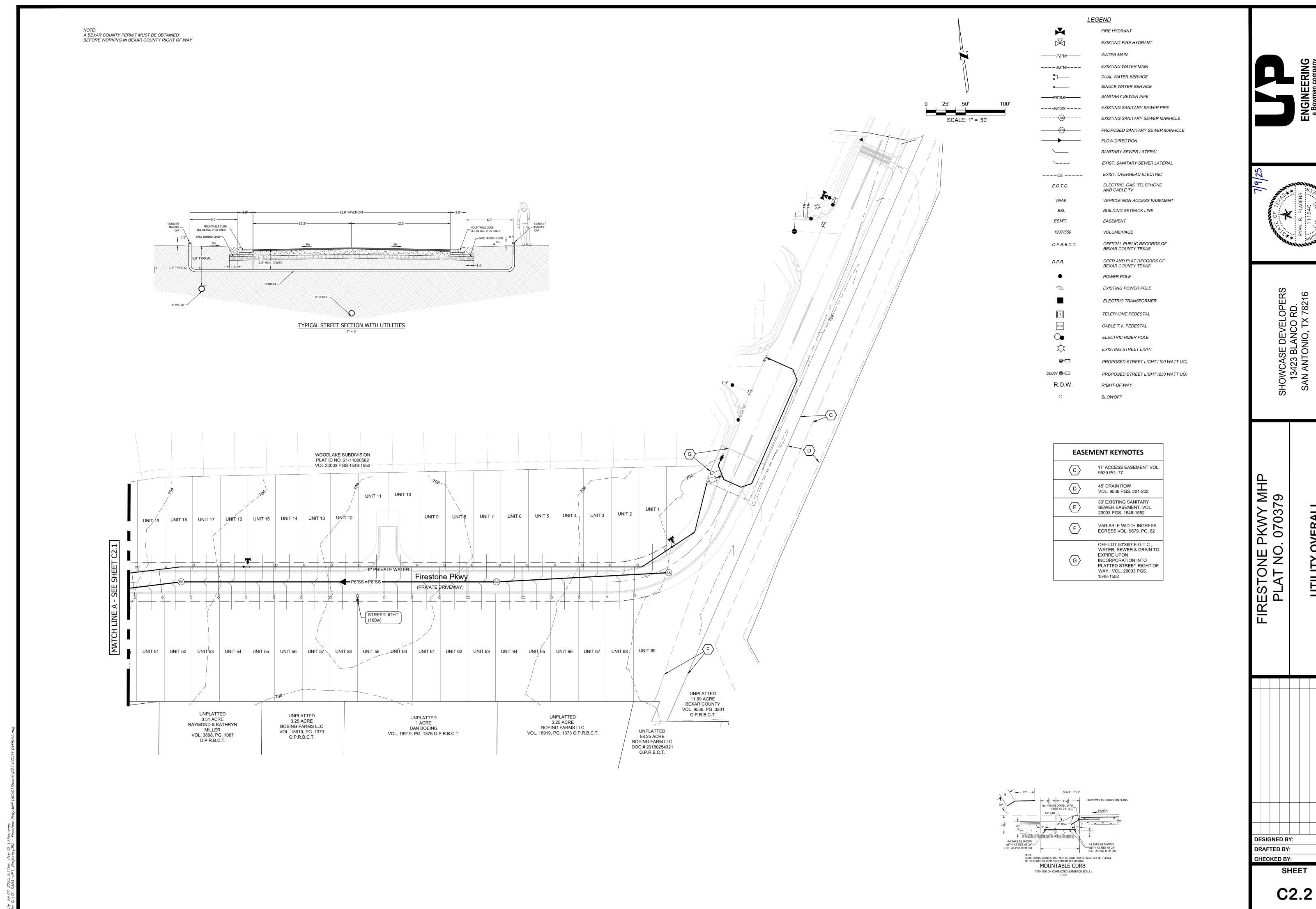


ENGINEERING a Bowman company



SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

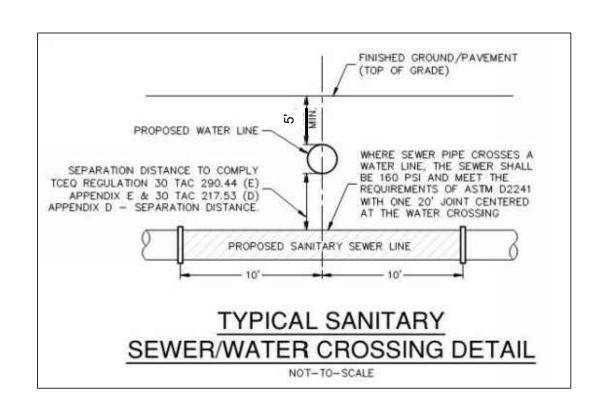


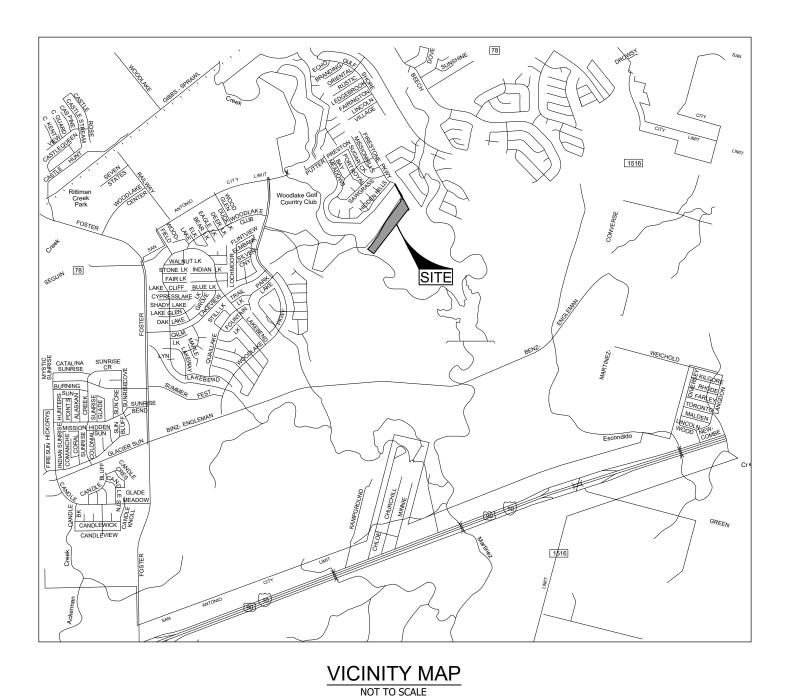


ENGINEERING a Bowman company

SANITARY SEWER CONSTRUCTION DOCUMENTS FOR FIRESTONE PKWY MHP

5903 Firestone PKWY San Antonio, TX 78244





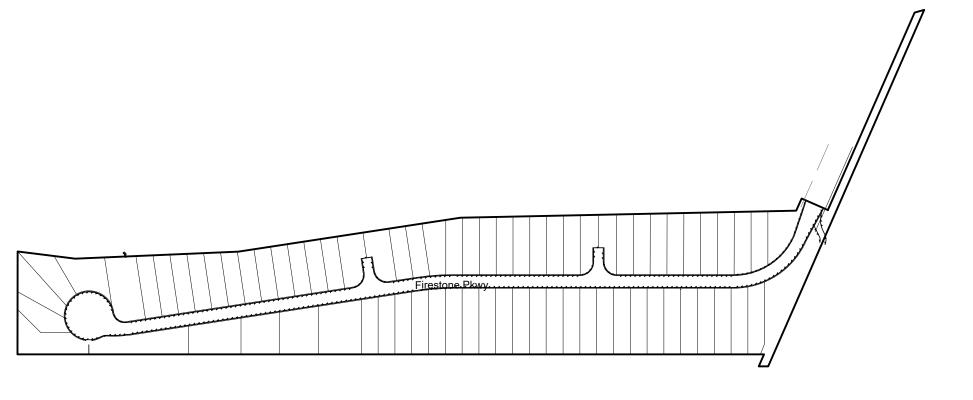
SUBMITTAL DATE:

July 25

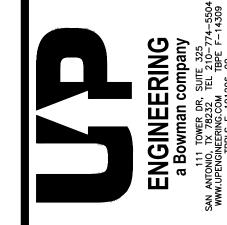
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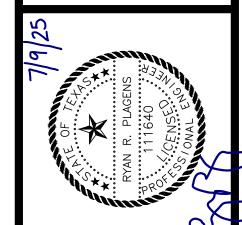
ENGINEER:

UP ENGINEERING a Bowman company 111 TOWER DR, SUITE 325 SAN ANTONIO, TEXAS 78232 (210) 774-5504 CONTACT: RYAN R. PLAGENS, PE



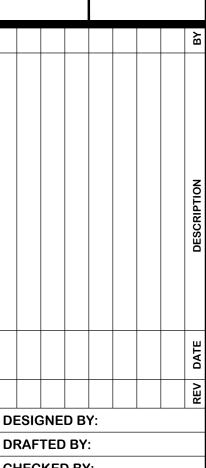
INDEX MAP





HOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

FIRESTONE PKWY MHF PLAT NO. 070379



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GENERAL NOTES:

- 1. SAN ANTONIO RIVER AUTHORITY (RIVER AUTHORITY) STANDARD SPECIFICATIONS AND STANDARD DETAILS ARE PROVIDED FOR DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS MANAGED BY THE RIVER AUTHORITY.
- 2. AT ANY TIME, THESE STANDARD SPECIFICATIONS AND DETAILS MAY BE ALTERED OR SUPERSEDED BY THE GENERAL CONDITIONS, SUPPLEMENTAL CONDITIONS, PLANS OR PROJECT SPECIFICATIONS WITHIN THE CONTRACT DOCUMENT PER DIRECTION FROM THE RIVER AUTHORITY.
- 3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY RIVER AUTHORITY AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE FOLLOWING AS APPLICABLE:
- 3.1. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30, PART 1, CHAPTER 217.
- 3.2. CURRENT TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT), "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
- 3.3. CURRENT RIVER AUTHORITY "STANDARD SPECIFICATIONS FOR SANITARY SEWER CONSTRUCTION".
- 3.4. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- 4. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE RIVER AUTHORITY INSPECTIONS DIVISION AT (210) 302-4200 FORTY EIGHT (48) HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL ALSO PROVIDE PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE START OF PROJECT.
- 5. WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS, FEDERAL HOLIDAYS, RIVER AUTHORITY HOLIDAYS, BEFORE 7:30 AM, OR AFTER 4:30 PM, UNLESS PRIOR APPROVAL IS GRANTED BY THE RIVER AUTHORITY ENGINEER. REQUEST TO PERFORM WORK DURING THESE TIMES MUST BE EMAILED 48 HOURS IN ADVANCE TO UTILITIESDEVELOPMENT@SARIVERAUTHORITY.ORG
- 6. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR IN THE PLANS BUT NOT INCLUDED IN THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM WHICH IT RELATES TO.
- 7. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF RIVER AUTHORITY WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTOR.
- 8. 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 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION REGARDLESS OF ILLUSTRATION ON THE PLANS. 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 RIVER AUTHORITY. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES AND REPAIRS WILL BE AT CONTRACTOR'S EXPENSE.
- 9. CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES, AND CONTRACTOR IS REQUIRED TO PROTECT THESE UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY PROTECT ALL PERSONNEL ON SITE, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES, AND REPAIRS WILL BE AT CONTRACTOR'S FULL EXPENSE.
- 10. WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A 26.1. IDENTIFY THE SOURCE OF THE SSO AND ATTEMPT TO ELIMINATE SEPARATION DISTANCE LESS THAN 9 FEET (I.E. WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES OR WATER LINES NEXT TO MANHOLES), THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC 217 AND 30 TAC 290.
- 11. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR PROJECT AREAS.
- 12. A SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL OVERHEAD EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CPS AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF CPS OVERHEAD LINES. CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
- (TXDOT) RIGHT-OF-WAY SHALL PROCEED DURING WORKING HOURS AGREED UPON BY RIVER AUTHORITY AND TXDOT INSPECTORS.
- 14. BEFORE THE START OF ANY CONSTRUCTION, CONTRACTOR SHALL

- FULLY DOCUMENT THE SITE WITH PHOTOS AND DIGITAL VIDEO WITH ONE COPY SUBMITTED TO RIVER AUTHORITY PRIOR TO STARTING WORK. THE PRE-CON SITE VIDEO SHALL PROVIDE ACCURATE DOCUMENTATION OF EXISTING CONDITIONS.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGE DONE DURING THE PROJECT CONSTRUCTION.
- NOT IDENTIFIED ON THE PLANS, MUST BE MAINTAINED AT ALL TIMES. ANY AND ALL DAMAGES DIRECTLY ATTRIBUTED TO THE CONTRACTOR MUST BE REPLACED TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY THE RIVER AUTHORITY INSPECTOR. GATES, OR GAPS IN THE FENCING IF APPROVED, MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL TIMES. ALL GATES SHALL BE APPROVED PRIOR TO INSTALLATION.
- 17. CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS OR EASEMENTS. ANY CLAIMS DIRECTLY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF RIVER AUTHORITY AND THE APPROPRIATE LANDOWNER.
- 18. CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AND BUSINESSES AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY RIVER AUTHORITY.
- 19. CONTRACTOR MUST COMPLY WITH TEXAS GOVERNMENT CODE SECTION 2166.303 UNIFORM TRENCH SAFETY CONDITIONS.
- 20. CONTRACTOR SHALL NOT BACKFILL ANY TRENCHES UNTIL INSPECTION CAN BE CONDUCTED BY THE RIVER AUTHORITY. NO OPEN TRENCHES SHALL BE PERMITTED OVERNIGHT. ALL ENDS OF OPEN PIPE SHALL BE PLUGGED OVERNIGHT.
- 21. CONTRACTOR SHALL HAVE THE LATEST APPROVED COPY OF PLANS AND SPECIFICATIONS ON SITE AT ALL TIMES FOR REFERENCE.
- 22. NO TREES SHALL BE REMOVED AS PART OF THIS PROJECT UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- 23. FOR PORTIONS OF THE CONSTRUCTION THAT ARE WITHIN THE LIMITS OF THE 100-YEAR FLOODPLAIN, THE CONTRACTOR IS REQUIRED TO KEEP THE CHANNEL CLEAR OF POTENTIAL OBSTRUCTIONS TO FLOOD FLOWS. POTENTIAL OBSTRUCTIONS INCLUDE HEAVY CONSTRUCTION EQUIPMENT, TEMPORARY ROADS ACROSS CHANNEL, EXCAVATED MATERIAL, STOCKPILED DEBRIS, AND ALL OTHER ITEMS DEEMED UNACCEPTABLE BY RIVER AUTHORITY. UNDER THREATENING WEATHER CONDITIONS AND WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK. NO EQUIPMENT OR MATERIALS SHALL BE STOCKPILED IN THE 100-YEAR FLOODPLAIN OVERNIGHT.
- 24. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING DRAINAGE AREAS THAT WILL BLOCK OR ALTER FLOW LIMITS OR NATURAL DRAINAGE.
- 25. IF A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE APPROPRIATE PERSONNEL.

SEWER NOTES:

- SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THE WORK. ALL PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON THE PROPER RESPONSE. SHOULD <u>SEWER SERVICE LATERALS:</u> AN SSO OCCUR, THE CONTRACTOR SHALL:
- ANY ADDITIONAL SPILLAGE. 26.2. NOTIFY RIVER AUTHORITY CONSTRUCTION INSPECTIONS DIVISION AT (210) 302-4200 AND ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
- 26.3. CONTAIN SEWAGE FROM THE SSO TO PREVENT CONTAMINATION OF WATERWAYS. 26.4. CLEAN UP THE SPILL AREA AND REMOVE CONTAMINATED
- MATERIALS. MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE 26.5. DISINFECT THE AREA OF THE SPILL THE PROPER MIXTURE OF
 - HTH CHLORINE AND WATER. 26.6. CLEAN THE AFFECTED SEWER LINE AND REMOVE ANY DEBRIS.
 - 26.7. IDENTIFY AND TRAIN PERSONNEL RESPONSIBLE FOR SPILLAGE PREVENTION AND CONTROL. 26.8. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO
- 13. ALL WORK IN THE TEXAS DEPARTMENT OF TRANSPORTATION 27. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE

GUIDELINES SET BY THE TCEQ AND RIVER AUTHORITY.

- AROUND EACH SEGMENT OF PIPE TO BE REPLACED. CONTRACTOR CASE PRIMARY PUMP FAILS. THE CONTRACTOR SHALL PROVIDE A SEQUENCE OF BYPASS PUMPING FOR REVIEW AND APPROVAL BY RIVER AUTHORITY. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED SKETCH SHOWING THE LOCATION OF BYPASS PUMPING; SPECIFICATIONS FOR THE PUMPING EQUIPMENT; AND TYPE, SIZE, CAPACITY AND NUMBER OF PUMPS REQUIRED TO HANDLE THE PEAK WET WEATHER FLOW.
- 16. ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR 28. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND FIX ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT CONTRACTOR'S EXPENSE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING OR NEW RINGS, COVERS, OR CONES FROM EQUIPMENT AND MATERIALS USED OR TAKEN THROUGH THE WORK AREA. IF AN EXISTING OR NEW MANHOLE COVER, RING, OR CONE IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED AS DIRECTED BY THE RIVER AUTHORITY INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH RIVER AUTHORITY APPROVED SEALANT. IF SEAL COATING IS COMPROMISED, CONTRACTOR WILL HAVE MANHOLE RECOATED AND RESEAL ALL LEAKS AT CONTRACTOR EXPENSE.
 - 29. CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES WHILE TESTING THE PROJECT ARE LABELED, MARKED OR TAGGED. THE CONTRACTOR SHALL RECORD HOW MANY PLUGS ARE BEING USED, AS WELL AS THE LOCATION AND IDENTIFICATION OF EACH PLUG. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS. CONTRACTOR SHALL ONLY BE ALLOWED TO USE SCREW TYPE PLUG ON PROJECT.
 - 30. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGE TO SEWER COLLECTION SYSTEM, WASTEWATER TREATMENT EQUIPMENT, STOPPAGES, OVER-FLOWS, OR BACKUPS INTO HOMES CAUSED BY LOST OR RUNAWAY SEWER PLUGS.
 - 31. RIVER AUTHORITY IS NOT RESPONSIBLE FOR ANY ABNORMALITIES ON STUB OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE-IN OR SERVICE LATERALS. CONTRACTOR SHALL BE RESPONSIBLE FOR RE-CONSTRUCTION, IF NECESSARY.

MANHOLE NOTES:

- 32. ALL MANHOLES SHALL BE CONSTRUCTED PER LATEST DETAILED DRAWINGS AND SPECIFICATIONS, UNLESS AN EXCEPTION IS NOTED.
- 33. PENETRATION INTO THE MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPAIRED AT CONTRACTOR'S EXPENSE. IF EXISTING SEWER MANHOLE SEAL COATING IS COMPROMISED, ALL OF THE MANHOLE WILL BE RESEALED AND RECOATED PER CURRENT SPECIFICATIONS AND APPROVED PRODUCT LIST.
- CONTRACTOR AT NO ADDITIONAL COST TO RIVER AUTHORITY. THE 34. IF ANY EXISTING MANHOLES CONNECTED WITH THIS PROJECT ARE FOUND TO HAVE INFILTRATION, THE MANHOLES SHALL BE SEALED AND TESTED AT CONTRACTORS EXPENSE.
 - 35. UPON REQUEST FROM THE RIVER AUTHORITY, CONTRACTOR SHALL PROVIDE SAMPLE VERIFYING PROPER INSTALLATION OF FLOWABLE BACKFILL, INCLUDING, BUT NOT LIMITED TO CORE SAMPLES.

SANITARY SEWER PIPING:

- AND/OR CULTURAL/ARCHAEOLOGICAL RESOURCES ARE 36. THE TYPE AND DESCRIPTION OF THE PIPE IS SHOWN ON THE PLANS. REFER TO RIVER AUTHORITY SPECIFICATIONS AND APPROVED PRODUCT LIST FOR MATERIALS, STIFFNESS, AND TYPE.
 - 37. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE RIVER AUTHORITY ENGINEER.
- BE REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO 26. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO 38. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.

- 39. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN PROVIDED, THE CONNECTION MUST BE CONDUCTED PER THE LATEST RIVER AUTHORITY STANDARD DETAILS AND APPROVED PRODUCT LIST. REFER TO THE RIVER AUTHORITY APPROVED PRODUCTS LIST FOR ACCEPTABLE FITTINGS AND CONNECTIONS.
- 40. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 PVC WITH RATING OF 115 PSI OR 160 PSI, DETERMINED BY RIVER AUTHORITY SPECIFICATION. LINE SHALL BE EXTENDED TO THE PROPERTY LINE AND CAPPED AND SEALED. ATTACH SEWER BURIAL TAPE TO THE END OF ALL SEWER LATERALS AND BRING UP TO THE GROUND LEVEL FOR MARKER (GREEN). (SEE HOUSE LATERALS DETAILS).
- 41. UPON REQUEST FROM THE SAN ANTONIO RIVER AUTHORITY, CONTRACTOR SHALL PROVIDE SAMPLE VERIFYING PROPER INSTALLATION OF FLOWABLE BACKFILL, INCLUDING, BUT NOT LIMITED TO CORE SAMPLES.

<u>Sanitary sewer piping:</u>

- SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN 42. THE TYPE AND DESCRIPTION OF THE PIPE IS SHOWN ON THE PLANS. REFER TO LATEST RIVER AUTHORITY SPECIFICATIONS AND APPROVED PRODUCT LIST FOR MATERIALS, STIFFNESS, AND TYPE.
 - 43. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE RIVER AUTHORITY ENGINEER.
 - 44. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.

SANITARY SEWER TESTING:

- 45. TESTING SHALL NOT BE CONDUCTED UNTIL ALL OTHER UTILITIES WITHIN THE VICINITY OF SANITARY SEWER ARE FULLY INSTALLED.
- 46. TESTING SHALL BE CONDUCTED PER LATEST RIVER AUTHORITY SPECIFICATIONS AND SHALL NOT BEGIN WITHOUT 48 HOURS NOTICE TO RIVER AUTHORITY INSPECTOR.
- 47. A COPY OF ALL TESTING REPORTS, INCLUDING BACKFILL COMPACTION, SHALL BE FORWARDED TO THE RIVER AUTHORITY IMMEDIATELY.
- 48. DENSITY TESTING WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. TESTING FOR SERVICE LATERALS TO BE IDENTIFIED BY RIVER AUTHORITY INSPECTOR AT RANDOM. DENSITY TESTING FOR SERVICE LATERALS SHALL NOT EXCEED 25% OF TOTAL NUMBER OF LATERALS.

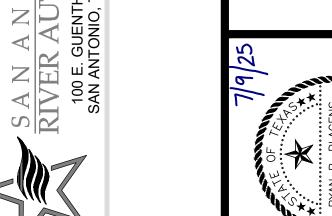
<u>EXCAVATION:</u>

- 49. 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 CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIALLY, CONTRACTOR AND/OR CONTRACTORS 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.
- 50. IF A SAFETY VIOLATION IS NOTED BY A RIVER AUTHORITY INSPECTOR, THE RIVER AUTHORITY RESERVES THE RIGHT TO STOP
- 51. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.

52. CONTRACTOR IS RESPONSIBLE FOR UPDATING AND MAINTAINING ALL

FIELD UTILITY MARKINGS.





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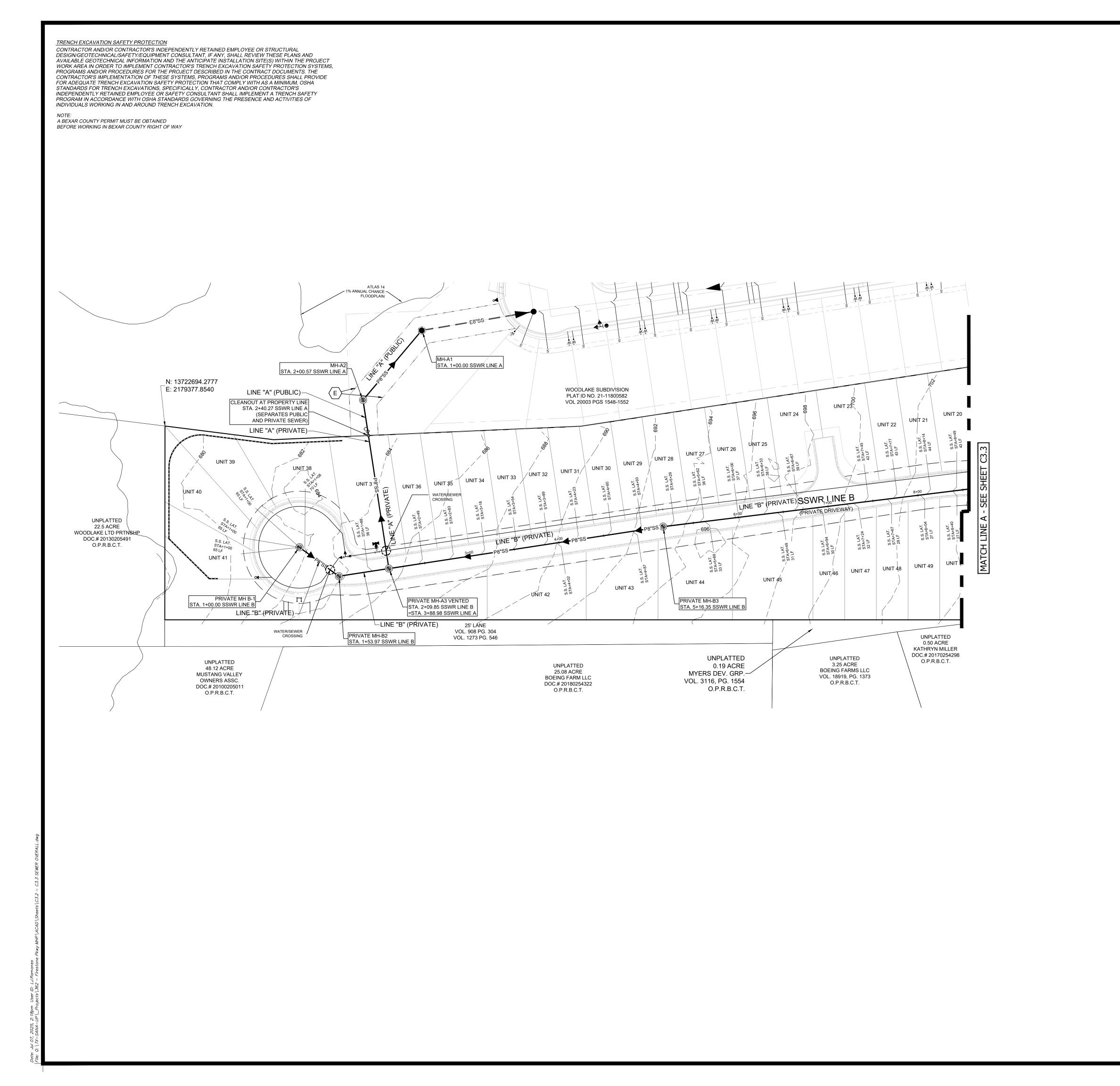
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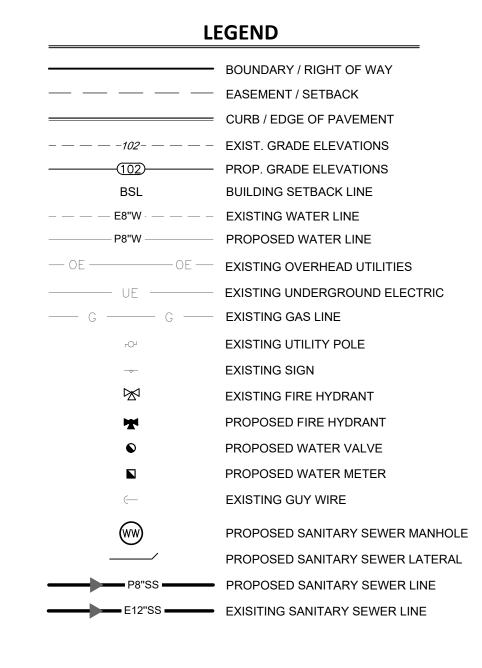
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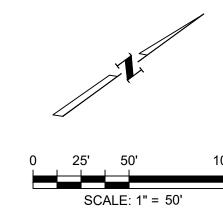
C3.1

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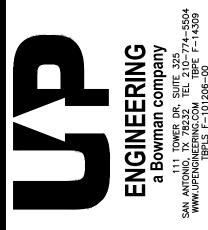
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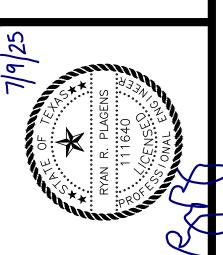






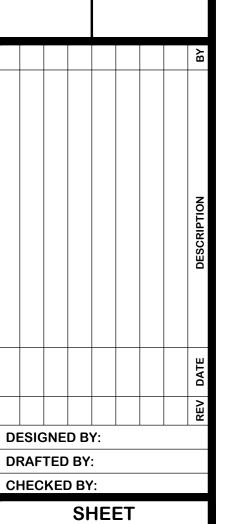
EASEMENT KEYNOTES		
(c)	17' ACCESS EASEMENT VOL. 9539 PG. 77	
D	45' DRAIN ROW VOL. 9536 PGS. 201-202	
E	30' EXISTING SANITARY SEWER EASEMENT. VOL. 20003 PGS. 1548-1552	
F	VARIABLE WIDTH INGRESS EGRESS VOL. 9679, PG. 62	
G	OFF-LOT 50'X60' E.G.T.C., WATER, SEWER & DRAIN TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT OF WAY. VOL. 20003 PGS. 1548-1552	

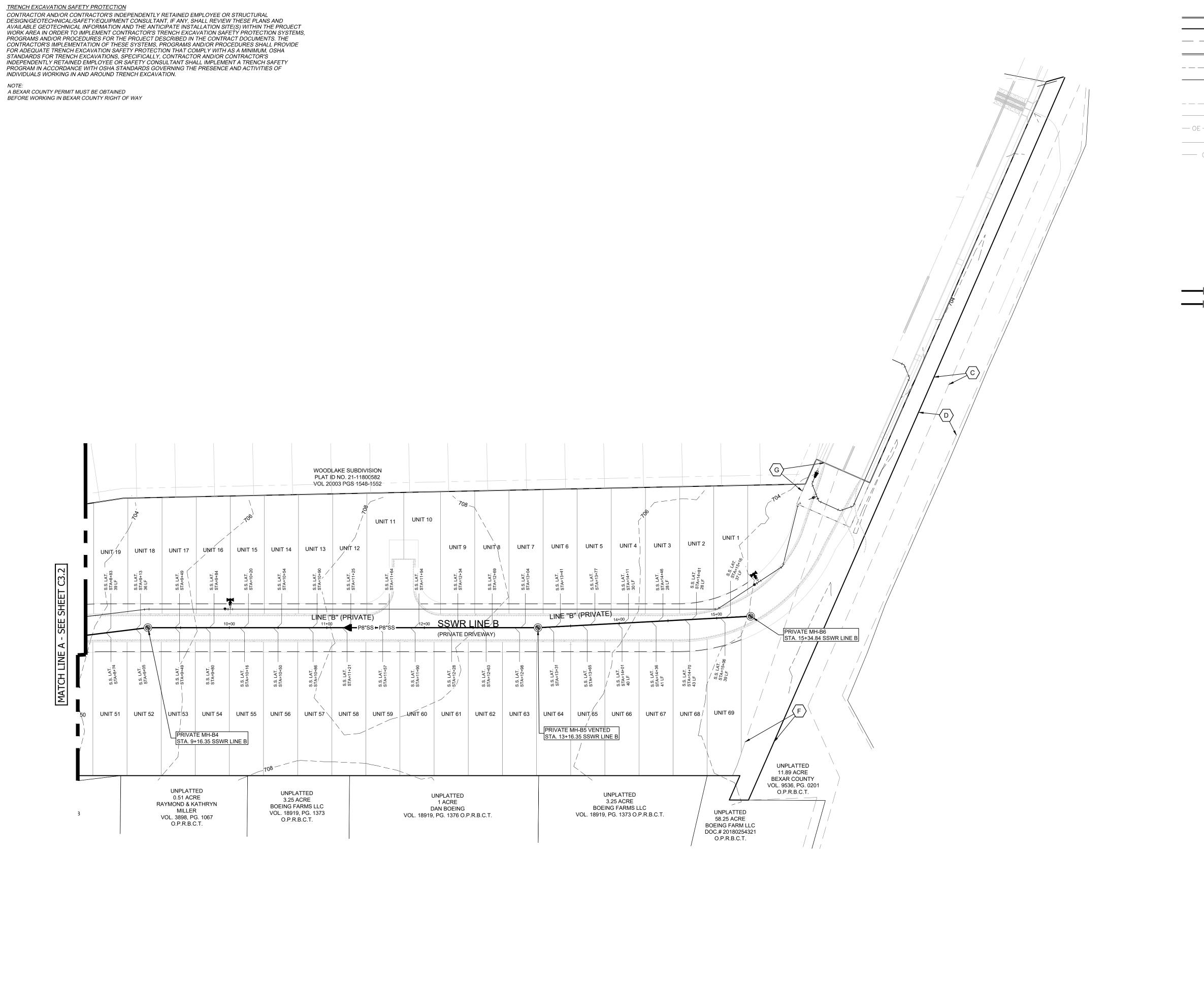


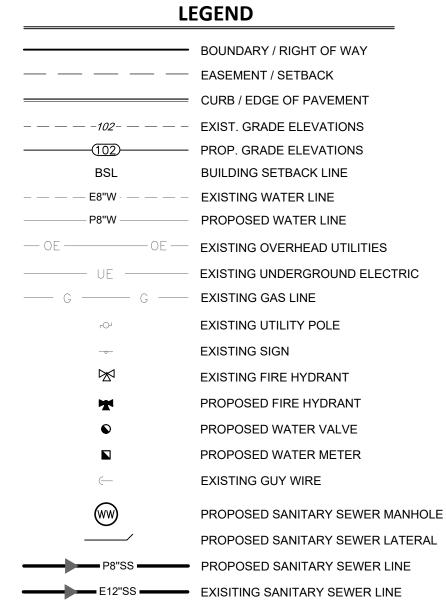


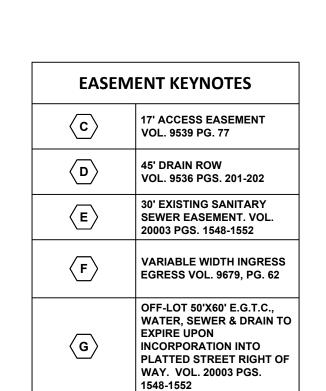
SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

FIRESTONE PKWY MHP PLAT NO. 070379 SEWER OVERALL

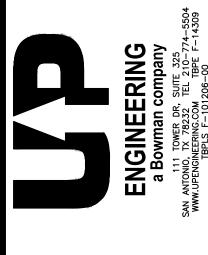


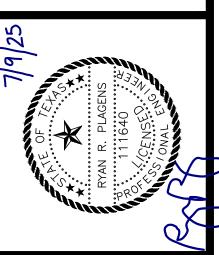






SCALE: 1" = 50'





SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

FIRESTONE PKWY MHP PLAT NO. 070379 SEWER OVERALL

DESIGNED BY:

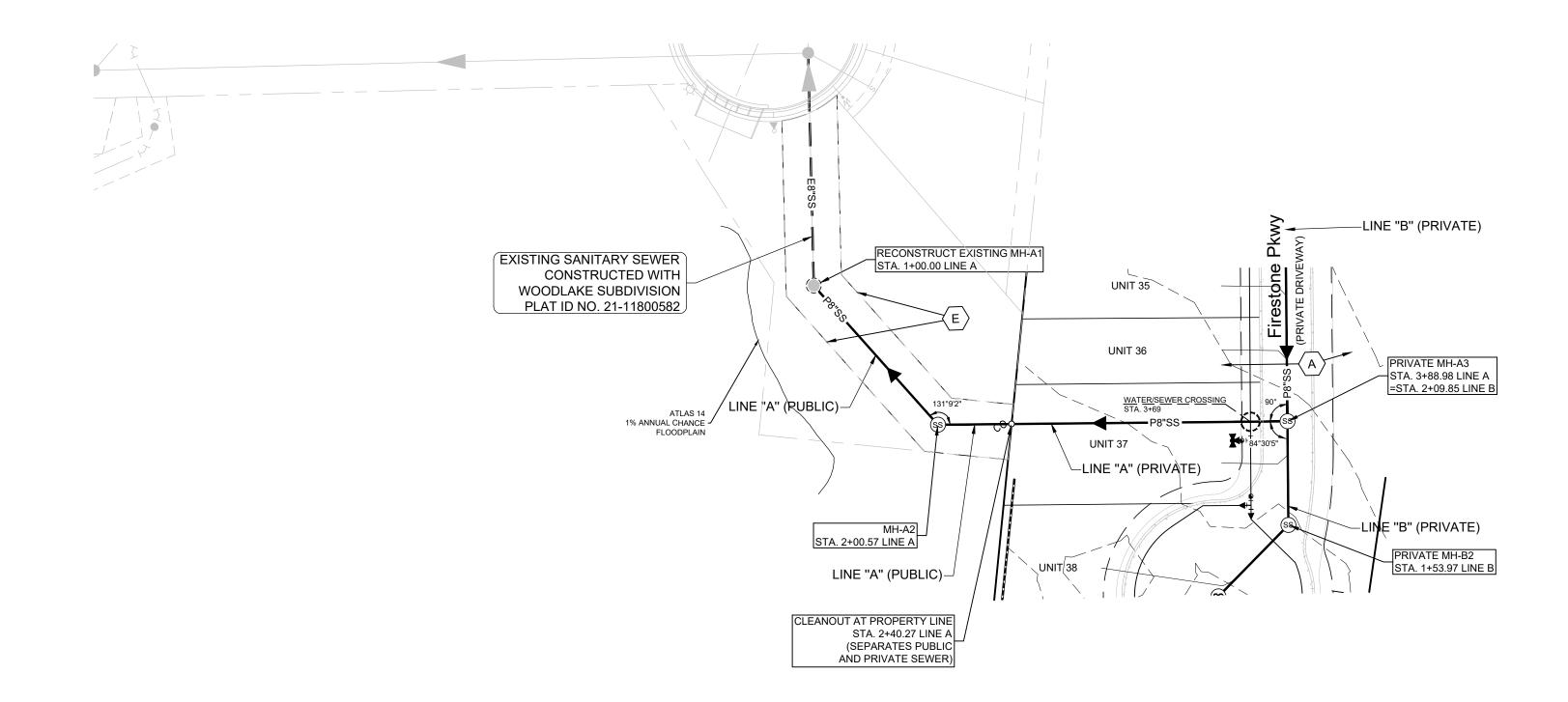
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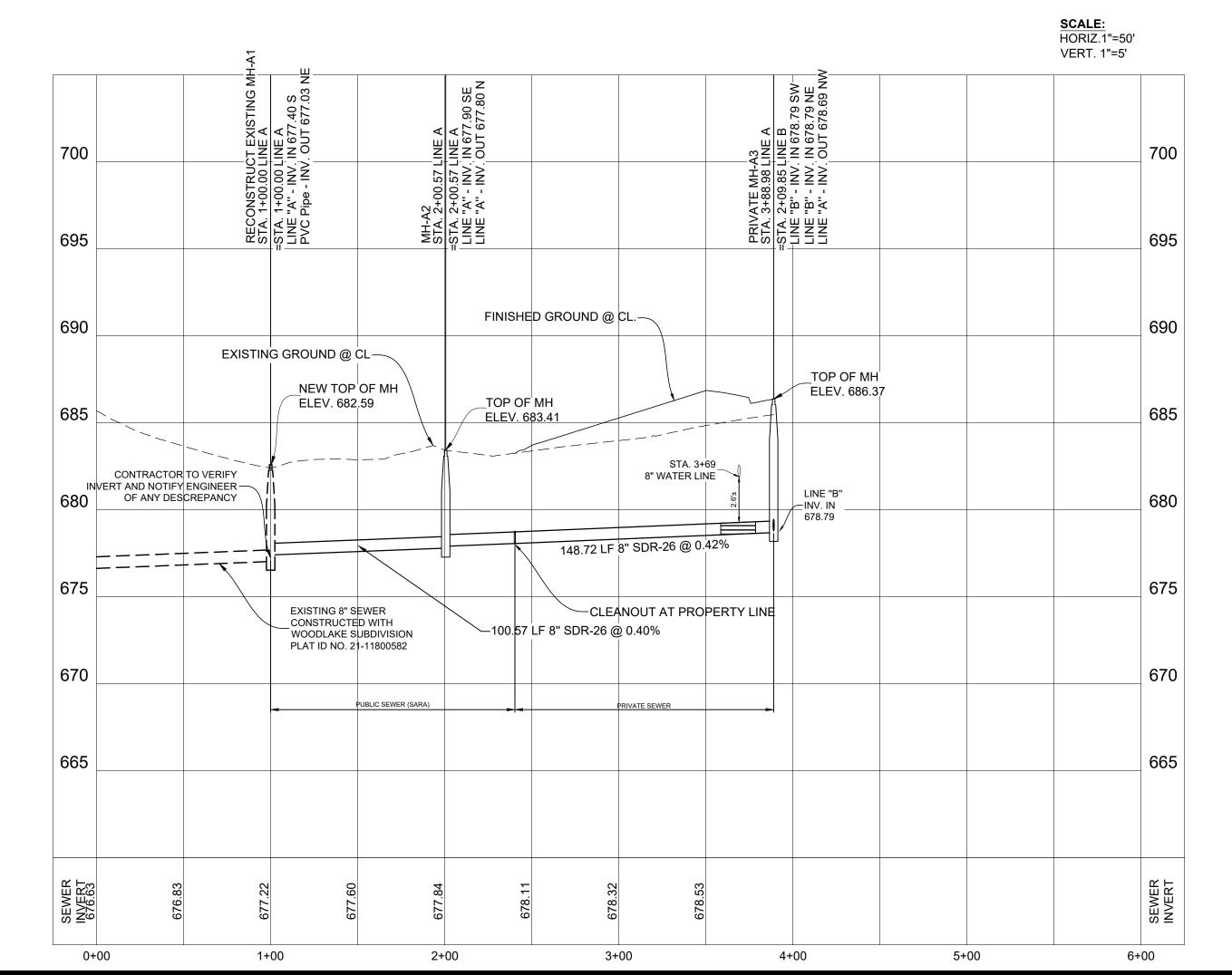
TRENCH EXCAVATION SAFETY PROTECTION

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.



LINE "A"

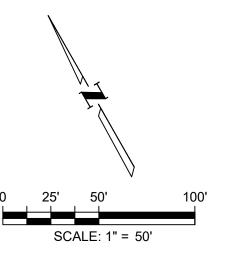
STA. 1+00.00 TO STA. 3+88.98

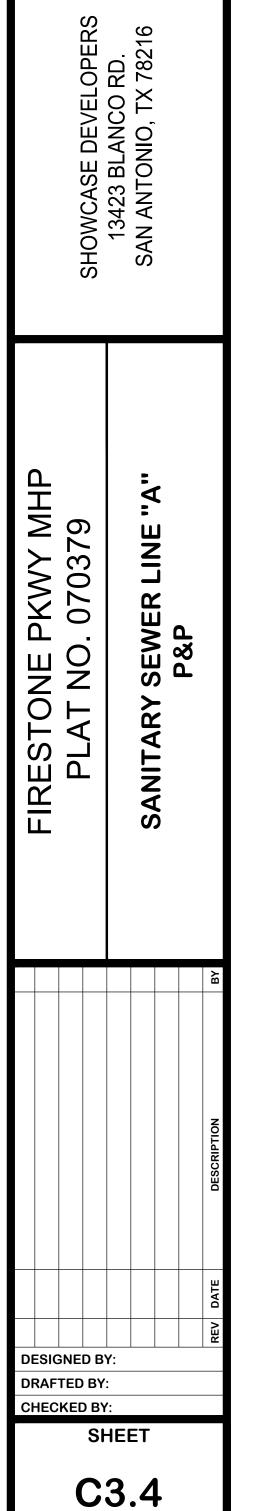


EASEMENT KEYNOTES			
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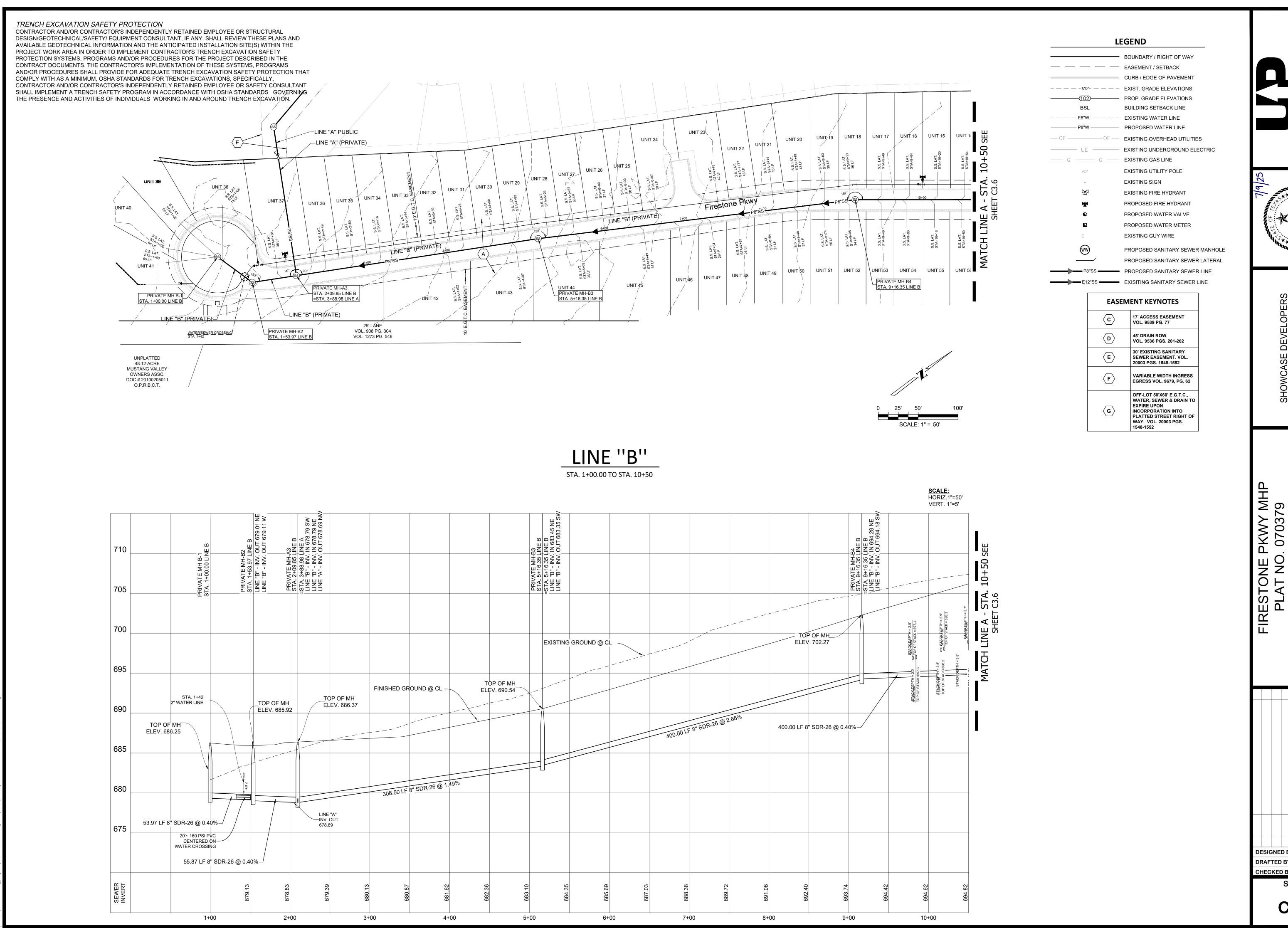
WAY. VOL. 20003 PGS. 1548-1552

LEGEND			
	BOUNDARY / RIGHT OF WAY		
	EASEMENT / SETBACK		
	CURB / EDGE OF PAVEMENT		
	EXIST. GRADE ELEVATIONS		
	PROP. GRADE ELEVATIONS		
BSL	BUILDING SETBACK LINE		
E8"W ·	EXISTING WATER LINE		
P8"W —	PROPOSED WATER LINE		
— OE ——— OE —	EXISTING OVERHEAD UTILITIES		
———— UE ————	EXISTING UNDERGROUND ELECTRIC		
— G — G —	EXISTING GAS LINE		
LO-1	EXISTING UTILITY POLE		
- 6-	EXISTING SIGN		
\bowtie	EXISTING FIRE HYDRANT		
*	PROPOSED FIRE HYDRANT		
•	PROPOSED WATER VALVE		
	PROPOSED WATER METER		
\leftarrow	EXISTING GUY WIRE		
(ww)	PROPOSED SANITARY SEWER MANHOLE		
	PROPOSED SANITARY SEWER LATERAL		
P8"SS ———	PROPOSED SANITARY SEWER LINE		
E12"SS	EXISITING SANITARY SEWER LINE		

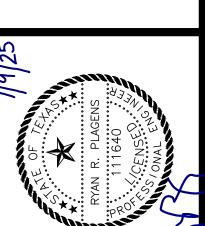




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SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

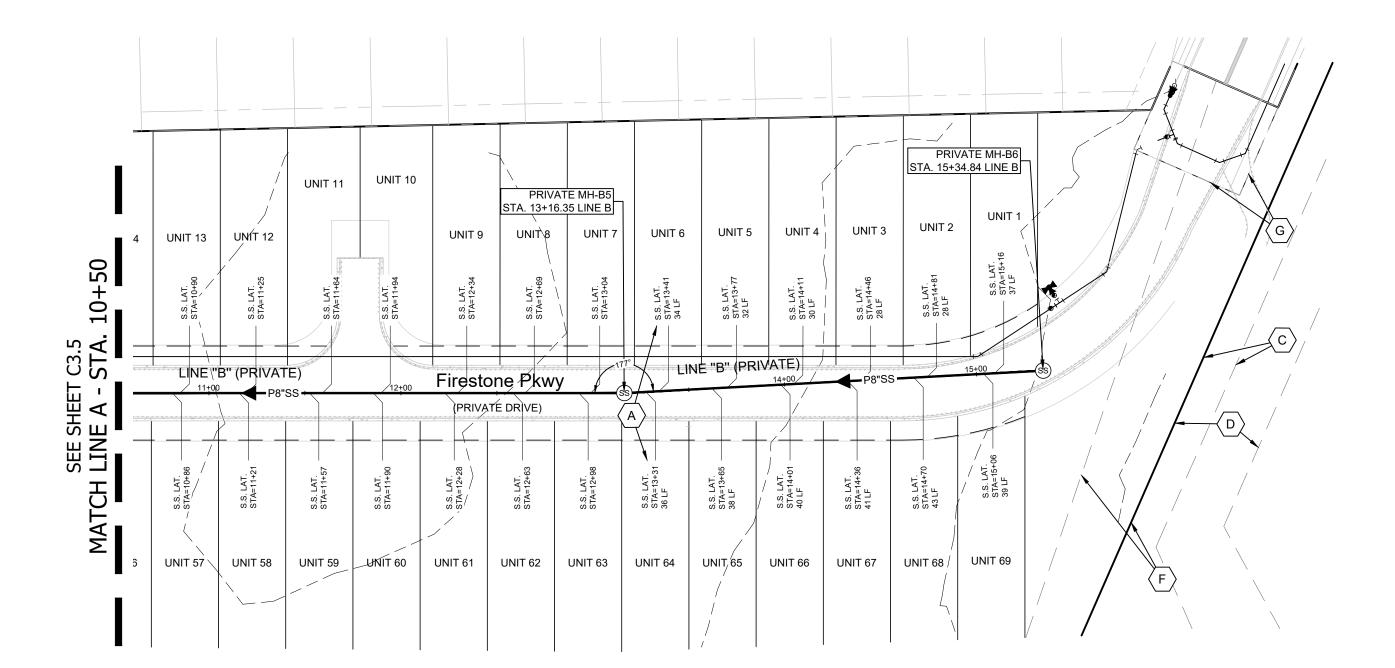
B SEWER LINE 'P&P SANITARY

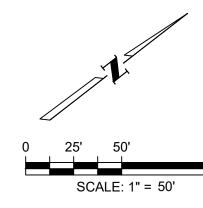
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TRENCH EXCAVATION SAFETY PROTECTION CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED 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 AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT 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.

A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY





	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
— — — <i>-102-</i> — — —	EXIST. GRADE ELEVATIONS
102	— PROP. GRADE ELEVATIONS
BSL	BUILDING SETBACK LINE
— — — E8"W · — — —	- EXISTING WATER LINE
P8"W	PROPOSED WATER LINE
- OE	EXISTING OVERHEAD UTILITIES
UE	EXISTING UNDERGROUND ELECTRIC
— G — G —	EXISTING GAS LINE
LOJ	EXISTING UTILITY POLE
	EXISTING SIGN
\bowtie	EXISTING FIRE HYDRANT
*	PROPOSED FIRE HYDRANT
•	PROPOSED WATER VALVE
	PROPOSED WATER METER
\leftarrow	EXISTING GUY WIRE
ww	PROPOSED SANITARY SEWER MANHO
	PROPOSED SANITARY SEWER LATERA
P8"SS	PROPOSED SANITARY SEWER LINE
E12"SS	EXISITING SANITARY SEWER LINE

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//	1			
25' SCA	50' ALE: 1" = 50'	100'		

			STA. 10+50	TO STA. 15+23		
						<u>SCALE:</u> HORIZ.1"=50' VERT. 1"=5'
MATCH LINE A - STA, 10+50 STA=10+54 TOP OF STACK=699.3 TOP OF STACK=6	STACK-699.9 STACK=699.9 STACK=700.0 H TOP OF STACK=700.1 TOP OF STACK=700.1 H STACK-700.1 TOP OF STACK=700.1 H TOP OF STACK=700.1 TOP OF STACK=700.1 H DOING TOP OF STACK=700.1 H DOING TOP OF STACK=700.1 H DOING TOP OF STACK=700.1 H	\$\\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	### STACK PEPTH = 1.2	TOP OF MH ELEV. 704.99	ELE	HORIZ.1"=50' VERT. 1"=5' 710 705 OF MH EV. 701.99 700 695 690 685
						675
	695.02	695.22	695.82	696.34	696.76	SEWER

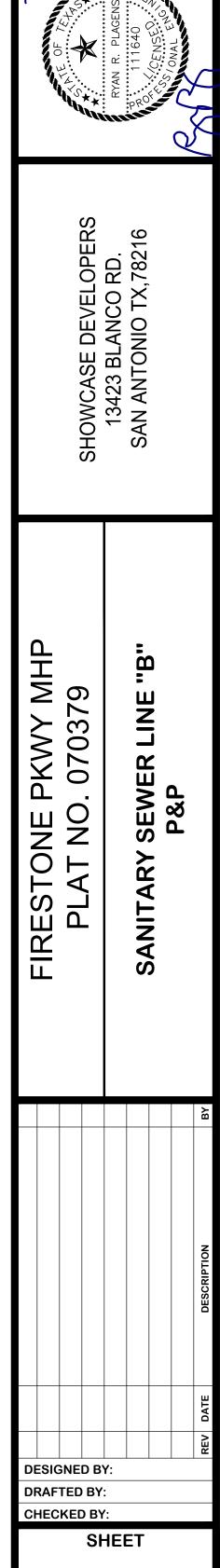
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14+00

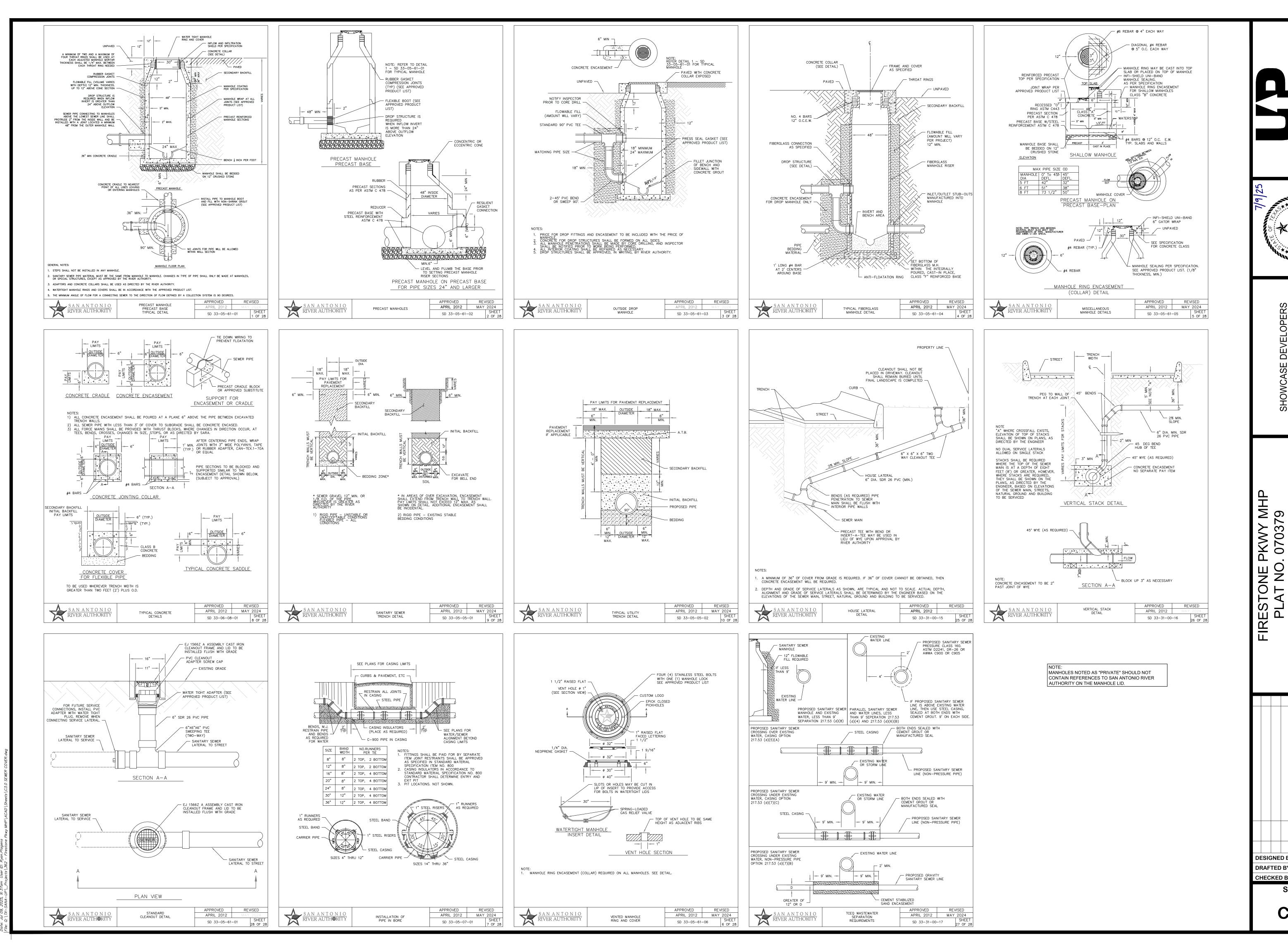
15+00

11+00

12+00



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DESIGNED BY: DRAFTED BY: CHECKED BY: SHEET

WATER CONSTRUCTION DOCUMENTS FOR FIRESTONE PKWY MHP

5903 Firestone PKWY San Antonio, TX 78244

- 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
- 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.
- 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 E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- 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
- 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.

THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.

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 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 HOURS
- 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
- 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
- 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
- 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.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- 10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- . HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

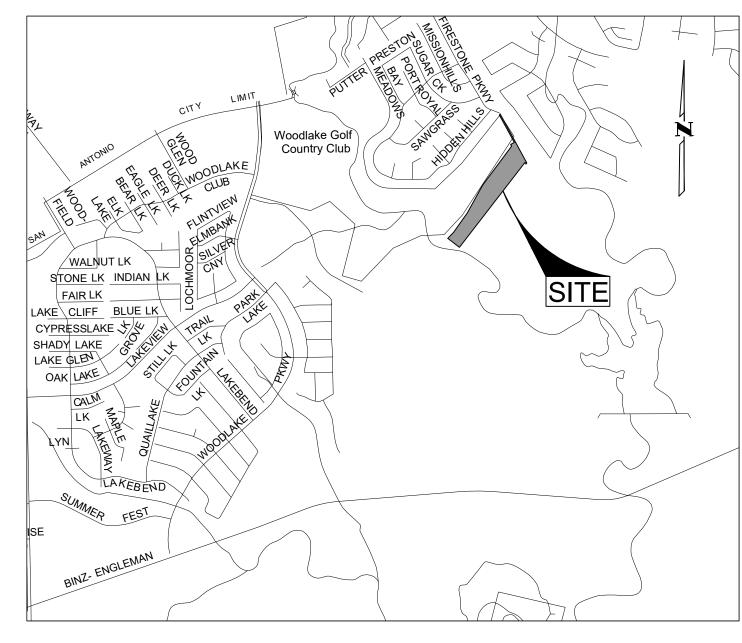
WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- . 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 FACH 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
- 13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION

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

- 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, PLUGS, CAPS, TEES. CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 745 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 745 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IE*PRV IS/ARE REQUIRED FOR SLICH LOT(S) ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED.*NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM 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



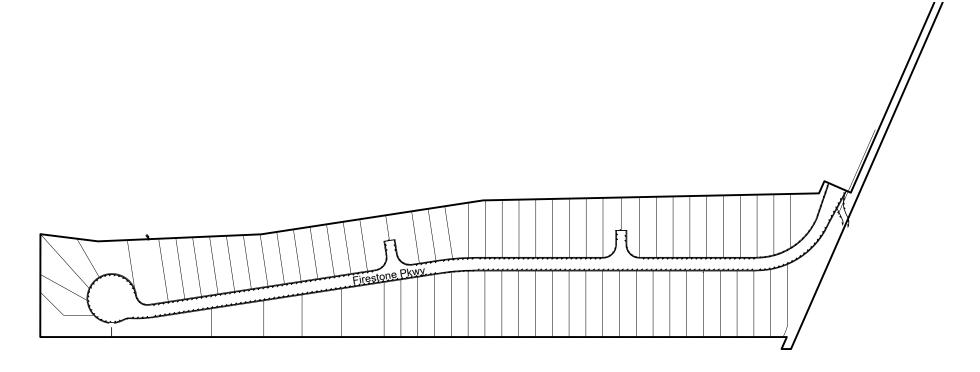
VICINITY MAP

SUBMITTAL DATE:

OWNER/DEVELOPER: SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

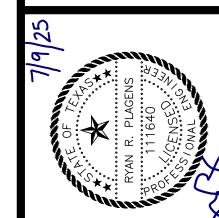
ENGINEER

UP ENGINEERING a Bowman company 111 TOWER DR, SUITE 325 SAN ANTONIO, TEXAS 78232 (210) 774-5504 CONTACT: RYAN R. PLAGENS, PE



INDEX MAP





ME 6 PKWY N. 070378

TONE

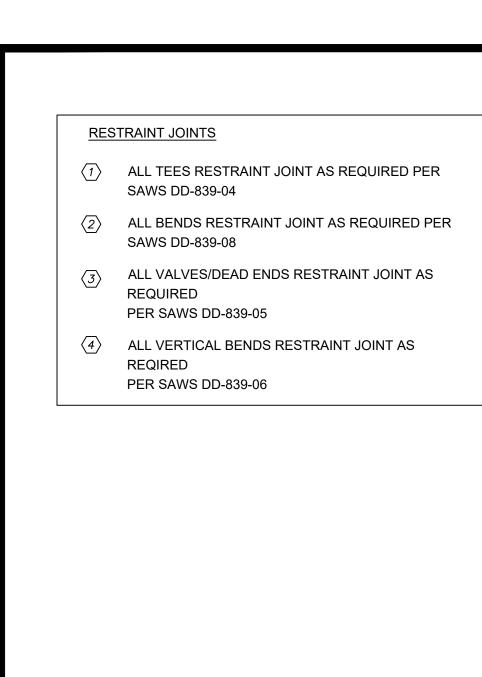
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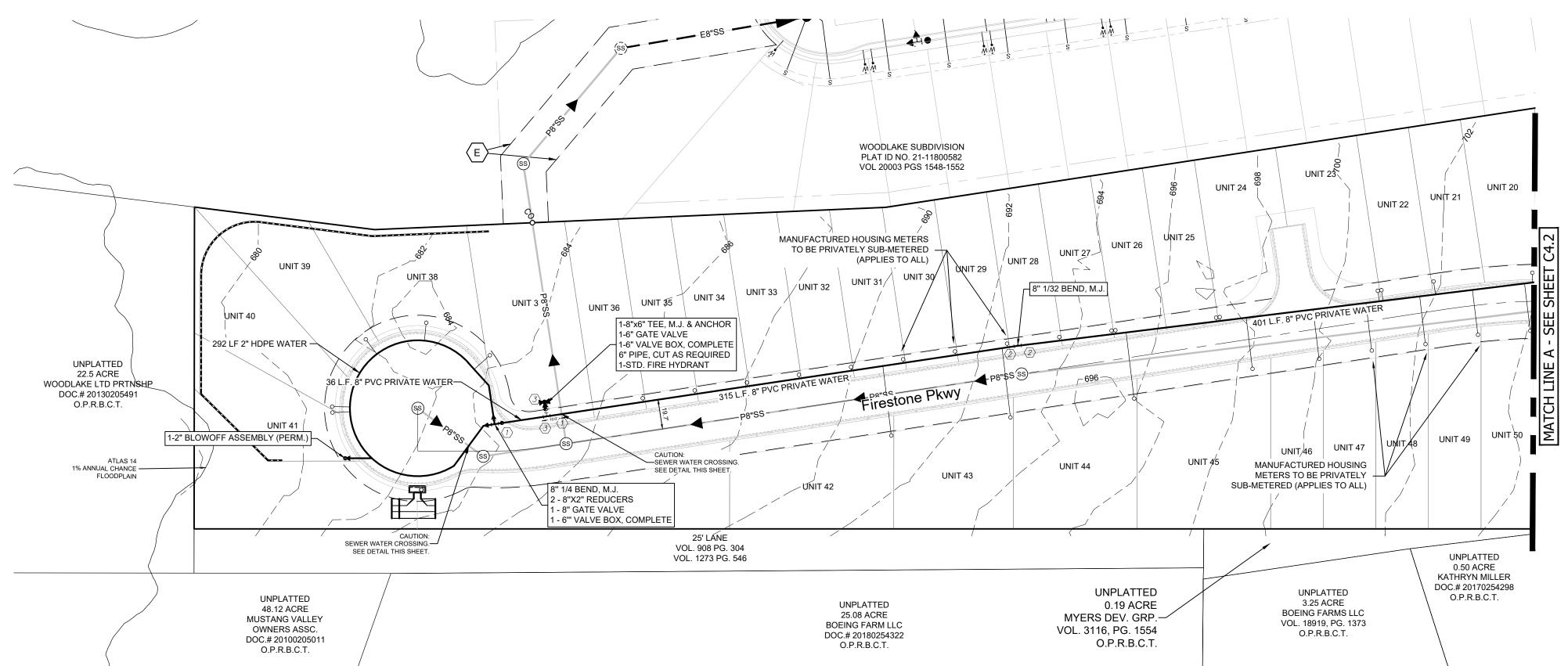
CHECKED BY:

SHEET

SAWS PRESSURE ZONE 930

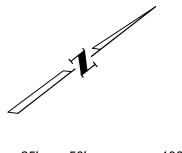
Developer: SHOWCASE DEVELOPERS Address: 13423 BLANCO RD. Zip: 78216 City: SAN ANTONIO State: TX Phone: 210-789-3500 SAWS Block Map: 210600 210598 212600 Total EDUs: 69.5 Total Acreage: 9.84 Total Linear Footage of Pipe: 239' PUBLIC 8" Plat No.: 070379 SAWS Job No.: CTR-294474 Number of Lots:

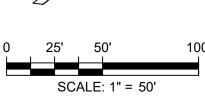


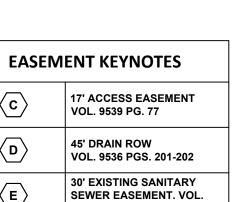


RESTRAINT JOINTS

- (1) ALL TEES RESTRAINT JOINT AS REQUIRED PER PER INTERNATIONAL PLUMBING CODE
- (2) ALL BENDS RESTRAINT JOINT AS REQUIRED PER PER INTERNATIONAL PLUMBING CODE
- (3) ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED
- PER INTERNATIONAL PLUMBING CODE
- 4 ALL VERTICAL BENDS RESTRAINT JOINT AS REQIRED PER INTERNATIONAL PLUMBING CODE







20003 PGS. 1548-1552

WAY. VOL. 20003 PGS.

1548-1552

VARIABLE WIDTH INGRESS EGRESS VOL. 9679, PG. 62 OFF-LOT 50'X60' E.G.T.C., WATER, SEWER & DRAIN TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT OF

<u>LEGEND</u> FIRE HYDRANT EXISTING FIRE HYDRANT **WATER MAIN** -----P8"W----EXISTING WATER MAIN ----E8"W----DUAL WATER SERVICE SINGLE WATER SERVICE SANITARY SEWER PIPE ——P8"SS—— EXISTING SANITARY SEWER PIPE ----E8"SS --------(ss\----EXISTING SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER MANHOLE FLOW DIRECTION SANITARY SEWER LATERAL

> EXIST. SANITARY SEWER LATERAL EXIST. OVERHEAD ELECTRIC ----OE-----ELECTRIC, GAS, TELEPHONE E.G.T.C. AND CABLE TV VEHICLE NON-ACCESS EASEMENT BUILDING SETBACK LINE EASEMENT VOLUME/PAGE OFFICIAL PUBLIC RECORDS OF O.P.R.B.C.T. BEXAR COUNTY TEXAS DEED AND PLAT RECORDS OF D.P.R. BEXAR COUNTY TEXAS POWER POLE EXISTING POWER POLE

ELECTRIC TRANSFORMER TELEPHONE PEDESTAL CABLE T.V. PEDESTAL ELECTRIC RISER POLE EXISTING STREET LIGHT

 \ominus PROPOSED STREET LIGHT (100 WATT UG) 250W **⊚**-□ PROPOSED STREET LIGHT (250 WATT UG) R.O.W. RIGHT-OF-WAY

BLOWOFF

0

PRIVATE UTILITY NOTE

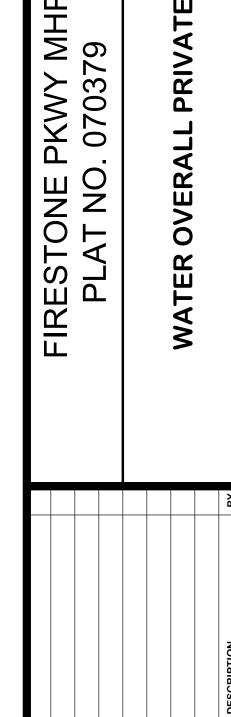
ALL PLUMBING MUST BE INSTALLED IN A MANNER CONFORMING TO THE 2018 INTERNATIONAL PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL ENERGY CONSERVATION CODE (OR LATEST ADOPTED VERSION), AND LOCAL AMENDMENTS AS ADOPTED BY THE CITY OF SAN ANTONIO. ALL REQUIREMENTS OF THE AFOREMENTIONED CODES MUST BE ADHERED TO WHETHER SPECIFICALLY MENTIONED OR NOT AND FIELD VERIFIED BY INSPECTION.

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 ANTICIPATE 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.

JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS OR MEGALUGS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS OR MEGALUGS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS AND VERIFIED BY SAWS INSPECTOR. CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING IN ACCORDANCE WITH SAWS STD. DRAWING 839 IN ADDITION TO JOINT RESTRAINS UNLESS OTHERWISE DIRECTED BY THE SAWS INSPECTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS AND THRUST BLOCKING WITH THE SAWS INSPECTOR.



SHOWCASE DEVELO 13423 BLANCO R SAN ANTONIO, TX 7

ENGINEERING a Bowman company

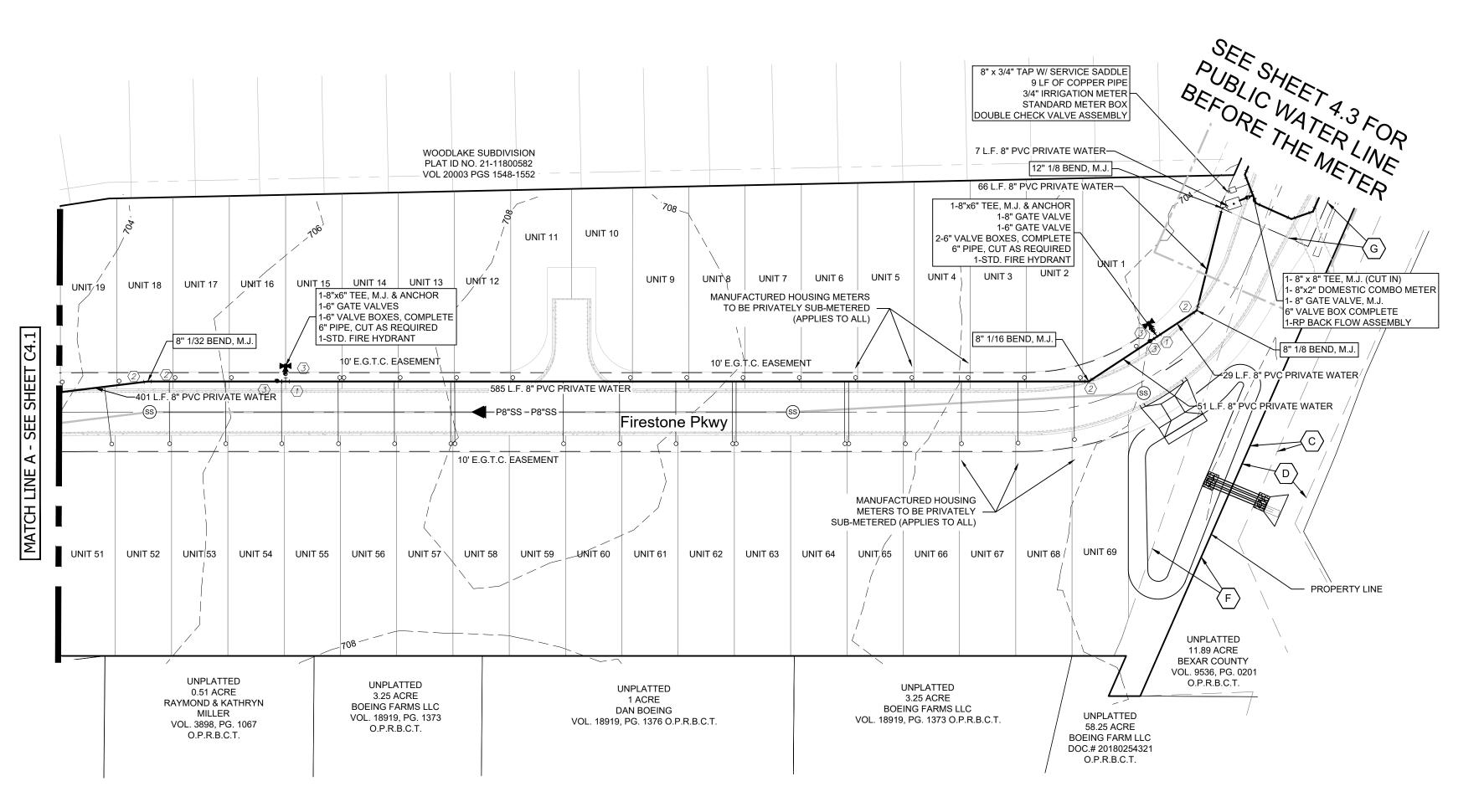
FINISHED GROUND/PAVEMENT (TOP OF GRADE) PROPOSED WATER LINE -WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL SEPARATION DISTANCE TO COMPLY BE 160 PSI AND MEET THE TCEO REGULATION 30 TAC 290.44 (E)_ REQUIREMENTS OF ASTM D2241 APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE. WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING PROPOSED SANITARY SEWER LINE

> TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

DESIGNED BY:

SHEET

DRAFTED BY: CHECKED BY:



RESTRAINT JOINTS

ALL TEES RESTRAINT JOINT AS REQUIRED PER PER INTERNATIONAL PLUMBING CODE

2 ALL BENDS RESTRAINT JOINT AS REQUIRED PER PER INTERNATIONAL PLUMBING CODE

ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED

PER INTERNATIONAL PLUMBING CODE

4 ALL VERTICAL BENDS RESTRAINT JOINT AS REQIRED PER INTERNATIONAL PLUMBING CODE

PROPOSED WATER LINE

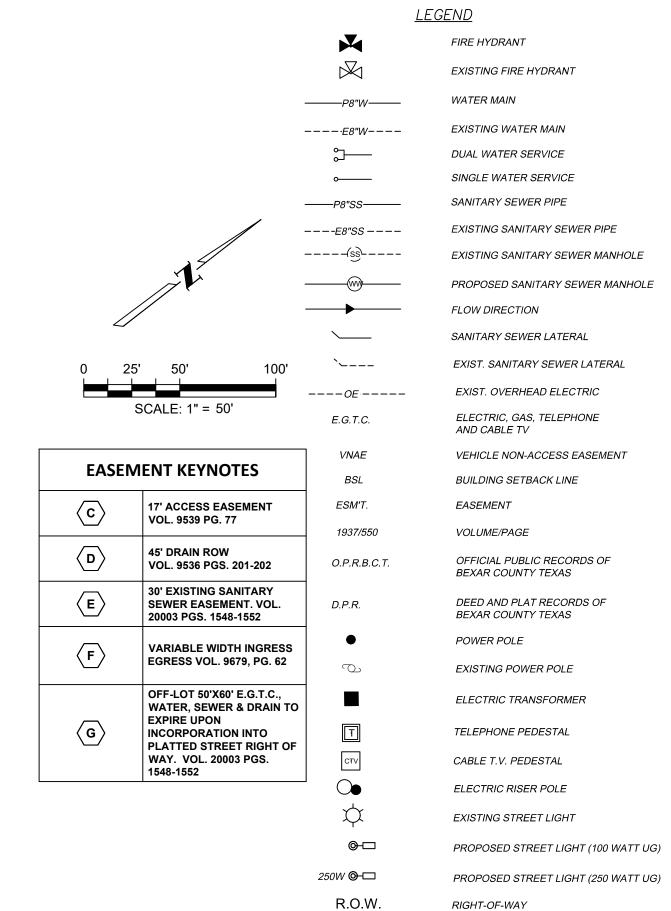
SEPARATION DISTANCE TO COMPLY
TCEO REGULATION 30 TAC 290.44 (E)
APPENDIX E & 30 TAC 217.53 (D)
APPENDIX D — SEPARATION DISTANCE.

PROPOSED SANITARY SEWER LINE

FINISHED GROUND/PAVEMENT

WHERE SEWER PIPE CROSSES A
WATER LINE, THE SEWER SHALL
BE 160 PSI AND MEET THE
REQUIREMENTS OF ASTM D2241
WITH ONE 20' JOINT CENTERED
AT THE WATER CROSSING

TYPICAL SANITARY
SEWER/WATER CROSSING DETAIL



PRIVATE UTILITY NOTE

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BLOWOFF

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.

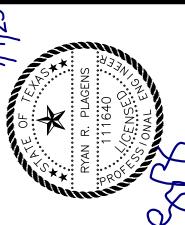
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A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

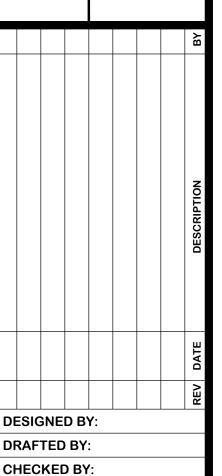
ENGINEERING
a Bowman company

11 TOWER DR. SUITE 325
SAN ANTONIO, TX 78232 TEL 210-74-5504
WWW.UPENGINEERING.COM TBPE F-14-309

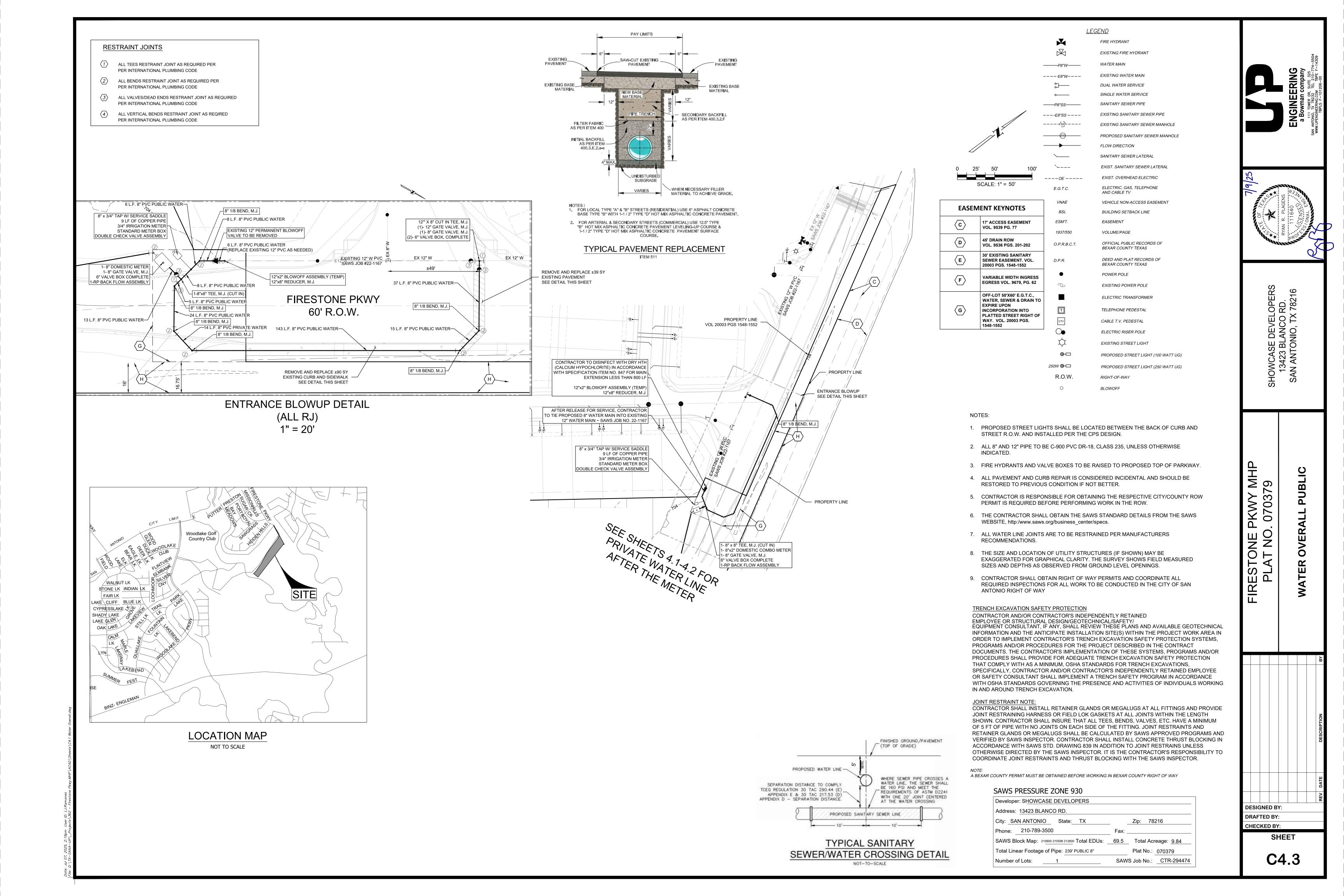


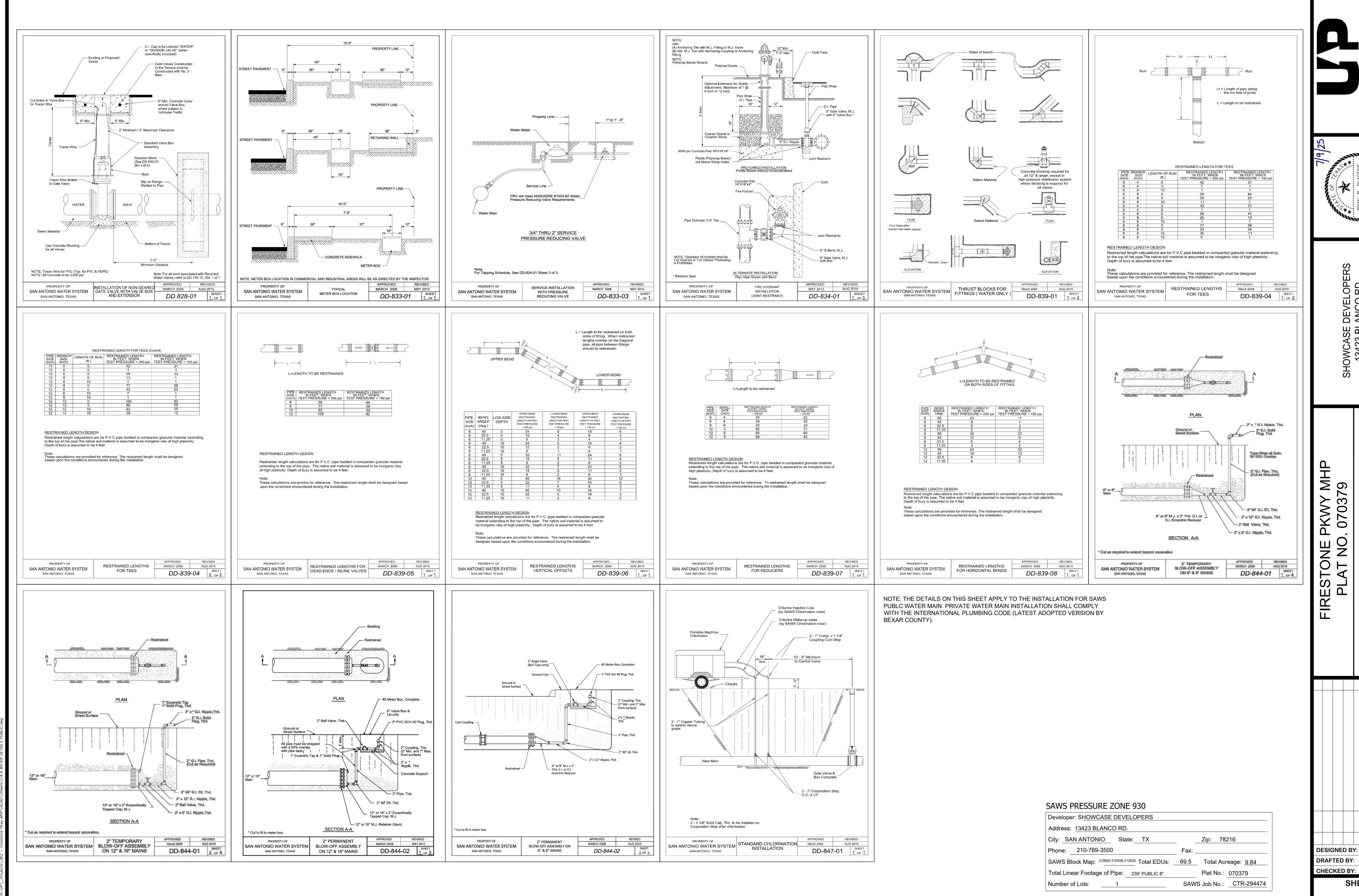
SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

RESTONE PKWY MHP PLAT NO. 070379 ATER OVERALL PRIVATE

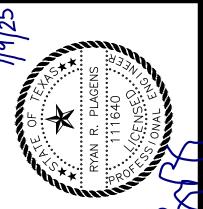


SHEET





ENGINE a Bowma



SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

070

DESIGNED BY: DRAFTED BY:

SHEET

C4.4

STREET & DRAIN CONSTRUCTION DOCUMENTS FOR FIRESTONE PKWY MHP

5903 Firestone PKWY San Antonio, TX 78244

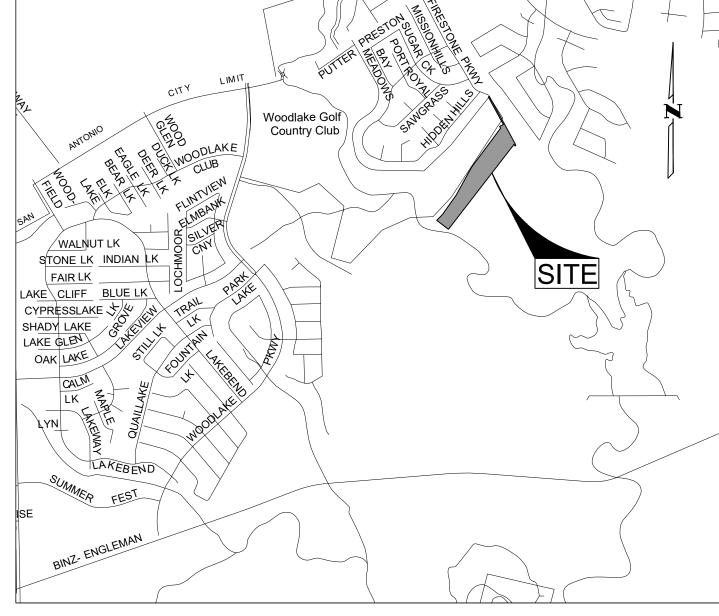
GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE
- 2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
- 3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM)
- 5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS
- 6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- 7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 C.P.S. 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.
- 8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO
- 9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS) 210-233-2009 WATER & SEWER EMERGENCIES 210-704-7297 STORM DRAINAGE (CITY OF SAN ANTONIO) SIGNAL OPERATIONS (CITY OF SAN ANTONIO) 210-207-8022 TEXAS STATE WIDE ONE CALL LOCATOR CPS ENERGY (GAS & ELECTRIC) CPS ELECTRIC/GAS ISSUES OR EMERGENCIES

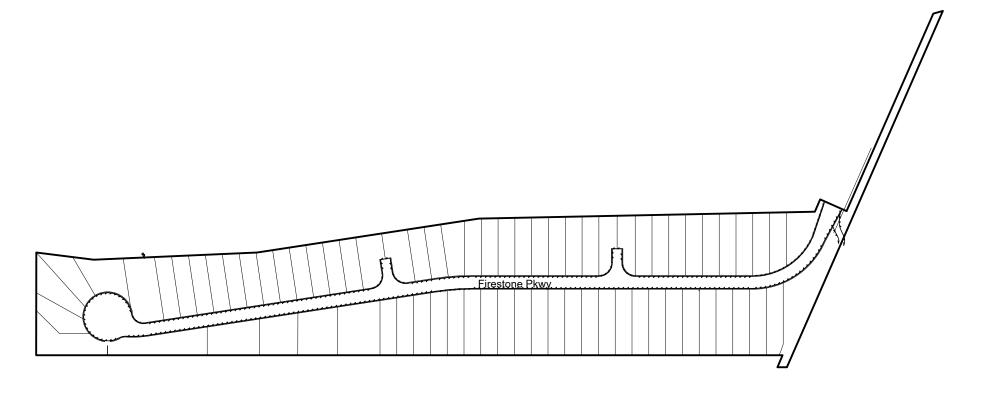
210-244-0500 972-742-5892 SAN ANTONIO RIVER AUTHORITY

- 11. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- 12. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE C THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- 13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- 14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
- 15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.
- IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.
- IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION
- 16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.



VICINITY MAP

SUBMITTAL DATE:



OWNER/DEVELOPER: SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

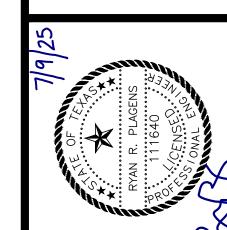
UP ENGINEERING a Bowman company 111 TOWER DRIVE, SUITE 325 SAN ANTONIO, TEXAS 78232 CONTACT: RICHARD L. NEUBAUER, RPLS

ENGINEER:

UP ENGINEERING a Bowman company 111 TOWER DRIVE. SUITE 325 SAN ANTONIO, TEXAS 78232 CONTACT: RYAN R. PLAGENS, PE

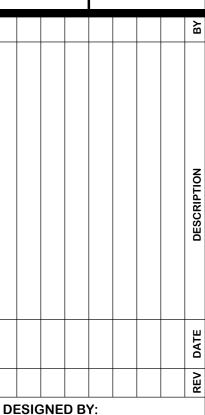
InTEC OF SAN ANTONIO, L.P. 12028 RADIUM SAN ANTONIO, TX 78216 (210) 525-9033

INDEX MAP

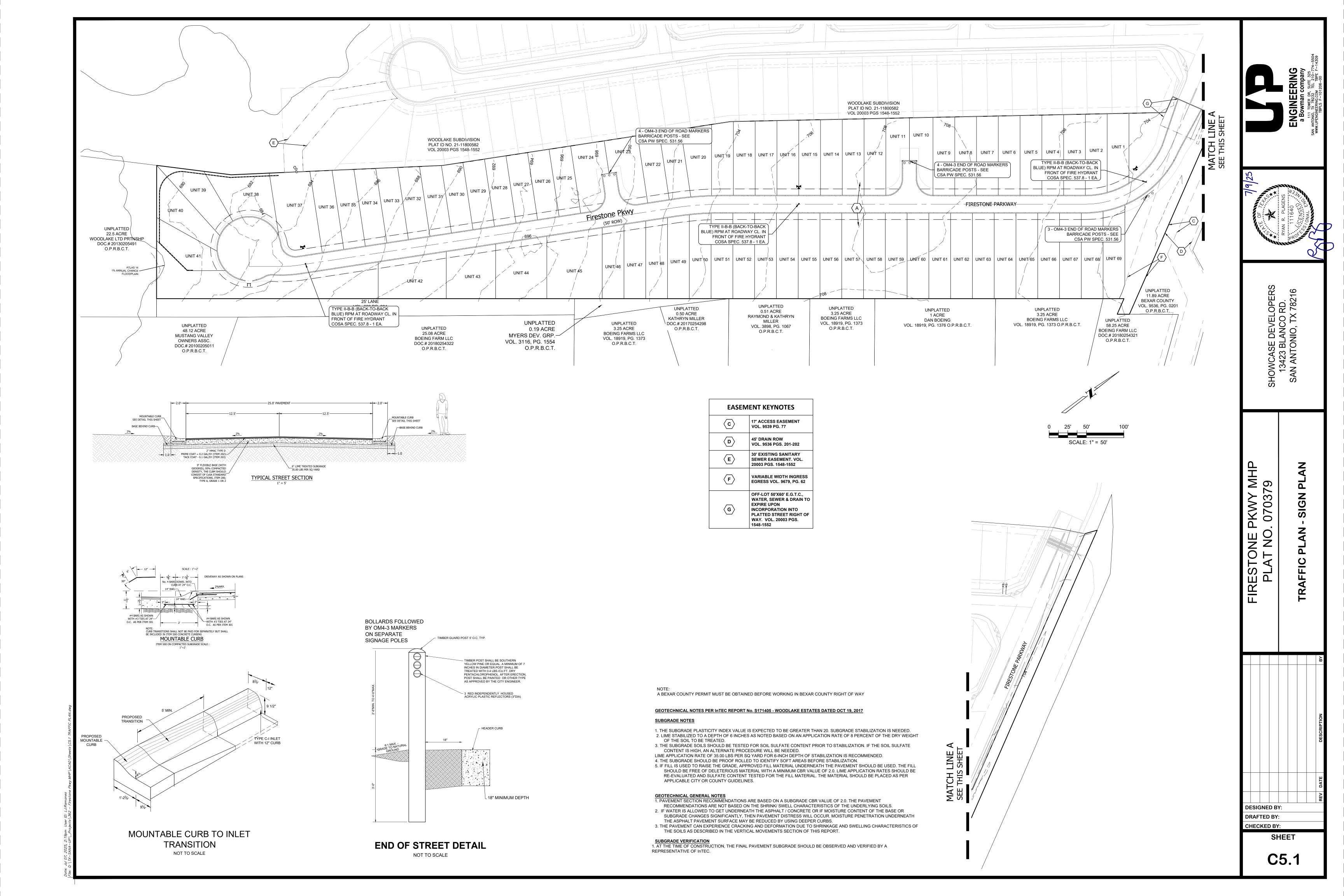


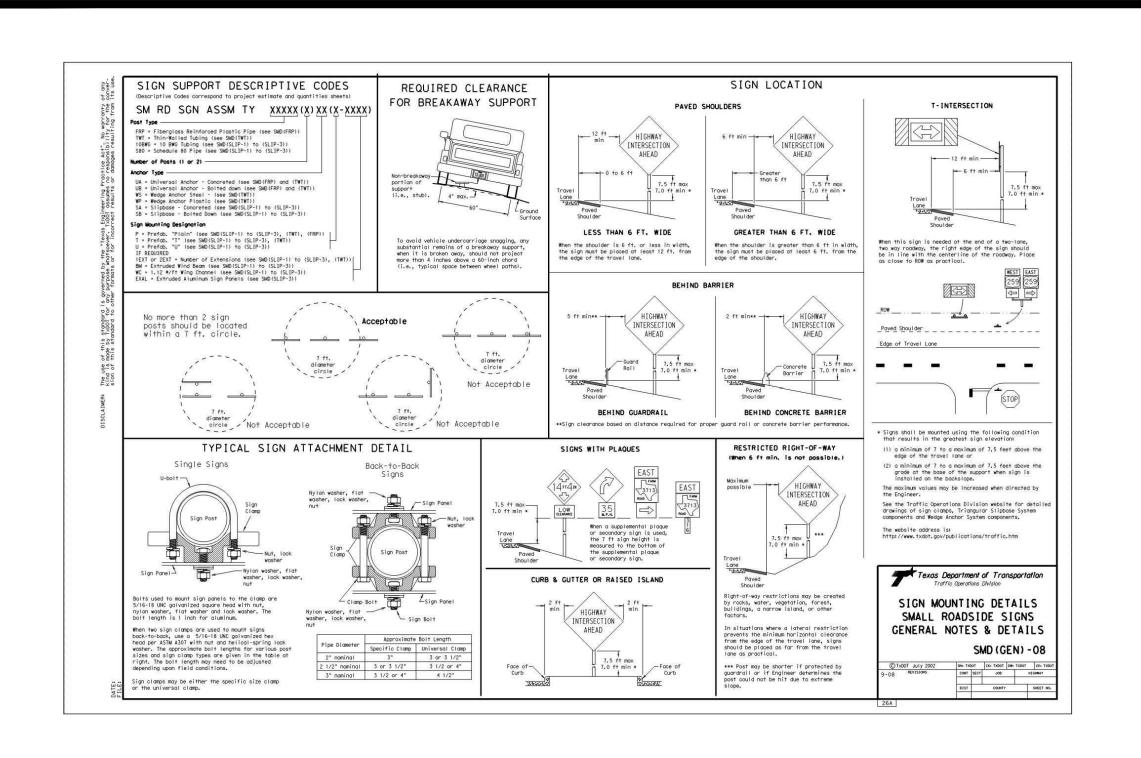
PKWY MHF), 070379

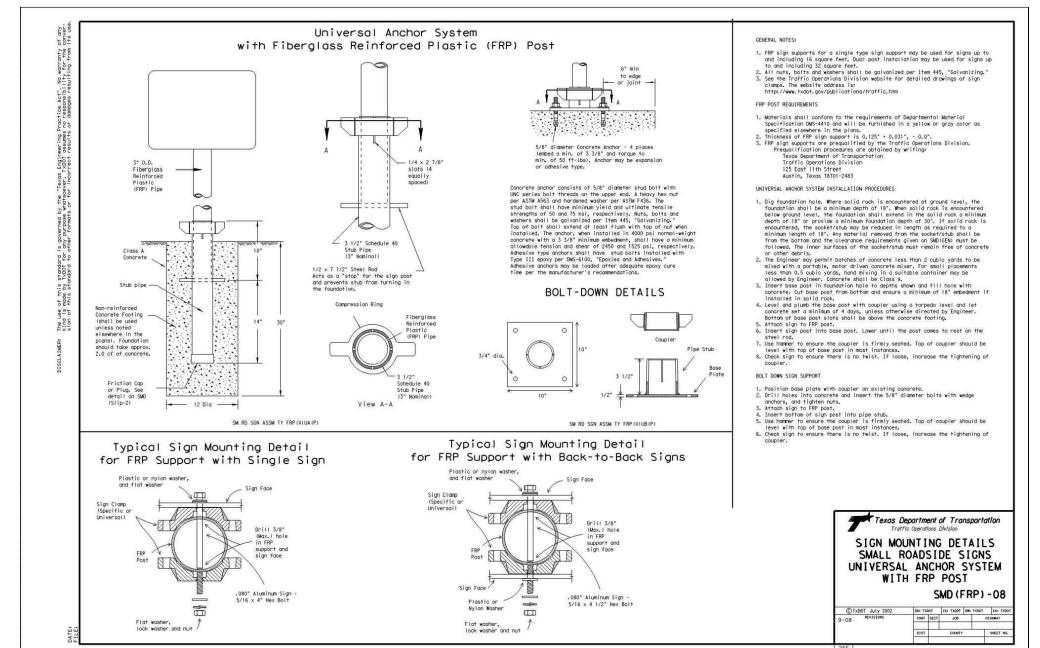
STONE

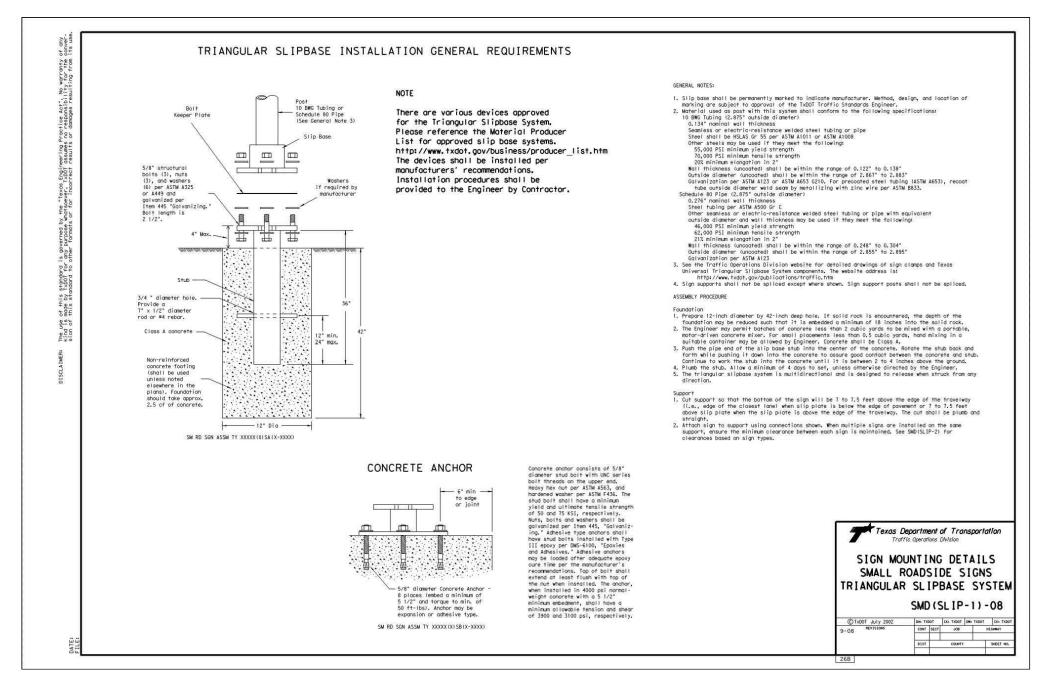


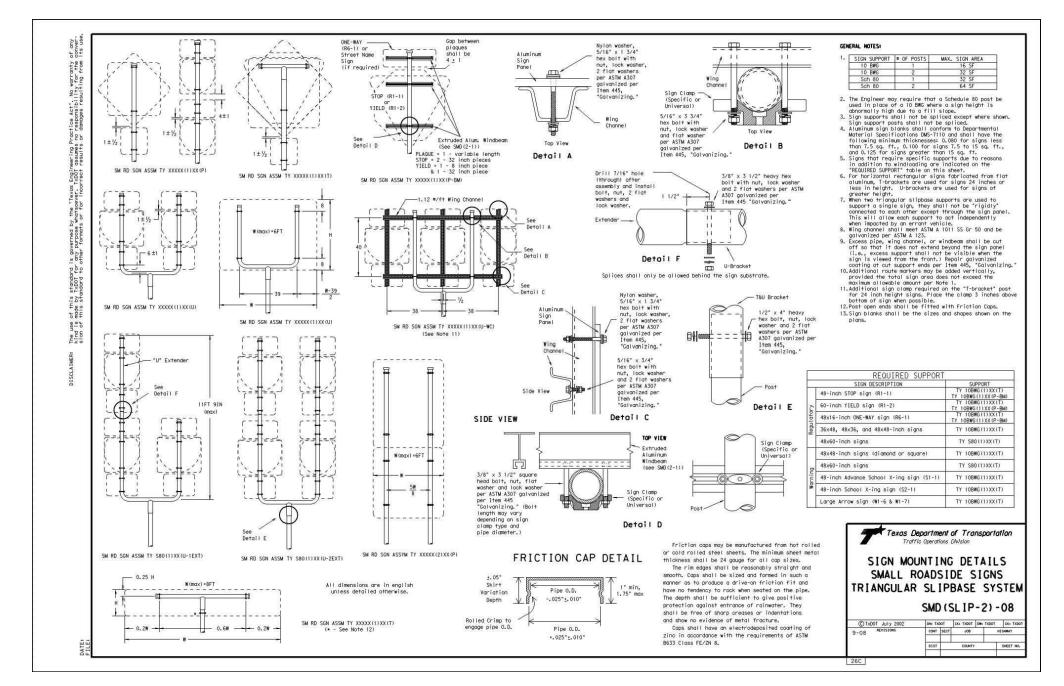
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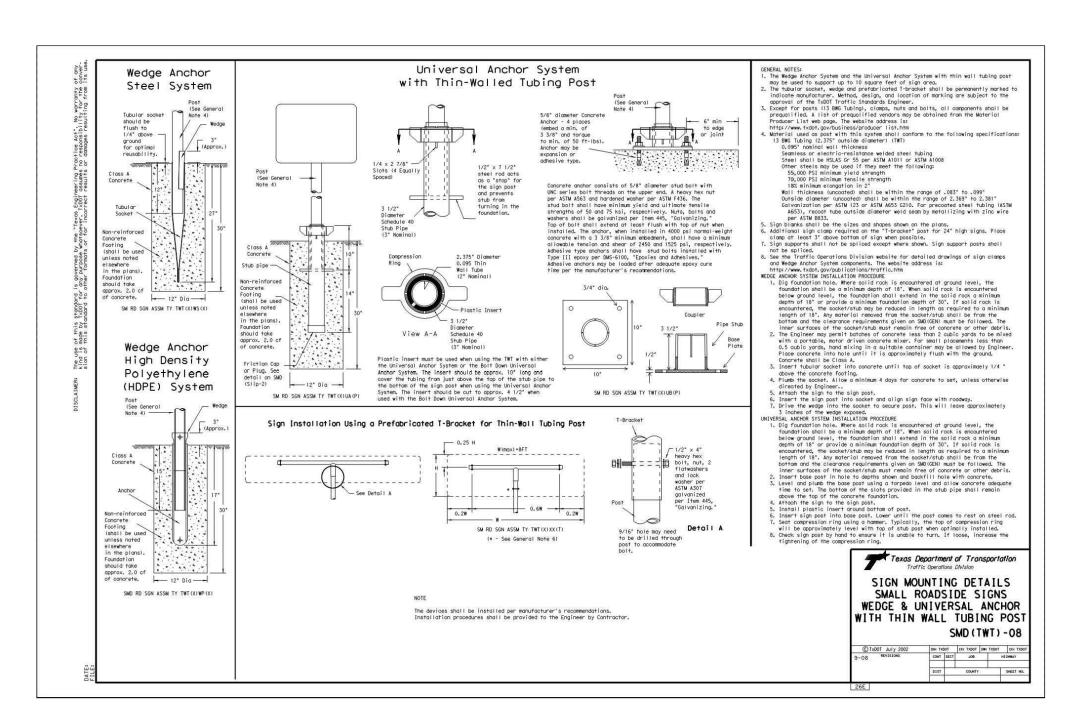


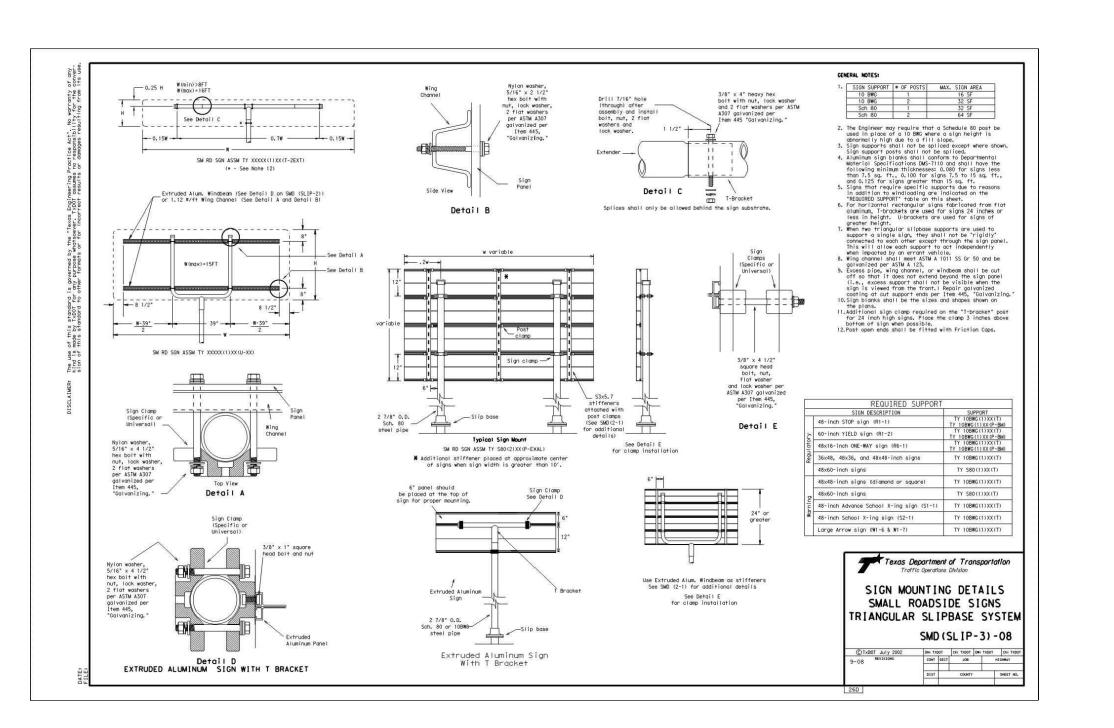




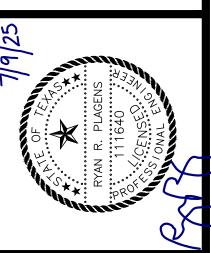








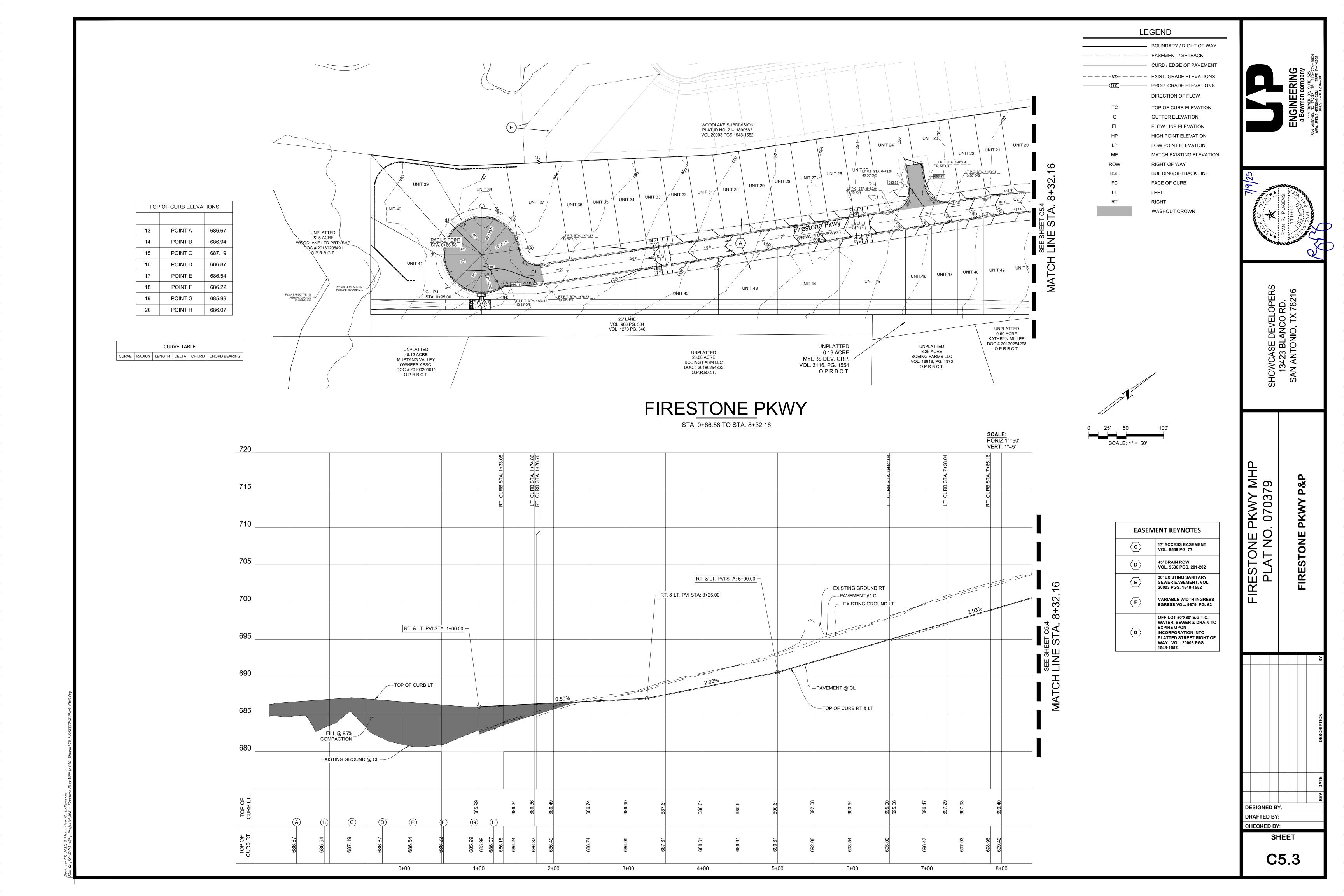
ENGINEERING a Bowman company

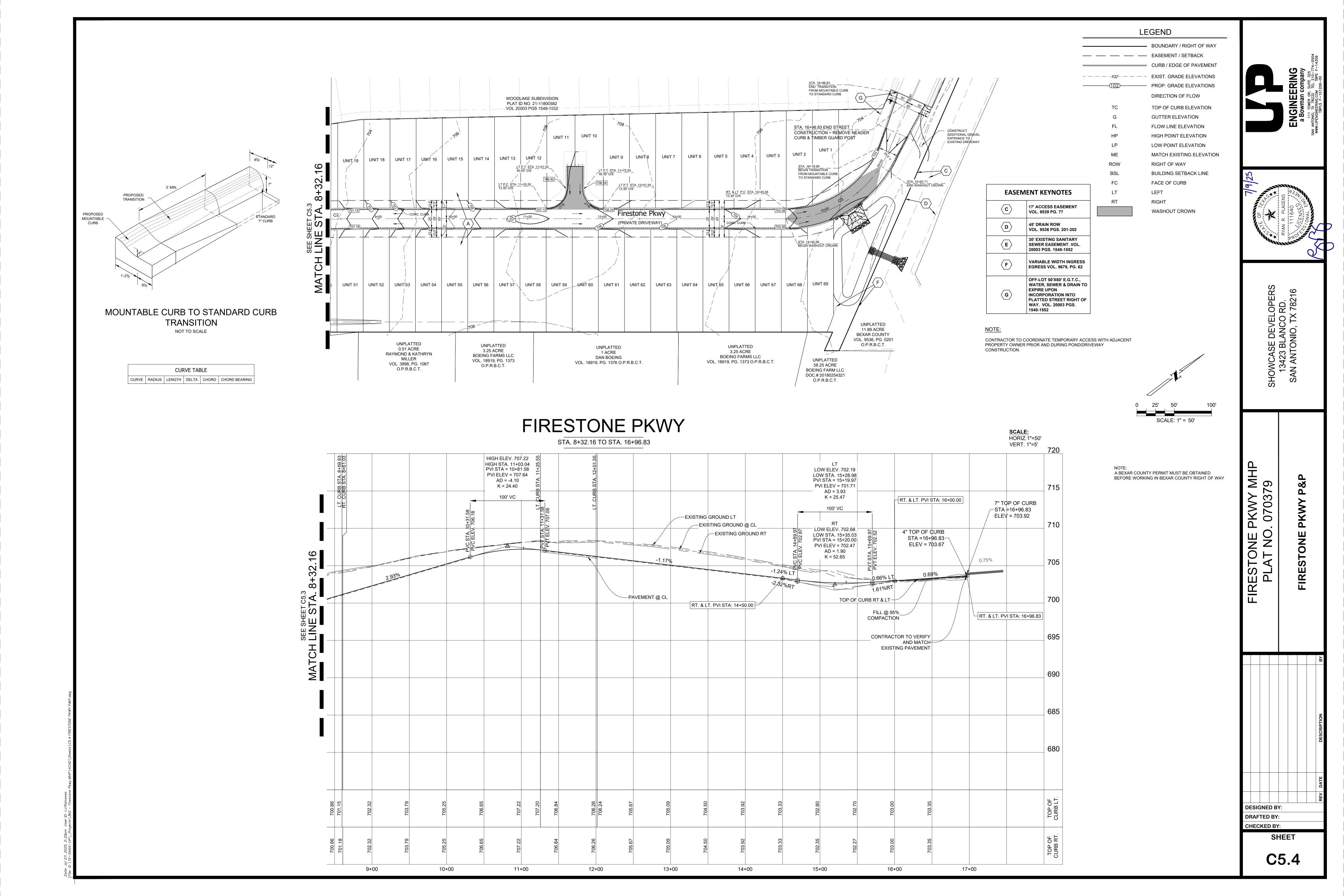


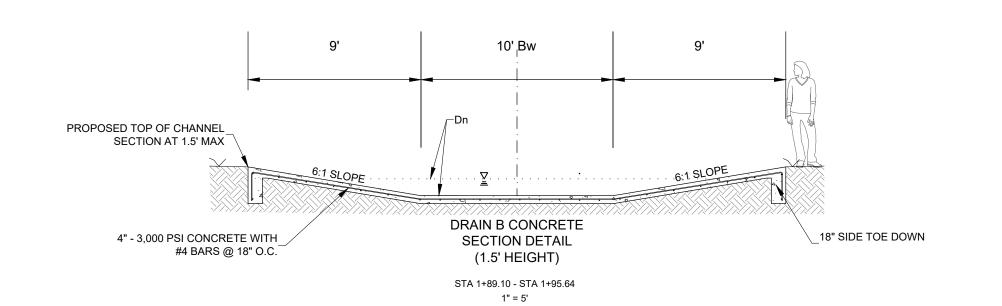
SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

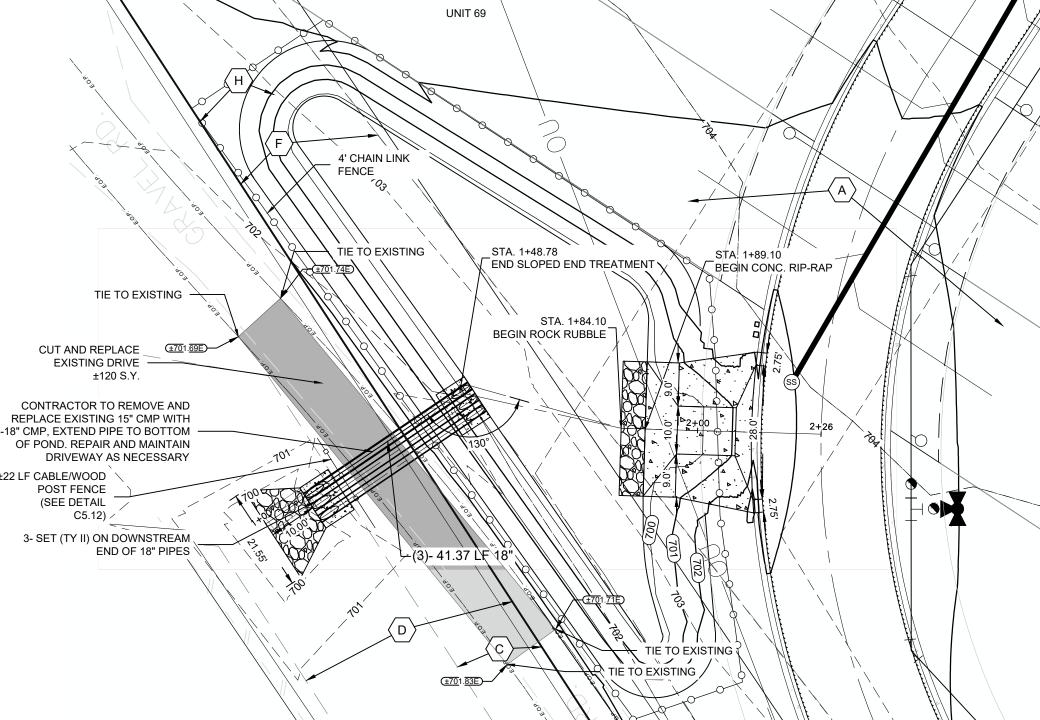
FIRESTONE PKWY MHP PLAT NO. 070379 SIGN DETAILS

DESIGNED BY:
DRAFTED BY:
CHECKED BY:
SHEET









3-18" CMP, EXTEND PIPE TO BOTTOM -±22 LF CABLE/WOOD NOST FENCE

CHANNEL A1-A2 CURBED WEIR

The length of drop curb opening required in feet = L_R

The 6.5" head or depth of water at the opening in feet = h

The Weir coefficient 3.087 = C

Length Provided (1x 28')= L

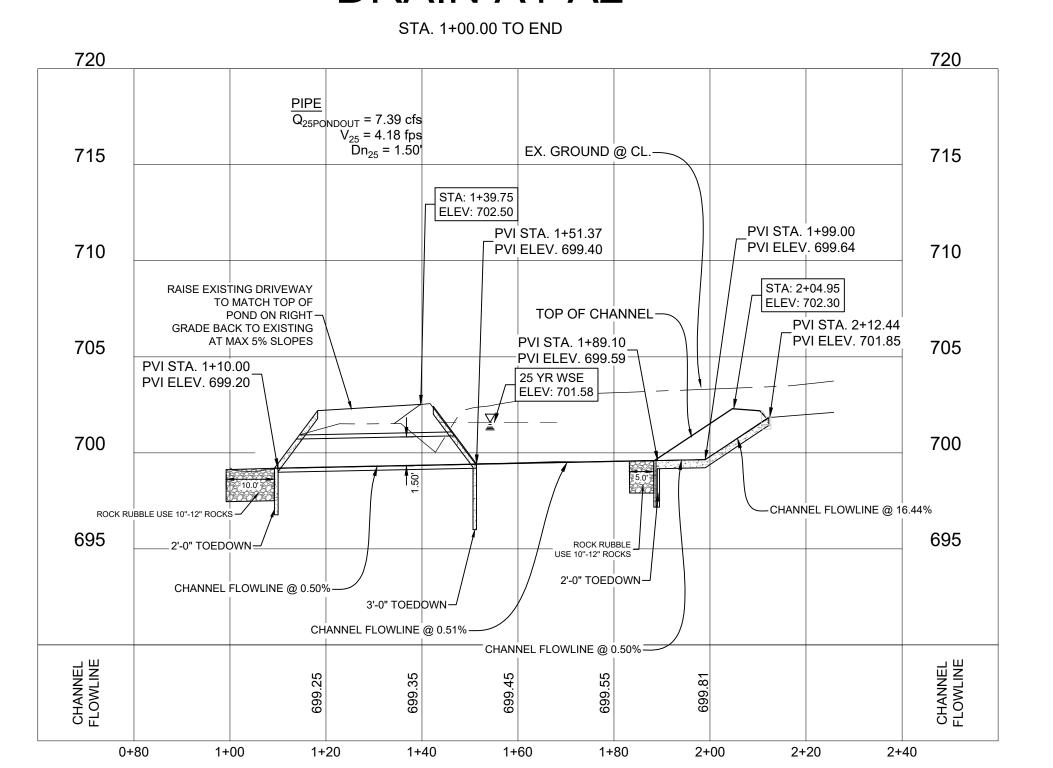
 $Q = CL(h)^{3/2}$ 8.3.2.a

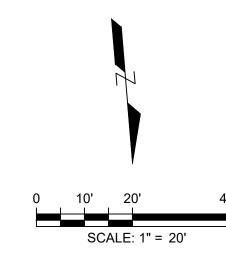
32.75 ft³/sec

0.5417 ft

Amount of flow in CFS = Q (cfs)25

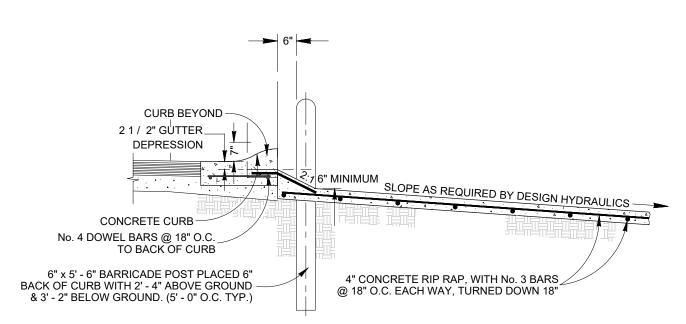
DRAIN A1-A2





- 1. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
- 2. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
- 3. ALL STORM DRAINAGE PIPE WITHIN PUBLIC ROW SHALL BE MIN RCP (REINFORCED CONCRETE PIPE)
- 4. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
- 5. CONCRETE SHALL BE A MINIMUM OF 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
- 6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL
- 7. CONTRACTOR TO COORDINATE TEMPORARY ACCESS WITH ADJACENT PROPERTY OWNER PRIOR AND DURING POND/DRIVEWAY CONSTRUCTION.

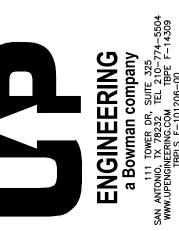
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

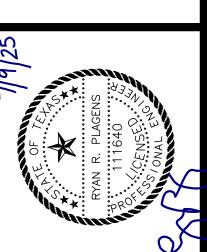


1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 3 / 4" BUTTON PER POST. 2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

ELEVATED SIDEWALK & DROP CURB DETAILS FOR DRAINAGE CHANNELS

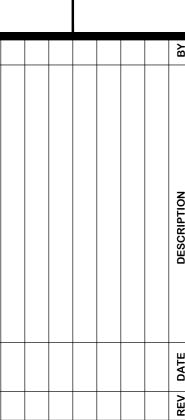
EASEMENT KEYNOTES		
(c)	17' ACCESS EASEMENT VOL. 9539 PG. 77	
D	45' DRAIN ROW VOL. 9536 PGS. 201-202	
E	30' EXISTING SANITARY SEWER EASEMENT. VOL. 20003 PGS. 1548-1552	
⟨ F ⟩	VARIABLE WIDTH INGRESS EGRESS VOL. 9679, PG. 62	
(G)	OFF-LOT 50'X60' E.G.T.C., WATER, SEWER & DRAIN TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT OF WAY. VOL. 20003 PGS. 1548-1552	





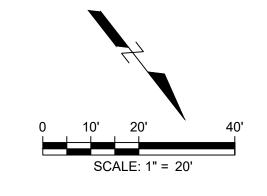
SHOWCASE DEVELOPERS 13423 BLANCO RD. SAN ANTONIO, TX 78216

FIRESTONE PKWY MHP PLAT NO. 070379



DESIGNED BY: DRAFTED BY: CHECKED BY:

SHEET

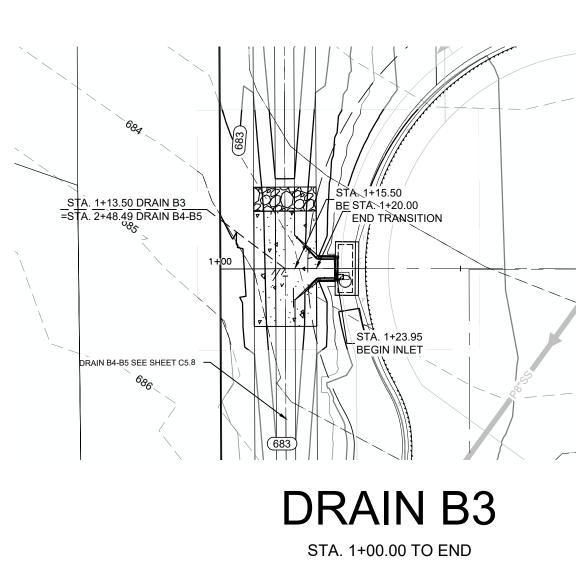


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NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY



PEDESTRIAN RAILING-

6" WALL- 3,000 PSI CONCRETE WITH #4 BARS @ 18" O.C.

#4 BARS @ 18" O.C.

6" FLOOR- 3,000 PSI CONCRETE WITH

2' BENCH @ 2.00%-\

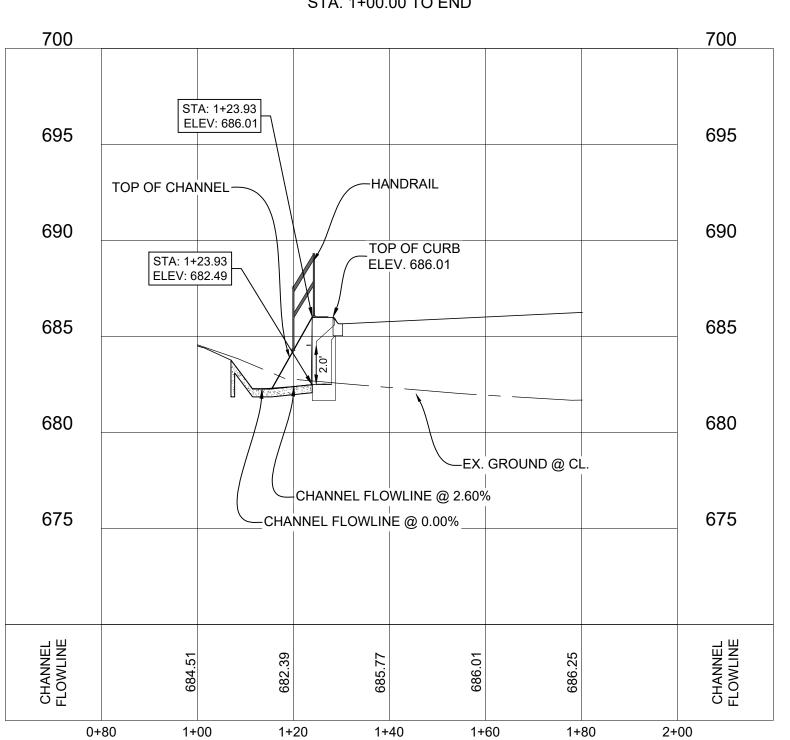
SOUTH SWALE

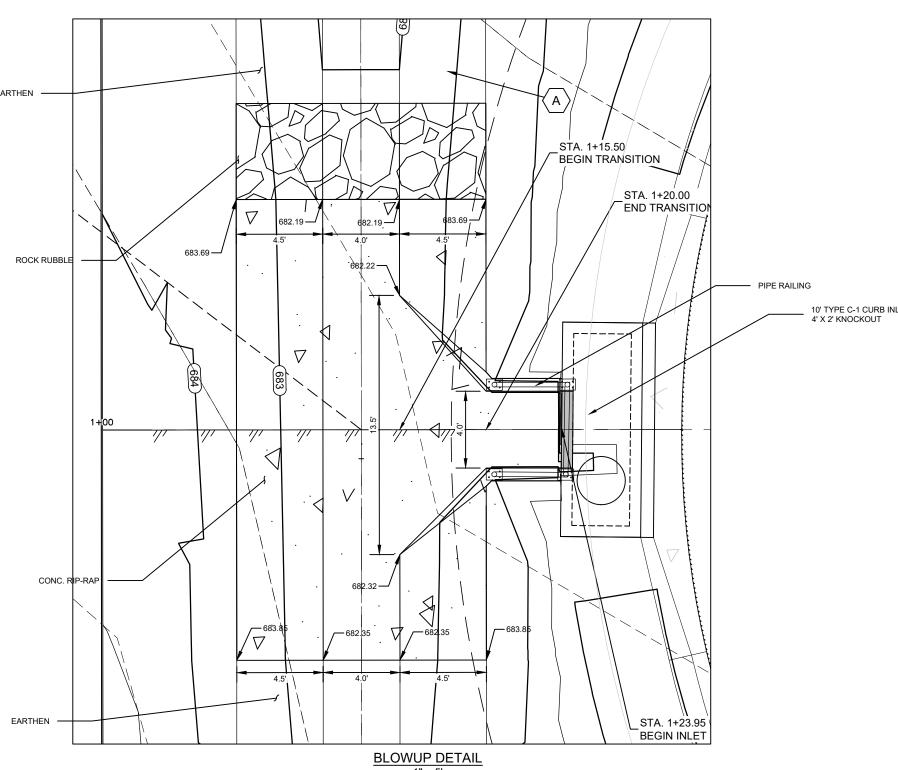
U-CHANNEL CONCRETE

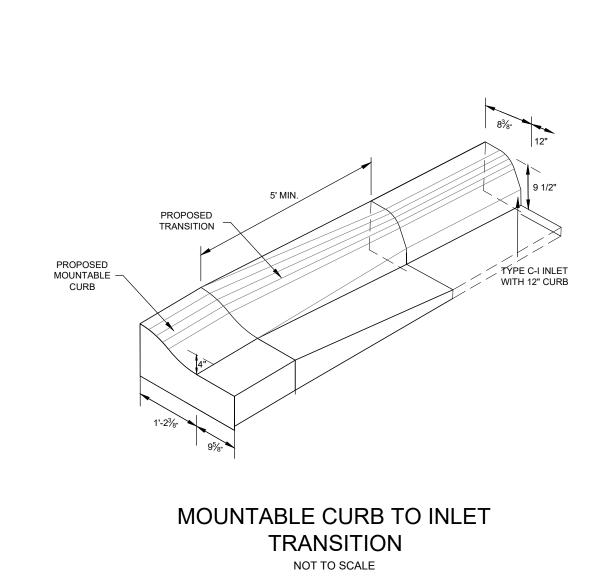
SECTION DETAIL STA 1+20.00 -1+23.95

1" = 5'

_2' BENCH @ 2.00%







CHANNEL B3 CURB INLET

The Weir coefficient 3.087 = C

Length Provided (1x 10')= L_P

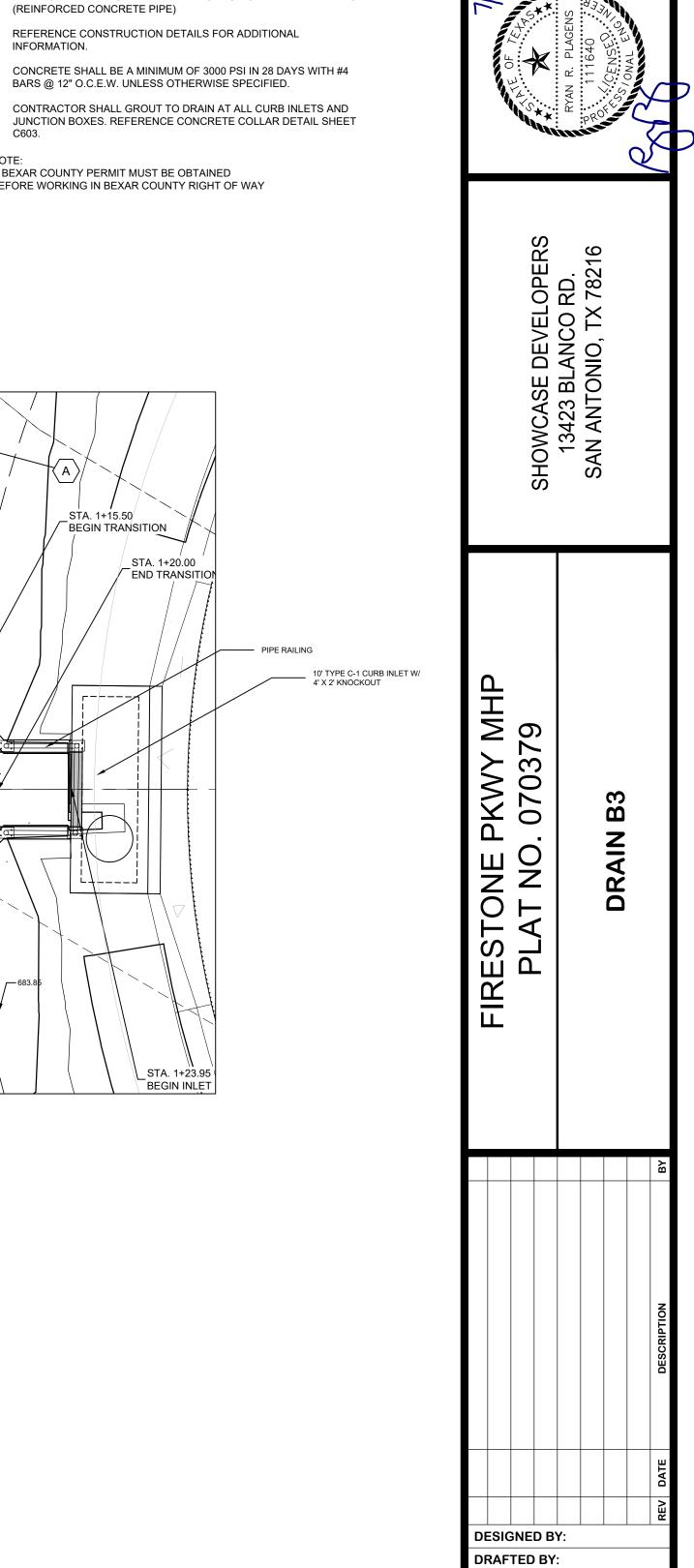
The length of drop curb opening required in feet = L_R

The head or depth of water at the opening in feet = h

 $Q = CL(h)^{3/2}$ 8.3.2.a

20.32 ft³/sec

Amount of flow in CFS = Q (cfs)25

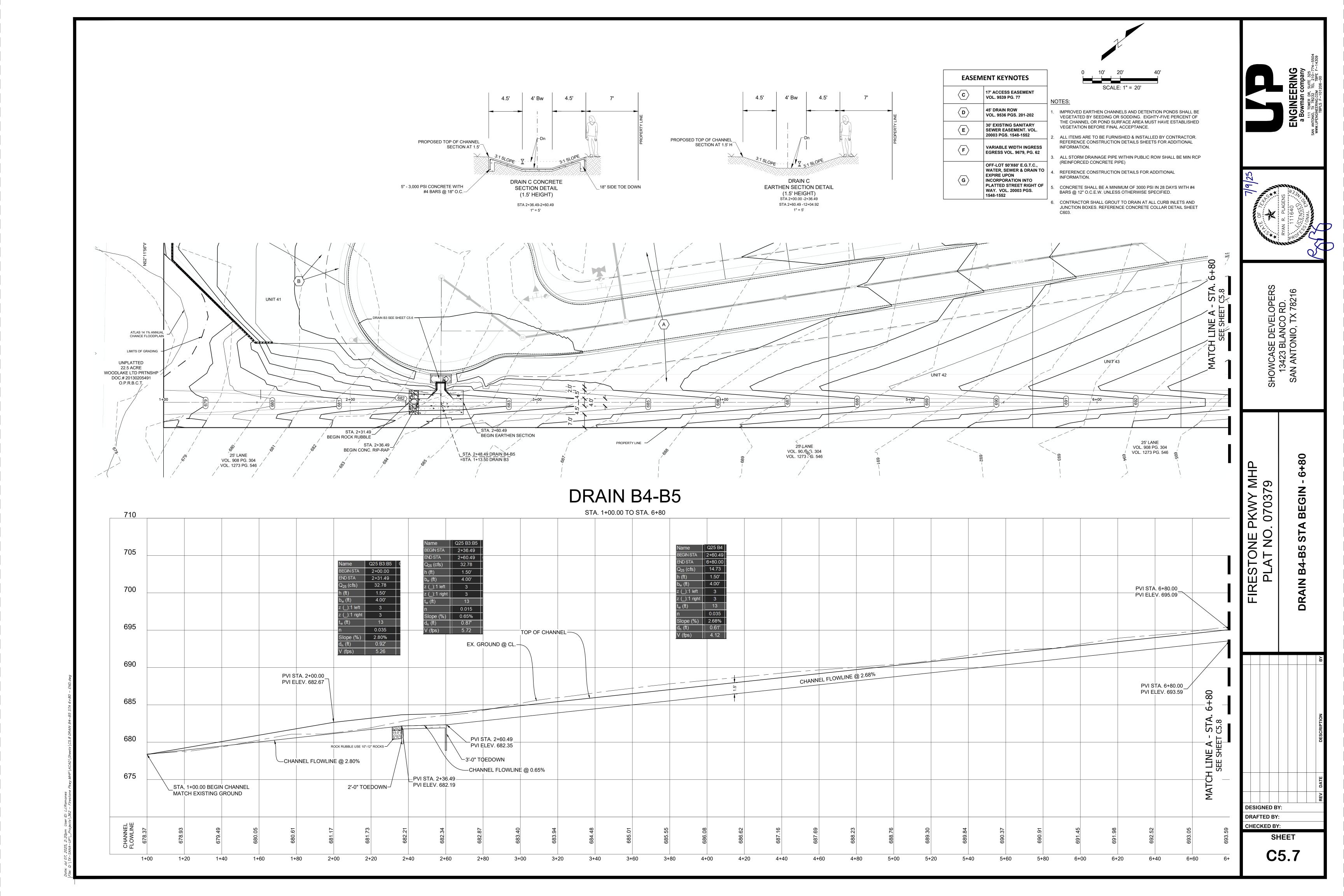


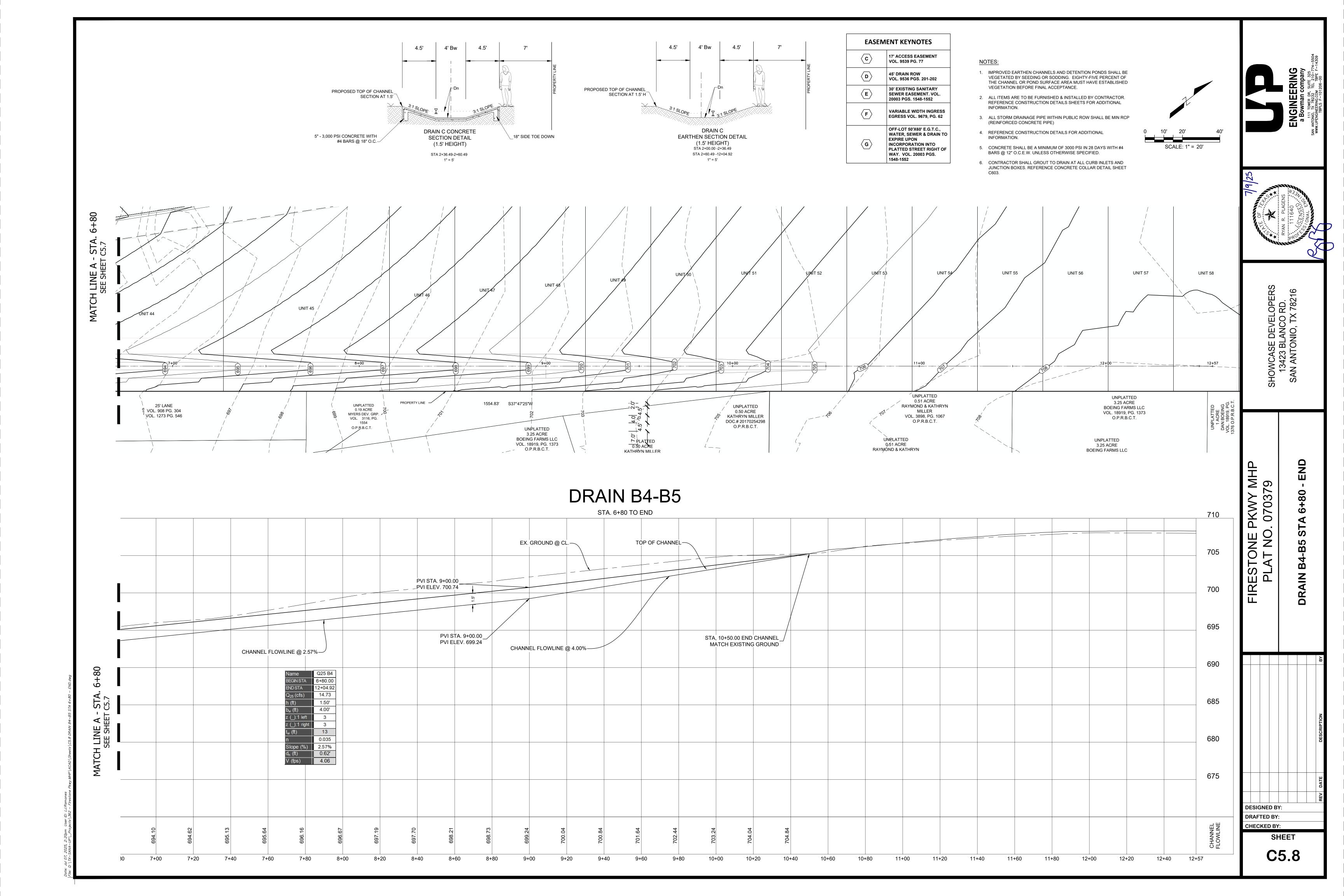
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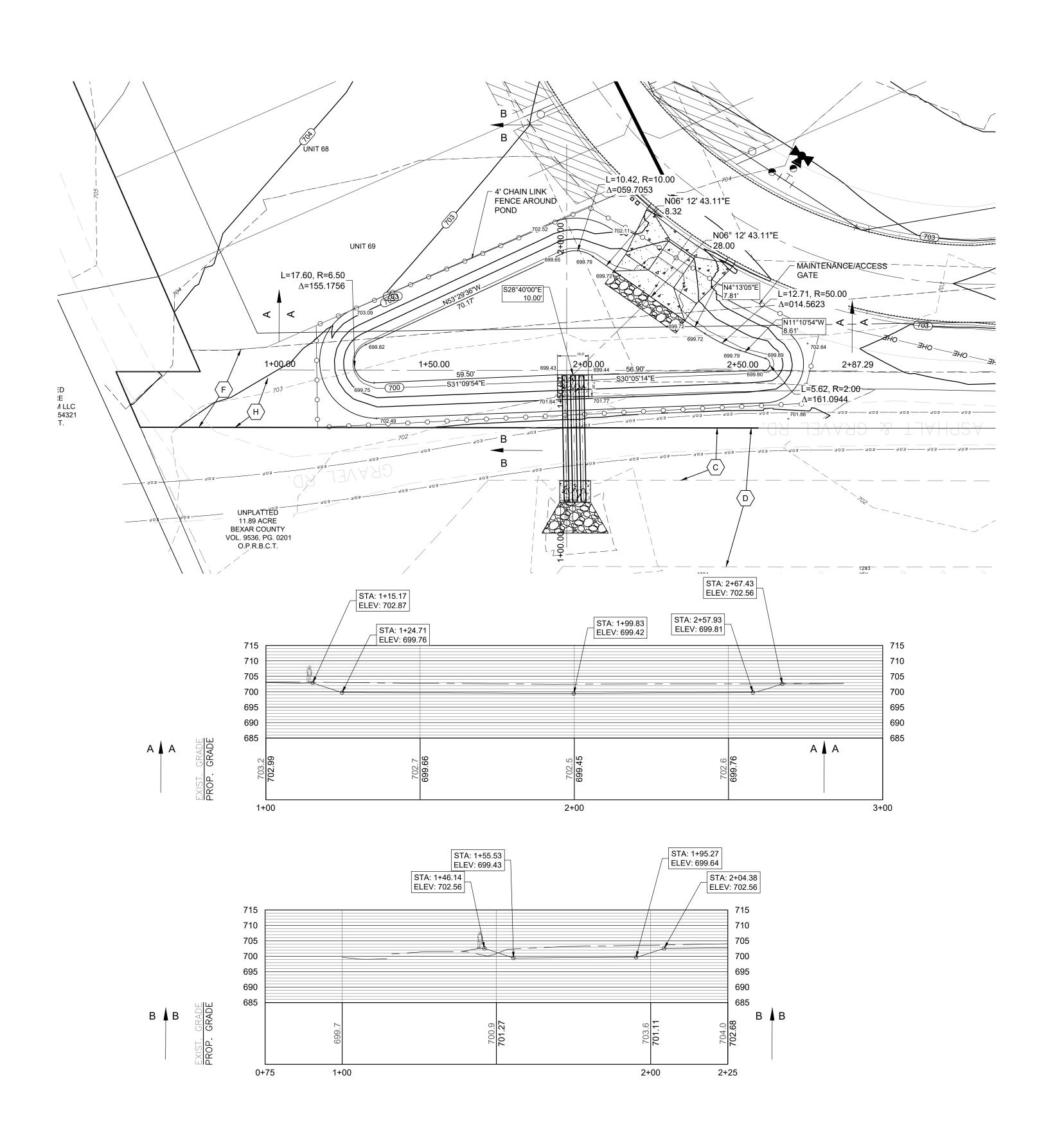
SHEET

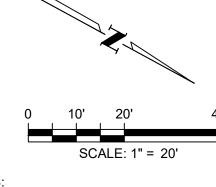
C5.6

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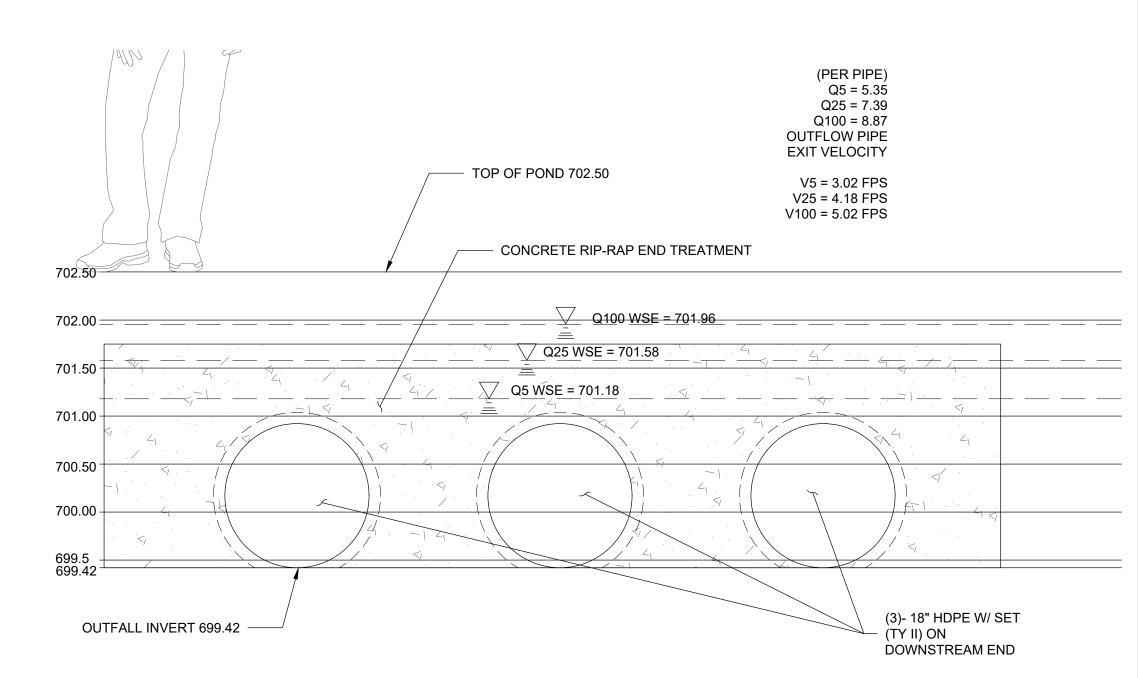


NOTES:

- IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
- ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
- 3. ALL STORM DRAINAGE PIPE WITHIN PUBLIC ROW SHALL BE MIN RCP (REINFORCED CONCRETE PIPE)
- 4. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL
- INFORMATION.
- 5. CONCRETE SHALL BE A MINIMUM OF 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
- 6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL
- 7. CONTRACTOR TO COORDINATE TEMPORARY ACCESS WITH ADJACENT PROPERTY OWNER PRIOR AND DURING POND/DRIVEWAY CONSTRUCTION.

	No Pond	
	EXISTING (CFS)	PROPOSED No Pond (CFS)
X A1-A2 Prop A1-A2 Q ₅	19.97	21.08
X A1-A2 Prop A1-A2 Q ₂₅	27.47	29.04
X A1-A2 Prop A1-A2 Q ₁₀₀	33.92	35.91

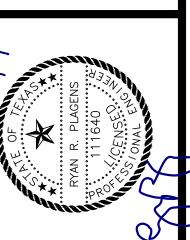
		With Pond	
		EXISTING Q ₁₀₀ (CFS)	PROPOSED W/ Pond (CFS)
	EX A2 Prop A2 Q ₅	19.97	16.00
	EX A2 Prop A2 Q ₂₅	27.47	22.07
	EX A2 Prop A2 Q ₁₀₀	33.92	26.46



OUTFALL STRUCTURE DETAIL
1" = 1'

EASEMENT KEYNOTES		
(c)	17' ACCESS EASEMENT VOL. 9539 PG. 77	
$\langle D \rangle$	45' DRAIN ROW VOL. 9536 PGS. 201-202	
⟨ E ⟩	30' EXISTING SANITARY SEWER EASEMENT. VOL. 20003 PGS. 1548-1552	
⟨ F ⟩	VARIABLE WIDTH INGRESS EGRESS VOL. 9679, PG. 62	
G	OFF-LOT 50'X60' E.G.T.C., WATER, SEWER & DRAIN TO EXPIRE UPON INCORPORATION INTO PLATTED STREET RIGHT OF WAY. VOL. 20003 PGS. 1548-1552	





SHOWCASE DEVELOPEF 13423 BLANCO RD. SAN ANTONIO, TX 7821

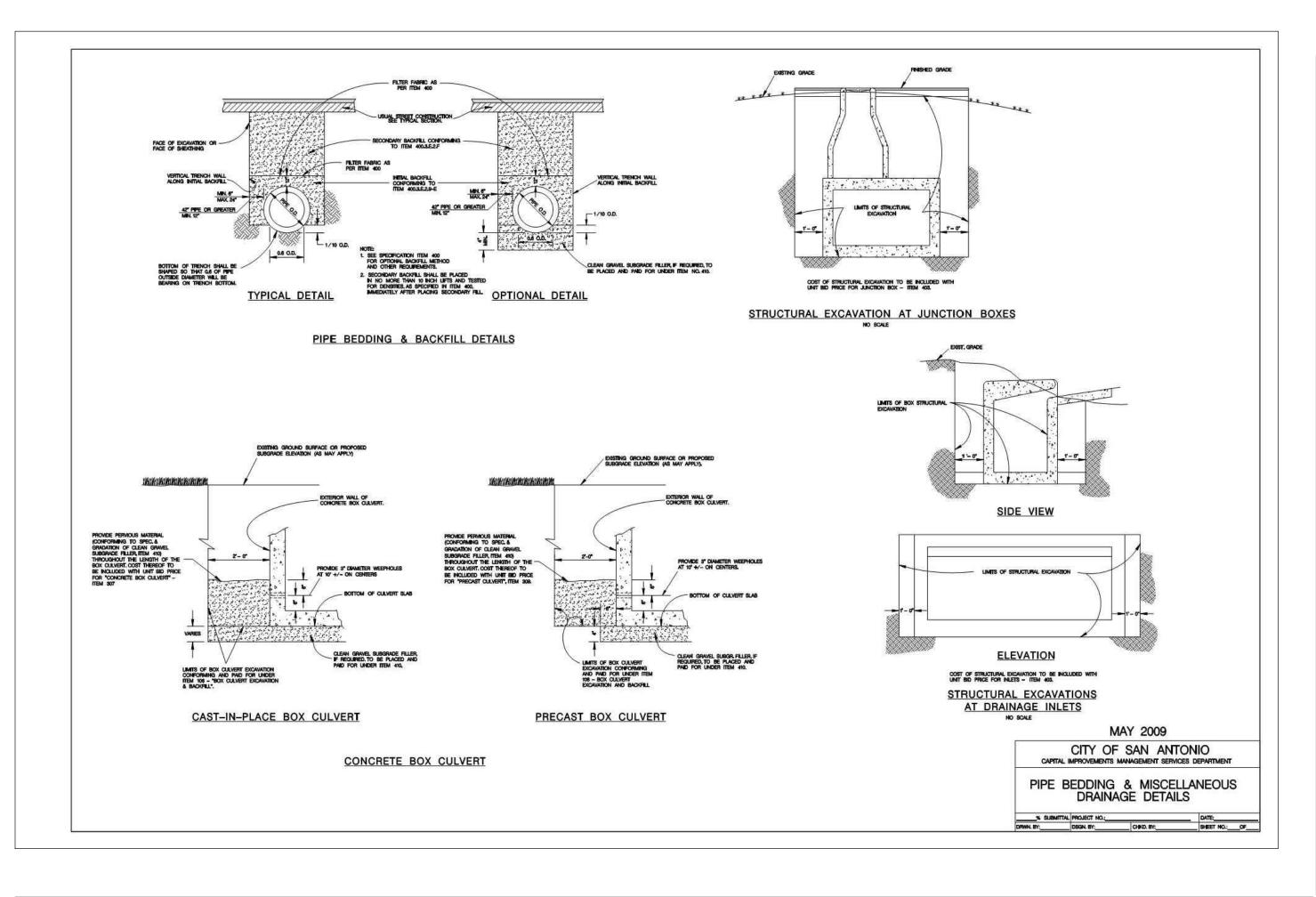
POND SHEET

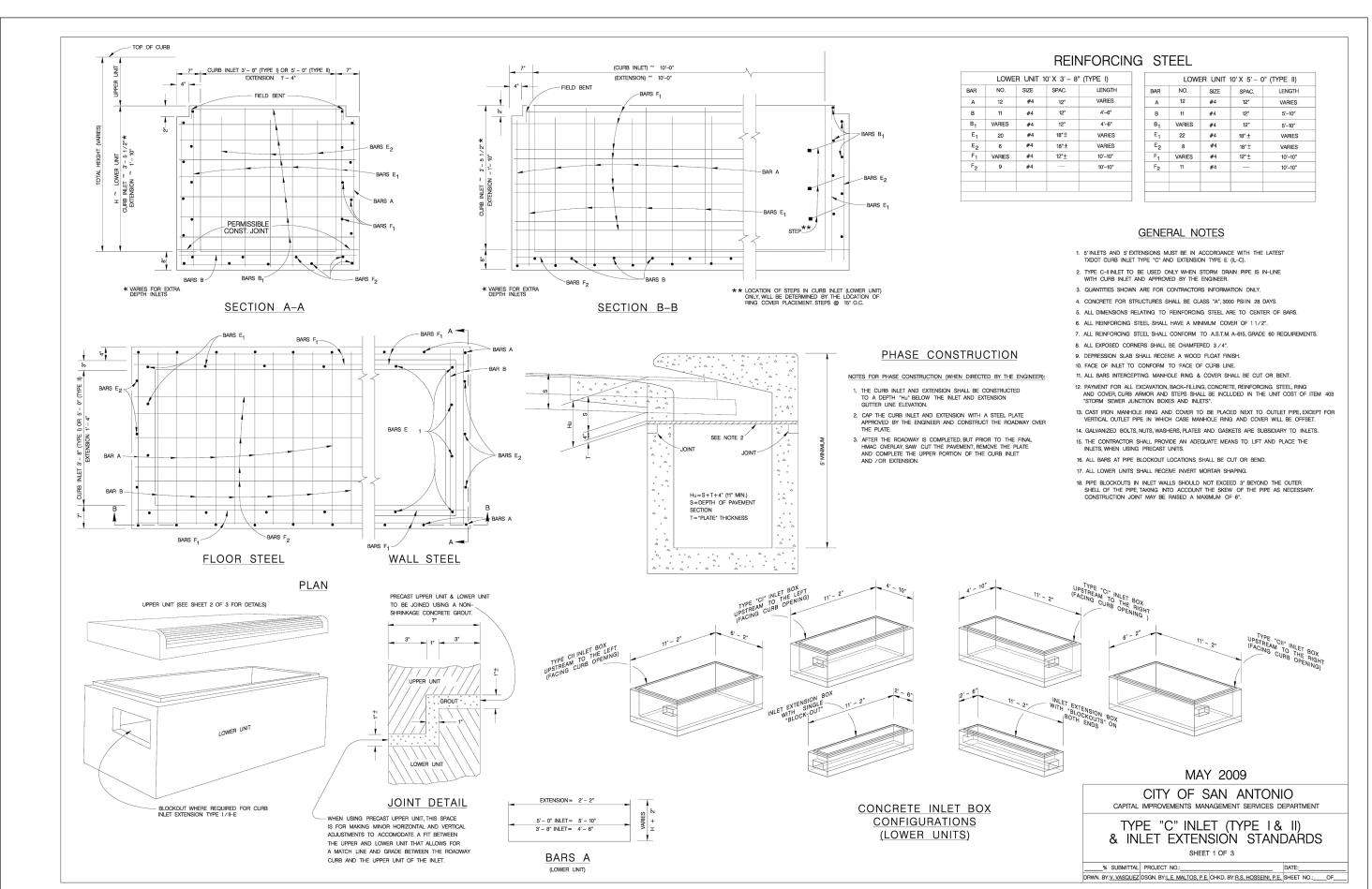
FIRESTONE PKWY MHF PLAT NO. 070379

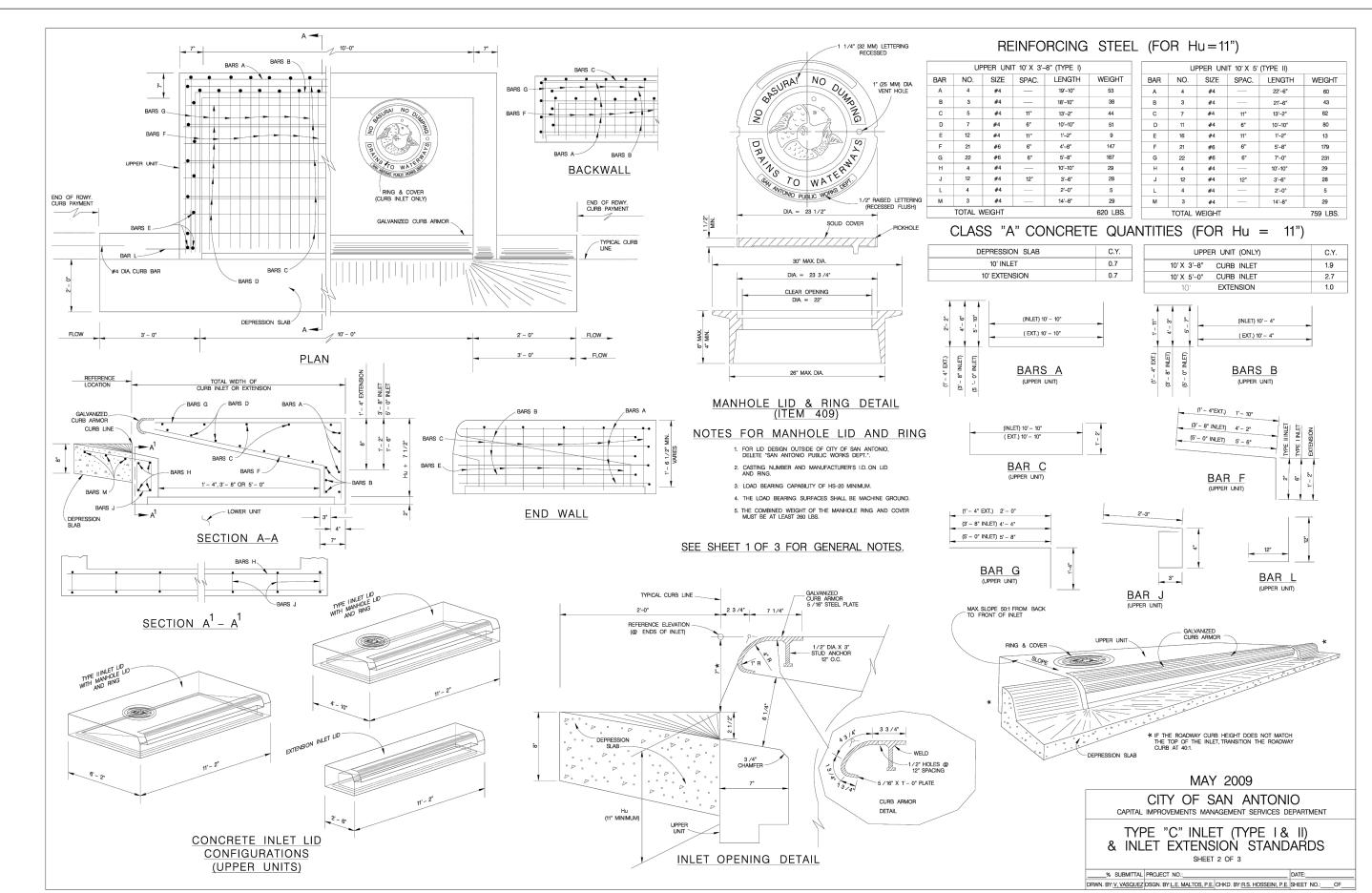
DATE DESCRIPTION BY

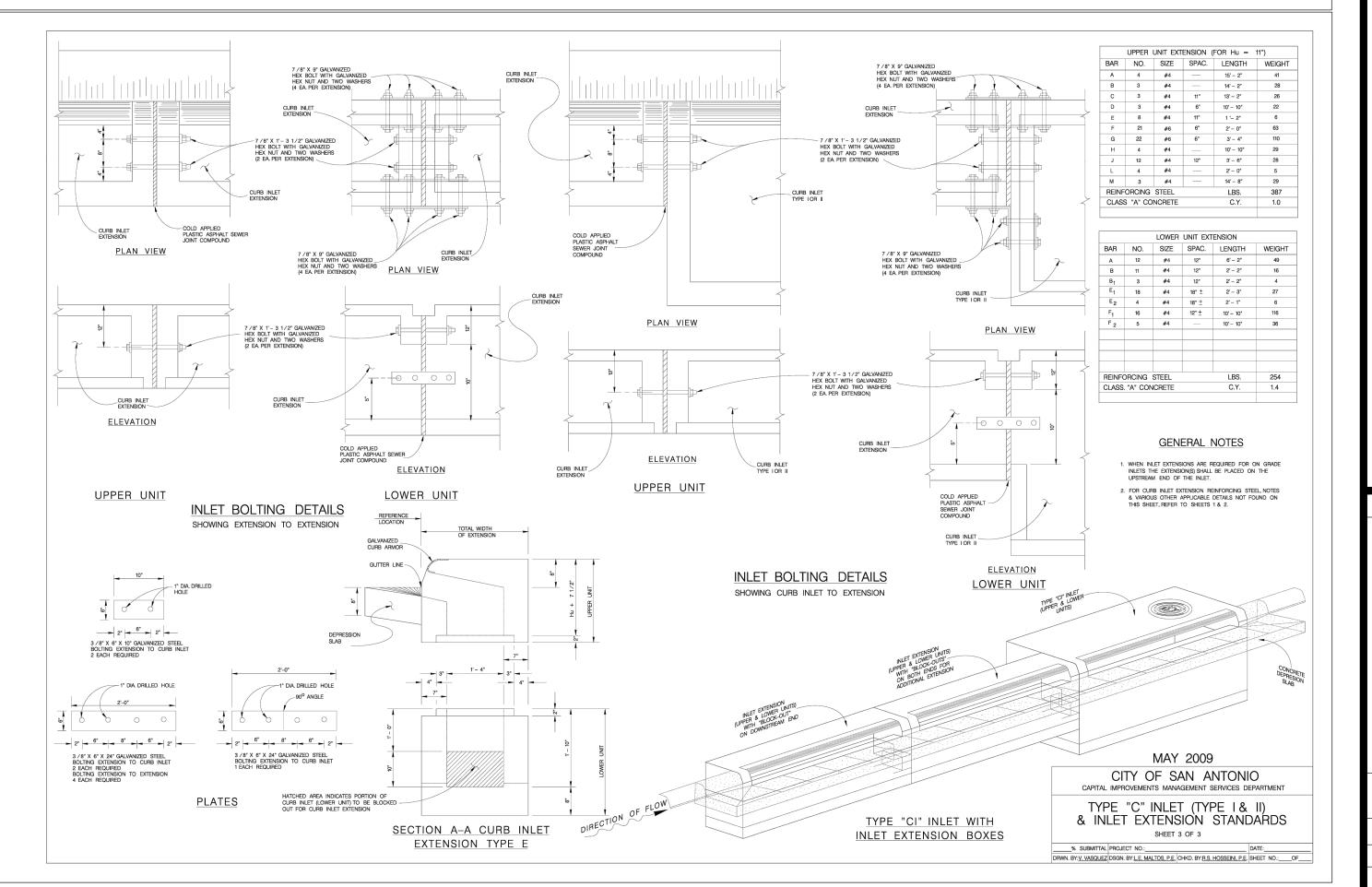
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

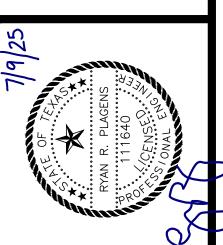






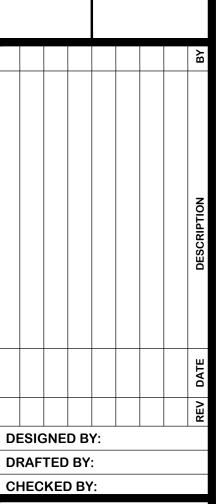


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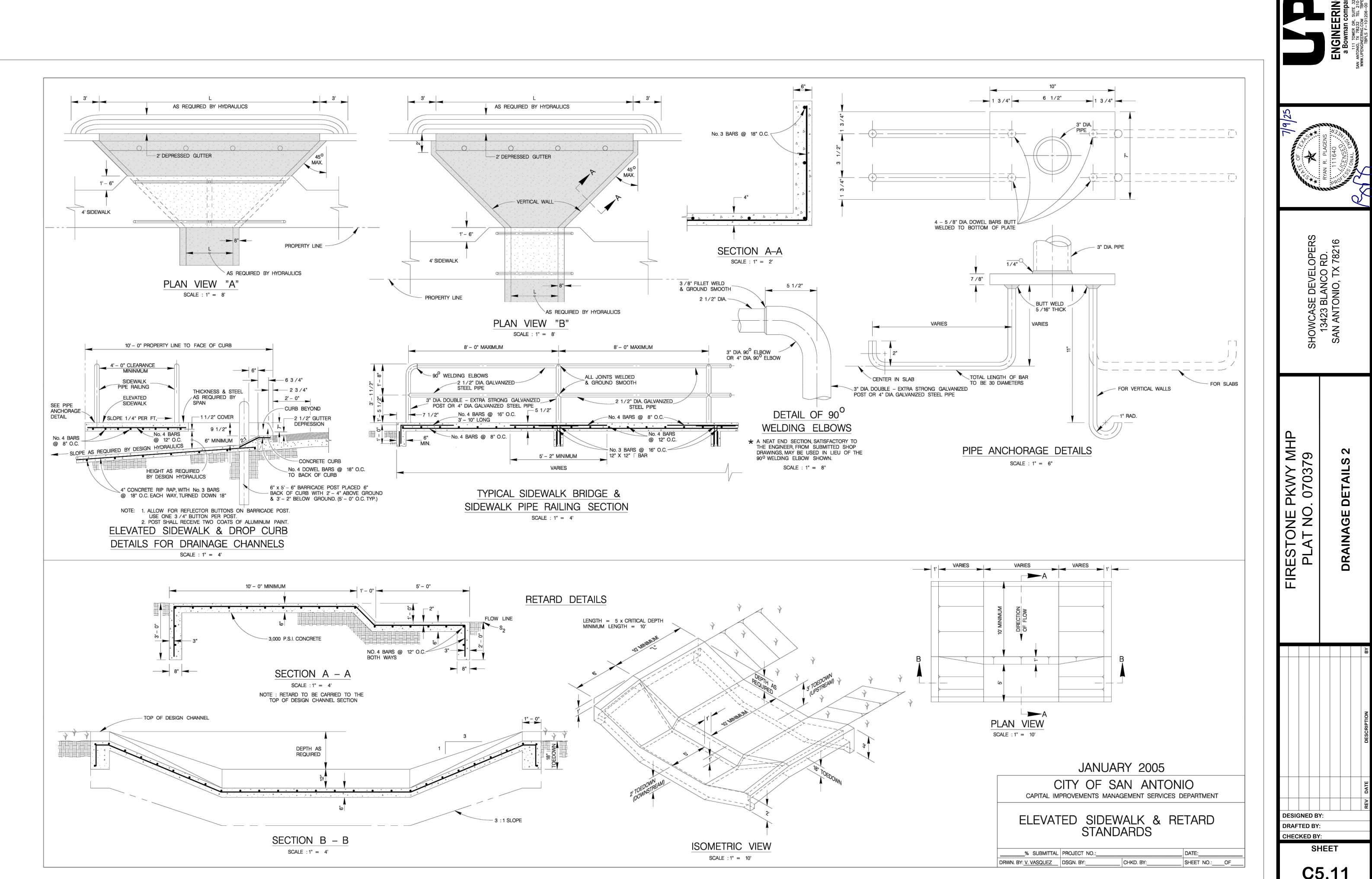


VCASE DEVELC 3423 BLANCO R I ANTONIO, TX 7

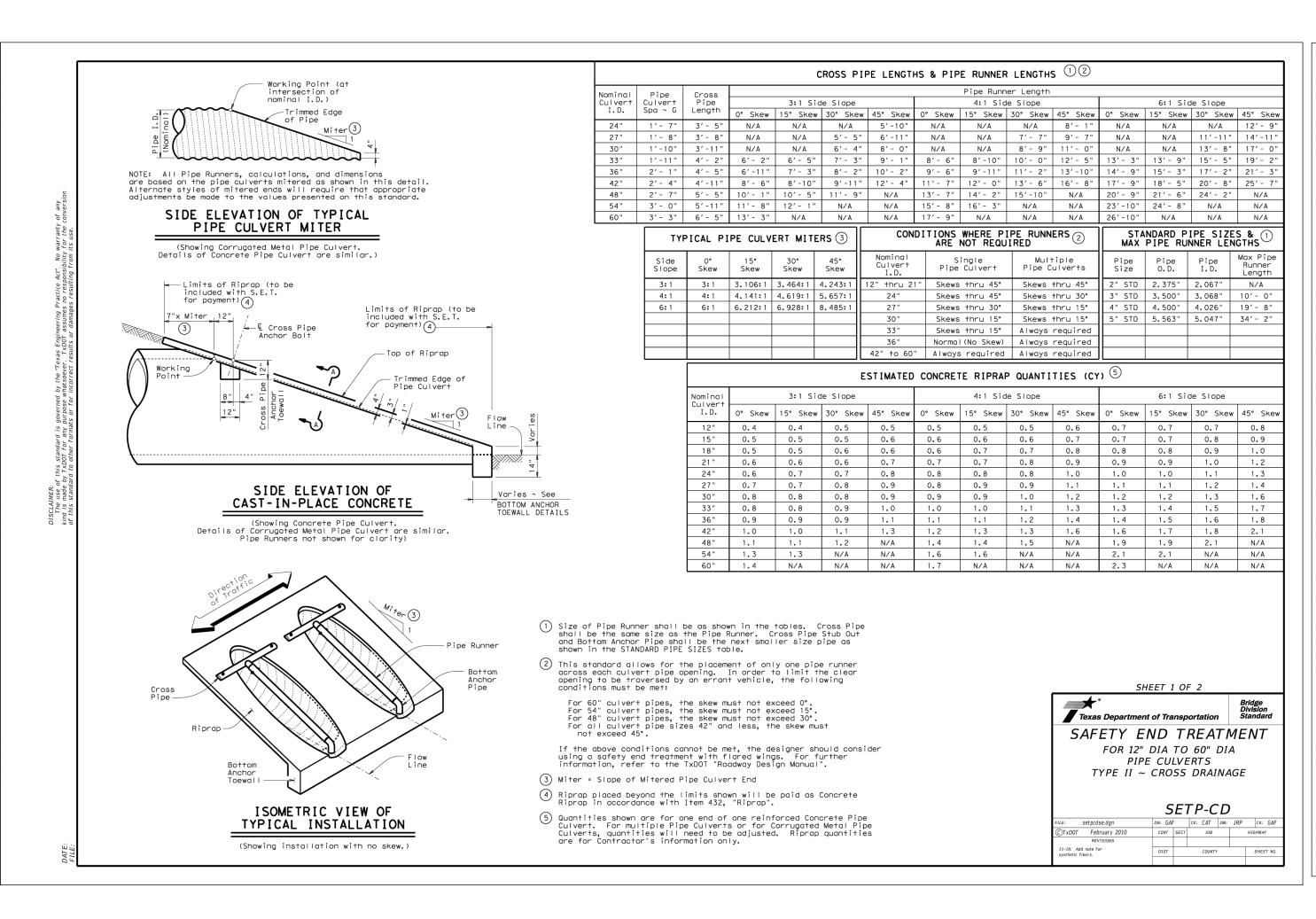
MHI 0 S PKWY N. 070379 DETAIL FIRESTONE F PLAT NO. DRAINAGE

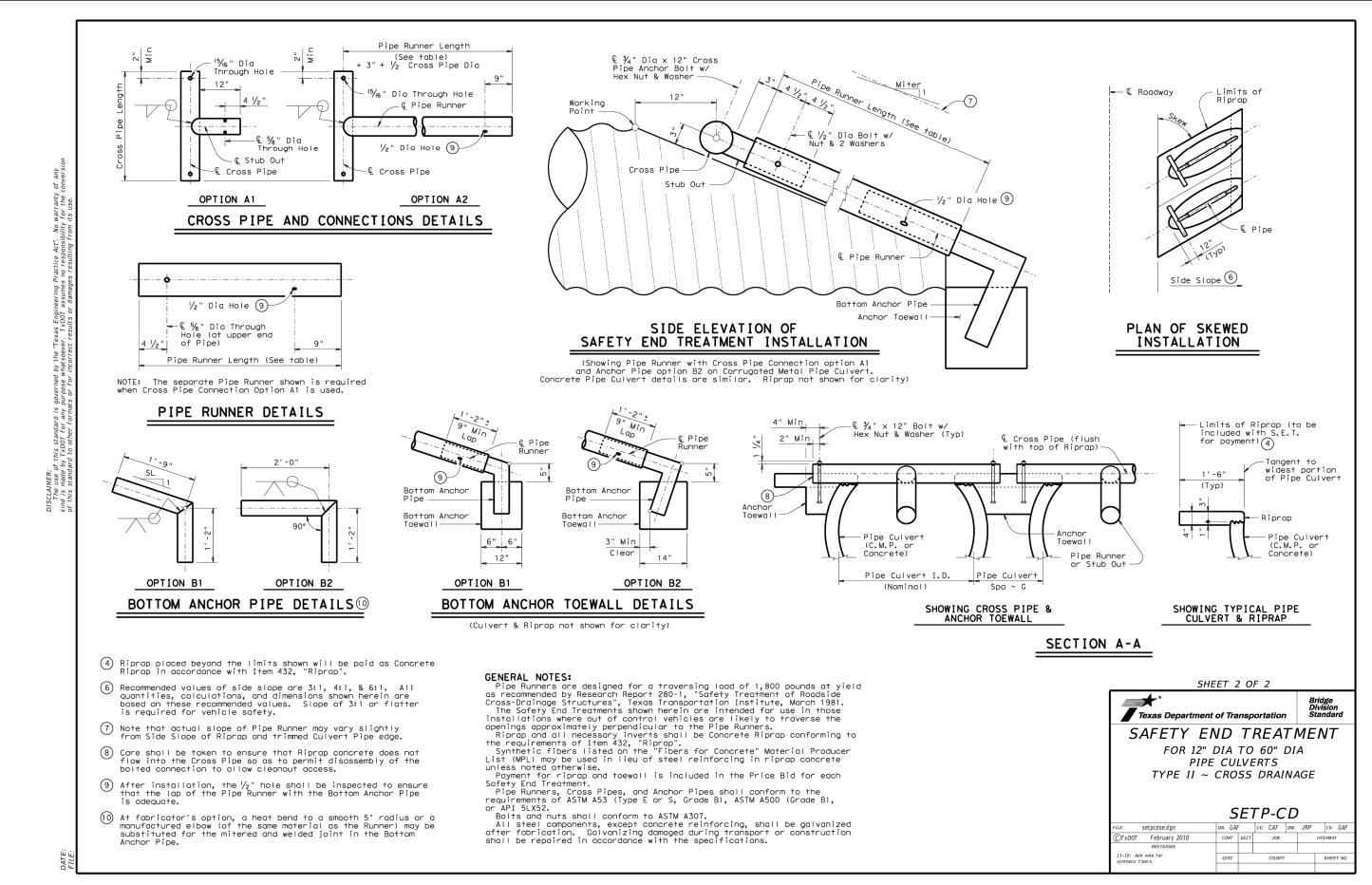


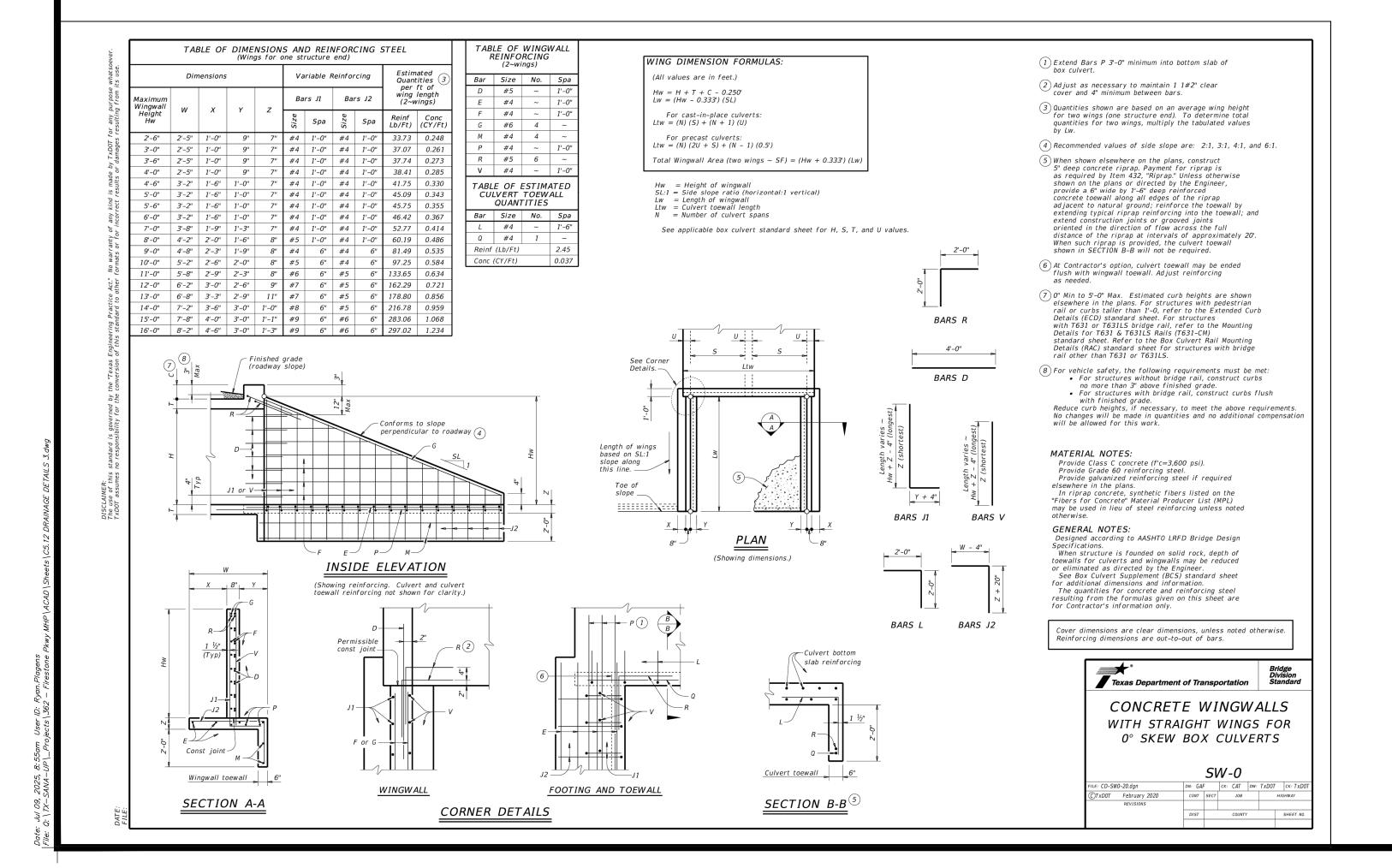
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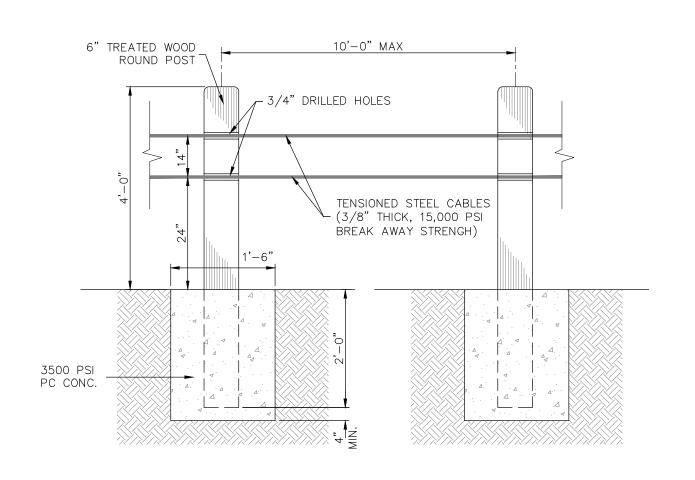


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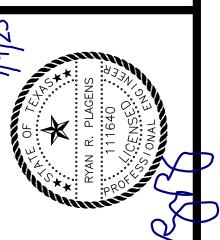






STEEL CABLE AND WOOD POST FENCE

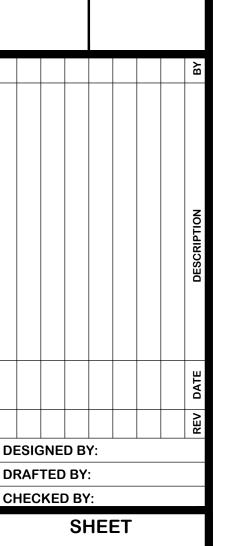
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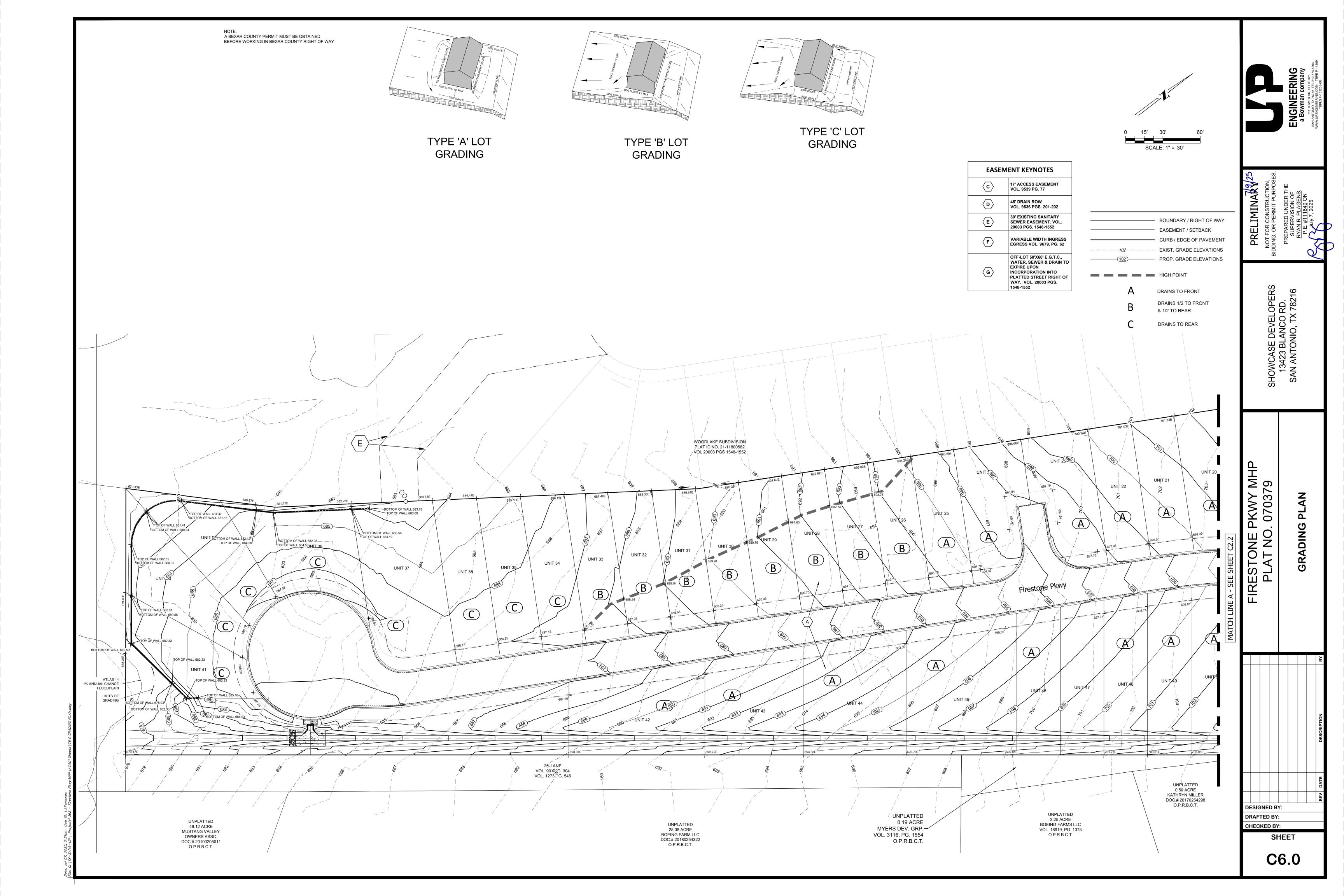


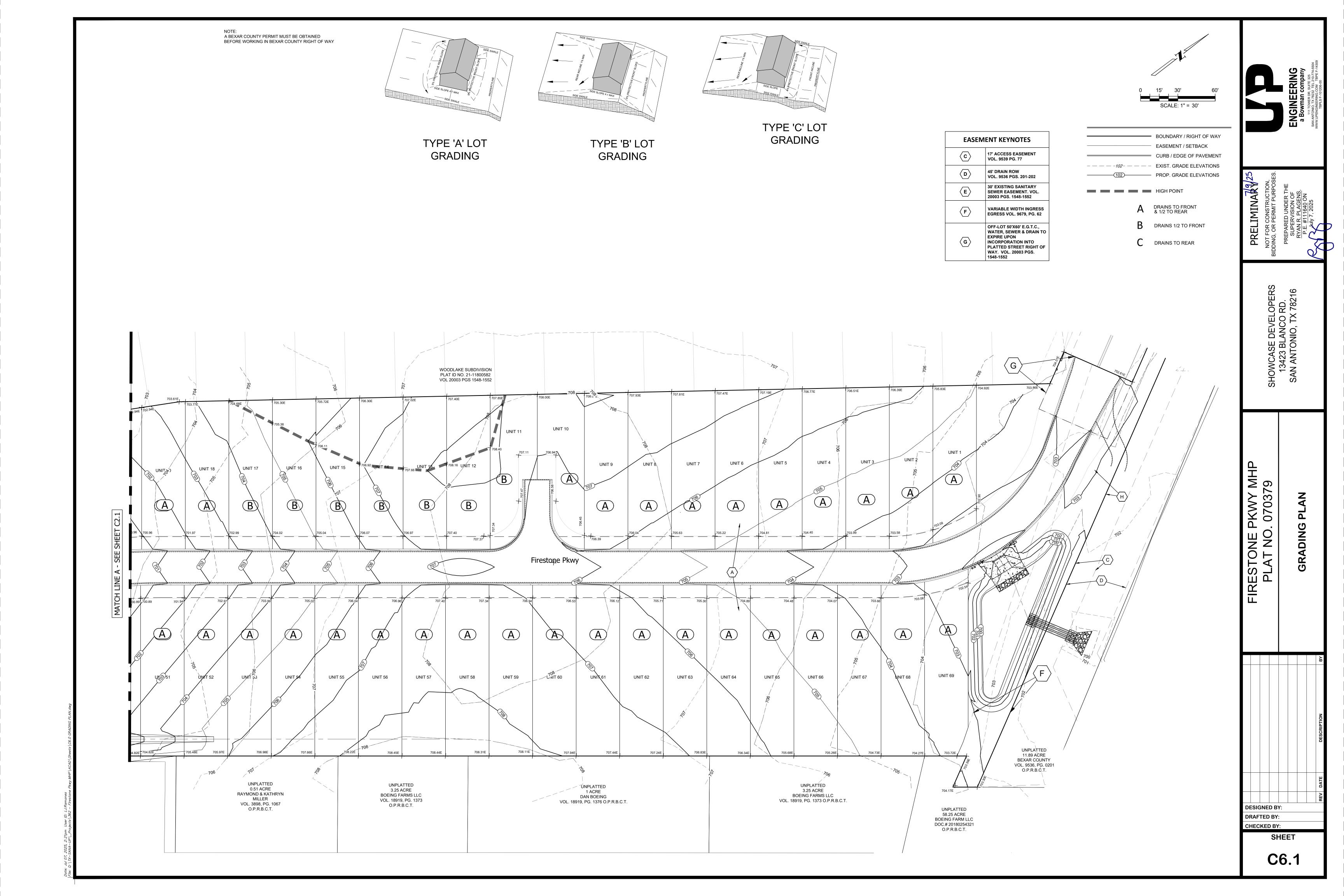
OPERS RD. 78216 VCASE DEVELC 3423 BLANCO R I ANTONIO, TX 7

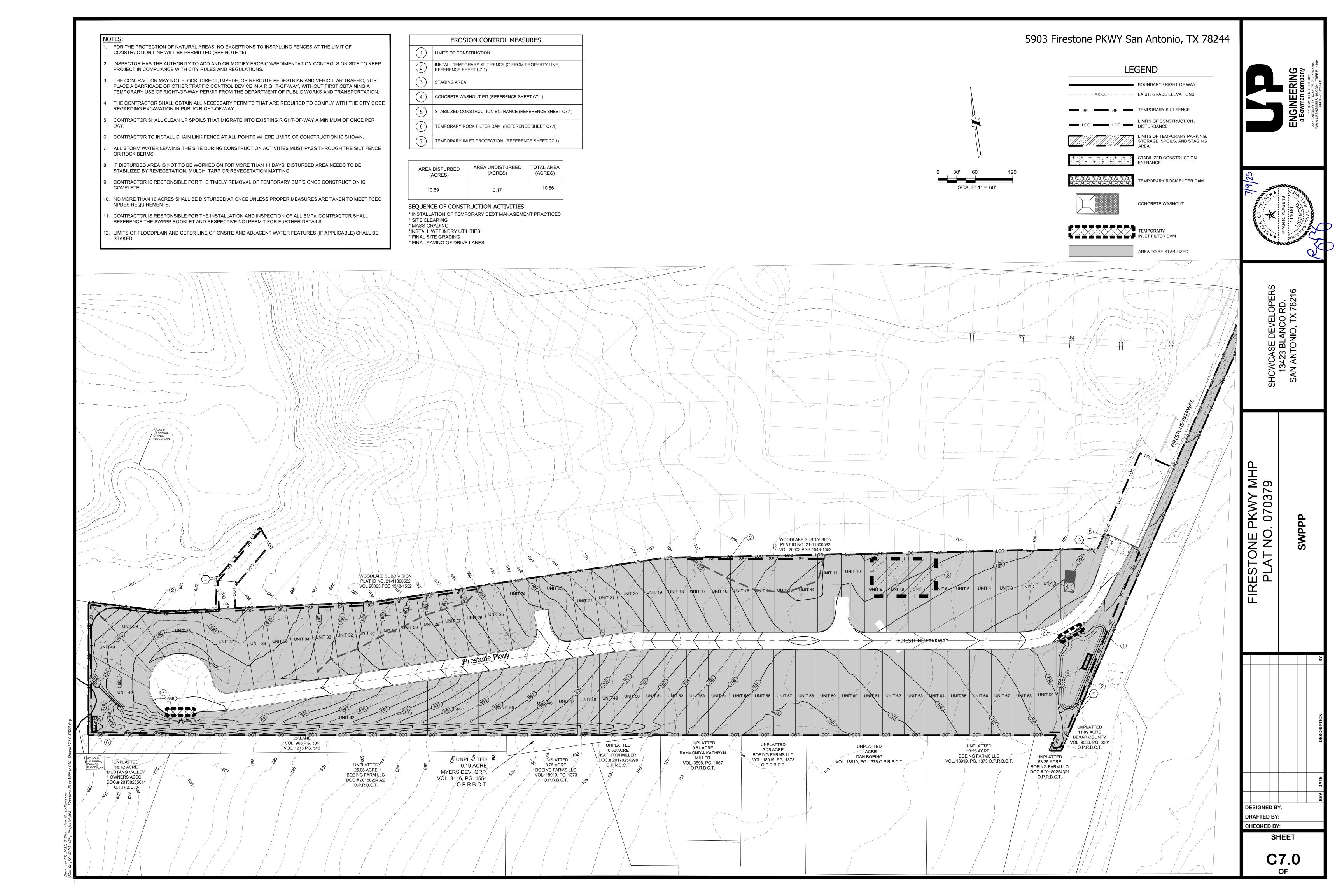
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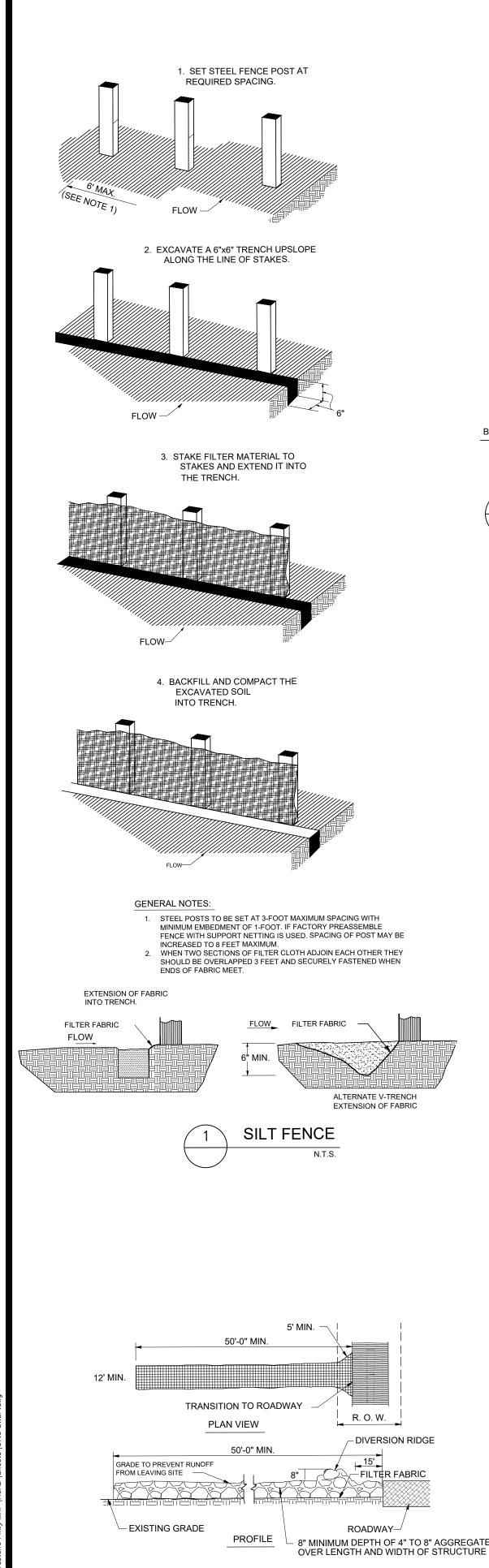
FIRE



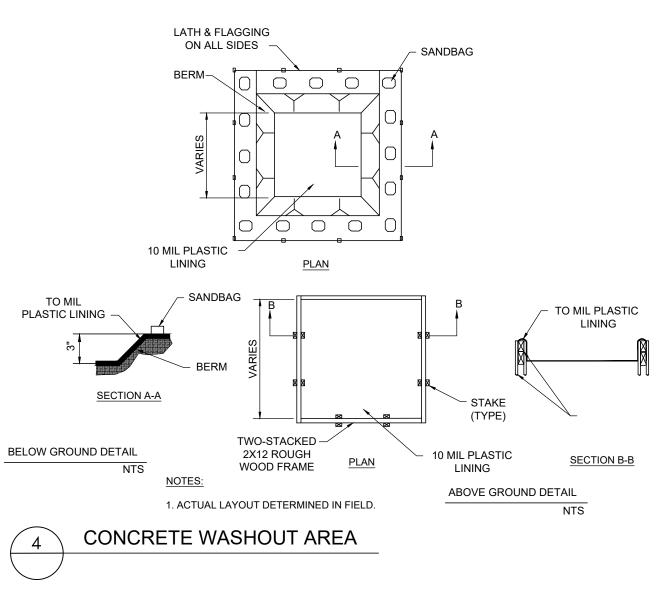


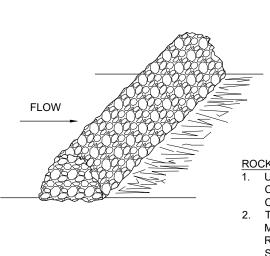


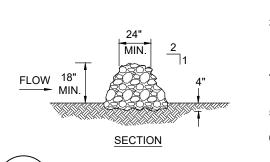




STABILIZED CONSTRUCTION EXIT







USE ONLY OPEN GRADED ROCK 100 to 200 mm (4 to 8") DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR OTHER

THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE). ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 150 mm (6 ") WITH T-POSTS OR WITH 15M OR 20M (#5 OR #6) REBAR, WITH MAXIMUM SPACING APART OF 1.2 m (48") ON CENTER.

THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150

mm (6"), WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM. DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 150 mm (6").

WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT

SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

A. DESIGN CRITERIA

(1) FENCES ARE TO BE CONSTRUCTED ALONG LEVEL CONTOURS. (2) THE ENDS OF THE FENCE SHALL BE TURNED UPSTREAM TO PREVENT BYPASS OF STORMWATER. (3) STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT. (4) THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT). WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE. (5) 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. (6) 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 SHALL BE A 6" DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

(7) INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. (8) ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO THE ADDITIONAL

B. TEMPORARY DIVERSION DIKE

(1) MAXIMUM DEPTH OF FLOW AT THE DIKE SHALL BE 1 FOOT. (2) SIDE SLOPES OF THE DIVERSION DIKE SHALL BE 3:1 OR FLATTER. (3) MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 2 FEET. (4) MINIMUM EMBANKMENT HEIGHT SHALL BE 18 INCHES AS MEASURED FROM THE TOE OF SLOPE ON THE UPGRADE SIDE OF THE BERM. (5) THE DIKES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS WHICH ARE PROTECTED BY THE DIKE ARE PERMANENTLY STABILIZED UNLESS OTHER CONTROLS ARE PUT INTO PLACE TO PROTECT THE SITE. (6) COMPACTED EARTH DIKES REQUIRE STABILIZATION IMMEDIATELY UPON PLACEMENT SO AS NOT TO CONTRIBUTE TO THE PROBLEM THEY ARE ADDRESSING. (7) ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET. (8) DIKES MUST BE INSPECTED ON A REGULAR BASIS TO DETERMINE IF SILT IS BUILDING UP BEHIND THE DIKE, OR IF EROSION IS OCCURRING ON THE FACE OF THE DIKE. SILT SHALL BE REMOVED IN A TIMELY MANNER. IF EROSION IS OCCURRING ON THE FACE OF THE DIKE, THE SLOPES OF THE FACE SHALL BE

C. INTERCEPTOR SWALE

(1) MAXIMUM DEPTH OF FLOW IN THE SWALE SHALL BE 1 FOOT. (2) THE MINIMUM BOTTOM WIDTH OF THE SWALE SHALL BE 2 FEET. (3) SIDE SLOPES OF THE SWALE SHALL BE 3:1 OR FLATTER. (4) MINIMUM DESIGN CHANNEL FREEBOARD SHALL BE 6 INCHES. (5) SWALES MUST MAINTAIN POSITIVE GRADE TO AN ACCEPTABLE OUTLET. (6) INTERCEPTOR SWALES MUST BE STABILIZED IMMEDIATELY UPON EXCAVATION SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM THEY ARE ADDRESSING. (7) ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE. (8) ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE DISPOSED OF IN AN APPROVED SPOILS SITE. (9) INSPECTION MUST BE MADE AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE TO THE CHANNEL OR TO CLEAR DEBRIS OR OTHER OBSTRUCTIONS SO AS NOT TO DIMINISH FLOW CAPACITY. DAMAGES WHICH RESULT FROM NORMAL CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT THE END OF EACH WORK DAY.

(1) EACH HAY BALE SHALL BE PLACED INTO AN EXCAVATED TRENCH HAVING A DEPTH OF 4 INCHES AND A WIDTH JUST WIDE ENOUGH TO ACCOMMODATE THE BALES THEMSELVES. (2) HAY BALES SHALL BE INSTALLED IN SUCH A WAY THAT THERE IS NO SPACE BETWEEN TO ALLOW FOR ANY KIND (3) INDIVIDUAL BALES SHALL BE HELD IN PLACE BY NO LESS THAN TWO WOOD OR STEEL STAKES DRIVEN A MINIMUM DISTANCE OF 6 INCHES INTO UNDISTURBED GROUND, WITH THE FIRST STAKE DRIVEN AT AN ANGLE TOWARD THE PREVIOUSLY INSTALLED BALE. (4) THE ENDS OF THE DIKE SHALL BE TURNED UPGRADE TO PREVENT BYPASS OF STORMWATER. (5) INSPECTION SHALL BE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR (6) WHEN SILT REACHES A DEPTH OF 6 INCHES, IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SIT. (7) HAY BALES SHALL BE REPLACED IF THERE ARE SIGNS OF DEGRADATION SUCH AS STRAW LOCATED DOWNSTREAM FROM THE BALES, STRUCTURAL DEFICIENCIES DUE TO ROTTING STRAW IN THE BALE OR OTHER SIGNS OF DETERIORATION. SEDIMENT SHOULD BE REMOVED FROM BEHIND THE BALES WHEN IT REACHES A DEPTH

OVERFLOW 2" x 4" TREATED

SECTION G-G

SCALE: 1" = 5'

PAVEMENT

FILTERED RUNOFF

/ WOOD STUD

E. SANDBAG BERM (1) MINIMUM HEIGHT SHALL BE 18 INCHES. (2) MINIMUM WIDTH OF THE BERM SHALL BE 18 INCHES AT THE TOP AND 48 INCHES MEASURED AT THE BOTTOM. (3) MAXIMUM SIDE SLOPES SHALL BE 2:1. (4) THE ENDS OF THE BERM SHALL BE TURNED UPGRADE OR SHALL TIE INTO NATURAL GRADES TO PREVENT BYPASS OF STORMWATER. (5) SANDBAGS SHOULD BE STACKED IN AT LEAST THREE ROWS ABUTTING EACH OTHER, AND IN STAGGERED (6) INSPECTIONS SHOULD BE MADE ON A DAILY BASIS AND AFTER EACH RAIN EVENT. THE SANDBAGS SHALL BE RESHAPED OR REPLACED AS NEEDED DURING THE INSPECTION. SILT SHOULD BE REMOVED WHEN IT REACHES A DEPTH OF SIX (6) INCHES.

OF APPROXIMATELY 6 INCHES. IF THE BALES BECOME CLOGGED, THEY SHOULD BE REPLACED IMMEDIATELY.

F. STONE OUTLET SEDIMENT TRAP

(1) MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 3 FEET PERPENDICULAR TO THE FLOW. (2) MINIMUM EMBANKMENT SLOPE SHALL BE 3:1. (3) MAXIMUM EMBANKMENT HEIGHT SHALL BE 2 FEET AS MEASURED FROM THE TOE OF SLOPE TO THE CREST OF THE STONE OUTLET. THE HEIGHT OF THE COMPACTED EARTH EMBANKMENT SHALL BE ONE FOOT HIGHER THAN THE (4) SEDIMENT SHALL BE REMOVED AND THE AREA DIRECTLY BEHIND THE BERM SHALL BE REGRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT WHEN THE CAPACITY OF IMPOUNDMENT HAS BEEN REDUCED TO ONE-HALF OF ITS ORIGINAL STORAGE CAPACITY.

(5) THE STONE OUTLET STRUCTURE SHOULD BE INSPECTED FREQUENTLY AND AFTER EACH MAJOR RAIN EVENT TO CHECK FOR CLOGGING OF THE VOID SPACES BETWEEN STONES. IF THE AGGREGATE APPEARS TO BE SILTED IN SUCH THAT EFFICIENCY IS DIMINISHED, THE STONE SHOULD BE REPLACED.

G. SEDIMENT BASIN (1) MAXIMUM DRAINAGE AREA CONTRIBUTING TO THE BASIN SHALL BE 100 ACRES.

(2) DEPOSITED SEDIMENT SHALL BE REMOVED WHEN THE STORAGE CAPACITY OF THE BASIN HAS BEEN **DEPLETED BY ONE-HALF** (3) MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 8 FEET. (4) MINIMUM EMBANKMENT SLOPE SHALL BE 3:1. (5) SEDIMENT SHALL BE REMOVED AND THE BASIN SHALL BE REGRADED TO ITS ORIGINAL DIMENSIONS. THE REMOVED SEDIMENT SHALL BE STOCKPILED OR REDISTRIBUTED IN AREAS WHICH ARE PROTECTED FROM (6) THE BASIN OUTLET STRUCTURE AND EMERGENCY SPILLWAY (IF PRESENT) SHOULD BE CHECKED FREQUENTLY AND AFTER EACH MAJOR RAIN EVENT TO CHECK FOR DAMAGE.

H. STABILIZED CONSTRUCTION EXIT

(1) STONE SIZE - 3 TO 5 INCHES CRUSHED ROCK.

(2) LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET, UNLESS DEPTH OF LOT IS LESS THAN 150 FEET FROM EDGE OF PAVEMENT WHERE LENGTH MUST ONLY BE 30 FEET. (3) THICKNESS - NOT LESS THAN 8 INCHES. (4) WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS. (5) 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 TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS. (6) MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY, MUST BE REMOVED (7) DRAINAGE - ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT

ADDITIONAL NOTES: ADDITIONAL NOTES: (1) UPON COMPLETION OF CONSTRUCTION ALL DISTURBED AREAS SHALL BE REVEGETATED TO 85% OF EXISTING

RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CONDITIONS IN ACCORDANCE WITH THE SWPPP AND TPDES REQUIREMENTS. (2) THIS PROJECT WILL NOT USE ANY OFF-SITE MATERIAL, WASTE/BORROW/FILL, OR EQUIPMENT STORAGE AREAS. (3) THIS SITE IS NOT LOCATED ADJACENT TO ANY SURFACE WATERS. (4) THIS SITE WILL NOT HAVE ANY LOCATIONS WHERE STORM WATER DISCHARGES DIRECTLY TO A SURFACE WATER

SEDIMENTATION AND EROSION CONTROLS

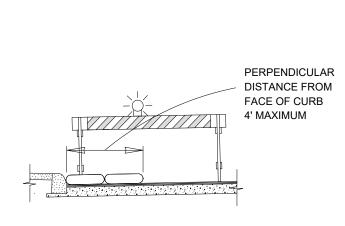
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DESIGNED BY: DRAFTED BY: CHECKED BY:

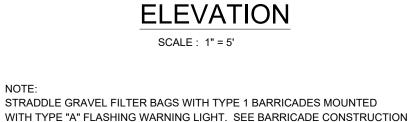
SHEET

PLACE GRAVEL FILTER BAGS SO THAT NO GAPS ARE EVIDENT 3 / 4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS (1 / 8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH



PLAN

SCALE: 1" = 5'



SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH

GRAVEL FILTER BAGS

OUTSIDE EDGE OF BAG CONFIGURATION.

CONCRETE BLOCKS (6" x 8" x 16") 2" x 4" TREATED WOOD STUD EXTENDED INTO PLACE GRAVEL FILTER CONCRETE BLOCKS BAGS SO THAT NO GAPS ARE EVIDENT VARIES WITH INLET LENGTH **PLAN** SCALE: 1" = 5'

GRAVEL FILTERS CAN BE USED

ON PAVEMENT OR BARE GROUND.

INSTALL END BLOCKS / BAGS

WHERE NO CURB IS IN PLACE OR AROUND ENTIRE PERIMETER

AS EXPLAINED IN SPECIFICATIONS

CURB INLET GRAVEL FILTER



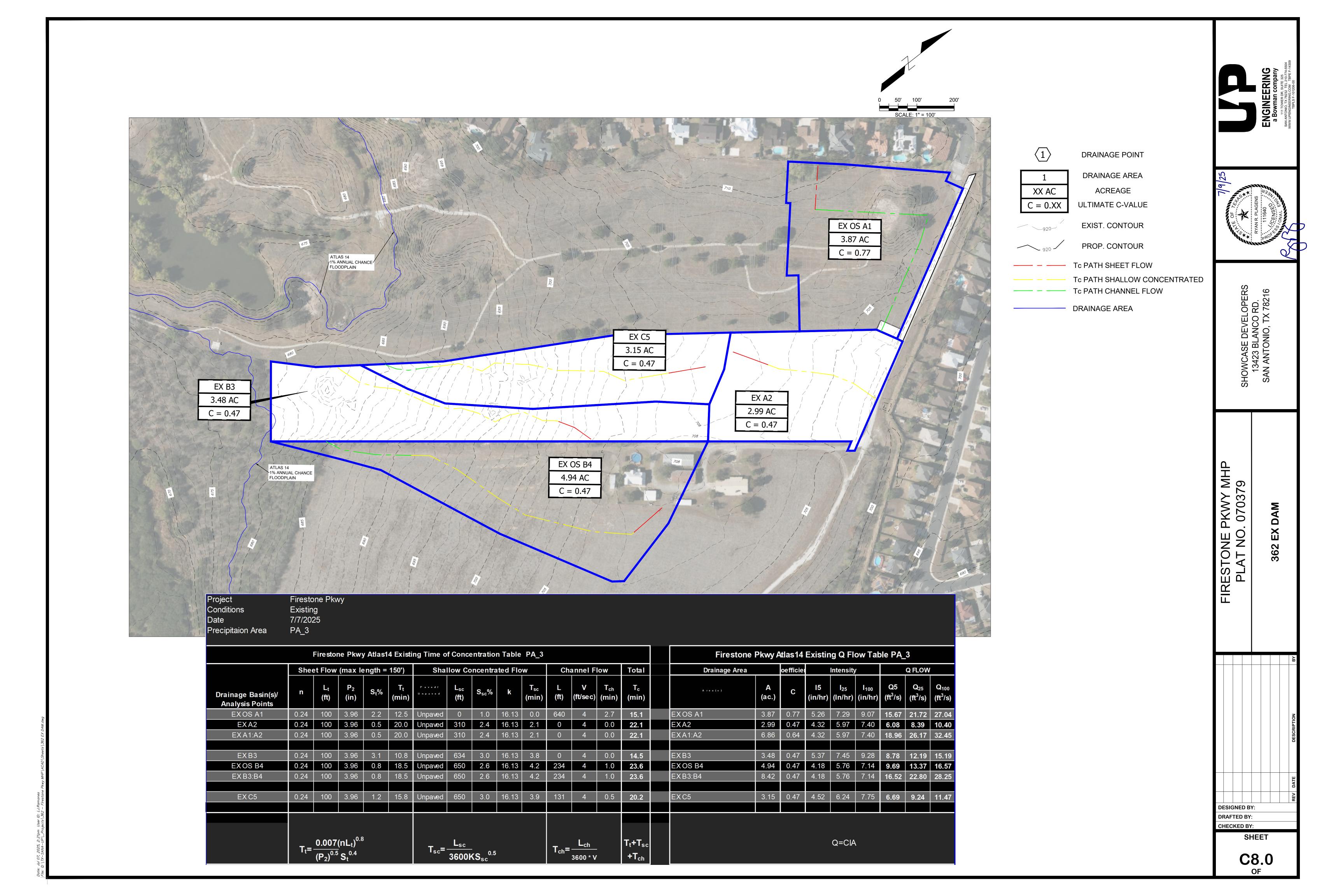
3 / 4" GRAVEL CONTAINED IN

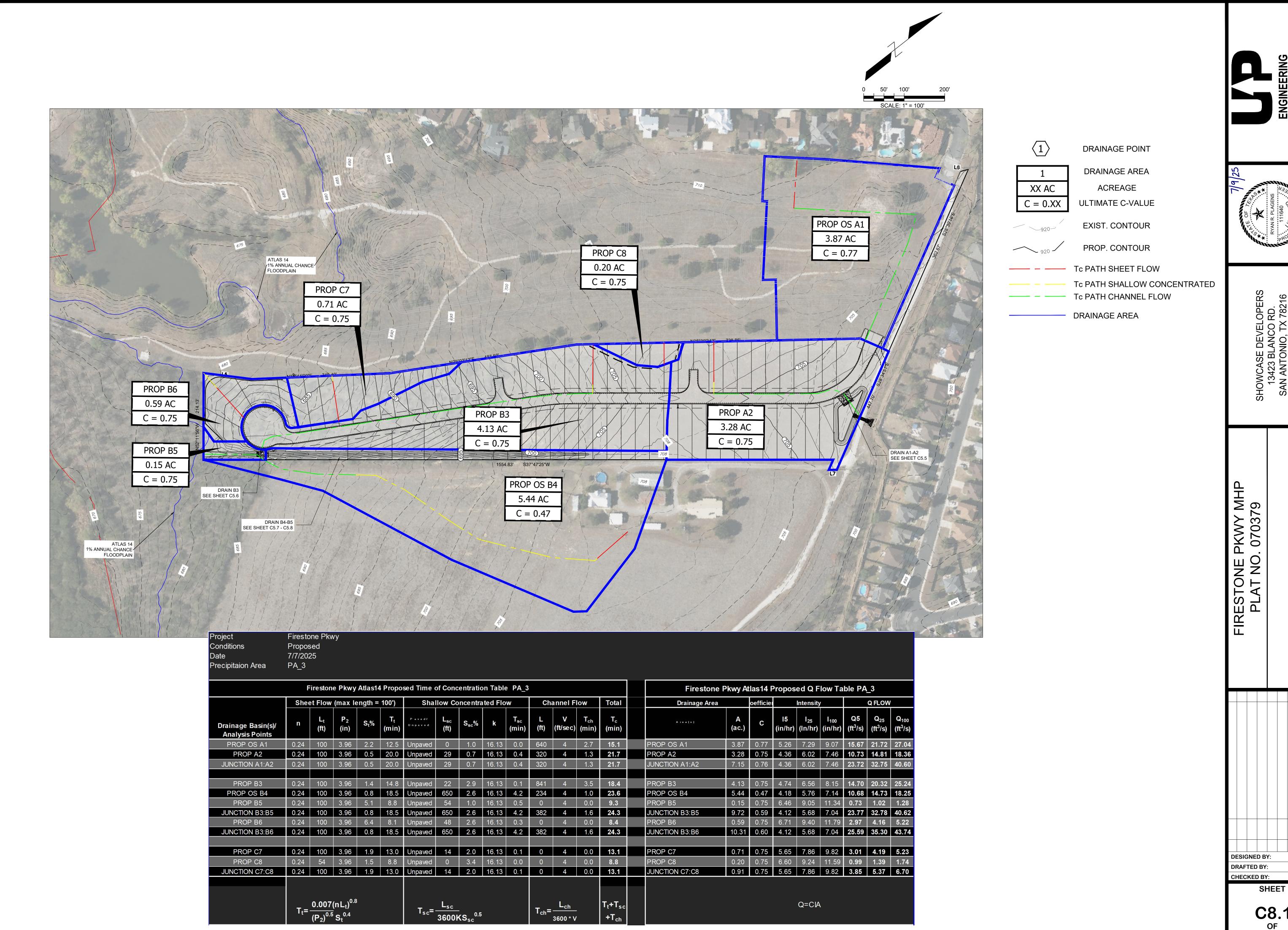
12" WIDE AND 6" (I.E. BLOCK

HEIGHT) HIGH.

PERVIOUS SYNTHETIC NET BAGS

(1 / 8" MESH) APPROX. 24" LONG,

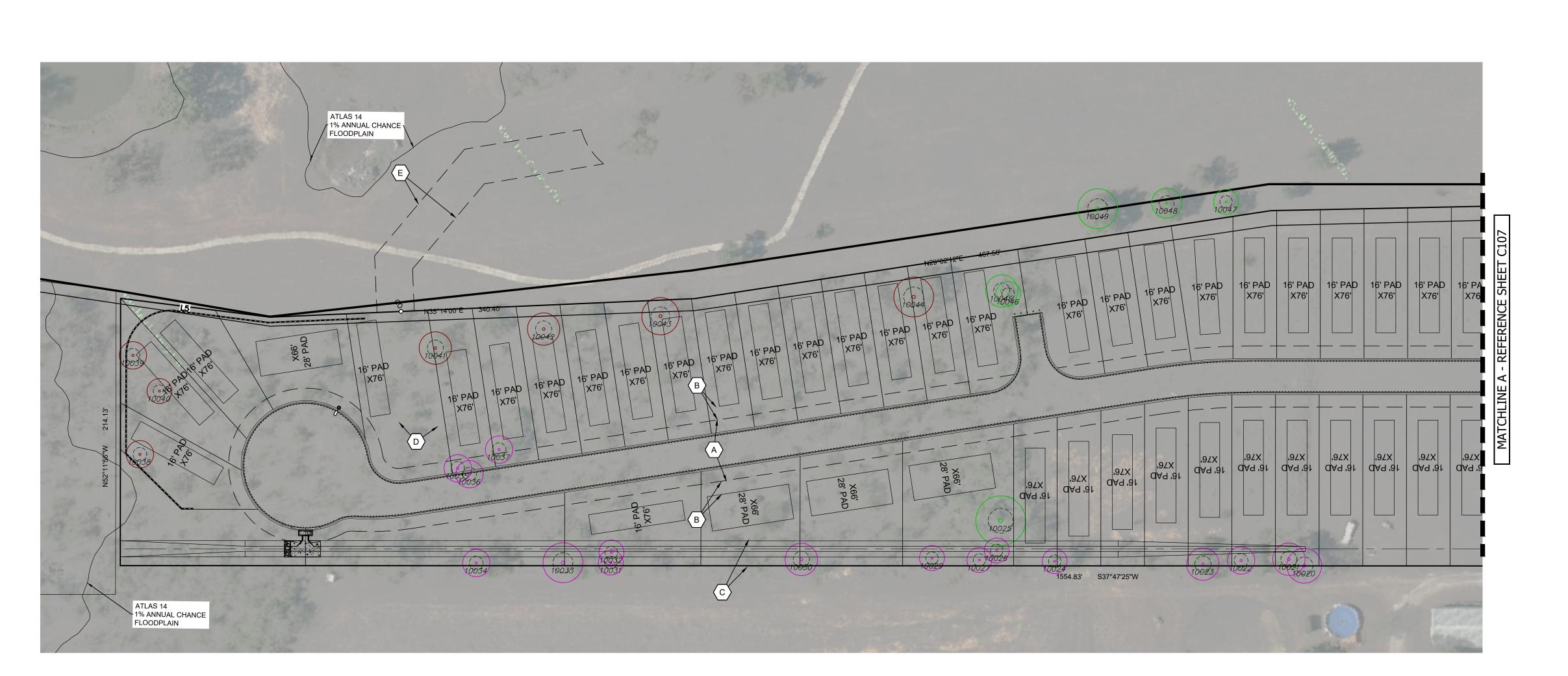




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C8.1



0 25' 50' 10 SCALE: 1" = 50'

LEGEND

		BOUNDARY / RIGHT OF WAY LINE
		EASEMENT
		SETBACK LINE
—— OE ———	OE	EXISTING OVERHEAD UTILITIES
—— UE ———	UE	EXISTING UNDERGROUND ELECTRIC
WW E	WW E	EXISTING SANITARY SEWER LINE
WTR E	WTR E	EXISTING WATER LINE
O.P.R.B.C.T.		OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
D.P.R.		DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
E.G.T.C. ESMT		ELECTRIC, GAS, TELEPHONE AND CABLE T.V. EASEMENT
B.S.I		BUILDING SETBACK LINE
V.N.A.	E.	VEHICULAR NON-ACCESS EASEMENT
R.O.	W.	RIGHT OF WAY
C.B	-	COUNTY BLOCK
VOI		VOLUME
PG		PAGE
\Diamond		EXISTING LIGHT POLES
Q		EXISTING UTILITY POLE
\triangleright	, 	EXISTING FIRE HYDRANT
)	EXISTING WATER VALVE
T		EXISTING TELEPHONE PEDESTAL
E		EXISTING ELECTRIC TRANSFORMER
		TO BE PRESERVED
		TO BE REMOVED
		REMOVE (EASEMENT EXEMPT)
		REMOVE (DECLINE/DEAD)

ENGINEERING

a Bowman company

111 TOWER DR, SUITE 325

SAN ANTONIO, TX 78232 TEL 210-774

WWW.UPENGINEERING.COM TBPE F-1
TBPLS F-101206-00

TREE PRESERVATION

DESIGNED BY: NC/JOS
DRAFTED BY: NC/JOS
CHECKED BY: RP

Jul 07, 2025, 2:22pm User ID: LJ.Ramones :\TX-SANA-UP_Projects\362 - Firestone Pkwy MHP\ACAD\She

SHEET L1.0

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LEGEND

		BOUNDARY / RIGHT OF WAY LINE
		EASEMENT
<u> </u>		SETBACK LINE
—— OE ———	OE	EXISTING OVERHEAD UTILITIES
—— UE ———	UE	EXISTING UNDERGROUND ELECTRIC
WW E		EXISTING SANITARY SEWER LINE
WTR E	WTR E	EXISTING WATER LINE
O.P.R.B.C	С.Т.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
D.P.R.		DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
E.G.T.C. I	ESMT	ELECTRIC, GAS, TELEPHONE AND CABLE T.V. EASEMENT
B.S.L		BUILDING SETBACK LINE
V.N.A.E	Ξ.	VEHICULAR NON-ACCESS EASEMENT
R.O.V	V.	RIGHT OF WAY
C.B.		COUNTY BLOCK
VOL		VOLUME
PG.		PAGE
\$		EXISTING LIGHT POLES
D		EXISTING UTILITY POLE
及	1	EXISTING FIRE HYDRANT
		EXISTING WATER VALVE
T		EXISTING TELEPHONE PEDESTAL
Е		EXISTING ELECTRIC TRANSFORMER
		TO BE PRESERVED
(0)		TO BE REMOVED
		REMOVE (EASEMENT EXEMPT)

REMOVE (DECLINE/DEAD)

ENGINEERING a Bowman company PRESERVATION (2)

DESIGNED BY: NC/JOS
DRAFTED BY: NC/JOS
CHECKED BY: RP
SHEET
L2.0