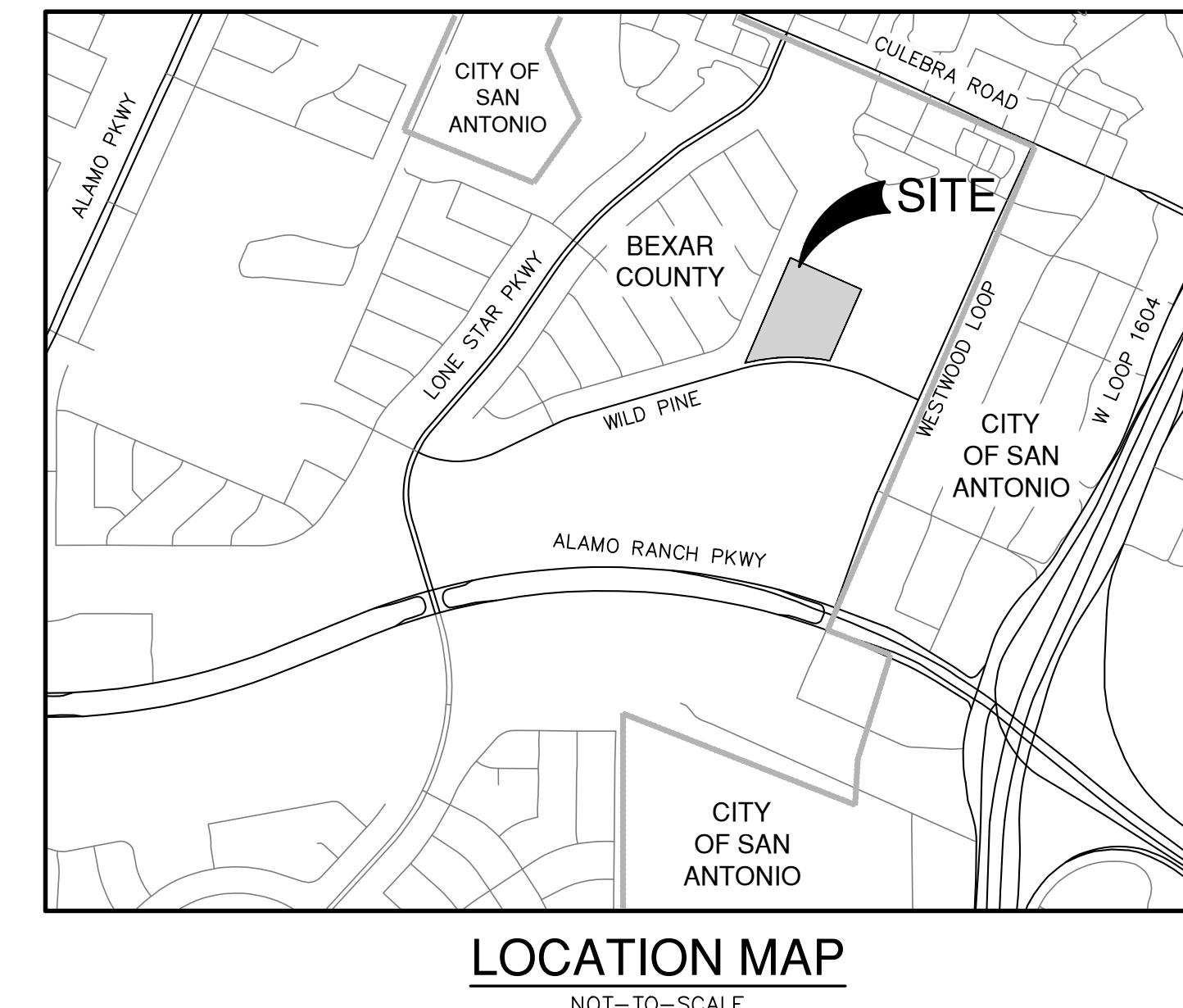


WILD PINE

SAN ANTONIO, TEXAS

CIVIL CONSTRUCTION PLANS



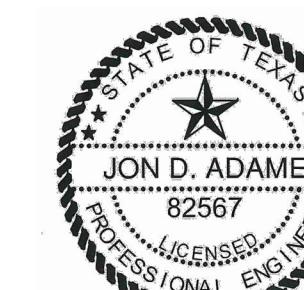
PREPARED FOR:

WILD PINE SAN ANTONIO LLC
440 LOUISIANA, STE 952
HOUSTON, TX 77002

DECEMBER 2025

PAPE-DAWSON

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800



Jon Adame
12-31-25

WATER (PRESSURE ZONE PZ 1111 MIDDLE)

| |
|---|
| DEVELOPER'S NAME: <u>WILD PINE SAN ANTONIO LLC</u> |
| ADDRESS: <u>440 LOUISIANA, STE 952</u> |
| CITY: <u>HOUSTON</u> STATE: <u>TX</u> ZIP: <u>77002</u> |
| PHONE # <u>(540)305-4056</u> FAX # <u> </u> |
| SAWS BLOCK MAP # <u>090802</u> TOTAL EDU'S <u>28.5</u> TOTAL ACREAGE <u>9.606</u> |
| TOTAL LINEAR FOOTAGE OF PIPE: <u>PRIVATE</u> PLAT NO. <u>25-11800373</u> |
| NUMBER OF LOTS <u>26</u> SAWs JOB NO. <u>CTR-346875</u> |

SEWER (ALAMO RANCH & WESTWINDS TRACT)

| |
|---|
| DEVELOPER'S NAME: <u>WILD PINE SAN ANTONIO LLC</u> |
| ADDRESS: <u>440 LOUISIANA, STE 952</u> |
| CITY: <u>HOUSTON</u> STATE: <u>TX</u> ZIP: <u>77002</u> |
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PLAT NO. 25-11800373 PD JOB NO. 13657-13 WILD PINE

Sheet C0.00

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DEMOLITION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS/APPROVALS BEFORE BEGINNING DEMOLITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING FROM THE SITE ALL ITEMS SHOWN TO BE DEMOLISHED UNLESS OTHERWISE INDICATED. ALL MATERIALS SHALL BE DEMOLISHED AND REMOVED FROM SITE IN ACCORDANCE WITH ALL APPLICABLE, FEDERAL, STATE AND LOCAL REGULATIONS.
- ALL EXISTING ITEMS NOT SPECIFICALLY NOTED TO BE DEMOLISHED SHALL REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPLACING EXISTING ITEMS REMOVED DURING DEMOLITION THAT WERE TO REMAIN.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING SERVICES, POWER POLES TO BE REMOVED, VERIFYING UTILITIES ARE SHUT OFF OR DISCONNECTED, AND THAT ALL POSSIBLE SAFETY PRECAUTIONS HAVE BEEN ENACTED TO ENSURE THE SAFEST ENVIRONMENT FOR ALL PERSONNEL.
- LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE. ONLY ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO THE CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT, THROUGHOUT ALL PHASES OF CONSTRUCTION.
- ALL NECESSARY EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO CONSTRUCTION. EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND IN WORKING CONDITION AT ALL TIMES.
- CONTRACTOR SHALL CONFIRM WITH THE OWNER OR HIS DESIGNATE WHETHER TO SALVAGE AND MAKE ARRANGEMENTS TO STORE TRANSPLANTABLE TREES PRIOR TO REMOVAL.
- FOR TREES SHOWN TO REMAIN, THE CONTRACTOR SHALL INSTALL TREE PROTECTION IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOT REMOVE OR DAMAGE ANY TREES WITHOUT A PERMIT TO DO SO.
- NO PARKING/OR STORAGE SHALL BE ALLOWED WITHIN THE DRIP LINE OF THE TREES TO REMAIN.
- THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CURBS AND SIDEWALKS AT NEW PAVEMENT, CURB AND SIDEWALK JUNCTURES, NO JAGGED OR IRREGULAR CUTS WILL BE ACCEPTED.
- THE CONTRACTOR SHALL PROTECT ALL PROPERTY PINS, BENCH MARKS, CONSTRUCTION STAKES, HUBS, OR OTHER KEY CONTROL POINTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH ANY SUCH POINTS AT THEIR OWN EXPENSE.
- DEMOLITION CONTRACTOR IS RESPONSIBLE FOR CLEARING THE SITE OF ALL OBSTRUCTIONS THAT EXIST ON THIS SITE PRIOR TO THE START OF CONSTRUCTION OR DURING THE CONSTRUCTION SO AS TO NOT IMPEDE THE BUILDING CONSTRUCTION CONTRACTOR.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER TO IDENTIFY ANY MATERIAL OR EQUIPMENT SCHEDULED FOR REMOVAL TO BE SALVAGED AND REUSED. CONTRACTOR SHALL REPLACE AT HIS EXPENSE ANY DESTROYED MATERIAL OR EQUIPMENT THAT WAS MARKED FOR SALVAGE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL HAZARDOUS MATERIAL OFFSITE FOLLOWING ALL APPLICABLE DISPOSABLE REGULATIONS. ON SITE CONCRETE PROPOSED FOR DEMOLITION MAY BE REUSED ON SITE AS FILL AS LONG AS IT IS CRUSHED, FREE OF REBAR, WIRE MESH AND DEBRIS AND CAN MEET GEOTECHNICAL SPECIFICATIONS.
- CONTRACTOR SHALL REMOVE ALL EXISTING IRRIGATION PIPING ON SITE UNLESS SHOWN OTHERWISE. CUT AND CAP LATERALS AT PROJECT LIMITS TO ALLOW PROPER FUNCTION OF ZONES INTENDED TO REMAIN OR EXTEND OFF-SITE.
- CONTRACTOR SHALL NOT DEMOLISH ANY PUBLIC WATER OR SANITARY SEWER LINES WITHOUT APPROVAL. EXISTING WATER AND SANITARY SEWER SERVICES SHALL REMAIN OPERATIONAL UNTIL NEW SERVICE IS COMPLETE. CUT AND CAP TO EXISTING SANITARY SEWER AND WATER SERVICES AT THE EXISTING MAIN. NO ABANDONED SERVICES SHALL REMAIN CONNECTED TO THE PUBLIC MAIN.
- THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
- ALL WASTE MATERIAL REMAINING AFTER OWNER SALVAGE IS COMPLETE AND RESULTING FROM DEMOLITION OPERATIONS BECOMES THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS OWN EXPENSE. OWNER WILL PROVIDE LIST OF ITEMS TO BE SALVAGED.
- THE CONTRACTOR SHALL MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER.
- THE CONTRACTOR SHALL MEET ALL LOCAL, STATE, AND FEDERAL REGULATIONS FOR DUST CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE AT THEIR OWN EXPENSE FOR ANY FUGITIVE DUST ON ADJOINING PROPERTIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL PLANS AS REQUIRED.
- CONTRACTOR TO REFER TO APPROVED TREE PRESERVATION PLAN AND CONDUCT PRE-CONSTRUCTION MEETING WITH COSA TREE INSPECTOR AS DIRECTED IN COSA-ISSUED TREE PERMIT PRIOR TO CLEARING AND REMOVAL OF TREES OR UNDERBRUSH.
- CONTRACTOR TO FIELD VERIFY THAT TREE TAG NUMBERS MATCH PLAN PRIOR TO DEMOLITION. CONTRACTOR SHALL COMMUNICATE TO THE ENGINEER IMMEDIATELY IF TREE TAG NUMBERS DO NOT MATCH.

DIMENSIONAL CONTROL NOTES

- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL PRESERVE ALL CONTROL POINTS, PROPERTY PINS, BENCH MARKS, HUBS, OR OTHER KEY CONTROL POINTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH ANY SUCH POINTS AT THEIR OWN EXPENSE IN THE EVENT THEY ARE REMOVED.
- DIMENSIONAL CONTROL FOR ANY STRUCTURE IS BASED ON INFORMATION PROVIDED BY THE ARCHITECT OR STRUCTURAL ENGINEER. THE CONTRACTOR SHALL VERIFY ALL PROJECT DIMENSIONS WITH THE PROJECT DRAWINGS PRIOR TO CONSTRUCTION AND TO COMMUNICATE TO THE ENGINEER OF ANY DISCREPANCIES.
- UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL USE THE TRAVERSE CONTROL POINTS FOR HORIZONTAL CONTROL POINTS. IF TRAVERSE CONTROL POINTS ARE NOT PROVIDED, THE CONTRACTOR MAY USE PROPERTY CORNER PINS. BENCHMARKS ARE NOT TO BE USED FOR HORIZONTAL CONTROL.
- COORDINATES FOR HORIZONTAL CONTROL POINTS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, AND NORTH AMERICAN DATUM OF 1983 (NA2011) EPOCH 2010.00 DISPLAYED IN SURFACE VALUES USING A SURFACE ADJUSTMENT FACTOR FOR EACH COUNTY. (THE SURFACE ADJUSTMENT FACTOR FOR BEXAR COUNTY IS 1.00017. OTHER COUNTIES WILL HAVE A DIFFERENT FACTOR; CHECK WITH THE SURVEYOR TO OBTAIN THE CORRECT SURFACE ADJUSTMENT FACTOR FOR PROJECTS LOCATED OUTSIDE OF BEXAR COUNTY.)
- BENCHMARK ELEVATIONS ARE BASED ON NAV 88, GEOD 12 B.
- ALL DIMENSIONAL CONTROL POINTS OR DIMENSIONS ARE TO THE FACE OF CURB, FACE OF RETAINING WALL AT THE BOTTOM TOE OF SLOPE, AND CENTER OF PAINT STRIPING. ALL DIMENSIONS ARE PERPENDICULAR TO THE POINT OF REFERENCE.
- CURB RADII ARE 3' UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- REFER TO THE ARCHITECTURAL, STRUCTURAL, AND LANDSCAPE PLANS AS APPLICABLE FOR ADDITIONAL DIMENSIONAL CONTROL INFORMATION.
- THE CONTRACTOR SHALL RELY ON THE INFORMATION PROVIDED ON THE SIGNED AND SEALED CONSTRUCTION DRAWINGS SUBJECT TO A SIGNED RELEASE AGREEMENT. CAD FILES MAY NOT BE OBTAINED FROM THE ENGINEER FOR THE CONVENIENCE AND USE OF THE CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL PLANS AS REQUIRED.

PAVEMENT & STRIPING NOTES

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY AND STORM DRAIN SYSTEMS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
- THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
- ALL PAINT SHALL BE 4" WIDE REFLECTIVE PAINT: WHITE ON ASPHALT PAVING AND WHITE ON CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL PAVEMENT MARKINGS SHALL RECEIVE TWO COATS OF PAINT.
- NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
- ALL SIGNS SHALL CONFORM TO MUTCD, LATEST EDITION.
- THE CONTRACTOR SHALL CUT EXISTING PAVING, CURB, AND SIDEWALKS TO PROVIDE A SMOOTH TRANSITION. NO JAGGED OR IRREGULAR EDGES WILL BE ALLOWED.
- ALL CURBS WITHIN PRIVATE PROPERTY SHALL BE 6" HIGH AND ALL CURBS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE 7" HIGH UNLESS OTHERWISE NOTED.
- ALL STANDARD PERPENDICULAR PARKING STALLS ARE 9' X 18' AND COMPACT PARKING STALLS ARE 8' X 16' UNLESS DIMENSIONED OTHERWISE.

GRADING NOTES

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
- ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
- ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
- THE 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.
- THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS, INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (EROSION CONTROL MEASURES) TO KEEP DRAINAGE AND SILT FROM WASHING INTO ADJACENT PROPERTY, STREETS, OR DRAINAGEWAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
- THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
- IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1%. ALL FARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 2.0% UNLESS OTHERWISE SHOWN.
- ACCESSIBILITY: SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%. SIDEWALK LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES SHALL NOT EXCEED 5%, UNLESS OTHERWISE NOTED. SIDEWALK CURB RAMPS SHALL NOT EXCEED 8.33%. (SEE CURB RAMP DETAILS). CURB RAMP LANDINGS SHALL NOT EXCEED 2%. ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 25 IN ANY DIRECTION
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).

- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ENSURE UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
- POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
- FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
- NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
- RETAINING WALL: REFER TO OWNER FOR TYPE AND COLOR. CONTRACTOR IS RESPONSIBLE AT HIS EXPENSE FOR DESIGN BY A LICENSED STRUCTURAL ENGINEER AND FOR ACQUIRING ALL CITY RETAINING WALL PERMITS. CONTRACTOR SHALL PROVIDE STRUCTURAL ENGINEER INFORMATION DURING CONSTRUCTION AND STRUCTURAL ENGINEERS CONSTRUCTION CERTIFICATION UPON WALL COMPLETION. WALLS ARE TO BE DESIGNED/CONSTRUCTED TO ALLOW FOR A FENCE TO BE PLACED ON THE TOP SIDE.

SITE UTILITY NOTES

- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS 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.
- DRAWINGS DO NOT SHOW ALL EXISTING UTILITIES. ALL EXISTING UTILITIES SHALL BE VERIFIED IN THE FIELD WHETHER SHOWN ON THIS PLAN OR NOT (PRIOR TO INSTALLATION OF ANY NEW LINES).
- ALL FILL MATERIAL IS TO BE IN PLACE AND COMPAKTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- CONTRACTOR SHALL CALL FOR THE LOCAL JURISDICTIONAL INSPECTIONS AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
- ALL WATER LINES MUST BE INSTALLED A MINIMUM DISTANCE OF 9'-FEET FROM EXISTING PRIVATE AND PUBLIC MAINS AND ALL OTHER UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.
- ALL WATER LINES SHALL BE PVC UNLESS OTHERWISE INDICATED. ALL 6" - 12-INCH PVC WATER LINES SHALL BE CLASS 235 DR(18) MEETING AWWA C900 STANDARDS. ALL SERVICES 4" INCH AND SMALLER SHALL BE SCHEDULE 80 PVC. DUCTILE IRON WATER LINES SHALL BE CLASS 50.
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.
- WATER JETTING THE BACKFILL OF STORM DRAIN TRENCHES WILL NOT BE PERMITTED.
- THE CONTRACTOR SHALL ENSURE PROPER SIZE OF JUNCTION BOXES NEEDED WHERE INDICATED ON PLAN. CONTRACTOR SHALL CONNECT STORM DRAIN PIPE TO JUNCTION BOXES PER MANUFACTURERS SPECIFICATIONS.
- ALL STORM DRAIN TO JUNCTION BOX CONNECTIONS SHALL HAVE CONCRETE COLLARS.
- ALL GRATE INLETS MUST BE HS20 EQUIVALENT RATED GRATES.
- TOPS OF MANHOLES, JUNCTION BOXES AND GRATES SHALL BE SET FLUSH TO FINISHED SURFACE BASED UPON GRADING PLAN.
- CONTRACTOR SHALL GROUT INVERTS OF ALL STORM DRAIN INLETS, JUNCTION BOXES, AND DROP STRUCTURES TO DRAIN.
- ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.

GRADING NOTES

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- CONTRACTOR SHALL PROTECT ALL EXISTING TREES, FENCES, PAVING, UTILITIES, AND OTHER STRUCTURES SCHEDULED TO REMAIN. ANY STRUCTURE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- CONTRACTOR SHALL PROVIDE TEMPORARY BLOWOFFS AS REQUIRED TO FACILITATE FLUSHING THE LINES AFTER THE TESTING AND DISINFECTION PROCESS.
- UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE ALL BUILT MEASUREMENTS, TOPS AND LENGTH OF SERVICE CONNECTIONS OF THE PROJECT.
- ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT HIS SOLE EXPENSE.
- ALL FITTINGS SHALL BE MECHANICAL JOINT.
- CONTRACTOR MUST BE AN APPROVED SAW AND APPROVED FIRELINE CONTRACTOR.
- ALL PIPE DIMENSIONS ARE APPROXIMATE ONLY.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND COMPLETING AND COORDINATING ALL NECESSARY TESTS.

- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
- NO VERTICAL STACKS SHALL BE ALLOWED UNLESS OTHERWISE SHOWN.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FT. OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 160 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWs CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.

- ALL SEWER PIPES SHALL BE PVC (SDR 26) 160 PSI (MIN) PRESSURE PIPE, UNLESS OTHERWISE NOTED.

- PRIOR TO CONSTRUCTION, CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- CONTOURS SHOWN ARE FOR GRAPHICAL USE ONLY.

- MANHOLE OPENINGS ARE 30" AS PER TCEC CHAPTER 217.55

- CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER HOUSE LATERAL DETAIL DD-854-01.

- ALL 6" SEWER LATERALS WILL BE SET AT A MINIMUM 2% SLOPE.

- BACKFILL MUST COMPLY WITH SAWs SPECIFICATIONS 804.4.

- TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE 0.50 FEET ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS WITH WATER TIGHT LIDS.

- WATER JETTING OF BACKFILL MATERIAL WILL BE ALLOWED.

- BEDDING FOR ALL UTILITIES SHALL BE PER THE PROJECT SPECIFICATIONS. NO WATER JETTING OF BACKFILL MATERIAL WILL BE ALLOWED.

- NO WORK SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY WITHOUT AN APPROVED PERMIT.

- CONTRACTOR SHALL INSTALL ALL CONDUITS WITH A MINIMUM 4'-FOOT SWEEP RADIUS. ALL CONDUITS SHALL HAVE A PULL STRING TO BE INSTALLED BY THE CONTRACTOR.

- NO VERTICAL STACKS SHALL BE ALLOWED UNLESS OTHERWISE SHOWN.

- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FT. OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 160 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWs CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.

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- CONTOURS SHOWN ARE FOR GRAPHICAL USE ONLY.

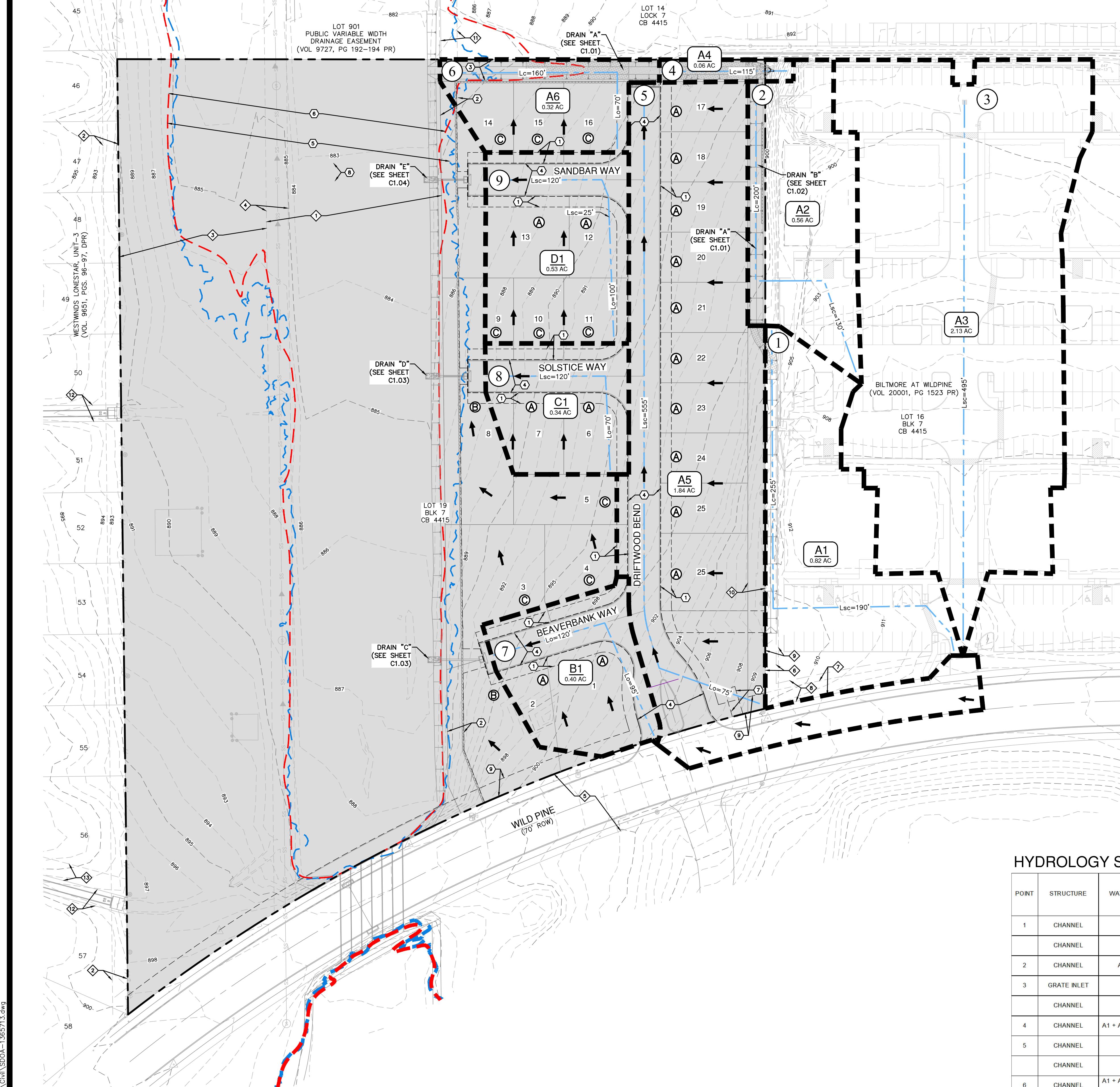
- MANHOLE OPENINGS ARE 30" AS PER TCEC CHAPTER 217.55

- CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER HOUSE LATERAL DETAIL DD-854-01.

- ALL 6" SEWER LATERALS WILL BE SET AT A MINIMUM 2% SLOPE.

- BACKFILL MUST COMPLY WITH SAWs SPECIFICATIONS 804.4.

- TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE 0.50 FEET ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS WITH WATER TIGHT



TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE DESIGN, GEOTECHNICAL SAFETY/GEOLOGIC CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR EQUIVALENT TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH, AT 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.

CAUTION!!

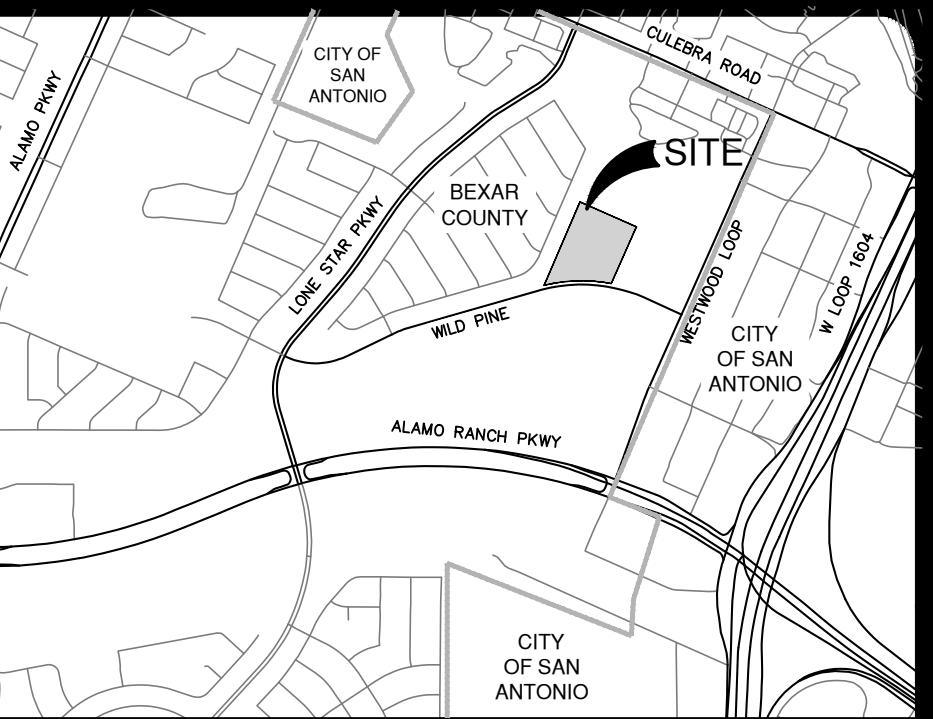
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES PRIOR TO CONSTRUCTION. SEVERAL TYPES OF UTILITIES INCLUDE: FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONDUCT A 'BID DIG' TEST A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. THE COST TO REPAIR THE UTILITY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

DRAINAGE & GRADING NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS 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.
2. ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE, TRENCH DETAILS, BOX CULVERT, HEADWALL AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

CAUTION !!!

EXISTING UTILITIES ARE WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTORS SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH OF PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE, VERIFY THE EXACT LOCATION AND IDENTIFY ANY CONFLICTS WITH EXISTING UTILITIES AND SHALL NOTIFY THE ENGINEER IF CONFLICT IS FOUND.



| | |
|------|--------------|
| DATE | NO. REVISION |
| | |

PAPE-DAWSON

2000 NW LOOP 410, SAN ANTONIO, TX 78223-21035-0000

TEXAS ENGINEERING FIRM #470 TEXAS SURVEYING FIRM #10028800

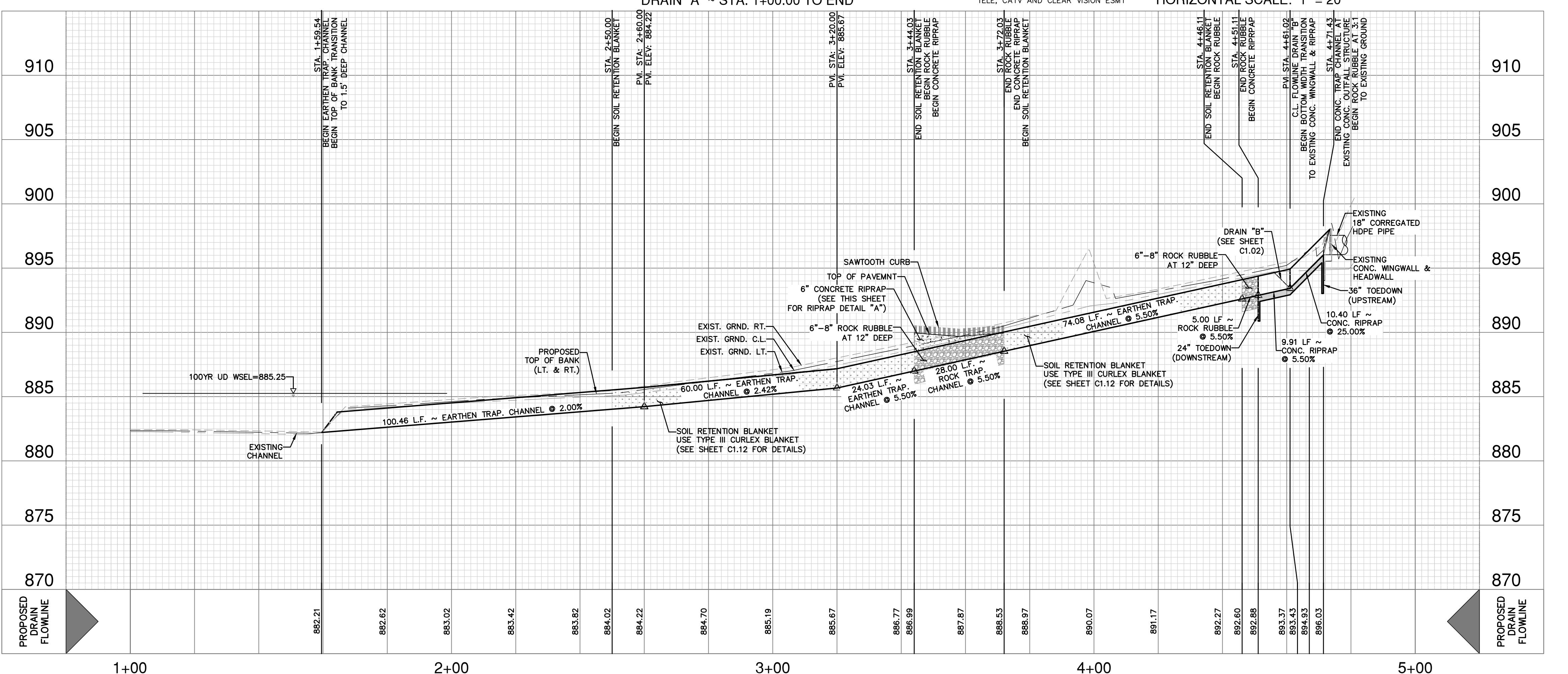
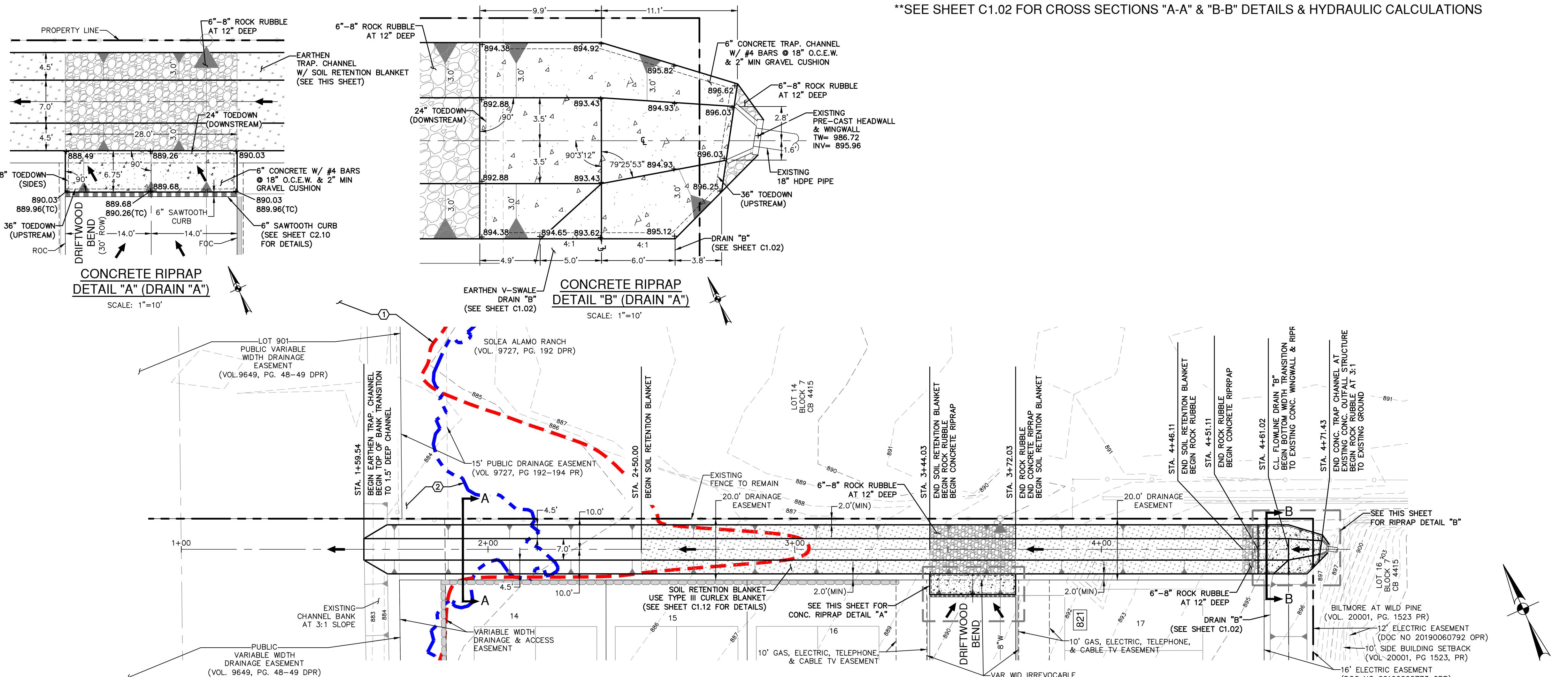
WILD PINE
SAN ANTONIO, TEXAS

OVERALL MASTER DRAINAGE PLAN

HYDROLOGY SUMMARY TABLE (POST DEVELOPMENT - ATLAS 14 - PA3)

| POINT | STRUCTURE | WATERSHED | TOTAL AREA (ACRES) | COMPOSITE C VALUE | OVERLAND FLOW | | | SHALLOW | | | CHANNEL FLOW (6 FPS) | | | TIME OF CONCENTRATION | INTENSITY | | | | | | POINT |
|-------|-------------|-----------------------------|--------------------|--|---------------|-------------|--------|-------------|--------|-------------|----------------------|-----------------|------------------|-----------------------|-----------------|------------------|-------|-------|--------------|-------|-------|
| | | | | | LENGTH | TRAVEL TIME | LENGTH | TRAVEL TIME | LENGTH | TRAVEL TIME | IN/HR | I ₂₅ | I ₁₀₀ | Q ₅ | Q ₂₅ | Q ₁₀₀ | | | | | |
| 1 | CHANNEL | A1 | 0.82 | 0.95 | 0 | 0.0 | 190 | 1.0 | 255 | 1.0 | 2.0 | 7.87 | 10.99 | 13.77 | 6.13 | 8.56 | 10.73 | 1 | | | |
| | CHANNEL | A2 | 0.56 | 0.95 | 0 | 0.0 | 130 | 0.5 | 200 | 0.5 | 1.0 | 7.88 | 11.00 | 13.78 | 4.19 | 5.85 | 7.33 | | | | |
| 2 | CHANNEL | A1 + A2 | 1.38 | REFERENCE STORM WATER MANAGEMENT REPORT FOR HYDRAULIC CALCULATIONS | | | | | | | | | | | | | | 10.32 | 14.41 | 18.05 | 2 |
| 3 | GRATE INLET | A3 | 2.13 | 0.95 | 0 | 0.0 | 495 | 2.0 | 0 | 0.0 | 2.0 | 7.87 | 10.99 | 13.77 | 15.93 | 22.24 | 27.86 | 3 | | | |
| | CHANNEL | A4 | 0.06 | 0.75 | 0 | 0.0 | 115 | 1.0 | 0 | 0.0 | 1.0 | 4.89 | 6.89 | 8.67 | 0.22 | 0.31 | 0.39 | | | | |
| 4 | CHANNEL | A1 + A2 + A3 + A4 | 3.57 | REFERENCE STORM WATER MANAGEMENT REPORT FOR HYDRAULIC CALCULATIONS | | | | | | | | | | | | | | 25.12 | 35.35 | 44.40 | 4 |
| 5 | CHANNEL | A5 | 1.84 | 0.75 | 75 | 4.0 | 555 | 3.0 | 0 | 0.0 | 7.0 | 7.33 | 10.17 | 12.66 | 10.11 | 14.03 | 17.47 | 5 | | | |
| | CHANNEL | A6 | 0.32 | 0.75 | 70 | 8.0 | 160 | 1.0 | 0 | 0.0 | 9.0 | 6.71 | 9.29 | 11.54 | 1.61 | 2.23 | 2.77 | | | | |
| 6 | CHANNEL | A1 + A2 + A3 + A4 + A5 + A6 | 5.73 | REFERENCE STORM WATER MANAGEMENT REPORT FOR HYDRAULIC CALCULATIONS | | | | | | | | | | | | | | 34.86 | 48.86 | 61.22 | 6 |
| 7 | INLET | B1 | 0.40 | 0.75 | 95 | 10.0 | 120 | 1.0 | 0 | 0.0 | 11.0 | 6.20 | 8.57 | 10.60 | 1.86 | 2.57 | 3.18 | 7 | | | |
| 8 | INLET | C1 | 0.34 | 0.75 | 70 | 8.0 | 120 | 1.0 | 0 | 0.0 | 9.0 | 6.71 | 9.29 | 11.53 | 1.71 | 2.37 | 2.94 | 8 | | | |
| 9 | INLET | D1 | 0.53 | 0.75 | 100 | 11.0 | 145 | 1.0 | 0 | 0.0 | 12.0 | 5.99 | 8.25 | 10.21 | 2.38 | 3.28 | 4.06 | 9 | | | |

PLAT NO. 25-11800373
JOB NO. 13657-13
DATE DECEMBER 2025
DESIGNER CB
CHECKED JA DRAWN CB
SHEET C1.00



**SEE SHEET C1.02 FOR CROSS SECTIONS "A-A" & "B-B" DETAILS & HYDRAULIC CALCULATIONS

SCALE: 1" = 20'

20' 40' 60'

LEGEND

FLOODPLAIN

DPLAIN

690

W

SS

AIN

N

DRAINAGE LEGEND

PROJECT LIMITS

PROPOSED 100YR UD FLOODPLAIN

XISTING 100YR FLOODPLAIN

XISTING CONTOUR

PROPOSED WATER

PROPOSED SEWER

PROPOSED STORM DRAIN

XISTING STORM DRAIN

LOW ARROW

KEY NOTES LEGEND

- ② EFFECTIVE (EXISTING) FEMA 1% ANNUAL CHANCE (100-YR) FLOODPLAIN (FIRM PANEL NO. 48029C0355G
EFFECTIVE 9-29-2010)
- ② 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (PAPE-DAWSON FLOOD STUDY)

HYDRAULIC CALCULATIONS
6" SAWTOOTH CURB OPENING
(DRAIN "A")

Q25 = 14.03 CFS

Bw = C X L X h^(3/2) (WIER EQ.)

C = 3.087

h = 0.50 FT

C =
$$\frac{Q}{C \times h^{(3/2)}}$$

Lcal =
$$\frac{14.03 \text{ CFS}}{(3.087)(0.50 \text{ FT})^{(3/2)}}$$

Lcal = 12.85 FT

L = USE 28 LF 6" SAWTOOTH CURB
 (28) - 6" OPENINGS
 = 14 LF OPENING

OPEN CHANNEL NOTE:
CONTRACTOR SHALL REFERENCE TABLE 9.3.8.1 - "RETARDATION CLASS FOR
CARRIAGE MATERIALS" PROVIDED ON SHEET C1.10 AND SUPPLIED RETARDANCE
CLASS (RC) FOR CHOICE OF COVER WITHIN OPEN EARTHEN CHANNEL
CROSS-SECTIONS.

RAINAGE & GRADING NOTES:

A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.

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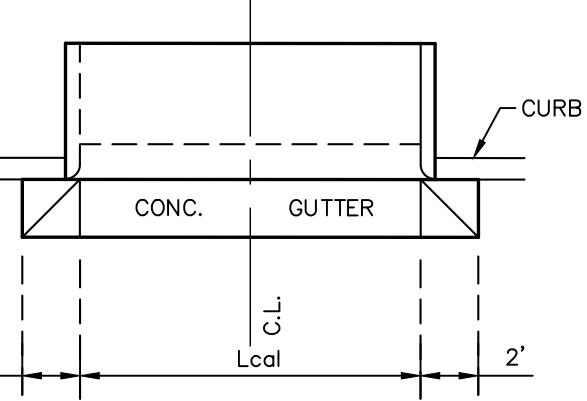
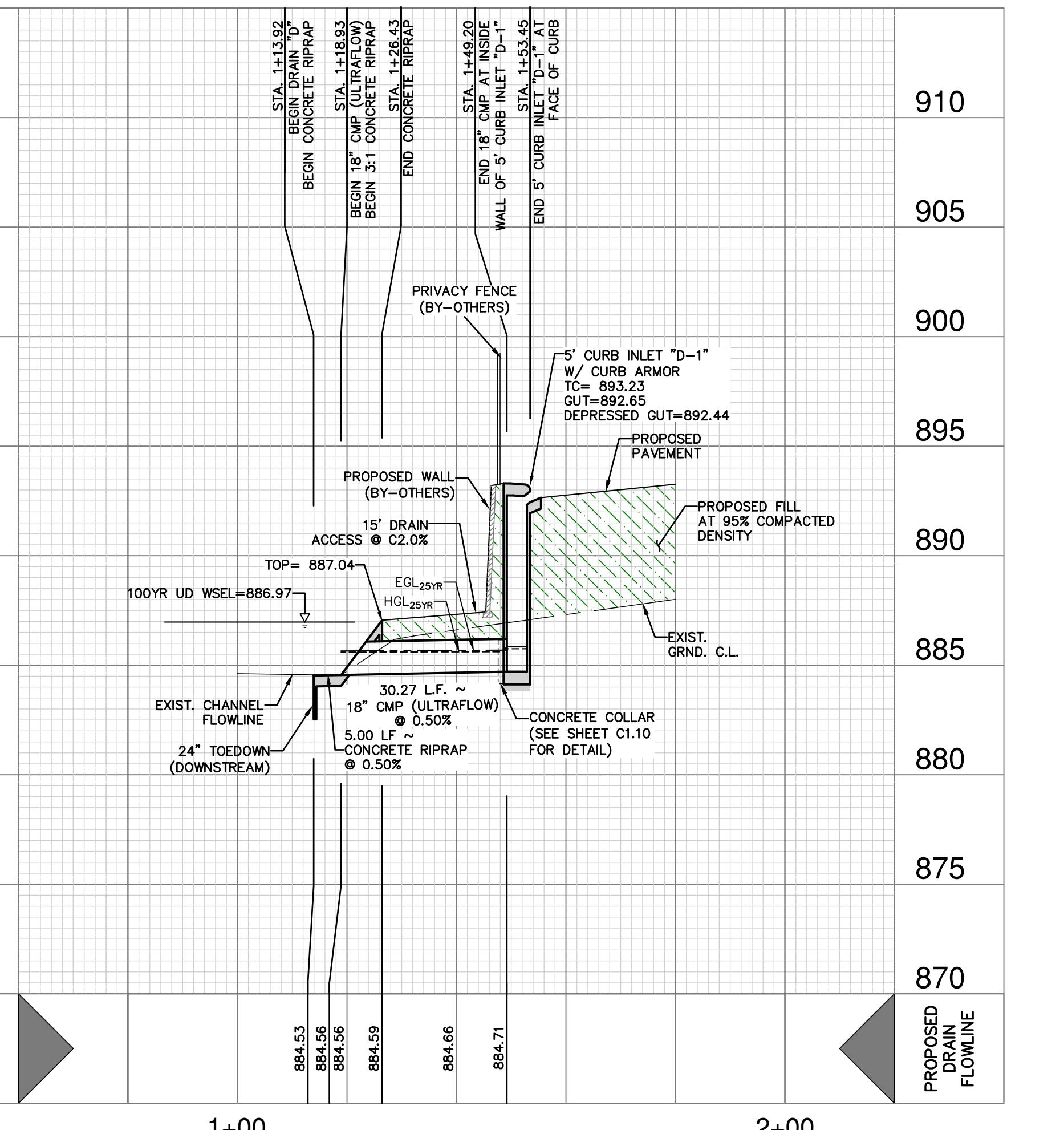
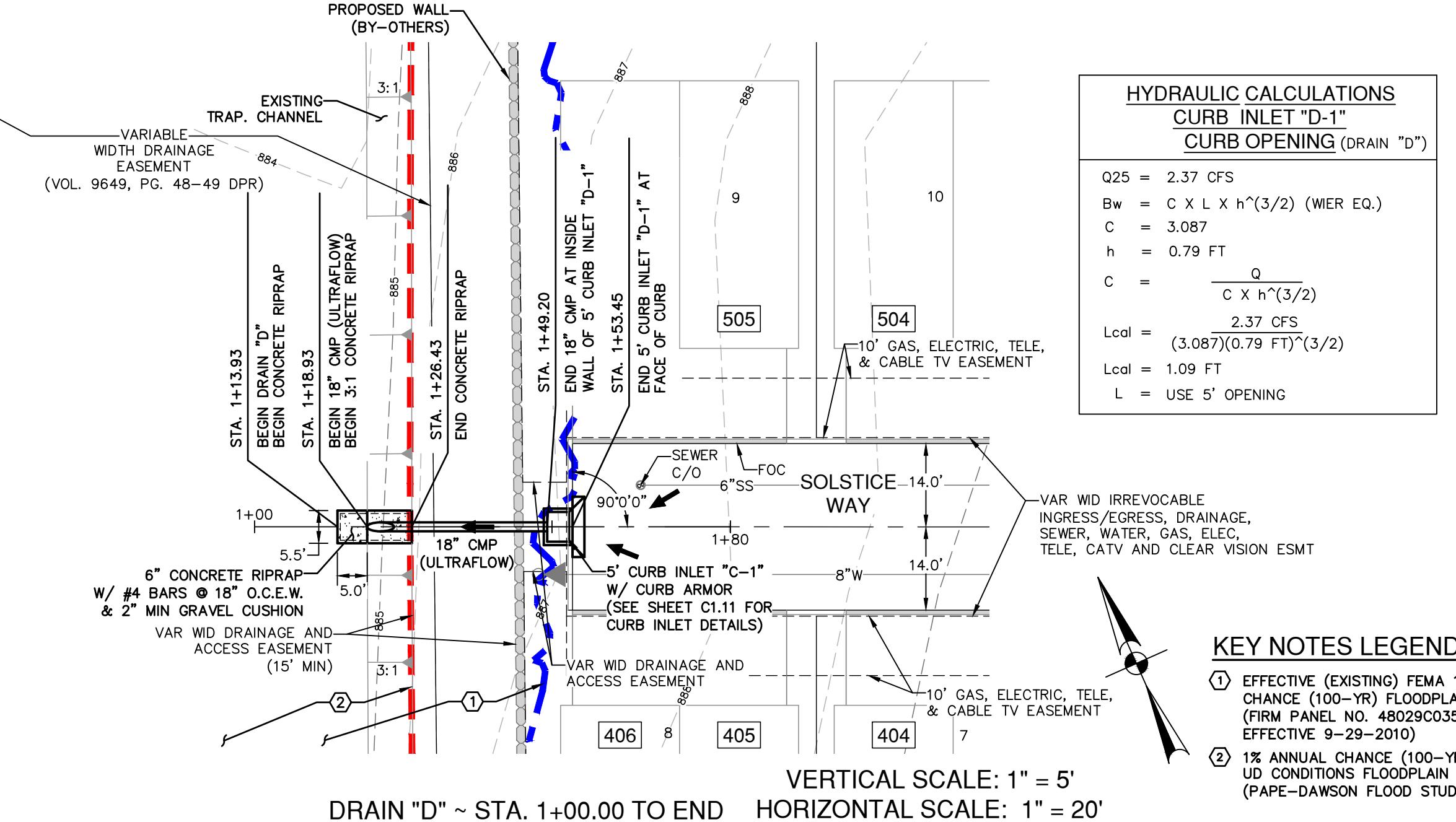
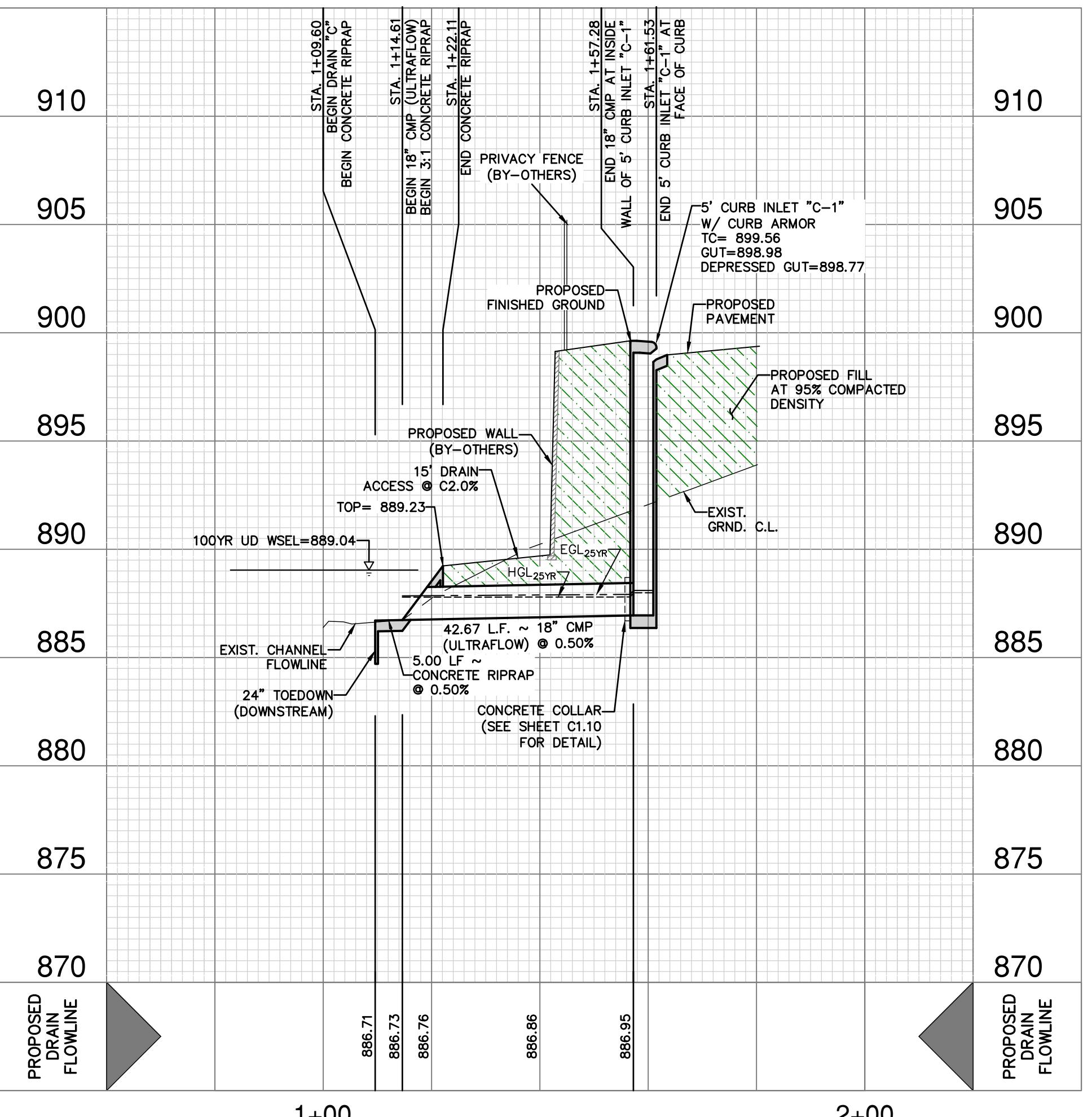
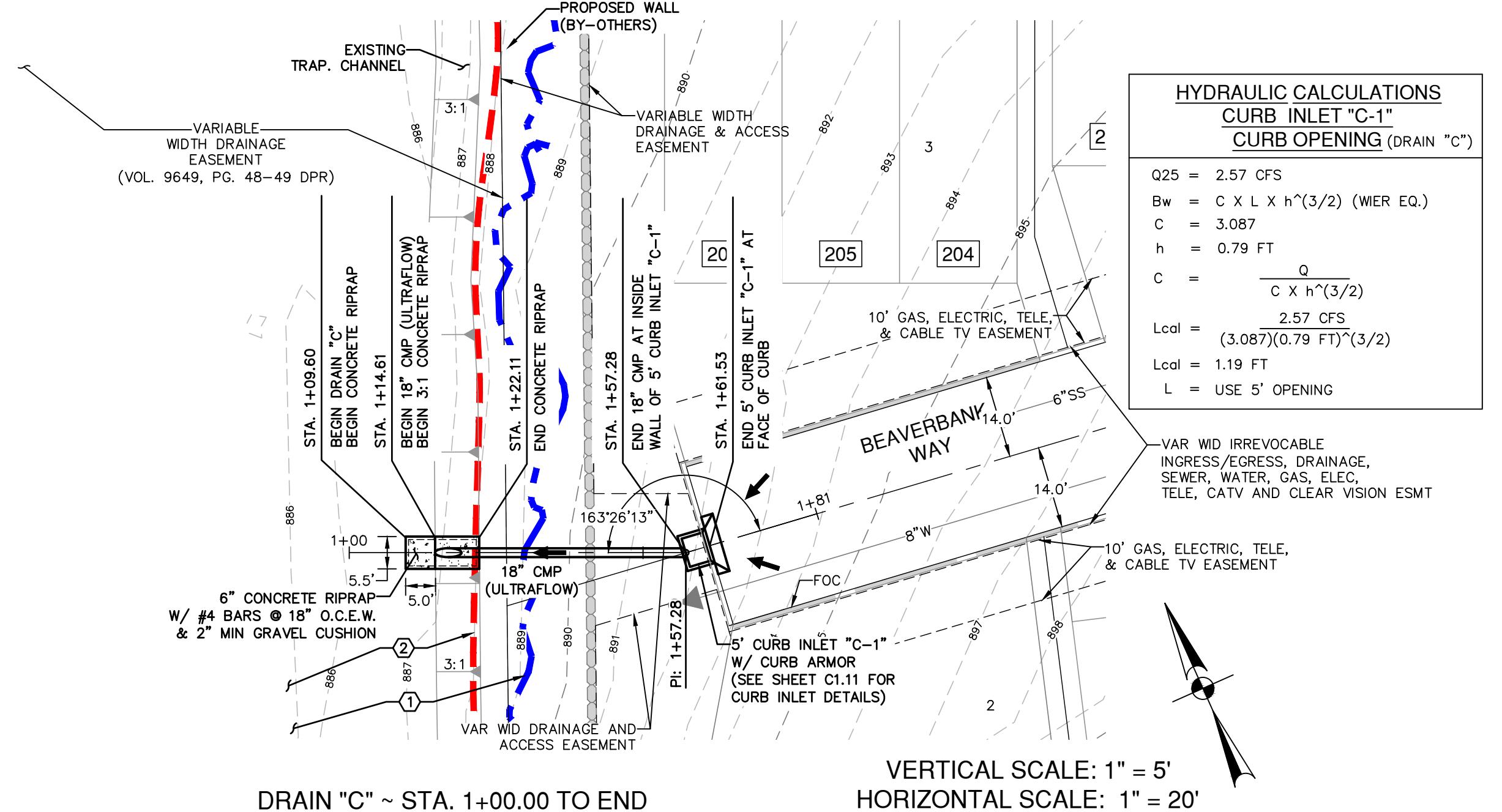
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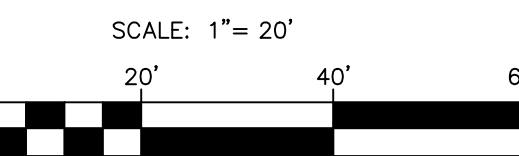
PAPE-DAWSON

WILD PINE SAN ANTONIO, TEXAS

DRAIN "A" ~ STA. 1+00.00 TO END
DBAIN BIAN & BBOEII E



DRAINAGE LEGEND



TYPICAL DRAINAGE CURB OPENING

NOT-TO-SCALE

PROJECT LIMITS

PROPOSED 100YR UD FLOODPLAIN

EXISTING 100YR FLOODPLAIN

EXISTING CONTOUR

PROPOSED WATER

PROPOSED SEWER

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

FLOW ARROW

Legend symbols:

- Project Limits: Two parallel black lines.
- Proposed 100yr UD Floodplain: A series of red dashed rectangles.
- Existing 100yr Floodplain: A series of blue solid rectangles.
- Existing Contour: A dashed line with the value "690" and a "W" label.
- Proposed Water: A horizontal line with a "W" label.
- Proposed Sewer: A horizontal line with a "SS" label and a grey circle at the end.
- Proposed Storm Drain: A horizontal line with a square end cap.
- Existing Storm Drain: A horizontal line with a square end cap.
- Flow Arrow: A thick black arrow pointing to the right.

Jon Adams
12-31-2018



PAPE-DAWSON

2023 NW LOGI 1101 CONVENTIONAL, TX 78213 | 210.373.3000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

WILD HNL
SAN ANTONIO, TEXAS
DRAIN "C" ~ STA. 1+00.00 TO E
DRAIN "D" ~ STA. 1+00.00 TO E
DRAIN PLAN & PROFILE

KEY NOTES LEGEND

- ① EFFECTIVE (EXISTING) FEMA 1% ANNUAL CHANCE (100-YR) FLOODPLAIN (FIRM PANEL NO. 48029C0355G EFFECTIVE 9-29-2010)
- ② 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (PAPE-DAWSON FLOOD STUDY)

OPEN CHANNEL NOTE:

CONTRACTOR SHALL REFERENCE TABLE 9.3.8.1 - "RETARDATION CLASS FOR LINING MATERIALS" PROVIDED ON SHEET C1.10 AND SUPPLIED RETARDANCE CLASS (RC) FOR CHOICE OF COVER WITHIN OPEN EARTHEN CHANNEL CROSS-SECTIONS.

DRAINAGE & GRADING NOTES:

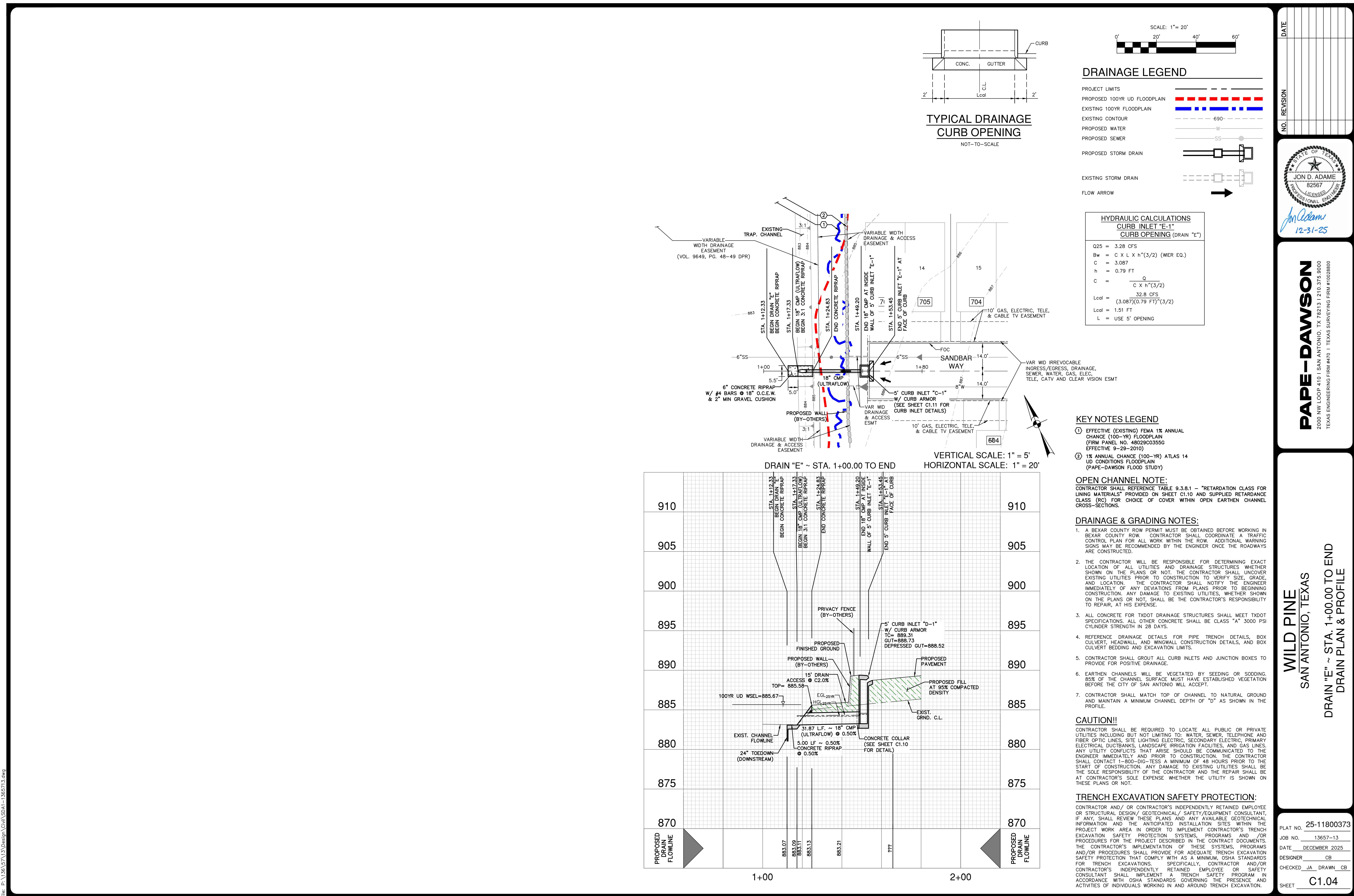
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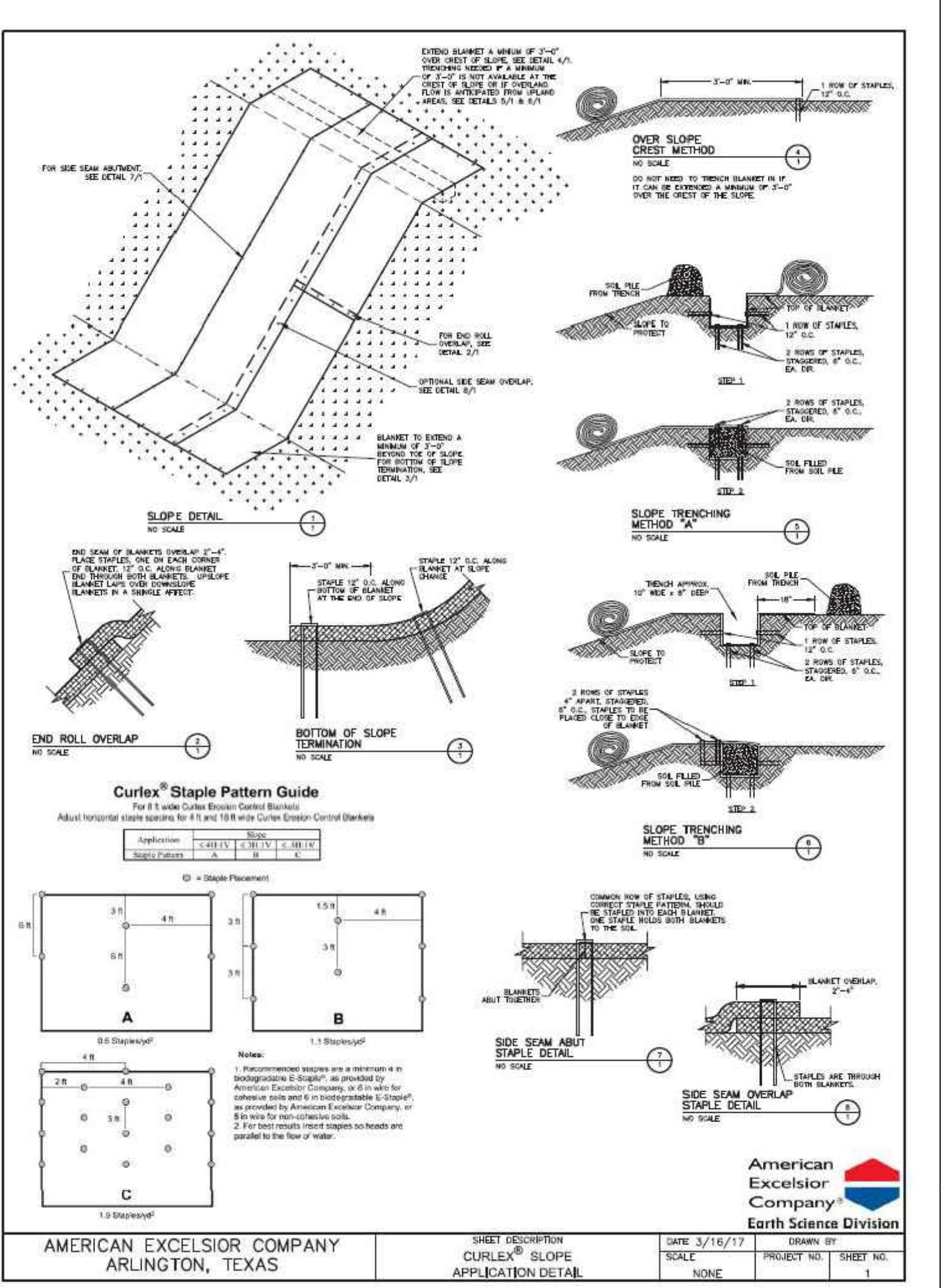
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Curlex® Blanket Installation Details

This technical drawing provides detailed installation instructions for Curlex blankets on various slope and trench applications. It includes diagrams for 'OVER SLOPE CREST METHOD', 'SLOPE TRENCHING METHOD A', and 'SLOPE TRENCHING METHOD B'. The 'Curlex® Staple Pattern Guide' shows recommended staple spacing for different slope widths (A, B, C) and soil types. A 'Notes' section provides specific guidelines for end roll overlaps and side seam overlaps. The drawing is signed by 'AMERICAN EXCELSOR COMPANY ARLINGTON, TEXAS' and includes a stamp for 'Earth Science Division'.

American Excisor Company
Earth Science Division

Proud Participant in NTPEP and Proud Member of:
ASCE, IEC, QDOR

PRODUCT DATA SHEET
CURLEX® ENFORCER®

DESCRIPTION
Curlex Enforcer has a design soil loss ratio (event-based RUSLE C factor) of .022 and is typically suitable for slopes up to 5H:1V. Curlex Enforcer is rated for channel flows up to 11 ft/s (3.4 m/s); 3.25 lb/ft² (156 Pa) shear stress unvegetated or 17 ft/s (5.2 m/s); 10.0 lb/ft² (480 Pa) shear stress vegetated.

PHYSICAL PROPERTIES
Curlex Enforcer measurements at time of manufacturing:

| | |
|----------------------------|--|
| Width | 8.0 ft (2.4 m) |
| Length | 67.5 ft (20.6 m) |
| Area | 60.0 yd ² (50.2 m ²) |
| Weight* | 75.0 lb (34.1 kg) |
| Fiber Count | ≈12,000 per yd ² (≈14,400 per m ²) |
| Fiber Length (80% min.) | ≥6.0 in (≥15.2 cm) |
| Mass per Unit Area (± 10%) | 1.25 lb/yd ² (0.68 kg/m ²) |
| Net Openings | 0.75 in x 1.0 in (19.1 mm x 25.4 mm) |

TYPICAL INDEX VALUES

| Index Property | Test Method | Value |
|--------------------------|------------------------|---|
| Thickness | ASTM D 6525 | 0.419 in (10.64 mm) |
| Light Penetration | ASTM D 1777/ECTC | 12.7% |
| Resiliency | ASTM D 6475 | 55% |
| Mass per Unit Area | ASTM D 6818 | 0.98 lb/yd ² (0.532 kg/m ²) |
| MD-Tensile Strength Max. | ASTM D 6818 | 612.0 lb/in (8.93 kN/m) |
| TD-Tensile Strength Max. | ASTM D 6818 | 460.0 lb/in (6.72 kN/m) |
| MD-Elongation | ASTM D 6818 | 19.5% |
| TD-Elongation | ASTM D 6818 | 27.3% |
| Swelling | ECTC Procedures | 33% |
| Water Absorption | ASTM D 4357/ECTC | 100% minimum |
| UV Stability | ASTM D 4357 (1,000 hr) | 90% minimum |
| Bench-Scale Rain Splash | ASTM D 7101 | SLR = 10.24 @ 2 in/hr ^{b,c} |
| Bench-Scale Rain Splash | ASTM D 7101 | SLR = 10.51 @ 4 in/hr ^{b,c} |
| Bench-Scale Rain Splash | ASTM D 7207 | SLR = 10.86 @ 6 in/hr ^{b,c} |
| Bench-Scale Shear | ASTM D 7207 | 3.55 lb/ft ² @ 0.5 in soil loss ^c |
| Germination Improvement | ASTM D 7322 | 486% |

* Weight is based on a dry fiber weight basis at time of manufacture. Baseline moisture content of Great Lakes Aspen excisor is 22%.

^b SLR is the Soil Loss Ratio, as reported by NTPEP/ASHTO. ^c Bench-scale index values should not be used for design purposes.

MADE IN THE U.S.A.

850 Avenue H East | Arlington, Texas 76011
Phone 1-800-777-SOIL | Fax 817-385-3585 | www.Curlex.com

W0516R1116

Product Description

Curlex® Blankets
Heavy Duty Excelsior Erosion Control Blankets

Heavy Duty Curlex Blankets, for long-term protection against wind and water erosion, are a natural choice in place of stone or riprap in swales, ditch bottoms, and on long, steep slopes.

MATERIAL CHARACTERISTICS

Curlex III
0.98 lb/yd² of Great Lakes Aspen Excelsior Wood Fibers and two layers of netting designed to provide protection for grass seed and topsoil from wind and water erosion for up to 36 months, while simultaneously promoting ideal growing conditions.

Curlex Enforcer
1.62 lb/yd² of Great Lakes Aspen Excelsior Wood Fibers and two layers of extra heavy duty UV stabilized netting designed to provide permanent service life and reinforcement between established vegetation and root systems on slopes and in channel bottoms. Curlex Enforcer is a biocomposite turf reinforcement mat (TRM).

Curlex High Velocity
1.62 lb/yd² of Great Lakes Aspen Excelsior Wood Fibers and two layers of heavy duty netting designed to provide extended protection for grass seed and topsoil from wind and water erosion for approximately 36+ months, while simultaneously promoting ideal growing conditions on steep, long slopes and/or in channel applications.

Curlex heavy duty excelsior blankets are available individually wrapped or in master packs to allow for mechanical unloading and stacking.

PERFORMANCE CAPABILITIES

Curlex heavy duty blankets can handle wind and water shear even on steep slopes. These heavy duty blankets provide long-term protection in critical areas where vegetation requires additional time and protection to develop.

Curlex III
Channels: Shear Stress: 120 Pa (2.5 lb/ft²) (unvegetated)
Slopes: Grade: up to 1H:1V

Curlex Enforcer
Channels: Shear Stress: 156 Pa (3.25 lb/ft²) (unvegetated)
Slopes: Grade: up to .50H:1V

Curlex HV
Channels: Shear Stress: 156 Pa (3.25 lb/ft²) (unvegetated)
Slopes: Grade: up to .75H:1V

TYPICAL APPLICATIONS

Channel bottoms, swales, steep slopes, let down structures, drop structures, and other areas associated with concentrated water flow exceeding the performance capability and service life of a standard biodegradable blanket.

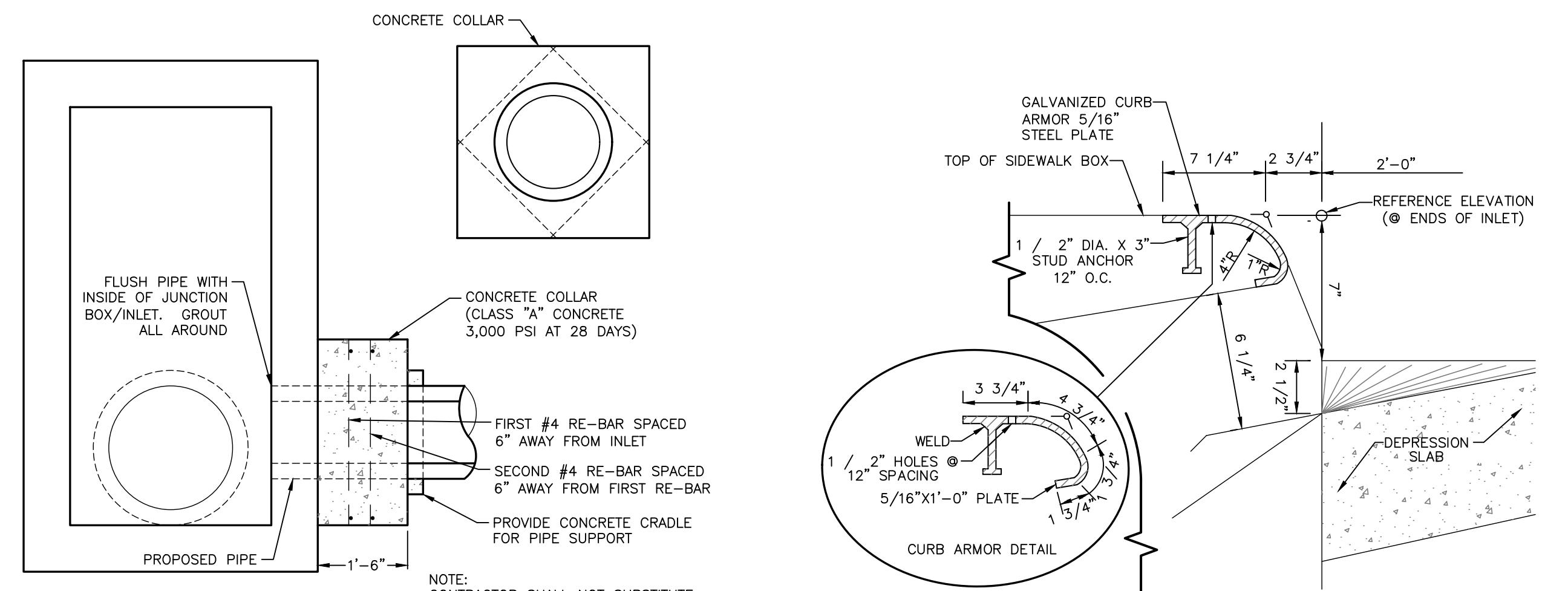
American Excisor Company
Earth Science Division

MADE IN THE U.S.A.

PLAT NO. 25-11800373
JOB NO. 13657-13
DATE NOVEMBER 2025
DESIGNER CB
CHECKED JA DRAWN CB
SHEET C1.10

Date: Nov 25, 2025, 7:16pm User ID: jadame File: P:\13657\3\Design\Curlex\3.dwg

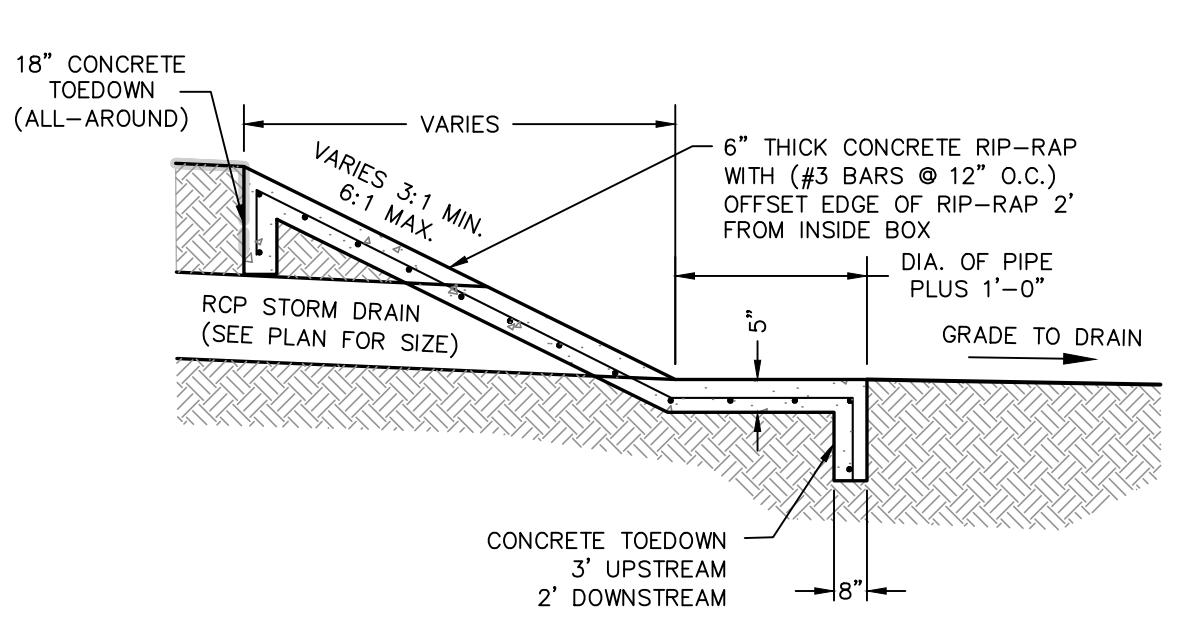
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REINFORCED CONCRETE

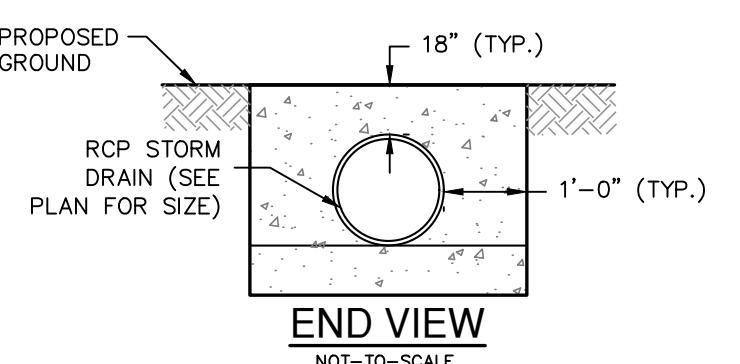
CONCRETE COLLAR DETAIL

NOT-TO-SCALE



CURB ARMOR DETAIL

NOT-TO-SCALE



DRAINAGE CONCRETE

RIP RAP DETAIL

NOT-TO-SCALE

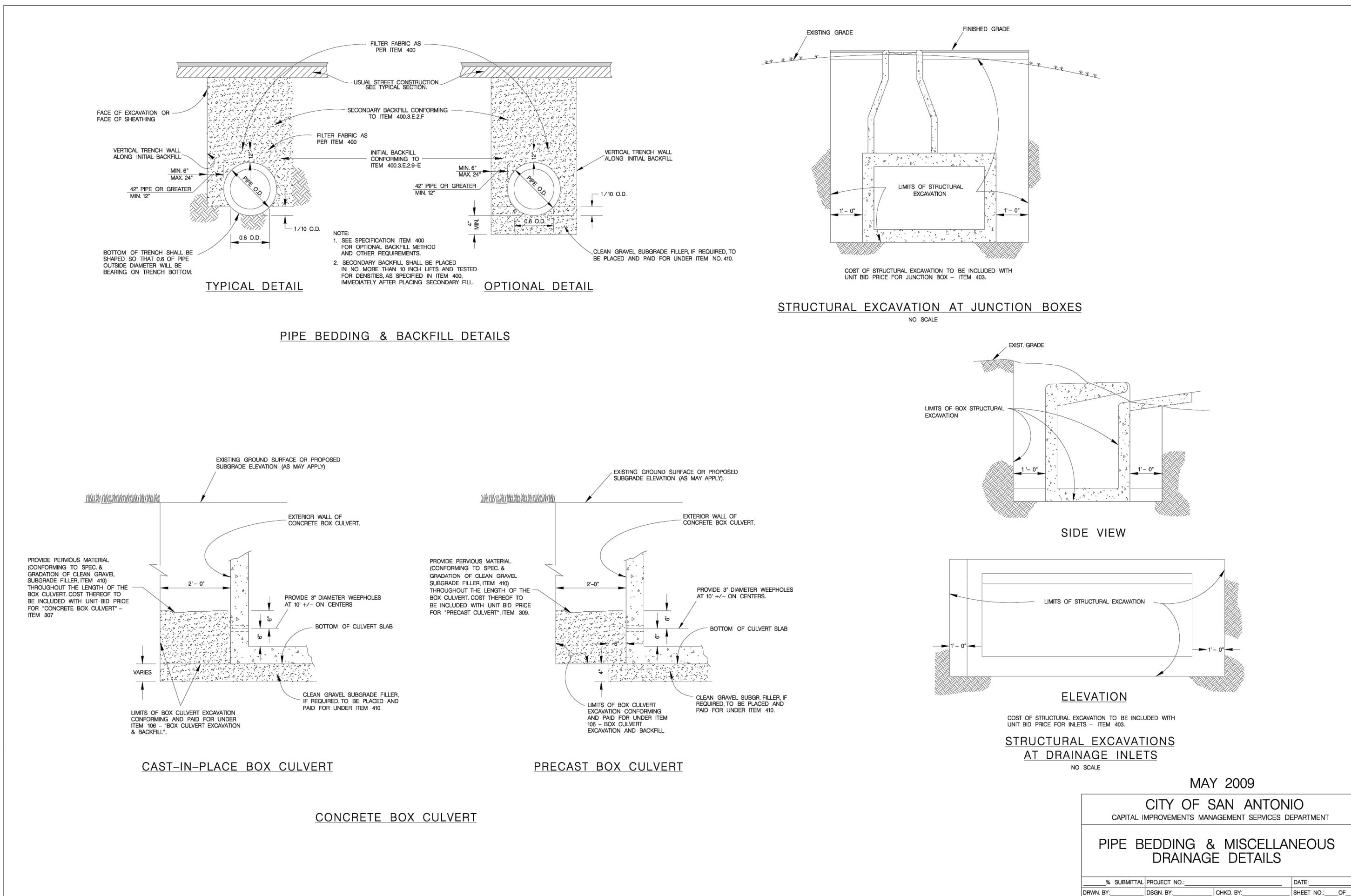
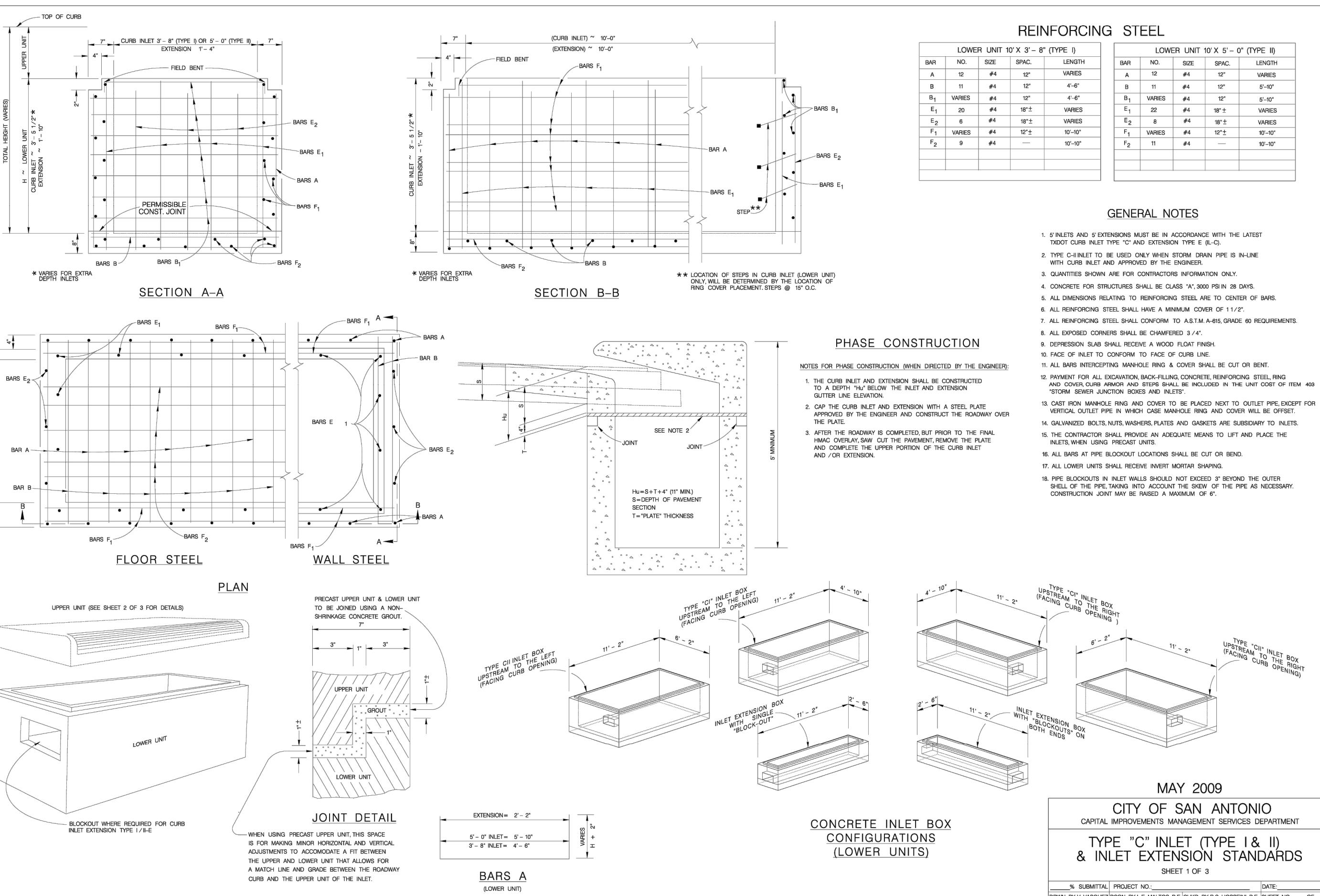
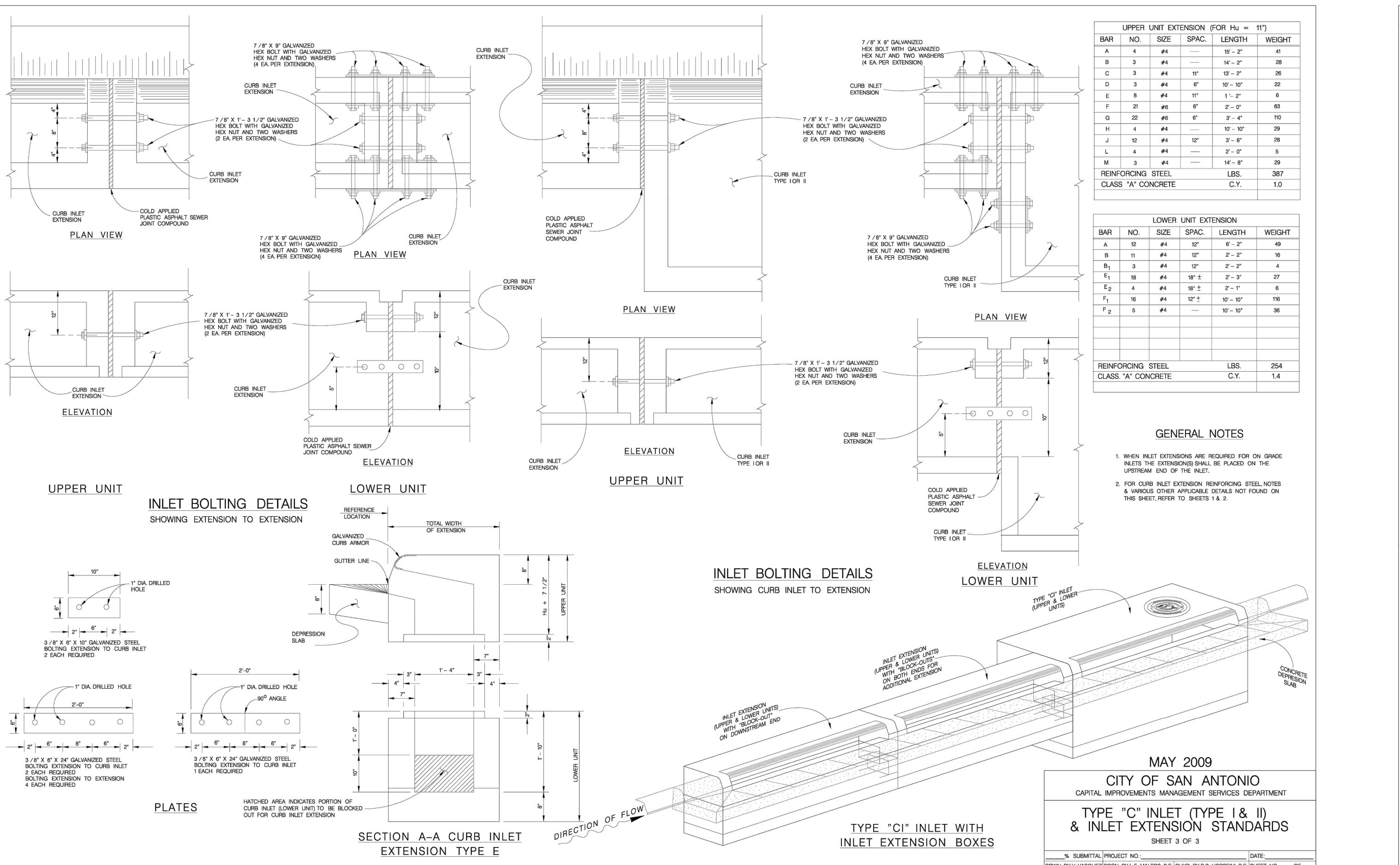


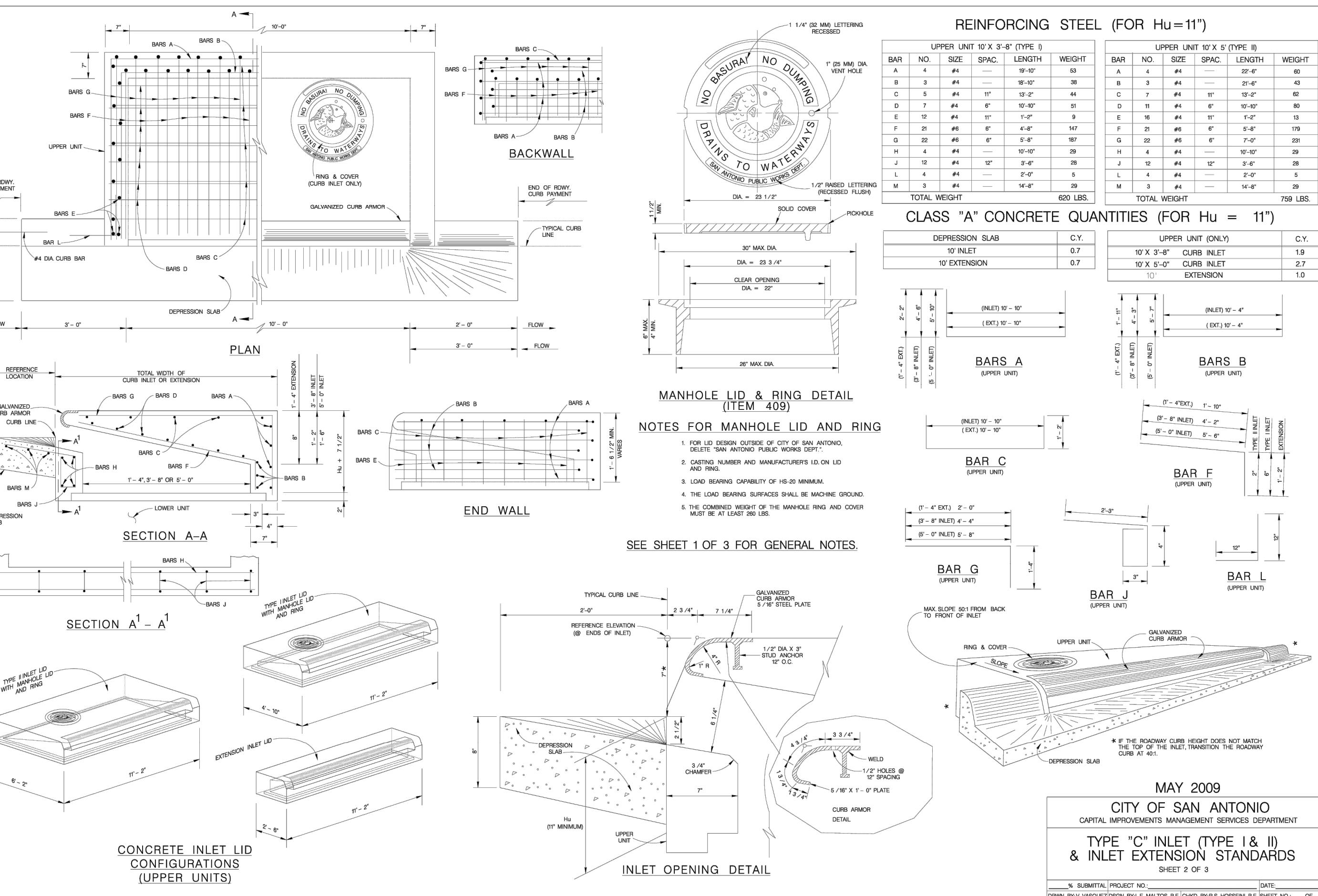
Table 9.3.8.1 - Retardation Class for Lining Materials
(Source TXDOT - Hydraulic Design Manual, Chapter 7, Section 3 - Roadside Channel Design)

| Retardance Class | Permissible Shear Stress (t) (lbs./sq.ft.) | Cover | Condition |
|------------------|--|--|--|
| B | 2.1 | Bermuda grass | Good stand, tall (average 12 in. or 305 mm) |
| | | Native grass mixture little bluestem, bluestem, blue gamma, other short and long stem midwest grasses | Good stand, unmowed |
| | | Lespedeza sericea | Good stand, not woody, tall (Average 19 in. or 480mm) |
| | | Alfalfa | Good stand, uncut (Average 11in. or 280mm) |
| | | Blue gamma | Good stand, uncut (Average 11in. or 280mm) |
| | | Crabgrass | Fair stand, uncut (10-to48 in. or 55 -to- 1220 mm) |
| C | 1.1 | Bermuda grass | Good stand, mowed (averaage 6 in. or 150 mm) |
| | | Common lespedeza | Good Stand, uncut (average 11 in. Or 280 mm) |
| | | Grass-legume mixture: summer (orchard grass redtop, Italian ryegrass, and common Lespedeza) | Good Stand, uncut (6-8 in. or 150-200 mm) |
| | | Centipede grass | Very dense cover (average 6 in. or 150 mm) |
| | | Kentucky bluegrass | Good stand, headed (6-12 in. or 150- 305 mm) |
| D | 0.6 | Bermuda grass | Good stand, cut to 2.5 in. or 65 mm |
| | | Common lespedeza | Excellent stand, uncut (average 4.5 in. or 115 mm) |
| | | Buffalo grass | Good stand, uncut (3-6 in. or 75-150 mm) |
| | | Grass-legume mixture: fall, spring (orchard grass Italian ryegrass, and common lespedeza) | Good stand, uncut (4-5 in. or 100-125 mm) |
| | | Lespedeza sericea | After cutting to 2 in. or 50 mm (very good before cutting) |
| E | 0.35 | Bermuda grass | Good stand, cut to 1.5in. or 40 mm |
| | | Bermuda grass | Burned Stubble |
| | 2.5 | Rock D50 = 6 in. or 150 mm | |
| | 5.0 | Rock D50 = 12 in. or 300 mm | |
| | 2.5 | Type III Curlex Soil Retention Blanket | |



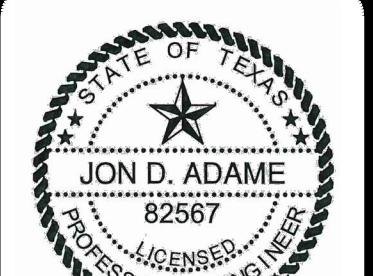
PAPE-DAWSON
2000 NW LOOP 410 SAN ANTONIO, TX 78223 210-375-9000
TEXAS ENGINEERING FIRM #470 TEXAS SURVEYING FIRM #1028800

WILD PINE
SAN ANTONIO, TEXAS
DRAIN DETAILS

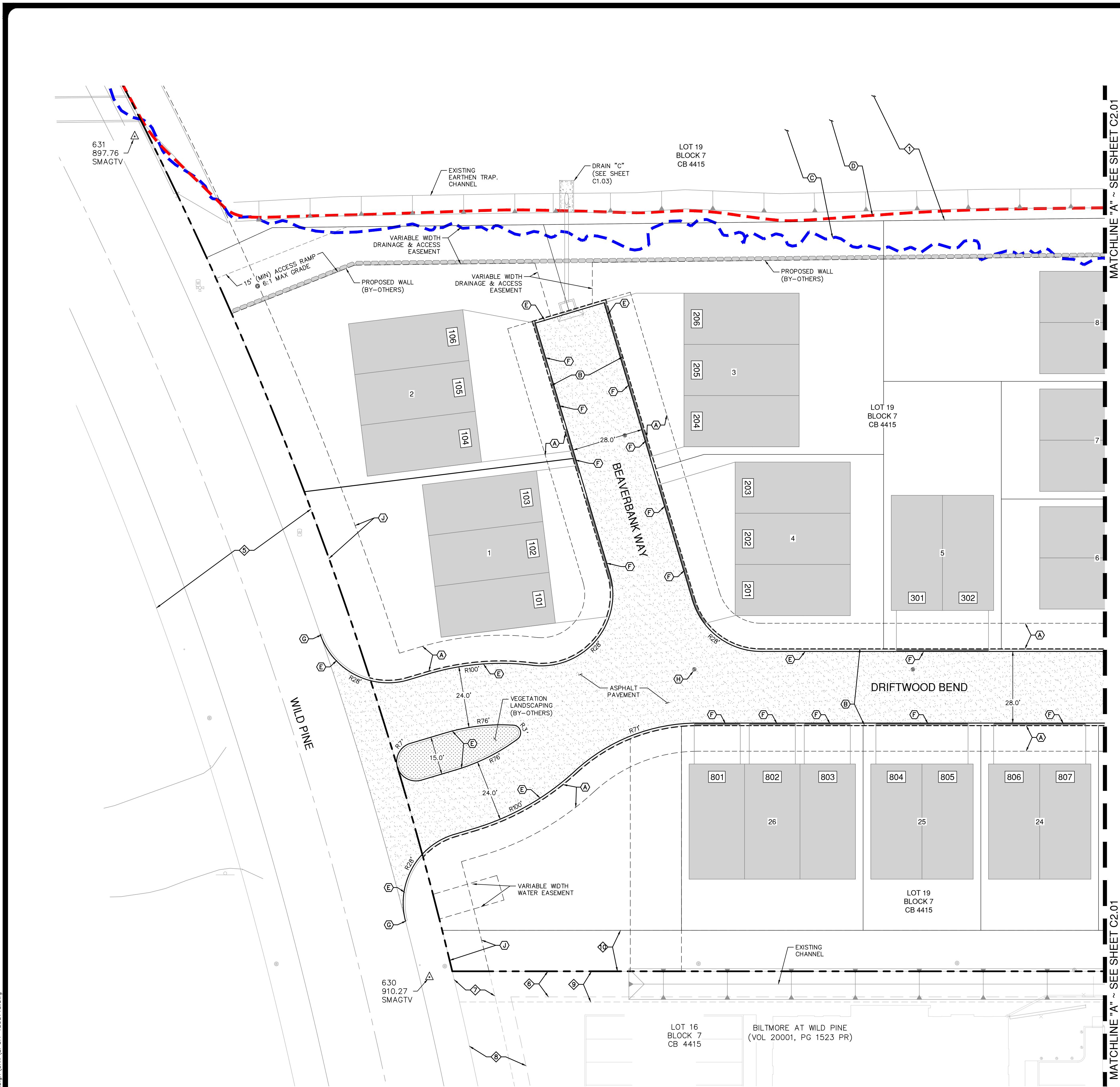


*ALL CURB INLETS TO BE INSTALLED WITH CURB ARMOR
(SEE SHEET C1.10 FOR CURB ARMOR DETAILS)

PLAT NO. 25-11800373
JOB NO. 13657-13
DATE NOVEMBER 2025
DESIGNER _____
CHECKED _____ DRAWN _____
SHEET C1.12



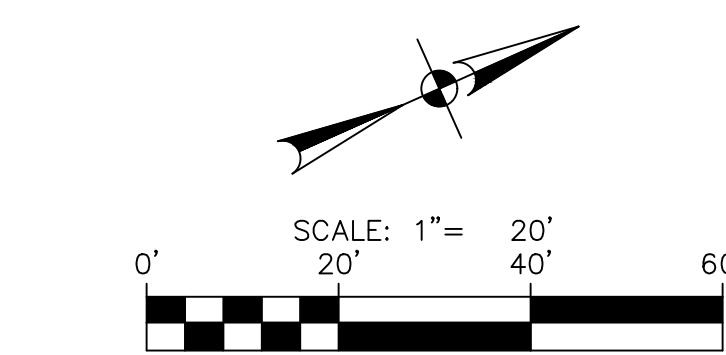
Jon Adame
11-25-25



LOCATION MAP

NOT-TO-SCALE

EGEND



LEGEND

PROJECT LIMITS

00 YR FEMA EFFECTIVE FLOODPLAIN

00 YR ULTIMATE DEVELOPMENT
FLOODPLAIN (PAFF-DAWSON FP)

RETAINING WALL (BY OTHERS)

PROPOSED FIRE HYDRANT

ASPHALT PAVEMENT
(SEE DETAIL SHEET C2 10)

PROPOSED LOW CURB AT DRIVEWAY

KEY NOTES | FGFND

- (A) 10' GAS, ELEC, TELE AND CATV ESMT
- (B) VAR WID IRREVOCABLE INGRESS/EGRESS, DRAINAGE, SEWER, WATER, GAS, ELEC, TELE, CATV AND CLEAR VISION ESMT
- (C) EFFECTIVE (EXISTING) FEMA 1% ANNUAL CHANCE (100-YR) FLOODPLAIN (FIRM PANEL NO. 48029C0355G
EFFECTIVE 9-29-2010)
- (D) 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (PAPE-DAWSON FLOOD STUDY)
- (E) 7" STD. CURB
(SEE DETAIL SHEET C2.10)
- (F) LOW CURB AT DRIVEWAY
(SEE DETAIL SHEET C2.10 FOR CURB PROFILE AT DRIVEWAY)
- (G) TIE TO EXISTING CURB
- (H) CLEANOUT FRAME AND LID FLUSH WITH PAVEMENT (TYP)
(SEE DETAIL SHEET C5.10)
- (I) 7" SAWTOOTH CURB
(SEE DETAIL SHEET C2.10)
- (J) 14' GAS, ELEC, TELE AND CATV ESMT
- (1) VAR WID DRAINAGE ESMT (VOL 9649, PG 48-49, DPR)
- (2) 14' ELEC, GAS, TEL, CATV AND OH ESMT (VOL 9614, PG 110-112, DPR)
- (3) 135' ELEC ESMT AND ROW (VOL 6187, PG 265-268, DR)
- (4) 20' SANITARY SEWER ESMT (VOL 15789, PG 1574, OPR)
- (5) 70' ROW (VOL 9649, PG 48-49, DPR)
- (6) 10' SIDE BUILDING SETBACK (VOL 20001, PG 1523, PR)
- (7) 14' GAS, ELEC, TELE AND CATV ESMT (VOL 20001, PG 1523, PR)
- (8) 20' FRONT BUILDING SETBACK (VOL 9649, PG 48-49, DPR)
- (9) 12' ELEC ESMT (DOC NO 20190060792 OPR)
- (10) 16' ELEC ESMT (DOC NO 20190060773 OPR)
- (11) 15' PUBLIC DRAINAGE ESMT (VOL 9727, PG 192-194 PR)
- (12) GREENBELT AND 15' SANITARY SEWER, DRAINAGE, GAS, ELEC, TELE, WATER, CATV AND ACCESS ESMT (VOL 9651, PG 96-97 DPR)
- (13) 16' ELEC, GAS, TELE, AND CATV ESMT

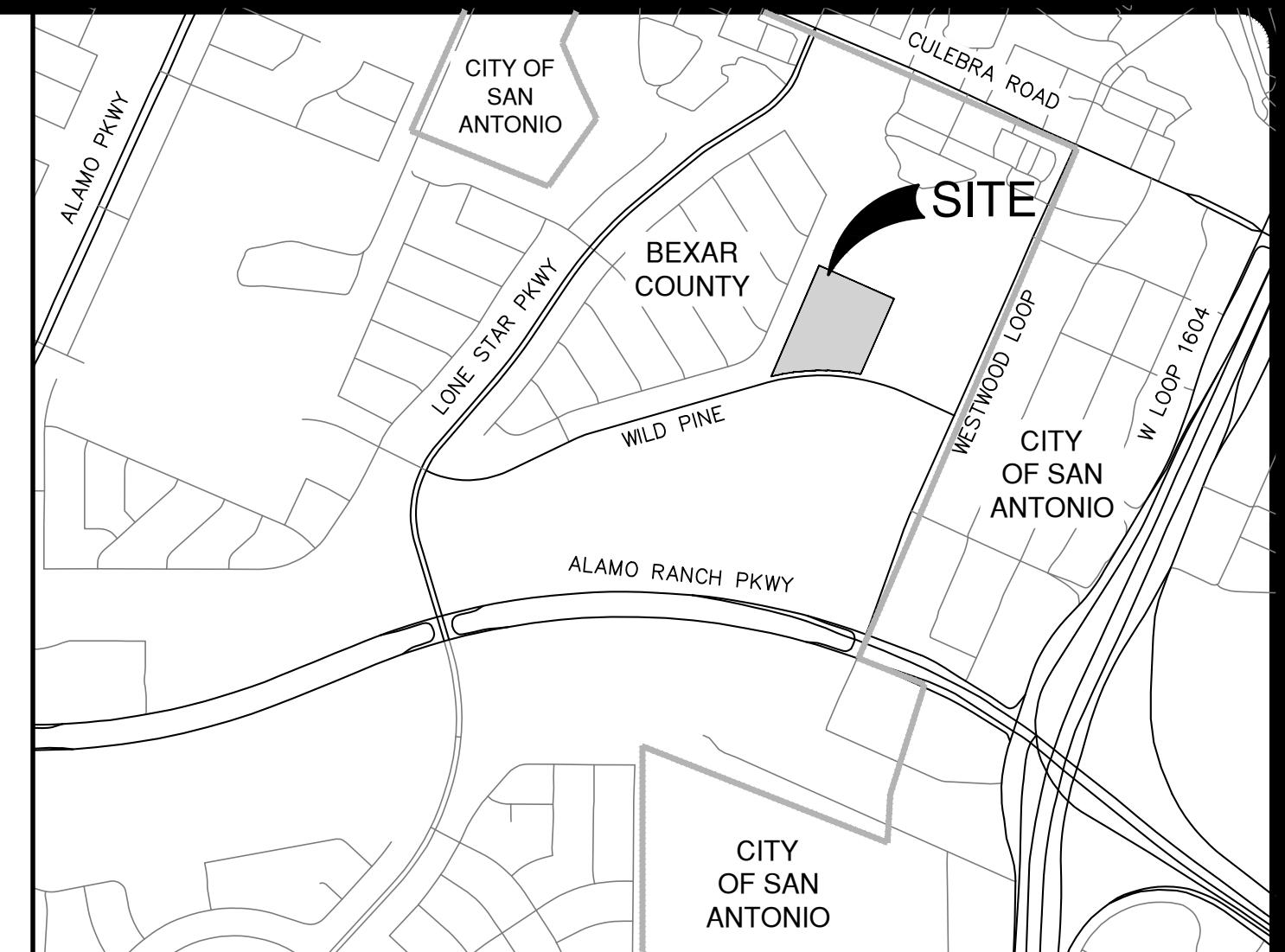
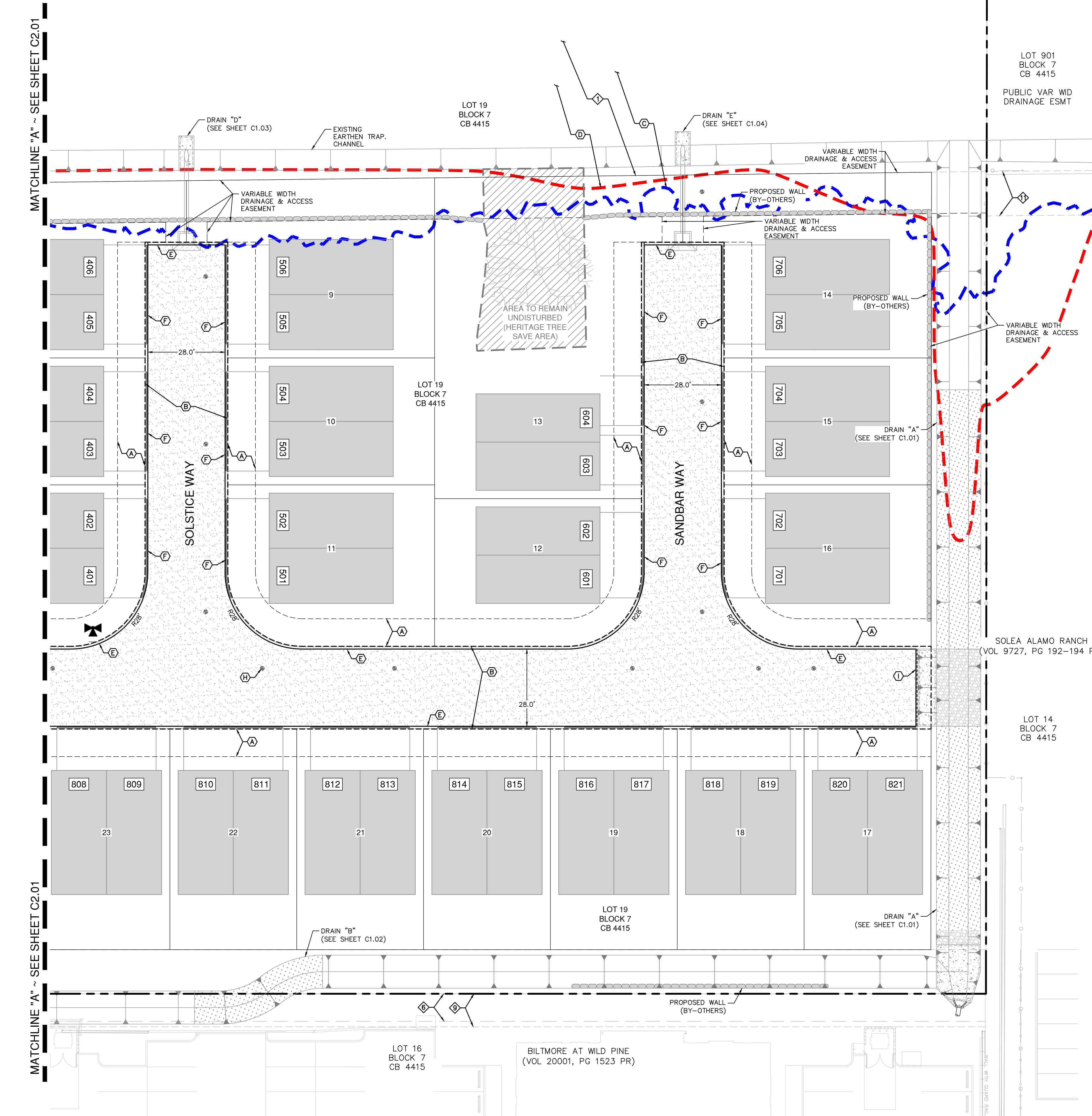
SITE / PARKING SUMMARY TABLE

| SITE / PARKING SUMMARY TABLE | |
|-----------------------------------|---|
| BUILDING USE | SINGLE FAMILY DETACHED (26 UNITS) (57 DWELLINGS) |
| <u>PARKING STORAGE STANDARDS:</u> | |
| MINIMUM PARKING RATIO | 1 PER DWELLING |
| MAXIMUM PARKING RATIO | N/A |
| <u>REGULAR:</u> | |
| MINIMUM REQUIRED | 57 |
| ACTUAL/PROPOSED PARKING | |
| • GARAGE PARKING | 57 |
| • SURFACE PARKING | 0 |
| • TOTAL: | 57 |

WILD PINE SAN ANTONIO, TEXAS

SAN ANTONIO, TEXAS

PLAT NO. 25-11800373
JOB NO. 13657-13
DATE NOVEMBER 2025
DESIGNER CB
CHECKED JA DRAWN CB
SHEET C2.00



LOCATION MAP

NOT-TO-SCALE

LEGEND

PROJECT LIMITS

100 YR FEMA EFFECTIVE FLOODPLAIN

100 YR ULTIMATE DEVELOPMENT FLOODPLAIN (PAPE-DAWSON FP)

RETAINING WALL (BY OTHERS)

PROPOSED FIRE HYDRANT

ASPHALT PAVEMENT
(SEE DETAIL SHEET C2.10)



PROPOSED 7" STD. CURB

PROPOSED LOW CURB AT DRIVEWAY

KEY NOTES LEGEND

- (A) 10' GAS, ELEC, TELE AND CATV ESMT
- (B) VAR WID IRREVOCABLE INGRESS/EGRESS, DRAINAGE, SEWER, WATER, GAS, ELEC, TELE, CATV AND CLEAR VISION ESMT
- (C) EFFECTIVE (EXISTING) FEMA 1% ANNUAL CHANCE (100-YR) FLOODPLAIN (FIRM PANEL NO. 48029C0355G EFFECTIVE 9-29-2010)
- (D) 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (PAPE-DAWSON FLOOD STUDY)
- (E) 7" STD. CURB
(SEE DETAIL SHEET C2.10)
- (F) LOW CURB AT DRIVEWAY
(SEE DETAIL SHEET C2.10 FOR CURB PROFILE AT DRIVEWAY)
- (G) TIE TO EXISTING CURB
- (H) CLEANOUT FRAME AND LID FLUSH WITH PAVEMENT (TYP)
(SEE DETAIL SHEET C5.10)
- (I) 7" SAWTOOTH CURB
(SEE DETAIL SHEET C2.10)
- (1) VAR WID DRAINAGE ESMT
(VOL 9649, PG 48-49, DPR)
- (2) 14' ELEC, GAS, TEL, CATV AND OH ESMT
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- (10) 16' ELEC ESMT
(DOC NO 20190060773 OPR)
- (11) 15' PUBLIC DRAINAGE ESMT
(VOL 9727, PG 192-194 PR)
- (12) GREENBELT AND 15' SANITARY SEWER, DRAINAGE, GAS, ELEC, TELE, WATER, CATV AND ACCESS ESMT
(VOL 9651, PG 96-97 DPR)

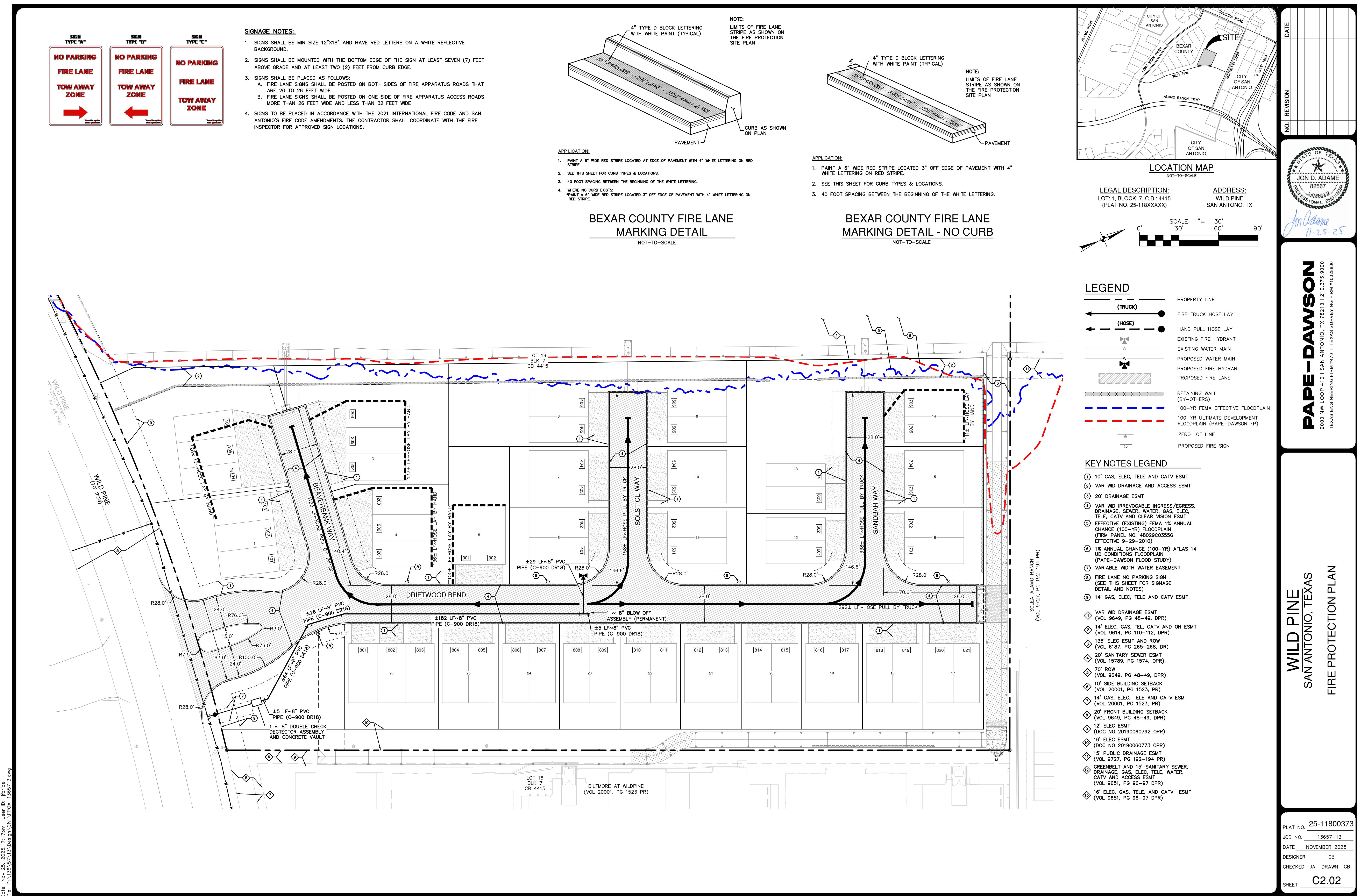
WILD PINE SAN ANTONIO, TEXAS

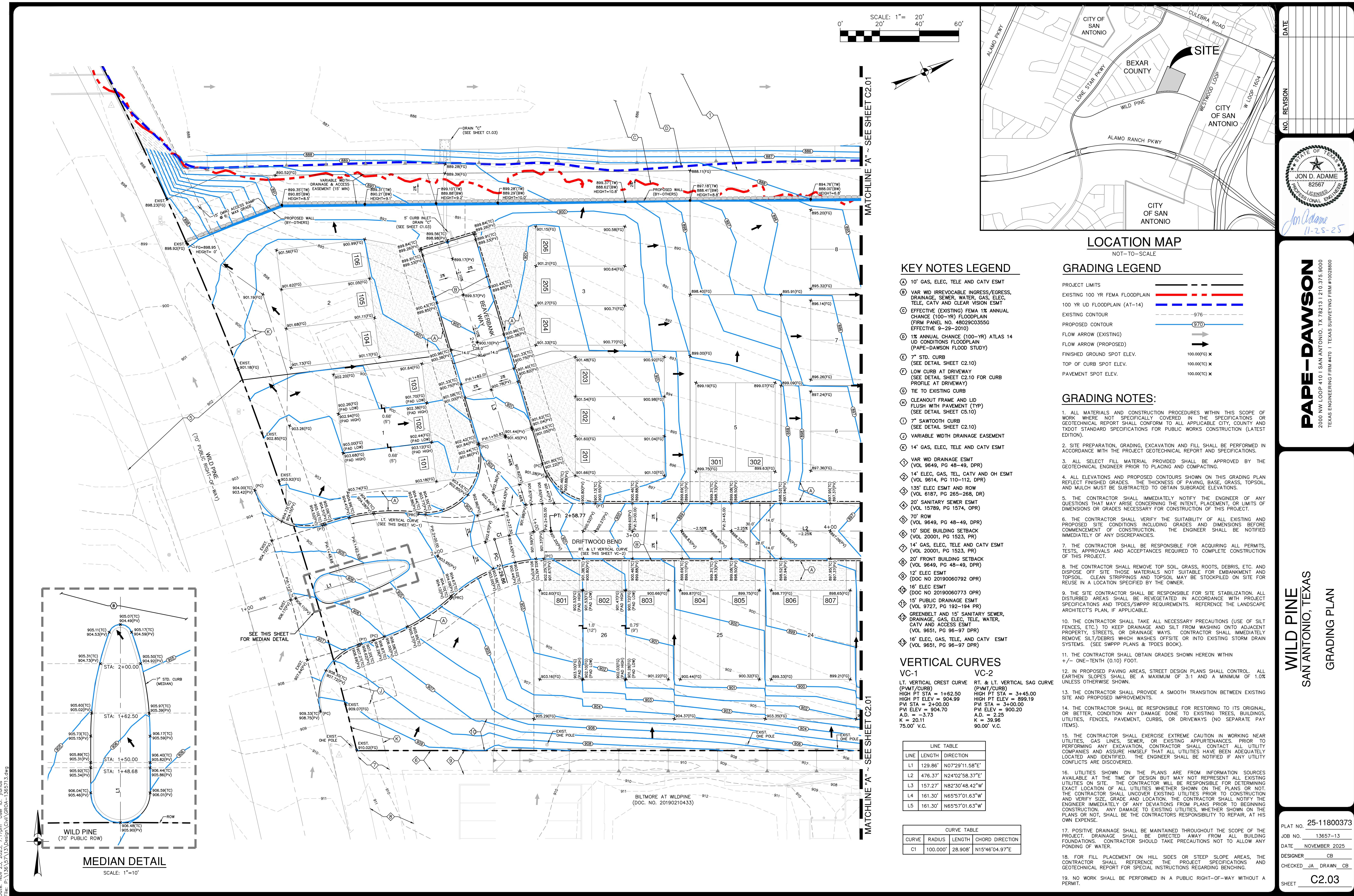
SAN ANTONIO, TEXAS SITE & DIMENSIONAL CONTROL PLAN

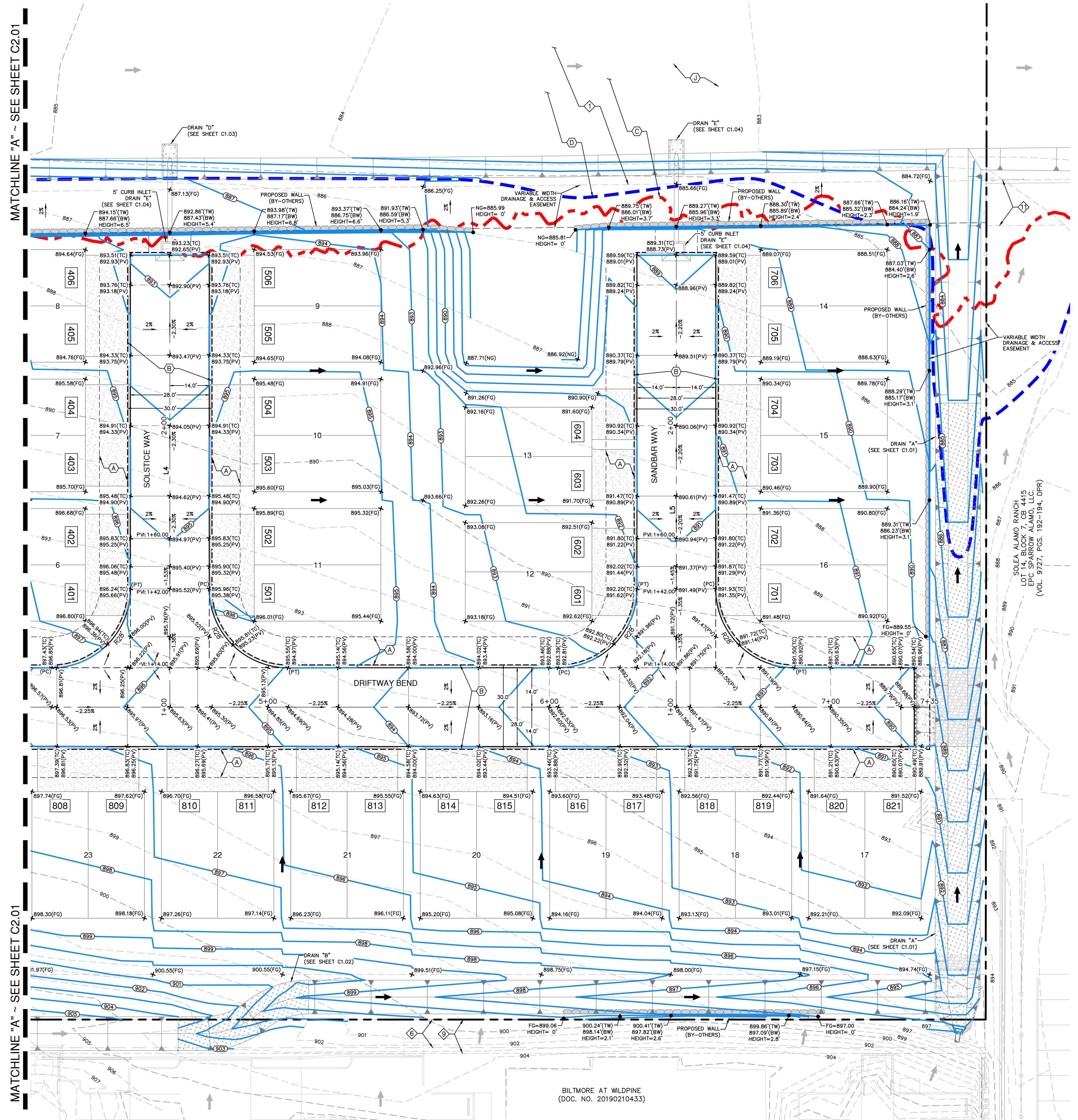
SITE & DIMENSIONAL CONTROL PLAN

| SITE / PARKING SUMMARY TABLE | |
|-----------------------------------|---|
| BUILDING USE | SINGLE FAMILY DETACHED (26 UNITS) (57 DWELLINGS) |
| <u>PARKING STORAGE STANDARDS:</u> | |
| MINIMUM PARKING RATIO | 1 PER DWELLING |
| MAXIMUM PARKING RATIO | N/A |
| <u>REGULAR:</u> | |
| MINIMUM REQUIRED | 57 |
| ACTUAL/PROPOSED PARKING | |
| • GARAGE PARKING | 57 |
| • SURFACE PARKING | 0 |
| • TOTAL: | 57 |

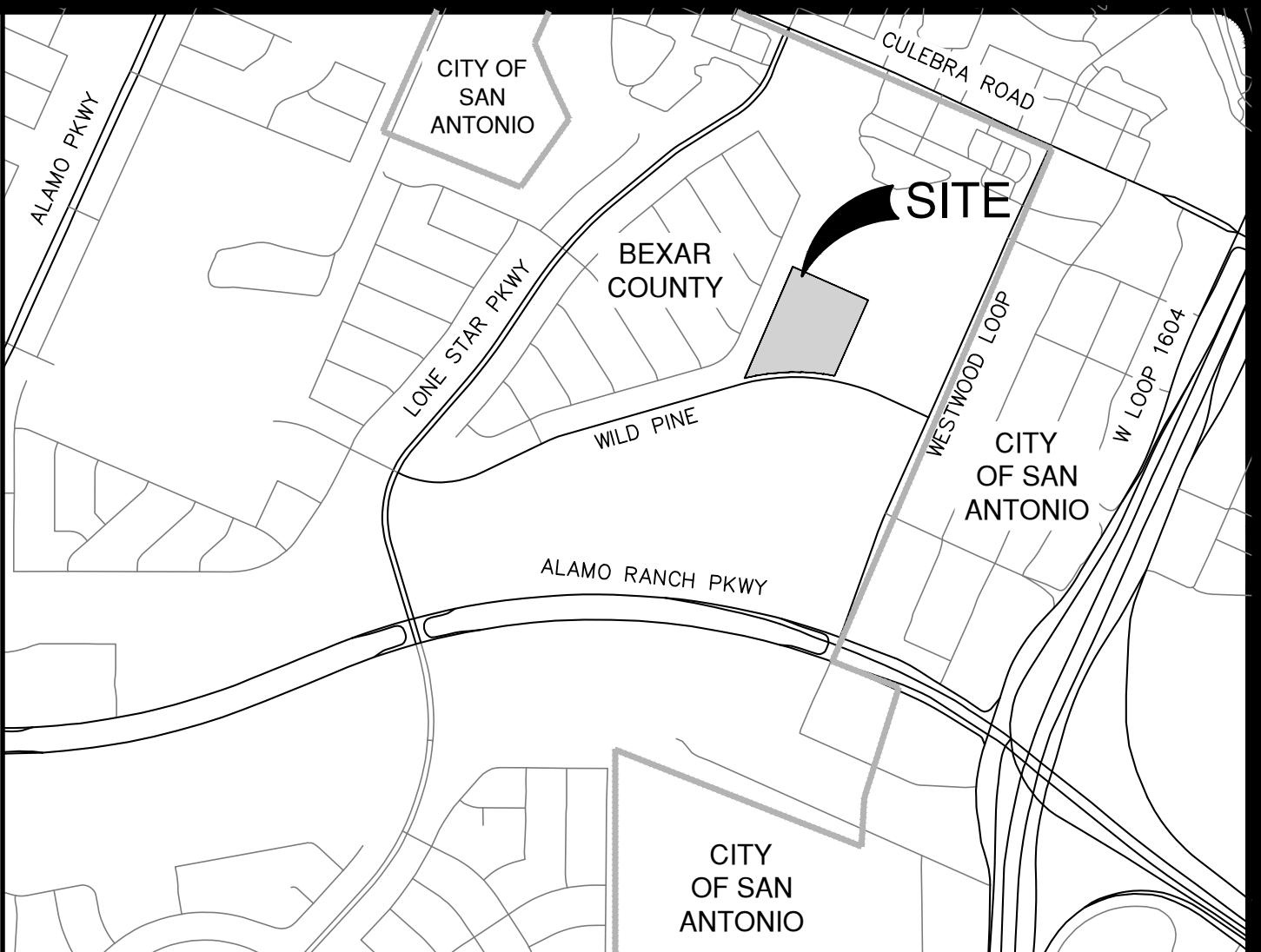
PLAT NO. 25-11800373
JOB NO. 13657-13
DATE NOVEMBER 2025
DESIGNER CB
CHECKED JA DRAWN CB
SHEET C2.01







SCALE: 1" = 20'
20'
40'
60'



LOCATION MAP

NOT-TO-SCALE

KEY NOTES LEGEND

- Ⓐ 10' GAS, ELEC, TELE AND CATV ESMT
- Ⓑ VAR WID IRREVOCABLE INGRESS/EGRESS, DRAINAGE, SEWER, WATER, GAS, ELEC, TELE, CATV AND CLEAR VISION ESMT
- Ⓒ EFFECTIVE (EXISTING) FEMA 1% ANNUAL CHANCE (100-YR) FLOODPLAIN (FIRM PANEL NO. 48029C0355G EFFECTIVE 9-29-2010)
- Ⓓ 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (PAPE-DAWSON FLOOD STUDY)
- Ⓔ 7" STD. CURB
(SEE DETAIL SHEET C2.10)
- Ⓕ LOW CURB AT DRIVEWAY
(SEE DETAIL SHEET C2.10 FOR CURB PROFILE AT DRIVEWAY)
- Ⓖ TIE TO EXISTING CURB
- Ⓗ CLEANOUT FRAME AND LID
FLUSH WITH PAVEMENT (TYP)
(SEE DETAIL SHEET C5.10)
- Ⓘ 7" SAWTOOTH CURB
(SEE DETAIL SHEET C2.10)
- Ⓛ 16' SANITARY SEWER EASEMENT

- ① VAR WID DRAINAGE ESMT
(VOL 9649, PG 48-49, DPR)
- ② 14' ELEC, GAS, TEL, CATV AND OH ESMT
(VOL 9614, PG 110-112, DPR)
- ③ 135' ELEC ESMT AND ROW
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- ④ 20' SANITARY SEWER ESMT
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- ⑤ 70' ROW
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- ⑥ 10' SIDE BUILDING SETBACK
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(VOL 9651, PG 96-97 DPR)
- ⑬ 16' ELEC, GAS, TELE, AND CATV ESMT
(VOL 9651, PG 96-97 DPR)

GRADING LEGEND

| | |
|---------------------------------|---------------|
| PROJECT LIMITS | |
| EXISTING 100 YR FEMA FLOODPLAIN | |
| 100 YR UD FLOODPLAIN (AT-14) | |
| EXISTING CONTOUR | 976 |
| PROPOSED CONTOUR | 970 |
| FLOW ARROW (EXISTING) | |
| FLOW ARROW (PROPOSED) | |
| FINISHED GROUND SPOT ELEV. | 100.00(FG) X |
| TOP OF CURB SPOT ELEV. | 100.00(TC) X |
| PAVEMENT SPOT ELEV. | 100.00(TEC) X |

GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE 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.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN $+\!-\! 0.10$ FOOT.
12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.

| LINE TABLE | | |
|------------|---------|-----------------|
| LINE | LENGTH | DIRECTION |
| L1 | 129.86' | N07°29'11.58"E' |
| L2 | 476.37' | N24°02'58.37"E' |
| L3 | 157.27' | N82°30'48.42"W' |
| L4 | 161.30' | N65°57'01.63"W' |
| L5 | 161.30' | N65°57'01.63"W' |

| CURVE TABLE | | | | |
|-------------|----------|---------|----------------|-----------|
| CURVE | RADIUS | LENGTH | CHORD | DIRECTION |
| C1 | 100 000' | 28 908' | N15°46'04.97"E | |

16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND 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

17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.

18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A

PERMIT.

PAPE-DAWSON

TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

WILDLINE SAN ANTONIO, TEXAS

GRADING PLAN

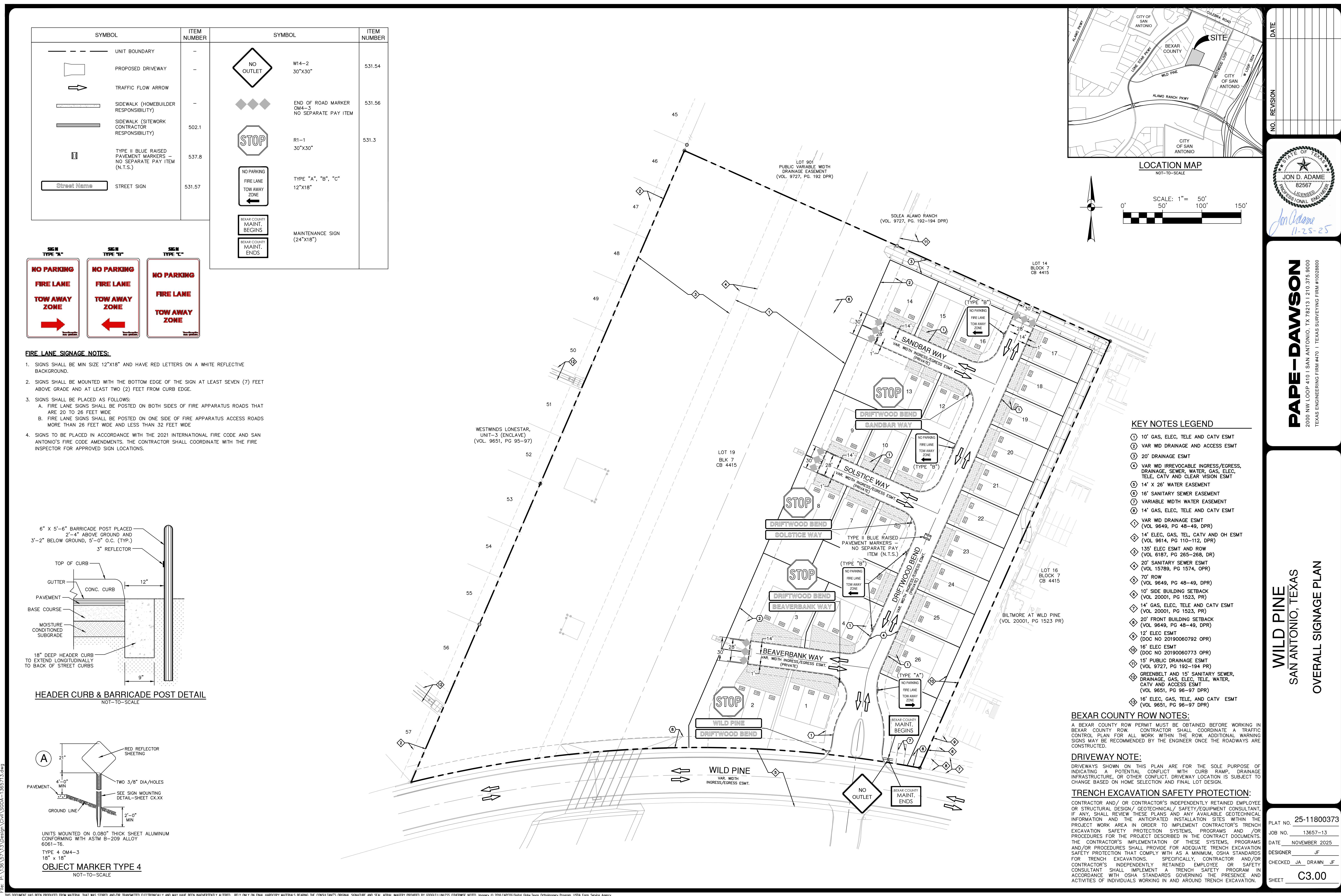
NO. 25-11800373
NO. 13657-13

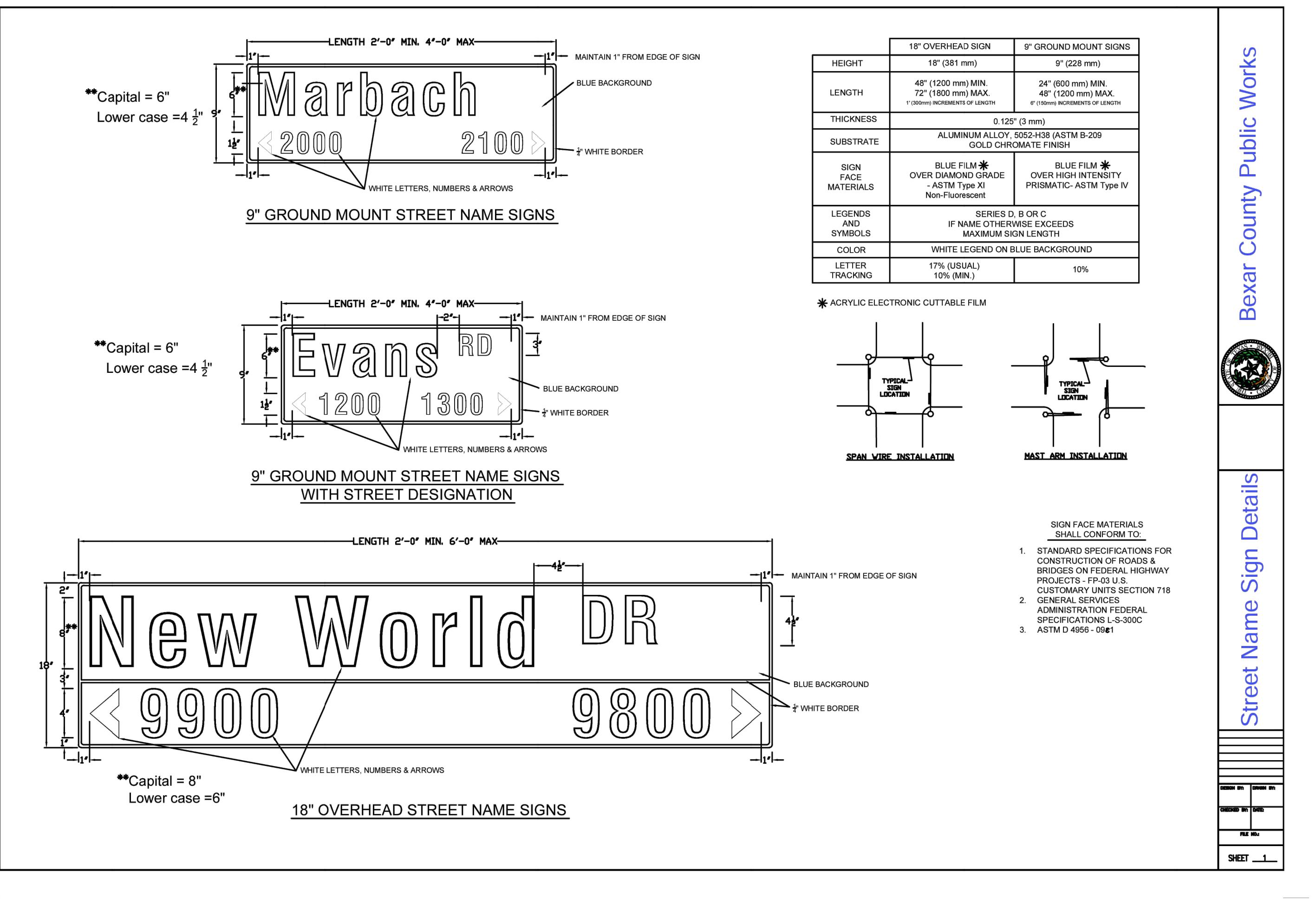
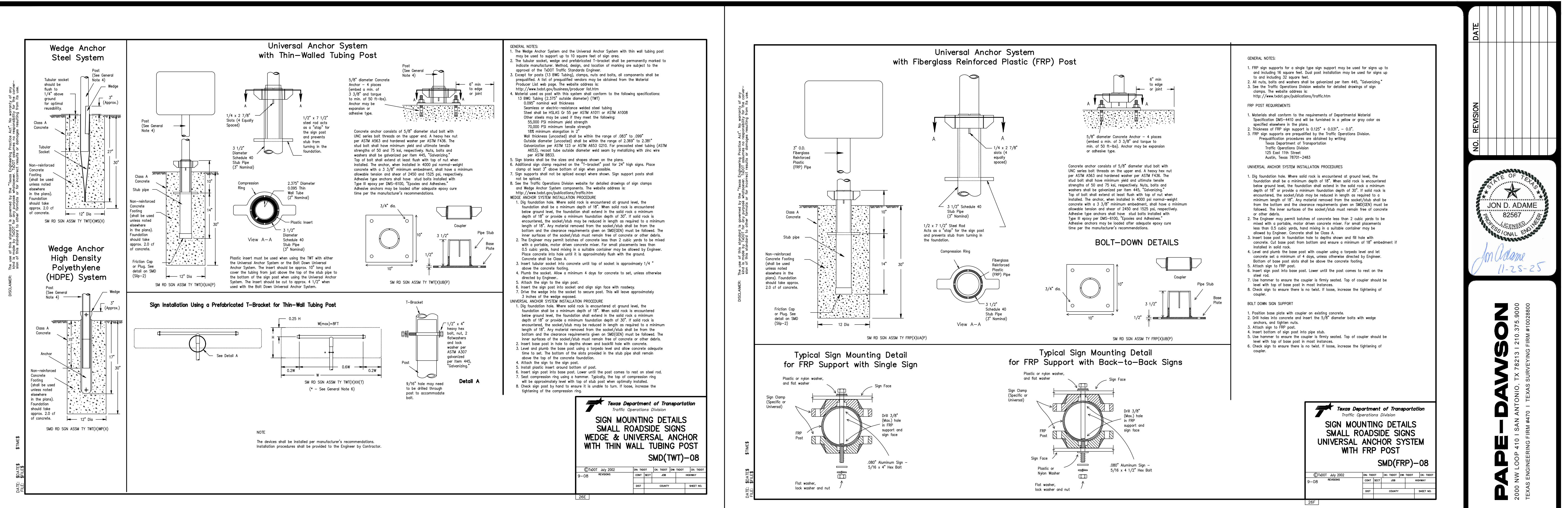
NOVEMBER 2025

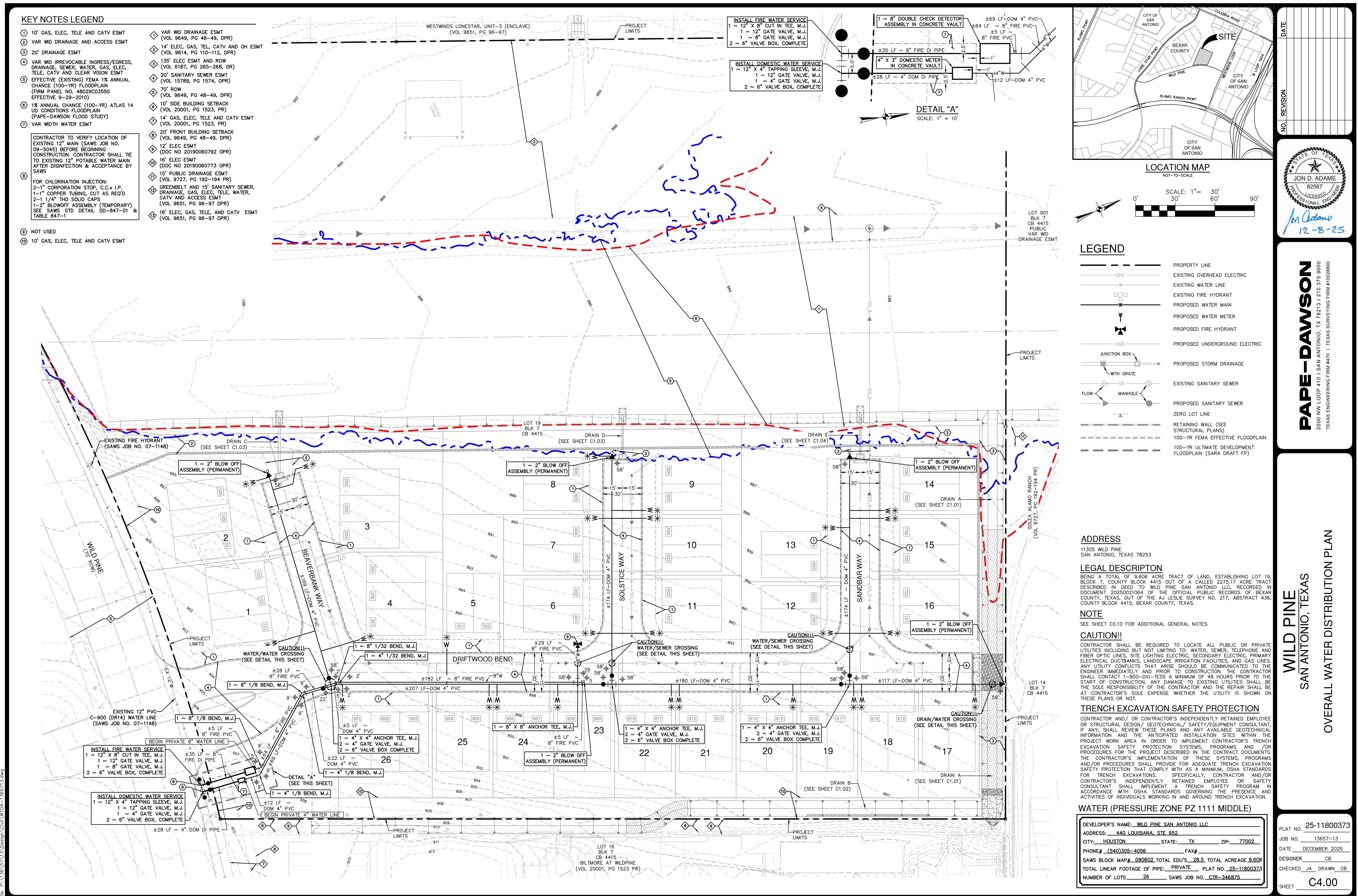
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SAWS CONSTRUCTION NOTES
(LAST REVISED JANUARY 2022)

SAWS WATER NOTES

SAWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - CURRENT TEXAS "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
 - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
 - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
 - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED CONSTRUCTION PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE EXCAVATION WORK CONDUCTED BY THE CONTRACTOR WITHOUT AN APPROVED CONSTRUCTION PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, [HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS](http://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS). UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, OR NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNACCURATE AND APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE HELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- 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](http://WWW.SAWS.ORG/SERVICE/LOCATES)
 - COSA DRAINAGE (210) 207-024 OR (210) 207-026
 - 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 CONSTRUCTION.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH SPECIFIC CONSTRUCTION REQUIREMENTS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- 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.
- COMPACTON NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENT OF ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

PROJECT WATER NOTES

- MACHINE CHLORINATION BY THE S.A.W.S.
- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, AS PROVIDED FOR IN THE SPECIAL CONDITIONS.
- THE WATER LINES WILL BE SET FROM THE STREET HUBS BEFORE THIS CONTRACT BEGINS. STREET CUT SHEETS WILL BE SUPPLIED TO THE CONTRACTOR. THERE SHOULD BE NO ADDITIONAL STAKES REQUIRED, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE AND VERIFY THAT ALL STAKES REQUIRED FOR HIS WORK ARE IN PLACE AT THE TIME THE CONSTRUCTION BEGINS. IF ANY STAKES ARE MISSING THE ENGINEER SHALL MAKE A NOTE AND THE CONTRACTOR SHALL SET THE STAKES AS SOON AS POSSIBLE. STAKES, MARKS, ETC., SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR, AND IN CASE OF DESTRUCTION OR REMOVAL BY THE CONTRACTOR, HIS EMPLOYEE OR ANY OTHER MEANS, SUCH STAKES, MARKS, ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
- THE LOT CORNERS WILL BE SET BY THE ENGINEER FOR INSTALLATION OF ALL WATER SERVICES. THESE LOT CORNERS SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR SO THE METER BOXES CAN BE SET IN PHASE IF ANY LOT CORNER DESTROYED OR REMOVED BY THE CONTRACTOR, HIS EMPLOYEE, OR BY ANY OTHER MEANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- STREETS WILL HAVE BEEN EXCAVATED DOWN TO SUBGRADE AND THE PARKWAY WILL BE CUT DOWN TO THE CURB BY THE STREET CONTRACTOR, PRIOR TO CONSTRUCTION OF THE WATER MAINS. IT WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY TO PROVIDE A PAD FOR HIS EQUIPMENT.
- WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FROM FACE OF CURB TO CENTER OF THE METER BOX.
- ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND THE S.A.W.S. RELEASES THE MAIN FOR TIE-IN AND USE.
- UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6-INCH GATE VALVE AND 6-INCH VALVE BOX COMPLETE, ANCHOR BEND, AND ALL 6-INCH DI PIPE REQUIRED (DI PIPE REQUIRED SHALL INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDRANT).
- WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO).
- A CLEAR SPACE SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. THIS AREA SHOULD HAVE A MINIMUM DIAMETER OF 3.0' AND BE CLEAN OF VERTICAL OBSTRUCTIONS, VALVES, AND METER BOXES.
- SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
- UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.

WATER (PRESSURE ZONE PZ 1111 MIDDLE)

| |
|---|
| DEVELOPER'S NAME: <u>WILD PINE SAN ANTONIO LLC</u> |
| ADDRESS: <u>440 LOUISIANA, STE 952</u> |
| CITY: <u>HOUSTON</u> STATE: <u>TX</u> ZIP: <u>77002</u> |
| PHONE # <u>(281) 540-4056</u> FAX # <u>(281) 540-4056</u> |
| SAWS BLOCK MAP # <u>090602</u> TOTAL EDU'S <u>28.5</u> TOTAL ACREAGE <u>9.606</u> |
| TOTAL LINEAR FOOTAGE OF PIPE: <u>PRIVATE</u> PLAT NO. <u>25-11800373</u> |
| NUMBER OF LOTS <u>26</u> SAWS JOB NO. <u>CTR-346875</u> |

PAPE-DAWSON

2000 NW LOOP 410 SAN ANTONIO, TX 78223-21035-9000
TEXAS ENGINEERING FIRM #470 TEXAS SURVEYING FIRM #10028800

WILD PINE
SAN ANTONIO, TEXAS

WATER DISTRIBUTION PLAN NOTES

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |

PLAT NO. 25-11800373
JOB NO. 13657-13
DATE DECEMBER 2025
DESIGNER XX
CHECKED XX DRAWN XX
SHEET C4.11



SAWS CONSTRUCTION NOTES

(LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:

- A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM, TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 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 WORKS CONSTRUCTION.
- E. CURRENT CITY OF SAN ANTONIO UTILITY EXCAVATION CRITERIA MANUAL (UECM).

2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK. THE CONTRACTOR SHALL NOTIFY THE SAWS INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.

3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, [HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS](http://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS). UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.

4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.

5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY; IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS (NSPI).

6. SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.

7. MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.

8. ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

• SAWS UTILITY LOCATES: [HTTP://WWW.SAWS.ORG/SERVICE/LOCATES](http://WWW.SAWS.ORG/SERVICE/LOCATES)
 • COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
 • COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
 • COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
 • TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.

8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.

9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING 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.

11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAW'S RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTRWORK@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 CONSTRWORK@SAWS.ORG.

ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR TRENCH COMPACTING TESTS TO BE PERFORMED ON A THIRTY-FIFTY SELECTION, AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET. TESTS THAT DO NOT MEET THE REQUIREMENT SHALL BE REPEATED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

PROJECT SEWER NOTES

1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.

CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET C5.10.

2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

3. ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.

4. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PS (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.

5. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.

6. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.

7. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.

8. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.

9. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS 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.

10. CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND, WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.

11. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.

12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.

13. IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5" ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.

14. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

SAWS SEWER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

 - A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
 - B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
 - C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
 - D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
 - E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 - F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

2. IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".

3. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

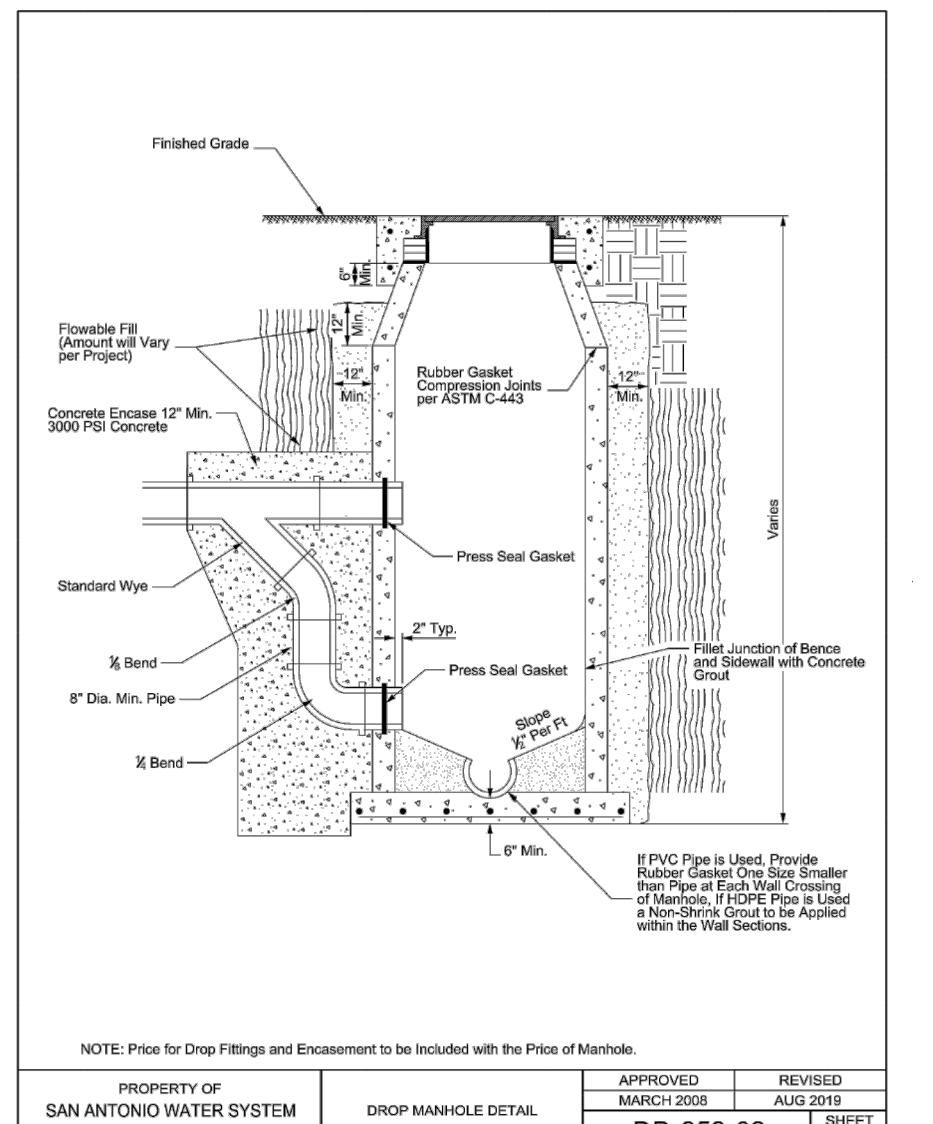
4. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20" JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.

5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY; IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS (NSPI).

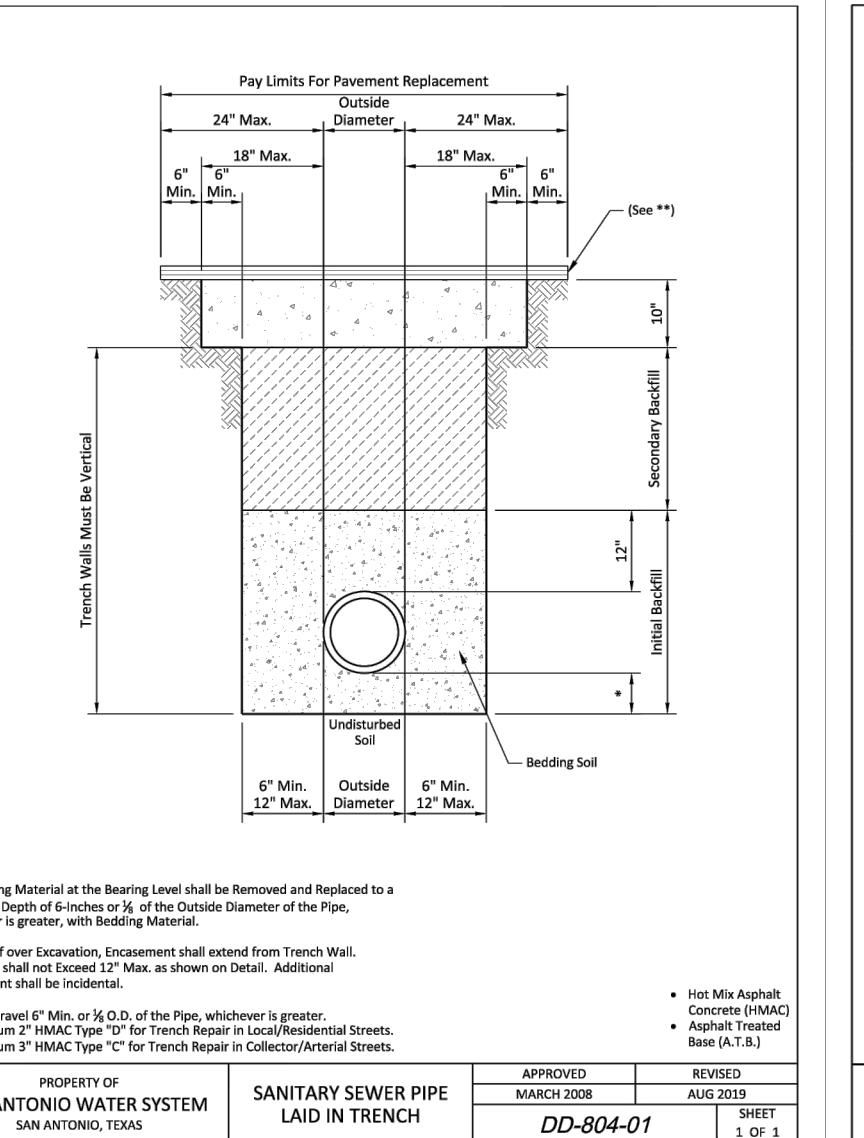
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7. MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.

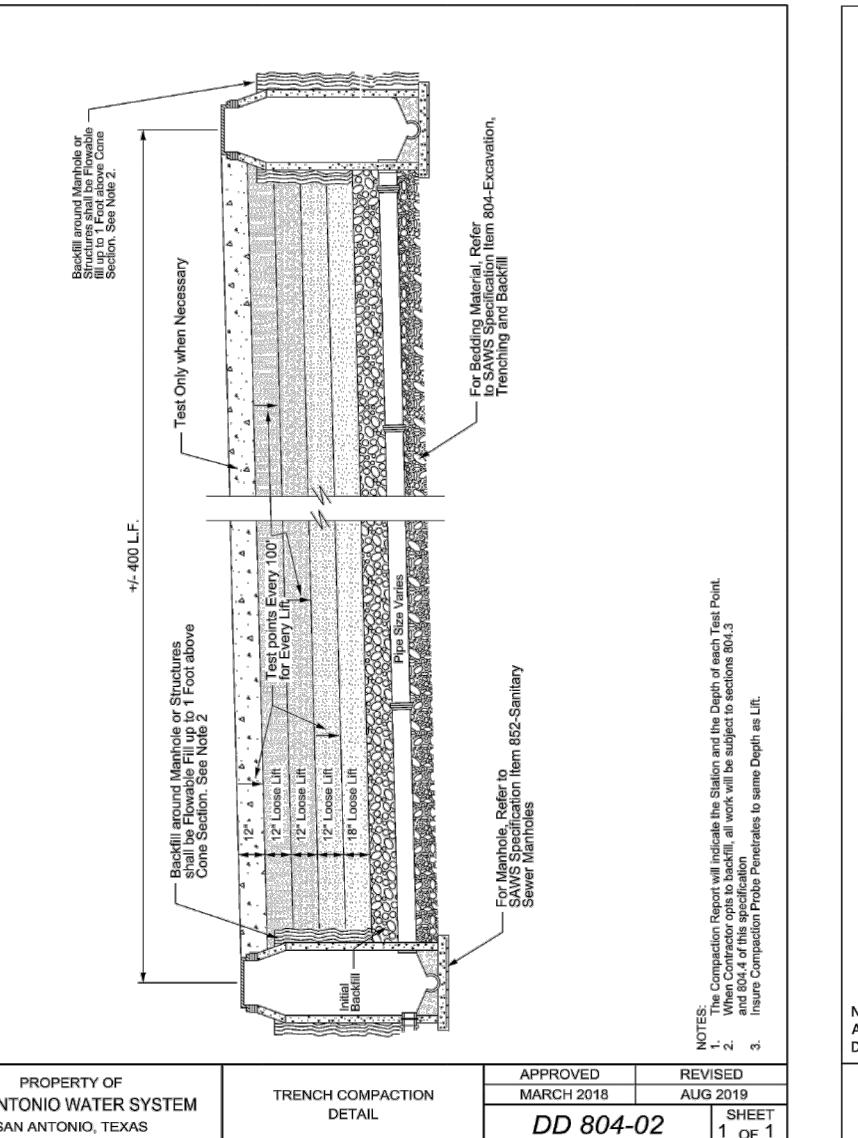
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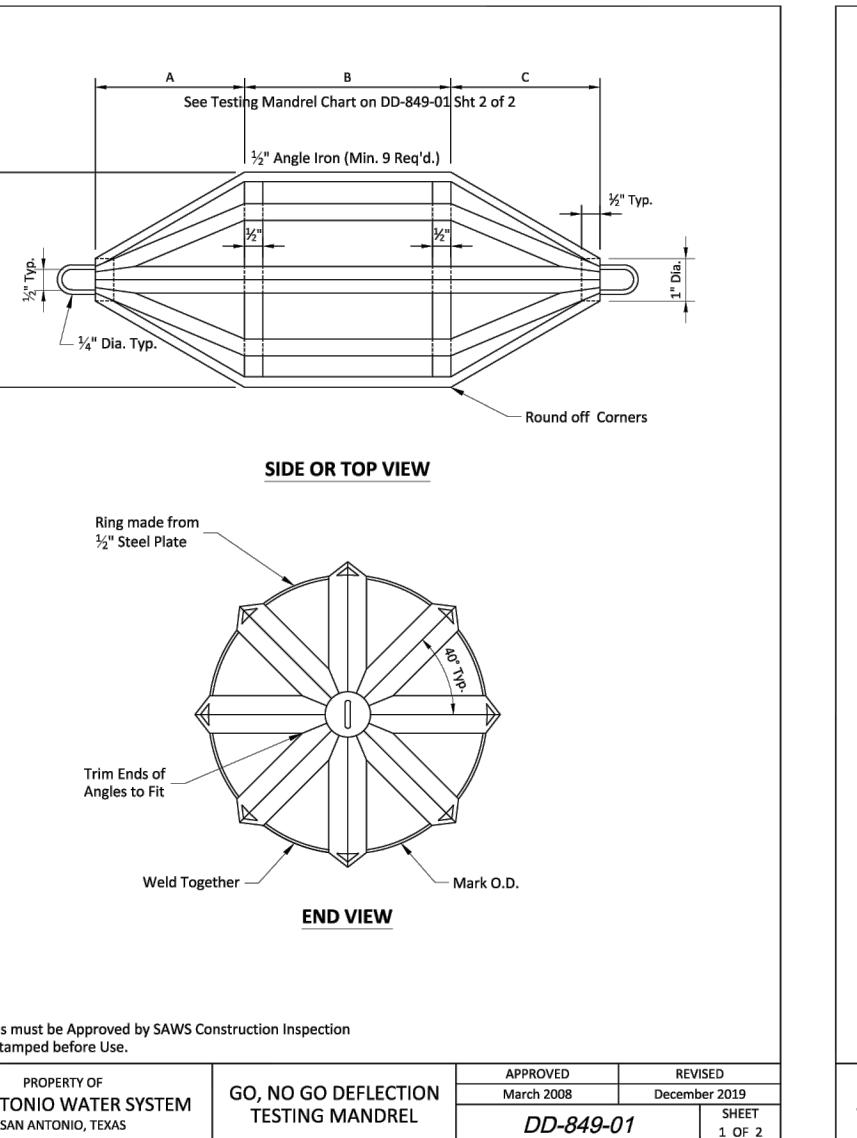
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS APPROVED AUGUST 2009 REVISED AUGUST 2010 DD-852-03 SHEET 1 OF 3



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS TRENCH COMPACTION APPROVED AUGUST 2009 REVISED AUGUST 2010 DD-804-02 SHEET 1 OF 3



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS GO, NO GO DEFLECTION APPROVED DECEMBER 2019 REVISED DECEMBER 2019 DD-849-01 SHEET 1 OF 2



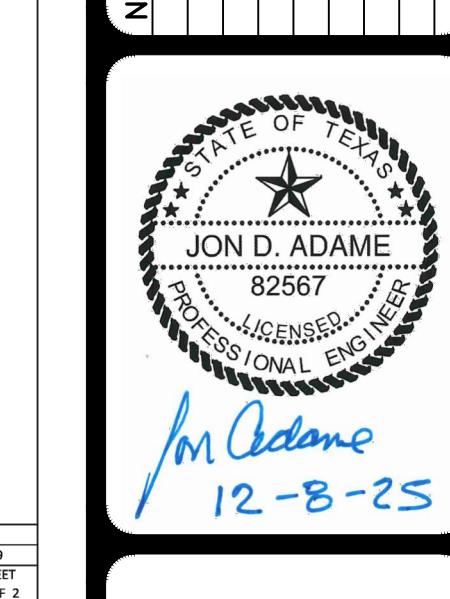
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS GO, NO GO DEFLECTION APPROVED DECEMBER 2019 REVISED DECEMBER 2019 DD-849-01 SHEET 2 OF 2

| MANDREL O.D. | PIPE O.D. | RING O.D. |
|--------------|-----------|-----------|
| 6" | 4.0" | 4.5" |
| 8" | 5.5" | 6" |
| 10" | 7.0" | 7.5" |
| 12" | 8.5" | 9.21" |
| 15" | 10.0" | 11" |
| 18" | 12.0" | 13.5" |
| 21" | 14.0" | 15.5" |
| 24" | 16.0" | 18" |
| 27" | 18.0" | 20" |

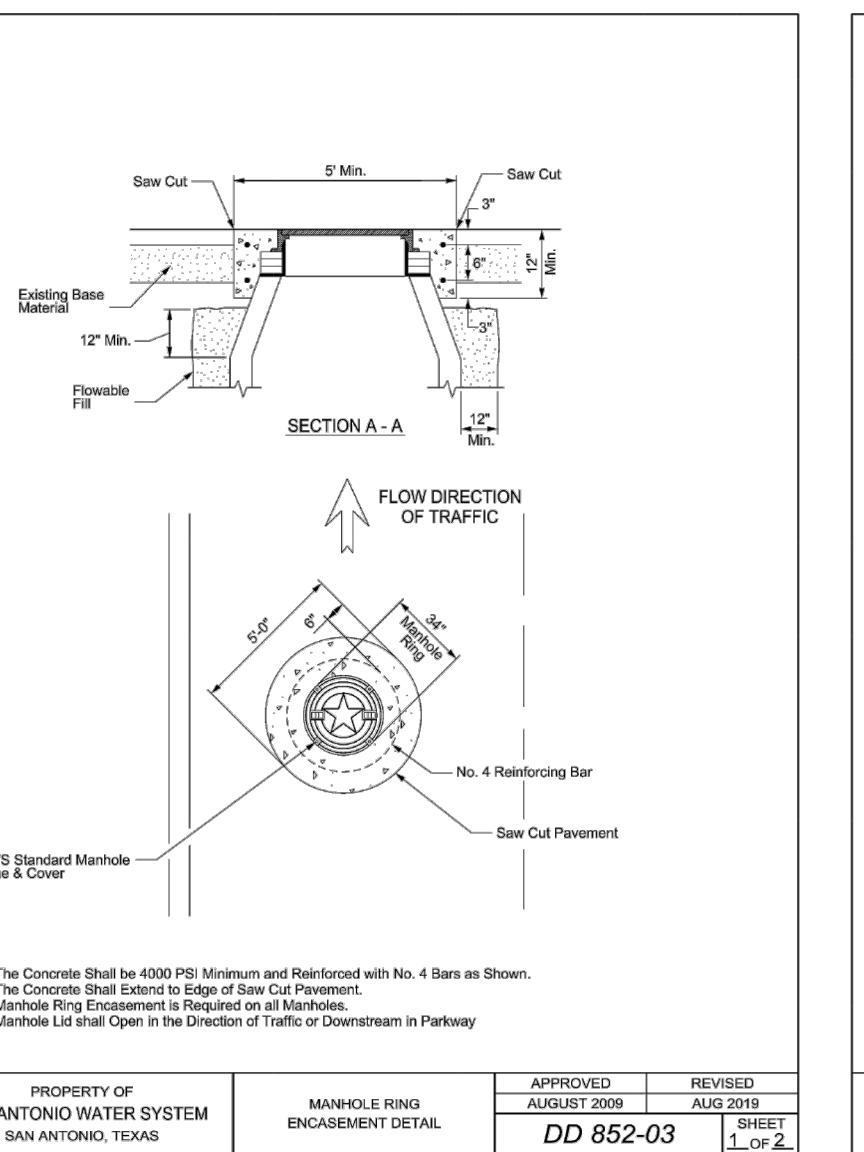
*Minimum Length

CHART

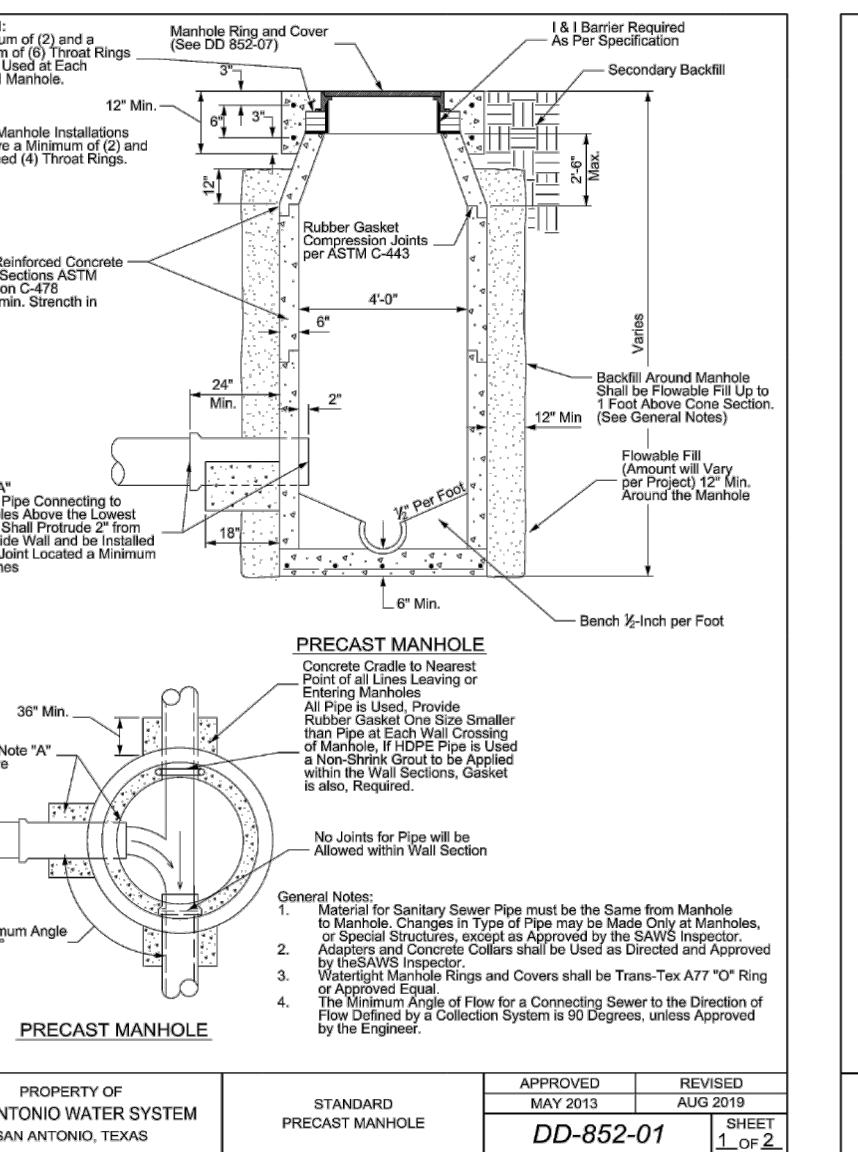
Notes:
 PVC Pipes and Fittings 6" to 15" in Diameter shall Conform to ASTM D-2241
 PVC Pipes and Fittings 18" to 27" in Diameter shall Conform to ASTM F-279
 This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 217.



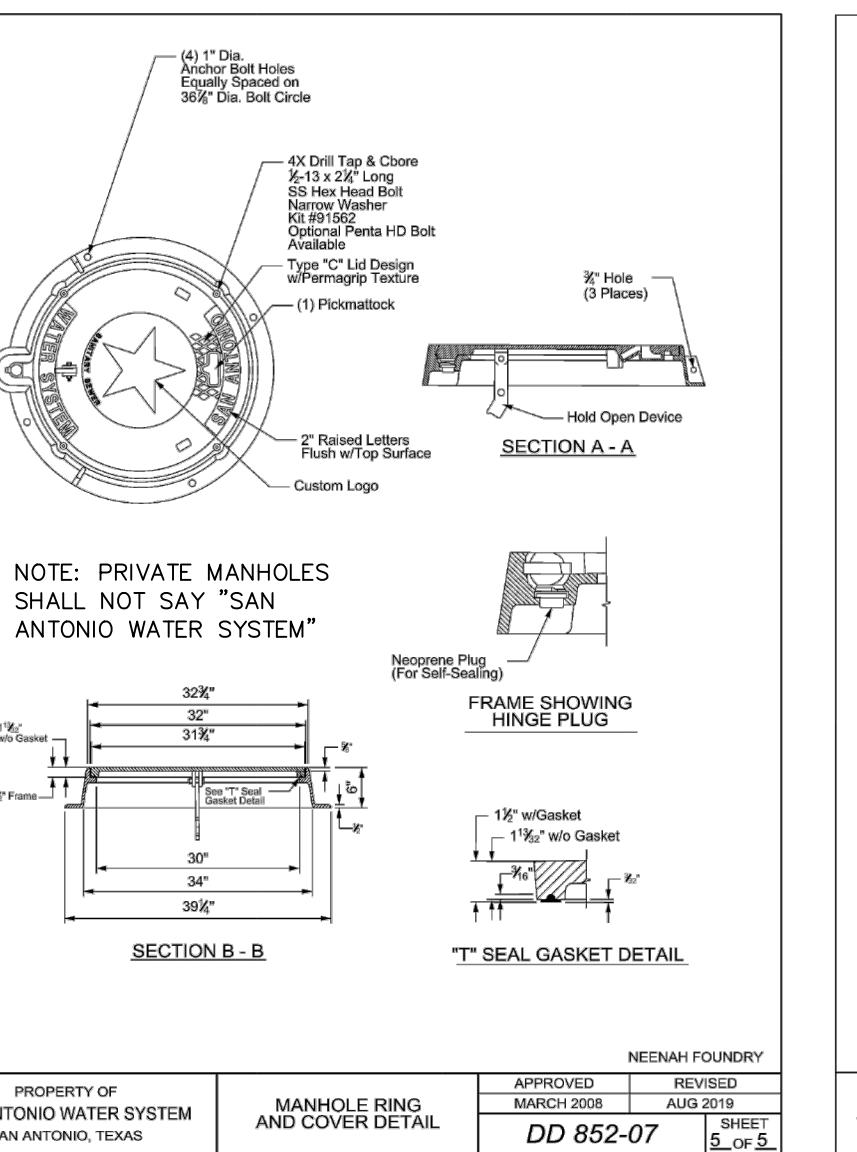
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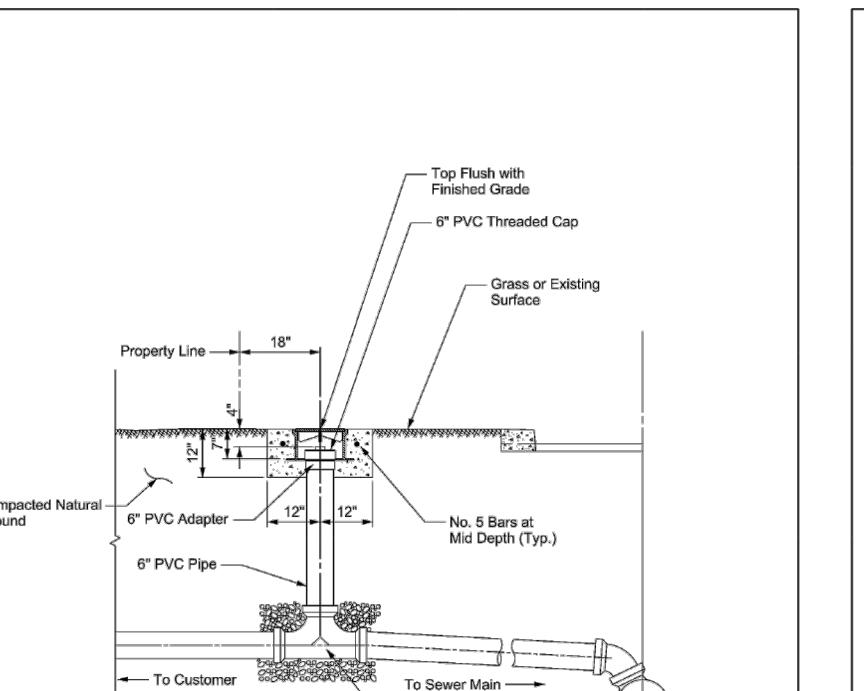
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS APPROVED MARCH 2008 REVISED AUGUST 2010 DD-852-01 SHEET 1 OF 3



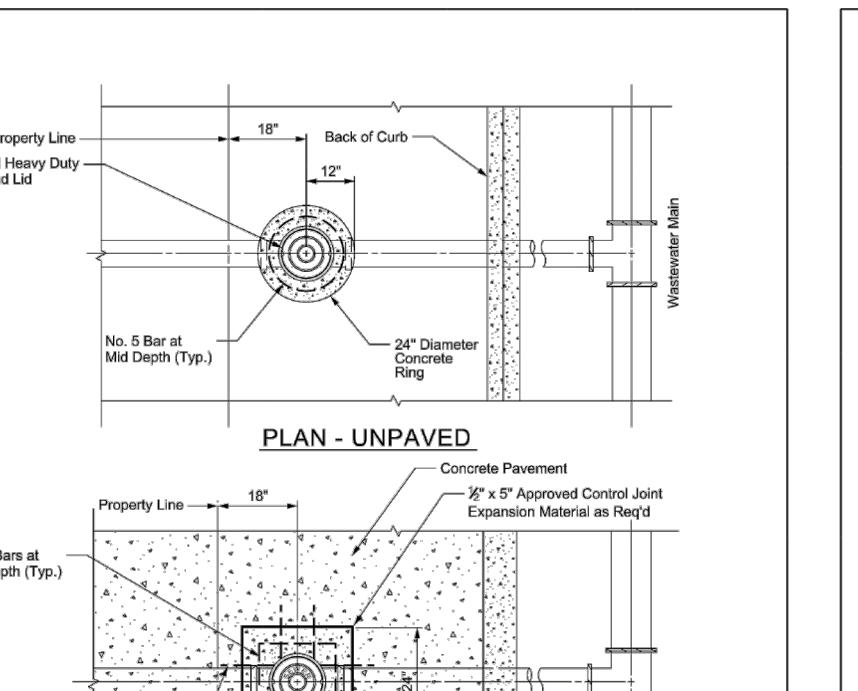
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS STANDARD PRECAST MANHOLE APPROVED MAY 2013 REVISED AUGUST 2010 DD-852-01 SHEET 1 OF 3



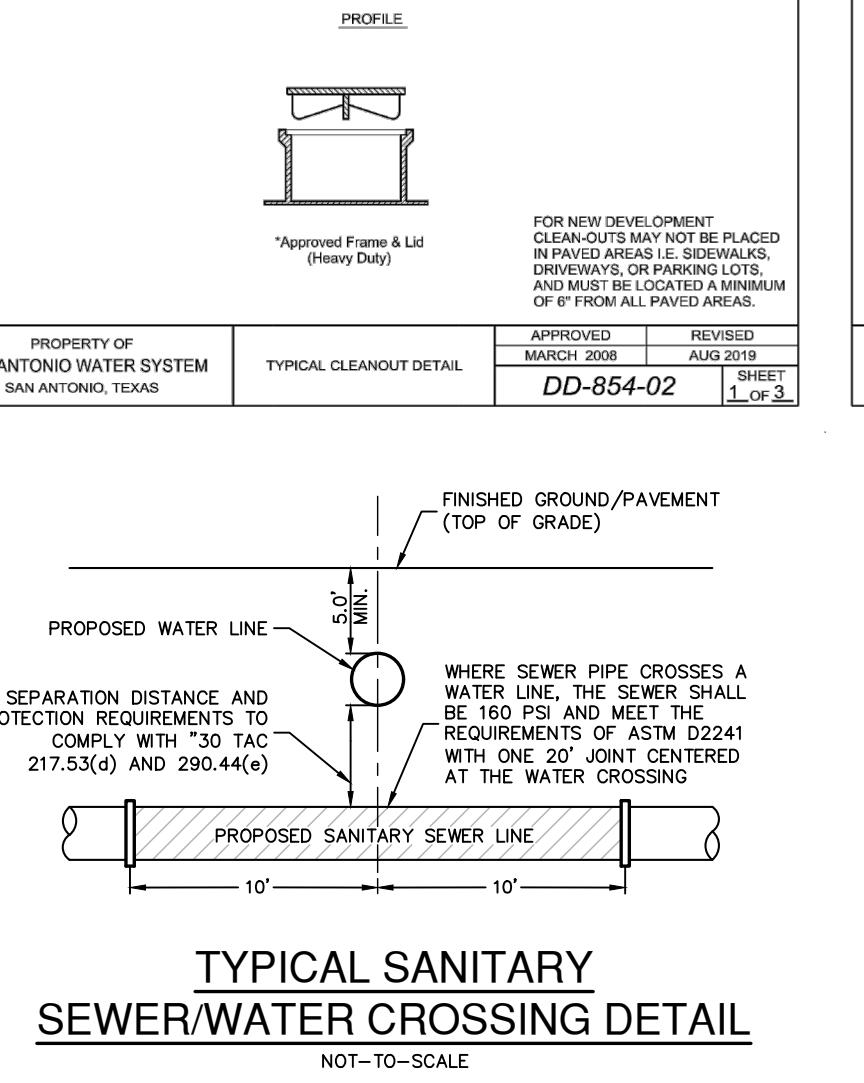
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS MANHOLE RING AND COVER DETAIL APPROVED MARCH 2008 REVISED AUGUST 2010 DD-852-01 SHEET 1 OF 3



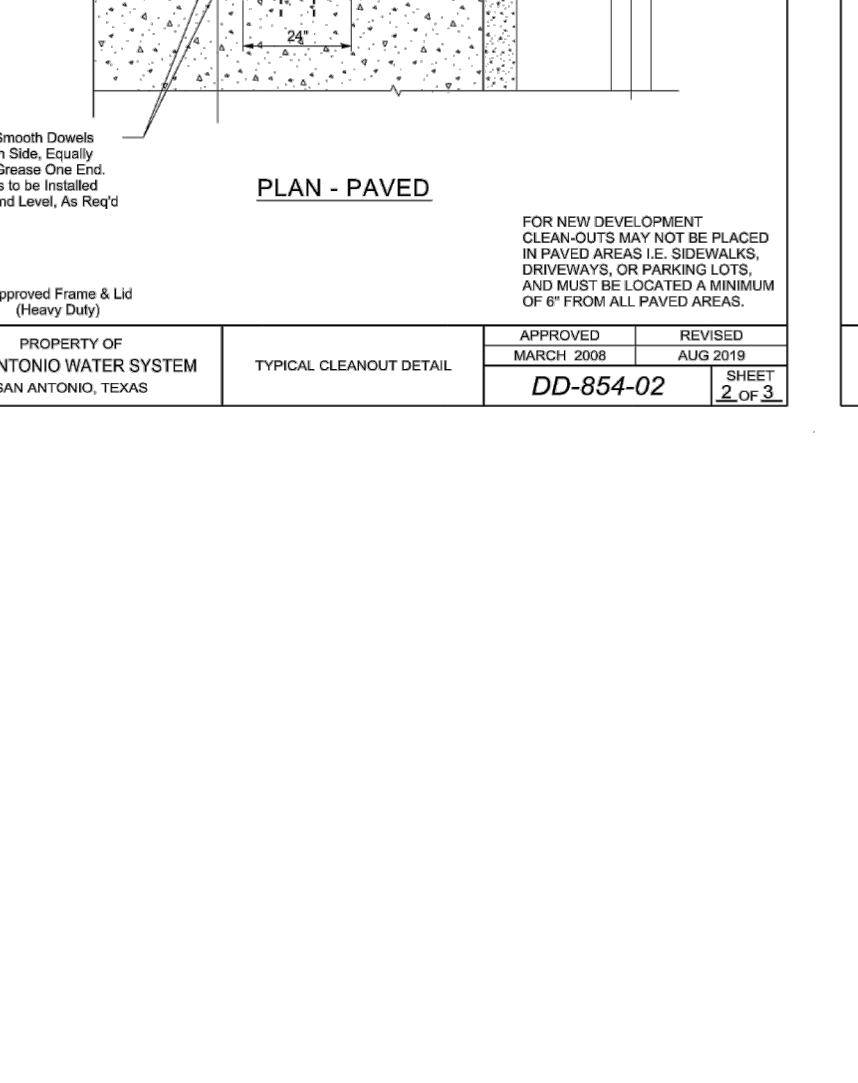
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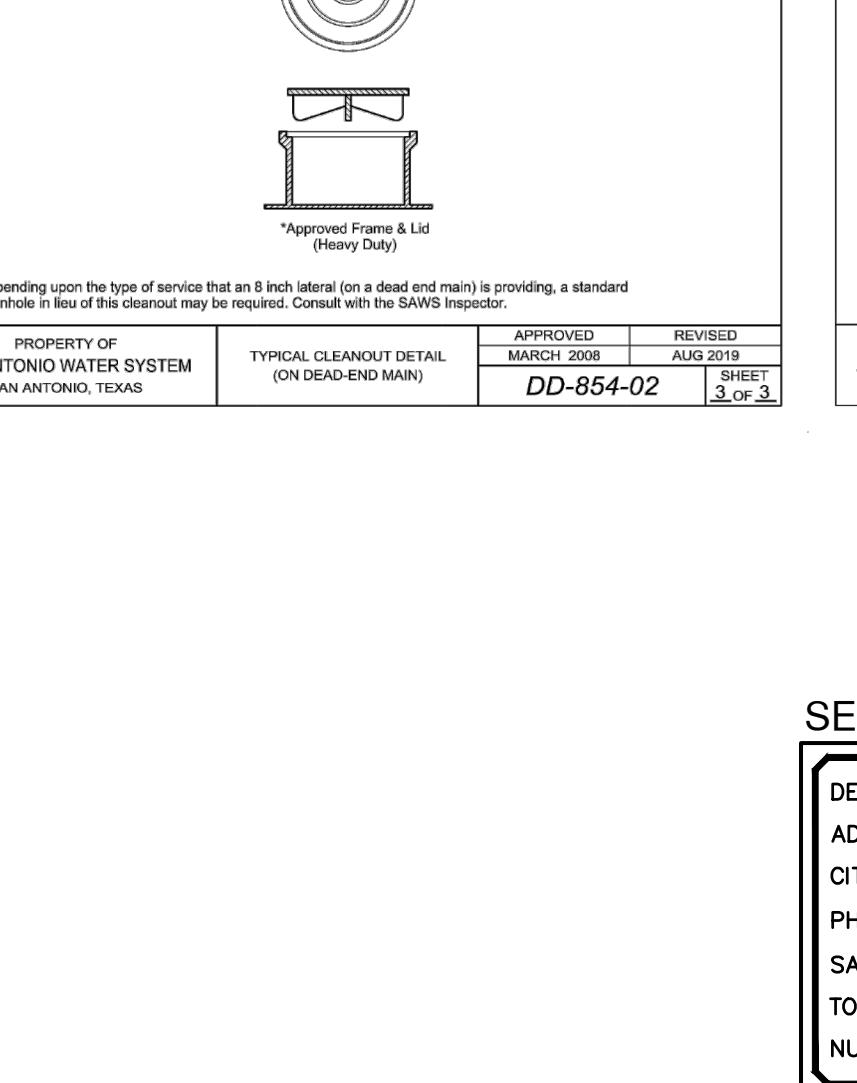
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS APPROVED MARCH 2008 REVISED AUGUST 2010 DD-854-02 SHEET 1 OF 3



NOT TO SCALE



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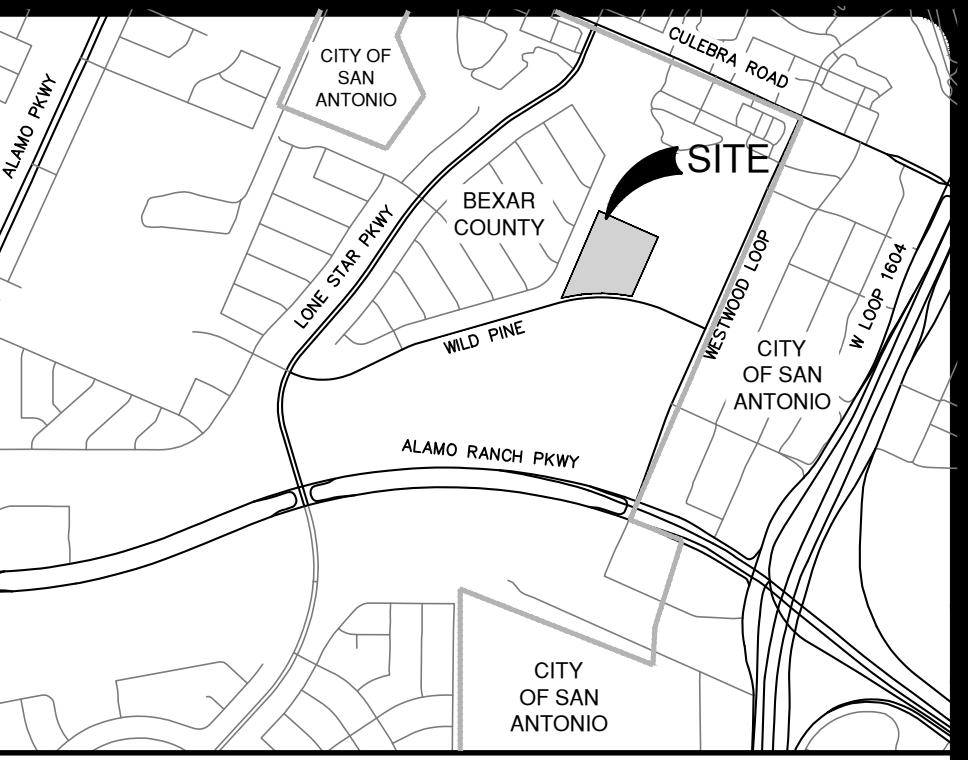
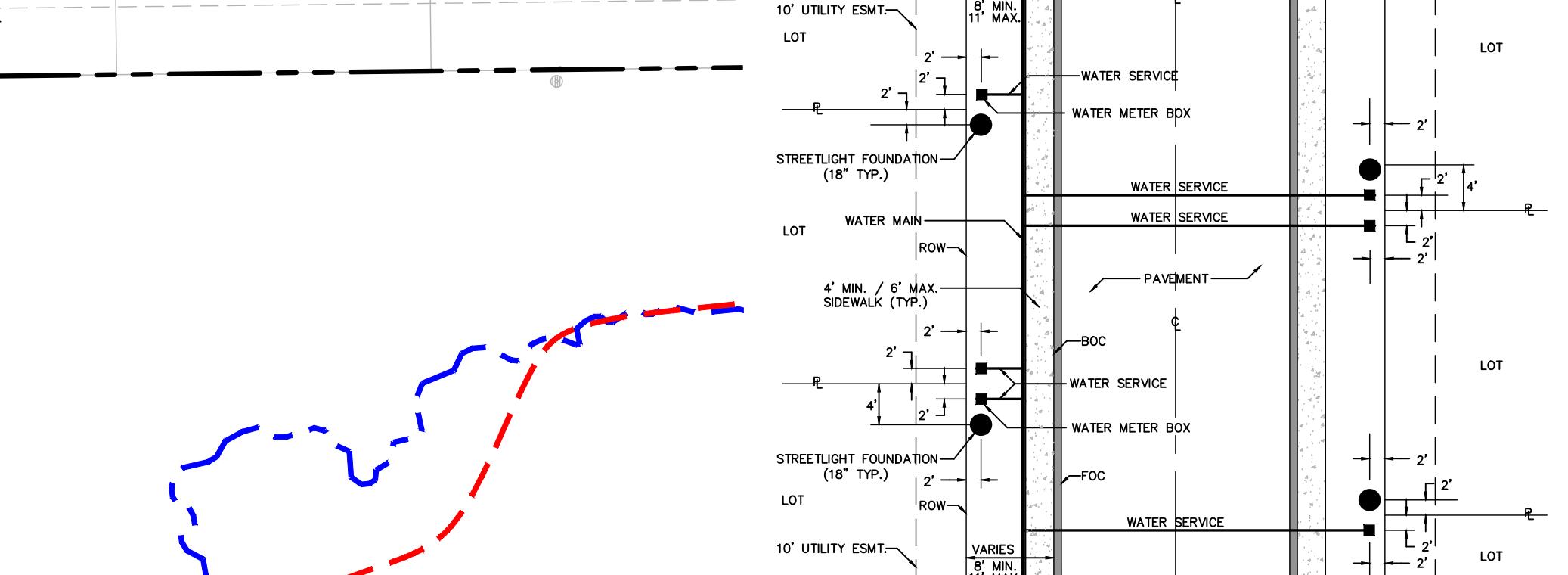


KEY NOTES LEGEND

- ① 10' GAS, ELEC, TELE AND CATV ESMT
- ② VAR WID DRAINAGE AND ACCESS ESMT
- ③ 20' DRAINAGE ESMT
- ④ VAR WID REVOCABLE INGRESS/EGRESS, DRAINAGE, SEWER, WATER, GAS, ELEC, TELE, CATV AND CLEAR VISION ESMT
- ⑤ EFFECTIVE (EXISTING) FLOOD EMA 1% ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (FIRM PANEL NO. 48029C0355G EFFECTIVE 9-29-2010)
- ⑥ 12' ANNUAL CHANCE (100-YR) ATLAS 14 UD CONDITIONS FLOODPLAIN (FIRM DAWSON FLOOD STUDY)
- ⑦ VAR WIDTH WATER EASEMENT
- ⑧ 16' SANITARY SEWER EASEMENT
- ⑨ 14' GAS, ELEC, TELE AND CATV ESMT
- ⑩ 20' GAS, ELEC, TELE AND CATV ESMT
- ⑪ VAR WID DRAINAGE ESMT (VOL 9649, PG 48-49, DPR)
- ⑫ 14' ELEC, GAS, TEL, CATV AND OH ESMT (VOL 9614, PG 110-112, DPR)
- ⑬ 13' ELEC ESMT AND ROW (VOL 6187, PG 265-268, DR)
- ⑭ 20' SANITARY SEWER ESMT (VOL 15789, PG 1574, OPR)
- ⑮ 70' ROW (VOL 9649, PG 48-49, DPR)
- ⑯ 10' SIDE BUILDING SETBACK (VOL 20001, PG 1523, PR)
- ⑰ 14' GAS, ELEC, TELE AND CATV ESMT (VOL 20001, PG 1523, PR)
- ⑱ 20' FRONT BUILDING SETBACK (VOL 9649, PG 48-49, DPR)
- ⑲ 12' ELEC ESMT (DOC NO 201906060792 OPR)
- ⑳ 16' ELEC ESMT (DOC NO 201906060773 OPR)
- ㉑ 15' PUBLIC DRAINAGE ESMT (VOL 9727, PG 192-194 PR)
- ㉒ GREENBELT AND 15' SANITARY SEWER, DRAINAGE, GAS, ELEC, TELE, WATER, CATV AND ACCESS ESMT (VOL 9651, PG 96-97 DPR)
- ㉓ 16' ELEC, GAS, TEL, CATV AND OH ESMT (VOL 9651, PG 96-97 DPR)

WESTWINDS LONESTAR, UNIT-3 (ENCLAVE)
(VOL 9651, PG 96-97)

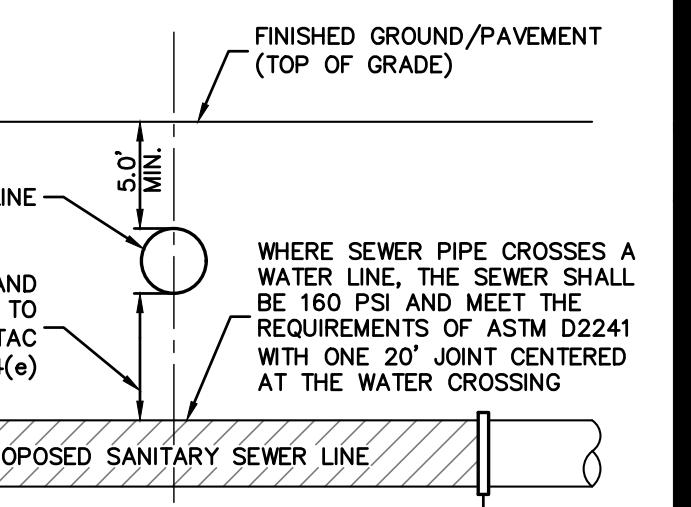
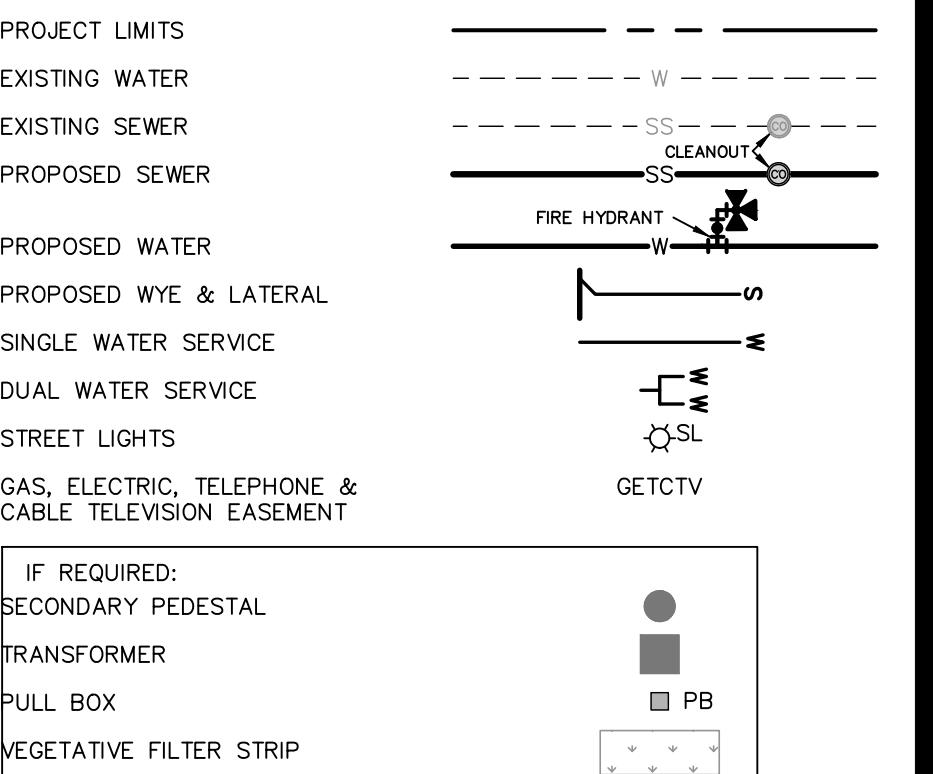
PROJECT LIMITS



LOCATION MAP
NOT-TO-SCALE

SCALE: 1" = 30'
30' 60' 90'

UTILITY LEGEND



TYPICAL SANITARY
SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE

CONDUIT NOTES:

1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 36 INCHES BELOW PROPOSED FINISHED GRADE, SCHEDULE 80 TO BE USED FOR CFS CONDUITS.
3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.
4. ALL CONDUIT SLEEVES TO BE USED FOR ELECTRIC, GAS, OR TELECOMMUNICATION UTILITY CROSSINGS SHALL BE INSTALLED TO MEET OR EXCEED DESIGN REQUIREMENTS FOR THE UTILITY AGENCY WHICH THEY ARE SERVING, INCLUDING BUT NOT LIMITED TO DEPTH, TRENCH PLACEMENT, AND PROXIMITY TO OTHER UTILITIES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING AND INSTALLING THE CONDUIT SLEEVES TO MEET THESE SPECIFICATIONS INCLUDING COORDINATING WITH THE UTILITY AGENCY FOR ANY REQUIRED INSPECTIONS.

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 ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA ORIGINALLY IMPLEMENT 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 ENSURE TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

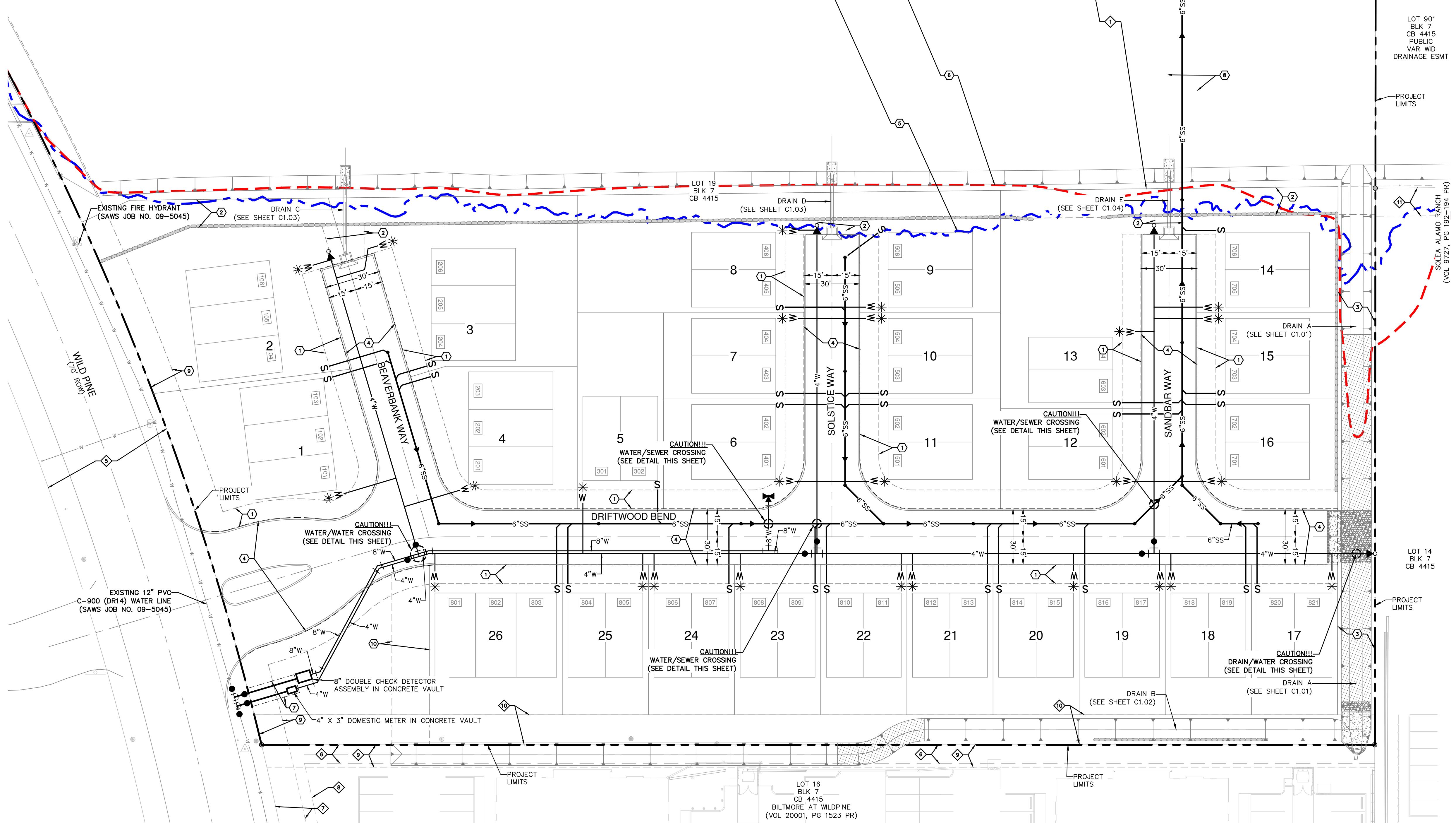
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITIES LOCATED DURING THE CONSTRUCTION OF THE PROJECT SHALL BE LOCATED AND MARKED IMMEDIATELY AND PRIOR TO THE CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE AT CONTRACTOR'S SOLE EXPENSE. WHETHER THE REPAIR SHALL BE MADE ON THESE PLANS OR NOT.

PAPE-DAWSON
2000 NW LOOP 410 SAN ANTONIO, TX 78223-1240 SURVEYING FIRM #1028800

TEXAS ENGINEERING FIRM #4701 TEXAS SURVEYING FIRM #1028800

WILD PINE
SAN ANTONIO, TEXAS

OVERALL UTILITY PLAN



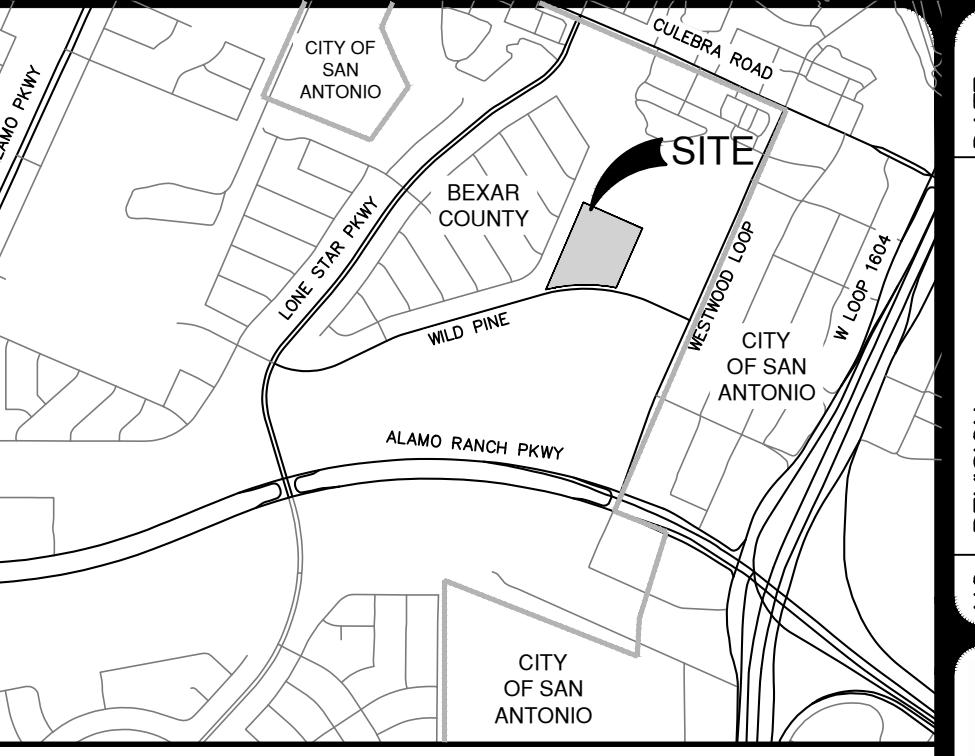
PLAT NO. 25-11800373
JOB NO. 13657-13
DATE DECEMBER 2025
DESIGNER CB
CHECKED JA DRAWN JF
SHEET C6.00

DATE

NO. REVISION



JON D. ADAMS
12-8-25



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The image is a circular seal for a professional engineer license. It features a five-pointed star in the center, surrounded by a dotted line. The words "STATE OF TEXAS" are written in a circular pattern at the top, and "PROFESSIONAL ENGINEER" are at the bottom. The license number "82567" and the name "JON D. ADAME" are in the center.

John Adams
11-25-25

PAPE—DAWSON

WILD PINE SAN ANTONIO TEXAS

STORM WATER POLLUTION PREVENTION DIVISION SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENTION PLAN

| | |
|---|--|
| EXISTING CONTOUR | |
| PROPOSED CONTOUR | |
| EX. 100-YR LOCAL FLOODPLAIN (AT-14) | |
| PROP. 100-YR LOCAL FLOODPLAIN (AT-14) | |
| FLOW ARROW | |
| SILT FENCE (STAGE I) - 594 LF | |
| SILT FENCE (STAGE II) - 2,045 LF | |
| ROCK BERM | |
| GRAVEL FILTER BAGS | |
| LIMITS OF DISTURBED AREA (± 9.74 AC) | |
| STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE) | |
| CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE) | |
| CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE) | |
| AREA TO BE REVEGETATED PER TPDES PERMIT REQUIREMENTS | |

GENERAL NOTES

DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

1. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

2. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

2. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

3. SHADED AREA [REDACTED] DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.

4. CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

5. A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN ANY BEXAR COUNTY ROW.

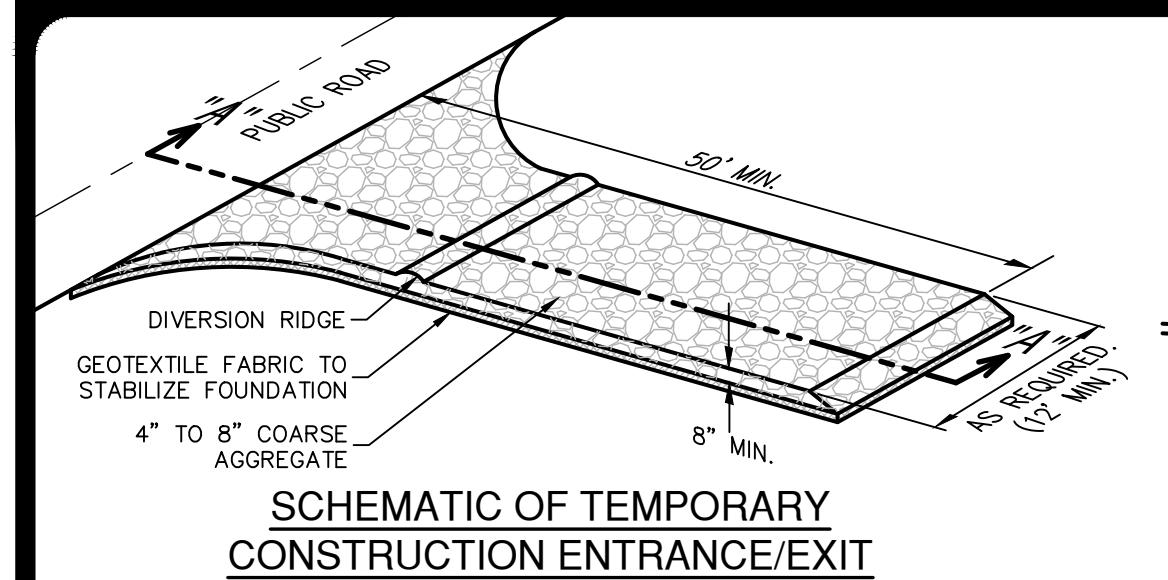
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SH

ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE
PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER
NON-POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

SHEET HAS BEEN PREPARED FOR
PURPOSES OF THE SWP3 ONLY. ALL OTHER
ENGINEERING RELATED INFORMATION
MUST BE ACQUIRED FROM THE APPROPRIATE
CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

EXHIBIT 2



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

MATERIALS

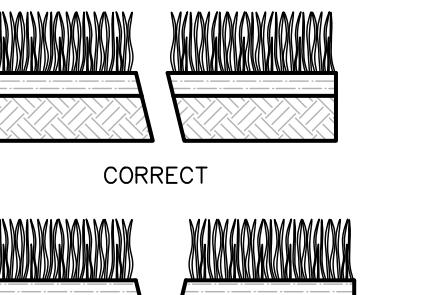
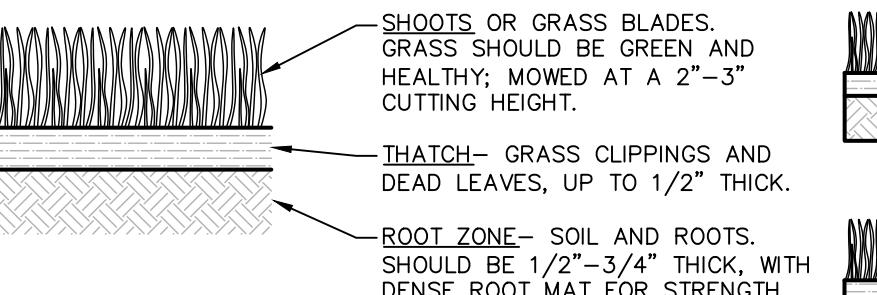
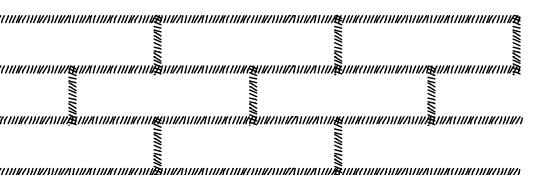
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONAL MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR PROPER DRAINAGE.
2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 1:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE

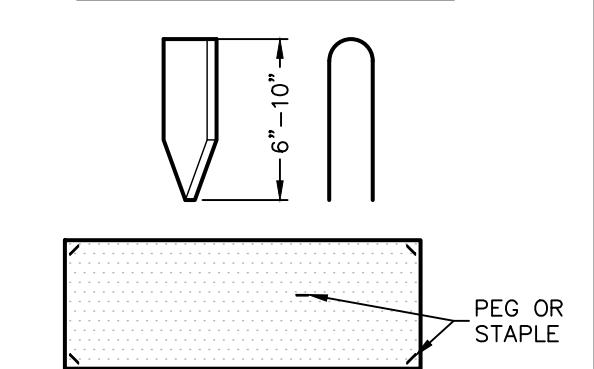
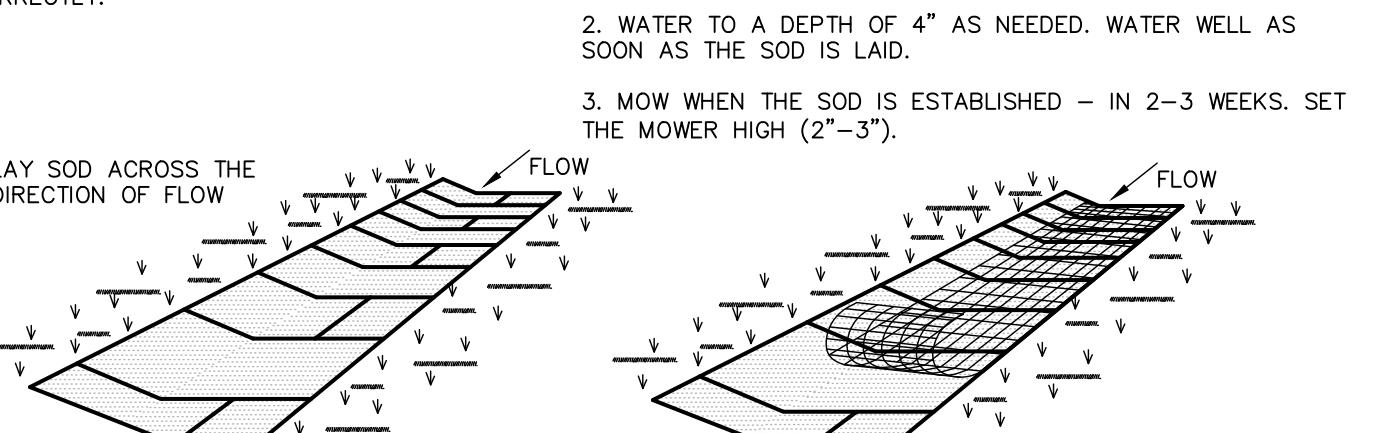


APPEARANCE OF GOOD SOD

NOTES:

1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
3. MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

BUTTING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH ($\pm 1/4"$ INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.
3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.
4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL A DEPTH OF 3 INCHES. WITH A DISC, SPINGTOOTH HARRON OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

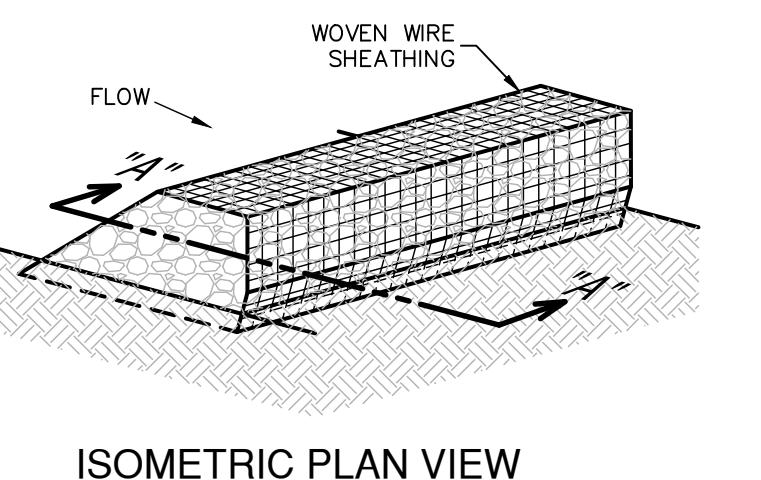
SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

COMMON TROUBLE POINTS

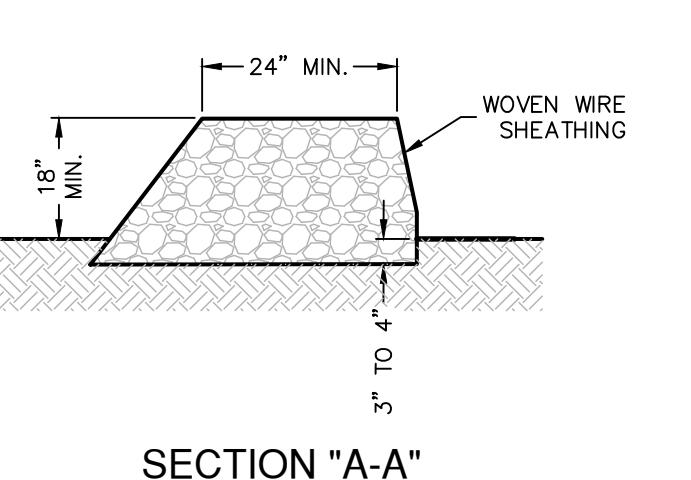
1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.
5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



ISOMETRIC PLAN VIEW



SECTION "A-A"

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED SEDIMENT TO INTERCEPT RUNOFF. DURING THE CONSTRUCTION AND RELEASE, THE WATER IN SHEET FLOW OVER THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES. ROCK BERMS ARE OFTEN USED IN CHANNELS OR DITCHES. AS SUCH, ROCK BERMS ARE OFTEN USED AS CHANNELS OR DITCHES. AS SUCH, ROCK BERMS ARE OFTEN USED AS CHANNELS OR DITCHES.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
3. REPAIR ANY LOOSE WIRE SHEATHING.
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOT RAILS.

2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

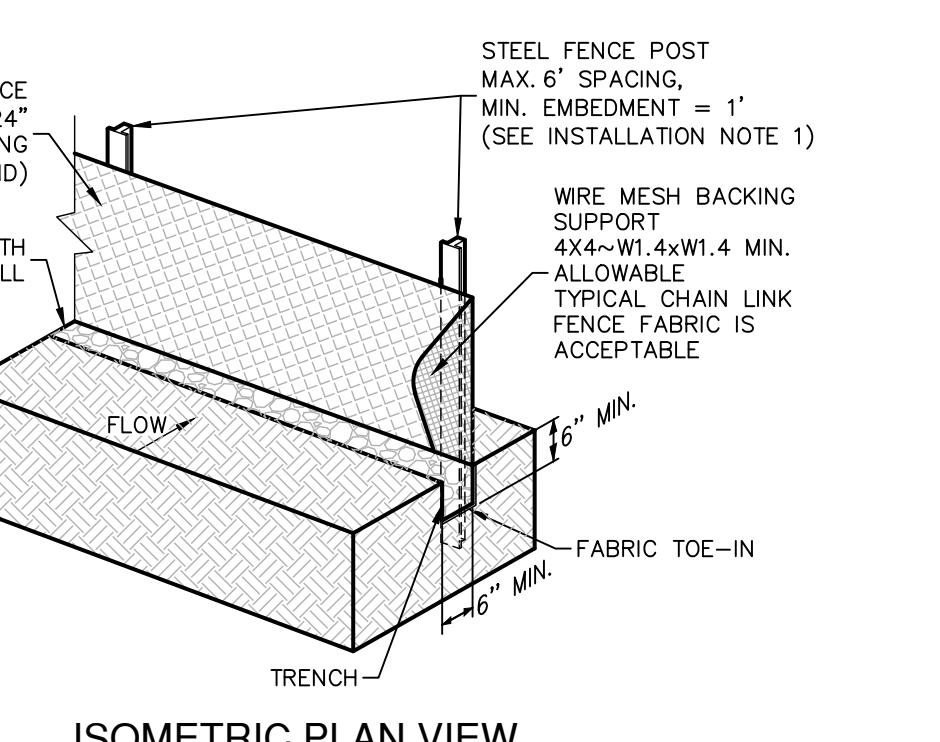
1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW

STEEL FENCE POST
MAX. 6' SPACING,
MIN. EMBEDMENT = 1'
(SEE INSTALLATION NOTE 1)

WIRE MESH BACKING
SUPPLY
4x4-W1.4xW1.4 MIN.
ALLOWABLE
TYPICAL CHAIN LINK
FENCE FABRIC IS
ACCEPTABLE

COMPACTED EARTH
OR ROCK BACKFILL

FLOW

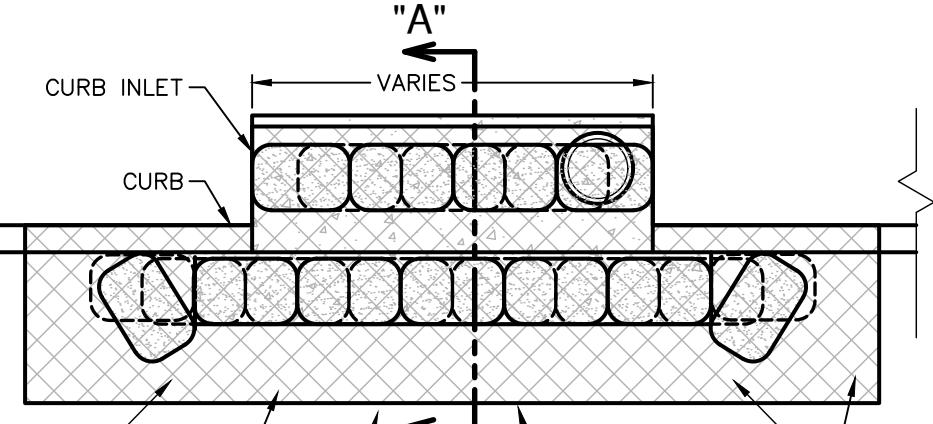
6'-10"

16"-MIN.

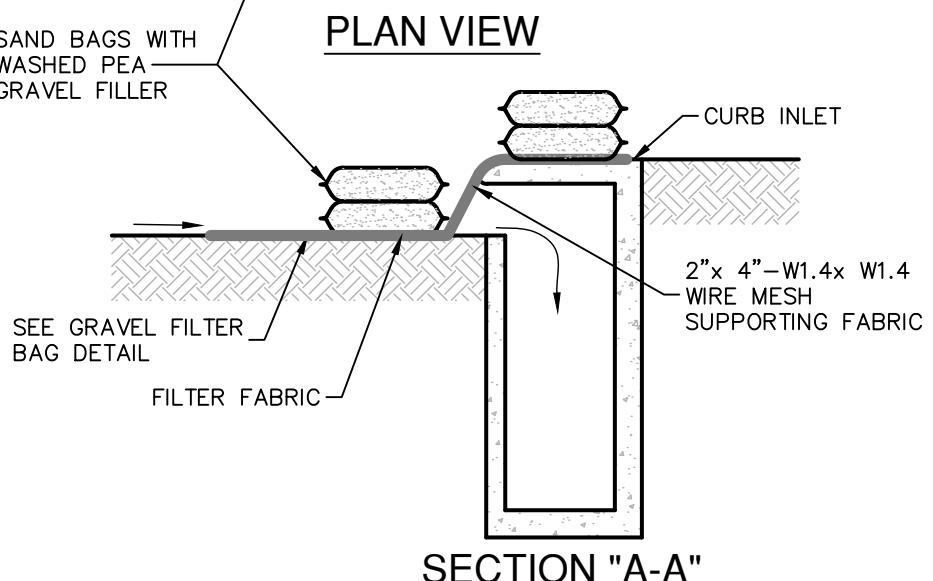
6"-MIN.

FABRIC TOE-IN

TRENCH



PLAN VIEW



SECTION "A-A"

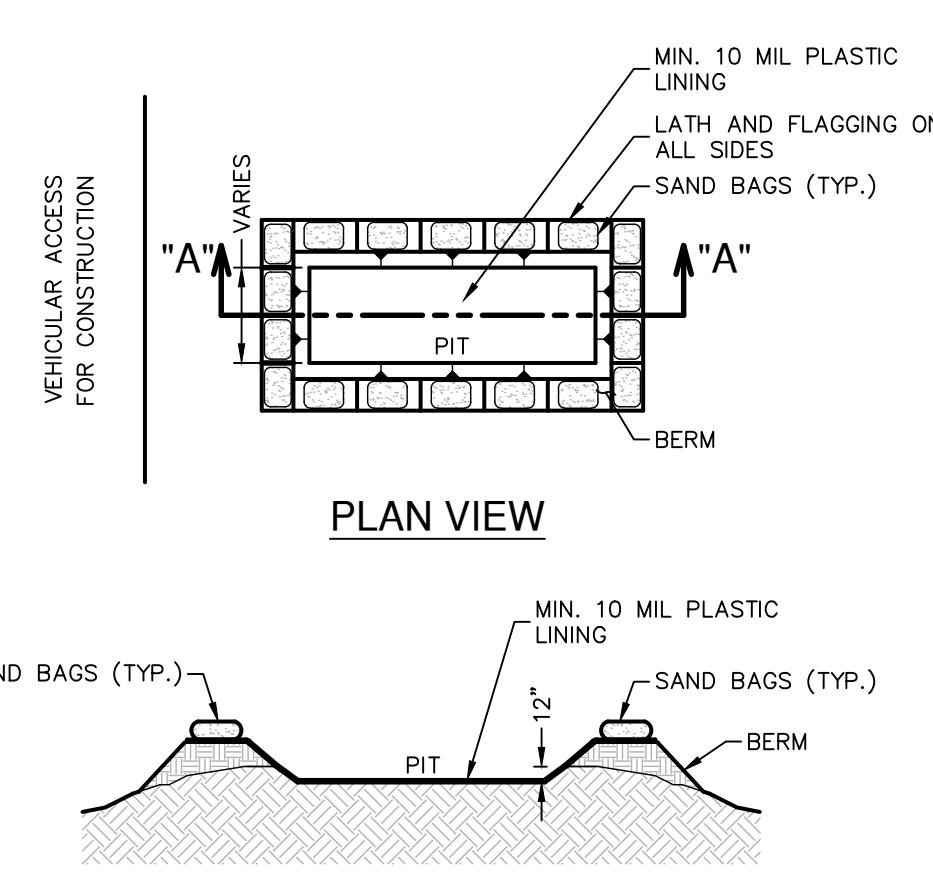
GENERAL NOTES

1. CONTRACTOR TO INSTALL 2x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF THE MESH OVER THE INLET AS SHOWN. THIS DETAIL IS TO HOLD THE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.
2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

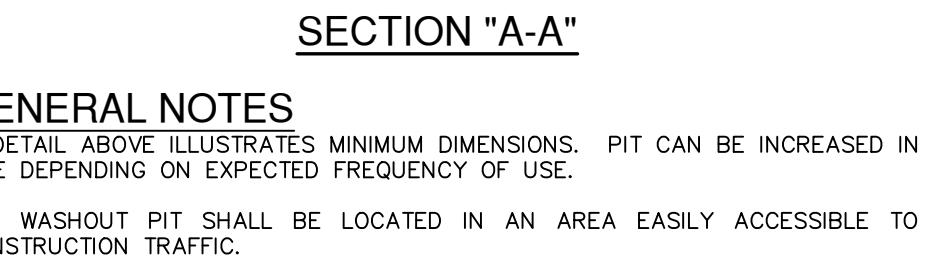
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE, POLYPROPYLENE, OR POLYAMIDE WOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD², MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², UV STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF 0.5 SIEVE NUMBER 30.

2. FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD², MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², UV STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF 0.5 SIEVE NUMBER 30.

3. SAND BAGS (TYP.) SHALL NOT BE USED TO FILL THE FILTER BAGS.

4. THE FILTER BAG MATERIAL SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

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