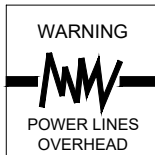




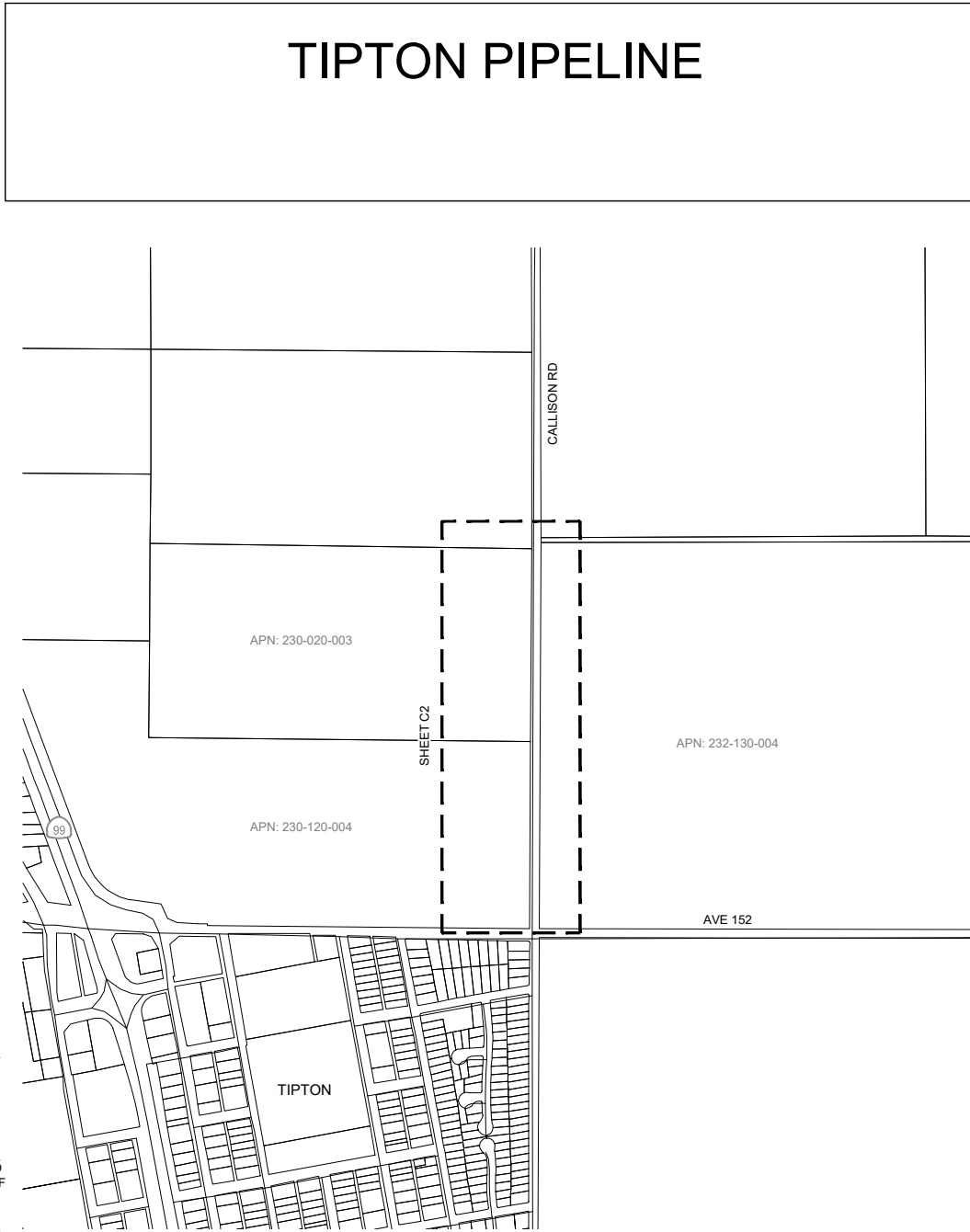
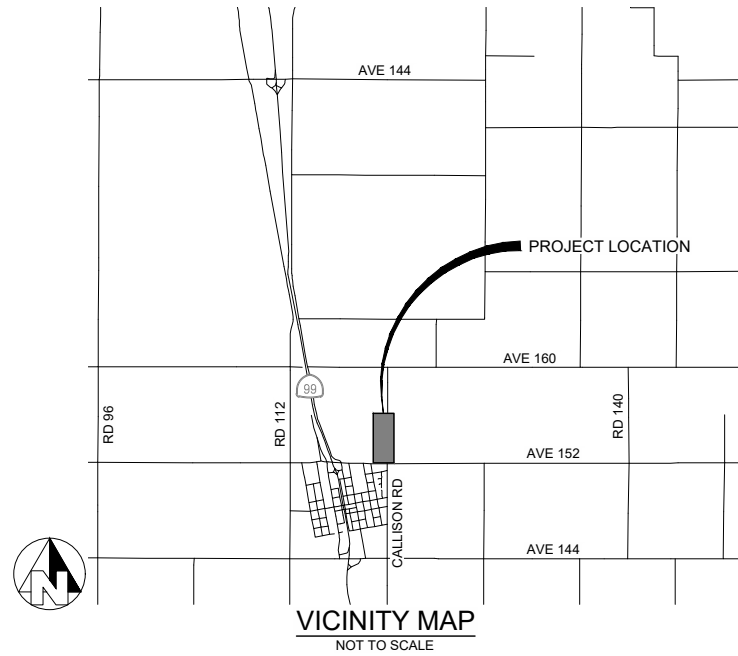
Know what's below.  
Call before you dig.



# LOWER TULE RIVER IRRIGATION DISTRICT

## TULARE COUNTY

### TIPTON PIPELINE



#### GENERAL NOTES

- LOWER TULE RIVER IRRIGATION DISTRICT (559-686-4716) SHALL BE CONTACTED AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK ON OR NEAR EXISTING DISTRICT FACILITIES.
- USED MATERIAL, REJECTS, MISFITS, OR SECONDS, ETC. ARE NOT ACCEPTABLE FOR USE ON LOWER TULE RIVER IRRIGATION DISTRICT FACILITIES.
- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS, PROJECT SPECIFICATIONS AND LOWER TULE RIVER IRRIGATION DISTRICT SPECIFICATIONS.
- CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING FACILITIES PRIOR TO COMMENCING WORK. CALL UNDERGROUND SERVICE ALERT (USA) AT 8-1-1. CONTRACTOR SHALL MAKE ENGINEER AWARE OF ANY DISCREPANCIES.
- ALL CAST-IN-PLACE CONCRETE STRUCTURES SHALL BE FORMED INSIDE AND OUT AND CONCRETE VIBRATED SUFFICIENTLY TO PROVIDE FOR SMOOTH SURFACED WALLS/FLOORS WITHOUT VOIDS AND HONEYCOMBS.
- PROVOST & PRITCHARD SHALL INSPECT ALL WORK PHASES ON CONCRETE FACILITIES FOR CONFORMANCE TO LOWER TULE RIVER IRRIGATION DISTRICT SPECIFICATIONS. REINFORCING SHALL NOT BE ENCASED IN CONCRETE WITHOUT PRIOR LOWER TULE RIVER IRRIGATION DISTRICT INSPECTIONS. LIKEWISE, CONCRETE SHALL NOT BE COVERED WITH EARTH PRIOR TO LOWER TULE RIVER IRRIGATION DISTRICT INSPECTION.
- CONCRETE DESIGN MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ALL CONCRETE SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE SPECIFIED.
- ALL STEEL PIPE AND FITTINGS SHALL BE FURNISHED WITH A SHOP APPLIED HIGH SOLIDS EPOXY COATING ON THE INTERIOR AND EXTERIOR, UNLESS OTHERWISE INDICATED. ALL OTHER EXPOSED STEEL SHALL BE PAINTED WITH A PRE-TREATMENT PRIMER, AN UNDERCOAT AND A FINAL COAT OF PAINT IN ACCORDANCE WITH LOWER TULE RIVER IRRIGATION DISTRICT SPECIFICATIONS.
- ALL NUTS, BOLTS, AND WASHERS USED TO SECURE UNDERGROUND FITTINGS SHALL BE STAINLESS STEEL. AFTER INSTALLATION, ALL STEEL HARDWARE SHALL BE COATED WITH A RUST PREVENTATIVE, WRAPPED WITH 4 MIL POLYETHYLENE SHEETING, AND SECURE WITH PVC TAPE.
- THRUST RESTRAINTS TO BE PROVIDED AT ALL PIPELINE BENDS, WHETHER OR NOT SHOWN ON THE PLANS.
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS OF THE STATE OF CALIFORNIA AND CAL/OSHA STANDARDS.
- TRENCH BACKFILL AND RESERVOIR EMBANKMENTS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT CONTAINED IN THE SPECIFICATIONS.
- CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ALL PIPELINE CRACKS, WHICH DEVELOP DURING CONSTRUCTION OF IMPROVEMENTS AFFECTING EXISTING FACILITIES.
- CONCRETE VAULTS AND BOXES MAY BE PURCHASED FROM A PRECAST MANUFACTURER OR CONTRACTOR MAY CONSTRUCT THE STRUCTURES IF STRUCTURAL CALCULATIONS AND DESIGN IS APPROVED BY THE LOWER TULE RIVER IRRIGATION DISTRICT AND THE ENGINEER.
- ALL EXCESS MATERIAL AND/OR DEBRIS SHALL BE REMOVED UPON COMPLETION OF INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DUST CONTROL AT ALL TIMES.

#### SPECIAL NOTE

WHERE UNDERGROUND AND SURFACE STRUCTURES ARE SHOWN ON THE PLANS, THE LOCATIONS, DEPTH AND DIMENSIONS OF STRUCTURES ARE BELIEVED TO BE REASONABLY CORRECT, BUT ARE NOT GUARANTEED. SUCH STRUCTURES ARE SHOWN FOR THE INFORMATION OF THE CONTRACTOR, BUT INFORMATION SO GIVEN IS NOT TO BE CONSTRUED AS A REPRESENTATION THAT SUCH STRUCTURES WILL, IN ALL CASES, BE FOUND WHERE SHOWN, OR THAT THEY REPRESENT ALL OF THE STRUCTURES WHICH MAY BE ENCOUNTERED.

#### SITE SAFETY AND PROTECTION NOTES

THE DUTY OF THE ENGINEER, OWNER OR ITS AGENTS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE AND THE UNDERTAKING OF INSPECTIONS OR THE GIVING OF INSTRUCTIONS AS AUTHORIZED HEREIN IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF THE ACTUAL CONSTRUCTION NOR MAKE THE ENGINEER, OWNER OR ITS AGENTS RESPONSIBLE FOR PROVIDING A SAFE PLACE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR, SUBCONTRACTORS, OR SUPPLIERS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL OR OCCUPANCY BY ANY PERSON.

THE CONTRACTOR SHALL HAVE AT THE WORK SITE, COPIES OR SUITABLE EXTRACTS OF CONSTRUCTION SAFETY ORDERS, ISSUED BY CAL-OSHA. CONTRACTOR SHALL COMPLY WITH PROVISIONS OF THESE AND ALL OTHER APPLICABLE LAWS, ORDINANCES AND REGULATIONS. THE CONTRACTOR MUST COMPLY WITH PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, PROMULGATED BY THE SECRETARY OF LABOR UNDER SECTION 107 OF THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, AS SET FORTH IN TITLE 29 C.F.R.

TO PROTECT THE LIVES AND HEALTH OF CONTRACTOR'S EMPLOYEES UNDER THE CONTRACT, THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC., AND SHALL MAINTAIN AN ACCURATE RECORD OF ALL CASES OF DEATH, OCCUPATIONAL DISEASE, AND INJURY REQUIRING MEDICAL ATTENTION OR CAUSING LOSS OF TIME FROM WORK, ARISING OUT OF AND IN THE COURSE OF EMPLOYMENT OR WORK UNDER THE CONTRACT.

THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE SAFETY, EFFICIENCY, AND ADEQUACY OF CONTRACTOR'S FACILITIES, APPLIANCES, AND METHODS AND FOR ANY DAMAGE, WHICH MAY RESULT FROM THEIR FAILURE OR THEIR IMPROPER CONSTRUCTION, MAINTENANCE OR OPERATION.

THE CONTRACTOR AGREES THAT IT SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, PROVOST & PRITCHARD CONSULTING GROUP, AND THEIR RESPECTIVE AGENTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER, ENGINEER, OR THEIR RESPECTIVE AGENTS.

THE OWNER AND ITS AGENTS' SITE RESPONSIBILITIES ARE LIMITED SOLELY TO THE ACTIVITIES OF THEIR EMPLOYEES ON SITE. THESE RESPONSIBILITIES SHALL NOT BE INFERRED BY ANY PARTY TO MEAN THAT THE OWNER OR ITS AGENTS HAVE RESPONSIBILITY FOR SITE SAFETY. SAFETY IN, ON, OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR ALONE. THE CONTRACTOR'S METHODS OF WORK PERFORMANCE, SUPERINTENDENCE AND THE CONTRACTOR'S EMPLOYEES, AND SEQUENCING OF CONSTRUCTION ARE ALSO THE SOLE AND EXCLUSIVE RESPONSIBILITIES OF THE CONTRACTOR ALONE.

#### TOPOGRAPHY NOTE

TOPOGRAPHY SHOWN WAS COLLECTED BY PROVOST & PRITCHARD CONSULTING GROUP DURING A FIELD SURVEY CONDUCTED IN MARCH OF 2024.

#### BOUNDARY NOTE

THE BOUNDARY/EASEMENT INFORMATION SHOWN ON THESE PLANS IS BASED UPON RECORD INFORMATION TIED TO PHYSICAL MONUMENTS, AND WAS PREPARED UNDER THE DIRECTION OF TIMOTHY M. ODOM, PLS 8468.

#### BASIS OF BEARINGS

THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4, ESTABLISHED LOCALLY BY GPS OBSERVATIONS.

#### BENCHMARKS

**PROJECT BENCHMARK**  
CSRC STATION "TULE", NGS PID DH6660, AN ALUMINUM DISK SET IN THE TOP OF A HEADWALL ON THE WEST SIDE OF RD. 112 (WESLING RD), HALF MILE NORTH OF AVE. 160.  
ELEVATION = 250.57' NAVD88 DATUM, DETERMINED BY RTK GPS OBSERVATIONS TIED TO LEICA SMARTNET RTN, IN MARCH OF 2024

#### APPROVALS

ERIC LIMAS GENERAL MANAGER	DATE
JOHN MICHAEL DOMONDON DISTRICT ENGINEER	DATE

#### Sheet List Table

Sheet Number	Sheet Title
GENERAL	
G1	COVER
G2	LEGEND & ABBREVIATIONS
G3	NOTES
C1	EXISTING & DEMO SITE
C2	SITE PLAN
PLAN & PROFILE	
PP1	STA 9+85-19+00
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FOR BIDDING PURPOSES ONLY  
NOT FOR CONSTRUCTION  
9/18/2024

FOR REVIEW ONLY

TIPTON PIPELINE  
LOWER TULE RIVER IRRIGATION DISTRICT  
TULARE COUNTY  
GENERAL  
COVER

**PROVOST & PRITCHARD**  
408 E MAIN STREET, SUITE 500  
VISALIA, CALIFORNIA 93291-6337  
PHONE (559) 636-1186  
FAX (559) 636-1177  
www.provostandpritchard.com

DESIGN ENGINEER:  
M. KLINCHUCH  
LICENSE NO:  
83357  
DRAFTED BY: DPJ  
CHECKED BY: EBN  
DATE: 09/03/2024  
JOB NO:  
PROJECT NO: 1477-24001  
PHASE: DES  
ORIGINAL SCALE SHOWN IS ONE INCH ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.  
SHEET **G1**  
1 OF 12

ABBREVIATIONS

Table of abbreviations and their corresponding full names, organized in columns (A-T).

LINETYPES

Table showing existing and new linetypes for various descriptions such as concrete curb, fence, and utility poles.

HATCH PATTERNS

Table showing existing and new hatch patterns for descriptions like aggregate, concrete, earth, and expanded metal.

SYMBOLS

Table showing symbols for existing and new conditions, including electrical meters, manholes, valves, and other infrastructure.

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TIPTON PIPELINE
LOWER TULE RIVER IRRIGATION DISTRICT
TULARE COUNTY
GENERAL

PROVOST & PRITCHARD
400 E. MAIN STREET, SUITE 300
VISALIA, CALIFORNIA 93291-6537
PHONE (559) 636-1186
FAX (559) 636-1177
www.provostandpritchard.com

Table with project details including Design Engineer (M. KLINCHUCH), License No. (83357), Drafted By (DPJ), Checked By (EBN), Date (09/03/2024), Job No., Project No. (1477-24001), Phase (DES), Original Scale (1" = 100'), and Sheet No. (2 of 12).

Vertical text on the right edge: LEGEND & ABBREVIATIONS, REVISION, BY, DATE, No., 9/18/2024, 2 OF 12.

GRADING NOTES

- 1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT AND PERFORM ALL GRADING AND EARTHWORK PROCEDURES TO INSTALL STRUCTURES, AND PIPELINES.
2. THE MAXIMUM LABORATORY DENSITY AT OPTIMUM MOISTURE CONTENT WILL BE DETERMINED BY TEST METHODS IN CONFORMANCE WITH ASTM D1557. A MINIMUM OF 90% RELATIVE COMPACTION WILL BE REQUIRED UNLESS OTHERWISE NOTED.
3. ENGINEERED FILL SHALL BE PLACED IN LOOSE LIFTS NO THICKER THAN 8 INCHES, AND UNIFORMLY MOISTURE CONDITIONED AT THE TIME OF COMPACTION, AND COMPACTED TO AT LEAST 90% RELATIVE COMPACTION.
4. OVEREXCAVATE TO A MINIMUM DEPTH OF 12" UNDER AND WITHIN 5' OF ALL STRUCTURES AND STANDPIPES AND RECOMPACT TO A MINIMUM 90% RELATIVE COMPACTION.
5. NATIVE SOIL MATERIALS, EXCLUSIVE OF DEBRIS, LESS THAN 3 INCHES IN MAXIMUM DIMENSION, AT THE PROPER MOISTURE RANGE, AND CONTAINING LESS THAN 0.3% ORGANICS BY WEIGHT MAY BE USED AS ENGINEERED FILL.
6. ALL AREAS TO RECEIVE ENGINEERED FILL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES, UNIFORMLY MOISTURE CONDITIONED, AND COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.
7. ENGINEERED FILL SHALL BE CONSTRUCTED USING METHODS THAT MITIGATE STRATIFICATION AND LAMINATION OF THE FILL AND MUST BE COMPACTED USING KNEADING COMPACTORS (I.E., SHEEPSFOOT) TO PROMOTE BLENDING WITHIN AND BETWEEN INDIVIDUAL CONSTRUCTION LIFTS. TRACK ROLLING, PNEUMATIC WHEEL ROLLING, AND SMOOTH DRUM COMPACTORS SHALL NOT BE USED.
8. WITHIN 3' OF ANY STRUCTURE, HAND TAMPERS OR OTHER ACCEPTABLE MEANS EXCLUDING HEAVY EQUIPMENT SHALL BE USED TO COMPACT BACKFILL. THE SURFACE AREA AROUND ANY STRUCTURE SHALL BE GRADED TO CONVEY SURFACE RUNOFF AWAY FROM THE STRUCTURE. COMPACTED ENGINEERED FILL, BACKFILL AND SUBGRADES SHALL MEET MINIMUM 90% RELATIVE COMPACTION (ASTM D-1557) AND BE ACCOMPLISHED BY MANUALLY OPERATED COMPACTORS AROUND STRUCTURES AND TO A MINIMUM DEPTH OF 12 INCHES OVER TOP OF PIPE, UNLESS SPECIFICALLY IDENTIFIED OTHERWISE ON THESE PLANS.
9. MOISTURE CONTENT OF COMPACTED FILL MATERIAL AND BACKFILL MATERIAL SHALL NOT BE GREATER THAN 3% ABOVE OPTIMUM MOISTURE CONTENT.
10. PROTECT EXCAVATIONS BY SHORING, BRACING, SHEET PILING, UNDERPINNING, OR OTHER METHODS REQUIRED TO PREVENT CAVE-IN OR LOOSE SOIL FROM FALLING INTO EXCAVATION. GRADE EXCAVATION TOP PERIMETER TO PREVENT SURFACE WATER RUN-OFF INTO EXCAVATIONS.
11. ALL TRENCH EXCAVATION SHALL COMPLY WITH THE MOST CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS (OSHA).
12. NATIVE MATERIAL SHALL BE USED FOR THE FILL MATERIAL. HOWEVER, FILL MATERIAL SHALL BE FREE OF TRASH, ORGANIC MATERIAL AND OTHER DEBRIS, STONES OR COBBLES HAVING A LARGEST DIMENSION GREATER THAN ONE INCH (1") WILL NOT BE USED IN RECOMPACTED MATERIAL. NO OBJECT HAVING A LARGEST DIMENSION GREATER THAN THREE INCHES (3") SHALL BE INCLUDED IN ANY COMPACTED FILL TO BE USED FOR THE NEW TURNOUT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL LOCATIONS AND DIMENSIONS.
14. ALL COSTS FOR INITIAL COMPACTION TESTS SHALL BE BORNE BY THE OWNER. ALL AREAS THAT FAIL TO MEET THE MINIMUM COMPACTION REQUIREMENTS SHALL BE REWORKED AS REQUIRED BY THE ENGINEER AND RETESTED UNTIL MINIMUM COMPACTION REQUIREMENTS ARE OBTAINED. THE COST OF ANY RETESTS, INCLUDING TIME FOR THE ENGINEER, SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT. TESTING WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BUT AT A MINIMUM WILL OCCUR EVERY 300 FEET WITH AT LEAST TWO TESTS AT DIFFERENT DEPTHS AT EACH LOCATION. TEST LOCATIONS SHALL BE DETERMINED BY THE ENGINEER UPON NOTIFICATION FROM THE CONTRACTOR THAT THE GRADE IS READY FOR TESTS. CONTRACTOR SHALL BE PRESENT WHEN SAMPLES OF BEDDING, SELECT BACKFILL, AND BACKFILL MATERIALS ARE GATHERED FOR ANALYSIS OR TESTING.
A. SAMPLE BACKFILL MATERIALS PER ASTM D 75.
B. COMPACTION TESTING WILL BE PERFORMED IN ACCORDANCE WITH SECTION 19-5.03, STATE STANDARD SPECIFICATIONS.
C. UNSUITABLE MATERIAL IS MATERIAL DETERMINED TO BE INCAPABLE OF BEING COMPACTED TO SPECIFIED DENSITY USING ORDINARY METHODS AT OPTIMUM MOISTURE CONTENT, TOO WET TO BE PROPERLY COMPACTED IF CIRCUMSTANCES PREVENT SATISFACTORY IN-PLACE DRYING PRIOR TO INCORPORATION INTO THE WORK, OR OTHERWISE UNSUITABLE FOR THE PLANNED USE.
15. ENGINEERED FILL AND EMBANKMENT CONSTRUCTION
A. UNLESS OTHERWISE NOTED, PLACEMENT AND COMPACTION OF ENGINEERED FILL MATERIALS FOR ALL FILL AREAS SHALL BE PERFORMED ACCORDING TO THE PROVISIONS OF SECTION 19-6, STATE STANDARD SPECIFICATION, EXCEPT THAT LARGE ROCKY MATERIAL OR HARD LUMPS LARGER THAN 3 INCHES, IN GREATEST DIMENSION WILL NOT BE ALLOWED IN THE TOP 24 INCHES OF FILL.
B. BEFORE PLACING EMBANKMENT, SCARIFY GROUND SURFACE TO PROVIDE AMPLE BOND BETWEEN OLD AND NEW MATERIAL, AS SHOWN ON THE PLANS. PLACE EMBANKMENT MATERIAL IN LAYERS NOT EXCEEDING 8 INCHES. LOOSE MEASUREMENT. COMPACT EACH LAYER BEFORE PLACING THE NEXT LAYER. AS THE COMPACTION OF EACH LAYER PROGRESSES, CONTINUALLY LEVEL AND MANIPULATE TO ENSURE UNIFORM MOISTURE AND DENSITY. ADD WATER TO OBTAIN OPTIMUM MOISTURE CONTENT. REMOVAL OF EXCESS WATER SHALL BE ACCOMPLISHED THROUGH AERATION BY PLOWING, BLADING, DISKING, OR OTHER METHODS SATISFACTORY TO THE ENGINEER.
C. IN THE EVENT OF ENCOUNTERING CEMENTED SOIL ZONE THE CONTRACTOR SHALL APPLY THE NECESSARY EFFORT TO ACHIEVE THE SPECIFIED PARTICLE SIZE CONTROL WITHIN THE MATERIAL PLACED IN THE EMBANKMENT PRISM.

TRENCH EXCAVATION

- 1. PAVED AREAS: CUT EXISTING PAVEMENT TO FULL DEPTH TO A TRUE LINE BEFORE EXCAVATION AND MAINTAIN THE EDGE SUITABLE FOR REPAVING. PAVEMENT REMOVED SHALL NOT BE USED AS BACKFILL.
2. EXCAVATION AND BACKFILLING OF TRENCHES USED FOR CONSTRUCTION OF COMMUNICATIONS, POWER, PROCESS PIPING, AND WATER DISTRIBUTION AND SEWER SYSTEMS SHALL CONFORM TO SECTION 19, "EARTHWORK," STATE STANDARD SPECIFICATIONS.
3. EXCAVATION SHALL BE BY OPEN CUT EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF THE UTILITIES CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY COMPACTED IN SUCH TUNNEL SECTIONS.
4. TRENCHING GUIDELINES: EXCAVATE THE TRENCH TO THE APPROXIMATE LEVEL OF THE GRADE OF THE UTILITY LINE TO BE INSTALLED, USING ADEQUATE TRENCH WIDTH AND SIDE SLOPES TO SAFELY ACCOMMODATE WORKER ACCESS.
A. ROCKY TRENCH BOTTOM: WHERE LEDGE ROCK, HARD PAN, BOULDERS, OR SHARP-EDGED MATERIALS ARE ENCOUNTERED, OVER EXCAVATE A MINIMUM DEPTH OF 6 INCHES BELOW THE BOTTOM OF THE UTILITY EXTERIOR WALL TO PERMIT ADEQUATE BEDDING PREPARATION. THE INSTALLED UTILITY SHALL HAVE AT LEAST 6 INCHES OF CLEARANCE FROM ANY ROCK PROTRUSION.
A.1. UNSTABLE TRENCH BOTTOM: SECURE APPROVAL OF DEPTH OF OVER-EXCAVATION AND STABILIZATION METHOD. FOR WET TRENCH CONSTRUCTION, USE APPROVED METHOD OF DEWATERING THROUGH DIVERSION, DAMMING AND PUMPING, WELL POINTS, OR UNDERDRAIN SYSTEMS. DISPOSE OF REMOVED FLUIDIZED MATERIALS AS APPROVED. USE BEDDING MATERIAL TO BUILD A SUITABLE FOUNDATION TO WITHIN 6 INCHES OF FINISHED UTILITY GRADE, PRIOR TO BEDDING WITH THE SPECIFIED MATERIAL. COMPACT LAYERS TO 95 PERCENT OF MAXIMUM DENSITY IN NOT GREATER THAN 6-INCH LAYERS. DO NOT PROCEED WITH UTILITY INSTALLATION UNTIL WET TRENCH AND UNSTABLE CONDITIONS ARE CORRECTED TO THE SATISFACTION OF THE ENGINEER.
5. REMOVE AREAS OF SUB-GRADE NOT READILY CAPABLE OF IN-SITU COMPACTION.
A. BACKFILL WITH BEDDING OR SELECT BACKFILL MATERIAL AND COMPACT TO DENSITY EQUAL TO REQUIREMENTS FOR SUBSEQUENT BACKFILL.
6. CORRECT UNAUTHORIZED EXCAVATION AT NO COST TO OWNER.
A. IF THE TRENCH IS EXCAVATED BELOW THE REQUIRED GRADE, REFILL ANY PART OF THE TRENCH EXCAVATED BELOW THE GRADE.
B. PLACE THE REFILLING MATERIAL OVER THE FULL WIDTH OF TRENCH IN COMPACTED LAYERS NOT EXCEEDING 8 INCHES DEEP TO THE ESTABLISHED GRADE WITH ALLOWANCE FOR SPECIAL BEDDING.
7. TRENCH WIDTHS IN THE PIPE ZONE SHALL BE AS SHOWN ON THE DRAWINGS. IF NO DETAILS ARE SHOWN, MAXIMUM WIDTH SHALL BE 24 INCHES GREATER THAN THE PIPE OUTSIDE DIAMETER.
A. TRENCH WIDTH AT THE TOP OF THE TRENCH WILL NOT BE LIMITED EXCEPT WHERE WIDTH OF EXCAVATION WOULD UNDERCUT ADJACENT STRUCTURES AND FOOTINGS. IN SUCH CASE, WIDTH OF TRENCH SHALL BE SUCH THAT THERE IS AT LEAST 2 FEET BETWEEN THE TOP EDGE OF THE TRENCH AND THE STRUCTURE OR FOOTING.
8. HAND TRIM FOR BELL AND SPIGOT PIPE JOINTS.
9. REMOVE LUMPED SOIL, BOULDERS AND ROCK.
10. EXCAVATION SHALL NOT INTERFERE WITH NORMAL 45 DEGREE BEARING SPLAY OF FOUNDATIONS.
11. DURING TRENCH EXCAVATION, PLACE THE EXCAVATED MATERIAL ONLY WITHIN THE WORKING AREA. DO NOT OBSTRUCT ROADWAYS OR STREETS. CONFORM TO FEDERAL, STATE, AND LOCAL CODES GOVERNING THE SAFE LOADING OF TRENCHES WITH EXCAVATED MATERIAL.
12. FOUNDATION STABILIZATION
A. AFTER THE REQUIRED EXCAVATION HAS BEEN COMPLETED, THE ENGINEER WILL INSPECT THE EXPOSED SUBGRADE TO DETERMINE THE NEED FOR ANY ADDITIONAL EXCAVATION. IT IS THE INTENT THAT ADDITIONAL EXCAVATION BE CONDUCTED IN ALL AREAS WITHIN THE INFLUENCE OF THE PIPELINE WHERE UNSUITABLE MATERIALS EXIST AT THE EXPOSED SUBGRADE. OVER EXCAVATION SHALL INCLUDE THE REMOVAL OF ALL SUCH UNACCEPTABLE MATERIAL THAT EXISTS DIRECTLY BENEATH THE PIPELINE TO A WIDTH 24 INCHES GREATER THAN THE PIPE OUTSIDE DIAMETER AND TO THE DEPTH REQUIRED.
B. ROCK REFILL USED BY THE CONTRACTOR FOR HIS CONVENIENCE WILL NOT RECEIVE ANY ADDITIONAL PAYMENT.
13. UTILITY INSTALLATION
A. UTILITY INSTALLATION: SHAPE THE TRENCH BOTTOM TO ENSURE UNIFORM CONTACT WITH THE FULL LENGTH OF THE INSTALLED LINE AND REMOVE ANY SHARP-EDGED MATERIALS THAT MIGHT DAMAGE THE LINE. COMPACTION SHALL BE MAINTAINED BENEATH THE LINE.
14. TRENCH BACKFILLING
A. BACKFILLING AND CLEANUP WORK SHALL BE ACCOMPLISHED AS SECTIONS OF PIPE OR CONDUIT ARE TESTED AND APPROVED. VEHICULAR TRAVEL THROUGH THE WORK SITE SHALL BE IMPEDED OR OBSTRUCTED AS LITTLE AS POSSIBLE.
B. COMPACTION: USE VIBRATORY COMPACTORS FOR SANDS AND GRAVELS (NON-COHESIVE SOILS). USE MECHANICAL TAMPERS FOR SAND AND GRAVEL CONTAINING A SIGNIFICANT PORTION OF FINE-GRAINED MATERIALS, SUCH AS SILT AND CLAY (COHESIVE SOILS). HAND TAMP AROUND PIPE OR CABLE TO PROTECT THE LINES UNTIL ADEQUATE CUSHION IS ATTAINED. PUDDLING OR WATER FLOODING FOR CONSOLIDATION OF BACKFILL OR COMPACTION BY WHEEL ROLLING WILL NOT BE PERMITTED.
C. BEDDING: PIPE SHALL BE PLACED ON FIRM COMPETENT MATERIAL.
D. SELECT BACKFILL: FILL BY HAND PLACEMENT AROUND THE UTILITY IN 6" LIFTS, EVENLY PLACED ON EACH SIDE OF THE PIPE, AND COMPACT IN A MANNER TO ENSURE AGAINST LATERAL OR VERTICAL DISPLACEMENT. PLACE SELECT BACKFILL TO 12 INCHES ABOVE THE UTILITY LINE BY HAND PLACEMENT.
E. BACKFILL: TO MINIMIZE SETTLING, SOILS SHALL BE BACKFILLED IN LAYERS, WITH EACH LAYER COMPACTED PRIOR TO ADDITION OF THE NEXT LAYER. UNLESS OTHERWISE SPECIFIED, PLACE AND COMPACT THE SPECIFIED MATERIAL AS FOLLOWS:
15. VEHICULAR TRAFFIC AREAS (UNDER PAVED ROAD SURFACES): FILL AND COMPACT IN 8-INCH MAXIMUM LAYERS AS FOLLOWS:
a. TOP 24 INCHES SHALL BE MINIMUM 95% RELATIVE COMPACTION.
b. BELOW 24 INCHES SHALL BE MINIMUM 90 PERCENT RELATIVE COMPACTION.
16. NON-TRAFFIC AREAS (DIRT ROADS AND OTHER NON-PAVED SURFACES): FILL AND COMPACT IN 8-INCH MAXIMUM LAYERS TO MINIMUM 90 PERCENT RELATIVE COMPACTION.

CONCRETE NOTES

- 1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONSISTING OF TYPE III/IV PORTLAND CEMENT, FINE AGGREGATE, COARSE AGGREGATE, AND WATER (WATER:CEMENT RATIO SHALL NOT EXCEED 0.45 ABSOLUTE BY WEIGHT, AND SLUMP SHALL NOT EXCEED 4 INCHES +/- 1 INCH). THE CONCRETE SHALL BE PLACED WITHIN ONE AND ONE-HALF HOURS FROM THE TIME WATER IS INTRODUCED TO YIELD AT 28 DAYS A MINIMUM COMPRESSIVE STRENGTH WITH AN EXPOSURE CATEGORY (IF NOT OTHERWISE SPECIFIED) AS FOLLOWS:
BASIN OUTLET STRUCTURE AND FLOW METER VAULT 4,000 PSI, F0, S0, W2, C1
2. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318 (LATEST EDITION).
3. CONCRETE MIXING SHALL COMPLY WITH ASTM C94.
4. SUBMIT CONCRETE LIFT DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS OTHER THAN SPECIFIED OR SHOWN ON THE DRAWINGS FOR FAVORABLE REVIEW BY THE ENGINEER BEFORE START OF WORK ON FORMS, REINFORCING STEEL OR PLACING CONCRETE. ANY ADDITIONAL VERTICAL OR HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE A STANDARD KEYWAY AND SHALL BE REVIEWED BY THE ENGINEER. REFER TO SPECIFICATIONS AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE.
5. OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS, AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, LANDSCAPING, HVAC, PLUMBING, INSTRUMENTATION, AND OTHER PLANS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT INDICATED OR SHOWN ON STRUCTURAL DRAWINGS. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS UNLESS SHOWN ON STRUCTURAL DRAWINGS. COORDINATE WITH EQUIPMENT MANUFACTURERS DRAWINGS FOR ANCHORING DEVICES.
6. CONCRETE SHALL BE PREVENTED FROM PREMATURE DRYING FOR A CURING PERIOD OF AT LEAST SEVEN DAYS AFTER IT IS PLACED. EXPOSED SURFACES SHALL BE KEPT CONTINUOUSLY MOIST FOR THE ENTIRE PERIOD. IN LIEU OF WATER CURING, THE CONCRETE SHALL BE PROTECTED BY SPRAYING WITH A [NSF] APPROVED CURING COMPOUND. ALL SURFACES SHALL BE KEPT MOIST UNTIL THE COMPOUND IS APPLIED.
7. CONTROL JOINTS SHALL BE PLACED NO GREATER THAN 3X SLAB THICKNESS IN FEET NOR 20 FEET APART IN BOTH DIRECTIONS WITHIN 8 HOURS OF THE CONCRETE PLACEMENT ON ALL CONCRETE SLABS. PROVIDE CONTROL JOINTS IN UNREINFORCED SLABS PER PCA GUIDELINES. ALL EXTERIOR SLABS SHALL BE SLOPED TO ALLOW DRAINAGE OF RUNOFF WATER TO PREVENT PONDING.
9. UNLESS NOTED OTHERWISE, ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4 INCH. INTERIOR FLOORS AND EXTERIOR SIDEWALKS SHALL HAVE TOOLED 3/8 INCH RADIUS CONSTRUCTION JOINTS.
10. ALL SLABS SHALL HAVE A TOWELED FINISH WITH A FF=35 AND A FL=25 MINIMUM UNO.

CONSTRUCTION NOTES

- 1. CONTRACTOR RESPONSIBLE FOR ALL CLEARING AND GRUBBING.
2. ALL IRRIGATION PIPE SHALL BE PIP DR 41 100 PSI PIPE AS SHOWN ON PLANS.
3. THRUST RESTRAINTS SHALL BE PROVIDED AT ALL PIPELINE BENDS WHETHER OR NOT SHOWN ON THE PLANS.

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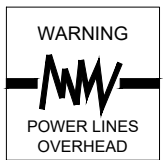
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TIPTON PIPELINE
LOWER TULE RIVER IRRIGATION DISTRICT
TULARE COUNTY
GENERAL
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PHONE (559) 659-1186
FAX (559) 659-1177
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LICENSE NO: 83357
DRAFTED BY: DPJ CHECKED BY: EBN
DATE: 09/03/2024
JOB NO:
PROJECT NO: 1477-24001
PHASE: DES
ORIGINAL SCALE SHOWN IS ONE INCH. ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.
SHEET G3
3 OF 12

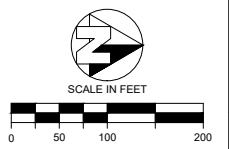




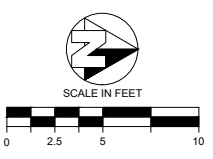
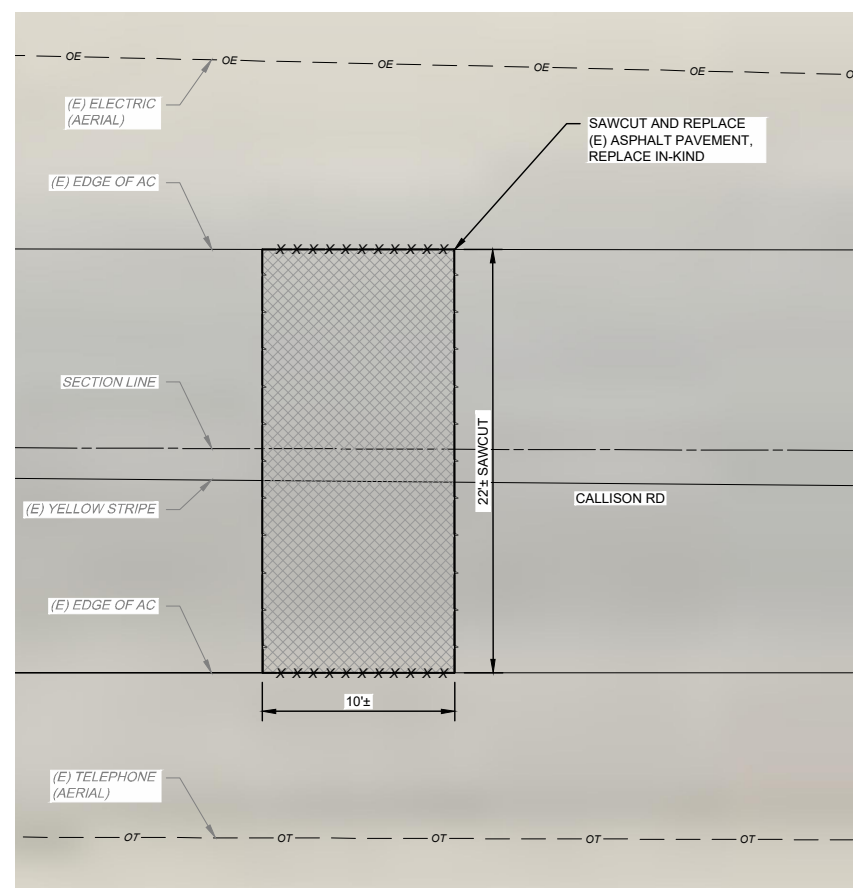
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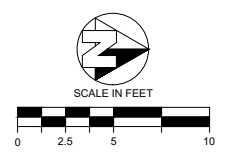
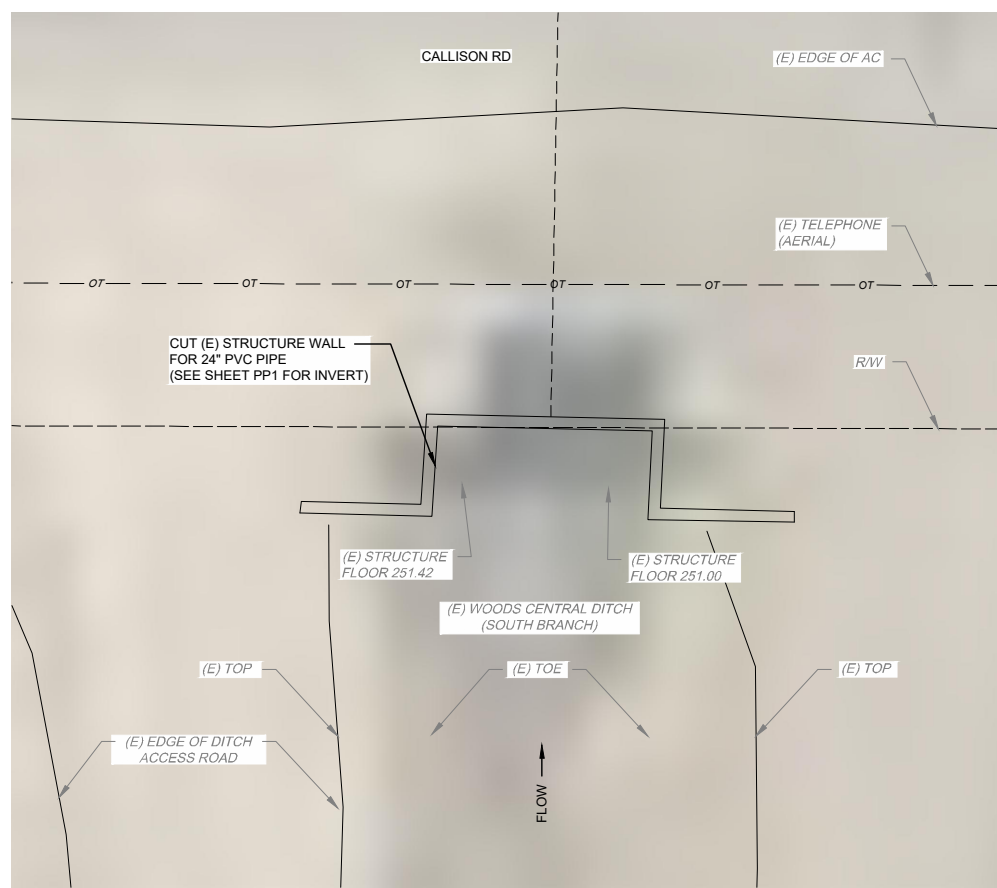
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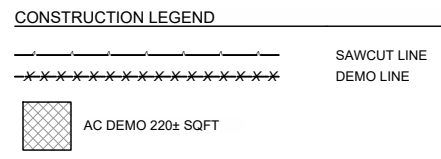
PLN  
C1



1  
C1



2  
C1



TIPTON PIPELINE  
LOWER TULE RIVER IRRIGATION DISTRICT  
TULARE COUNTY  
CIVIL  
EXISTING & DEMO SITE

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VISALIA, CALIFORNIA 93291-6537  
PHONE (559) 636-1186  
FAX (559) 636-1177  
www.provostandpritchard.com

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M. KLINCHUCH  
LICENSE NO:  
83357

DRAFTED BY: DPJ  
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JOB NO:

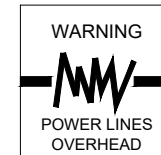
PROJECT NO: 1477-24001

PHASE: DES

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SHEET  
C1  
4 OF 12

9/18/2024 3:51 PM G:\Lower Tule River ID - 1477\147724001-Tipton Pipeline\300 CAD\340 Sheet S48\02\_Plane\_Maps\C1 Existing & Demo Site.dwg -Evan Nydam



Know what's below.  
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TIPTON PIPELINE  
LOWER TULE RIVER IRRIGATION DISTRICT  
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CIVIL

SITE PLAN

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PHONE (559) 636-1186  
FAX (559) 636-1177  
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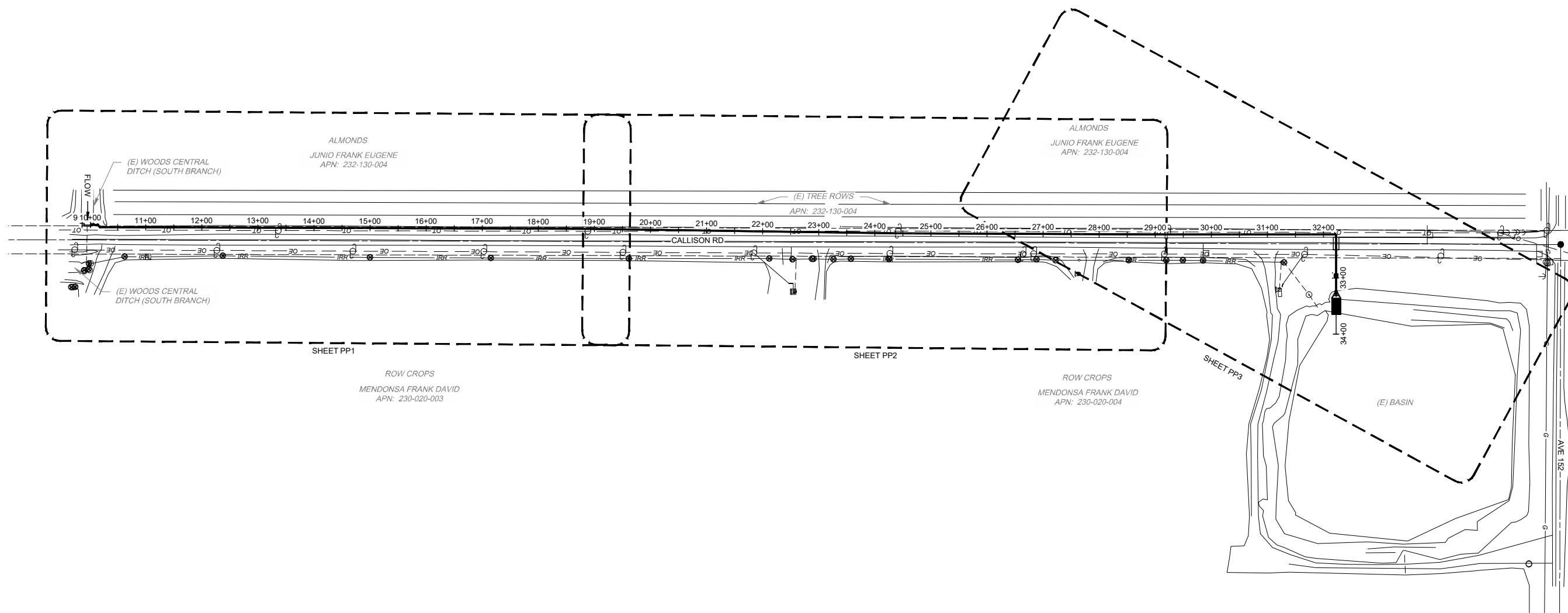
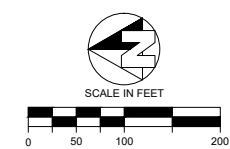
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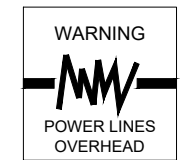
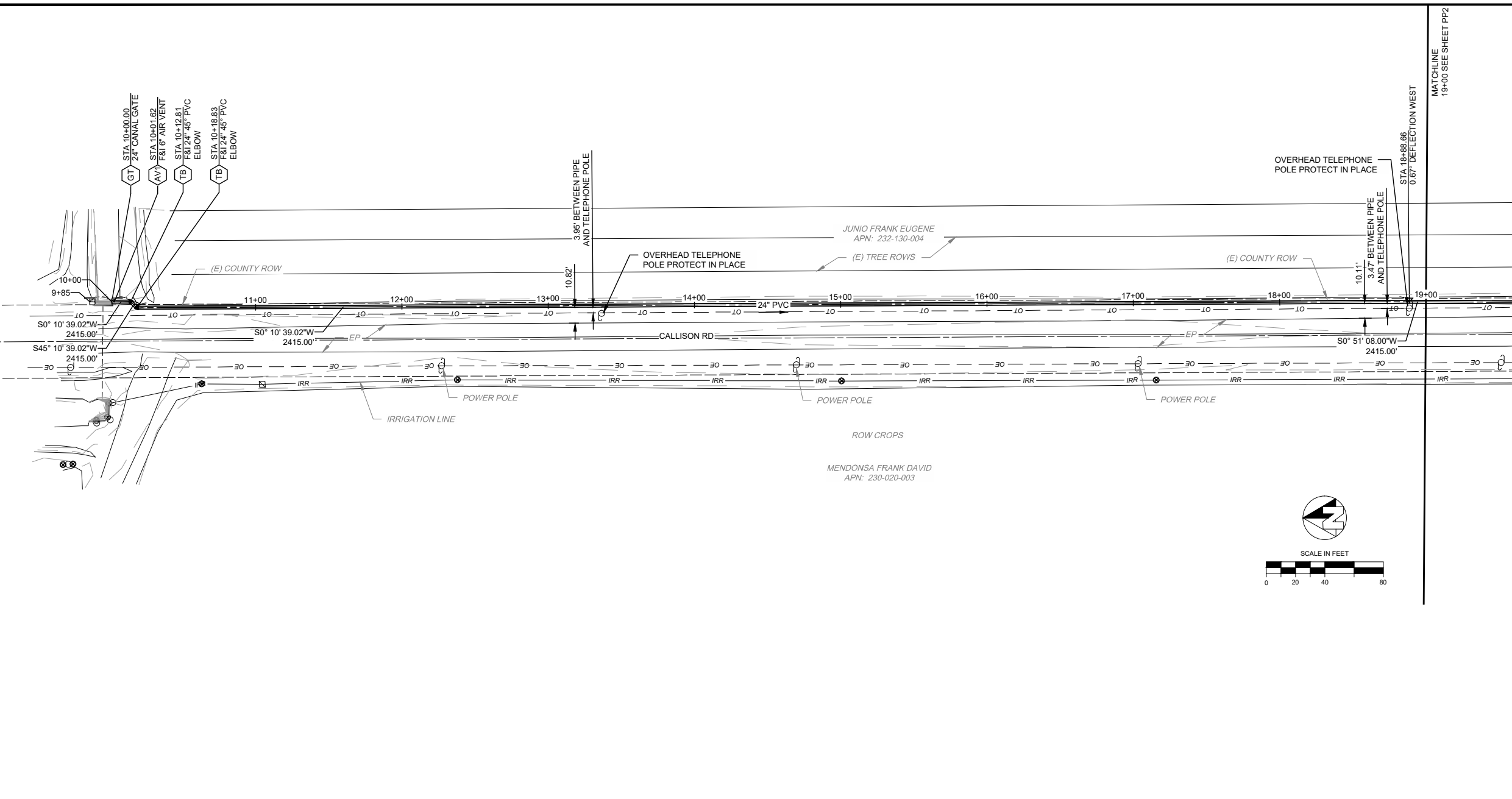
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REDUCED OR ENLARGED PLANS.

SHEET C2

5 OF 12



9/18/2024 3:51 PM G:\Lower Tule River ID - 1477\147724001-Tipton Pipeline\300 CAD\340 Sheet S148\02\_Plane\_Maps\C2 SITE PLAN.dwg -Evan Nydam



**NOTES**

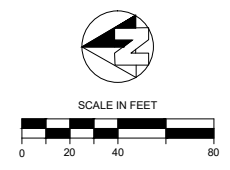
- CONTRACTOR TO FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO EXCAVATION.
- MAINTAIN MINIMUM OF 12" VERTICAL SEPARATION BETWEEN PROPOSED PIPELINE AND OTHER UTILITIES. NOTIFY ENGINEER OF CONFLICTS AFTER LOCATING EXISTING UTILITIES.
- PROPOSED PIPELINE TO BE PIP CL-100. SEE PLAN FOR PIPE DIAMETER. UNLESS NOTED OTHERWISE, MAINTAIN 3' MINIMUM COVER.

**CONSTRUCTION NOTES**

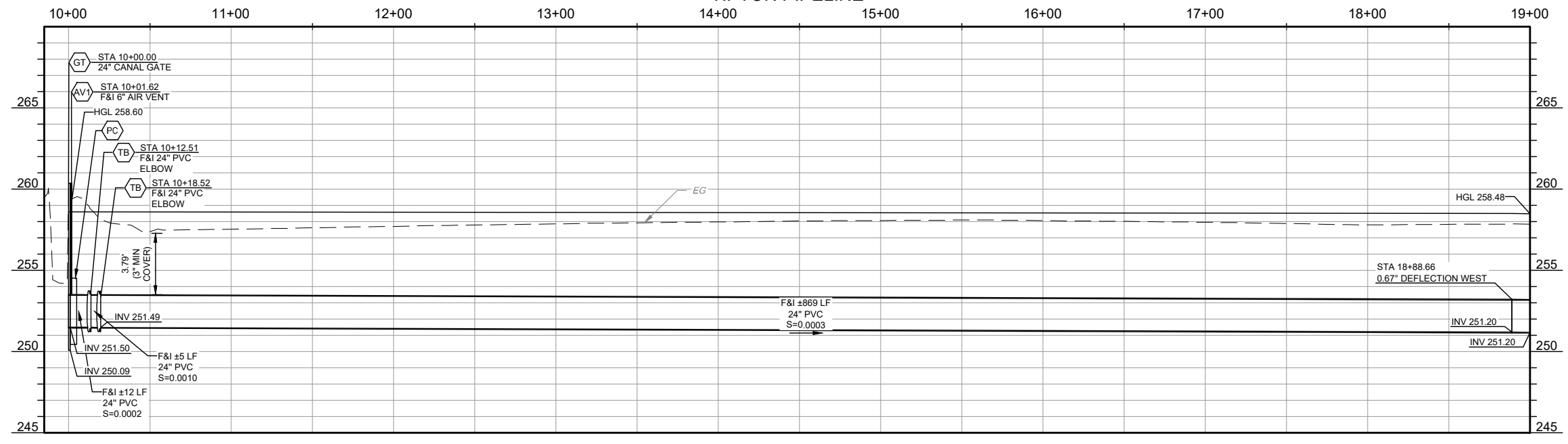
- CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATIONS OF EXISTING UTILITY CROSSINGS.
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- CONTACT OVERHEAD POLE TELEPHONE POLE COMPANY TO HOLD POWER POLES WHEN TRENCHING WITHIN 5 FEET.

**CONSTRUCTION LEGEND**

- (AV1) F&I AIR VENT
- (GT) 24" CANAL GATE
- (PC) PIPE COLLAR
- (TB) THRUST BLOCK
- (5) D2
- (6) D2
- (2) D3
- (2) D2



**TIPTON PIPELINE**



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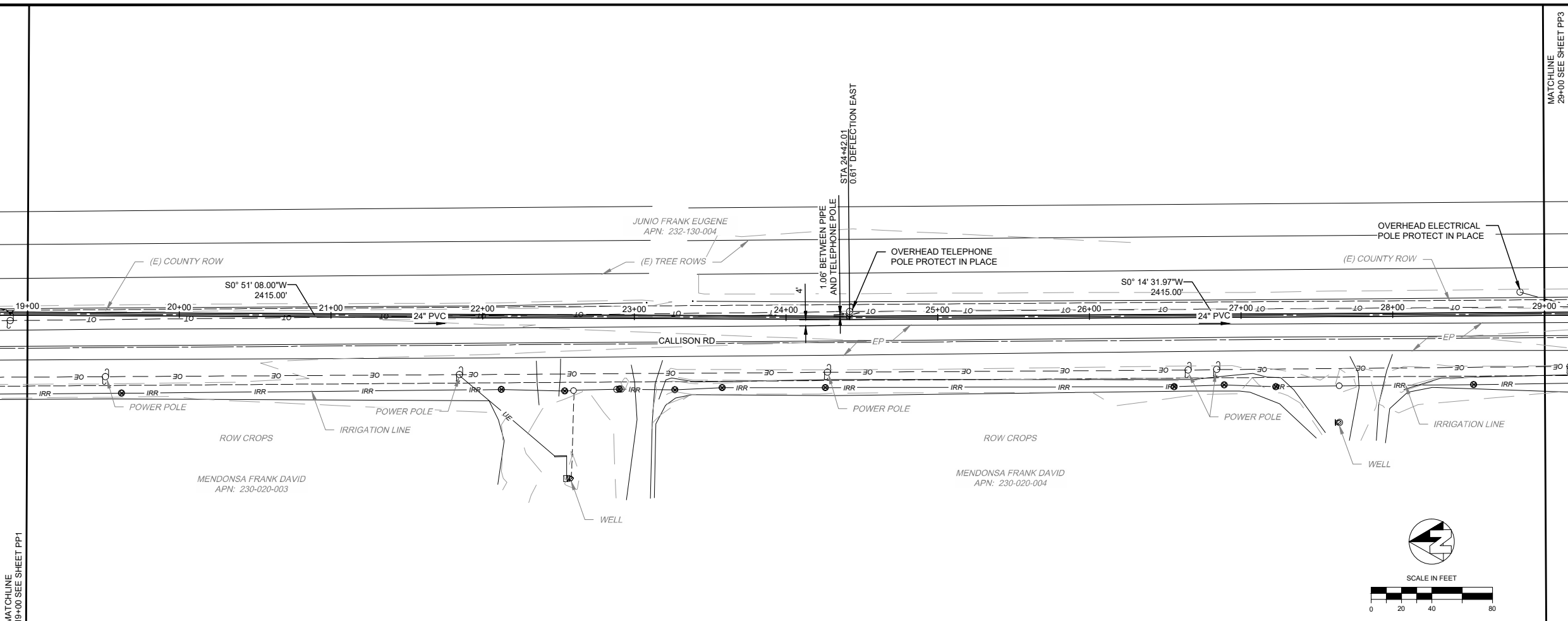
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VISALIA, CALIFORNIA 93291-6337  
PHONE (559) 636-1186  
FAX (559) 636-1177  
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DESIGN ENGINEER:  
M. KLINCHUCH  
LICENSE NO:  
83357  
DRAFTED BY: DPJ  
CHECKED BY: EBN  
DATE: 09/03/2024  
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PROJECT NO: 1477-24001  
PHASE: DES  
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SHEET **PP1**  
6 OF 12

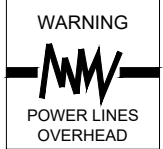
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MATCHLINE  
29+00 SEE SHEET PP3

MATCHLINE  
19+00 SEE SHEET PP1



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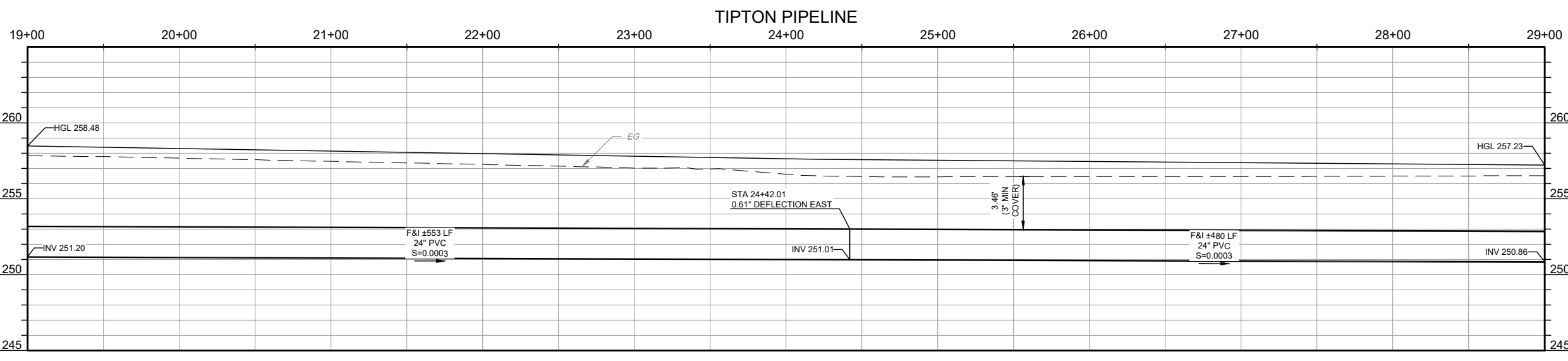
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 VISALIA, CALIFORNIA 93291-6337  
 PHONE (559) 636-1186  
 FAX (559) 636-1177  
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DESIGN ENGINEER:  
 M. KLINCHUCH  
 LICENSE NO:  
 83357  
 DRAFTED BY: DPJ  
 CHECKED BY: EBN  
 DATE: 09/03/2024  
 JOB NO:  
 PROJECT NO: 1477-24001  
 PHASE: DES

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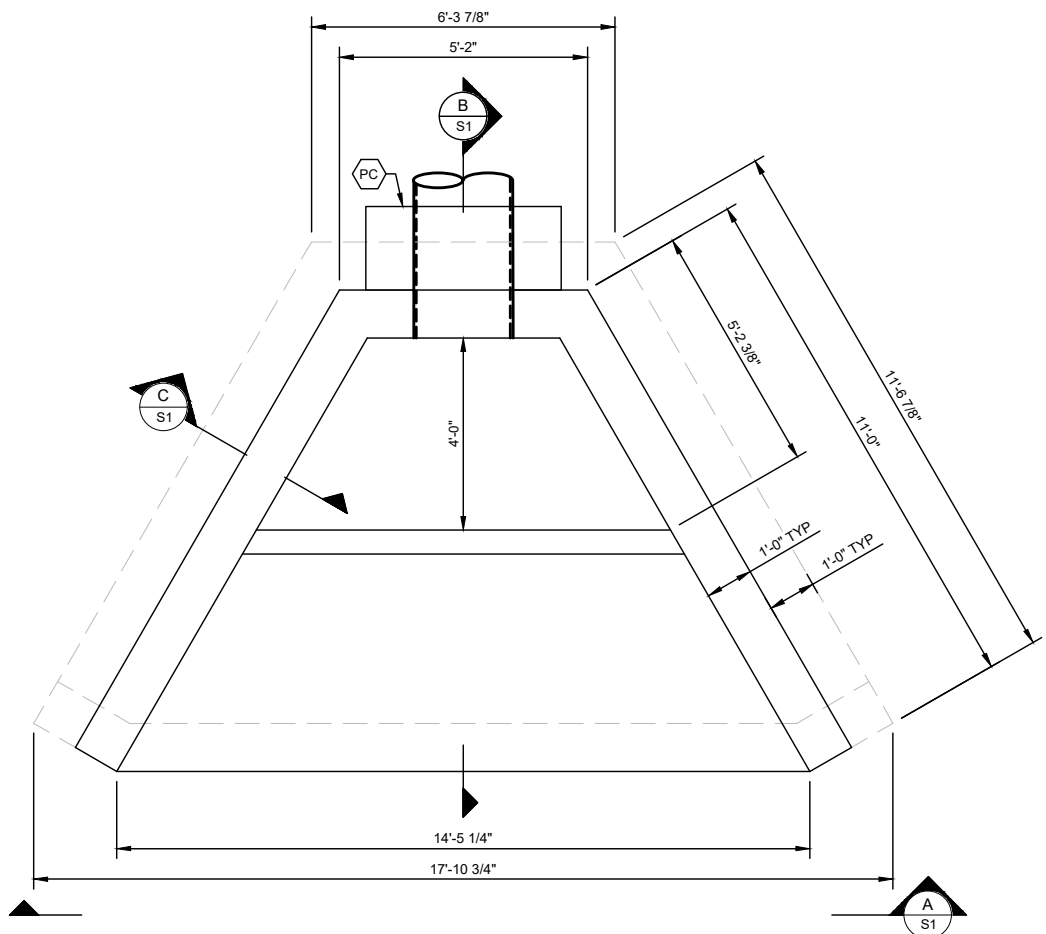
SHEET **PP2**  
 7 OF 12



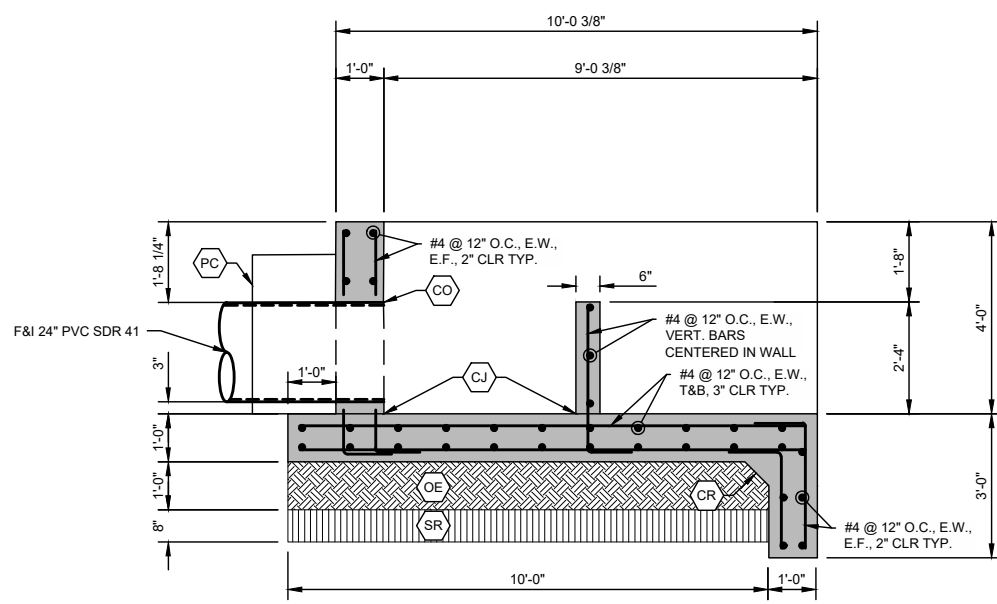
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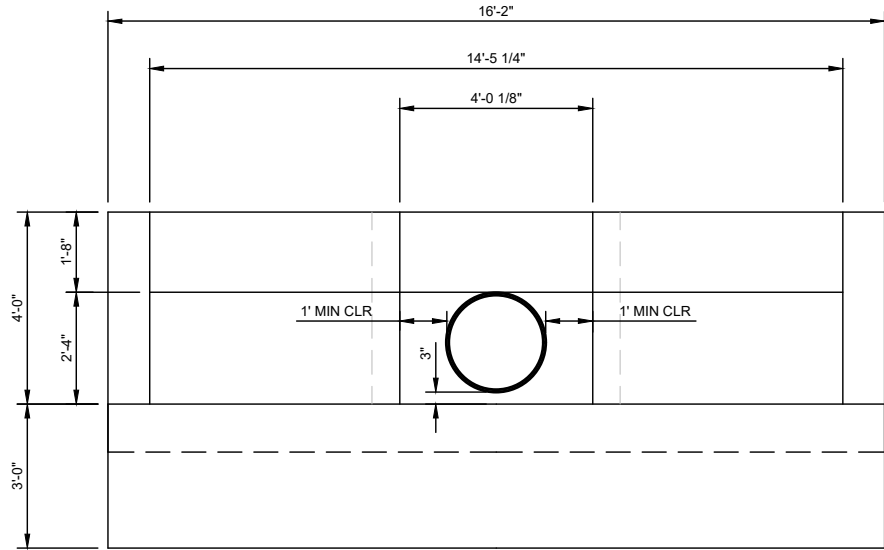




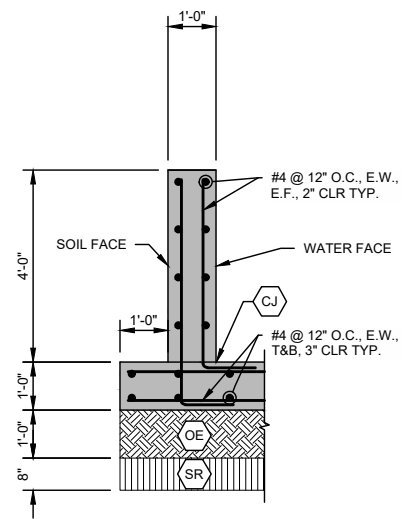
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SECTION B



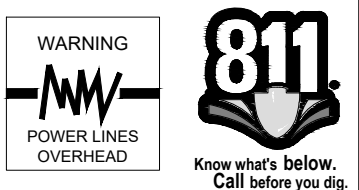
SECTION A



SECTION C

**CONSTRUCTION LEGEND**

CONCRETE OPENING REINFORCEMENT	
CONSTRUCTION JOINT	
CUTOFF WALL	
PIPE COLLAR	# D3 symbol"/>
OVER EXCAVATE 12\"/>	
SCARIFY 8\"/>	



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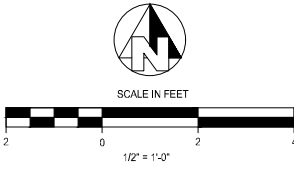
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TULARE COUNTY  
STRUCTURAL  
OUTLET

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FAX (559) 636-1177  
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DESIGN ENGINEER:  
M. KLINCHUCH  
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83357  
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SHEET **S1**  
9 OF 12



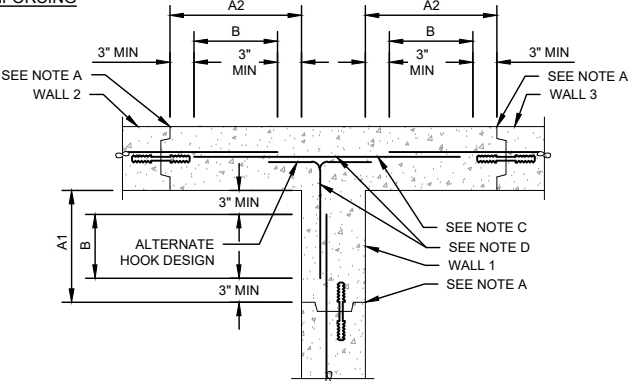
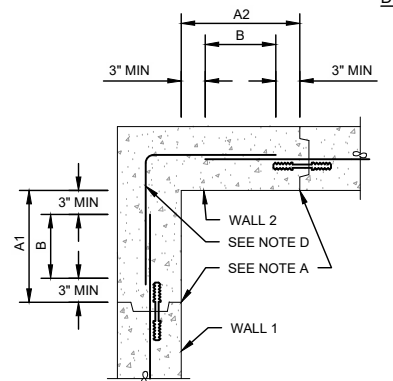
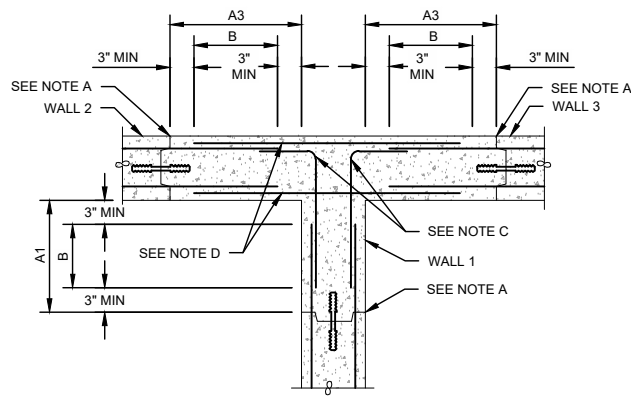
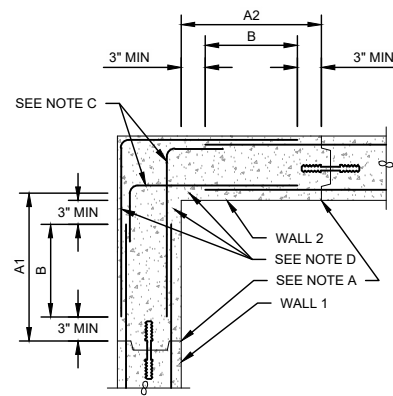
TOP  
S1

B  
S1

A  
S1

C  
S1

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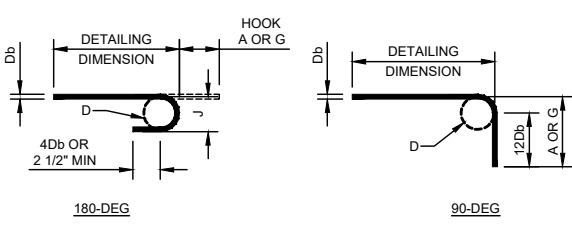
DOUBLE LAYER REINFORCING

SINGLE LAYER REINFORCING

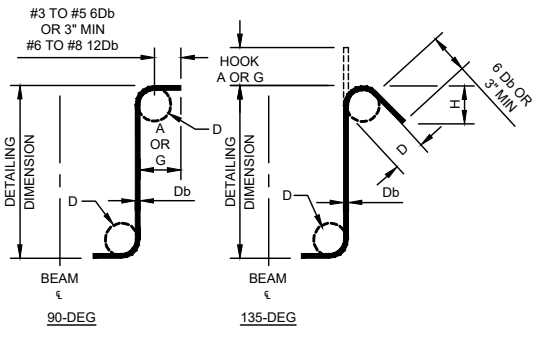
- NOTES**
- VERTICAL REINFORCING NOT SHOWN.
  - THESE DETAILS SHALL BE APPLICABLE TO ALL WALL CORNERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- A = VERTICAL CONSTRUCTION JOINT WITH WATERSTOP NEAREST TO WALL CORNER
- A(X) = DISTANCE FROM INSIDE CORNER FACE NEAREST VERTICAL CONSTRUCTION JOINT IN SIMILARLY NUMBERED WALL A SHALL NOT BE LESS THAN DIMENSIONS INDICATED BY THESE DETAILS; NOR GREATER THAN INDICATED ON PLAN DRAWINGS, BUT IN ANY CASE SHALL NOT EXCEED 30 FEET.
- B = OPTIONAL SPLICE LOCATION UNLESS SPECIFICALLY NOTED ON PLAN DRAWINGS. SPLICE LENGTH SHALL NOT BE LESS THAN THAT AS SHOWN IN THE CONCRETE REINFORCEMENT SPLICE TABLE. USE SPLICE LENGTH FOR THE SMALLER OF THE TWO BARS BEING SPLICED.
- C = STANDARD HOOK
- D = TYPICAL CORNER REINFORCEMENT. SIZE SHALL MATCH LARGEST ADJACENT WALL HORIZONTAL REINFORCEMENT; SPACING SHALL MATCH MINIMUM ADJACENT WALL HORIZONTAL REINFORCEMENT SPACING.

NOT TO SCALE  
1  
D1

REINFORCEMENT LAPS WITH WATERSTOPS



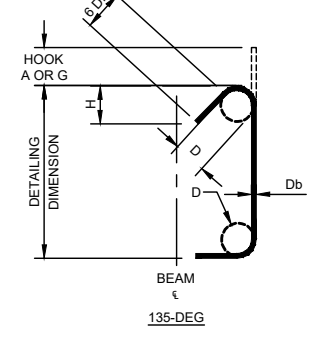
DIMENSION OF STANDARD 180° HOOKS, ALL GRADES				DIMENSION OF STANDARD 90° HOOKS, ALL GRADES	
SIZE	D	J	A OR G	D	A OR G
#3	2 1/4"	3"	5"	2 1/4"	6"
#4	3"	4"	6"	3"	8"
#5	3 3/4"	5"	7"	3 3/4"	10"
#6	4 1/2"	6"	8"	4 1/2"	12"
#7	5 1/4"	7"	10"	5 1/4"	14"
#8	6"	8"	11"	6"	16"
#9	9 1/2"	11 3/4"	15"	9 1/2"	19"
#10	10 3/4"	13 1/4"	17"	10 3/4"	22"
#11	12"	14 3/4"	19"	12"	24"
#14	18 1/4"	21 3/4"	27"	18 1/4"	31"
#18	24"	28 1/2"	36"	24"	41"



90°				135°	
SIZE	D	A OR G	A OR G	ARROX. H	
#3	1 1/2"	4"	4"	2 1/2"	
#4	2"	4 1/2"	4 1/2"	3"	
#5	2 1/2"	6"	5 1/2"	3 3/4"	
#6	4 1/2"	12"	8"	4 1/2"	
#7	5 1/4"	14"	9"	5 1/4"	
#8	6"	16"	10 1/2"	6"	

NOT TO SCALE  
2  
D1

REINFORCEMENT BENDS & SPLICES



135° SEISMIC HOOK			
SIZE	D	A OR G	ARROX. H
#3	1 1/2"	4"	2 1/2"
#4	2"	4 1/2"	3"
#5	2 1/2"	5 1/2"	3 3/4"
#6	4 1/2"	8"	4 1/2"
#7	5 1/4"	9"	5 1/4"
#8	6"	10 1/2"	6"

CHART 2		
BAR SIZE	CL1	CL2
#4	0.5	0.65
#5	0.63	0.81
#6	0.75	0.98
#7	0.875	1.14
#8	1.0	1.3
#9	1.28	1.47

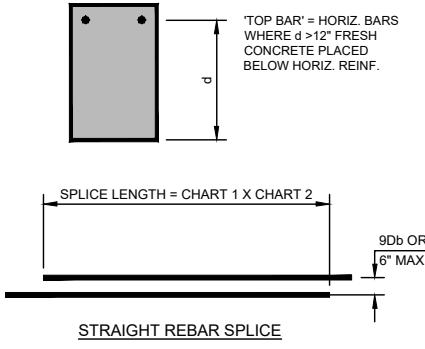


CHART 1					
#6 AND SMALLER	CONCRETE STRENGTH (PSI)				
	2500	3000	3500	4000	5000
#7-#11	63	57	53	50	45
	78	72	66	62	56

- NOTES**
- SPLICES SHOWN ARE NORMALWEIGHT CONCRETE, UNCOATED SPLICE  $f_y=60$ ksi  $f_c=4$ ksi CALCULATED PER ACI 318-14 SECTION 25.4.2.2. SEE CHART 1 FOR DIFFERENT CONCRETE STRENGTHS.
  - $D_b = (1)$  BAR DIAMETER  
 $D =$  FINISHED INSIDE BEND DIA.  
 $D = 6D_b$  FOR #3-#8  
 $D = 8D_b$  FOR #9-#11  
 $D = 10D_b$  FOR #14 AND #18

REINFORCEMENT BENDS

CONCRETE BAR TYPES LAP TYPE

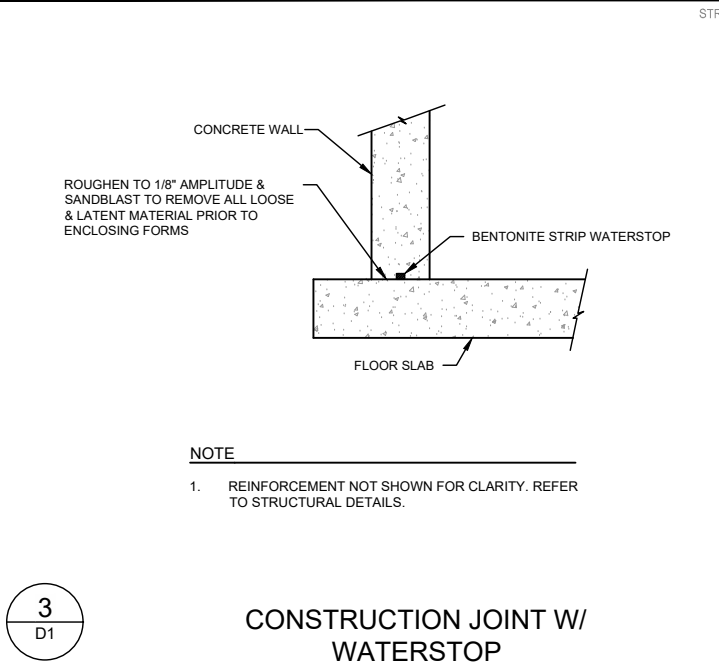
- FOOTING BARS (OTHER THAN TOP BARS) CL1
- HORIZ. WALL BARS CL2
- FOOTING 'TOP BARS' CL2
- WALL CHORD BARS CL3

'TOP BAR' = HORIZ. BARS WHERE  $d > 12"$  FRESH CONCRETE PLACED BELOW HORIZ. REINF.

SPLICE LENGTH = CHART 1 X CHART 2

9Db OR 6" MAX.

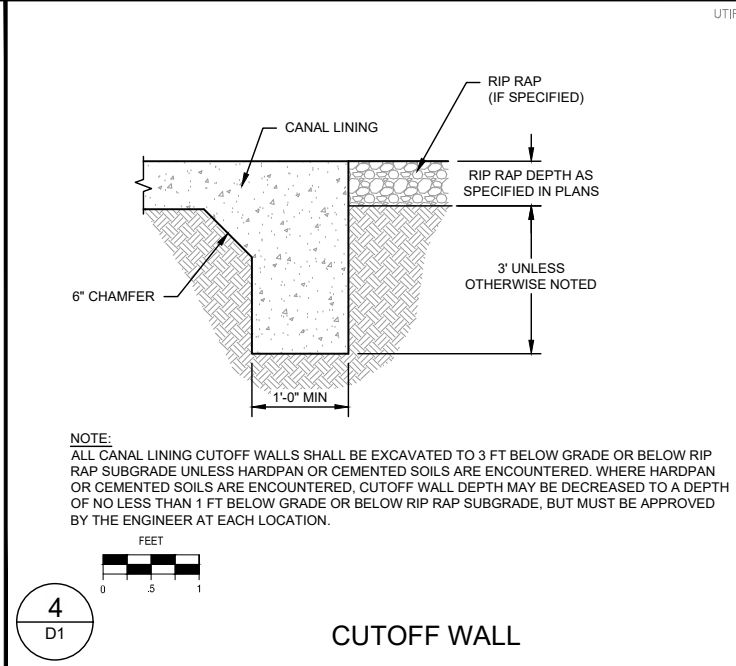
STRAIGHT REBAR SPLICE



- NOTE**
- REINFORCEMENT NOT SHOWN FOR CLARITY. REFER TO STRUCTURAL DETAILS.

3  
D1

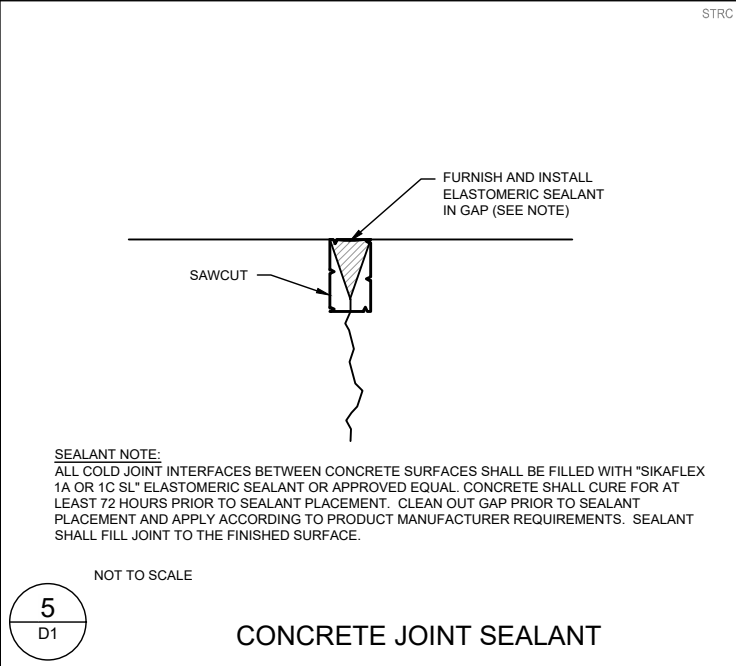
CONSTRUCTION JOINT W/ WATERSTOP



- NOTE:** ALL CANAL LINING CUTOFF WALLS SHALL BE EXCAVATED TO 3 FT BELOW GRADE OR BELOW RIP RAP SUBGRADE UNLESS HARDPAN OR CEMENTED SOILS ARE ENCOUNTERED. WHERE HARDPAN OR CEMENTED SOILS ARE ENCOUNTERED, CUTOFF WALL DEPTH MAY BE DECREASED TO A DEPTH OF NO LESS THAN 1 FT BELOW GRADE OR BELOW RIP RAP SUBGRADE, BUT MUST BE APPROVED BY THE ENGINEER AT EACH LOCATION.

4  
D1

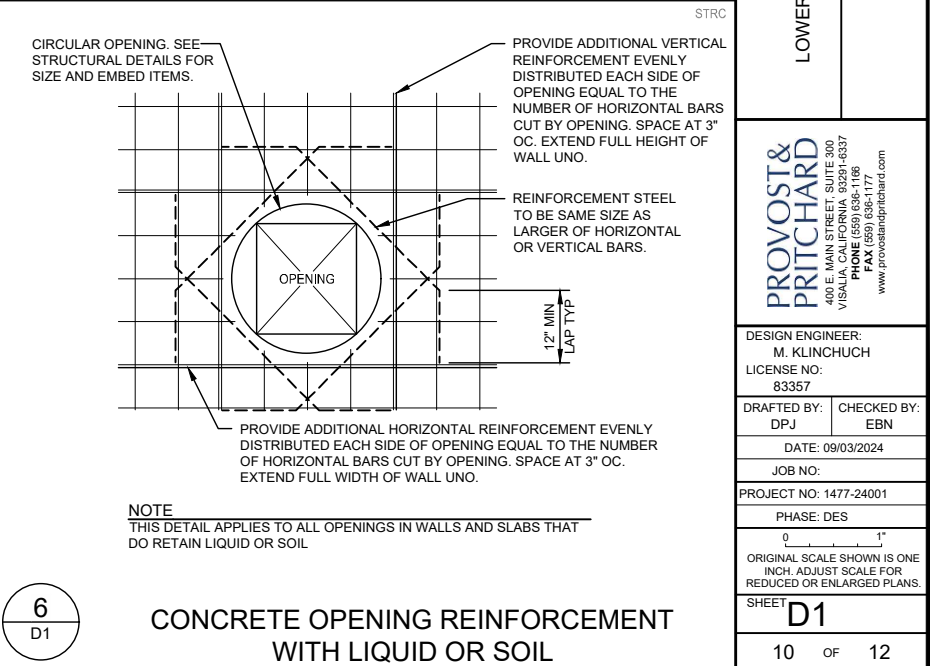
CUTOFF WALL



- SEALANT NOTE:** ALL COLD JOINT INTERFACES BETWEEN CONCRETE SURFACES SHALL BE FILLED WITH "SIFAKLEX 1A OR 1C SL" ELASTOMERIC SEALANT OR APPROVED EQUAL. CONCRETE SHALL CURE FOR AT LEAST 72 HOURS PRIOR TO SEALANT PLACEMENT. CLEAN OUT GAP PRIOR TO SEALANT PLACEMENT AND APPLY ACCORDING TO PRODUCT MANUFACTURER REQUIREMENTS. SEALANT SHALL FILL JOINT TO THE FINISHED SURFACE.

5  
D1

CONCRETE JOINT SEALANT



- CIRCULAR OPENING. SEE STRUCTURAL DETAILS FOR SIZE AND EMBED ITEMS.
- PROVIDE ADDITIONAL VERTICAL REINFORCEMENT EVENLY DISTRIBUTED EACH SIDE OF OPENING EQUAL TO THE NUMBER OF HORIZONTAL BARS CUT BY OPENING. SPACE AT 3" OC. EXTEND FULL HEIGHT OF WALL UNO.
- REINFORCEMENT STEEL TO BE SAME SIZE AS LARGER OF HORIZONTAL OR VERTICAL BARS.
- PROVIDE ADDITIONAL HORIZONTAL REINFORCEMENT EVENLY DISTRIBUTED EACH SIDE OF OPENING EQUAL TO THE NUMBER OF HORIZONTAL BARS CUT BY OPENING. SPACE AT 3" OC. EXTEND FULL WIDTH OF WALL UNO.
- NOTE** THIS DETAIL APPLIES TO ALL OPENINGS IN WALLS AND SLABS THAT DO RETAIN LIQUID OR SOIL.

6  
D1

CONCRETE OPENING REINFORCEMENT WITH LIQUID OR SOIL

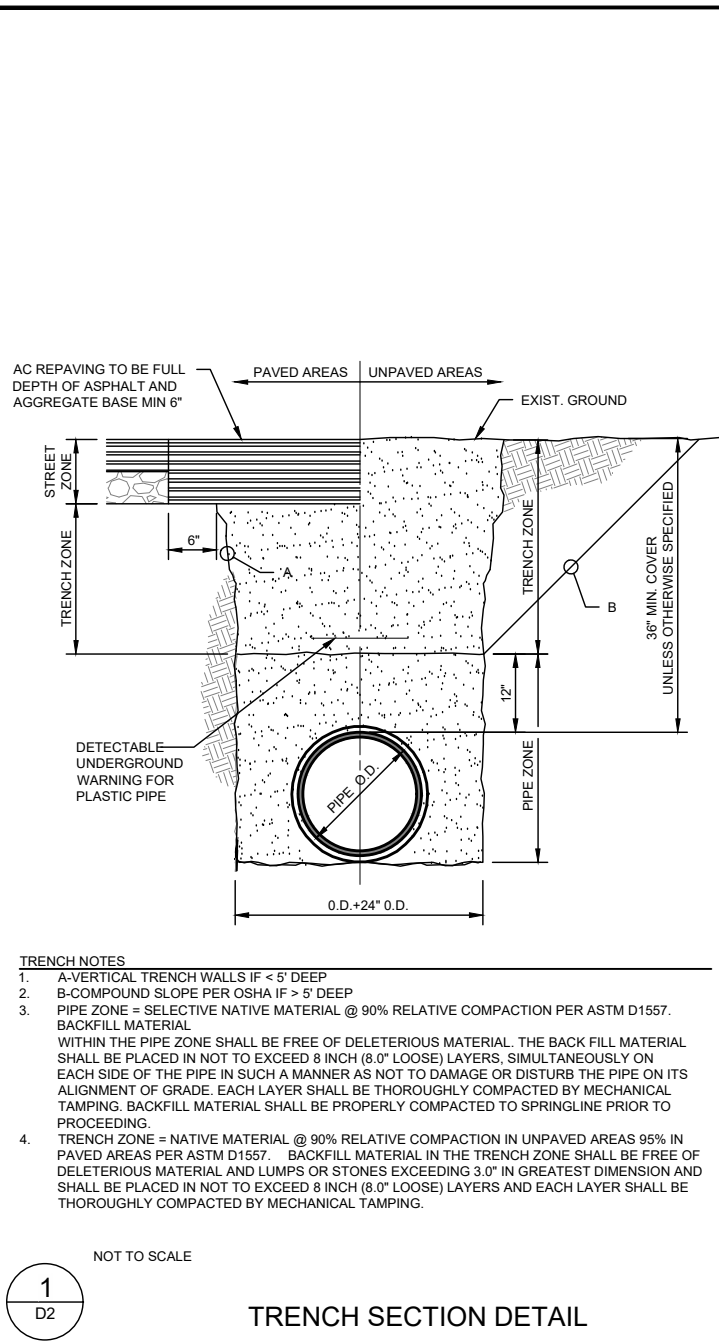
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LOWER TULE RIVER IRRIGATION DISTRICT  
TULARE COUNTY  
DETAILS  
DETAILS 1

PROVOST & PRITCHARD  
408 E. MAIN STREET, SUITE 500  
VISALIA, CALIFORNIA 93291-6337  
PHONE (559) 636-1186  
FAX (559) 636-1177  
www.provostandpritchard.com

DESIGN ENGINEER:  
M. KLINCHUCH  
LICENSE NO:  
83357  
DRAFTED BY: DPJ  
CHECKED BY: EBN  
DATE: 09/03/2024  
JOB NO:  
PROJECT NO: 1477-24001  
PHASE: DES  
ORIGINAL SCALE SHOWN IS ONE INCH. ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.  
SHEET D1  
10 OF 12



1  
D2

TRENCH SECTION DETAIL

PPNG

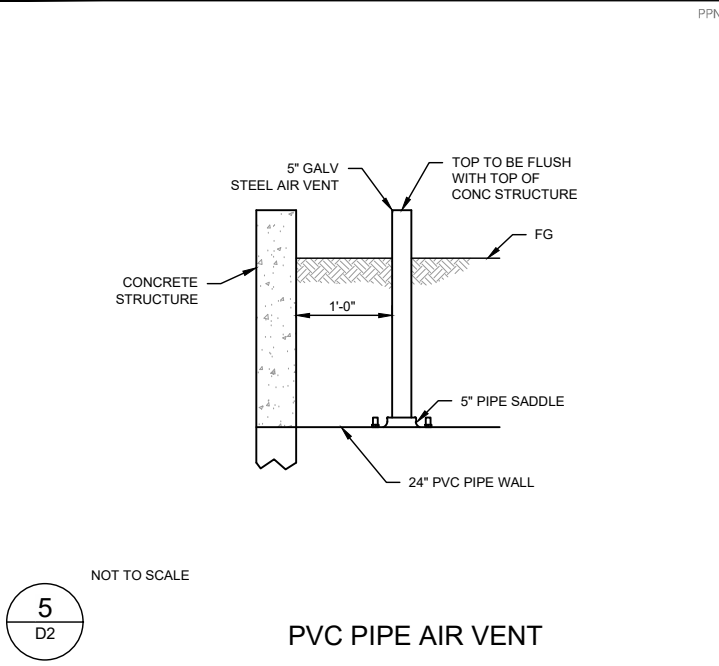
MAX INTERNAL PRESSURE (PSI)		10			
SOIL BEARING PRESSURE (PSF)		500			
SAFETY FACTOR		1.5			
MINIMUM BEARING AREA (SF)					
PIPE SIZE	DEAD END OR TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
3	0.2	0.3	0.2	0.1	0.0
4	0.4	0.5	0.3	0.1	0.1
6	0.8	1.2	0.6	0.3	0.2
8	1.5	2.1	1.2	0.6	0.3
10	2.4	3.3	1.8	0.9	0.5
12	3.4	4.8	2.6	1.3	0.7
16	6.0	8.5	4.6	2.4	1.2
18	7.6	10.8	5.8	3.0	1.5
20	9.4	13.3	7.2	3.7	1.8
24	13.6	19.2	10.4	5.3	2.7
30	21.2	30.0	16.2	8.3	4.2
36	30.5	43.2	23.4	11.9	6.0
42	41.6	58.8	31.8	16.2	8.1
48	54.3	76.8	41.5	21.2	10.6

**NOTES**

- ALL FITTINGS TO BE WRAPPED IN 4 MIL VISQUEEN.
- CONCRETE SHALL NOT ENCRATCH ON END FITTINGS.
- CONCRETE SHALL BEAR AGAINST UNDISTURBED SOIL.
- CONCRETE TO HAVE ULTIMATE STRENGTH OF 3000 PSI @ 28 DAYS.

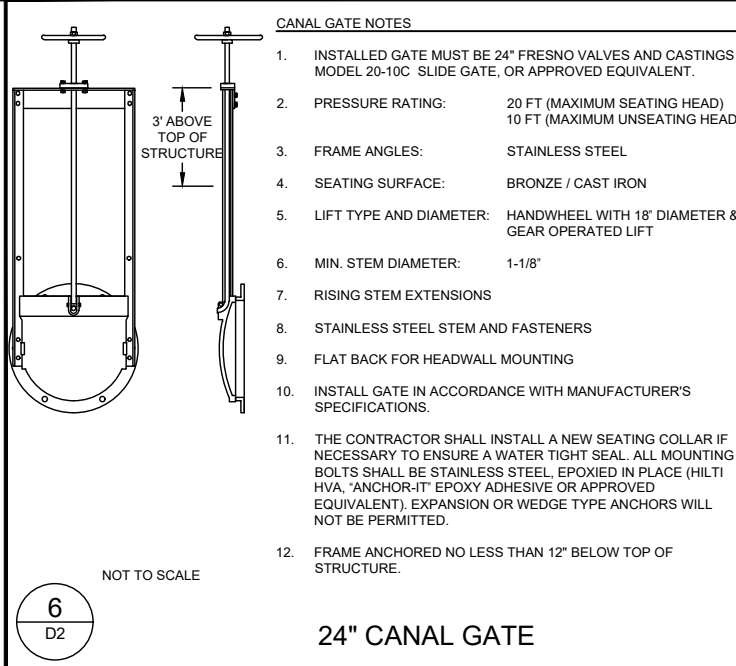
2  
D2

THRUST BLOCKS



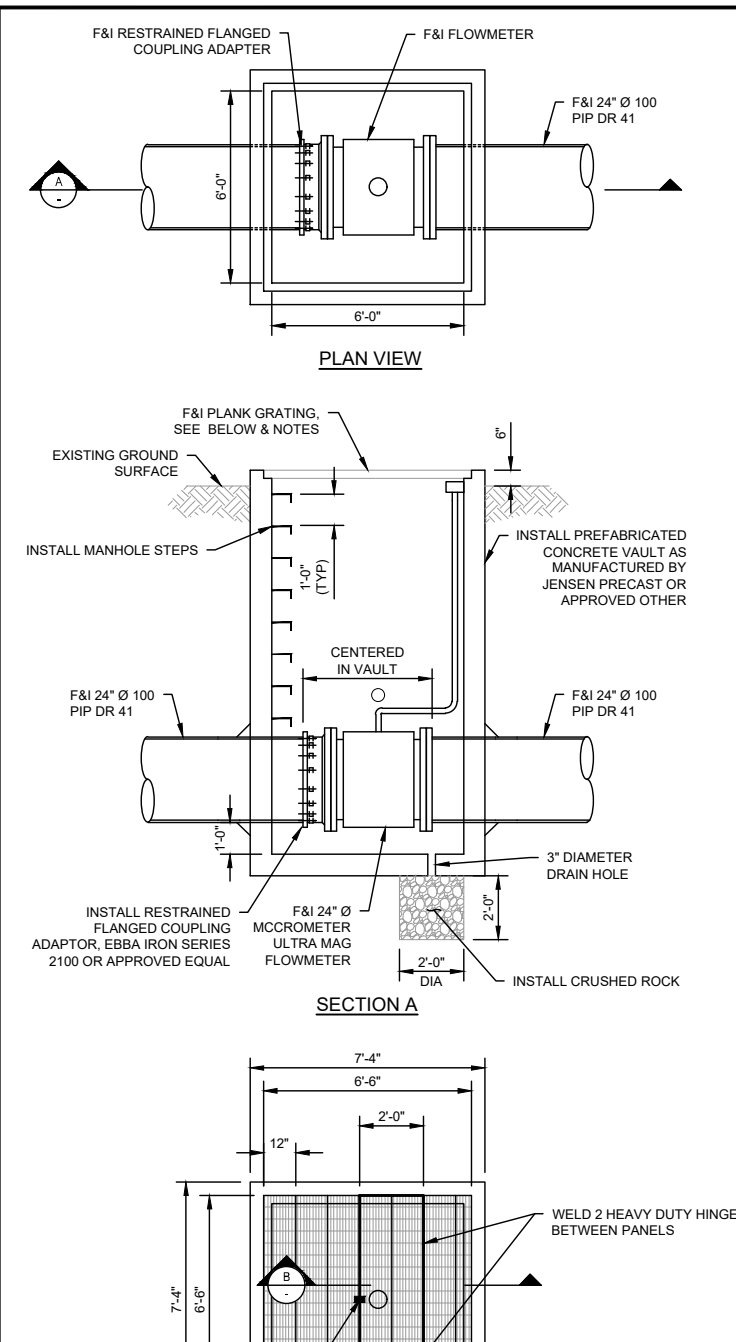
5  
D2

PVC PIPE AIR VENT



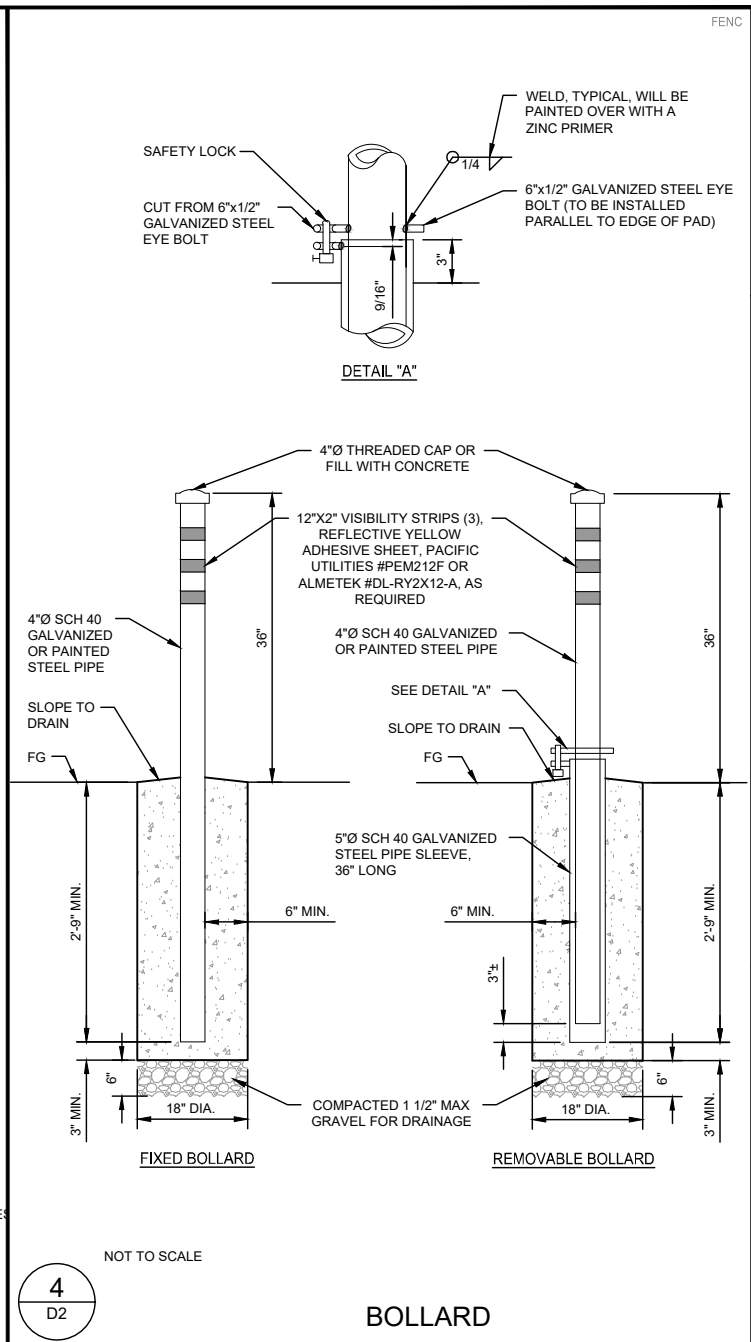
6  
D2

24" CANAL GATE



3  
D2

FLOWMETER VAULT



4  
D2

BOLLARD

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TULARE COUNTY  
DETAILS

DETAILS 2

DESIGN ENGINEER:  
M. KLINCHUCH  
LICENSE NO:  
83357

DRAFTED BY: DPJ  
CHECKED BY: EBN

DATE: 09/03/2024

JOB NO:

PROJECT NO: 1477-24001

PHASE: DES

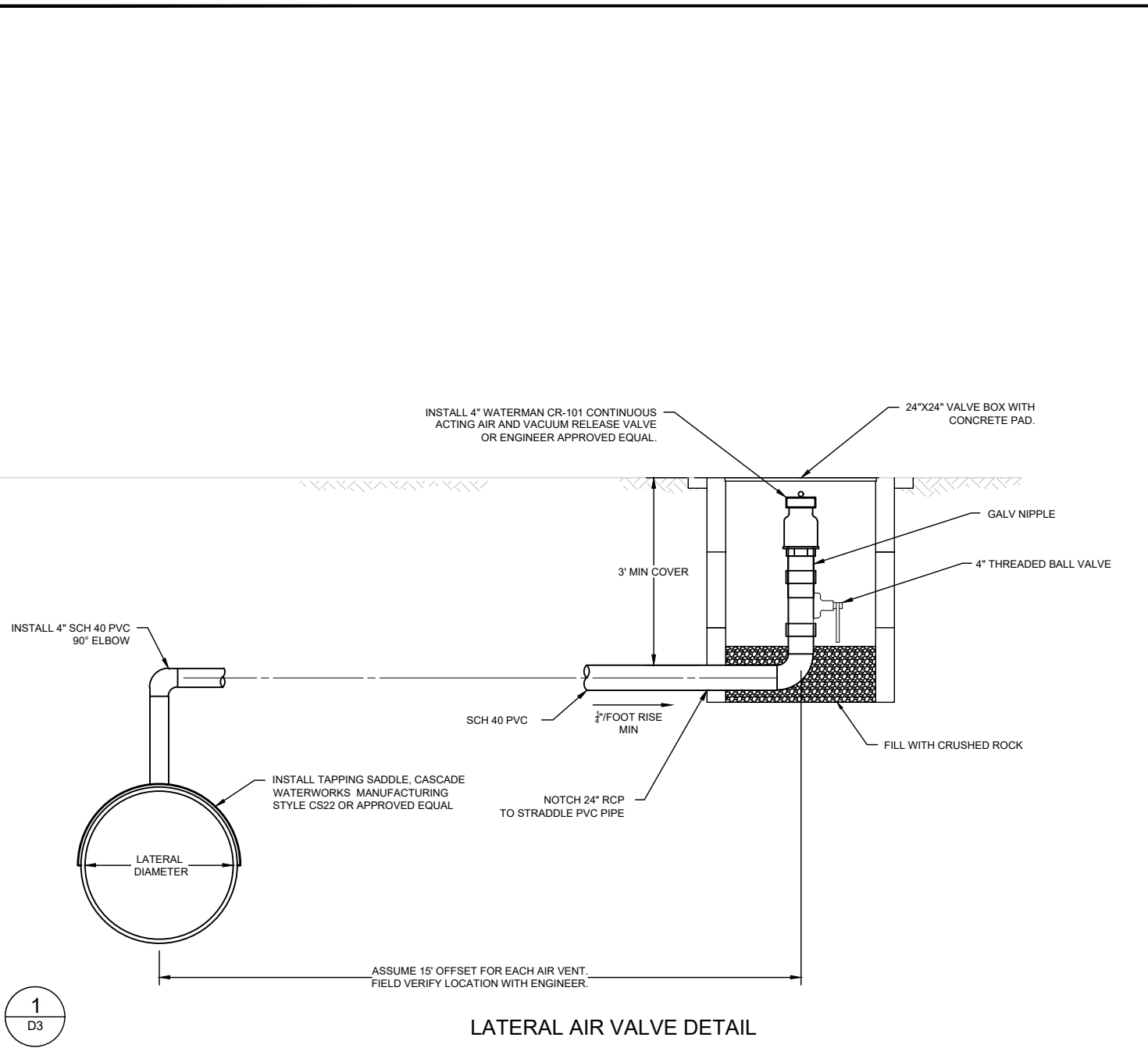
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SHEET D2

11 OF 12

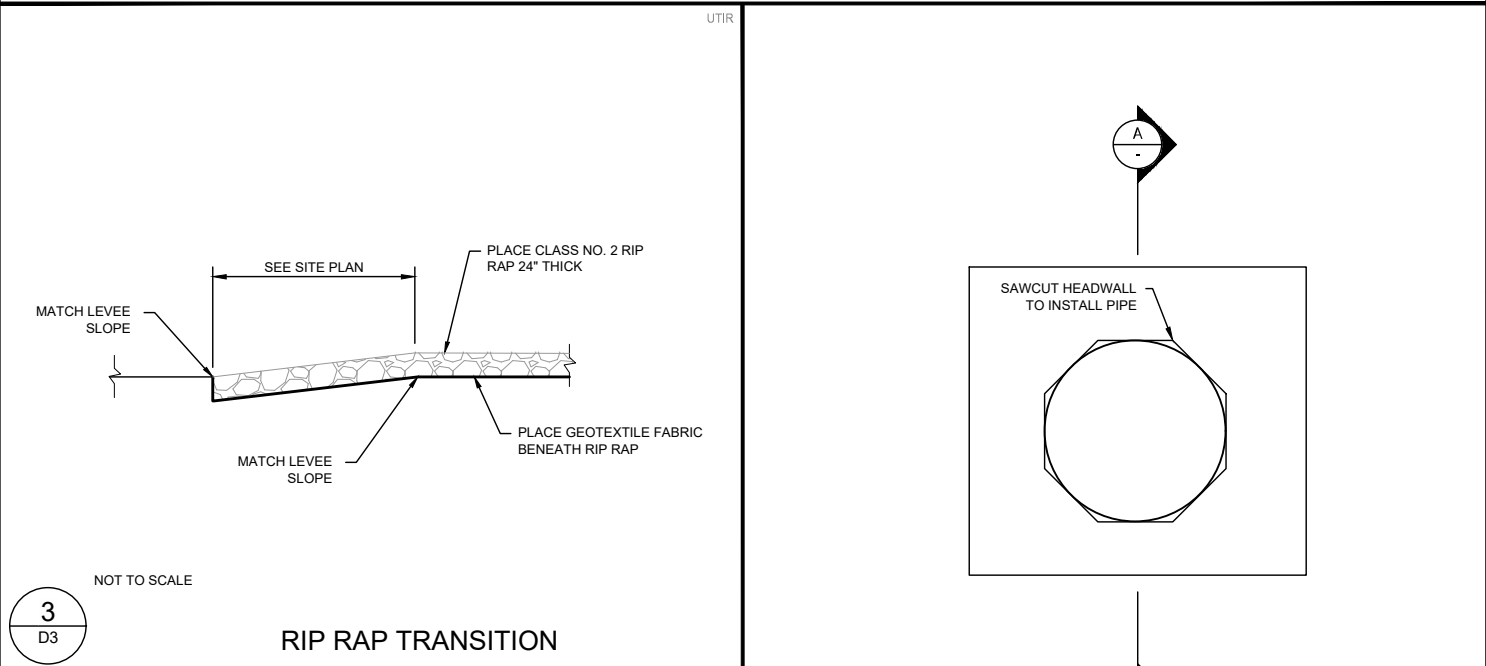
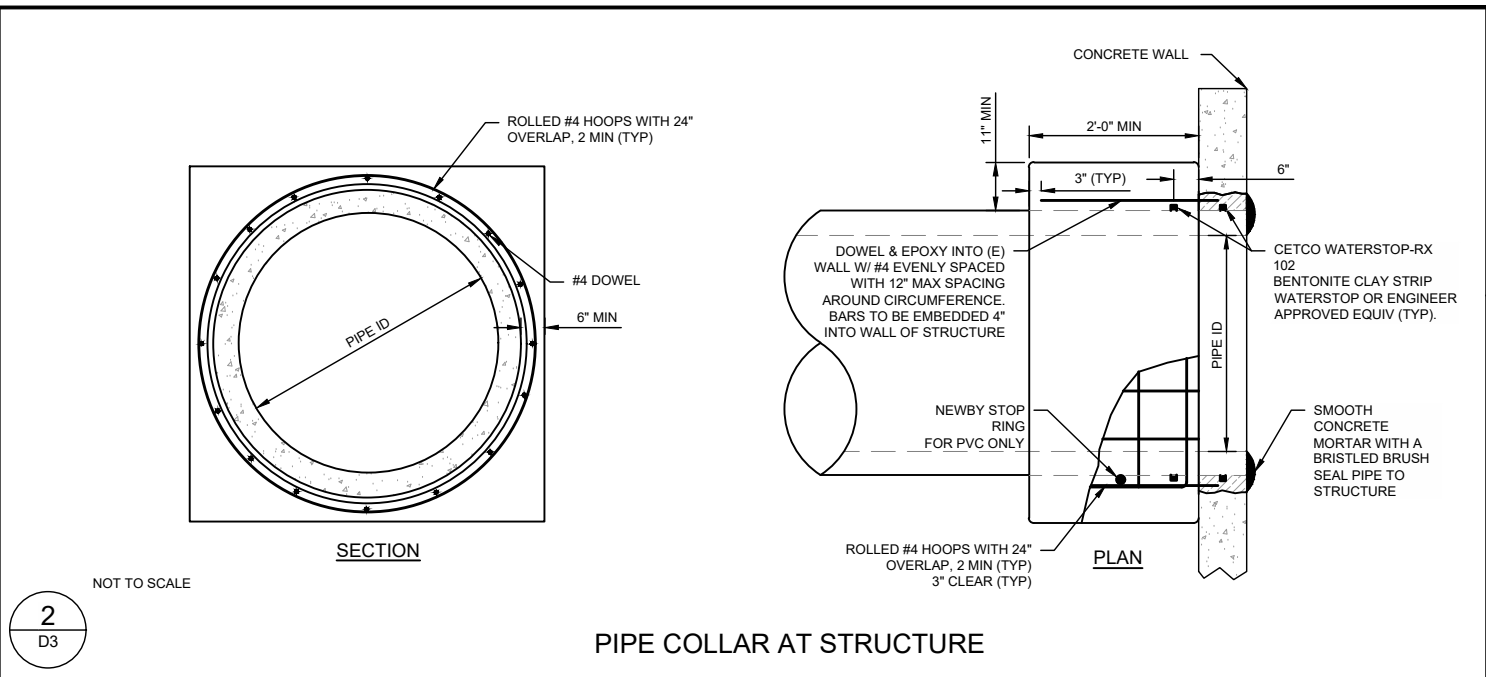
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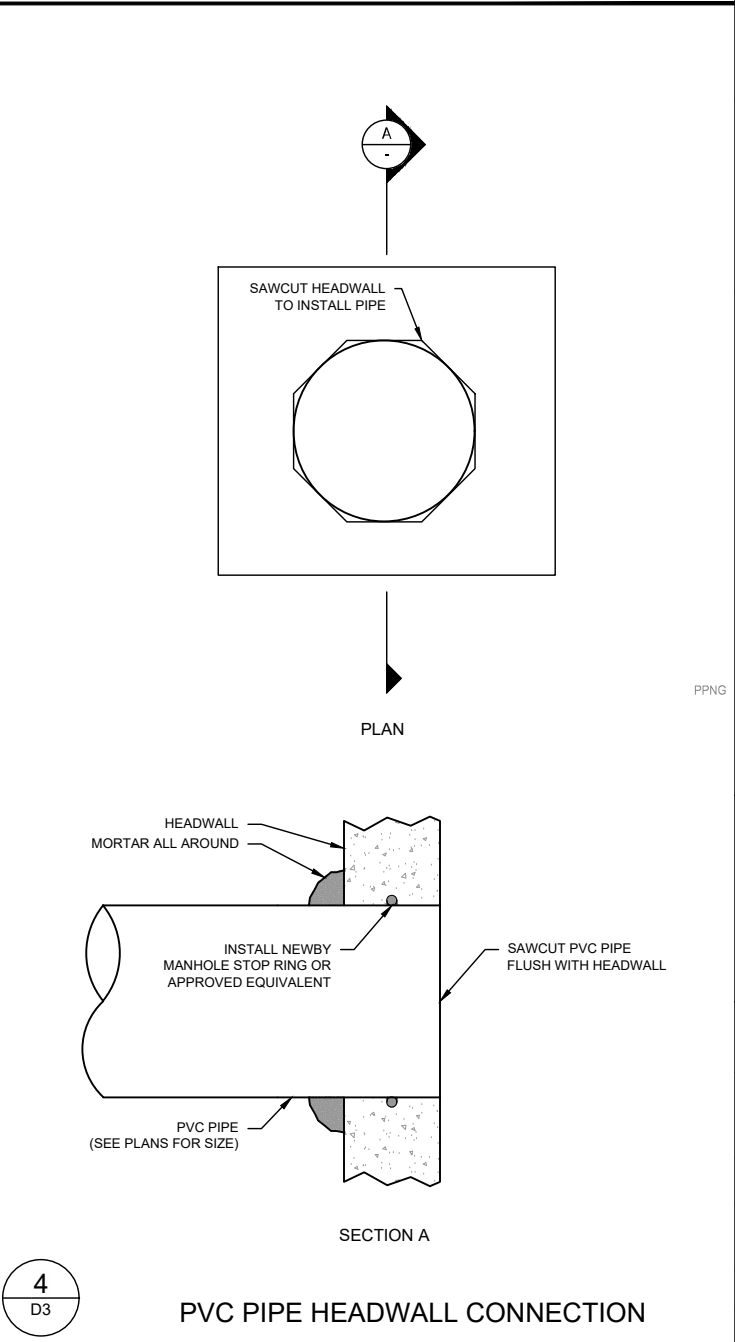


LATERAL AIR VALVE DETAIL

1  
D3



3  
D3



4  
D3

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REVISION

No.	BY	DATE

TIPTON PIPELINE  
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DETAILS 3

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SHEET D3  
12 OF 12

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