MAP AND CONSTRUCTION PLAN

FOR

SOUTH COUNTY RECYCLED WATER PIPELINE

PHASE 1C

SANTA CLARA VALLEY WATER DISTRICT







ATTHEW TAN, P.E. INIOR ENGINEER — PIPELINE ENGINEERING PELINES PROJECT DELIVERY UNIT

DATE

APPROVED BY:

WATER UTILITY CAPITAL DIVISION



JUAN RENTERIA, P.E.
CAPITAL ENGINEERING UNIT MANAGER
PIPELINES PROJECT DELIVERY UNIT
WATER UTILITY CAPITAL DIVISION



DATE



Emmanuel ARYEE, P.E.

DEPUTY OPERATING OFFICER
WATER UTILITY CAPITAL DIVISION

DATE

DATE

ACCEPTED BY:



GREG WILLIAMS,
DEPUTY OPERATING OFFICER
RAW WATER OPERATIONS & MAINTENANCE DIVISION

CONTRACT NUMBER

PROJECT NUMB 91094009

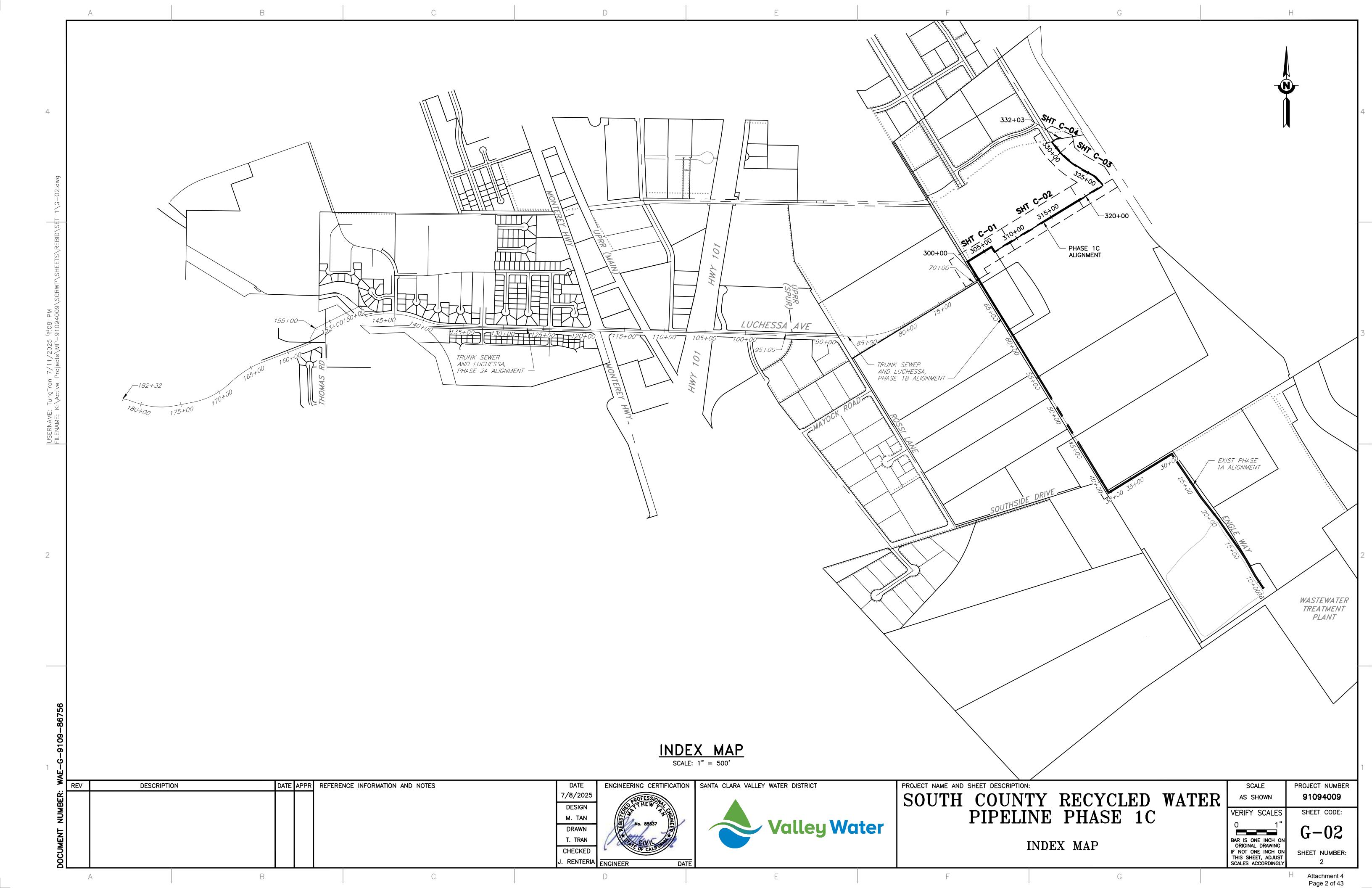
SHEET CODE:

G-01

SHEET NUMBER: 1
TOTAL SHEETS: 43

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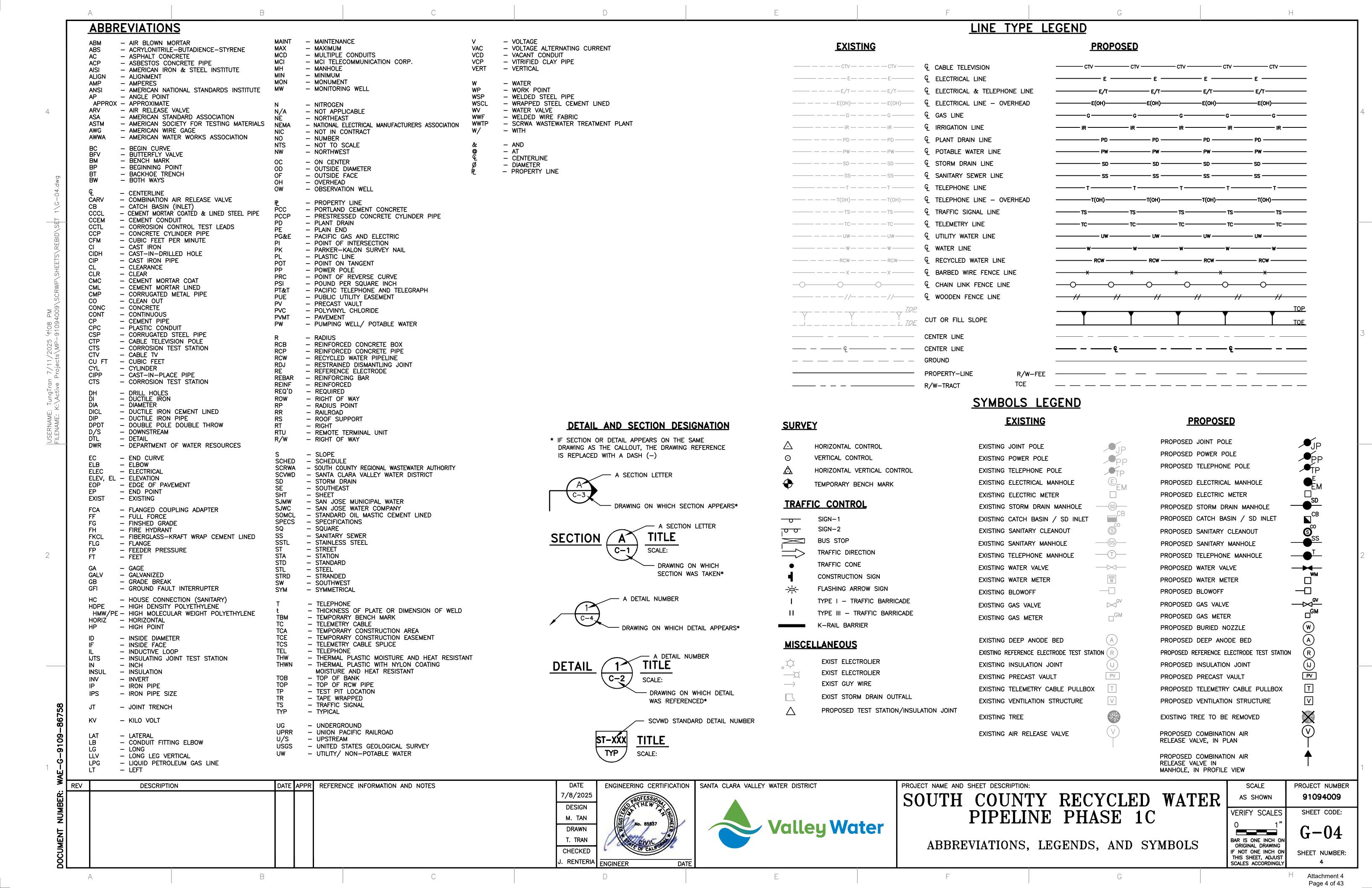
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PROJECT NUMBER

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GENERAL NOTES

- GENERAL NOTES APPLY TO ALL DRAWINGS.
- THE DESIGN HYDRAULIC GRADE LINE IS AT ELEVATION: 515 FEET.
- 3. THE CONTRACTOR SHALL HAVE, AND COMPLY WITH, ALL REQUIRED PERMITS PRIOR TO BEGINNING ANY CONSTRUCTION WORK.
- 4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL FEDERAL, STATE, AND LOCAL CODES, APPLICABLE PERMITS, AND OSHA
- 5. ALL EXISTING FACILITIES, STRUCTURES, TREES, FENCES, LANDSCAPING, ETC., DESIGNATED "EXIST" OR SHOWN EXISTING (DASHED OR SCREENED LINES) ARE TO REMAIN. EXISTING UTILITIES SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES. ONLY THOSE SPECIFICALLY DESIGNATED FOR REMOVAL AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER SHALL BE REMOVED.
- 6. THE INDICATED LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND FACILITIES ARE APPROXIMATE ONLY. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY ALL EXISTING UTILITIES BY POTHOLING PRIOR TO COMMENCING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS. SEE ARTICLE 24.03 OF SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION. (1-800-277-2600). THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS PRIOR TO EXCAVATION.
- 8. CONTRACTOR SHALL NOT STOCKPILE OR STORE PARTS, MATERIALS, EQUIPMENT, AND/OR SPOILS AT, OR ON, DISTRICT PROPERTIES, EXCEPT POTENTIAL STAGING AREAS AS DESIGNATED IN THESE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STOCKPILE AND STORAGE OF PARTS, MATERIALS, EQUIPMENT, AND SPOILS AND IS RESPONSIBLE FOR ANY OF ITS LOSS OR DAMAGE.
- 9. CONTRACTOR SHALL BE AWARE THAT SITE PLANS ARE BASED ON 2006 ORTHO PHOTOS AND ARE PROVIDED SOLELY FOR LOCATION REFERENCE AND LOGISTICS PLANNING. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AS REQUIRED.
- 10. SEE SHEETS G-06 AND G-07 FOR SURVEY DATA AND HORIZONTAL AND VERTICAL CONTROL INFORMATION.
- 11. ALL EXISTING GROUND ELEVATIONS ARE APPROXIMATE ONLY AND MUST BE FIELD VERIFIED BY THE CONTRACTOR.
- 12. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO THE CITY OF GILROY AND ENGINEER FOR REVIEW AND APPROVAL.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING GRADING. LOW SPOTS CREATED FROM CONSTRUCTION MUST BE GRADED TO DRAIN TO EXISTING DRAINAGE
- 14. UNLESS INDICATED OTHERWISE, ALL ELEVATIONS SHOWN AT GRADE BREAKS AND MATCH LINES REFER TO TOP OF PIPE.
- 15. UNLESS INDICATED OTHERWISE, ALL HORIZONTAL AND VERTICAL DISTANCES ARE IN FEET AND/OR DECIMALS OF A FOOT.
- 16. WHERE JOINT TRENCH IS SHOWN ON THE DRAWINGS, THE JOINT TRENCH MAY CONSIST OF ANY COMBINATION OF GAS, ELECTRIC, TELEPHONE, CABLE TV OR FIBER OPTIC UTILITIES.
- 17. NOT ALL SERVICE LATERALS, WHICH MAY INTERFERE WITH THE PROJECT, ARE SHOWN ON THE DRAWINGS.
- 18. CONTRACTOR SHALL INVESTIGATE THE SITE AND BE AWARE OF ANY POSSIBLE LIMITED OVERHEAD CLEARANCES.
- 19. CONTRACTOR SHALL PROVIDE VIBRATION MONITORING AND CONTROL CONSTRUCTION RELATED VIBRATIONS AS REQUIRED IN SPECIFICATIONS. SEE ARTICLE 18.03. VIBRATORY EQUIPMENT FOR PILE DRIVING OR OTHER WORK IS NOT ALLOWED.
- 20. THE CONTRACTOR SHALL PROVIDE PRE-CONSTRUCTION STRUCTURAL SURVEYS OF ALL ADJACENT RESIDENCES, INCLUDING MOBILE HOMES, AS REQUIRED IN SPECIFICATIONS. SEE ARTICLE 16.04.
- 21. PER ARTICLE 23.04, THE CONTRACTOR SHALL PERFORM ALL WORK REQUIRED FOR DISCHARGING TEST WATER.
- 22. PHASE 1A PIPELINE AND EXISTING 12" RECYCLED WATER PIPELINE SHALL BE DRAINED, VIDEO INSPECTED, AND CLEANED BY CONTRACTOR PRIOR TO CONSTRUCTION. SEE ARTICLE 29.07, 29.09 AND 29.10 OF THE SPECIFICATIONS.
- 23. AT ALL LOCATIONS WHERE NEW FACILITIES WILL BE TIED INTO EXISTING PIPELINE, REMOVED SECTIONS OF PIPELINE SHALL BE PROVIDED TO THE DISTRICT FOR METALLURGICAL ANALYSIS.
- 24. WHERE THE WORK IS DEPENDENT UPON THE DIMENSIONS OF EXISTING FACILITIES, THE CONTRACTOR SHALL VERIFY THE DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.
- 25. CONTRACTOR SHALL FIELD-VERIFY ALL DIMENSIONS FOR ALL NEW INSTALLATIONS AND NOTIFY THE ENGINEER OF ALL DISCREPANCIES.
- 26. CONTRACTOR SHALL REFER TO ARTICLE 13.05 FOR CONTRACTOR'S ENGINEERING AND DESIGN.

PIPELINE PHASE STATION RANGES

- 1. PHASE 1B STA 1+22 TO STA 8+98 AND STA 38+00 TO STA 119+80
- 2. PHASE 2A STA 119+80 TO STA 152+15
- 3. PHASE 2B STA 152+15 TO STA 182+32
- 4. PHASE 1C STA 300+00 TO STA 332+03

GENERAL NOTES - PIPE

- 1. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL FLANGES ARE AWWA CLASS E.
- 2. ALL IN-VAULT, IN-UTILITY BOX AND EXPOSED APPURTENANCES (AIR-RELEASE VALVES, BUTTERFLY VALVES, FLANGE COUPLING ADAPTERS, BALL VALVES, FLANGES, PIPING, ETC.) SURFACES SHALL BE PREPARED AND COATED/PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
- 3. THREAD ANTI-SIEZE COMPOUND SHALL BE USED ON ALL BOLT THREADS AND THREADED CONNECTIONS. ALL BOLTED CONNECTIONS SHALL BE TORQUED ACCORDING TO AWWA C207 AND M11.
- 4. INSTALL NON-SHRINK WATERSTOP CEMENT MORTAR GROUT BETWEEN VAULT AND UTILITY BOX EXTENSION RINGS. ALL SUB-GRADE VAULT AND UTILITY BOX PIPE AND CABLE PENETRATIONS SHALL BE GROUTED AND SEALED WITH NONSHRINK WATERSTOP GROUT AND POLYURETHANE SEALANT OR EQUAL.
- 5. BACKFILL AROUND CHRISTY BOXES IN PAVED AREAS OR CONCRETE SIDEWALKS SHALL BE CONCRETE SLURRY OR CONTROL DENSITY FILL. BACKFILL AROUND CHRISTY BOXES IN UNPAVED AREAS (DIRT/TRAIL) SHALL BE RESTORED TO ORIGINAL CONDITION.
- 6. UTILITY BOX ORIENTATION AND PLACEMENT SHALL BE AS DEPICTED ON THE SITE PLANS. UTILITY BOXES SHALL BE PLACED AND ORIENTED TO MINIMIZE DISRUPTION TO EXISTING SURROUNDINGS. PLACEMENT SHALL BE CONFIRMED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.
- 7. CONTRACTOR SHALL PREPARE AND COAT/PAINT ALL NEW IN-VAULT METAL PIPELINES APPURTENANCES, AND ACCESSORY ASSEMBLY SURFACES. GALVANIZED AND ALUMINUM SURFACES SHALL NOT BE INCLUDED.
- 8. CONTRACTOR SHALL REPAIR THE CEMENT MORTAR LINING OF PIPELINE ASSEMBLIES PRIOR TO REINSTALLATION, UNLESS SPECIFIED OTHERWISE. SIKATOP 123 PLUS OR EQUAL SHALL BE USED FOR ALL CEMENT MORTAR LINING REPAIRS. CEMENT MORTAR LINING REINFORCEMENT MESH SHALL BE PLACED AND SECURED IN A ACCORDANCE WITH APPLICABLE AWWA 303 REQUIREMENTS.
- 9. IN NEW PIPELINE CROSSINGS BELOW SANITARY SEWER, JOINTS SHALL NOT BE WITHIN 8 FEET OF CROSSING.

CORROSION CONTROL NOTES

- RECYCLED WATER PIPELINE SHALL BE BONDED TO THE EXISTING AND NEW RECYCLED WATER PIPELINE REACHES FOR CATHODIC PROTECTION.
- 2. CORROSION TEST STATIONS SHALL BE INSTALLED AT ALL VAULTED APPURTENANCES, CASING TERMINATIONS AND INSULATING JOINT LOCATIONS.
- ALL NON-WELDED, NON-INSULATING JOINTS (INCLUDING ALL LATERALS AND RISERS FOR APPURTENANCES) SHALL BE BONDED WITH HMWPE INSULATED COPPER CABLE FOR ELECTRICAL CONTINUITY OF THE RECYCLED WATER PIPELINE. FOR CABLE SIZE AND QUANTITY PER JOINT.
- 4. AFTER COMPLETION, THE SYSTEM SHALL BE TESTED OR ENERGIZED AND TESTED UNDER THE SUPERVISION OF THE ENGINEER.
- 5. ALL BURIED MECHANICAL PIPE JOINTS SHALL ADHERE TO SHEET CP-02, DET 7.

WWTP HAUL ROUTE/STAGING NOTES:

- 1. THE CONTRACTOR IS ADVISED THAT SOUTH COUNTY REGIONAL WASTE WATER AUTHORITY (SCRWA) PERSONNEL WILL UTILIZE ENGLE WAY, SOUTHSIDE DRIVE AND THE ACCESS ROADS AND GATES LOCATED ALONG ENGLE WAY AND SOUTHSIDE DRIVE TO GAIN ACCESS TO THEIR FACILITY. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS REQUIRED BY SCRWA AND SHALL FULLY COOPERATE WITH SCRWA PERSONNEL SO AS TO NOT HINDER OR INTERRUPT THE ASSIGNED TASK OF SAID PERSONNEL.
- 2. CONTRACTOR SHALL COORDINATE ACTIVITIES SUCH THAT SCRWA FACILITY OPERATIONS ARE NOT IMPACTED.
- 3. CONTRACTOR SHALL NOT IMPEDE ACCESS TO SCRWA FACILITY FROM ENGLE WAY AND SOUTHSIDE DRIVE.
- 4. ACCESS ROADS WITHIN JOB SITE
- 4.1. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ACCESS ROAD TO ALL STAGING, OFFICE TRAILER, AND STORAGE AREAS AND OTHER AREAS TO WHICH FREQUENT ACCESS IS REQUIRED. MAINTAIN ACCESS TO ALL OTHER EXISTING FACILITIES ON THE SITE, INCLUDING ACCESS FOR DELIVERY OF MATERIALS AND FOR MAINTENANCE AND OPERATION.
- 4.2. WHERE TEMPORARY ROADS CROSS BURIED UTILITIES THAT MIGHT BE DAMAGED BY THE LOADS LIKELY TO BE IMPOSED, SUCH UTILITIES SHALL BE ADEQUATELY PROTECTED SO THAT NO LOADS SHALL DISCHARGE ON SUCH BURIED UTILITIES.
- 4.3. ON-SITE ACCESS ROADS SHALL BE FREE OF MUD. UNDER NO CIRCUMSTANCE SHALL VEHICLES LEAVING THE SITE TRACK MUD OR DIRT OFF THE SITE ONTO PUBLIC RIGHT-OF-WAY.
- 4.4. THE CONTRACTOR WILL BE PERFORMING WORK AT AN OPERATIONAL FACILITY WHICH IS CRITICAL AND MUST REMAIN IN CONTINUOUS OPERATION AT ALL TIMES. THE CONTRACTOR SHALL SCHEDULE AND PERFORM HIS/HER WORK SUCH THAT THERE IS NO DISRUPTION TO THE FACILITY OPERATIONS AND ACCESS. ACCESS TO THE FACILITY AND ALL PORTIONS OF THE FACILITY SHALL BE MAINTAINED AT ALL TIMES FOR THE STAFF.
- 4.5. THE CONTRACTOR SHALL COORDINATE THE TRENCHING ACTIVITIES, SUCH AS TRENCHING FOR PIPING THAT WILL CROSS ACCESS ROADS AT THE SCRWA'S PLANT ENTRY GATES AND AT SEVERAL OTHER LOCATIONS, WITH THE ENGINEER, AND SHALL PROVIDE TRAFFIC STEEL PLATES AS REQUIRED TO MAINTAIN PLANT ACCESS. NO ACCESS INTERRUPTION TO ANY PORTION OF THE PLANT WILL BE ALLOWED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 10 DAYS IN ADVANCE OF ANY PLANNED TRENCHING OR EXCAVATION CROSSING ANY ACCESS ROAD.
- 5. CONSTRUCTION HAUL ROUTES AND DETOUR ROADWAYS, ALSO USED FOR SCRWA OPERATIONS, MAINTENANCE, AND TRUCK DELIVERY TRAFFIC, SHALL BE MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL IMPROVE THE EXISTING CONDITION OF THE HAUL/DETOUR ROUTES TO ELIMINATE POTHOLES AND MAKE IT SAFE AND PASSABLE BY VEHICLES AND HEAVY TRUCK TRAFFIC. MAINTENANCE SHALL INCLUDE DUST CONTROL, GRADING AND ROADWAY REPAIRS AS NECESSARY DURING THE CONSTRUCTION PERIOD. AT THE END OF CONSTRUCTION, ROUTES SHALL BE LEFT IN AN IMPROVED CONDITION, PASSABLE BY PASSENGER VEHICLE AND TRUCK DELIVERY TRAFFIC.
- 6. ALL ITEMS DELIVERED TO THE SITE SHALL BE UNLOADED AND PLACED IN A MANNER WHICH WILL NOT: (1) HAMPER THE CONTRACTOR'S NORMAL CONSTRUCTION OPERATION OR THOSE OF SUBCONTRACTORS AND OTHER CONTRACTORS: (2) INTERFERE WITH THE FLOW OF NECESSARY TRAFFIC: AND (3) INTERFERE WITH SCRWA'S AND THE DISTRICT'S NORMAL OPERATIONS AND MAINTENANCE ACTIVITIES. IN ADDITION, THE CONTRACTOR SHALL:
- 6.1. PROVIDE NECESSARY EQUIPMENT AND PERSONNEL TO UNLOAD ALL ITEMS DELIVERED TO THE SITE.
- 6.2. PROMPTLY INSPECT SHIPMENT TO ASSURE THAT PRODUCTS COMPLY WITH REQUIREMENTS, QUANTITIES ARE CORRECT AND ITEMS ARE UNDAMAGED. FOR ITEMS FURNISHED BY OTHERS (I.E., DISTRICT, OTHER CONTRACTORS) PERFORM INSPECTION IN THE PRESENCE OF THE ENGINEER. NOTIFY ENGINEER VERBALLY, AND IN WRITING, OF ANY PROBLEMS.
- 7. MATERIAL AND EQUIPMENT STORAGE AREAS SHALL BE SUITABLY FENCED AND SECURED, IF NECESSARY, TO PROTECT THE PUBLIC, WORKERS, SCRWA AND DISTRICT STAFF, AND THE MATERIALS AND EQUIPMENT FROM DAMAGE OR THEFT.
- 8. UNLESS OTHERWISE DESIGNATED IN THE CONTRACT DOCUMENTS, LOCATIONS FOR STORAGE SITES FOR MATERIALS AND EQUIPMENT OUTSIDE THE SCRWA/DISTRICT'S PROPERTY LINES, LIMITS OF WORK, OR RIGHT-OF-WAY, SHALL BE SELECTED AND MAINTAINED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. FULL COMPENSATION FOR FURNISHING SUCH STORAGE SITES AS MAY BE NECESSARY OR REQUIRED BY THE CONTRACTOR SHALL BE CONSIDERED AS INCLUDED IN BID PRICE AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREFORE. DISTRICT SHALL BE SPECIFICALLY EXEMPTED IN ANY AGREEMENT FROM ANY LIABILITY INCURRED FROM THE USE OF PRIVATE PROPERTY FOR CONSTRUCTION PURPOSES. USE OF PORTIONS OF THE DISTRICT'S AREA AT THE SITE FOR MATERIALS AND EQUIPMENT STORAGE SHALL BE PERMITTED ONLY UPON THE APPROVAL OF THE ENGINEER.

REFERENCE INFORMATION AND NOTES **REV** DESCRIPTION

ENGINEERING CERTIFICATION | SANTA CLARA VALLEY WATER DISTRICT 7/8/2025 **DESIGN** M. TAN DRAWN T. TRAN **CHECKED** RENTERIA

ENGINEER DATE



PROJECT NAME AND SHEET DESCRIPTION:

SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

GENERAL NOTES

SCALE PROJECT NUMBER AS SHOWN 91094009 **VERIFY SCALES** SHEET CODE: G - 05BAR IS ONE INCH OF

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SURVEY CONTROL INFORMATION

HORIZONTAL DATUM: CALIFORNIA COORDINATE SYSTEM 83 ZONE III EPOCH 2009.00 (CCS83 (2009.00) ZONE III)

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 88 (NAVD88), EPOCH JUNE 22, 2008

UNIT OF MEASURE: U.S. SURVEY FEET

	HORIZONTAL CONTROL								
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION					
20023	1819074.76	6258540.06	174.09	REBAR/CAP IN CENTERLINE OF LEVEE, DOWN 0.25 FEET					
20029	1819883.08	6259144.69	175.68	REBAR/CAREBAR/CAP IN CENTERLINE OF LEVEE, DOWN 0.24 FEET					
20030	1819224.83	6259606.88	175.07	REBAR/CAP AT SOUTHERLY SIDE OF LEVEE					
20037	1818729.32	6255959.16	175.20	IP IN MON BOX AT SOUTHSIDE DRIVE AND ROSSI LANE, RCE 13769					
20039	1820410.45	6254931.68	180.98	IP IN MON BOX AT MAYOCK ROAD AND ROSSI LANE, RCE 13769, DOWN 0.52 FEET					
20051	1817944.90	6260222.60	161.77	MAGNAIL AND TIN IN ASPHALT ROAD					
20052	1821161.28	6254419.14	183.13	MAG NAIL AND TIN IN PARKING LOT OF 655 E. LUCHESSA AVE.					
20056	1816900.86	6260440.08	161.88	REBAR/CAP IN CENTERLINE OF ROAD WESTERLY OF POND WITH TAN LINER					
22906	1823117.56	6255946.05	179.89	BRASS DISK IN MON BOX AT INTERSECTION OF CAMINO ARROYO AND VENTURE WAY					
22907	1823419.79	6256384.71	176.19	BRASS DISK IN MON BOX 500 FEET NORTHEASTERLY OF CAMINO ARROYO AND VENTURE WAY					
22908	1823715.46	6257008.39	177.92	BRASS DISK IN MON BOX AT INTERSECTION OF VENTURE WAY AND CAMERON BLVD.					
23020	1821676.90	6253061.81	187.45	MAG NAIL AND TIN AT NORTHERLY END OF JAMIESON WAY					
23024	1821415.21	6252428.93	189.96	MAG NAIL AND TIN IN CENTERLINE OF CHESTNUT STREET AT #6310					
23034	1821467.13	6250955.30	193.07	IP IN MONBOX AT STRATFORD PL AND HYDE PARK DRIVE					
40001	1820728.09	6247968.35	226.96	BRASS DISK IN MON BOX IN CENTERLINE OF CUL DE SAC AT 6370 BLACKBERRY CT.					
42006	1821305.46	6246829.98	236.36	BRASS DISK IN MON BOX, RCE # 25281, AT 6470 VILLAGE PL, DOWN 0.68 FEET					
42012	1819906.30	6247309.67	237.67	BRASS DISK IN MON BOX AT 6300 RASBERRY CT, DOWN 0.45 FEET					
42013	1819404.76	6246039.02	263.38	BRASS DISK IN MON BOX, RCE # 8859, IN CENTERLINE OF OAK BROOK WAY BETWEEN #1015 AND #1025, DOWN 0.51 FEET					

	VERTICAL CONTROL							
POINT # NORTHING EASTING ELEVATION				DESCRIPTION				
Вм 263	1820723.01	6260437.16	170.89	BRASS DISK ON CONCRETE BRIDGE DECK AT THE NORTHEASTERLY CORNER OF SOUTHSIDE DRIVE BRIDGE OVER LLAGAS CREEK				
BM 310	1821323.34	6248592.14	223.21	BRASS DISK ON CONCRETE BRIDGE DECK AT THE NORTHEASTERLY CORNER OF LUCHESSA AVE BRIDGE OVER UVAS-CARNADERO CREEK, 2.5 FEET SOUTH OF HEADWALL AND 23 FEET WEST OF EAST END OF HEADWALL				

DATE APPR REFERENCE INFORMATION AND NOTES DESCRIPTION CHECKED



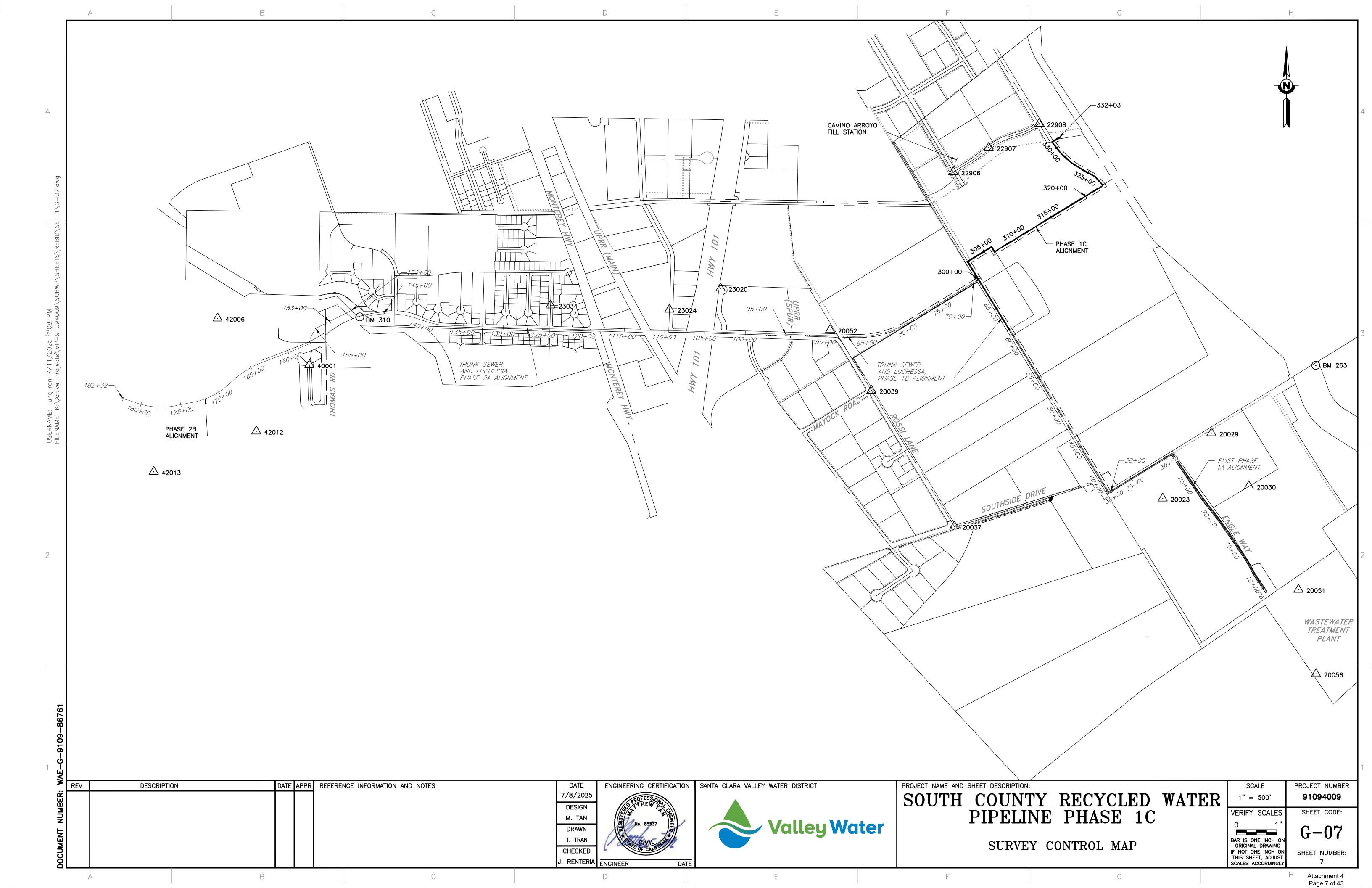


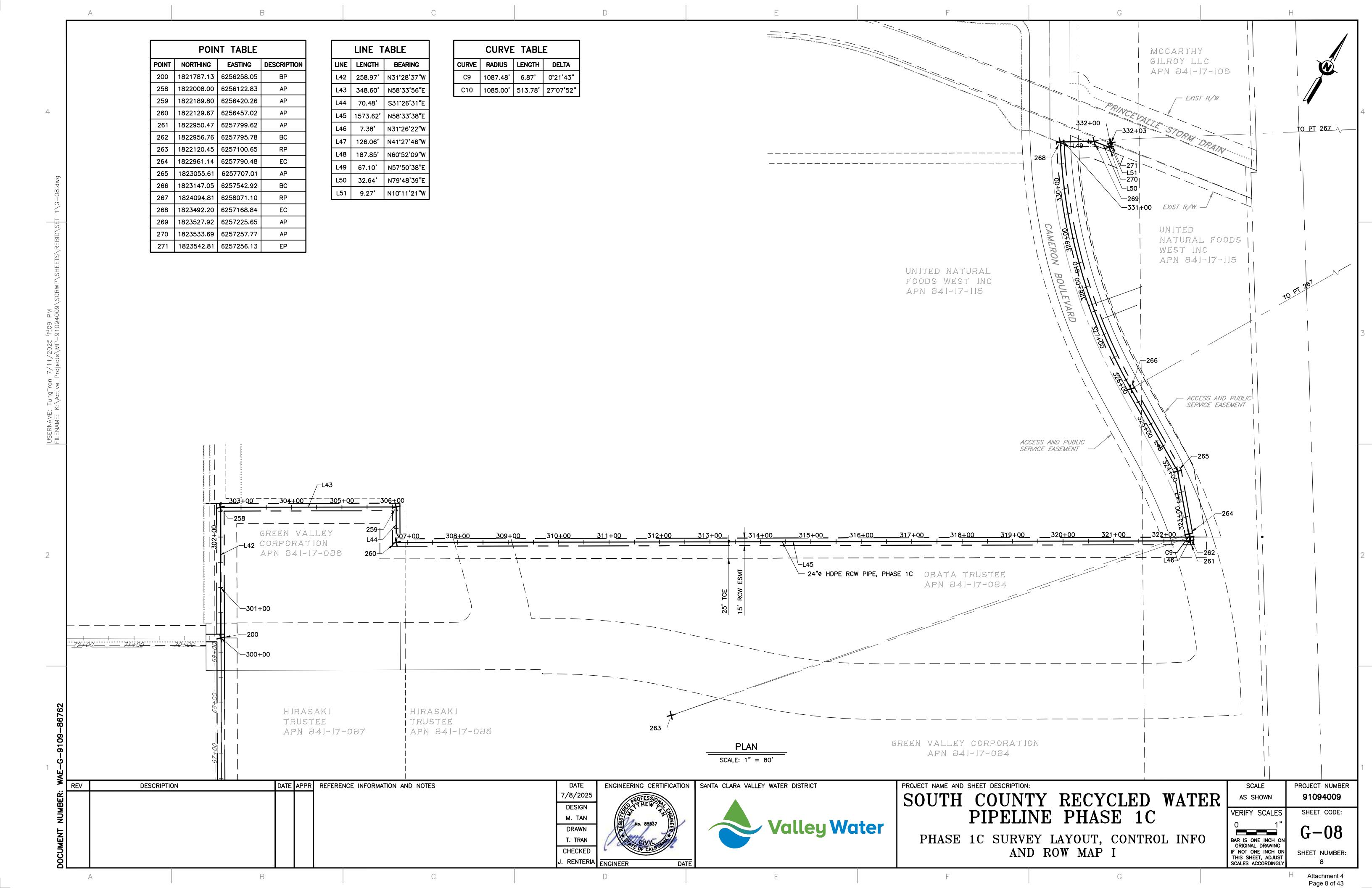
SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

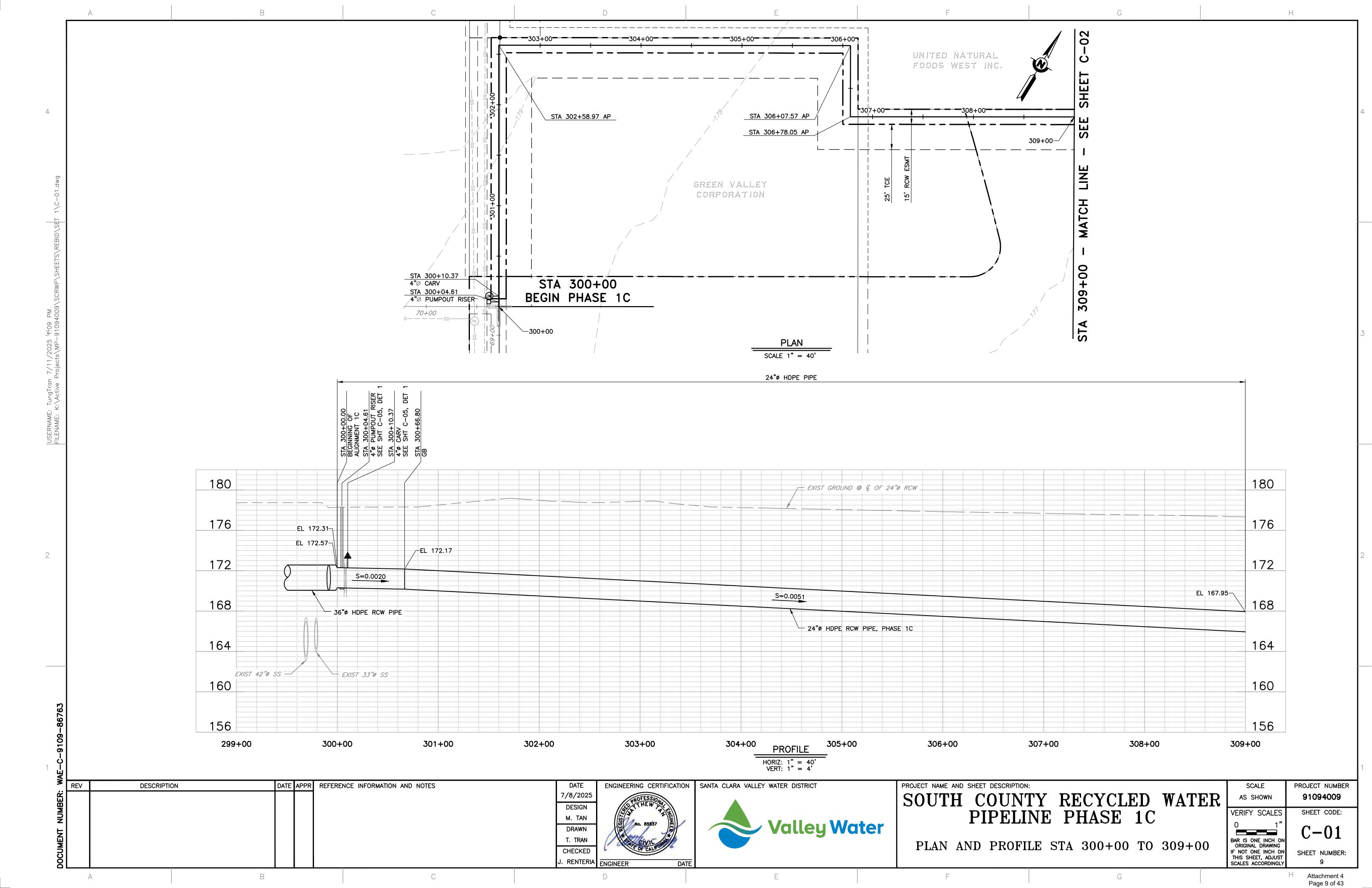
SURVEY	CONTROL	INFORMATION

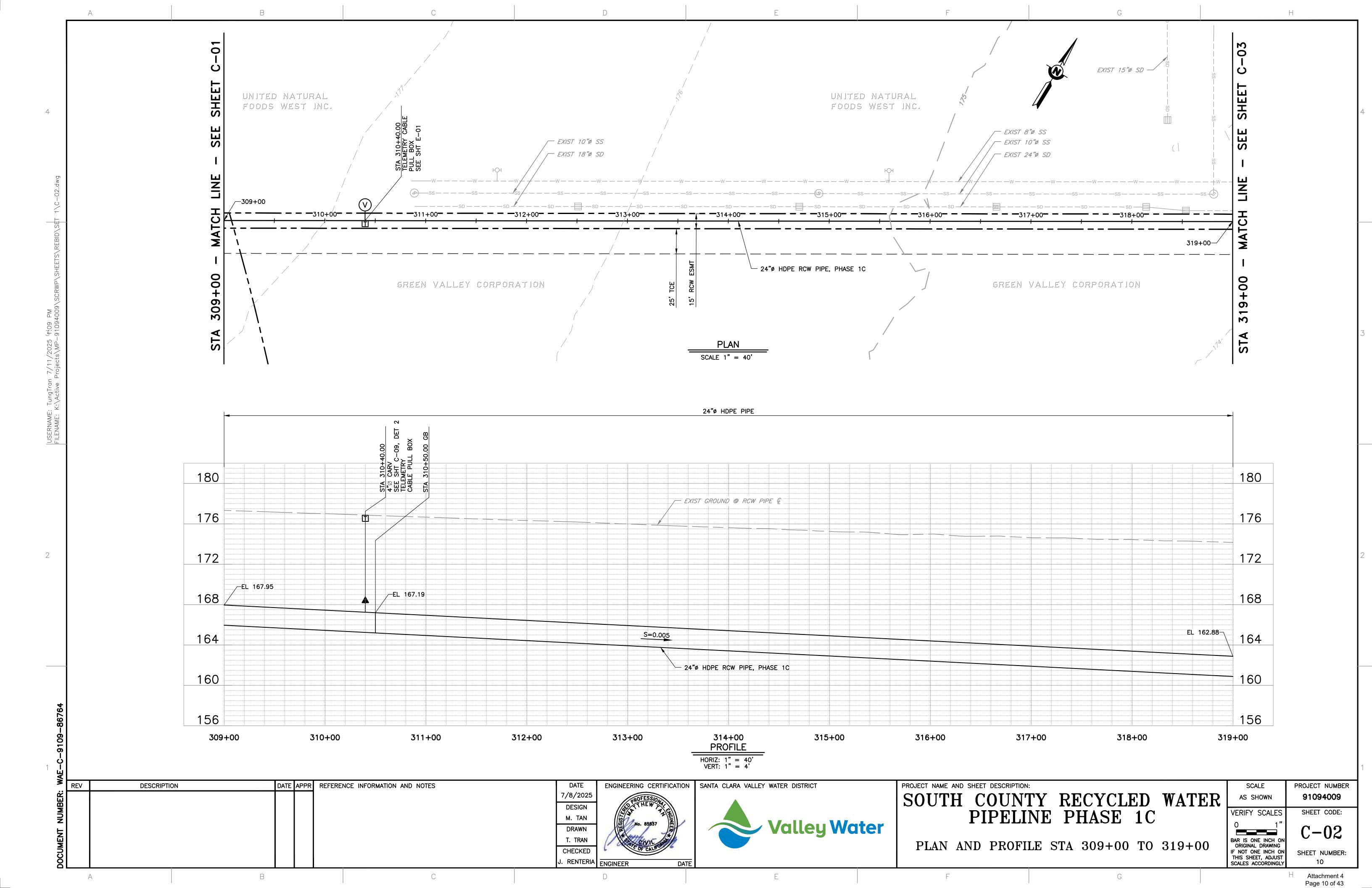
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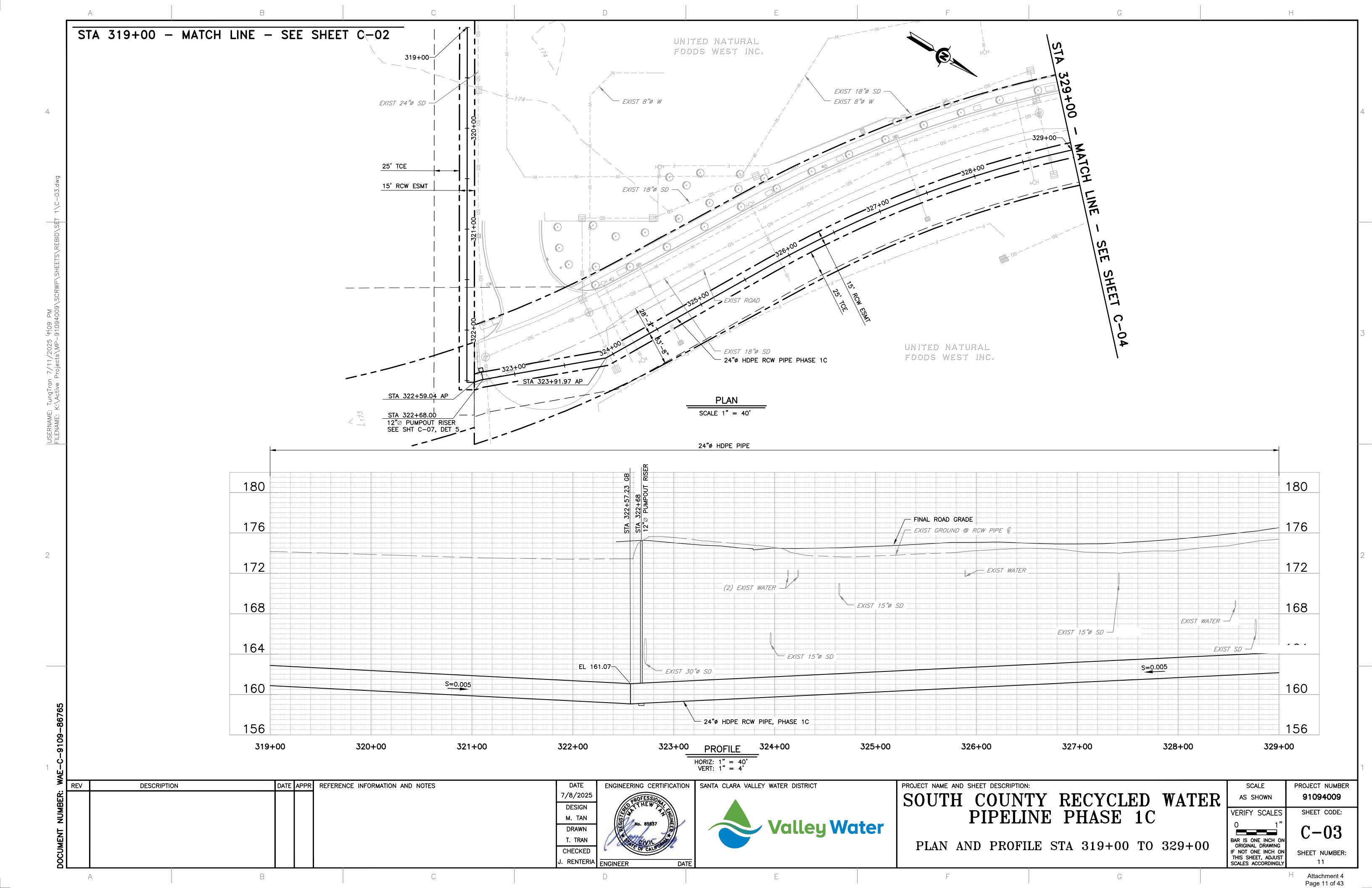
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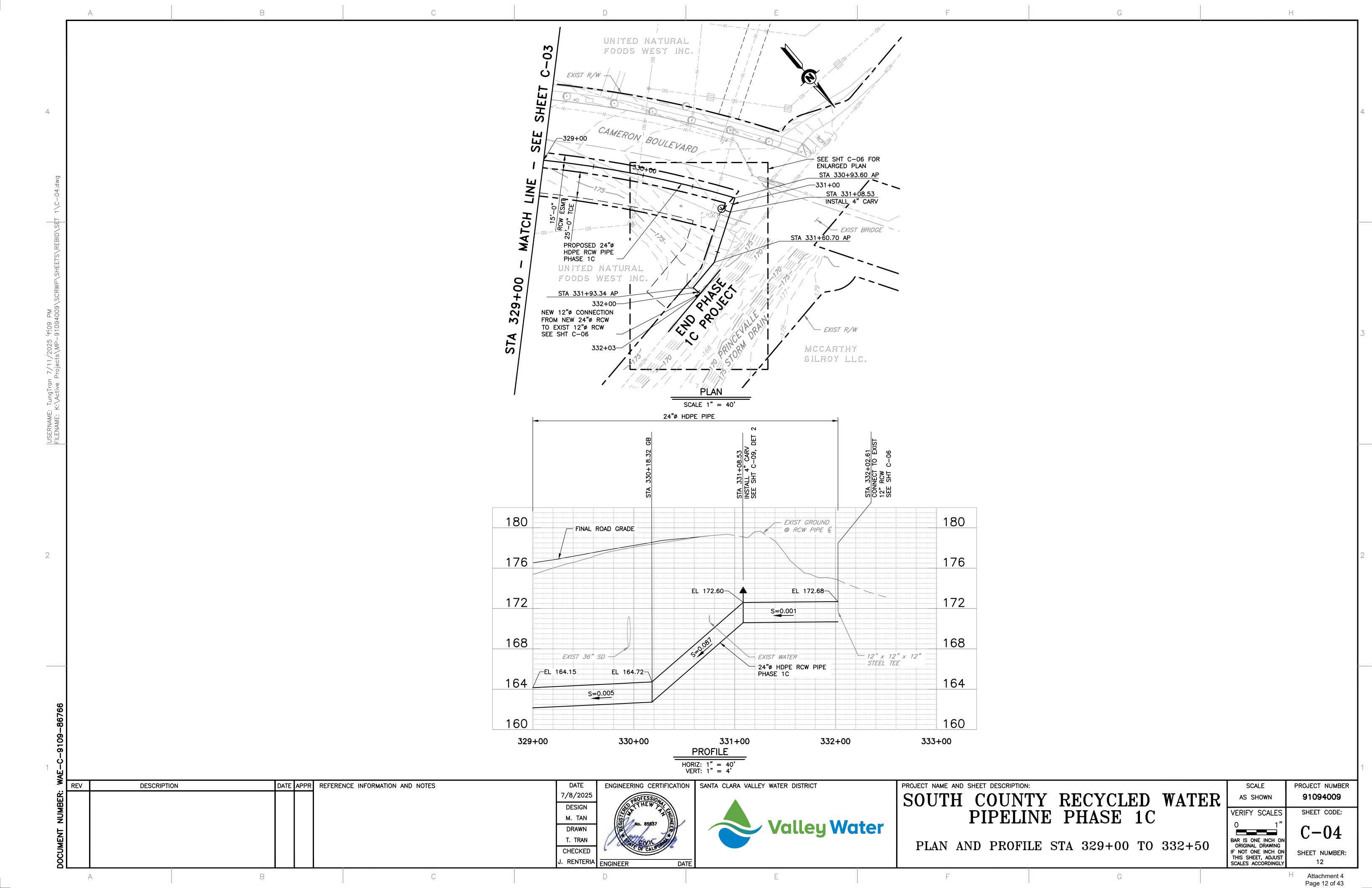


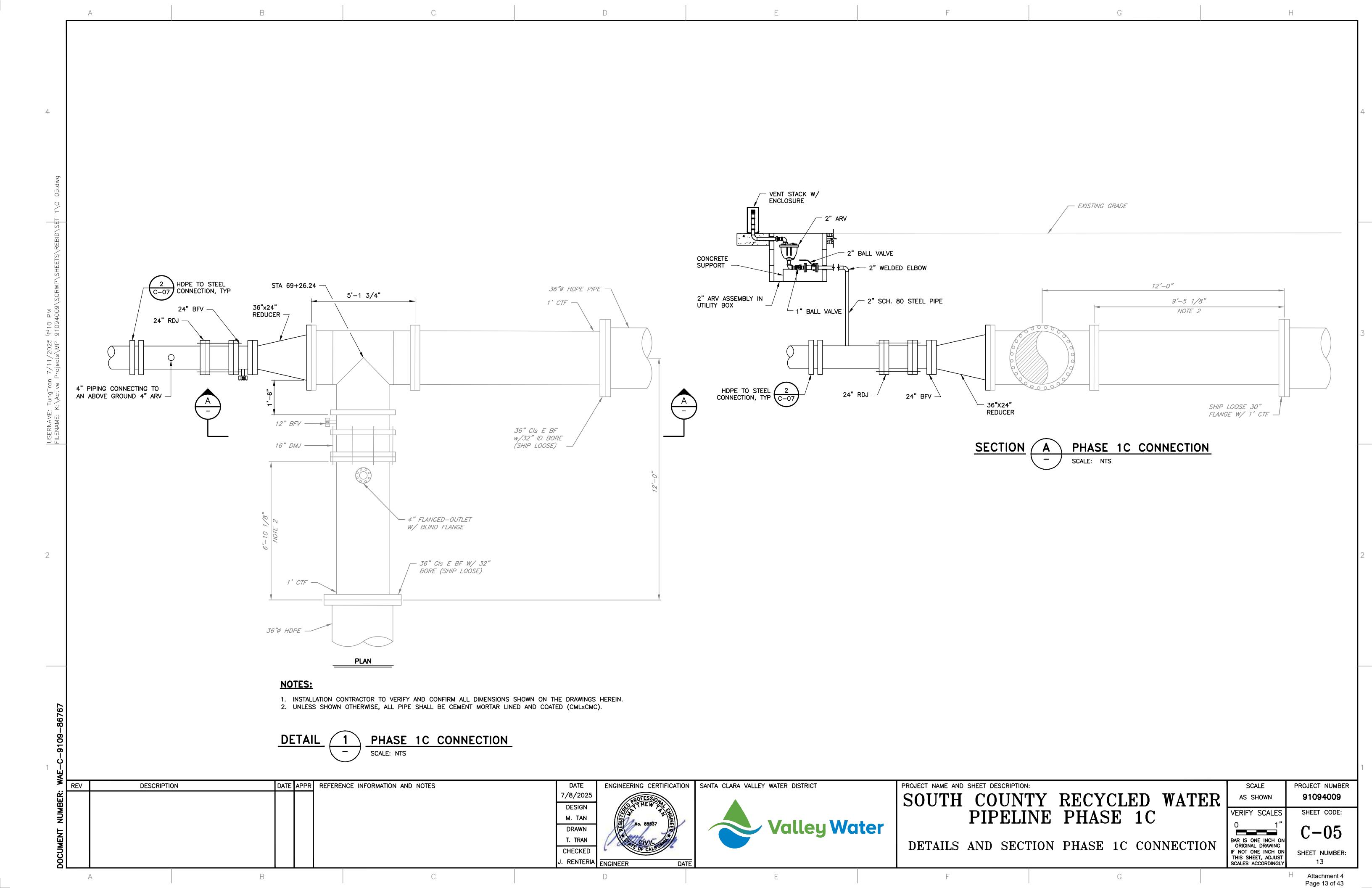


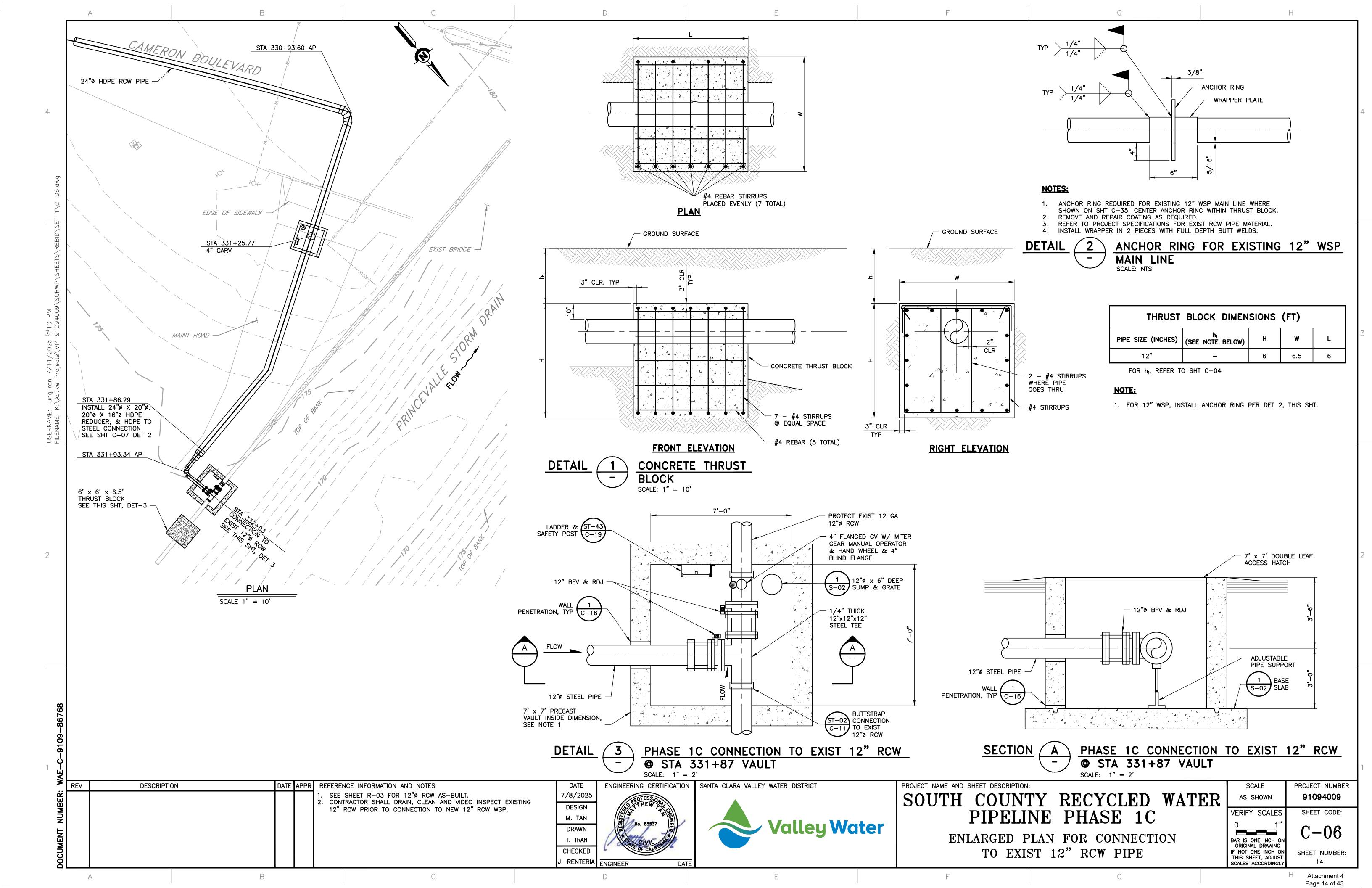


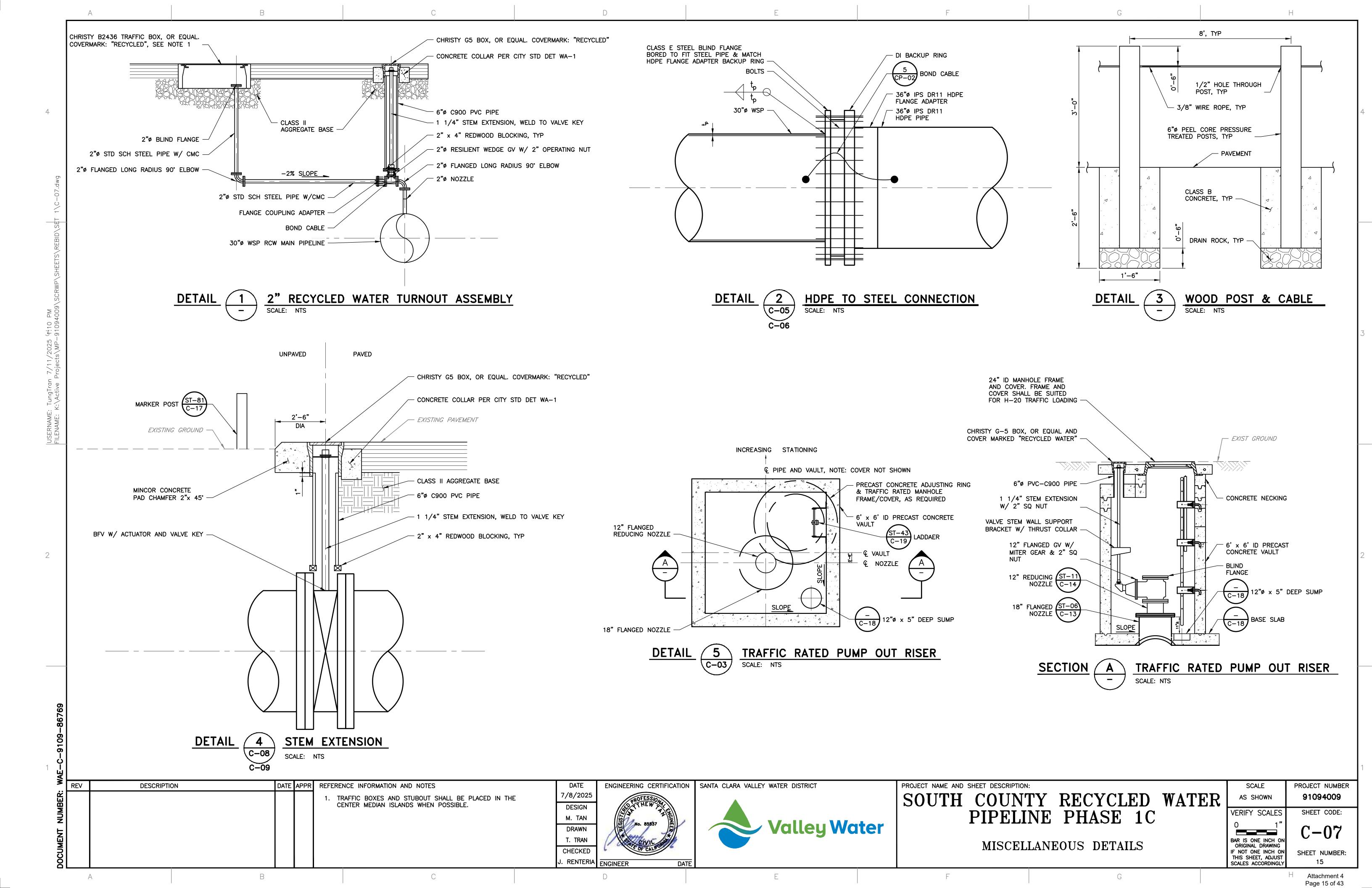


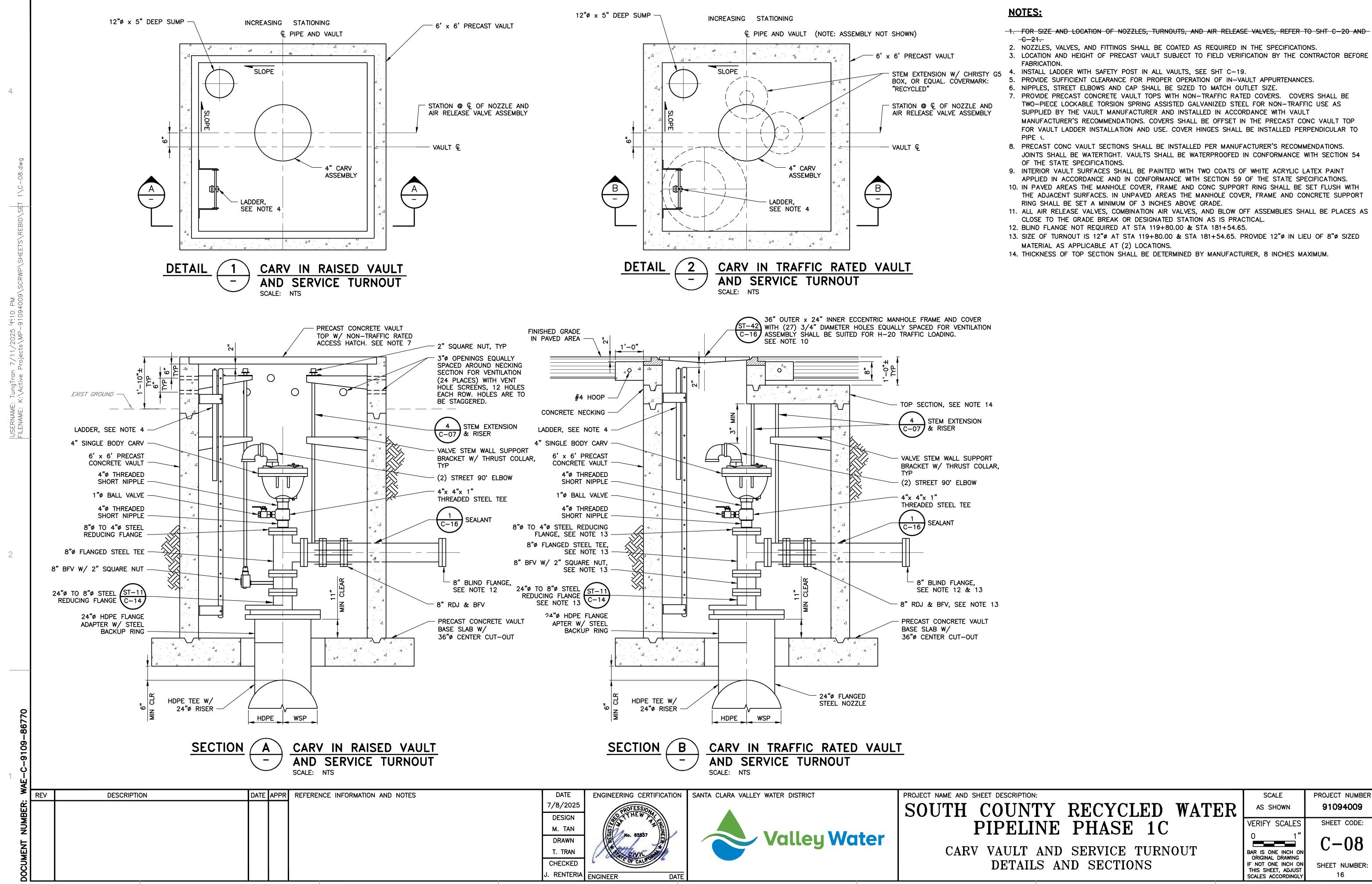


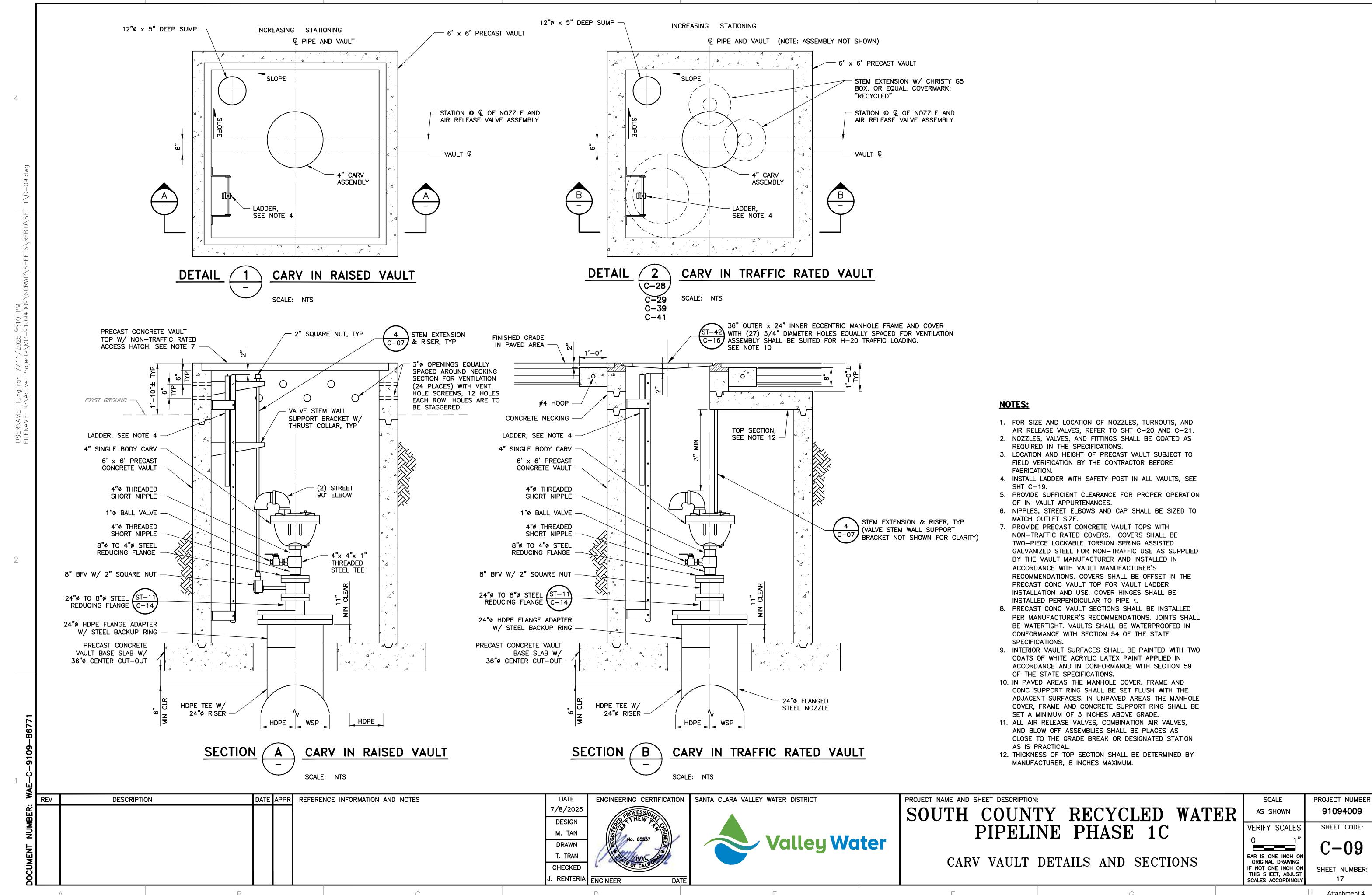


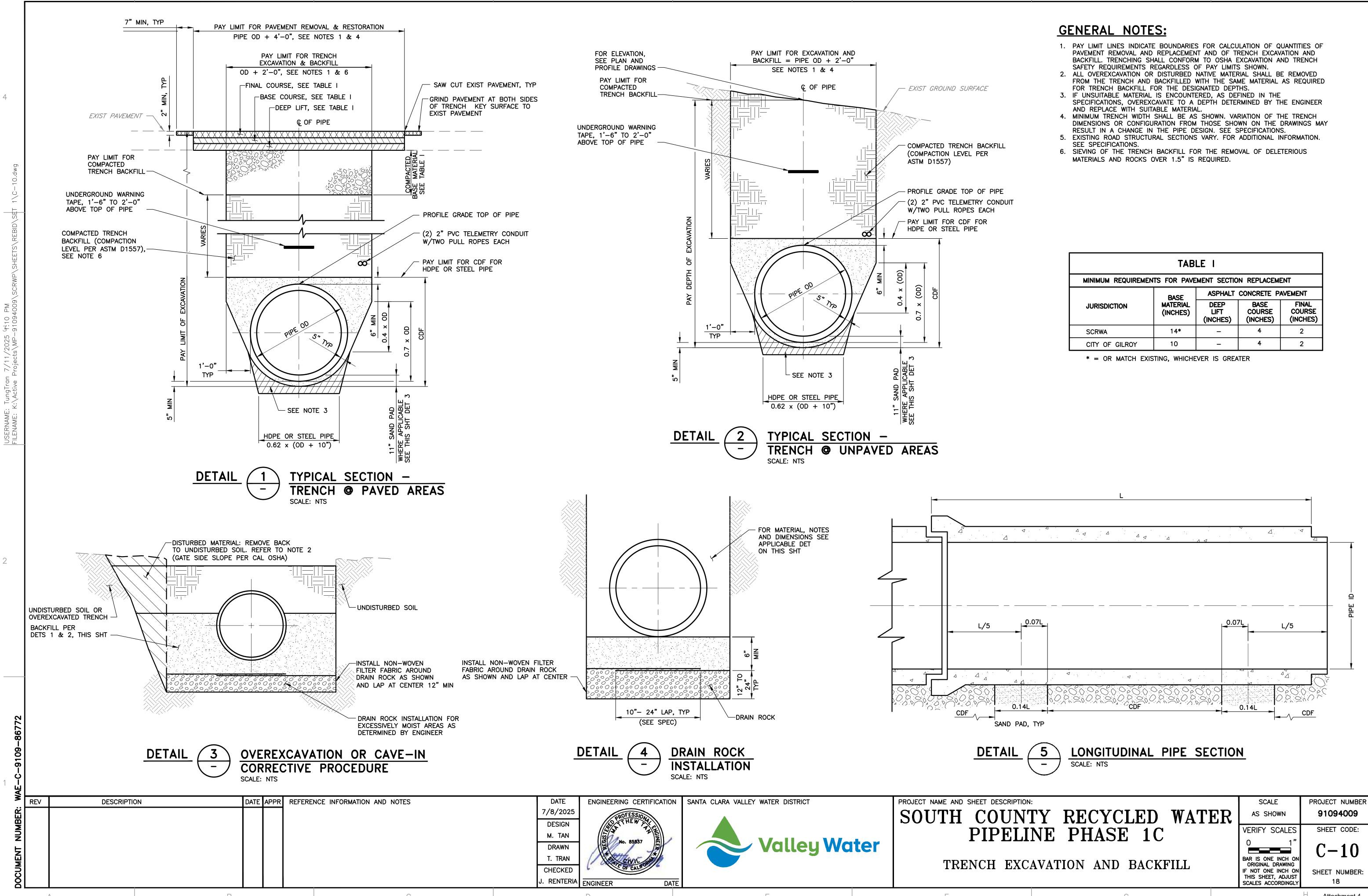


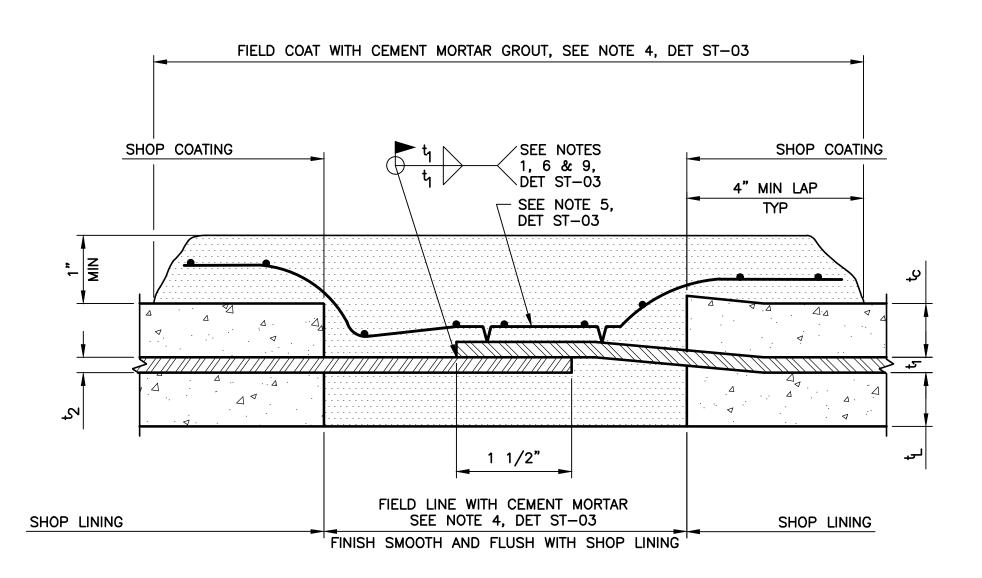




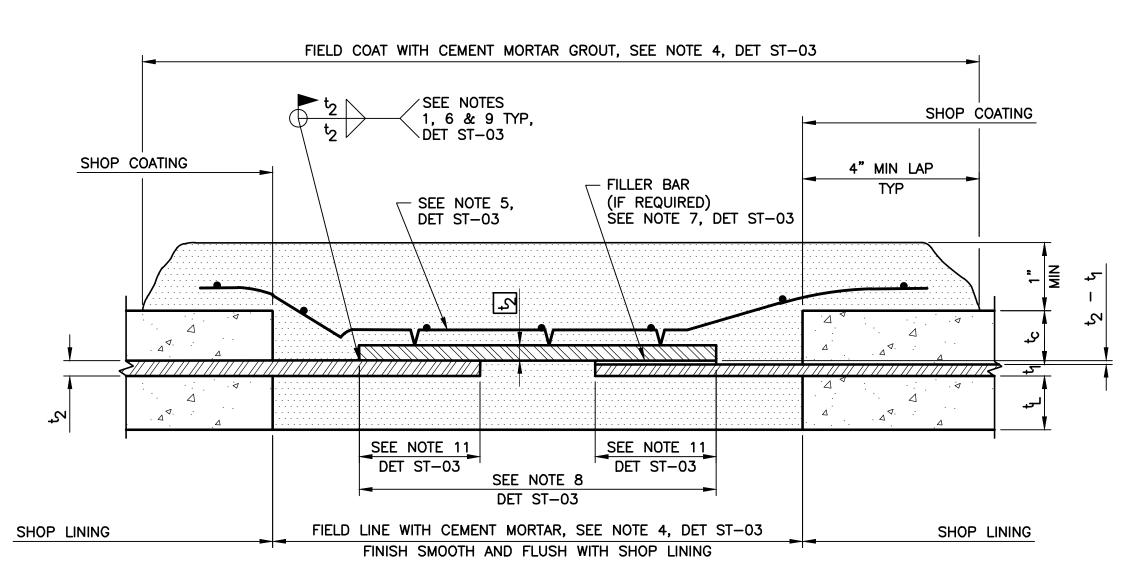






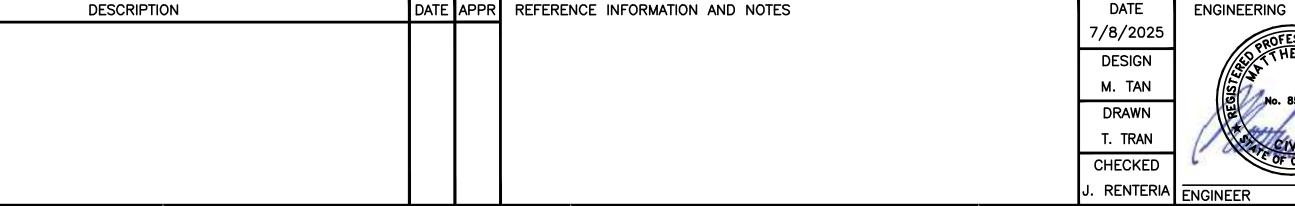


LAP WELD



BUTT STRAP

FIELD JOINT - CEMENT MORTAR LINED AND COATED STEEL PIPE







PROJECT NAME AND SHEET DESCRIPTION:

SOUTH COUNTY RECYCLED PIPELINE PHASE 1C

STANDARD DETAILS - JOINT DETAILS -STEEL PIPE

WATER	AS SHOWN
	VERIFY SCAL
	0
TO	

FY SCALES SHEET CODE: C-11BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SHEET NUMBER: SCALES ACCORDINGLY

Attachment 4 Page 19 of 43

PROJECT NUMBER

91094009

NOTES:

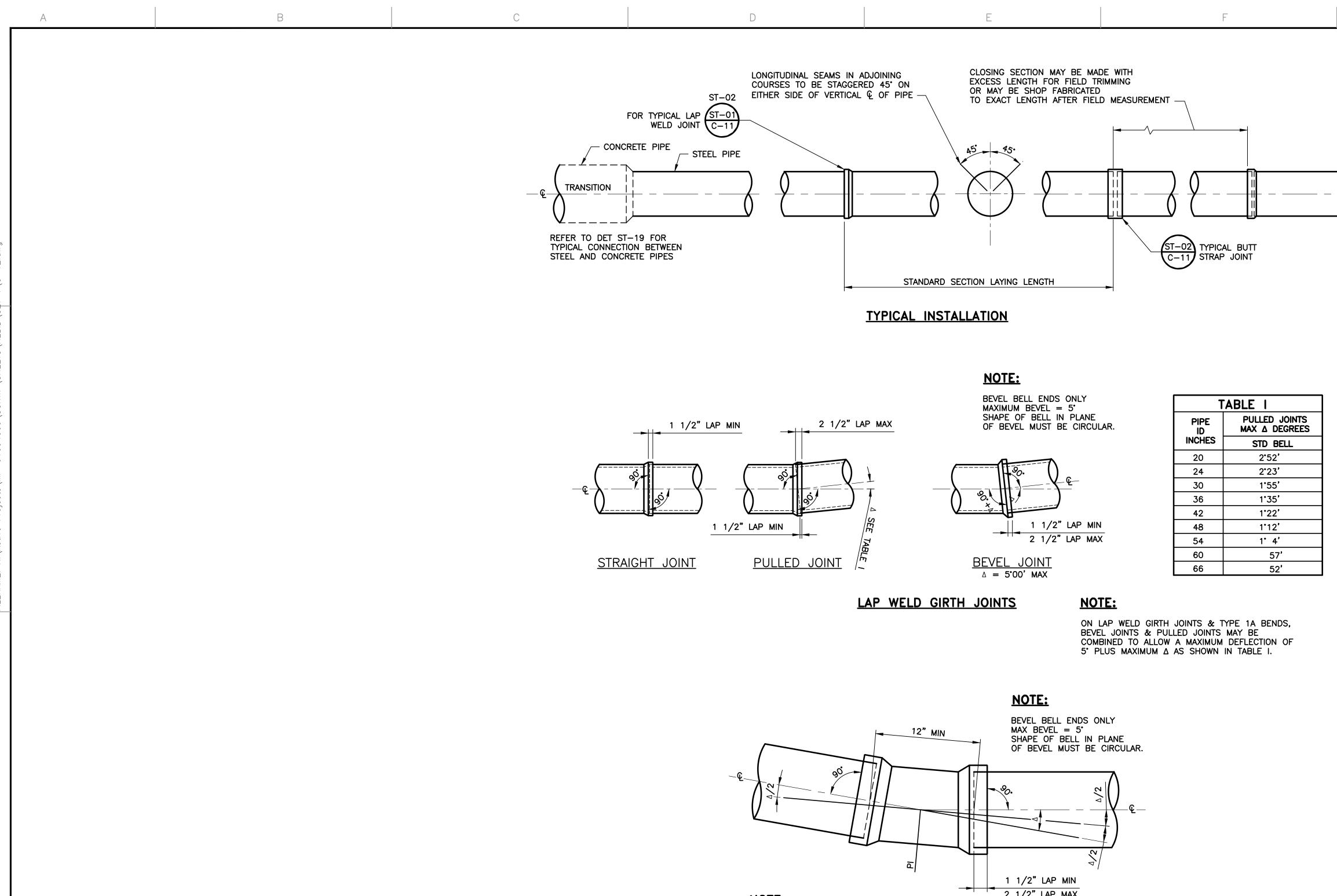
- 1. ALTHOUGH A DOUBLE WELD IS SHOWN, ONLY A SINGLE WELD IS REQUIRED EXCEPT WHERE NOTED OTHERWISE. THE SINGLE WELD MAY BE PLACED INSIDE OR OUTSIDE THE PIPE AT THE OPTION OF THE CONTRACTOR FOR PIPE SIZES GREATER THAN OR EQUAL TO 36". FOR PIPE SIZES LESS THAN 36", SINGLE WELDS SHALL BE PLACED OUTSIDE OF THE PIPE.
- 2. FOR PIPE SIZES GREATER THAN OR EQUAL TO 36", DOUBLE WELD JOINTS SHALL BE USED FOR:
 - A. PIPE JOINTS WITHIN CONCRETE ENCASEMENTS AND TUNNELS;
 - B. THE FIRST PIPE JOINTS OUTSIDE OF THE CONCRETE ENCASEMENT OR TUNNEL.
- DOUBLE WELD JOINTS MAY BE REQUIRED IN TENSION ANCHORAGE AREAS.
- 3. BEFORE WELDING, DRILL AND TAP 1/4" IPS HOLES (2 EQUALLY SPACED) FOR ALL DOUBLE WELDED JOINTS. PLUG WELD AFTER COMPLETION OF AIR
- 4. FIELD APPLIED COATING AND LINING SHALL BE APPLIED ONLY AFTER EACH JOINT IS ASSEMBLED, WELDED, CLEANED, INSPECTED AND TESTED.
- 5. FIELD COATING SHALL BE REINFORCED WITH 2"x 4"x 13 GAUGE GALVANIZED SELF-FURRING WELDED WIRE FABRIC. LAP END 3" MINIMUM AND TACK WELD TO STEEL PIPE.
- 6. th AND to THICKNESS OF STEEL PIPE. (to ≥ th)
- 7. WHERE FILLER BAR IS REQUIRED, DOUBLE WELD AND PROVIDE AIR TEST HOLES FOR PIPE SIZES GREATER THAN OR EQUAL TO 36".
- 8. MINIMUM BUTT STRAP WIDTH IS:
 - A. 4" FOR PIPE SIZES LESS THAN 36"; AND B. 6" FOR PIPE SIZES 36" OR GREATER.
- MAXIMUM BUTT STRAP WIDTH IS 21".
- 9. WELD SIZE SHOWN BY LETTER DESIGNATION IS FOR REFERENCE ONLY. THE ACTUAL WELD SIZE SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 10. UNLESS OTHERWISE INDICATED, CEMENT MORTAR LINING THICKNESS, t AND CEMENT MORTAR COATING THICKNESS, $t_{\mbox{\scriptsize c}}$, SHALL CONFORM TO AWWA C205.
- 11. FOR PIPE SIZES LESS THAN 36", MINIMUM LAP IS 1". FOR PIPE SIZES 36" OR GREATER, MINIMUM LAP IS 2".

- SEE NOTE 3

LAP JOINT SHOWN, AIR TEST HOLE SHALL ALSO BE PROVIDED AT ALL DOUBLE WELD BUTT STRAP JOINTS. LINING AND COATING NOT SHOWN, SEE NOTE 4.

NOTES AND AIR TEST HOLE FOR DOUBLE WELD JOINT

SCALE



NOTE:

2 1/2" LAP MAX

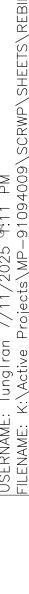
TYPE 1A BEND IS A LAP WELD GIRTH JOINT THAT MAY BE USED AS AN ALTERNATIVE TO TYPE 1 BEND FOR ANGLES OVER 5" AND UP TO 10".

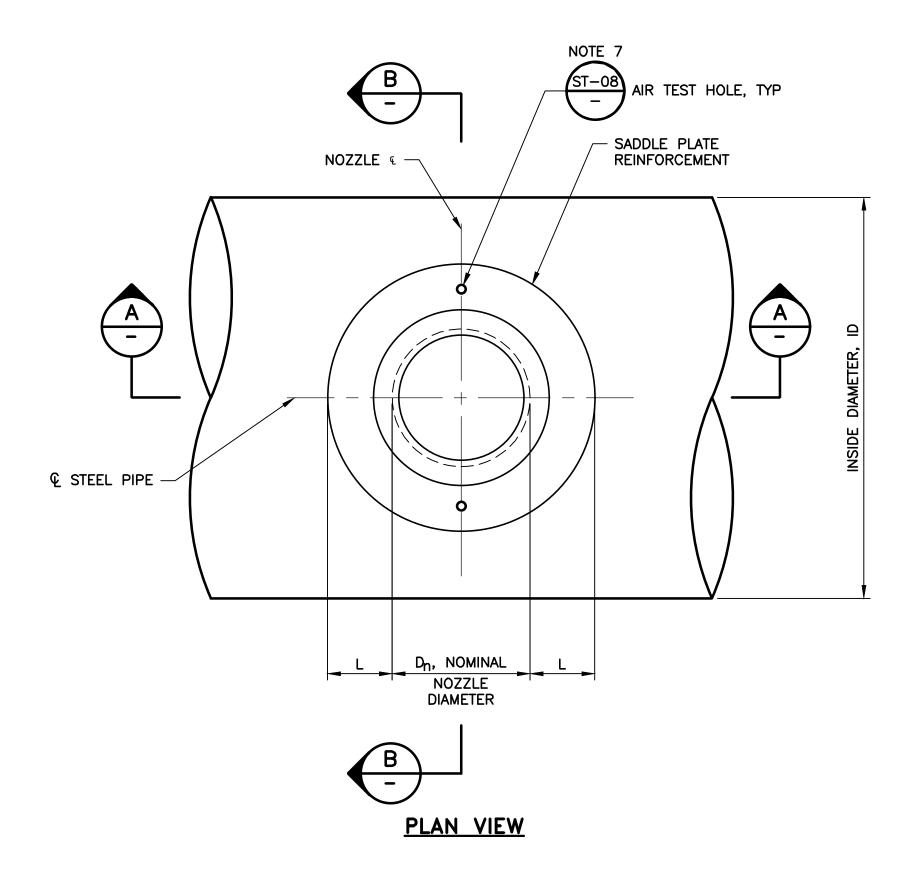
TYPE 1A BEND

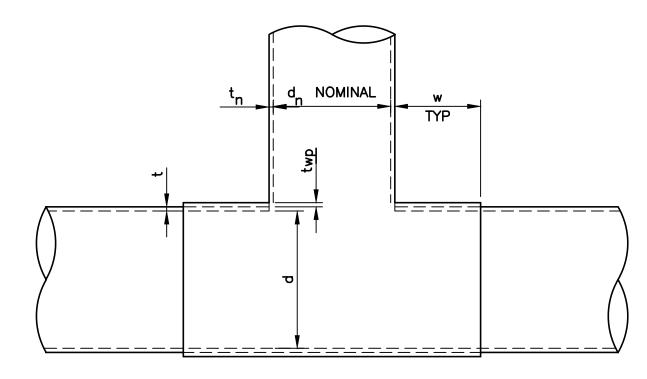


AE-								1
3	REV DESCRIPTION DATE AP	PR REFERENCE INFORMATION AND NOTES	DATE	ENGINEERING CERTIFICATION	SANTA CLARA VALLEY WATER DISTRICT	PROJECT NAME AND SHEET DESCRIPTION:	SCALE	PROJECT NUMBER
BER:		ALL FITTINGS SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH AWWA MII AND C200 STANDARDS. SPIRAL LONGITUDINAL AND CIRTLE STANS SHALL BE	7/8/2025 DESIGN	PROFESSIONAL THE W		SOUTH COUNTY RECYCLED WATER	AS SHOWN	91094009
NOM		2. SPIRAL, LONGITUDINAL, AND GIRTH SEAMS SHALL BE FULL-PENETRATION GROOVE WELDED BUTT JOINTS CONFORMING TO AWWA C200 AND AWS D1.1.	M. TAN	No. 85537		PIPELINE PHASE 1C	VERIFY SCALES	SHEET CODE:
MENT			DRAWN T. TRAN	CIVIL	Valley Water	STANDARD DETAILS - STEEL PIPE INSTALLATION	BAR IS ONE INCH ON	C-12
OCUN			CHECKED J. RENTERIA	FNGINFER DATE		AND FABRICATION	ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NUMBER: 20

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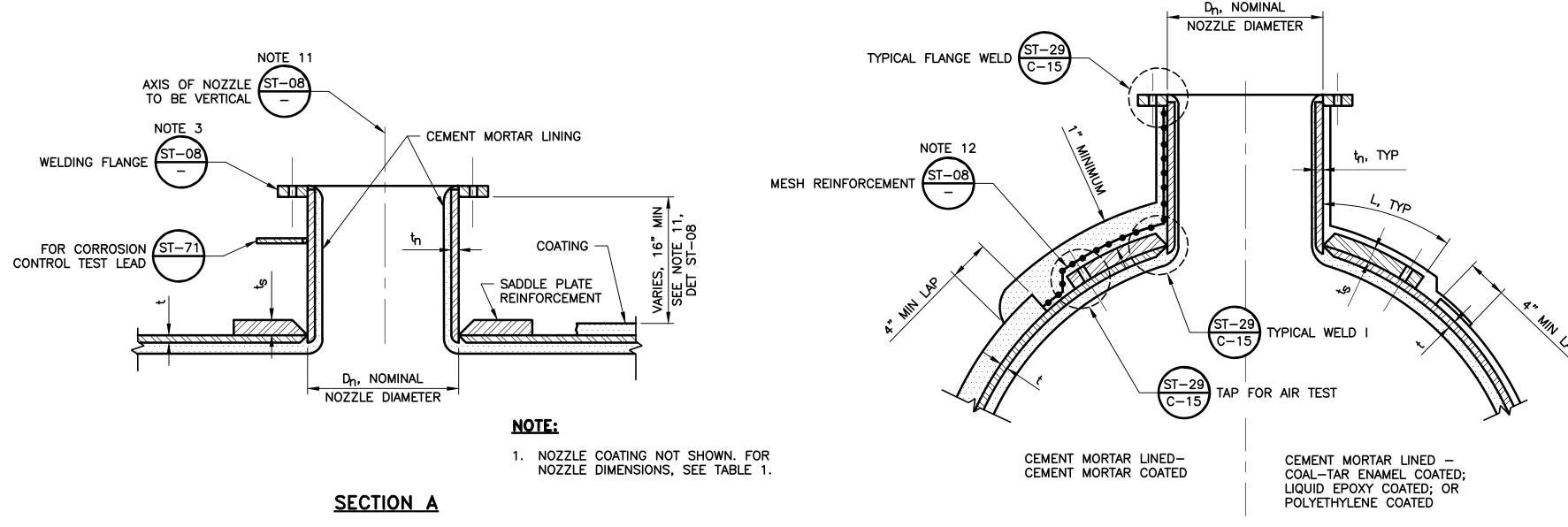




NOTE:

NOZZLE COATING AND LINING NOT SHOWN. FOR NOZZLE DIMENSIONS, SEE TABLE 2, FOR WELDING OF WRAPPER AT NOZZLE AND OUTSIDE END, SEE SHT C-15.

DETAIL NOZZLE WITH WRAPPED REINFORCEMENT SCALE: NTS



PIPE DIAMETER ID (IN)

30

TYPICAL NOZZLE OUTLET HORIZONTAL SECTION - STEEL PIPE TYP SCALE: NTS

TYPICAL NOZZLE OUTLET VERTICAL SECTION - STEEL PIPE SCALE: NTS

SECTION B

NOTES:

- 1. SEE SPECIFICATIONS FOR MATERIAL, INSTALLATION, COATING, AND LINING REQUIREMENTS.
- 2. ALL NOZZLES AND PLATES ARE TO BE MANUFACTURED FROM STEEL, CONFORMING TO THE REQUIREMENTS OF STEEL PIPE (ASTM 283 GRADE C OR EQUAL). FOR NOZZLES 24" OR LESS NOMINAL DIAMETER, ASTM A53 GRADE B STEEL PIPE MAY
- 3. WELDING FLANGES SHALL BE SLIP-ON WELDING FLANGES, RING TYPE, FLAT-FACE, SEE SPECIFICATIONS. BLIND FLANGES SHALL BE STEEL, SEE SPECIFICATIONS.
- 4. FLANGE FACES SHALL BE SHOP COATED WITH A REMOVABLE RUST-PREVENTING COMPOUND TO PROVIDE PROTECTION DURING TRANSPORT AND PRIOR TO
- 5. FLANGE GASKETS SHALL BE 1/8" THICK, FULL-FACE CLOTH INSERTED RUBBER GASKETS. GASKETS FOR POTABLE WATER SYSTEMS SHALL BE NSF APPROVED.
- 6. FLANGE BOLTS SHALL STRADDLE CENTERLINE OF PIPE OR CENTERLINE OF FLANGE UNLESS REQUIRED OTHERWISE ON DRAWINGS.
- 7. DRILL AND TAP TEST HOLES FOR AIR TEST BEFORE WELDING MEMBERS AS SHOWN ON DETAILS. PLUG WELD AFTER AIR TEST IS COMPLETED. SEE DET ST-01, ST-02
- 8. ON BLIND FLANGES FOR BURIED NOZZLES, DRILL AND TAP 1" IPS HOLE AND INSTALL STEEL PLUG.
- 9. SHOP COAT ALL METAL SURFACES EXCEPT FLANGE FACES AND SURFACES RECEIVING FIELD APPLIED COATINGS.
- 10. COAT ALL EXPOSED METAL SURFACES WITH THE SAME COATING AS WAS USED ON THE MAIN PIPE, EXCEPT AS NOTED OTHERWISE.
- 11. FOR SLOPING PIPE INSTALL NOZZLE VERTICALLY. MAINTAIN A MINIMUM CLEARANCE TO THE NOZZLE FLANGE AS SHOWN. SEE DET ST-37 THRU ST-42 FOR REQUIRED CLEARANCE IN PRECAST VAULTS.
- 12. MESH REINFORCING SHALL BE SELF-FURRING GALVANIZED WIRE MESH 2"x 4"x 13 GAUGE. SECURE WITH CLIPS AT 24" CENTERS AND WELD TO SADDLE, PIPE CYLINDER, OR NOZZLE.



360

0.1875

0.1875

PIPE
CYLINDER*
t (IN)

On

NOZZLE
THICKNESS
THICKNESS

0.1875

0.375

0.375

	TABLE 2 -	NOZZLE WITH	WRAPPER REI	NFORCEMENT	
MAIN d (INCHES)	NOZZLE d _n (INCHES)	NOZZLE THICKNESS t _n (INCHES)	MAIN CYLINDER THICKNESS t (INCHES)	WRAPPER THICKNESS t _{wp} (INCHES)	WRAPPER WIDTH W (INCHES)
36	24	0.375	0.25	0.1875	12
30	24	0.375	0.1875	0.1875	12

TABLE 1

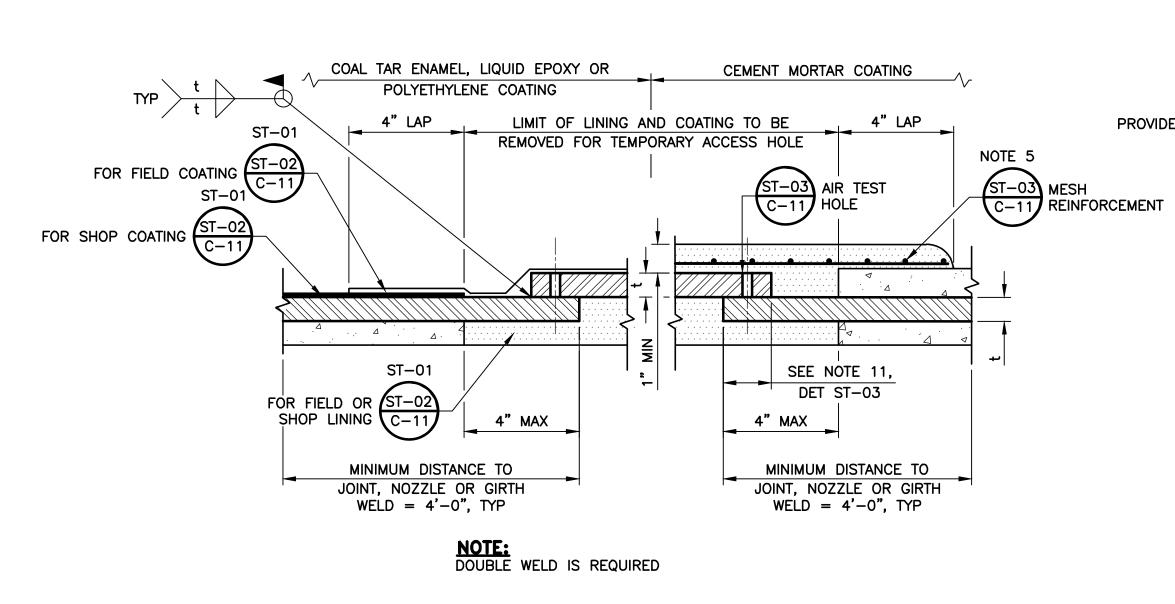
SADDLE PLATE THICKNESS (ts)

INTERNAL DESIGN PRESSURE, FEET

≯ RI	.V DESC	RIPTION DATE AP	PPR REFERENCE INFORMATION AND NOTES	DATE	ENGINEERING CERTIFICATION	SANTA CLARA VALLEY WATER DISTRICT	PROJECT NAME AND SHEET DESCRIPTION:	SCALE	PROJECT NUMBER
BER:				7/8/2025	PROFESSION		SOUTH COUNTY RECYCLED WATER	AS SHOWN	91094009
				DESIGN	EST THE WAY		Social cocial indefeded while in	VERIFY SCALES	SHEET CODE:
N S				M. TAN	No. 85537	Wallou Water	PIPELINE PHASE 1C	0 1"	
되				DRAWN		Valley Water	STANDARD DETAILS - NOZZLE DETAILS	DAD IS ONE INCLUON	C-13
<u>\$</u>				T. TRAN CHECKED	OF CALIFORNIA			BAR IS ONE INCH ON ORIGINAL DRAWING	OUEET NUMBER
DOCUMENT				J. RENTERIA			- STEEL PIPE	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NUMBER: 21

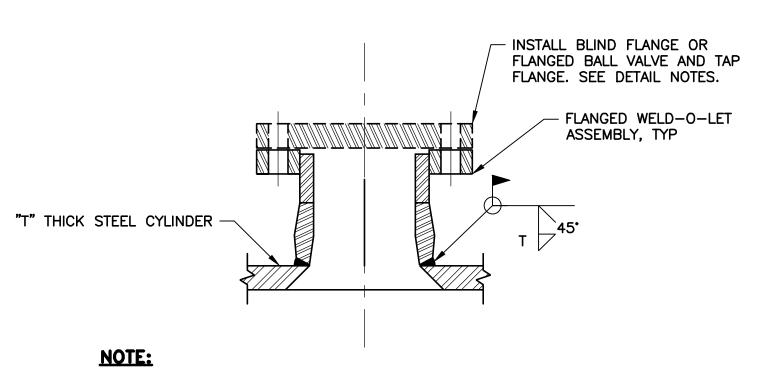
L(IN)

12



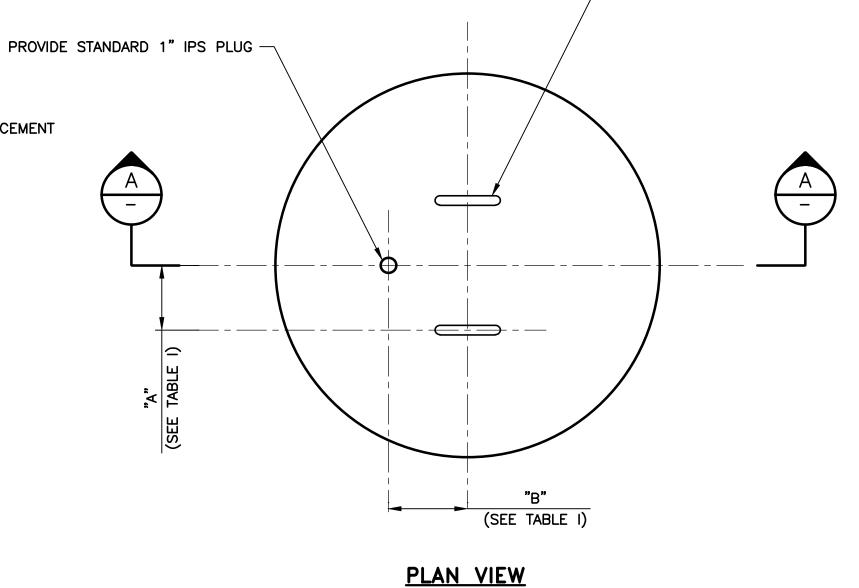
ACCESS HOLE ON STEEL PIPE



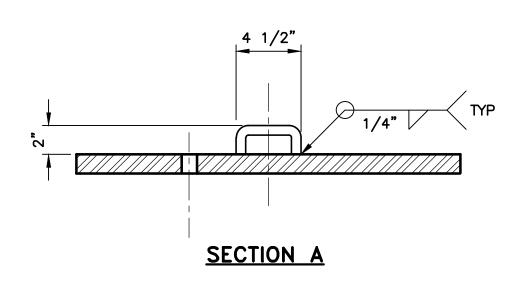


1. PIEZOMETER AND CORPORATION STOPS TO BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS, OR AS APPROVED BY THE ENGINEER.



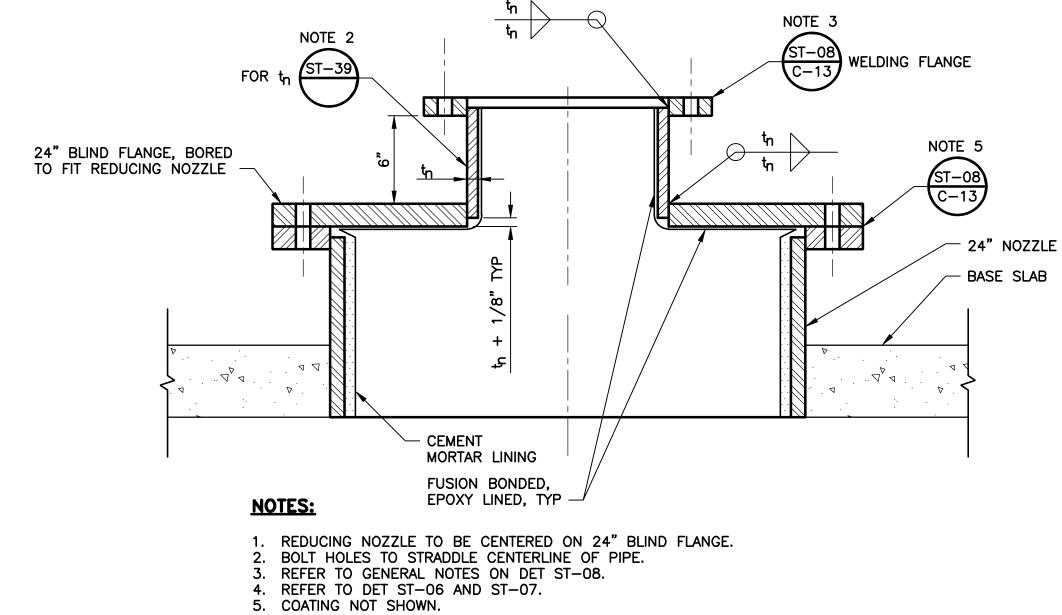


/ 1/2" DIA ROD (HANDLE), TYP

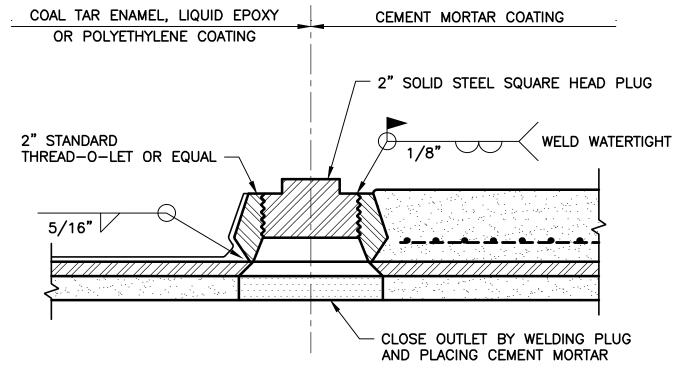


TAI	BLE I	
NOMINAL NOZZLE DIA (INCHES)	"A" INCHES	"B" INCHES
6-10	2	0
12-22	5	3
24 & OVER	7	3





REDUCING NOZZLE



NOTES:

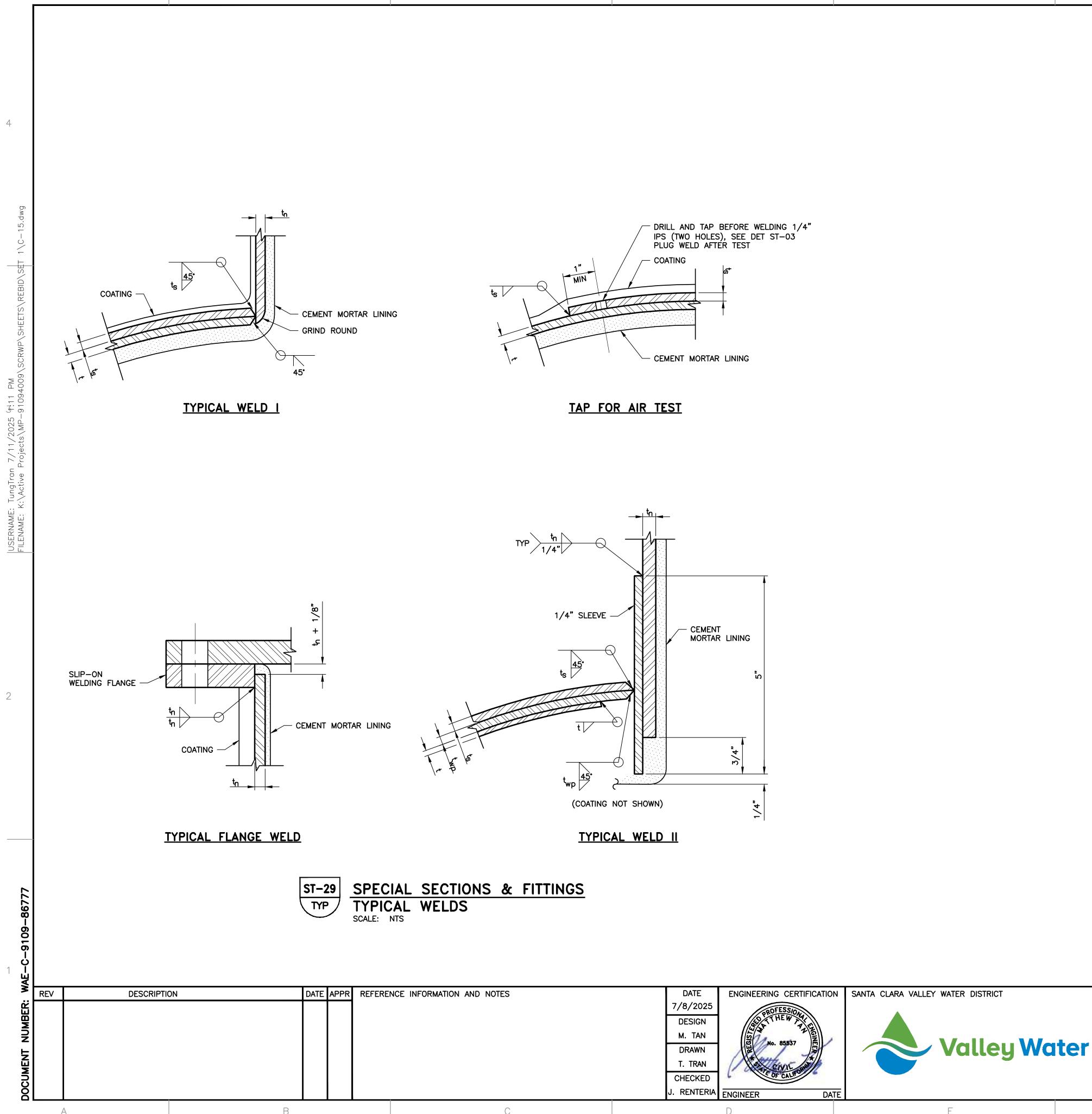
- 1. ALL 2" TEMPORARY OUTLETS SHALL BE SHOP INSTALLED. REFER TO DET ST-09
- FOR DETAILS OF ADAPTION OF 2" OUTLET FOR PIEZOMETER USE. 2. AFTER CLOSING, EXTEND COATING OVER OUTLET AND LAP 4" ONTO SHOP COATING (MIN THICKNESS OF 1" FOR CEMENT MORTAR COATING).

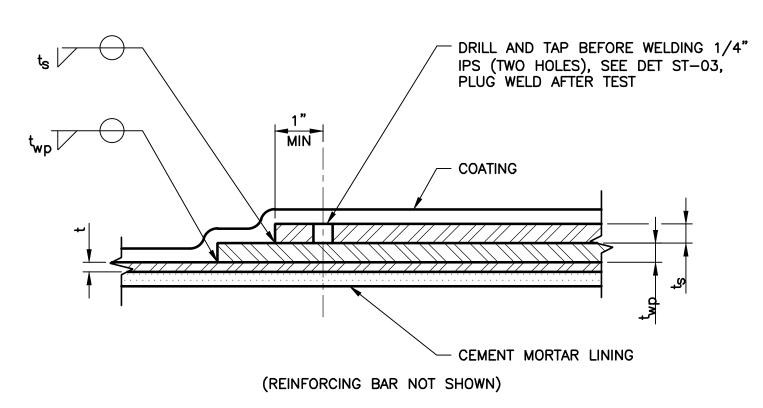
2" OUTLET ON STEEL PIPE

NOZZLE AND 2" OUTLET TYP STEEL PIPE SCALE: NTS

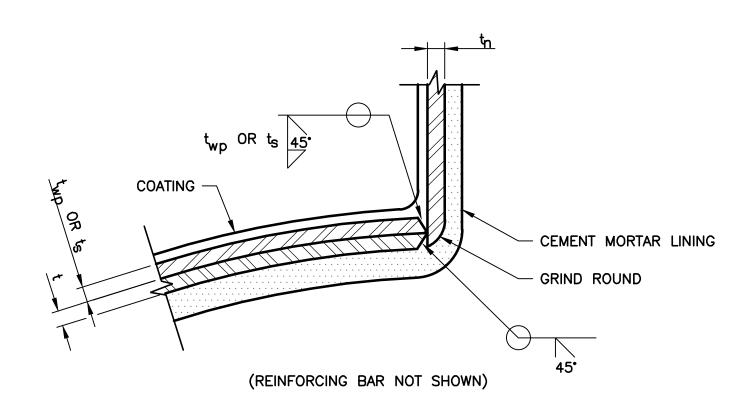
1 			
>	REV DESCRIPTION DATE APPR REFERENCE INFORMATION AND NOTES	DATE ENGINEERING CERTIFICATION SANTA CLARA VALLEY WATER DISTRICT PROJECT NAME AND SHEET DESCRIPTION:	SCALE PROJECT NUMBER
BER:			S SHOWN 91094009
NO.		PIPELINE PHASE 1C VERIF	RIFY SCALES SHEET CODE:
AENT		DRAWN VALLEY WATER CTANDARD DETAILS TEMPORARY OUTFIRT	IS ONE INCH ON IGINAL DRAWING
OCC		DETAILS - STEEL PIPE IF NOT THIS S	OT ONE INCH ON SHEET NUMBER: SHEET, ADJUST LES ACCORDINGLY 22

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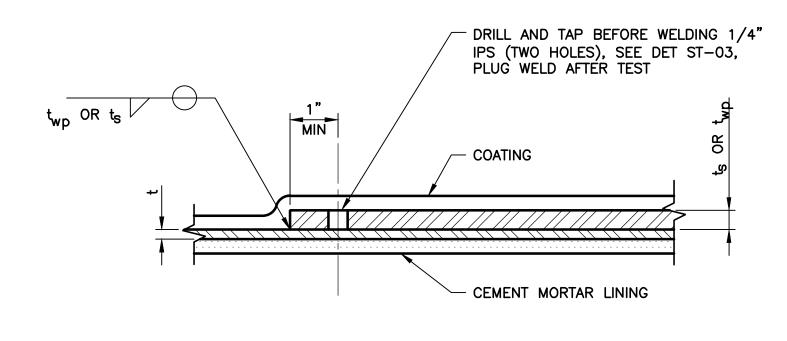




TAP FOR AIR TEST I



TYPICAL WELD



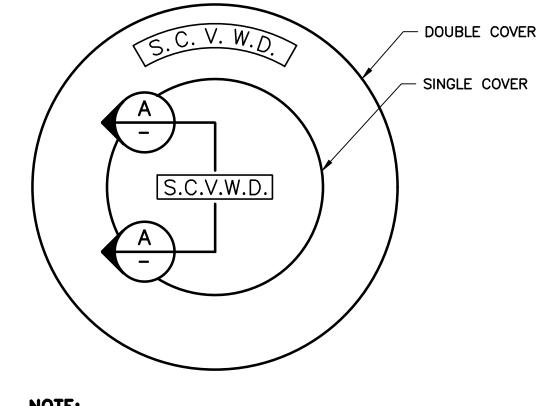
(REINFORCING BAR NOT SHOWN)

TAP FOR AIR TEST II

ST-30
SPECIAL SECTIONS &
FITTINGS-TYPICAL WELDS
SCALE: NTS

PROJECT NAME AND SHEET DESCRIPTION: SOUTH COUNTY RECYCLED WATER	SCALE AS SHOWN	PROJECT NUMBER 91094009
STANDARD DETAILS - TYPICAL WELDS	VERIFY SCALES O 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST	

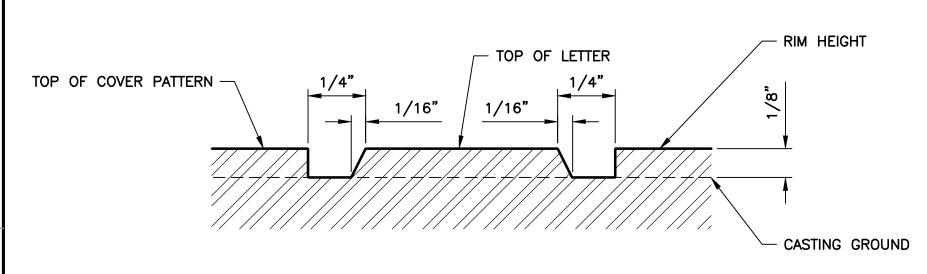
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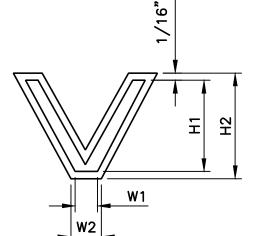
NOTE:

DETAIL SHOWN, WHICH IS FOR CONCENTRIC DOUBLE COVER, ALSO APPLIES TO NON—CONCENTRIC DOUBLE COVER.

PLAN VIEW



SECTION A

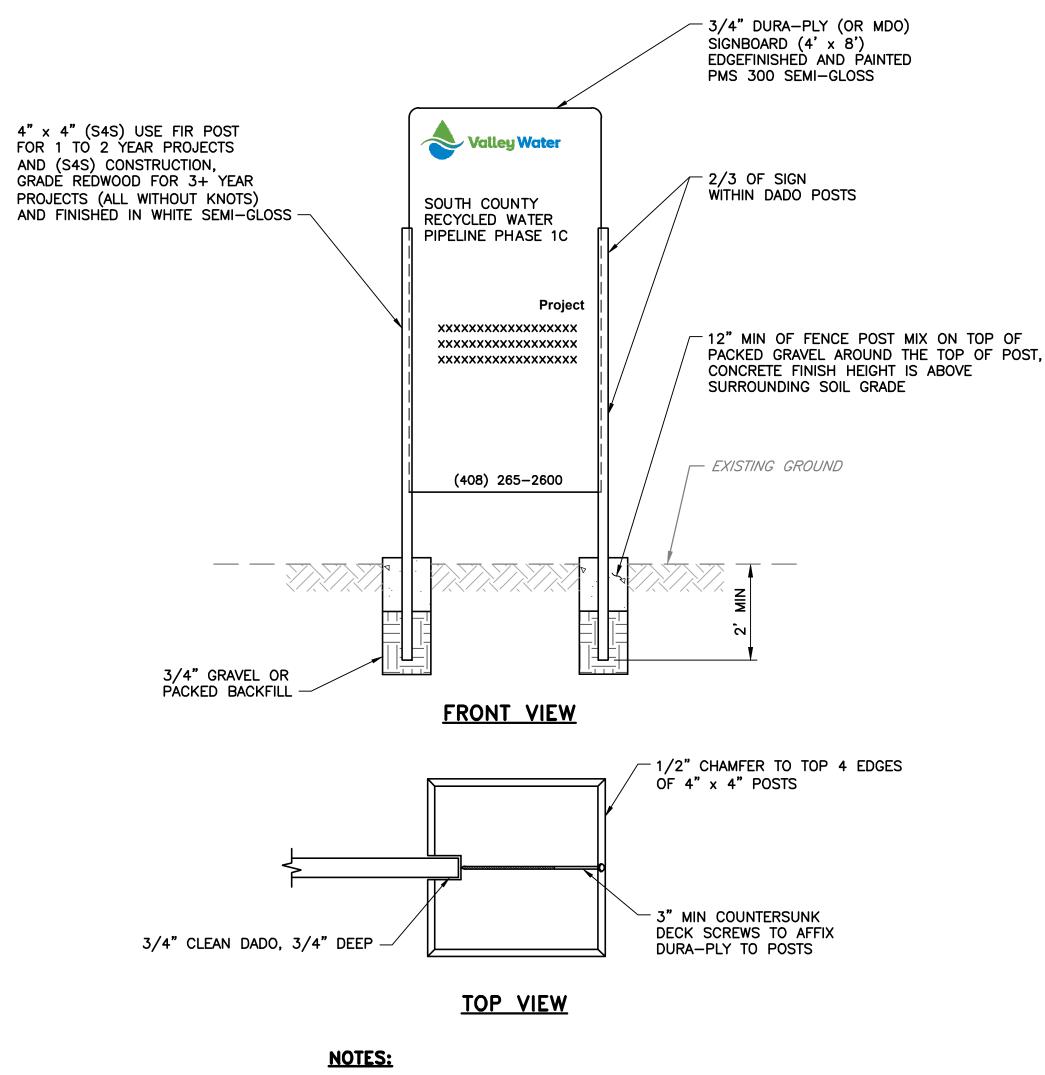


COVERS	H1	H2	W1	W2
SINGLE* COVER	1 1/16"	1 3/16"	1/8"	1/4"
DOUBLE* COVER SET	1 5/8"	1 3/4"	5/16"	7/16"

* LETTER TO BE RAISED 1/8", BUT NOT EXTEND ABOVE RIM

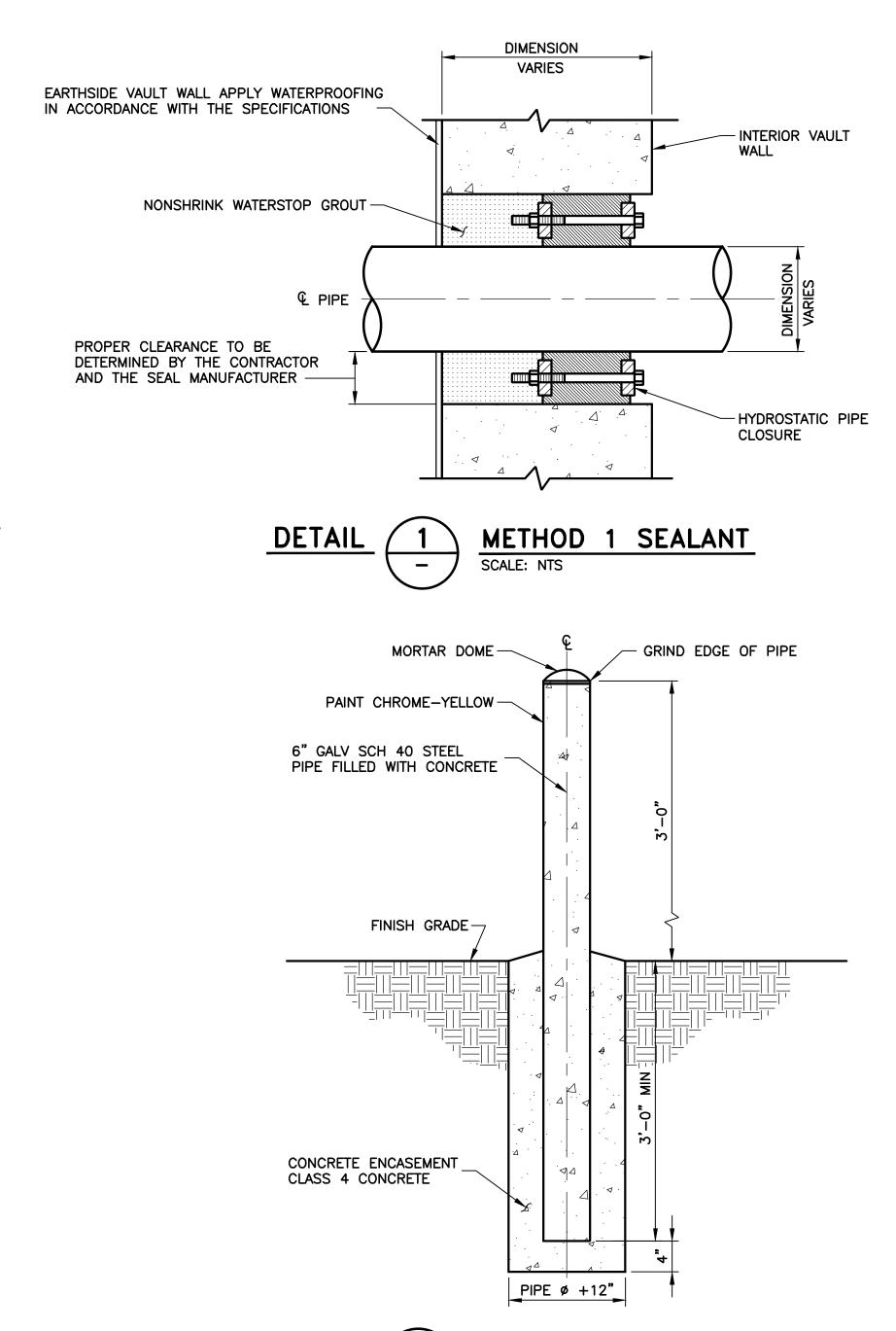
TYPICAL LETTER





- FOR SIGN LOCATION, SEE PLAN AND PROFILE SHEETS.
 CONTRACTOR TO INSTALL DISTRICT FURNISHED SIGNS, SEE SPECIFICATIONS.

PROJECT SIGN SCALE: NTS



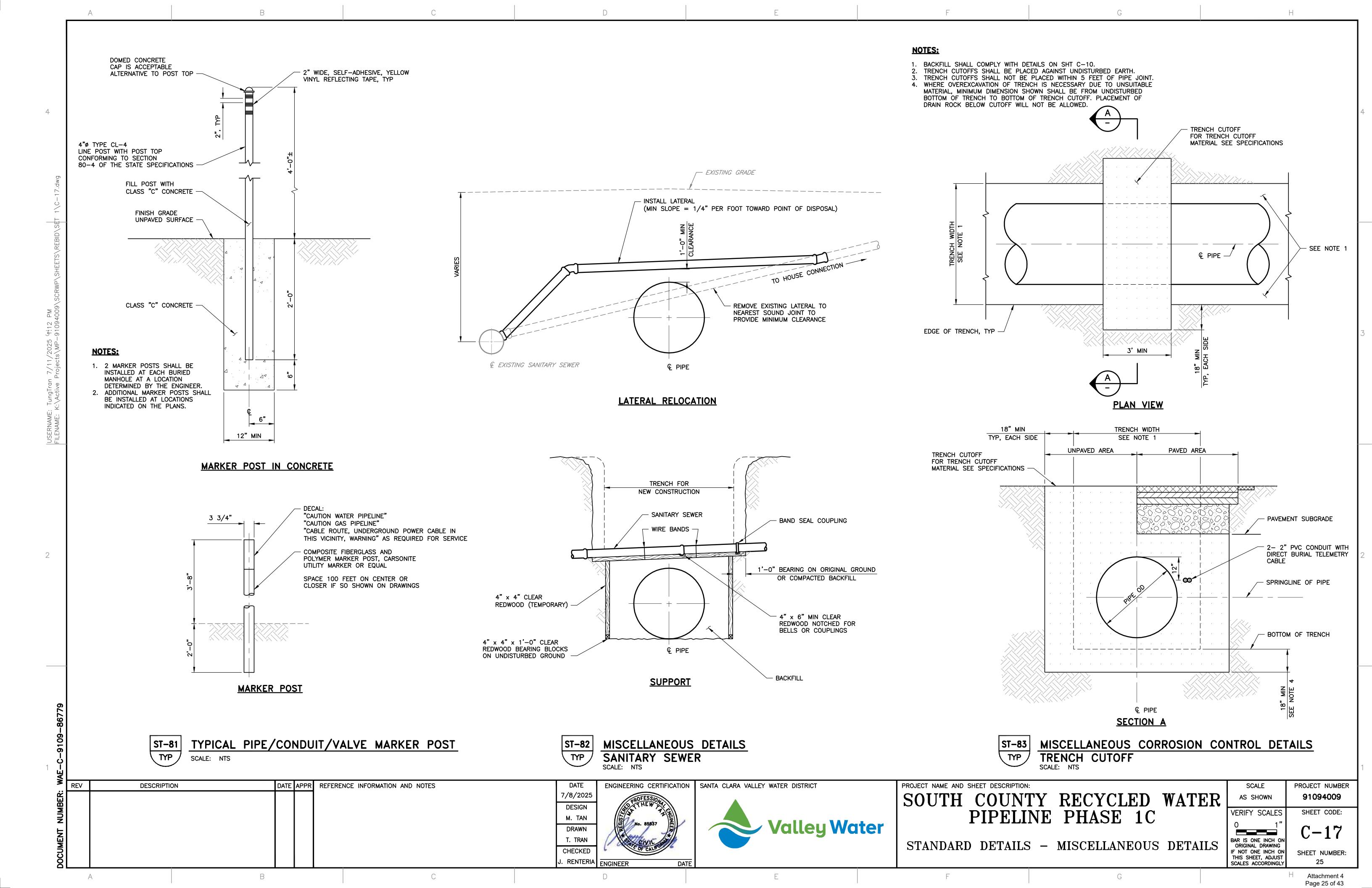
DETAIL

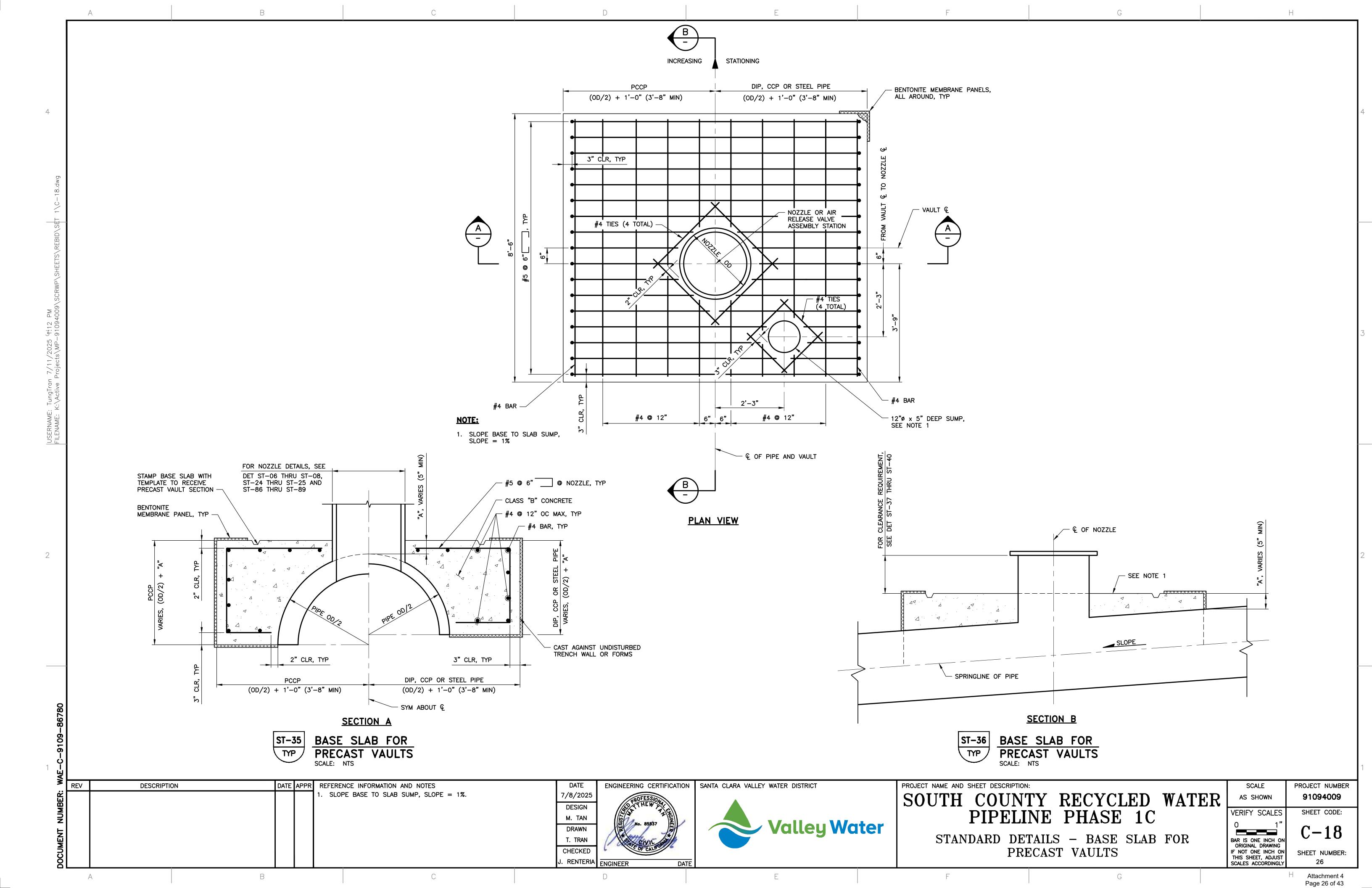
PROTECTIVE BOLLARD

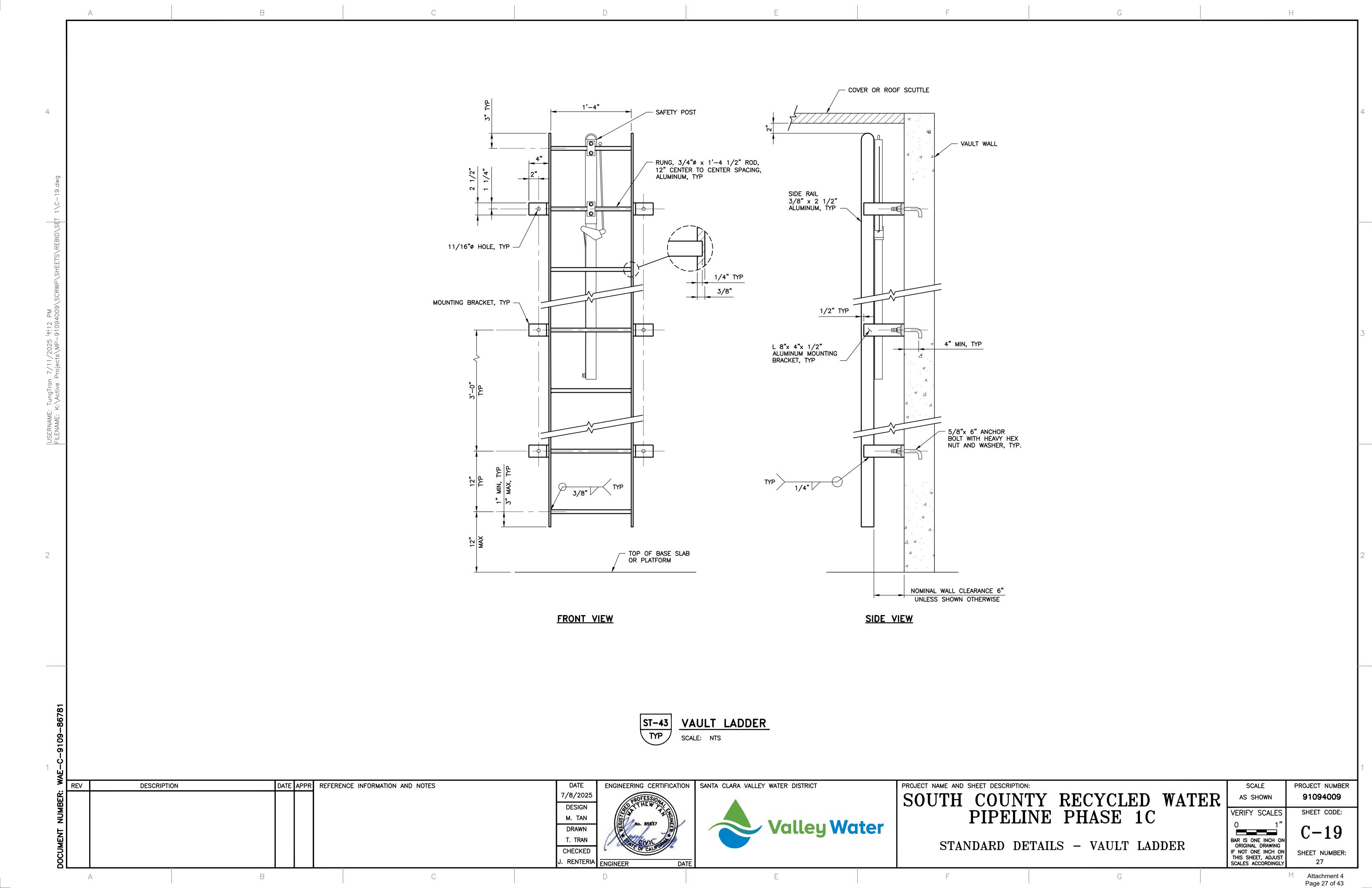
SCALE: NTS

]Ř						
*	REV DESCRIPTION DATE APPR REFERENCE INFORMATION AND NOTES	DATE	ENGINEERING CERTIFICATION SANTA CLARA VALLEY WATER DISTRICT	PROJECT NAME AND SHEET DESCRIPTION:	SCALE	PROJECT NUMBER
BER	1. DET SHOWN, WHICH IS FOR CONCENTRIC DOUBLE COVER, ALSO APPLIES TO NON—CONCENTRIC DOUBLE COVER.	7/8/2025 DESIGN	OPT HEW	SOUTH COUNTY RECYCLED WATER	AS SHOWN	91094009
NON		M. TAN	No. 85537	PIPELINE PHASE 1C	VERIFY SCALES	SHEET CODE:
AENT		DRAWN T. TRAN	Valley Water	STANDARD DETAILS - MANHOLE COVER	BAR IS ONE INCH ON	C-16
NOC (N		CHECKED I. RENTERIA	ENGINEER DATE	LETTERING & PROJECT SIGNS	ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

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36 = PIPE ID IN INCHES (NET INTERNAL)

515 = DESIGN HYDRAULIC GRADE LINE, FEET OF HEAD*

7 = EXTERNAL DESIGN, FEET OF COVER.

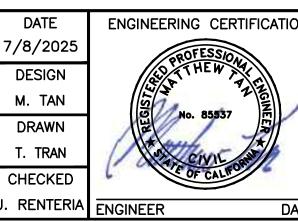
- * DESIGN PRESSURE IS 157 PSI. DESIGN PRESSURE IS CALCULATED USING THE DESIGN HYDRAULIC GRADE LINE OF 515 FEET OF HEAD MINUS THE SPRINGLINE ELEVATION AT THE LOWEST POINT OF THE SYSTEM WHICH IS 150 FEET AT STA 5+86.04.
- 2. STEEL FOR PIPE CYLINDER IS MINIMUM ALLOWED BASED ON USE OF ASTM A1001, A1018 GRADE 36 STEEL SHEET OR ASTM A36, ASTM 572 GRADE 36 STEEL PLATE OR EQUAL. FOR PIPE 12" OR LESS NOMINAL DIAMETER, ASTM A53 GRADE B STANDARD SCHEDULE STEEL PIPE MAY BE USED, UNLESS OTHERWISE NOTED.
- 3. INCREMENTAL THICKNESS CHANGES SHALL NOT EXCEED 1/8 INCH IN A MINIMUM DISTANCE OF 2 FEET FOR WELDED STEEL PIPE.
- 4. A DOUBLE WELD IS REQUIRED WHEN THE TABULATED WELD THROAT DIMENSION IS GREATER THAN 0.707 TIMES THE TOTAL CYLINDER THICKNESS AT THE STATIONING OF THE WELD.
- 5. PIPE 12" NOMINAL DIAMETER OR LESS SHALL BE SCHEDULE 40 STEEL PIPE. PIPE GREATER THAN 12" NOMINAL DIAMETER SHALL BE STEEL PIPE WITH MINIMUM CYLINDER THICKNESS OF 3/8", UNLESS OTHERWISE SPECIFIED.
- 6. UNLESS OTHERWISE SPECIFIED ALL OTHER CARV'S ARE SINGLE BODY TYPE AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

TABLE-3, PIPE DESIGN HIGH DENSITY POLYETHYLENE PIPE (AWWA C906)					
STATION LIMITS	CLASS DESIGNATION	DESCRIPTION OF PIPE JOINT TYPE			
38+91 - 88+33	36" HDPE IPS PE 4710 DR 11	BUTT FUSION ALL HDPE PIPE JOINTS FLANGE JOINT ALL DISSIMILAR MATERIALS			
300+00 - 331+86	24" HDPE IPS PE 4710 DR 11	BUTT FUSION ALL HDPE PIPE JOINTS FLANGE JOINT ALL DISSIMILAR MATERIALS			

TABLE	AND VAULTS	(CONT)	
STATION	DESCRIPTION	REFER TO	COVER TYPE
310+40.00	TELEMETRY CABLE PULL BOX	C-02, E-01	UTILITY BOX W/ TRAFFIC RATED COVER
322+68.00	18"ø NOZZLE, 18" TO 12" REDUCING NOZZLE & 12"ø GV	C-03, C-07 DET 5	VAULT W/ TRAFFIC RATED COVER
331+08.53	24"ø NOZZLE, 24" TO 4" REDUCING NOZZLE, & 4"ø CARV	C-04, C-09 DET 2	VAULT W/ TRAFFIC RATED COVER
331+08.53	TELEMETRY CABLE PULL BOX	C-04, E-01	UTILITY BOX W/ TRAFFIC RATED COVER
331+86.70	24ø x 20"ø HDPE REDUCER, 20"ø x 16"ø HDPE REDUCER, HDPE TO STEEL CONNECTION	C-04, C-07 DET 2	BURIED
332+02.61	12ø X 12"ø X 12"ø STEEL TEE & CONNECTION TO EXISTING 12"ø RCW PIPELINE	C-04, C-06 DET 1	VAULT W/ TRAFFIC RATED COVER

! L					
	REV	DESCRIPTION	DATE	APPR	REFERENCE INFORMATION AND NOTES
Ī					

CHECKED





SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

PIPE DESIGN TABLES

SCALE	PROJECT
AS SHOWN	9109
VERIFY SCALES	SHEET
0 1"	C-
BAR IS ONE INCH ON ORIGINAL DRAWING	
IF NOT ONE INCH ON THIS SHEET, ADJUST	SHEET I
SCALES ACCORDINGLY	28

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APPLICABLE CODES AND STANDARDS:

- 1. CALIFORNIA BUILDING CODE (CBC): THE CALIFORNIA CODE OF REGULATIONS (2019 CBC), BASED ON THE 2018 INTERNATIONAL
- 2. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) / STRUCTURAL ENGINEERING INSTITUTE ÀSCÉ 7-16
- 3. AMERICAN CONCRETE INSTITUTE (ACI): ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 318-99. STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES
- AMERICAN CONCRETE INSTITUTE (ACI): ACI 360-06, BUILDING CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- AISC 360-16, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS 6. AMERICAN WELDING SOCIETY (AWS):
- D1.1-10/D1.3-08/D1.1-10/D1.3-18/D1.4-18, STRUCTURAL WELDING CODE 7. AISI S100-18, NORTH AMERICAN SPECIFICATIONS FOR DESIGN OF COLD-FORMED STEEL
- STRUCTURAL MEMBERS WITH SUPPLEMENTS
- 8. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM): ALL ASTM REFERENCES NOTED
- 9. ALL OTHER LOCAL AND STATE AGENCIES HAVING JURISDICTION OVER THIS PROJECT.

DESIGN LOADS:

- DEAD LOAD ACTUAL WEIGHT OF MATERIALS OF CONSTRUCTION USED LIVE LOAD - PRODUCED BY OCCUPANCY
- 20 psf (REDUCIBLE) 2. WIND LOAD: BASIC WIND SPEED, V 92 mph WIND EXPOSURE 3. SEISMIC LOAD
- RISK CATEGORY SITE CLASS ACCELERATION SITE COEFFICIENT, Fa 1.0 VELOCITY SITE COEFFICIENT, FV
- ADJUSTED DESIGN SPECTRAL RESPONSE ACCELERATIONS: AT SHORT PERIOD. Sos PENDING GEOTECH REPORT AT 1-SECOND PERIOD, Sol 0.706g SEE ASCE 7-16 11.4.8

MATERIALS OF CONSTRUCTION:

- 1. NORMAL WEIGHT CONCRETE:
- 28-DAY COMPRESSIVE STRENGTH f'c = 4,000 psi2. REINFORCING STEEL:
- Fy = 60 ksiASTM A615 GR. 60 3. REINFORCING WELDED STEEL:
- Fy = 60 ksiASTM A706 GR. 60 4. WELDED WIRE FABRIC:
- Fy = 65 ksiASTM A815 5. STRUCTURAL STEEL 5.1. WIDE FLANGE AND TEE SHAPES:
- Fy = 50 ksiASTM A992 5.2. ANGLES, CHANNELS, AND PLATES:
- Fy = 36 ksiASTM A36 5.3. HSS RECTANGULAR & PIPE:
- ASTM A500 GR. B Fy = 46 ksi
- 6. BOLTS: ASTM A325 Fy = 36 ksi
- 7. ANCHOR BOLTS: ASTM F1554 Fy = 36 ksi (OR 105 ksi AS NOTED)8. NUTS:
- ASTM A563 GR. D 9. WELDING ELECTRODES: MINIMUM STRENGTH OF 70 ksi
- 10. COLD-FORMED STEEL ASTM A570 Fy = 33 ksi (OR 50 ksi AS NOTED)

GENERAL CONSTRUCTION NOTES:

- 1. STRUCTURAL DRAWINGS SHOULD NOT BE SCALED. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS. AND LARGE SCALE OVER SMALL.
- 2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL, ARCHITECTURAL. MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATION AND SIZE OF OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, CURBS, DIMENSIONS, ETC. NOT INDICATED ON THE STRUCTURAL DRAWINGS. THE LOCATION AND SIZE OF MECHANICAL AND ELECTRICAL OPENINGS IN SLABS, WALLS AND DECKS SHALL BE COORDINATED BY THE CONTRACTOR. PROVIDE ALL ADDITIONAL FRAMING OR REINFORCING TO ACCOMMODATE OPENINGS AS REQUIRED BY THE APPLICABLE STANDARD DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR PROVIDED BY THE STRUCTURAL ENGINEER. NO HOLES. NOTCHES. BLOCKOUTS. ETC. ARE ALLOWED IN STRUCTURAL MEMBERS UNLESS DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
- 3. WHERE DIMENSIONS ARE PROVIDED FOR OPENINGS. BLOCKOUTS. FLOOR DEPRESSIONS. CURBS, ETC., BUT MAY BE AFFECTED BY THE EQUIPMENT PURCHASED, THE CONTRACTOR SHALL VERIFY THE INFORMATION PROVIDED PRIOR TO CONSTRUCTION.
- 4. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, CHECK AND VERIFY EXISTING DIMENSIONS, AND TAKE ADDITIONAL MEASUREMENTS AS NEEDED. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN ACTUAL CONDITIONS AND INDICATED CONDITIONS. MODIFICATION OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT OR STRUCTURAL ENGINEER.
- 5. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED BY NEW WORK.
- 6. ALL COLUMNS AND FOUNDATIONS, UNLESS NOTED OTHERWISE, SHALL BE CENTERED ON GRIDLINES IN EACH DIRECTION.
- 7. TYPICAL DETAILS SHALL APPLY IN GENERAL CONSTRUCTION UNLESS SPECIFICALLY DETAILED WHERE NO DETAILS ARE GIVEN. CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK. 8. PROVIDE CONCRETE EQUIPMENT PADS AND INERTIAL BASES FOR MECHANICAL AND
- ELECTRICAL INSTALLATIONS. CONSTRUCT PADS AND BASES IN ACCORDANCE WITH THE TYPICAL DETAILS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LIMITS AND LOCATIONS. 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS, SHORING AND TEMPORARY BRACING, THE CONTRACTOR SHALL PROVIDE ALL
- MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKERS DURING 9.1. DO NOT PLACE CONSTRUCTION MATERIALS OR OTHER CONSTRUCTION LOADS ON THE STRUCTURE SUCH THAT THE LOADS PLACED EXCEED THE CAPACITY OF THE
- 9.2. TAKE INTO CONSIDERATION THAT FULL STRUCTURAL CAPACITY OF MANY STRUCTURAL MEMBERS IS NOT REALIZED UNTIL STRUCTURAL ASSEMBLY IS COMPLETE: THAT IS. UNTIL SLABS. DECKS. DIAGONAL BRACING, AND SHEAR WALLS ARE INSTALLED.
- 9.3. PROVIDE TEMPORARY BRACING AND GUYING TO PROVIDE STABILITY AND RESIST ALL LOADS TO WHICH THE PARTIALLY COMPLETED STRUCTURE MAY BE SUBJECTED INCLUDING ERECTION EQUIPMENT AND ITS OPERATION. ADEQUACY OF TEMPORARY BRACING AND GUYING FOR THIS PURPOSE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 10. CONTRACTOR SHALL COORDINATE SHORING TO MAINTAIN EGRESS ROUTES.

CAST-IN-PLACE CONCRETE NOTES:

- 1. LOCATION OF CONSTRUCTION JOINTS OR POUR JOINTS SHALL BE AS INDICATED ON APPROVED SHOP DRAWINGS.
- 2. ALL CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
- 3. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS. 4. NO STAKEŚ. NEITHER STEEL NOR WOOD, SHALL BE PERMITTED IN ANY CONCRETE POUR.
- SUSPEND FORMS FROM ABOVE GRADE. 5. ANCHOR BOLTS, DOWELS, REINFORCING STEEL, INSERTS, ETC., SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE. CONCRETE BLOCKS ONLY SHALL BE USED TO SUPPORT REINFORCING OFF GRADE
- 6. ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 318 FOR TYPICAL REINFORCEMENT BENDING.
- PROVIDE DOWELS OF SAME SIZE AND NUMBER FROM ADJACENT POUR, BOTH VERTICALLY AND HORIZONTALLY, TO MATCH TYPICAL REINFORCING SHOWN. LAPS SHALL BE IN ACCORDANCE WITH THE DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE. DOWELS SHALL BE CLEANED AFTER POUR.
- 8. FIELD WELDING OR BENDING OF REINFORCING IS NOT PERMITTED EXCEPT AS INDICATED ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER. USE LOW HYDROGEN ELECTRODES
- GRADE E70 OR E90 AS REQUIRED. 9. NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ALL POURS.
- 10. CONTINUOUS REINFORCEMENT IN WALLS AND FOOTINGS MAY BE SPLICED AS REQUIRED PROVIDED THAT BARS ARE OF THE LONGEST PRACTICAL LENGTH AND ALL SPLICES ARE SHOWN ON THE REINFORCING BAR SHOP DRAWINGS. SPLICES ARE TO BE STAGGERED WHEN POSSIBLE. PROVIDE LAP SPLICES AND DEVELOPMENT LENGTHS IN ACCORDANCE WITH THE DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE. USE CLASS B LAP SPLICES UNLESS NOTED OTHERWISE.
- 11. MINIMUM CAST-IN-PLACE (NONPRESTRESSED) CONCRETE COVER SHALL BE AS FOLLOWS:

CONCRETE TYPE AND PLACEMENT	REINF SIZE	MIN COVER (in
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL	3
EXPOSED TO EARTH OR WEATHER TYPICAL	#6 THROUGH #18 #5 AND SMALLER	2 1 1/2
NOT EXPOSED TO WEATHER OR EARTH SLABS, WALLS, AND JOISTS	#14 THROUGH #18 #11 AND SMALLER	1 1/2 3/4
BEAMS AND COLUMNS	ALL	1 1/0

(PRIMARY REINF., TIES, STIRRUPS, & SPIRALS) 1 1/2 12. CONTRACTOR SHALL SCAN WALLS PRIOR TO DRILLING TO INSTALL POST INSTALLED

ANCHORS. CONTRACTOR SHALL NOT DAMAGE/CUT EXISTING REINFORCEMENT STEEL

- WITHOUT APPROVAL FROM ENGINEER. 13. EXISTING CONCRETE SURFACES TO BE JOINED WITH NEW CONCRETE SHALL BE THOROUGHLY CLEANED BY SANDBLASTING TO EXPOSE AGGREGATE AND COATED WITH EPOXY
- BONDING COMPOUND JUST PRIOR TO PLACEMENT OF NEW CONCRETE 14. CAST-IN-PLACE STRUCTURES ACCESS HATCHES SHALL BE DESIGNED FOR A LIVE LOADING CONSISTENT WITH LOAD LEVEL 7 PER TABLE X1.1 IN ASTM C 1802.
- 15. LAP SPLICE LENGTH SHALL BE MIN 30" UNLESS NOTED OTHERWISE ON DRAWINGS

FOUNDATION DESIGN NOTES:

- 1. THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT PREPARED BY PARIKH CONSULTANTS INC., "GEOTECHNICAL INVESTIGATION REPORT, MAIN AVENUE AND MADRONE PIPELINES RESTORATION PROJECT", DATED MAY 2016 AND ADDENDUM NO.1, DATED MARCH 7, 2017. PENDING GEOTECH REPORT
- 2. ALL FOUNDATION AND EXCAVATION SHOULD BE DONE PER THE GEOTECHNICAL REPORT RECOMMENDATIONS AND THE CONSTRUCTION DOCUMENTS.

SPECIAL INSPECTION:

SPECIAL INSPECTION IN ACCORDANCE WITH CBC, CHAPTER 17 SHALL BE REQUIRED FOR THE FOLLOWING WORK:

CONCRETE CAST-IN-PLACE ANCHOR BOLTS REINFORCING STEEL

PRECAST VAULT NOTES:

- 1. ALL PLANS AND CALCULATIONS PERFORMED FOR THE DESIGN OF THE PRECAST VAULT AND ALL CONNECTIONS SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND SUBMITTED TO THE SCVWD FOR REVIEW.
- 2. PRECAST UNDERGROUND VAULTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE SPECIFIED LOAD CONDITIONS AND WITH ASTM C 857 AND C 858.
- 3. PRECAST VAULTS AND ACCESS HATCHES SHALL BE DESIGNED FOR A LIVE LOADING CONSISTENT WITH A-16 PER TABLE 1 IN ASTM C 857 WITH A 30% INCREASE DUE TO IMPACT LOAD. FOR LATERAL LIVE LOADING AGAINST UNDERGROUND VAULT WALLS, SEE
- 4. ALL LIFTING DEVICES AND ANY INSERTS USED TO PLACE PRECAST VAULTS IN PLACE SHALL MEET OSHA REQUIREMENTS. REINFORCING BARS SHALL NOT BE USED AS LIFTING DEVICES.
- REFER TO ASTM C 891 FOR INSTALLATION OF PRECAST UNDERGROUND STRUCTURES.
- 6. THE MANUFACTURER SHALL COMPLY WITH ASTM C 1037 AND SHALL SUPPLY ANY ASSOCIATED TEST DATA AND INSPECTION RECORDS TO THE SCVWD REPRESENTATIVE.
- 7. PRECAST CONCRETE SHALL MEET THE CAST-IN-PLACE CONCRETE NOTES AS THEY APPLY.

PRECAST BUILDING (CHEMICAL FEED STATION)

 ALL PLANS AND CALCULATIONS PERFORMED FOR THE DESIGN OF THE PRECAST BUILDING AND ALL CONNECTIONS SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND SUBMITTED TO THE SCVWD FOR REVIEW.

DESIGN DATA:

STRUCTURE NO	STRUCTURE NAME
1 C-05	PHASE 1B TO PHASE 1C CONNECTION
2 C-06	CONN TO EXIST 12" RCW PIPE

EARTH LOADS, PENDING GEOTECH REPORT:

UNIT WEIGHT OF SOIL $\delta = 120$ PCF

EQUIVALENT FLUID EARTH PRESSURE:

	ABOVE GROUNDWATER	BELOW GROUNDWATER
ACTIVE	STRUCTUR 46 PCF	E 1 & 2 87 PCF
AT-REST	67 PCF	98 PCF
PASSIVE	840 PCF	840 PCF
ACTIVE	STRUCTURE 36 PCF	3 THRU 5 82 PCF
AT-REST	55 PCF	92 PCF
PASSIVE	455 PCF	455 PCF

LIVE LOAD SURCHARGE = 106 PSF (LATERAL)

SEISMIC EARTH LOAD = $24H^2$ PLF (STRUCTURES 1 & 2)

 $= 17H^2$ PLF (STRUCTURES 3 - 5) APPLIED AT H/3 FROM BOTTOM OF H

Al	LLOWABLE BE	ARING PRES	SURE	
STRUCTURE	1" SETTLEMENT DEAD LOAD (KSF)		DEAD AND LIVE LOAD (KSF)	
1	3.2	9.7	14.5	
2	3.5	8.7	13.0	
3	2.6	8.7	13.0	
4	5.6	8.8	13.2	

REFERENCE INFORMATION AND NOTES **REV** ENGINEERING CERTIFICATION | SANTA CLARA VALLEY WATER DISTRICT PROJECT NAME AND SHEET DESCRIPTION: DESCRIPTION SCALE PROJECT NUMBER 7/8/2025 SOUTH COUNTY RECYCLED WATER AS SHOWN 91094009 **DESIGN** PIPELINE PHASE 1C **VERIFY SCALES** SHEET CODE: M. TAN DRAWN T. TRAN BAR IS ONE INCH O GENERAL STRUCTURAL NOTES ORIGINAL DRAWING CHECKED F NOT ONE INCH ON SHEET NUMBER: THIS SHEET, ADJUST

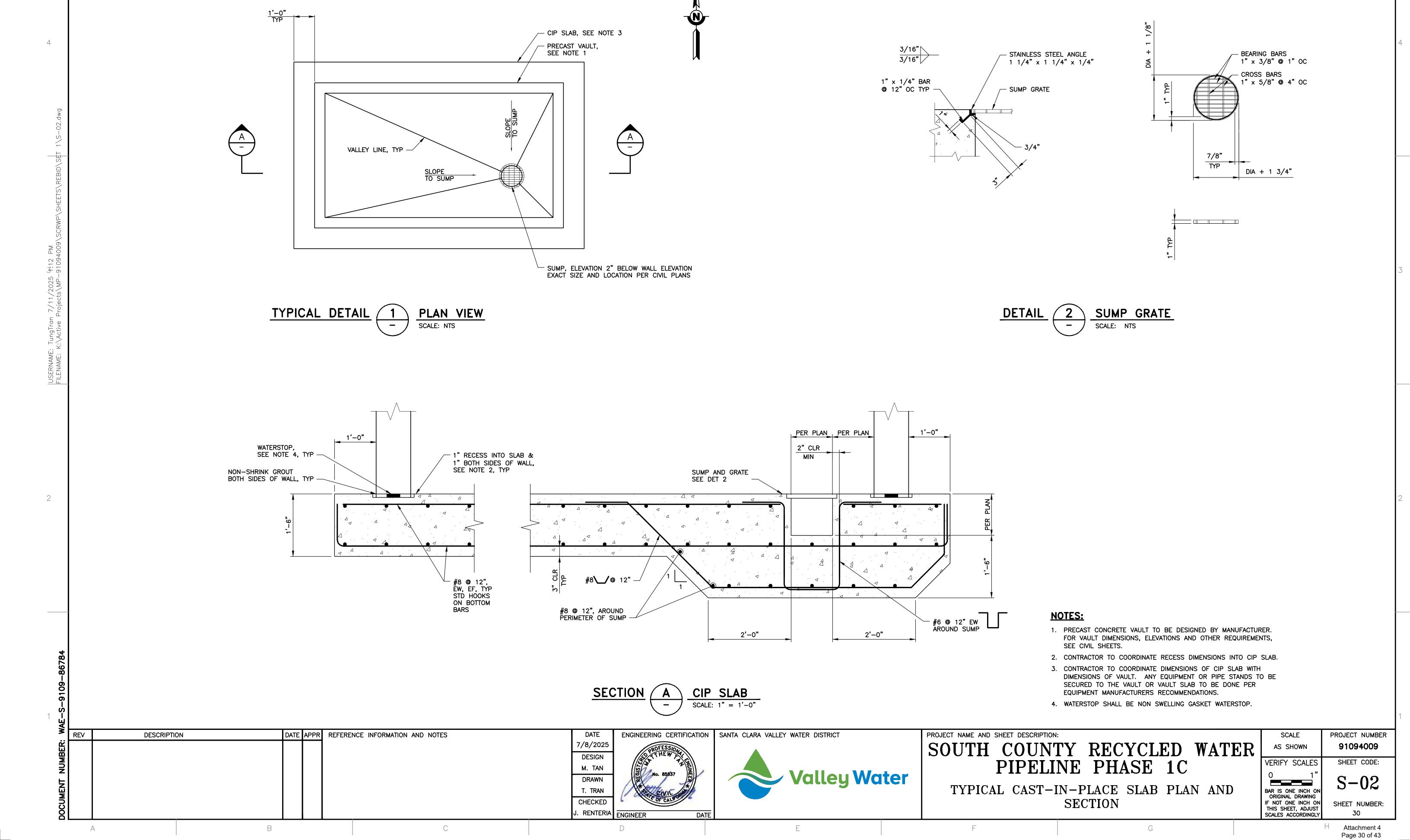
DATE

RENTERIA

ENGINEER

29

SCALES ACCORDINGLY



ALTERNATING CURRENT A.C. ASPHALT CONCRETE ANODE JUNCTION BOX **AMPERES** AMP

ANODE ATS ANODE TEST STATION AMERICAN WIRE GAUGE

BIF BIFURCATION CONTROLLED LOW-STRENGTH MATERIAL CLSM CP CATHODIC PROTECTION CORROSION TEST STATION CTS

DC DIRECT CURRENT DR DRAIN CABLE D/S DOWN-STREAM **EXISTING** EG EXISTING GRADE EP EDGE OF PAVEMENT FT FEET

POLYETHYLENE

GRS GALVANIZED RIGID STEEL HIGH DENSITY POLYETHYLENE HMWPE HIGH MOLECULAR WEIGHT

HIGH SILICON CAST IRON IMPRESSED CURRENT CATHODIC ICCP PROTECTION

I.D. INSIDE DIAMETER LB POUNDS MAX MAXIMUM **MANHOLE** MIN MINIMUM Ν NEW NR NEAR OUTER DIAMETER O.H. OVER-HEAD

PIPELINE PL PMTS POST MOUNTED TEST STATION

HDPE POLYVINYL CHLORIDE REQ'D REQUIRED REV REVISION RW RECLAIMED WATER SCH SCHEDULE STL STEEL TBD TO BE DETERMINED

THERMOPLASTIC HIGH HEAT RESISTANT NYLON COATED THERMOPLASTIC HIGH WATER RESISTANT NYLON-COATED

TYP **TYPICAL** UG UNDERGROUND U/S UP-STREAM **VOLTS**

W/ CROSS-LINKED POLYETHYLENE,

HIGH HEAT-RESISTANT, WATER AND DIAMETER

GENERAL CATHODIC PROTECTION NOTES:

1. ALL STRUCTURES SHALL BE INSTALLED WITH A COATING SYSTEMS AS FOLLOWS:

1.1. STEEL PIPELINES SHALL BE INSTALLED WITH A MORTAR COATING.

1.2. ALL DIRECT BURIED STEEL OR DUCTILE IRON APPURTENANCES, VALVES, AND FITTINGS CONNECTED TO HDPE OR MORTAR COATED STEEL PIPE SHALL BE MORTAR COATED, MORTAR ENCASED, OR BACKFILLED WITH CLSM/CDF.

1.3. THE STEEL CASING AT UVAS CREEK SHALL BE INSTALLED WITH FACTORY APPLIED

SCOTCHKOTE 328, ABRASION RESISTANT COATING, OR EQUIVALENT. 2. BOND ALL NON-WELDED, MECHANICAL CONNECTIONS TO EX WSP USING TWO #4 AWG/HMWPE BOND CABLES PER DETAIL 5, SHT CP-02.

3. PROVIDE ELECTRICAL ISOLATION ON ABOVE GRADE FLANGE JOINTS AS INDICATED ON THE CIVIL "PLAN AND PROFILE", SHTS C-01 THRU C-04, AND CATHODIC PROTECTION DET 1, SHT CP-01.

4. THE CATHODIC PROTECTION SYSTEM UPGRADE FOR THIS PROJECT SHALL CONSIST OF TWO (2) IMPRESSED CURRENT CATHODIC PROTECTION SYSTEMS FOR MORTAR COATED STEEL PIPE, AND ONE (1) IMPRESSED CURRENT SYSTEM FOR THE EPOXY COATED CASING AT UVAS CREEK CROSSING. METALLIC VALVES, FITTINGS, AND APPURTENANCES ON THE HIGH DENSITY POLYETHYLENE (HDPE) PIPELINE SECTIONS SHALL BE PROVIDED WITH HIGH-POTENTIAL MAGNESIUM ANODES. IMPRESSED CURRENT SYSTEMS SHALL CONSIST OF A DC RECTIFIER UNIT, ANODE JUNCTION BOX, AND DEEP ANODE BED WITH CAST IRON ANODES.

5. GALVANIC CATHODIC PROTECTION SHALL BE PROVIDED FOR ALL CASINGS AS SHOWN, EXPECT IMPRESSED CURRENT CATHODIC PROTECTION SHALL BE PROVIDED FOR THE UVAS

CREEK CASING. 6. WATER WILL BE PROVIDED BY VALLEY WATER AT THE VAULTS OR PUMP STATIONS FOR

CONTRACTOR'S USE DURING DEEP ANODE BED INSTALLATIONS. 7. CALL UNDERGROUND SERVICE ALERT BEFORE DIGGING, TRENCHING OR DRILLING AT ANY

LOCATION. 8. EACH NON-INSULATING MECHANICAL JOINT ON ANY SUCH ASSEMBLY SHALL BE BONDED

TOGETHER PER DET 5, SHT CP-06. 9. ALL UNDERGROUND UTILITY LOCATIONS SHOWN ON SHEETS CP-02, CP-03, AND CP-04 ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO DIGGING OR TRENCHING.

10. FOLLOWING CONSTRUCTION, THE CATHODIC PROTECTION SYSTEM SHALL BE ENERGIZED AND COMMISSIONED UNDER THE SUPERVISION OF THE DISTRICT.

REFERENCE INFORMATION AND NOTES DESCRIPTION

ENGINEERING CERTIFICATION | SANTA CLARA VALLEY WATER DISTRICT CHECKED . RENTERIA ENGINEER

PROJECT NAME AND SHEET DESCRIPTION:

SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

ABBREVIATIONS, PROJECT PHASING AND RECTIFIER INSTALLATIONS, DEEP ANODE BED SCHEMATIC, GENERAL CATHODIC PROTECTION NOTES, & TABLES

	SCALE	PROJECT NUMBE
8	AS SHOWN	91094009
	VERIFY SCALES	SHEET CODE:
	D 1" BAR IS ONE INCH ON ORIGINAL DRAWING	CP-01
	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NUMBER: 31

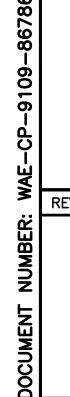
H Attachment 4 Page 31 of 43

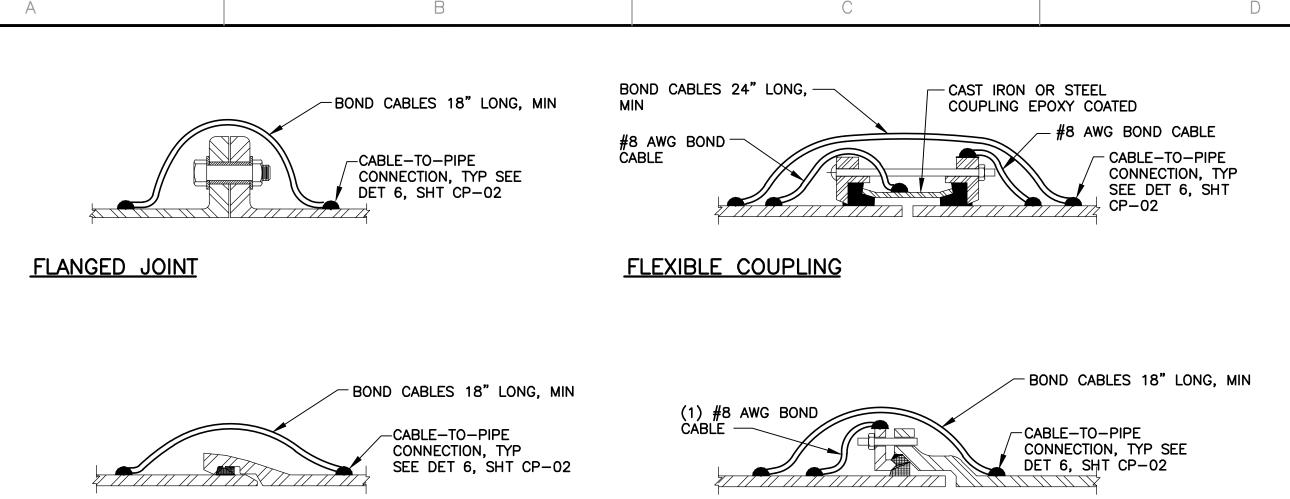
DRAWN



PUSH-ON JOINT



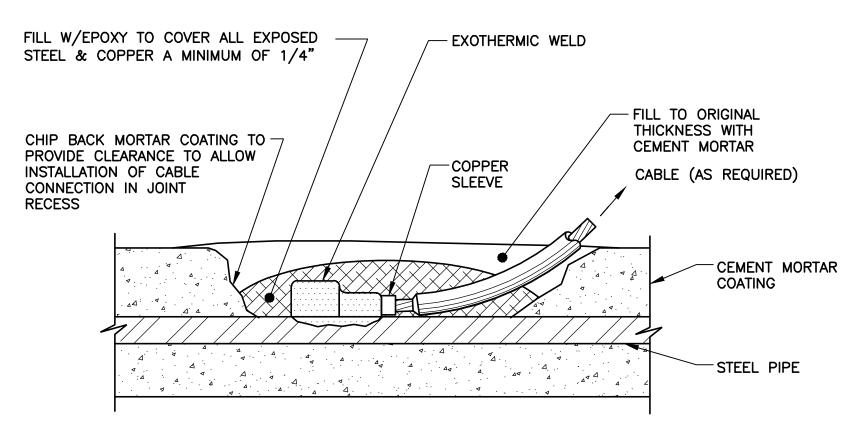




USE TWO #4 AWG/HMWPE BOND CABLES FOR EACH NON-WELDED, NON-INSULTED PIPE JOINT, FOR ALL BOND WIRES SHOWN ABOVE EXCEPT FOR THE WIRE SIZES INDICATED ABOVE.

MECHANICAL JOINT

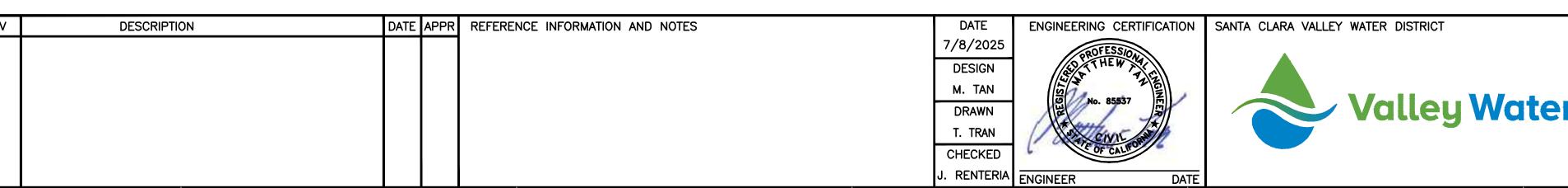
DETAIL MORTAR COATED STEEL PIPE OPTION BOND CABLE INSTALLATION SCALE: NTS



MORTAR COATED STEEL PIPE

1. PROVIDE A MINIMUM SEPARATION OF 12" BETWEEN TWO ADJACENT CABLE-TO-PIPE CONNECTIONS. 2. FOR EPOXY COATED PIPE, INSTALLED IN VAULTS OR SIMILAR ATMOSPHERIC ENVIRONMENTS, PROVIDE EXOTHERMIC WELD, AND COAT WITH BITUMASTIC 300-M OR EQUAL TO COVER ALL EXPOSED METAL.



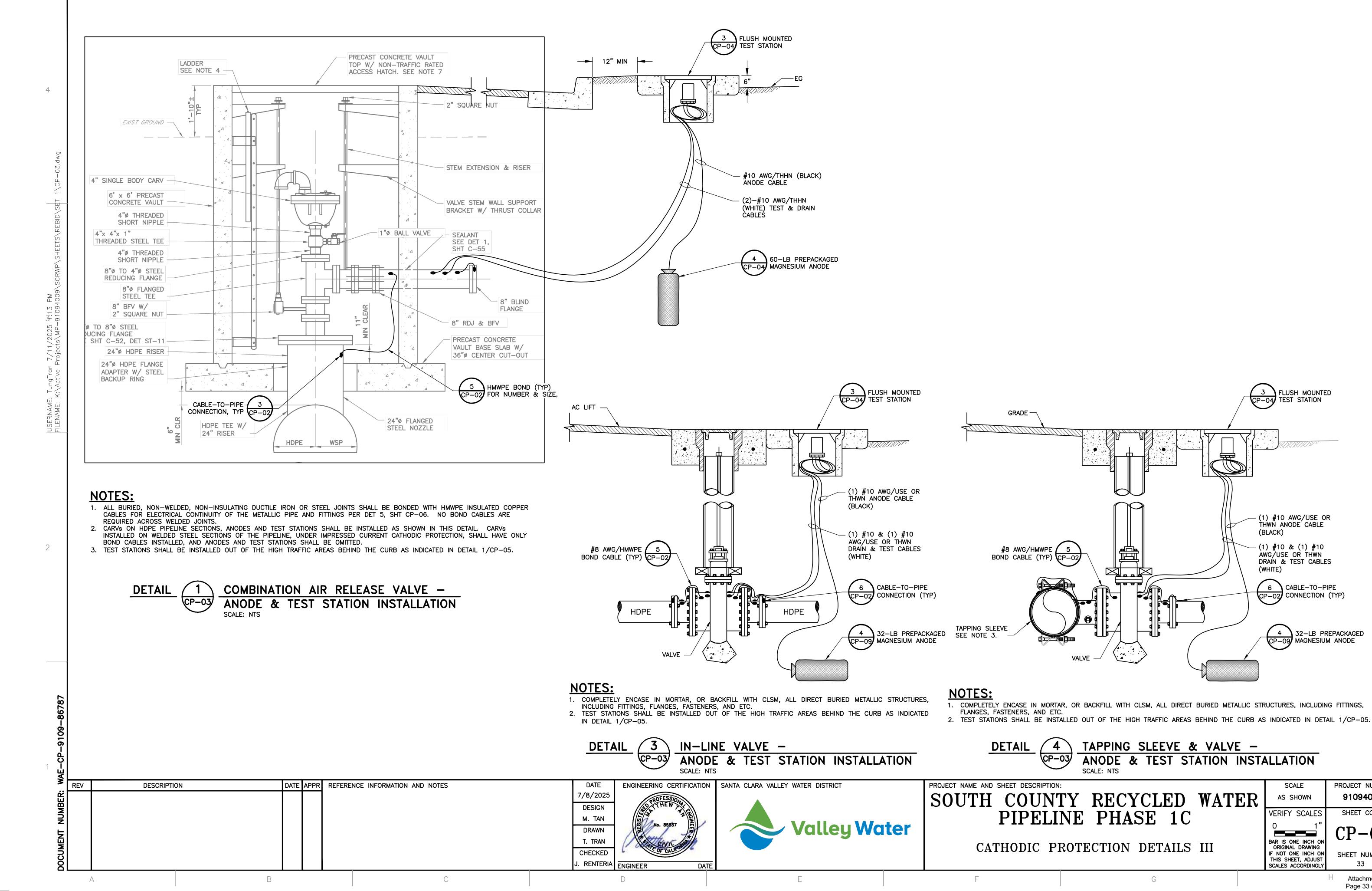


SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

CATHODIC PROTECTION DETAILS II

	SCALE	PROJECT NUMBER
3	AS SHOWN	91094009
	VERIFY SCALES	SHEET CODE:
	D 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	CP-02 SHEET NUMBER:

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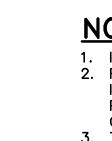
SHEET NUMBER:

33

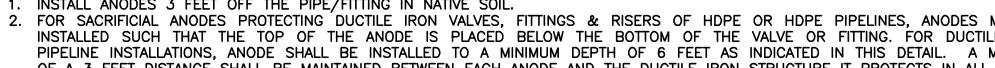
PROJECT NUMBER

91094009

SHEET CODE:



REV



OF A 3 FEET DISTANCE SHALL BE MAINTAINED BETWEEN EACH ANODE AND THE DUCTILE IRON STRUCTURE IT PROTECTS IN ALL CASES.

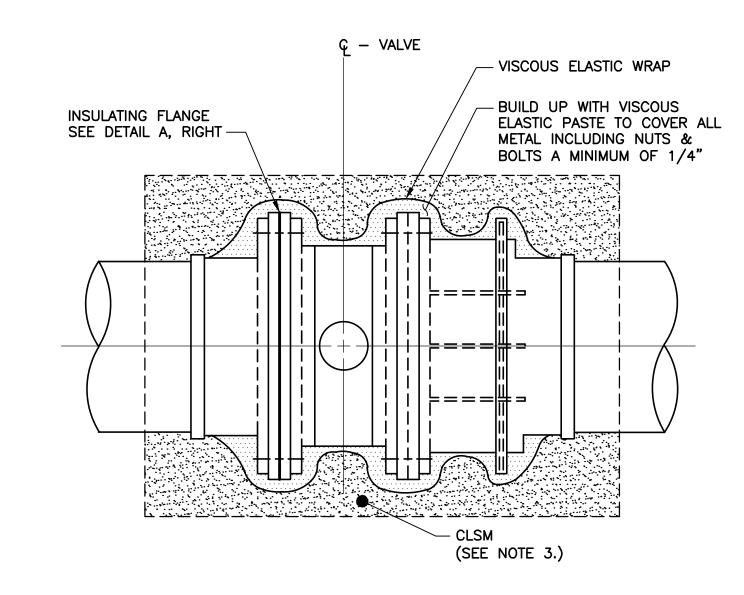
REFERENCE INFORMATION AND NOTES

GRADE -TEST STATION DUCTILE IRON OR STEEL PIPE HDPE PIPE (TYP) #10 AWG/THHN (WHITE) PIPE CABLE-TO-PIPE 6 CABLE (TYP) CONNECTION (TYP) CP-02 DUCTILE IRON PIPE #8 AWG/HMWPE 5' MIN BOND CABLE (TYP) CP-02 #10 AWG/THHN (BLACK) ANODE CABLE (TYP) 45° ELBOWS — (TYP OF 4) 31" FOR 48-LB MAGNESIUM ANODE (TYP) (2) 48LB PREPACKAGED MAGNESIUM ANODES -

NOTES:

- 1. THIS DETAIL MAY BE USED FOR ALL UNDERGROUND SECTIONS OF DUCTILE IRON PIPE INCLUDING CROSSING UNDER OR OVER A PIPE, BRIDGE AND SHORT RUNS OF DUCTILE IRON PIPE. IN ALL CASES A MINIMUM OF ONE ANODE SHALL BE INSTALLED ON EACH END OF A DUCTILE IRON PIPE SEGMENT.
- 2. THE ANODE SHALL BE INSTALLED VERTICALLY OR HORIZONTALLY WITH THE TOP OF THE ANODE A MINIMUM OF 5 FT. BELOW GRADE AND 3 FT. BELOW PIPE.
- 3. THE BOND CABLES ARE REQUIRED TO MAKE THE DUCTILE IRON PIPE SEGMENT ELECTRICALLY CONTINUOUS FROM END TO END.
- 4. TEST STATIONS SHALL BE INSTALLED OUT OF THE HIGH TRAFFIC AREAS BEHIND THE CURB AS INDICATED IN DETAIL 1/CP-05





NOTES:

ENGINEERING CERTIFICATION

- OMIT COATING IF JOINT IS LOCATED ABOVE GRADE OR IN VAULTS. 2. THE ALLOY OF THE STEEL WASHERS SHALL BE THE SAME AS IS SPECIFIED FOR
- THE FLANGE BOLTS. 3. BACKFILL WITH CONTROLLED LOW-STRENGTH MATERIAL (CLSM) WITH A MAXIMUM COMPRESSIVE STRENGTH OF 200 PSI AND A MINIMUM COVER OF 6" OVER THE



SANTA CLARA VALLEY WATER DISTRICT

PROJECT NAME AND SHEET DESCRIPTION: SOUTH COUNTY RECYCLED WATER

CATHODIC PROTECTION DETAILS IV

SCALE AS SHOWN VERIFY SCALES BAR IS ONE INCH O ORIGINAL DRAWING

PIPELINE PHASE 1C

PROJECT NUMBER 91094009 SHEET CODE: F NOT ONE INCH ON SHEET NUMBER: THIS SHEET, ADJUST SCALES ACCORDINGLY

NOTES:

FLUSH MOUNTED

HDPE PIPELINE

TEST STATION

BOND CABLE (TYP) CP-02

CABLE-TO-PIPE CONNECTION (TYP) CP-02

FERROUS METAL ELBOW

#10 AWG/THHN (WHITE)

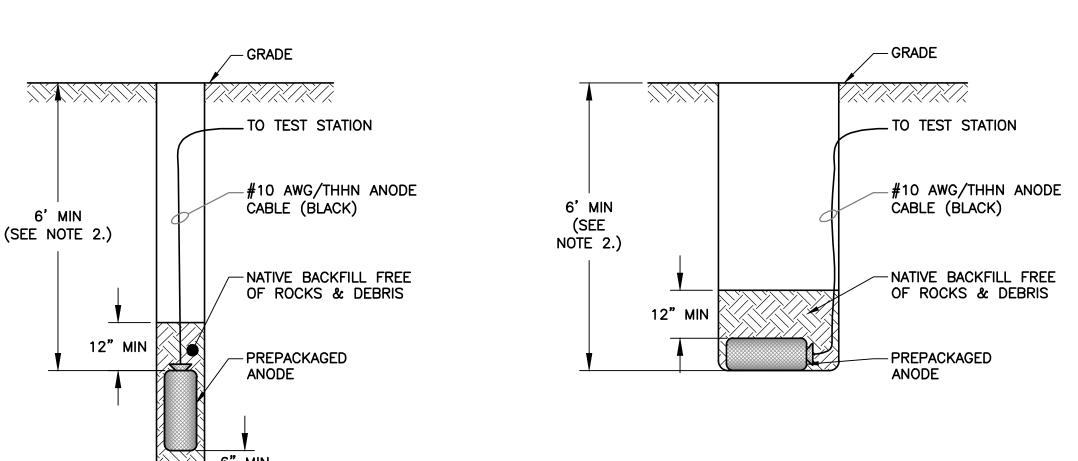
HDPE PIPELINE

TEST & DRAIN CABLE

1. COAT ALL BURIED BOLTS & NUTS WITH BITUMASTIC AND ENCASE ALL DUCTILE IRON PIPE AND

- FITTINGS IN POLYETHYLENE PER CATHODIC PROTECTION GENERAL NOTE 1. ON SHEET CP-01. 2. TEST STATIONS SHALL BE INSTALLED OUT OF THE HIGH TRAFFIC AREAS BEHIND THE CURB AS
- INDICATED IN DETAIL 1/CP-05. 3. IF TEST STATION IS INSTALLED IN EXISTING SIDEWALK, REPLACE ENTIRE SQUARE FROM CURB TO BACK OF SIDEWALK, AND FROM JOINT TO JOINT ALONG THE SIDEWALK PER CITY STANDARDS.





VERTICAL INSTALLATION

HORIZONTAL INSTALLATION

32-LB PREPACKAGED

MAGNESIUM ANODE

#10 AWG/THHN (BLACK)
ANODE CABLE

NOTES:

DESCRIPTION

1. INSTALL ANODES 3 FEET OFF THE PIPE/FITTING IN NATIVE SOIL.

2. FOR SACRIFICIAL ANODES PROTECTING DUCTILE IRON VALVES, FITTINGS & RISERS OF HDPE OR HDPE PIPELINES, ANODES MAY BE INSTALLED SUCH THAT THE TOP OF THE ANODE IS PLACED BELOW THE BOTTOM OF THE VALVE OR FITTING. FOR DUCTILE IRON PIPELINE INSTALLATIONS, ANODE SHALL BE INSTALLED TO A MINIMUM DEPTH OF 6 FEET AS INDICATED IN THIS DETAIL. A MINIMUM 3. THE ANODES MAY BE INSTALLED HORIZONTALLY OR VERTICALLY UPON DISCRETION OF THE CONTRACTOR. 4. MAINTAIN A MIN. DISTANCE OF 10 FEET BETWEEN ANODES IF MULTIPLE ANODES ARE INSTALLED.

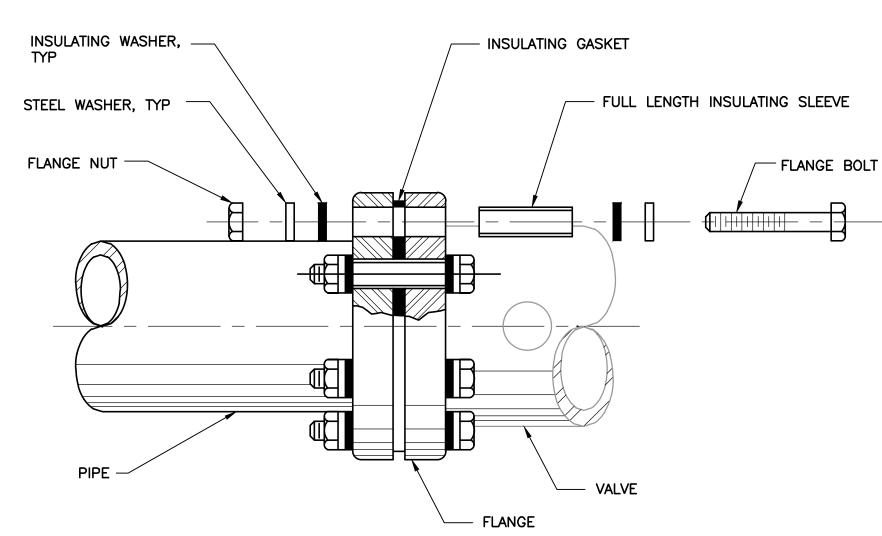
CONNECTION (TYP) CP-04 #10 AWG/THHN (BLACK) ANODE CABLE NON-METALLIC PIPE CABLE-TO-PIPE CONNECTION (TYP) CP-02 METALLIC MECHANICAL THRUST RESTRAINT (MRJ)

CABLE-TO-PIPE

NOTE:

NO TEST STATION IS REQUIRED FOR THESE FITTINGS, HOWEVER A RECORD OF ALL INSTALLATIONS SHALL BE PROVIDED TO THE PROJECT ENGINEER.





- 1. ALL BOLT HOLES SHALL BE REAMED AFTER FITTING COMPONENTS TOGETHER BUT BEFORE INSERTING INSULATING SLEEVES.
- 2. THE INSULATING FLANGE KIT SHALL BE FOR WATER SERVICE, SUITABLE FOR WET & DRY LOCATIONS, AND BE OF SAME PRESSURE RATING AS THE FLANGE.
- 3. THE ALLOY OF THE STEEL WASHERS SHALL BE THE SAME AS IS SPECIFIED FOR THE FLANGE BOLTS.

4. ALL INSULATING JOINTS SHALL BE TESTED AND APPROVED PRIOR TO BACKFILL.

DETAIL **CP-04**

INSULATING FLANGE JOINTS ASSEMBLY SCALE: NTS

ENGINEER

7/8/2025

DESIGN

M. TAN DRAWN

T. TRAN

CHECKED

RENTERIA

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FLUSH MOUNTED TEST STATION
CONCRETE TRAFFIC BOX

CONCRETE SIDEWALK & CURB

ASPHALT STREET

1" SCH 40 PVC CONDUIT
WITH CABLES AS REQUIRED

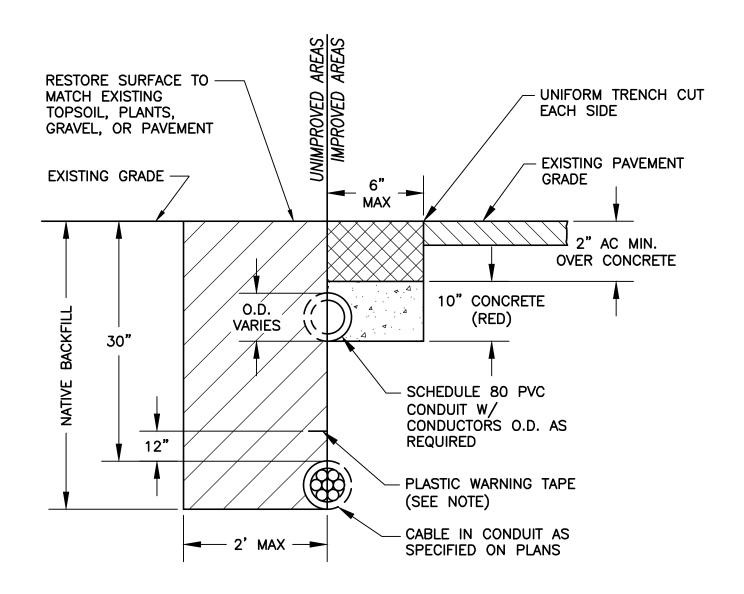
6
CABLE—TO—PIPE
CONNECTION, TYP.

NOTE:

DO NOT INSTALL TEST STATIONS IN DRIVEWAYS.

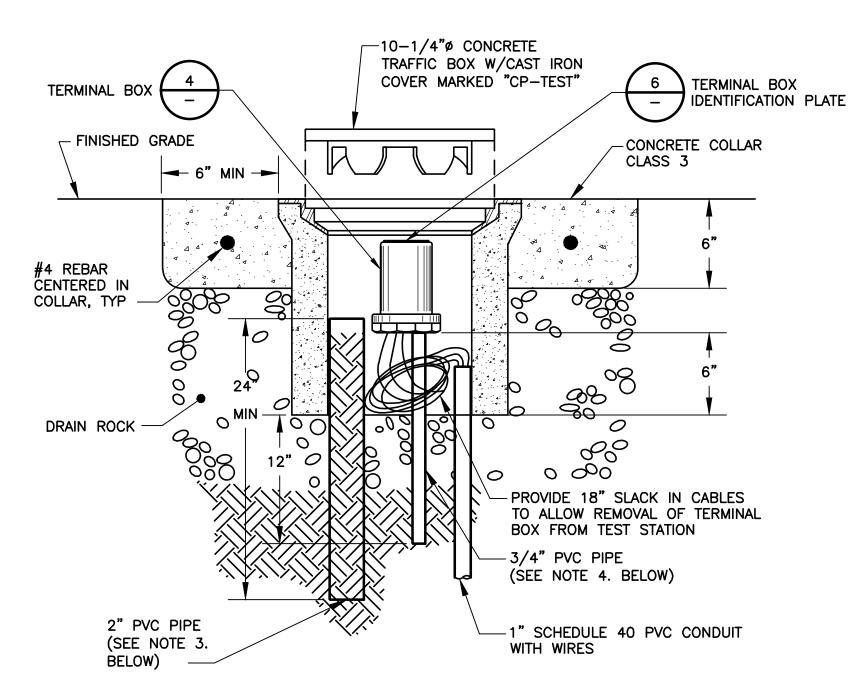
DETAIL 1 MORTAR COATED STEEL PIPE - TEST STATION INSTALLATION

SCALE: NTS



NOTE:
THE WARNING TAPE USED FOR ALL CABLES SHALL BE RED BURIAL TAPE.

DETAIL 2 TYPICAL CABLE TRENCH SECTION SCALE: NTS

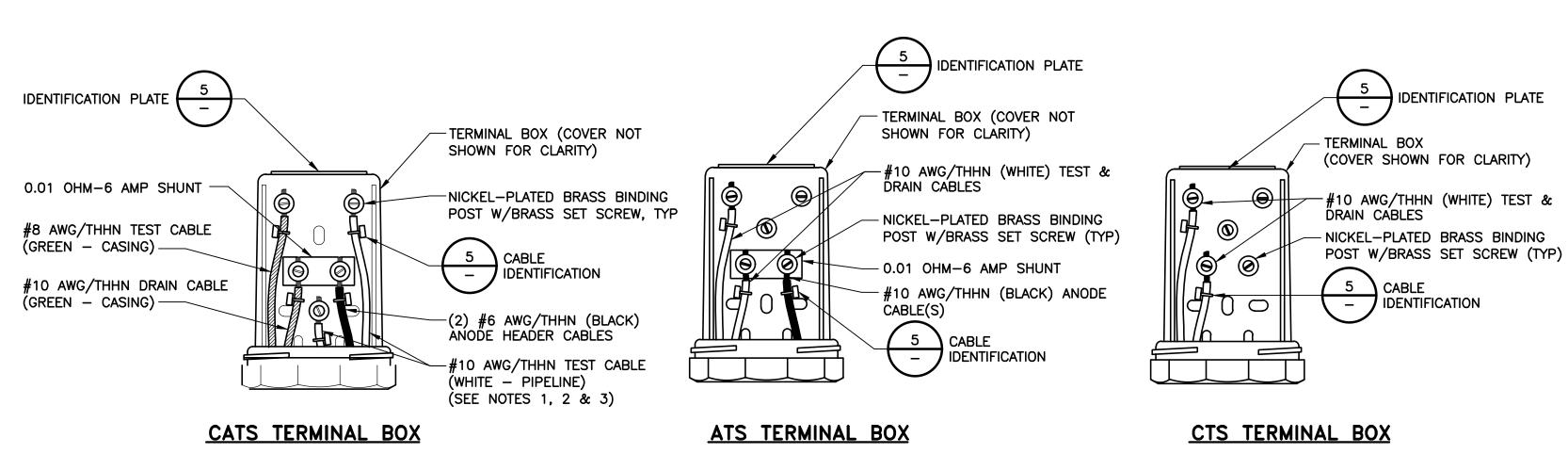


NOTES:

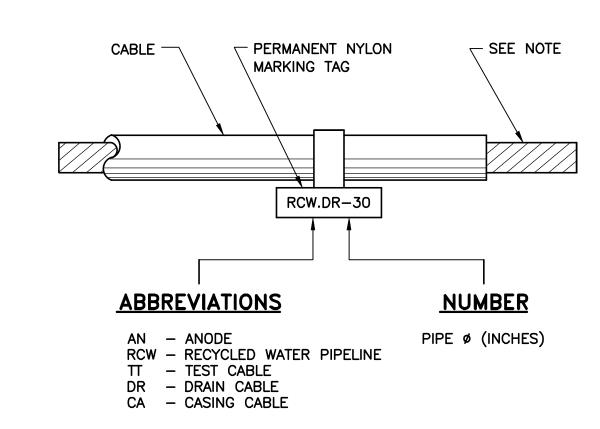
- 1. FLUSH MOUNTED TEST STATIONS SHALL BE USED FOR ALL TEST STATIONS.
- 2. IDENTIFY ALL CABLES PER DET 5, SHT CP-10.
- 3. INSTALL 2" PVC PIPE IN CLEAN NATIVE SOIL. FILL PIPE WITH CLEAN SOIL, FREE FROM ROCKS & DEBRIS.

 A INSTALL 18" LENGTH OF 3/4" BVC PIPE TO ENSURE THAT THE TERMINAL BOX WILL BEMAIN IN THE
- 4. INSTALL 18" LENGTH OF 3/4" PVC PIPE TO ENSURE THAT THE TERMINAL BOX WILL REMAIN IN THE UPRIGHT POSITION. POSITION THE PIPE SO THAT THE TERMINAL BOX WILL BE AS HIGH AS POSSIBLE WITH THE CAST IRON LID STILL CLOSING PROPERLY.







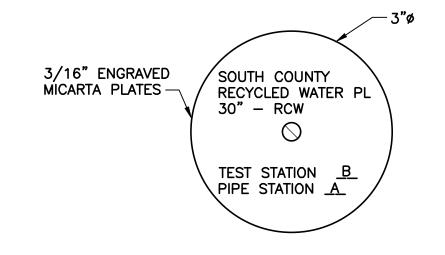


NOTES:

1. THE MARKING TAGS SHALL BE ACCESSIBLE INSIDE THE TRAFFIC BOX.
2. REMOVE INSULATION PRIOR TO FASTENING CABLE WITH SET SCREW.

CABLE IDENTIFICATION

SCALE: NTS



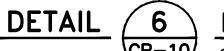
TEST STATION IDENTIFICATION PLATE

<u>LEGEND</u>

- A- INDICATES PIPE STATIONING
- B- INDICATES TEST STATION TYPE: CTS, CATS, OR IJTS

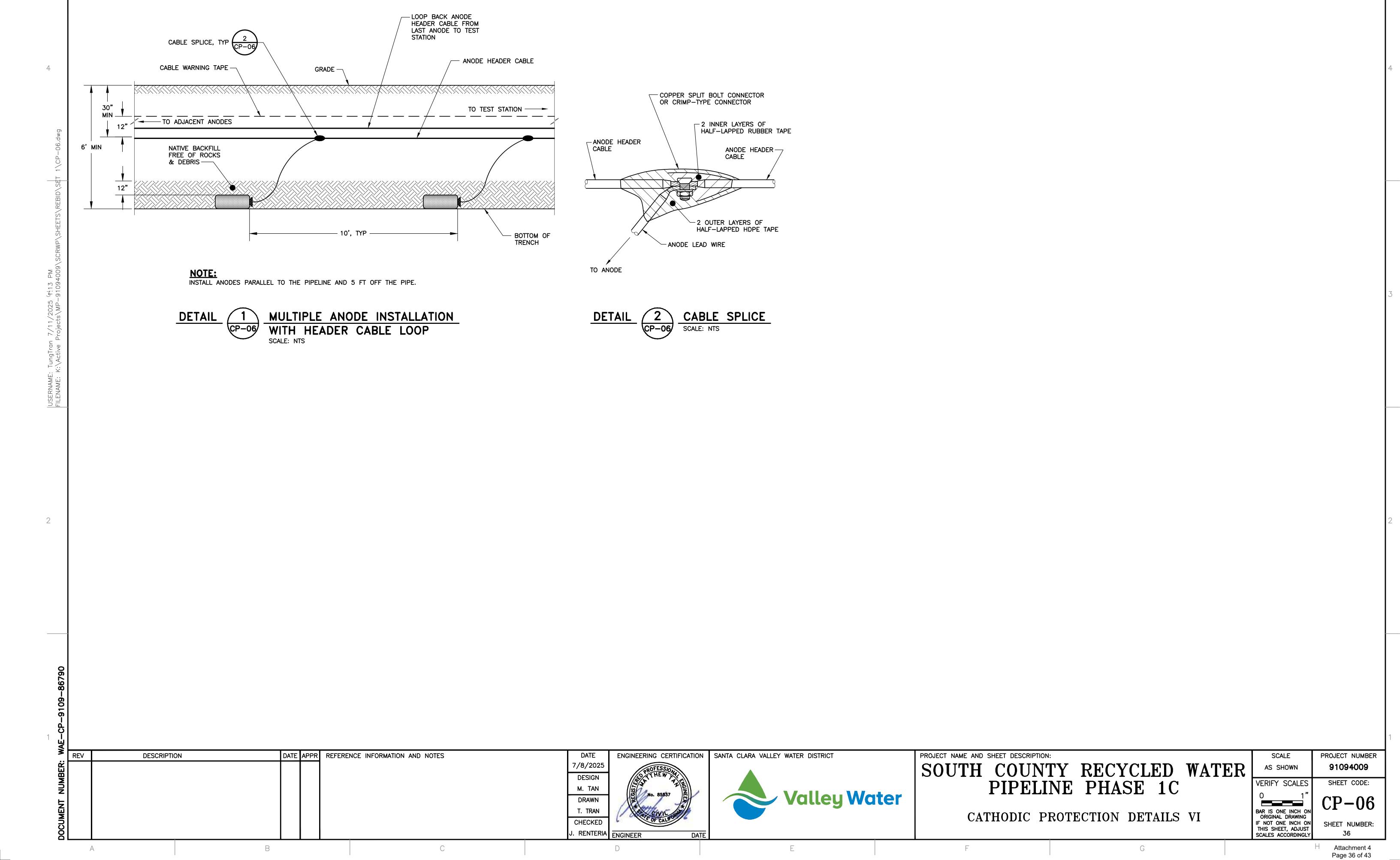
NOTES:

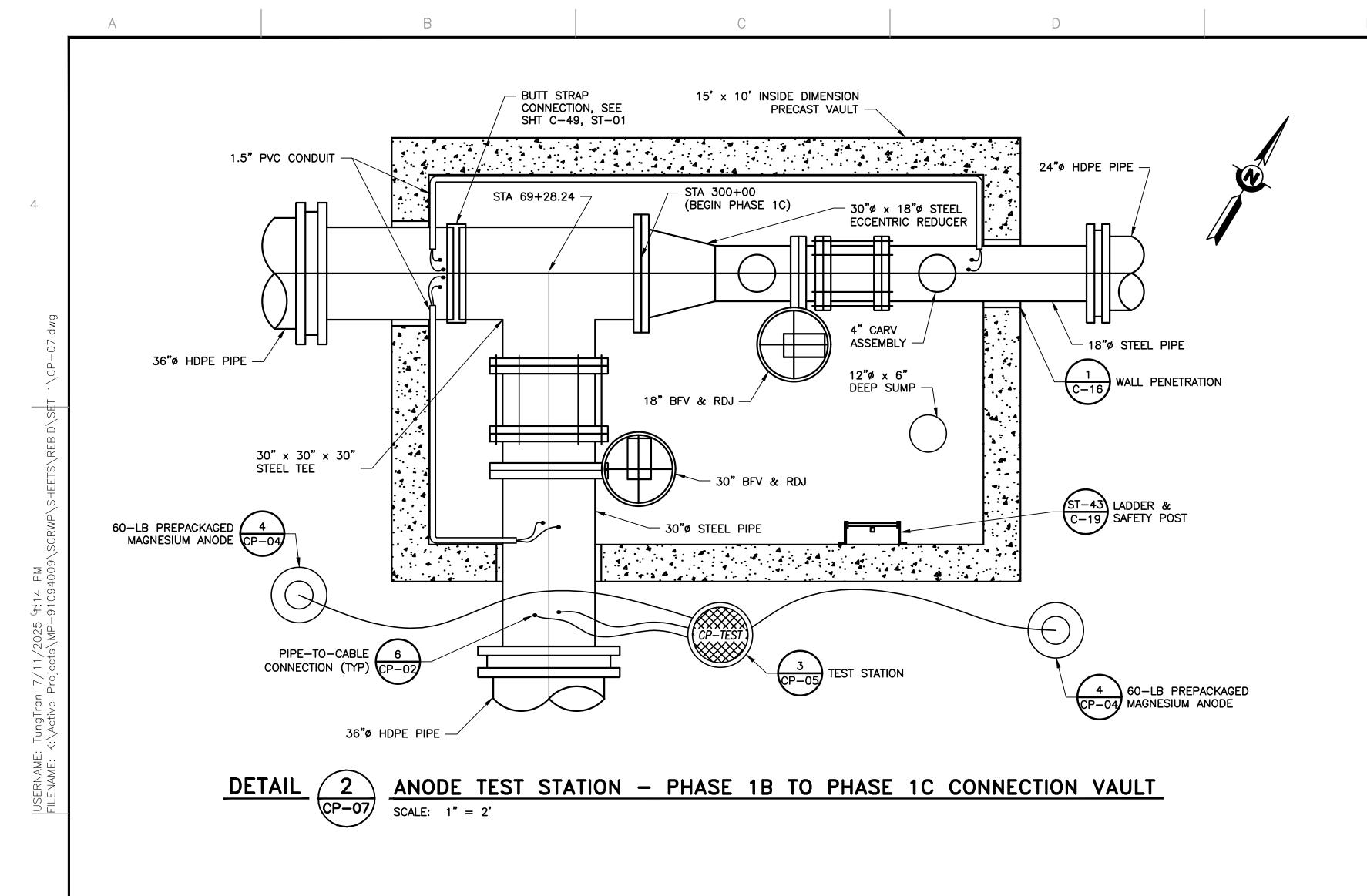
THE ENGRAVED LETTERING SHALL BE 3/8" HIGH, WHITE ON BLACK.
 THE PLATES SHALL BE BOLTED TO THE TEST STATION TERMINAL BOX WITH 1/4" BRASS BOLTS.

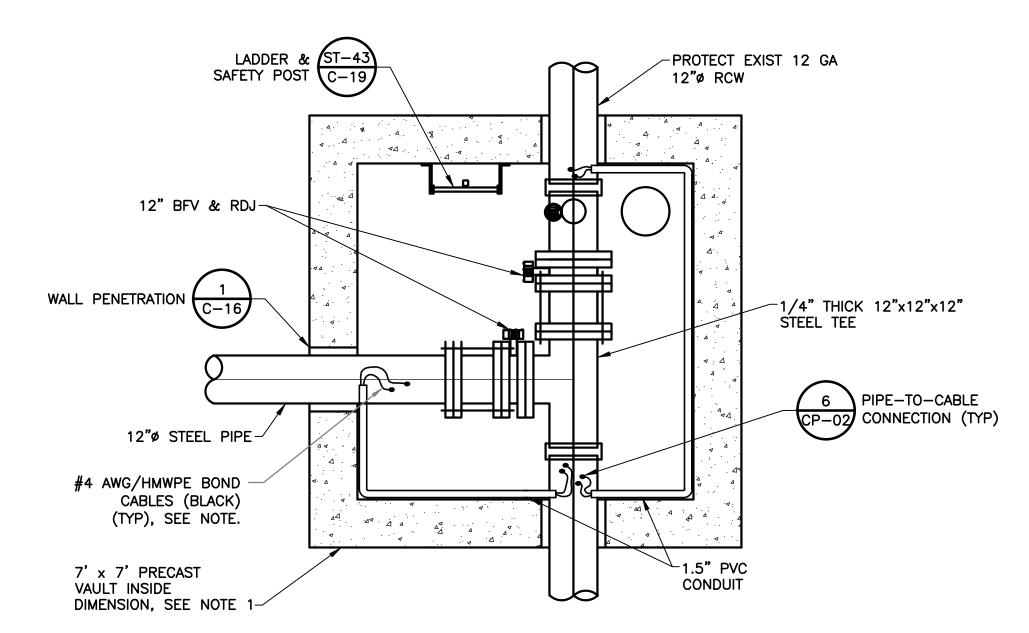


6 | IDENTIFICATION PLATE | SCALE: NTS

REV	DESCRIPTION	DATE A	PPR I	REFERENCE INFORMATION AND NOTES DATE	ENGINEERING CERTIFICATION	SANTA CLARA VALLEY WATER DISTRICT	PROJECT NAME AND SHEET DESCRIPTION:	SCALE	PROJECT NUMBER
				7/8/202 DESIGN	25 PROFESSION		SOUTH COUNTY RECYCLED WATER	AS SHOWN	91094009
				M. TAN	V (15)		PIPELINE PHASE 1C	VERIFY SCALES	SHEET CODE:
				DRAWN T. TRAN	/ XXXxxx /	Valley Water		BAR IS ONE INCH ON	CP-05
				CHECKEI J. RENTER	ERIA ENGINEER DAT		CATHODIC FROIECTION DETAILS V	BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NUMBER: 35



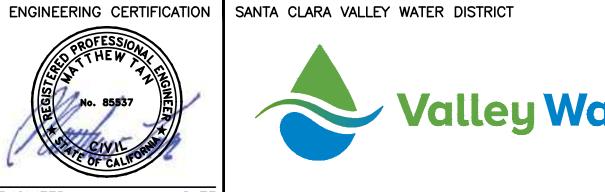




BOND U/S & D/S PIPE SECTIONS WITH (2) #4 AWG/THWN BOND WIRES AND BOND ALL NEW BURIED, NON-WELDED PIPE JOINTS BETWEEN THE VAULT AND THE NEW HDPE PIPE CONNECTION.

PHASE 1C CONNECTION SCALE: 1" = 2'

DESCRIPTION REFERENCE INFORMATION AND NOTES CHECKED . RENTERIA ENGINEER

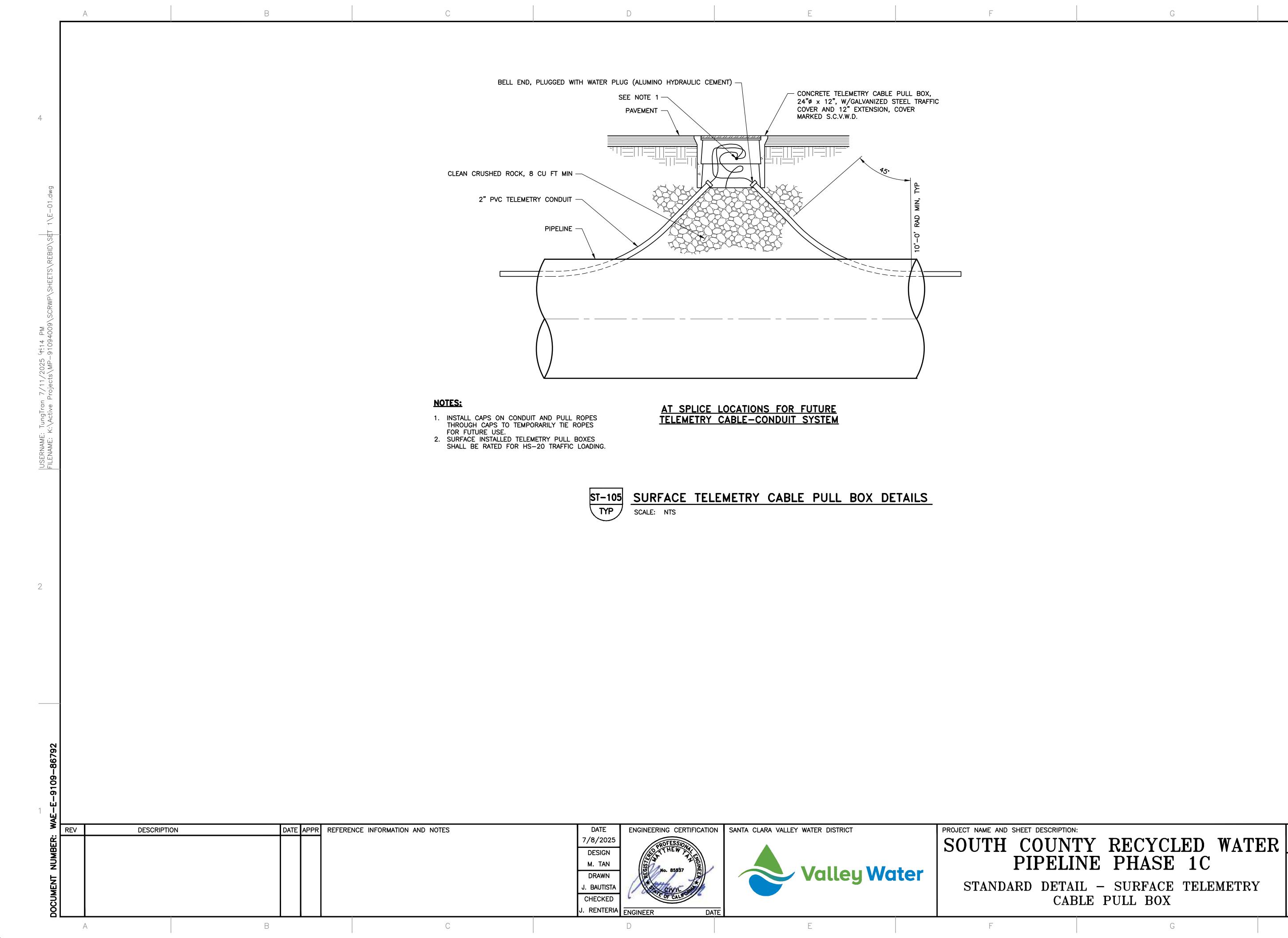


SOUTH COUNTY RECYCLED WATER PIPELINE PHASE 1C

CATHODIC PROTECTION DETAILS VII

SCALE	PROJECT NUMBE
AS SHOWN	91094009
VERIFY SCALES	SHEET CODE:
O 1" BAR IS ONE INCH ON	CP-07
ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NUMBER 37

H Attachment 4 Page 37 of 43



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SHEET NUMBER:

PROJECT NUMBER

91094009

SHEET CODE:

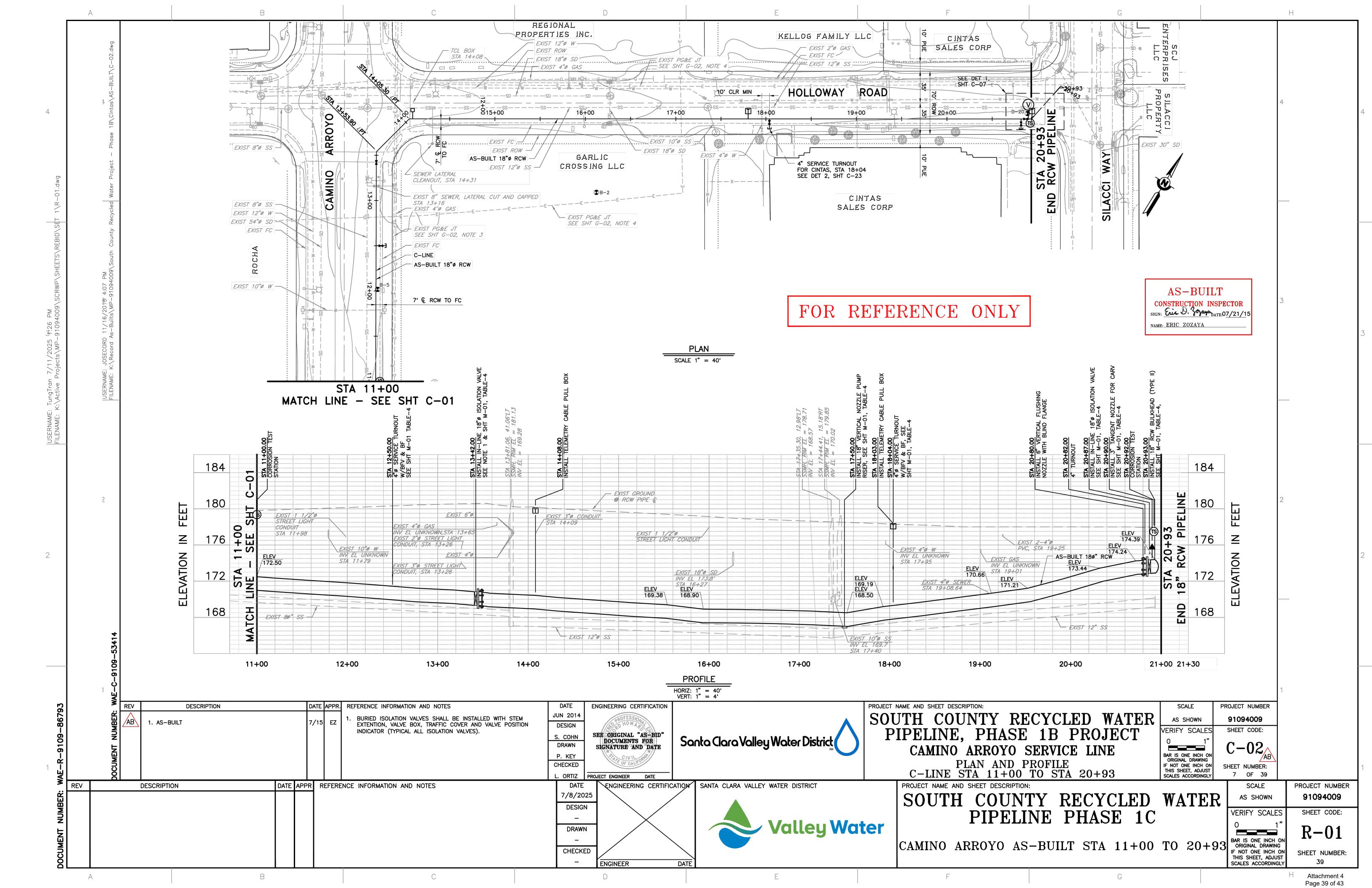
SCALE

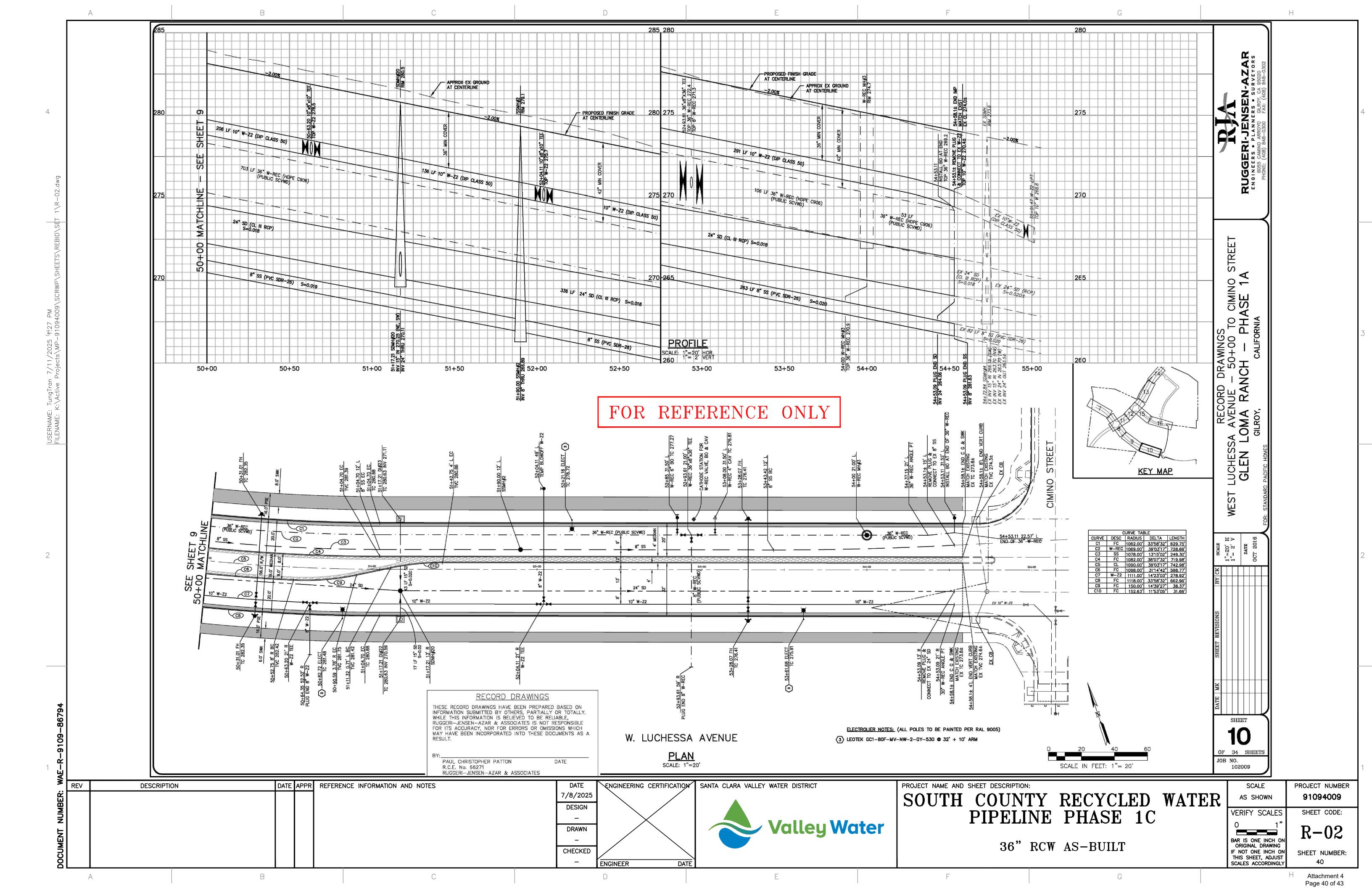
AS SHOWN

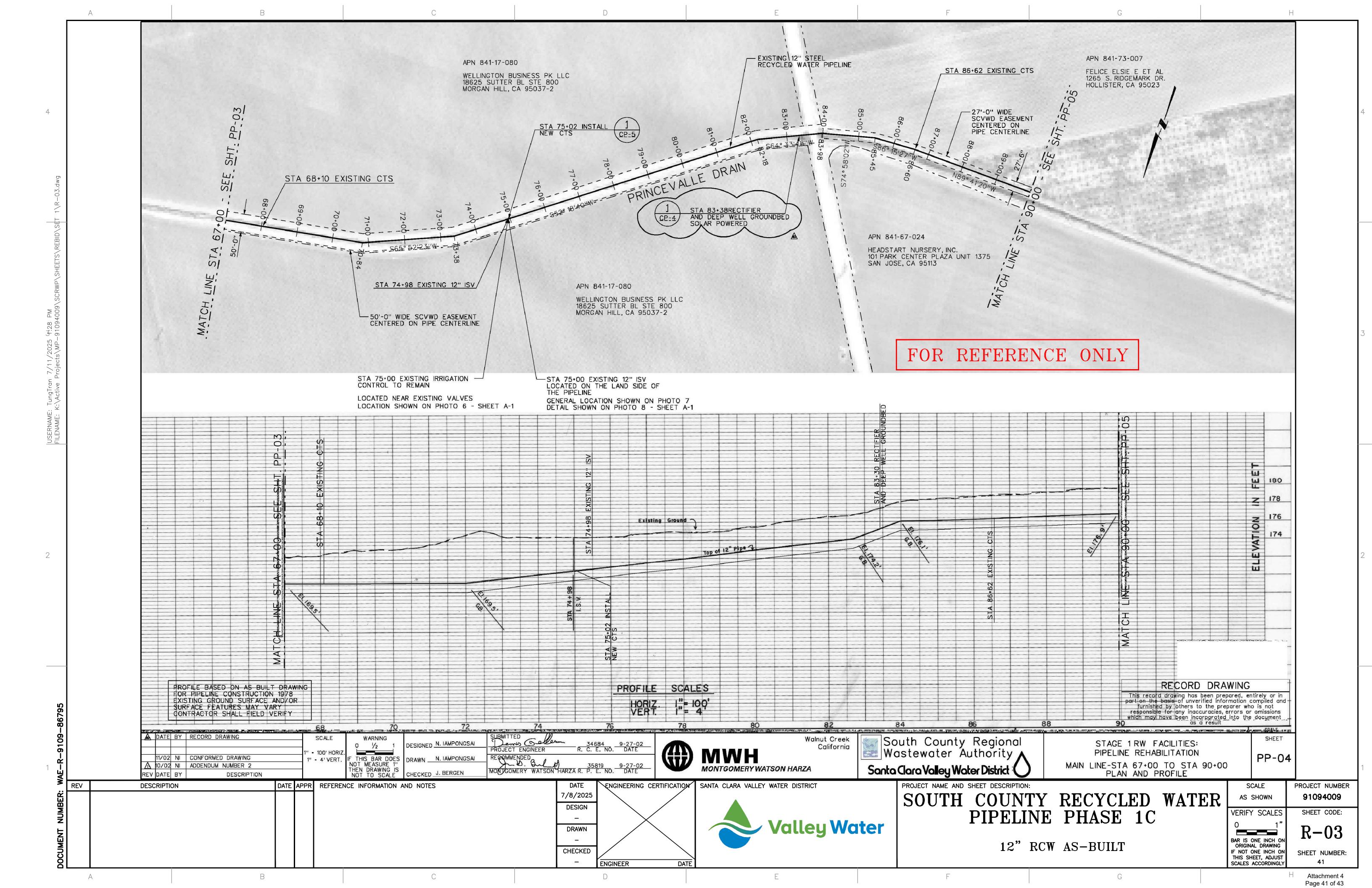
VERIFY SCALES

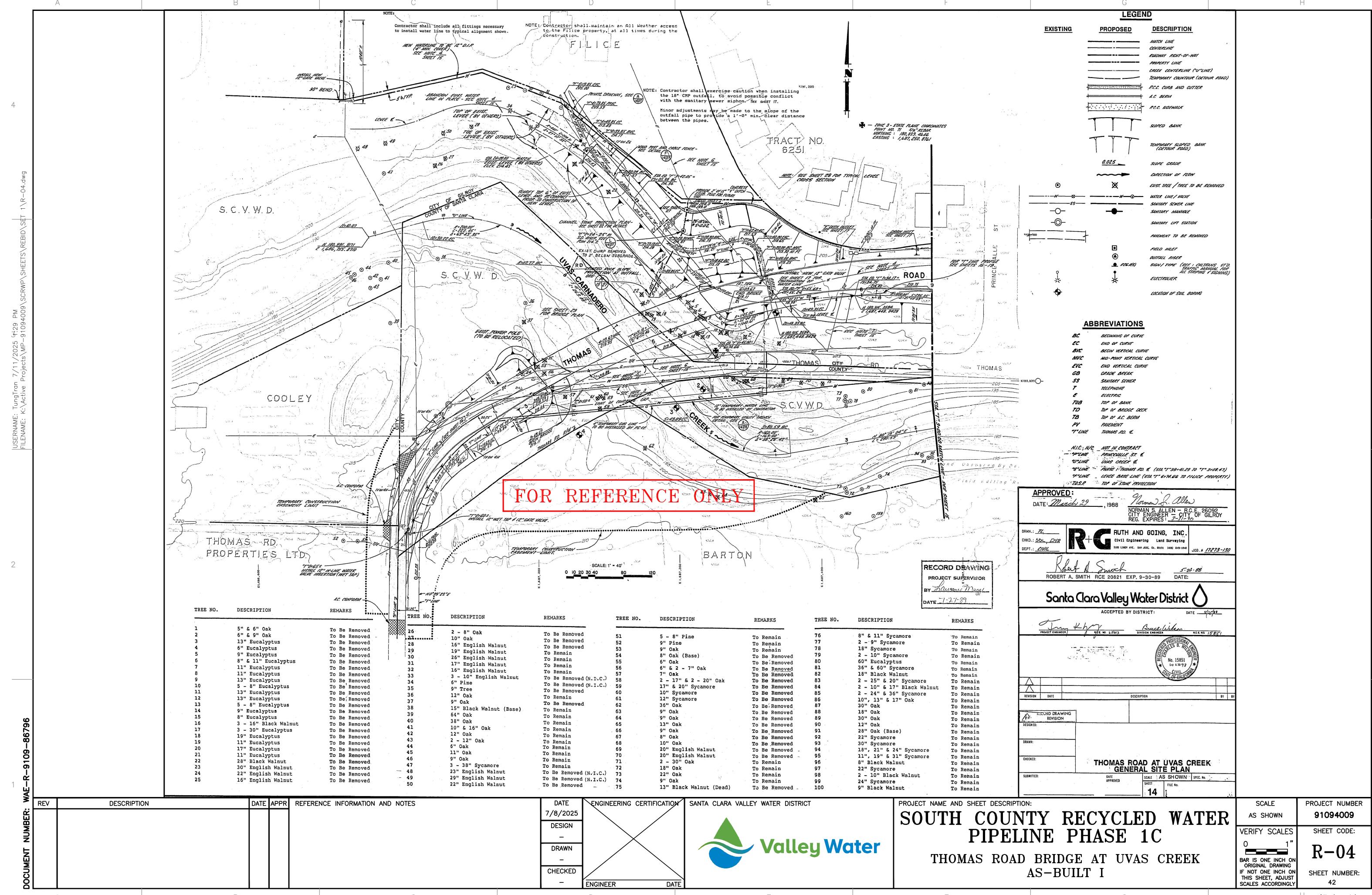
BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY









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