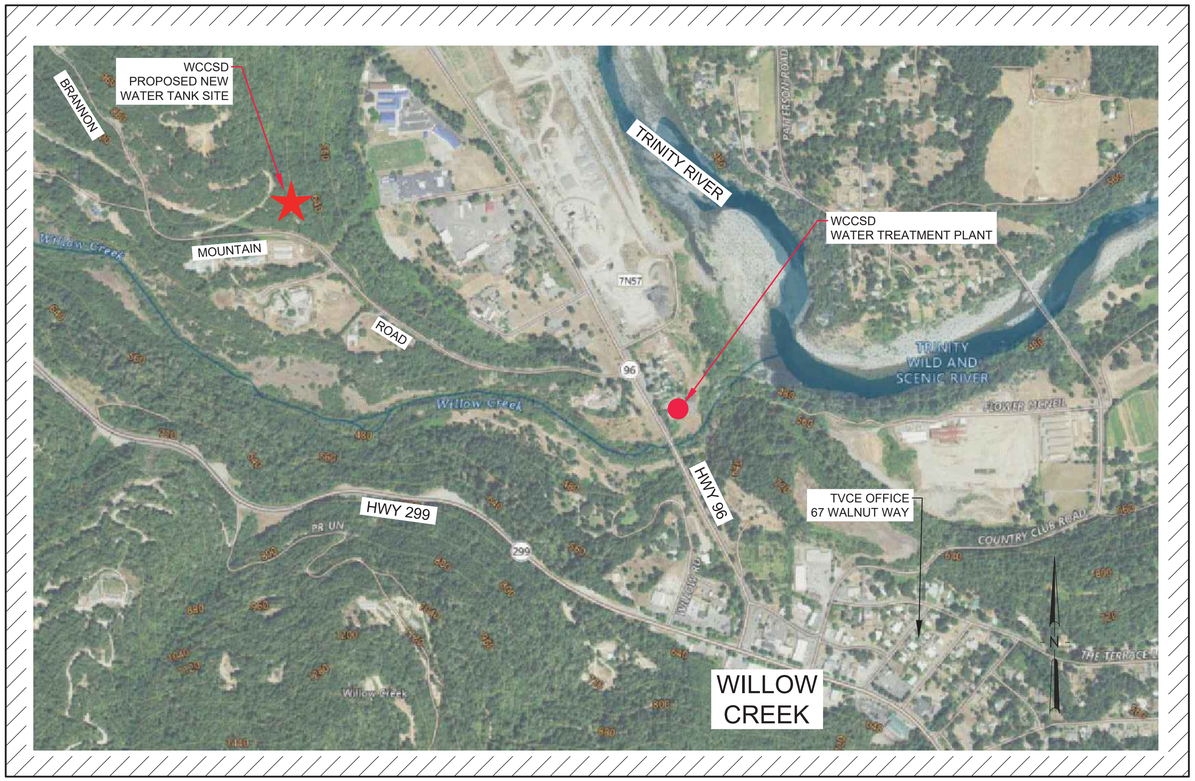
BRANNAN MOUNTAIN WATER TANK

for:

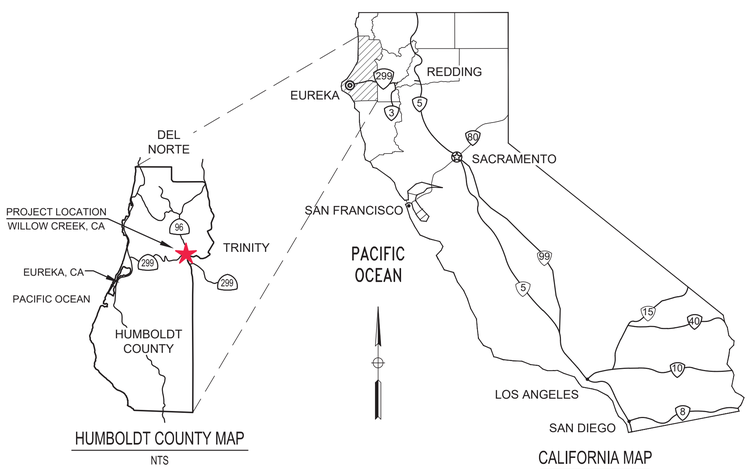
WILLOW CREEK COMMUNITY SERVICES DISTRICT.
WILLOW CREEK, HUMBOLDT COUNTY, CALIFORNIA

LEGEND

PROPOSED		EXISTING
—OH—	CABLE TV OVERHEAD	—(TV)—
—OH—	POWER OVERHEAD	—E(OH)—
—OH—	TELEPHONE OVERHEAD	—T(OH)—
— T —	TELEPHONE UG	—T(UG)—
— E —	POWER (UNDERGROUND) UG	—E(UG)—
— G —	GAS LINE	— G —
	ANCHOR/GUY WIRE	
Ⓢ	SEWER MANHOLE	◎
—SS—	SEWER LINE	—SS—
	FLUSHING BRANCH/CLEANOUT	
	SEWER SERVICE	
Ⓓ	STORM DRAIN MANHOLE	◎
—SD—	STORM DRAIN PIPE	—SD—
■	STORM DRAIN INLET	■
— W —	WATER LINE	— W —
	WATER VALVE	
	REDUCER	
	BLOW OFF ASSEMBLY	
	AIR RELIEF VALVE	
	FIRE HYDRANT ASSEMBLY	
	R.P. BACKFLOW PREVENTER	
	DRIVE WAY	
	SIDEWALK RAMP	
	BARRICADE	
	CENTERLINE	
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EASEMENT LINE	
	EDGE OF PAVEMENT	
	FENCE LINE	
40	CONTOUR LINE	40
	SIDEWALK	
	STREET LIGHT	
	STREET NAME SIGN	
	SIGN	
	STEEL WATER STORAGE TANK	
	CRUSHED ROCK	
	CLASS 2 AGG. BASE	
	MSE GABION WALL	
	CONCRETE	



LOCATION MAP
NOT TO SCALE



HUMBOLDT COUNTY MAP
NTS

CALIFORNIA MAP
NTS

SURVEY NOTES

FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS PERFORMED BY TVCE FEBRUARY, 2025

A BOUNDARY SURVEY WAS NOT CONDUCTED BY TVCE. A BOUNDARY MONUMENT WAS LOCATED AT SE PROPERTY CORNER. BOUNDARY SHOWN IS FROM COUNTY RECORD DATA.

ENGINEERING NOTES

ALL REQUIREMENTS FROM THE SOILS REPORT HAVE BEEN INCORPORATED INTO THESE PLANS.

THE ENGINEER OF RECORD SHALL INSPECT ALL SITE GRADING.

CONTRACTOR ALERT!

CONTRACTOR MUST CONTACT USA NORTH 811 AT LEAST 72 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY IMPACT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

APPROVAL BY: _____
SUSAN O'GORMAN, GENERAL MANAGER

APPROVAL BY: _____
ERIC KEYES, PROJECT ENGINEER, RCE NO.

SHEET INDEX

PLAN BY:
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REGISTERED PROFESSIONAL ENGINEER
ERIC E. KEYES
C 90533
EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DATE	BY

BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

TITLE SHEET

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	NO SCALE
PROJECT NO:	209.19

T1.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\T1.0 TITLE SHEET BMR WATER TANK.DWG

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN IN THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND ANY APPLICABLE CONTRACT SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL UTILITIES AS NECESSARY TO SUCCESSFULLY COMPLETE ANY AND ALL CONSTRUCTION ACTIVITIES.
3. ALL EXISTING FENCES AND UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION OR BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. ALL EXISTING AND PROPOSED DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING WORK.
5. CONTRACTOR SHALL COORDINATE WITH PUBLIC WORKS DEPT. ON ALL CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITIES, WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE. ANY DAMAGE DONE BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
7. THE TYPES, LOCATIONS, SIZES, AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES, HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
8. THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
9. TRAFFIC CONTROL FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FEDERAL HIGHWAY ADMINISTRATION STANDARD 635.
10. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR ENCROACHMENTS.
13. THESE PLANS ARE TO BE USED WITH THE LATEST EDITION OF CALTRANS STANDARD PLANS AND STANDARD SPECIFICATIONS; AND HUMBOLDT COUNTY STANDARDS.
14. SAND SHALL NOT BE USED FOR PIPE BACKFILL OR BEDDING.
15. DROP INLET GRATES SHALL BE GALVANIZED AND BICYCLE PROOF.
16. CONCRETE DRIVEWAYS SHALL BE CONSTRUCTED PER HUMBOLDT COUNTY STANDARDS.
17. PROPER HANDICAPPED ACCESS SHALL BE PROVIDED FOR ALL SIDEWALKS.
18. HANDICAP RAMPS SHALL BE CONSTRUCTED PER ADA STANDARDS.
19. UNDERGROUND NOTE:
    DATA PERTAINING TO EXISTING UNDERGROUND FACILITIES AS INDICATED HEREIN IS FOR INFORMATION PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL AGENCIES INVOLVED AND SHALL LOCATE ALL FACILITIES PRIOR TO EXCAVATION IN ANY AREA. VERIFY LOCATIONS AND DEPTHS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF NEW FACILITIES. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES.
20. LAYOUT WORK (CONSTRUCTION STAKING) SHALL BE PERFORMED BY A PERSON PROPERLY LICENSED TO PERFORM CONSTRUCTION STAKING IN THE STATE OF CALIFORNIA.
21. CONTRACTORS SHALL POSSESS THE PROPER CONTRACTOR'S LICENSE.
22. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM APPLICABLE AGENCIES FOR ANY WORK WITHIN COUNTY OR STATE RIGHT OF WAY.
23. NO WATER JETTING PERMITTED.
24. MISCELLANEOUS IRON SHALL BE GALVANIZED (EXCEPT MANHOLE COVERS).

DUST CONTROL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT ONE OR BOTH OF THE FOLLOWING MEASURES FOR DUST CONTROL ON THIS SITE:
2. SPRAYING OF WATER SO AS NOT TO GENERATE ADDITIONAL RUNOFF. NO DUST PALLIATIVE MATERIALS OTHER THAN WATER WILL BE USED ON THIS PROJECT. IF NON-POTABLE WATER IS TO BE USED, IT MUST BE CONVEYED IN TANKS OR PIPES CLEARLY LABELED AS "NON-POTABLE WATER - DO NOT DRINK".
3. COVERS FOR EXPOSED AREAS.

EQUIPMENT & MATERIALS STORAGE NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND EQUIPMENT STORED ONSITE SHALL HAVE ADEQUATE COVERINGS AND CONTAINMENT TO PREVENT LEAKAGE AND SPILLS.
2. ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN DESIGNATED AND APPROVED AREAS. THE AREA SHALL BE BERMED WITH EARTH DIKES THAT THE CONTRACTOR SHALL INSPECT AND MAINTAIN WEEKLY.
3. ALL FLAMMABLE, REACTIVE, AND/OR IGNITABLE LIQUIDS MUST COMPLY WITH LOCAL FIRE CODES.
4. DURING THE RAINY SEASON (OCTOBER THROUGH APRIL) THE CONTRACTOR SHALL ENSURE THAT MATERIALS ARE COVERED.
5. NO CHEMICALS, DRUMS, OR BAGGED MATERIALS SHALL BE STORED DIRECTLY ON THE GROUND; ITEMS SHALL BE PLACED ON PALLETS AND/OR IN SECONDARY CONTAINMENT.
6. IF DRUMS MUST BE KEPT UNCOVERED, THE CONTRACTOR SHALL STORE THEM AT A SLIGHT ANGLE TO REDUCE PONDING OF RAINWATER AND REDUCE CORROSION.
7. WHEN DANGEROUS MATERIALS AND/OR LIQUID CHEMICALS ARE UNLOADED ONSITE, THE CONTRACTOR SHALL HAVE EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES PRESENT.

VEHICLE MAINTENANCE NOTES:

1. EQUIPMENT AND VEHICLES TRAVELING ONSITE SHALL BE INSPECTED REGULARLY FOR LEAKS AND BE REPAIRED IMMEDIATELY; DO NOT ALLOW LEAKING VEHICLES ONSITE. KEEP VEHICLES AND EQUIPMENT CLEAN (DO NOT ALLOW EXCESSIVE BUILDUP OF OIL AND GREASE).
2. USE OFFSITE REPAIR SHOPS WHENEVER POSSIBLE; IF ONSITE REPAIRS ARE NECESSARY, USE A DESIGNATED AREA SURROUNDED BY EARTH BERMS. THE CONTRACTOR SHALL INSPECT THIS AREA WEEKLY AND AFTER EACH RAINSTORM EVENT TO ENSURE THAT THE EARTH BERMS ARE IN PLACE AND FUNCTIONING PROPERLY; ANY NON-FUNCTIONING BERMS SHALL BE REPAIRED IMMEDIATELY.
3. USE DRY CLEAN-UP METHODS FOR SPILLS AS MUCH AS POSSIBLE; USE ABSORBENT MATERIALS FOR SMALL SPILLS AND DISPOSE OF PROPERLY. USE A SECONDARY CONTAINMENT DURING FLUID CHANGES AND REPAIRS TO CATCH SPILLS.
4. SEGREGATE AND RECYCLE WASTES (INCLUDING BUT NOT LIMITED TO: USED OIL AND OIL FILTERS, BATTERIES, ETC.). KEEP HAZARDOUS WASTES SEPARATE FROM NON-HAZARDOUS WASTES; AFTER REPAIRS, ETC., PROMPTLY TRANSFER USED FLUIDS AND WASTES TO THEIR PROPER CONTAINMENT AREAS AND CONTAINERS.

CULTURALLY SENSITIVE AREAS:

1. AREAS WITHIN THE PROJECT PERIMETER THAT ARE CULTURALLY SENSITIVE SHALL BE PROTECTED AGAINST DAMAGE FROM CONSTRUCTION ACTIVITIES. AT NO TIME SHALL SUCH CULTURALLY SENSITIVE AREAS BE ENTERED, PARKED UPON, STOCK PILED UPON, OR HAVE ANY OTHER ACTIVITY ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT IN ANY WAY INFRINGE UPON, DETERIORATE, DESTROY, OR RENDER TO A STATE OR CONDITION UNACCEPTABLE ANY CULTURALLY SENSITIVE AREA. THE CONTRACTOR AGREES TO PROTECT ALL SUCH AREAS DURING ANY AND ALL ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT.

QUANTITIES:

1. QUANTITIES AND LENGTHS OF ITEMS PROVIDED WITHIN THIS PLAN SET ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES OF COMPONENTS REQUIRED FOR THE SUCCESSFUL AND SATISFACTORY COMPLETION OF THE PROJECT.

AGGREGATE BASE ROCK NOTES:

1. AGGREGATE BASE SHALL BE CALTRANS CLASS II.
2. AGGREGATE BASE SHALL BE INSTALLED PER SECTION 26 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. AGGREGATE BASE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION PER CAL 316.

ASPHALT CONCRETE NOTES:

1. ASPHALT CONCRETE SHALL BE ½" MAXIMUM RADIUS HOT MIX TYPE A.
2. ASPHALT CONCRETE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SECTION 39 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. ASPHALT CONCRETE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION AS VERIFIED PER CAL 216.
4. EXISTING AC SURFACES SHALL BE CUT TO A NEAT STRAIGHT LINE PARALLEL WITH THE CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RE-COMPACTED, AND RESEALED PRIOR TO PAVING.

ELECTRIC GENERAL NOTES:

1. ALL ELECTRIC FACILITIES AND WORK TO BE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND MUST MEET PACIFIC GAS AND ELECTRIC (PG&E) REQUIREMENTS PER CURRENT GREEN BOOK.
2. REFER TO PG&E SITE PLAN FOR ADDITIONAL DETAILS NOT EXPRESSED ON THIS SHEET.
3. CONTRACTOR TO COORDINATE WITH PG&E FOR ALL REQUIRED TESTING/INSPECTION AND FOR PG&E INSTALLED FACILITIES.
4. OWNER HAS THE RESPONSIBILITY OF PAYING ALL FEES TO PG&E DIRECT FOR THEIR SERVICES/FACILITIES UNDER THE ORIGINAL APPLICATION FOR THIS PROJECT. ADDITIONAL COSTS RESULTING DIRECTLY FROM THE CONTRACTOR'S ACTIVITIES AND NOT EXPRESSLY COVERED UNDER THE ORIGINAL APPLICATION WILL BE THE SOLE EXPENSE OF THE CONTRACTOR.
5. POWER/ELECTRICAL FACILITIES DEPICTED ON THESE PLAN SETS ARE FOR GENERAL LOCATION PURPOSES, ACTUAL HARDWARE, ALIGNMENTS, PLACEMENT, AND DESIGN TO BE PROVIDED BY PACIFIC GAS & ELECTRIC (PG&E). CONTRACTOR TO COORDINATE WITH PG&E FOR DESIGN AND INSTALLATION OF REQUIRED COMMUNICATION FACILITIES.

CULVERT NOTES:

1. CULVERT TYPE: CULVERTS SHOULD BE RIDGED CORRUGATED METAL PIPE (CMP) OR RIGID CORRUGATED PLASTIC PIPE (CPP) WITH A SMOOTH INTERIOR MAY BE USED IF APPROVED PRIOR TO INSTALLATION.
2. CULVERT SIZE: CULVERT DIAMETER SHOULD BE DETERMINED BY A HYDRAULIC REPORT. PER TRINITY COUNTY ROAD STANDARDS, THE CULVERT SHALL BE A MINIMUM OF EIGHTEEN (18") INCH DIAMETER. THE LENGTH OF THE PIPE SHOULD BE A MINIMUM OF 20' AND CAN BE EXTENDED WITH ADDITIONAL LENGTHS AS NEEDED TO EFFECTIVELY CONVEY WATER UNDER THE ROAD PRISM.
3. GRADE: INSTALL THE CULVERT TO MATCH THE GRADE TO THE FLOW LINE OF THE ABUTTING DITCHES OR STREAM. SETTING THE CULVERT AT THE WRONG GRADE, OR WITH ONE END TOO HIGH OR TOO LOW, CAN CAUSE FLOODING, SCOURING AND EROSION.
4. ALIGNMENT: PLACE THE CULVERT IN THE SAME ALIGNMENT AS THE STREAM EVEN IF THIS MEANS THE CULVERT IS NOT PERPENDICULAR TO THE ROADBED.
5. END TREATMENT: THE INLET OF THE PIPE SHOULD BE PLACED AT OR BELOW THE DITCH FLOW LINE (NOT ABOVE) WITH ROCK ARMORING OR END SECTION AS SHOWN ON THE PLAN OR AS DIRECTED. THE OUTLET SHOULD BE EXTENDED BEYOND THE ROAD FILL PRISM. IF THIS IS NOT POSSIBLE THEN A CULVERT DOWN-SECTION SHOULD BE INSTALLED AND SECURED TO THE SLOPE TO EXTEND THE CULVERT TO BEYOND THE ROAD RILL PRISM. THE OUTLET SHOULD BE INSTALLED WITH ROCK ARMORING AS MEANS OF ENERGY DISSIPATION.
6. TRENCHING: TRENCHING SHOULD BE DONE AS NEAT AS POSSIBLE TO CREATE A CONSISTENTLY SMOOTH AND EVEN SURFACE TO INSTALL THE CULVERT. THE TRENCH SHOULD BE SUFFICIENTLY DEEP TO ALLOW FOR EIGHTEEN (18") INCHES OF COVER OVER THE TOP OF THE CULVERT.
7. BEDDING: COMPACT THE SUBGRADE PRIOR TO INSTALLING THE CULVERT.
8. COMPACTION: THE CAPACITY OF A CULVERT TO CARRY LOADS DEPENDS ON PROPER BACKFILLING, ESPECIALLY IN THE AREA UNDER THE HAUNCHES (LOWER THIRD). THE SOIL SURROUNDING THE CULVERT PROVIDES CRITICAL SUPPORT AND STRUCTURE. FOR MAXIMUM STRENGTH, AND TO PREVENT WASH OUTS AND SETTLING, THE BACKFILL MUST BE PROPERLY PLACED AND CAREFULLY COMPACTED. DRY TRENCH CONDITIONS MAKE THE PROCESS MORE EFFICIENT. WHEN BACKFILLING USE NO MORE THAN 6" LIFTS. BACKFILL MATERIAL SHOULD BE FREE OF ROCKS LARGER THAN 3" IN DIAMETER. THE MATERIAL MUST BE DUMPED CAREFULLY AND EVENLY ALONG BOTH SIDES OF THE PIPE. AVOID DUMPING LARGE QUANTITIES AT ONCE AGAINST OR ON TOP OF THE PIPE. INSTALLING TAMPED FILL BENEATH THE HAUNCHES OF ANY SHAPE OR TYPE OF PIPE HELPS IT WITHSTAND THE SOIL AND TRAFFIC LOADS.

GRADING NOTES:

1. ALL EARTHWORK, INCLUDING BUT NOT LIMITED TO, SITE CLEARING, GRUBBING, STRIPPING, AND GRADING WILL BE CONDUCTED DURING DRY WEATHER CONDITIONS. (TYPICALLY APRIL 15 TO OCTOBER 15)
2. ANY UNDOCUMENTED FILL SOILS, FINE-GRAINED RESIDUAL SOILS, AND ANY OTHER DEBRIS ENCOUNTERED AT OR BELOW THE EXISTING GROUND SURFACE SHALL BE REMOVED AT THE LOCATIONS RECEIVING ANY POTENTIAL FILLS.
3. THE SITE SHOULD BE GRADED TO PROVIDE ADEQUATE DRAINAGE SUCH THAT NO WATER IS ALLOWED TO POND ANYWHERE ON THE SITE OR MIGRATE BENEATH FUTURE DEVELOPMENTS.
4. ALL FILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED EIGHT INCHES (8") IN DEPTH AND SHALL BE COMPACTED MECHANICALLY.
5. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS, ROCKS LARGER THAN 3"Ø, WOODY DEBRIS, ROOTS, AND INORGANIC MATERIAL.
6. ALL FILL MATERIAL SHALL HAVE A UNIFORM MOISTURE CONTENT AT OR NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTING AND APPROVED BY THE ENGINEER.
7. NON-STRUCTURAL FILL SHALL BE COMPACTED MECHANICALLY TO A FIRM UNYIELDING SURFACE AS APPROVED BY THE ENGINEER.
8. COMPACTION TESTING WILL BE DETERMINED AT THE ENGINEER'S DISCRETION.
9. IT IS RECOMMENDED THAT ANY MATERIAL PROPOSED FOR STRUCTURAL FILL MATERIAL TO SUPPORT ANY FOUNDATIONS OR STRUCTURAL BUILDING ELEMENT AND ASSOCIATED UTILITIES BE COMPACTED AS OUTLINED IN THE SOILS REPORT.
10. ALL FILL SLOPES SHALL BE TO A SMOOTH AND EVEN GRADE, SHALL BE SURFACE TRACKWALKED, AND FINAL GRADES NOT TO EXCEED 1.5:1 (h:v).
11. SUFFICIENT TESTING AND INSPECTION SHOULD BE PERFORMED TO MONITOR THE SUITABILITY OF FILL MATERIALS AND ASSURE COMPLIANCE WITH THE RECOMMENDED COMPACTION STANDARDS.

CLEARING, GRUBBING, & DEMOLITION NOTES:

1. TREES SCHEDULED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING STUMPS, ROOTS, BRANCHES, WOODY DEBRIS, BARK, AND FLESH. TREES SHALL BE REMOVED FROM THE SITE AND DEPOSITED IN LOCATIONS DESIGNATED BY THE OWNER.
2. VEGETATION AND WOODY DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
3. ALL GENERATED AND ACCUMULATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
4. ALL AREAS WITH GENERATED VOIDS FROM DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH NATIVE SOIL TO FINISH GRADE IN 1' MAXIMUM VERTICAL LIFTS SUFFICIENTLY COMPACTED TO ELIMINATE SUBSIDENCE.
5. DUST CONTROL SHALL BE MAINTAINED DURING DEMOLITION PRACTICES.
6. TRACKING OF MATERIAL FROM THE SITE ONTO EXISTING ROADWAYS WILL NOT BE TOLERATED. TEMPORARY CONSTRUCTION SITE ENTRANCES SHOULD BE BUILT AT POINTS OF INTERSECTION TO EXISTING ROADWAYS AND PRACTICES SHOULD BE IMPLEMENTED TO REMOVE CONSTRUCTION MATTER FROM VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE.
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

PERMIT NOTES:

1. THE APPLICANT SHALL CONTACT THE RESPECTIVE AGENCIES FOR SPECIFIC PERMIT REQUIREMENTS OR MITIGATION MEASURES SUCH AS REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) 401 CERTIFICATION, U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND APPROVAL BY CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE SERVICE 1600 PERMIT.
2. SPECIFIC REQUIREMENTS COULD INCLUDE IN-WATER WORK WINDOWS, VEGETATION SPECIES, SEED MIXES, STABILIZATION MEASURES, WATER QUALITY MONITORING PROTOCOLS, AND SPECIFIC REPORTING REQUIREMENTS.
3. IF NUMERICAL-BASED WATER QUALITY STANDARDS ARE MENTIONED IN ANY OF THESE OR OTHER RELATED PERMITS, TESTING ANY SAMPLING MAY BE REQUIRED.
4. PROPER PLANNING, DESIGN, AND CONSTRUCTION TECHNIQUES CAN MINIMIZE IMPACTS NORMALLY ASSOCIATED WITH IN-STREAM CONSTRUCTION ACTIVITIES. POOR PLANNING CAN ADVERSELY AFFECT SOIL, FISH, AND WILDLIFE RESOURCES, LAND USES, OR LAND USERS.

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REGISTERED PROFESSIONAL ENGINEER
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EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

NO.	DATE:	REVISIONS

BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

GENERAL NOTES

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: NO SCALE
PROJECT NO: 209.19

C1.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C1.0 NOTES.DWG

ABBREVIATIONS

AC	ASPHALT CONCRETE	FM	FLOW METER	R	RADIUS, RANGE
ACP	ASBESTOS CEMENT PIPE	FNC	FENCE	RD	ROAD
AD	AREA DRAIN, ALGEBRAIC DIFFERENCE IN GRADE	FP	FLAG POLE	RB	REBAR
AG	ABOVE GROUND	FW	FINISH WATER	RCE	REGISTERED CIVIL ENGINEER
AGG.	AGGREGATE	G	GAS SERVICE	RCP	REINFORCED CONCRETE PIPE
APPROX.	APPROXIMATE	GB	POSTAL GANG BOX	RCR	RED CAP ROAD
ARV	AIR RELIEF VALVE	GD	GRADE	RCW	RECYCLE WATER
ASBA	AIR RELIEF VALVE	GND	GROUND	RJ	RESTRAINED JOINT
B	BELL FITTING	GRT	GRATE	RSE	REINFORCED SOIL EMBANKMENT
BIT	BITUMINOUS	GV	GATE VALVE	RSP	ROCK SLOPE PROTECTION
BK	BACK	H	HORIZONTAL	R/W	RIGHT OF WAY
BLD'G	BUILDING	HD	HEAD	RD	ROAD
BOW	BOTTOM OF WALL	HDPE	HIGH DENSITY POLYETHYLENE PIPE	RT	ROUTE, RIGHT
BTWN	BETWEEN	HORIZ	HORIZONTAL	RTW	RINSE TO WASTE WATER
BVCE	BEGIN VERTICAL CURVE ELEVATION	HS	HIGH STRENGTH	RW	RAW WATER
BVCS	BEGIN VERTICAL CURVE STATION	HMAC	HOT MIX ASPHALT CONCRETE	S	SLOPE, SOUTH
BW	BACKWASH	HWY	HIGHWAY	SB	SET BACK
BV	BALLVALVE	IN	INLET	SD	STORM DRAIN
C	CIVIL	INT-X	INTERSECTION	SEC	SECTION
CAV	COMBINATION AIR VALVE	INV.	INVERT	S.F.	SQUARE FEET
CT	CALTRANS	IRR.	IRRIGATION WATER LINE	SG	SUBGRADE
CB	CATCH BASIN	JB	ELECTRICAL JUNCTION BOX	SHT	SHEET
C.I.P.	CAST IN PLACE	K	VERTICAL CURVE COEFFICIENT	SHLDR	SHOULDER
CL.	CLASS	L	LENGTH	SIM	SIMILAR
℄, CL	CENTERLINE	L.F.	LINEAL FEET	SL	STREET LIGHT
CONC.	CONCRETE	LS	LICENSED SURVEYOR, LUMP SUM	SQ	SQUARE
CO	SEWER CLEANOUT	LT	LEFT	SR	STATE ROUTE
COR	CONTRACTING OFFICERS' REPRESENTATIVE	M	MEASURE (MEASURE LINE)	STA	STATION
CMP	CORRUGATED METAL PIPE	MAX.	MAXIMUM	STD	STANDARD
CP	CONTROL POINT	MIN.	MINIMUM	S.T.	SEPTIC TANK
CY	CUBIC YARD	MJ	MECHANICAL JOINT	SW	SURFACE WASH
D	DELTA	MOD	MODULAR, MODIFY	T, TEL	TELEPHONE
DIA	DIAMETER	MP	MILE MARKER POST	TBD	TO BE DETERMINED
DI, DIP	DUCTILE IRON, DUCTILE IRON PIPE	MSE	MECHANICALLY STABILIZED EARTH	TC	TOP OF CONCRETE, TOP OF CURB
D/W, DWY	DRIVEWAY	MTN	MOUNTAIN	TD	TRENCH DRAIN
DET	DETAIL	NGS	NATIONAL GEODETIC SURVEY	THD	THREAD, THREADED
DH	DEPARTMENT OF HEALTH	(N)	NEW	TOW	TOP OF WALL
DI	DRAINAGE INLET	N	NORTHING, NORTH	TP	TOP OF HMAC
DIA	DIAMETER	NO	NUMBER	TYP	TYPICAL
DIM, DIMS	DIMENSIONS	NTS	NOT TO SCALE	TVCE	TRINITY VALLEY CONSULTING ENGINEERS
DP	DEEP	OC	ON CENTER	TW	TOP OF CONC. WALK
(E), EXIST	EXISTING	OHU	OVERHEAD UTILITY LINES	UG	UNDERGROUND
E	EASTING, EAST, ELECTRIC	P	ELECTRICAL PANEL	UGV	UNDERGROUND VOLTAGE LINE
EA	EACH	(P)	PROPOSED	UP	UTILITY POLE
EBV	ENDLINE BALLVALVE	PC	POINT OF CURVATURE	VAR	VARIABLE
EG	EXISTING GROUND, EXISTING GRADE	PC	POST CHLORINATION	VC	VERTICAL CURVE
EL, ELEV	ELEVATION	PCC	PORTLAND CEMENT CONCRETE	VERT	VERTICAL
EP	EDGE OF PAVEMENT	PERF	PERFORATED	VOLTAGE	VOLTAGE
		PI	POINT OF INTERSECTION	W	WEST, WATER, WIDTH
EVCE	END VERTICAL CURVE ELEVATION	P/L	PROPERTY LINE	W/O	WITHOUT
EVCS	END VERTICAL CURVE STATION	POB	POINT OF BEGINNING	W/	WITH
EXC	EXCAVATION	POLY	POLYMER	WM	WATER METER
ET	ELECTRICAL TRANSFORMER	PP	POWER POLE/UTILITY POLE	WP	WEATHER PROOF
F/C	FACE OF CURB	PRC	POINT OF REVERSE CURVE		
FG	FINISH GRADE	PRV	PRESSURE RELIEF VALVE	WTP	WATER TREATMENT PLANT
FH	FIRE HYDRANT	PT	POINT OF TANGENCY	WTR	WATER
FHWA	FEDERAL HIGHWAY ADMINISTRATION	PVC	POINT OF VERTICAL CURVE	WV	WATER VALVE
FIN	FINISH	PVI	POINT OF VERTICAL INTERSECTION	YR	YEAR
FL	FLOW LINE, FOGLINE				
ELG	FLANGE FITTING				

SUMMARY OF QUANTITIES

ITEM #	ITEM DESCRIPTION	UNIT	PLAN QUANTITY
001	MOBILIZATION / DEMOBILIZATION	LS	1
002	CLEARING AND GRUBBING	LS	1
003	650,000 GALLON WELDED STEEL WATER STORAGE TANK	EA.	1
004	CONCRETE RING FOUNDATION - TANK SUPPORT	EA.	1
005	MSE GABIONS RETAINING WALL	L.F.	84
006	CONNECT (N)8" HDPE TO EXISTING ASSUMED 8" WATERMAIN	LS	1
007	8" HDPE WATERLINE TO NEW STORAGE TANK	L.F.	535
008	CONNECT NEW 8" WATER SUPPLY TO NEW STORAGE TANK	LS	1
009	CONNECT NEW 8" WATER OUTLET TO SYSTEM	LS	1
010	CALTRANS D73 AREA DRAIN FOR TANK DRAIN & OVERFLOW	EA.	1
011	12" HDPE DRAIN PIPE	LF.	50
012	DRAIN DISSAPATORS	SF	200
013	8" ALTITUDE VALVE	EA.	1
014	8" FLEX / EXPANSION JOINT	EA.	2
015	8" CHECK VALVE	EA.	1
016	8" GATE VALVE	EA.	2
017	1" CRUSHED ROCK	CY	70
018	CLASS 2 AGGREGATE BASE - OVERLAY EXISTING ACCESS ROAD	CY	25
019	CLASS 2 AGGREGATE BASE - TURNAROUND AREA	CY	25
020	CHAIN-LINK SECURITY FENCE	LF.	275
21	CHAIN-LINK SECURITY GATE - 12 FEET WIDE DBL SWING	EA.	1
22	EROSION CONTROL	LS	1
23			
24			
25			

THE APPROXIMATE EARTHWORK QUANTITIES ARE AS FOLLOWS:

SITE	EXCAVATION (CUT) CU. YDS.	EMBANKMENT (FILL) CU. YDS.
TANK SITE	950	150
SHRINKAGE ASSUMED AT 25%		38
TOTALS	950	190

THE QUANTITIES FOR EARTHWORK ARE CALCULATED BY EXISTING & SUBGRADE SURFACE COMPARISON. NO ALLOWANCE HAS BEEN MADE FOR STRIPPINGS, KEYING AND BENCHING AND STORM DRAIN INSTALLATION. THESE QUANTITIES DO NOT INCLUDE OVEREXCAVATION. THESE QUANTITIES ARE BELIEVED TO BE ACCURATE BUT NO ASSURANCE IS MADE THEREFORE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES AS TO THE TYPE, NATURE AND QUANTITIES OF MATERIALS TO BE EXCAVATED.

SURVEY LEGEND

- FOUND MONUMENT (ALUMINUM CAP LS3577)
- FOUND SURVEY MONUMENT (GRIFFITH MON)
- REBAR (POE)
- SURVEY CONTROL POINT (SET NAIL)
- GPS OPUS CONTROL POINT (SET NAIL)

SURVEY NOTE

TOPOGRAPHY SURVEY BY TRINITY VALLEY CONSULTING ENGINEERS, INC.

PLAN BY:
TVCE
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WILLOW CREEK, CA 95573
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PHONE (530) 629-3000

REGISTERED PROFESSIONAL ENGINEER
ERIC E. KEYES
C 90533
EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DATE:

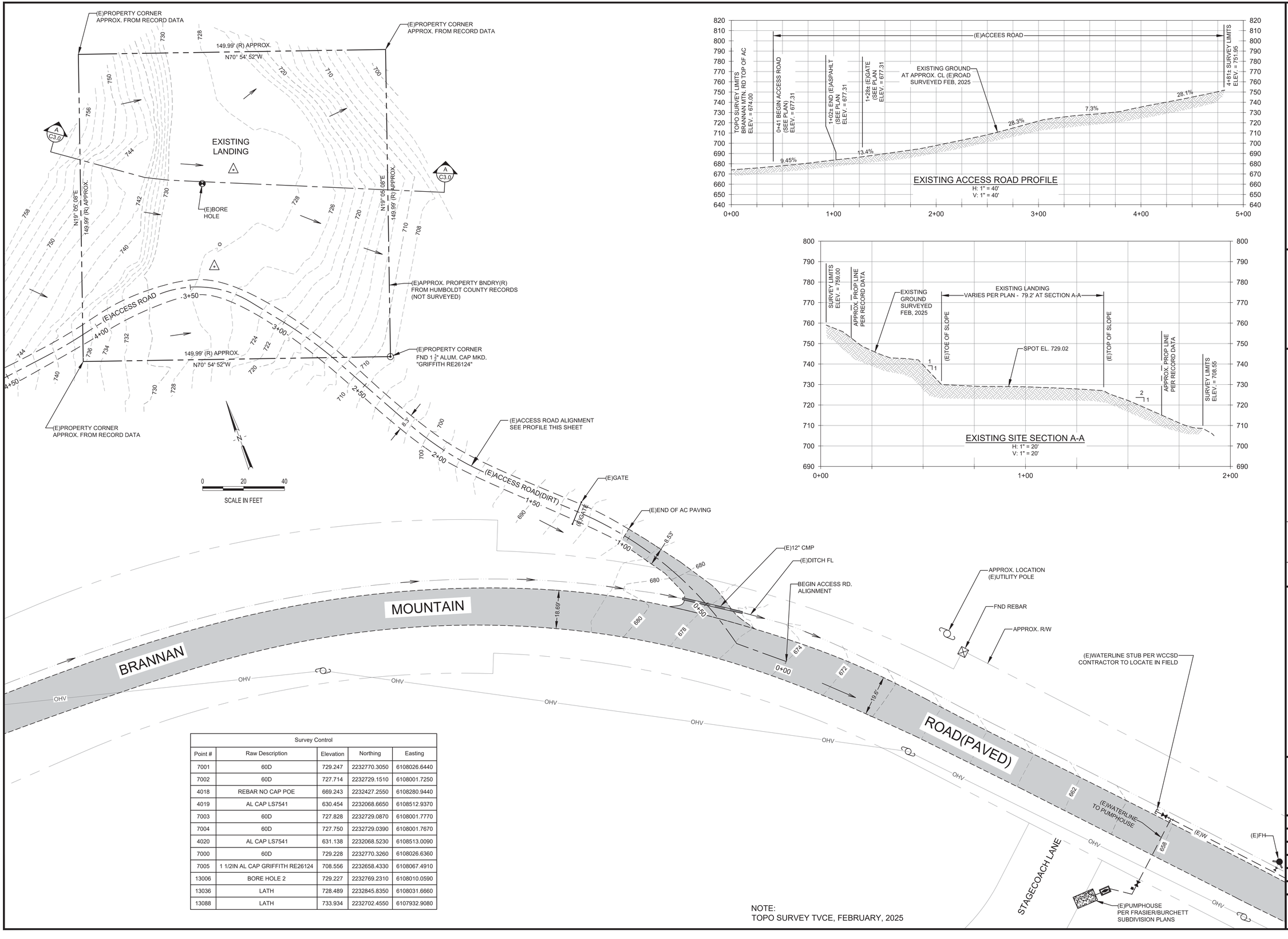
BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

NOTES & QUANTITIES

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: NO SCALE
PROJECT NO: 209.19

C2.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C2.0 NOTES & QUANTITIES.DWG



Survey Control				
Point #	Raw Description	Elevation	Northing	Easting
7001	60D	729.247	2232770.3050	6108026.6440
7002	60D	727.714	2232729.1510	6108001.7250
4018	REBAR NO CAP POE	669.243	2232427.2550	6108280.9440
4019	AL CAP LS7541	630.454	2232068.6650	6108512.9370
7003	60D	727.828	2232729.0870	6108001.7770
7004	60D	727.750	2232729.0390	6108001.7670
4020	AL CAP LS7541	631.138	2232068.5230	6108513.0090
7000	60D	729.228	2232770.3260	6108026.6360
7005	1 1/2IN AL CAP GRIFFITH RE26124	708.556	2232658.4330	6108067.4910
13006	BORE HOLE 2	729.227	2232769.2310	6108010.0590
13036	LATH	728.489	2232845.8350	6108031.6660
13088	LATH	733.934	2232702.4550	6107932.9080

NOTE:
TOPO SURVEY TVCE, FEBRUARY, 2025

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BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

EXISTING
SITE PLAN

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: 1" = 20'
PROJECT NO: 209.19

C3.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C3.0 EXISTING SITE OVERVIEW.DWG

TOP OF CUT SLOPE

CH-LINK SECURITY PERIMETER FNC

DRN DISSIPATOR PER RSP DETAIL ON SHT C10.0

149.99' (R) APPROX. N70° 54' 52"W

724.50FG 729.00EG

724.50FG 726.73EG

725.22FG 727.74EG

723.50FG 720.87EG

725.50FG 729.63EG

-1.3%

2%

(N)12" HDPE INV IN = 723.40 INV OUT = 715.00

TOE OF SLOPE SEE SECTION B-B ON SHEET C5.0

1.5H:1

(N)CALTRANS G1 AREA DRN PER CALTRANS D73B GRATE PER D77A GRT = 725.60 INV OUT =723.40

INSTALL CH-LINK SECURITY PERIMETER FENCING PER FENCE DETAILS ON SHEET D4.0

(P)DRAIN & OVERFLOW ALTERNATE #1 LOCATION

PROPOSED WELDED STEEL WATER STORAGE TANK
65' DIAMETER
650,000 GALLON
TOP OF CONC. RING FDTN = 727.50
SEE SECTION A-A ON SHEET C5.0
SEE TANK PLAN DETAIL 1/D1.0

65' TANK DIAMETER

726.26FG 729.95EG

PROPOSED MSE RETAINING WALL SEE WALL PLAN/PROFILE ON SHEET C7.0

(P)DRAIN & OVERFLOW ALTERNATE #2 LOCATION (N)CALTRANS G1 AREA DRN PER CALTRANS D73B GRATE PER D77A GRT = 726.1± INV OUT =723.90

N19° 05' 08"E 149.99' (R) APPROX.

R32.5' TANK SHELL

3' CONC. RING FNDTN. FINAL WIDTH TBD

NORTH (0.00'00'00")

73°

17°

90°

722.07FG 722.30EG

INSTALL CH-LINK SECURITY PERIMETER FENCING PER FENCE DETAILS ON SHEET D4.0

PROPOSED 8" TANK INLET SEE DETAILS ON SHEET D1

734.00TW 728.78FG 729.96EG

725.16FG 727.41EG

722.80FG 726.83EG

MIN. 4" THICK OF 1" CRUSHED ROCK AT TANK SITE

729.45FG 729.45EG

12' WIDE SECURITY GATE TRACTOR ACCESS ONLY

722.50FG 721.60EG

PROPOSED 8" TANK OUTLET SEE DETAILS ON SHEET D1

721.00FG 721.20EG

DRN DISSIPATOR PER RSP DETAIL ON SHT C10.0

(N)12" HDPE INV IN = 724.10 INV OUT = 722.50

(E)ACCESS ROAD

(N)ACCESS / TURNAROUND MIN. 4" CL. 2 AGG. BASE OVER COMPACTED SUBGRADE

20'

727.30FG 728.10EG

724.45FG 724.37EG

721.95FG 721.95EG

732.27FG 732.27EG

729.30FG 728.98EG

730.18FG 729.97EG

715.28FG 715.28EG

149.99' (R) APPROX. N70° 54' 52"W

715.08FG 715.08EG

DRN DISSIPATOR PER RSP DETAIL ON SHT C10.0

730.25FG 729.95EG

730.25FG 729.95EG

(E)ACCESS ROAD TO BE EXCAVATED & GRAVELED WITH MIN. 4" CLASS 2 AGG. BASE

(E)ACCESS ROAD

0 8 16

SCALE IN FEET

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C4.0 PROPOSED SITE GRADING PLAN.DWG

PLAN BY:

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REGISTERED PROFESSIONAL ENGINEER
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C 90533
EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

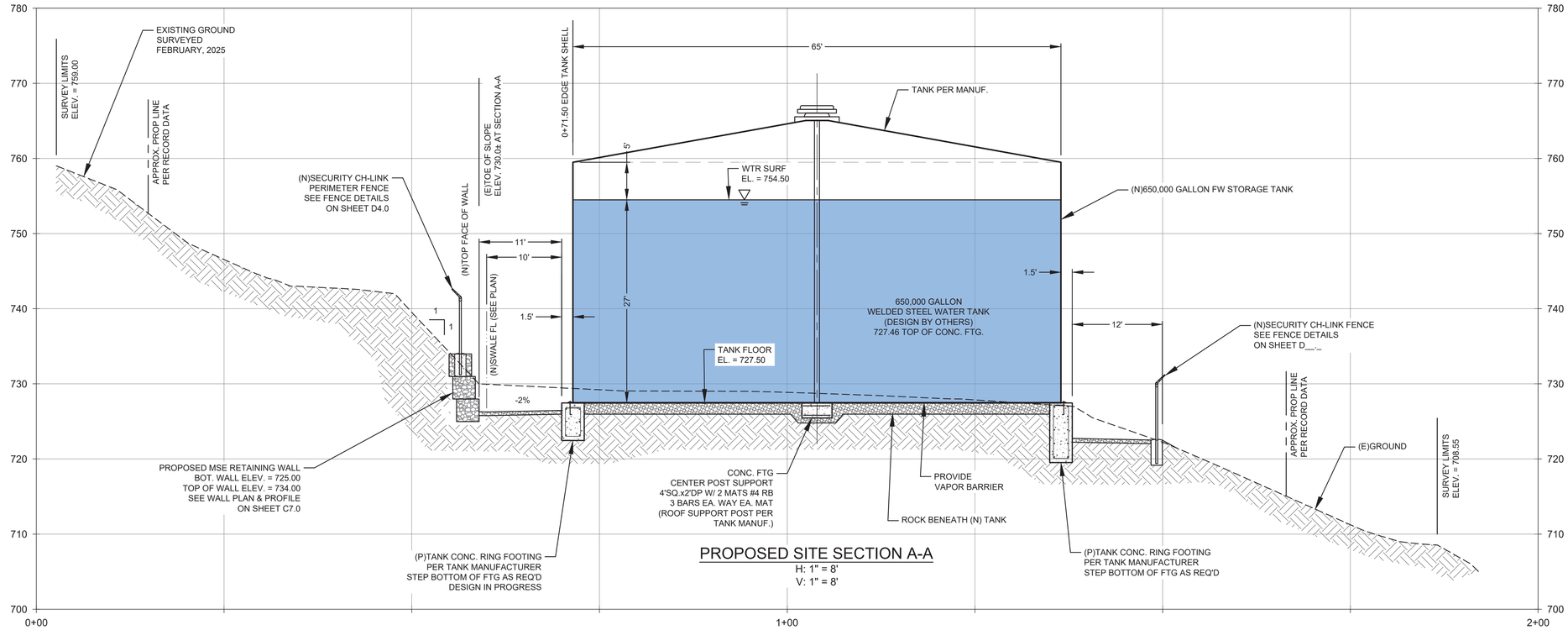
NO.	DATE:	REVISIONS

BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

PROPOSED SITE GRADING PLAN

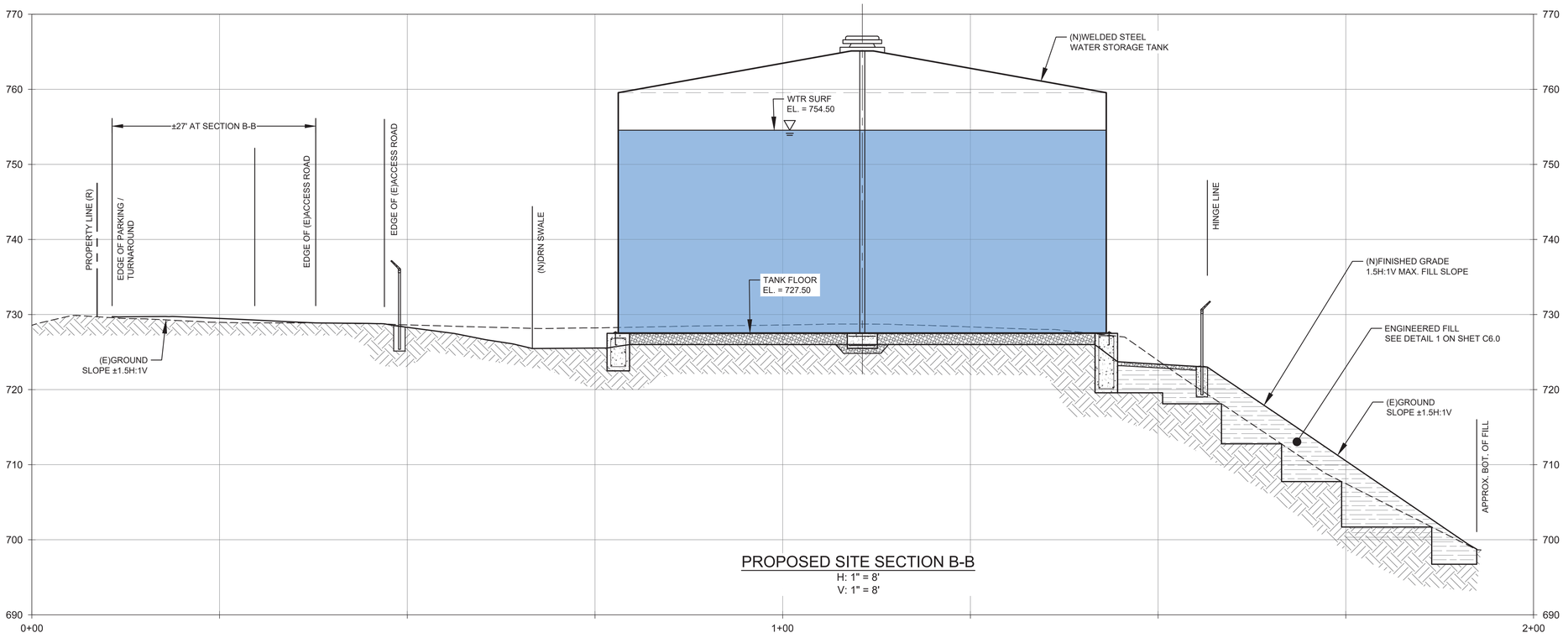
DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	1" = 8'
PROJECT NO:	209.19

C4.0



PROPOSED SITE SECTION A-A

H: 1" = 8'
V: 1" = 8'



PROPOSED SITE SECTION B-B

H: 1" = 8'
V: 1" = 8'

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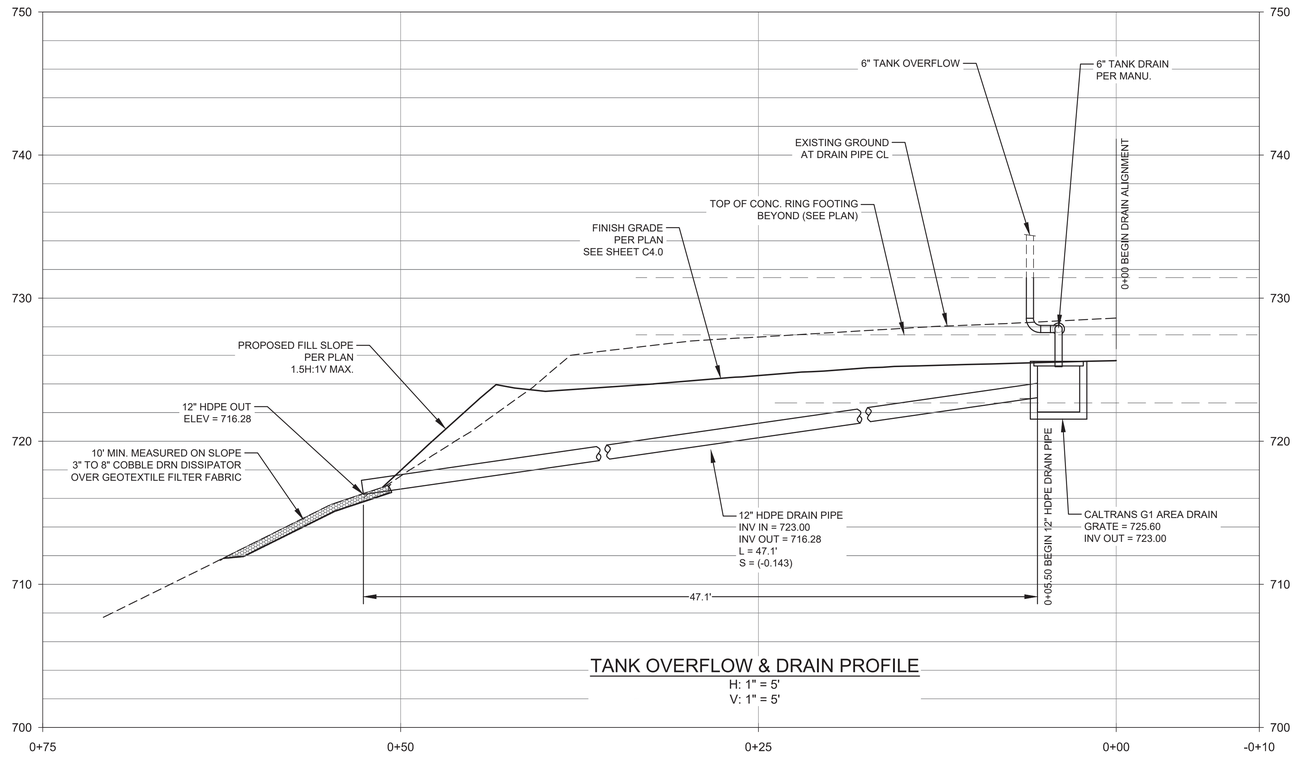
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

PROPOSED SITE
GRADING SECTIONS

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	AS SHOWN
PROJECT NO:	209.19

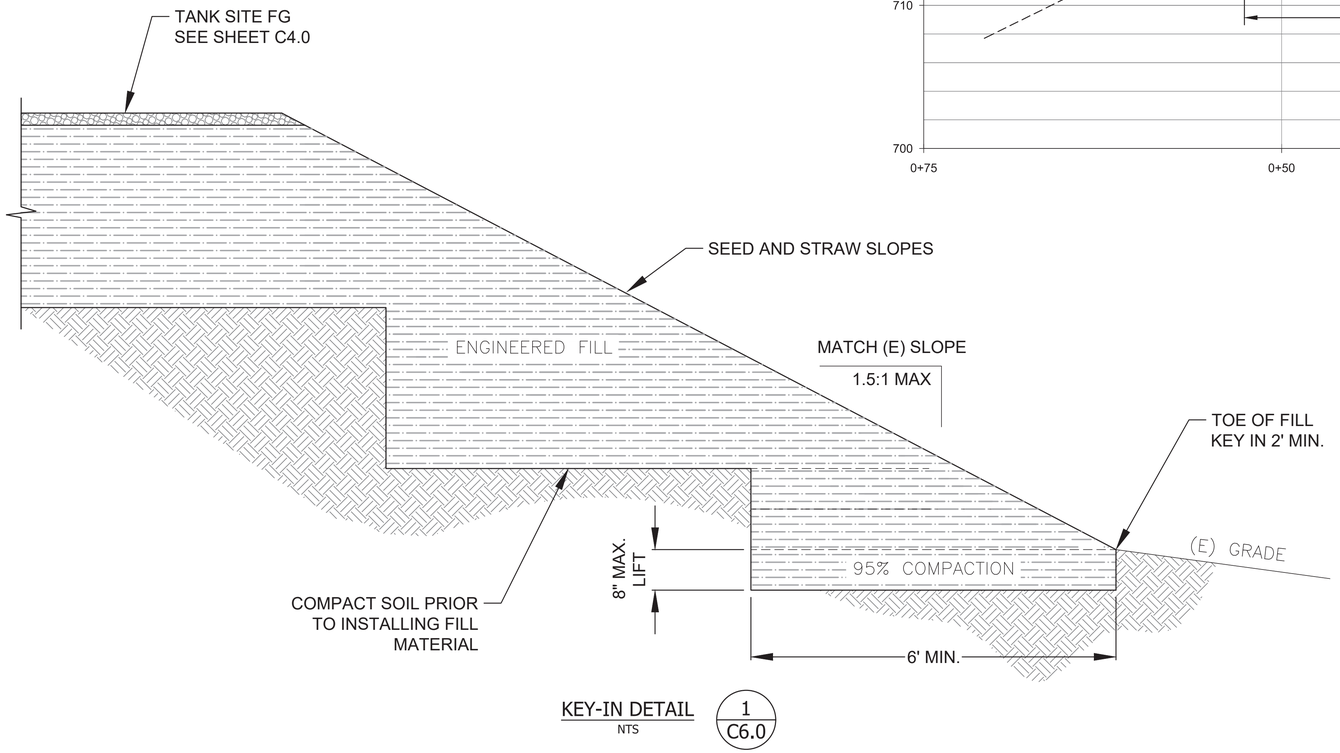
C5.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C5.0 PROPOSED SITE SECTIONS.DWG



TANK OVERFLOW & DRAIN PROFILE

H: 1" = 5'
V: 1" = 5'

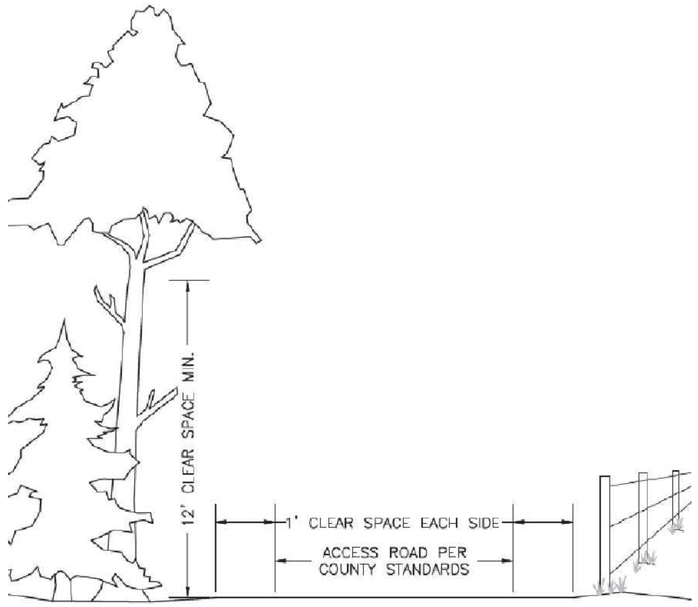


KEY-IN DETAIL

NTS

1 / C6.0

COMPACTION TABLE		
FILL PLACEMENT LOCATION	COMPACTION RECOMMENDATIONS ASTM D 1557 - MODIFIED PROCTOR	MOISTURE CONTENT (PERCENT OPTIMUM)
STRUCTURAL FILL SUPPORTING FOOTING	95%	-1 TO +3 PERCENT
STRUCTURAL FILL SUPPORTING SLABS ON GRADE	95%	-1 TO +3 PERCENT
STRUCTURAL FILL PLACED WITHIN 3-FEET BEYOND THE PERIMETER OF THE BUILDING PAD	95%	-1 TO +3 PERCENT
UTILITY TRANCHES WITHIN BUILDING AND ANY PAVEMENT AREAS	95%	-1 TO +3 PERCENT
UTILITY TRENCHES BENEATH LANDSCAPE AND GRASS AREAS	90%	-1 TO +3 PERCENT



ACCESS ROAD CLEARACE TYPICAL DETAIL

NTS

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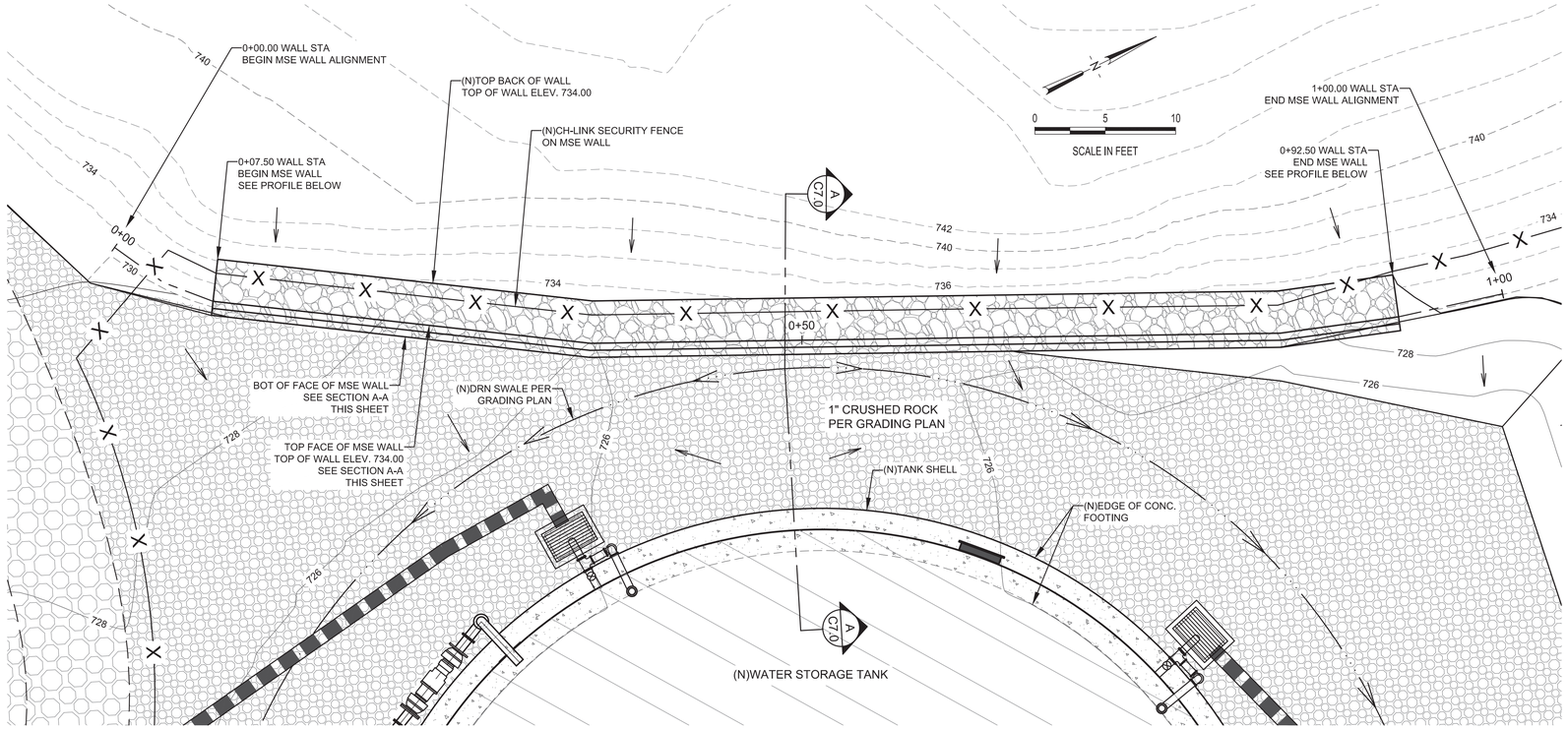
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

PROPOSED SITE GRADING SECTIONS

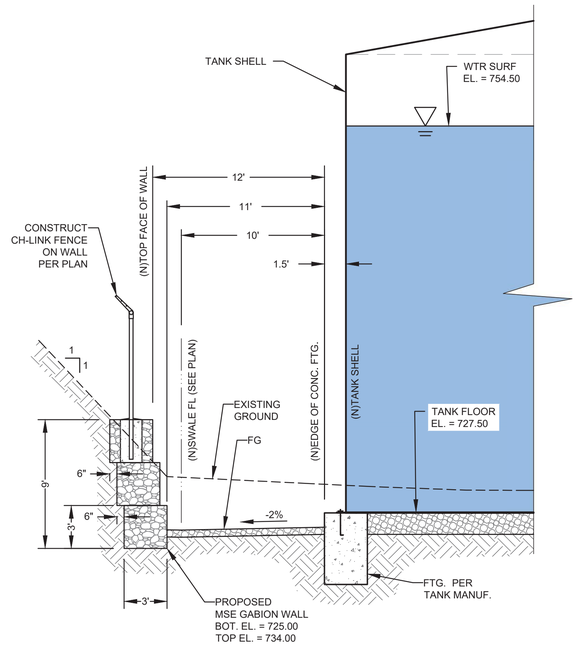
DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: AS SHOWN
PROJECT NO: 209.19

C6.0

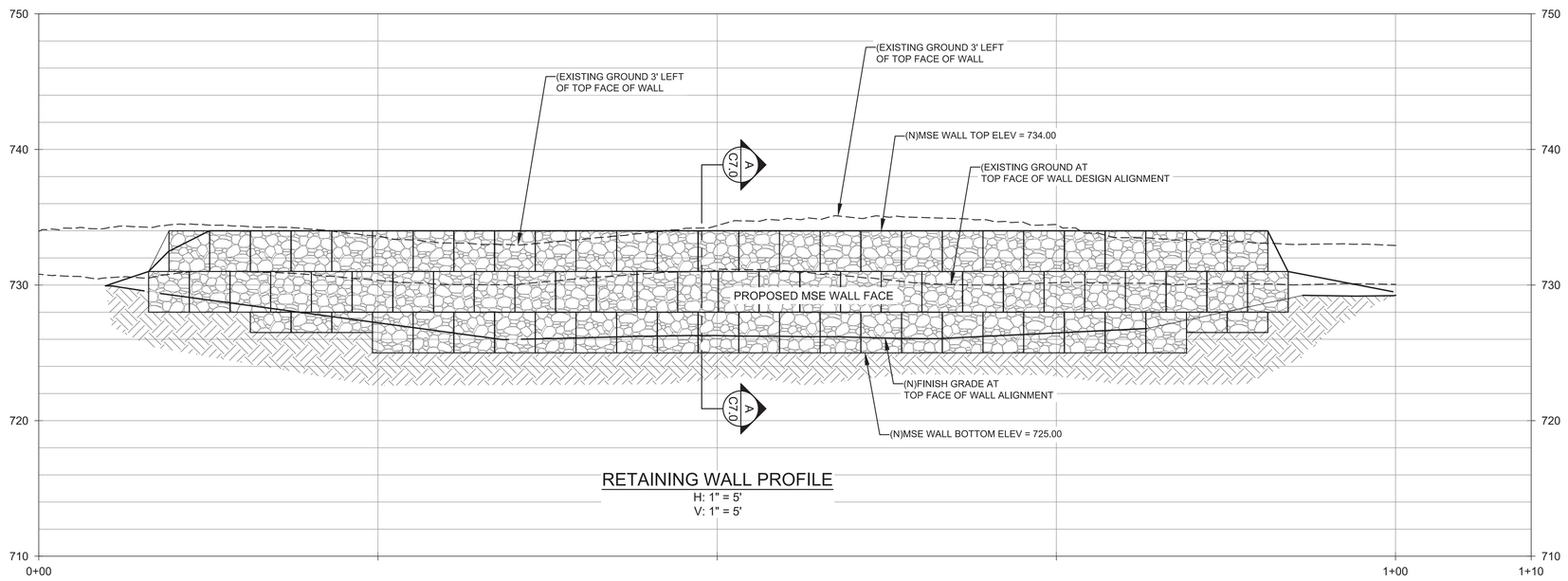
C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C6.0 PROPOSED SITE SECTIONS.DWG



RETAINING WALL PLAN
H: 1" = 5'



RETAINING WALL SECTION A-A
H: 1" = 5'
V: 1" = 5'



RETAINING WALL PROFILE
H: 1" = 5'
V: 1" = 5'

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WATER TANK
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SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

RETAINING WALL
PLAN & PROFILE

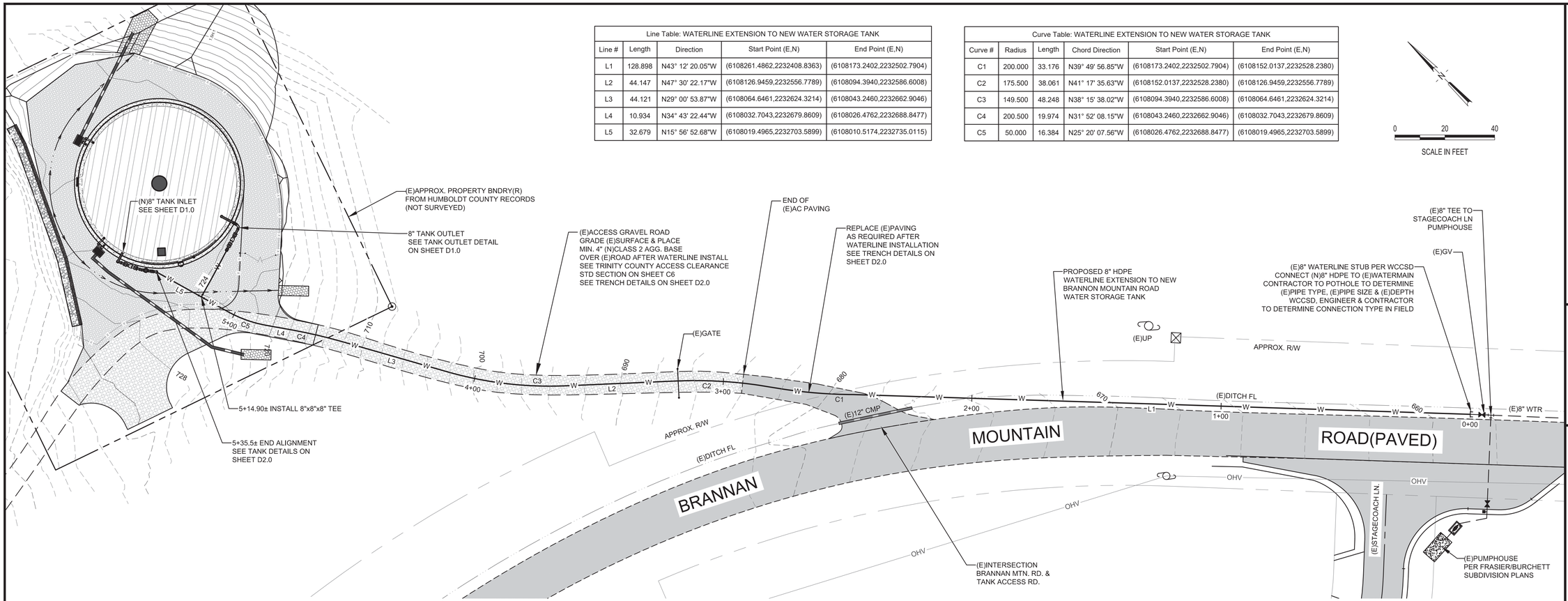
DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	AS SHOWN
PROJECT NO:	209.19

C7.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C7.0 PROPOSED RETAINING WALL PLAN & PROFILE.DWG

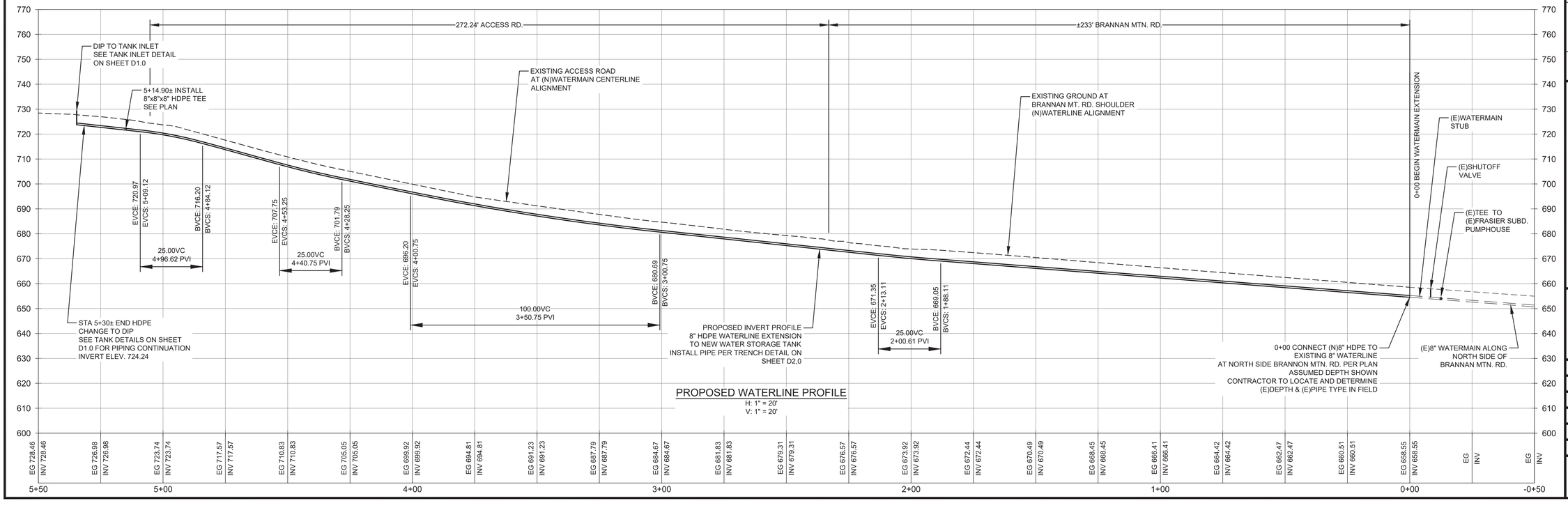
Line Table: WATERLINE EXTENSION TO NEW WATER STORAGE TANK				
Line #	Length	Direction	Start Point (E,N)	End Point (E,N)
L1	128.898	N43° 12' 20.05"W	(6108261.4862,2232408.8363)	(6108173.2402,2232502.7904)
L2	44.147	N47° 30' 22.17"W	(6108126.9459,2232556.7789)	(6108094.3940,2232586.6008)
L3	44.121	N29° 00' 53.87"W	(6108064.6461,2232624.3214)	(6108043.2460,2232662.9046)
L4	10.934	N34° 43' 22.44"W	(6108032.7043,2232679.8609)	(6108026.4762,2232688.8477)
L5	32.679	N15° 56' 52.68"W	(6108019.4965,2232703.5899)	(6108010.5174,2232735.0115)

Curve Table: WATERLINE EXTENSION TO NEW WATER STORAGE TANK					
Curve #	Radius	Length	Chord Direction	Start Point (E,N)	End Point (E,N)
C1	200.000	33.176	N39° 49' 56.85"W	(6108173.2402,2232502.7904)	(6108152.0137,2232528.2380)
C2	175.500	38.061	N41° 17' 35.63"W	(6108152.0137,2232528.2380)	(6108126.9459,2232556.7789)
C3	149.500	48.248	N38° 15' 38.02"W	(6108094.3940,2232586.6008)	(6108064.6461,2232624.3214)
C4	200.500	19.974	N31° 52' 08.15"W	(6108043.2460,2232662.9046)	(6108032.7043,2232679.8609)
C5	50.000	16.384	N25° 20' 07.56"W	(6108026.4762,2232688.8477)	(6108019.4965,2232703.5899)



0 20 40

SCALE IN FEET



PROPOSED WATERLINE PROFILE

H: 1" = 20'

V: 1" = 20'

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NO.	DATE:	REVISIONS

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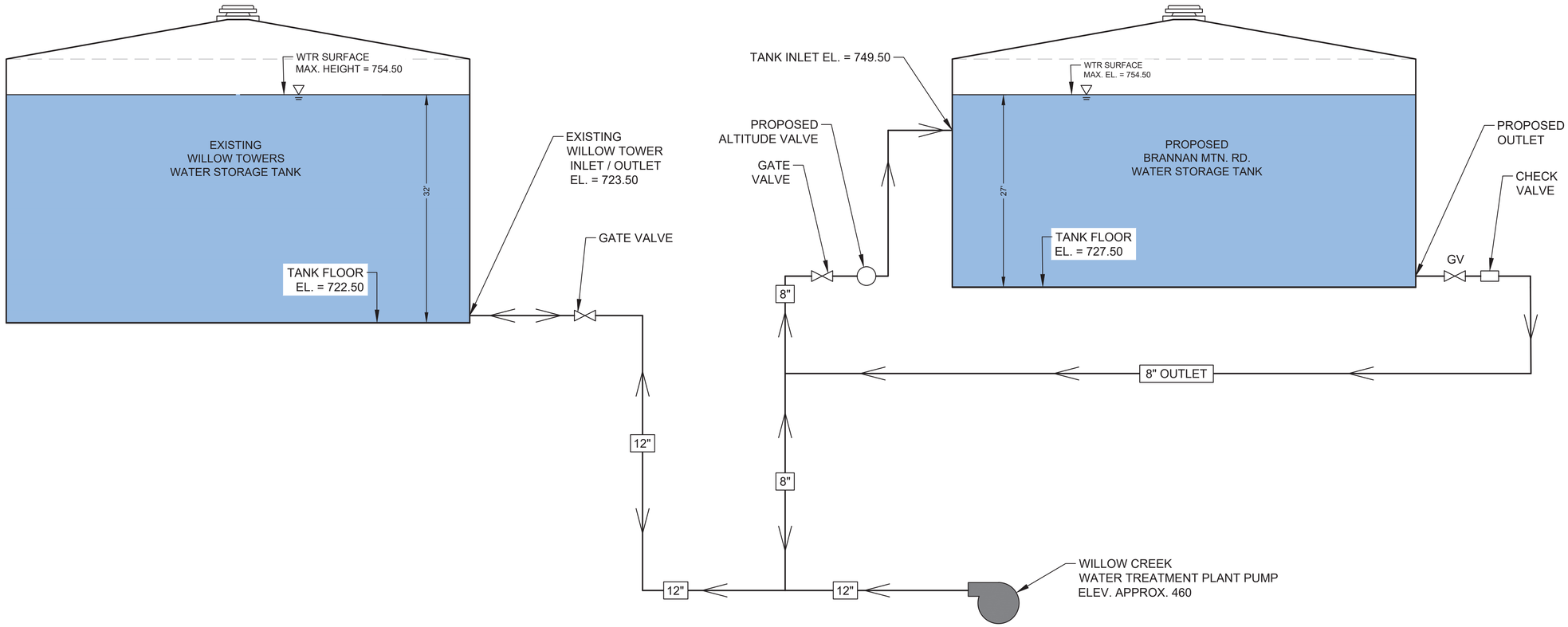
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

PROPOSED
WATERLINE
PLAN & PROFILE

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/5/25
SCALE:	1" = 20'
PROJECT NO:	209.19

C8.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C8.0 PROPOSED WATERLINE PLAN & PROFILE.DWG



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NO.	DATE:	REVISIONS

BRANNAN MOUNTAIN ROAD
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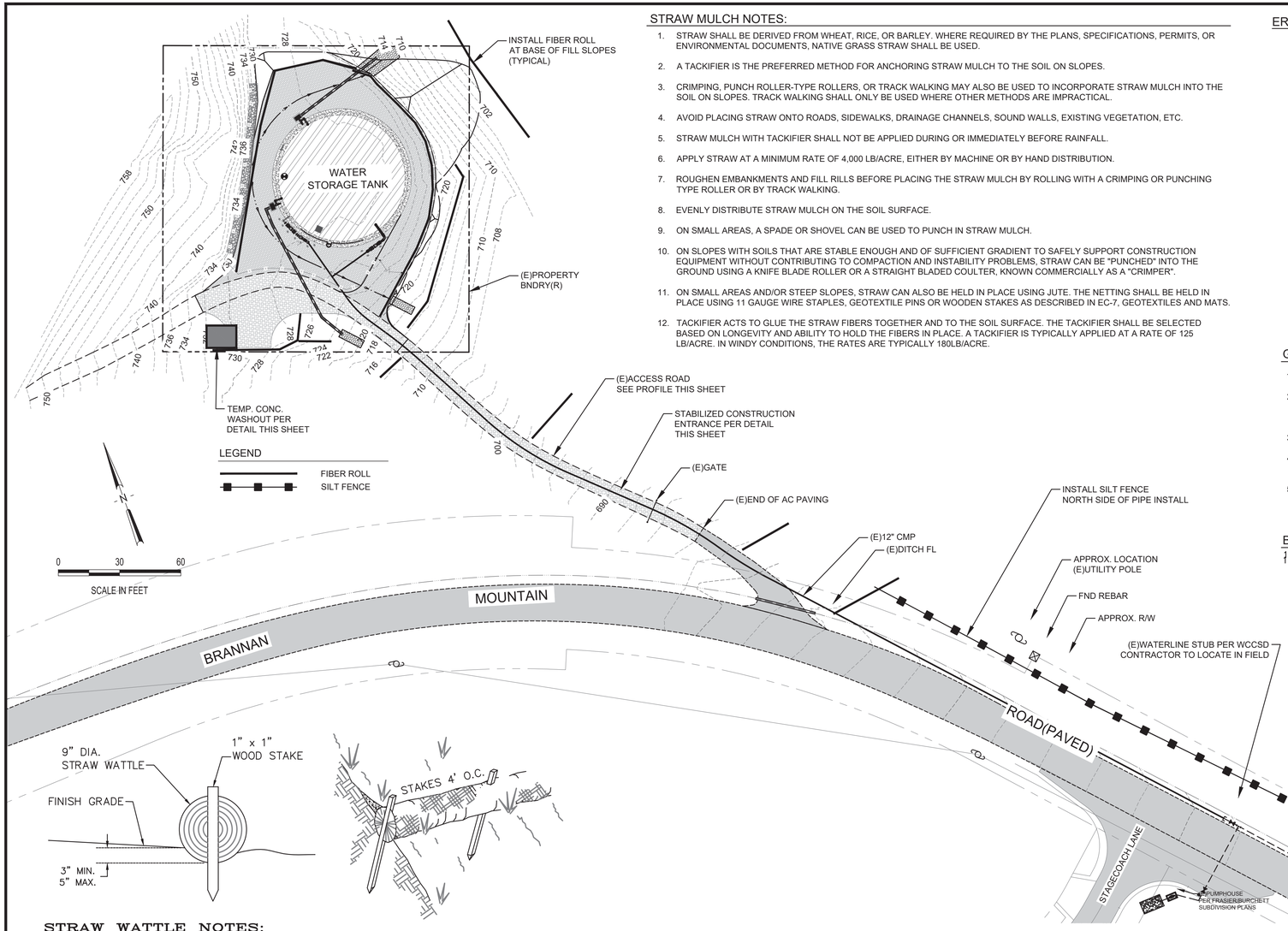
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

PROCESS
DIAGRAM

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: NTS
PROJECT NO: 209.19

C9.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C9.0 PROCESS DIAGRAM.DWG



STRAW MULCH NOTES:

1. STRAW SHALL BE DERIVED FROM WHEAT, RICE, OR BARLEY. WHERE REQUIRED BY THE PLANS, SPECIFICATIONS, PERMITS, OR ENVIRONMENTAL DOCUMENTS, NATIVE GRASS STRAW SHALL BE USED.
2. A TACKIFIER IS THE PREFERRED METHOD FOR ANCHORING STRAW MULCH TO THE SOIL ON SLOPES.
3. CRIMPING, PUNCH ROLLER-TYPE ROLLERS, OR TRACK WALKING MAY ALSO BE USED TO INCORPORATE STRAW MULCH INTO THE SOIL ON SLOPES. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
4. AVOID PLACING STRAW ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, SOUND WALLS, EXISTING VEGETATION, ETC.
5. STRAW MULCH WITH TACKIFIER SHALL NOT BE APPLIED DURING OR IMMEDIATELY BEFORE RAINFALL.
6. APPLY STRAW AT A MINIMUM RATE OF 4,000 LB/ACRE, EITHER BY MACHINE OR BY HAND DISTRIBUTION.
7. ROUGHEN EMBANKMENTS AND FILL RILLS BEFORE PLACING THE STRAW MULCH BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING.
8. EVENLY DISTRIBUTE STRAW MULCH ON THE SOIL SURFACE.
9. ON SMALL AREAS, A SPADE OR SHOVEL CAN BE USED TO PUNCH IN STRAW MULCH.
10. ON SLOPES WITH SOILS THAT ARE STABLE ENOUGH AND OF SUFFICIENT GRADIENT TO SAFELY SUPPORT CONSTRUCTION EQUIPMENT WITHOUT CONTRIBUTING TO COMPACTION AND INSTABILITY PROBLEMS, STRAW CAN BE "PUNCHED" INTO THE GROUND USING A KNIFE BLADE ROLLER OR A STRAIGHT BLADED COULTER, KNOWN COMMERCIALLY AS A "CRIMPER".
11. ON SMALL AREAS AND/OR STEEP SLOPES, STRAW CAN ALSO BE HELD IN PLACE USING JUTE. THE NETTING SHALL BE HELD IN PLACE USING 11 GAUGE WIRE STAPLES, GEOTEXTILE PINS OR WOODEN STAKES AS DESCRIBED IN EC-7, GEOTEXTILES AND MATS.
12. TACKIFIER ACTS TO GLUE THE STRAW FIBERS TOGETHER AND TO THE SOIL SURFACE. THE TACKIFIER SHALL BE SELECTED BASED ON LONGEVITY AND ABILITY TO HOLD THE FIBERS IN PLACE. A TACKIFIER IS TYPICALLY APPLIED AT A RATE OF 125 LB/ACRE. IN WINDY CONDITIONS, THE RATES ARE TYPICALLY 180LB/ACRE.

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL AND INLET FILTER BAGS, YEAR ROUND.
3. ALL STABILIZED CONSTRUCTION ACCESS LOCATIONS SHALL BE CONSTRUCTED PER STANDARD DRAWING TC-1 WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES PAVED AREAS. THE STABILIZED ACCESS SHALL BE MAINTAINED ON A YEAR-ROUND BASIS UNTIL THE COMPLETION OF CONSTRUCTION.
4. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). HYDROSEED, IF UTILIZED, MUST BE PLACED BY SEPTEMBER 15. HYDROSEED PLACED DURING THE WET SEASON SHALL USE A SECONDARY EROSION PROTECTION METHOD.
5. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
6. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR-ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
7. ALL SLOPES GREATER THAN 1:1 SHALL RECEIVE SEED AND STRAW OR OTHER EROSION CONTROL.
8. ALL FENCING AND EROSION CONTROL METHODS SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
9. ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.

GENERAL WATER POLLUTION CONTROL NOTES:

1. THE INFORMATION ON THESE DRAWINGS ARE ACCURATE FOR WATER POLLUTION CONTROL PURPOSES ONLY.
2. THE INFORMATION ON THIS PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATION THROUGHOUT THE SITE. THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE WATER POLLUTION CONTROL PLAN.
3. FIELD CONDITIONS MAY NECESSITATE MODIFICATION TO THESE DRAWINGS.
4. PERMANENT EROSION CONTROL AND REVEGETATION WILL BE INSTALLED AS AREAS ARE DETERMINED TO BE SUBSTANTIALLY COMPLETE AND PER THE SPECIFICATIONS.
5. All BMPs WILL BE FIELD-VERIFIED AND APPROVED FOR INSTALLATION BY THE RE. ALL BMPs WILL BE INSTALLED ACCORDING TO THE STANDARD PLANS AND SPECIFICATIONS UNLESS APPROVED BY THE RE AND AMENDED INTO THE WPCP.

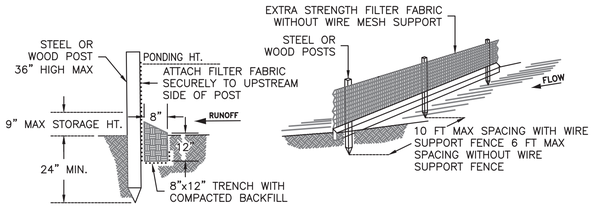
BMP MAINTENANCE NOTES:

1. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND DIRECTLY FOLLOWING ANY STORM EVENT, OR WHENEVER PRACTICAL.

STRAW WATTLE NOTES:

1. STRAW WATTLES SHALL BE INSTALLED WITH 18 OR 24 INCH WOOD STAKES AT FOUR FEET ON CENTER. THE ENDS OF ADJACENT STRAW WATTLES SHALL BE ABUTTED TO EACH OTHER SNUGLY OR OVERLAPPED BY SIX INCHES.
2. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"–5" DEEP. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND THE ROLL.

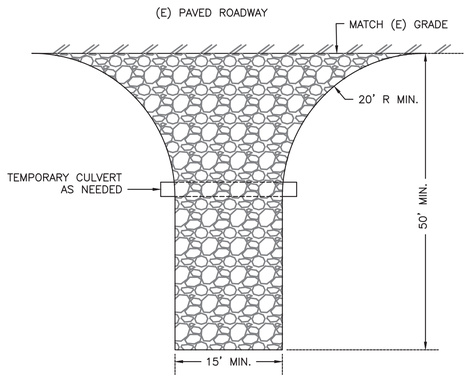
STRAW WATTLE INSTALLATION DETAIL
NTS



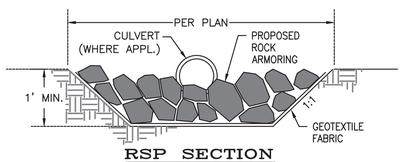
SILT FENCE NOTES:

1. THE CONTRACTOR SHALL INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT.
2. CONTRACTOR SHALL REMOVE SEDIMENT AS NECESSARY. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF–SITE AND IN AN AREA THAT CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

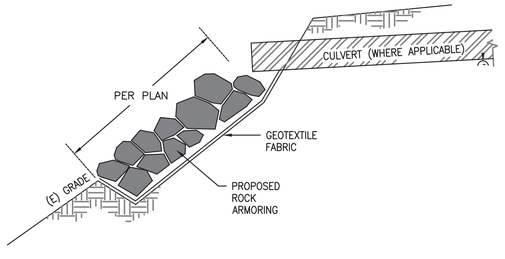
SILT FENCE DETAILS
NTS



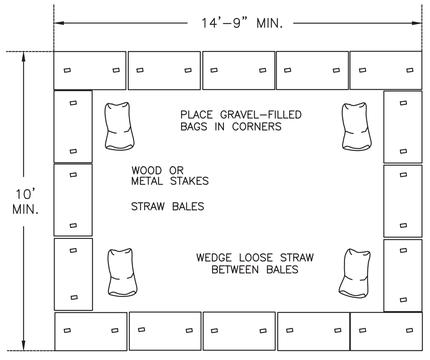
STABILIZED CONSTRUCTION ENTRANCE
NTS



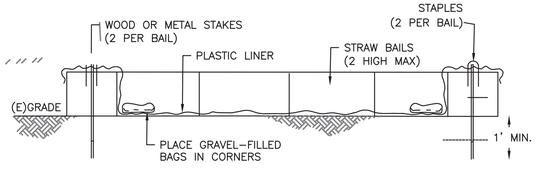
RSP SECTION
NTS



RSP DETAIL
NTS



PLAN
TEMPORARY CONCRETE WASHOUT FACILITY
NTS



PROFILE
TEMPORARY CONCRETE WASHOUT FACILITY
NTS

PLAN BY:
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PHONE (530) 629–3000

REGISTERED PROFESSIONAL ENGINEER
ERIC E. KEYES
C 90533
EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DATE:

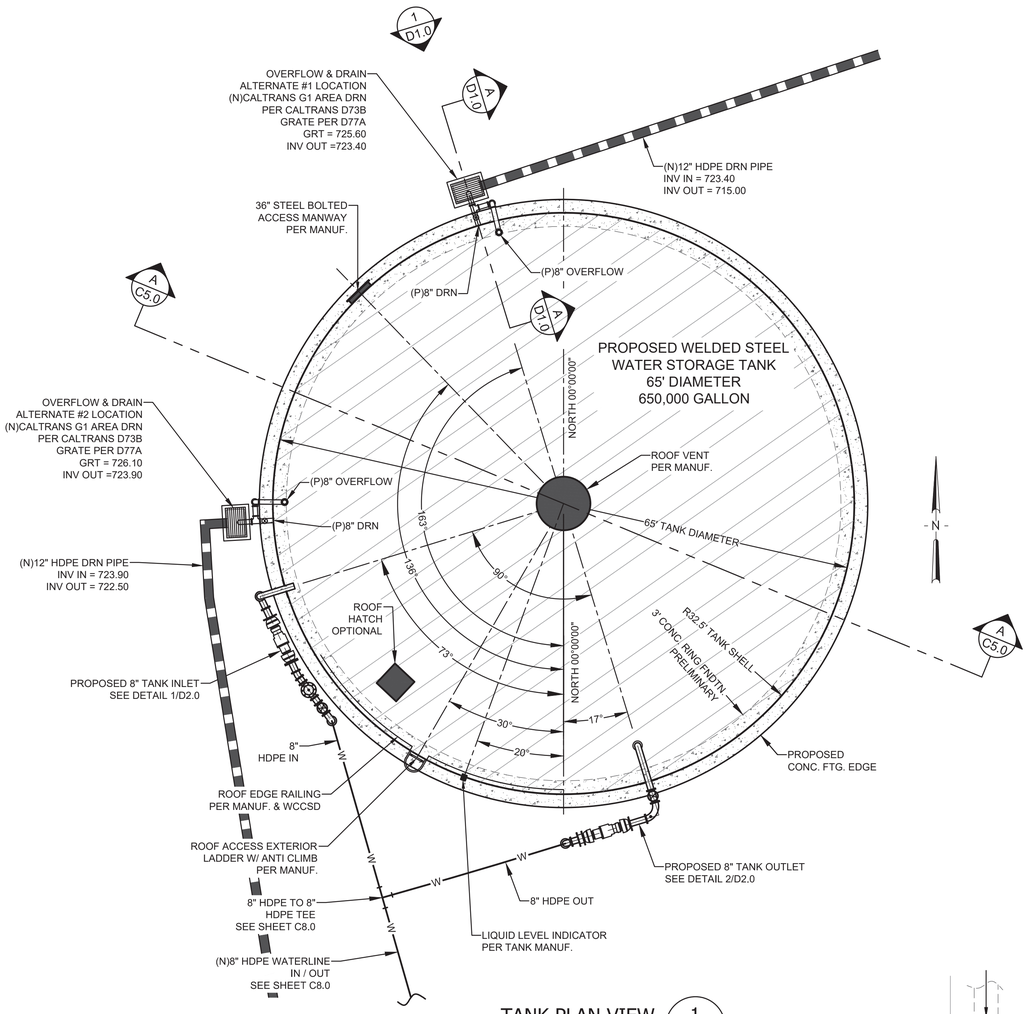
BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

EROSION CONTROL PLAN

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	NTS
PROJECT NO:	209.19

C10.0

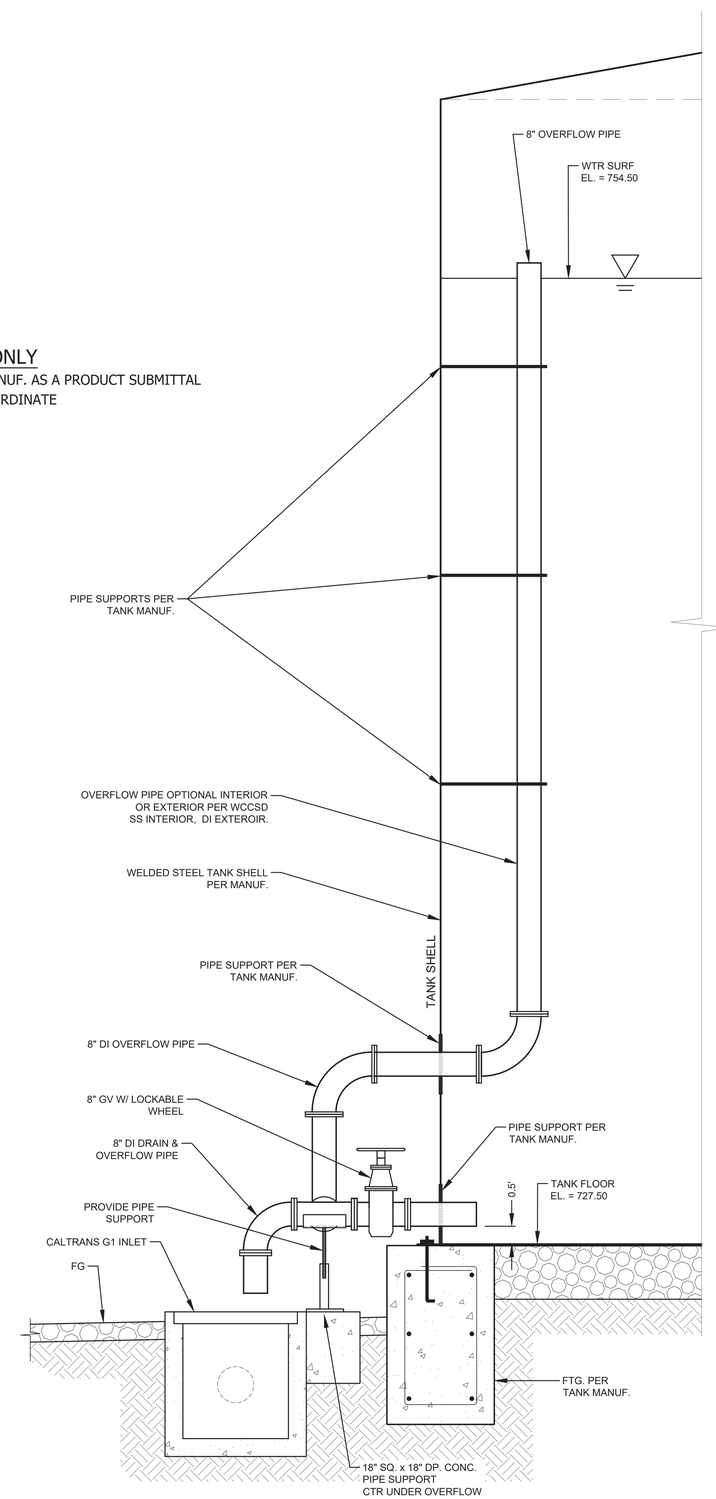
C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\C10.0 EROSION CONTROL PLAN.DWG



TANK PLAN VIEW (1 / D1.0)
1" = 8'

SCHEMATIC ONLY
FINAL DESIGN TO BE PROVIDED BY TANK MANUF. AS A PRODUCT SUBMITTAL
CONTRACTOR TO COORDINATE

TANK OVERFLOW & DRAIN
FRONT ELEVATION VIEW (1)
1" = 2'



TANK OVERFLOW & DRAIN
SECTION A-A
1" = 2'

TANK PIPING NOTES:
1. ALL EXTERIOR PIPING AND FITTINGS TO BE DUCTILE IRON UNLESS SPECIFIED OTHERWISE BY TANK MANUFACTURER.

2. ALL INTERIOR PIPING TO BE STAINLESS STEEL.

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BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

TANK
DETAILS

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	AS SHOWN
PROJECT NO:	209.19

D1.0

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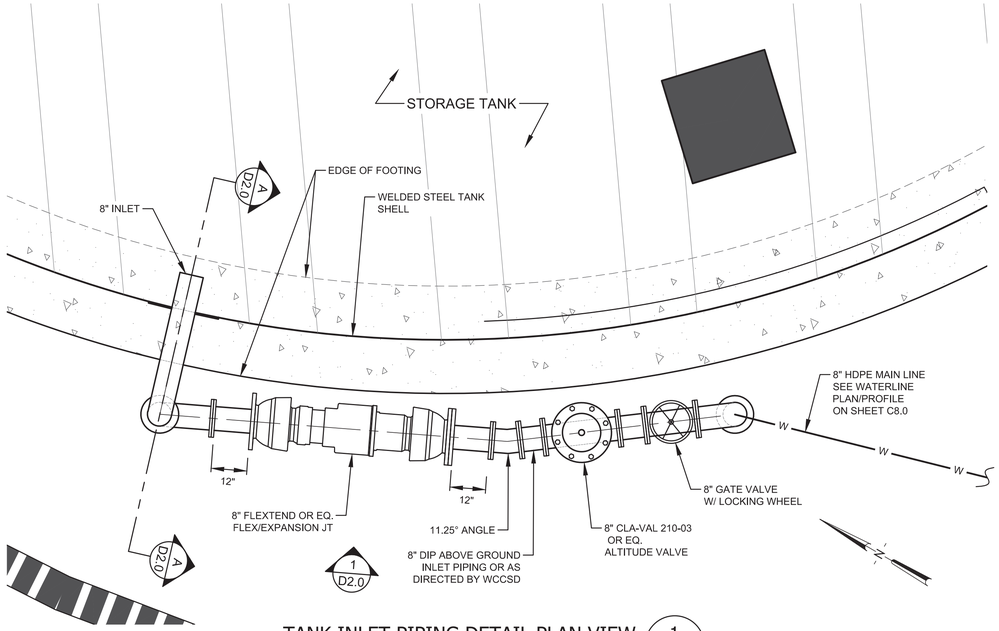
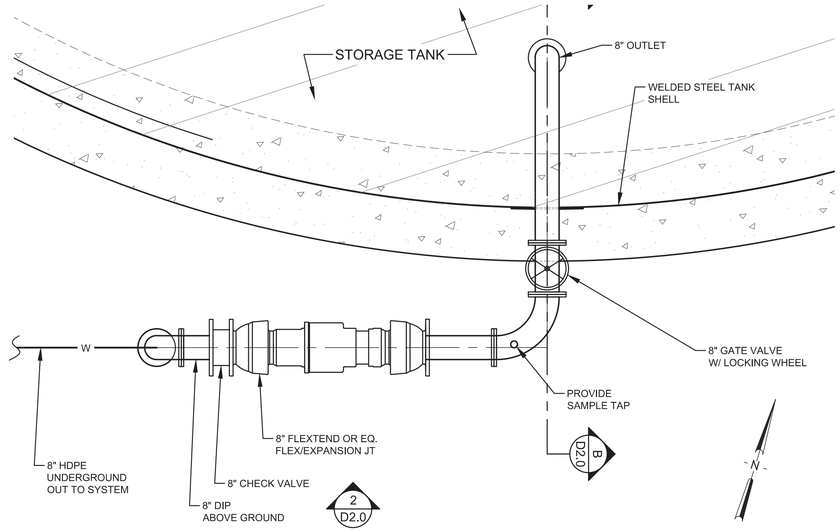
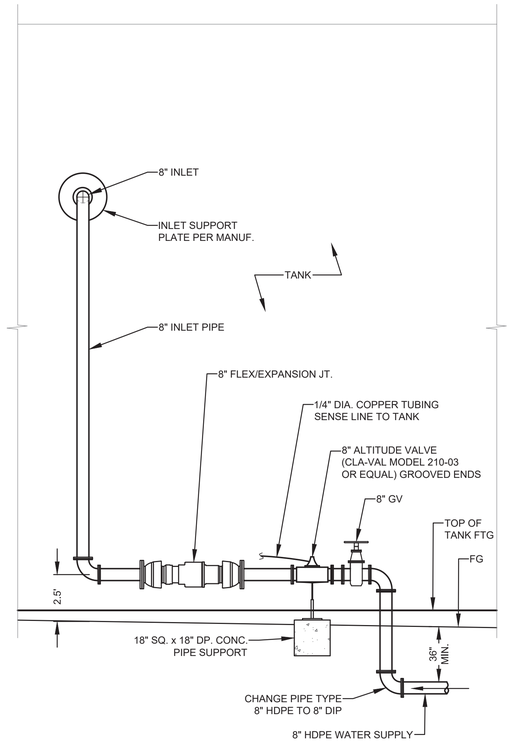


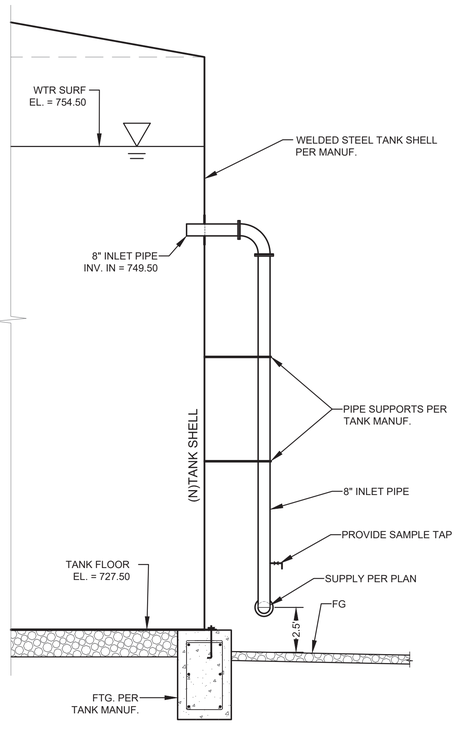
TANK INLET PIPING DETAIL PLAN VIEW
1" = 2'
1 / D2.0



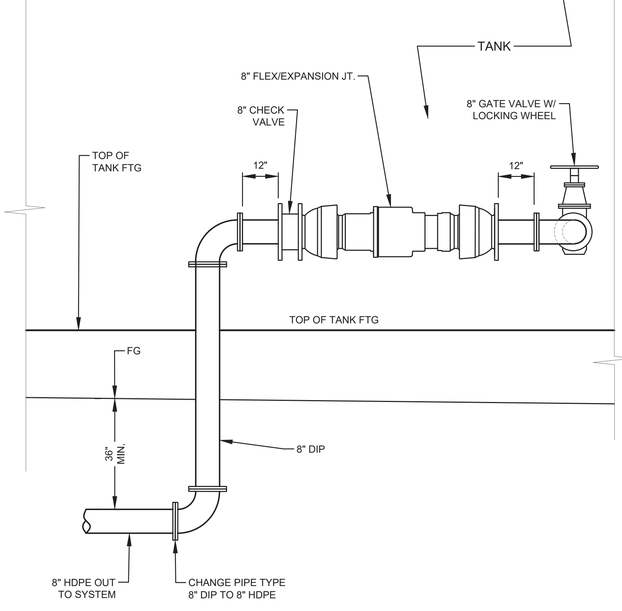
TANK OUTLET PIPING DETAIL PLAN VIEW
1" = 2'
2 / D2.0



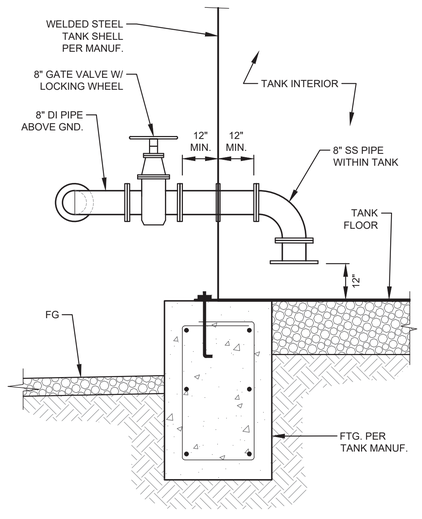
TANK INLET PIPING FRONT ELEVATION
1" = 4'
1



TANK INLET SECTION A-A
1" = 4'



TANK OUTLET PIPING FRONT VIEW
1" = 2'
2



TANK OUTLET PIPING SECTION B-B
1" = 2'

TANK PIPING NOTES:
1. ALL EXTERIOR PIPING AND FITTINGS TO BE DUCTILE IRON UNLESS SPECIFIED OTHERWISE BY TANK MANUFACTURER.
2. ALL INTERIOR PIPING TO BE STAINLESS STEEL.

SCHEMATIC ONLY
FINAL DESIGN TO BE PROVIDED BY TANK MANUF. AS A PRODUCT SUBMITTAL CONTRACTOR TO COORDINATE

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NO.	DATE:	REVISIONS

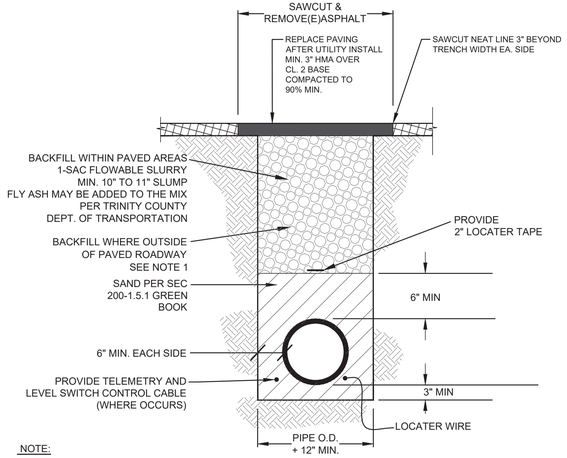
BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

TANK
DETAILS

DESIGN BY:	EK
DRAWN BY:	SG
CHECKED BY:	EK
DATE:	5/3/25
SCALE:	AS SHOWN
PROJECT NO:	209.19

D2.0

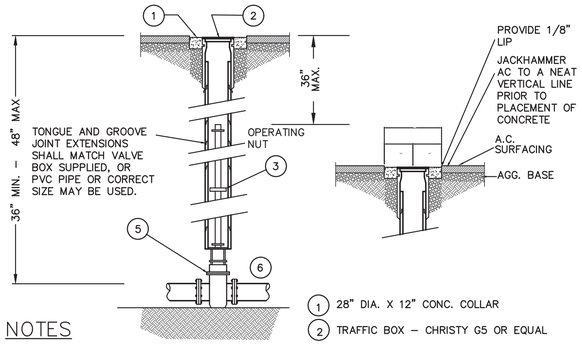
C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\D2.0 TANK PIPING DETAILS.DWG



NOTE:

1. INTERMEDIATE BACKFILL SHALL BE ANY SUITABLE NATIVE OR IMPORTED GRANULAR MATERIAL. RELATIVE COMPACTION SHALL BE AT LEAST 90%

TYPICAL TRENCH DETAIL (1 / D3.0)
NTS



NOTES

(1) 28" DIA. X 12" CONC. COLLAR

(2) TRAFFIC BOX – CHRISTY G5 OR EQUAL

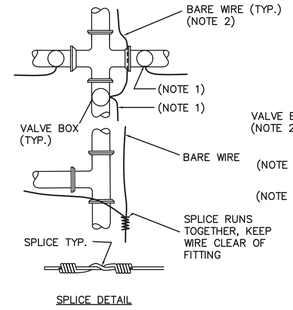
(3) OPERATING NUT EXTENSION W/ 6" PLATE WASHER WELDED TO EXTENSION AT MID POINT OF ROD (MIN. LENGTH OF ROD SHALL BE 24" WHERE REQUIRED)

(4) NO OPERATING NUT EXTENSION REQUIRED WHERE DISTANCE BETWEEN FINISHED GRADE AND TOP OF VALVE OPERATION NUT IS LESS THAN 36".

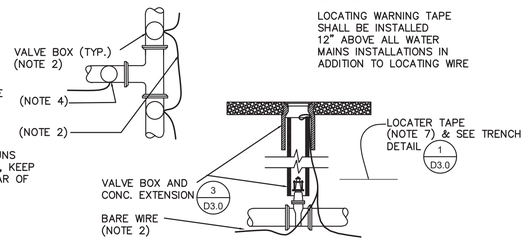
(5) RESILIENT WEDGE (RW) GATE VALVES 2" THROUGH 8", 125 POUND, FULLY ENCAPSULATED WEDGE IN SYNTHETIC RUBBER, NON-RISING STEM (NRS) AND OPEN TO LEFT. EXPOSED VALVES SHALL BE HAND WHEEL OPERATED AND BURIED VALVES SHALL HAVE 2" SQ. OPERATING NUT. VALVES SHALL BE AWWA C509-87, WATEROUS, OR APPROVED EQUAL. WELLS, PUMPING STATIONS, AND BACKFLOW DEVICES MAY REQUIRE HAND WHEEL OPERATED VALVES W/ OUTSIDE SCREW AND YOLK (OS&Y) RISING STEM VALVES.

(6) PROVIDE LOCATING WIRE AND TAPE PER DETAIL (4 / D3.0)

WATER VALVE DETAILS (3 / D3.0)
NTS



SPLICE DETAIL



DETAIL AT BOX

NOTICE:
LOCATING WIRE SHALL BE INSTALLED WITH ALL NON-METALLIC MAINS AND OFF STREET FIRE SERVICES AND HYDRANTS

LOCATING WARNING TAPE SHALL BE INSTALLED 12" ABOVE ALL WATER MAINS INSTALLATIONS IN ADDITION TO LOCATING WIRE

NOTES

(1) WIRE SHALL BE CONTINUOUS BETWEEN VALVE BOXES, EXCEPT WHERE BOXES ARE WITHIN TEN (10) FEET OF PIPE INTERSECTION.

(2) BARE WIRE SHALL NOT TOUCH VALVE OR FITTING.

(3) LOCATING WIRE SHALL BE PLACED AT BOTTOM OF TRENCH, NEXT TO PIPE. (DO NOT ATTACH WIRE TO PIPE)

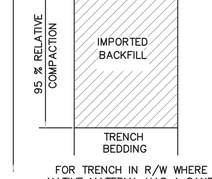
(4) IF WIRE ENDS AT A VALVE, A SINGLE INSULATED WIRE SHALL EXTEND UP TO WITHIN 12 INCHES OF BOX COVER.

(5) ALL VALVES, INCLUDING FIRE HYDRANT VALVES, SHALL HAVE LOCATING WIRES.

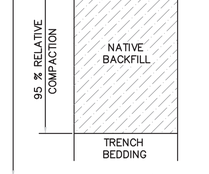
(6) LOCATING WIRE SHALL BE BARE #6 AWG SOLID COPPER, SOFT DRAWN WIRE. WIRE SHALL BE INSTALLED WITH ALL NON-METALLIC MAINS AND SERVICES.

(7) WARNING TAPE SHALL BE A DETECTABLE METALLIZED 2" WIDE WARNING TAPE, BLUE COLOR CODED, IMPRINTED WITH "CAUTION-BURIED WATER LINE BELOW" SHALL BE INSTALLED 12" ABOVE ALL WATER MAINS IN OFF ROAD INSTALLATIONS. LINEGUARD DETECTABLE MARKING TAPE, TYPE III OR APPROVED EQUAL.

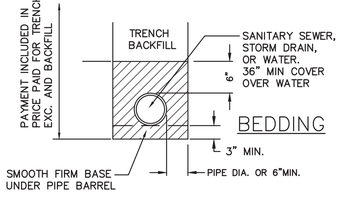
LOCATING WIRE AND WARNING TAPE (4 / D3.0)
NTS

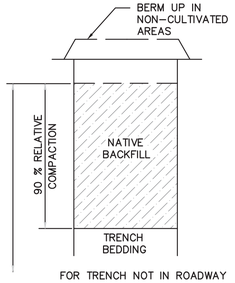


FOR TRENCH IN R/W WHERE NATIVE MATERIAL HAS A SAND EQUIVALENT OF LESS THAN 28



FOR TRENCH IN R/W WHERE NATIVE MATERIAL HAS A SAND EQUIVALENT OF MORE THAN 28



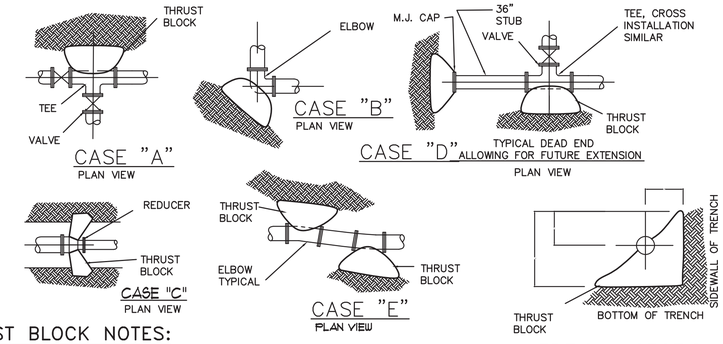


FOR TRENCH NOT IN ROADWAY

TRENCH BEDDING & BACKFILL NOTES:

1. BACKFILL BY HAND, COMPACT OR CONSOLIDATE TO PROVIDE SOLID BEDDING UNDER AND AROUND PIPE.
2. JETTING WILL NOT BE ALLOWED.
3. TRENCH BACKFILL WITHIN ROADWAY PER ENGINEER

TRENCH BEDDING & BACKFILL DETAIL (2 / D3.0)
NTS

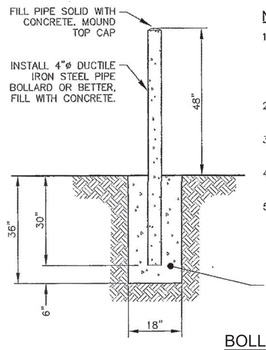


VERTICAL SECTION
TYPICAL OF ALL FITTINGS

ST BLOCK NOTES:

ST BLOCKS SHALL BE CONSTRUCTED SO THAT MAJOR BEARING SURFACE IS IN DIRECT LINE THE MAJOR FORCE CREATED BY THE PIPE OR FITTINGS.
ONCRETE SHALL BE CLASS 470-C-2500 PER "GREENBOOK".
RETE SHALL BE FLUID ENOUGH SO THAT IT MAY BE WORKED AROUND THE FITTINGS.
UBLE LAYER OF 6 MIL POLYETHYLENE FILM SHALL BE PLACED BETWEEN CONCRETE AND L FITTING.
RETE SHALL BE KEPT BEHIND THE BELL OF THE FITTING.
HRUST BLOCK BEARING SURFACE SHALL BE PLACED AGAINST UNDISTURBED EARTH AND SHALL A MIN BEARING AREA OF 4 SF. FOR 4 & 6" DIA., 7 SF. FOR 8" DIA., 15 SF. FOR 12" DIA OR AS DIRECTED.
HRTUST BLOCKS FOR PIPE LARGER THAN 12" SHALL BE ENGINEERED.
NCRETE PAD SHALL BE PLACED UNDER ALL VALVES 12 INCHES AND LARGER FOR SUPPORT.
NCHOR BLOCKS SHALL BE CONSTRUCTED WITH A MINIMUM OF (2) #4 REBAR STRAPS.

TYPICAL THRUST BLOCKS (5 / D3.0)
NTS



NOTES:

1. BOLLARDS SHALL BE 4" DIAMETER DUCTILE IRON POSTS SET IN 36" OF CONCRETE AT LEAST 18" IN DIAMETER. THE INSIDE OF POSTS SHALL ALSO BE FILLED WITH CONCRETE WITH SMOOTH MOUND AS TOP CAP.
2. BOLLARDS SHALL BE LOCATED AT LEAST 2' IN FRONT OF HYDRANT, 5' APART.
3. BOLLARDS SHALL EXTEND ABOVE GROUND TO A MINIMUM OF 4'.
4. BOLLARDS SHALL BE OF SUFFICIENT NUMBER TO PROTECT THE HYDRANT, MINIMUM OF 2.
5. PAINT BOLLARDS RED WITH TOP 8" PAINTED WHITE. **BOLLARD PAINT TO BE REFLECTIVE.**

BOLLARD DETAIL (6 / D3.0)
NTS

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REVISIONS

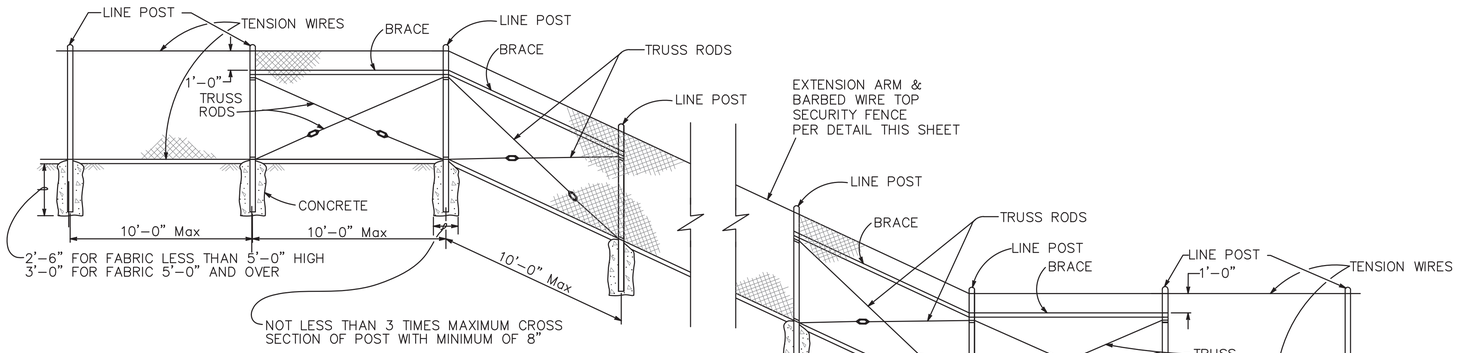
BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

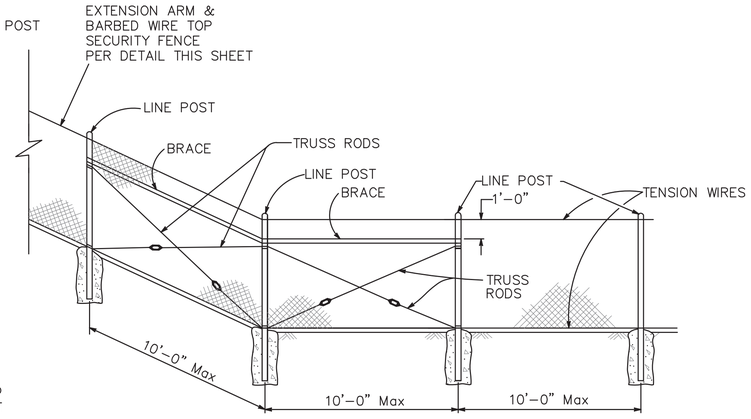
WATER
DETAILS

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: NO SCALE
PROJECT NO:

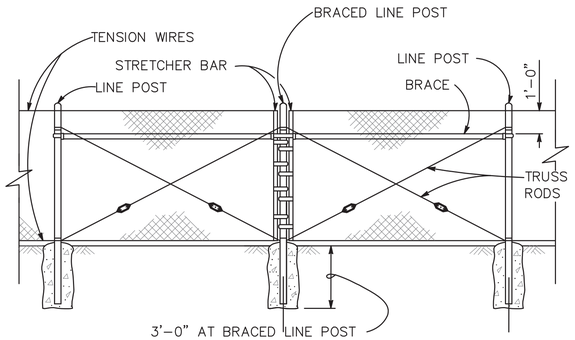
D3.0

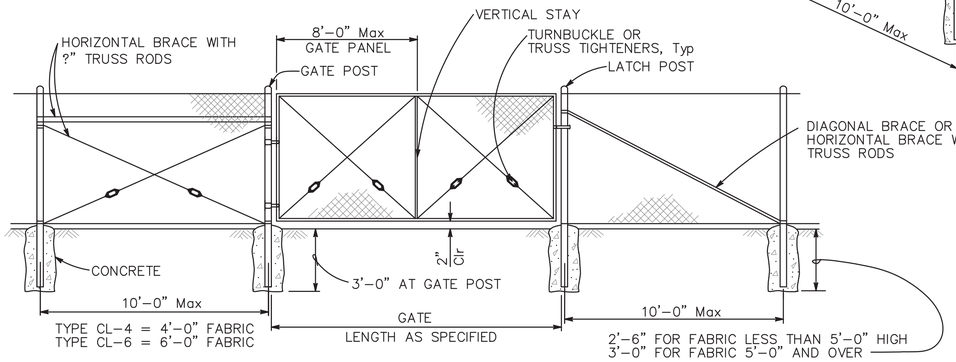
C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\D3.0 TRENCHING DETAILS.DWG

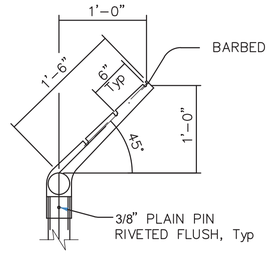




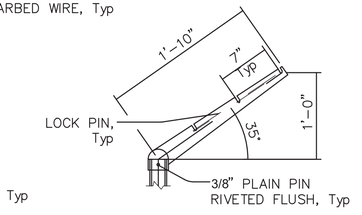
CHAIN LINK FENCE ON SHARP BREAK IN GRADE







LINE POST

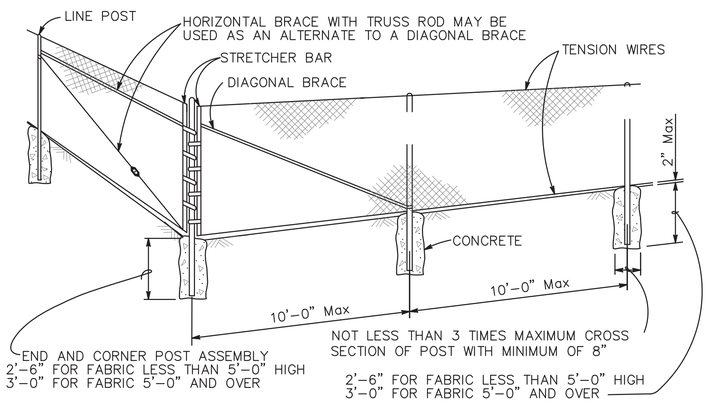


CORNER POST

BARBED WIRE POST TOP

BRACED LINE POST INSTALLATION

Braced line post at intervals not exceeding 1000'



CORNER POST

CHAIN LINK GATE INSTALLATION

NOTES:

1. The below table shows examples of post and brace sections which may comply with the Specifications.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
3. Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
4. Options exercised shall be uniform on any one project.
5. Dimensions shown are nominal.
6. Offset to be 2'–0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'–0" long.
7. See Standard Plan A85B for Brace, Stretcher Bar, and Truss Tightener Details.

TYPICAL MEMBER DIMENSIONS (See Notes)

FENCE HEIGHT	LINE POSTS		END, LATCH AND CORNER POSTS			BRACES		
	NPS (Std Wt)	ROLL FORMED	NPS (Std Wt)	ROLL FORMED		NPS (Std Wt)	ROLL FORMED	
6' AND LESS	1 1/2"	17/8"x15/8"	2"	2" x 1 3/4"		1 1/4"	1 5/8" x 1 1/4"	1 5/8" x 1 1/4"
OVER 6'	2"	2 1/4" x 1 3/4"	2 1/2"	2 1/2" x 2 1/2"		1 1/4"	1 5/8" x 1 1/4"	1 5/8" x 1 1/4"

GATE POST

FENCE HEIGHT	GATE WIDTHS	NPS (Std Wt)	WEIGHT PER FOOT
6'–0" AND LESS	UP THRU 6'–0"	2 1/2"	5.79 LB
	OVER 6'–0" THRU 12'–0"	4"	10.79 LB
	OVER 12'–0" THRU 18'–0"	5"	14.62 LB
	OVER 18'–0" TO 24'–0" Max	6"	18.97 LB
OVER 6'–0"	UP THRU 6'–0"	3"	7.58 LB
	OVER 6'–0" THRU 12'–0"	5"	14.62 LB
	OVER 12'–0" THRU 18'–0"	6"	18.97 LB
	OVER 18'–0" TO 24'–0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

PLAN BY:
TVCE
TRINITY VALLEY CONSULTING ENGINEERS
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PO BOX 1567
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REGISTERED PROFESSIONAL ENGINEER
ERIC E. KEYES
C 90533
EXP. 12/31/2025
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	DATE:

BRANNAN MOUNTAIN ROAD
WATER TANK
WILLOW CREEK COMMUNITY
SERVICES DISTRICT
135 WILLOW RD,
WILLOW CREEK, CA 95573

FENCE DETAILS

DESIGN BY: EK
DRAWN BY: SG
CHECKED BY: EK
DATE: 5/3/25
SCALE: NO SCALE
PROJECT NO: 209.19

D4.0

C:\TVCE PROJECTS\BRANNAN MOUNTAIN WATER TANK\DWG\D4.0 FENCE DETAILS.DWG