

OAKDALE IRRIGATION DISTRICT SOUTH MAIN CANAL IMPROVEMENTS TUNNEL 8 REHABILITATION

SCOPE OF WORK

- WORK CONSISTS OF ENLARGING TUNNEL 8 AND INSTALLING A SHOTCRETE TUNNEL LINER AND CONCRETE INVERT.
- THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING (LISTED IN THE EXPECTED WORK SEQUENCE):
 - INSTALL TEMPORARY WATER DIVERSION MEASURES IN THE CANAL
 - DE-WATER TUNNEL 8 AND NEARBY CANAL AS NECESSARY
 - ENLARGE UPSTREAM PORTAL AND PLACE SHOTCRETE LINING
 - SCALE LOOSE ROCK AND ENLARGE TUNNEL 8 SIDEWALLS, CROWN AND INVERT PER PLAN
 - PLACE NEW SHOTCRETE TUNNEL LINING CLOSELY BEHIND TUNNEL SCALING/ENLARGING AS WORK PROGRESSES
 - REMOVE DEBRIS FROM THE TUNNEL (AT VARIOUS TIMES IN THE CONSTRUCTION SEQUENCE) AND DISPOSE OFFSITE
 - ENLARGE DOWNSTREAM PORTAL AND PLACE SHOTCRETE LINING
 - PLACE NEW CAST-IN-PLACE CONCRETE TUNNEL INVERT
 - INSTALL FINAL EROSION CONTROL MEASURES

PROJECT SITE

TUNNEL 8: UPSTREAM PORTAL IS LOCATED APPROXIMATELY 1500 FEET DOWNSTREAM OF THE DOWNSTREAM PORTAL OF TUNNEL 7 (AT HIGHWAY 108 AND WILLMS ROAD).

THE WORK AREA IS NEAR KNIGHTS FERRY, CA - OAKDALE IRRIGATION DISTRICT, SOUTH MAIN CANAL, STANISLAUS COUNTY, CALIFORNIA - SEE VICINITY MAP AND DWG 2.0.

OWNER'S CONTACT:

OAKDALE IRRIGATION DISTRICT
1205 EAST F STREET
OAKDALE, CA 95361
ERIC THORBURN, P.E., WATER OPERATIONS MANAGER/DISTRICT ENGINEER
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ENGINEER'S CONTACT:

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21663 BRIAN LANE
SONORA, CA 95370
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PREPARED BY:

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NOTES

ACCESS

- DRAWING 2.0 SHOWS ACCESS CONDITIONS.
- THE CONTRACTOR SHALL PREPARE STAGING AND LAYDOWN AREAS FOR THE PROJECT AT THE ALLOWABLE LOCATIONS SHOWN ON THESE DRAWINGS AND ACCORDING TO THE CONTRACT DOCUMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DISTRICT ACCESS ROADS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL KEEP SITE AND CANAL ACCESS ROUTES CLEAR OF DEBRIS, MATERIALS AND EQUIPMENT.
- THE CONTRACTOR AND ALL OTHER PROJECT PERSONEL SHALL KEEP THE GATES AT WILLMS ROAD CLOSED AND LOCKED WHEN THEY ARE NOT ON SITE.
- CONTRACTOR SHALL LIMIT VEHICLE USE OVER THE TUNNEL AND WITHIN THE PERMISSIBLE STAGING AREAS TO A D-8 DOZER OR LIGHTER. USE OF A FULLY LOADED CONCRETE TRUCK IS PERMISSIBLE. THE CONTRACTOR SHALL LIMIT SOIL STOCKPILE THICKNESS OVER THE TUNNEL TO 7 FEET.

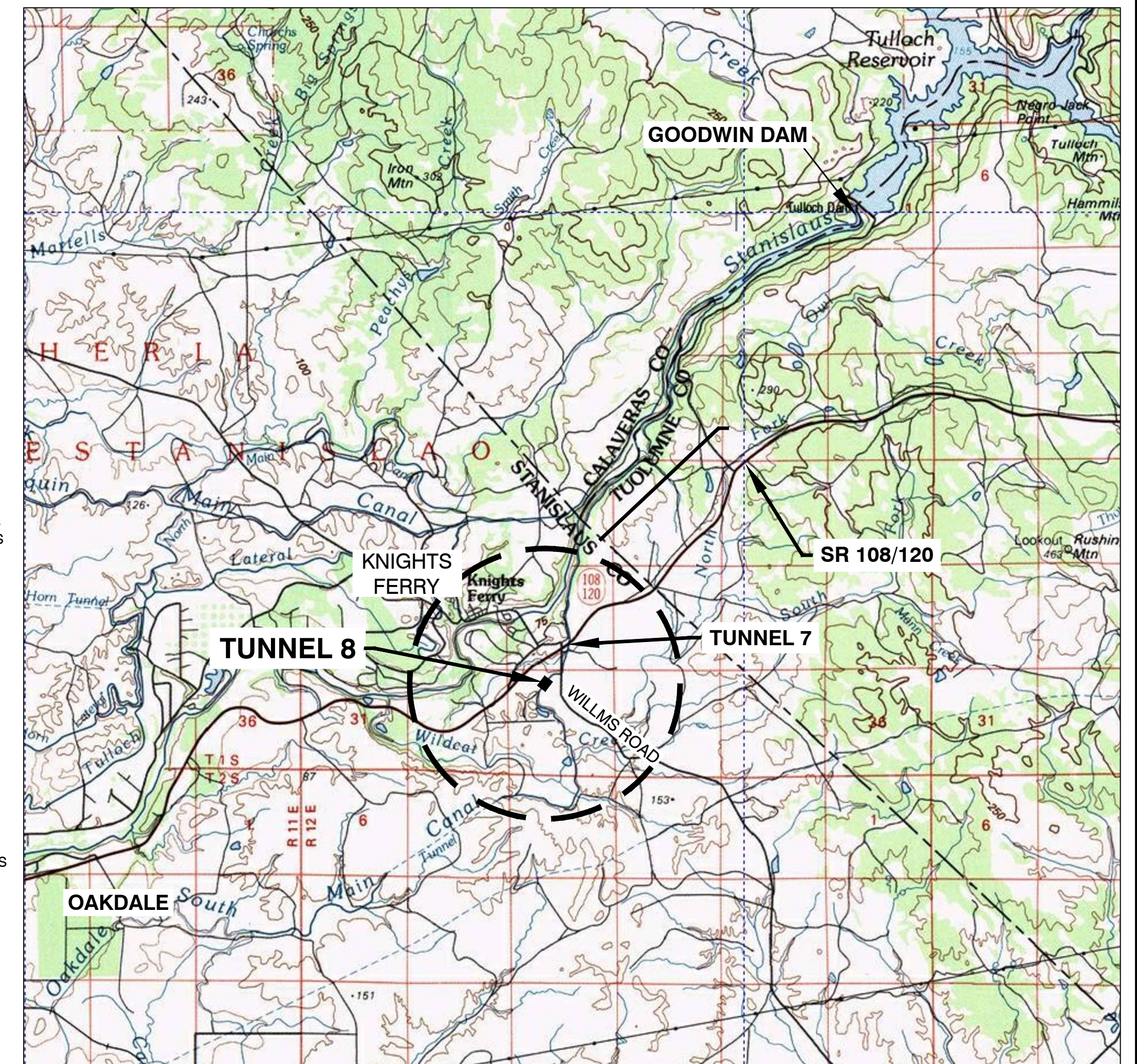
GENERAL

- ALL WORK SHALL TAKE PLACE WITHIN 50-FT. OF THE CANAL CENTERLINE, WHICH IS THE OWNER'S RIGHT-OF-WAY, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIALS, SUPPLIES, AND EQUIPMENT FOR CONSTRUCTION OF THE IMPROVEMENTS SHOWN IN THE CONTRACT DOCUMENTS.
- THE OWNER SHALL RETAIN A CONSTRUCTION MATERIALS TESTING AND INSPECTION AGENCY (TESTING AGENCY) FOR THE REQUIRED TESTING AND INSPECTIONS. THE CONTRACTOR SHALL PROVIDE THE OWNER, THE ENGINEER (CONDOR), AND THE TESTING AGENCY AT LEAST TWO WORKING DAYS NOTICE PRIOR TO STARTING WORK.
- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS IN THE LATEST VERSIONS OF THE CALIFORNIA BUILDING CODE (CBC), CALTRANS STANDARD SPECIFICATIONS AND THE OAKDALE IRRIGATION DISTRICT STANDARD SPECIFICATIONS AND DRAWINGS. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF STANISLAUS COUNTY, AND GOOD TRADE PRACTICE.
- THE CONTRACTOR SHALL BE APPROPRIATELY LICENSED BY THE STATE OF CALIFORNIA TO PERFORM THE WORK SHOWN/DESCRIBED IN THE CONSTRUCTION DOCUMENTS AND SHALL BE EXPERIENCED IN THESE TYPES OF WORK.
- THE CONTRACTOR SHALL SECURE NECESSARY PERMITS FROM AGENCIES, AS NECESSARY, BEFORE CONSTRUCTION, INCLUDING FROM CAL/OSHA MINING AND TUNNELING UNIT AND ARRANGE THE REQUIRED PRE-JOB MEETING WITH CAL/OSHA.
- THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) BEFORE STARTING EARTHWORK, DRILLING GROUND, AND OTHER EXCAVATION WORK, AND THEY SHALL NOT BEGIN EXCAVATION UNTIL THE USA-INDICATED EARLIEST START DATE AND TIME.
- THE CONTRACTOR SHALL RENEW USA TICKETS BEFORE THEY EXPIRE AND MAINTAIN UNTIL COMPLETION OF EXCAVATION WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING UTILITIES IN THE FIELD. COSTS OF REPAIRING ANY DAMAGES OR INJURIES CAUSED BY THE CONTRACTOR SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL KEEP EXISTING UTILITIES IN SERVICE AT ALL TIMES OR COORDINATE REQUIRED UTILITY SHUT-DOWNS WITH THE OWNER AND THE UTILITY OWNERS.
- THE CONTRACTOR SHALL PROTECT EXISTING MONUMENTS, FACILITIES AND IMPROVEMENTS FROM DAMAGE RESULTING FROM CONTRACTOR'S WORK. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ANY EXISTING MONUMENTS THAT MUST BE REMOVED DURING THE WORK SHALL BE REPLACED BY THE OWNER.
- THE CONTRACTOR SHALL REVIEW THE WORK SCOPE AND NOTIFY THE OWNER AND CONDOR IF THE DESIGN CREATES SAFETY CONCERNS.

- THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION FOR THIS PROJECT, INCLUDING SAFETY OF PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
- CONDOR AND OWNER ARE NOT RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES FOR SAFETY PRECAUTIONS.
- SHOULD ANY CONTRACTOR OR SUBCONTRACTOR FIND DEFICIENCIES, ERRORS, CONFLICTS OR OMISSIONS IN THESE CONTRACT DRAWINGS OR THE CONTRACT SPECIFICATIONS OR SHOULD THERE BE ANY DOUBT AS TO THEIR MEANING OR INTENT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. IF THERE IS A CONFLICT, THEN NOTIFY THE ENGINEER TO OBTAIN A CLARIFICATION. NO DEVIATION OR SUBSTITUTION SHALL BE ALLOWED WITHOUT OBTAINING WRITTEN APPROVAL FROM THE ENGINEER.
- FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC AND SITE FEATURES BASED ON GROUND SURVEYED TOPOGRAPHY FROM GIULIANI AND KULL, DRAWING FILE X-TOPO.DWG, DATED APRIL 9, 2009 AND AERIAL PHOTOGRAMMETRY PROVIDED BY TRI STATE PHOTOGRAMMETRY DRAWING FILE 09057.DWG, DATED MARCH 18, 2009. TOPOGRAPHIC SURVEY PERFORMED IN FEBRUARY, 2020 USING A TRIMBLE 5700 CENTIMETER-LEVEL GPS SYSTEM AND A LEICA TCR1103 TOTAL STATION. HORIZONTAL AND VERTICAL DATUM NAD 83 CALIFORNIA STATE PLANE ZONE 3 AND NAVD88, RESPECTIVELY.
- BOUNDARY LINES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE FOR REFERENCE ONLY.
- THE DESIGN IS LIMITED TO THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS. THESE DRAWINGS SHOW EXISTING IMPROVEMENTS FOR REFERENCE ONLY.
- ALL USERS OF THESE DRAWINGS AGREE TO HOLD CONDOR HARMLESS FOR ANY AND ALL WORK THAT DOES NOT CONFORM TO REQUIREMENTS AND MINIMUM STANDARDS OF THE RELEVANT BUILDING CODE, LOCAL ORDINANCES, AND ACCEPTABLE STANDARDS.
- CONDOR ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF PRODUCTS OR MATERIALS NOT SPECIFIED IN THESE DRAWINGS.
- THE CONTRACTOR SHALL DISPOSE ALL DEMOLISHED MATERIALS, EXCAVATED MATERIALS, EXCESS CONSTRUCTION MATERIALS, AND OTHER WASTE LEGALLY AT AN OFFSITE LOCATION.

STORM WATER MANAGEMENT

- THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING, MAINTAINING, OPERATING AND REMOVING TEMPORARY STORM WATER FACILITIES, MANAGING STORM WATER FLOWS, AND PREPARING AND IMPLEMENTING THE STORM WATER POLLUTION PROTECTION PLAN (SWPPP).



Vicinity Map

0 5000
SCALE IN FEET
1"=5000'



DRAWING INDEX

SHEET NO.	TITLE
1.0	COVER SHEET, NOTES AND DRAWING INDEX
1.1	NOTES
2.0	OVERALL SITE PLAN - TUNNEL 8
3.0	TOPOGRAPHIC SITE PLAN - TUNNEL 8
4.0	PROFILE AND PORTALS - TUNNEL 8
5.0	TUNNEL AND PORTAL DETAILS

LEGEND:

- CANAL ACCESS RAMP
- LOCKED GATE
- CLOSED GATE
- HIGH WATER LEVEL (APPROX.)
- DIAMETER

ABBREVIATIONS:

AB	AGGREGATE BASE ROCK	FDR	FULL DEPTH RECLAMATION	P.T.	POINT OF TANGENCY
AC	ASPHALTIC CONCRETE	FF	FINISH FLOOR GRADE	PRF	PAVEMENT REINFORCING FABRIC
AD	AREA DRAIN	FG	FINISH GRADE	PSI	POUNDS PER SQUARE INCH
AVE	AVERAGE	FL	FLOW LINE	PVC	POLYVINYL CHLORIDE PIPE
BBL	BARREL	FOC	FACE OF CONCRETE	P.W.	PROCESS WASTE
BF	BOTTOM OF FOOTING	FS	FINISH SURFACE	R	RADIUS
BHC	BEGIN HORIZONTAL CURVE	FRC	FIBER REINFORCED CONCRETE	RCP	REINFORCED CONC. PIPE
BK	BOTTOM OF KEY	FRS	FIBER REINFORCED SHOTCRETE	S	SLOPE
BW	BOTTOM OF WALL	FT	FOOT	SCH	SCHEDULE
CDF	CONTROLLED DENSITY FILL	GB	GRADE BREAK	SD	STORM DRAIN
CIP	CAST-IN-PLACE	GAL	GALLON	SF	SQUARE FEET
CPP	CORRUGATED PLASTIC PIPE	HMA	HOT MIX ASPHALT	SG	SUBGRADE
CL	CENTER LINE	INV	INVERT	SS	SANITARY SEWER
CMP	CORRUGATED METAL PIPE	IN	INCH	SAD	SEE ARCHITECTURAL DOCUMENTS
CPP	CORRUGATED PLASTIC PIPE	ID	INSIDE DIAMETER	ID	SEE CIVIL DOCUMENTS
CONC	CONCRETE	LBS	POUNDS	SLD	SEE LANDSCAPE DOCUMENTS
CY	CUBIC YARD	LOC	LOW DENSITY CELLULAR CONCRETE	SMD	SEE MECHANICAL DOCUMENTS
DI	DROP INLET	LF	LINEAR FEET	SSD	SEE STRUCTURAL DOCUMENTS
DIA	DIAMETER	MAX	MAXIMUM	STA	STATION
Ø	DIAMETER	MH	MANHOLE	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
DL	DESIGN LOAD	MIN	MINIMUM	TC	TOP OF CONCRETE
(E)	EXISTING	OC	ON CENTER	TBD	TO BE DETERMINED
EF	EACH FACE	(P)	PROPOSED	TF	TOP OF FOOTING
EG	EXISTING GROUND	P.C.	POINT OF CURVATURE	TYP	TYPICAL
EHC	END HORIZONTAL CURVE	P.C.C.	POINT OF COMPOUND CURVATURE	TW	TOP OF WALL
EL	ELEVATION	P.I.	POINT OF INTERSECTION	U.N.O.	UNLESS NOTED OTHERWISE
ELEC	ELECTRICAL	PIP	PROTECT IN PLACE	V.I.F.	VERIFY IN FIELD
ES	EACH SIDE	PL	PLATE OR PROPERTY LINE	W	WIDTH
EW	EACH WAY	P.R.C.	POINT OF REVERSE CURVATURE	WWF	WELDED WIRE FABRIC
ETW	EDGE OF TRAVELED WAY				

SYMBOLS

SECTION AND ELEVATION

- SECTION/ELEVATION/DETAIL IDENTIFICATION
- SECTION/ELEVATION/DETAIL LOCATION

REVISION

- DETAIL REFERENCE, SAME DRAWING
- REVISION NUMBER
- AREA OF REVISION

REV#	DATE	BY	DESCRIPTION
0	07/21/2021	ASK	FOR BIDDING

OAKDALE IRRIGATION DISTRICT
SOUTH MAIN CANAL IMPROVEMENTS
TUNNEL 8 REHABILITATION

COVER SHEET, NOTES AND DRAWING INDEX

	21663 Brian Lane P.O. Box 3905 Sonoma, CA 95370 (209) 532-0961 fax(209) 532-0773 www.condorearth.com	DWG 1.0
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JOB#: 3818R DRAWN: KGM SCALE: AS SHOWN
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SHOTCRETE:

- REFER TO CONTRACT SPECIFICATION SECTION 03470 FOR SHOTCRETE.
- DIMENSIONS SHOWN IN DETAILS ARE TYPICAL.
- SHOTCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
- ADD SYNTHETIC FIBER TO SHOTCRETE AT A RATE OF 4 LBS./CU. YD. PER MANUFACTURER'S SPECIFICATIONS.
- ADD FLY ASH OR SLAG AT A RATE OF 10% TO 25% OF PORTLAND CEMENT BY WEIGHT.
- SHOTCRETE SHALL HAVE A GUN FINISH.
- INSPECTION AND ACCEPTANCE BY ENGINEER OF SUBGRADES, SUBSURFACE DRAINAGE, REINFORCEMENT AND SHOTCRETE IS REQUIRED.
- SHOTCRETE SHALL HAVE NO CONTRACTION JOINTS. THE FINISHES SHALL CONFORM TO PROJECT SHOTCRETE SPECIFICATIONS, OR AS DIRECTED BY CONDOR OR THE OWNERS REPRESENTATIVE.

CONCRETE:

- REFER TO CONTRACT SPECIFICATION SECTIONS 03070 AND 03300 FOR CONCRETE REINFORCEMENT AND CONCRETE.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
- ADD SYNTHETIC FIBER TO CONCRETE FOR NEW INVERTS AND INVERT OVERLAYS AT RATE OF 4 LBS./CU. YD. PER MANUFACTURER'S SPECIFICATIONS.
- ADD FLY ASH OR SLAG AT A RATE OF 10% TO 25% OF PORTLAND CEMENT BY WEIGHT.
- CONCRETE FINISHES SHALL BE "U-1" PER CONTRACT SPECIFICATION SECTION 03300, UNLESS NOTED OTHERWISE.
- INSPECTION AND ACCEPTANCE BY ENGINEER OF CONCRETE AND REINFORCEMENT IS REQUIRED.
- TO REDUCE CONCRETE INVERT QUANTITIES, THE FOLLOWING CRITERIA SHALL BE USED: LOCAL INVERT HARD ROCK GROUND RESULTING IN MINIMUM 4-INCH THICKNESS OF CONCRETE ARE ACCEPTABLE, "PONDS" OF LESS THAN 12 INCHES IN DEPTH ARE ACCEPTABLE.
- CONTRACTOR SHALL LAY OUT FINAL INVERT GRADES FOR ACCEPTANCE BY ENGINEER PRIOR TO PLACEMENT OF CONCRETE INVERT.
- PROVIDE MINIMUM 0.5-INCH DEPTH SAW CUT CONTRACTION JOINTS AT 15-FEET ON-CENTER MAXIMUM.

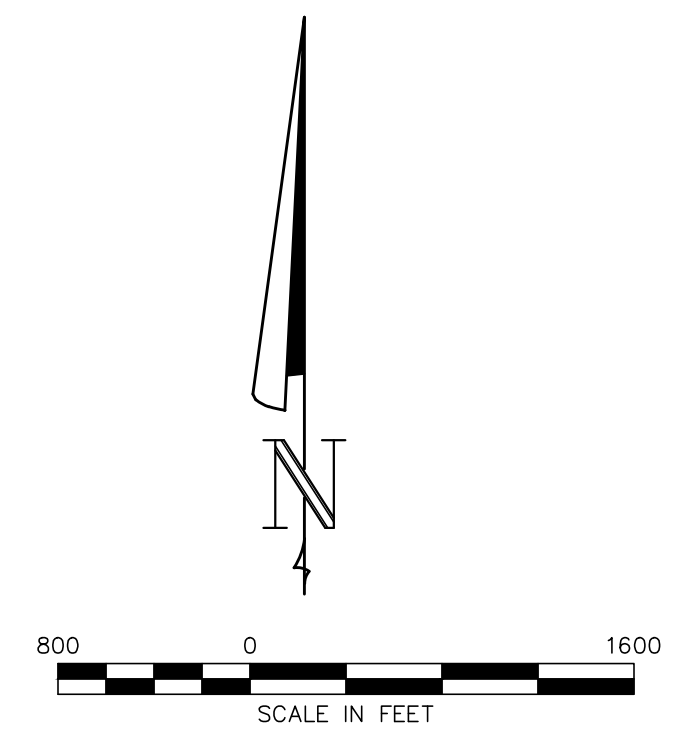
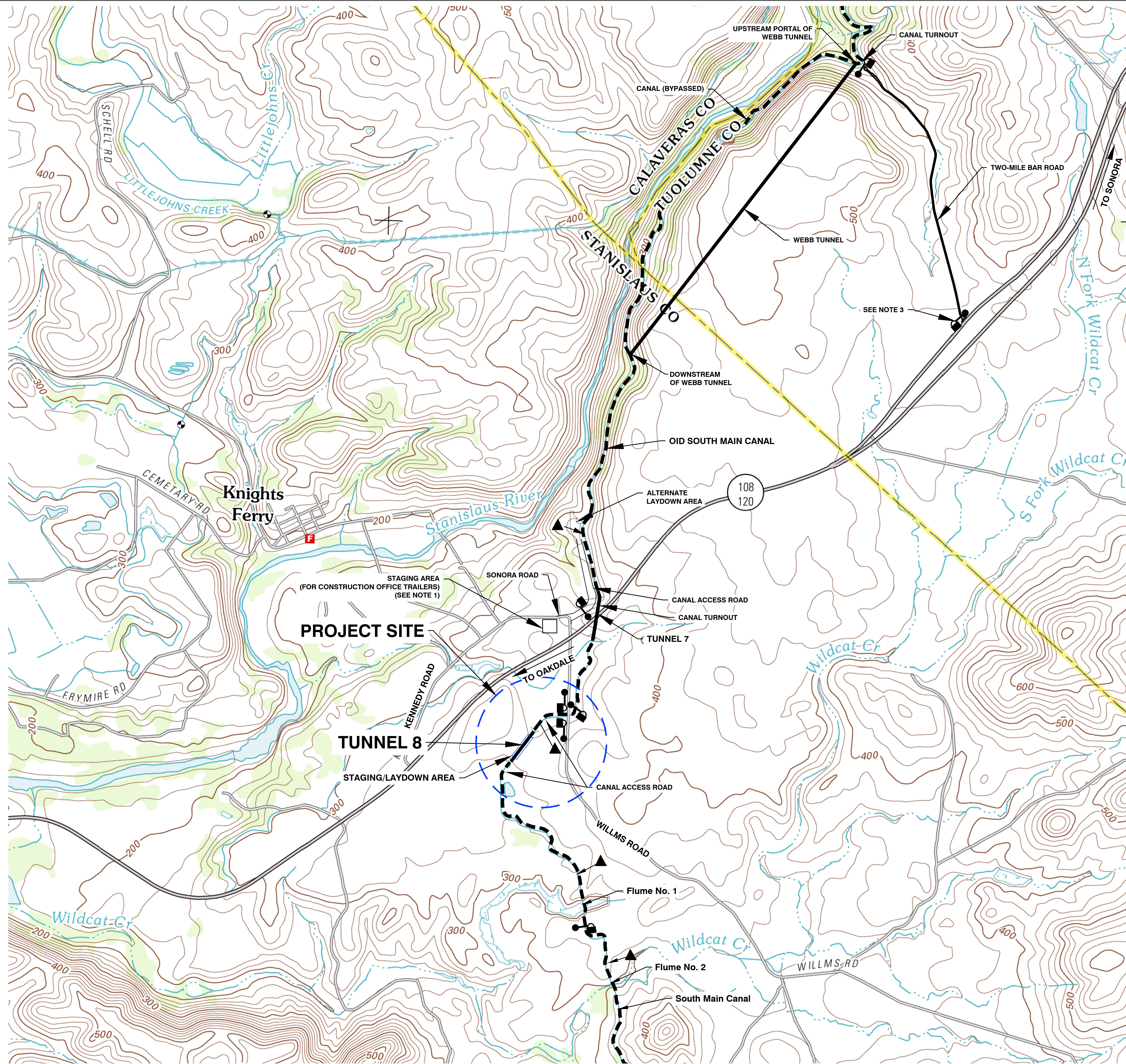
INSPECTIONS TABLE:

ITEM	TYPE (INSPECTION / TEST) BLANK IF NOT REQUIRED OR NOT APPLICABLE	DESCRIPTION (PERIODIC / CONTINUOUS INSPECTION OR TEST FREQUENCY)	GOVERNING CODE FOR SPECIAL INSPECTIONS AND TEST METHODS	NOTES
TUNNEL EXCAVATION	INSPECTION	PERIODIC		
TUNNEL LINER SHOTCRETE	INSPECTION	PROPER MIX DESIGN VERIFICATION	CBC 1705.3 ACI 318: CH.19, 26.4.3, 26.4.4	
TUNNEL LINER SHOTCRETE PLACEMENT	INSPECTION	PERIODIC - ONE PER SHIFT PER 50 CUBIC YARDS PLACED	CBC 1705.3 ACI 318:26.4.5	
TUNNEL LINER SHOTCRETE	TESTS	20 BY 20 BY 5.5-INCH PANEL PER 50 CUBIC YARDS PLACED	CBC 1705.3 IBC 1908.10 ACI 318:26.4.5, 28.12 ASTM C177, C31	
INVERT SUBGRADE	INSPECTION	PERIODIC	CBC 1705.6	
TUNNEL CONCRETE INVERT	QUALITY ASSURANCE	PROPER MIX DESIGN VERIFICATION		
TUNNEL CONCRETE INVERT/FOOTING PLACEMENT	INSPECTION	PERIODIC	CBC 1705.3 A4318: 26.4.5	



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NOTES			
		DWG	
CONDOR EARTH		1.1	
21663 Brian Lane P.O. Box 3905 Sonoma, CA 95370 (209) 532-0361 fax (209) 532-0773 www.condorearth.com		SCALE: AS SHOWN	
JOB#: 3818R	DRAWN: KGM	SCALE: AS SHOWN	FILE: 3818R_01
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LEGEND

- CANAL ACCESS RAMP
- LOCKED GATE

NOTES

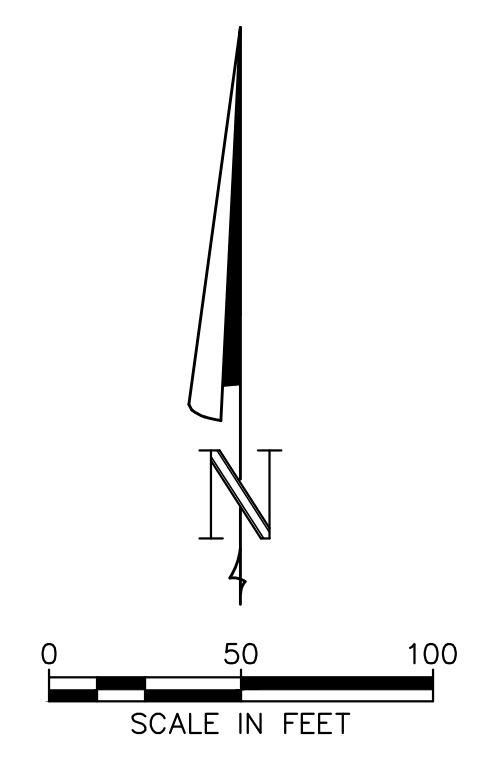
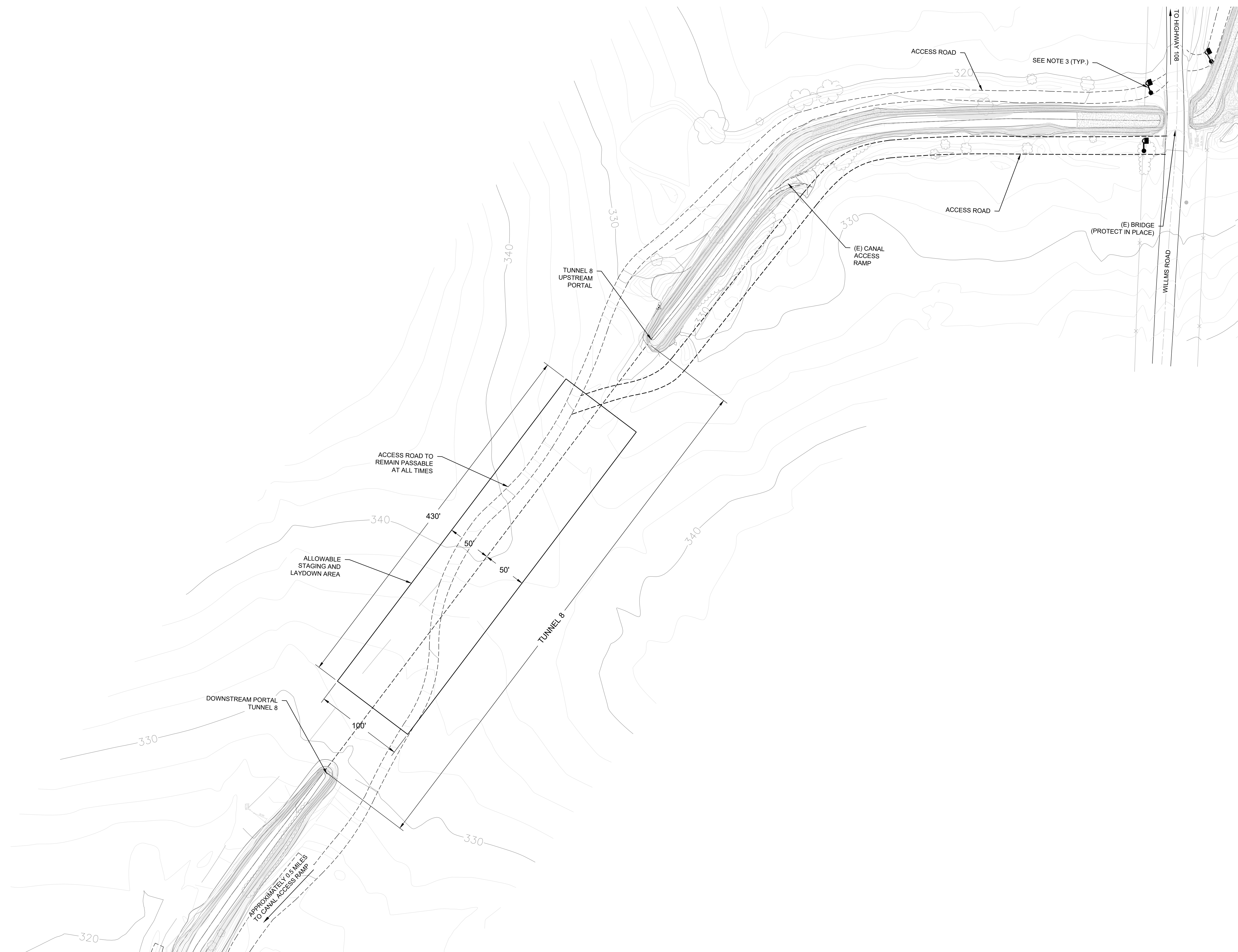
1. SONORA ROAD STAGING AREA, IF USED FOR OFFICE TRAILERS, SHALL BE IMPROVED BY CONTRACTOR BY MINOR GRADING AND PLACEMENT OF AGGREGATE BASE ROCK, IF NECESSARY. SPECIFIC IMPROVEMENTS SHALL BE CONFIRMED BY OWNER PRIOR TO CONSTRUCTION.
2. STAGING/LAYDOWN AREA AT TUNNEL 8 LIMITED TO 100-FOOT WIDE OLD RIGHT-OF-WAY; CONTRACTOR TO PROVIDE MINOR GRADING AND PLACEMENT OF AGGREGATE BASE ROCK AS NECESSARY.
3. GATE AT TWO MILE BAR ROAD LOCKED BY US ARMY CORPS OF ENGINEERS AT CERTAIN TIMES.
4. THE CANAL TURNOUTS UPSTREAM OF THE PROJECT SITE ARE LOCATED NEAR THE UPSTREAM PORTALS OF THE WEBB TUNNEL AND TUNNEL 7, AS SHOWN, MAY BE USED AT CONTRACTOR'S DISCRETION FOR STORM WATER CONVEYANCE TO THE STANISLAUS RIVER.



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			DWG
<small>21663 Brian Lane P.O. Box 3905 Sonoma, CA 95970 (709) 532-0361 fax (709) 532-0773 www.condorearth.com</small>			2.0
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SCALE:	AS SHOWN	FILE:	3818R_02

BACKGROUND IMAGE: USGS 7.5 MINUTE QUADRANGLE, KNIGHTS FERRY 2012
 DISCLAIMER: THIS PLAN REPRESENTS FEATURES FOR ILLUSTRATION PURPOSES ONLY. IT IS NOT A LEGAL SURVEY AND IS NOT INTENDED FOR USE IN DETERMINING BOUNDARIES OR DIMENSIONS. ANY USE OF THIS PLAN FOR PURPOSES OTHER THAN LOCATION OF FEATURES IS DONE SO AT THE USER'S RISK AND WITHOUT THE CONSENT OF CONDOR EARTH.

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NOTES

1. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING FACILITIES FROM DAMAGE DURING CONSTRUCTION, INCLUDING BRIDGES, ACCESS ROADS, AND CANAL ACCESS RAMPS.
2. ACTUAL LOCATION AND LIMITS OF REPAIRS TO BE VERIFIED BY ENGINEER DURING CONSTRUCTION.
3. KEEP ACCESS GATES CLOSED AND LOCKED WHEN NOT ON SITE.



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OAKDALE IRRIGATION DISTRICT

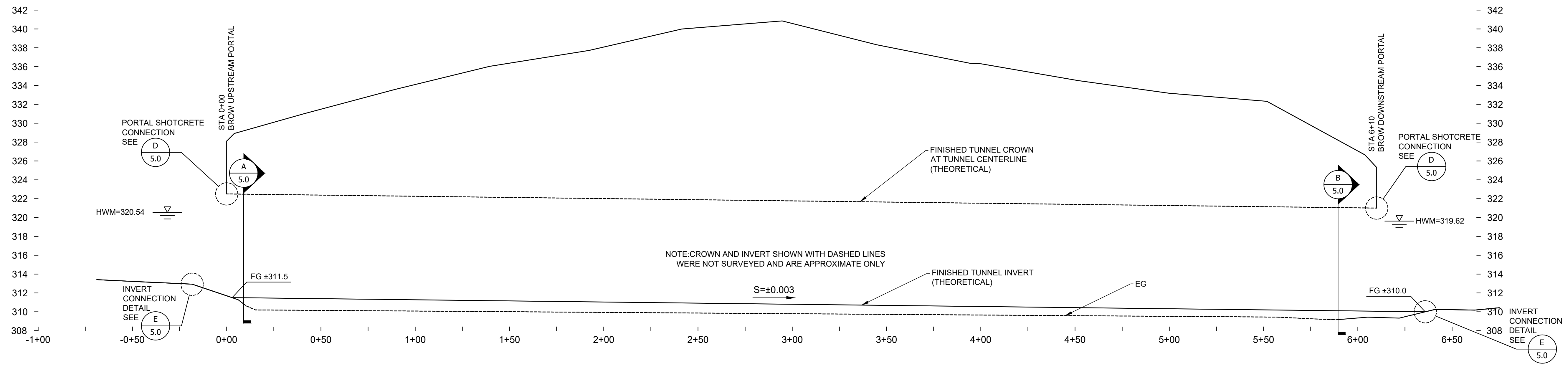
SOUTH MAIN CANAL IMPROVEMENTS
TUNNEL 8 REHABILITATION

TOPOGRAPHIC SITE PLAN
TUNNEL 8

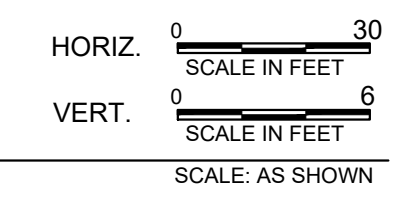
	CONDOR EARTH <small>21663 Brian Lane P.O. Box 3905 Sonoma, CA 95370 (707) 532-0361 fax (707) 532-0773 www.condorearth.com</small>	DWG 3.0
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1 TUNNEL 8 PROFILE



NOTES:

1. PREPARE EXISTING SHOTCRETE SURFACE AT TUNNEL PORTALS BY REMOVING LOOSE DEBRIS AND THOROUGHLY PRESSURE-WASHING. ENGINEER TO DETERMINE EXTENT OF PORTAL SHOTCRETE OVERLAY IN FIELD.
2. SEE DETAIL D ON SHEET 5.0 FOR PORTAL SHOTCRETE-TUNNEL LINER CONNECTION DETAIL.



A UPSTREAM PORTAL
SCALE: N.T.S.

PLACE 2-INCH FRS OVERLAY AT PORTAL - SEE NOTES 1 AND 2



B DOWNSTREAM PORTAL
TYPICAL DOWNSTREAM TUNNEL SECTION
SCALE: N.T.S.

PLACE 2-INCH FRS OVERLAY AT PORTAL - SEE NOTES 1 AND 2



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OAKDALE IRRIGATION DISTRICT

**SOUTH MAIN CANAL IMPROVEMENTS
TUNNEL 8 REHABILITATION**

**PROFILE AND PORTALS
TUNNEL 8**

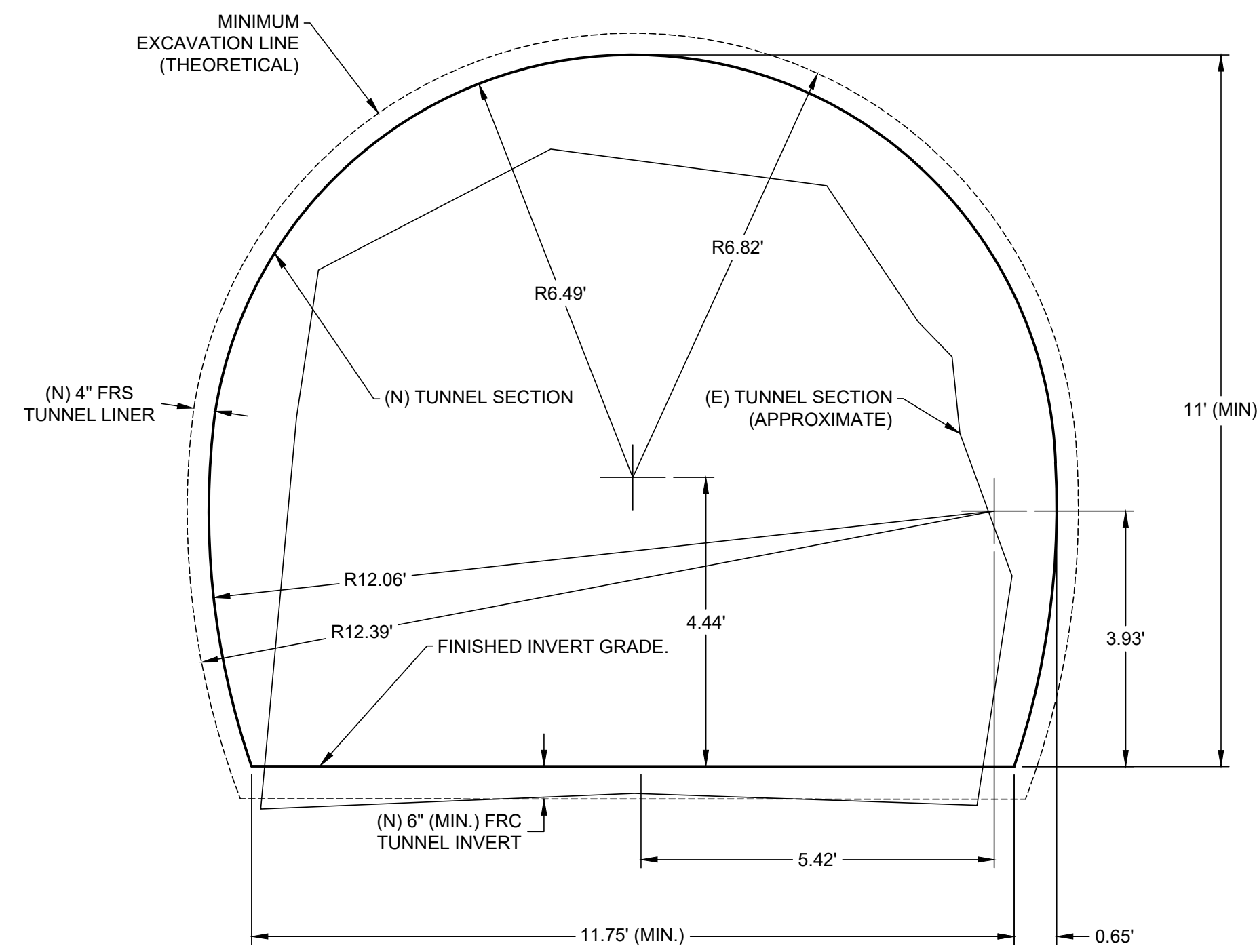
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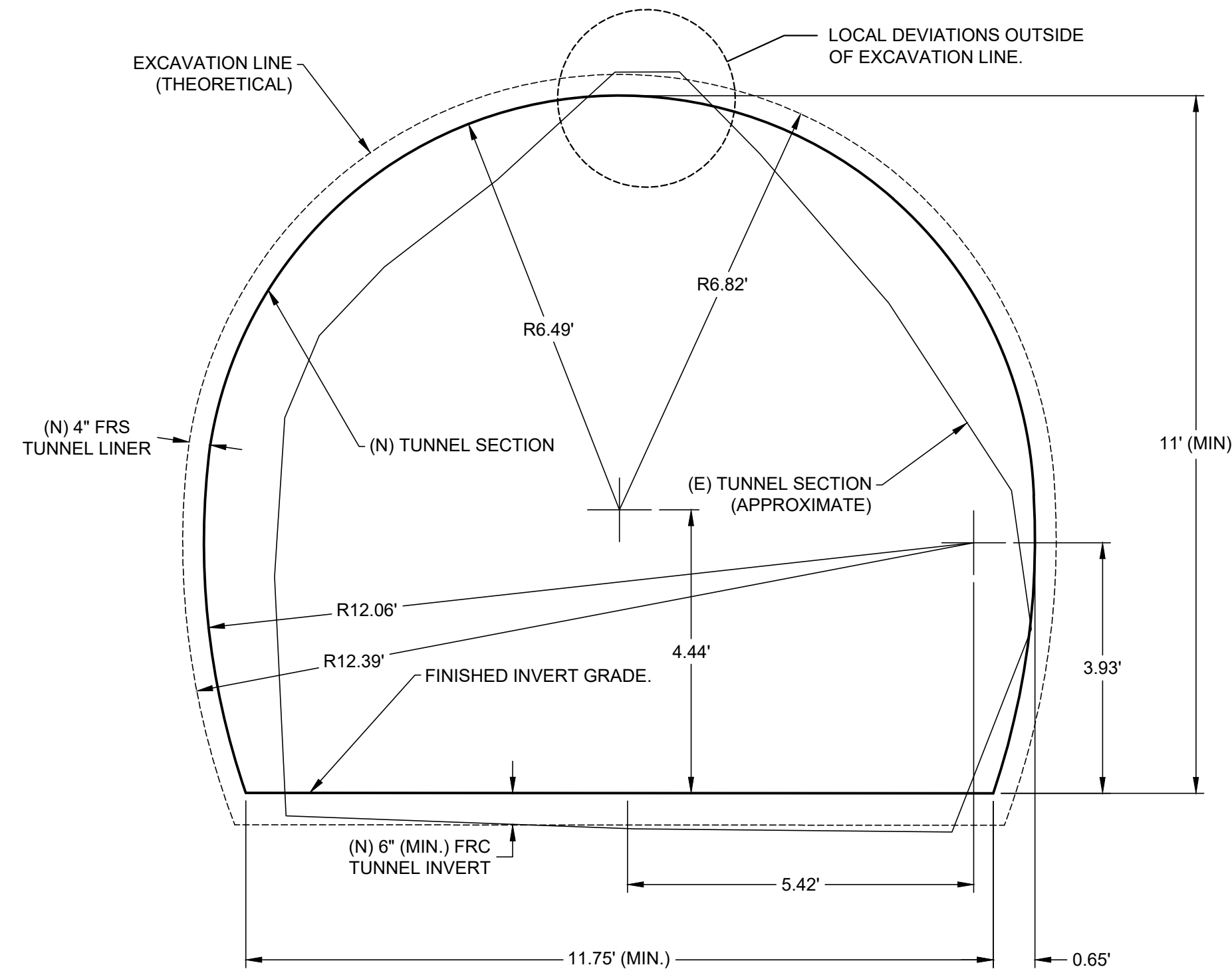
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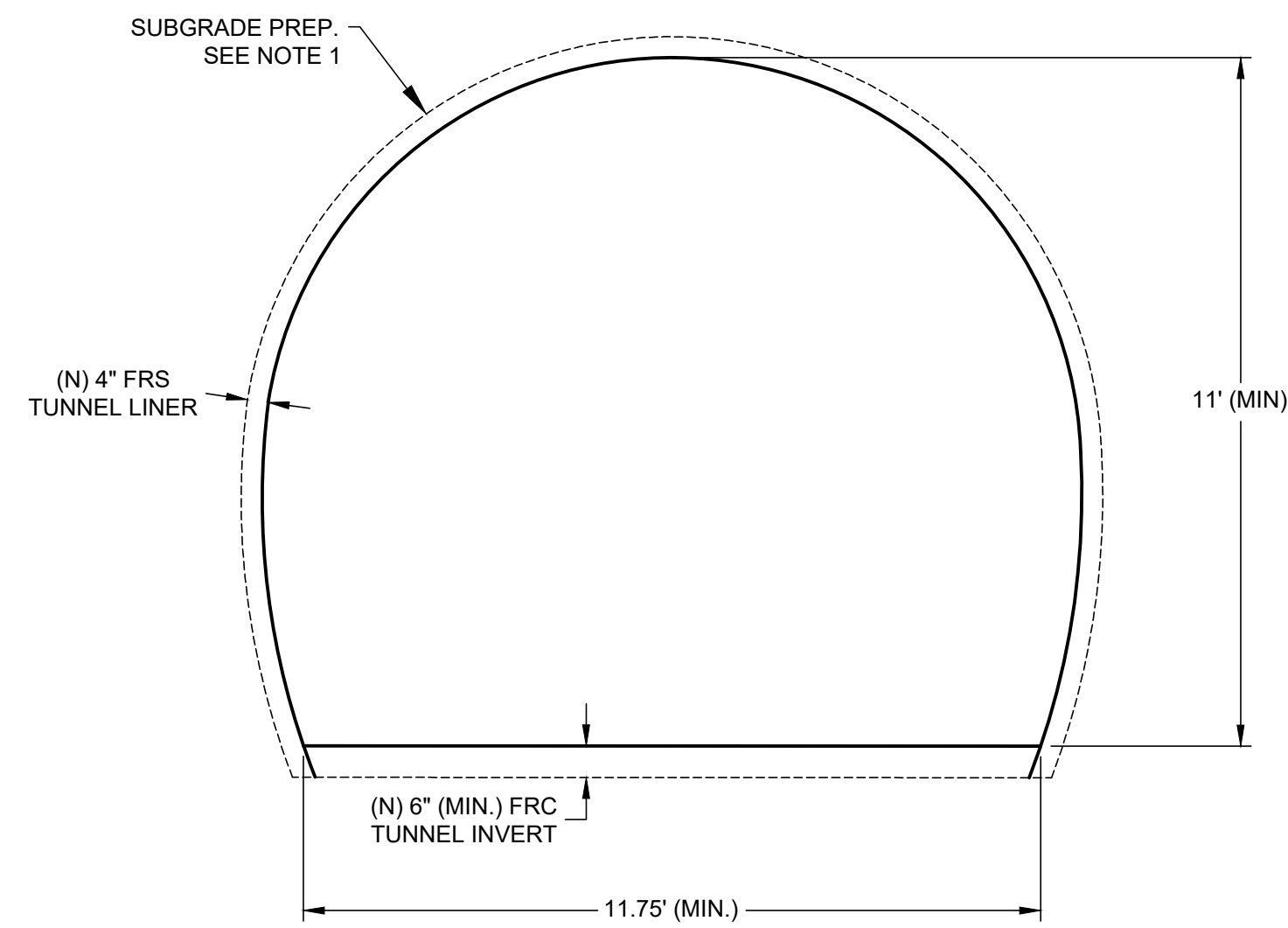
1. PREPARE SUBGRADE BY SCALING/ENLARGING THE TUNNEL SIDEWALLS, CROWN AND INVERT TO SUFFICIENT DIMENSIONS TO ACCOMMODATE TUNNEL LINER AND INVERT WITH MINIMUM DIMENSIONS SHOWN.
2. CONTRACTOR IS RESPONSIBLE FOR ADVANCING TUNNEL ENLARGING/SCALING ACTIVITIES SAFELY TO MINIMIZE OVER BREAK AND OTHER GROUND LOSS. USE OF A "FLASH COAT" OF SHOTCRETE FOR TEMPORARY SUPPORT IS PERMITTED BUT THICKNESS WILL NOT BE APPLIED TO MINIMUM STRUCTURAL LINER THICKNESS WITHOUT ENGINEER APPROVAL.
3. BACKFILL SHOTCRETE IS NOT REQUIRED FOR LOCAL DEVIATIONS FROM THE THEORETICAL EXCAVATION LINE MEASURING LESS THAN 12-INCHES BEYOND THE THEORETICAL EXCAVATION LINE. DEVIATIONS MAY RESULT FROM TUNNEL ENLARGING/SCALING ACTIVITIES, GROUND FALLOUT, OR MAY BE PRE-EXISTING. FOR LOCAL DEVIATIONS GREATER THAN 12-INCHES BEYOND THE THEORETICAL EXCAVATION LINE, THE ENGINEER IS TO DETERMINE IF BACKFILL SHOTCRETE IS NEEDED.



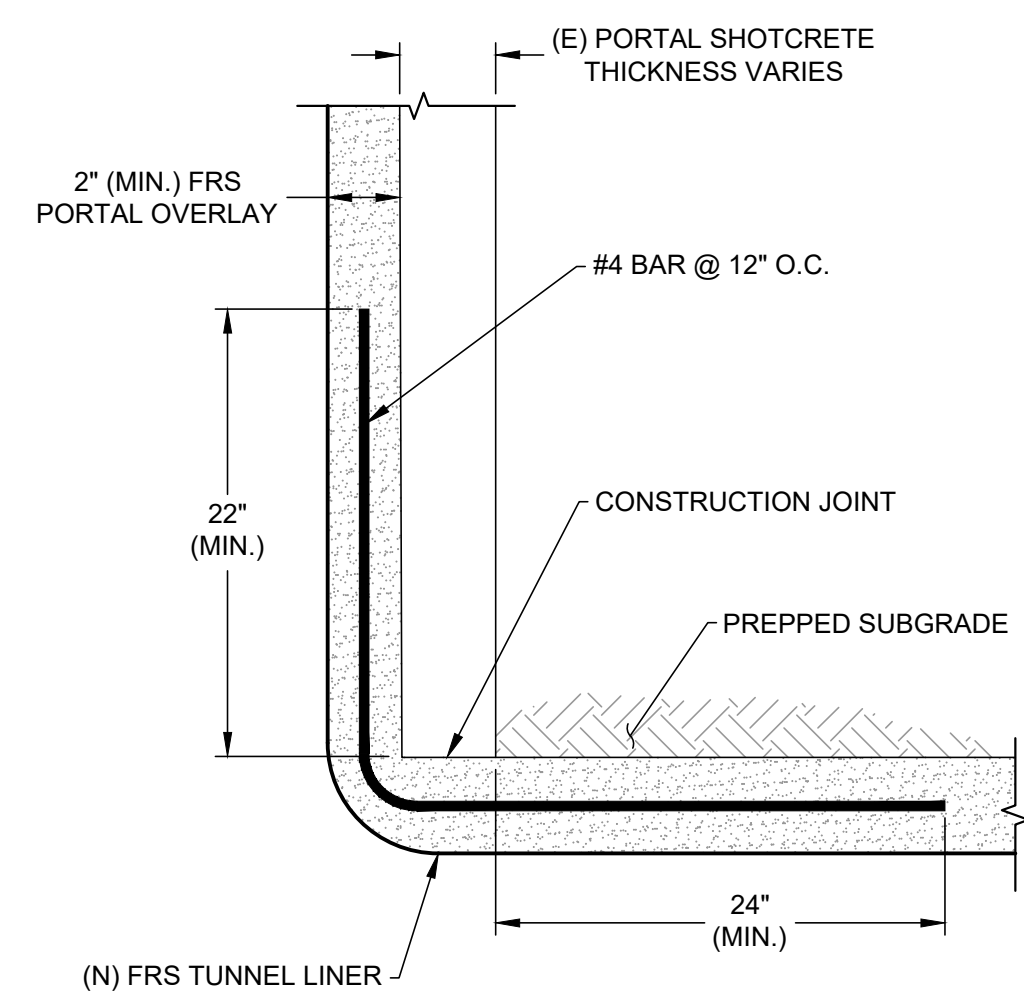
A FINISHED TUNNEL SECTION - UPSTREAM
UPSTREAM TUNNEL SECTION SCALE: AS SHOWN



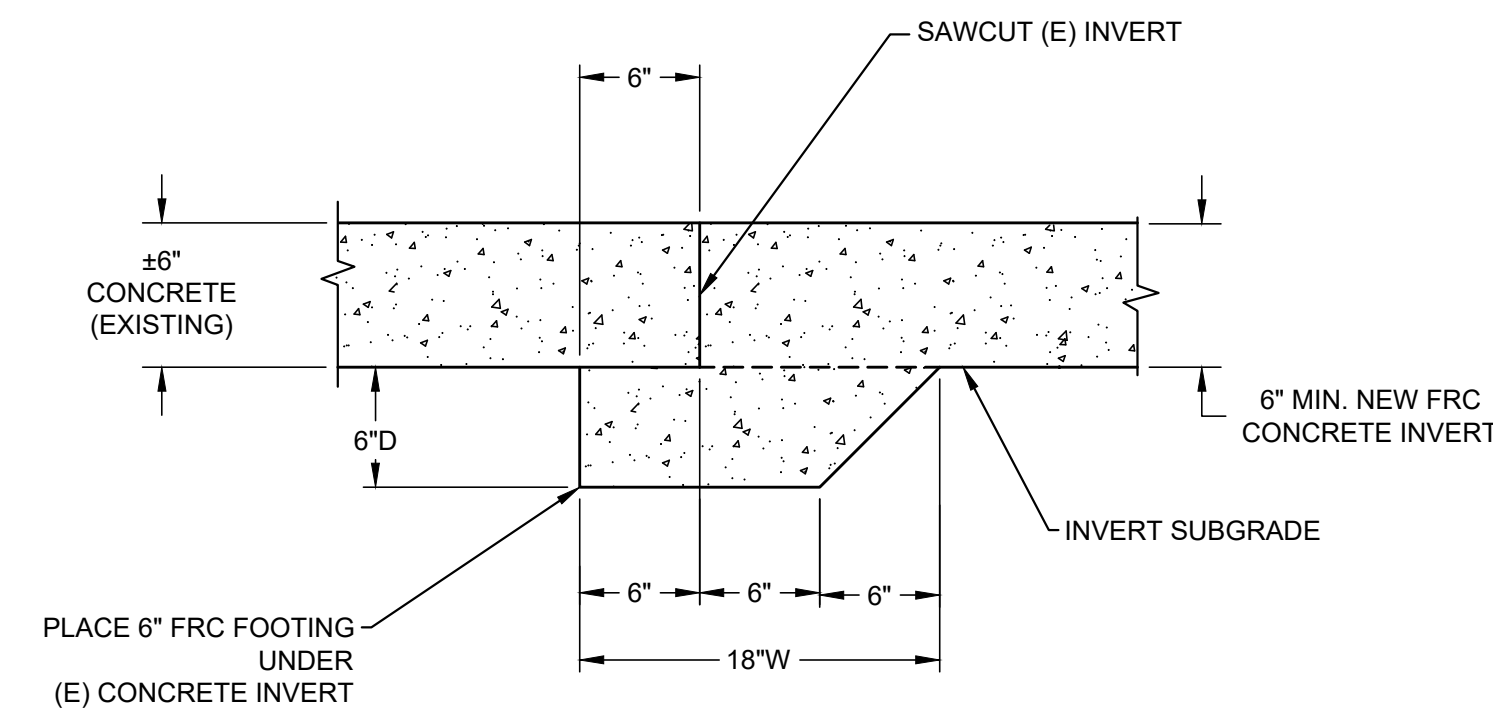
B FINISHED TUNNEL SECTION - DOWNSTREAM
DOWNSTREAM TUNNEL SECTION SCALE: AS SHOWN



C NEW TUNNEL LINER AND INVERT
TYPICAL SECTION SCALE: N.T.S.



D PORTAL SHOTCRETE CONNECTION
DETAIL PLAN AND SECTION SCALE: N.T.S.



E INVERT CONNECTION
DETAIL SCALE: N.T.S.



REV#	DATE	BY	DESCRIPTION
0	07 21 2021	ASK	FOR BIDDING

OAKDALE IRRIGATION DISTRICT

SOUTH MAIN CANAL IMPROVEMENTS
TUNNEL 8 REHABILITATION

TUNNEL AND PORTAL DETAILS

CONDOR EARTH DWG
21663 Brian Lane
P.O. Box 3905
Sonoma, CA 95370
(707) 532-0361
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CONDOR **5.0**

JOB#:	3818R	DRAWN:	KGM	SCALE:	AS SHOWN
PRINTED:		CHECKED:	KW	FILE:	3818R_05

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