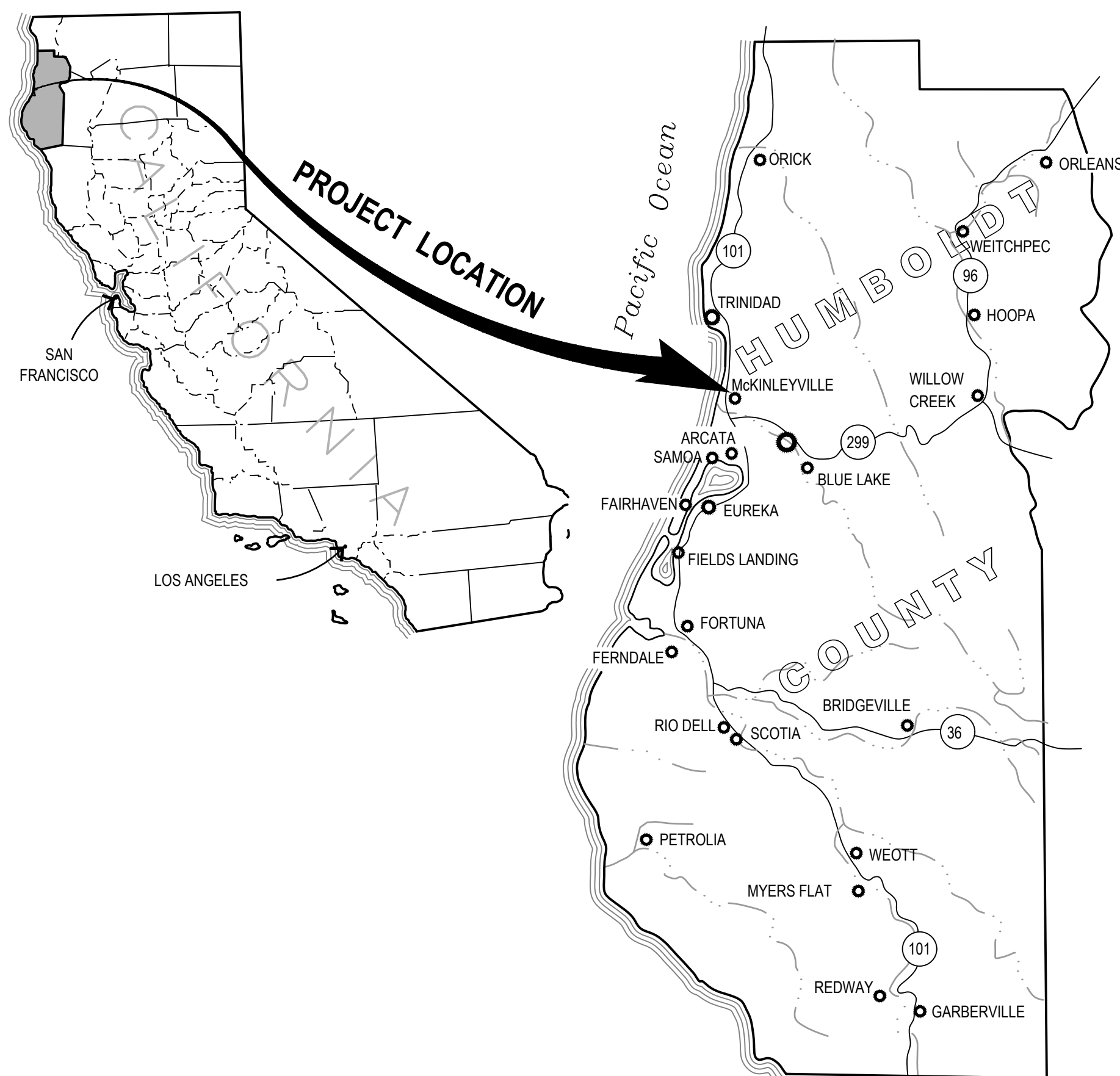


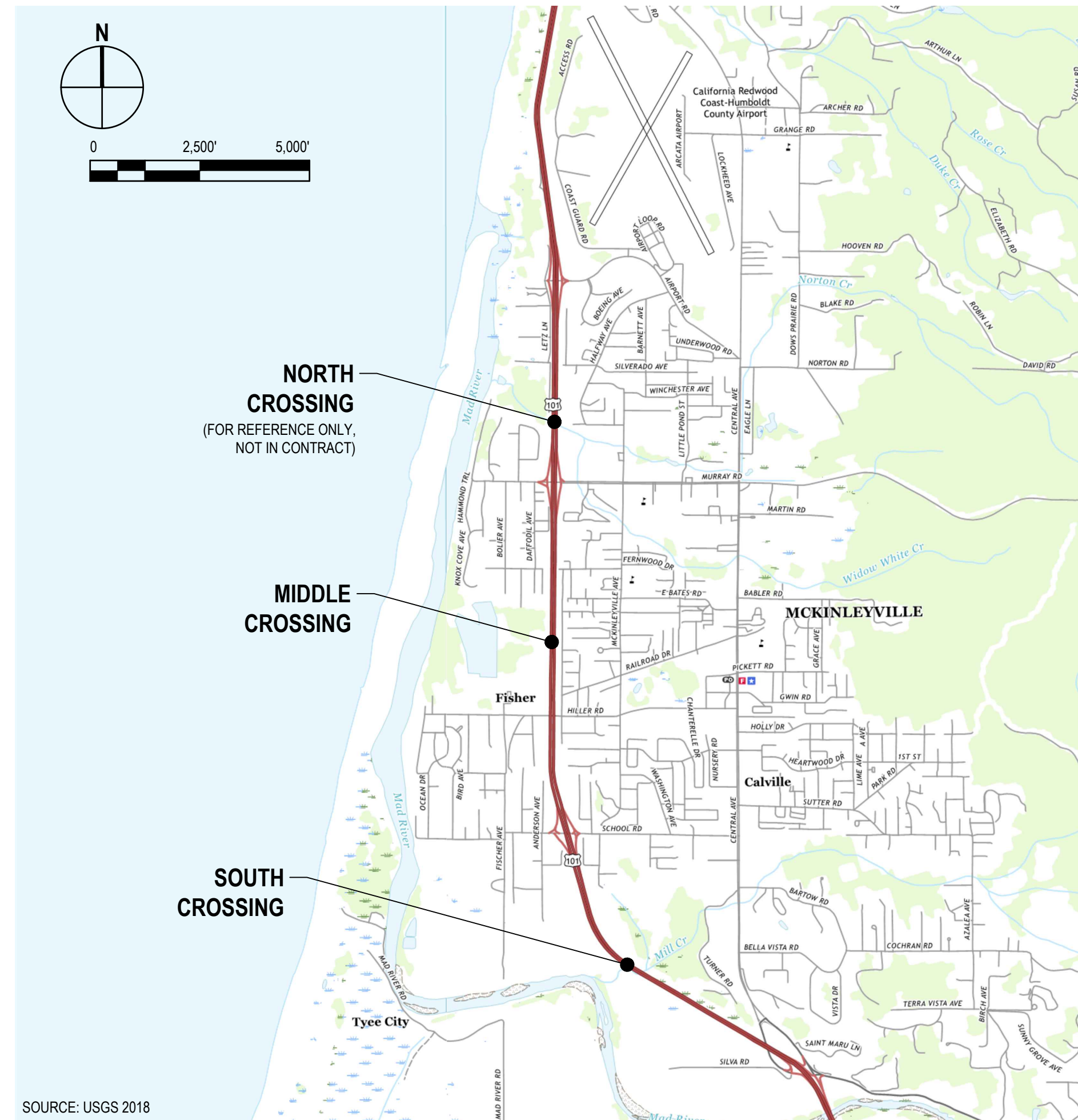
McKINLEYVILLE COMMUNITY SERVICES DISTRICT HIGHWAY SEWER CROSSING RETROFIT

APRIL 2026

AREA MAP



LOCATION MAP



PROJECT DIRECTORY

OWNER: MCKINLEYVILLE COMMUNITY SERVICES DISTRICT

PAT KASPARI, PE
GENERAL MANAGER
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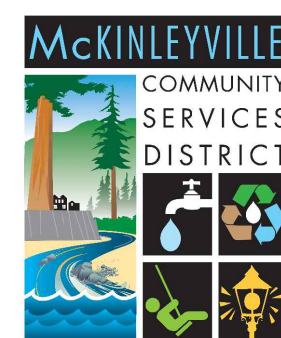
CIVIL ENGINEER: GHD INC.

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SHEET INDEX

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No.	Issue	Author	Checked	Approved	Date
0	ISSUE FOR BID	E. STOCKWELL	LH	PS	4/9/2026
		Designer	Design Check	Project Manager	Date
		R. RIOS	P. SULLIVAN	P. SULLIVAN	
				S. ALLEN	



Bar is one inch on original size sheet
0 1"



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Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Title **COVER SHEET**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Size **ANSI D**
Sheet No. **G-001** Sheet **1 of 16**

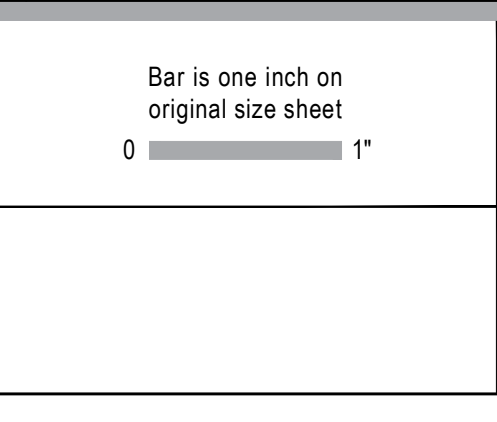
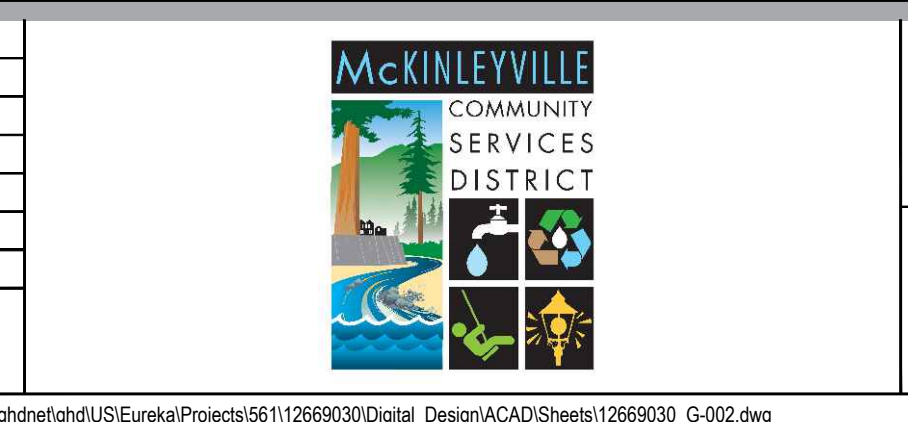
ABBREVIATIONS			
AB	ANCHOR BOLT	M	METER
AB	AGGREGATE BASE	MAX	MAXIMUM
ABND	ABANDONED	MFR	MANUFACTURER
AC	ASPHALT CONCRETE	MCSD	MCKINLEYVILLE COMMUNITY SERVICES DISTRICT
AGG	AGGREGATE	MG	MILLION GALLON
APN	ASSESSOR PARCEL NUMBER	MH	MANHOLE
ARV	AIR VACUUM RELEASE VALVE	MIN	MINIMUM
AVE	AVENUE	MISC	MISCELLANEOUS
AWWA	AMERICAN WATER WORKS ASSOCIATION	MJ	MECHANICAL JOINT
		MPBX	MULTI-POINT BOREHOLE EXTENSOMETER
B-	BORING	(N)	NEW
BC	BEGIN CURVE	N	NORTH
BF	BLIND FLANGE	NB	NORTHBOUND
BFP	BACK FLOW PREVENTER	NIC	NOT IN CONTRACT
BH	BORE HOLE	NO	NUMBER
BM	BENCH MARK	NPT	NATIONAL PIPE THREAD
BLDG	BUILDING	NTS	NOT TO SCALE
BLVD	BOULEVARD		
BO	BLOW OFF		
BOT	BOTTOM		
C	CONDUIT	OC	ON CENTERS
CB	CATCH BASIN	OD	OUTSIDE DIAMETER
CBC	CALIFORNIA BUILDING CODE	OPNG	OPENING
CI	CAST IRON	OVF	OVERFLOW
CL	CENTERLINE	PC	POINT OF CURVATURE
CLR	CLEAR, CLEARANCE	PCC	PORTLAND CONCRETE CEMENT
CO	CLEAN OUT	PE	POLYETHYLENE
CMP	CORRUGATED METAL PIPE	PI	POINT OF INTERSECTION
CONC	CONCRETE	PL	PLATE, OR PROPERTY LINE
CONT	CONTINUOUS	PLCS	PLACES
CONTD	CONTINUED	POC	POINT OF CONNECTION
COR	CORNER	PP	POWER POLE
CU	CUBIC	PRV	PRESSURE REDUCING VALVE
CV	CHECK VALVE	PSI	POUNDS PER SQUARE INCH
		PT	POINT, POINT OF TANGENCY, OR PRESSURE TREATED
		PVC	POLYVINYL CHLORIDE PLASTIC PIPE
d	PENNY (NAIL SIZE)	R	RADIUS
DIA, Ø	DIAMETER	RC	RELATIVE COMPACTION
DTL	DETAIL	RCP	REINFORCED CONCRETE PIPE
DI	DROP (DRAINAGE) INLET, OR DUCTILE IRON	RCBC	REINFORCED CONCRETE BOX CULVERT
DIPS	DUCTILE IRON PIPE SIZE	RD	ROAD
DR	DRIVE, DIMENSION RATIO	REQD	REQUIRED
DWG	DRAWING	REQT	REQUIREMENT
DYLT	DAYLIGHT	RPP	REDUCED PRESSURE PRINCIPAL
(E)	EXISTING	RT	RIGHT
E	EAST, OR EASTING	R/W, ROW	RIGHT OF WAY
EA	EACH		
EC	END CURVE	S	SLOPE
EF	EACH FACE	SAT	SATURATED
EP	EDGE OF PAVEMENT	SB	SOUTHBOUND
EQ	EQUAL	SCH, SCHED	SCHEDULE
ER	EDGE ROAD	SD	STORM DRAIN
EL/ELEV	ELEVATION	SDCB	STORM DRAIN CATCH BASIN
ELEC	ELECTRIC, OR ELECTRICAL	SDMH	STORM DRAIN MANHOLE
ENGR	ENGINEER	SDR	STANDARD DIMENSION RATIO
ETW	EDGE OF TRAVEL WAY	SHT	SHEET
EW	EACH WAY	SIM	SIMILAR
(F)	FUTURE	SMP	SETTLEMENT MONITORING POINT
FIN	FINISH	SO	SOUTH
FF	FINISH FLOOR	SOE	SUPPORT OF EXCAVATION
FG	FINISH GRADE	SS	SANITARY SEWER
FH	FIRE HYDRANT	SSCO	SANITARY SEWER CLEAN OUT
FL	FLOW LINE	SSFM	SANITARY SEWER FORCE MAIN
FLG	FLANGE	SSMH	SANITARY SEWER MANHOLE
FLR	FLOOR	STA	STATION
FM	FORCE MAIN	STD	STANDARD
FO	FIBER OPTIC	STL	STEEL
FP	FIRE PROTECTION		
FPVC	FUSIBLE PVC	TC	TOP OF CURB
FS	FINISHED SURFACE	T, TEL	TELEPHONE
FT	FOOT, OR FEET	THK	THICK
FTG	FOOTING	TG	TOP OF GRATE
		TS	TOP OF SLAB
G	GAS LINE	TW	TOP OF WALL
GAL	GALLON	TYP	TYPICAL
GALV	GALVANIZED		
GR	GRADE	UBC	UNIFORM BUILDING CODE
GRD	GROUND	UNO	UNLESS NOTED OTHERWISE
GV	GATE VALVE	UP	UTILITY POLE
		V	VOLT(S)
HAB	HORIZONTAL AUGER BORING	VERT	VERTICAL
HDPE	HIGH-DENSITY POLYETHYLENE	VWPZ	VIBRATING WIRE PIEZOMETER
HORZ	HORIZONTAL		
HPG	HIGH PRESSURE GAS	W/	WITH
HPNS	HIGH PRESSURE NATURAL GAS	W	WATER
HRS	HOURS	WD	WIDE
HWY	HIGHWAY	WWTP	WASTEWATER TREATMENT PLANT
IE	INVERT ELEVATION	XING	CROSSING
IN	INCH		
INC	INCLINOMETER	YD	YARD
INV	INVERT		
IP	IRON PIPE	&	AND
IRR	IRRIGATION	@	AT
JCT	JUNCTION	°	DEGREE
JP	JUNCTION POLE (UTILITY)	Ø	DIAMETER
JT	JOINT TRENCH	'	FEET
		"	INCHES
L	LENGTH	#	NUMBER
LAT	LATERAL	±	PLUS OR MINUS
LF	LINEAR FEET		
LS	LIFT STATION		
LT	LEFT		
		NOTE:	CONTACT ENGINEER FOR ABBREVIATIONS NOT LISTED.

PLAN SYMBOLS		
SITE/TOPOGRAPHIC		UTILITY
NEW	EXISTING	DESCRIPTION
■	■	AREA OF POTENTIAL EFFECT
—	---	RIGHT OF WAY CENTERLINE
---	---	RIGHT OF WAY LINES AND PROPERTY LINES
---	---	APPROX PROPERTY LINES
---	---	EASEMENT LINES
× × × × × × × ×	× × × × × × × ×	FENCE
---	---	EDGES OF ASPHALT PAVEMENT
40	---	CONTOUR LINE
---	---	TOP OF BANK
---	---	FLOW LINE
---	---	BRUSH/VEGETATION LINE
○	○	TREE
△	△	SIGN
△	△	SURVEY CONTROL POINT
○	○	FOUND RECORD SURVEY MONUMENT
SS	SS	SANITARY SEWER LINE (SIZE & TYPE AS NOTED)
▨	▨	SANITARY SEWER CASING
---	SSFM	SANITARY SEWER FORCE MAIN (SIZE & TYPE AS NOTED)
---	W	WATER LINE (SIZE & TYPE AS NOTED)
---	JT	UNDERGROUND JOINT UTILITY TRENCH
---	SD	STORM DRAIN CULVERT (SIZE & TYPE AS NOTED)
	□	STORM DRAINAGE INLET/ CATCH BASIN
	○	SANITARY SEWER MANHOLE
	○	FIRE HYDRANT

BIOLOGICAL PLAN SYMBOLS	
+	WETLAND
▨	COASTAL WILLOW
+	RED ALDER
▨	SITKA SPRUCE

GENERAL SHEET SYMBOLS	
1	KEYNOTE
1	DEMOLITION NOTE
1	DETAIL INDICATOR
1	DETAIL OR SECTION NUMBER
1	TITLE SCALE
1	SHEET ON WHICH DETAIL OR SECTION APPEARS
1	SECTION NUMBER
1	SECTION INDICATOR
1	SHEET ON WHICH SECTION APPEARS

0	ISSUE FOR BID	LH	PS	4/9/2026
No.	Issue	Checked	Approved	Date
Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager
Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director
			S. ALLEN	



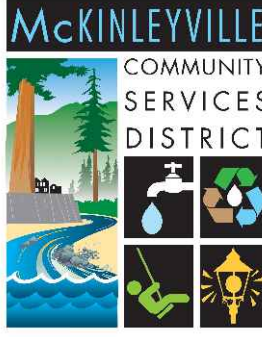




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Client	MCKINLEYVILLE COMMUNITY SERVICES DISTRICT
Project	HIGHWAY SEWER CROSSING RETROFIT
Project No.	12669030
Date	4/9/2026
Scale	AS SHOWN

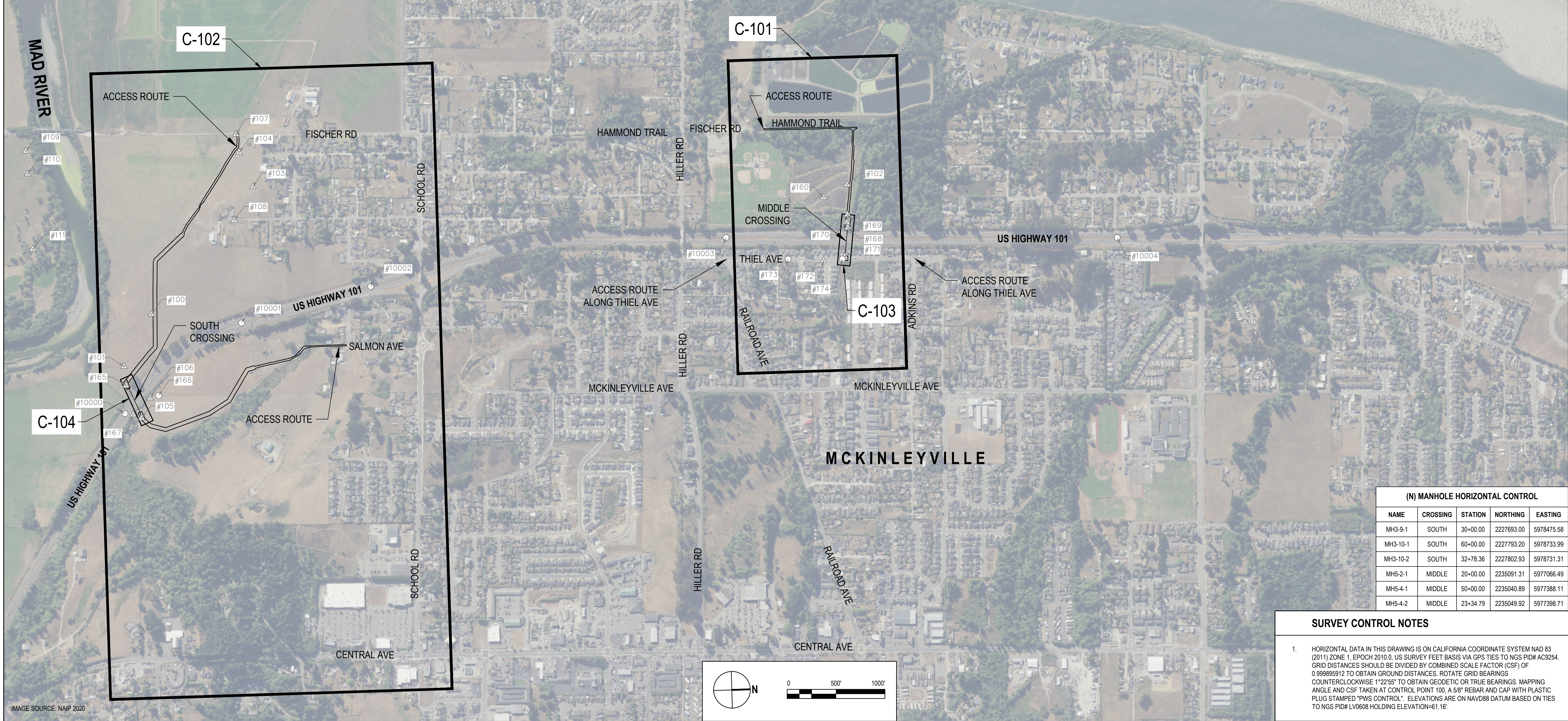
Title	ABBREVIATIONS, SYMBOLS, AND SHEET INDEX
Sheet No.	G-002
Sheet	2 of 16

GENERAL NOTES	UTILITY NOTES	VEGETATION PROTECTION AND RESTORATION NOTES	TRAFFIC CONTROL NOTES
<ol style="list-style-type: none"> PROJECT REQUIRES A CLASS A GENERAL ENGINEERING CONTRACTOR'S LICENSE IN THE STATE OF CALIFORNIA. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING. IT IS EXPECTED THAT THE ACTUAL LOCATION OF EXISTING UTILITIES MAY VARY FROM THAT SHOWN ON THE PLANS. CONTRACTOR SHALL POTHOLE AND LOCATE ALL EXISTING UTILITIES. VARIATIONS IN LOCATION AND DEPTH SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY SO THAT THE LOCATION OF UTILITIES MAY BE CHECKED WITH THE PROPOSED DESIGN. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT PRIOR TO WORK COMMENCING FOR ANY EXCAVATION OR POTHOLING. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PIPE JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER DRAINAGE SLOPES FROM EXISTING TIE IN POINTS. REPORT DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION. THE DESIGN FEATURES INCLUDING HORIZONTAL AND VERTICAL ALIGNMENTS, TYPICAL SECTIONS, APPROACHES, AND OTHER DESIGN DETAILS SHOWN ON THESE DESIGN PLANS SHALL NOT BE ALTERED OR MODIFIED IN ANY WAY DURING CONSTRUCTION WITHOUT THE EXPRESSED, WRITTEN DIRECTION AND APPROVAL OF THE ENGINEER. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA AND THE EXISTING ACCESS ROAD FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION. CONTRACTOR TO MAINTAIN TRAFFIC (VEHICULAR AND PEDESTRIAN) ACCESS TO ALL AREAS OF PUBLIC RIGHT-OF-WAY AT ALL TIMES. CONTRACTOR TO COORDINATE ANY PROPOSED SHUT DOWNS WITH OWNER. CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER TO COORDINATE WITH THE OWNER'S REPRESENTATIVE TO HAVE THE OPPORTUNITY TO BE PRESENT DURING ANY GROUND DISTURBING ACTIVITIES. IN THE EVENT CULTURAL RESOURCES (I.E., HISTORICAL, ARCHAEOLOGICAL, AND PALEONTOLOGICAL RESOURCES, AND HUMAN REMAINS) ARE DISCOVERED DURING GRADING OR OTHER CONSTRUCTION ACTIVITIES, WORK SHALL BE HALTED WITHIN A 100 FOOT RADIUS OF THE FIND. A QUALIFIED ARCHEOLOGIST SHALL BE CONSULTED FOR AN ON-SITE EVALUATION. ADDITIONAL MITIGATION MAY BE REQUIRED BY THE COUNTY PER THE ARCHEOLOGISTS RECOMMENDATIONS. IF HUMAN BURIALS OR HUMAN REMAINS ARE ENCOUNTERED, THE CONTRACTOR SHALL ALSO NOTIFY THE COUNTY CORONER. MATERIAL NOT SUITABLE FOR REUSE SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND EXPENSE FOR LEGAL DISPOSAL OF ALL MATERIALS TAKEN FROM SITE. CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER TWO (2) WEEKS PRIOR TO ANY CONSTRUCTION ACTIVITIES SO THAT THE OWNER-SUPPLIED BIOLOGICAL MONITOR CAN SURVEY THE AREA FOR MIGRATORY NESTING BIRDS. 	<ol style="list-style-type: none"> LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM INFORMATION AVAILABLE AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR. SEE GENERAL NOTES 2 AND 3. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 72 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES. CONTRACTOR SHALL COORDINATE THE UTILITY LOCATE WITH THE OWNER FOR ALL UTILITY WORK. INFORM OWNER IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR POTHOLING ALONG THE ALIGNMENTS OF ALL NEW UTILITIES TO IDENTIFY POTENTIAL UTILITY CONFLICTS, SOILS CONDITIONS, AND TIE-IN POINTS. CONTRACTOR RESPONSIBLE FOR MAKING ADJUSTMENTS IN ALIGNMENTS TO ACCOMMODATE ACTUAL FIELD CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA PLUMBING CODE (CPC). ALL BURIED LINES TO HAVE 36 INCHES MINIMUM COVER, UNLESS NOTED OTHERWISE. SEE TRENCH DETAIL SHEET C-501. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED. CONFIRM ALL UTILITY VALVE VAULTS, VALVES, METERS, BACKFLOW PREVENTION ASSEMBLIES, AND OTHER PUBLIC UTILITY APPURTENANCES IN THE RIGHT-OF-WAY WITH THE UTILITY OWNERS. PROVIDE POLYETHYLENE ENCASUREMENT FOR ALL BURIED DUCTILE IRON PIPE PER AWWA C105. ALL BOLTS USED FOR UNDERGROUND CONNECTIONS SHALL BE 204 STAINLESS STEEL. ALL CORROSION PROTECTION SHALL BE IN PLACE. ALL BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION, AND WRAPPED IN PLASTIC. CONTRACTOR TO VERIFY SIZE, TYPE, AND LOCATION OF ALL INTERCONNECTIONS AND PROVIDE COUPLERS AND TRANSITION FITTINGS AS NECESSARY. CONTRACTOR MAY PROPOSE ALTERNATIVE FITTING TYPES AND CONFIGURATIONS FOR APPROVAL BY ENGINEER. CONTRACTOR SHALL MAINTAIN UTILITY MINIMUM WATER AND SEWER HORIZONTAL AND VERTICAL SEPARATIONS AS REQUIRED BY CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64572, WATER MAIN SEPARATION. 	<ol style="list-style-type: none"> NO CUTTING OF ANY PART OF TREES, INCLUDING ROOTS, SHALL BE DONE OUTSIDE LIMITS OF DISTURBANCE WITHOUT SECURING APPROVAL FROM ENGINEER AND OWNER. DISPOSAL OF TREES SHALL NOT INCLUDE SALE, BARTER, TRADE, OR EXCHANGE BY THE OWNER, THE OWNER'S CONTRACTOR, OR ANY SUCCESSORS. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE MINIMUM AMOUNT OF TREES REQUIRED TO CONSTRUCT THE PROJECT. WHEN CONSTRUCTION OCCURS WITHIN DRIP LINE ON EXISTING TREES, CONTRACTOR IS TO PILE THE SOIL ON THE SIDE AWAY FROM THE TREE. WHEN THIS IS NOT POSSIBLE, PLACE SOIL ON PLYWOOD, A TARP, OR THICK BED OF MULCH. THIS IS TO HELP PREVENT CUTTING INTO THE SOIL SURFACE WHEN THE BACKHOE OR TRACTOR BLADE REFILLS THE TRENCH. REFILL OPEN TRENCHES QUICKLY WITHIN HOURS OF EXCAVATION WHEN THEY OCCUR WITHIN THE DRIP LINE OF EXISTING TREES. IF THIS IS NOT POSSIBLE AND WEATHER IS HOT, DRY, OR WINDY, CONTRACTOR MUST KEEP ROOT ENDS MOIST BY COVERING THEM WITH WET BURLAP. IF TEMPERATURE IS 80°F OR GREATER, THE BURLAP MUST BE INSPECTED EVERY HOUR AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. IF TEMPERATURE IS BELOW 80°, THE BURLAP MUST BE INSPECTED EVERY FOUR HOURS AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. SMALL ROOTS CAN DRY OUT AND DIE IN 10-15 MINUTES. LARGER ROOTS CAN SUCCUMB IN AN HOUR OR LESS UNDER UNFAVORABLE WEATHER CONDITIONS. WHEN ROOTS 2" OR LARGER MUST BE CUT, SHOVEL BY HAND NEAR THE ROOTS AND SAW THE ROOTS. ACCIDENTALLY BROKEN ROOTS SHOULD BE SAWED A COUPLE OF INCHES BEHIND THE RAGGED END. CRUSHED OR TORN ROOTS ARE MORE LIKELY TO ALLOW DECAY TO BEGIN; SHARPLY CUT ROOTS PRODUCE A FLUSH OF NEW ROOTS HELPING THE TREE TO RECOVER FROM ITS INJURY. MATERIALS, EQUIPMENT, TEMPORARY BUILDINGS, FUELS, PAINTS AND OTHER CONSTRUCTION ITEMS ARE NOT TO BE PLACED WITHIN THE DRIP LINE OF EXISTING TREES. GRADING SHOULD NOT CREATE DRAINAGE PROBLEMS FOR TREES BY CHANNELING WATER INTO THEM, OR CREATING SUNKEN AREAS. LANDSCAPING THAT IS REMOVED TO FACILITATE CONSTRUCTION SHALL BE REPLACED IN KIND. 	<ol style="list-style-type: none"> THE CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN FOR ALL WORK AREAS WITHIN ROADWAY, AND SHALL SUBMIT THE PLAN TO THE ENGINEER FOR APPROVAL AT THE PRECONSTRUCTION MEETING. THE TRAFFIC CONTROL PLAN SHALL COMPLY WITH ALL REQUIRED PERMITS (INCLUDING STATE AND COUNTY ENCROACHMENT PERMITS) AND OTHER GUIDELINES LISTED ON THESE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL KEEP ONE LANE OF TRAFFIC OPEN THROUGH THE WORK AREA AT ALL TIMES. NO LANE CLOSURES IN STATE HIGHWAY RIGHT-OF-WAY ARE ALLOWED. THE CONTRACTOR SHALL COORDINATE WITH ALL PROPERTY OWNERS POTENTIALLY AFFECTED BY CONTRACTOR'S CONSTRUCTION PLANS. TRAFFIC CONTROL PLAN SHALL SHOW HOW ACCESS TO THE PROPERTIES WILL BE MAINTAINED THROUGHOUT THE PROJECT. CONTRACTOR SHALL CONDUCT OPERATION AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND SHALL HAVE UNDER CONSTRUCTION NO GREATER AMOUNT OF WORK THAN CAN PROSECUTE PROPERLY WITH DUE RESPECT TO THE RIGHTS OF THE PUBLIC. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED PARTIES 72-HOURS PRIOR TO ANY AUTHORIZED LANE OR DRIVEWAY CLOSURES. WORK SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO PROVIDE ACCESS TO ALL INTERSECTING STREETS AND ADJACENT PROPERTIES WHENEVER POSSIBLE. ACCESS TO PRIVATE PROPERTY SHALL BE MAINTAINED AT ALL TIMES TO THE EXTENT PRACTICABLE. ANY ACCESS RESTRICTIONS SHALL BE APPROVED IN ADVANCE BY THE ENGINEER. NO FULL ROAD CLOSURES WILL BE ALLOWED. THE CONTRACTOR SHALL BE PREPARED TO REMOVE CLOSURES AND PROVIDE EMERGENCY VEHICLE ACCESS AT ALL TIMES. THE CONTRACTOR WILL NOT BE ENTITLED TO COMPENSATION FOR THE DELAYS OF WORK RESULTING FROM A CLOSURE NEEDING TO BE OPENED IN ORDER TO PROVIDE EMERGENCY VEHICLE ACCESS. ANY ACCESS RESTRICTIONS SHALL BE APPROVED IN ADVANCE BY THE ENGINEER.
			MCKINLEYVILLE COMMUNITY SERVICES DISTRICT NOTES
			<ol style="list-style-type: none"> CONTRACTOR TO NOTIFY ADJACENT PROPERTY OWNERS 72 HRS PRIOR TO START OF WORK. CONTRACTOR TO NOTIFY MCDSD 72 HRS PRIOR TO WORK IMPACTING SEWER PIPELINE. CONTRACTOR TO COORDINATE ENTRY ACCESS WITH LANDOWNERS 7 DAYS PRIOR TO TO START OF WORK.
GRADING NOTES			
<ol style="list-style-type: none"> THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL TOPOGRAPHIC DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFIRMATION TO DESIGN PRIOR TO CONSTRUCTION. THE NATURE AND EXTENT OF STAKING SHALL BE AS PER CONTRACTOR'S MEANS AND METHODS. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH, DEBRIS REMOVED, RESEEDDED AND RETURNED TO ORIGINAL EXISTING CONDITIONS. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE. 	HAZARDOUS MATERIAL NOTES		
			TEMPORARY SEWER BYPASS PUMPING NOTES
			<ol style="list-style-type: none"> CONSTRUCTION UNDER THIS CONTRACT INVOLVES WORK AT AN EXISTING SANITARY SEWER COLLECTION SYSTEM, WHICH MUST CONTINUE TO OPERATE AT ALL TIMES. THE CONTRACTOR SHALL PREPARE DETAILED TEMPORARY BYPASS PUMPING PLANS, AND SHALL SUBMIT THE PLANS TO THE ENGINEER FOR APPROVAL, PER SPECIFICATION SECTION 01 55 60. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING AT LEAST 72 HOURS IN ADVANCE OF ANY REQUIRED SHUT DOWN. IN GENERAL, THE CONTRACTOR SHALL MAINTAIN FLOWS AT ALL TIMES. SEE SHEETS C-105 THROUGH C-106 FOR PROPOSED BYPASS PLANS.
SURVEY NOTES	GEOTECHNICAL NOTES		
<ol style="list-style-type: none"> ORIGINAL TOPOGRAPHIC SURVEY WAS PERFORMED BY POINTS WEST SURVEYING CO., DATED NOVEMBER 2020. AERIAL IMAGERY FROM MCKINLEYVILLE CSD, DATED 2019, UNLESS NOTED OTHERWISE, AND IS PROVIDED FOR REFERENCE ONLY. SEE SURVEY CONTROL NOTES ON SHEET G-004. SUPPLEMENTAL MANHOLE DATA BASED ON MCKINLEYVILLE CSD GIS DATA AND ADJUSTED TO SURVEY DATUM, AND ARE APPROXIMATE. CONTRACTOR TO VERIFY. 	TUNNELING NOTES		
			CONSTRUCTION SEQUENCING NOTES
			<ol style="list-style-type: none"> THE WORK SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. THE CONTRACTOR MAY PROPOSE OTHER METHODS OR MODIFICATIONS TO THE WORK SEQUENCE. ANY ALTERNATIVE METHOD OR SEQUENCE PROPOSED BY THE CONTRACTOR IS SUBJECT TO APPROVAL BY THE OWNER. THE FOLLOWING PROPOSED SEQUENCE OF WORK IS NOT A COMPREHENSIVE LIST OF THE WORK INCLUDED IN THE PROJECT. CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR THE SCOPE OF WORK FOR THE PROJECT. <ol style="list-style-type: none"> WORK SHALL PROCEED AS FOLLOWS, UNLESS A CHANGE IS FORMALLY AGREED UPON WITH THE OWNER: <ol style="list-style-type: none"> MIDDLE CROSSING SOUTH CROSSING FOR EACH CROSSING WORK AREA: <ol style="list-style-type: none"> VEGETATION REMOVAL, ACCESS ROAD STABILIZATION, AND WATERCOURSE PROTECTION WHERE SPECIFIED. UTILITY PROTECTION POTHOLE EXISTING UTILITIES INSTALL SETTLEMENT MONITORING SYSTEM INSTALL NEW CROSSING, INCLUDING TEMPORARY BYPASS PUMPING. SEE BYPASS PLANS ON SHEETS C-105 TO C-106 FOR DETAILED SEQUENCE OF NEW WORK.

		<p>Bar is one inch on original size sheet</p> 		 <p>GHD Inc. 718 Third Street Eureka California 95501 USA T 1 707 443 8326</p>	 <p>www.ghd.com</p>	<p>MCKINLEYVILLE COMMUNITY SERVICES DISTRICT</p> <p>Project: HIGHWAY SEWER CROSSING RETROFIT</p>	<p>GENERAL NOTES</p>	<p>Size ANSI D</p>																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">0</th> <th style="width: 10%;">ISSUE FOR BID</th> <th style="width: 10%;">LH</th> <th style="width: 10%;">PS</th> <th style="width: 10%;">4/9/2026</th> </tr> <tr> <th>No.</th> <th>Issue</th> <th>Checked</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Author</td> <td>E. STOCKWELL</td> <td>Drafting Check</td> <td>L. HALONEN</td> <td>Project Manager</td> </tr> <tr> <td>Designer</td> <td>R. RIOS</td> <td>Design Check</td> <td>P. SULLIVAN</td> <td>Project Director</td> </tr> <tr> <td></td> <td></td> <td></td> <td>S. ALLEN</td> <td></td> </tr> </tbody> </table>		0	ISSUE FOR BID	LH	PS	4/9/2026	No.	Issue	Checked	Approved	Date	Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager	Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director				S. ALLEN		<p>Conditions of Use</p> <p>This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Project No. 12669030</td> <td style="width: 50%;">Date 4/9/2026</td> </tr> <tr> <td style="width: 50%;">Scale AS SHOWN</td> <td style="width: 50%;">Sheet No. G-003</td> </tr> </table>	Project No. 12669030	Date 4/9/2026	Scale AS SHOWN	Sheet No. G-003	<p>Sheet 3 of 16</p>
0	ISSUE FOR BID	LH	PS	4/9/2026																														
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Project No. 12669030	Date 4/9/2026																																	
Scale AS SHOWN	Sheet No. G-003																																	

SURVEY CONTROL									
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	2227948.8888	5977728.7152	51.617	CP_R&C_PWS	110	2226729.9726	5976257.7932	17.686	CP_SPK
101	2227652.0924	5978254.9129	34.936	CP_R&C_PWS	111	2226758.6960	5977026.5316	17.695	CP_SPK
102	2235102.6899	5976629.4438	82.669	CP_R&C_PWS	150	2219990.0076	5987592.3317	40.950	CP_R&C_PWS
103	2229027.8886	5976460.0266	60.164	CP_R&C_PWS	160	2234856.6144	5976752.8253	82.762	CP_SPK
104	2228899.4586	5976103.7540	23.346	CP_R&C_PWS	165	2227667.2672	5978451.0557	30.818	CP_SPK
105	2227815.6465	5978786.5422	32.707	CP_SPK	167	2227730.0043	5978752.6822	13.076	CP_SPK
106	2227911.9244	5978584.3636	47.355	CP_SPK	168	2235094.5181	5977068.9875	89.381	CP_PWS_RBR_PP
107	2228871.7017	5975919.1069	12.715	CP_SPK	169	2235094.9623	5976938.0602	87.284	CP_SPK
108	2228826.9958	5976795.2179	61.980	CP_SPK	170	2235085.4188	5977016.6801	88.282	CP_SPK
109	2226720.1050	5976023.2692	17.594	CP_SPK	171	2235051.3897	5977365.2670	93.972	CP_CUT_X

RECORD SURVEY MONUMENTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
166	2227996.9641	5978564.1778	49.314	FD_2.5"BT_ADD3962
173	2234474.3396	5977371.7989	90.868	FD_2"BRD_RCE13184
174	2235028.9113	5977387.6316	93.791	FD_2"BRD_RCE13184
10000	2227646.8854	5978737.3317	29.135	FD_2.25"BC_SM7
10001	2228867.0473	5977847.7753	58.228	FD_2.25"BC_SM9
10002	2230198.3131	5977517.6919	54.339	FD_2.25"BC_SM10
10003	2233845.9885	5977132.5061	86.689	FD_2.25"BC_SM15
10004	2237843.4670	5977258.6638	97.846	FD_2.25"BC_SM19

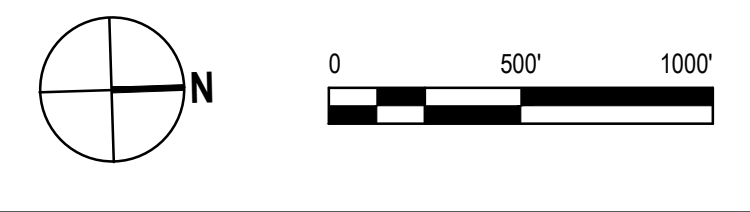


(N) MANHOLE HORIZONTAL CONTROL				
NAME	CROSSING	STATION	NORTHING	EASTING
MH3-9-1	SOUTH	30+00.00	2227693.00	5978475.58
MH3-10-1	SOUTH	60+00.00	2227793.20	5978733.99
MH3-10-2	SOUTH	32+78.36	2227802.93	5978731.31
MH5-2-1	MIDDLE	20+00.00	2235091.31	5977066.49
MH5-4-1	MIDDLE	50+00.00	2235040.89	5977388.11
MH5-4-2	MIDDLE	23+34.79	2235049.92	5977398.71

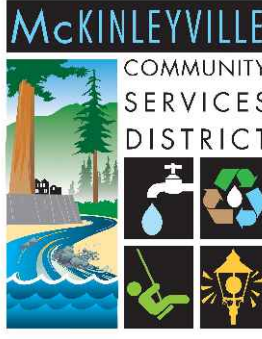
SURVEY CONTROL NOTES

- HORIZONTAL DATA IN THIS DRAWING IS ON CALIFORNIA COORDINATE SYSTEM NAD 83 (2011) ZONE 1, EPOCH 2010.0, US SURVEY FEET BASIS VIA GPS TIES TO NGS PID# AC9254. GRID DISTANCES SHOULD BE DIVIDED BY COMBINED SCALE FACTOR (CSF) OF 0.999895912 TO OBTAIN GROUND DISTANCES. ROTATE GRID BEARINGS COUNTERCLOCKWISE 1°22'55" TO OBTAIN GEODETIC OR TRUE BEARINGS. MAPPING ANGLE AND CSF TAKEN AT CONTROL POINT 100. A 5/8" REBAR AND CAP WITH PLASTIC PLUG STAMPED "PWS CONTROL". ELEVATIONS ARE ON NAVD88 DATUM BASED ON TIES TO NGS PID# LV0608 HOLDING ELEVATION=61.16'

IMAGE SOURCE: NAIP 2020



0 ISSUE FOR BID		LH	PS	4/9/2026
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Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager
Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director
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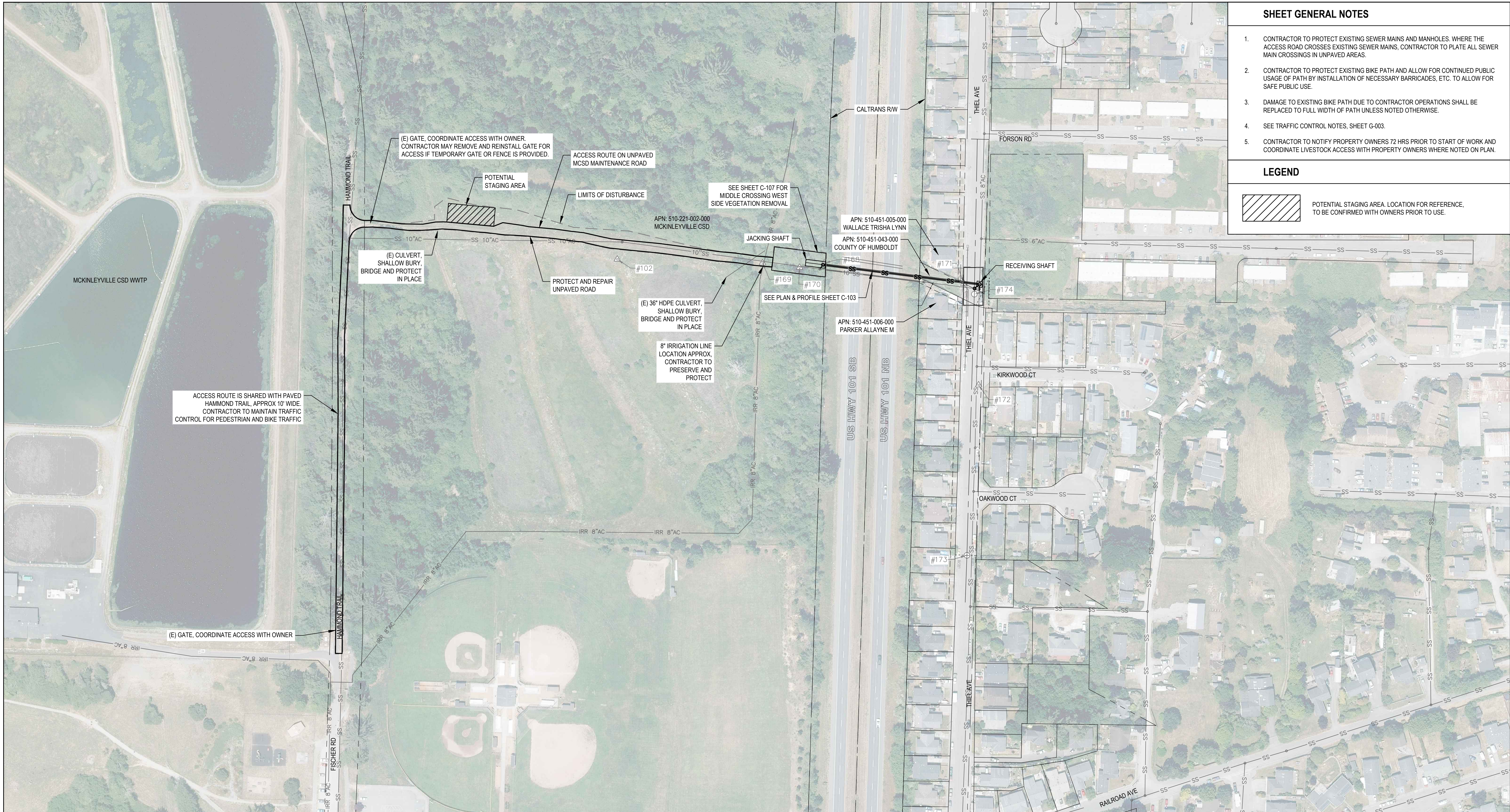


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Title **PROJECT OVERVIEW AND SURVEY CONTROL**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

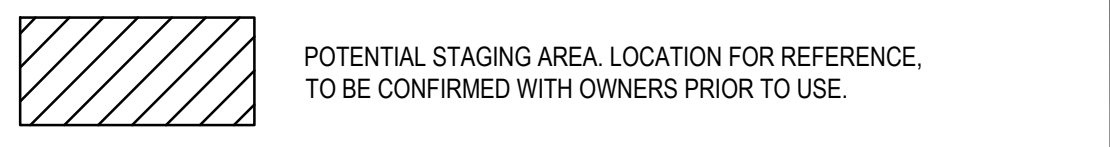
Sheet No. **G-004** Sheet 4 of 16



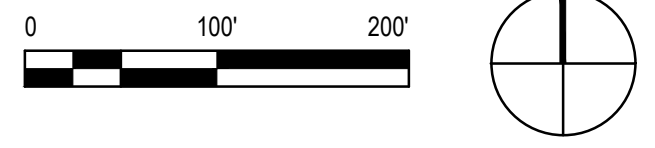
SHEET GENERAL NOTES

- CONTRACTOR TO PROTECT EXISTING SEWER MAINS AND MANHOLES. WHERE THE ACCESS ROAD CROSSES EXISTING SEWER MAINS, CONTRACTOR TO PLATE ALL SEWER MAIN CROSSINGS IN UNPAVED AREAS.
- CONTRACTOR TO PROTECT EXISTING BIKE PATH AND ALLOW FOR CONTINUED PUBLIC USAGE OF PATH BY INSTALLATION OF NECESSARY BARRICADES, ETC. TO ALLOW FOR SAFE PUBLIC USE.
- DAMAGE TO EXISTING BIKE PATH DUE TO CONTRACTOR OPERATIONS SHALL BE REPLACED TO FULL WIDTH OF PATH UNLESS NOTED OTHERWISE.
- SEE TRAFFIC CONTROL NOTES, SHEET G-003.
- CONTRACTOR TO NOTIFY PROPERTY OWNERS 72 HRS PRIOR TO START OF WORK AND COORDINATE LIVESTOCK ACCESS WITH PROPERTY OWNERS WHERE NOTED ON PLAN.

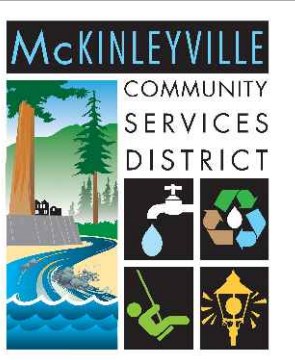
LEGEND



STAGING AND ACCESS PLAN - MIDDLE CROSSING



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Project **HIGHWAY SEWER CROSSING RETROFIT**

Title **STAGING AND ACCESS PLAN - MIDDLE CROSSING**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Sheet No. **C-101** Sheet 5 of 16



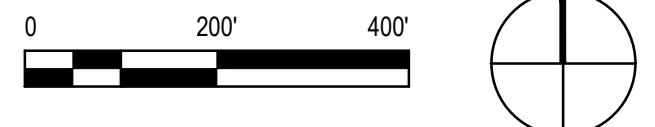
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2. CONTRACTOR TO PROTECT EXISTING BIKE PATH AND ALLOW FOR CONTINUED PUBLIC USAGE OF PATH BY INSTALLATION OF NECESSARY BARRICADES, ETC. TO ALLOW FOR SAFE PUBLIC USE.
3. DAMAGE TO EXISTING BIKE PATH DUE TO CONTRACTOR OPERATIONS SHALL BE REPLACED TO FULL WIDTH OF PATH UNLESS NOTED OTHERWISE.
4. SEE TRAFFIC CONTROL NOTES, SHEET G-003.
5. CONTRACTOR TO NOTIFY PROPERTY OWNERS 72 HRS PRIOR TO START OF WORK AND COORDINATE LIVESTOCK ACCESS WITH PROPERTY OWNERS WHERE NOTED ON PLAN.
6. CULTURAL MONITOR REQUIRED TO BE PRESENT FOR ALL EXCAVATION AT SOUTH CROSSING.

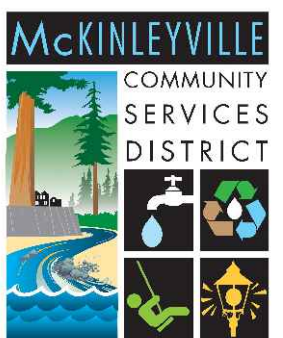
LEGEND



STAGING AND ACCESS PLAN - SOUTH CROSSING



0 ISSUE FOR BID				LH	PS	4/9/2026
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		E. STOCKWELL	L. HALONEN	P. SULLIVAN		
		R. RIOS	P. SULLIVAN	S. ALLEN		



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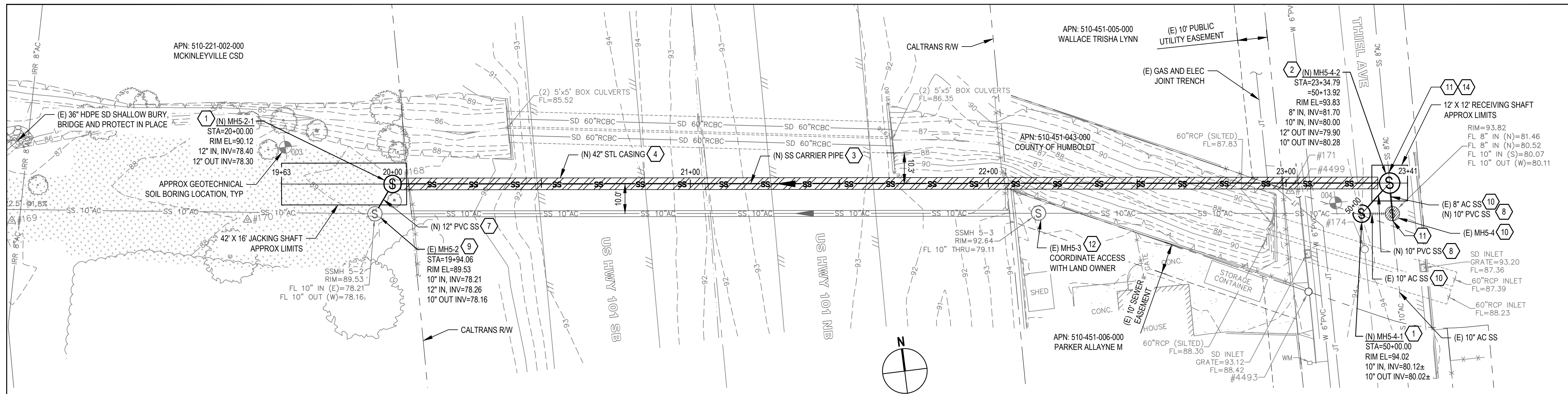


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

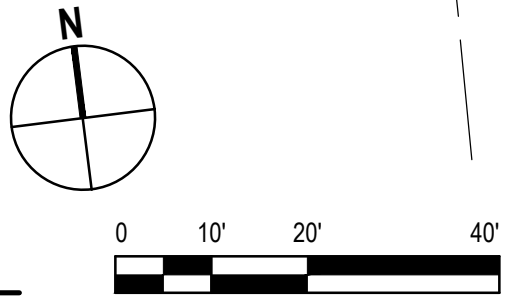
Title **STAGING AND ACCESS PLAN - SOUTH CROSSING**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Sheet No. **C-102** Sheet 6 of 16



MIDDLE CROSSING - PLAN

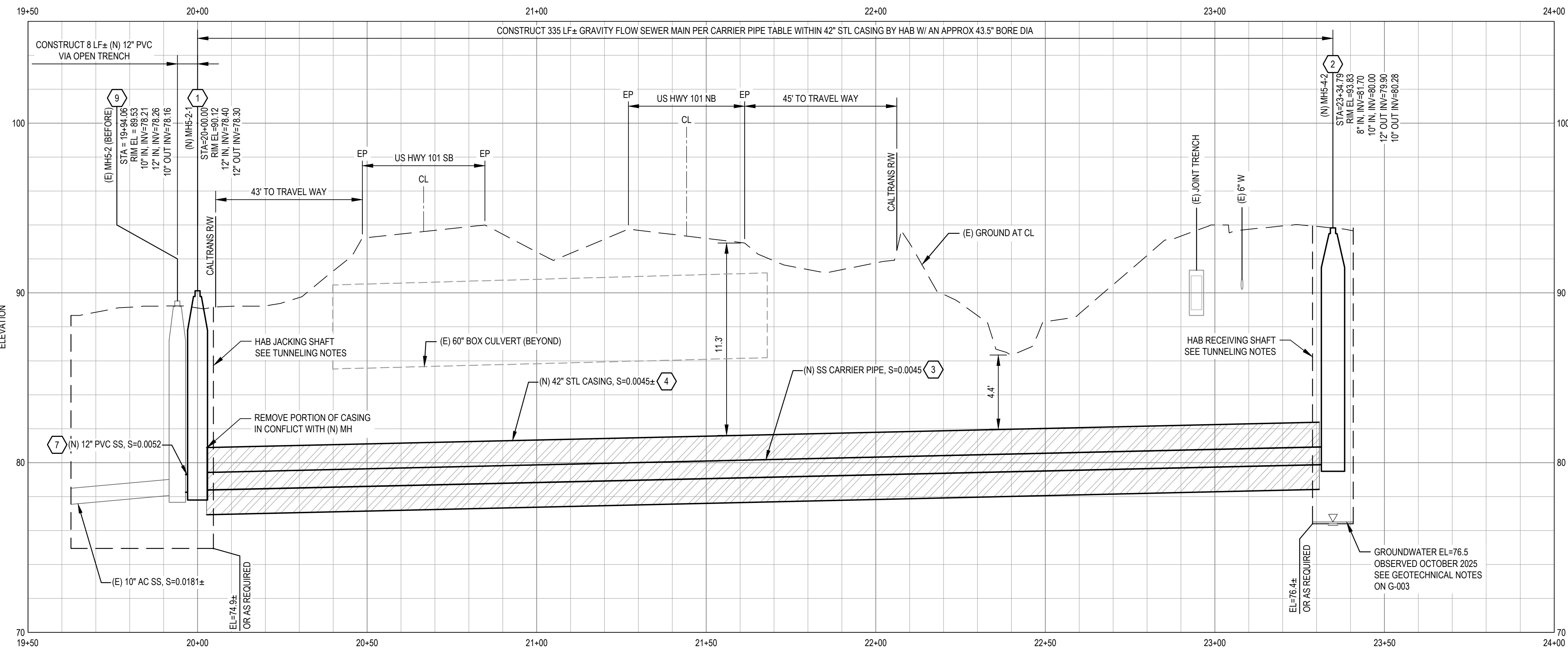


- SHEET GENERAL NOTES**
- LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION AND SHALL POT HOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
 - PROVIDE ALL TRANSITION COUPLINGS AS NECESSARY.
 - SEE TUNNELING NOTES ON SHEET G-003.

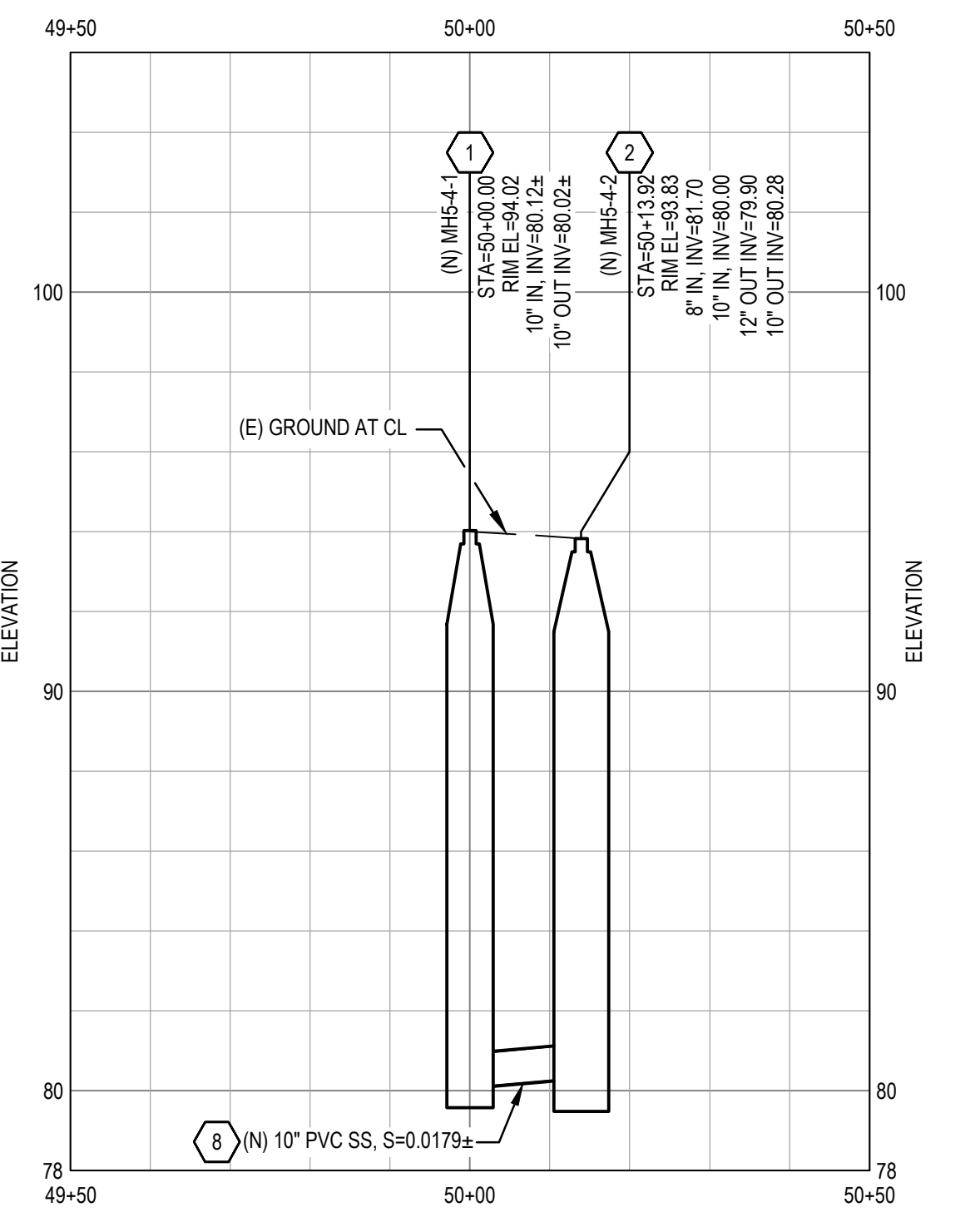
- SHEET KEYNOTES (C-103 TO C-104)**
- (N) 60" SSMH PER MCSD STANDARD DETAIL S-3, SHEET C-501.
 - (N) 72" SSMH SIMILAR TO MCSD STANDARD DETAIL S-3, SHEET C-501.
 - (N) FPVC OR HDPE SS CARRIER PIPE SIZE PER CARRIER PIPE TABLE BELOW, INSIDE 42" STL CASING PER DETAIL 1, SHEET C-502.
 - (N) 42" STL CASING INSTALLED VIA HORIZONTAL AUGER BORING PER DETAIL 1, SHEET C-502. INSTALL SMP ARRAY PER DETAIL 1, SHEET C-503.
 - (N) 18" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
 - (N) 15" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
 - (N) 12" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
 - (N) 10" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
 - RECHANNEL EXISTING MANHOLE PER MCSD STANDARD DETAILS S-3 AND S-6, SHEET C-501 AND SPECIFICATIONS. COAT INTERIOR PER SPECIFICATIONS.
 - DEMOLISH (E) PIPE OR MANHOLE PER PLAN. SEE HAZARDOUS MATERIAL NOTES ON G-003.
 - CONNECT TO (E) PIPE WITH ECCENTRIC COUPLER. MATCH (N) AND (E) INVERTS.
 - COAT INTERIOR OF (E) MANHOLE PER SPECIFICATIONS.
 - PLUG AND ABANDON (E) SS PIPE PER DETAIL 2, SHEET C-501.
 - INSTALL INSIDE DROP PER MCSD STANDARD DETAIL S-4, SHEET C-501.

MIDDLE CROSSING CARRIER PIPE TABLE

NOMINAL SIZE (IN)	PIPE STIFFNESS	O.D. SERIES	MATERIAL	O.D. (IN)	AVG. I.D. (IN)
12	DR 18	DIPS	FPVC	13.20	11.65
12	DR 17	DIPS	HDPE	13.20	11.55



MIDDLE CROSSING - PROFILE



MIDDLE CROSSING OVERFLOW - PROFILE



0 ISSUE FOR BID No. Issue Author E. STOCKWELL Designer C. CAMP	LH PS Checked Approved Project Manager P. SULLIVAN Project Director S. ALLEN
Date 4/9/2026	

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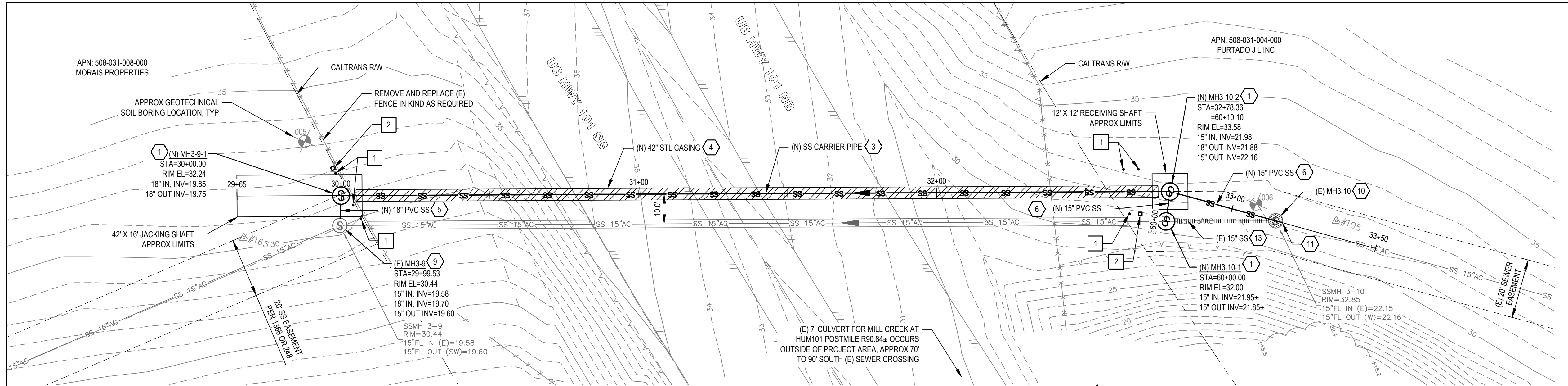
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Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
 Project **HIGHWAY SEWER CROSSING RETROFIT**

Project No. **12669030**
 Date **4/9/2026**
 Scale **AS SHOWN**

Title **PLAN AND PROFILE - MIDDLE CROSSING**

Sheet No. **C-103**
 Sheet 7 of 16



SOUTH CROSSING - PLAN



- CATHODIC PROTECTION KEYNOTES**
1. ANODE INSTALLATION (TOTAL 3 EACH TEST STATION) PER DETAIL 1, SHEET C-505. FIELD LOCATE WITH OWNER.
 2. CASING ANODE TEST STATION PER DETAIL 3, SHEET C-505. FIELD LOCATE WITH OWNER.

SHEET GENERAL NOTES

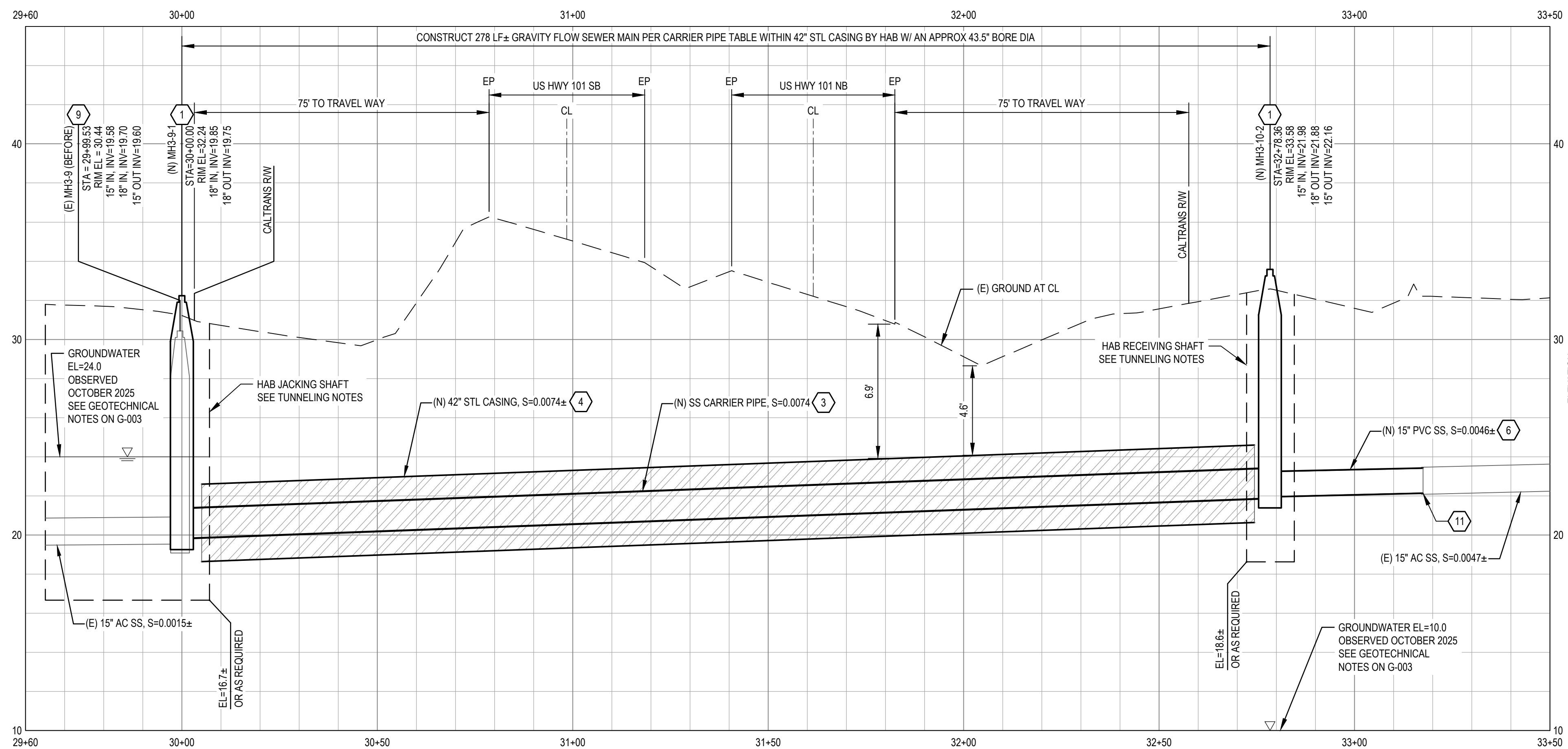
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2. PROVIDE ALL TRANSITION COUPLINGS AS NECESSARY.
3. SEE TUNNELING NOTES ON SHEET G-003.

SHEET KEYNOTES (C-103 TO C-104)

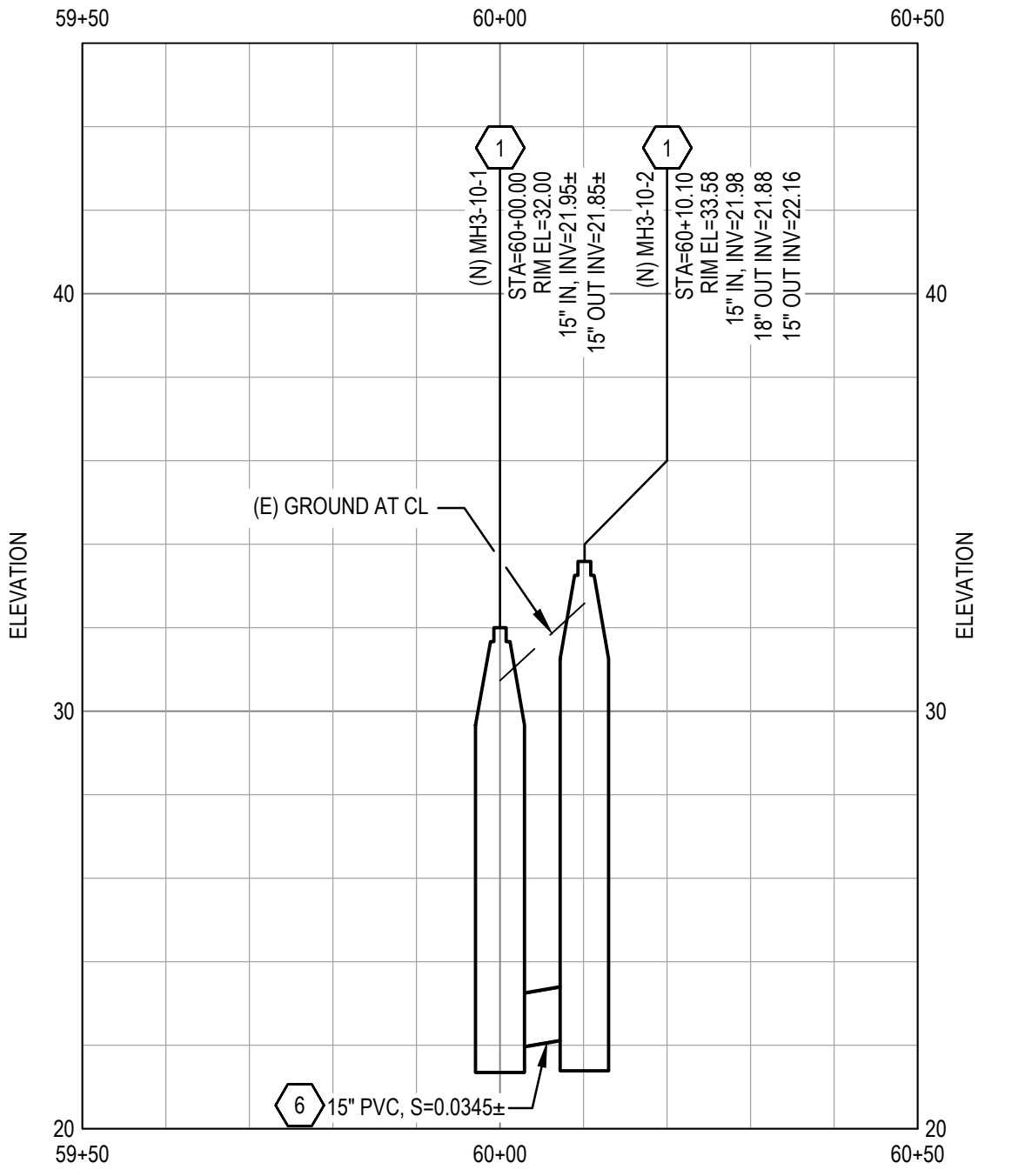
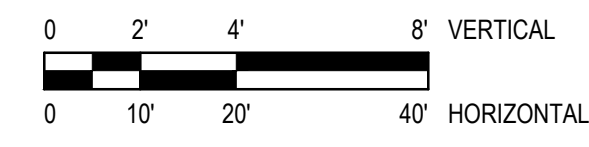
1. (N) 60" SSMH PER MCSD STANDARD DETAIL S-3, SHEET C-501.
2. (N) 72" SSMH SIMILAR TO MCSD STANDARD DETAIL S-3, SHEET C-501.
3. (N) FPVC OR HDPE SS CARRIER PIPE SIZE PER CARRIER PIPE TABLE BELOW, INSIDE 42" STL CASING PER DETAIL 1, SHEET C-502.
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7. (N) 12" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
8. (N) 10" PVC SDR35 SS. TRENCH PER DETAIL 1, SHEET C-501.
9. RECHANNEL EXISTING MANHOLE PER MCSD STANDARD DETAILS S-3 AND S-6, SHEET C-501 AND SPECIFICATIONS. COAT INTERIOR PER SPECIFICATIONS.
10. DEMOLISH (E) PIPE OR MANHOLE PER PLAN. SEE HAZARDOUS MATERIAL NOTES ON G-003.
11. CONNECT TO (E) PIPE WITH ECCENTRIC COUPLER. MATCH (N) AND (E) INVERTS.
12. COAT INTERIOR OF (E) MANHOLE PER SPECIFICATIONS.
13. PLUG AND ABANDON (E) SS PIPE PER DETAIL 2, SHEET C-501.
14. INSTALL INSIDE DROP PER MCSD STANDARD DETAIL S-4, SHEET C-501.

SOUTH CROSSING CARRIER PIPE TABLE

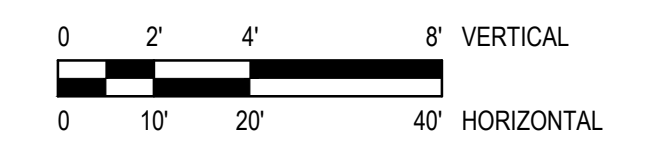
NOMINAL SIZE (IN)	DR/PIPE STIFFNESS	O.D. SERIES	MATERIAL	O.D. (IN)	AVG. I.D. (IN)
18	DR 21	DIPS	FPVC	19.50	17.53
18	DR 17	DIPS	HDPE	19.50	17.07



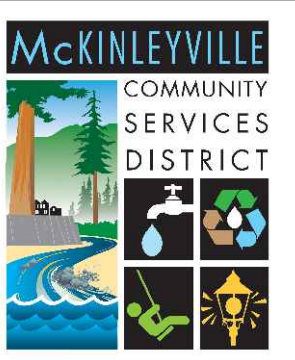
SOUTH CROSSING - PROFILE



SOUTH CROSSING OVERFLOW - PROFILE



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No. Issue	LH	PS	4/9/2026
Author E. STOCKWELL	Drafting Check L. HALONEN	Checked P. SULLIVAN	Approved P. SULLIVAN
Designer C. CAMP	Design Check P. SULLIVAN	Project Director S. ALLEN	



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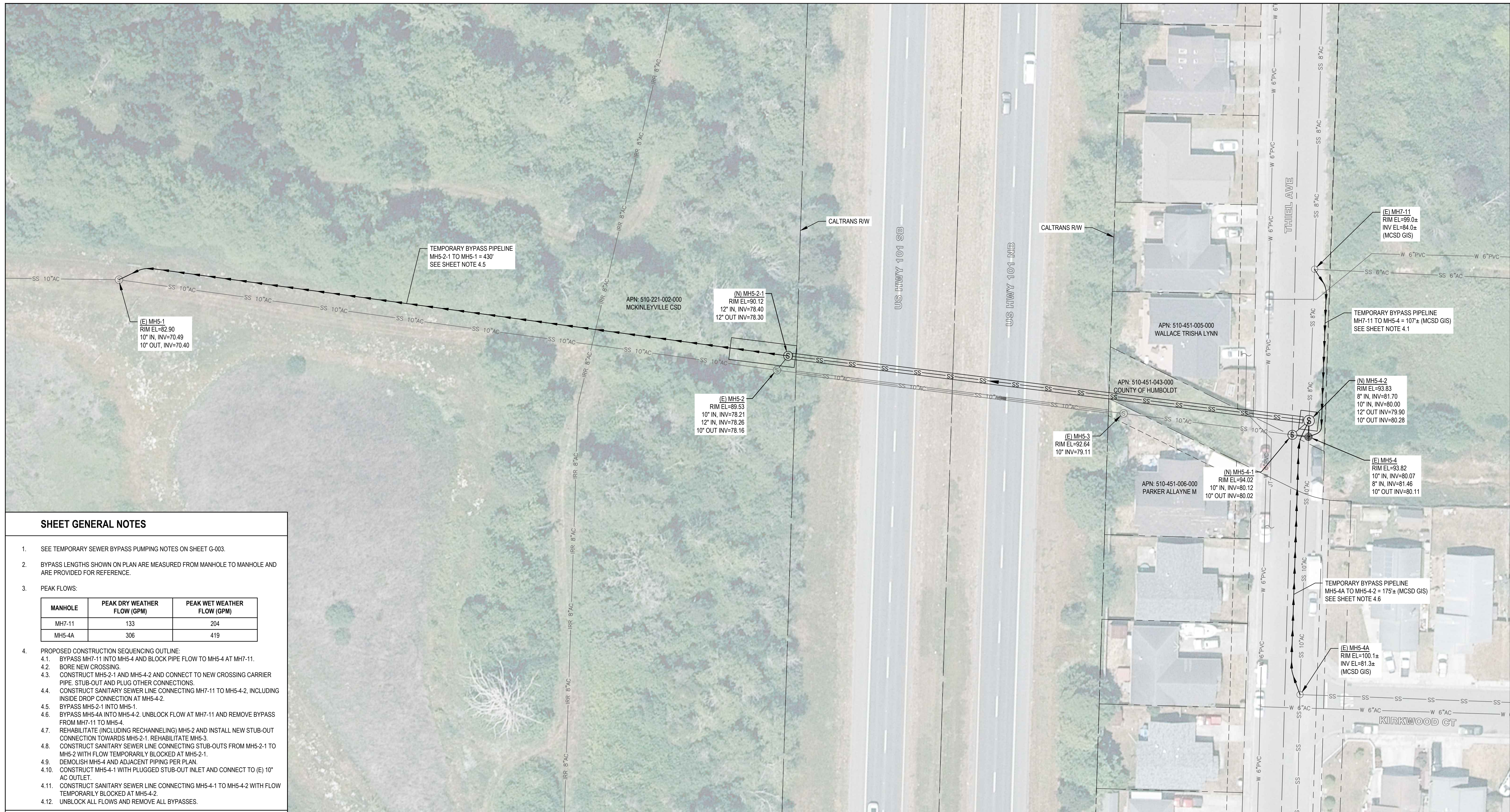


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Title **PLAN AND PROFILE - SOUTH CROSSING**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Sheet No. **C-104** Sheet 8 of 16



SHEET GENERAL NOTES

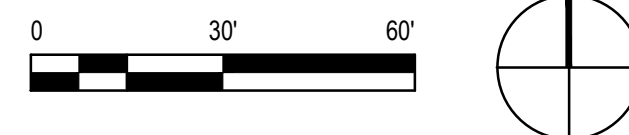
- SEE TEMPORARY SEWER BYPASS PUMPING NOTES ON SHEET G-003.
- BYPASS LENGTHS SHOWN ON PLAN ARE MEASURED FROM MANHOLE TO MANHOLE AND ARE PROVIDED FOR REFERENCE.
- PEAK FLOWS:

MANHOLE	PEAK DRY WEATHER FLOW (GPM)	PEAK WET WEATHER FLOW (GPM)
MH7-11	133	204
MH5-4A	306	419
- PROPOSED CONSTRUCTION SEQUENCING OUTLINE:
 - BYPASS MH7-11 INTO MH5-4 AND BLOCK PIPE FLOW TO MH5-4 AT MH7-11.
 - BORE NEW CROSSING.
 - CONSTRUCT MH5-2-1 AND MH5-4-2 AND CONNECT TO NEW CROSSING CARRIER PIPE. STUB-OUT AND PLUG OTHER CONNECTIONS.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING MH7-11 TO MH5-4-2, INCLUDING INSIDE DROP CONNECTION AT MH5-4-2.
 - BYPASS MH5-2-1 INTO MH5-1.
 - BYPASS MH5-4A INTO MH5-4-2. UNBLOCK FLOW AT MH7-11 AND REMOVE BYPASS FROM MH7-11 TO MH5-4.
 - REHABILITATE (INCLUDING RECHANNELING) MH5-2 AND INSTALL NEW STUB-OUT CONNECTION TOWARDS MH5-2-1. REHABILITATE MH5-3.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING STUB-OUTS FROM MH5-2-1 TO MH5-2 WITH FLOW TEMPORARILY BLOCKED AT MH5-2-1.
 - DEMOLISH MH5-4 AND ADJACENT PIPING PER PLAN.
 - CONSTRUCT MH5-4-1 WITH PLUGGED STUB-OUT INLET AND CONNECT TO (E) 10" AC OUTLET.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING MH5-4-1 TO MH5-4-2 WITH FLOW TEMPORARILY BLOCKED AT MH5-4-2.
 - UNBLOCK ALL FLOWS AND REMOVE ALL BYPASSES.

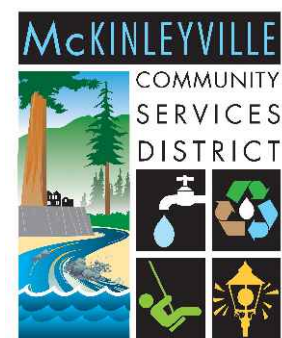
LEGEND

→ → → → → TEMPORARY BYPASS PIPELINE (SCHEMATIC)

BYPASS PLAN - MIDDLE CROSSING
SCALE AS SHOWN



0 ISSUE FOR BID				LH	PS	4/9/2026
No.	Issue	Checked	Approved	Date		
Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager	P. SULLIVAN	
Designer	E. STOCKWELL	Design Check	P. SULLIVAN	Project Director	S. ALLEN	



Bar is one inch on original size sheet
0 1"



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718 Third Street
Eureka California 95501 USA
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Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Title **BYPASS PLAN - MIDDLE CROSSING**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Sheet No. **C-105** Sheet 9 of 16

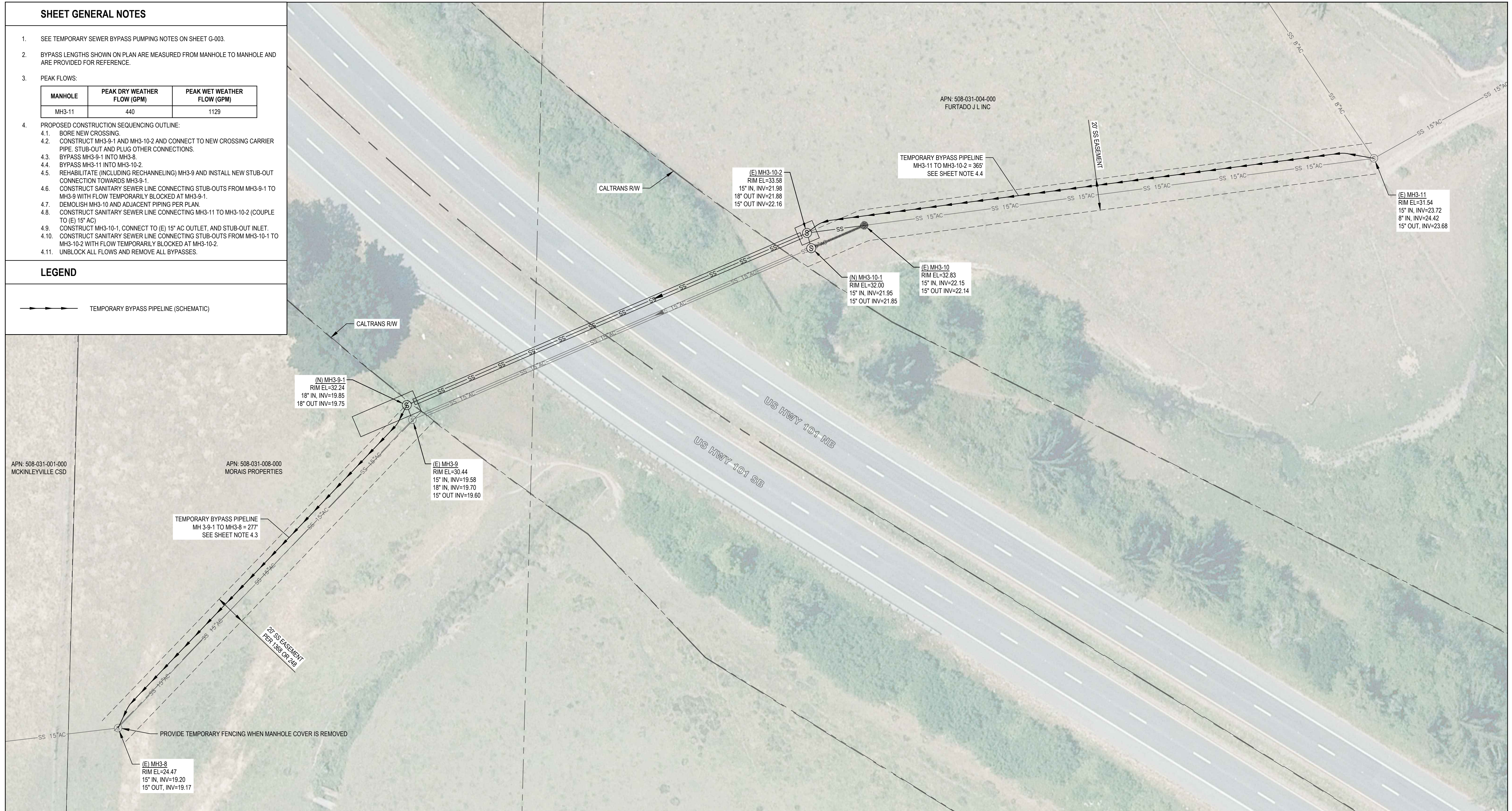
SHEET GENERAL NOTES

- SEE TEMPORARY SEWER BYPASS PUMPING NOTES ON SHEET G-003.
- BYPASS LENGTHS SHOWN ON PLAN ARE MEASURED FROM MANHOLE TO MANHOLE AND ARE PROVIDED FOR REFERENCE.
- PEAK FLOWS:

MANHOLE	PEAK DRY WEATHER FLOW (GPM)	PEAK WET WEATHER FLOW (GPM)
MH3-11	440	1129
- PROPOSED CONSTRUCTION SEQUENCING OUTLINE:
 - BORE NEW CROSSING.
 - CONSTRUCT MH3-9-1 AND MH3-10-2 AND CONNECT TO NEW CROSSING CARRIER PIPE. STUB-OUT AND PLUG OTHER CONNECTIONS.
 - BYPASS MH3-9-1 INTO MH3-8.
 - BYPASS MH3-11 INTO MH3-10-2.
 - REHABILITATE (INCLUDING RECHANNELING) MH3-9 AND INSTALL NEW STUB-OUT CONNECTION TOWARDS MH3-9-1.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING STUB-OUTS FROM MH3-9-1 TO MH3-9 WITH FLOW TEMPORARILY BLOCKED AT MH3-9-1.
 - DEMOLISH MH3-10 AND ADJACENT PIPING PER PLAN.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING MH3-11 TO MH3-10-2 (COUPLE TO (E) 15" AC)
 - CONSTRUCT MH3-10-1, CONNECT TO (E) 15" AC OUTLET, AND STUB-OUT INLET.
 - CONSTRUCT SANITARY SEWER LINE CONNECTING STUB-OUTS FROM MH3-10-1 TO MH3-10-2 WITH FLOW TEMPORARILY BLOCKED AT MH3-10-2.
 - UNBLOCK ALL FLOWS AND REMOVE ALL BYPASSES.

LEGEND

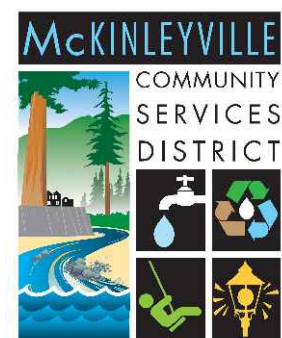
→ → → → → TEMPORARY BYPASS PIPELINE (SCHEMATIC)



BYPASS PLAN - SOUTH CROSSING
SCALE AS SHOWN



0 ISSUE FOR BID				LH	PS	4/9/2026
No.	Issue	Author	Checked	Approved	Date	
		E. STOCKWELL	L. HALONEN	P. SULLIVAN		
		E. STOCKWELL	P. SULLIVAN	S. ALLEN		



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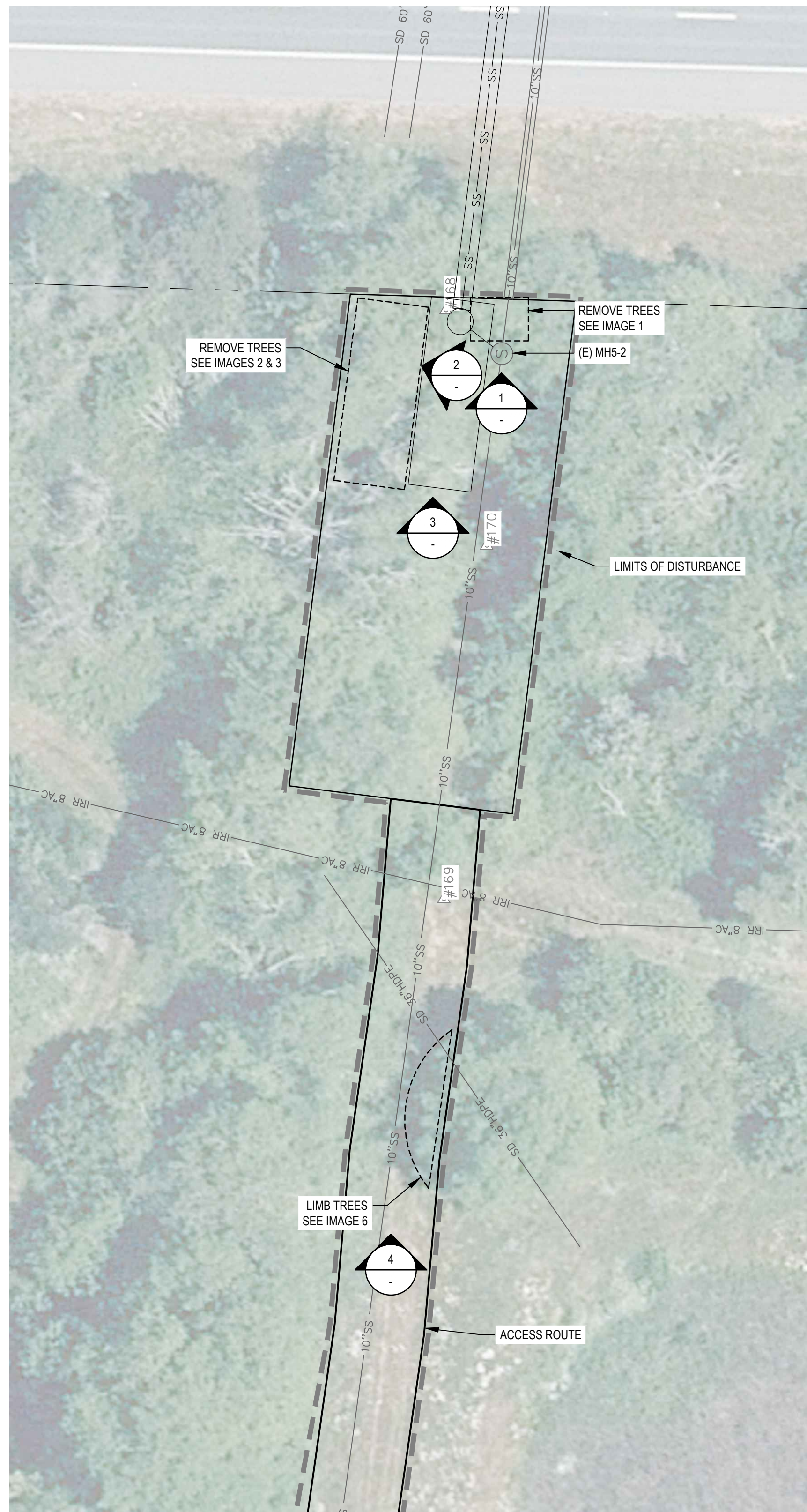
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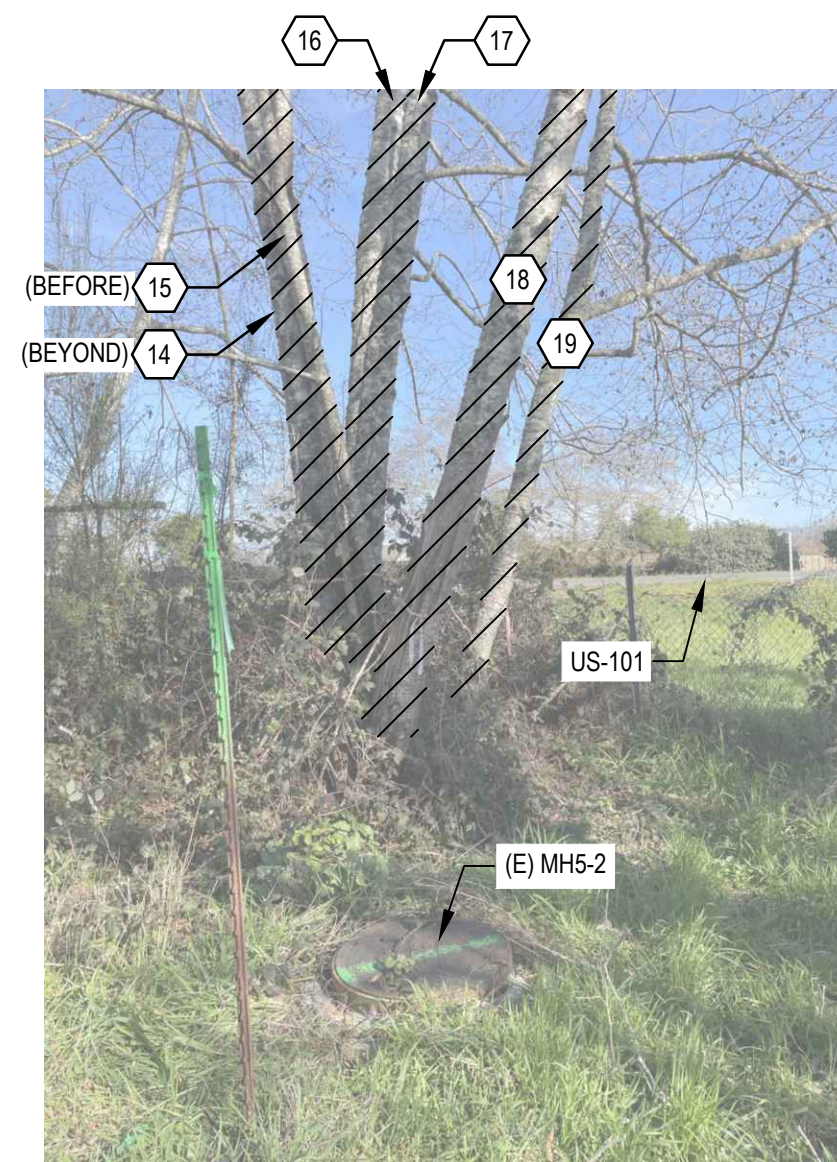
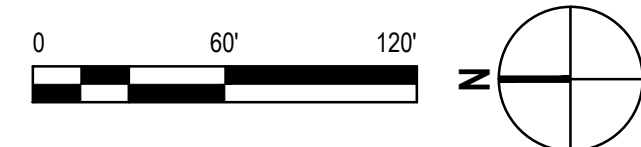
Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

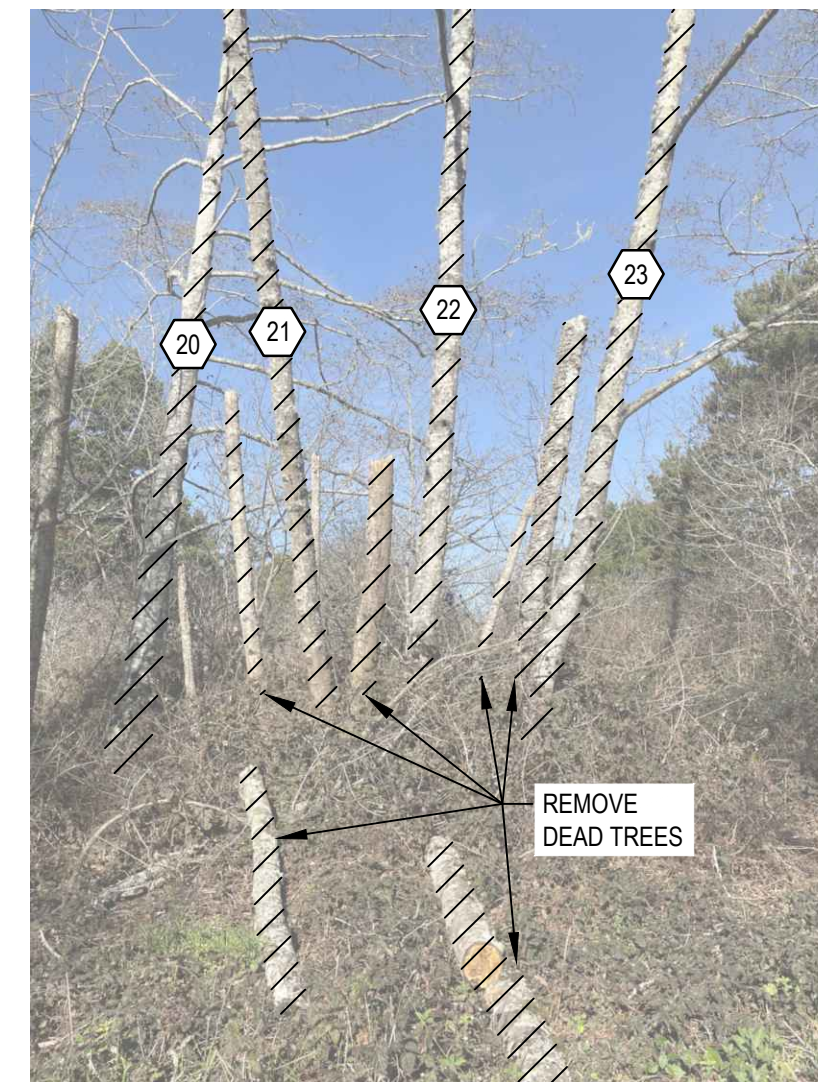
Title **BYPASS PLAN - SOUTH CROSSING** Sheet No. **C-106** Sheet **10 of 16**



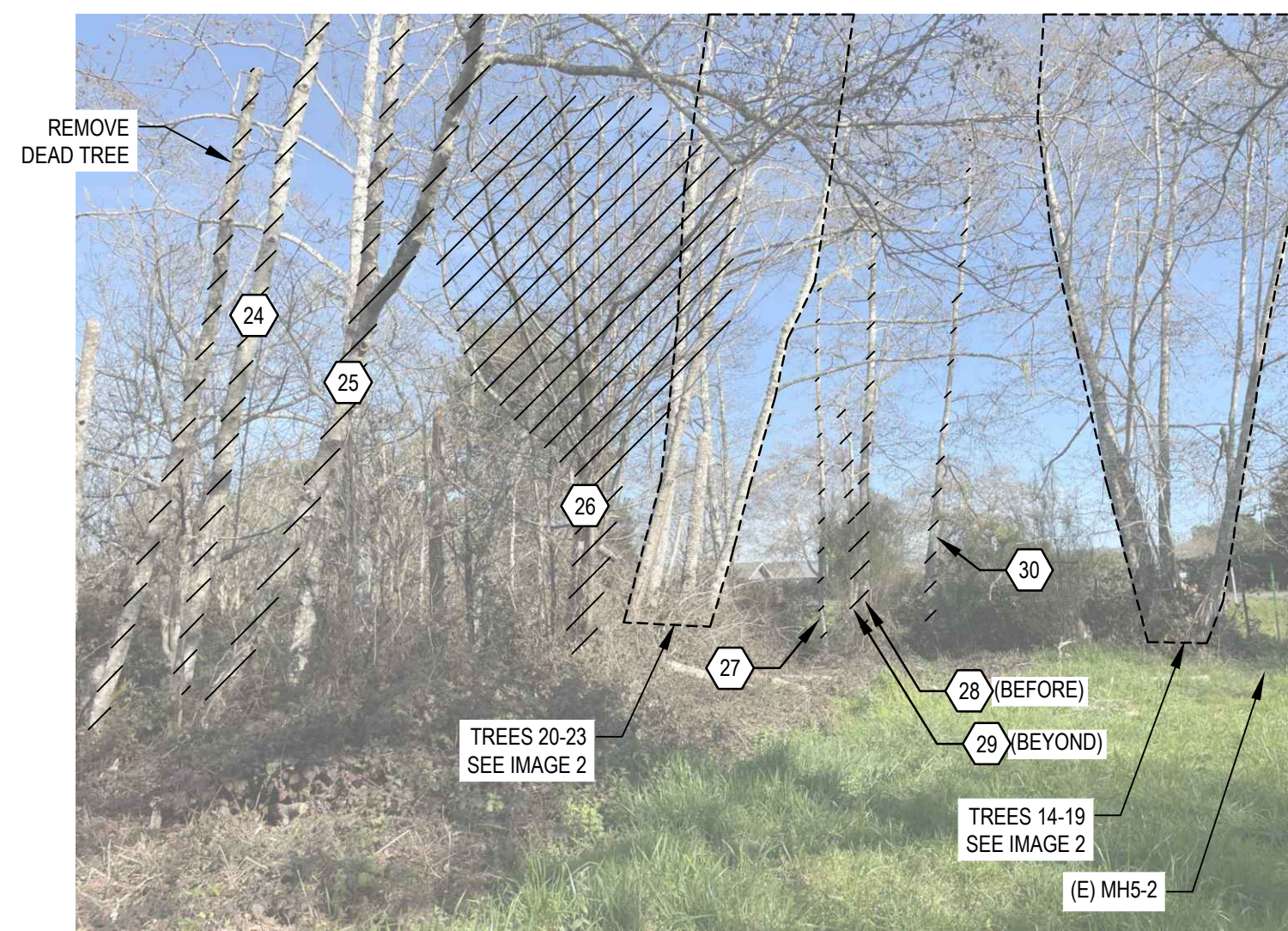
MIDDLE CROSSING WEST SIDE PLAN



1 IMAGE 1
NOT TO SCALE



2 IMAGE 2
NOT TO SCALE



3 IMAGE 3
NOT TO SCALE



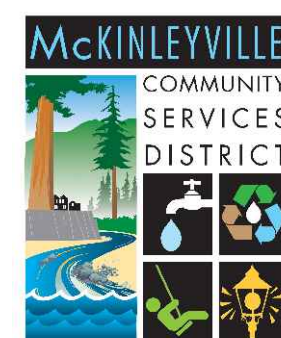
4 IMAGE 4
NOT TO SCALE

SHEET GENERAL NOTES

1. IMAGES SHOWN WERE TAKEN ON FEBRUARY 3, 2026.
2. LOCATIONS ON PLAN AND TREE DIAMETERS ARE BASED ON FIELD MEASUREMENTS AND ARE APPROXIMATE.
3. TREES ARE TO BE REMOVED SHALL BE CUT FLUSH TO THE GROUND, AND TREE ROOT BALLS TO REMAIN.
4. TREE LIMBS SHALL BE SAWCUT. TREE LIMBING EXTENTS ARE APPROXIMATELY 10 FEET OVERHEAD AND WITHIN ACCESS ROUTE LIMITS.
5. TREE AND VEGETATION REMOVAL SHALL BE FLAGGED FOR CONFIRMATION WITH OWNER PRIOR TO PERFORMING THE WORK.
6. SEE VEGETATION PROTECTION AND RESTORATION NOTES ON G-003.

TREE REMOVAL		
TREE ID	DIA (IN)	TYPE
14	<12"	RED ALDER
15	<12"	RED ALDER
16	<12"	RED ALDER
17	<12"	RED ALDER
18	<12"	RED ALDER
19	<12"	RED ALDER
20	<12"	RED ALDER
21	<12"	RED ALDER
22	<12"	RED ALDER
23	<12"	RED ALDER
24	<12"	RED ALDER
25	<12"	RED ALDER
26	<12"	RED ALDER
27	<12"	RED ALDER
28	<12"	RED ALDER
29	<12"	RED ALDER
30	<12"	RED ALDER

No.	Issue	Author	Checked	Approved	Date
0	ISSUE FOR BID	E. STOCKWELL	L. HALONEN	P. SULLIVAN	4/9/2026
		Designer	Design Check	Project Director	
		E. STOCKWELL	P. SULLIVAN	S. ALLEN	



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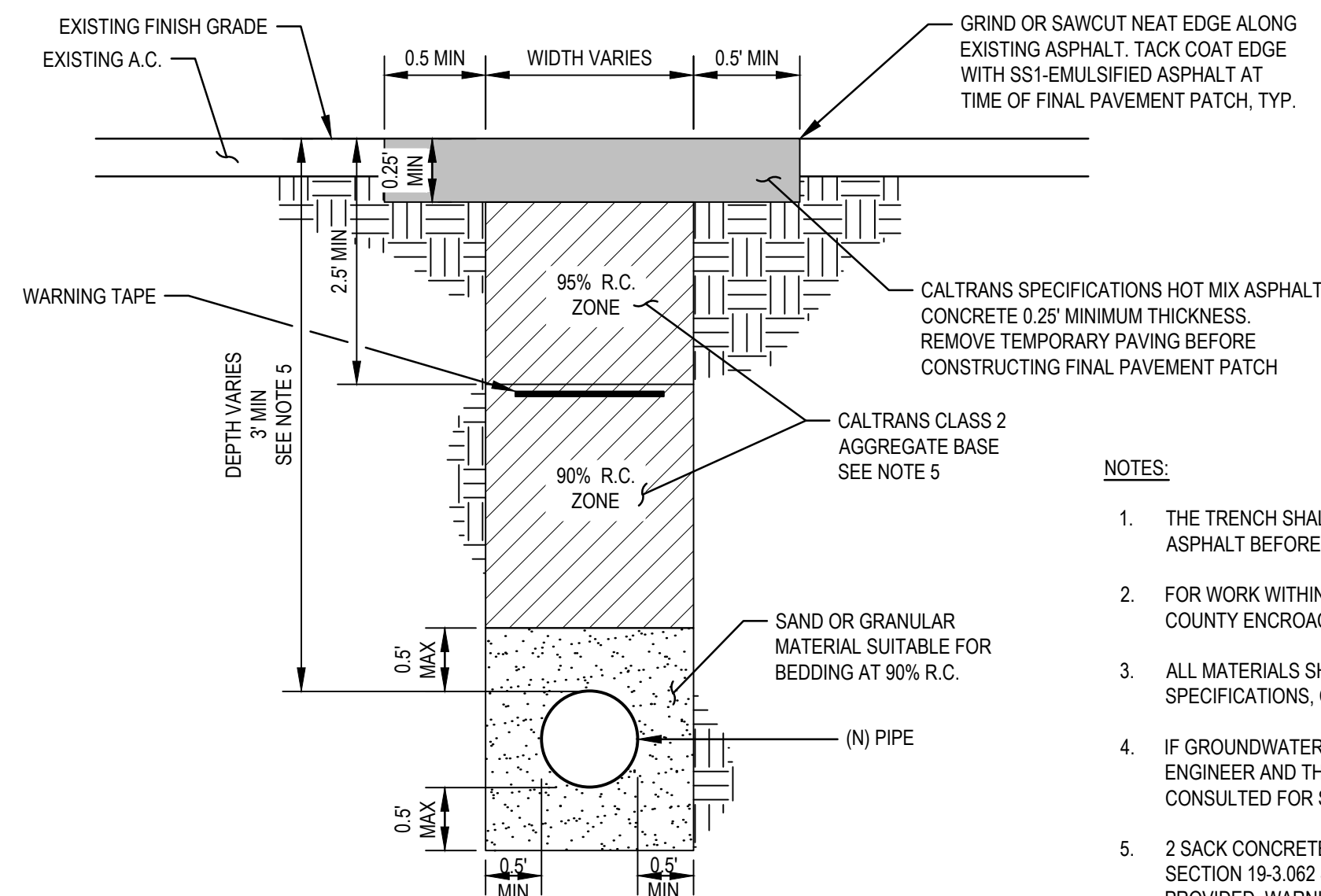


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Title **VEGETATION REMOVAL AND PROTECTION PLAN - MIDDLE CROSSING**

Sheet No. **C-107** Sheet 11 of 16

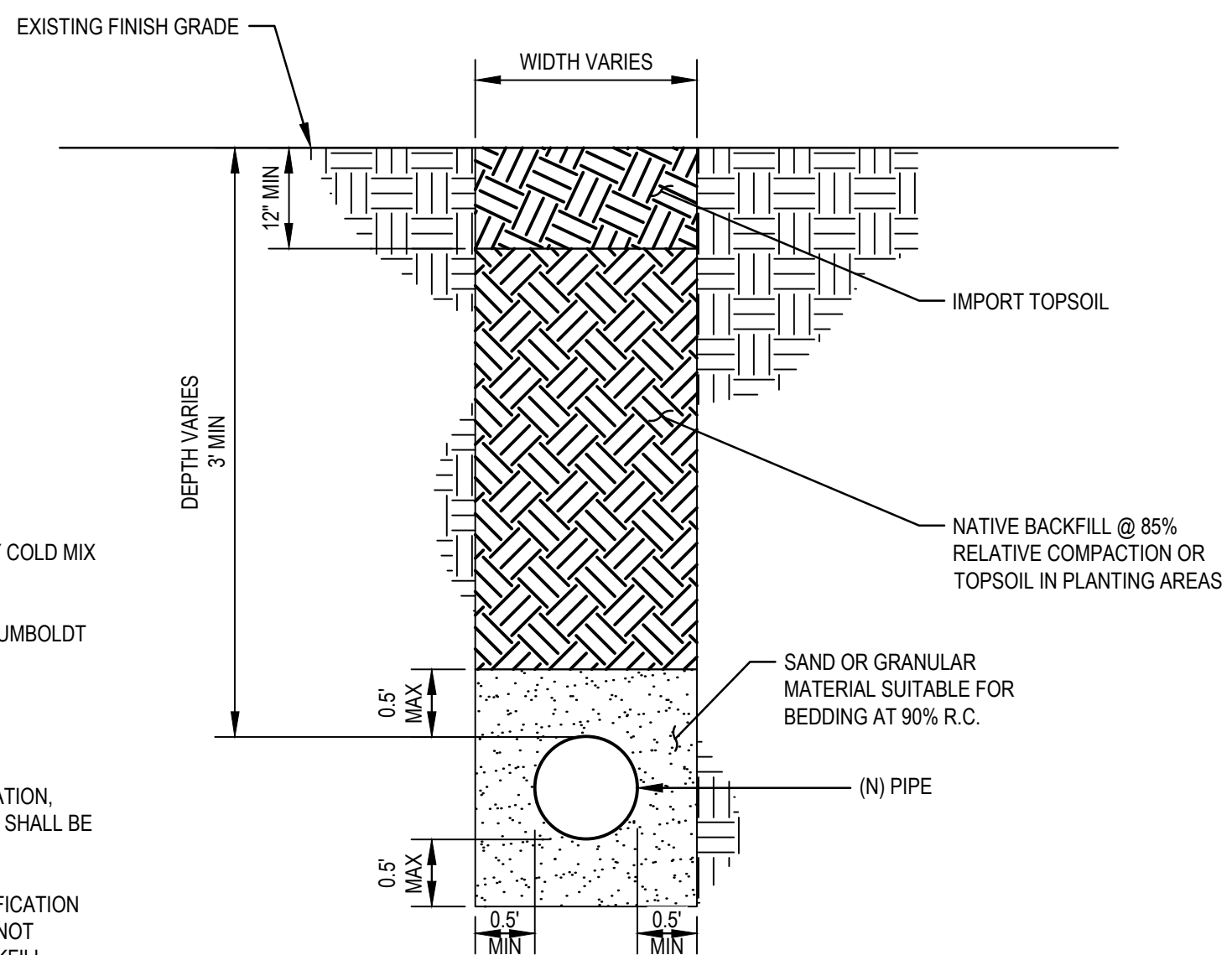


TRENCH DETAIL - PAVED SURFACE

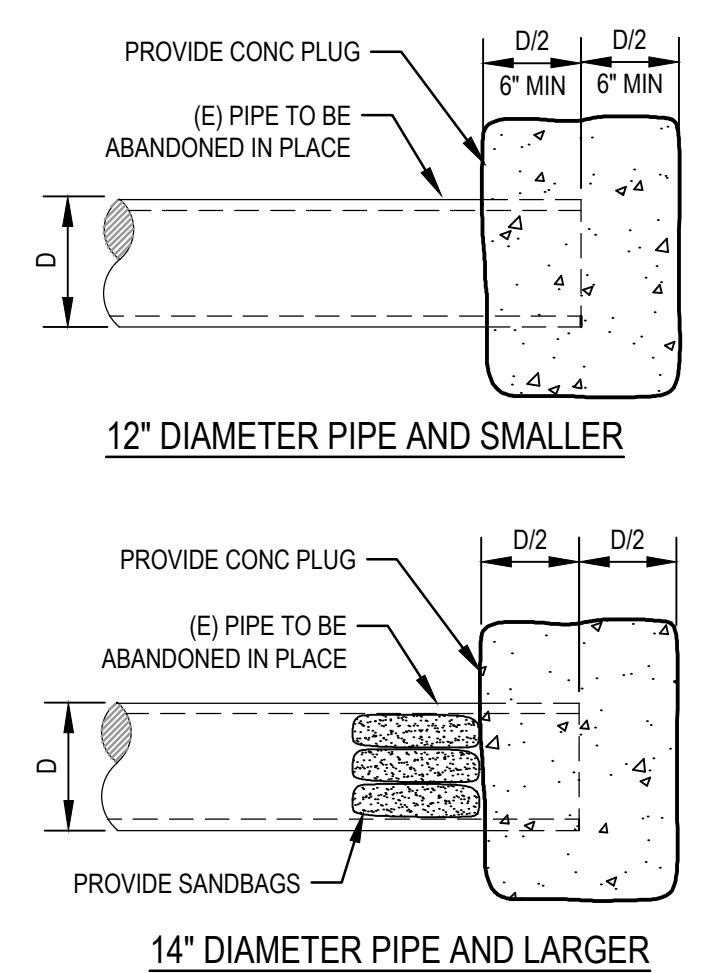
NOTES:

1. THE TRENCH SHALL HAVE AT LEAST 0.25 FEET OF TEMPORARY COLD MIX ASPHALT BEFORE OPENING ROAD TO TRAFFIC.
2. FOR WORK WITHIN HUMBOLDT COUNTY RIGHT-OF-WAY, SEE HUMBOLDT COUNTY ENCROACHMENT PERMIT.
3. ALL MATERIALS SHALL COMPLY WITH CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION.
4. IF GROUNDWATER IS ENCOUNTERED DURING TRENCH EXCAVATION, ENGINEER AND THE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL BE CONSULTED FOR SITE SPECIFIC CORRECTIVE MEASURES.
5. 2 SACK CONCRETE SLURRY PER CALTRANS STANDARD SPECIFICATION SECTION 19-3.062 SHALL BE USED WHERE MINIMUM COVER IS NOT PROVIDED. WARNING TAPE NOT REQUIRED WITH SLURRY BACKFILL.

1 TYPICAL TRENCH DETAIL
C-501 SCALE: NTS



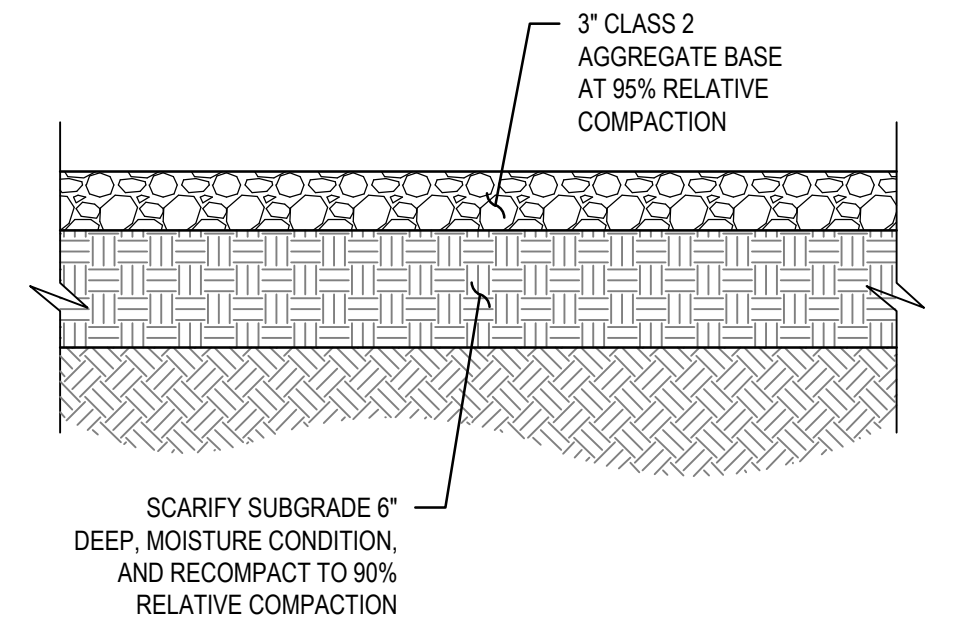
TRENCH DETAIL - UNPAVED SURFACE



NOTES:

1. PIPE PLUGS SHALL BE INSTALLED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
2. PIPE PLUGS SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE BEFORE COVERING.
3. SMALLER PIPES MAY BE CAPPED.
4. ABANDONED PIPES WITHIN HIGHWAY RIGHT-OF-WAY SHALL BE FILLED WITH SAND, 2-SACK SLURRY CEMENT, OR CLSM.

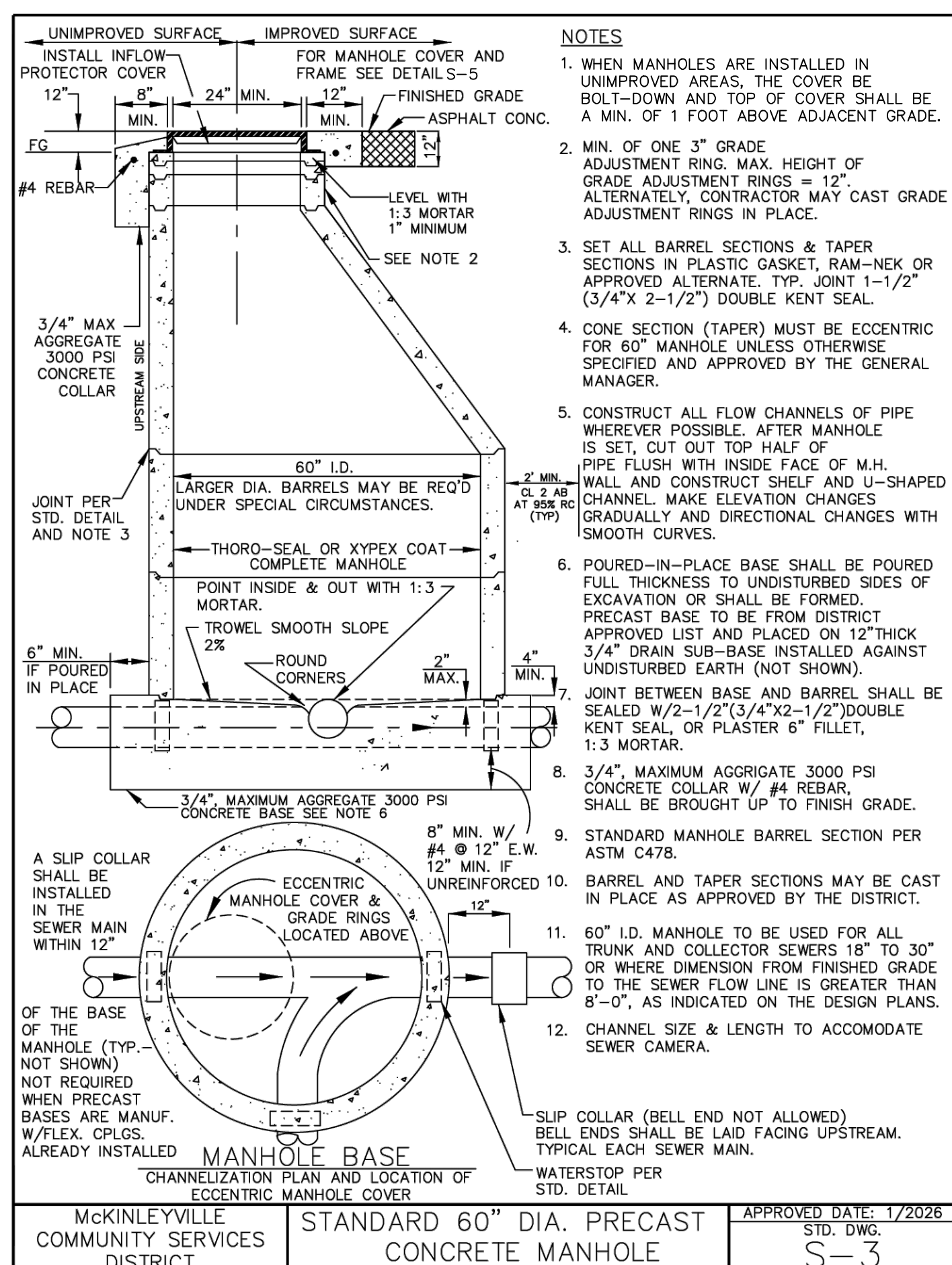
2 PLUG AND ABANDON EXISTING PIPE
C-501 NOT TO SCALE



NOTE:

1. REMOVE UPPER 3" OF TOPSOIL PRIOR TO RESURFACING.

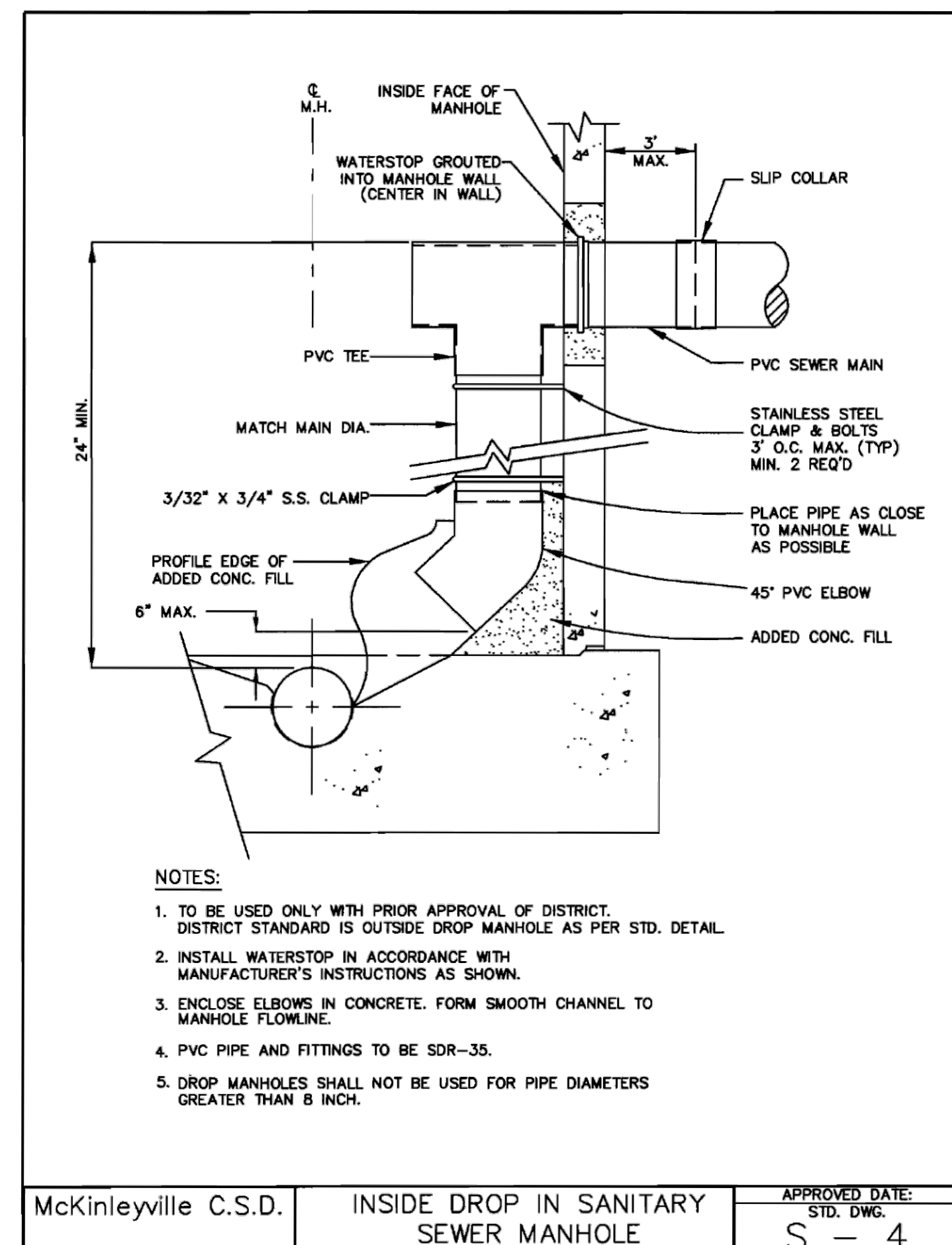
3 TYPICAL GRAVEL SURFACING SECTION
C-501 SCALE: NTS



NOTES:

1. WHEN MANHOLES ARE INSTALLED IN UNIMPROVED AREAS, THE COVER BE BOLT-DOWN AND TOP OF COVER SHALL BE A MIN. OF 1 FOOT ABOVE ADJACENT GRADE.
2. MIN. OF ONE 3" GRADE ADJUSTMENT RING. MAX. HEIGHT OF GRADE ADJUSTMENT RINGS = 12". ALTERNATELY, CONTRACTOR MAY CAST GRADE ADJUSTMENT RINGS IN PLACE.
3. SET ALL BARREL SECTIONS & TAPER SECTIONS IN PLASTIC GASKET, RAM-NEK OR APPROVED ALTERNATE. TYP. JOINT 1-1/2" (3/4" X 2-1/2") DOUBLE KENT SEAL.
4. CONE SECTION (TAPER) MUST BE ECCENTRIC FOR 60" MANHOLE UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE GENERAL MANAGER.
5. CONSTRUCT ALL FLOW CHANNELS OF PIPE WHEREVER POSSIBLE. AFTER MANHOLE IS SET, CUT OUT TOP HALF OF PIPE FLUSH WITH INSIDE FACE OF M.H. WALL AND CONSTRUCT SHELF AND U-SHAPED CHANNEL. MAKE ELEVATION CHANGES GRADUALLY AND DIRECTIONAL CHANGES WITH SMOOTH CURVES.
6. POURED-IN-PLACE BASE SHALL BE POURED FULL THICKNESS TO UNDISTURBED SIDES OF EXCAVATION OR SHALL BE FORMED. PRECAST BASE TO BE FROM DISTRICT APPROVED LIST AND PLACED ON 12" THICK 3/4" DRAIN SUB-BASE INSTALLED AGAINST UNDISTURBED EARTH (NOT SHOWN).
7. JOINT BETWEEN BASE AND BARREL SHALL BE SEALED W/ 2-1/2" (3/4" X 2-1/2") DOUBLE KENT SEAL, OR PLASTER 6" FILLET, 1:3 MORTAR.
8. 3/4" MAXIMUM AGGREGATE 3000 PSI CONCRETE COLLAR W/ #4 REBAR, SHALL BE BROUGHT UP TO FINISH GRADE.
9. STANDARD MANHOLE BARREL SECTION PER ASTM C478.
10. BARREL AND TAPER SECTIONS MAY BE CAST IN PLACE AS APPROVED BY THE DISTRICT.
11. 60" I.D. MANHOLE TO BE USED FOR ALL TRUNK AND COLLECTOR SEWERS 18" TO 30" OR WHERE DIMENSION FROM FINISHED GRADE TO THE SEWER FLOW LINE IS GREATER THAN 8'-0", AS INDICATED ON THE DESIGN PLANS.
12. CHANNEL SIZE & LENGTH TO ACCOMMODATE SEWER CAMERA.

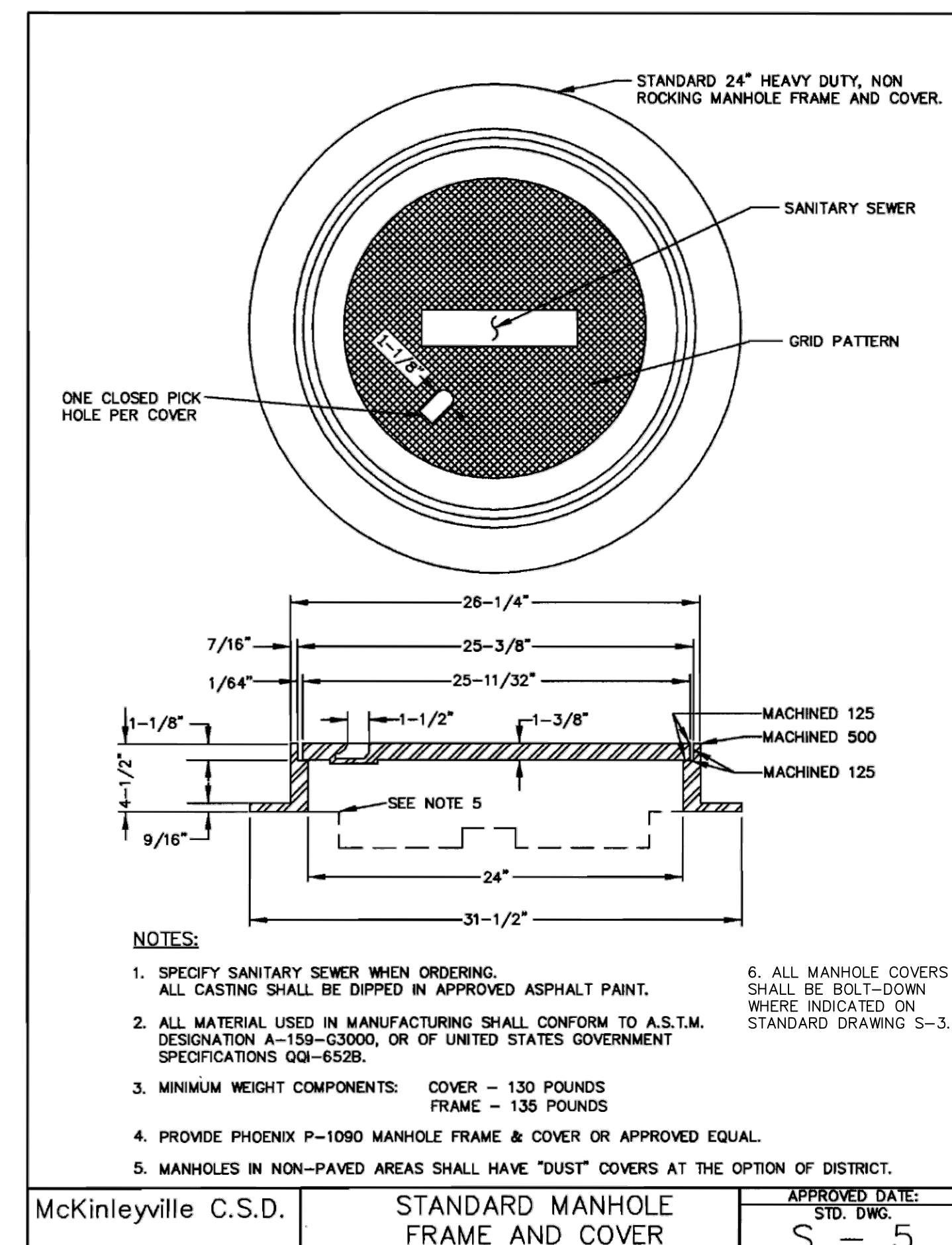
McKinleyville Community Services District
STANDARD 60" DIA. PRECAST CONCRETE MANHOLE
APPROVED DATE: 1/2026
STD. DWG. S-3



NOTES:

1. TO BE USED ONLY WITH PRIOR APPROVAL OF DISTRICT. DISTRICT STANDARD IS OUTSIDE DROP MANHOLE AS PER STD. DETAIL.
2. INSTALL WATERSTOP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AS SHOWN.
3. ENCLOSE ELBOWS IN CONCRETE. FORM SMOOTH CHANNEL TO MANHOLE FLOWLINE.
4. PVC PIPE AND FITTINGS TO BE SDR-35.
5. DROP MANHOLES SHALL NOT BE USED FOR PIPE DIAMETERS GREATER THAN 8 INCH.

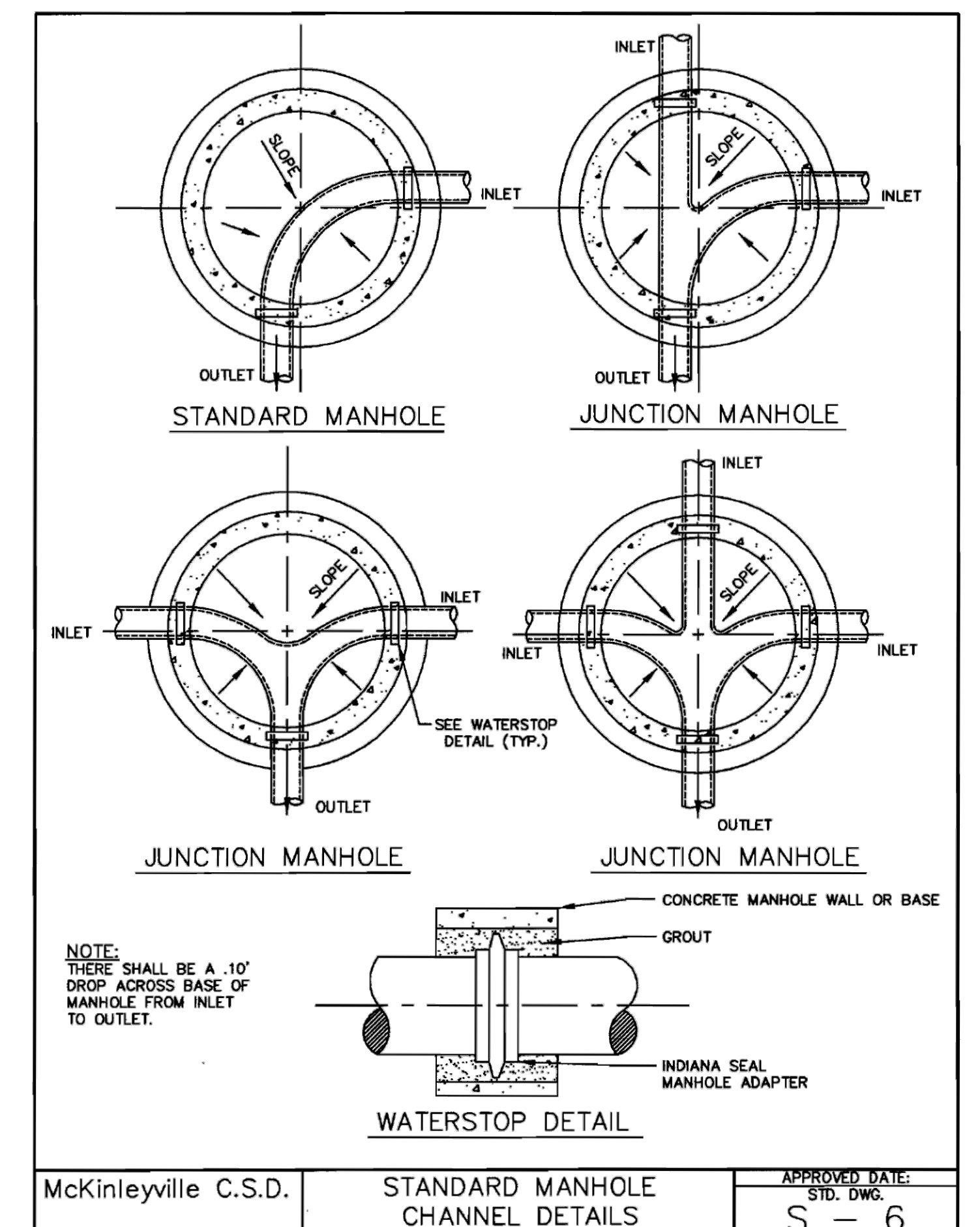
McKinleyville C.S.D.
INSIDE DROP IN SANITARY SEWER MANHOLE
APPROVED DATE: STD. DWG. S-4



NOTES:

1. SPECIFY SANITARY SEWER WHEN ORDERING. ALL CASTING SHALL BE DIPPED IN APPROVED ASPHALT PAINT.
2. ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO A.S.T.M. DESIGNATION A-159-G3000, OR OF UNITED STATES GOVERNMENT SPECIFICATIONS QQI-652B.
3. MINIMUM WEIGHT COMPONENTS: COVER - 130 POUNDS, FRAME - 135 POUNDS.
4. PROVIDE PHOENIX P-1090 MANHOLE FRAME & COVER OR APPROVED EQUAL.
5. MANHOLES IN NON-PAVED AREAS SHALL HAVE "DUST" COVERS AT THE OPTION OF DISTRICT.
6. ALL MANHOLE COVERS SHALL BE BOLT-DOWN WHERE INDICATED ON STANDARD DRAWING S-3.

McKinleyville C.S.D.
STANDARD MANHOLE FRAME AND COVER
APPROVED DATE: STD. DWG. S-5

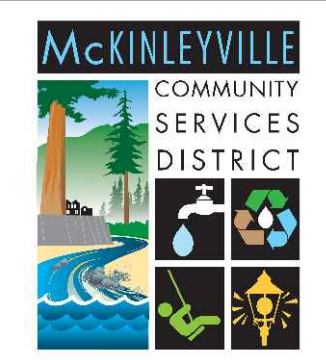


NOTE:

- THERE SHALL BE A 10' DROP ACROSS BASE OF MANHOLE FROM INLET TO OUTLET.

McKinleyville C.S.D.
STANDARD MANHOLE CHANNEL DETAILS
APPROVED DATE: STD. DWG. S-6

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Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager
Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director
			S. ALLEN	



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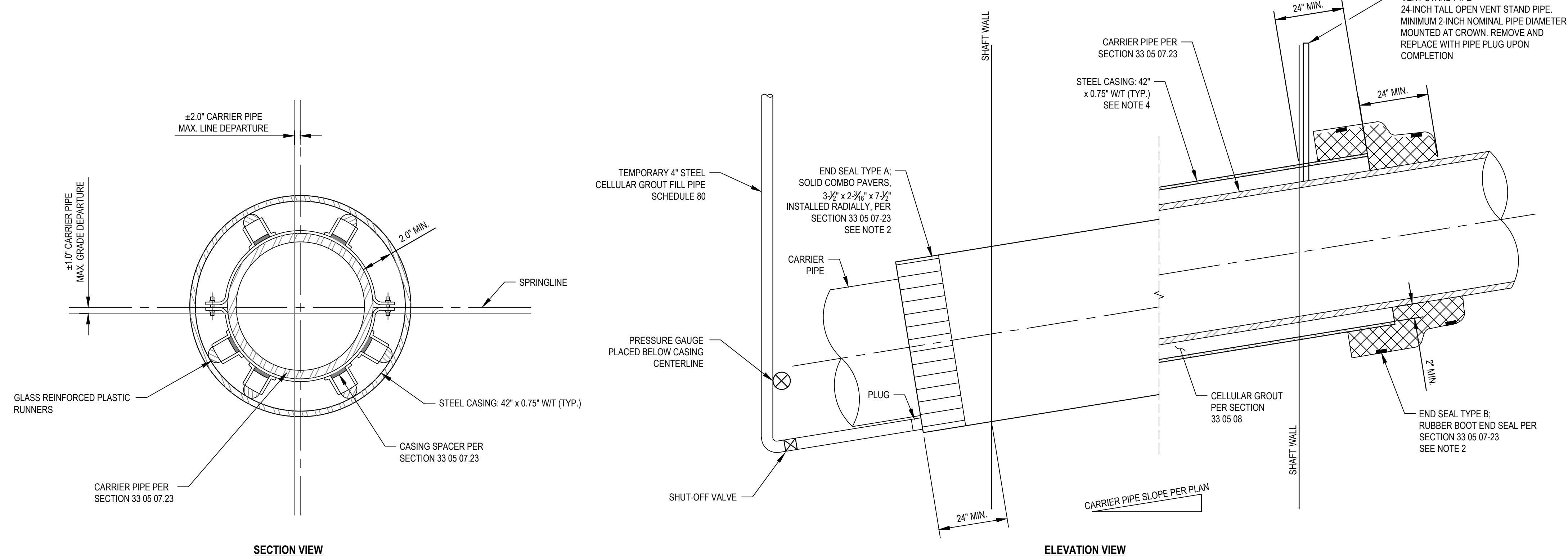


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**
Project No. **12669030**
Date **4/9/2026**
Scale **AS SHOWN**

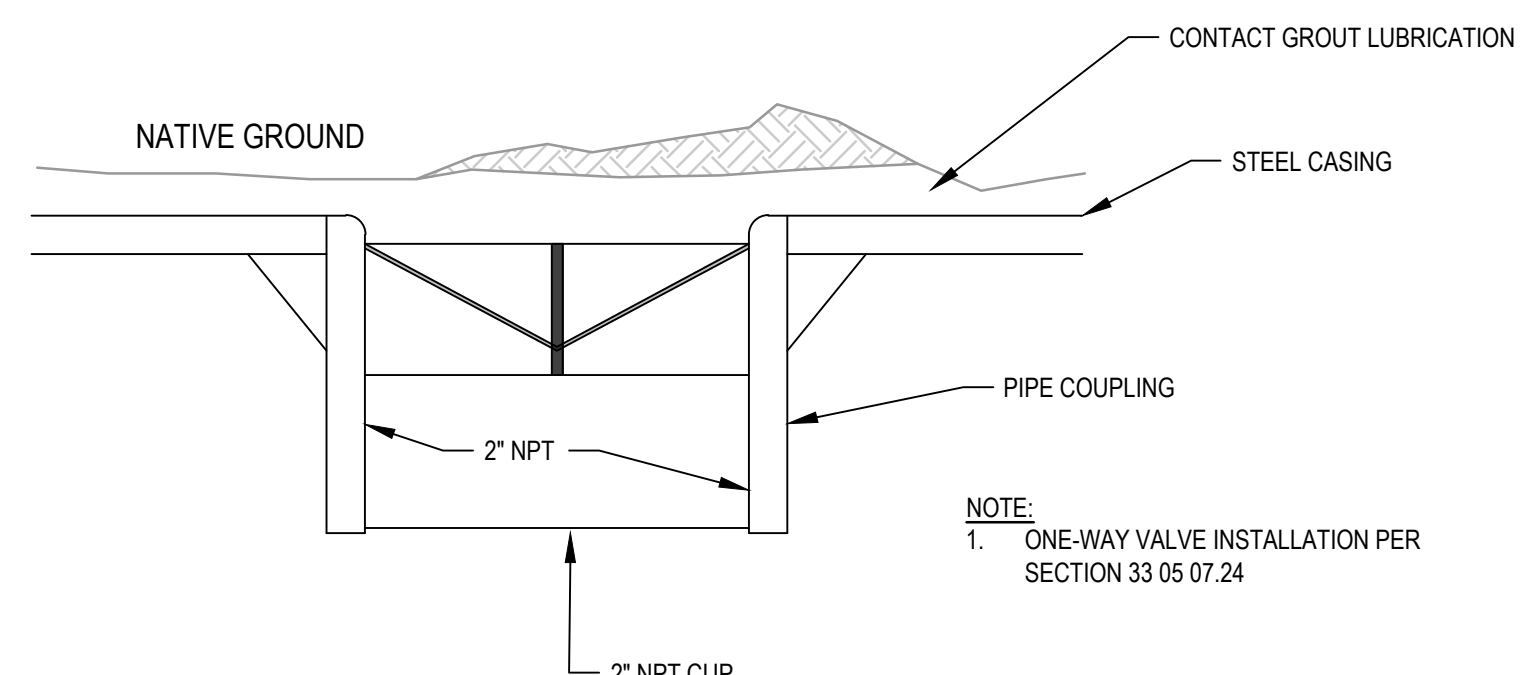
Title **CIVIL DETAILS 1 OF 5**
Sheet No. **C-501**
Sheet 12 of 16

SHEET GENERAL NOTES

- SPECIFICATION SECTIONS:
 - 31 09 13 GEOTECHNICAL INSTRUMENTATION FOR SETTLEMENT MONITORING
 - 33 05 07 21 SHAFT CONSTRUCTION
 - 33 05 07 23 CARRIER PIPE INSTALLATION
 - 33 05 07 24 JACKED STEEL CASING
 - 33 05 08 BACKFILL GROUT
- END SEAL SHALL BE CONSTRUCTED AT EACH END OF THE STEEL CASING. END SEAL TYPES ARE SHOWN IN THE DETAIL AS A PROOF OF CONCEPT ONLY. CONTRACTOR MAY ELECT TO CONSTRUCT EITHER TYPE OF END SEAL AT THEIR DISCRETION.
- CARRIER PIPE SHALL BE TESTED BEFORE INSTALLATION OF END SEALS.
- A 42-INCH STEEL CASING IS REQUIRED FOR UNGUIDED HAB INSTALLATION AS SHOWN ON PLAN. CASING SIZE MAY BE REDUCED TO MINIMUM 30-INCH STEEL CASING IF AN APPROVED GUIDED SYSTEM IS USED.

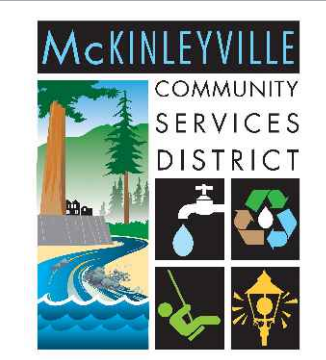


1 STEEL PIPE CASING SECTION AND PROFILE
NOT TO SCALE



2 ONE-WAY VALVE
NOT TO SCALE

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Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director	S. ALLEN	



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Client	MCKINLEYVILLE COMMUNITY SERVICES DISTRICT		Title	CIVIL DETAILS 2 OF 5
Project	HIGHWAY SEWER CROSSING RETROFIT		Project No.	12669030
Date	4/9/2026	Scale	AS SHOWN	

Size	ANSI D
Sheet No.	C-502
Sheet	13 of 16

SURVEY GRID
TR-0151 (Rev 07/2023)

LEGEND:

- Octagon Data Points required when the casing pipe diameter is < 96 inches
- △ Octagon & Triangle Data Points required when the casing pipe diameter is 96 inches or greater
- ☆ Settlement rod may be required when the casing diameter is > 60 inches (See TR-0152 in Appendix E for settlement rod detail)

EP Edge of Pavement

ETW Edge of Travel Way (Fog line, Yellow Stripe, etc.)

- S** Offset distance away from the pipe alignment must be a minimum of:
- 3' for casing outer diameters < 30"
 - 5' for casing outer diameters < 72" but ≥ 30"
 - 10' for casing outer diameters < 108" but ≥ 72"
 - 15' for casing outer diameters ≥ 108"

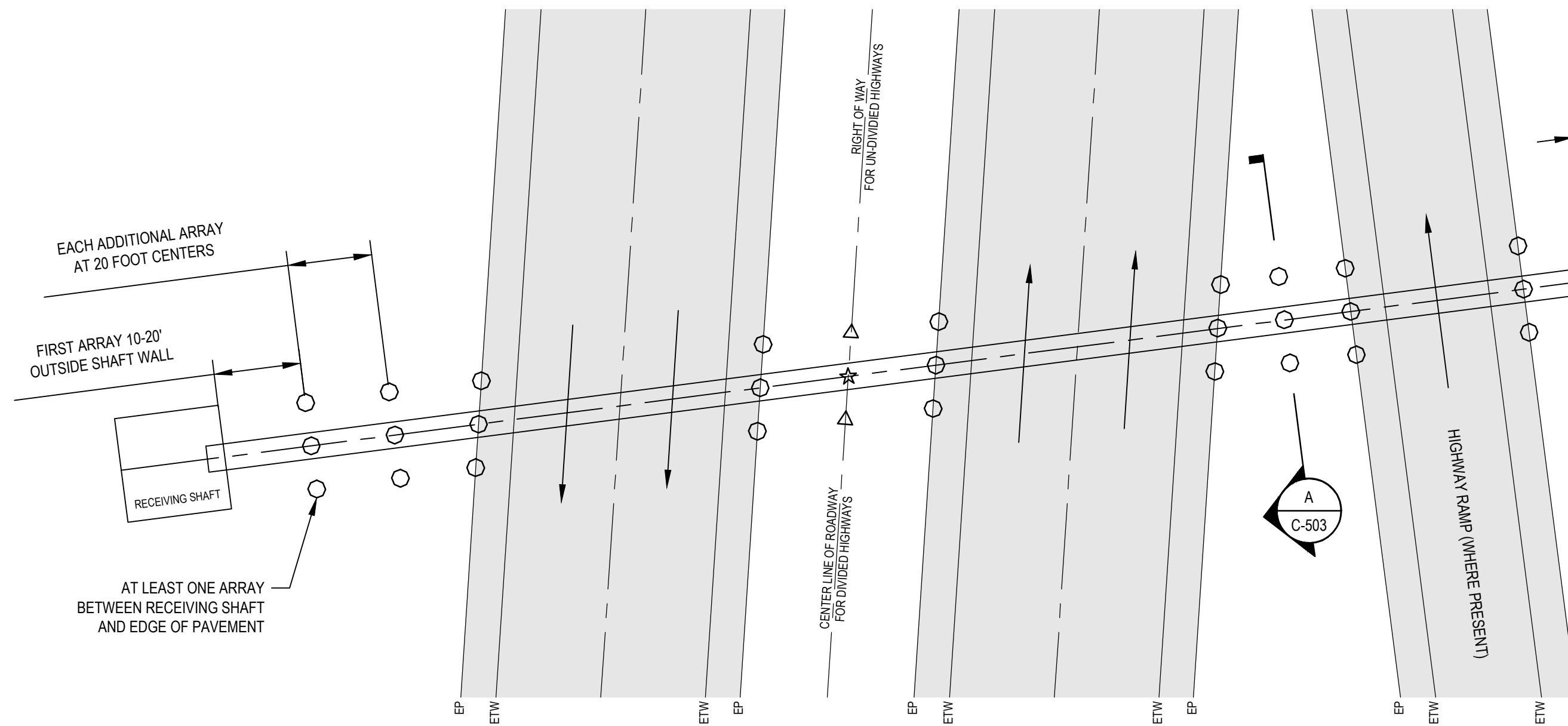
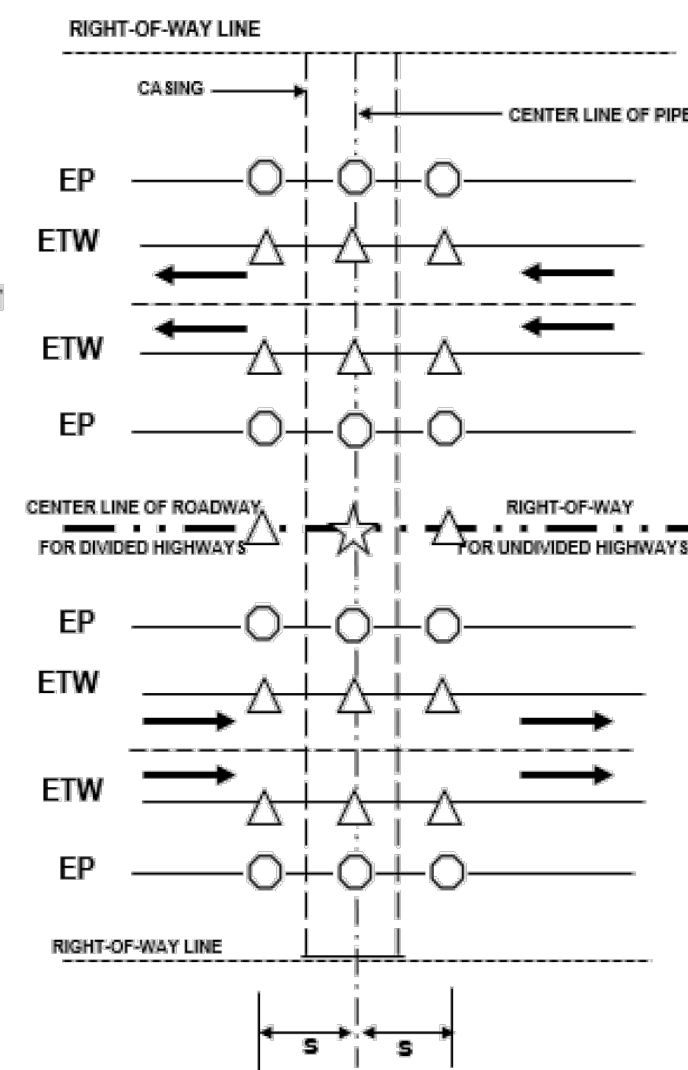
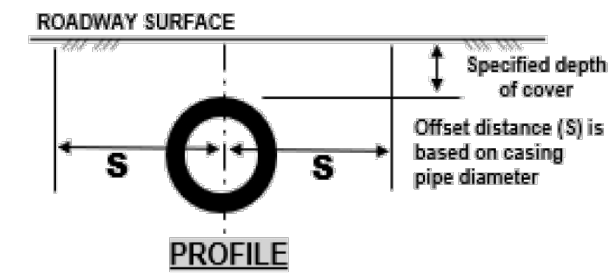
For longitudinal installations, survey the EP and ETW:

- every 50' if they fall within "S" for installation greater than 500' in length.
- every 20' if they fall within "S" for installation less than or equal to 500' in length.
- at locations of angle points or sharp turns.

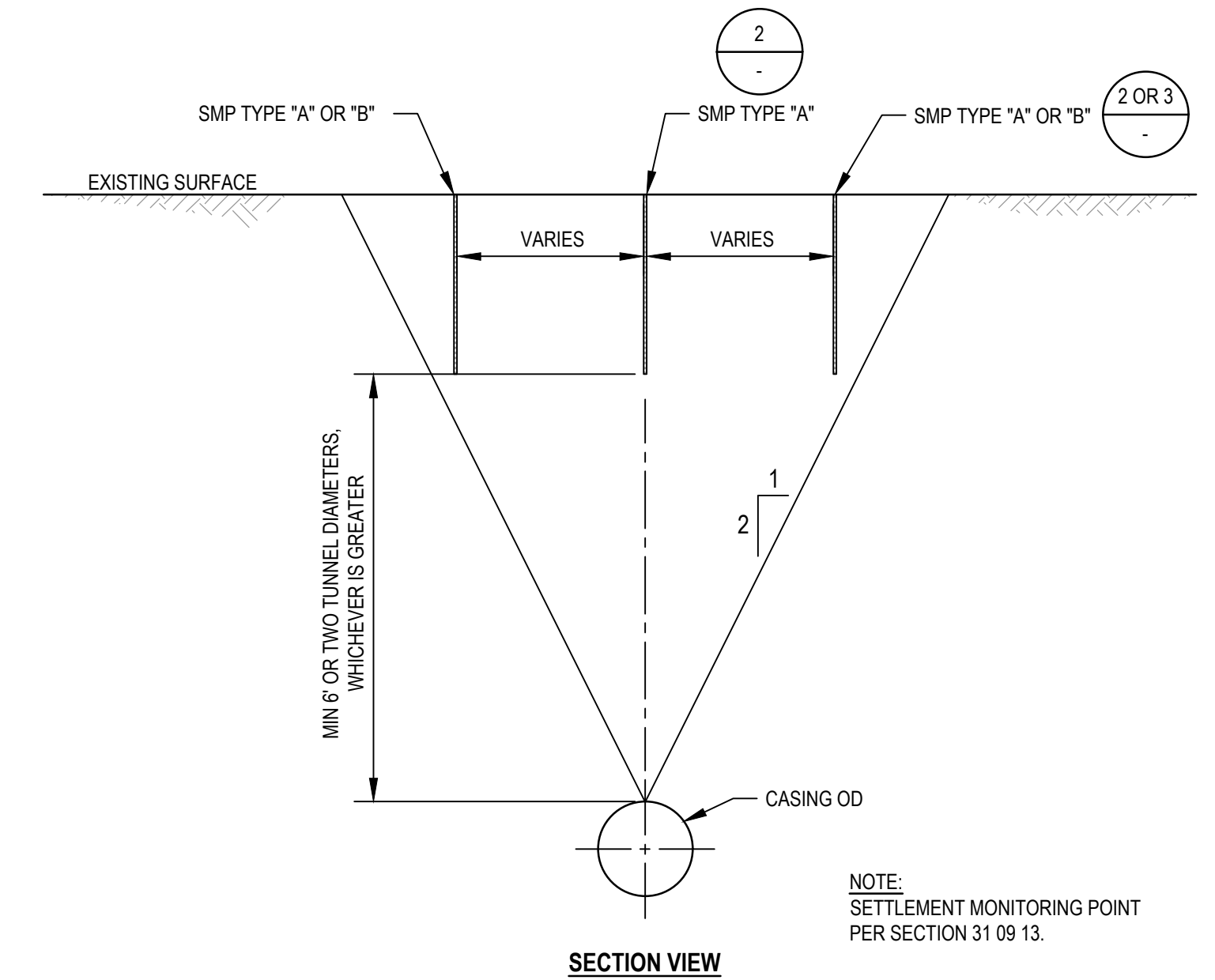
If any deformations or settlements are observed, Caltrans at its discretion may require surveys at shorter intervals as deemed necessary. Survey improvements such as concrete pads, overhead signs, traffic loops, electrical boxes/vaults, and other man-made improvements within S + 3'.

NOTES:
Survey data is to be collected at the specific points along the casing alignment at the following times:

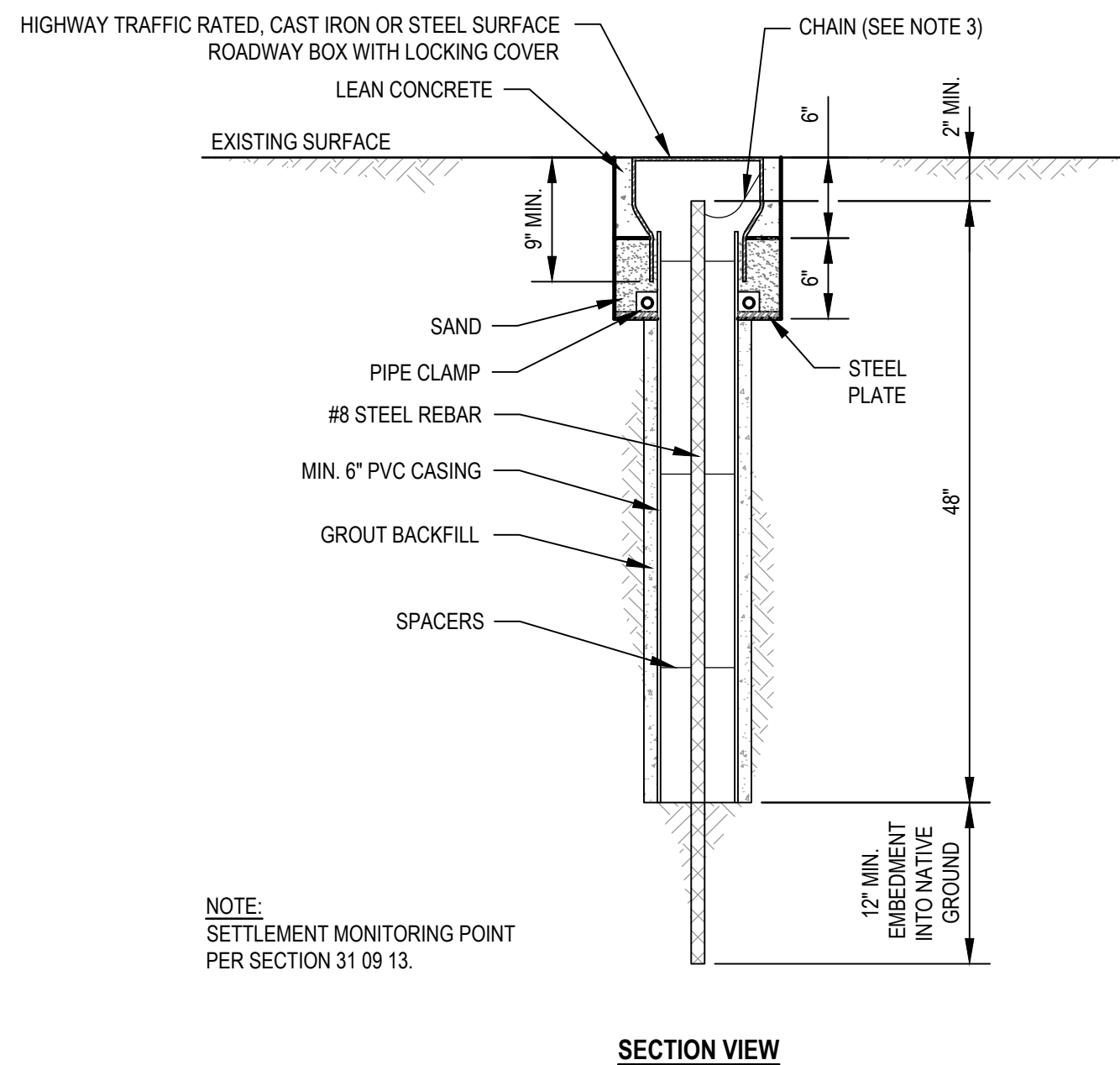
1. Prior to Start of Work.
2. Every two (2) hours continuously throughout the project.
3. Upon completion of the project.
4. Every two (2) months, during a six-month period after the data of



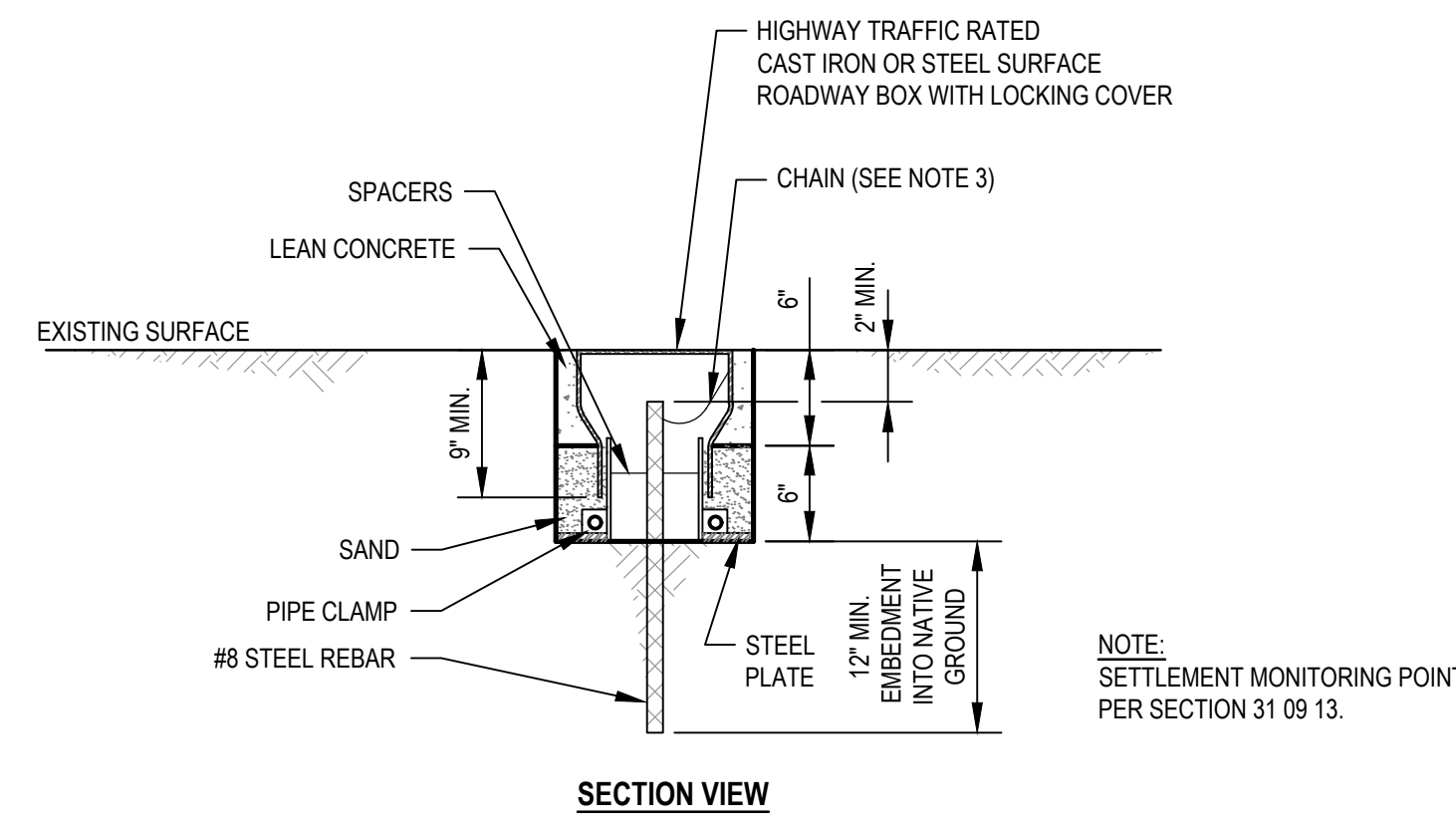
1 TYPICAL SETTLEMENT MONITORING POINT (SMP) ARRAY SURVEY GRID
C-503 NOT TO SCALE



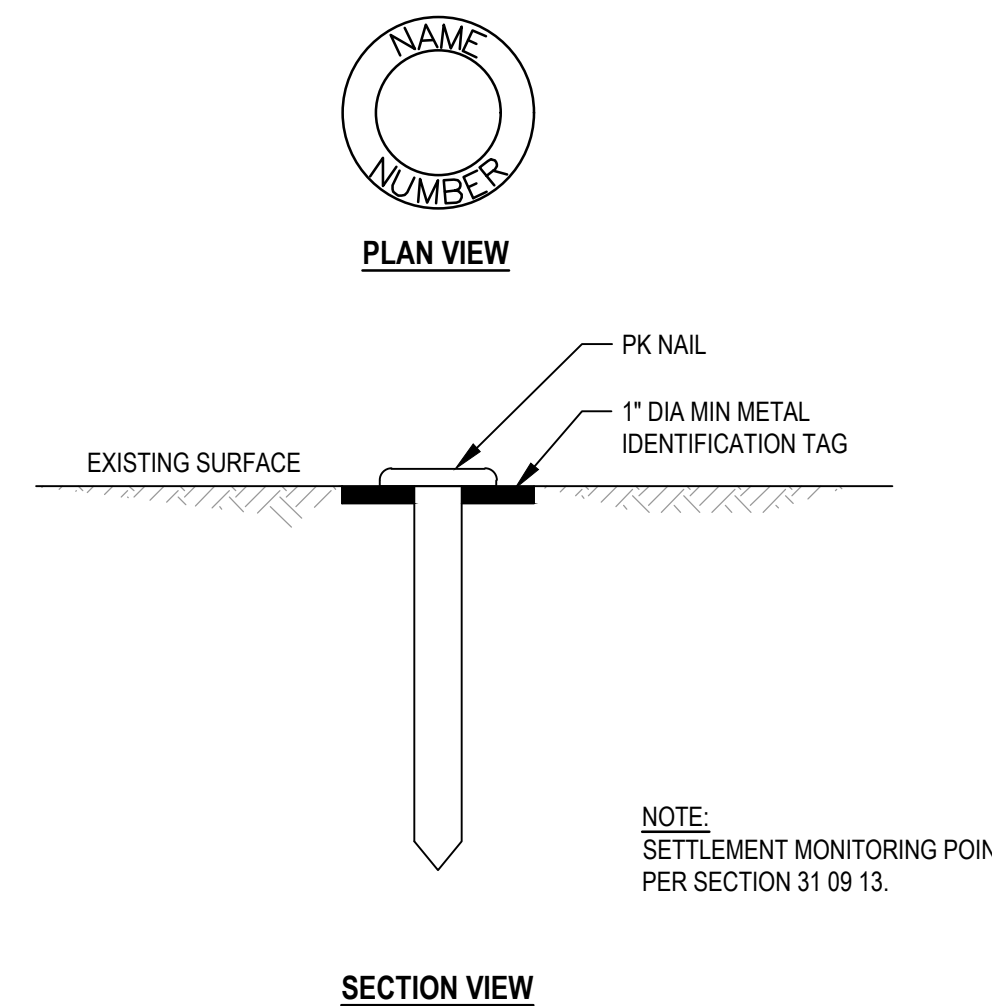
A SMP 3-POINT ARRAY
C-503 NOT TO SCALE



2 TYPE "A" SMP DETAIL
C-503 NOT TO SCALE



3 TYPE "B" SMP DETAIL
C-503 NOT TO SCALE



4 TYPE "C" SMP DETAIL
C-503 NOT TO SCALE

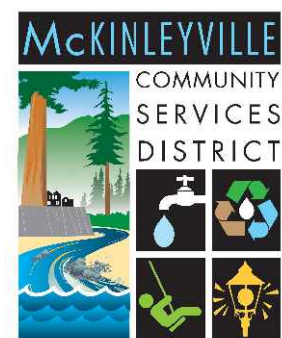
SHEET GENERAL NOTES

1. MODIFIED SETTLEMENT ARRAY SURVEY GRID PER CALTRANS STANDARD TO SHOW MONITORING ON NON-PERPENDICULAR INCIDENCE ANGLES BETWEEN ALIGNMENT AND TRAVELLED WAY.
2. SMP ARRAY SURVEY GRID PER SECTION 31 09 13.
3. CHAIN TO RESTRAIN REBAR FROM FALLING INTO SMP. CHAIN SHALL NOT INTERFERE WITH THE ABILITY TO TAKE MEASUREMENTS.
4. SPECIFICATION SECTIONS:
31 09 13 GEOTECHNICAL INSTRUMENTATION AND MONITORING

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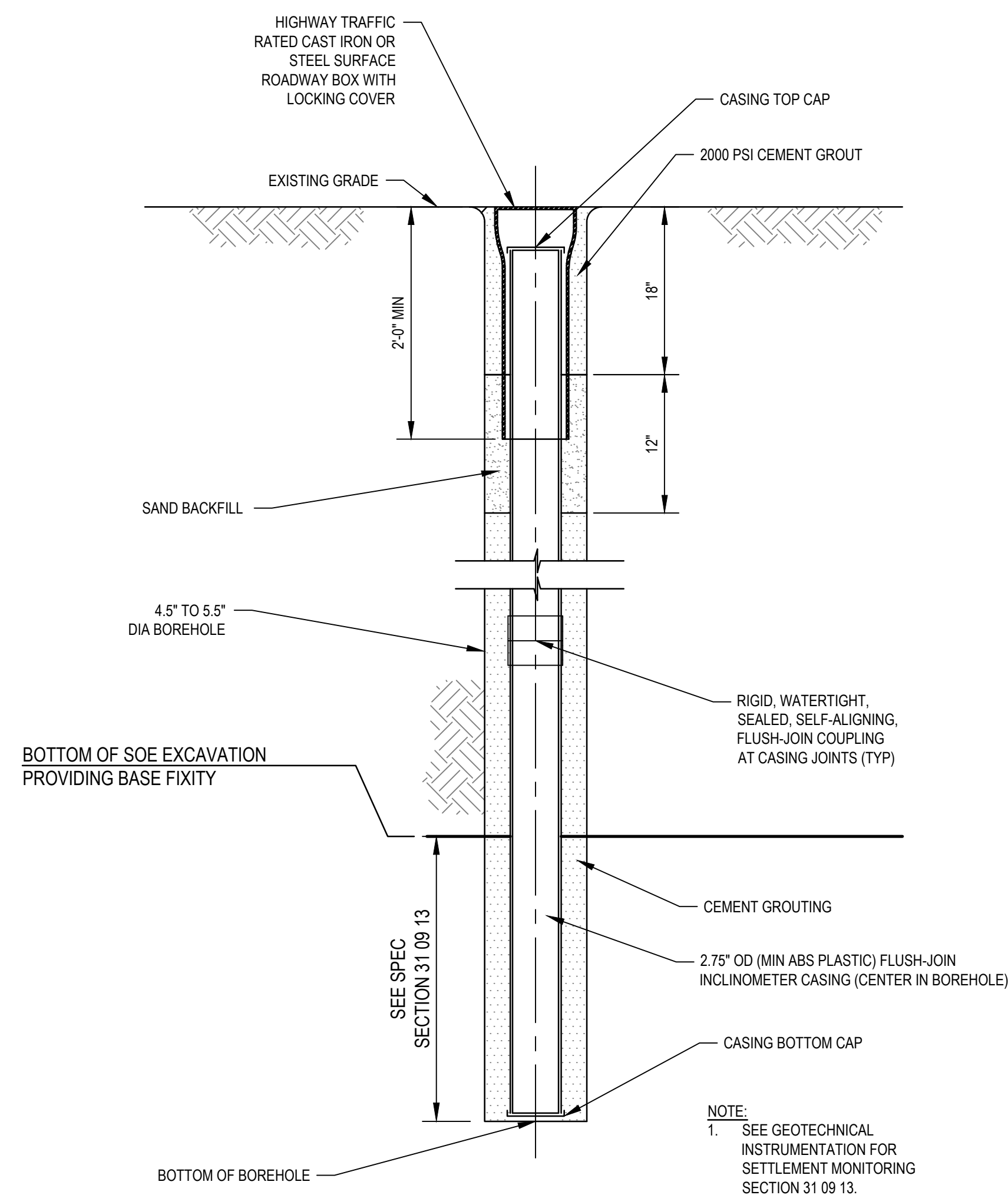


Client **MCKINLEYVILLE COMMUNITY SERVICES DISTRICT**
Project **HIGHWAY SEWER CROSSING RETROFIT**

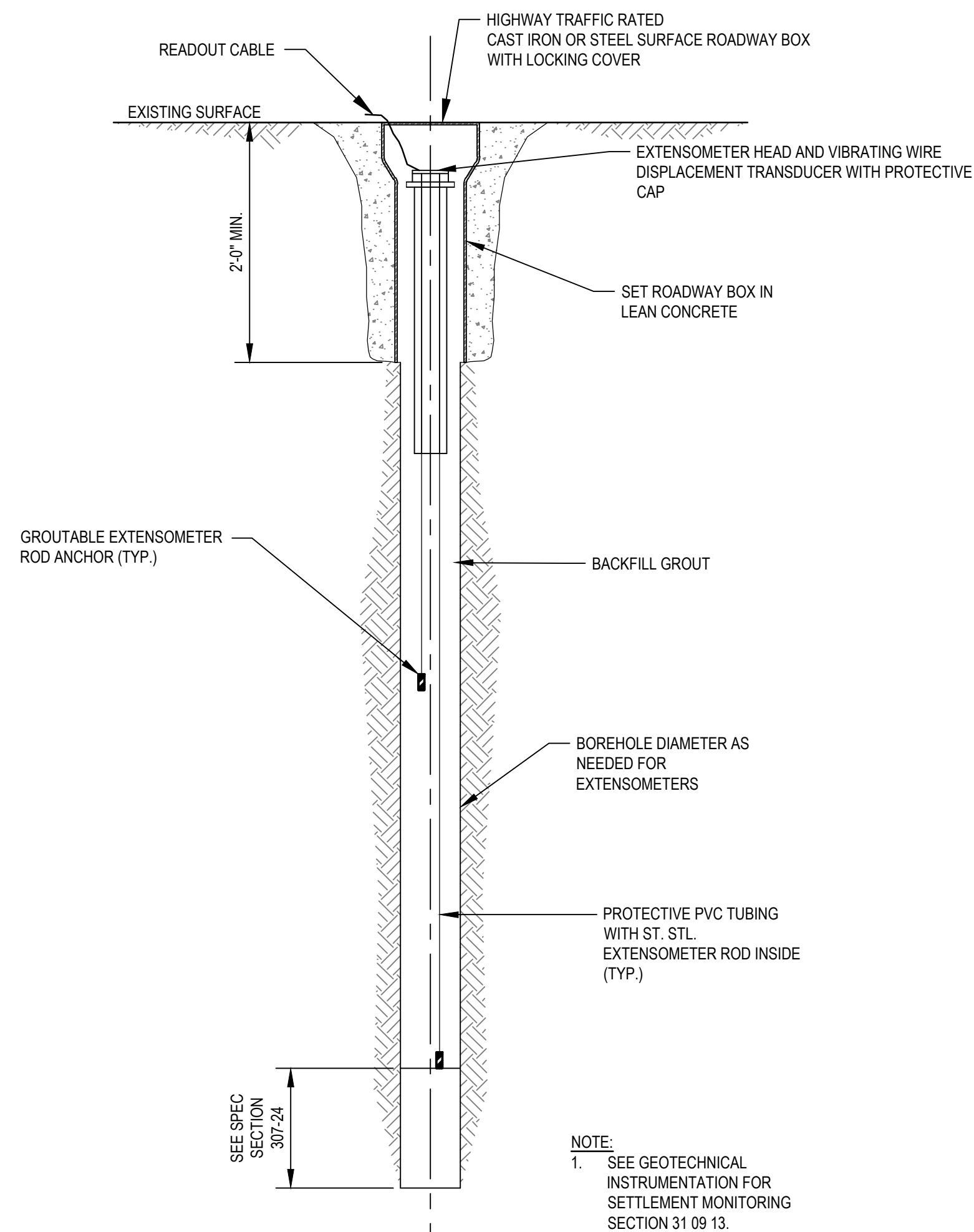
Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

Title **CIVIL DETAILS 3 OF 5**

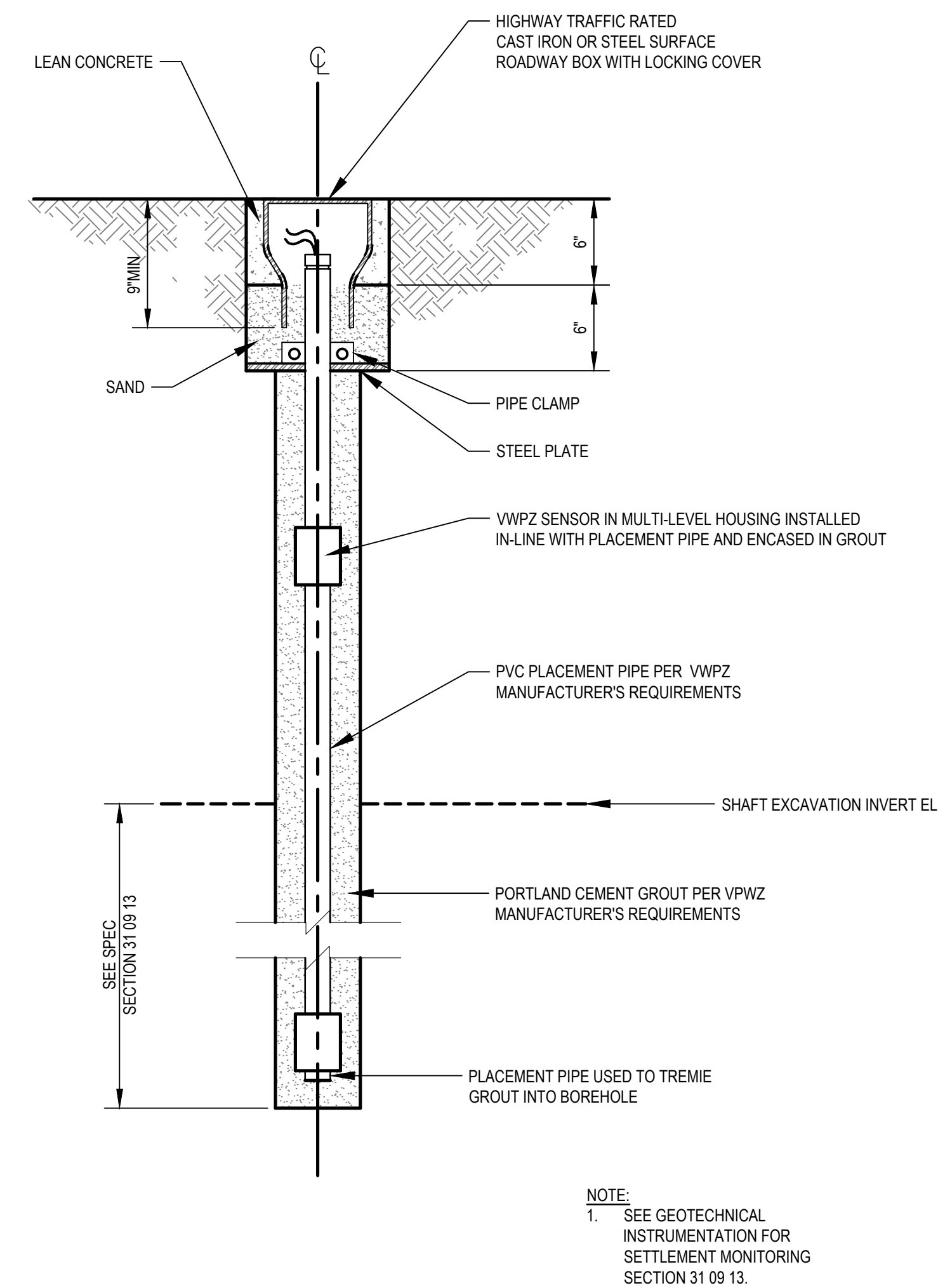
Sheet No. **C-503** Sheet **14 of 16**



1 INCLINOMETER (INC)
C-504 NOT TO SCALE

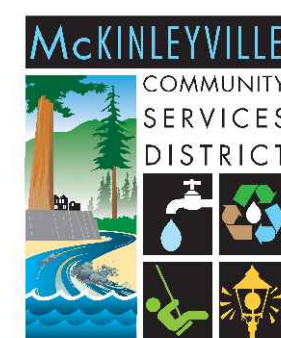


2 MULTI-POINT BOREHOLE EXTENSOMETER (MPBX)
C-504 NOT TO SCALE



3 VIBRATING WIRE PIEZOMETER (VWPZ)
C-504 NOT TO SCALE

0 ISSUE FOR BID				LH	PS	4/9/2026
No.	Issue	Checked	Approved	Date		
Author	E. STOCKWELL	Drafting Check	L. HALONEN	Project Manager	P. SULLIVAN	
Designer	R. RIOS	Design Check	P. SULLIVAN	Project Director	S. ALLEN	



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0 1"



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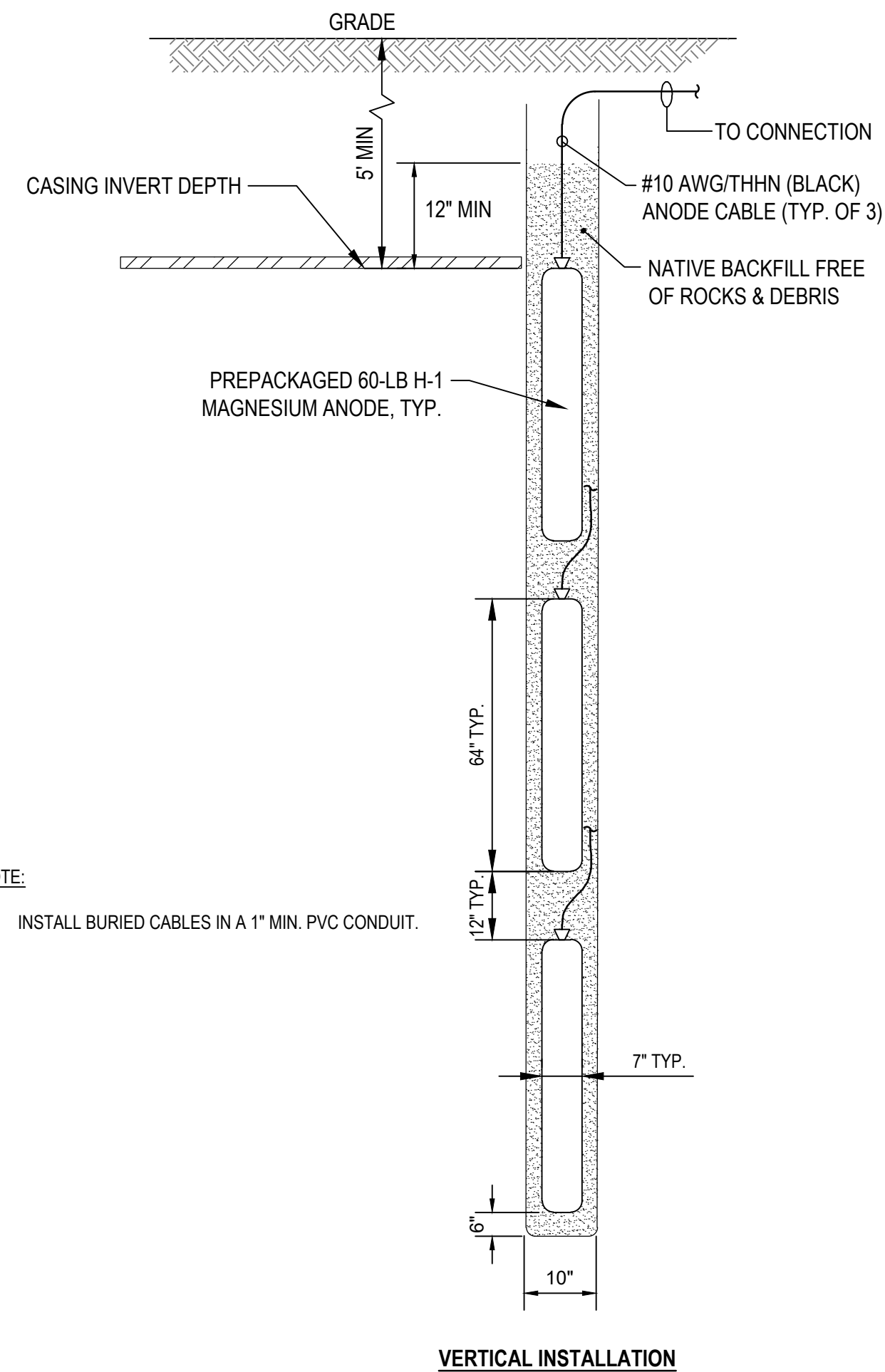


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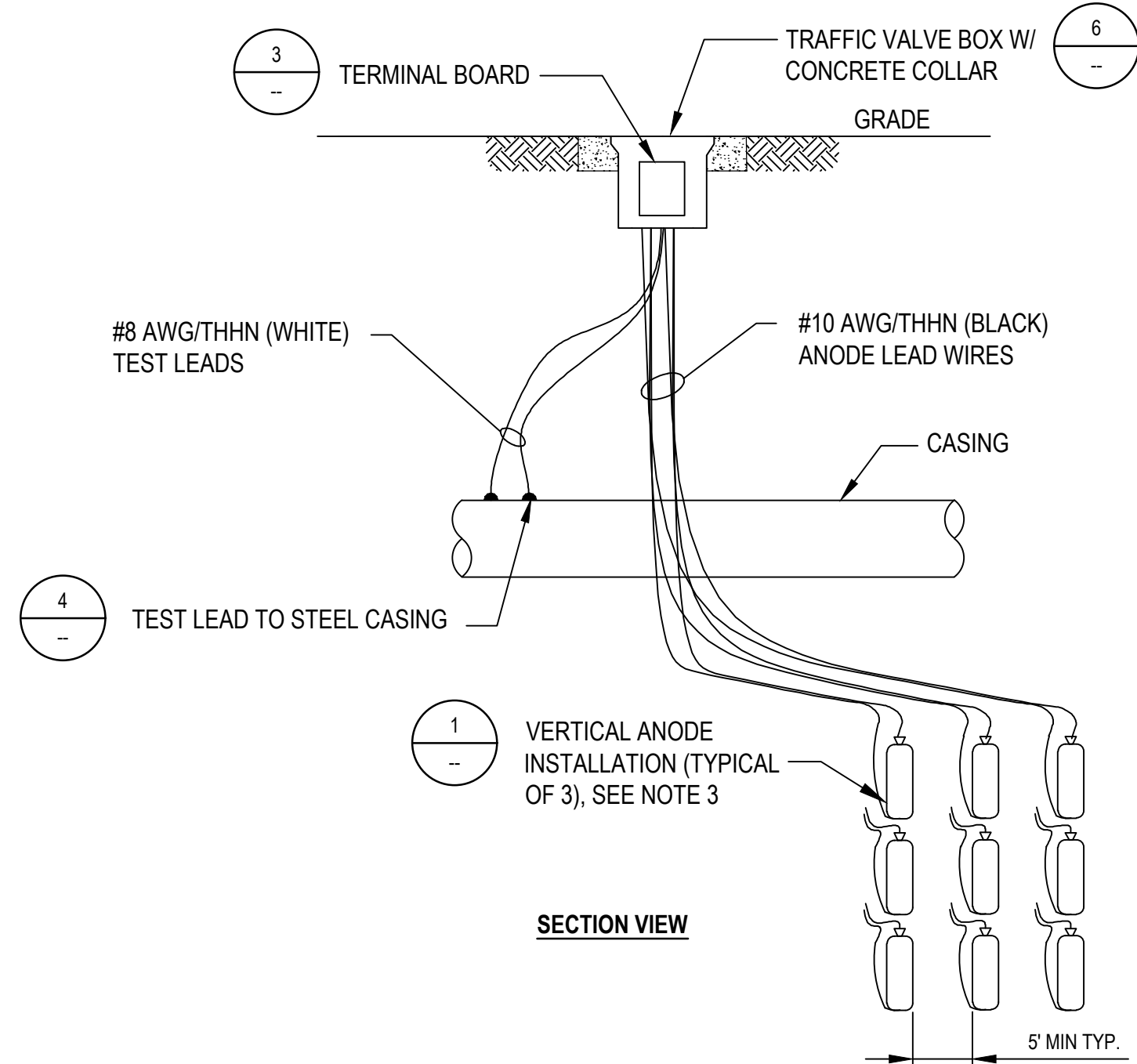
Title **CIVIL DETAILS 4 OF 5**

Project No. **12669030** Date **4/9/2026** Scale **AS SHOWN**

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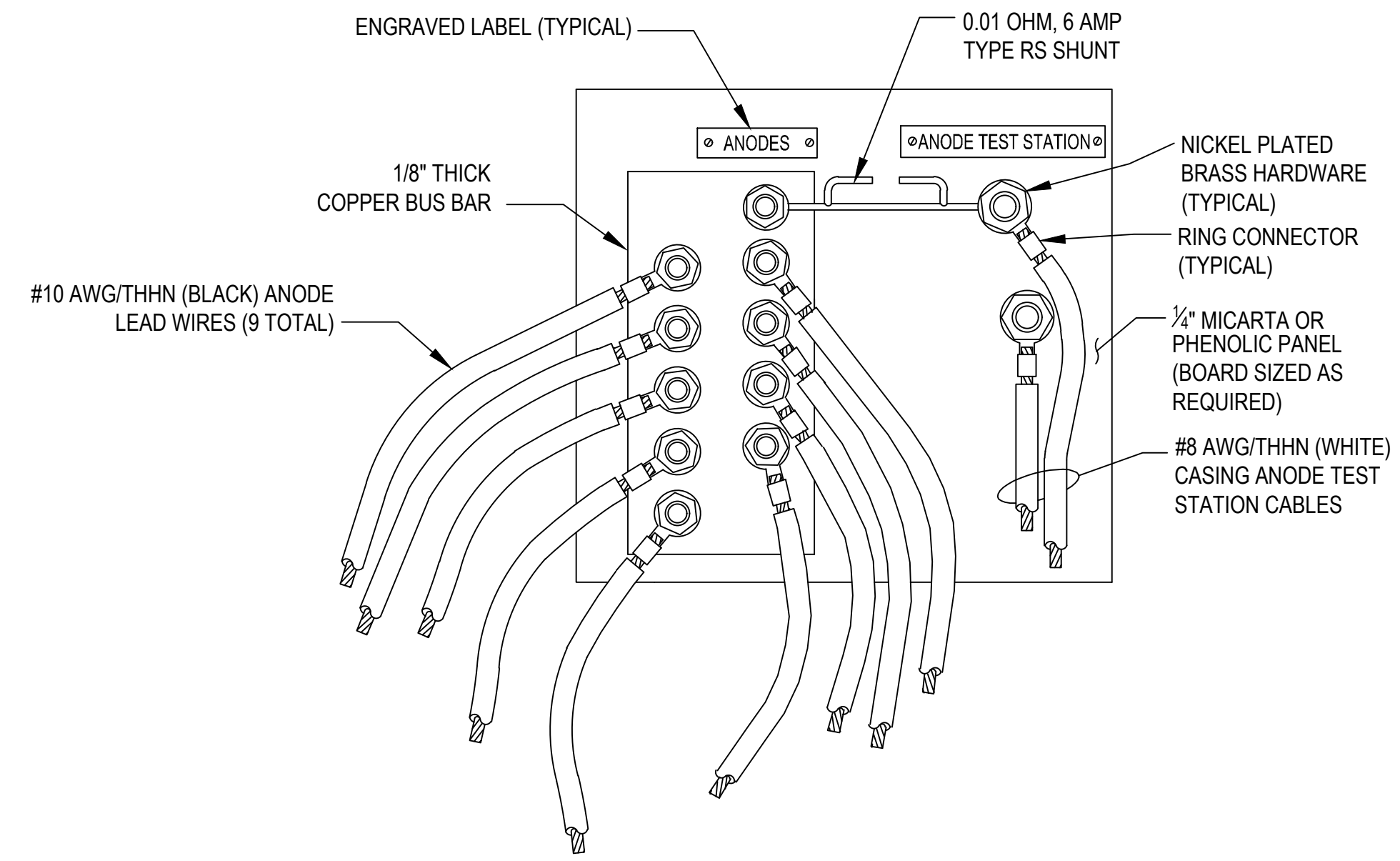


1 ANODE INSTALLATION
C-505 NOT TO SCALE

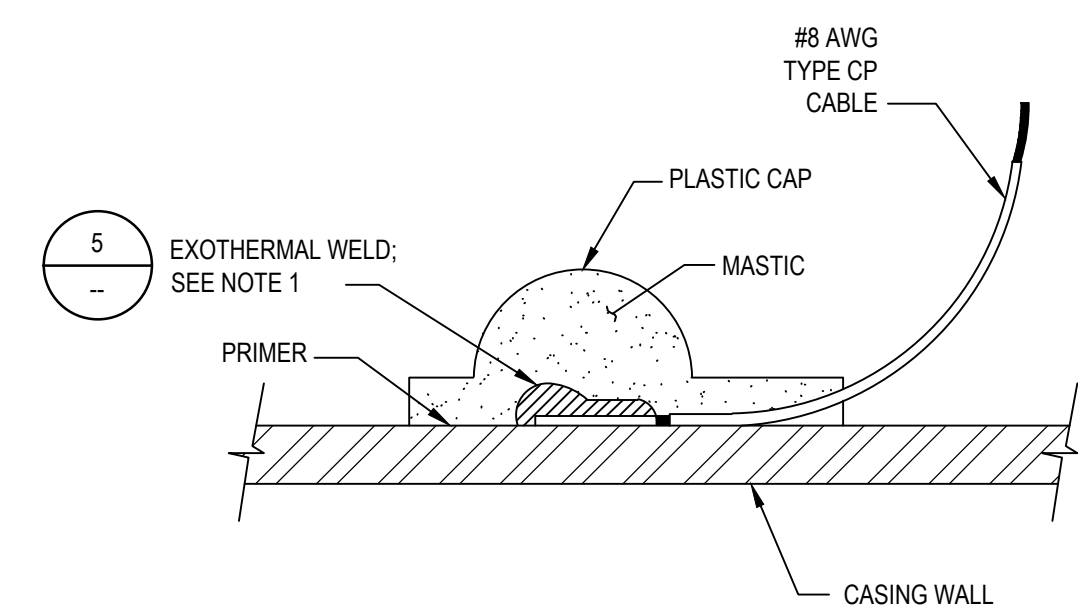


2 CASING ANODE TEST STATION
C-505 NOT TO SCALE

- NOTES:**
1. INSTALL ANODES WITH 5-FOOT MINIMUM AND 15-FOOT MAXIMUM LATERAL SEPARATION FROM CASING.
 2. INSTALL BURIED CABLES IN A 1" MIN. PVC CONDUIT.
 3. INSTALL TOTAL OF (9) 60-LB H-1 MAGNESIUM ANODES EACH TEST STATION LOCATION.

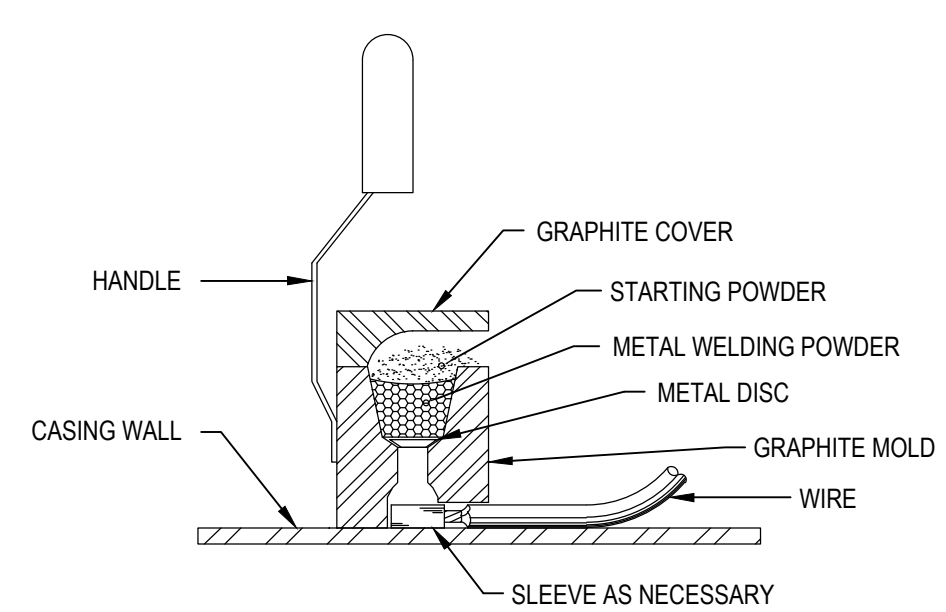


3 TERMINAL BOARD FOR CASING ANODE TEST STATION
C-505 NOT TO SCALE



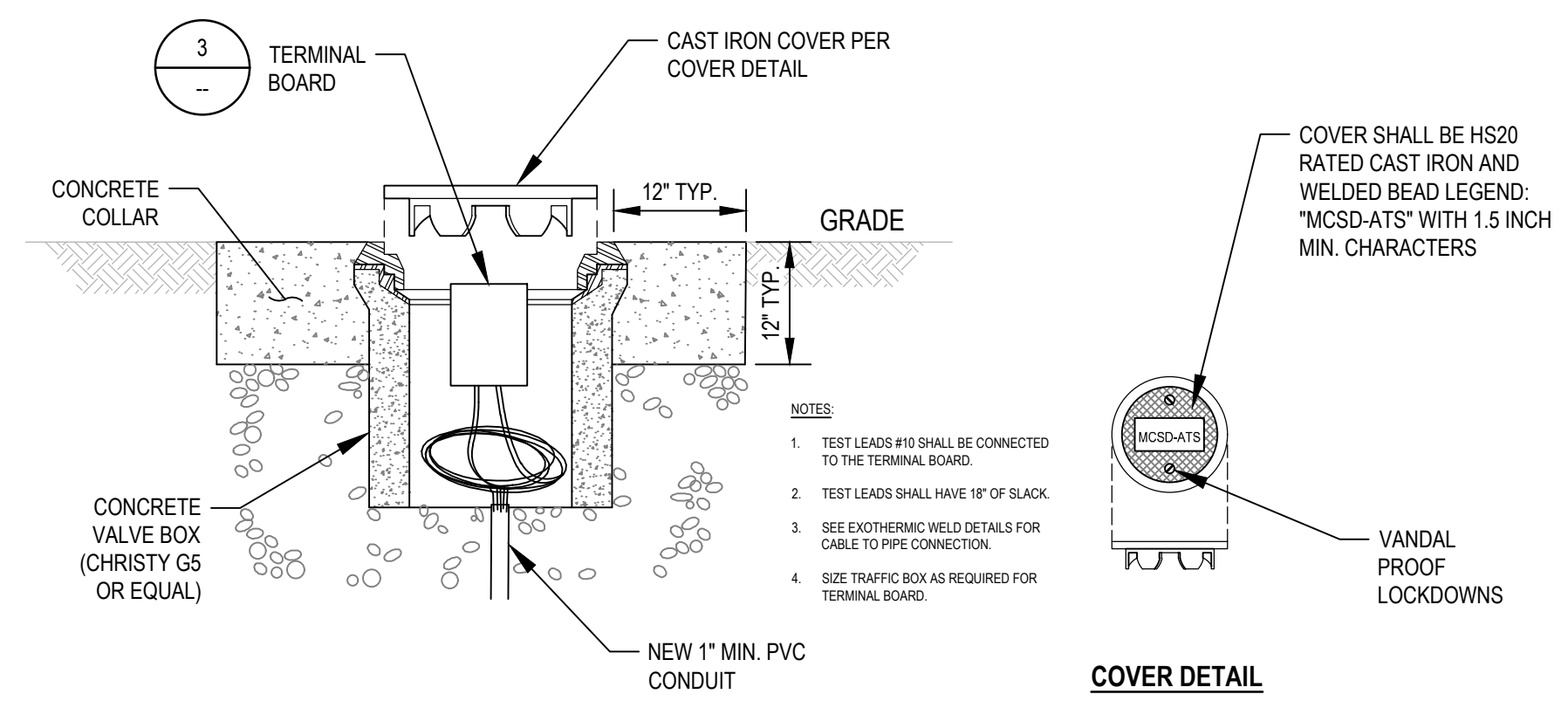
4 TEST LEAD TO STEEL CASING
C-505 NOT TO SCALE

- NOTES:**
1. COAT EXOTHERMAL WELD, PIPE AND WIRE WITH "747" PRIMER BY ROYSTON LABORATORIES OR EQUAL AND INSTALL ROYSTON HANDY CAP OR EQUAL TO PROTECT WELD.



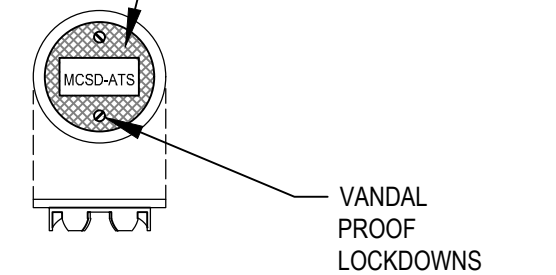
5 EXOTHERMIC WELD
C-505 NOT TO SCALE

- EXOTHERMAL WELDING PROCEDURE:**
1. PREPARE STRUCTURE CONNECTION AREA TO BARE SHINY METAL AND CLEAN. REMOVE A MINIMUM AMOUNT OF THE EXISTING COATING REQUIRED FOR PLACEMENT OF THE WELD MOLD ON THE STEEL STRUCTURE. THE STEEL'S SURFACE MUST BE COMPLETELY CLEAN AND DRY (NEAR WHITE METAL SURFACE PREPARATION).
 2. PLACE GRAPHITE MOLD OVER OR NEXT TO PIPE SURFACE. INSERT A STEEL DISK INTO THE BOTTOM OF THE CAVITY INSIDE THE MOLD. STANDARD WELD CARTRIDGES SHALL BE USED FOR STEEL SURFACES. FOR DUCTILE IRON, USE XF-19 ALLOY OR EQUIVALENT. DUMP THE WELD METAL INTO MOLD BEING CAREFUL NOT TO UPSET THE STEEL DISK. TAP THE BOTTOM OF THE TUBE TO LOOSEN ALL THE STARTING POWDER AND SPREAD IT EVENLY OVER THE WELD METAL. PLACE A SMALL AMOUNT OF STARTING POWDER ON THE TOP EDGE OF MOLD UNDER THE COVER OPENING FOR EASY IGNITION. CLOSE THE COVER.
 3. STRIP INSULATION FROM WIRE. WHEN USING NO 10 TO NO 14 AWG WIRE CONDUCTORS, IT WILL BE NECESSARY TO INSTALL A COPPER SLEEVE OF ADEQUATE SIZE OVER THE BARE END WIRE AND CRIMP IN PLACE BEFORE ATTEMPTING TO MAKE THE CONNECTION. THE WIRE SHOULD PROTRUDE AT LEAST 1/8" FROM THE END OF THE SLEEVE.
 4. INSERT THE CONDUCTOR INTO THE MOLD NOTING ANY SPECIAL INFORMATION UNDER "POSITIONING" IN THE MANUFACTURERS INSTRUCTIONS PACKAGED WITH THE WELDER.
 5. FOLLOW ALL PERTINENT SAFETY PRECAUTIONS PER THE MANUFACTURER'S INSTRUCTIONS. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN. MOVE FLINT GUN AWAY QUICKLY TO PREVENT FOULING. IF FLINT GUN SHOULD BECOME FOULED, SOAK IT IN HOUSEHOLD AMMONIA.
 6. AFTER IGNITION, HOLD THE WELDER IN PLACE FOR A MOMENT TO ALLOW THE WELD TO SOLIDIFY. AFTER THE WELD HAS COOLED, REMOVE THE SLAG WITH A CHIPPING HAMMER OR WIRE BRUSH.
 7. TEST THE WELD INTEGRITY BY STRIKING IT FROM THE SIDE WITH A TWO POUND A TYPICAL PROBLEM FOR THIS TYPE OF WELD IS POOR SURFACE PREPARATION OF THE STEEL. THIS SITUATION WILL RESULT IN THE WELD NUGGET BEING ABLE TO BE KNOCKED OFF THE STEEL WITH THE TAP OF A HAMMER. IF THE WELD COMES OFF, MOVE AWAY A MINIMUM OF 3" AND REPEAT STEPS 1 THROUGH 7. DO NOT REWELD IN THE SAME LOCATION.
 8. WET OR DAMP MOLDS WILL PRODUCE POROUS WELDS. MOLDS MUST BE DRIED OUT BEFORE ATTEMPTING TO WELD.

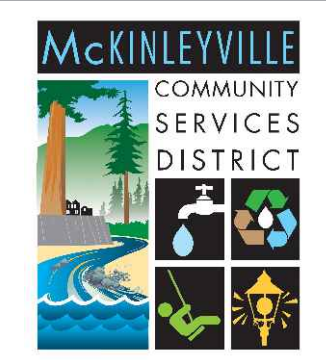


6 FLUSH MOUNTED TRAFFIC VALVE BOX DETAIL
C-505 NOT TO SCALE

- NOTES:**
1. TEST LEADS #10 SHALL BE CONNECTED TO THE TERMINAL BOARD.
 2. TEST LEADS SHALL HAVE 18" OF SLACK.
 3. SEE EXOTHERMIC WELD DETAILS FOR CABLE TO PIPE CONNECTION.
 4. SIZE TRAFFIC BOX AS REQUIRED FOR TERMINAL BOARD.



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Designer	J. KNAUER	Design Check	P. SULLIVAN	Project Director	S. ALLEN	



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Title **CIVIL DETAILS 5 OF 5**

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