

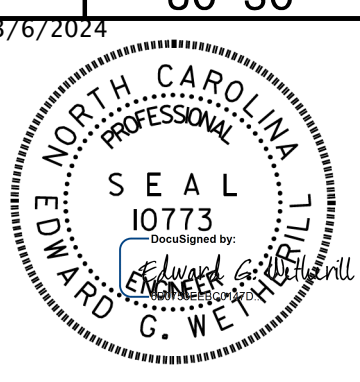
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - SURVEY/SUE - UTILITIES - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. HB-0002 SHEET NO. UC-3C

DESIGNED BY: PKP
DRAWN BY: TWR
CHECKED BY: PKP
APPROVED BY: SLK
REVISED:

8/6/2024

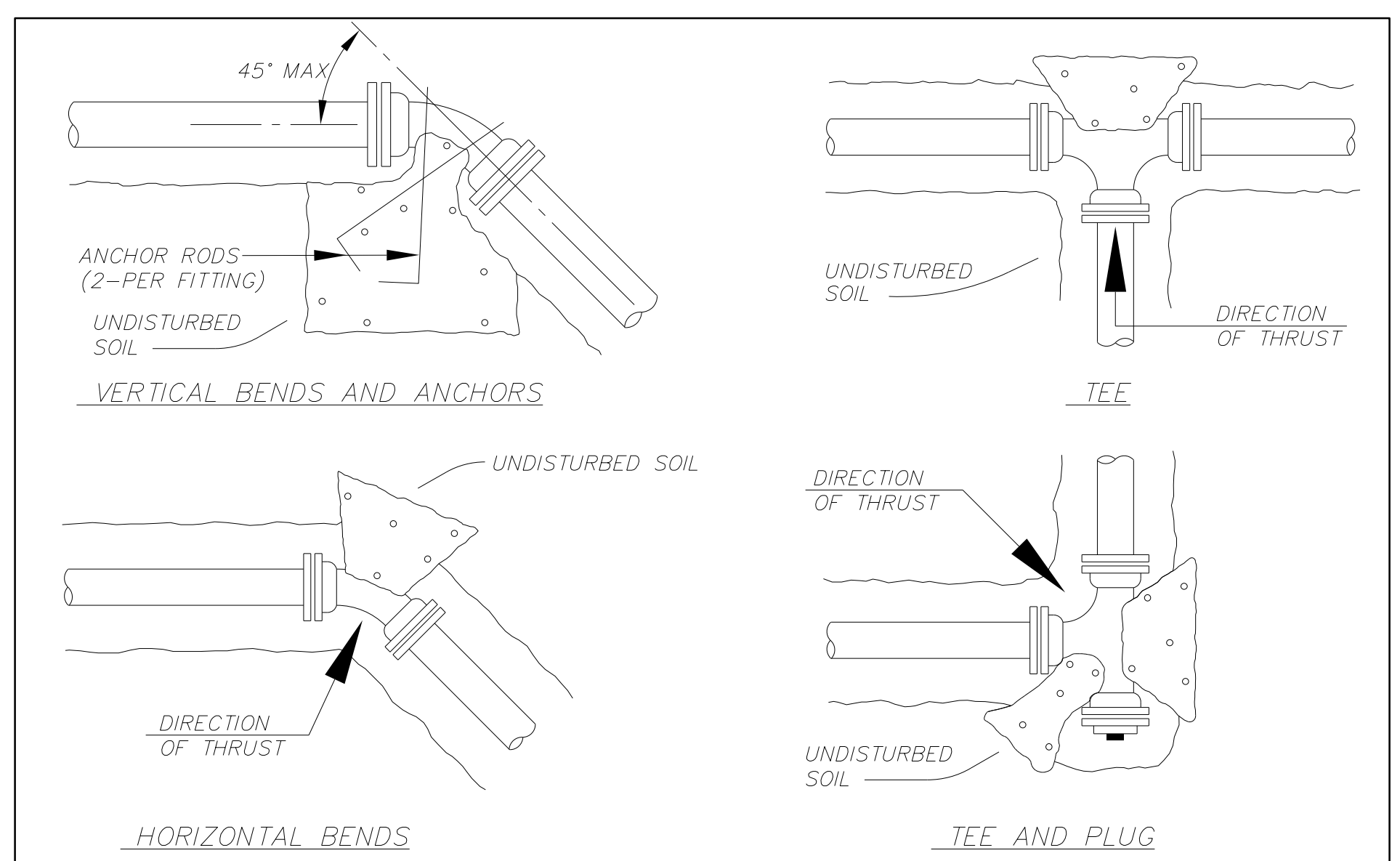


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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UTILITY CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

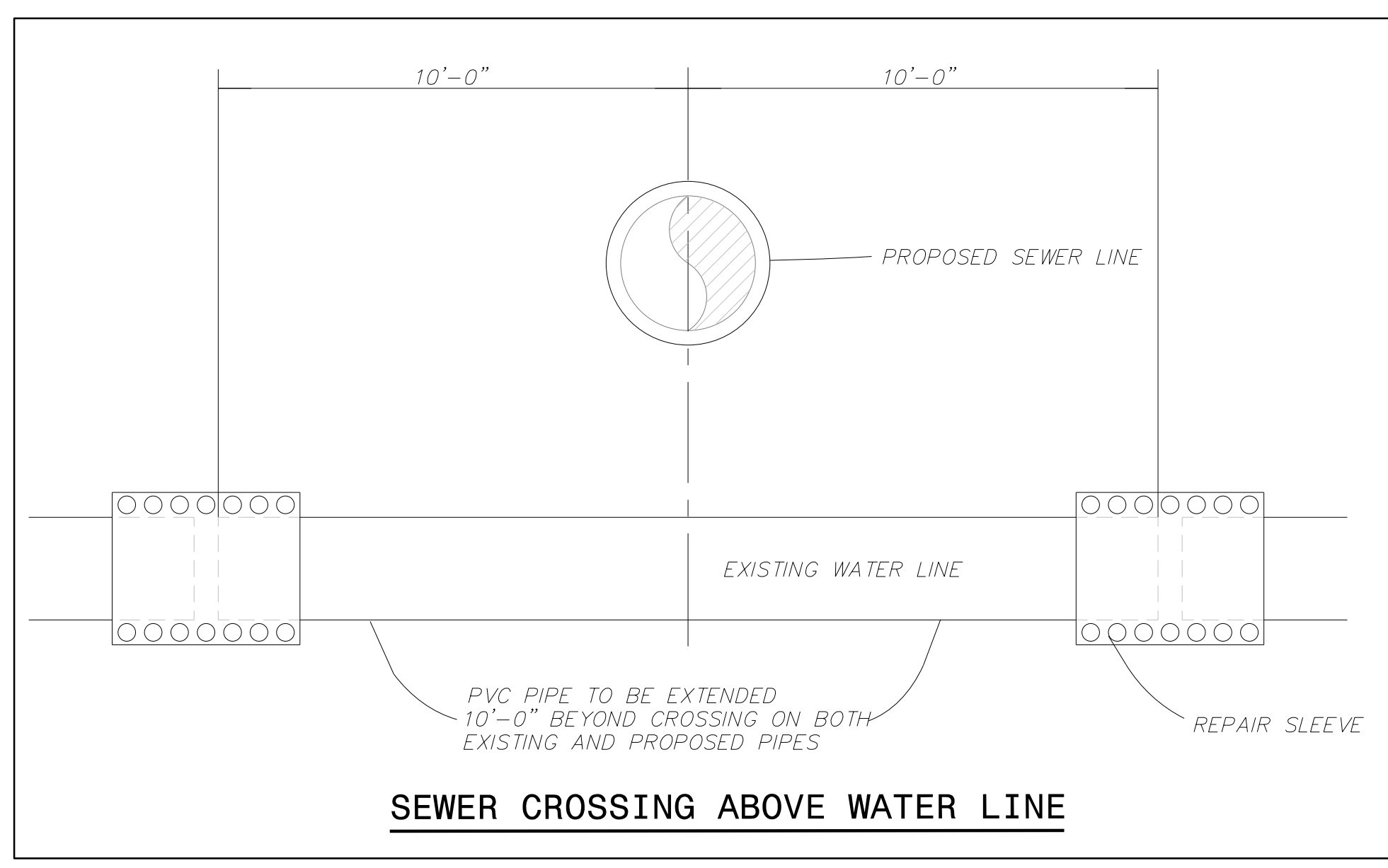
PROJECT TYPICAL DETAILS



FITTING SIZE	BEARING AREA IN SQUARE FEET					CONCRETE SCHEDULE VERTICAL BENDS MIN. CU. YARDS CONCRETE					ANCHOR ROD SIZE FOR VERTICAL BEND AND ANCHORS
	TEE/PLUG	90°	45°	22-1/2'	11-1/4'	90°	45°	22-1/2'	11-1/2'		
4"	1	2	1	1	1	1	1	1	1	1/2"	
6"	3	3	2	1	1	1	1	1	1		
8"	4	6	3	2	1	2	2	1	1	3/4"	
10"	7	9	5	3	2	3	3	2	1		
12"	9	12	7	4	2	5	3	2	1	7/8"	
14"	12	17	9	5	3	6	4	3	2		
16"	16	22	12	6	3	8	6	3	2	1-1/8"	
18"	20	27	15	8	4	10	7	4	2		
20"	24	34	18	10	5	12	9	5	3	1-3/8"	
24"	34	48	26	14	7	17	12	7	4		
30"	53	75	41	21	11	27	19	10	5		
36"	77	108	59	30	15	38	27	15	8		

- NOTES:**
- MINIMUM BEARING AREA (IN SQUARE FEET) AGAINST UNDISTURBED TRENCH WALL OF SAND.
 - AREAS SHOWN ARE FOR 150 PSI TEST PRESSURE. IF TEST PRESSURE IS OTHER THAN 150 PSI, ADJUST AREA OF REACTION BACKING IN DIRECT PROPORTION.
 - OTHER SOIL CONDITIONS CEMENTED SAND OR HARDPAN - MULTIPLY ABOVE BY 0.5
GRAVEL OR HARD DRY CLAY - MULTIPLY ABOVE BY 0.7
SOFT CLAY - MULTIPLY ABOVE BY 2.0
MUCK: SECURE ALL FITTINGS WITH APPROVED HARNESS OR TIE ROD CLAMPS, WITH CONCRETE REACTION BACKING THE SAME AS LISTED FOR SAND CONDITIONS.

THRUST BLOCKING AND ANCHORING

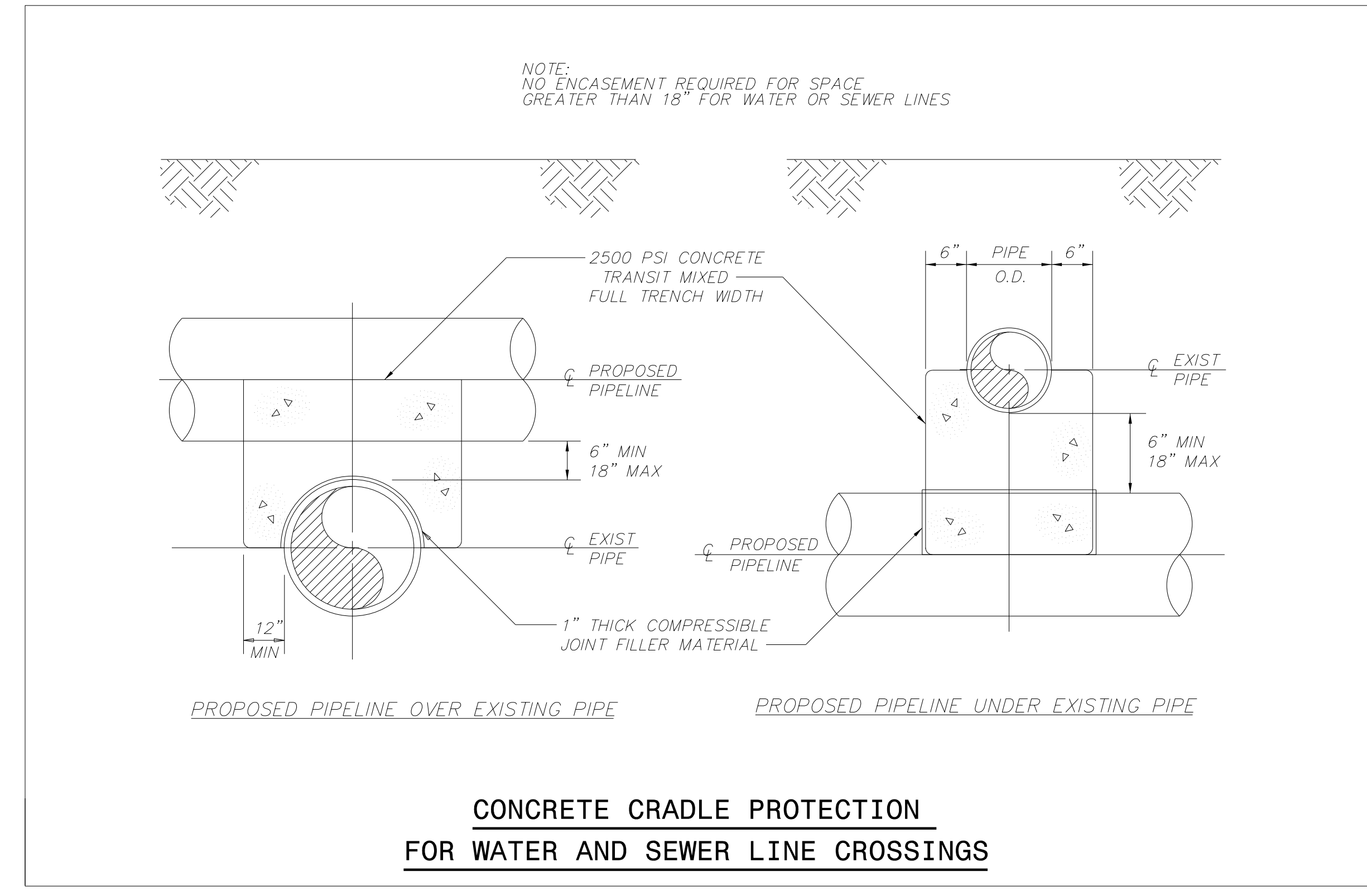


BORE AND JACK DETAIL

NOTES:

- CASING SHALL BE UNCOATED SPIRAL WELDED STEEL MEETING ASTM A-139, GRADE B WITH A YIELD STRENGTH OF 35,000 PSI.
- CROSSINGS ON NCDOT MAINTAINED ROADS TO BE IN ACCORDANCE WITH CURRENT NCDOT STANDARDS AND APPROVED ENCROACHMENT AGREEMENT.
- RESTRAINED JOINT PIPE ONLY. MEGE-LUGS ARE NOT PERMITTED.
- SUPPORTS SHALL BE MANUFACTURED BY ADVANCE PRODUCTS & SYSTEMS, INC, PIPELINE SEAL AND INSULATOR LTD, OR BWM COMPANY.
- THREE SUPPORTS SHALL BE INSTALLED ON EACH PIPE SEGMENT.
- LARGER ENCASEMENT SIZES MAY BE UTILIZED AT THE DISCRETION OF THE DESIGN ENGINEER AND/OR CONTRACTOR FOR EASE OF INSTALLATION AS LONG AS ALL OTHER DESIGN CRITERIA IS MET.

CARRIER PIPE NOMINAL DIAMETER (INCHES)	CASING MINIMUM INSIDE DIAMETER (INCHES)	NOMINAL WALL THICKNESS (INCHES)
6	14	.375
8	16	.375
10	18	.375
12	20	.375
14	24	.375
16	30	.500
18	30	.500
20	36	.500
24	36	.625
30	42	.625
36	48	.750
42	54	.875



REVISIONS

8/16/2023
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WETHERILL