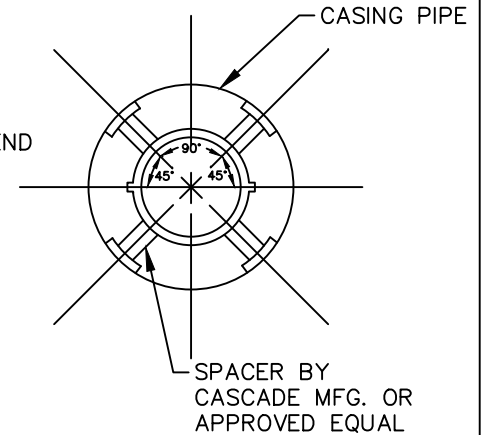
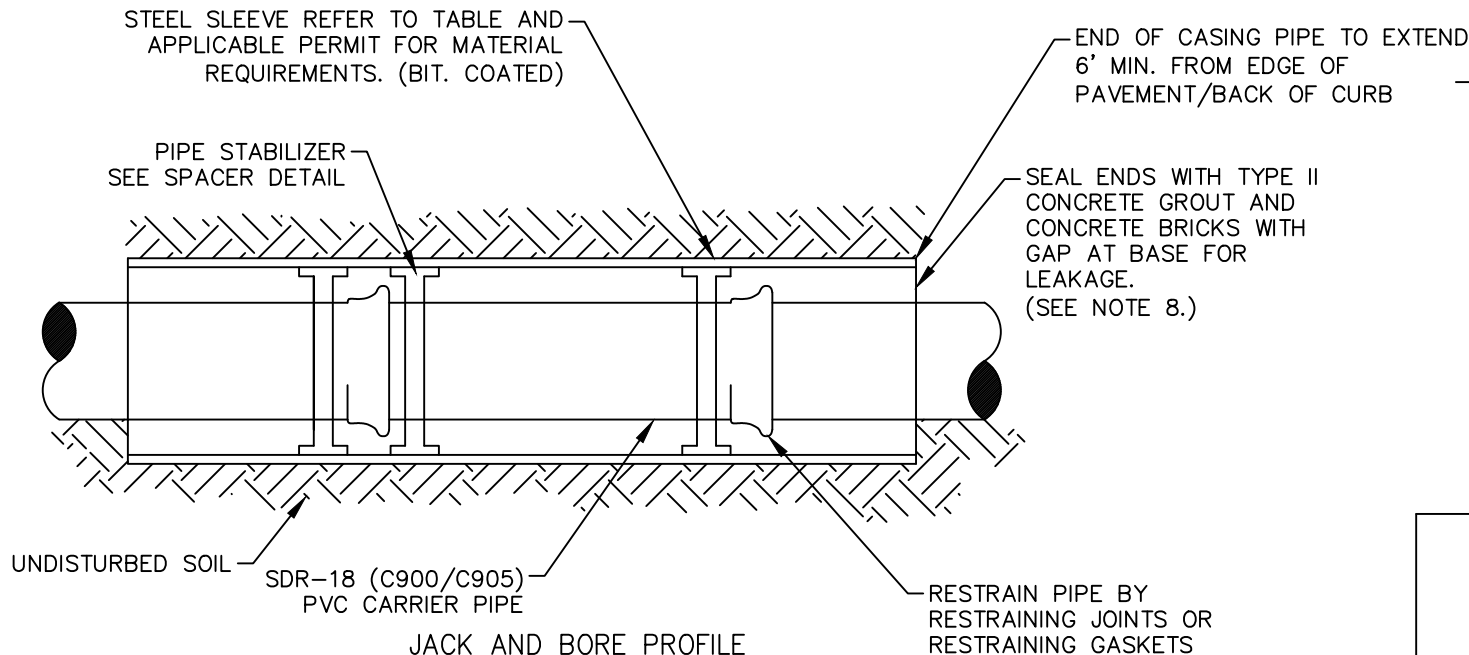


NOTES:

1. REFER TO APPLICABLE PERMIT FOR MINIMUM REQUIREMENTS GOVERNING HIGHWAY OR RAILROAD UNDERCROSSINGS.
2. THE DIAMETER AND THICKNESS OF THE CASING PIPE SHALL BE AS LISTED IN THE TABLE SHOWN IN THIS DETAIL.
3. REFER TO DETAIL AND AGENCY PERMIT FOR LENGTH AND DEPTH REQUIREMENTS.
4. USE CASING SPACERS (SEE DETAIL) TO MOVE CARRIER PIPE INTO CASING PIPE. SPACING OF SPACERS WILL BE DICTATED BY THE LENGTH OF CASING PIPE AND NUMBER OF JOINTS OF CARRIER PIPE.
5. USE A MINIMUM OF 2 SPACERS PER JOINT OF PIPE OR 20' OF PIPE.
6. THERE SHALL BE NO WELDING OF CASING UNDER PAVEMENT.
7. IN CASE OF A CONFLICT BETWEEN THIS DETAIL AND A PERMIT, THE STRICTEST REQUIREMENT SHALL GOVERN.
8. SEAL CASING ENDS WITH TYPE II CONCRETE GROUT AND CONCRETE BRICKS, SO AS TO PREVENT SOIL INFILTRATION INTO CASING. LEAVE AN OPENING TO ALLOW LEAKAGE TO PASS IN CASE OF A MAIN BREAK.
9. FOR FURTHER REQUIREMENTS AND CLARIFICATIONS, SEE THE DESIGN GUIDELINES.

STEEL CASING PIPE
SIZE REQUIREMENTS FOR ASTM A139 GRADE B

RESTRAINED JOINT CARRIER PIPE SIZE (INCHES)	MINIMUM CASING SIZE (INCHES)	MINIMUM CASING THICKNESS (INCHES)
4	14	0.250
6	16	0.281
8	18	0.312
10	20	0.375
12	24	0.375
14	26	0.438
16	30	0.469
18	32	0.500
20	36	0.532
24	42	0.625



SPACER DETAIL

PIPE AND CASING JACK AND BORE DETAIL
N.T.S.



7255 STALL ROAD, NORTH CHARLESTON, SC 29406
PH: (843) 764-3072 FAX: (843) 764-2655

N.C.S.D. STANDARD DETAILS

REV. DATE: JUNE 2019 DWG#: FM-003