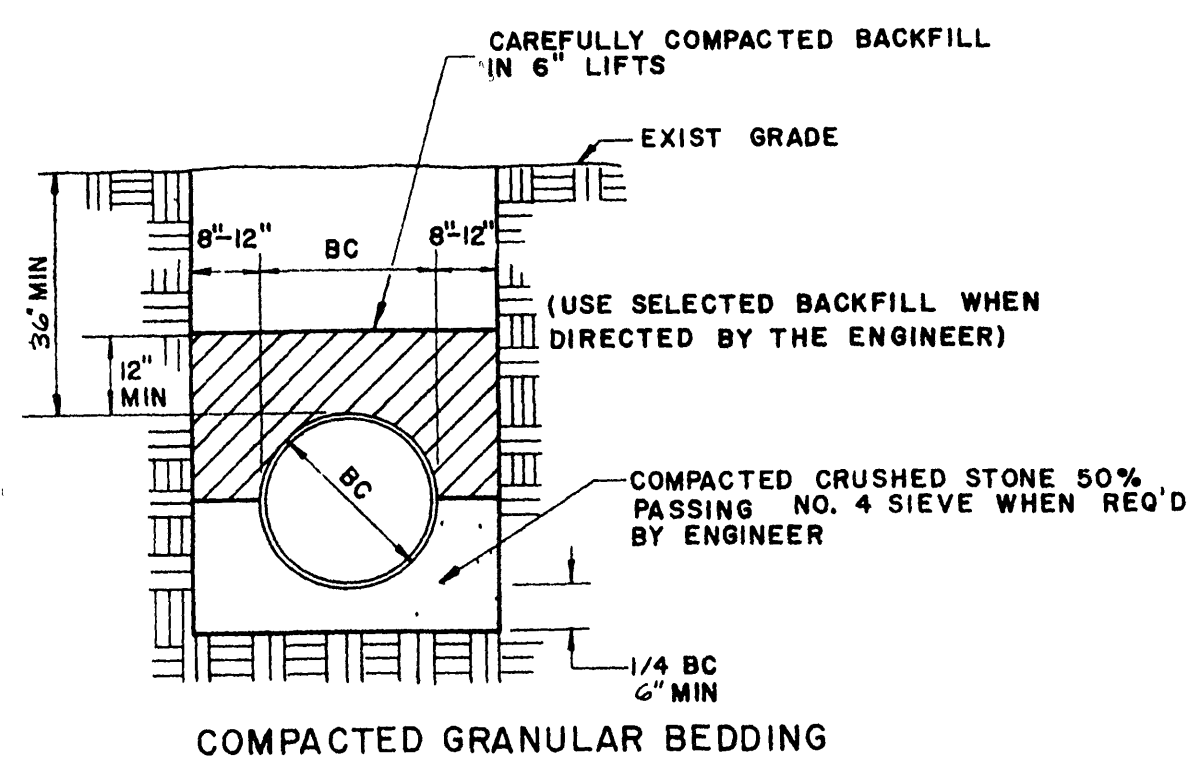
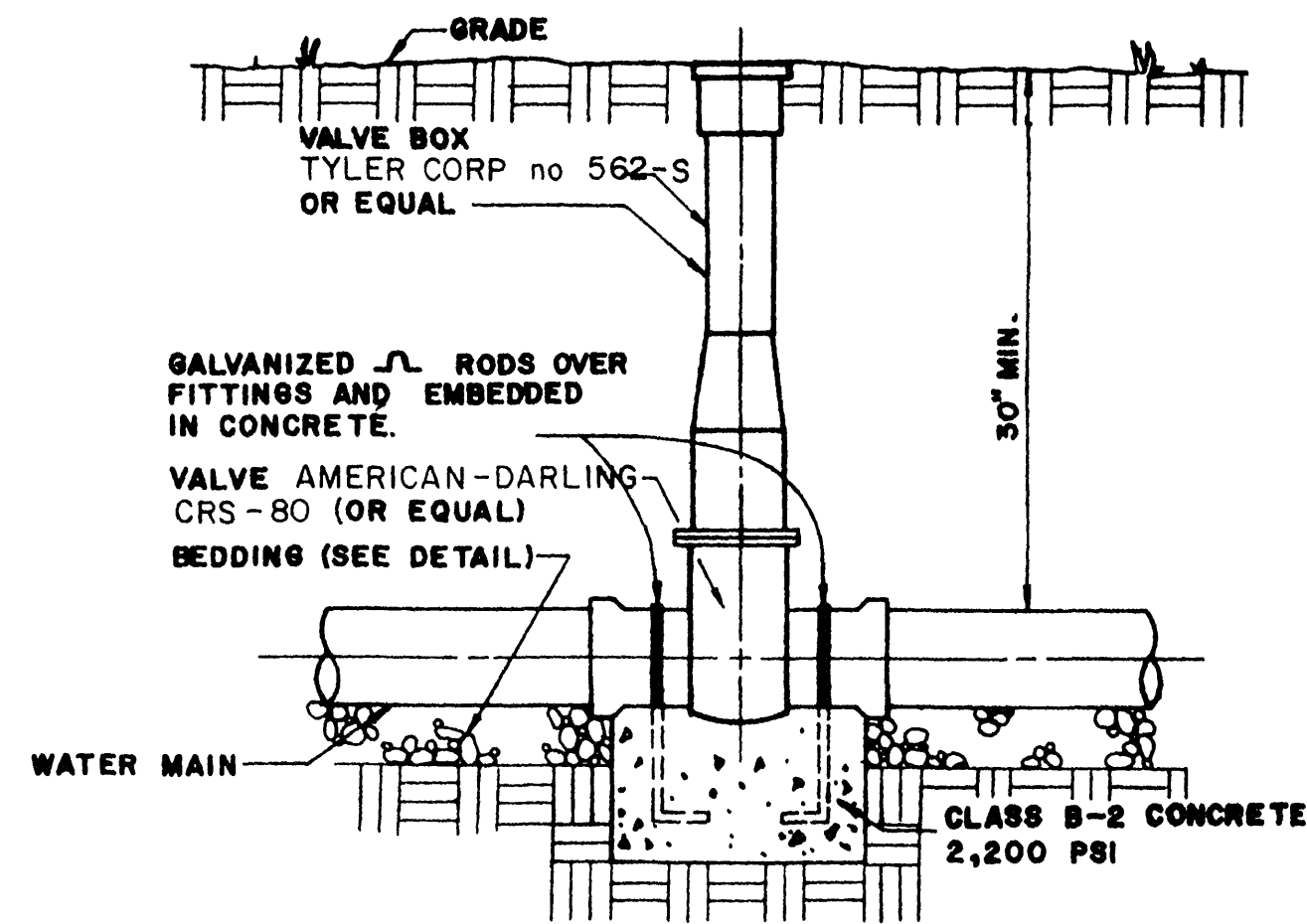
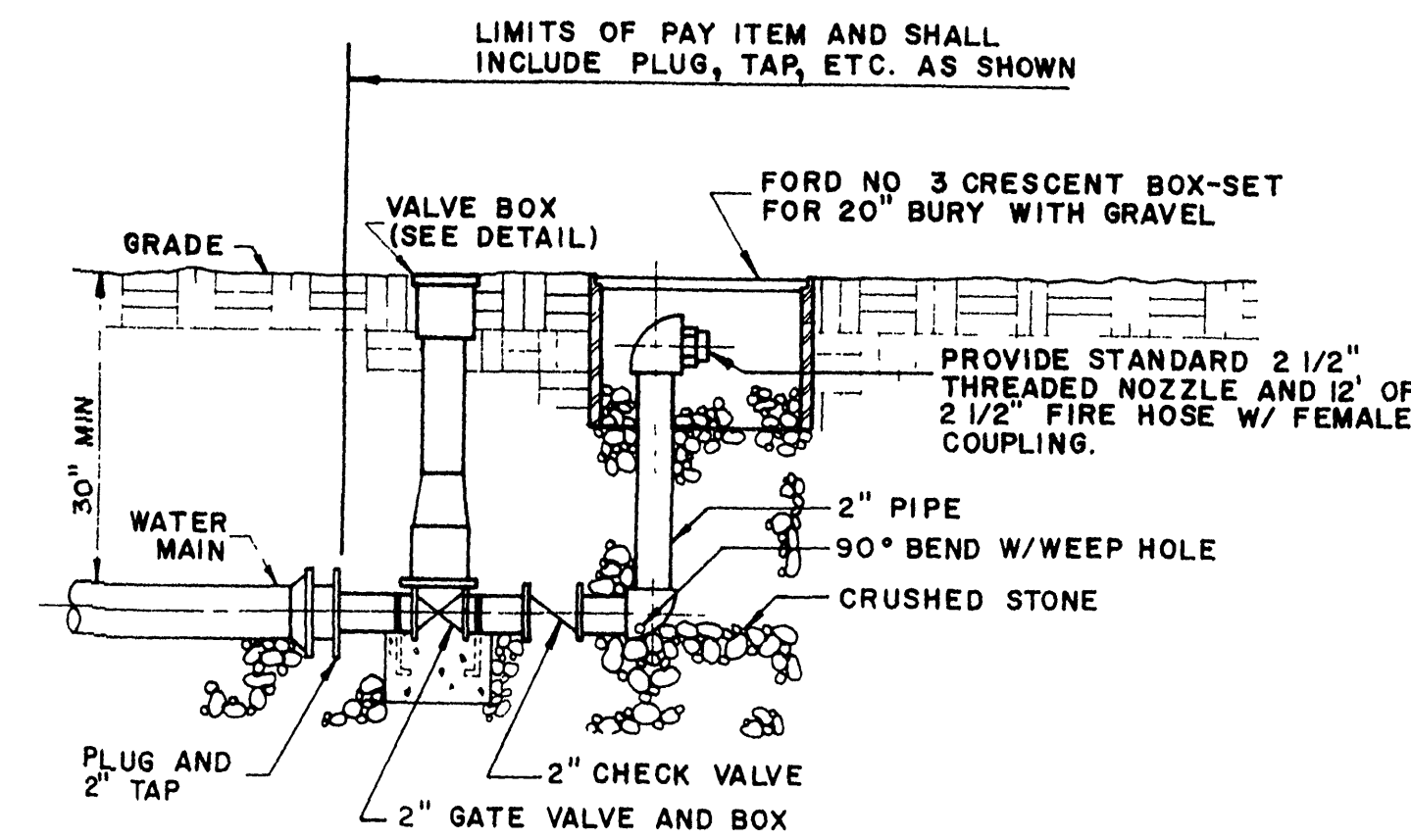




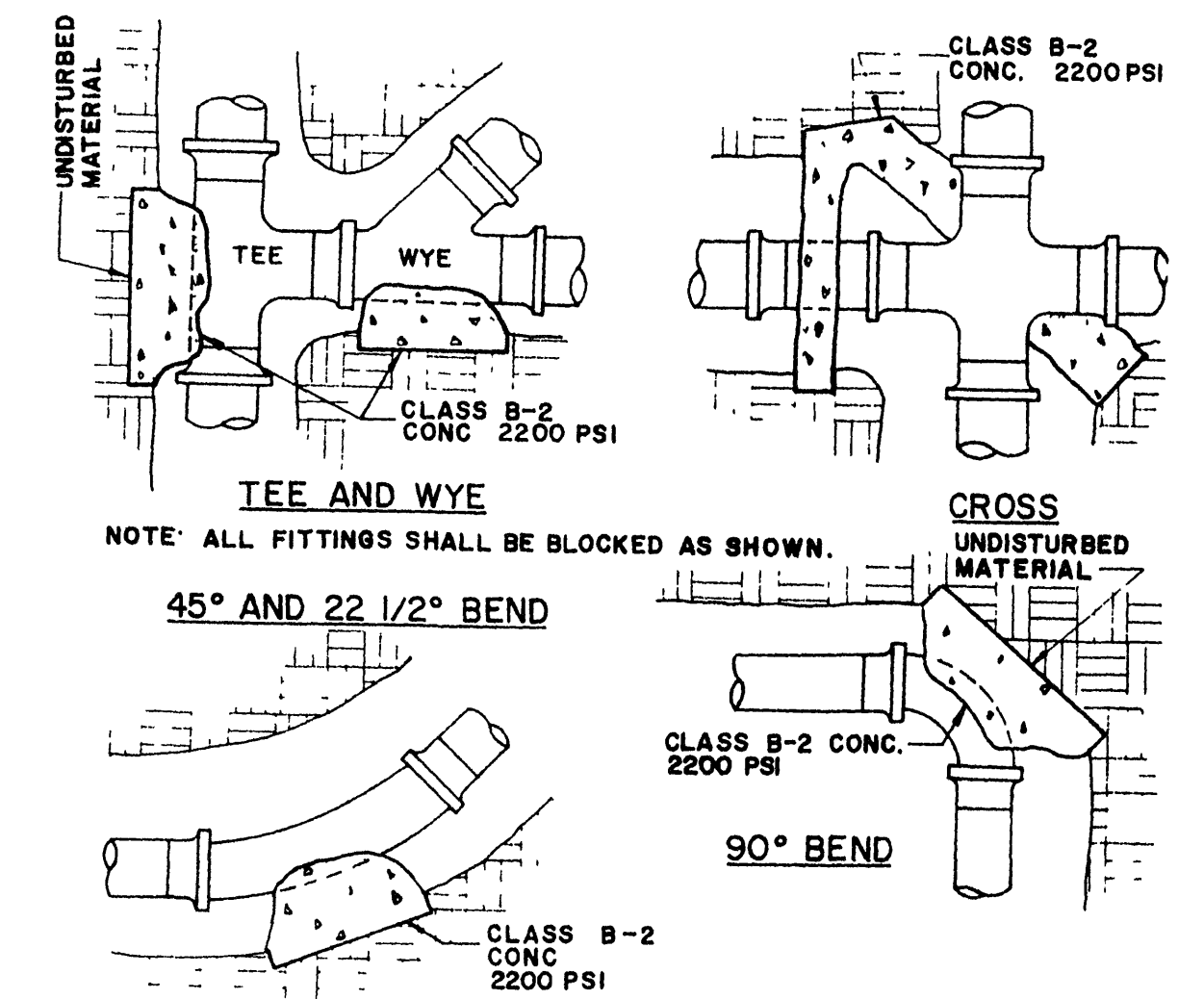
BEDDING DETAIL



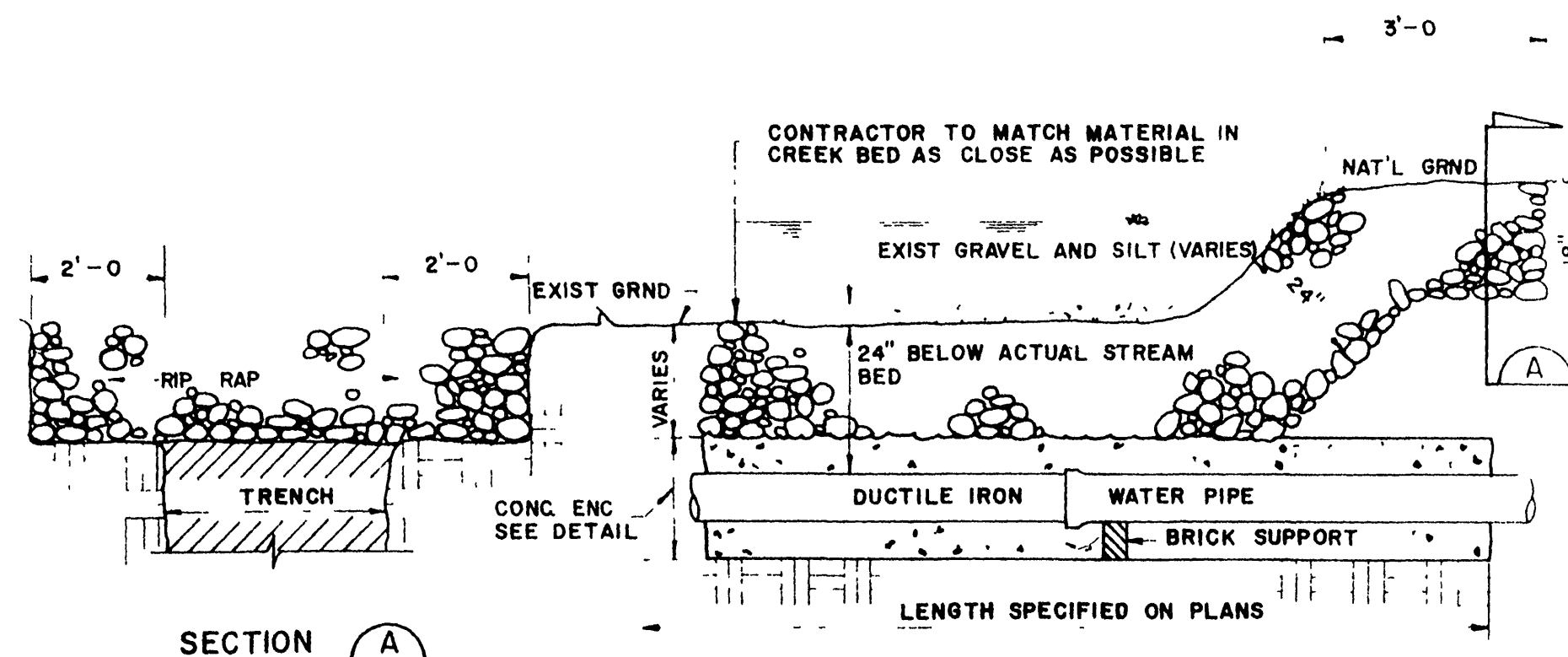
TYPICAL VALVE INSTALLATION



BLOW-OFF ASSEMBLY

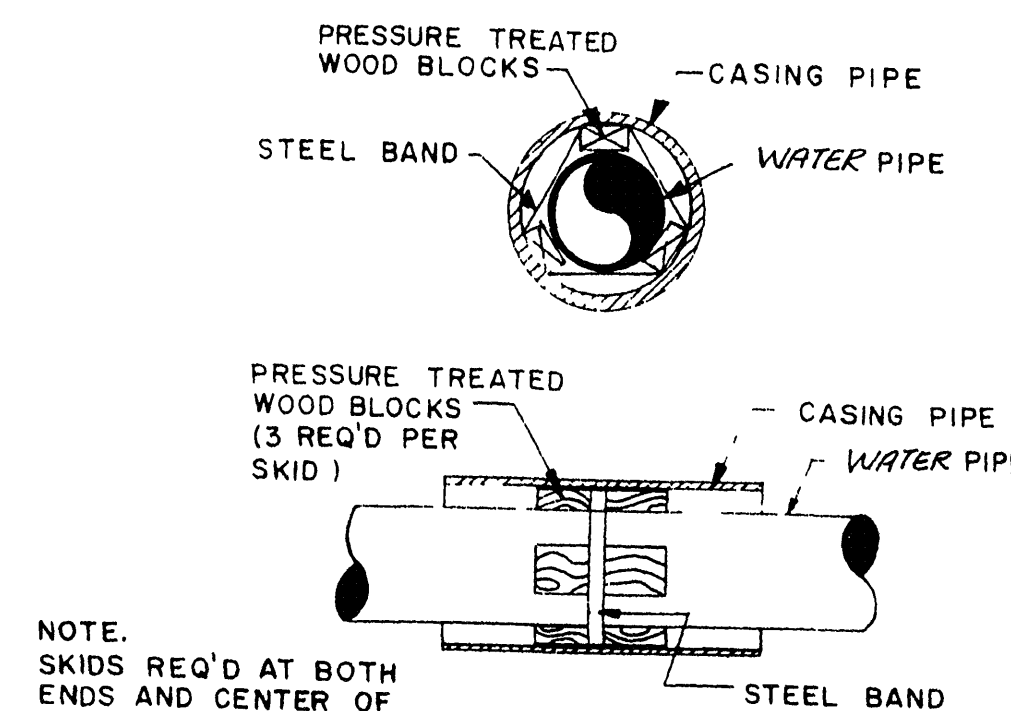


THRUST BLOCK DETAILS



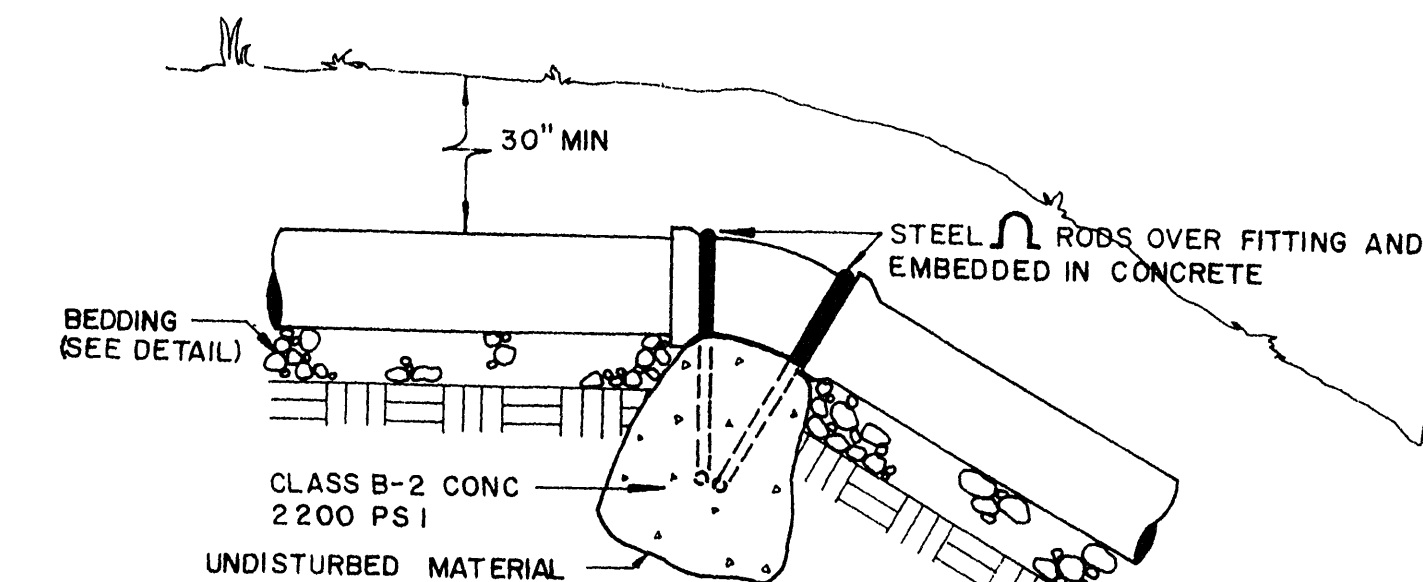
NOTE AFTER CONSTR OF EACH CREEK CROSSING THE LINES SHALL BE TESTED FOR INFILTRATION IN ACCORDANCE WITH THE SPECIFICATIONS WITH ZERO INFILTRATION SHOULD INFILTRATION BE PRESENT, THE CONTRACTOR SHALL RECONSTRUCT THE CROSSING UNTIL ZERO FILTRATION IS OBTAINED.

TYPICAL CREEK CROSSING AND BANK PROTECTION



NOTE. SKIDS REQ'D AT BOTH ENDS AND CENTER OF EACH JOINT OF PIPE

SKID DETAIL



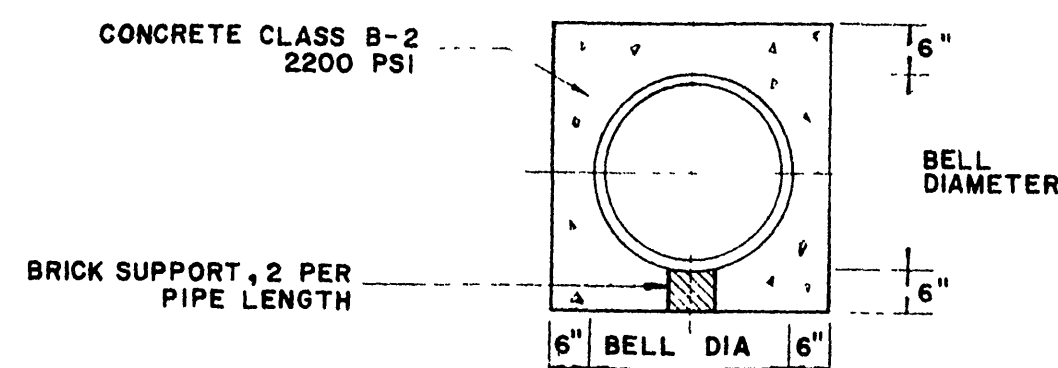
FITTING SIZE		ROD SIZE		NO OF RODS		EMBEDMENT	
4" - 6" - 8"		NO 4		2		24"	
10" - 12"		6		6		24"	
FITTING SIZE		VOLUME OF THRUST BLOCK IN CUBIC YARDS		90°		45°	
4"		0.25		0.15		0.1	
6"		0.5		0.35		0.2	
8"		0.9		0.65		0.35	
10"		1.4		1.0		0.8	
12"		2.0		1.4		1.0	

1 KEEP CONC CLEAR OF JOINT AND JOINT ACCESSORIES
2 THRUST BLOCKS FOR VERTICAL UP BENDS SHALL BE THE SAME VOLUME AS FOR HORIZONTAL BENDS.

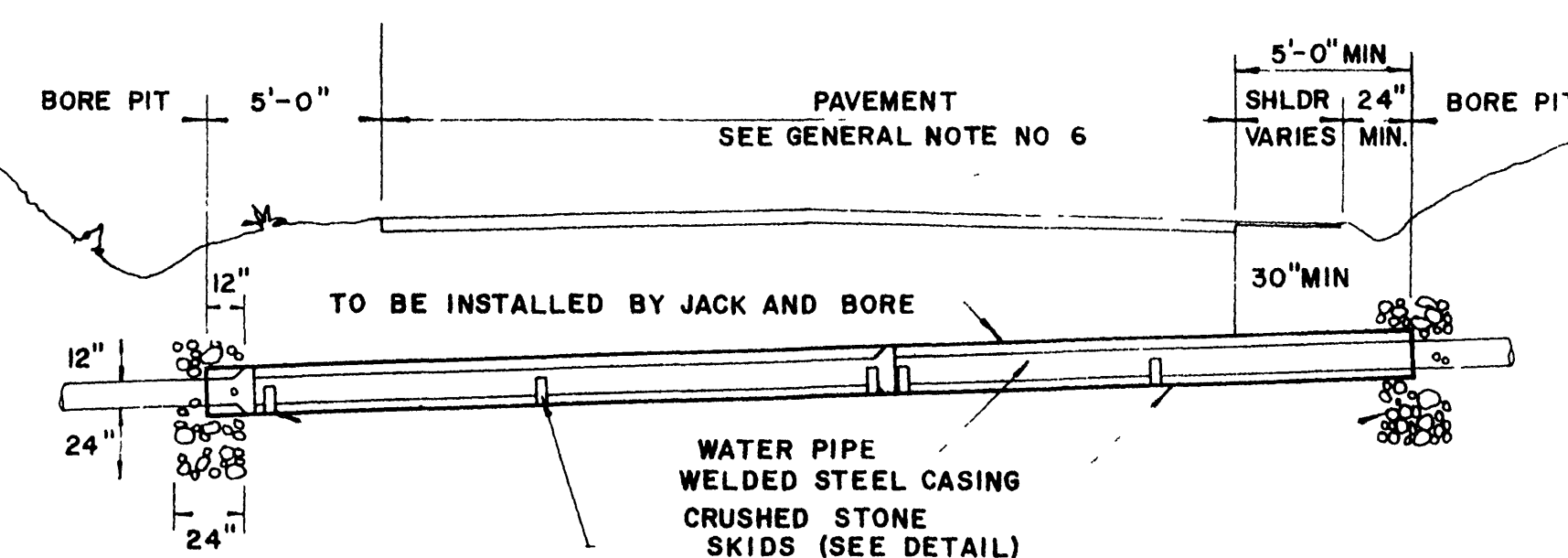
VERTICAL THRUST BLOCK DETAIL

PIPE DIAMETER	TEE, CROSS, 90°		45° WYE		22 1/2°	
	A	B	A	B	A	B
4"	12"	12"	12"	12"	12"	12"
6"	12"	12"	12"	12"	12"	12"
8"	15"	24"	12"	18"	12"	12"
10"	18"	30"	12"	18"	12"	12"
12"	24"	30"	12"	24"	18"	18"

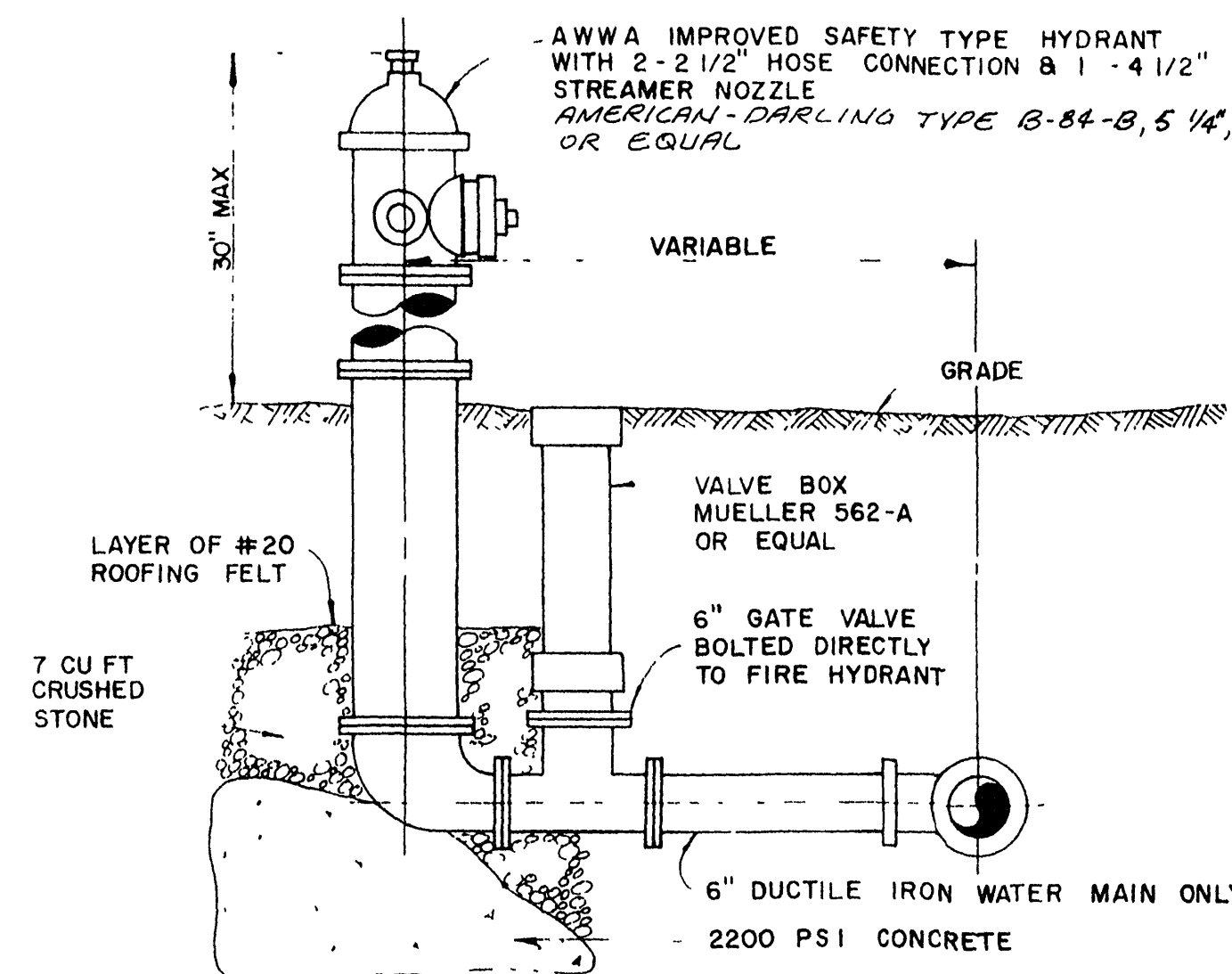
THRUST BLOCK SIZES



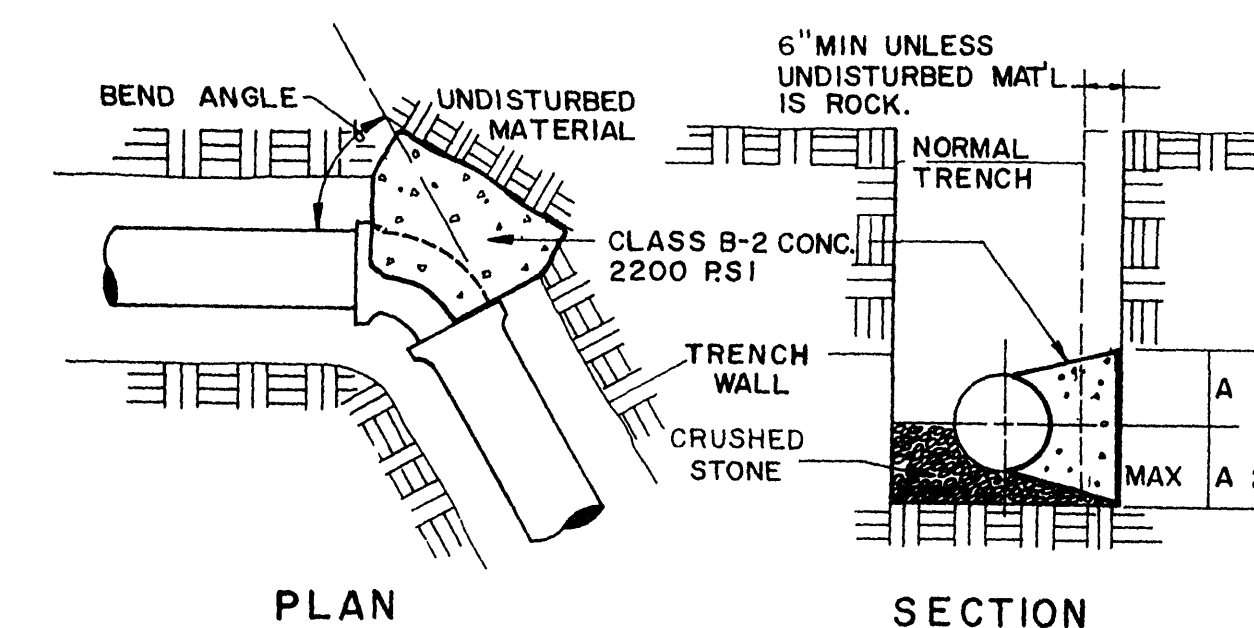
CONCRETE ENCASED PIPE



PRIMARY AND SECONDARY ROAD CROSSING

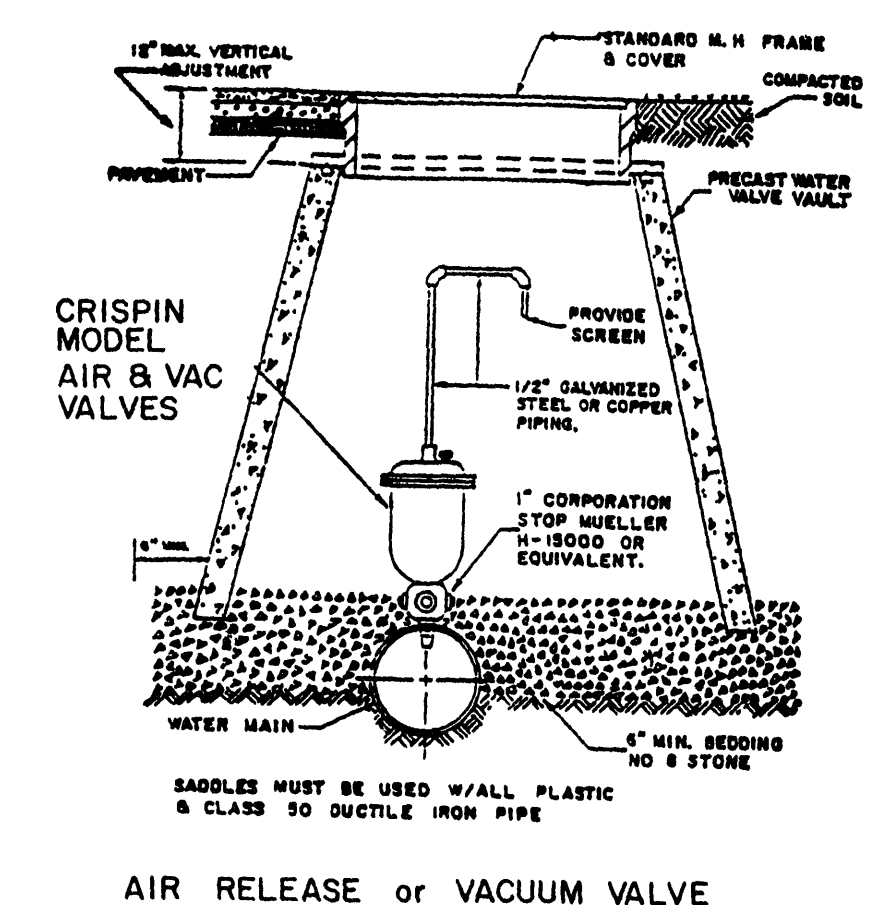


TYPICAL FIRE HYDRANT DETAIL



NOTES:
1 AREA OF THRUST BLOCK BASED ON 1500 P.S.F. LATERAL BEARING PRESSURE AND A TEST PRESSURE WITHIN PIPE OF 150 PSI, VELOCITY OF 10 FPS
2 THRUST BLOCKS ARE REQUIRED AT ALL BENDS OF MORE THAN 10°
3 BEARING SURFACE OF THRUST BLOCKS MUST BE NORMAL TO RESULTANT THRUST OF BEND AND BEAR ON SUITABLE UNDISTURBED MATERIAL
4 KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES

HORIZONTAL THRUST BLOCK DETAIL



AIR RELEASE or VACUUM VALVE



CLEAN WATER ENGINEERS, INC.

P. O. BOX 218
FINCASTLE, VIRGINIA 24090

COLONIAL CARE OF FINCASTLE
LIMITED PARTNERSHIP
BOTETOURT COUNTY VIRGINIA

Handwritten signature

REVISIONS			DESIGNED:	SHEET:
NO.	DATE	BY	CES	4
1	4-5-90	TAP	DRAWN:	NONE
			CES	
			CHECKED:	DATE:
			CES	MARCH, 1990
			APPROVED:	PROJECT
			CES	88114