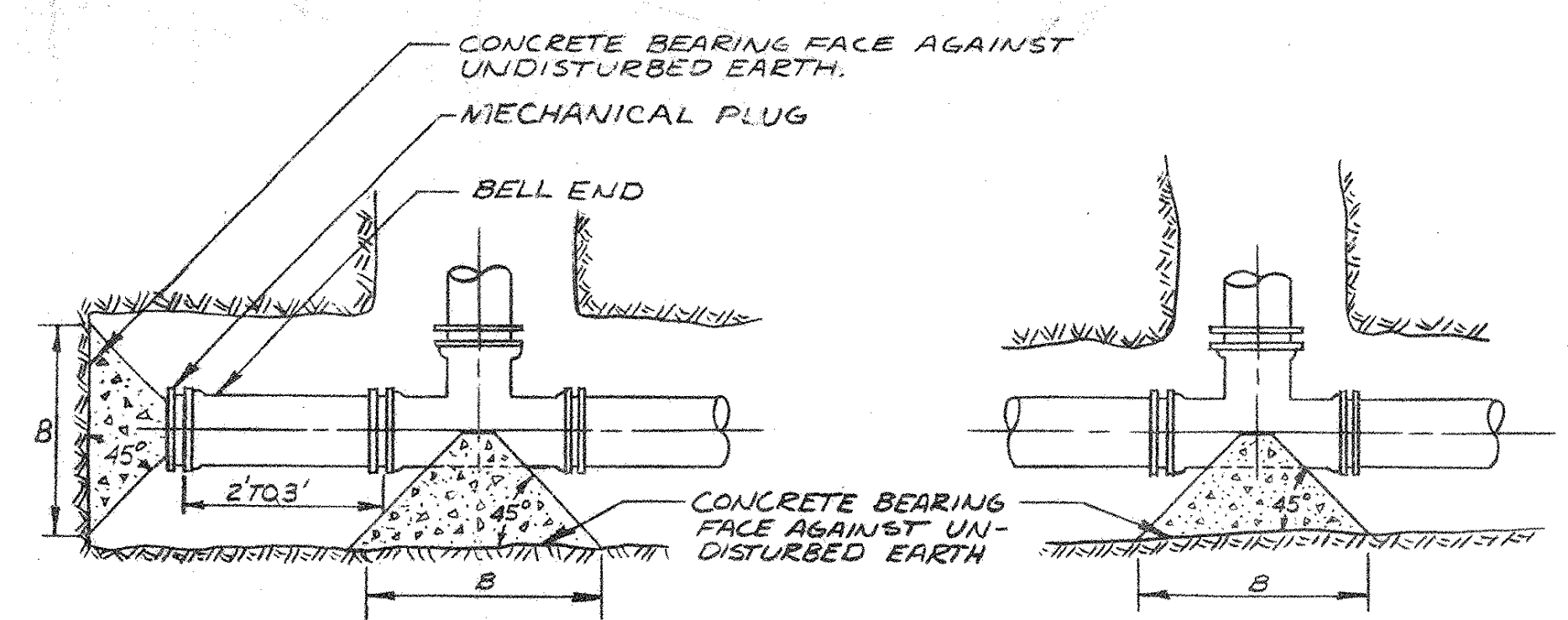


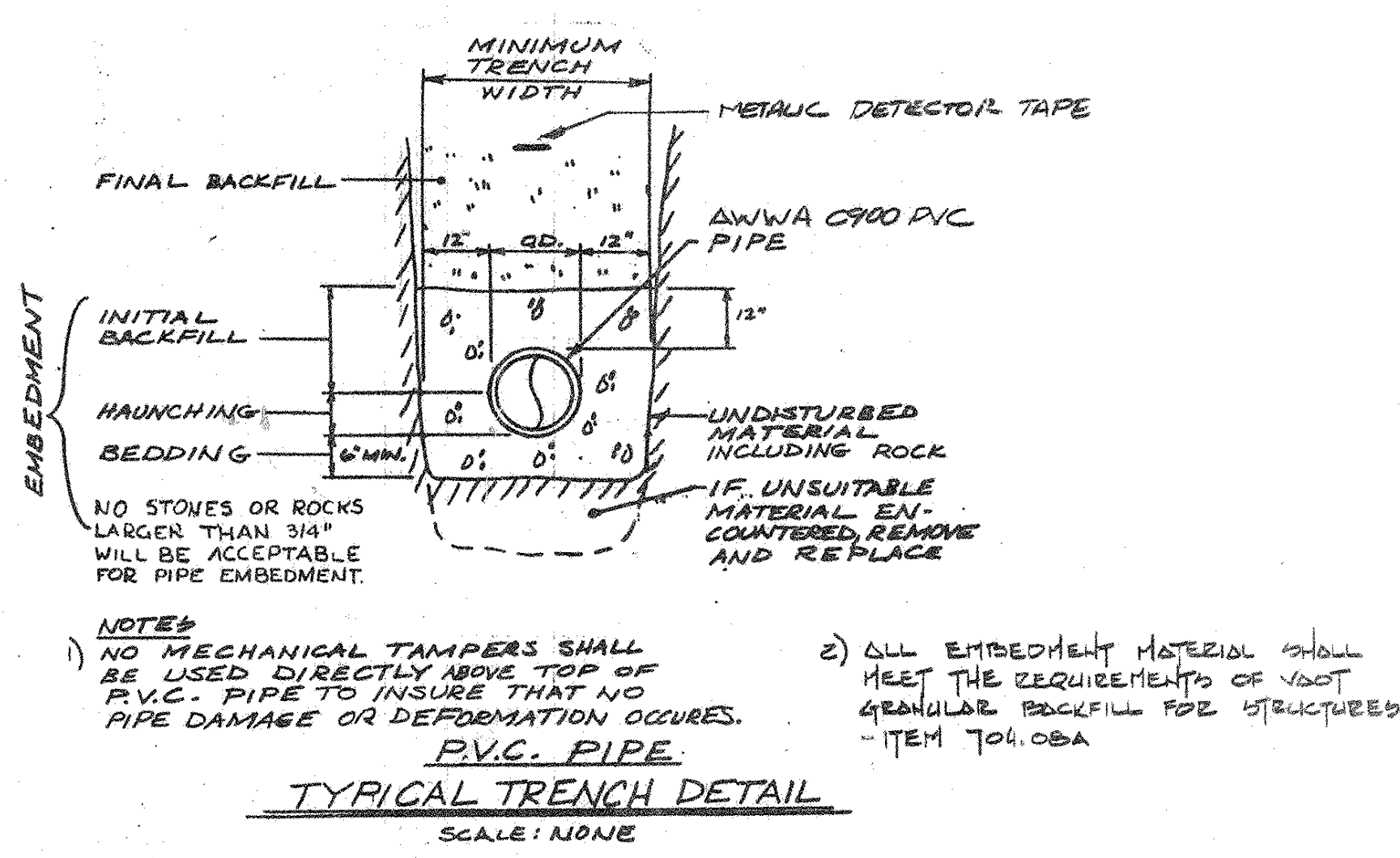
MINIMUM BEARING FACE "HEIGHTS AND WIDTHS" FOR CONCRETE THRUST BLOCKS (TEST PRESSURE = 100 PSI)¹

BEARING FACE MATERIAL ²	PIPELINE SIZE	HEIGHT (H) AND WIDTH (B) OF BEARING FACE FOR FITTING TO BE RESTRAINED ³								
		11 1/2° BEND	22 1/2° BEND	45° BEND	90° BEND	TEES & PLUGS				
		H	B	H	B	H	B	H	B	
WELL GRADED SANDS AND GRAVEL	4" & 6"	1.0	1.0	1.0	1.0	1.0	1.0	1.75	1.0	1.25
	8"	1.0	1.0	1.0	1.0	1.0	1.5	1.75	2.25	2.0
	12"	1.0	1.0	1.0	1.25	1.25	2.0	1.75	2.5	2.0
SILT	4" & 6"	1.0	1.0	1.0	1.0	1.0	1.25	1.25	1.75	1.0
	8"	1.0	1.0	1.0	1.0	1.0	2.0	1.5	2.5	1.5
	12"	1.0	1.0	1.0	1.75	1.25	2.0	3.0	1.5	2.75
COARSE GRANULAR	4" & 6"	1.0	1.0	1.0	1.0	1.5	1.25	2.0	1.0	1.75
	8"	1.0	1.0	1.0	1.25	1.5	1.5	1.75	2.5	1.5
	12"	1.0	1.0	1.25	1.5	1.5	2.5	3.0	1.75	2.75
CLAY	4" & 6"	1.0	1.0	1.0	1.0	1.25	1.25	2.0	1.0	1.75
	8"	1.0	1.0	1.0	1.25	1.5	1.5	1.75	2.5	1.5
	12"	1.0	1.0	1.0	1.75	1.75	2.0	2.0	3.25	1.5

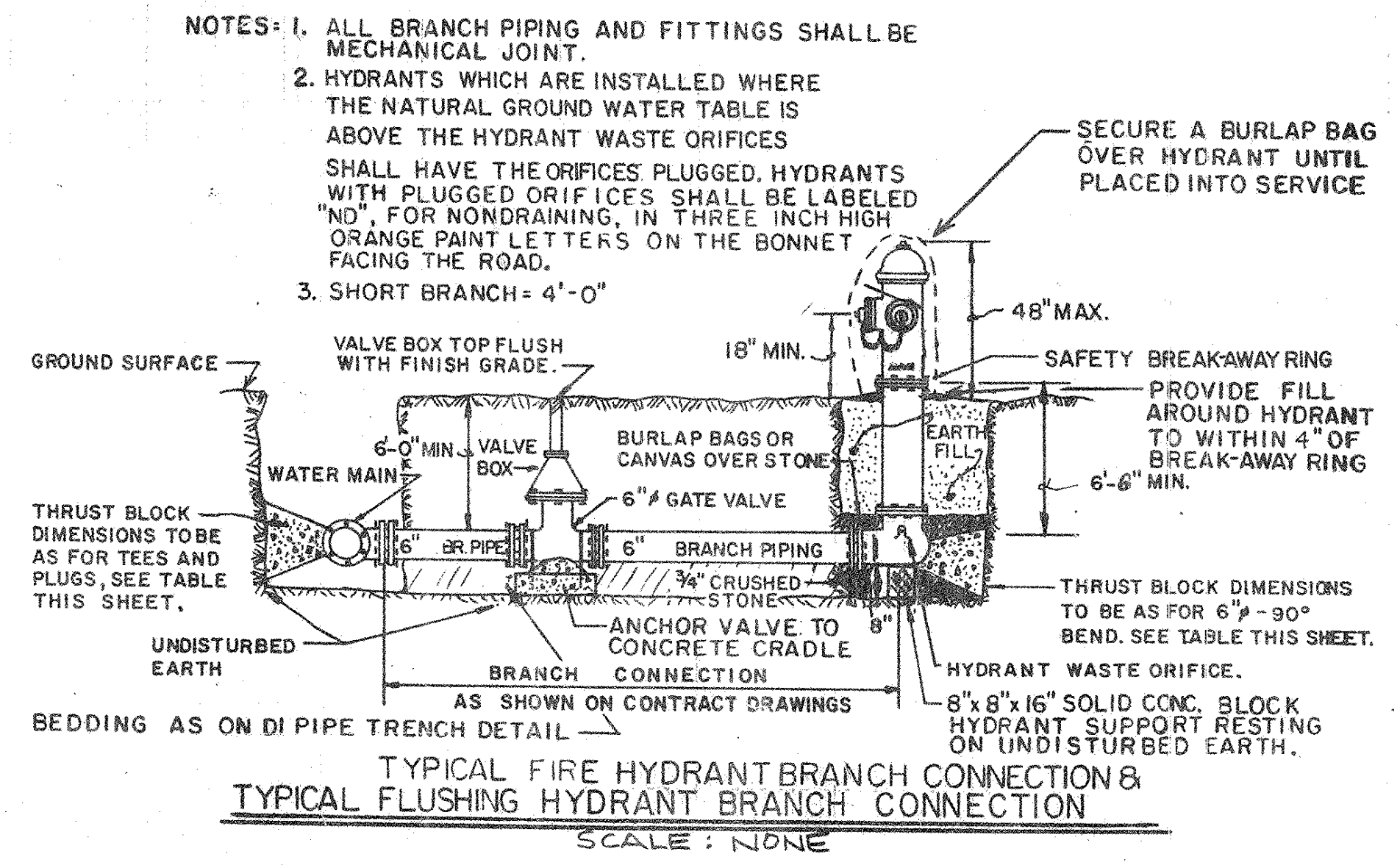
1. HYDRAULIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
 2. UNDISTURBED EARTH, SIDE OF TRENCH OR OTHER EXCAVATION.
 3. SEE DIAGRAM FOR H AND B LOCATION REFERENCE. H AND B IN FEET.



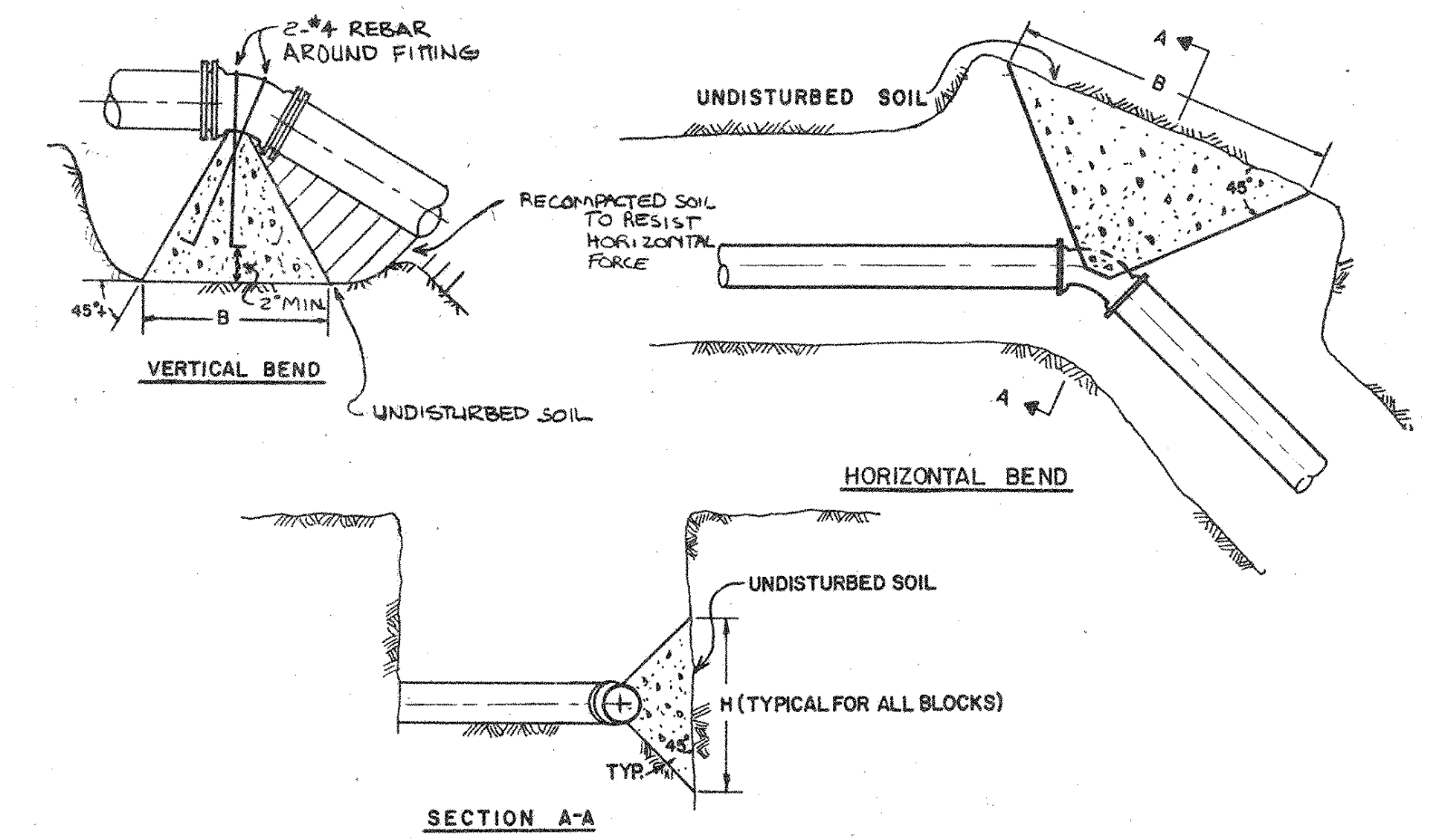
NOTES:
 1. ALL THRUST BLOCKS SHALL BE CLASS "B" CONCRETE.
 2. CONCRETE SHALL BE PLACED SO AS NOT TO HAMPER THE FUTURE REMOVAL OF A FITTING.



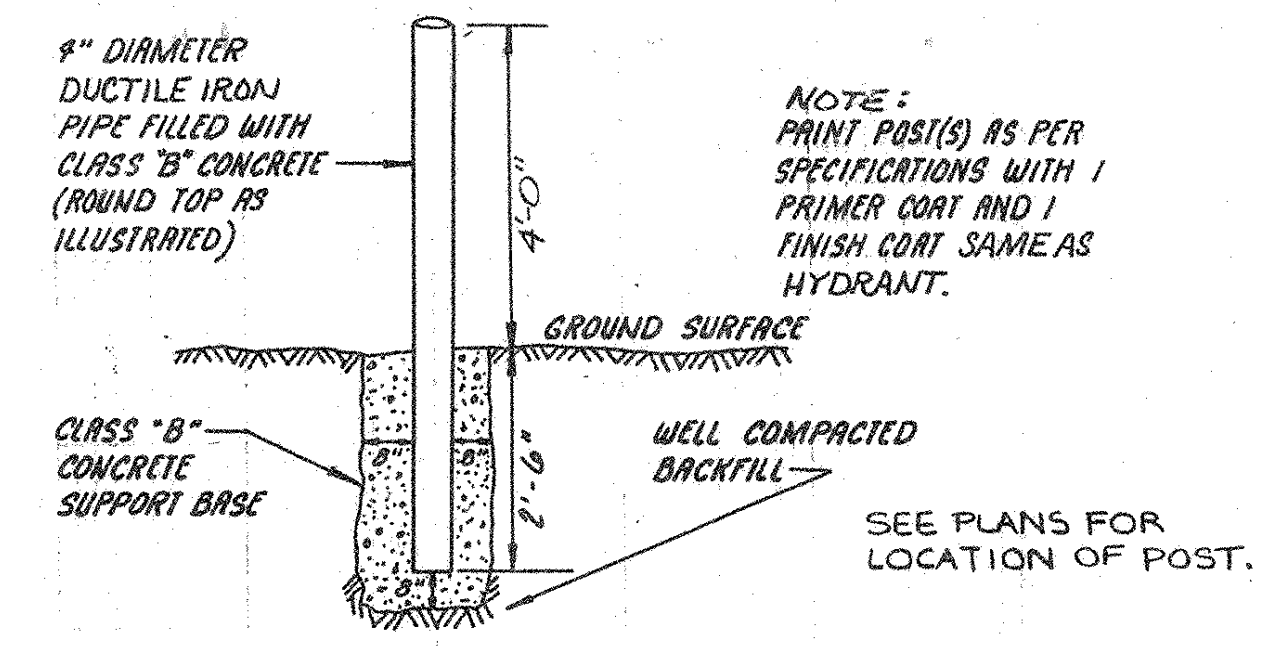
NOTES:
 1) NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY ABOVE TOP OF P.V.C. PIPE TO INSURE THAT NO PIPE DAMAGE OR DEFORMATION OCCURS.
 2) ALL EMBEDMENT MATERIAL SHALL MEET THE REQUIREMENTS OF MOST GRANULAR BACKFILL FOR STRUCTURES - ITEM 704.05A



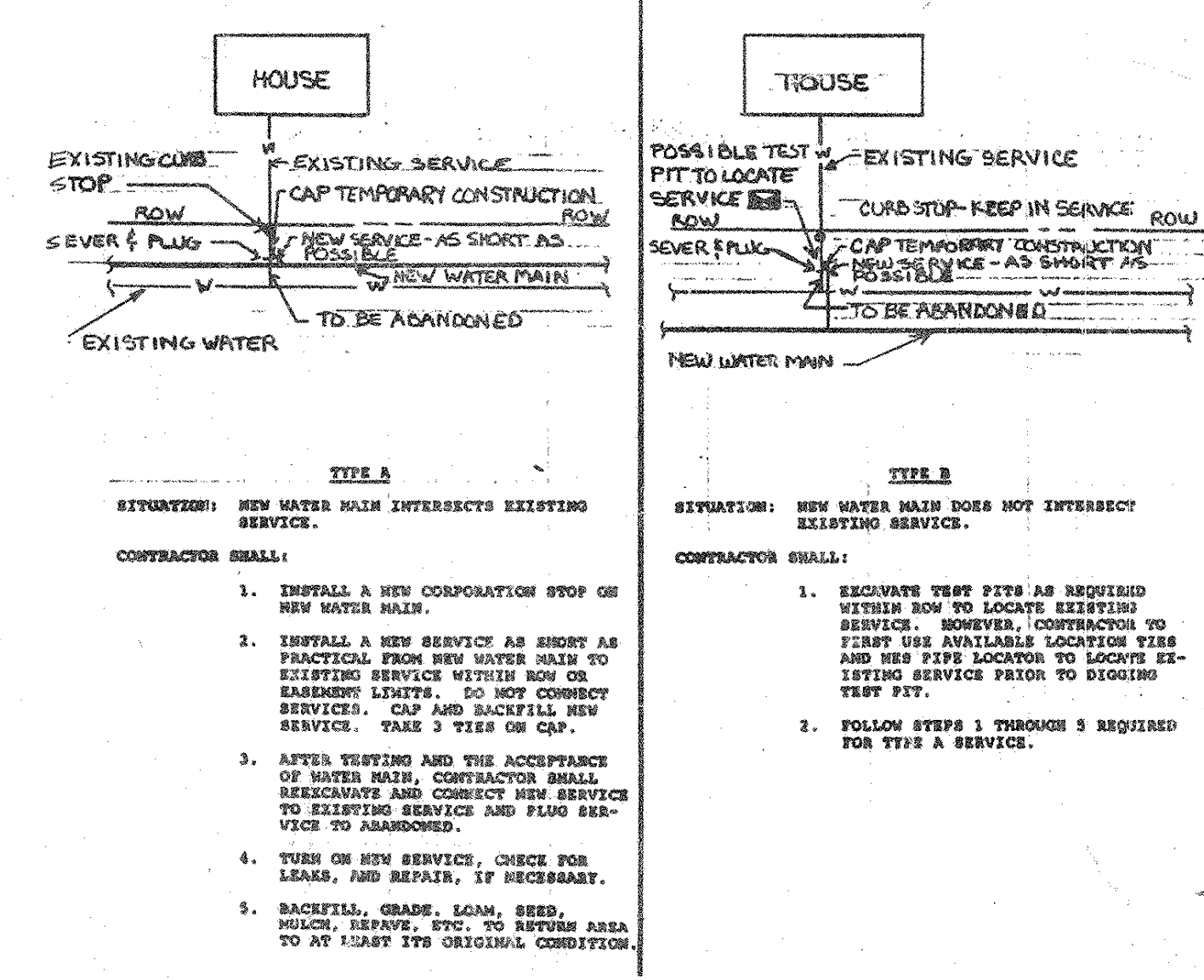
NOTES:
 1. ALL BRANCH PIPING AND FITTINGS SHALL BE MECHANICAL JOINT.
 2. HYDRANTS WHICH ARE INSTALLED WHERE THE NATURAL GROUND WATER TABLE IS ABOVE THE HYDRANT WASTE ORIFICES SHALL HAVE THE ORIFICES PLUGGED. HYDRANTS WITH PLUGGED ORIFICES SHALL BE LABELED "ND", FOR NONDRAINING, IN THREE INCH HIGH ORANGE PAINT LETTERS ON THE BONNET.
 3. SHORT BRANCH = 4'-0"



TYPICAL BEARING THRUST BLOCK DETAILS AND SECTION SCALE: NONE

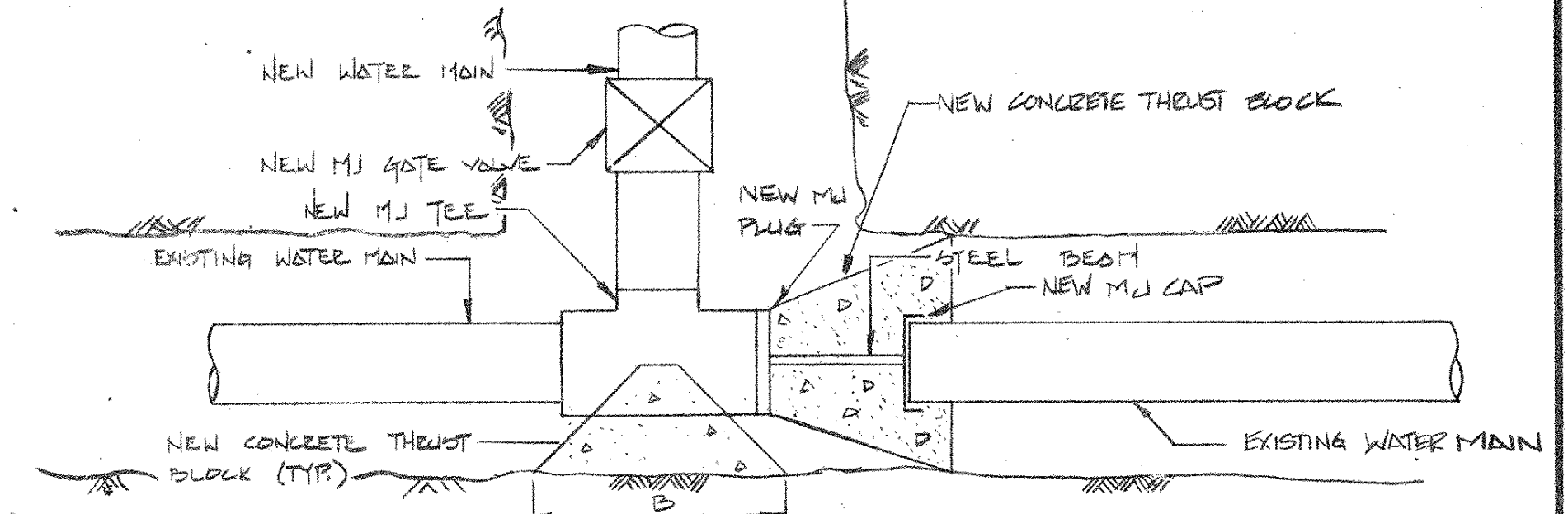


HYDRANT PROTECTION POST TYPICAL SCALE: NONE



NEW SERVICE TYPES DETAIL SCALE: NONE

NOTE: STEPS FOR ABANDONMENT OF EXISTING WATER MAIN
 1) AFTER TESTING, DISINFECTION, AND ACCEPTANCE OF NEW WATER MAIN, THE EXISTING MAIN MAY BE SHUT DOWN.
 2) INSTALL A NEW M.J. TEE WITH A CONCRETE THRUST BLOCK IN THE EXISTING WATER MAIN.
 3) CONNECT THE NEW MAIN TO THE EXISTING.
 4) REMOVE THE SECTION OF EXISTING MAIN AND INSTALL CAP & PLUG AS SHOWN.
 5) BRACE THE CAP AND PLUG BY PLACING A STEEL BEAM BETWEEN THEM.
 6) POUR A NEW THRUST BLOCK OVER & AROUND THE BEAM & PIPE AS SHOWN.
 7) ABANDON THIS SECTION OF EXISTING MAIN BETWEEN CUT-INS AND PLACE NEW MAIN INTO SERVICE.



THRUST BLOCK DETAIL WITH CUT IN & ABANDONMENT OF EXISTING WATER MAIN PLAN SCALE: NONE

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	MISCELLANEOUS DETAILS WATER MAIN RELATIONS TOWN OF TROY, VERMONT	DRAWN S.P.S. CHECKED B.C.W.	DATE FEB 1990	DRAWING NO. 5