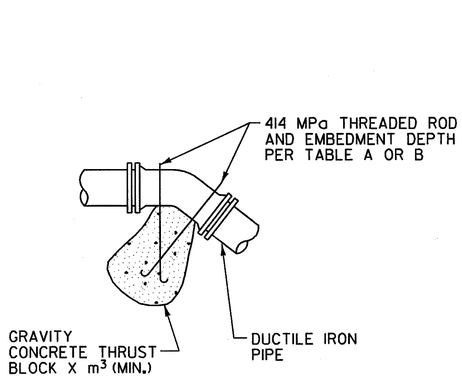
TYPE A BLOCKING FOR 11¼° & 22½° VERT BENDS					
PIPE SIZE NOM DIA (mm)	VERTICAL BEND	NO. OF m^3 OF CONC BLOCKING	SIDE OF CUBE (m)	DIA OF SHACKLE RODS (2)	DEPTH OF RODS IN CONC (mm)
200	11¼°	0.8	0.90	19 mm	490
	22½°	1.6	1.16		

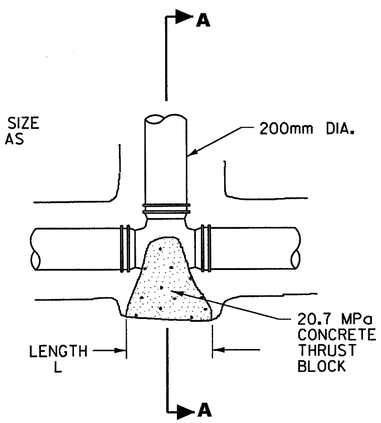
TYPE B BLOCKING FOR 45° VERICAL BENDS				
PIPE SIZE NOM DIA (mm)	NO. OF m^3 OF CONC BLOCKING	SIDE OF CUBE (m)	DIA OF SHACKLE RODS (2)	DEPTH OF RODS IN CONC (mm)
200	2.9	1.43	19 mm	490

REQUIRED BEARING AREAS & DIMENSIONS
FOR CONCRETE THRUST BLOCKS

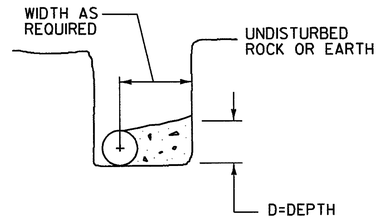
PIPE SIZE (mm)	TEE (See Note 4)		90° (1/4) BEND		45° (1/8) BEND		22-½° (1/16) BEND		11-¼° (1/32) BEND	
	AREA m^2	Dimen. D x L (m)	AREA m^2	Dimen. D x L (m)	AREA m^2	Dimen. D x L (m)	AREA m^2	Dimen. D x L (m)	AREA m^2	Dimen. D x L (m)
200	0.53	0.6 x 0.9	0.74	0.6 x 1.2	0.4	0.6 x 0.8	0.2	0.5 x 0.5	0.1	0.3 x 0.5



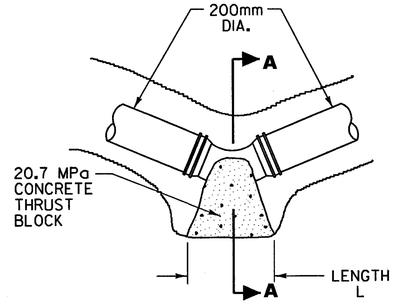
VERTICAL BEND



TEE

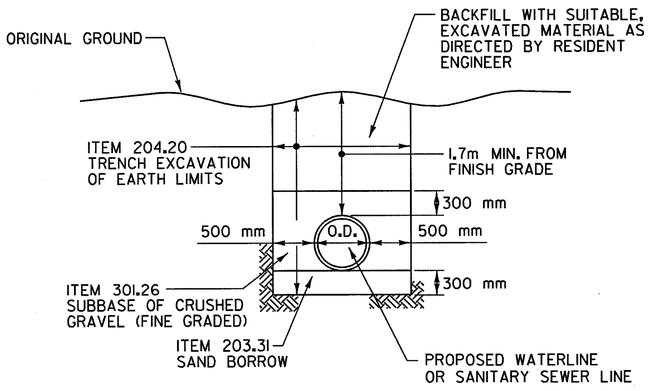


SECTION A-A



BEND

THRUST BLOCK DETAILS
N.T.S.



TYPICAL WATERLINE AND SEWER TRENCH DETAIL
N.T.S.

THRUST BLOCK NOTES

1. FOR REQUIRED BEARING AREA DIMENSIONS D & L SEE TABLE. DIMENSIONS OF D & L OTHER THAN THOSE SHOWN IN THE TABLE MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO OR LARGER THAN THAT REQUIRED.
2. CONCRETE SHALL NOT OVERLAP ANY JOINT.
3. CONCRETE SHALL BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE JOINTING HARDWARE.
4. VALUES FOR TEE ALSO APPLY TO END PLUGS, CAPS, AND TAPPING SLEEVES.
5. REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 1 MPa WORKING PRESSURE PLUS 50% (0.5 MPa) SURGE ALLOWANCE RESULTING IN 1.5 MPa TOTAL INTERNAL PRESSURE. NOMINAL PIPE DIAMETER USED.
6. REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 13.8 MPa FOR SAND. DUE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED AS DIRECTED BY THE RESIDENT ENGINEER.
7. IN MUCK, PEAT, OR RECENTLY PLACED FILL ALL THRUST SHALL BE RESISTED BY PILES OR TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS AS DIRECTED BY THE RESIDENT ENGINEER.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (1992)

THRUST BLOCK AND TRENCH DETAIL SHEET

SURVEYED BY C.H.A. & V.S.E. DATE 12/93
DESIGNED BY D.E.G. DATE 9/00
DRAWN BY E.C.D. DATE 9/00
CHECKED BY T.P.K. DATE 9/00
DESIGN FILE NO. \5116\VAOT\CONTRACT4
PROJ. NAME BENNINGTON - HOOSICK D.P.I. 0146(1) C/4
PROJ. NO. P.I.N. 1306.60
DWG NO. SS-3 SHEET 130 OF 385

FILE NAME =u:\5116\vaot\contract4\ss-3.dgn
DATE/TIME =07 SEP 2000
USER =1459