

STANDARD TEE BLOCKING

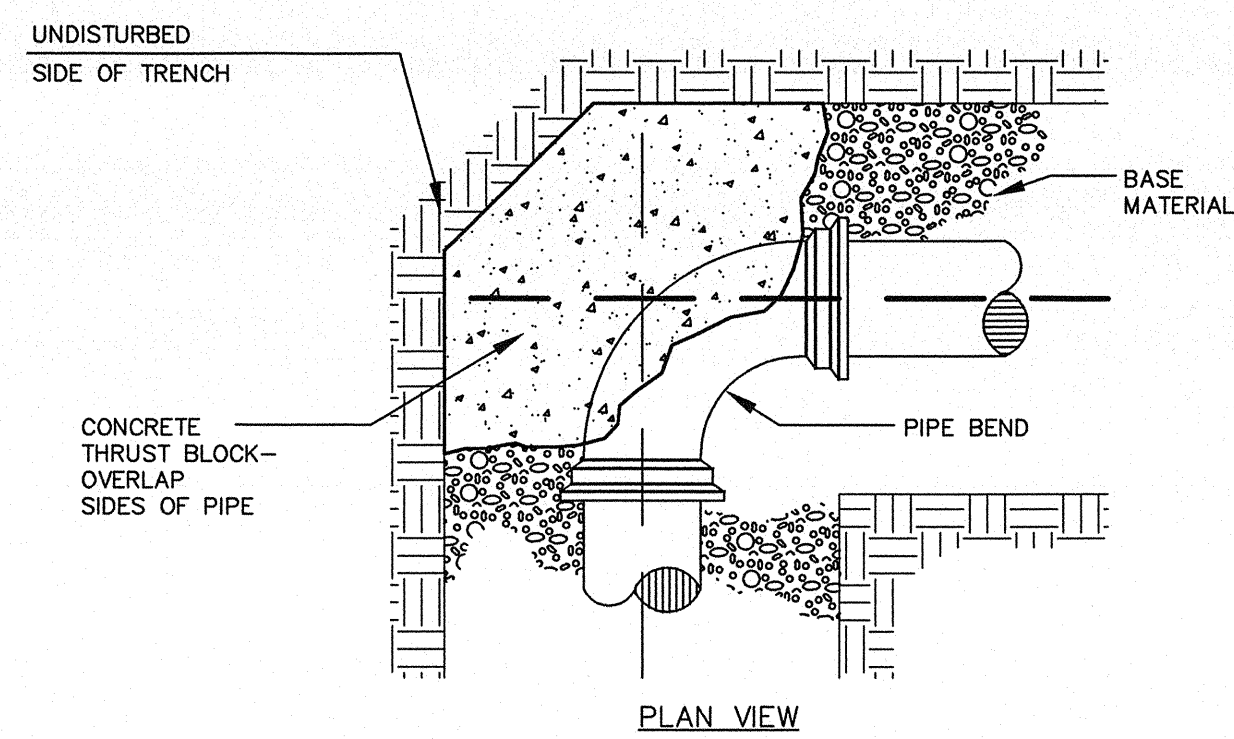
1. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.
2. ANY MODIFICATION TO THRUST BLOCK SIZING OR PIPE RESTRAINT REVISIONS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
3. ANY WORK RELATING TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS.

PIPE SIZE	1/32 BEND	1/16 BEND	1/8 BEND	1/4 BEND	TEES/CAPS
4"	1.8	3.6	7.0	12.8	9.1
6"	3.7	7.3	14.3	26.4	8.7
8"	6.4	12.6	24.7	45.5	32.2

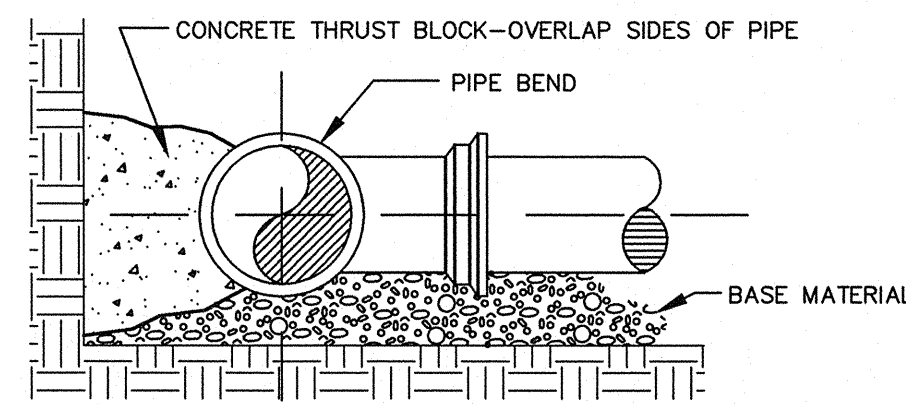
BEARING SURFACE REQUIRED IN SQUARE FEET

NOTE: KEEP CONCRETE CLEAR OF PIPE JOINT, NUTS AND BOLTS

THRUST BLOCK NOTES



PLAN VIEW



SECTION

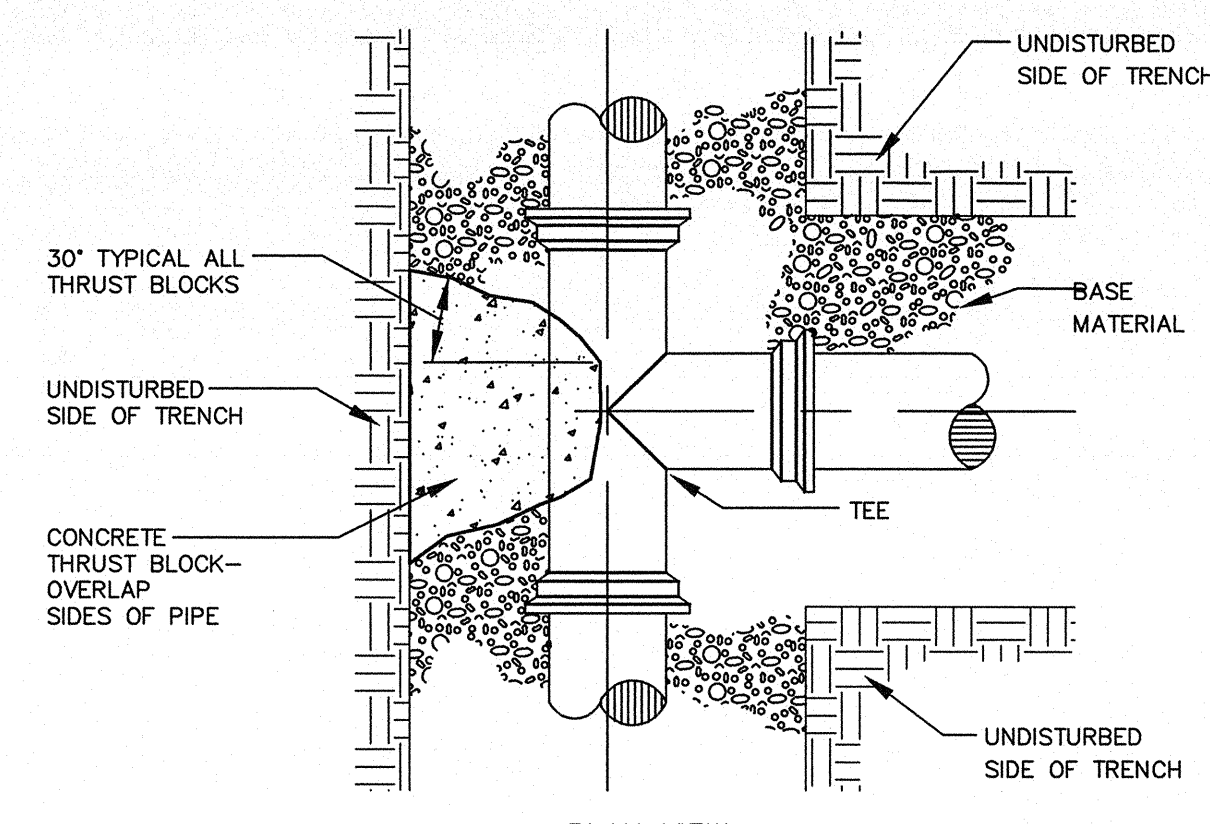
THRUST/RETAINER GLAND SCHEDULE	
1/4 BEND (90°)	USE POURED-IN-PLACE THRUST BLOCK w/RETAINERS
1/8 BEND (45°)	THRUST BLOCK w/RETAINERS
1/16 BEND (22 1/2°)	THRUST BLOCK
1/32 BEND (11 1/4°)	THRUST BLOCK

THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON-SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

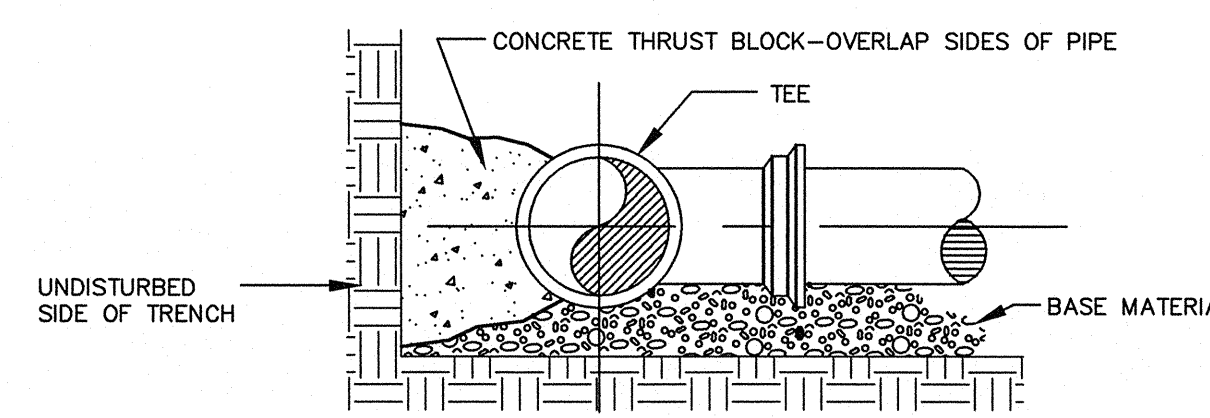
TYPICAL THRUST BLOCK PLACEMENT ON BENDS

THRUST BLOCKS

N.T.S.

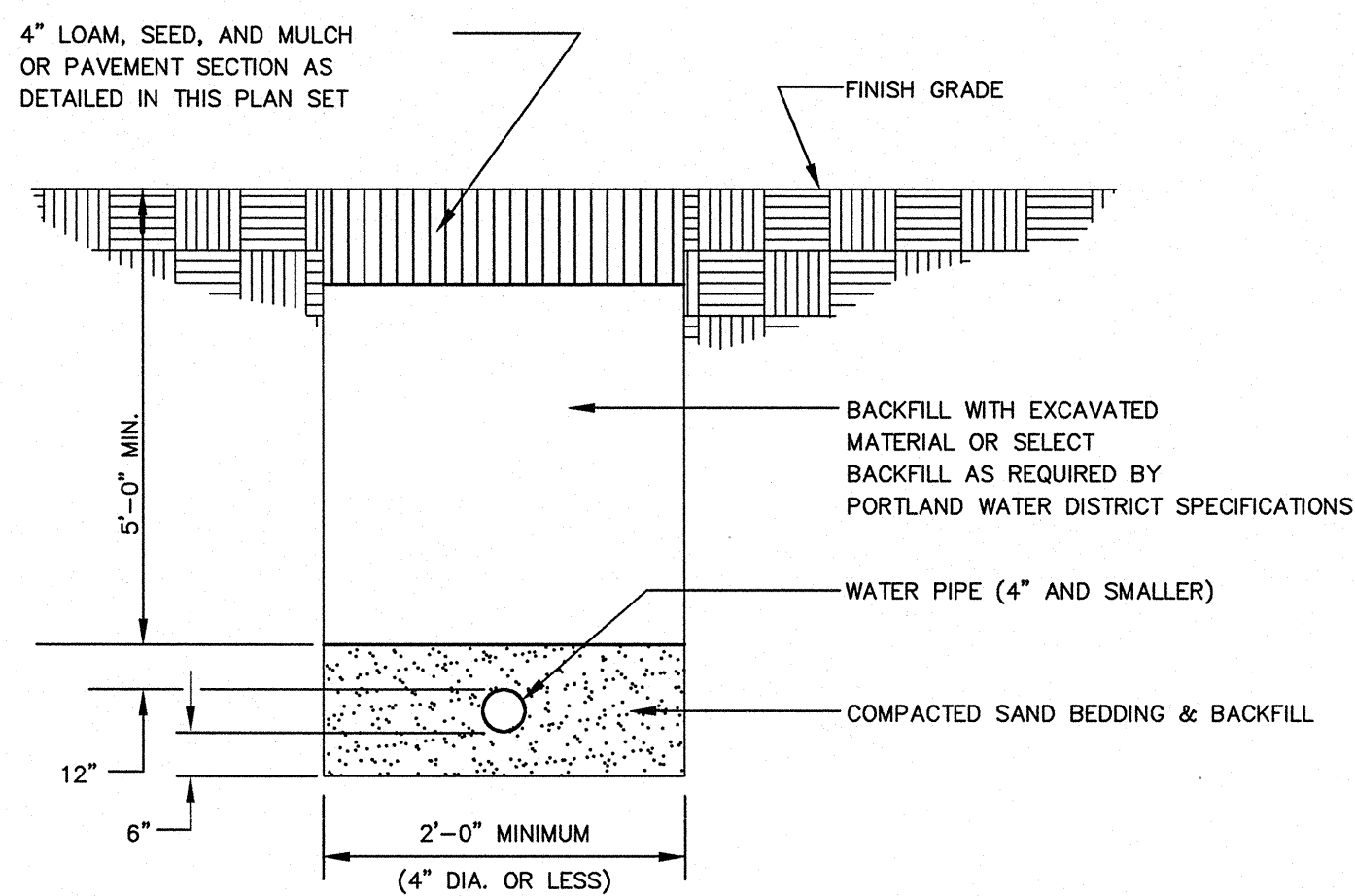


PLAN VIEW



SECTION

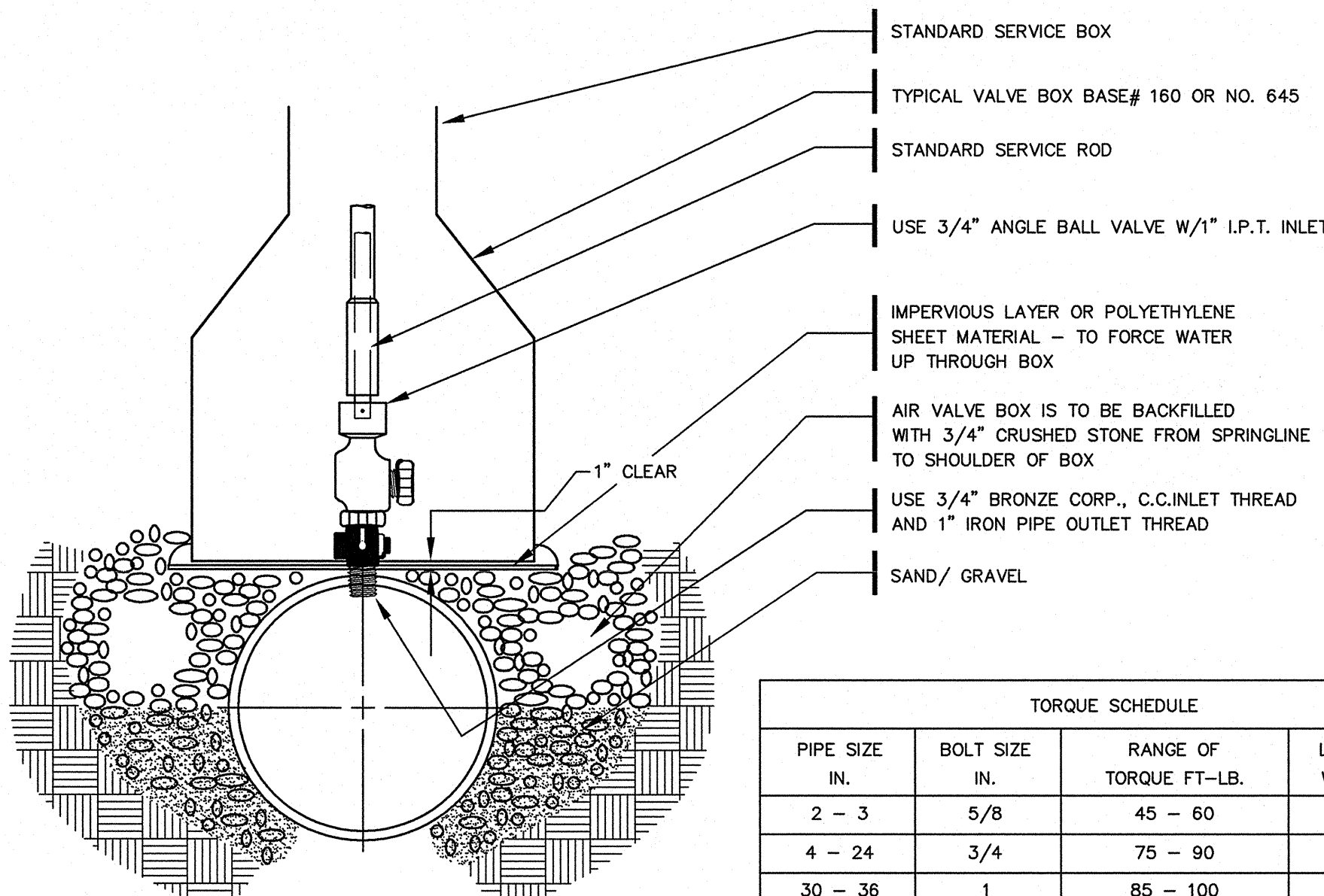
TYPICAL THRUST BLOCK PLACEMENT ON TEES



SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

WATER SERVICE TRENCH SECTION

N.T.S.



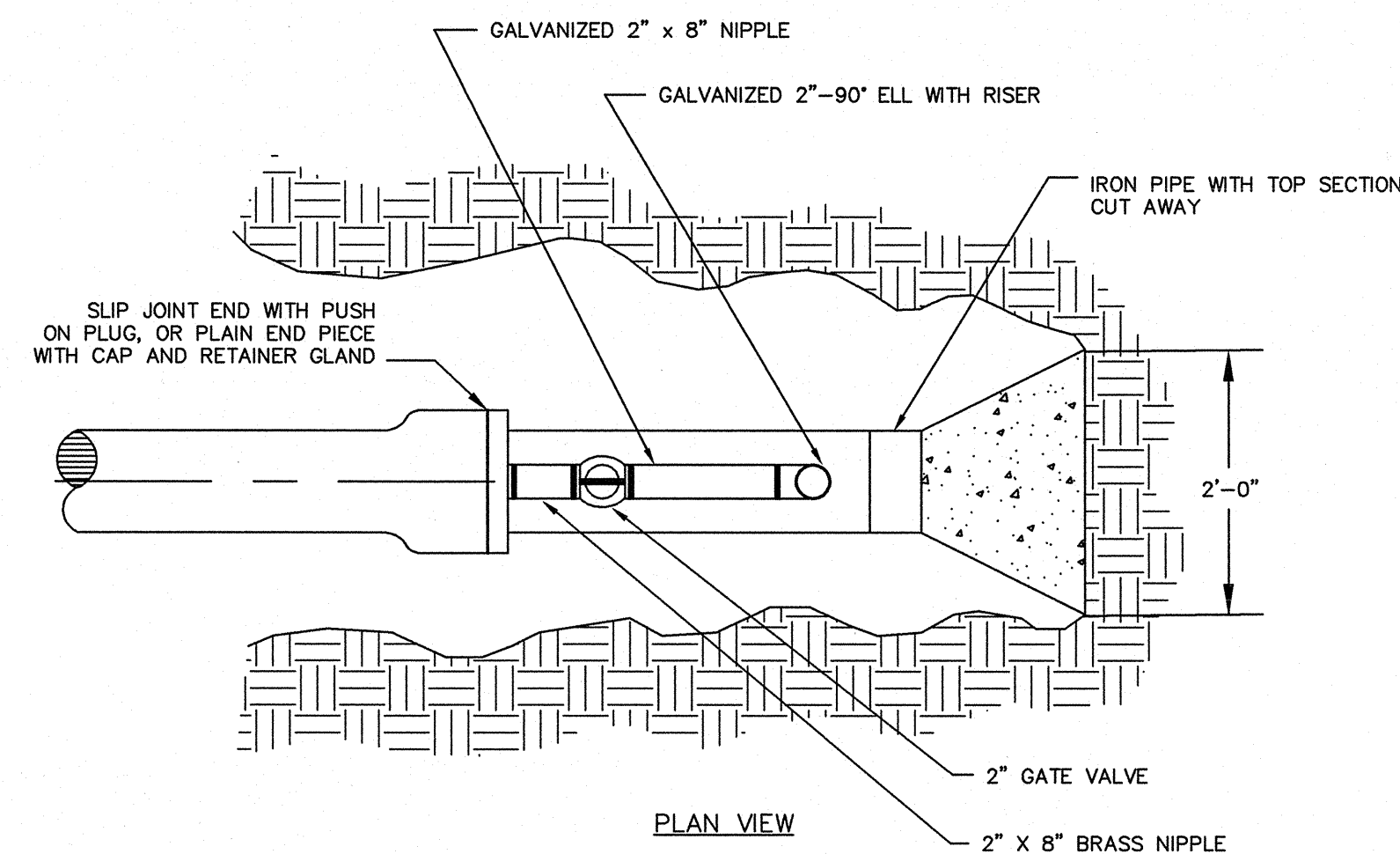
TORQUE SCHEDULE			
PIPE SIZE IN.	BOLT SIZE IN.	RANGE OF TORQUE FT.-LB.	LENGTH OF WRENCH IN *
2 - 3	5/8	45 - 60	8
4 - 24	3/4	75 - 90	10
30 - 36	1	85 - 100	12
42 - 48	1 1/4	105 - 120	14

* THE TORQUE LOADS MAY BE APPLIED WITH TORQUE MEASURING OR TORQUE INDICATING WRENCHES, WHICH MAY ALSO BE USED TO CHECK THE APPLICATION OF APPROXIMATE TORQUE LOADS APPLIED BY A PERSON TRAINED TO GIVE AN AVERAGE PULL ON A DEFINITE LENGTH OF REGULAR SOCKET WRENCH.

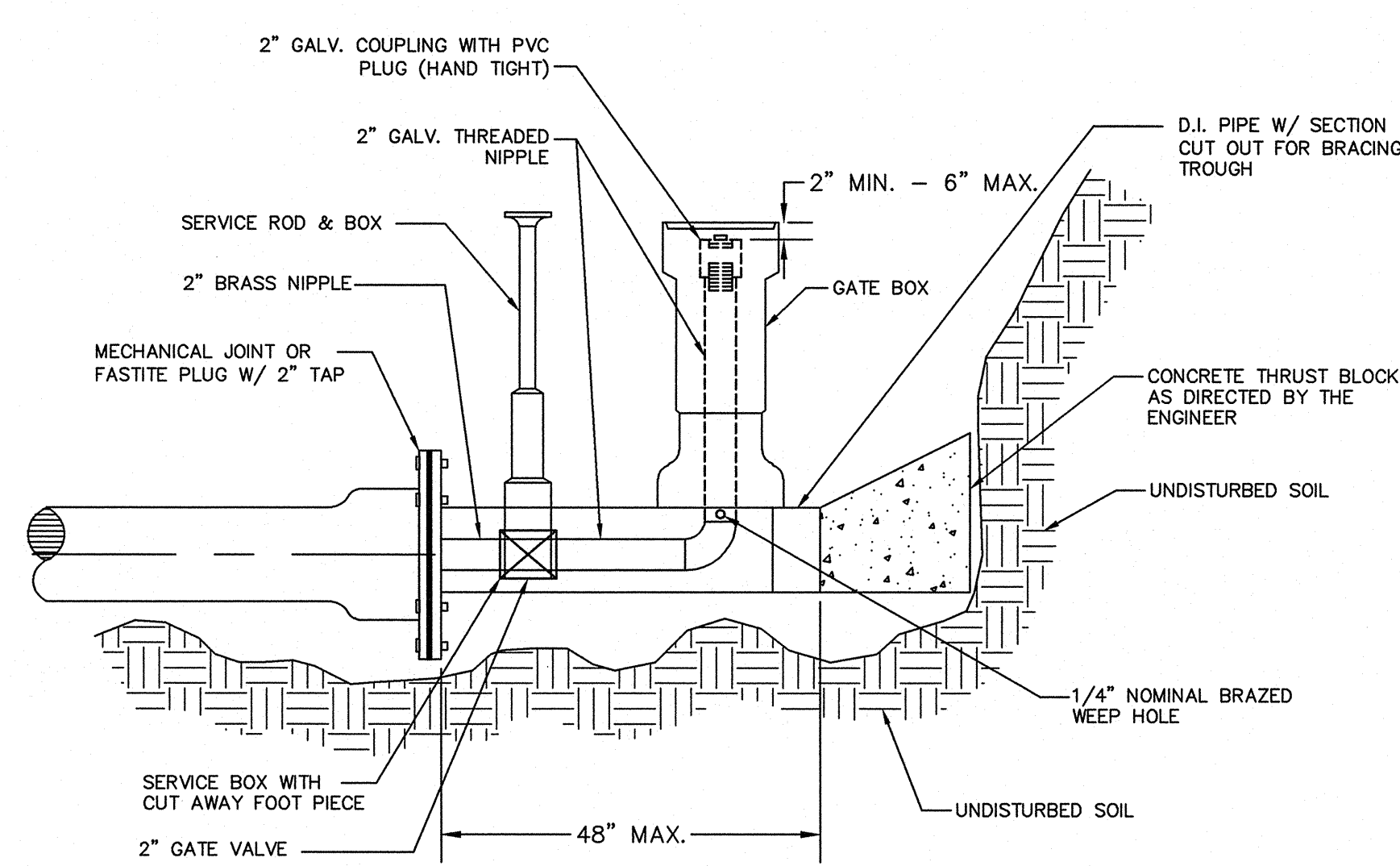
SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

TYPICAL AIR VALVE SECTION (1")

N.T.S.



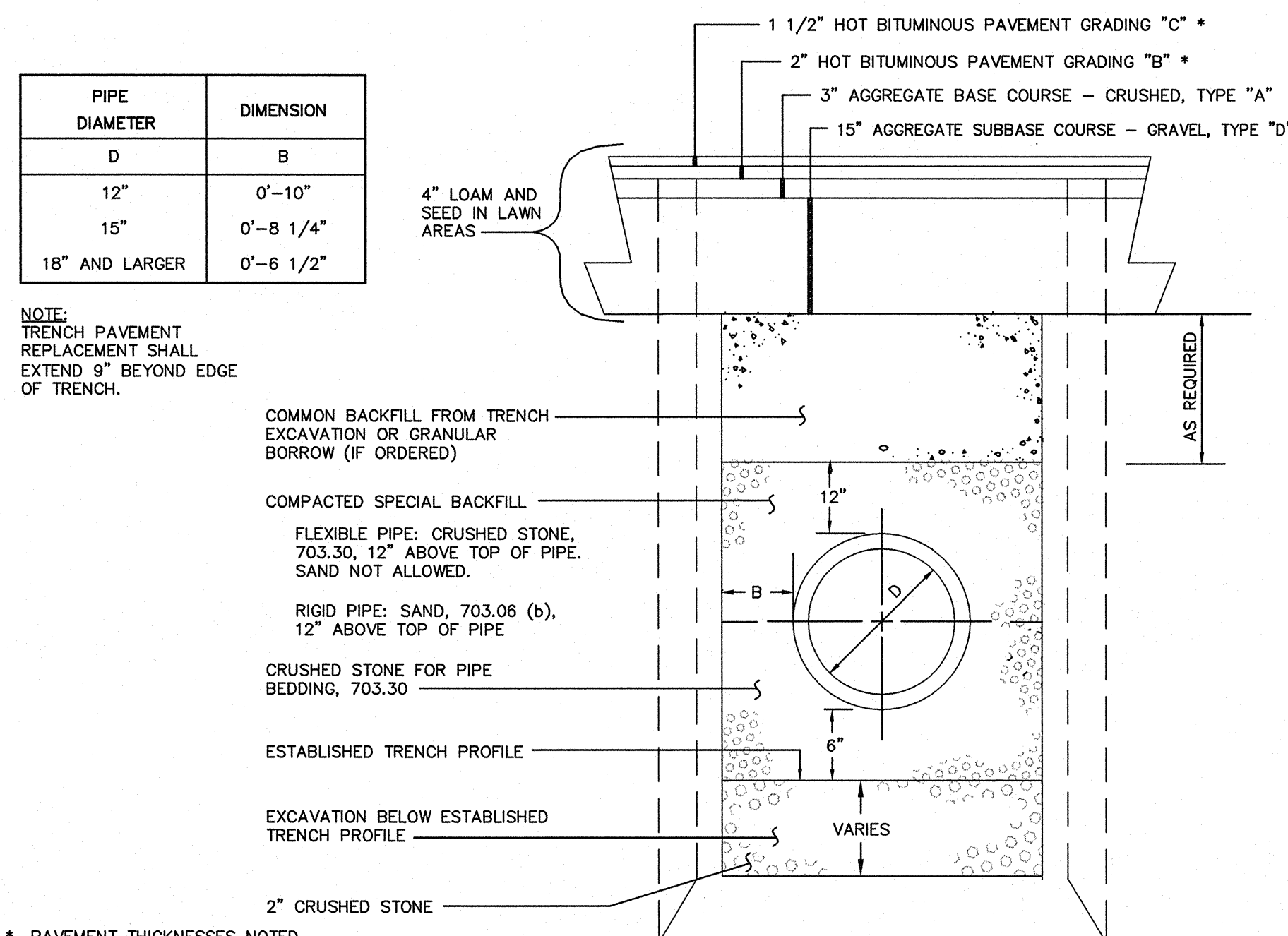
PLAN VIEW



SECTION

STANDARD 2\"/>

N.T.S.

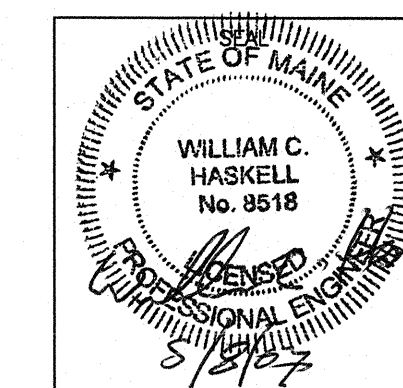


NOTE: TRENCH PAVEMENT REPLACEMENT SHALL EXTEND 5' BEYOND EDGE OF TRENCH.

* PAVEMENT THICKNESSES NOTED ARE A MINIMUM. CONTRACTOR SHALL MATCH THICKNESS OF EXISTING PAVEMENT IN MARGINAL WAY.

TYPICAL PIPE INSTALLATION DETAIL

N.T.S.

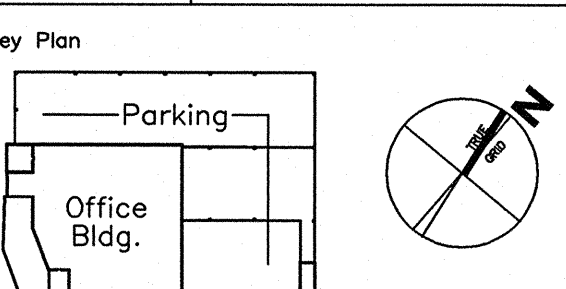


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Project Title
84 MARGINAL WAY
Portland, Maine

HA Project No. 06196



Mark	Date	Description
-	05.08.07	ISSUED FOR CONSTRUCTION
-	03.26.07	100% DESIGN DEVELOPMENT

ISSUED FOR CONSTRUCTION

UTILITY AND DRAINAGE DETAILS

PA / PE: WCH Drawn By: BVD

Drawing Number
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