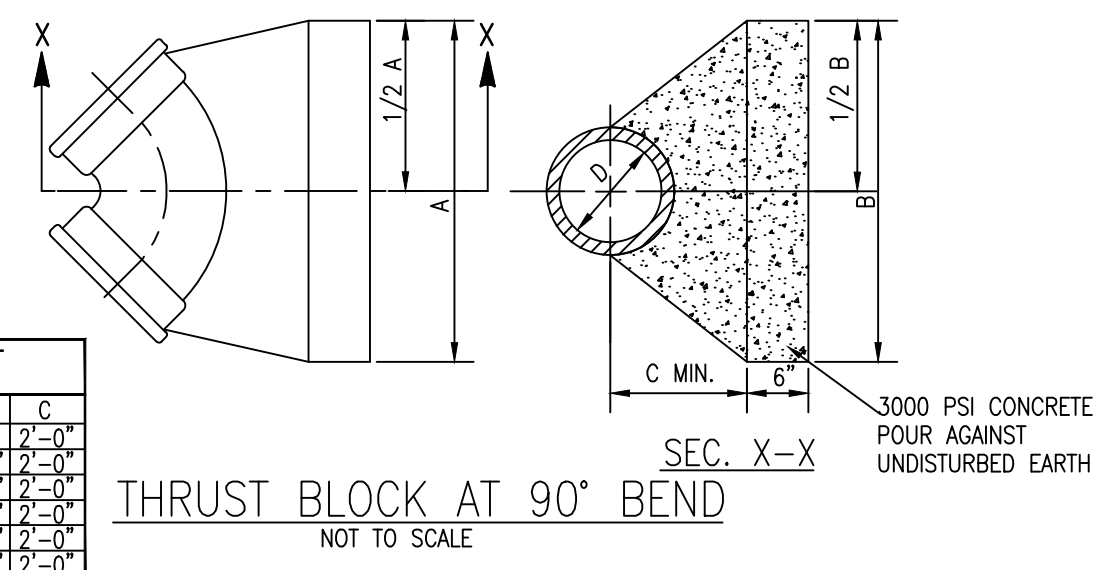


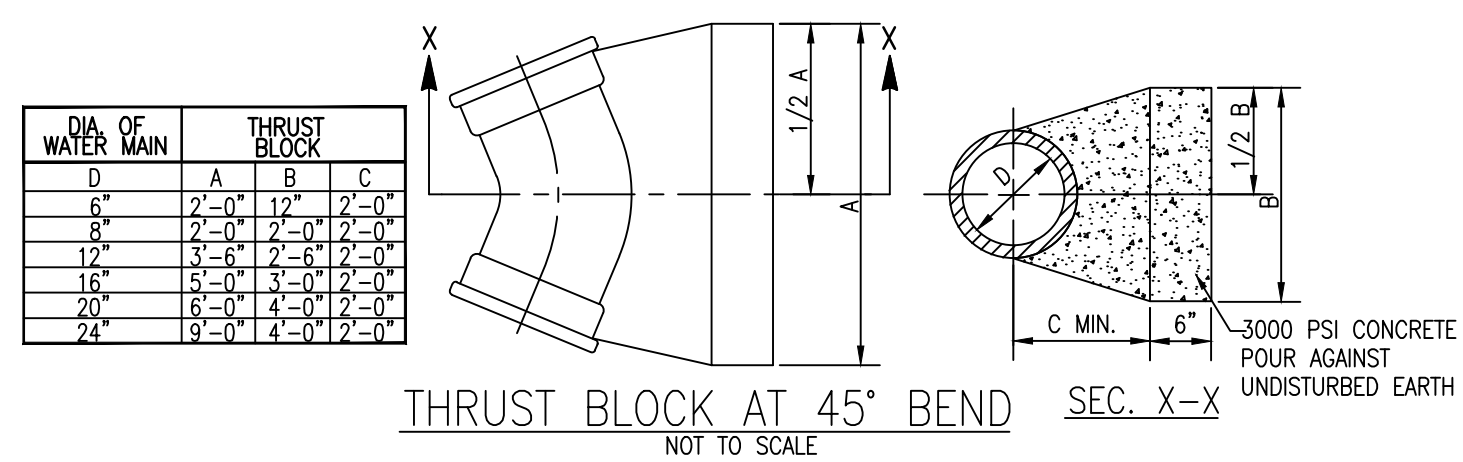
DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
6"	2'-0"	18"	2'-0"
8"	2'-6"	2'-0"	2'-0"
12"	3'-6"	3'-0"	2'-0"
16"	6'-0"	3'-6"	2'-0"
20"	8'-0"	4'-0"	2'-0"
24"	11'-0"	4'-0"	2'-0"

THRUST BLOCK AT PLUG
NOT TO SCALE



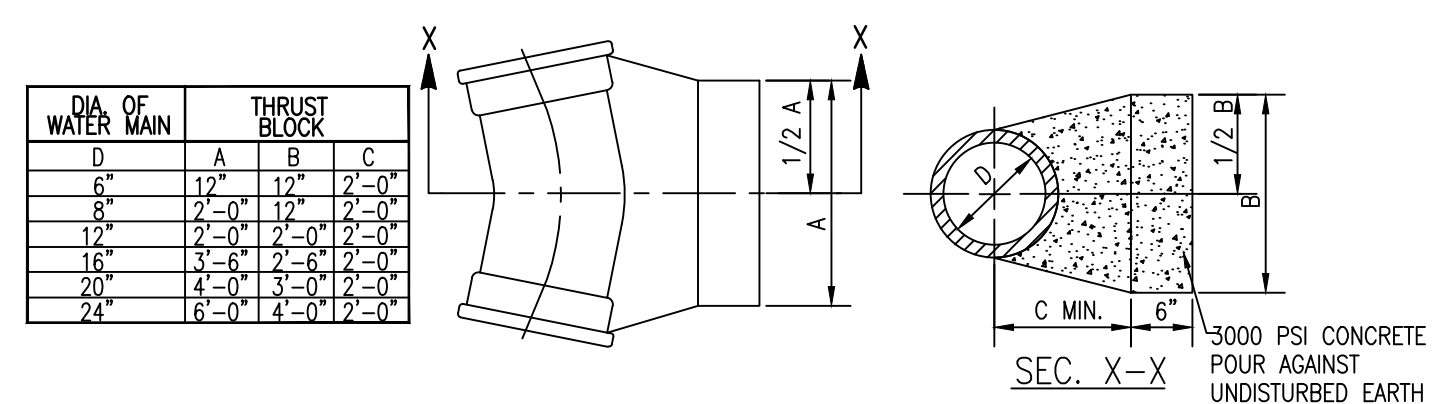
DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
6"	2'-0"	12"	2'-0"
8"	3'-6"	2'-0"	2'-0"
12"	5'-6"	3'-0"	2'-0"
16"	8'-0"	4'-0"	2'-0"
20"	12'-0"	4'-0"	2'-0"
24"	17'-0"	4'-0"	2'-0"

THRUST BLOCK AT 90° BEND
NOT TO SCALE



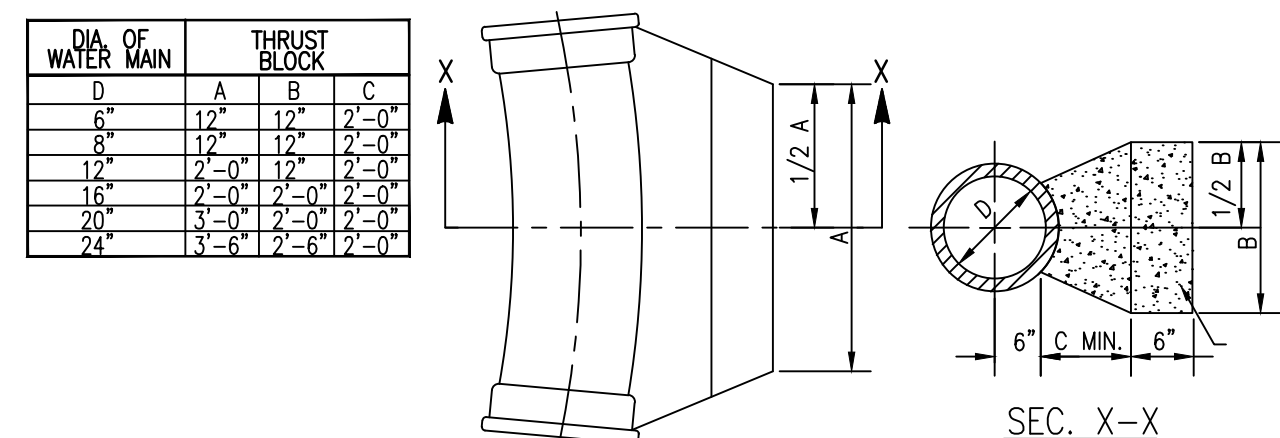
DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
6"	2'-0"	12"	2'-0"
8"	2'-0"	12"	2'-0"
12"	2'-0"	2'-0"	2'-0"
16"	3'-6"	2'-6"	2'-0"
20"	6'-0"	3'-0"	2'-0"
24"	9'-0"	4'-0"	2'-0"

THRUST BLOCK AT 45° BEND
NOT TO SCALE



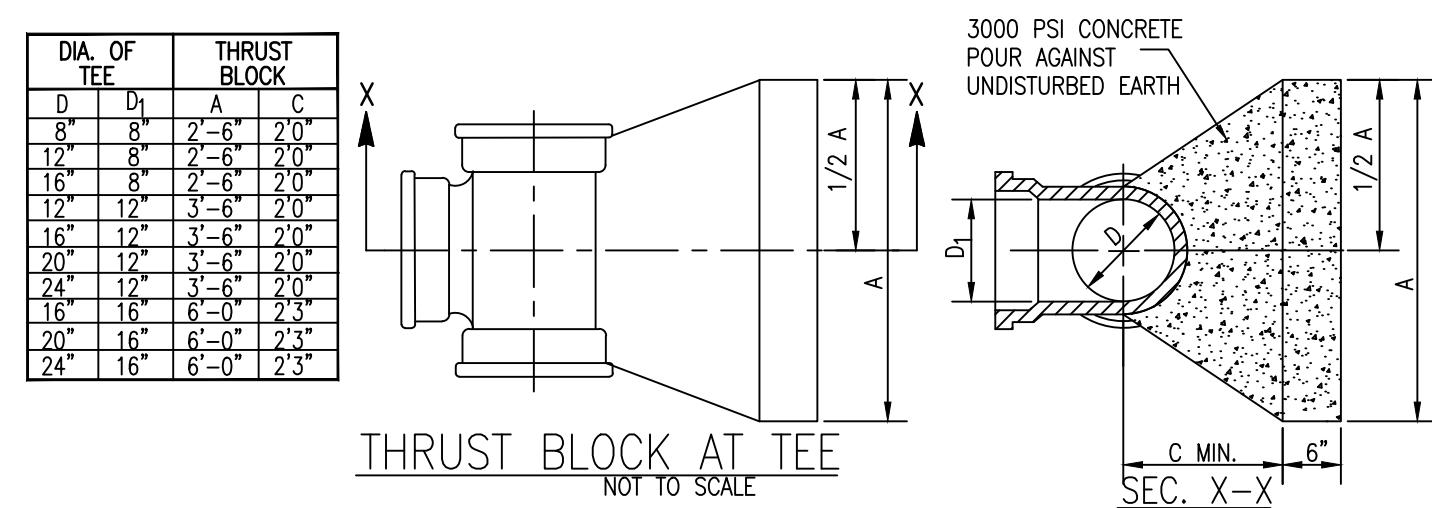
DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
6"	12"	12"	2'-0"
8"	12"	12"	2'-0"
12"	2'-0"	2'-0"	2'-0"
16"	4'-0"	3'-0"	2'-0"
20"	6'-0"	4'-0"	2'-0"
24"	8'-0"	4'-0"	2'-0"

THRUST BLOCK AT 22 1/2° BEND
NOT TO SCALE



DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
6"	12"	12"	2'-0"
8"	12"	12"	2'-0"
12"	2'-0"	2'-0"	2'-0"
16"	2'-0"	2'-0"	2'-0"
20"	3'-0"	2'-0"	2'-0"
24"	3'-6"	2'-6"	2'-0"

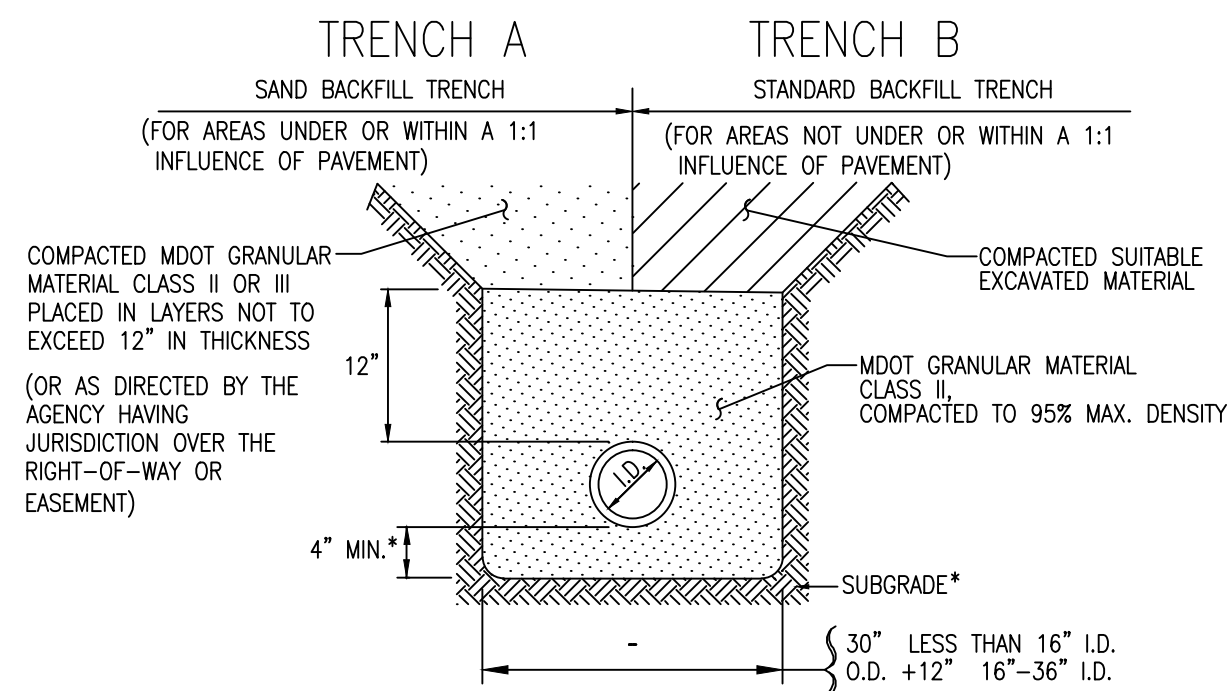
THRUST BLOCK AT 11 1/4° BEND
NOT TO SCALE



DIA. OF WATER MAIN	THRUST BLOCK		
	A	B	C
8"	2'-6"	2'-0"	2'-0"
12"	2'-6"	2'-0"	2'-0"
16"	2'-6"	2'-0"	2'-0"
12"	3'-6"	2'-0"	2'-0"
16"	12"	3'-6"	2'-0"
20"	12"	3'-6"	2'-0"
24"	12"	3'-6"	2'-0"
16"	6'-0"	2'-3"	2'-3"
20"	16"	6'-0"	2'-3"
24"	16"	6'-0"	2'-3"

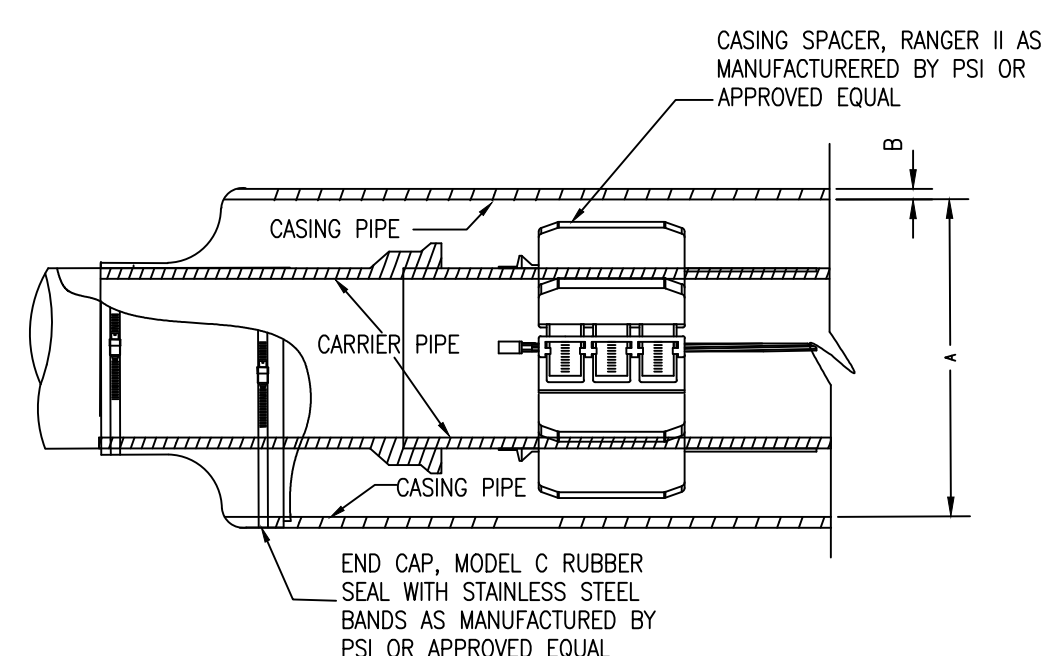
THRUST BLOCK AT TEE
NOT TO SCALE

NOTE: CONCRETE THRUST BLOCKS WILL NOT BE PERMITTED EXCEPT BEHIND HYDRANT SHOES AND TAPPING SLEEVES. USE OF CONCRETE THRUST BLOCKS IN OTHER LOCATIONS WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF YCUA.



BEDDING AND TRENCH BACKFILL DETAIL FOR WATER MAIN
NOT TO SCALE

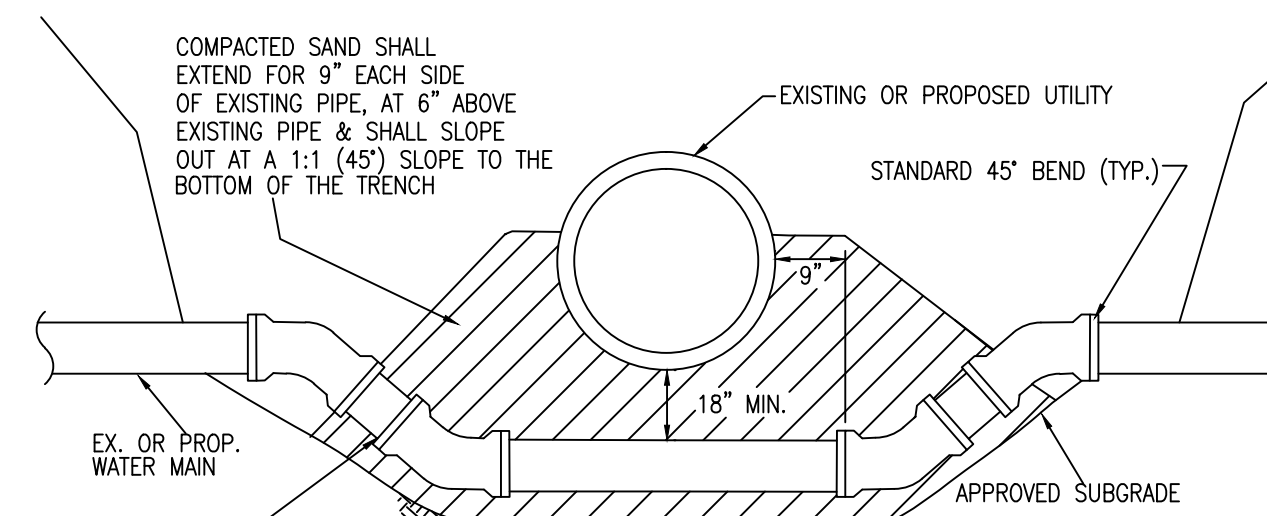
*NOTE: IF THE EXISTING SUBGRADE MATERIAL MEETS THE REQUIREMENTS FOR MDOT GRANULAR MATERIAL CLASS II (MINIMUM 4" THICK), THEN THE WATER MAIN MAY BE LAID DIRECTLY ON THE COMPACTED EXISTING SUBGRADE MATERIAL.



STANDARD CASING SECTION
NOT TO SCALE

- NOTES:
1. NO WATER SHALL BE USED IN BORING UNDER RAILROADS.
 2. MAINTAIN MIN. OF 5'-6" OF COVER BETWEEN BASE OF RAIL & TOP OF CASING.
 3. THE ENDS OF THE CASING SHALL BE SUITABLY PROTECTED AGAINST THE ENTRANCE OF FOREIGN MATERIAL, BUT SHALL NOT BE TIGHTLY SEALED.
 4. CASING SPACERS AND END SEALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

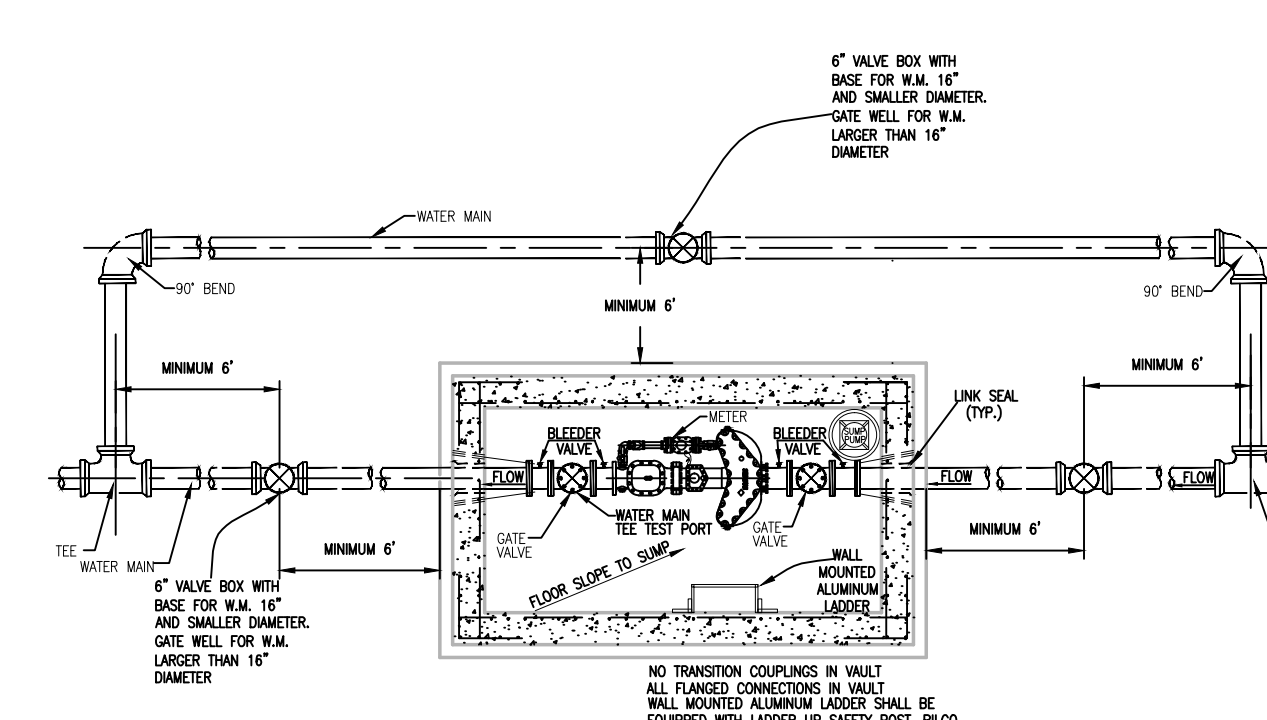
DIA. OF WATER MAIN	MIN. (L.D)	ROAD CROSSING MIN. 'B'	RAILROAD CROSSING MIN. 'B'
6"	14"	0.250'	0.312'
8"	16"	0.250'	0.375'
12"	20"	0.250'	0.438'
16"	24"	0.250'	0.500'
20"	30"	0.375'	0.500'
24"	36"	0.375'	0.500'



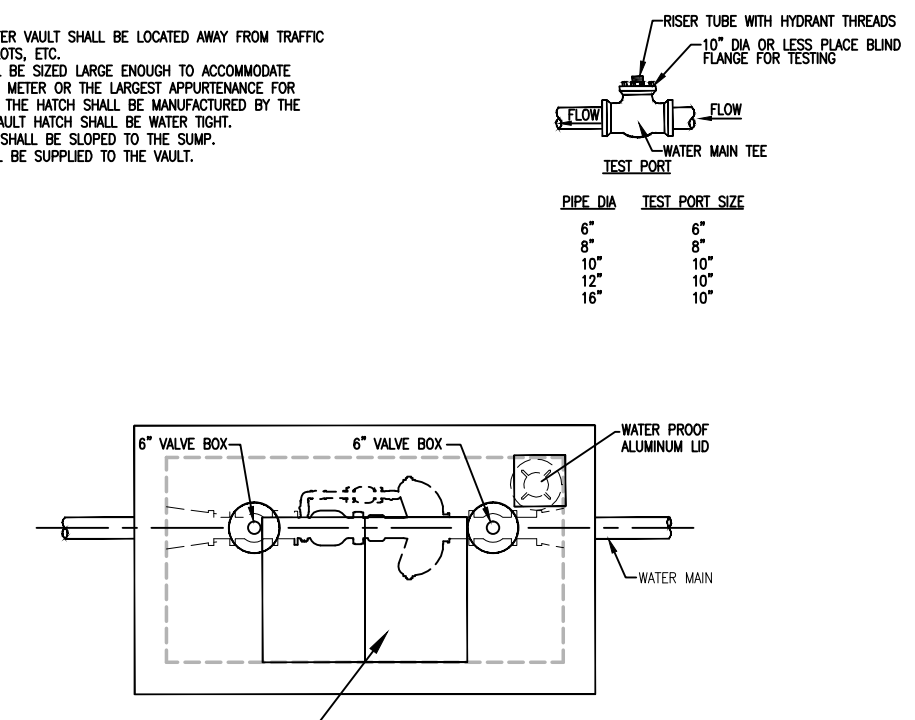
WATER MAIN LOWERING
NOT TO SCALE

NOTE: ALL JOINTS TO BE PUSH-ON JOINTS RESTRAINED WITH FIELD-LOK GASKET OR APPROVED EQUAL

NOTE: FOR BEDDING OF WATERMAIN SEE STANDARD PIPE SUPPORT DETAIL



MASTER METER VAULT CONFIGURATION (WITHOUT COVER)
NOT TO SCALE



MASTER METER VAULT CONFIGURATION WITH COVER
NOT TO SCALE

- NOTES:
1. WHERE POSSIBLE THE METER VAULT SHALL BE LOCATED AWAY FROM TRAFFIC AREAS, PARKS, PARKING LOTS, ETC.
 2. THE ACCESS HATCH SHALL BE SIZED LARGE ENOUGH TO ACCOMMODATE REMOVAL OF THE LARGEST METER OR THE LARGEST APPURTENANCE FOR MAINTENANCE PURPOSES. THE HATCH SHALL BE MANUFACTURED BY THE BICO COMPANY. METER VAULT HATCH SHALL BE WATER TIGHT.
 3. THE METER VAULT FLOOR SHALL BE SLOPED TO THE SUMP.
 4. ELECTRICAL SERVICE SHALL BE SUPPLIED TO THE VAULT.

PIPE DIA.	TEST PORT SIZE
6"	6"
8"	6"
12"	10"
16"	10"
20"	10"



REVISIONS

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF YCUA AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR ENCLOSURED WITHOUT PRIOR WRITTEN CONSENT OF YCUA

STANDARD WATER MAIN DETAILS

DATE: 2/6/2009

SCALE: NO SCALE

SHEET: []

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YPSILANTI, MICHIGAN 48198-9112
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DATE: 2/6/2009

SCALE: NO SCALE

SHEET: []