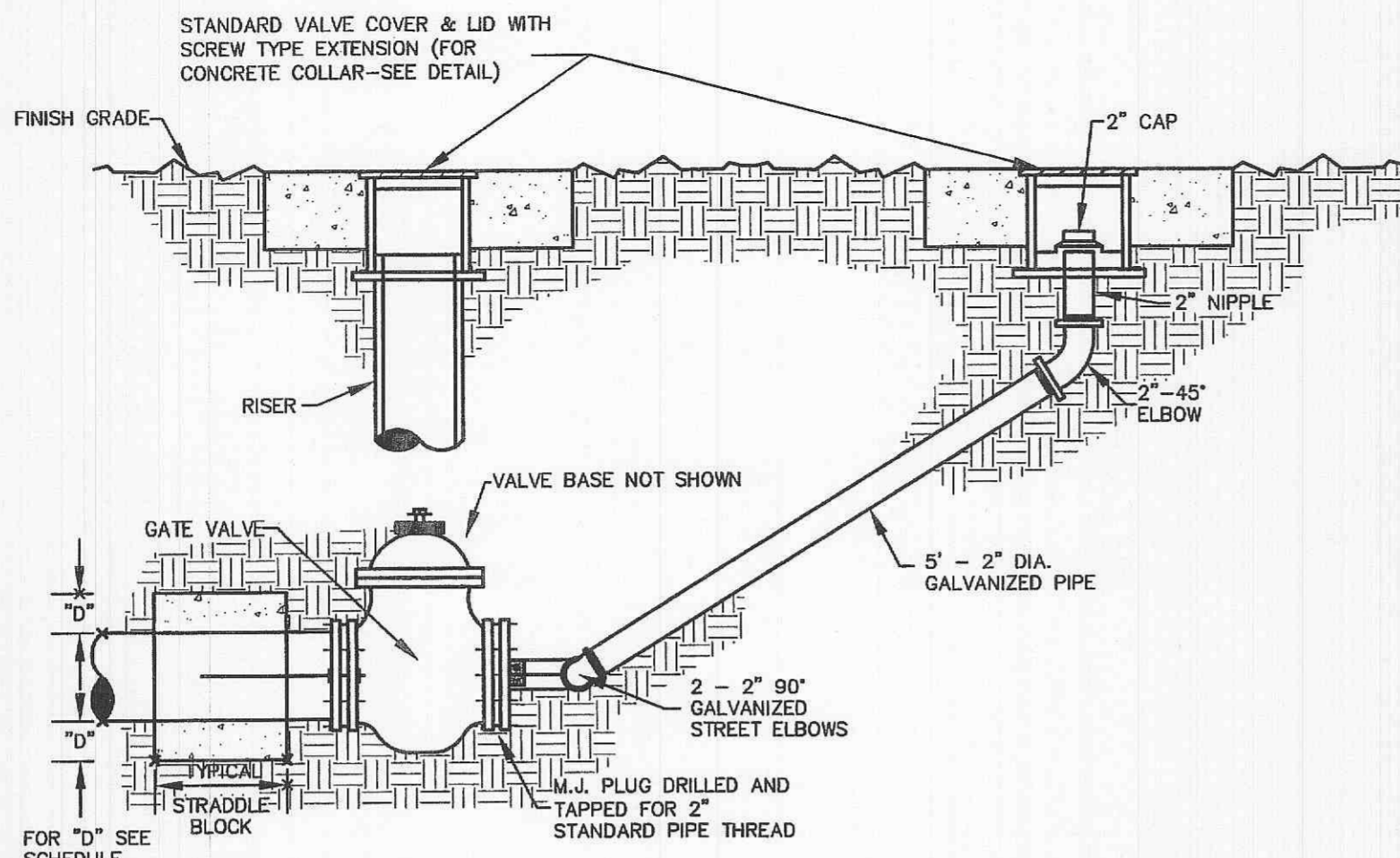
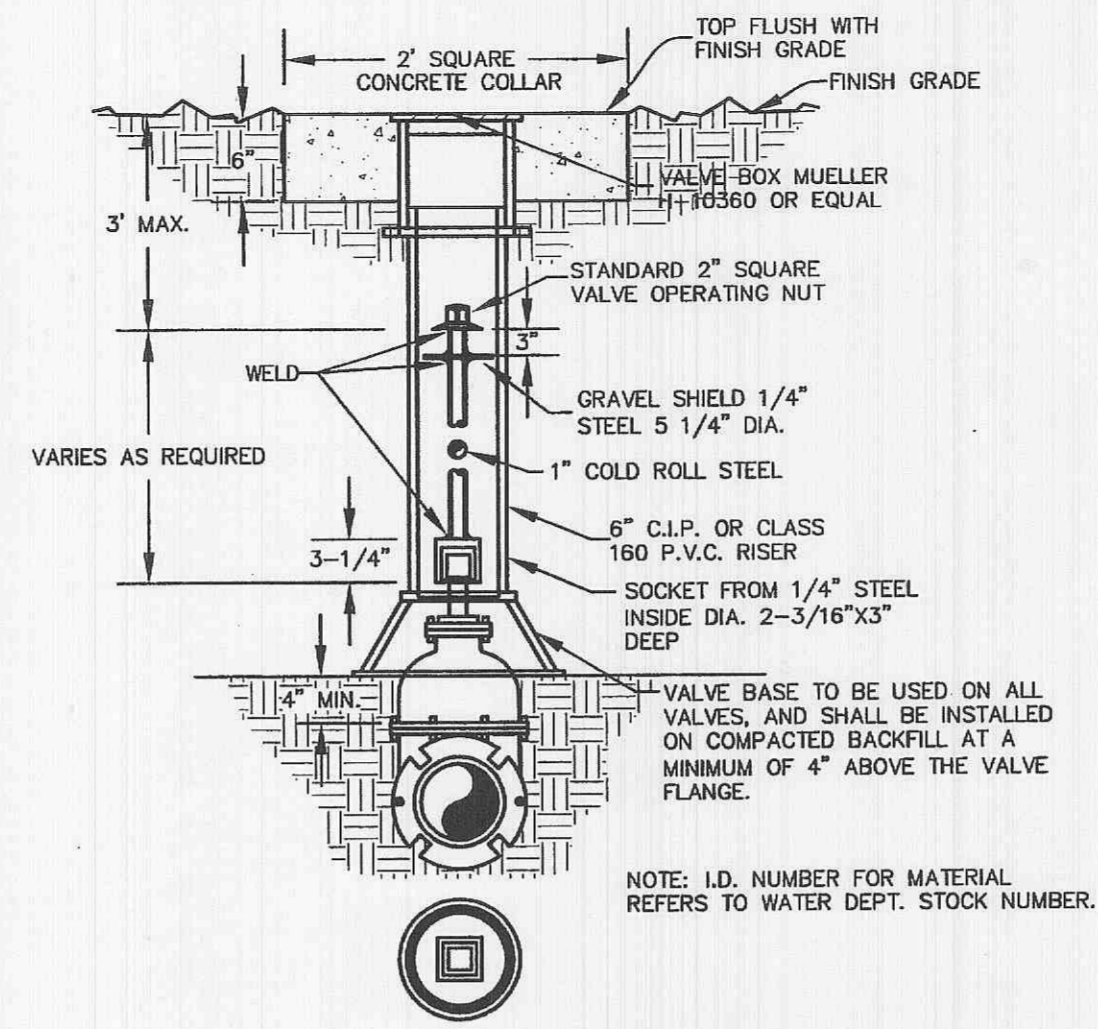


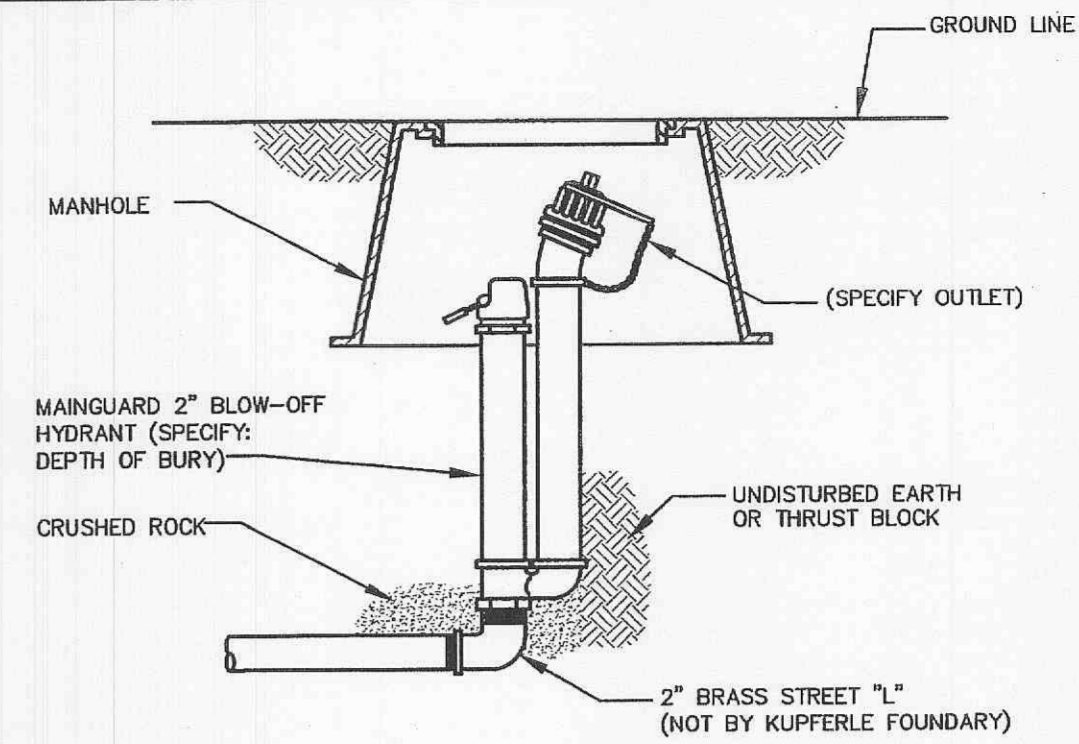
MANUAL AIR VALVE DETAIL
NOT TO SCALE



FLUSHING ASSEMBLY
NOT TO SCALE

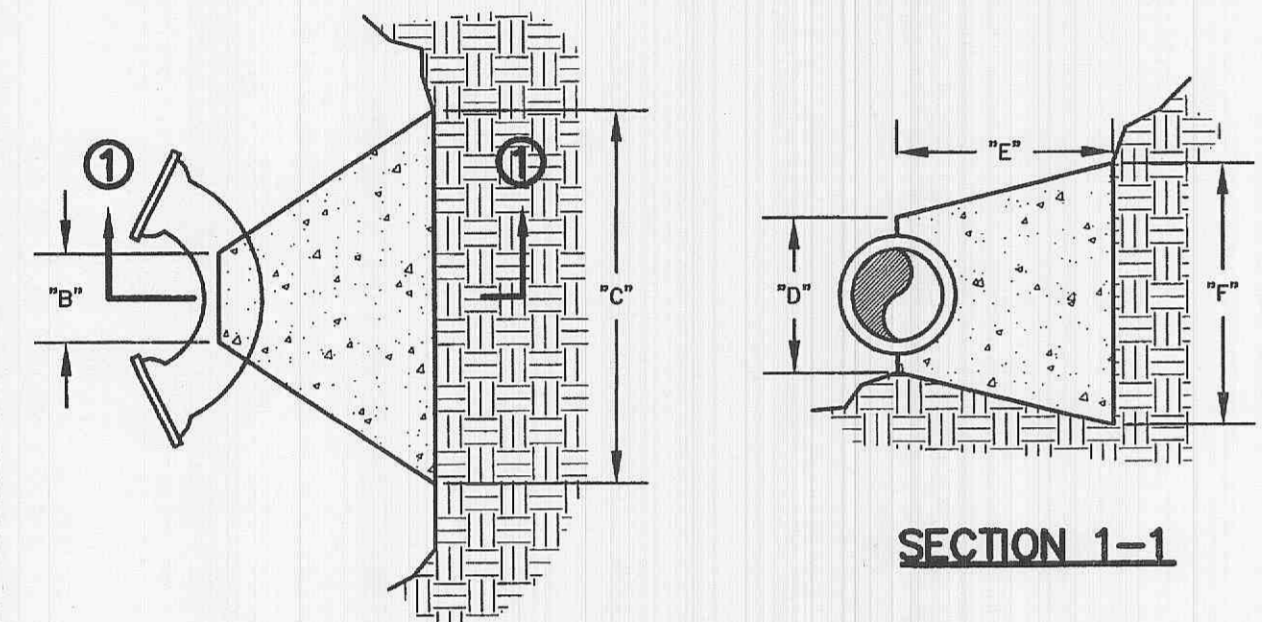


WATER VALVE DETAIL
NOT TO SCALE

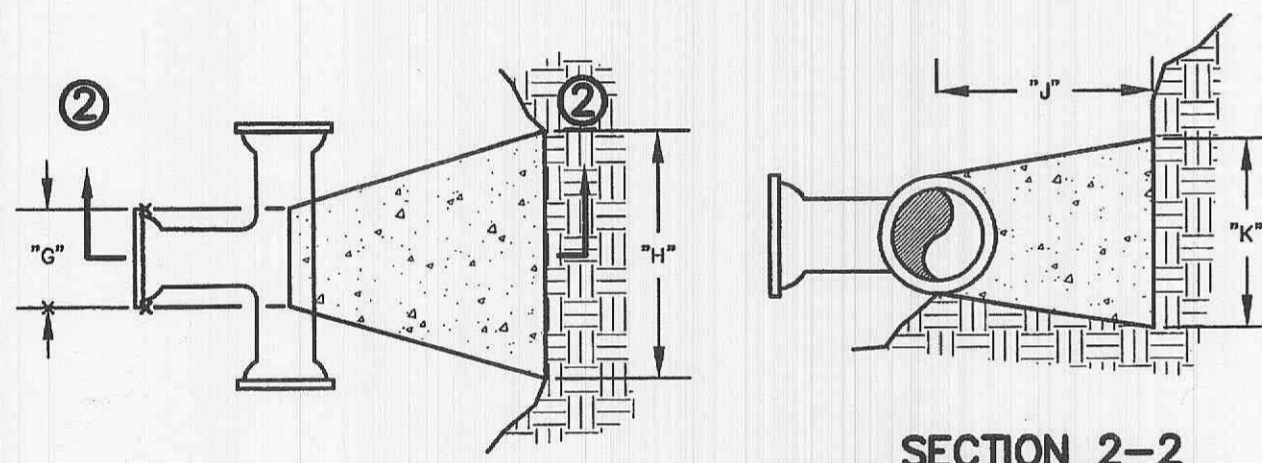


BLOW-OFF HYDRANTS SHALL BE NON-FREEZING, SELF DRAINING TYPE, WITH AN OVERALL LENGTH OF 6\"/>

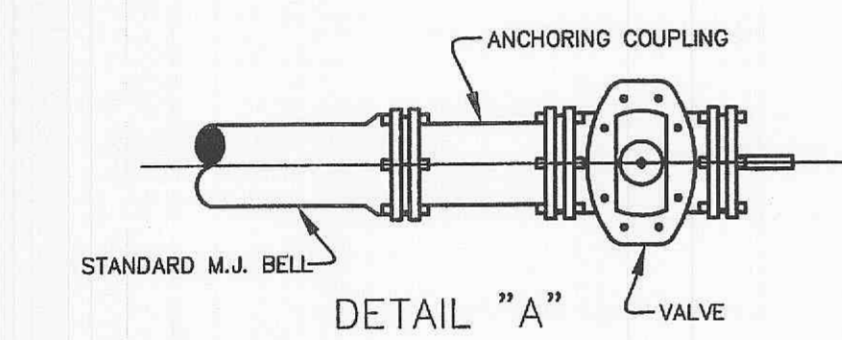
BLOW-OFF HYDRANT
NOT TO SCALE



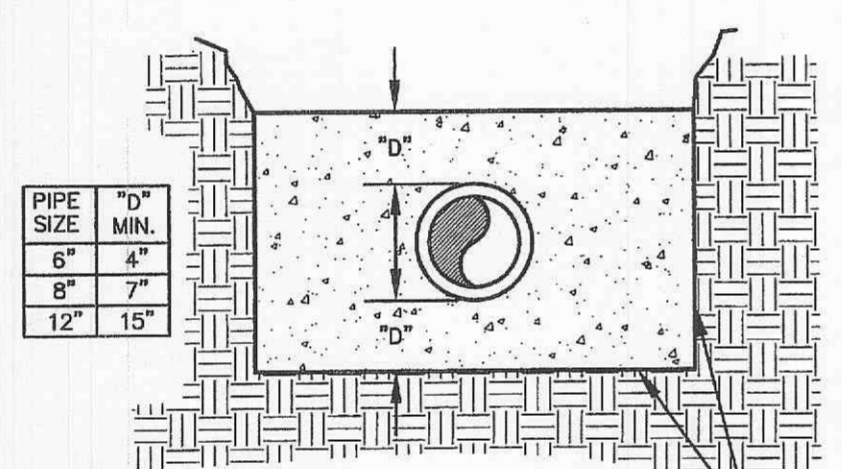
SECTION 1-1



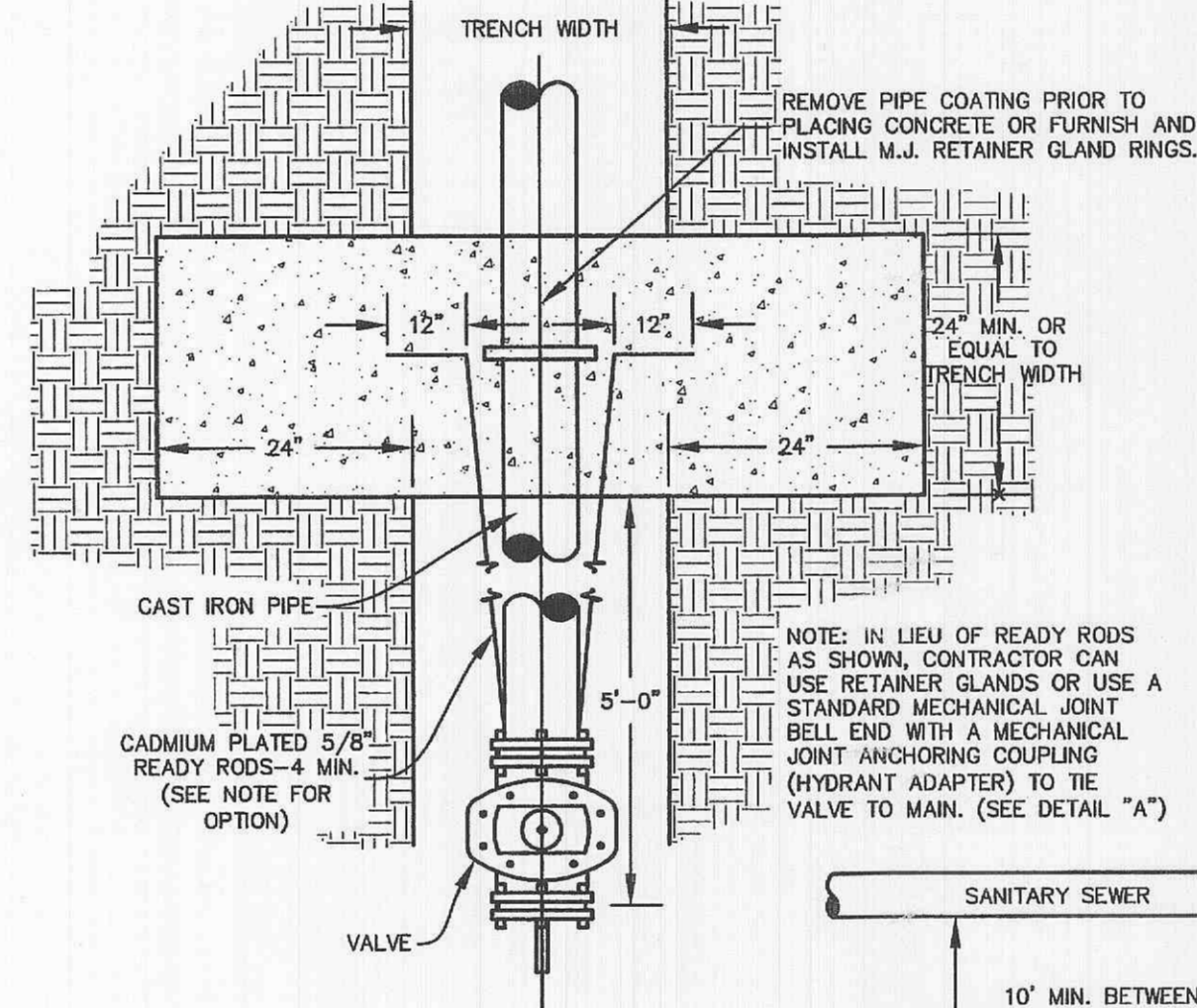
SECTION 2-2



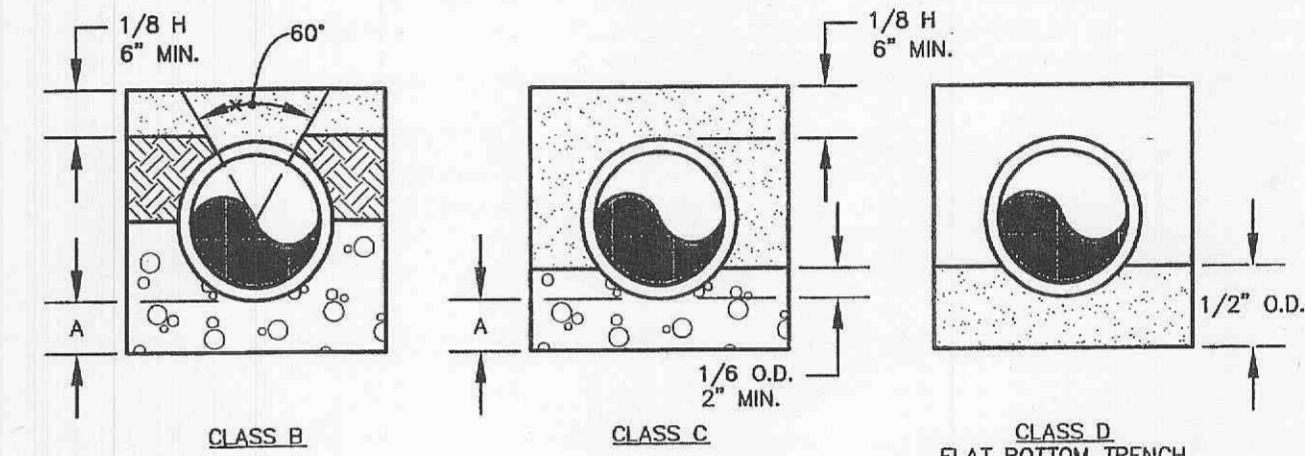
DETAIL "A"



STRADDLE BLOCK DETAIL
NOT TO SCALE



TYPICAL WATER AND SEWER SEPERATION
NOT TO SCALE



LEGEND
L.D. - NOMINAL PIPE SIZE
O.D. - OUTSIDE DIAMETER OF PIPE
H - COVER ABOVE TOP OF PIPE
A - EMBEDMENT BELOW PIPE (SEE TABLE)

TABLE OF EMBEDMENT DEPTHS BELOW PIPE		
L.D.	A MIN. SOIL	A MIN. ROCK
27" & SMALLER	3"	6"

GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING 1/2" (95% PASSING 3/4" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 95% RETAINED ON A #4; TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.

COMPACTED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY A.S.T. D698, OR GRADED AGGREGATE. GRANULAR BACKFILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACKFILL.

TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 8" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACKFILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACKFILL.

TRENCH BACKFILL SHALL BE AS REQUIRED IN THE "LAYING AND BACKFILL" SECTION OF THE DETAILED SPECIFICATIONS.

EMBEDMENT THE TYPE OF EMBEDMENT TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

TRACER WIRE REQUIRED ON ALL WATER MAINS

WATER MAIN EMBEDMENT
NOT TO SCALE

BENDS	"B"	"C"	"D"	"E"	"F"
6"-11 1/4"	8"	15"	12"	24"	10"
6"-22 1/2"	8"	19"	12"	24"	13"
6"-45"	8"	30"	12"	24"	14"
6"-90"	8"	30"	12"	24"	27"
8"-11 1/4"	8"	20"	12"	24"	10"
8"-22 1/2"	8"	22"	12"	24"	17"
8"-45"	8"	30"	12"	24"	24"
8"-90"	8"	38"	12"	24"	36"

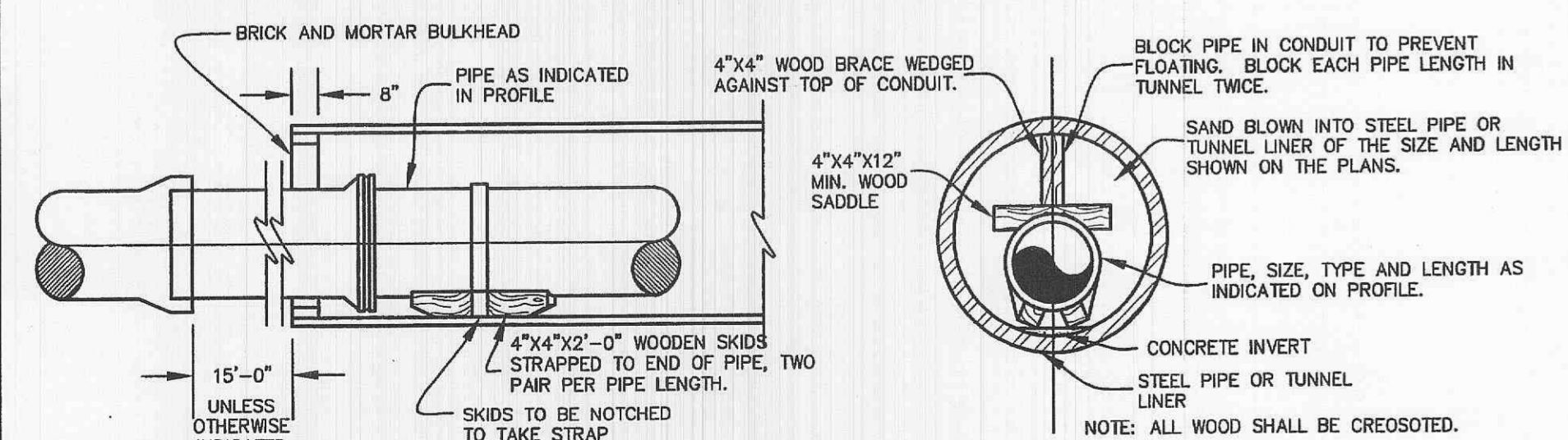
TEES	"G"	"H"	"J"	"K"
6"x6"x6"	12"	24"	24"	18"
8"x8"x6"	12"	24"	24"	18"
8"x8"x8"	12"	24"	24"	24"
12"x12"x6"	12"	24"	24"	18"
12"x12"x8"	12"	24"	24"	24"
12"x12"x12"	12"	36"	24"	36"

CUBIC FEET OF CONCRETE REQUIRED				
BEND	11 1/4"	22 1/2"	45"	90"
6"	1.7	2.4	3.5	5.5
8"	2.1	3.1	5.0	8.5
12"	3.7	5.9	9.7	17.5

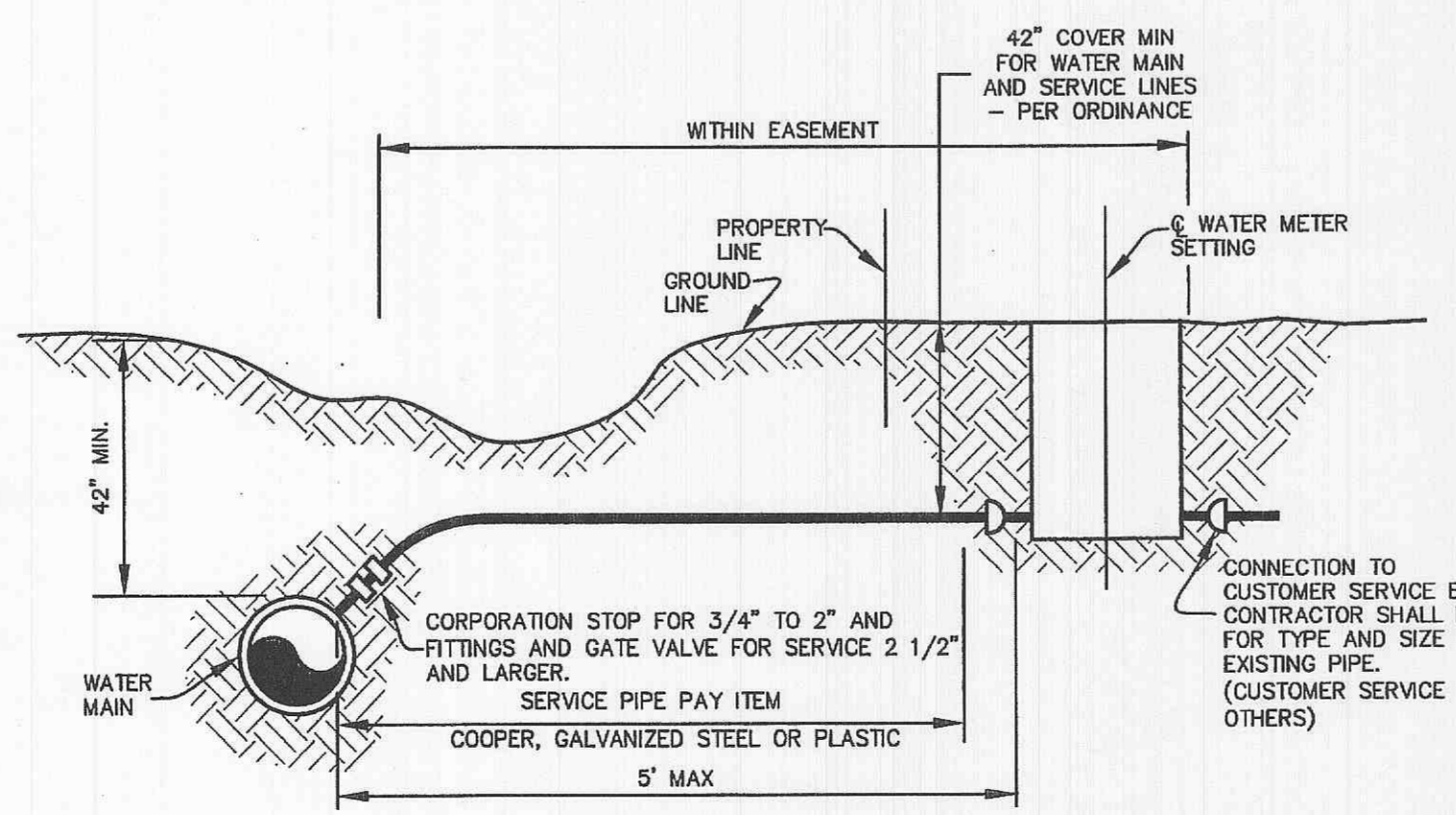
TEE X	6"	8"	12"	PLUG
6"	4.0	~	~	4.0
8"	4.0	5.0	~	5.0
12"	4.0	5.5	10.5	10.5

NOTES:
1. 2" & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.

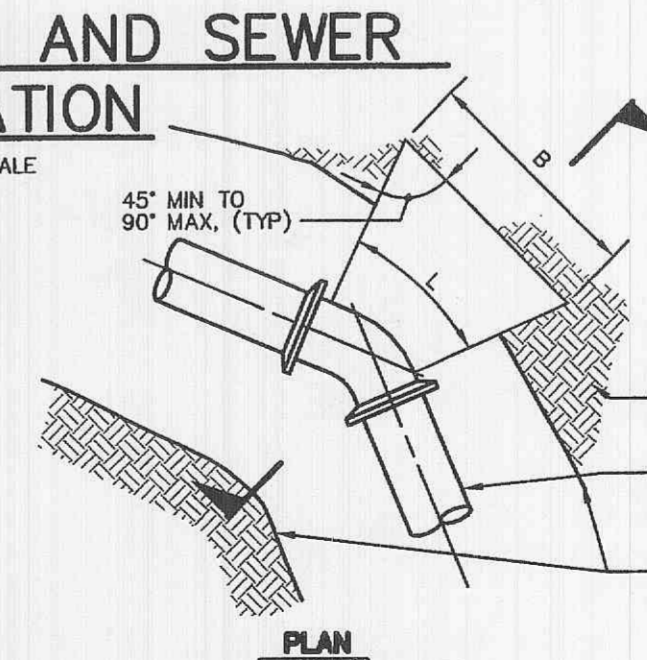
BACKING BLOCKS
NOT TO SCALE



TUNNEL LINER DETAIL
NOT TO SCALE



TYPICAL SERVICE ASSEMBLY
NOT TO SCALE



NOTES:
1. AREA OF BLOCK, A = Bxh. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
2. B = h = sqrt(L). EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/h.
3. MINIMUM BLOCK DIMENSION (B & h) SHALL BE AT LEAST OD OF PIPE OR 1 FOOT FOR PIPE OD 12" OR LESS.
4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
5. L = FITTING LENGTH MINUS CLEARANCE FOR BELLS.
6. DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.
7. DIMENSIONS FOR THRUST BLOCKS FOR FIRE HYDRANT ASSEMBLY ARE SHOWN FIRE HYDRANT ASSEMBLY DETAIL.

SIZE	BEND	THRUST AREA	B	H
16"	11 1/2"	4 SF	2'	2'
16"	22 1/2"	8 SF	2.8'	2.8'

CONCRETE THRUST BLOCKING
NOT TO SCALE

**CITY OF O'FALLON
COMMUNITY DEVELOPMENT
DESIGN DIVISION
O'FALLON, MISSOURI**

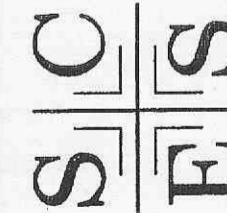


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SHEET OF _____

**MAGNOLIA
WATERLINE DETAILS 1**

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801 S. FIFTH STREET, SUITE 202
ST. CHARLES, MO 63301
TEL: (636) 947-0607 FAX: (636) 947-2448



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