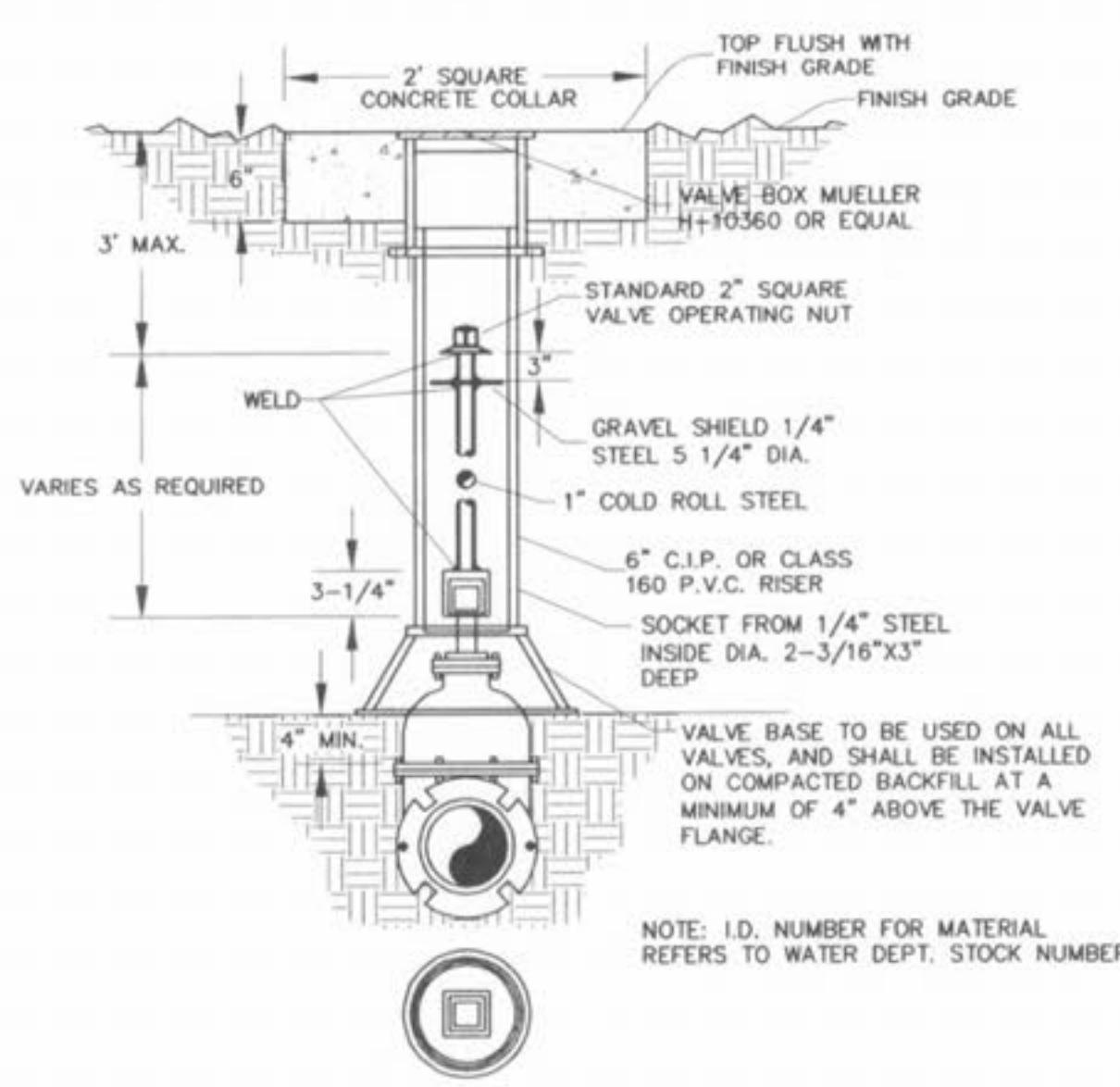
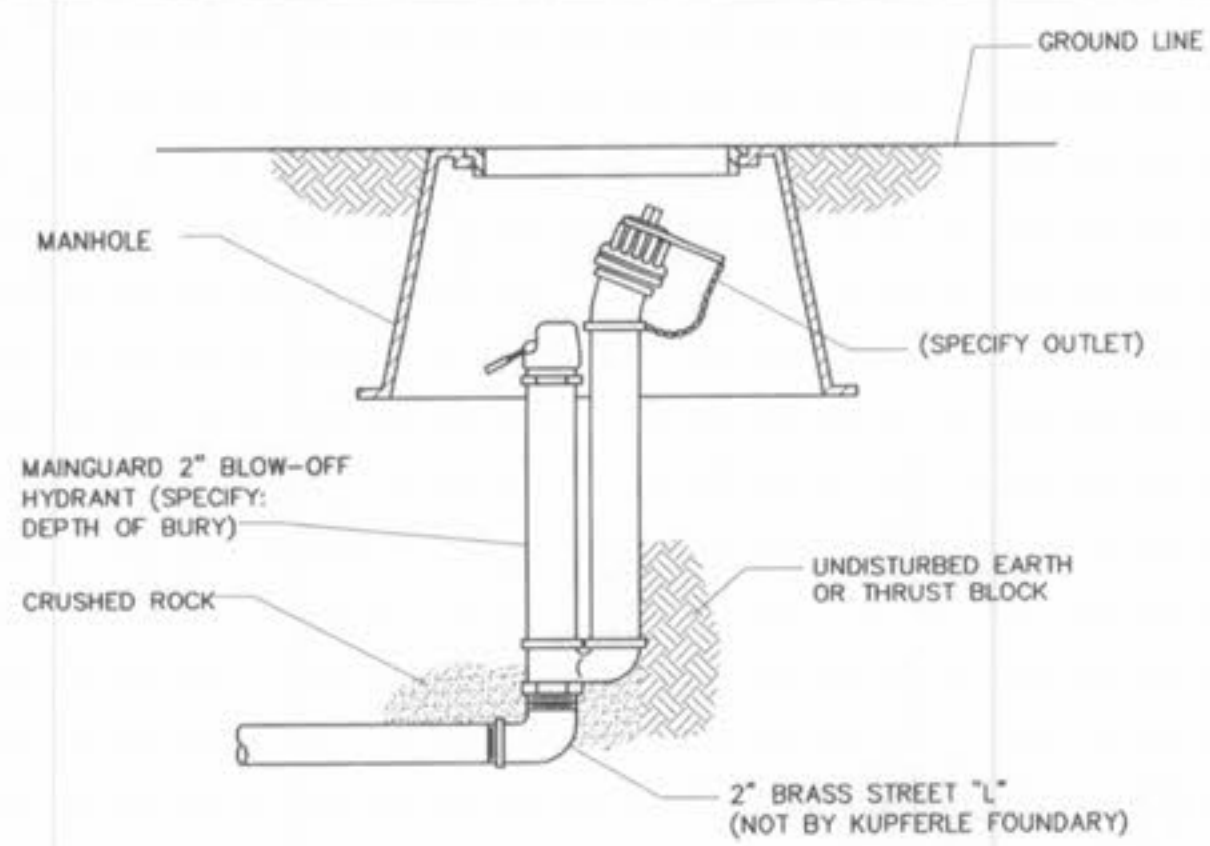


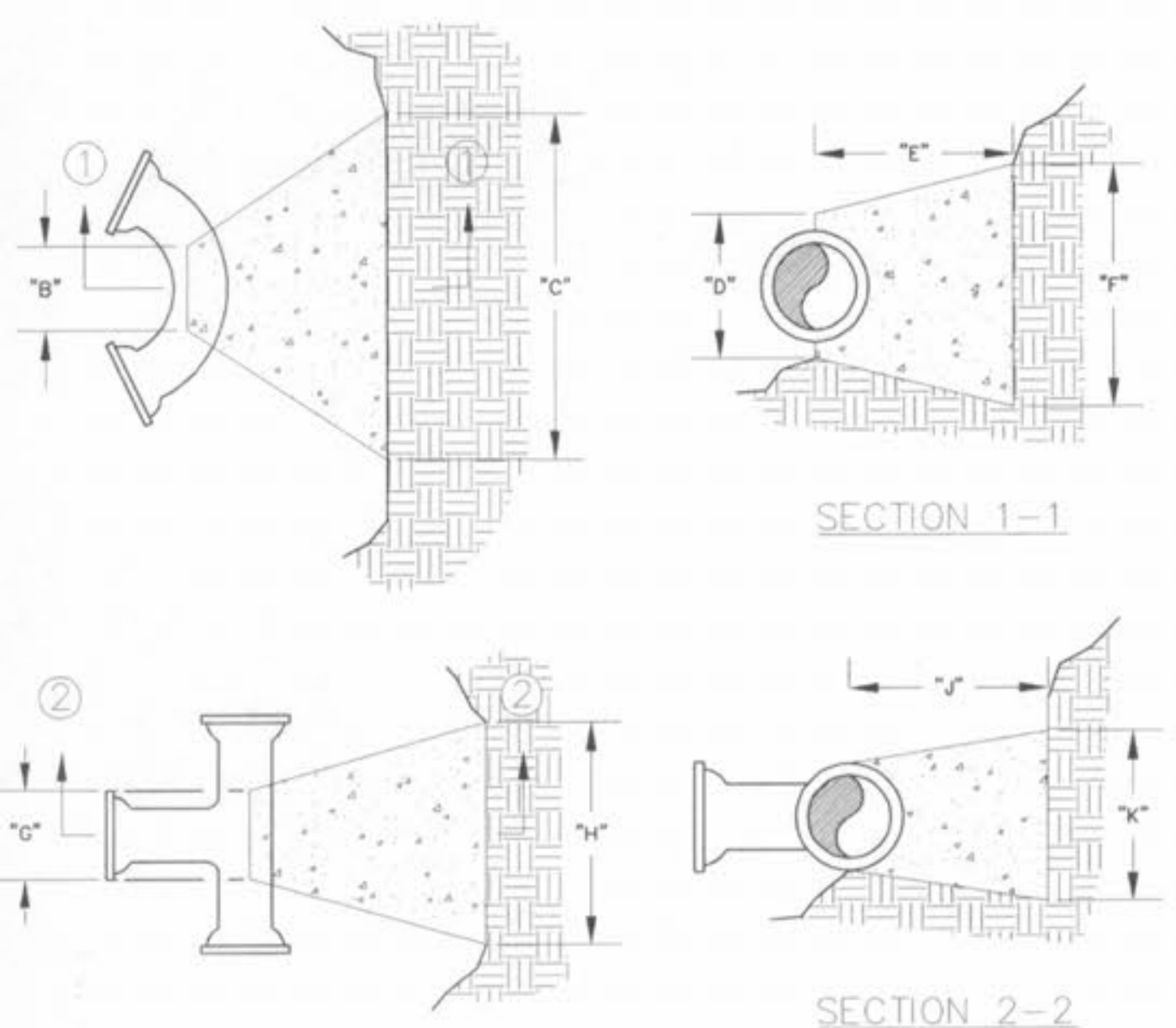
FLUSHING ASSEMBLY  
NOT TO SCALE



WATER VALVE DETAIL  
NOT TO SCALE



BLOW-OFF HYDRANT  
NOT TO SCALE



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

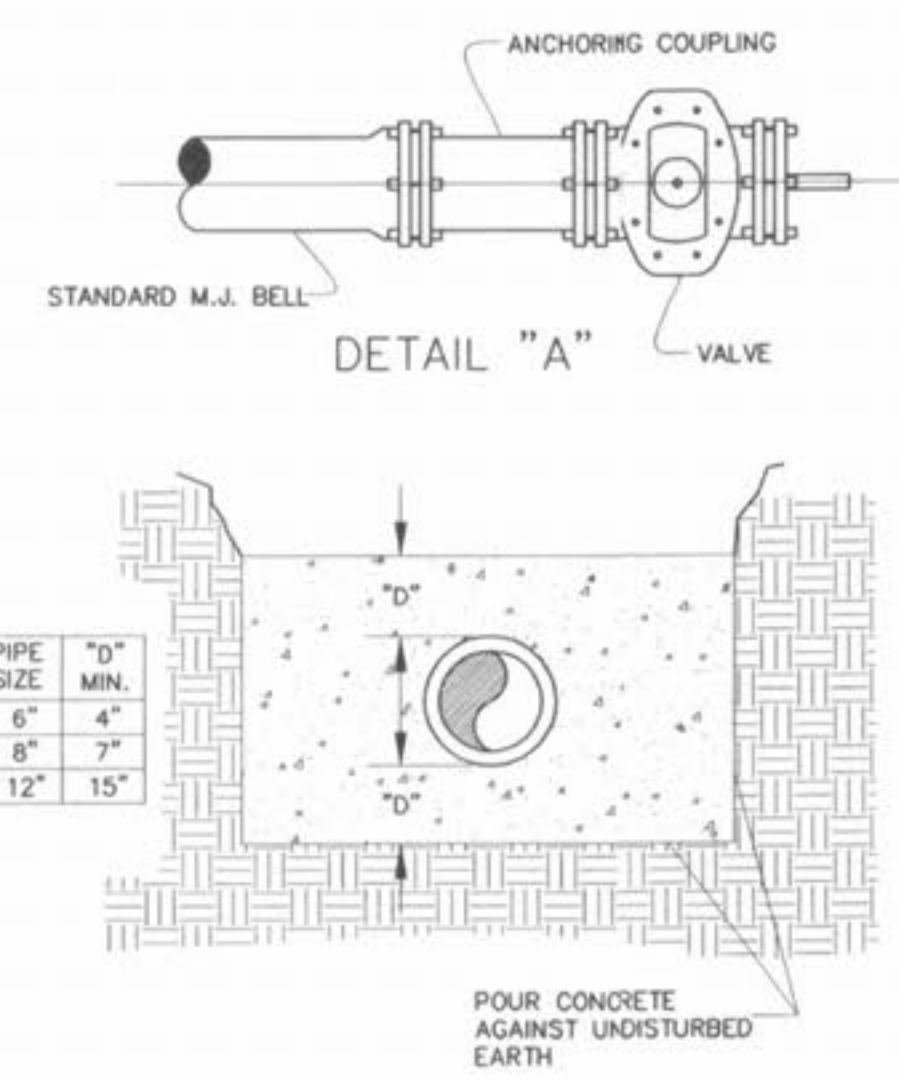
BENDS	"B"	"C"	"D"	"E"	"F"
6"-11 1/4"	8"	15"	12"	24"	10"
6"-22 1/2"	8"	19"	12"	24"	13"
6"-45"	8"	30"	12"	24"	14"
6"-90"	8"	30"	12"	24"	27"
8"-11 1/4"	8"	20"	12"	24"	10"
8"-22 1/2"	8"	22"	12"	24"	17"
8"-45"	8"	30"	12"	24"	24"
8"-90"	8"	38"	12"	24"	36"
12"-11 1/4"	8"	30"	12"	24"	15"
12"-22 1/2"	8"	35"	12"	24"	25"
12"-45"	8"	40"	12"	24"	40"
12"-90"	8"	60"	12"	24"	52"

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"

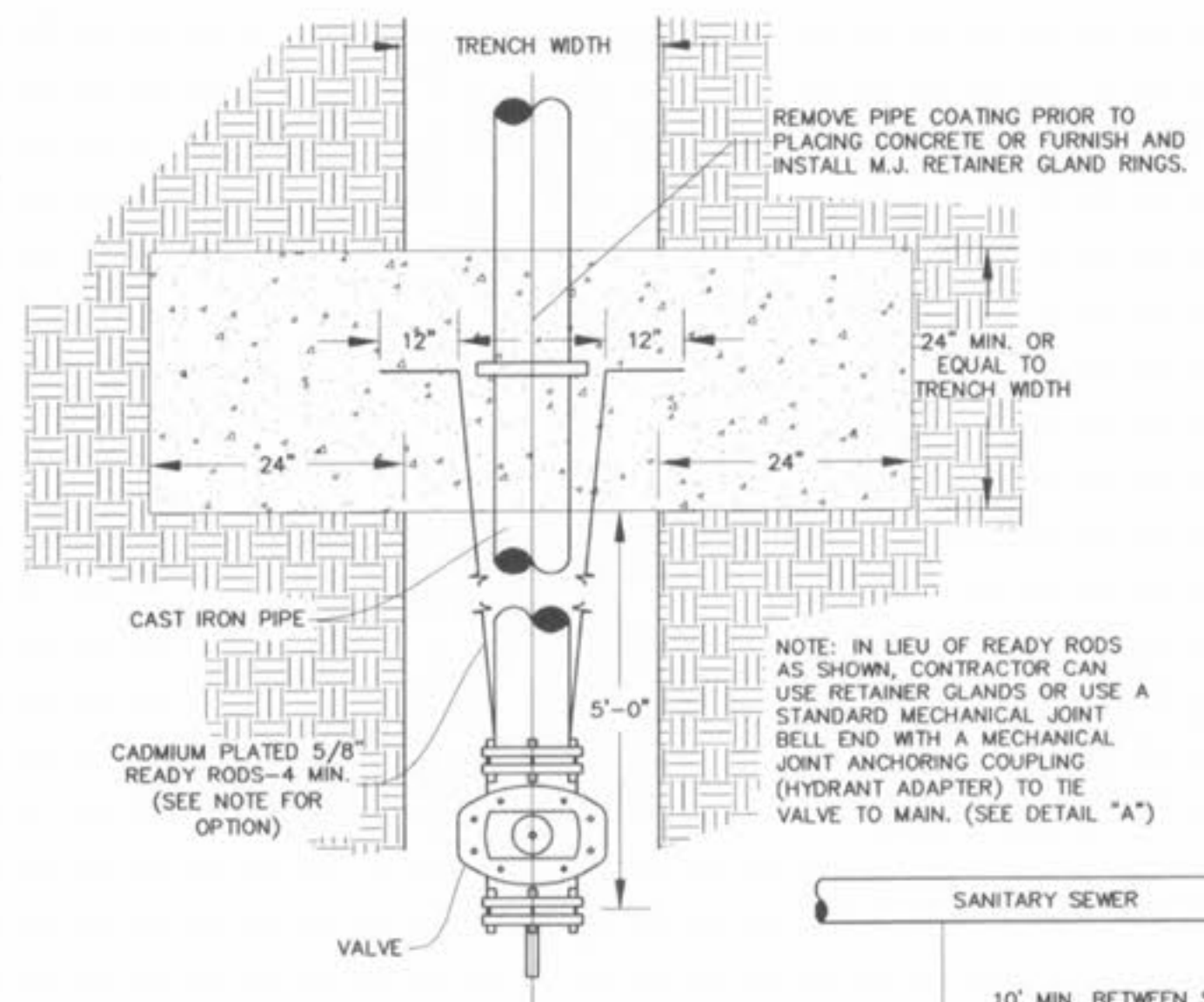
CUBIC FEET OF CONCRETE REQUIRED				
BEND	11 1/4"	22 1/2"	45"	90"
6"	1.7	2.4	3.5	5.5
8"	2.1	3.1	5.0	8.5
12"	3.7	5.9	9.7	17.5

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

BACKING BLOCKS  
NOT TO SCALE



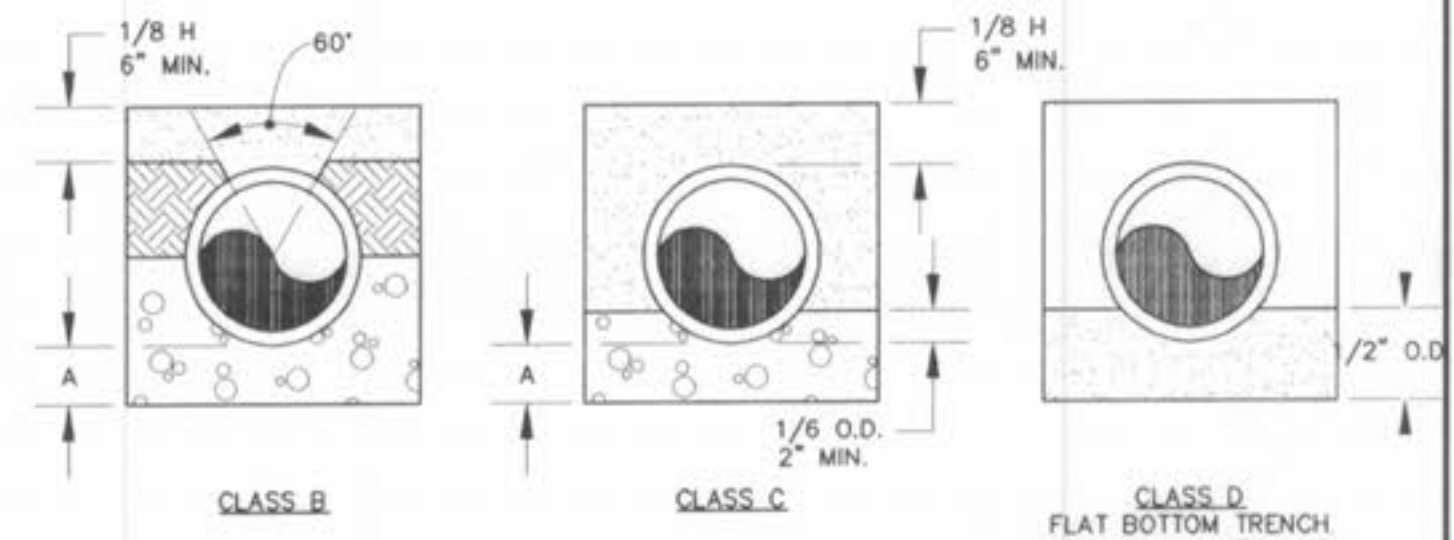
STRADDLE BLOCK DETAIL  
NOT TO SCALE



TYPICAL WATER AND SEWER SEPARATION  
NOT TO SCALE



TOP VIEW CONCRETE COLLAR  
NOT TO SCALE



LEGEND:  
I.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		
I.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.

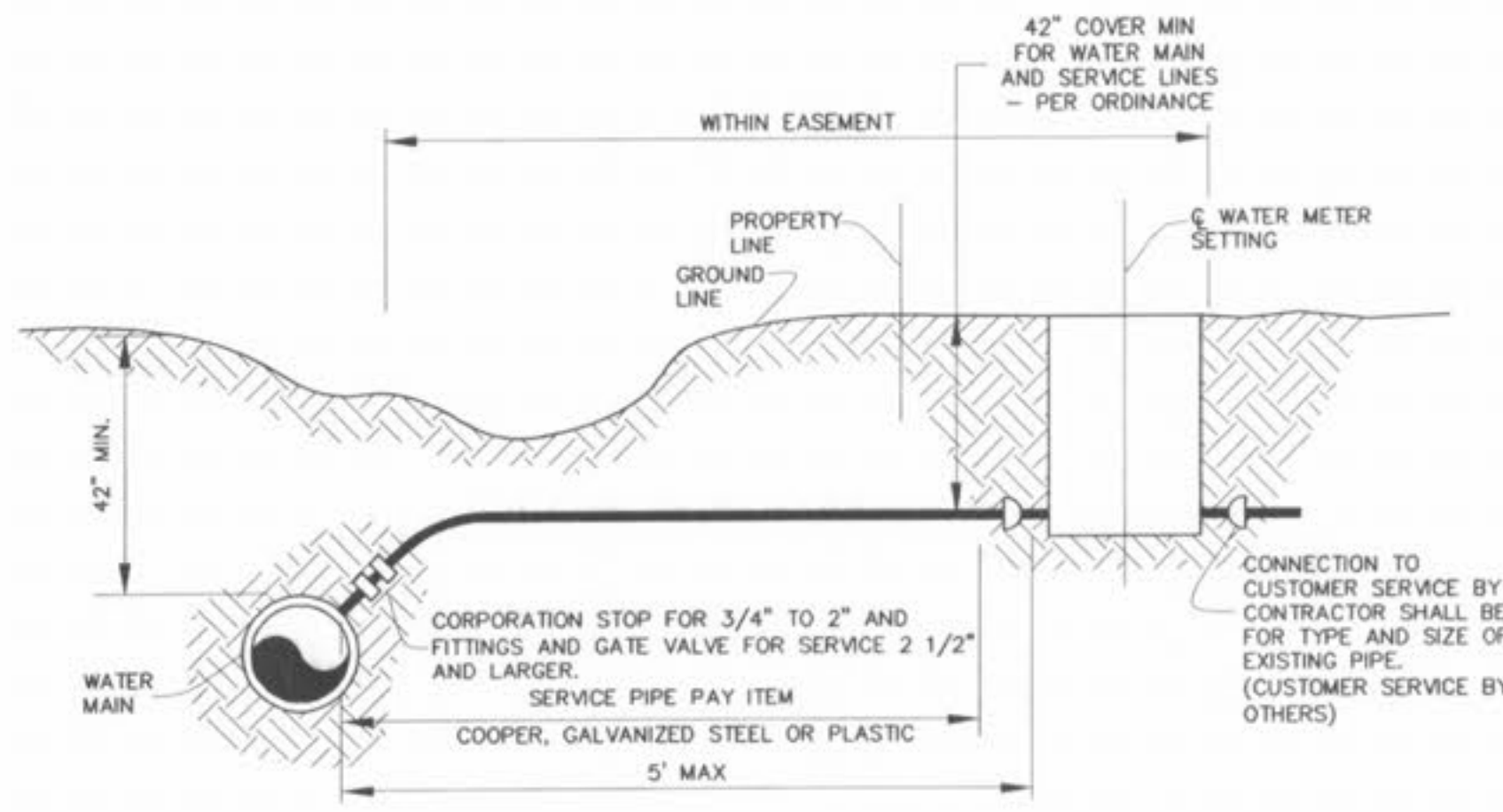
TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 8" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACKFILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACKFILL.

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

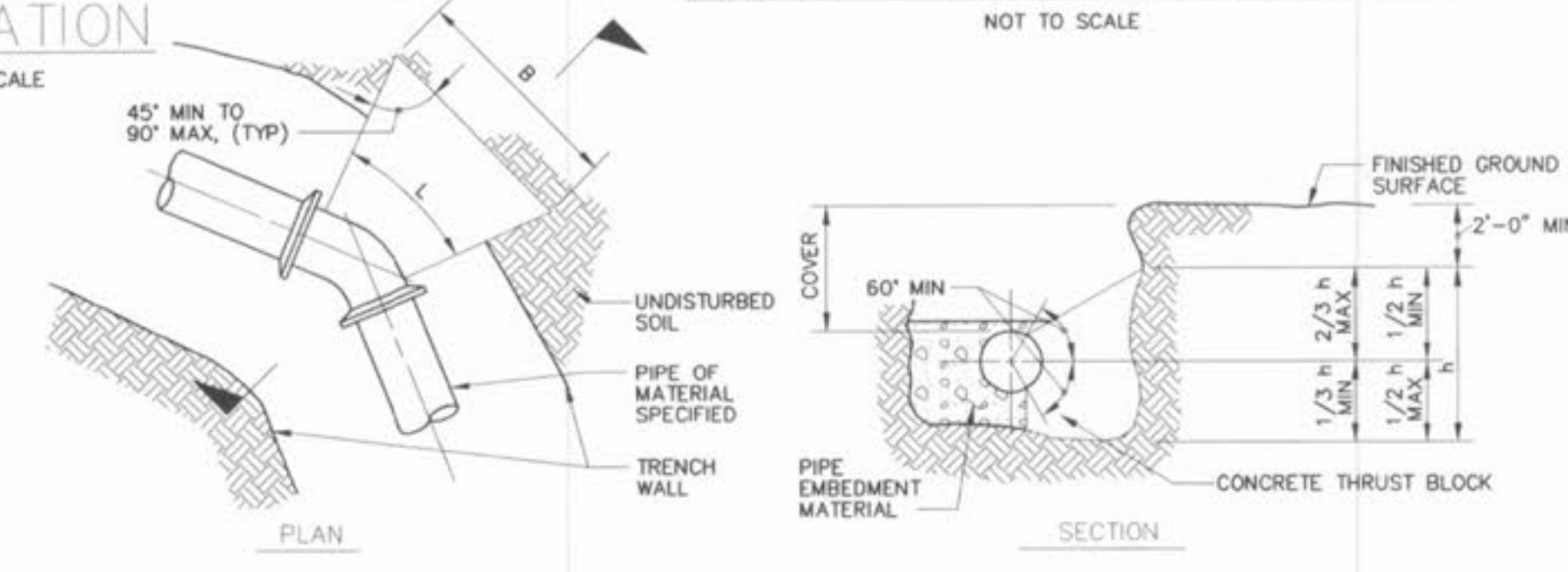
EMBEDMENT THE TYPE OF EMBEDMENT TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

TRACER WIRE REQUIRED ON ALL WATER MAINS

WATER MAIN EMBEDMENT  
NOT TO SCALE



TYPICAL SERVICE ASSEMBLY  
NOT TO SCALE



- NOTES:
- AREA OF BLOCK, A = Bxh. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
  - B = h =  $\sqrt{A}$ , EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/h.
  - MINIMUM BLOCK DIMENSION (B & h) SHALL BE AT LEAST O.D. OF PIPE OR 1 FOOT FOR PIPE O.D. 12" OR LESS.
  - THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
  - L = FITTING LENGTH MINUS CLEARANCE FOR BELLS.
  - DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.
  - 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"	45"	8 SF	2.8'	2.8'

CONCRETE THRUST BLOCKING  
NOT TO SCALE

**PICKETT RAY & SILVER**  
CIVIL ENGINEERS  
PLANNERS  
LAND SURVEYORS

333 Mid Rivers Mall Drive  
St. Peters, MO 63376  
Phone (636) 397-1211  
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VILLAS AT CRYSTAL RIDGE  
CONSTRUCTION DETAILS

Prepared For:  
SUMMIT POINTE L.C.

239 FOX HILL ROAD  
ST. CHARLES, MO 63301  
(636) 340-9300

REVISIONS	NO.	DATE	REVISIONS PER CITY OF FALLON
1	1	8/11/03	

ENGINEERS AUTHENTICATION  
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.

PICKETT, RAY & SILVER, INC.

STATE OF MISSOURI  
CIVIL ENGINEER  
NUMBER: E-16146  
8/13/03

DRAWN	DATE
E.J.S.	04/09/03
CHECKED	DATE
D.W.D.	04/09/03

PROJECT # 01212 SUPP.02R  
TASK # 2 FIELD BOOK