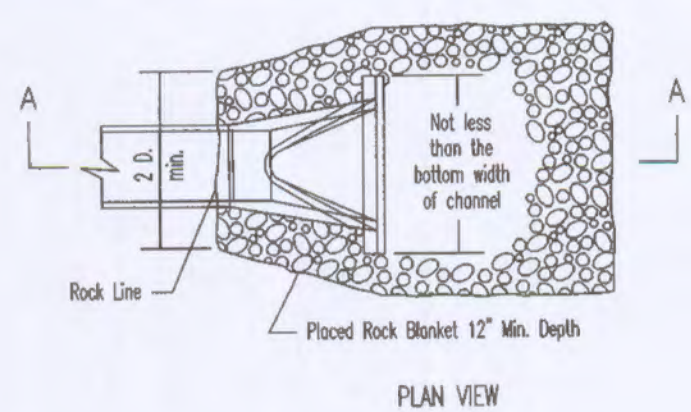
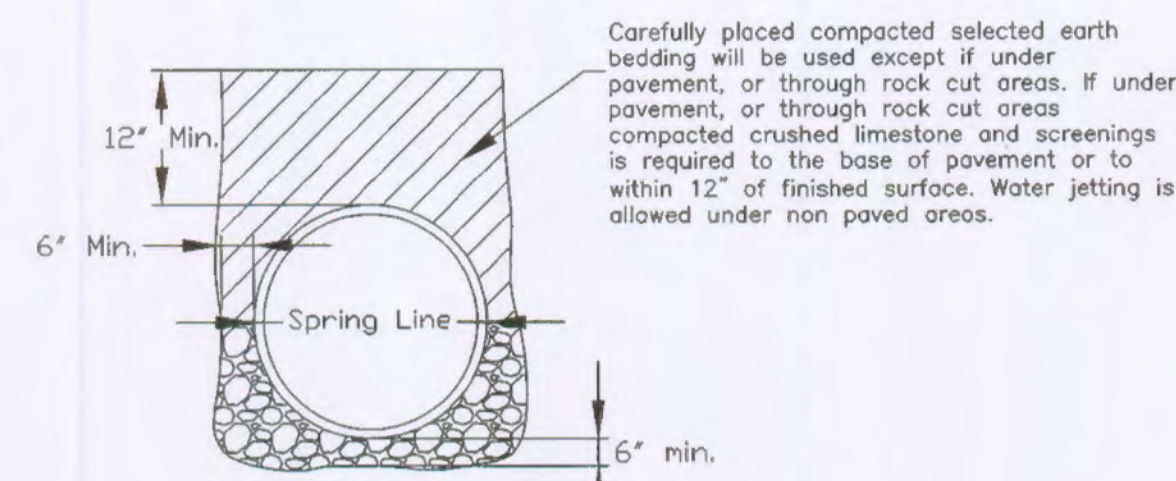
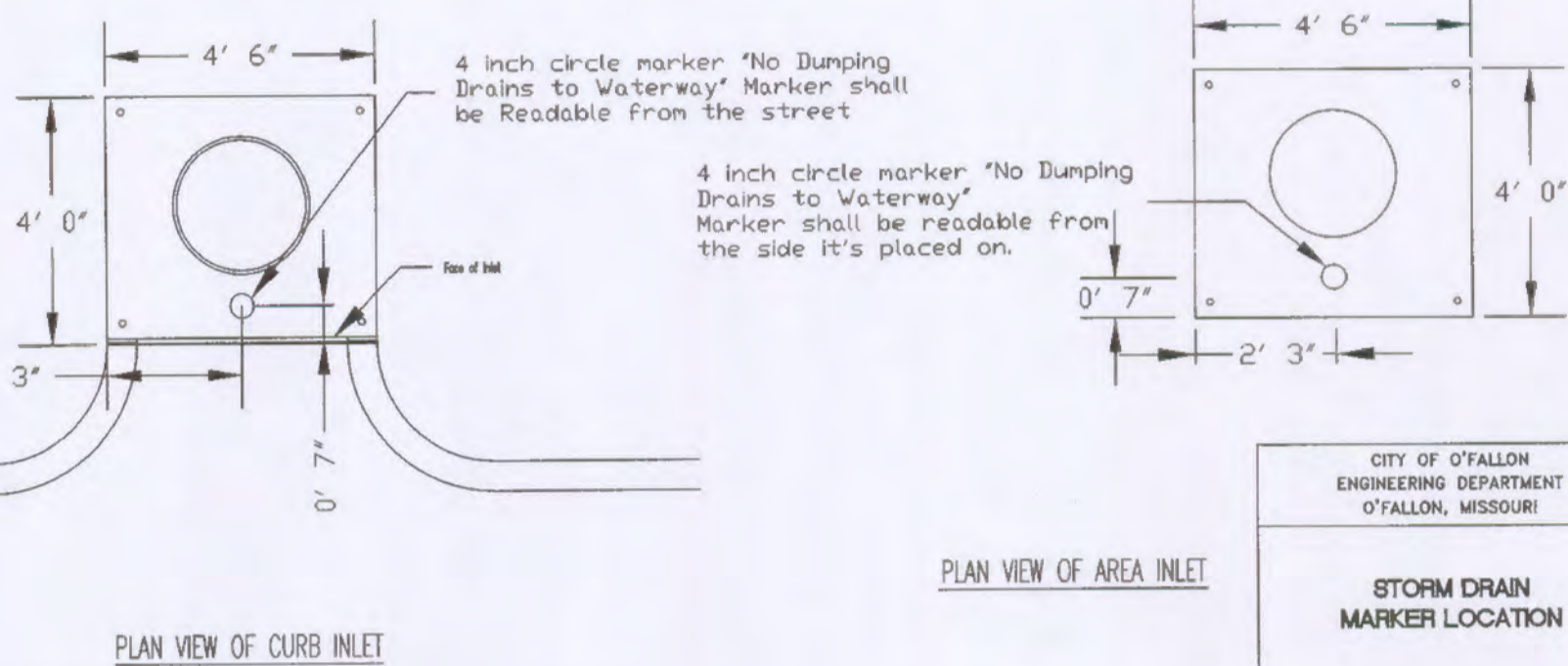


\* The City of O'Fallon must be provided with a symbol/medallion for review and approval prior to installation. Contact the City if any information is needed.

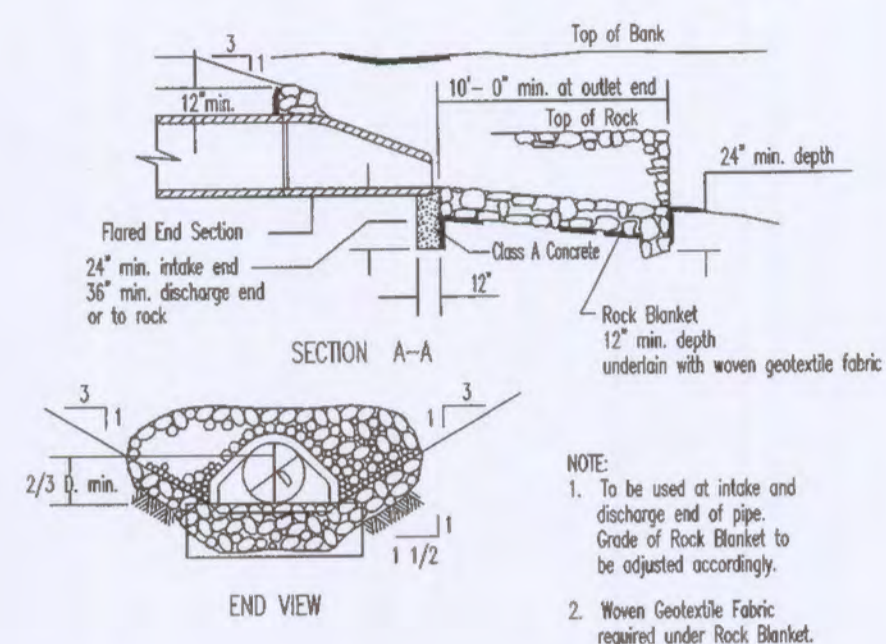
Size	Style	Adhesive	Message (Part #)
3 7/8" TO 4"	Crystal Cap or Standard Style	Epoxy	No Dumping Drains to Waterway



\* The discharge point of all flared end sections shall be protected by rip rap or other approved means.  
 \*\* Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for effectiveness and field modified, if necessary to reduce erosion on and off site.

MSD Type 5 Rock Blanket (% By Weight Passing)

Sieve	Maximum	Minimum
12 inch	90	70
6 inch	30	10
1/2 inch	5	0



NOTE:  
 1. To be used at intake and discharge end of pipe. Grade of Rock Blanket to be adjusted accordingly.  
 2. Woven Geotextile Fabric required under Rock Blanket.

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 SEWER CONSTRUCTION DETAILS  
 FLARED END SECTION  
 (INLET/OUTLET PROTECTION)

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 STORM DRAIN  
 MARKER LOCATION

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 TRENCH  
 DETAIL

BENDS

B" - 1/4"	B" - 1/2"	B" - 3/4"	B" - 1"	B" - 1 1/4"	B" - 1 1/2"
6"-11 1/4"	8" - 15"	10" - 24"	12" - 24"	14" - 24"	16" - 24"
6"-22 1/2"	8" - 19"	8" - 30"	12" - 24"	14" - 24"	16" - 24"
6"-45"	8" - 30"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
6"-90"	8" - 30"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
8"-11 1/4"	8" - 20"	10" - 24"	12" - 24"	14" - 24"	16" - 24"
8"-22 1/2"	8" - 22"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
8"-45"	8" - 31"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
8"-90"	8" - 31"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
12"-11 1/4"	8" - 30"	10" - 24"	12" - 24"	14" - 24"	16" - 24"
12"-22 1/2"	8" - 30"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
12"-45"	8" - 40"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
12"-90"	8" - 60"	12" - 24"	14" - 24"	16" - 24"	18" - 24"
18"-11 1/4"	TL 28"	20" - 24"	24" - 28"	28" - 32"	32" - 36"
18"-22 1/2"	TL 39"	20" - 24"	24" - 28"	28" - 32"	32" - 36"
18"-45"	TL 50"	20" - 24"	24" - 28"	28" - 32"	32" - 36"
18"-90"	TL 91"	20" - 24"	24" - 28"	28" - 32"	32" - 36"
24"-11 1/4"	TL 48"	24" - 28"	28" - 32"	32" - 36"	36" - 40"
24"-22 1/2"	TL 48"	24" - 28"	28" - 32"	32" - 36"	36" - 40"
24"-45"	TL 74"	24" - 28"	28" - 32"	32" - 36"	36" - 40"
24"-90"	TL 135"	24" - 28"	28" - 32"	32" - 36"	36" - 40"
30"-11 1/4"	TL 49"	34" - 30"	30" - 36"	36" - 42"	42" - 48"
30"-22 1/2"	TL 79"	34" - 30"	30" - 36"	36" - 42"	42" - 48"
30"-45"	TL 154"	34" - 30"	30" - 36"	36" - 42"	42" - 48"
30"-90"	TL 285"	34" - 30"	30" - 36"	36" - 42"	42" - 48"

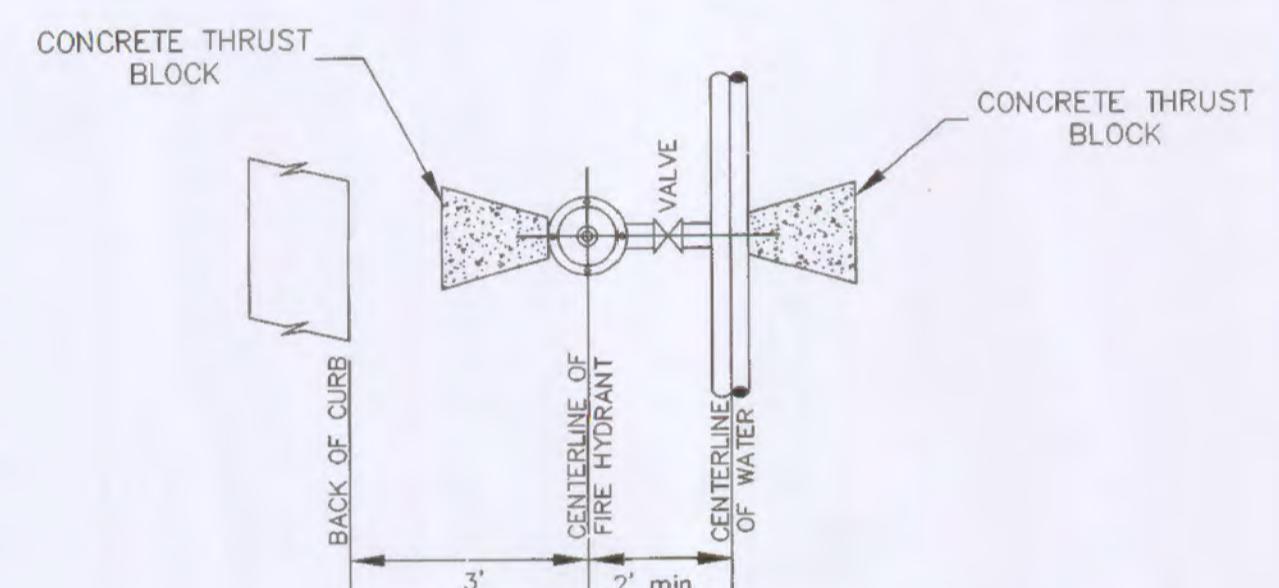
TEES

B" - 1/4"	B" - 1/2"	B" - 3/4"	B" - 1"	B" - 1 1/4"	B" - 1 1/2"
6"x6"x6"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"
8"x8"x8"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"
12"x12"x12"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"
12"x12"x12"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"
12"x12"x12"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"
12"x12"x12"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"	12"x24"x18"

NOTES:  
 1. 2" & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.  
 2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.  
 3. "TL" = TOTAL LENGTH OF FITTING MINUS CLEARANCE FOR BELLS.

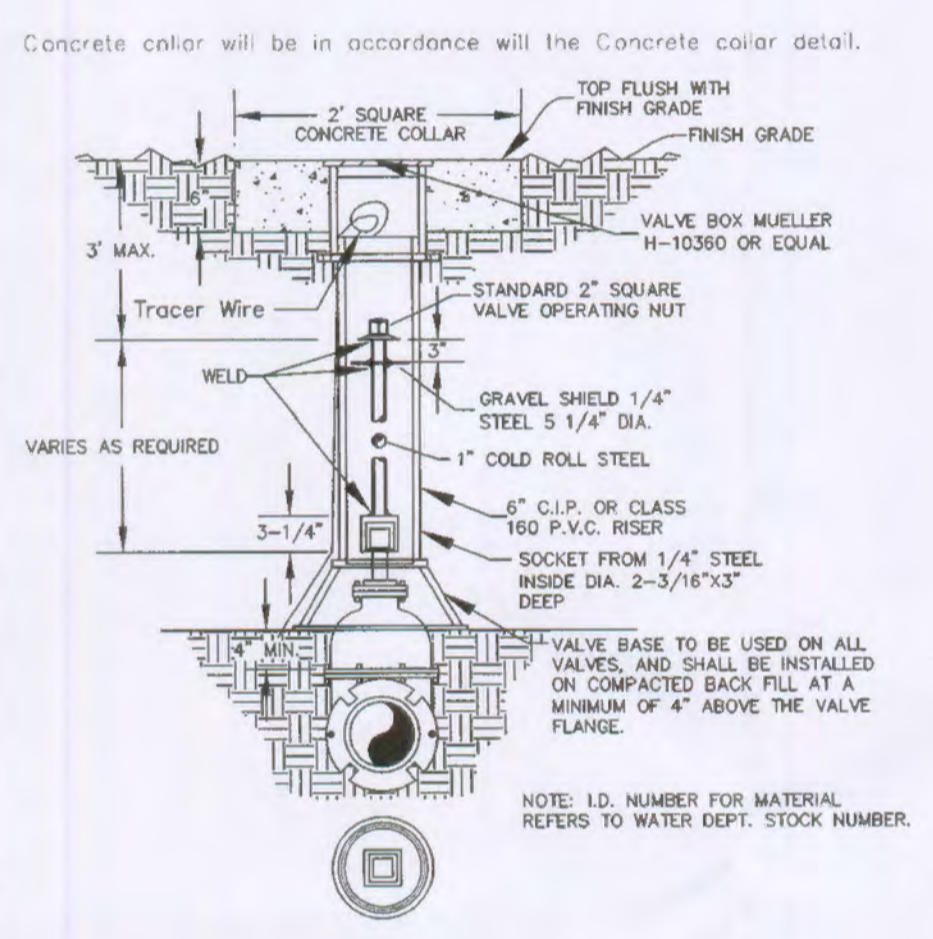
INTERNAL WATER PRESSURE 6" through 12" = 200 psi  
 INTERNAL WATER PRESSURE 18" through 30" = 210 psi  
 BEARING PRESSURE OF SOIL = 2000 psi  
 BACKING BLOCKS  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 BACKING BLOCK  
 DETAILS AND LOCATIONS



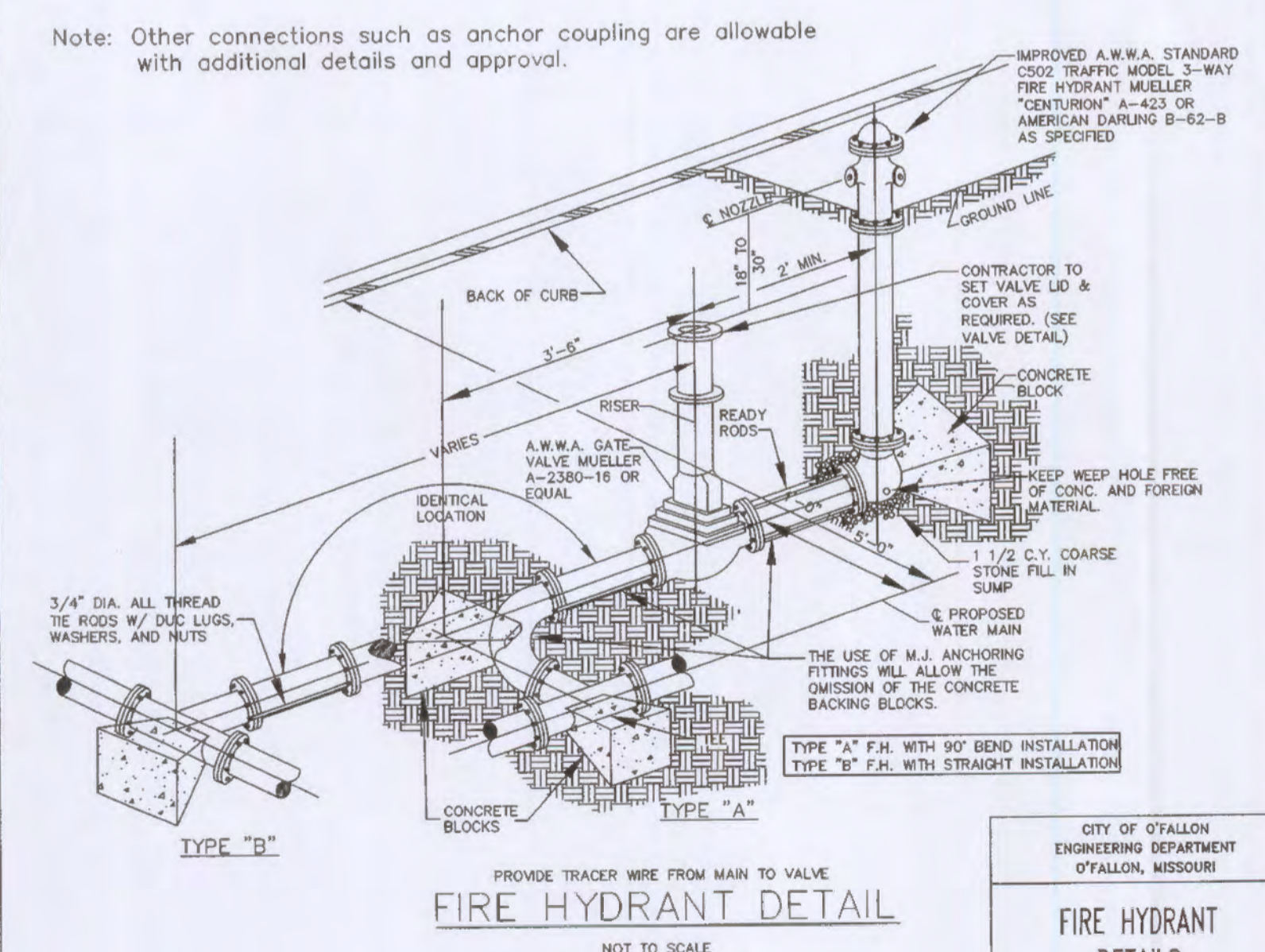
CONFIGURATION  
 ALL FIRE HYDRANTS SHALL BE 3' OFF BACK OF CURB  
 ALL WATER MAINS SHALL BE A MIN. OF 5' OFF BACK OF CURB  
 TYPICAL WATER MAIN AND FIRE HYDRANT LOCATIONS  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 WATER MAIN  
 FIRE HYDRANT DETAIL



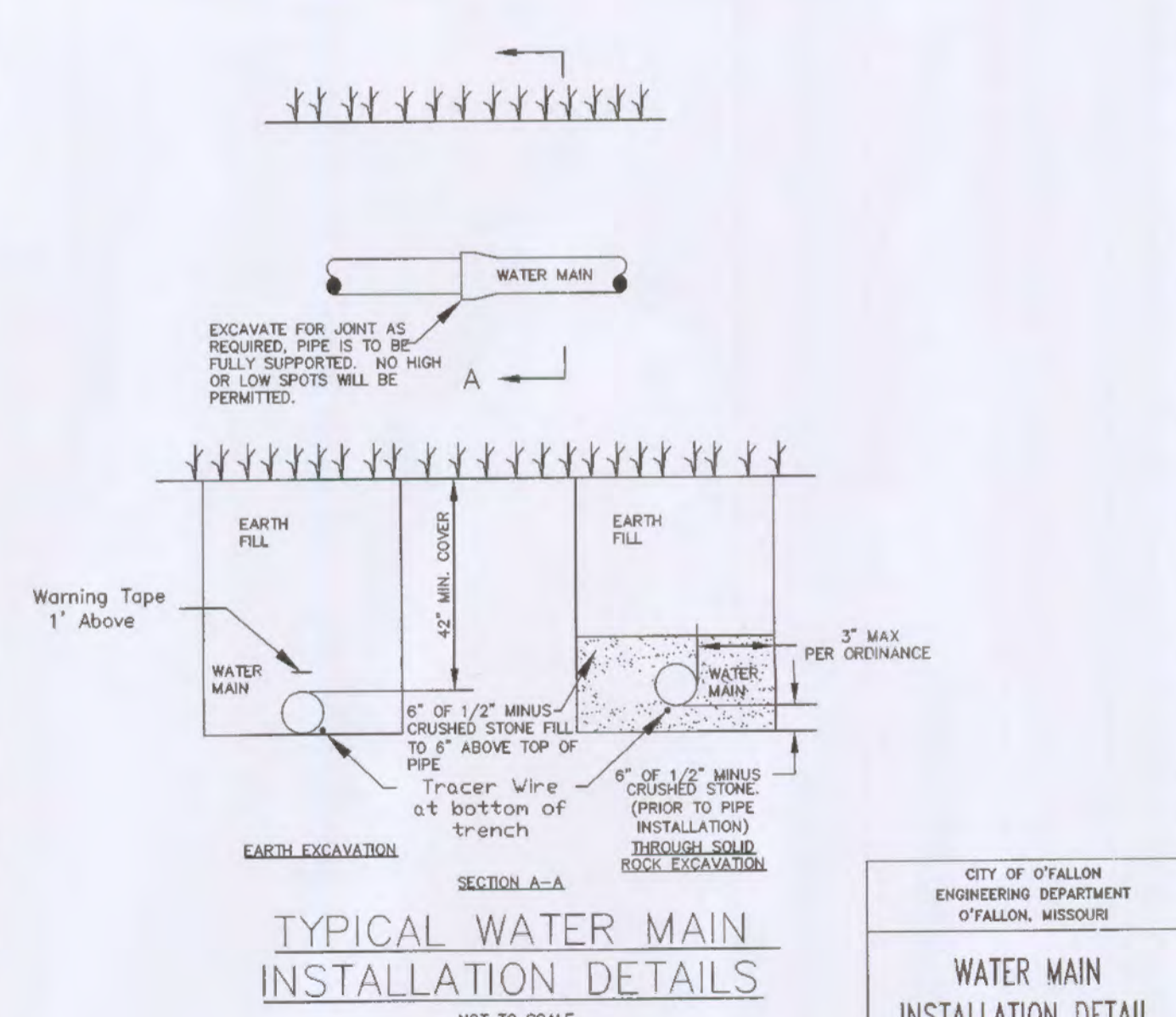
WATER VALVE DETAIL  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 WATER  
 VALVE DETAIL



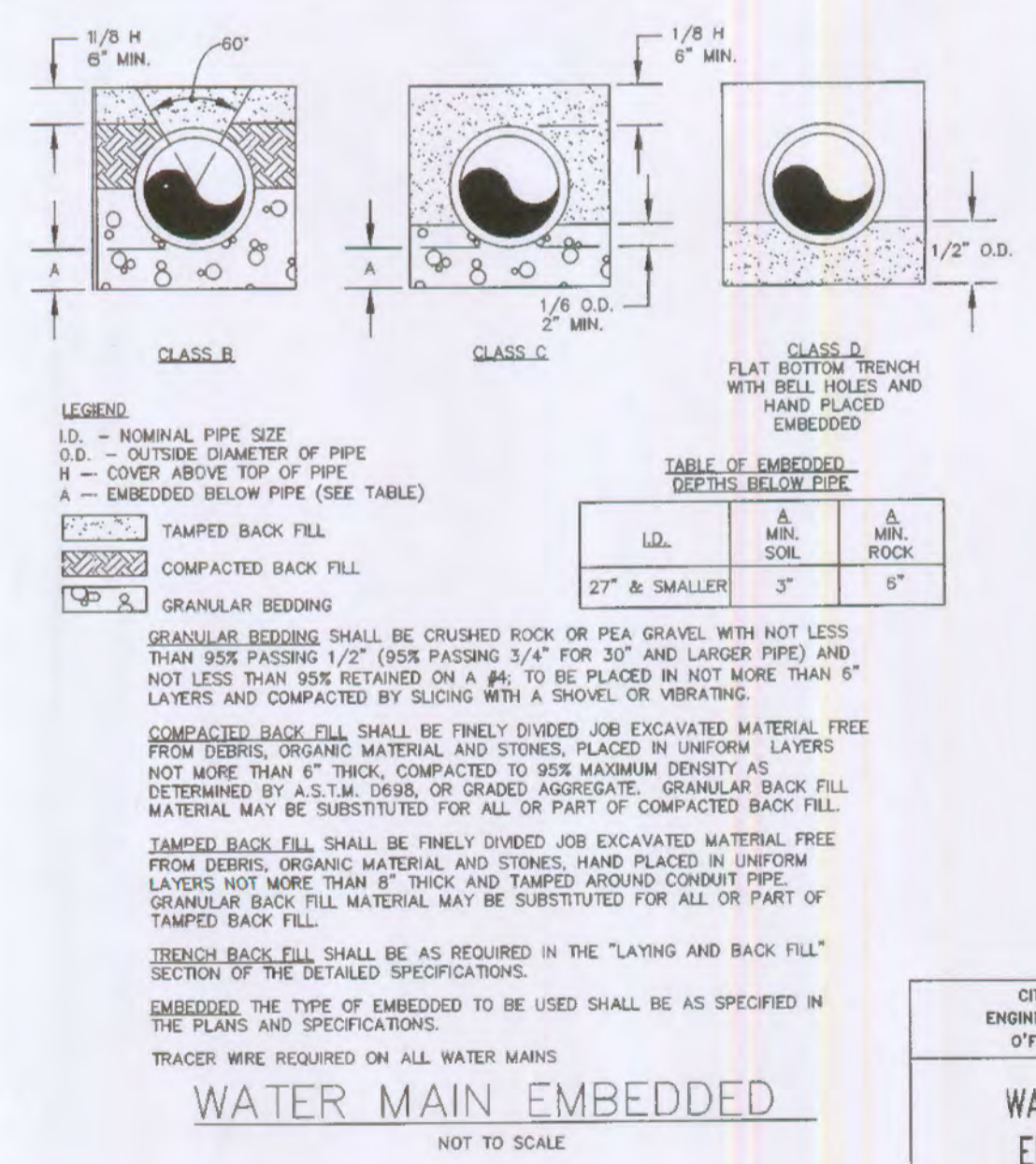
FIRE HYDRANT DETAIL  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 FIRE HYDRANT  
 DETAILS



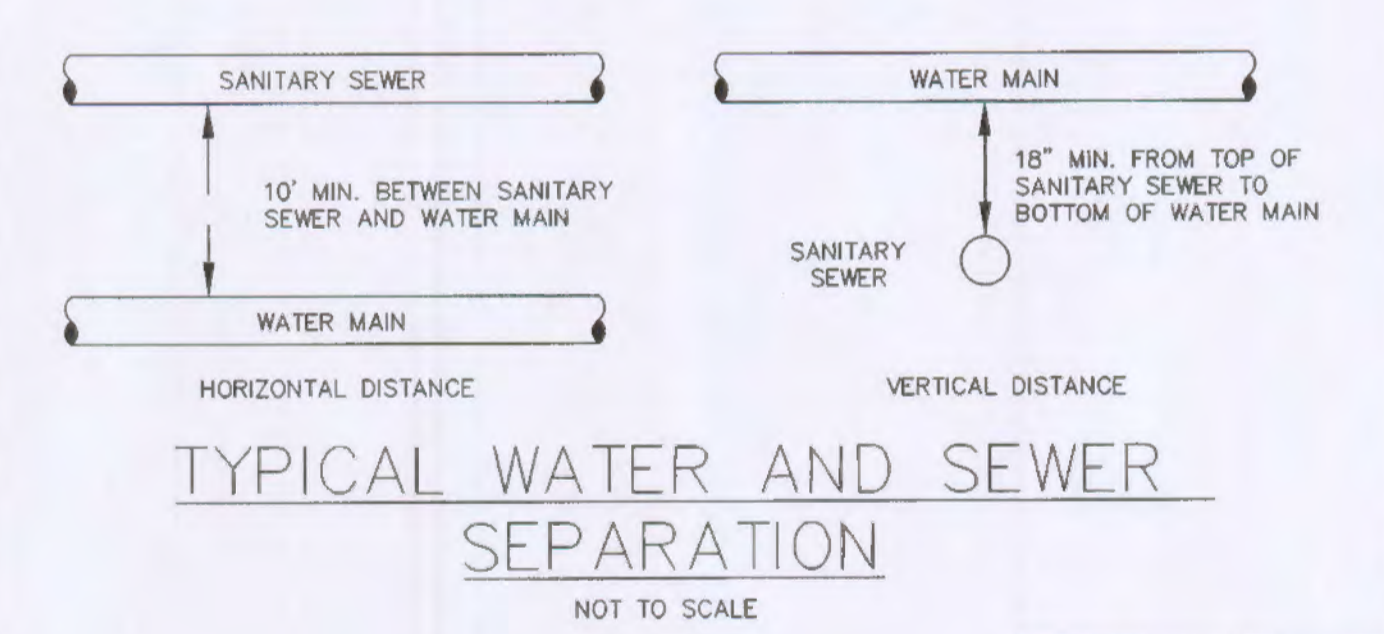
TYPICAL WATER MAIN  
 INSTALLATION DETAILS  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 WATER MAIN  
 INSTALLATION DETAIL



WATER MAIN EMBEDDED  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 WATER MAIN  
 EMBEDDED



TYPICAL WATER AND SEWER  
 SEPARATION  
 NOT TO SCALE

Ductile Iron Pipe installation shall follow the Ductile Iron Research Association (DIPRA) guide line.  
 The Installation of PVC Pipe shall follow the Uni-Bell PVC Pipe Association Handbook of PVC Design and Construction.

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
 WATER AND SEWER  
 SEPARATION DETAIL

Developer / Owner:  
 MJS&M, L.L.C.  
 2209 DROSTE ROAD  
 ST. CHARLES, MO 63301  
 636-949-0680

P+Z No.  
 #1407.05 & 1407.05.01  
 Approved May 2, 2013  
 City No.  
 #

Page No.  
 9 of 11

ENGINEER'S SEAL DOES NOT APPLY TO DETAILS ON THIS SHEET.

PROJECT TITLE:  
**PHOENIX METALS**  
 ENGINEERING PLANNING SURVEYING  
 221 Point West Blvd.  
 St. Charles, MO 63301  
 636-928-5652  
 FAX 636-928-1718



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 I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

REVISIONS

DATE	DESCRIPTION
11/20/13	CITY/OWNER REVISIONS
01/29/14	CITY COMMENTS
02/03/14	CITY COMMENTS

Issue Date: 06/06/2013

REFERENCE DETAILS