

BENDS	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
6"-11 1/4"	8"	13"	12"	24"	10"	10"
6"-22 1/2"	8"	19"	12"	24"	13"	13"
6"-45"	8"	30"	12"	24"	15"	15"
6"-90"	8"	30"	12"	24"	28"	28"
8"-11 1/4"	8"	20"	12"	24"	10"	10"
8"-22 1/2"	8"	22"	12"	24"	16"	16"
8"-45"	8"	31"	12"	24"	14"	14"
8"-90"	8"	38"	12"	24"	38"	38"
12"-11 1/4"	8"	30"	12"	24"	15"	15"
12"-22 1/2"	8"	35"	12"	24"	20"	20"
12"-45"	8"	40"	12"	24"	40"	40"
12"-90"	8"	60"	12"	24"	52"	52"
16"-11 1/4"	12"	28"	20"	24"	28"	28"
16"-22 1/2"	12"	30"	20"	24"	30"	30"
16"-45"	12"	55"	20"	24"	55"	55"
16"-90"	12"	91"	20"	24"	60"	60"
20"-11 1/4"	12"	34"	24"	28"	28"	28"
20"-22 1/2"	12"	48"	24"	28"	30"	30"
20"-45"	12"	74"	24"	28"	55"	55"
20"-90"	12"	136"	24"	28"	60"	60"
24"-11 1/4"	12"	40"	28"	28"	40"	40"
24"-22 1/2"	12"	56"	28"	28"	56"	56"
24"-45"	12"	101"	28"	28"	60"	60"
24"-90"	12"	187"	28"	28"	60"	60"
30"-11 1/4"	12"	47"	34"	30"	40"	40"
30"-22 1/2"	12"	79"	34"	30"	60"	60"
30"-45"	12"	154"	34"	30"	60"	60"
30"-90"	12"	285"	34"	30"	60"	60"

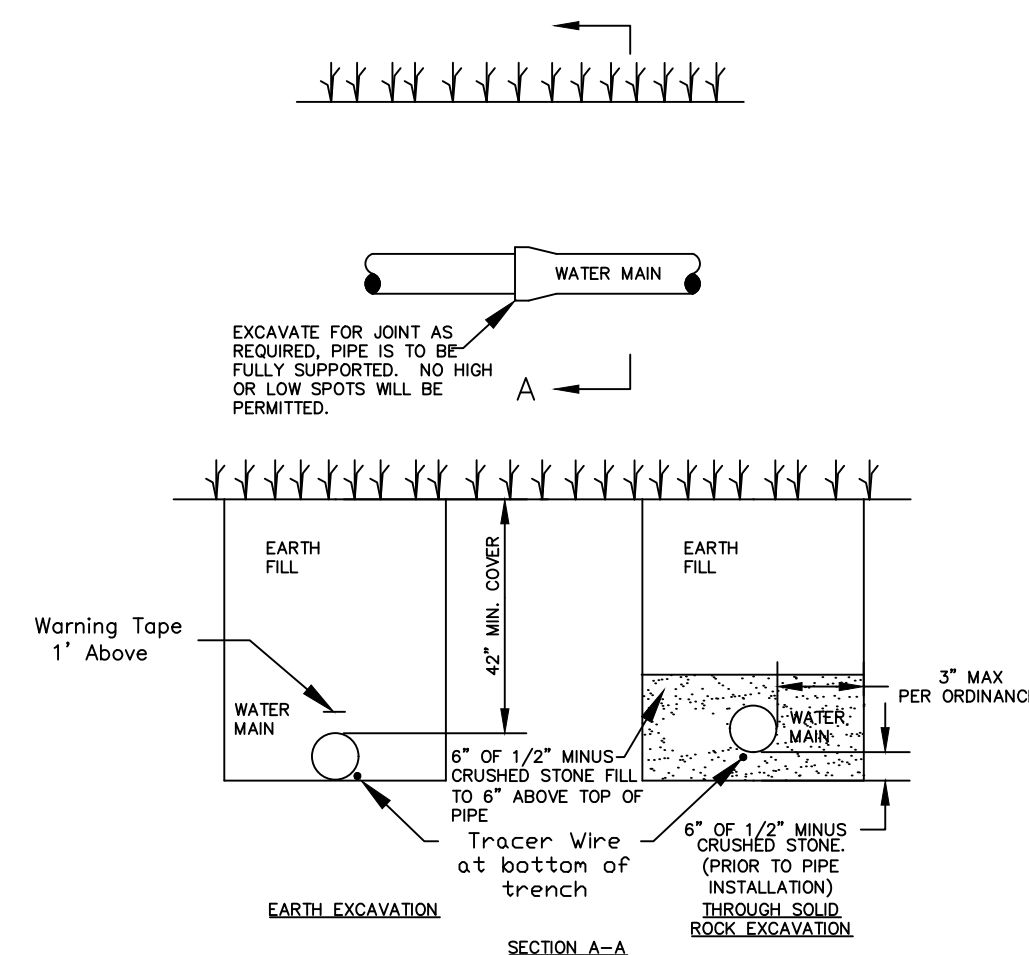
TEES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
6"x6"x6"	12"	24"	24"	18"		
8"x8"x8"	12"	24"	24"	18"		
12"x12"x12"	12"	24"	24"	18"		
12"x12"x8"	12"	27"	27"	27"		
12"x12"x6"	12"	27"	27"	27"		
24"x24"x12"	12"	31"	31"	28"		

- 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 16" through 30"=210 psi  
 BEARING PRESSURE OF SOIL=2000 psi

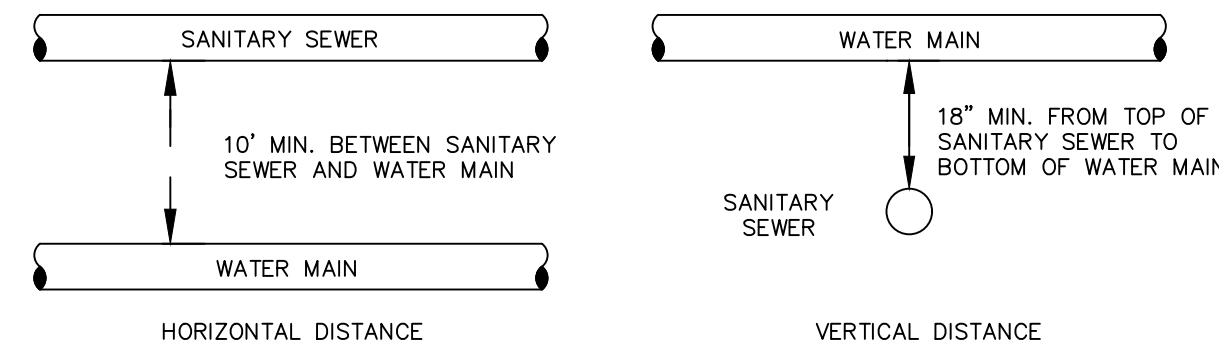
**BACKING BLOCKS**  
 NOT TO SCALE

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



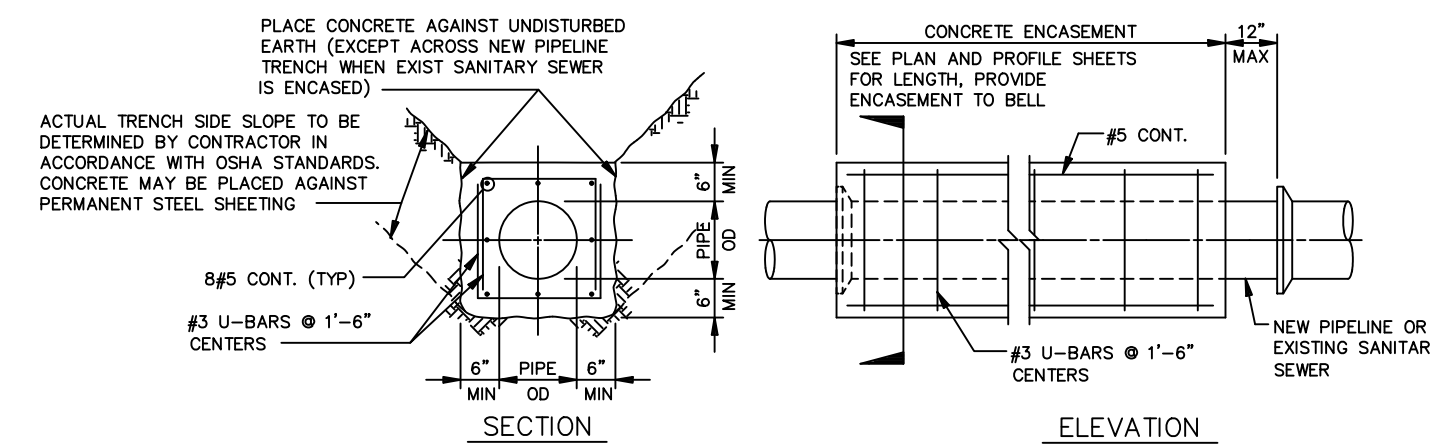
**TYPICAL WATER MAIN  
 INSTALLATION DETAILS**  
 NOT TO SCALE

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



**TYPICAL WATER AND SEWER  
 SEPARATION**  
 NOT TO SCALE

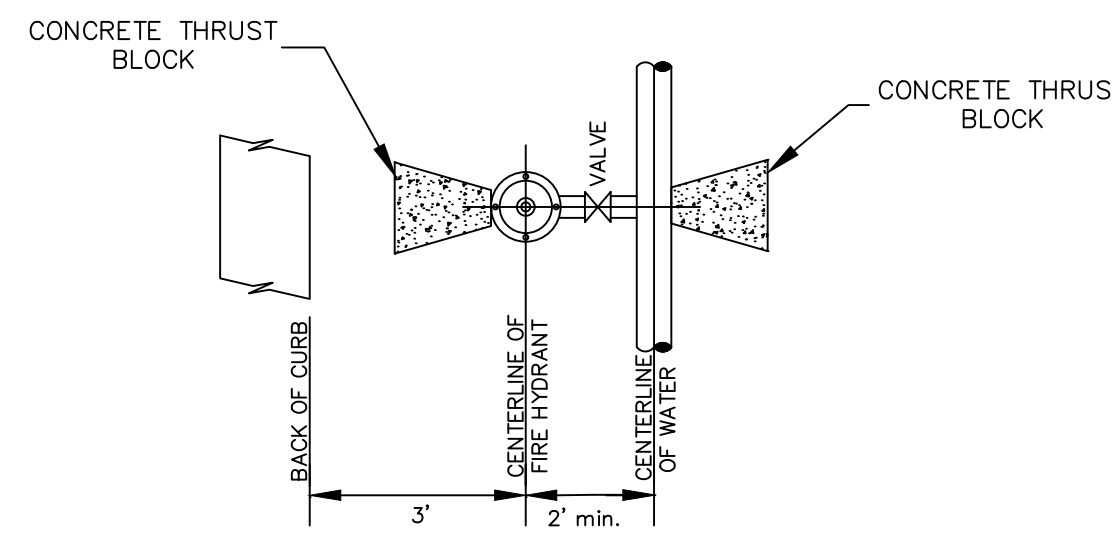
CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**WATER AND SEWER  
 SEPARATION DETAIL**



- NOTES:  
 1. AT LOCATIONS WHERE THE TRANSMISSION MAIN CROSSES AN EXIST SANITARY SEWER, SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.  
 2. WHEN THE PIPELINE IS PROTECTED WITH POLYETHYLENE TUBE ENCASEMENT, THE CONCRETE ENCASEMENT IS TO COVER THE POLYETHYLENE ENCASEMENT.

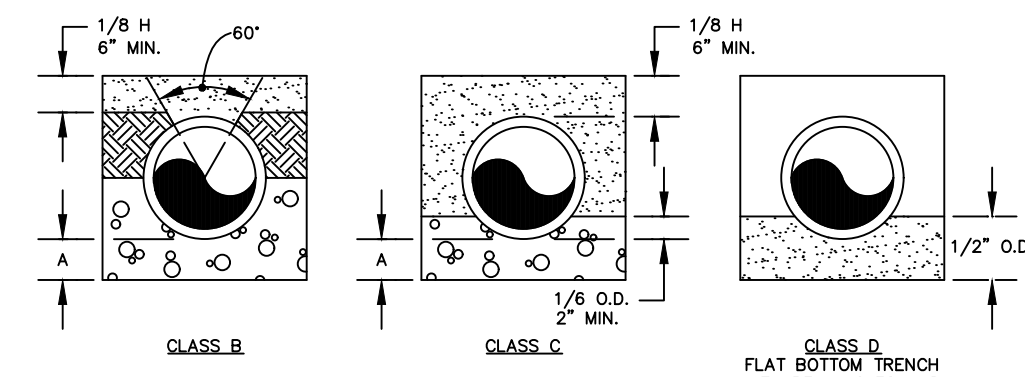
**CONCRETE ENCASEMENT**  
 NO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**CONCRETE ENCASEMENT  
 DETAILS**



**TYPICAL WATER MAIN AND FIRE  
 HYDRANT LOCATIONS**  
 NOT TO SCALE

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

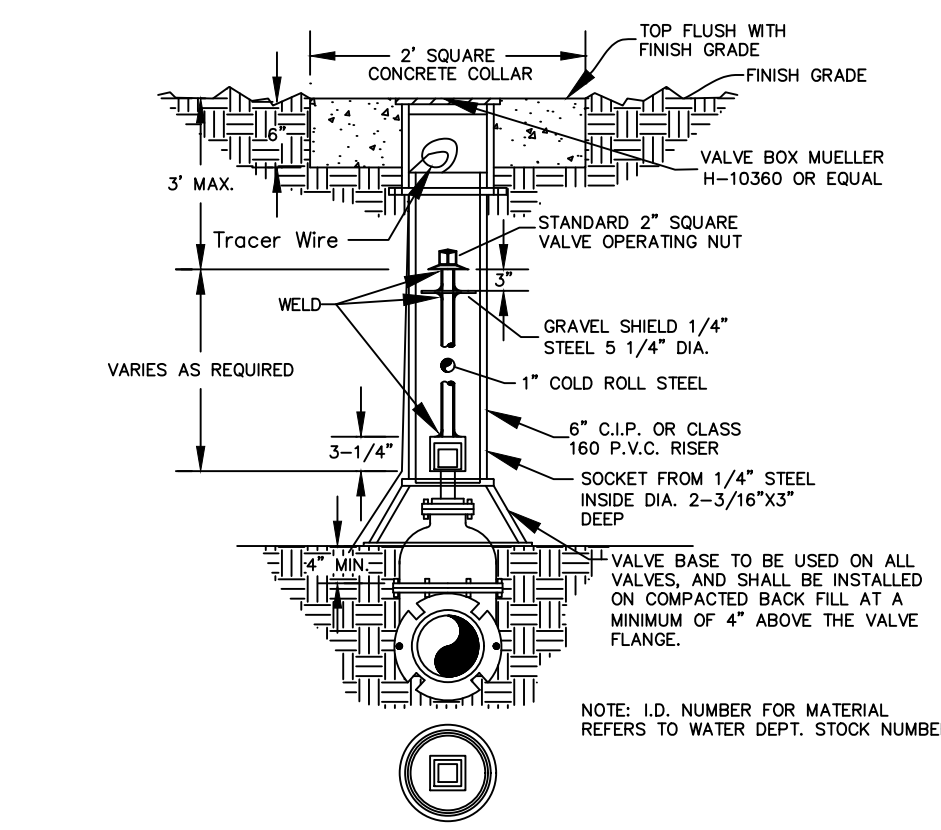


- GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 80% PASSING 1/2" (80% PASSING 3/4" FOR 30" AND LARGER PIPES) AND NOT LESS THAN 90% RETAINED ON A #4; TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.
- COMPACTED BACK FILL SHALL BE FINELY 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.M. D698, OR GRADED AGGREGATE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACK FILL.
- TAMPED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL, AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACK FILL.
- TRENCH BACK FILL SHALL BE AS REQUIRED IN THE "LAYING AND BACK FILL" SECTION OF THE DETAILED SPECIFICATIONS.
- EMBEDDED TYPE OF EMBEDDED TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.
- TRACER WIRE REQUIRED ON ALL WATER MAINS

**WATER MAIN EMBEDDED**  
 NOT TO SCALE

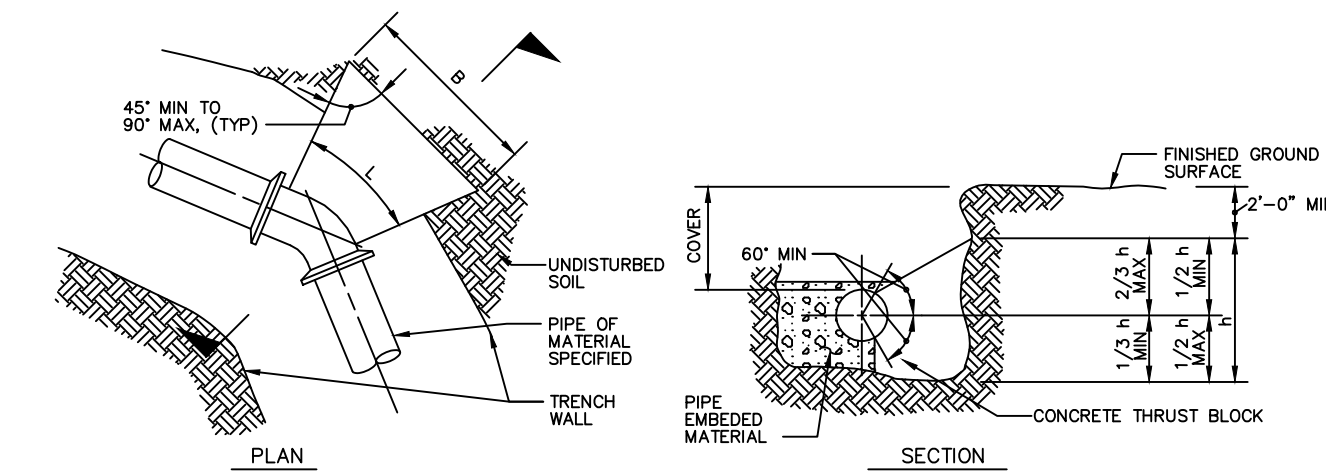
CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**WATER MAIN  
 EMBEDDED**

Concrete collar will be in accordance with the Concrete collar detail.



**WATER VALVE DETAIL**  
 NOT TO SCALE

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



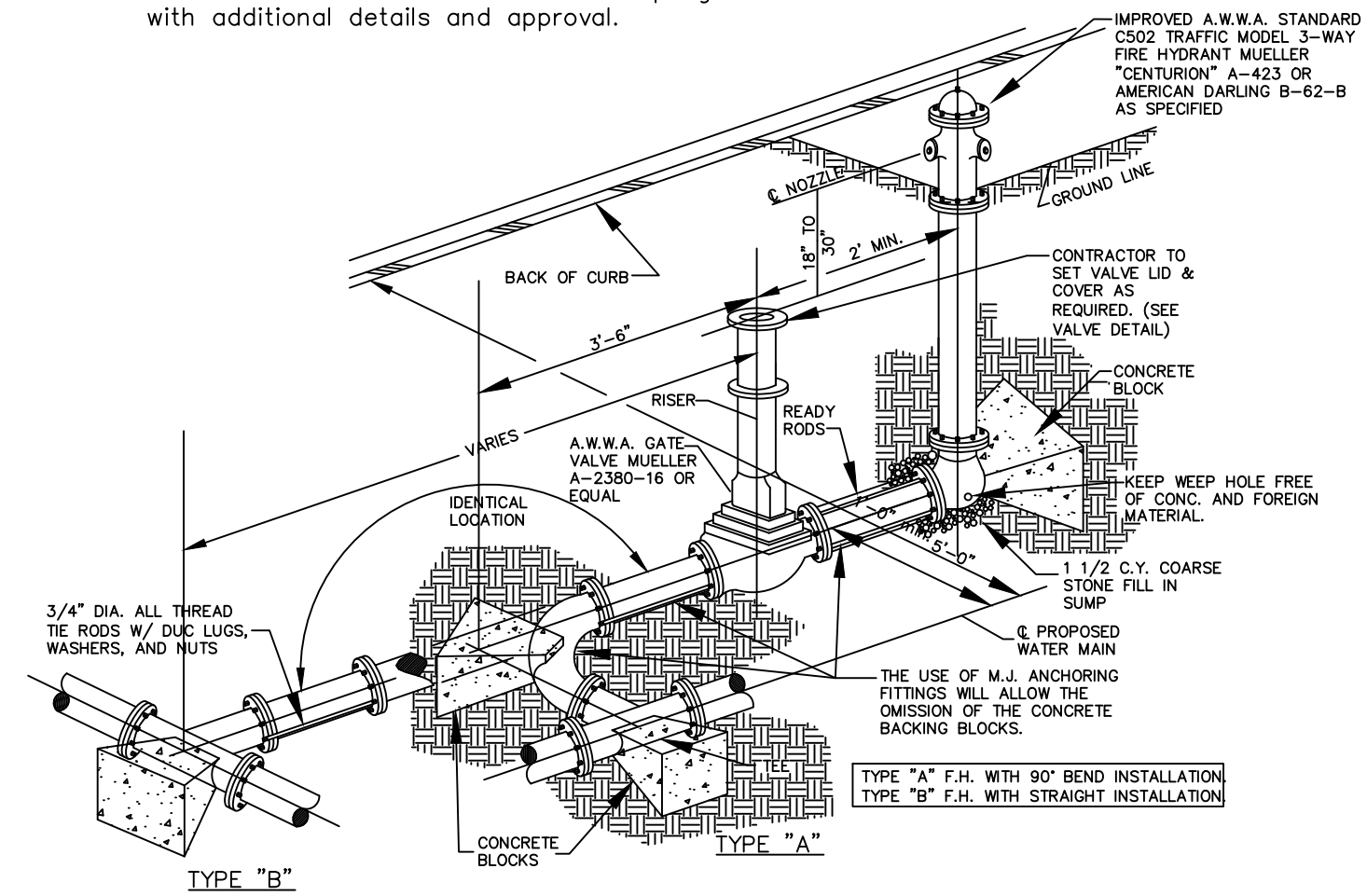
- NOTES:  
 1. AREA OF BLOCK, A = BxH. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.  
 2. B = 1 + 4V/C. EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/H.  
 3. MINIMUM BLOCK DIMENSION (B & H) SHALL BE AT LEAST O.D. OF PIPE OR 1 FOOT FOR PIPE O.D. 12" OR LESS.  
 4. THE 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"	45"	8 SF	2.8'	2.8'

**CONCRETE THRUST  
 BLOCKING**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI  
**CONCRETE THRUST  
 BLOCKING DETAILS**

Note: Other connections such as anchor coupling are allowable with additional details and approval.

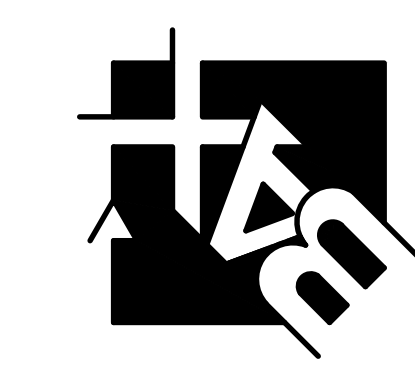


**FIRE HYDRANT DETAIL**  
 NOT TO SCALE

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

**PROJECT TITLE:**  
 POINT WEST  
 PROPERTIES LLC  
 601 PEARL DR.  
 ST. PETERS MO.  
 63376

**ENGINEERING  
 PLANING  
 SURVEYING**  
 221 Point West Blvd.  
 St. Charles, MO 63001  
 636-928-5552  
 FAX 928-1718



REFERENCE DRAWINGS  
 ONLY. ENGINEERS  
 SEAL DOES NOT  
 APPLY TO THESE  
 DETAILS

**REVISIONS**

NO.	DATE	DESCRIPTION
3-19-19		CITY COMMENTS
4-2-19		C.C.F.R. COMMENTS
5-1-19		CITY COMMENTS

**Developer / Owner:**  
 POINT WEST PROPERTIES LLC  
 103 ENTERPRISE DRIVE  
 WENTZVILLE, MO 63385  
 636-327-5575

**P+Z No.** #18-006296  
**Approval Date:** Aug. 2, 2018  
**City No.** #

**Page No.**  
 19 of 20