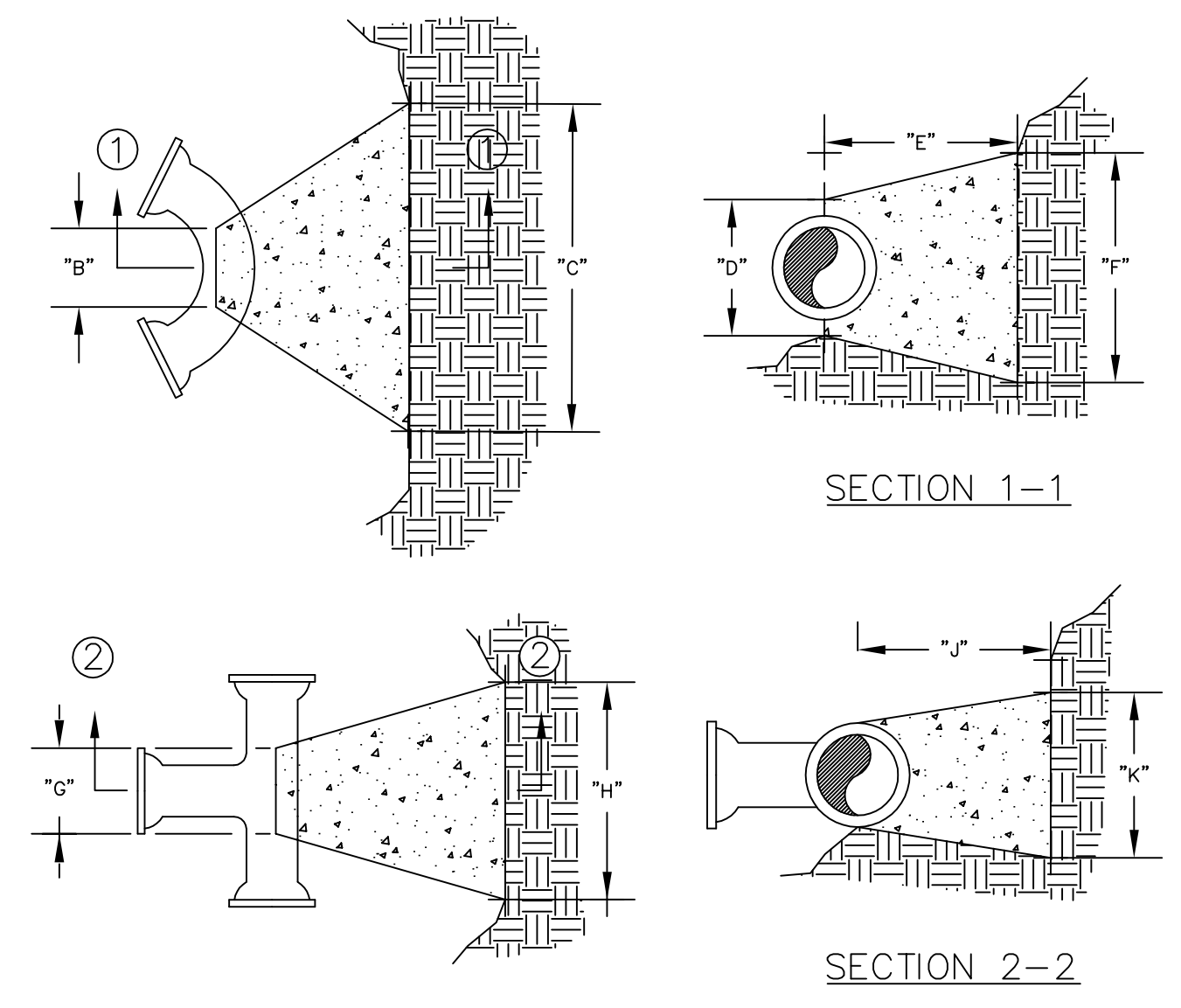


BENDS	"B"	"C"	"D"	"E"	"F"
6"-11 1/4"	8"	15"	12"	24"	10"
6"-22 1/2"	8"	19"	12"	24"	13"
6"-45"	8"	30"	12"	24"	15"
6"-90"	8"	30"	12"	24"	28"
8"-11 1/4"	8"	20"	12"	24"	10"
8"-22 1/2"	8"	22"	12"	24"	18"
8"-45"	8"	31"	12"	24"	24"
8"-90"	8"	38"	12"	24"	36"
12"-11 1/4"	8"	30"	12"	24"	15"
12"-22 1/2"	8"	35"	12"	24"	25"
12"-45"	8"	40"	12"	24"	40"
12"-90"	8"	60"	12"	24"	52"
16"-11 1/4"	TL	28"	20"	24"	28"
16"-22 1/2"	TL	39"	20"	24"	39"
16"-45"	TL	55"	20"	24"	55"
16"-90"	TL	91"	20"	24"	60"
20"-11 1/4"	TL	34"	24"	26"	28"
20"-22 1/2"	TL	48"	24"	26"	39"
20"-45"	TL	74"	24"	26"	55"
20"-90"	TL	136"	24"	26"	60"
24"-11 1/4"	TL	40"	28"	28"	40"
24"-22 1/2"	TL	56"	28"	28"	56"
24"-45"	TL	101"	28"	28"	60"
24"-90"	TL	186"	28"	28"	60"
30"-11 1/4"	TL	49"	34"	30"	49"
30"-22 1/2"	TL	79"	34"	30"	60"
30"-45"	TL	154"	34"	30"	60"
30"-90"	TL	285"	34"	30"	60"

TEES	"G"	"H"	"J"	"K"
6"x6"x6"	12"	24"	24"	18"
8"x8"x8"	12"	24"	24"	18"
8"x8"x8"	12"	27"	24"	27"
12"x12"x6"	12"	24"	24"	18"
12"x12"x6"	12"	27"	27"	27"
12"x12"x12"	12"	36"	24"	38"
24"x24"x16"	16"	53"	28"	53"

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

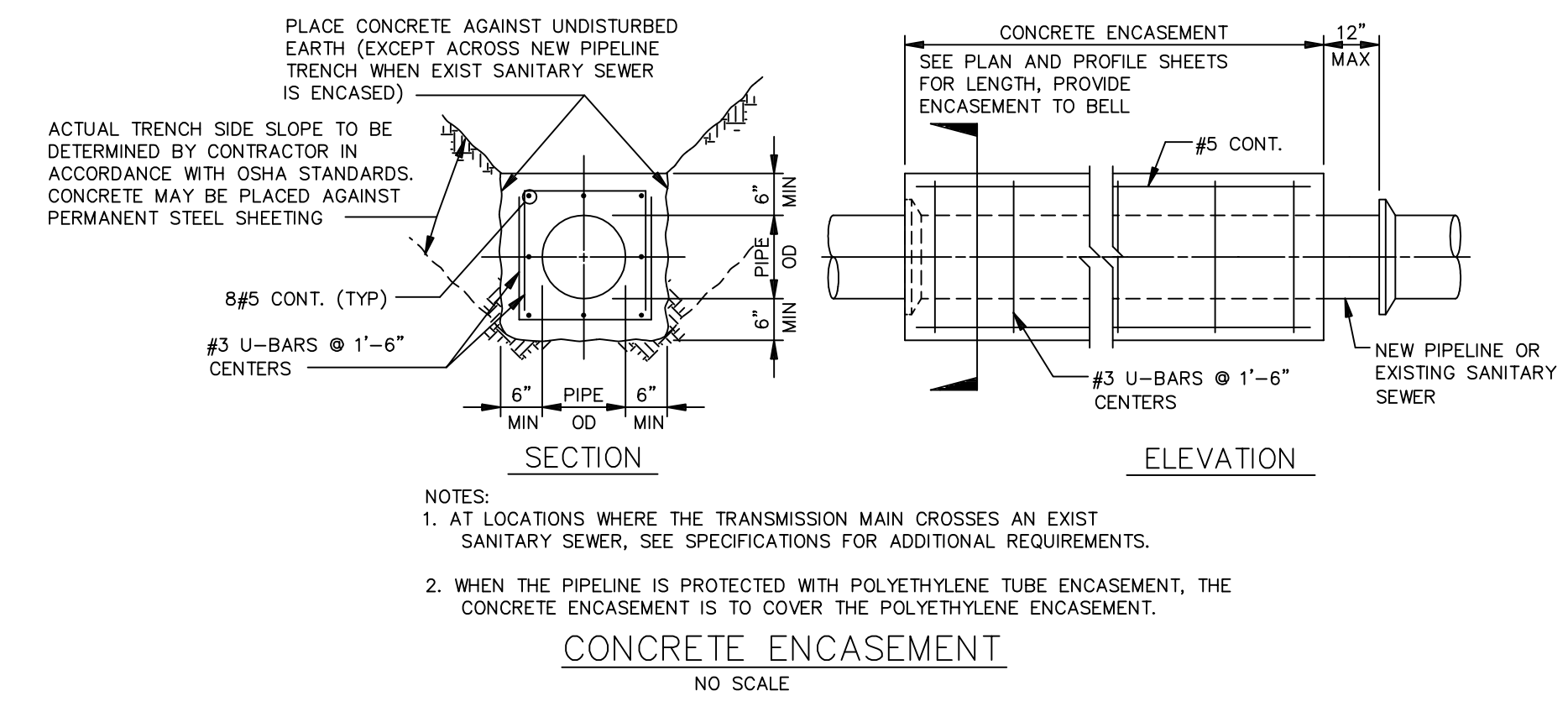


INTERNAL WATER PRESSURE 6" through 12"=200 psi  
 INTERNAL WATER PRESSURE 16" through 30"=210 psi  
 BEARING PRESSURE OF SOIL=2000 psi

**BACKING BLOCKS**  
 NOT TO SCALE

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**BACKING BLOCK  
 DETAILS AND LOCATIONS**

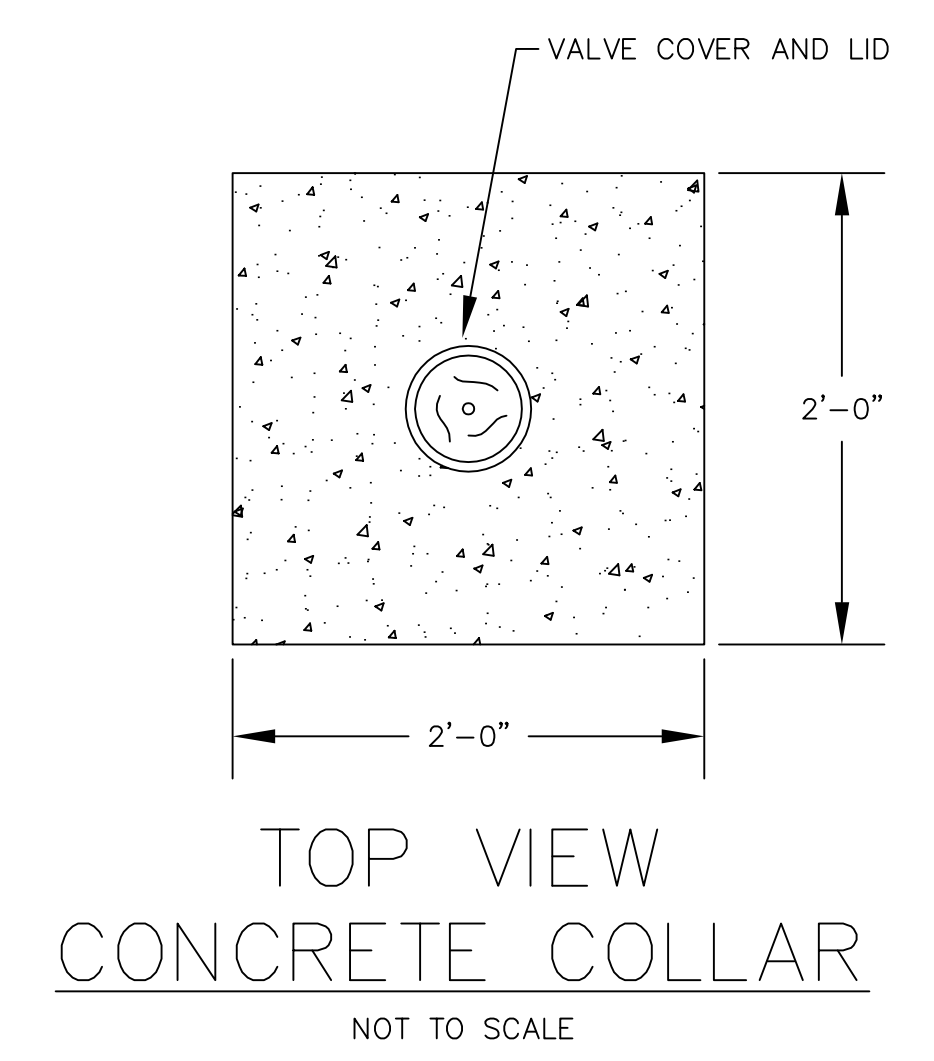


NOTES:  
 1. AT LOCATIONS WHERE THE TRANSMISSION MAIN CROSSES AN EXISTING SANITARY SEWER, SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.  
 2. WHEN THE PIPELINE IS PROTECTED WITH POLYETHYLENE TUBE ENCASEMENT, THE CONCRETE ENCASEMENT IS TO COVER THE POLYETHYLENE ENCASEMENT.

**CONCRETE ENCASEMENT**  
 NO SCALE

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 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

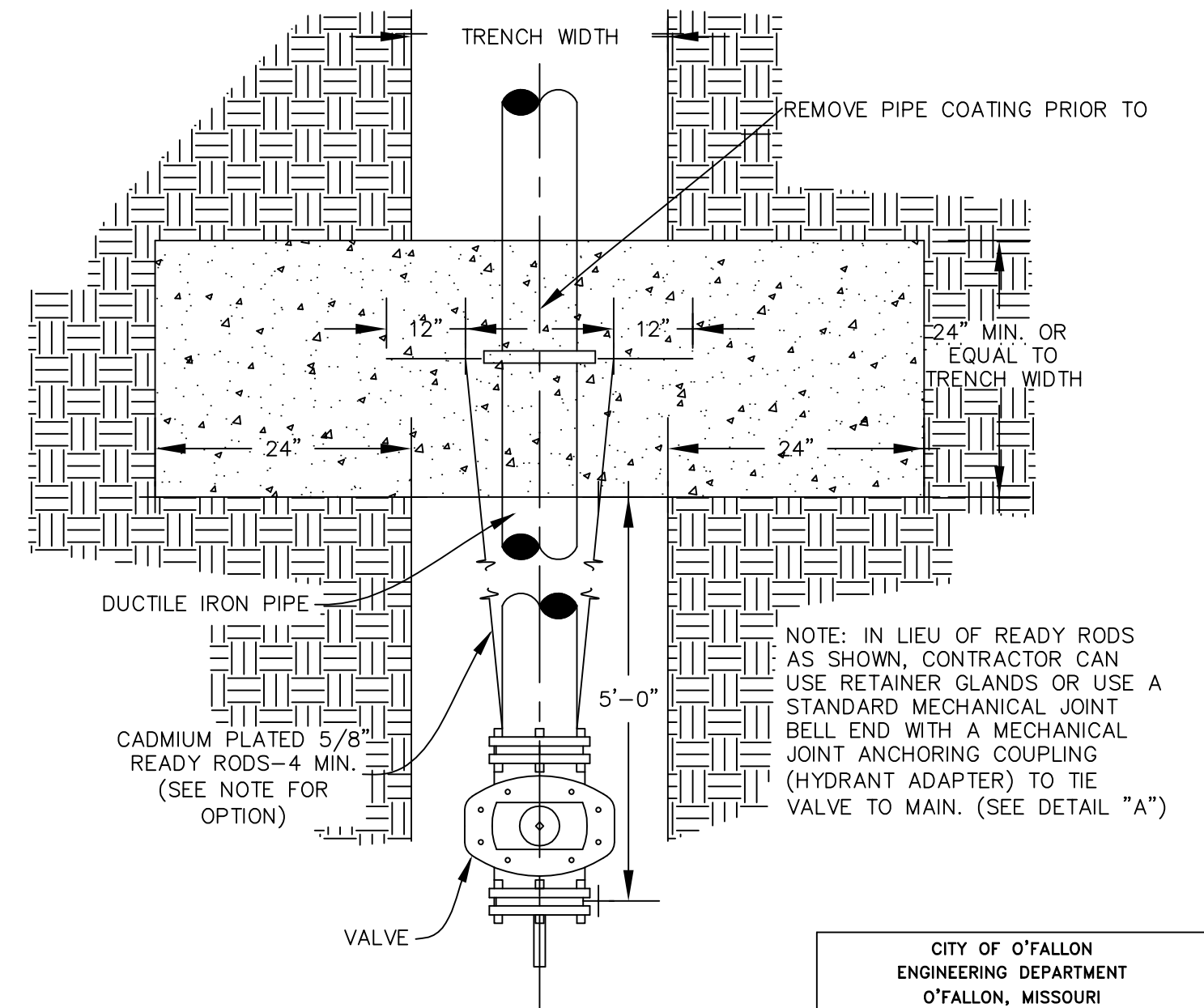
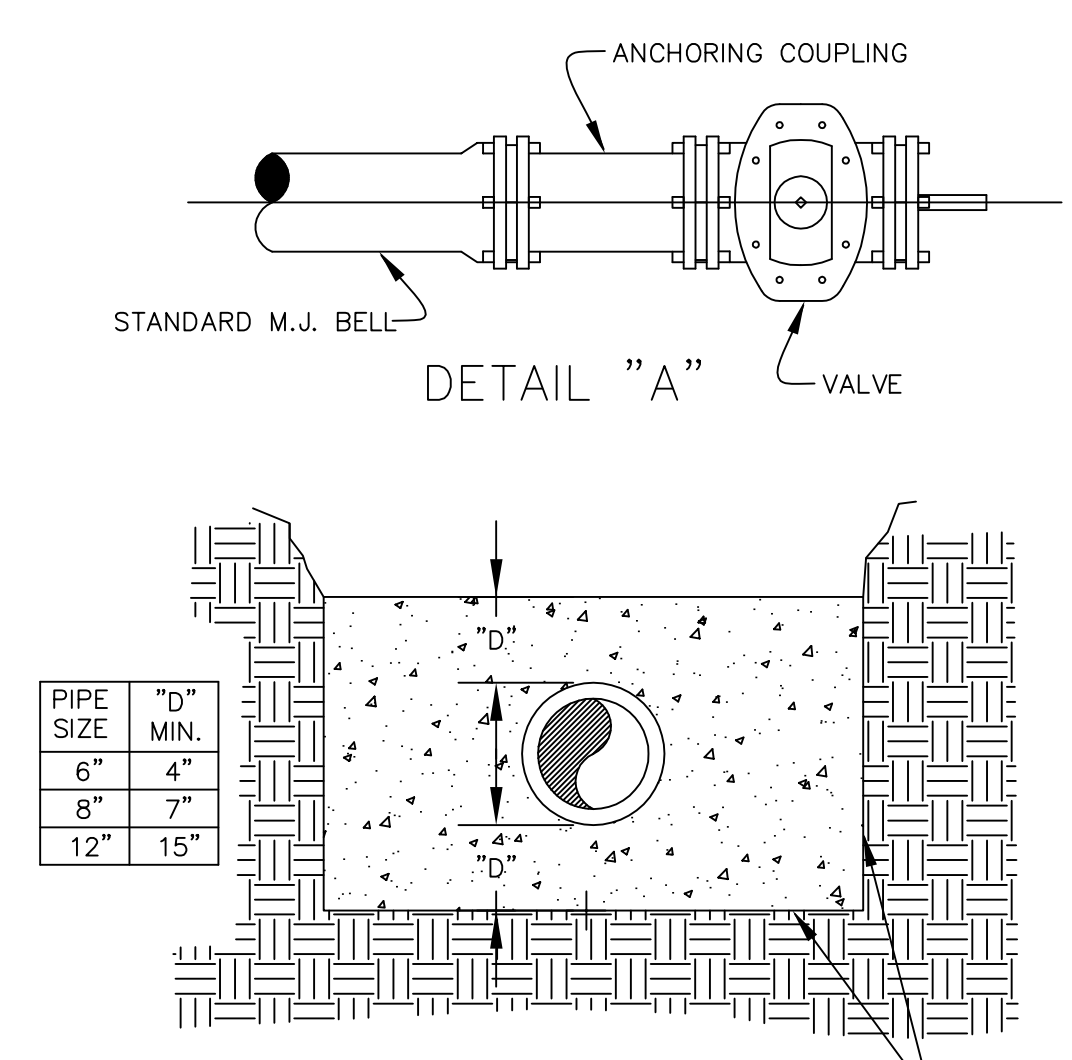
**CONCRETE ENCASEMENT  
 DETAILS**



Note: 1. Concrete collar joint pattern is required in paved areas such as roadways, driveways, sidewalks or other areas of paved surfaces.  
 2. Concrete collars are optional in other non-paved areas.

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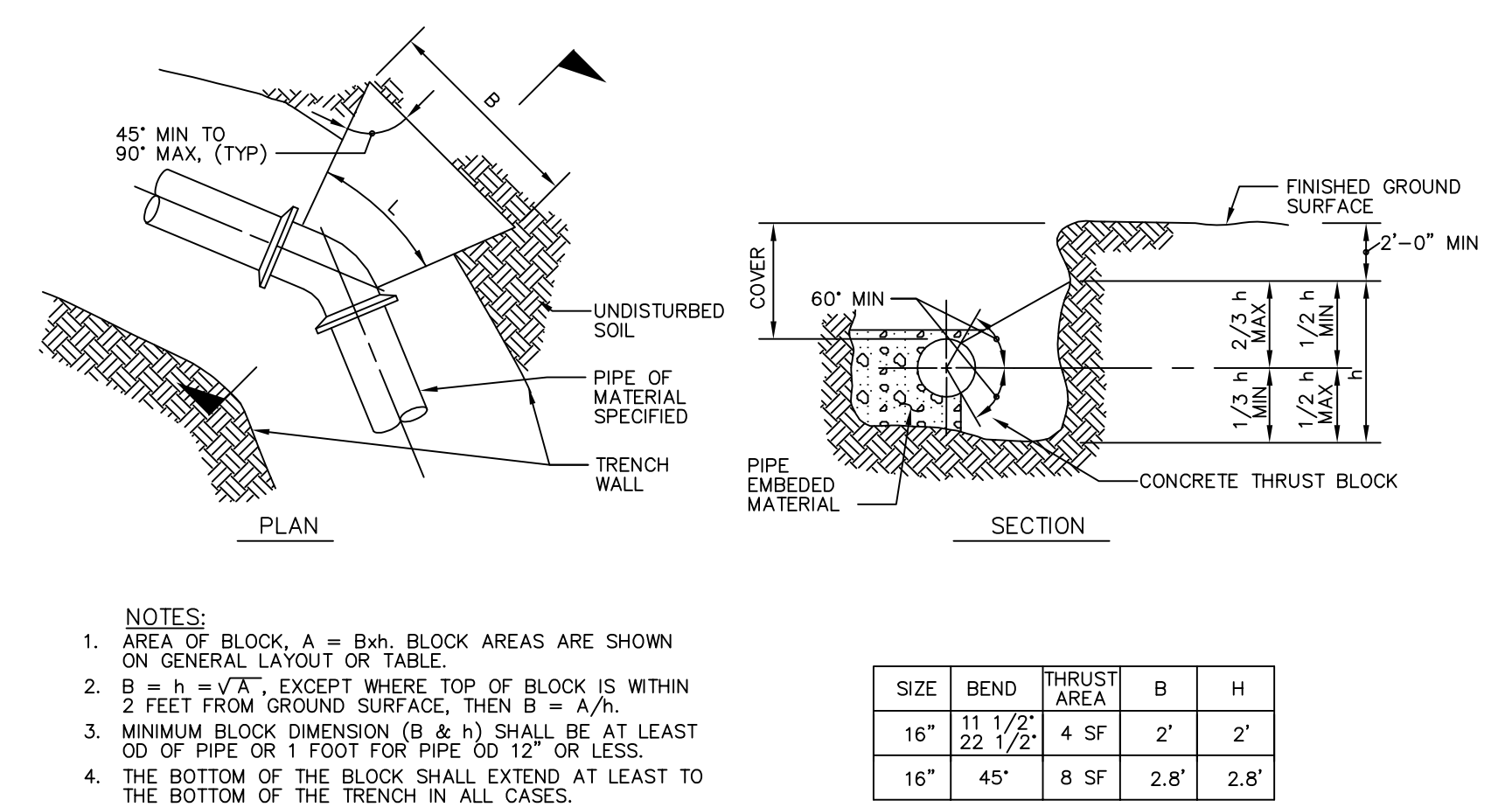
**CONCRETE  
 COLLAR DETAIL**



**STRADDLE BLOCK DETAIL**  
 NOT TO SCALE

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 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**STRADDLE BLOCK  
 DETAILS**



NOTES:  
 1. AREA OF BLOCK, A = Bxh. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.  
 2. B = h = V/3, 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

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 O'FALLON, MISSOURI

**CONCRETE THRUST  
 BLOCKING DETAILS**

The Professional Engineer's and/or Professional Land Surveyor's responsibility is limited to plans and other documents displaying his/her signature and seal. Engineer and Surveyor hereby disclaim responsibility for:  
 \* Unauthorized use of plans and other documents prior to receipt of all review agency approvals  
 \* All previously issued versions of this sheet  
 \* This sheet whenever a revised sheet is issued  
 \* Individual use of any sheet that is part of a set of plans  
 This applies to all plans and other documents associated with this project, whether this statement appears on them or not.

RICHARD SCOTT  
 MISSOURI  
 NUMBER  
 PE-18838

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 N/A  
 Mr. Paul James  
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No.	Date	Revision/Issue
1	3-19-19	Rev. per City comments 02-26-19

**Joseph Street Townhomes Phase Two**  
 Details

**MUSLER ENGINEERING COMPANY**  
 CIVIL ENGINEERING - PLANNING - LAND SURVEYING  
 32 PORTWEST COURT • SAINT CHARLES, MISSOURI 63303-5985  
 PHONE: 636-916-0444 • FAX: 636-916-3444

City/County Job No:	
Checked:	
Proj. Manager:	
Original Issue Date:	Nov., 2018
Project No.	18-1492
Sheet	7

CITY OF O'FALLON  
 File #: 18-000810  
 Permit #: CSP19-000004  
 P & Z #: 18-012179  
 City Council #: 18-012331

CERTIFICATE OF AUTHORITY: ENGINEERING: E-1230-D, LAND SURVING: LS-284-D