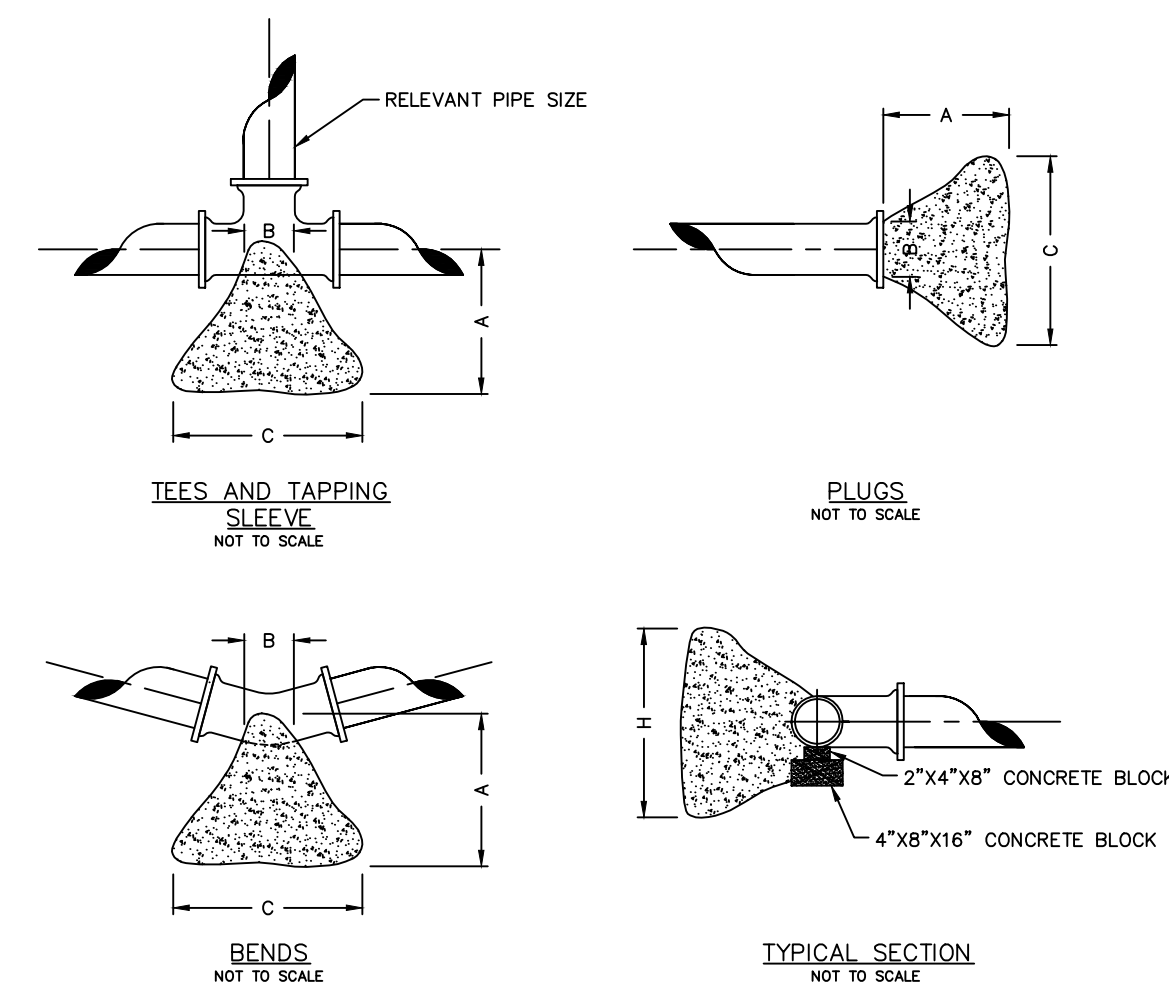


NOTE: THIS DETAIL IS FROM PWS#2



THRUST BLOCK DIMENSIONS - INCHES

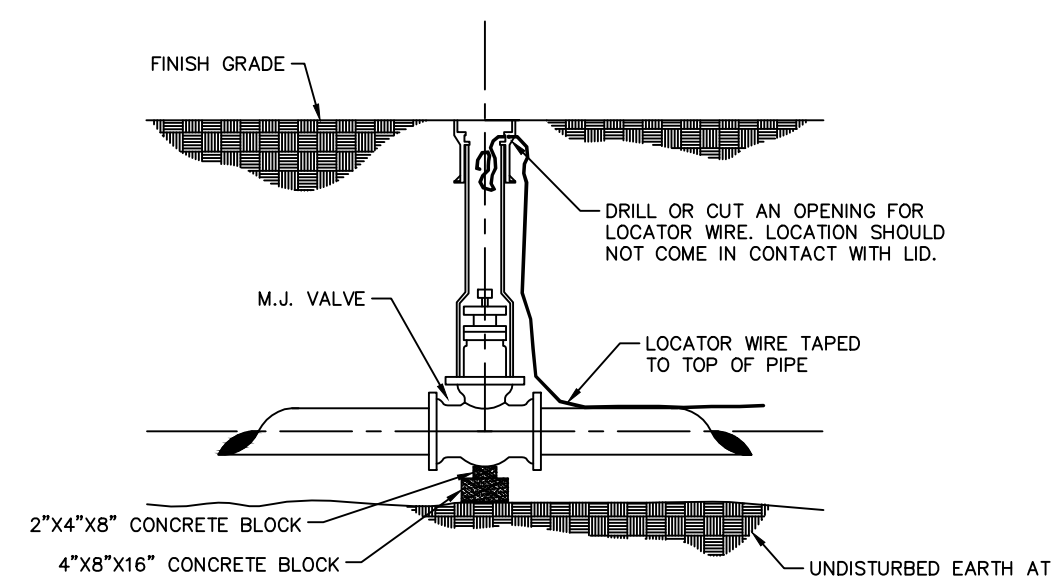
PIPE DIA.	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND		11-1/4 BEND	
	A	B	C	H	C	H	C	H	C	H	C	H
4	14	4	24	12	28	15	18	12	12	12	12	12
6	16	6	36	18	36	24	30	18	24	12	12	12
8	20	8	36	30	42	36	36	24	24	18	18	12
10	20	10	48	36	66	36	36	36	28	24	18	18
12	24	12	68	36	82	42	52	36	40	24	28	18

NOTE
FOR FITTINGS LARGER THAN 12", SPECIAL RESTRAINT DESIGNS ARE REQUIRED.

HORIZONTAL THRUST BLOCKING
DETAIL "C"

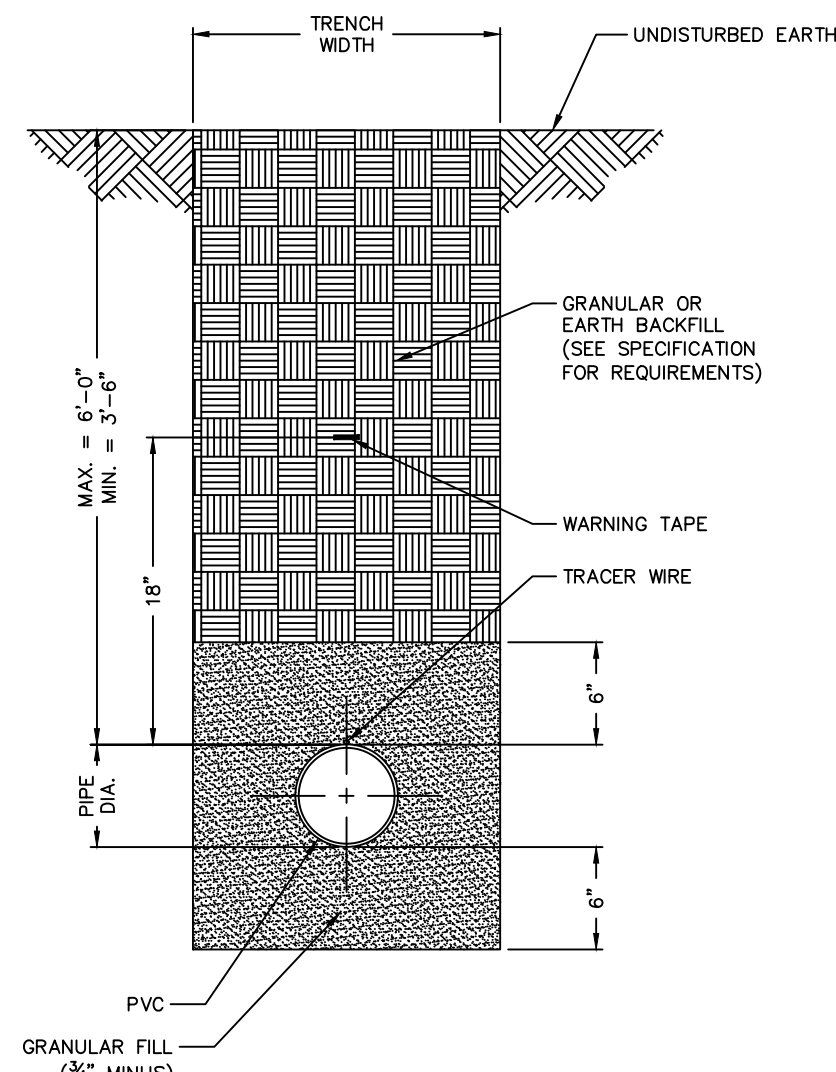
NOTE: THIS DETAIL IS FROM PWS#2

Buffalo box is an acceptable product to use.
Tyler 562-S and 564-S are acceptable products.



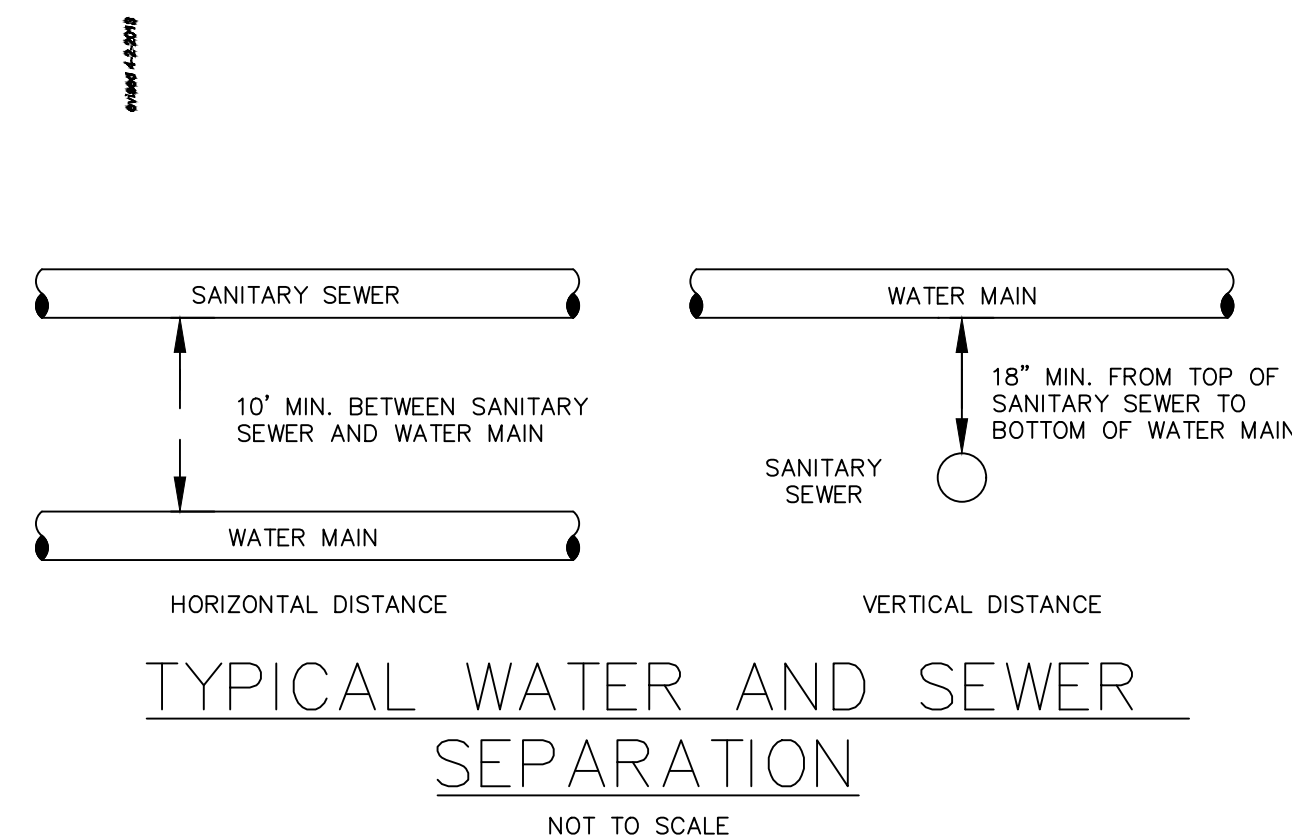
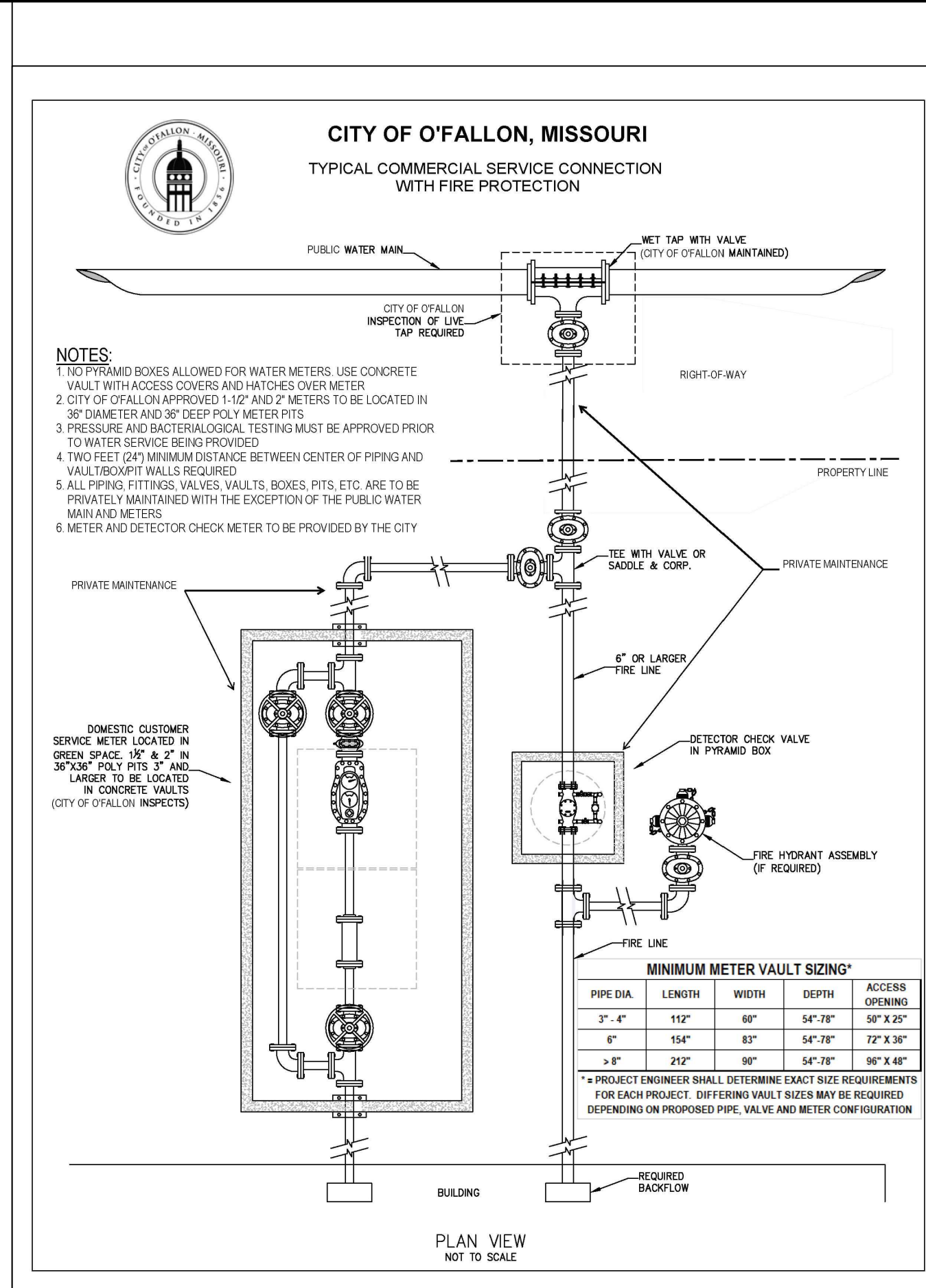
GATE VALVE DETAIL
NOT TO SCALE
DETAIL "D"

NOTE: THIS DETAIL IS FROM PWS#2



NOTES
1) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.

TYPICAL TRENCH SECTION FOR PVC PIPE
NOT TO SCALE
DETAIL "A"
PAGE 1 OF 2



TYPICAL WATER AND SEWER SEPARATION
NOT TO SCALE

ScourStop® DESIGN GUIDE
Circular Culvert Outlet Protection

why use the **SCOURSTOP SYSTEM?**

ScourStop transition mats protect against erosion and scour at culvert outlets with a vegetated solution in areas traditionally protected with rock or other hard armor.

ScourStop is part of a system that includes semi-rigid transition mats installed over sod or turf reinforcement mats. Each 4' x 4' x 1/2" mat is made of high-density polyethylene and secured tightly to the ground with anchors.

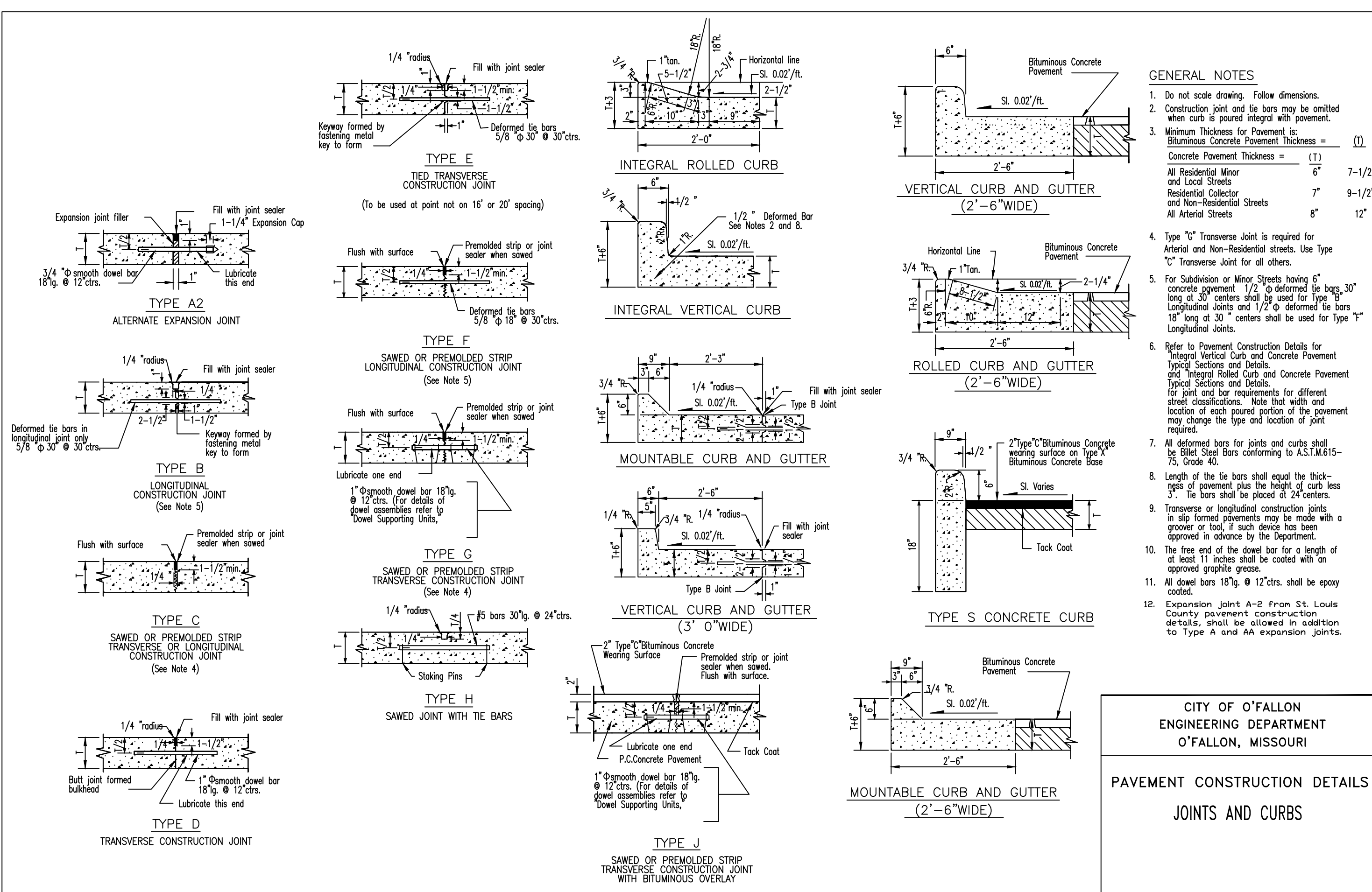
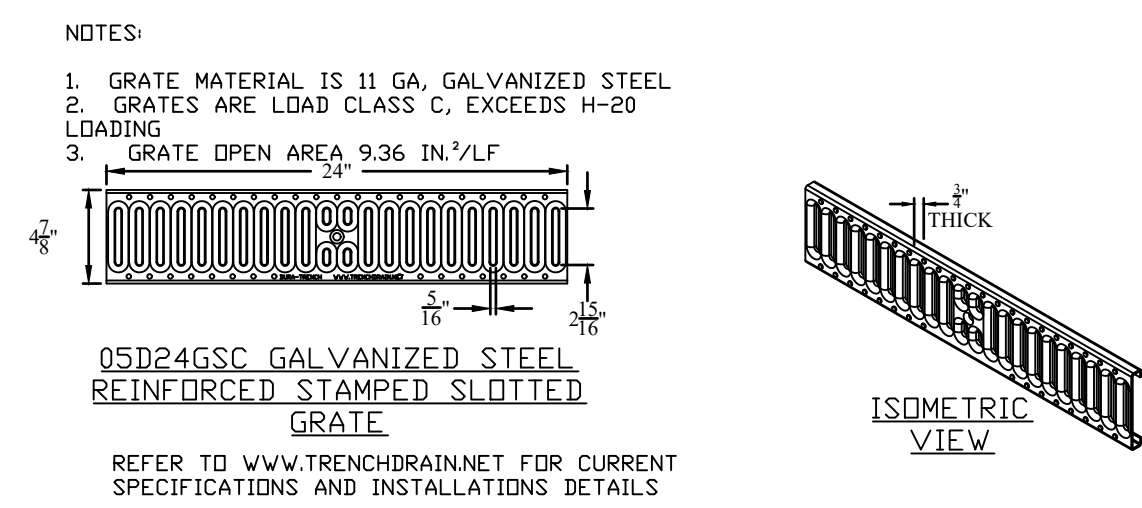
PIPE DIAMETER	VELOCITY ≤ 10 FT/SEC		10 < VELOCITY < 16 FT/SEC	
	TRANSITION MAT W x L	QUANTITY OF MATS	TRANSITION MAT W x L	QUANTITY OF MATS
12"	4' x 4'	1	4' x 8'	2
24"	8' x 8'	4	8' x 12'	6
36"	8' x 12'	6	12' x 20'	15
48"	12' x 16'	12	12' x 24'	18
60"	12' x 20'	15	16' x 32'	32
72"	16' x 24'	24	20' x 36'	45

These are minimum recommendations. More ScourStop protection may be needed depending upon site and soil conditions, per project engineer.

- If velocity is greater than 16 fps, contact manufacturer for design assistance.
- ScourStop mats have been shown to at least double the effectiveness of turf reinforcement mats.
- ScourStop fully vegetated channel (2:1 slope): velocity = 31 fps, shear stress = 16 psf.

PERFORMANCE • AESTHETICS
NPDES-COMPLIANT • COST-EFFECTIVE

scourstop.com



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1-800-DIG-RITE

Site Address: 1400 Grant Industrial Drive

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

PROJECT TITLE:
GRANT INDUSTRIAL PARK LOT 4B

ENGINEERING FIRM:
CLIFFORD HEITMANN & COMPANY, INC.
221 Point View Blvd.
St. Charles, MO 63001
636-928-5562
FAX 636-928-1718

DISCLAIMER OF RESPONSIBILITY:
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, reports or other documents or instruments relating to or intended to be used for any project other than the architectural or engineering project shown on this sheet.

STATE OF MISSOURI
CLIFFORD HEITMANN & COMPANY, INC.
REGISTERED PROFESSIONAL ENGINEER
E-29817
Clifford L. Heitmann
Civil Engineer
E-29817

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Engineering Authority No. 000655
Surveying Authority No. 000144
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REVISIONS

NO.	DATE	DESCRIPTION
07-17-23		CITY COMMENTS
08-15-23		CITY COMMENTS
09-18-23		CITY COMMENTS
10-11-23		CITY COMMENTS
10-26-23		CITY COMMENTS

Developer / Owner:
SUMMIT REAL ESTATE SERVICES LLC
29341 SPOTTED BULLY WAY
SAN JOSE, CA 92675

DETAILS

P+Z No.
#23-002270
APPROVED 04-06-23

City No.
#xx

Page No.
C10