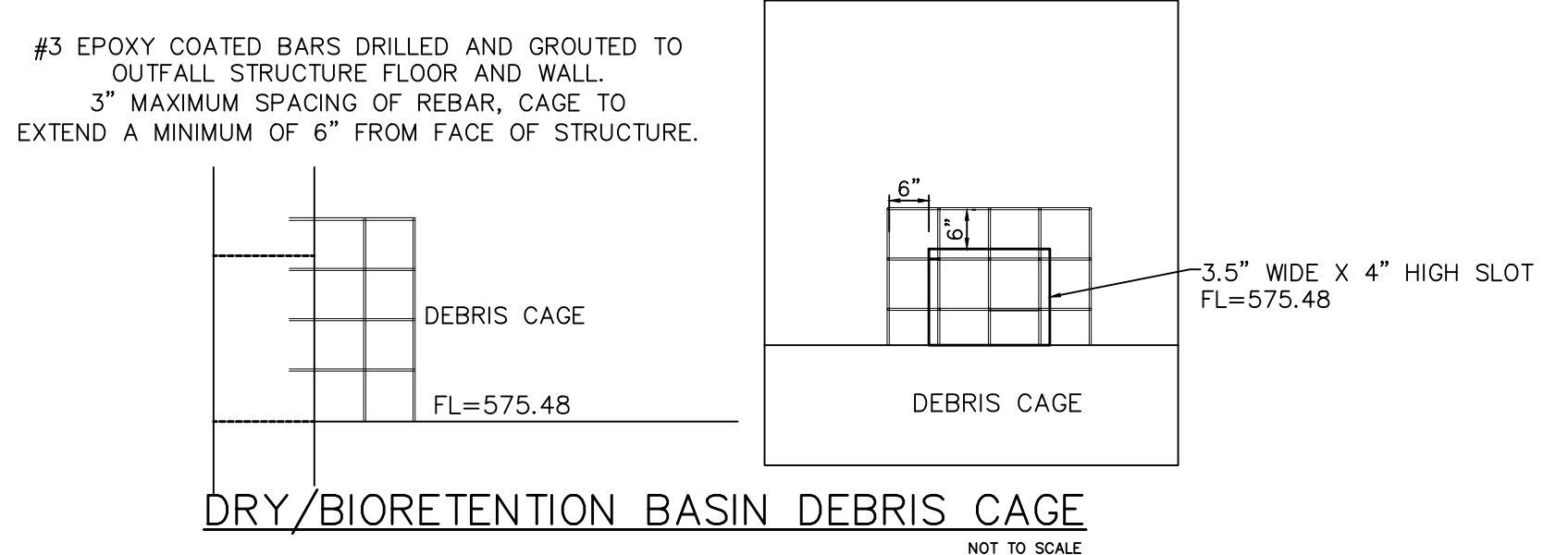
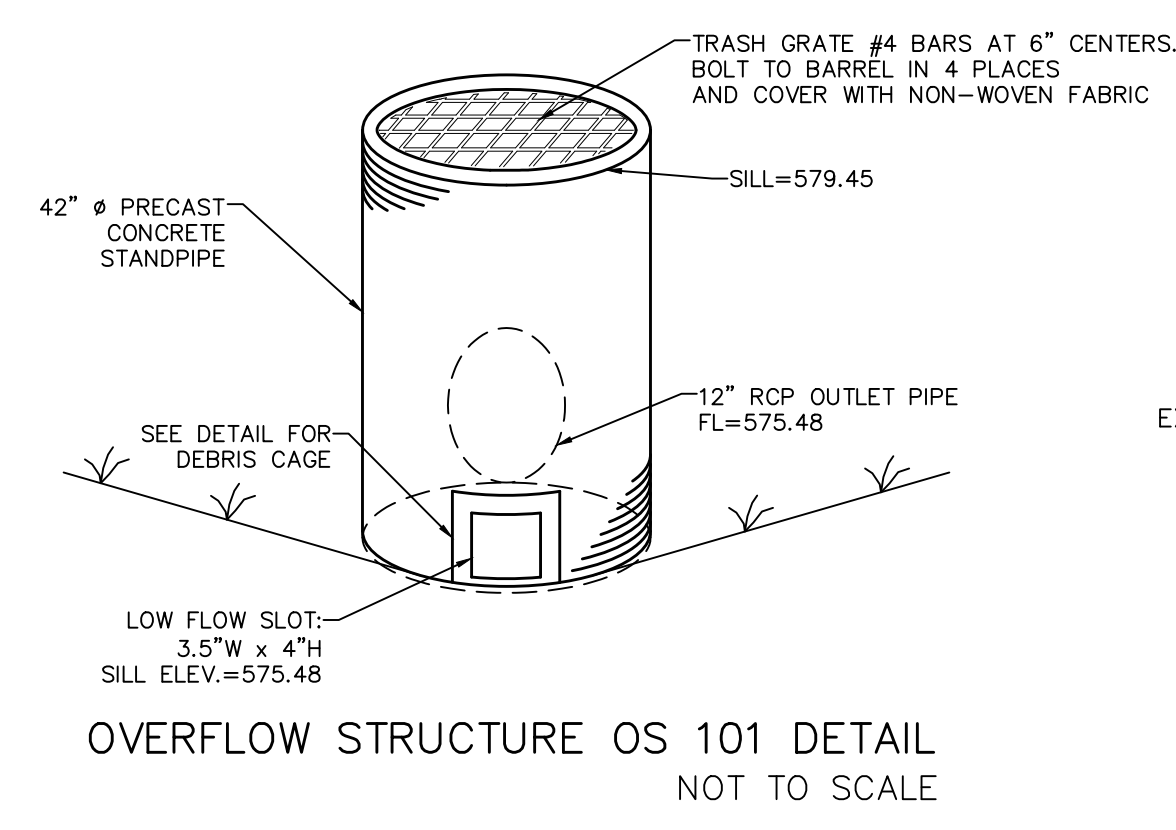


St Charles County Government Hydraulic Review Output Data										\\VAULTSERVER\File\Folders\4000\4007D - First Baptist Church Building Addition\Engineering\Hydraulics\PIPE HYDRO.txt																
12/5/2022										12/5/2022																
Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Grade	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks	
1	GI104	GI103	106	12	577.91	576.85	1.00	583.22	3.73	579.49	579.14	0.00260	0.27	2.30	0.08	0.00	0.00							1.81	3.56	
2	GI103	FE102	69	12	576.65	576.00	0.94	583.00	3.86	579.14	578.60	0.00710	0.49	3.83	0.23	0.00	0.05							3.01	3.45	HW=578.60
3	OS101	FE100	48	12	575.48	575.00	1.00	579.45	3.22	576.24*	575.10	0.00870	0.42	4.24	0.28	0.28	0.00	0.00						3.33	3.56	

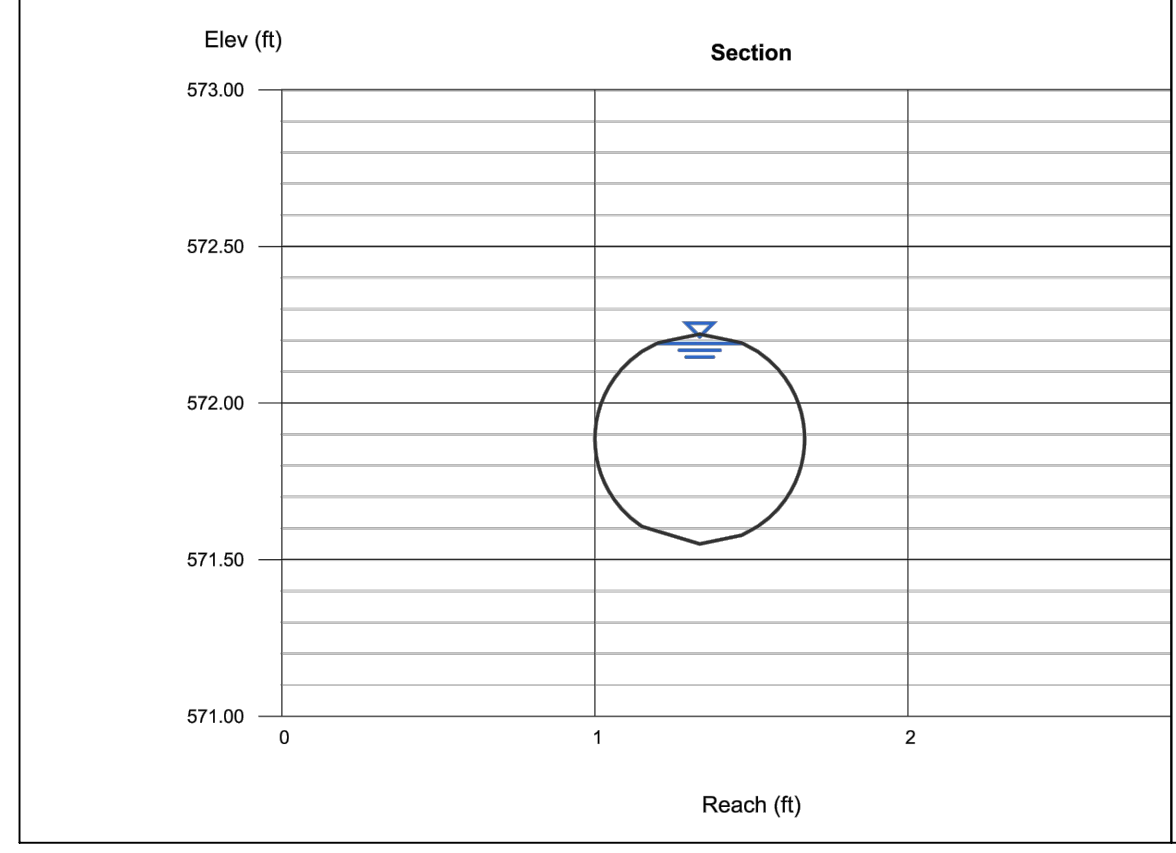


**Channel Report**  
 Hydraulic Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Dec 14 2022

**Sanitary Reach MH B to MH A**

Circular Diameter (ft)	= 0.67	Highlighted Depth (ft)	= 0.64
Q (cfs)	= 1.158	Area (sqft)	= 0.35
Invert Elev (ft)	= 571.55	Velocity (ft/s)	= 3.33
Slope (%)	= 0.46	Wetted Perim (ft)	= 1.82
N-Value	= 0.10	Crit Depth, Yc (ft)	= 0.51
		Top Width (ft)	= 0.27
		EGL (ft)	= 0.81

Calculations: Known Depth = 0.64

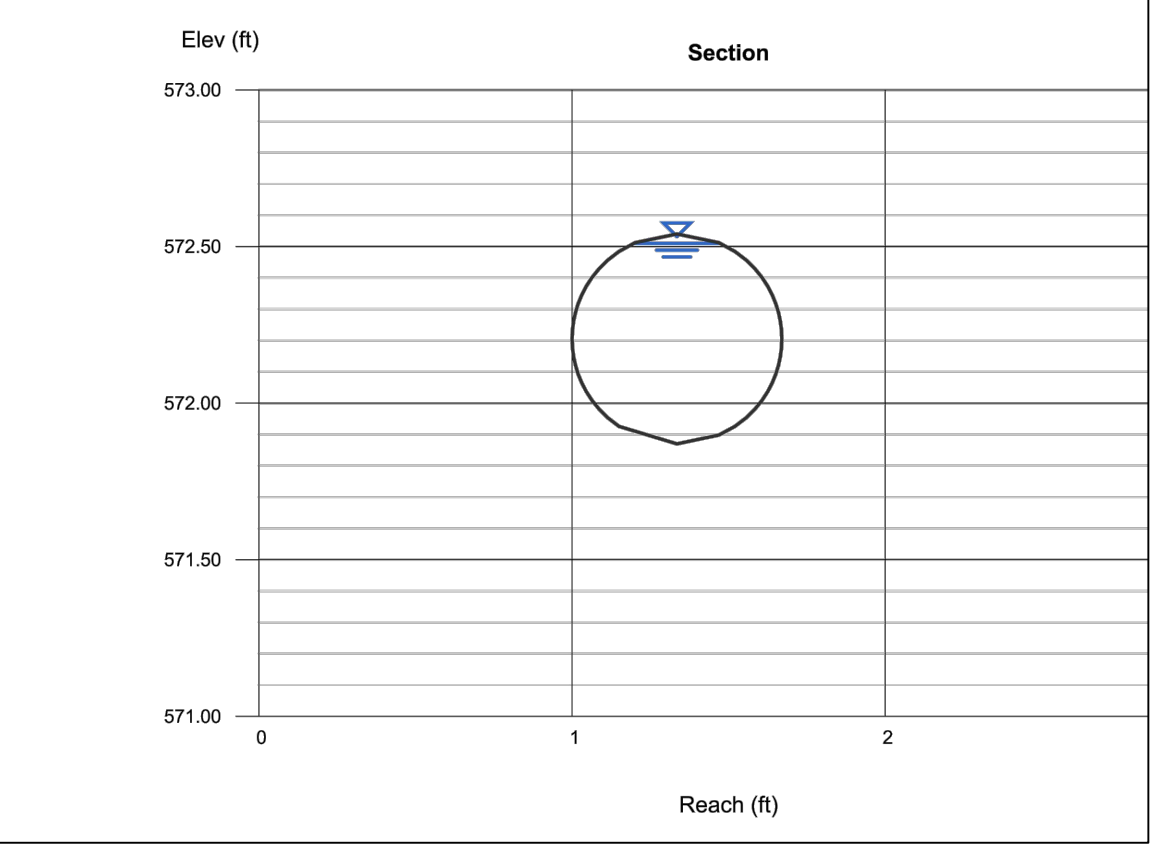


**Channel Report**  
 Hydraulic Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Dec 14 2022

**Sanitary Reach MH C to MH B**

Circular Diameter (ft)	= 0.67	Highlighted Depth (ft)	= 0.64
Q (cfs)	= 1.119	Area (sqft)	= 0.35
Invert Elev (ft)	= 571.87	Velocity (ft/s)	= 3.22
Slope (%)	= 0.43	Wetted Perim (ft)	= 1.82
N-Value	= 0.10	Crit Depth, Yc (ft)	= 0.51
		Top Width (ft)	= 0.27
		EGL (ft)	= 0.80

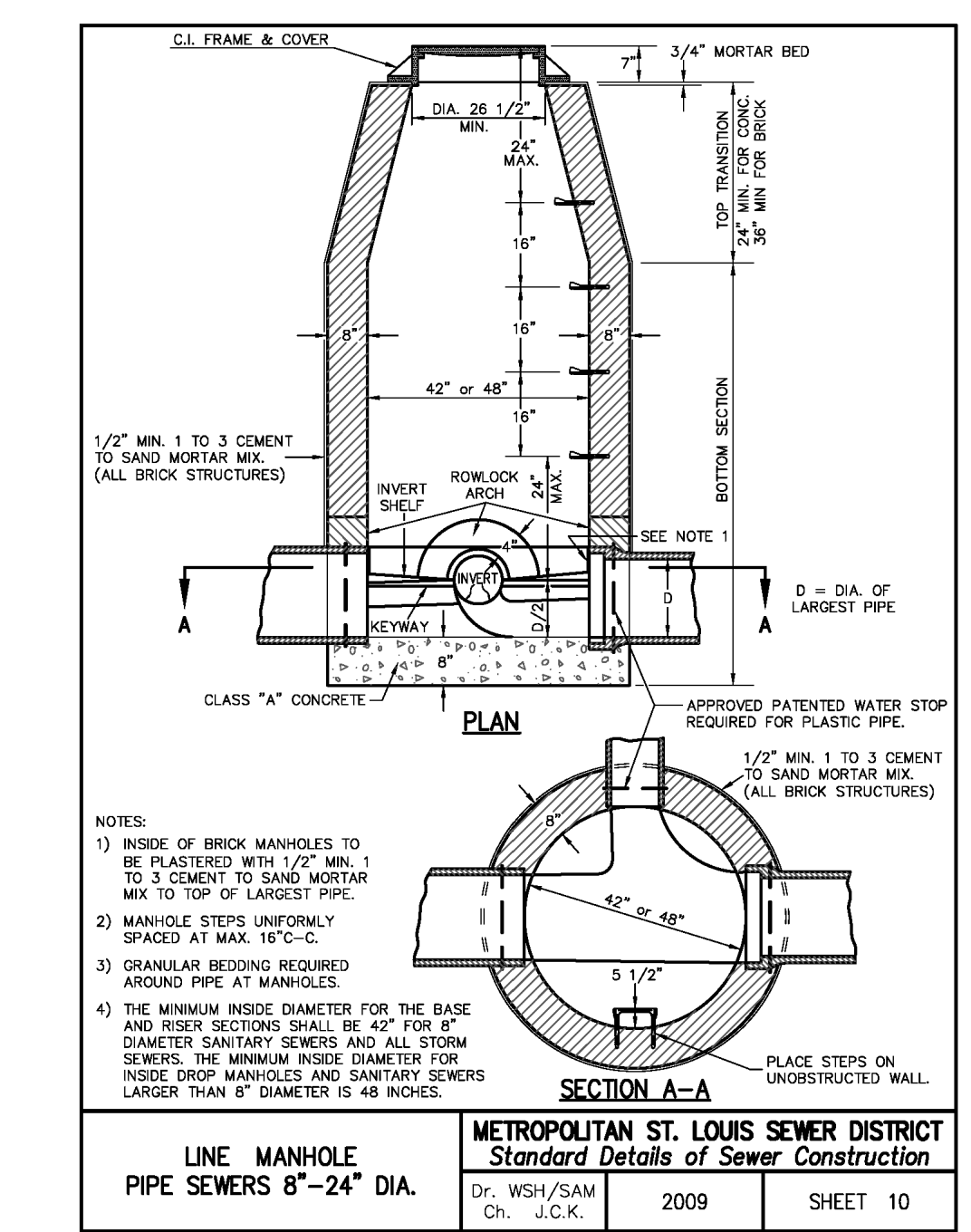
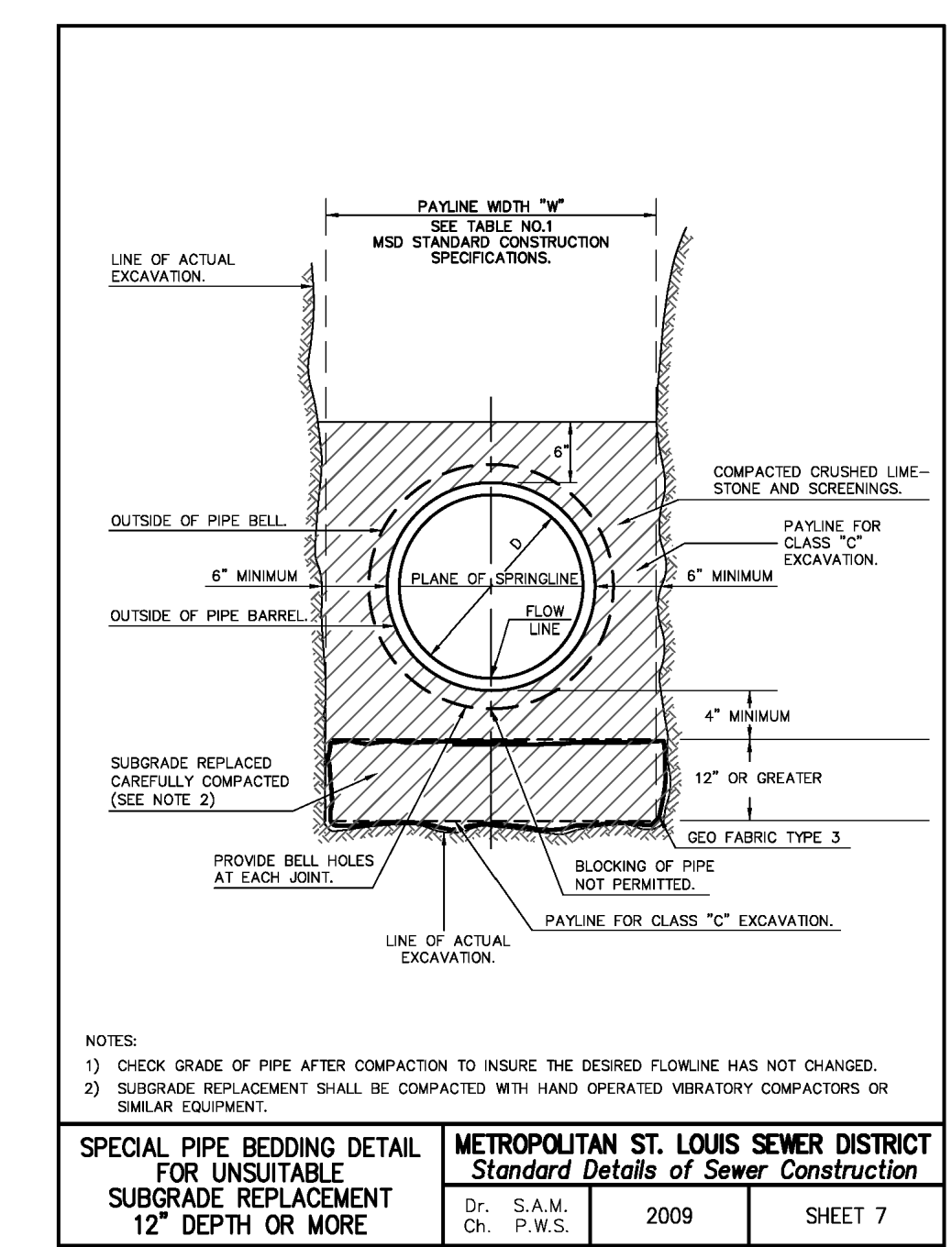
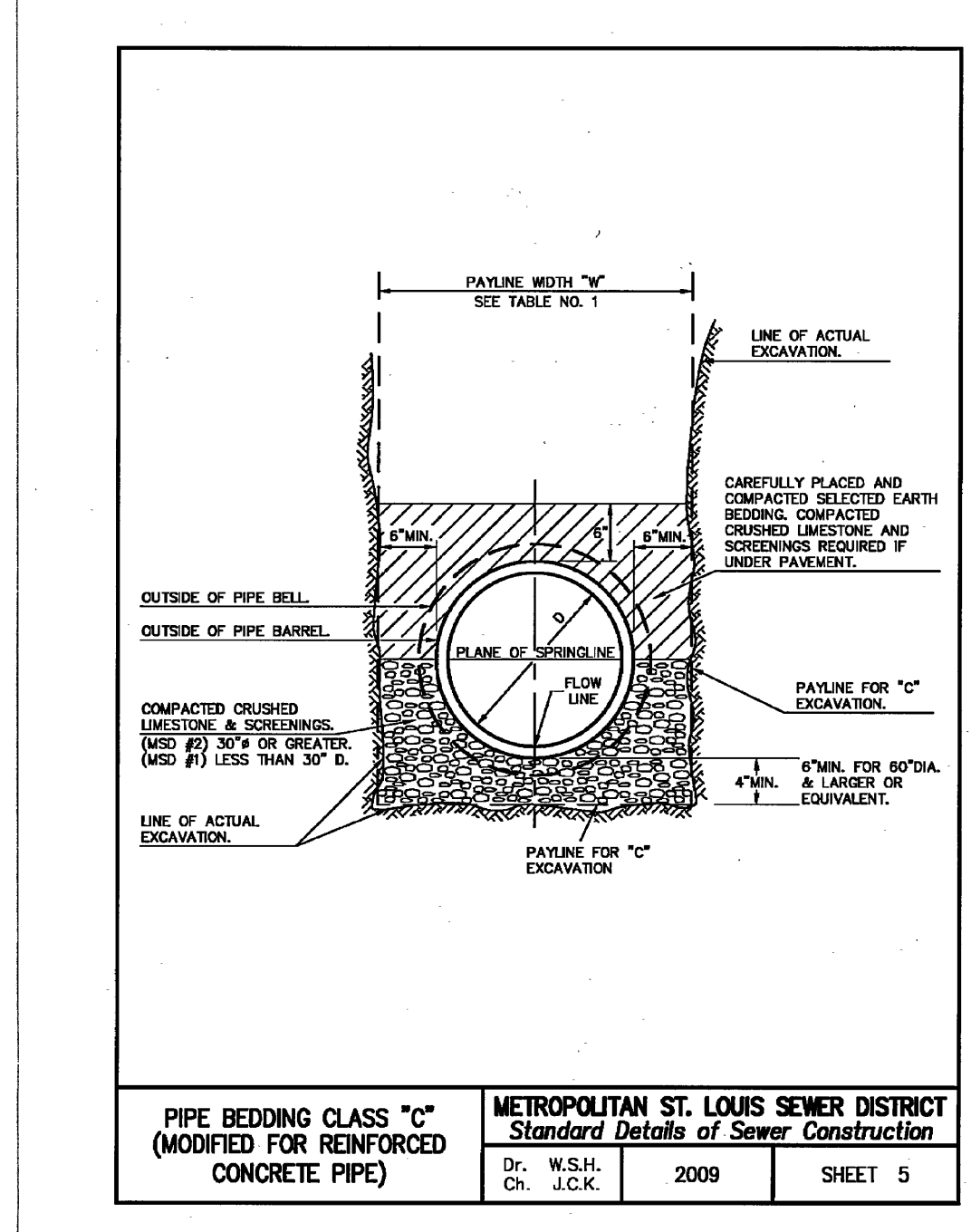
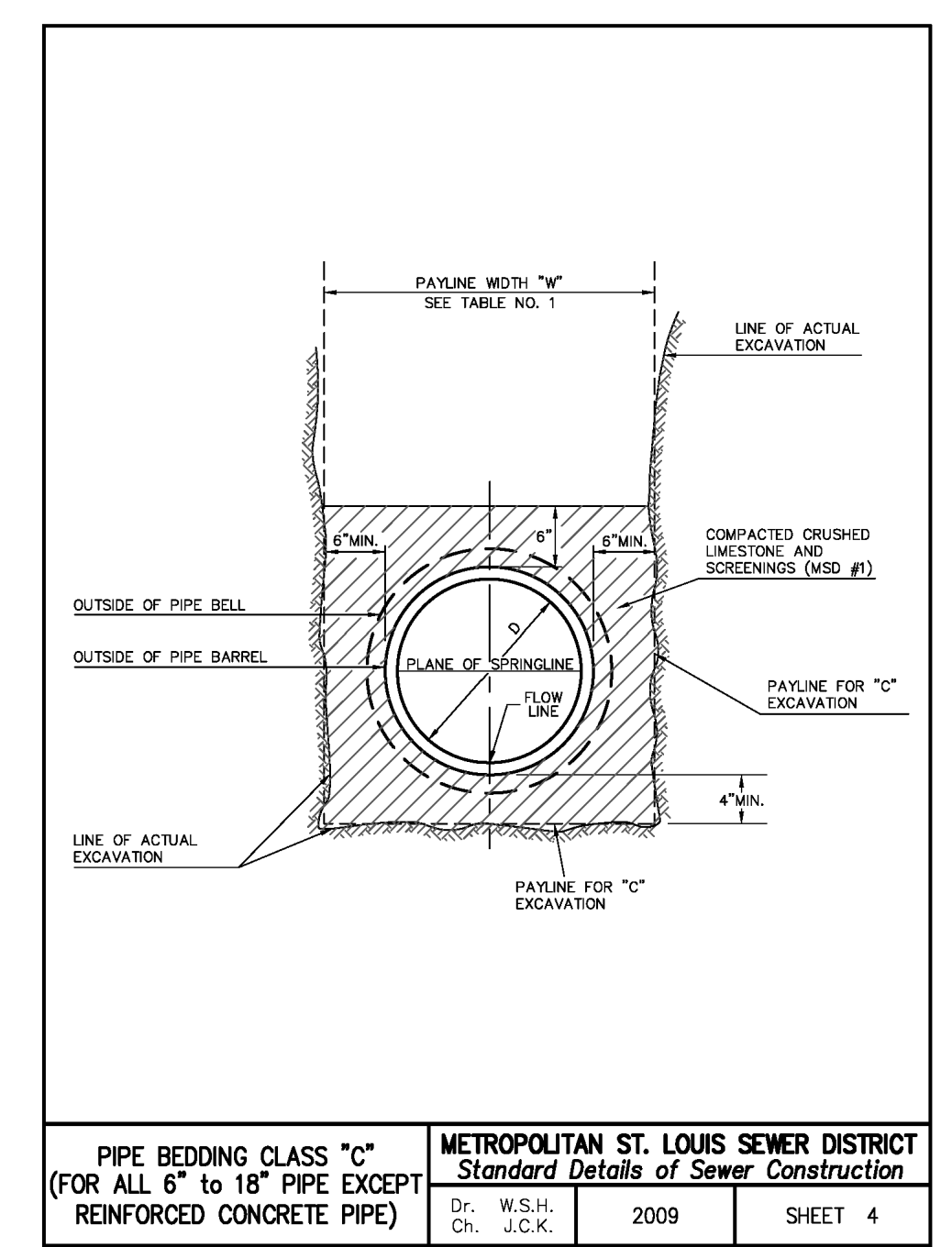
Calculations: Known Depth = 0.64



ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CONCRETE ENCASUREMENT (CU. FT. PER FT.)	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CONCRETE ENCASUREMENT (CU. FT. PER FT.)
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77	14 x 23	41	3.42	5.94
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.18	22 x 34	53	4.42	8.61
30	49	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	56	4.67	11.43	29 x 45	66	5.50	11.72
39				32 x 49	71	5.92	13.14
42	63	5.25	13.38	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 78	101	8.42	21.59
66	91	7.58	23.45	53 x 83	109	9.08	24.35
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	126	10.50	30.50
84	112	9.33	32.57	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.69
102	133	11.08	42.99	82 x 128	160	13.33	44.45
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	106 x 166	202	16.83	64.48
144	180	15.17	72.40	118 x 180	218	18.17	73.59

**TABLE 1**  
 PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE

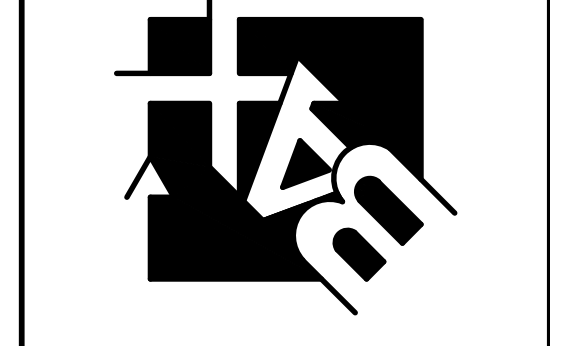
**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
 Standard Details of Sewer Construction  
 Dr. W.S.H. Ch. J.C.K. 2009 SHEET 1



**PROJECT TITLE:**  
 CONSTRUCTION PLANS FOR:  
 First Baptist Church of O'Fallon  
 8750 Veterans Memorial Pkwy  
 O'Fallon, MO 63366

**ENGINEERING**  
 PLANNING  
 SURVEYING

221 Point West Blvd.  
 St. Charles, MO 63301  
 636-928-5552  
 FAX 636-928-1718



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**REVISIONS**

11-7-22	CITY COMMENTS
11-29-22	CITY COMMENTS
12-9-22	BLDG. UTILITIES
12-15-22	BID SET

**Developer / Owner:**  
 First Baptist Church of O'Fallon  
 8750 Veterans Memorial Pkwy  
 O'Fallon, MO 63366  
 Phone #

**PROFILES/DETAILS**

**P+Z No.** 22-005714  
 Approved: 07-07-22

**City No.** 22-010520