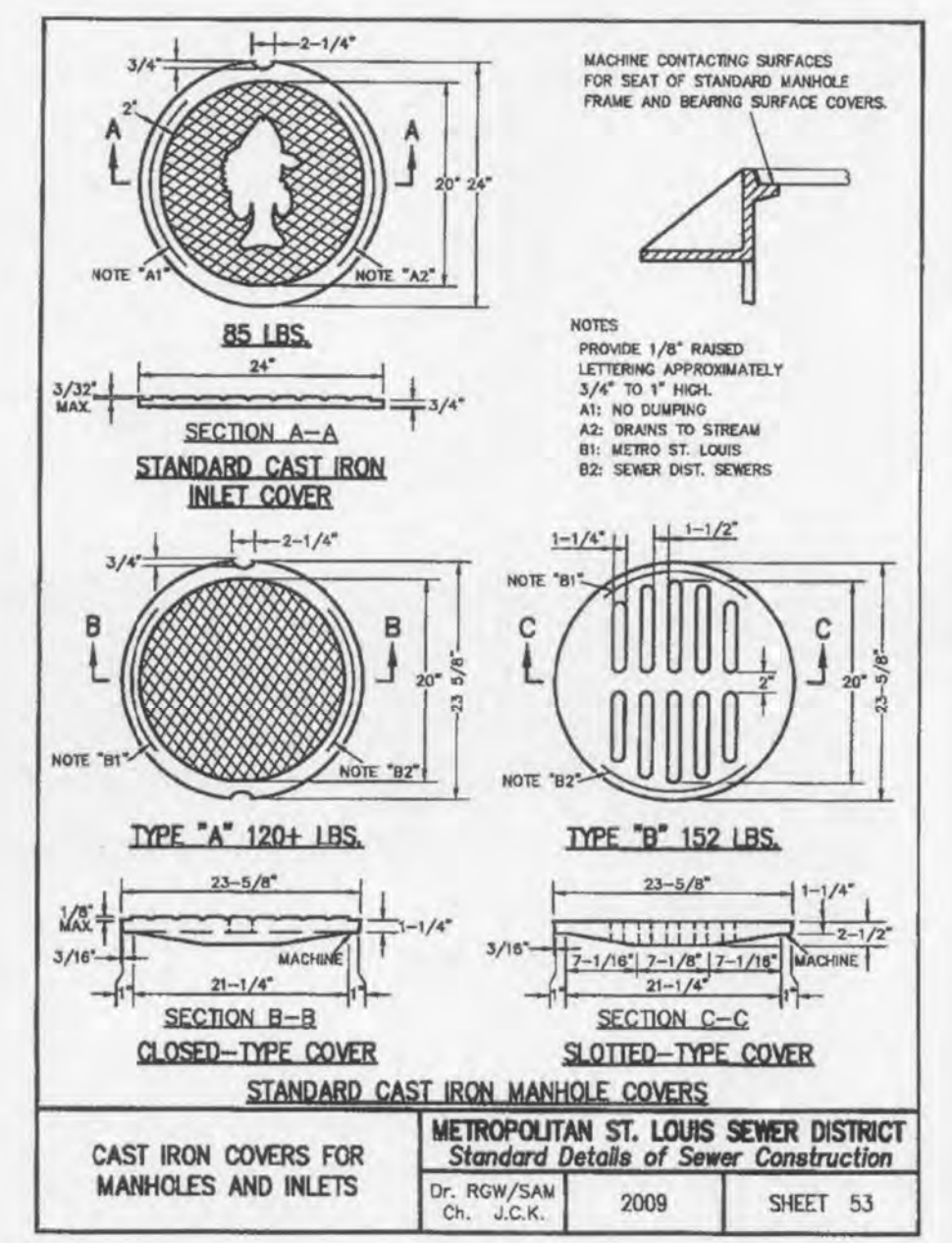
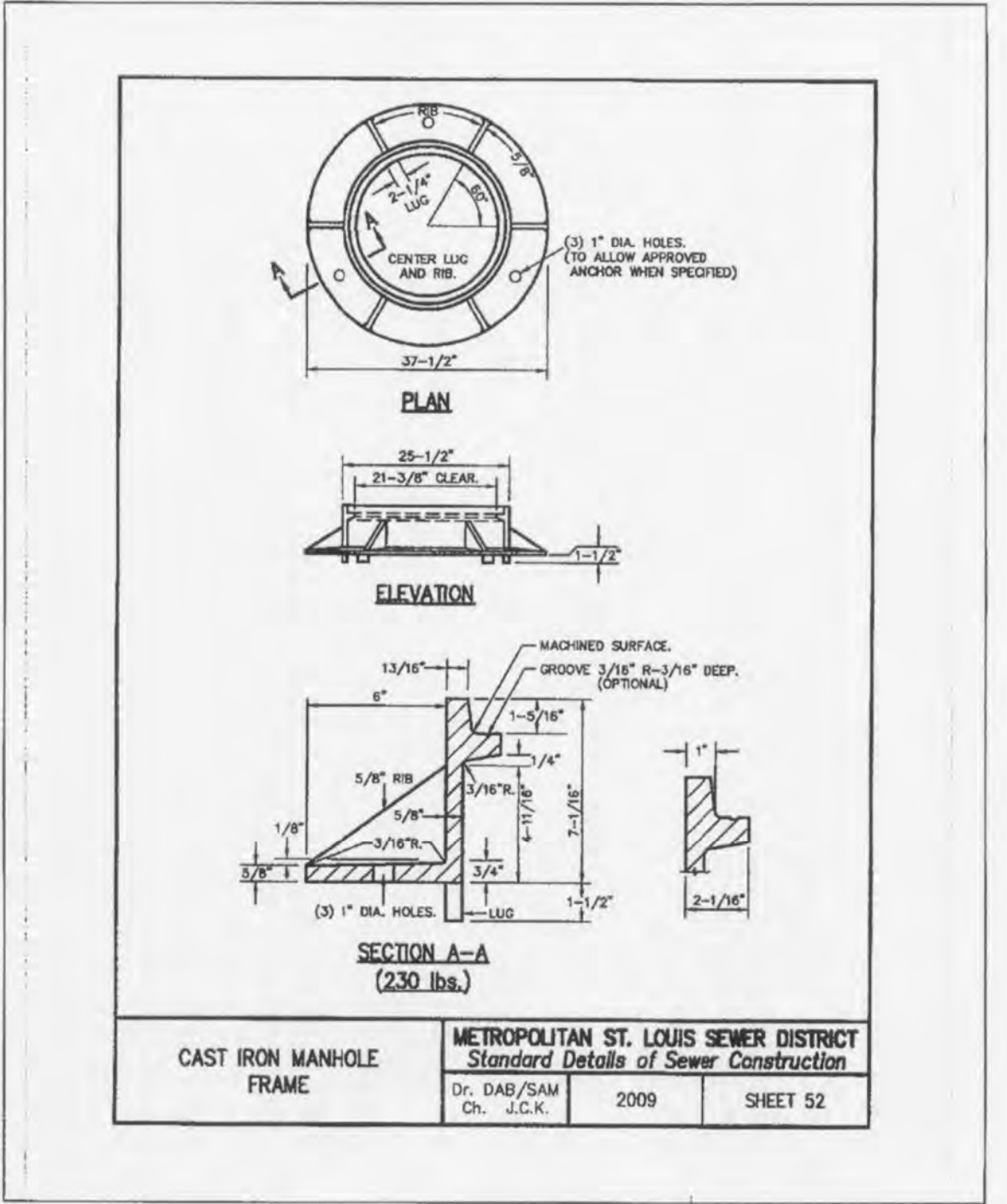
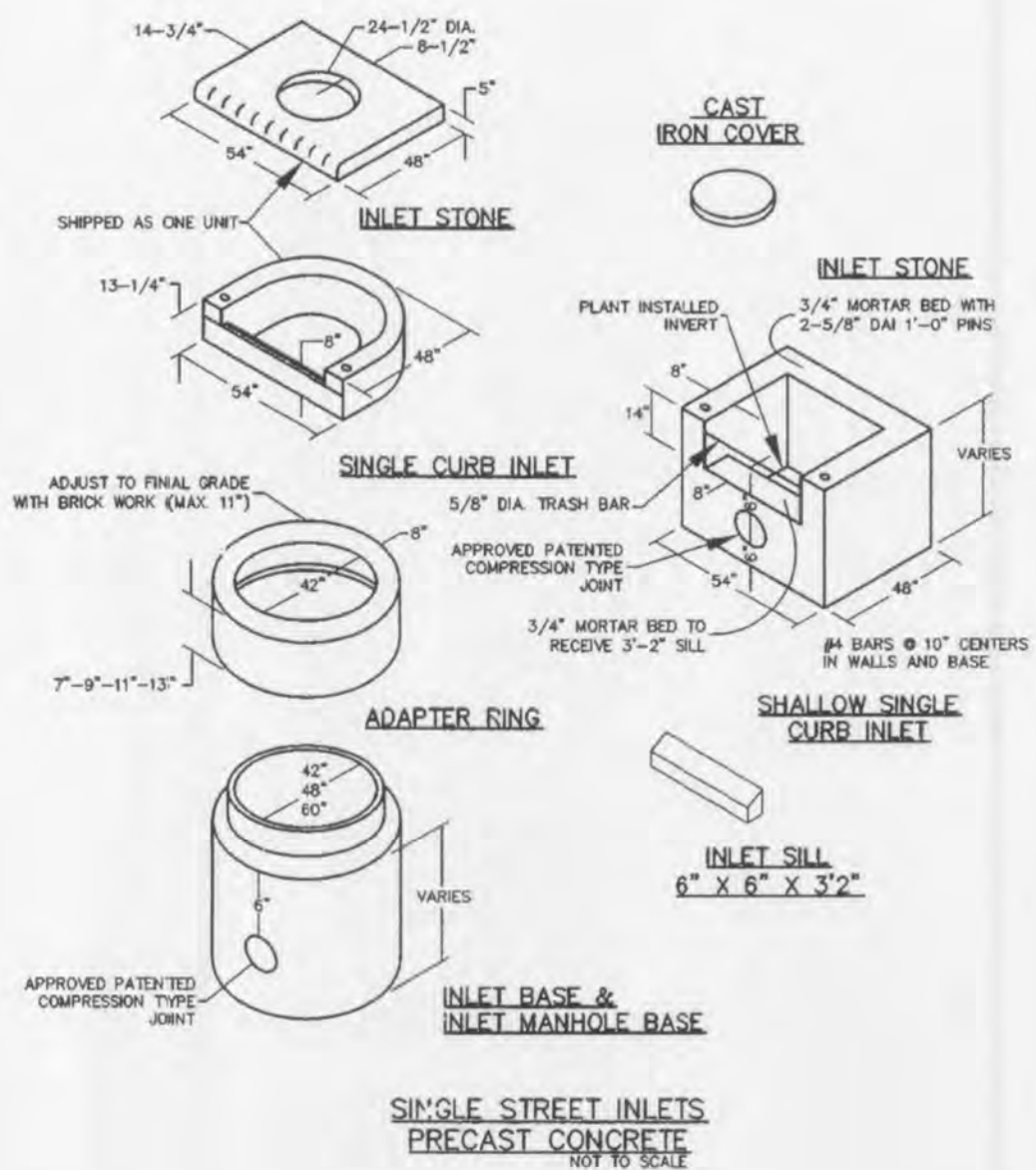
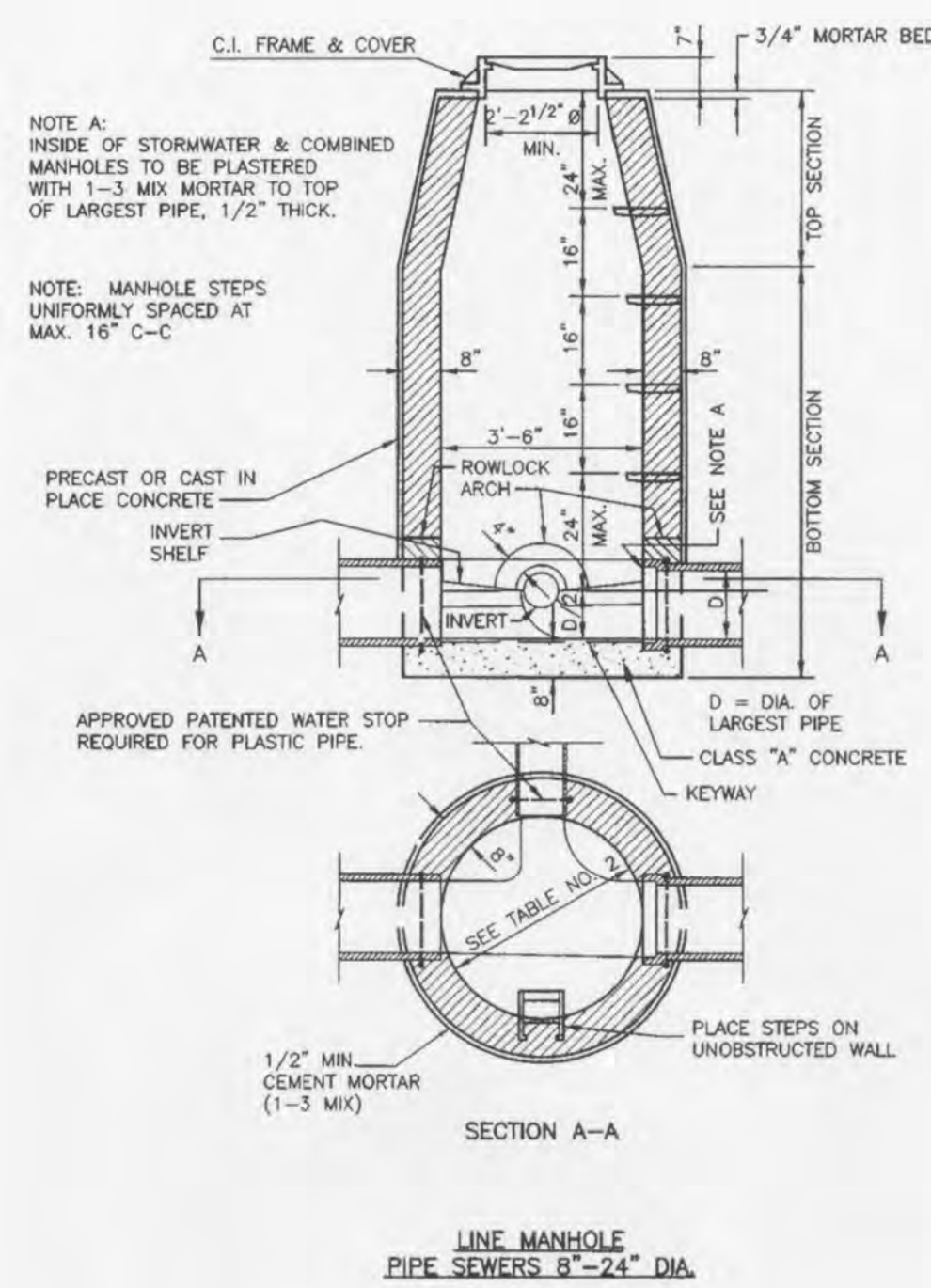


ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"C" PAYLINE WIDTH OF TRENCH (FEET)	PAY-QUANTITIES OF CONCRETE ENCASMENT (CY)	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"C" PAYLINE WIDTH OF TRENCH (FEET)	PAY-QUANTITIES OF CONCRETE ENCASMENT (CY)
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	48	4.00	9.30	24 x 38	58	4.83	9.70
33	51	4.25	10.53	27 x 42	62	5.17	10.71
36	54	4.50	11.43	29 x 45	66	5.50	11.72
39	57	4.75	12.57	32 x 49	71	5.82	12.74
42	63	5.25	13.26	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.82	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	11.82	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	102 x 158	193	16.17	60.82
132	168	14.00	63.27	108 x 168	202	16.83	64.48
144	182	15.17	72.40	118 x 180	218	18.17	73.56

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

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. B.E.B. Ch. J.C.K. 2009 SHEET 1



ENGINEERS SEAL DOES NOT APPLY TO MSD OR NEENAH DETAILS

Automatic Drainage Gate

Automatic drainage gates are used in areas with a requirement to prevent back flow, such as storm and sanitary sewer systems.

STANDARD GATES: Furnished with vertical closure for maximum ease of operation.

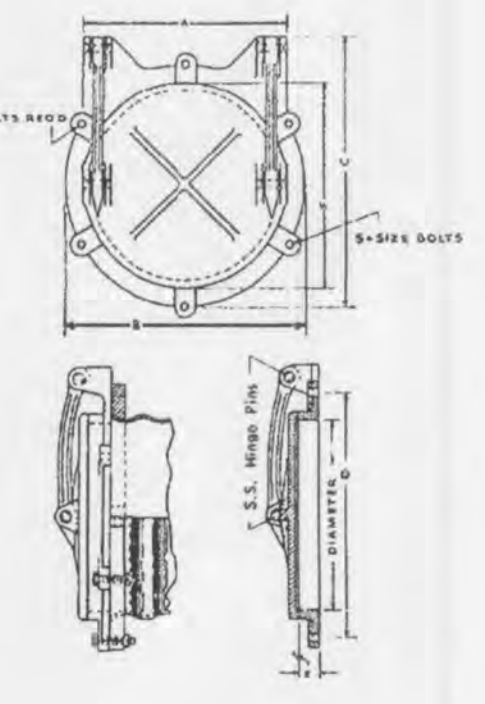
GENERAL INFORMATION: Gates are made of cast iron. All moving parts operate on stainless steel hinge pins. The cover is hung with cast iron arms (Ductile iron arms on larger sizes) located at the outer edges near the center of gravity to ensure sensitive operation. For improved seating, order with neoprene seat at extra cost.

Aluminum covers can be furnished for special requirements, if specified. Also available on special order at extra cost are neoprene or solid bronze seat mounts and bronze bushed hinges.

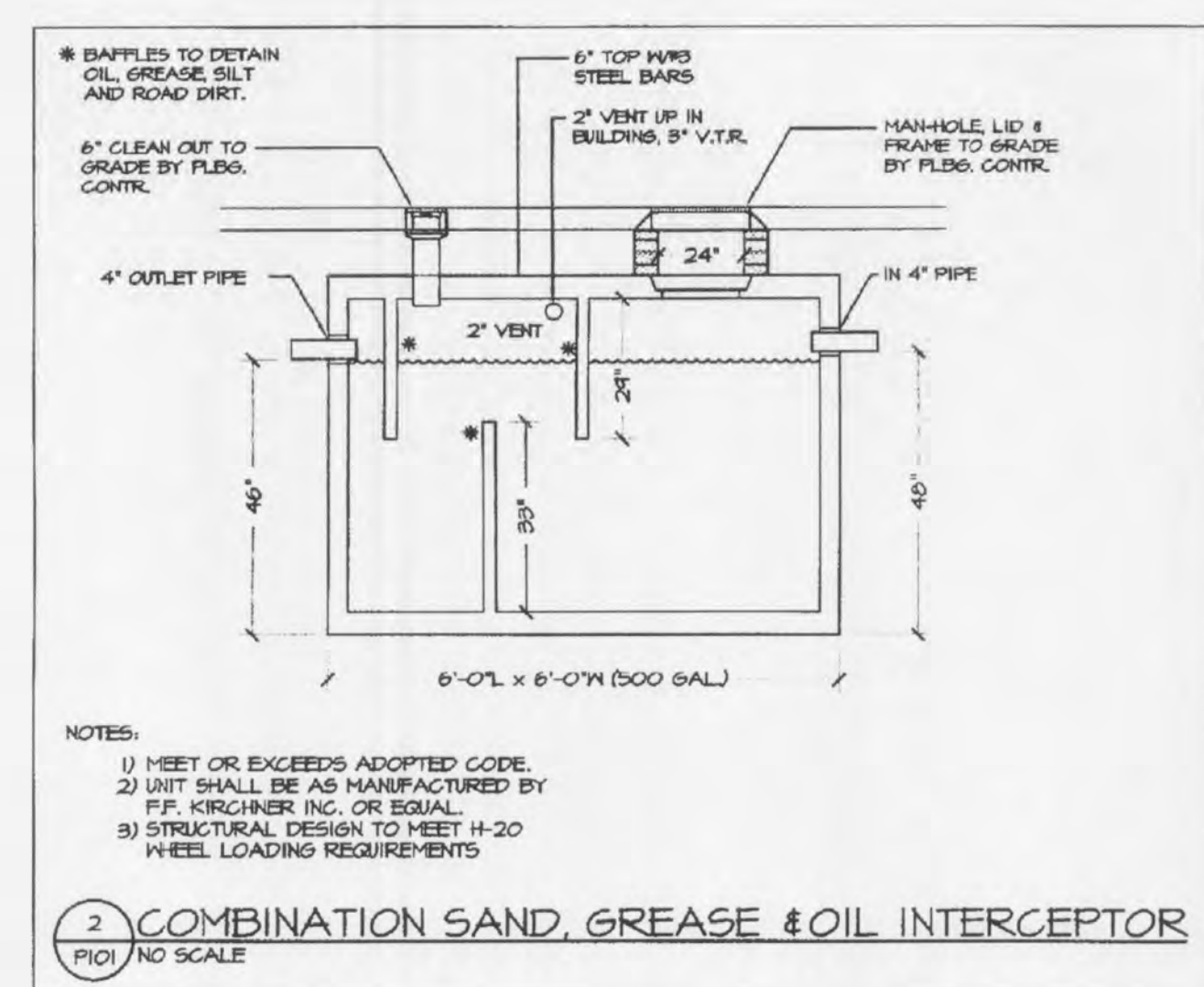
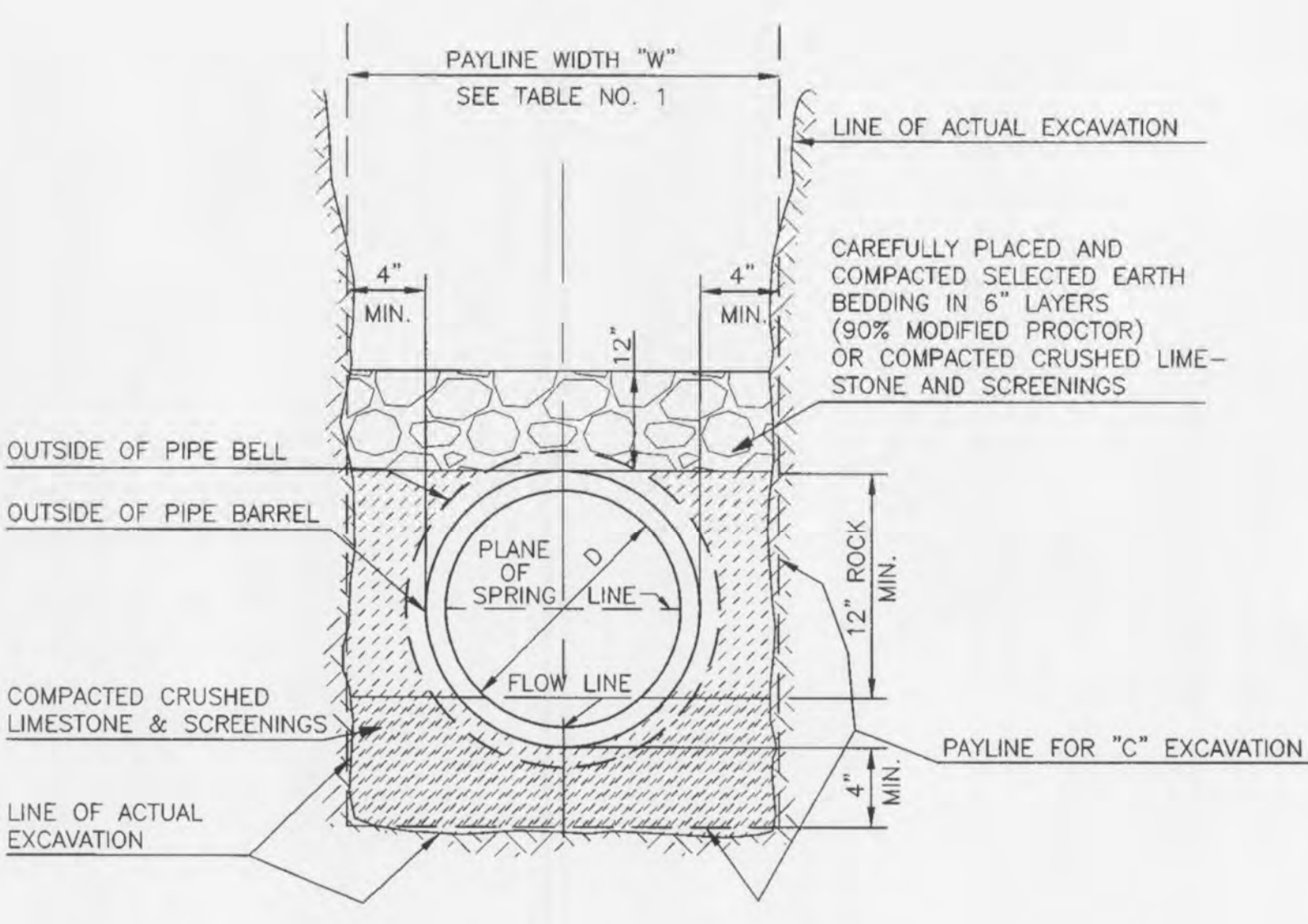
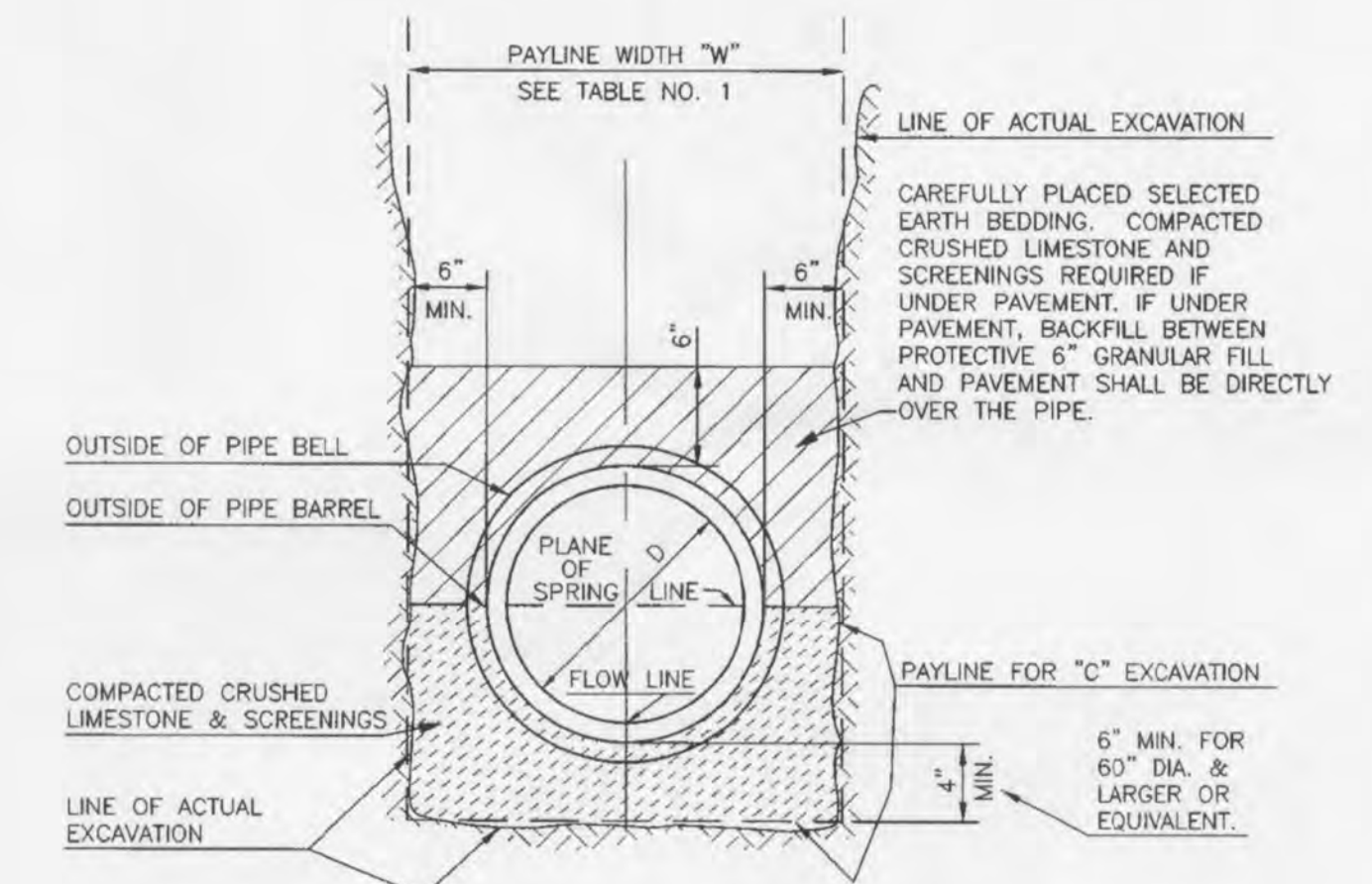
For applications with extreme head pressure contact Neenah's Product Engineering Department.

Maximum head loss occurs when pipe is flowing full. Consider the head loss to be one-half the pipe diameter.

These flap gates are self-draining when no up-stream flow exists and no head is on the downstream side.



Catalog No. Type SF	Catalog No. Type CF	Catalog No. Type FF	Dimensions in inches									
			Diameter	A	B	C	D	E	F	N	S	
R-5050-SF6	R-5050-CF6	R-5050-FF6	6	7	11	13	11	3/4	7	four	5/8	
R-5050-SF8	R-5050-CF8	R-5050-FF8	8	9 1/4	11	13	11	1 1/8	9 1/4	four	5/8	
R-5050-SF10	R-5050-CF10	R-5050-FF10	10	11 1/4	13 1/2	15 1/5	13 1/2	1 1/8	11 1/4	four	5/8	
R-5050-SF12	R-5050-CF12	R-5050-FF12	12	13 1/4	15 7/8	18	15 3/4	1 1/8	13 1/4	four	5/8	
R-5050-SF15	R-5050-CF15		15	16 1/4	19	21	18 3/4	1 1/8	16 1/4	four	5/8	
R-5050-SF18	R-5050-CF18	R-5050-FF18	18	19 1/4	22 1/8	24 1/4	22 1/8	1 1/4	19 1/4	four	3/4	
R-5050-SF20	R-5050-CF20	R-5050-FF20	20	22 1/4	25 1/8	27 1/4	25 1/8	1 1/4	22 1/4	four	3/4	
R-5050-SF21	R-5050-CF21		21	22 1/4	25 1/8	27 1/4	25 1/8	1 1/4	22 1/4	four	3/4	
R-5050-SF24	R-5050-CF24	R-5050-FF24	24	25 1/4	28 1/4	30 1/4	28 1/4	1 1/4	25 1/4	six	3/4	
R-5050-SF27			27	28 1/4	31 1/4	33 1/4	31 1/4	1 1/4	28 1/4	six	3/4	
R-5050-SF30	R-5050-CF30		30	31 1/4	34 1/4	36 1/2	34 1/4	1 1/4	31 1/4	six	3/4	
R-5050-SF38	R-5050-CF38		38	37 1/2	41 1/2	43 1/2	41 1/2	1 3/8	37 1/2	six	3/8	
R-5050-SF42	R-5050-CF42		42	43 1/2	47 1/2	49 1/2	47 1/2	1 3/8	43 1/2	six	3/8	
R-5050-SF48	R-5050-CF48		48	49 1/2	54	56 1/2	54	1 1/2	49 1/2	six	1	



PROJECT TITLE:
SCHAEFER AUTO BODY CENTER

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-628-6562
FAX 636-628-1718

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LARRY DAVID WALKER
Professional Engineer
Civil Engineer
2007020343
2013

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REVISIONS

05/22/13	LARGER BUILDING
06/17/13	CITY COMMENTS

Developer / Owner:
STEVE SCHAEFER
1 TEAM DRIVE
O'FALLON, MO 63366

P+Z No.
#98-125.05.01
APPROVED MAY 02, 2013
City No. #

Page No.
10 of 10

REFERENCE DETAILS

217