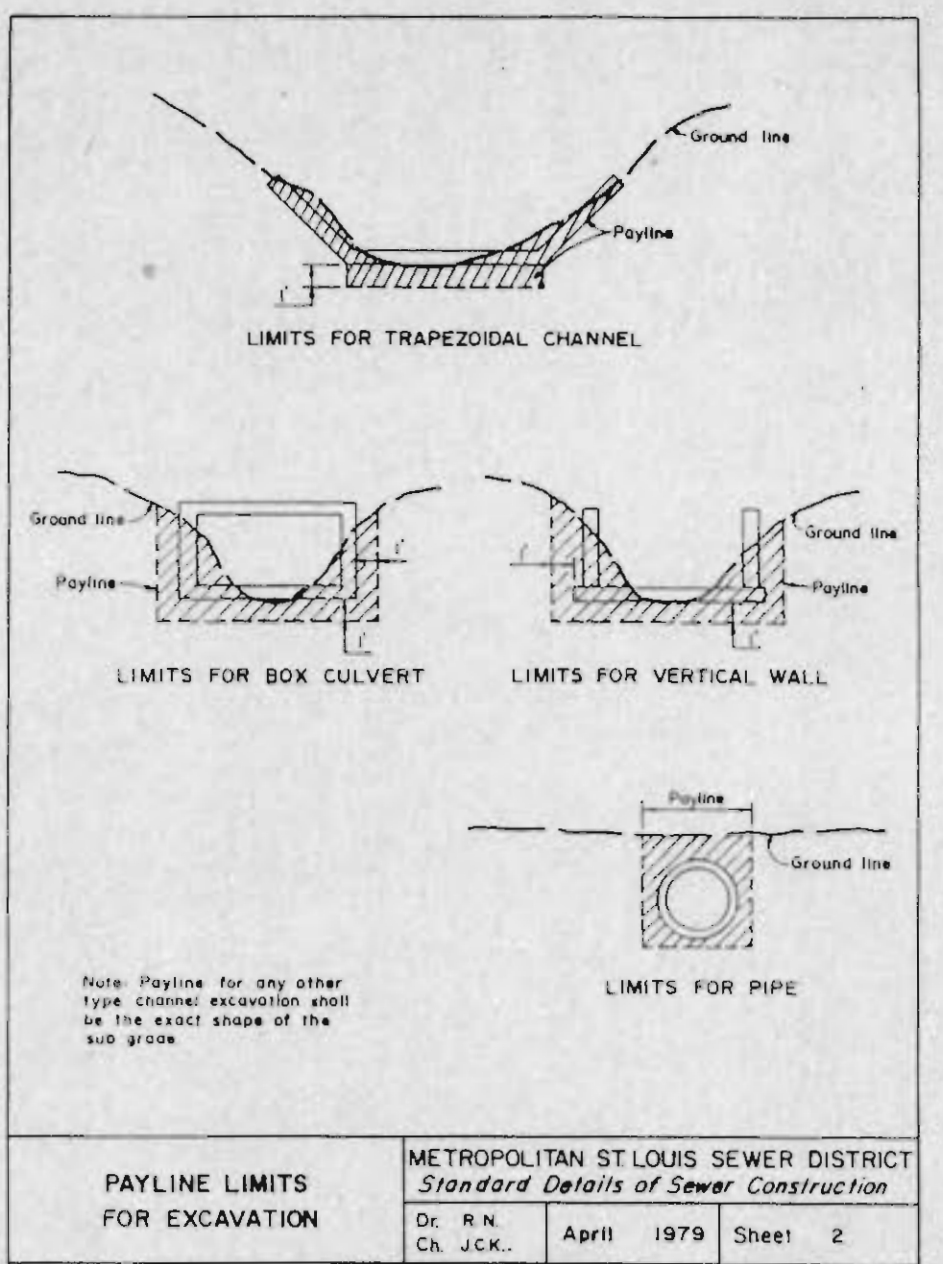
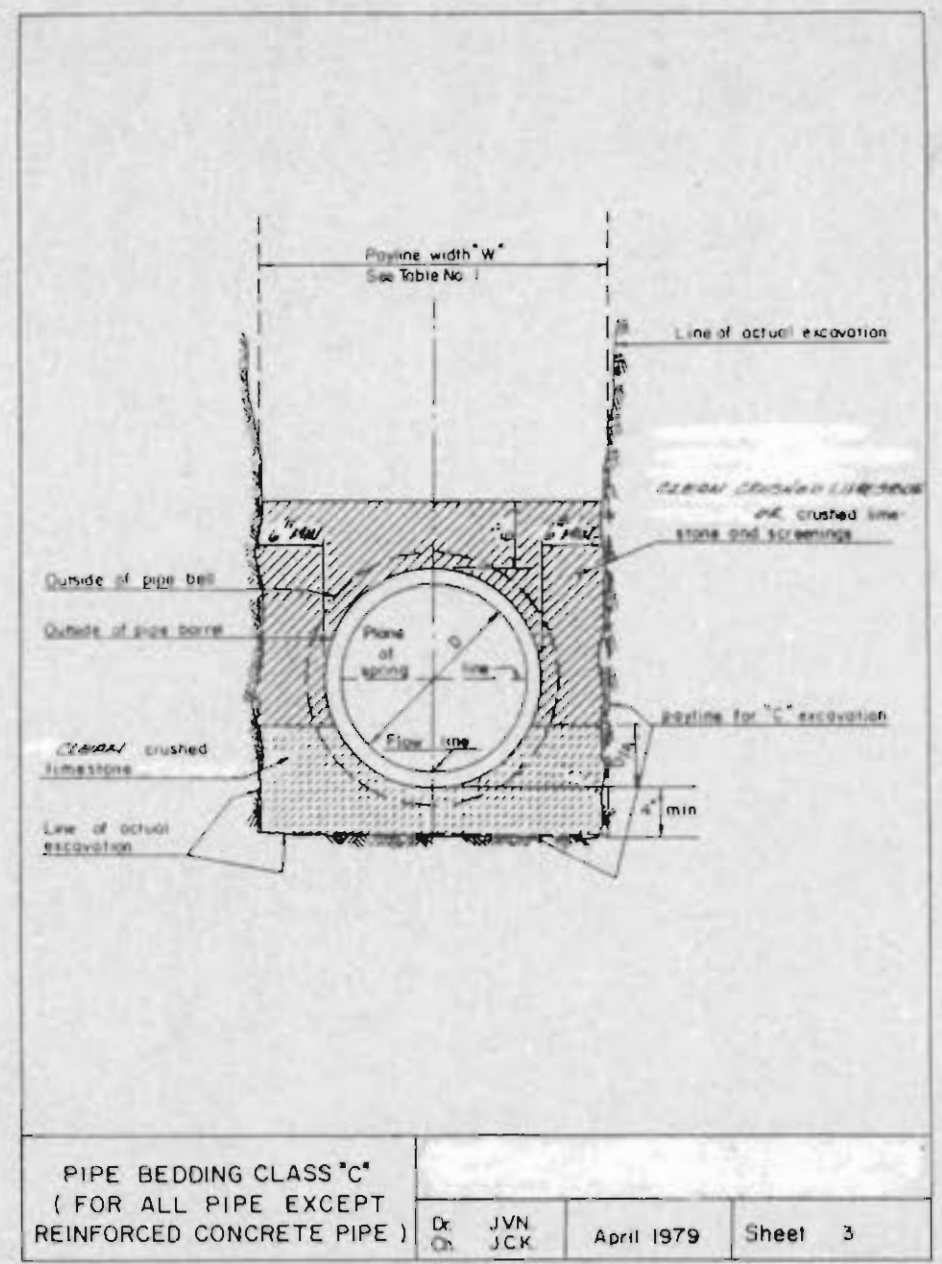


ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
Inside Diameter of Pipe (Inches)	"w" Payline Width of Trench (Inches)	"w" Payline Width of Trench (Feet)	Pay-volume (cu ft per ft) Concrete Encasement	Inside Dimensions of Pipe (Inches)	"w" Payline Width of Trench (Inches)	"w" Payline Width of Trench (Feet)	Pay-volume (cu ft per ft) Concrete Encasement
4	20	2.33	3.20				
6	28	2.33	3.46				
8	28	2.33	3.70				
10	28	2.33	3.86				
12	28	2.33	3.98				
15	32	2.67	4.89				
18	35	2.92	5.63	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	8.81
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	DISCONTINUED						
42	63	5.25	13.38	34 x 53	75	6.25	14.05
45	70	5.83	15.67	36 x 60	83	6.92	16.16
54	77	6.02	18.15	43 x 68	92	7.57	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.53
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	11.23	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	40.89
102	133	11.08	42.99	82 x 128	160	13.33	44.85
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	182	15.17	72.40	116 x 180	218	18.17	73.59

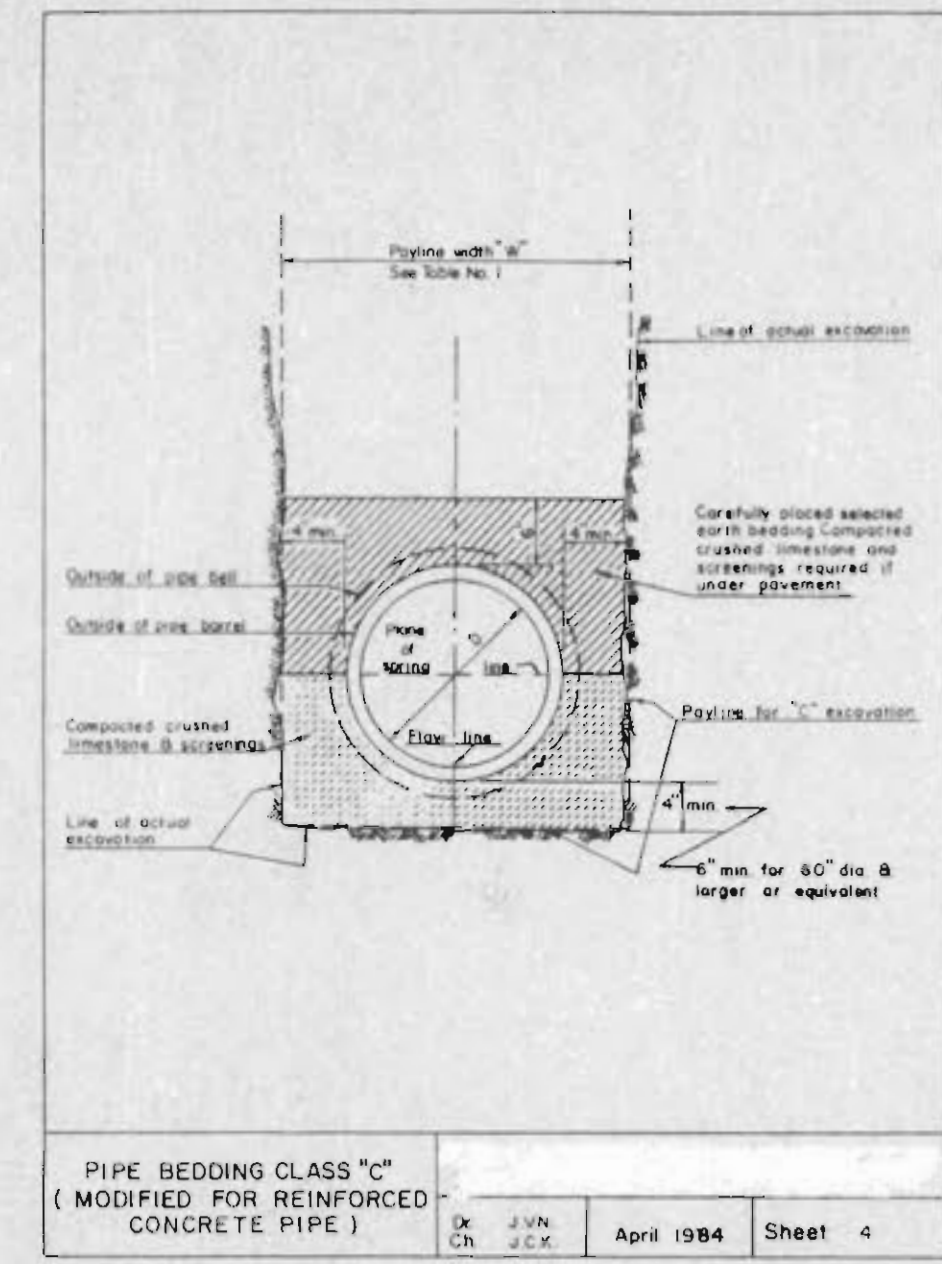
TABLE NO. 1
PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. R.N. Ch. J.C.K. April 1979 Sheet 1



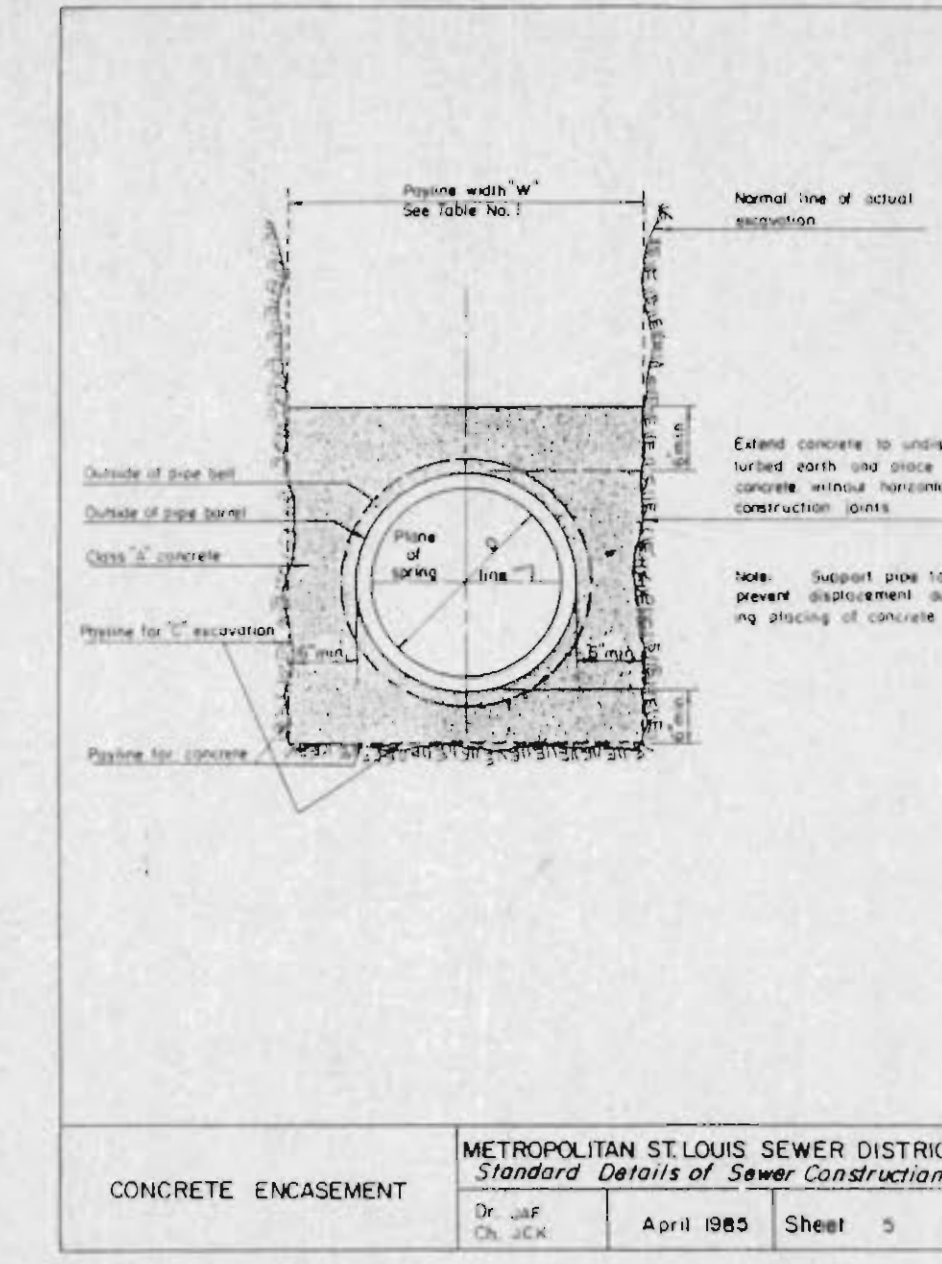
PAYLINE LIMITS FOR EXCAVATION
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. R.N. Ch. J.C.K. April 1979 Sheet 2



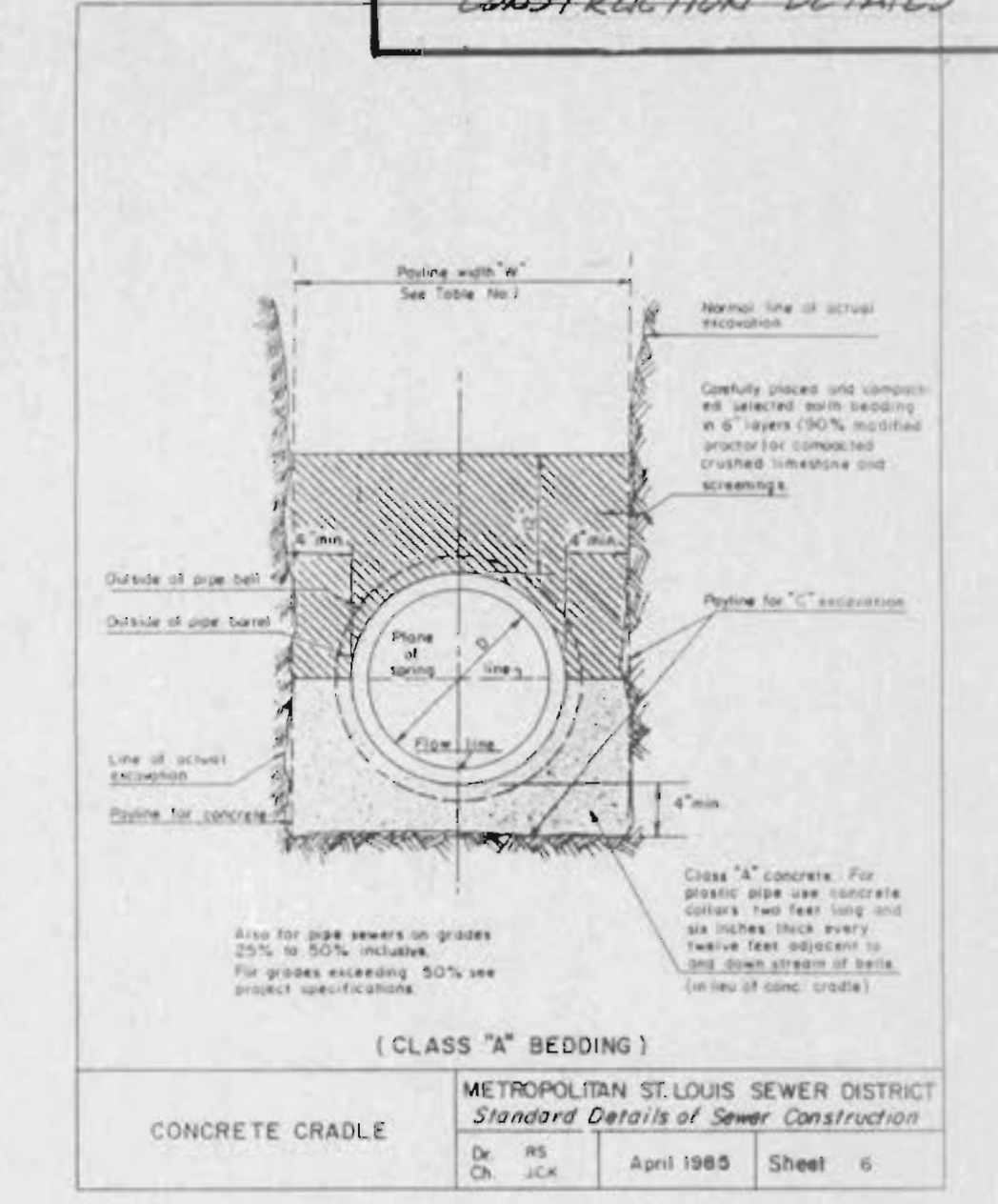
PIPE BEDDING CLASS "C" (FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)
Dr. J.V.N. Ch. J.C.K. April 1979 Sheet 3



PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)
Dr. J.V.N. Ch. J.C.K. April 1984 Sheet 4



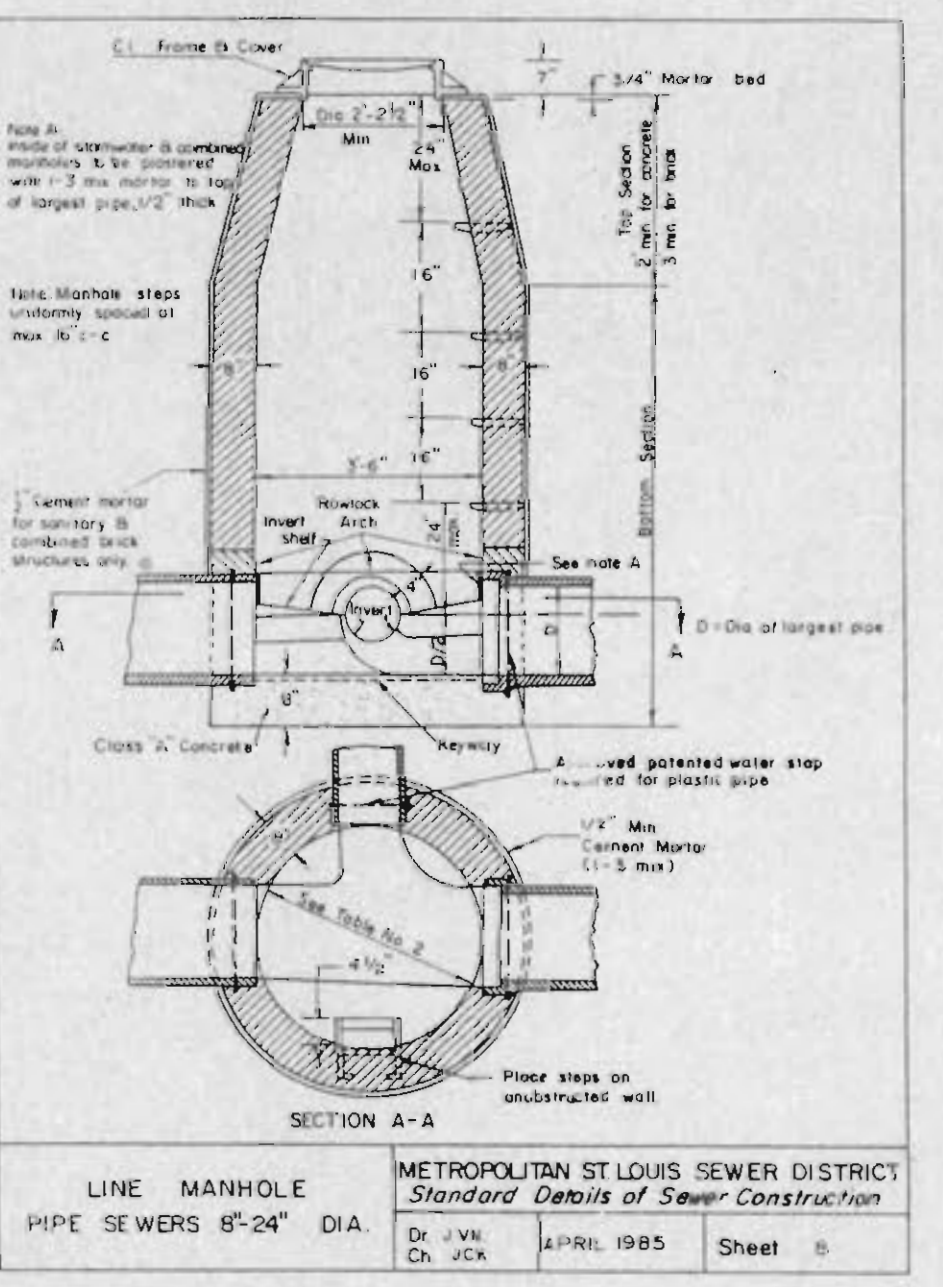
CONCRETE ENCASUREMENT
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 5



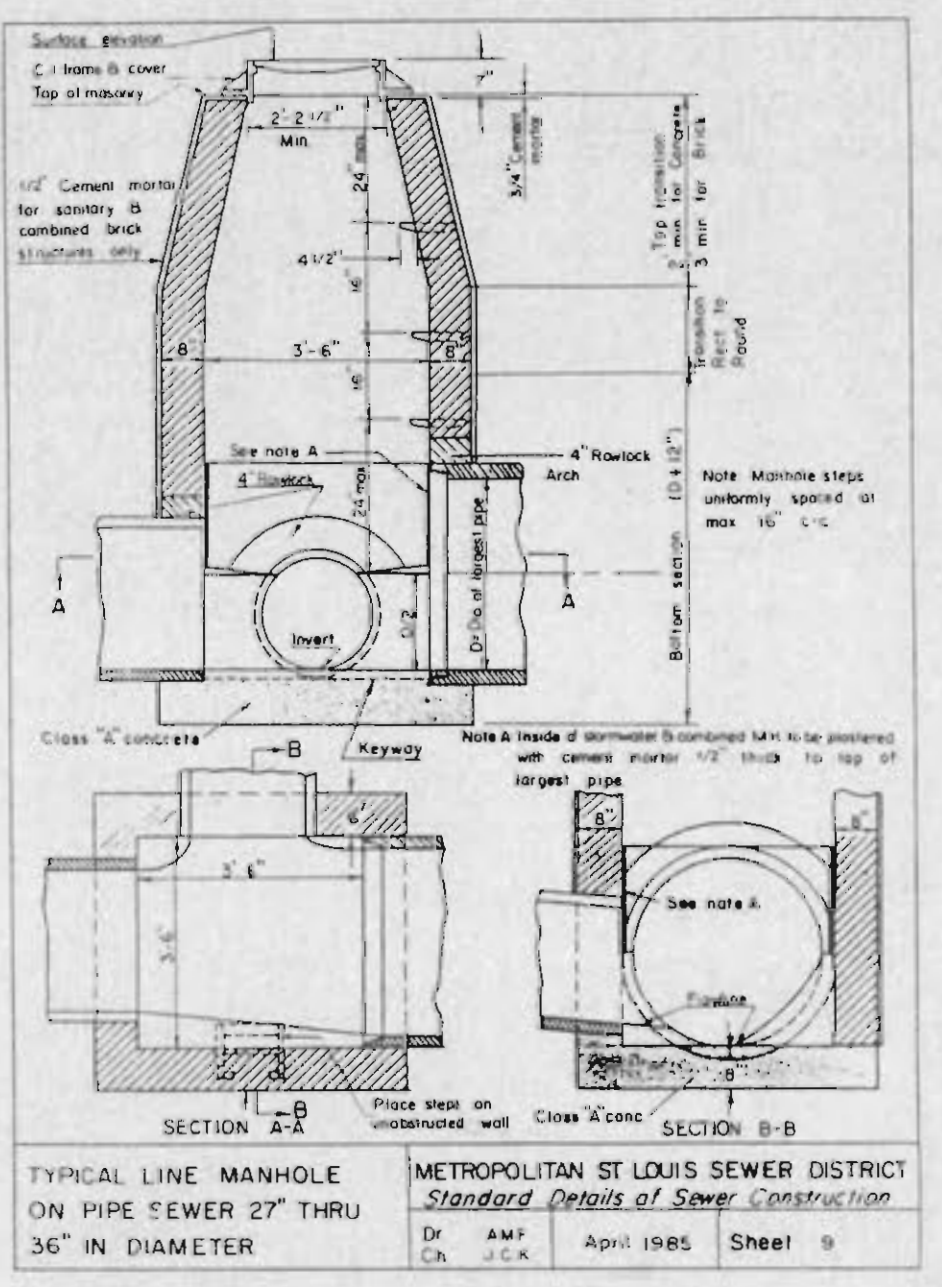
CONCRETE CRADLE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 6

Section of Manhole	Manhole	Dimension
Top	Upper	2'-2 1/2" Dia.
Transition	Lower	3'-6" Dia.
Bottom Section	8" thru 24" Dia. Pipe	3'-6" Dia.
Bottom Section	27" thru 36" Dia. Pipe	3'-6" Square

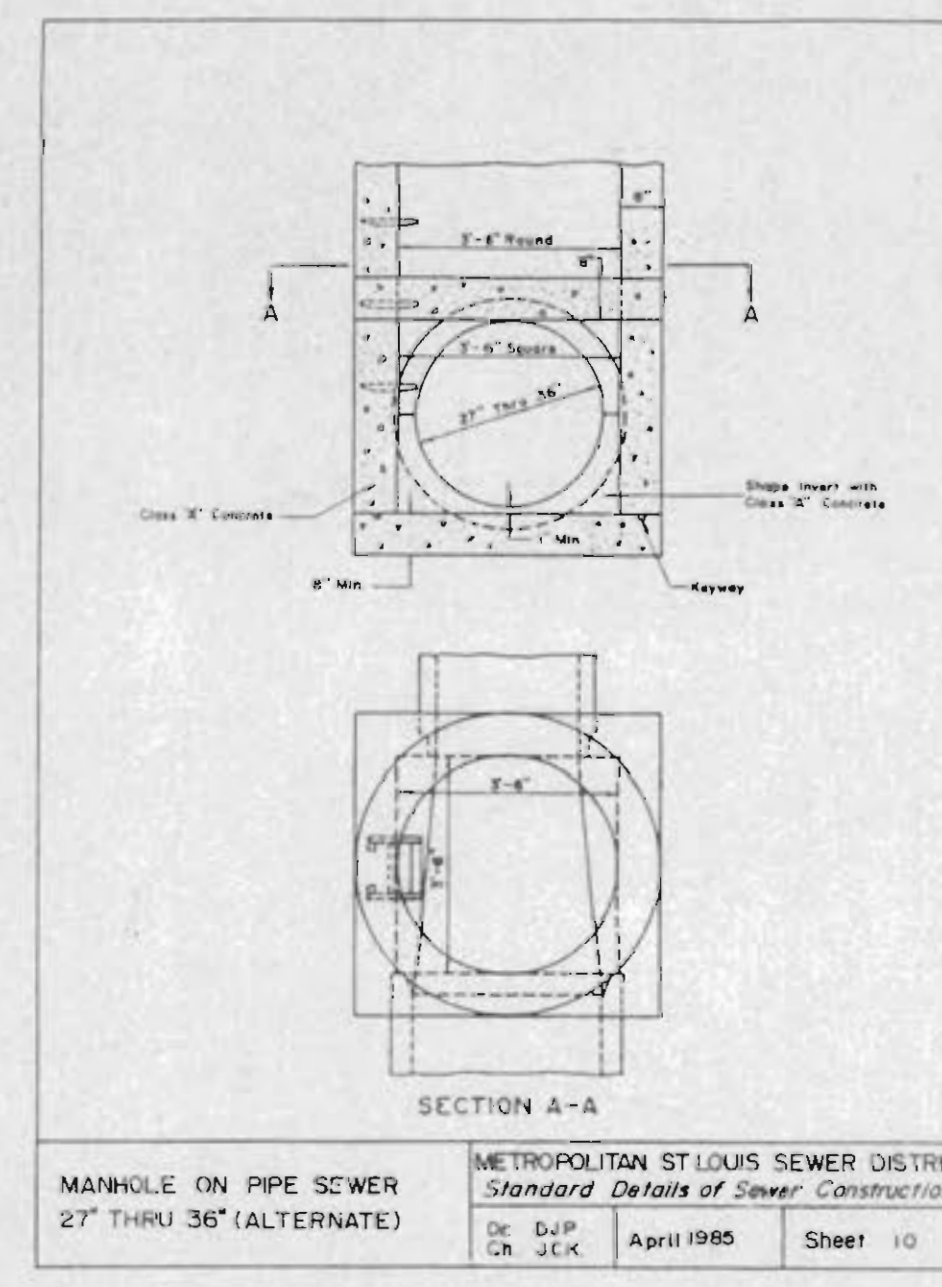
TABLE NO. 2
STANDARD MANHOLE DIMENSIONS
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1973 Sheet 7



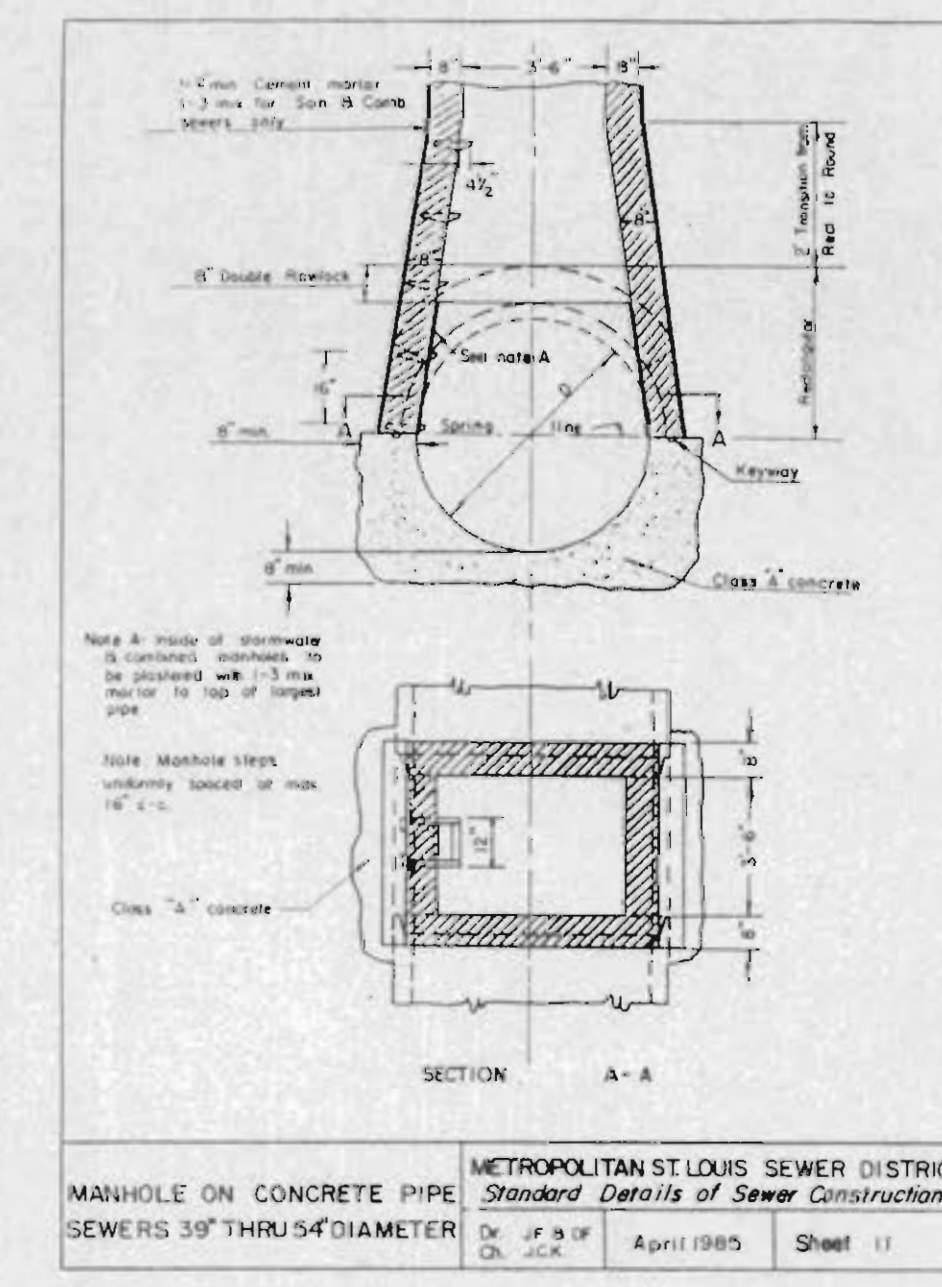
LINE MANHOLE
PIPE SEWERS 8"-24" DIA.
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 8



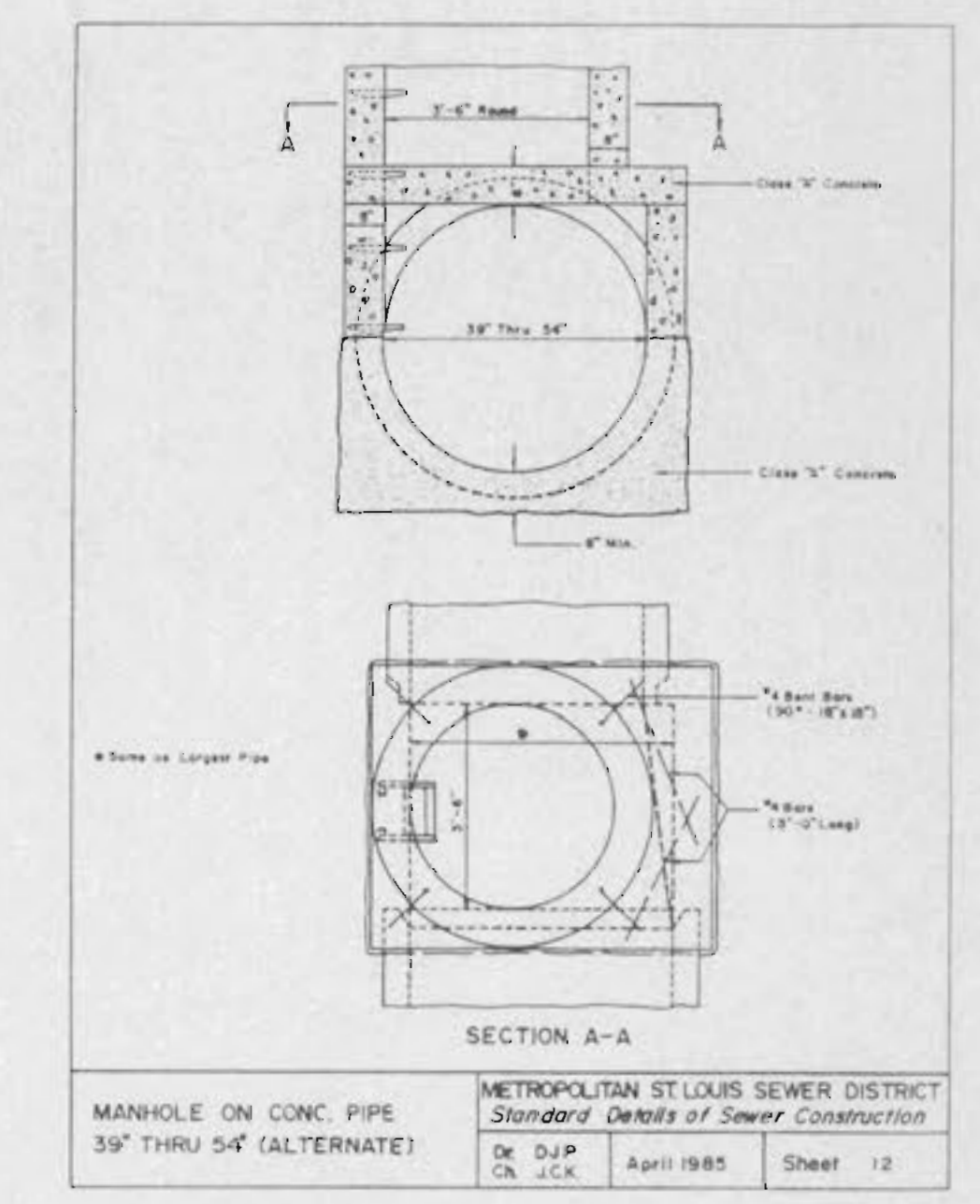
TYPICAL LINE MANHOLE
ON PIPE SEWER 27" THRU 36" IN DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 9



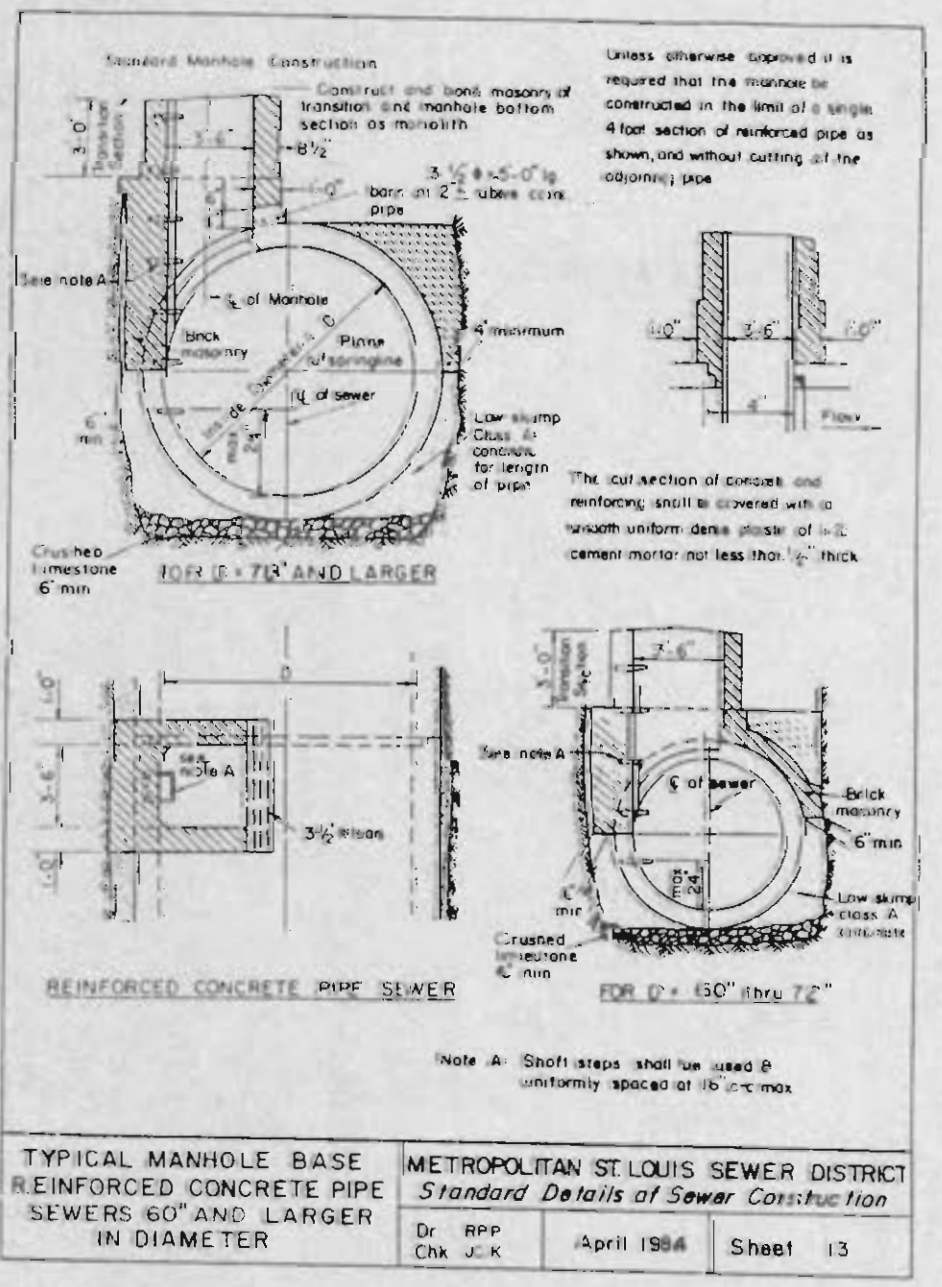
MANHOLE ON PIPE SEWER
27 THRU 36" (ALTERNATE)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 10



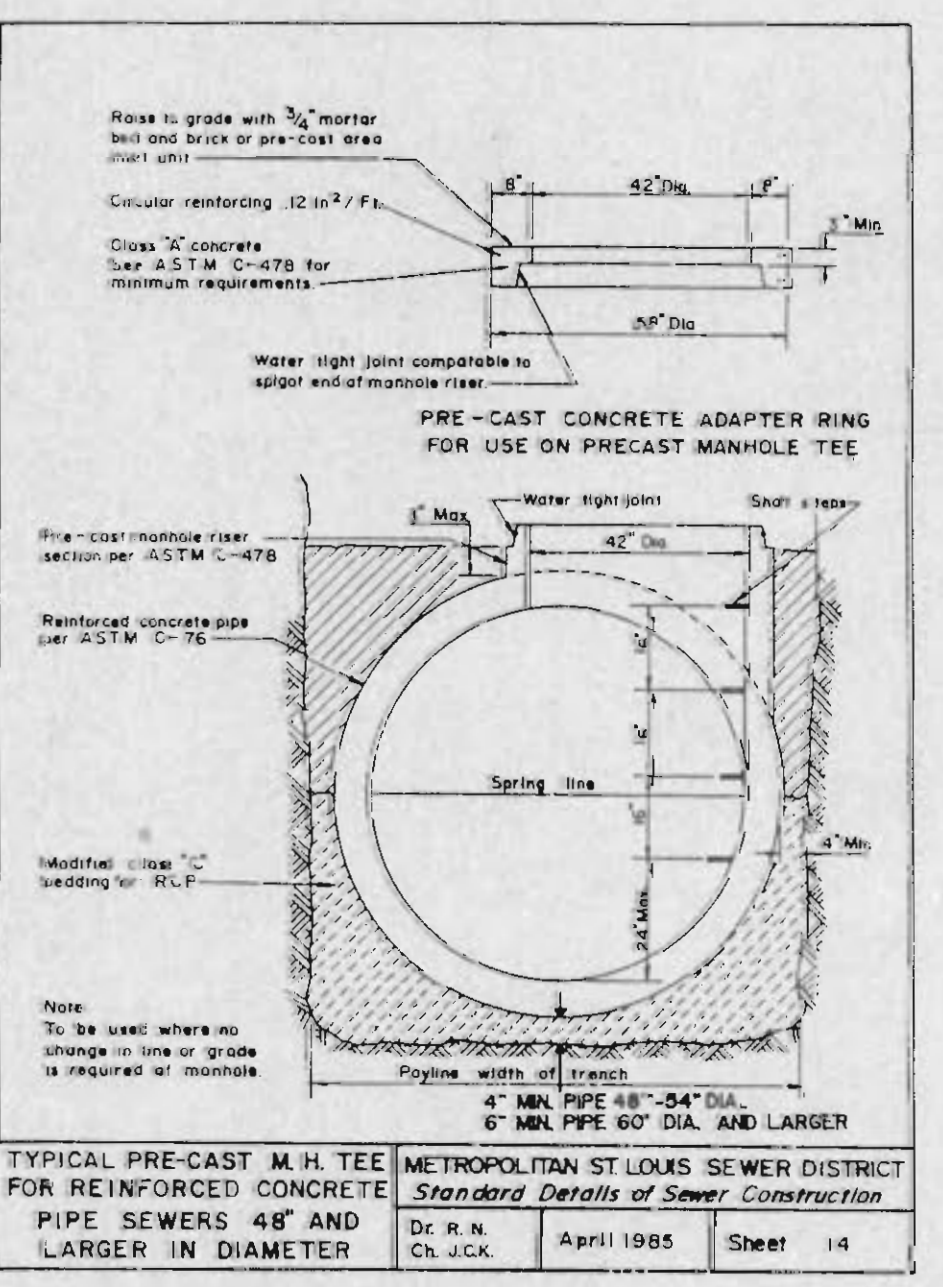
MANHOLE ON CONCRETE PIPE
SEWERS 39" THRU 54" DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 11



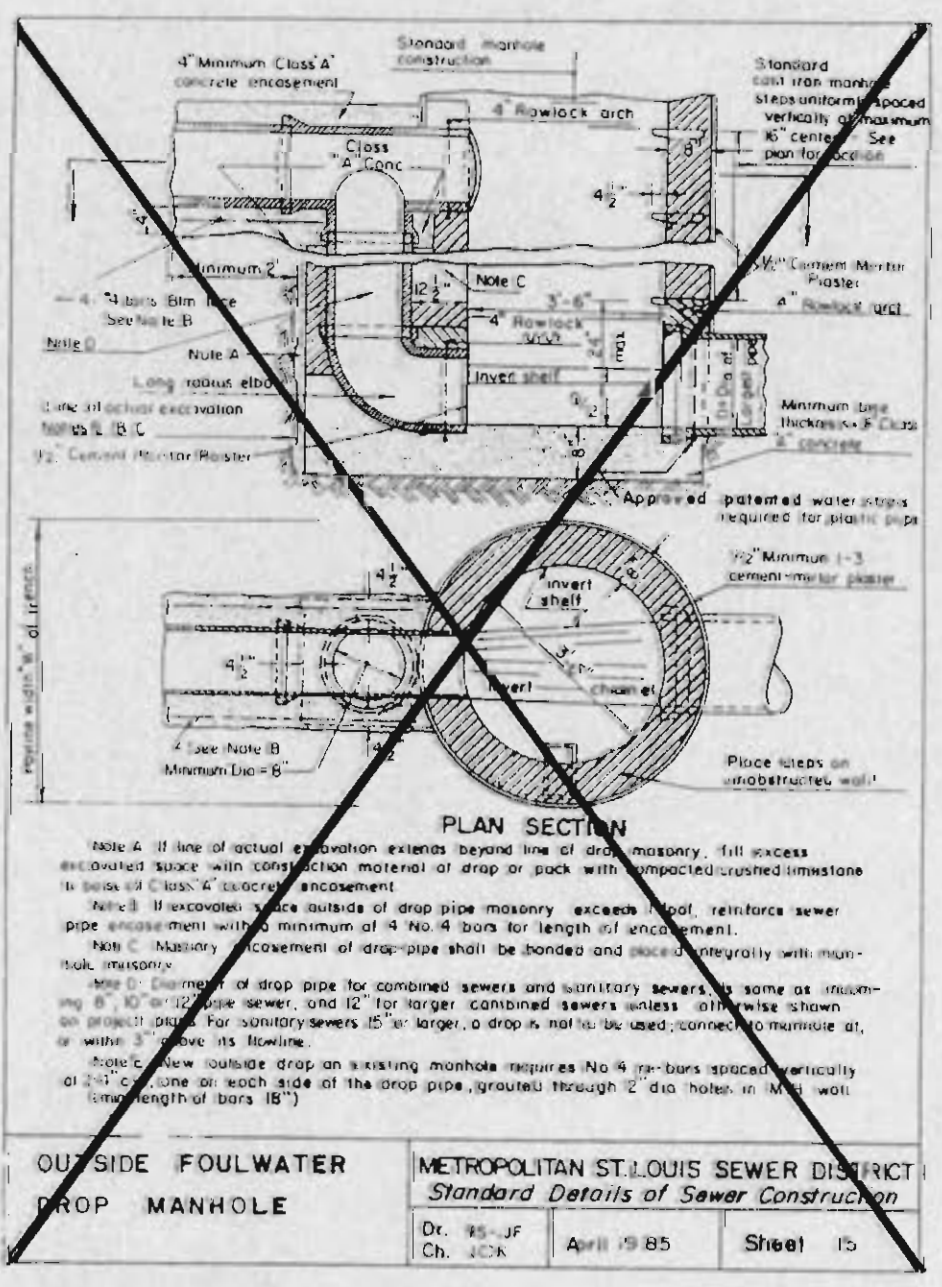
MANHOLE ON CONC. PIPE
39" THRU 54" (ALTERNATE)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 12



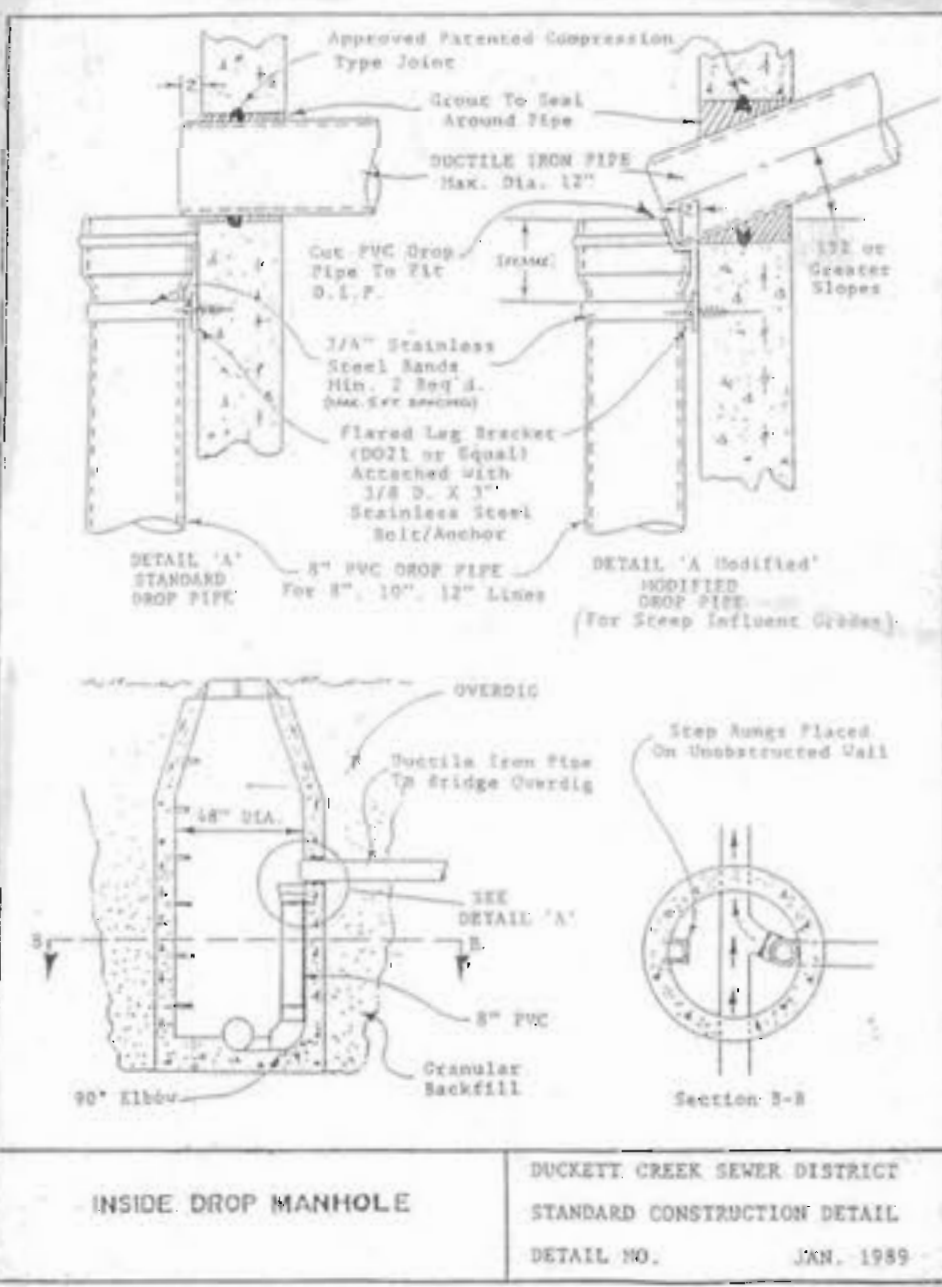
TYPICAL MANHOLE BASE FOR REINFORCED CONCRETE PIPE SEWERS 60" AND LARGER IN DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1984 Sheet 13



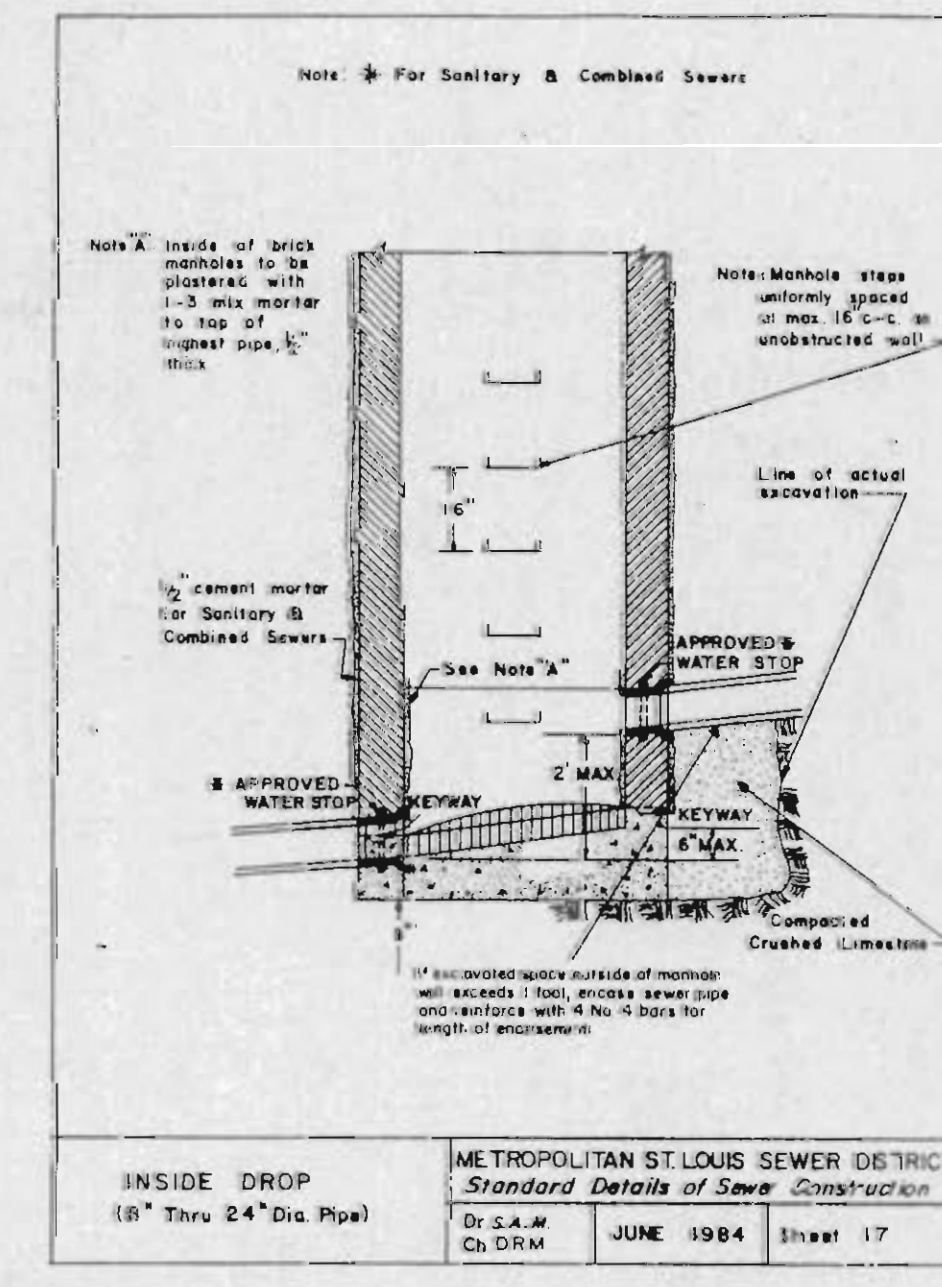
TYPICAL PRE-CAST M.H. TEE FOR REINFORCED CONCRETE PIPE SEWERS 48" AND LARGER IN DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 14



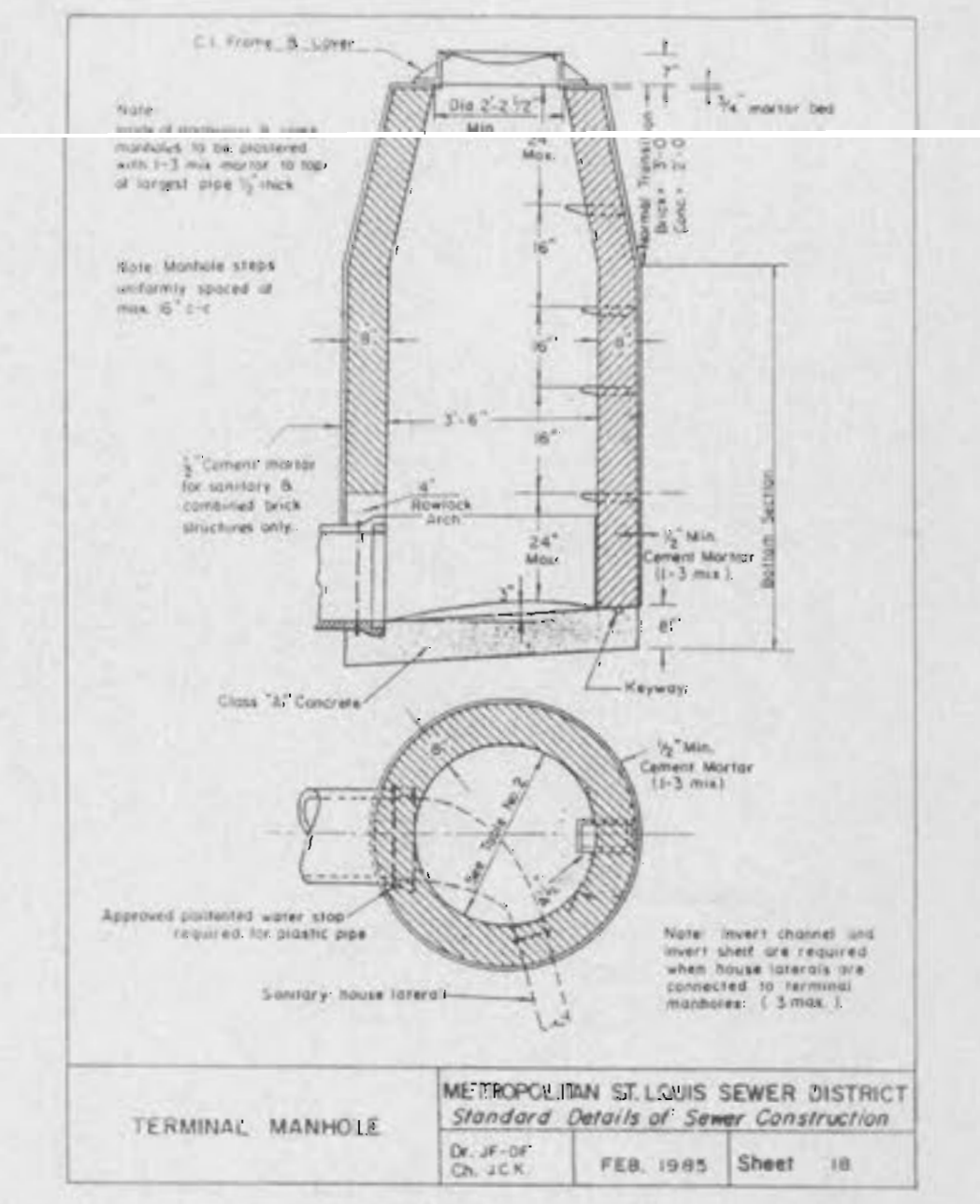
OUTSIDE FOULWATER DROP MANHOLE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. April 1985 Sheet 15



INSIDE DROP MANHOLE
BUCKETT CREEK SEWER DISTRICT
STANDARD CONSTRUCTION DETAIL
DETAIL NO. JUN. 1989



INSIDE DROP (8" Thru 24" Dia. Pipe)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. JUNE 1984 Sheet 17



TERMINAL MANHOLE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. J.V.N. Ch. J.C.K. FEB. 1985 Sheet 18