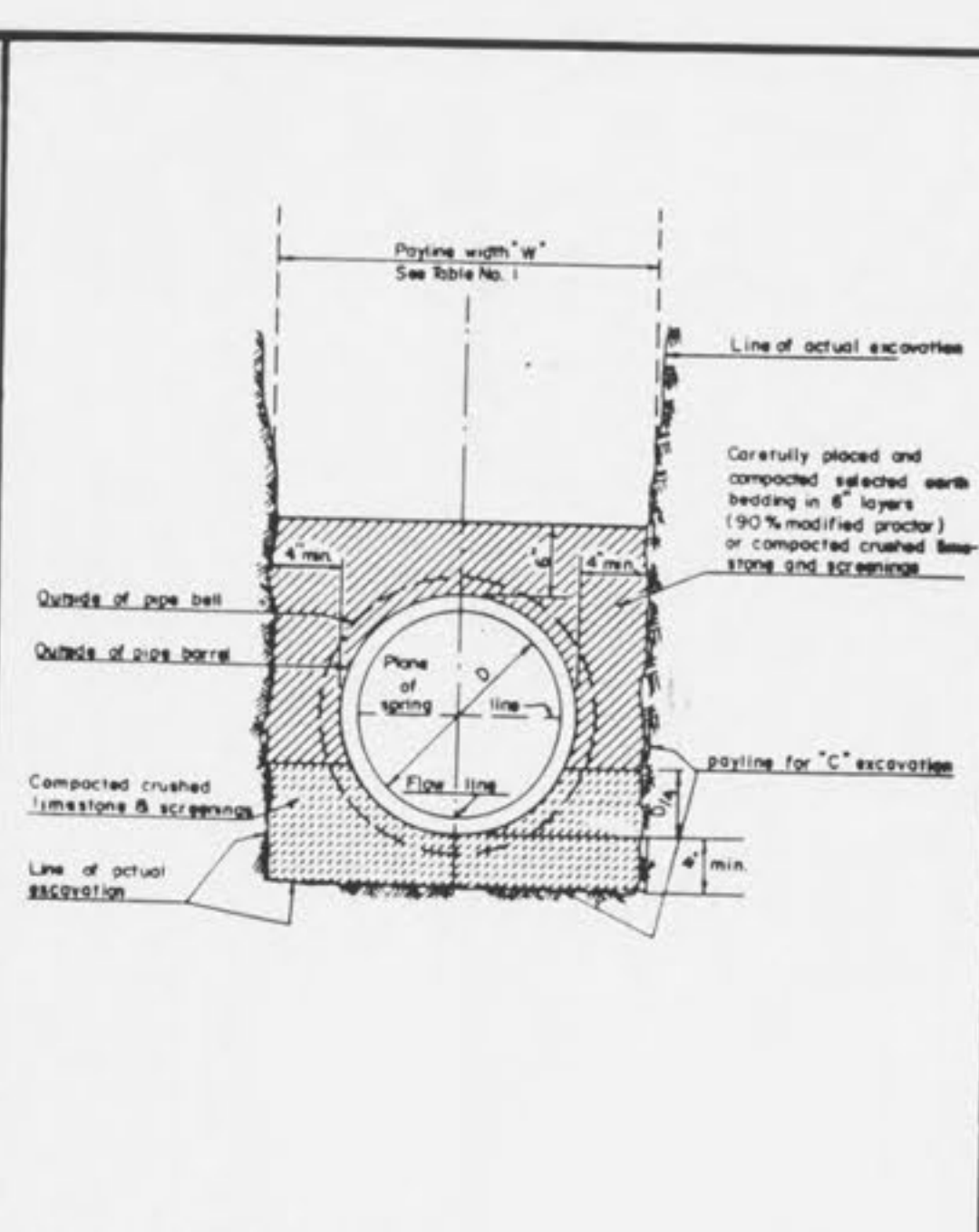
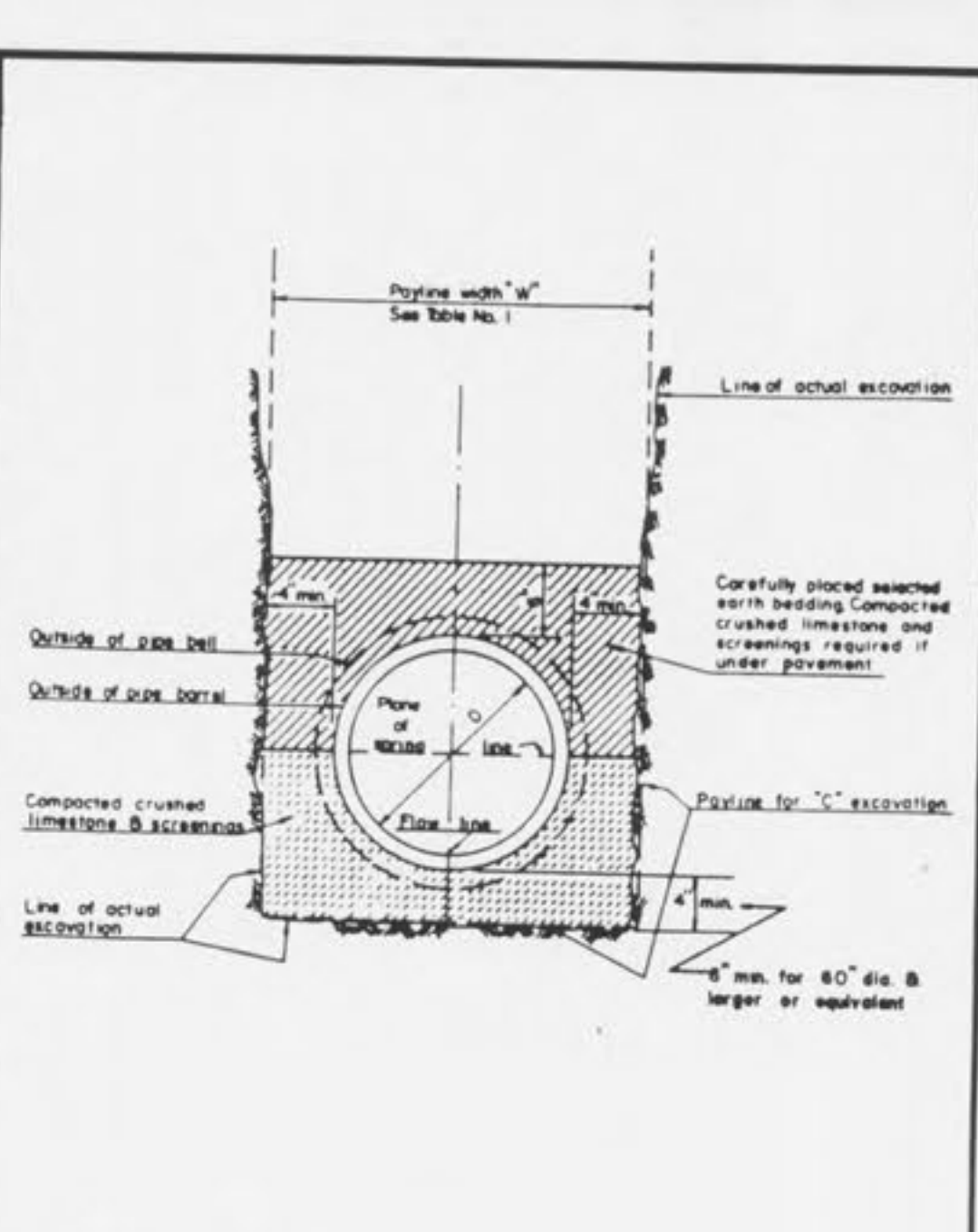


ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE							
Inside Diameter of Pipe (Inches)	"w" Payline Width of Trench (Feet)	"w" Payline Width of Trench (Feet)	Pay-volume cu ft per ft of Concrete Encasement	Inside Dimension of Pipe (Inches)	"w" Payline Width of Trench (Feet)	"w" Payline Width of Trench (Feet)	Pay-volume cu ft per ft of Concrete Encasement				
4	28	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	8.61				
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	DISCONTINUED							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	15.87	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 76	101	8.42	21.58				
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	40.88				
102	133	11.08	42.99	82 x 128	160	13.33	44.40				
108	140	11.67	46.75	87 x 136	168	14.00	47.78				
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	118 x 180	218	18.17	73.58				

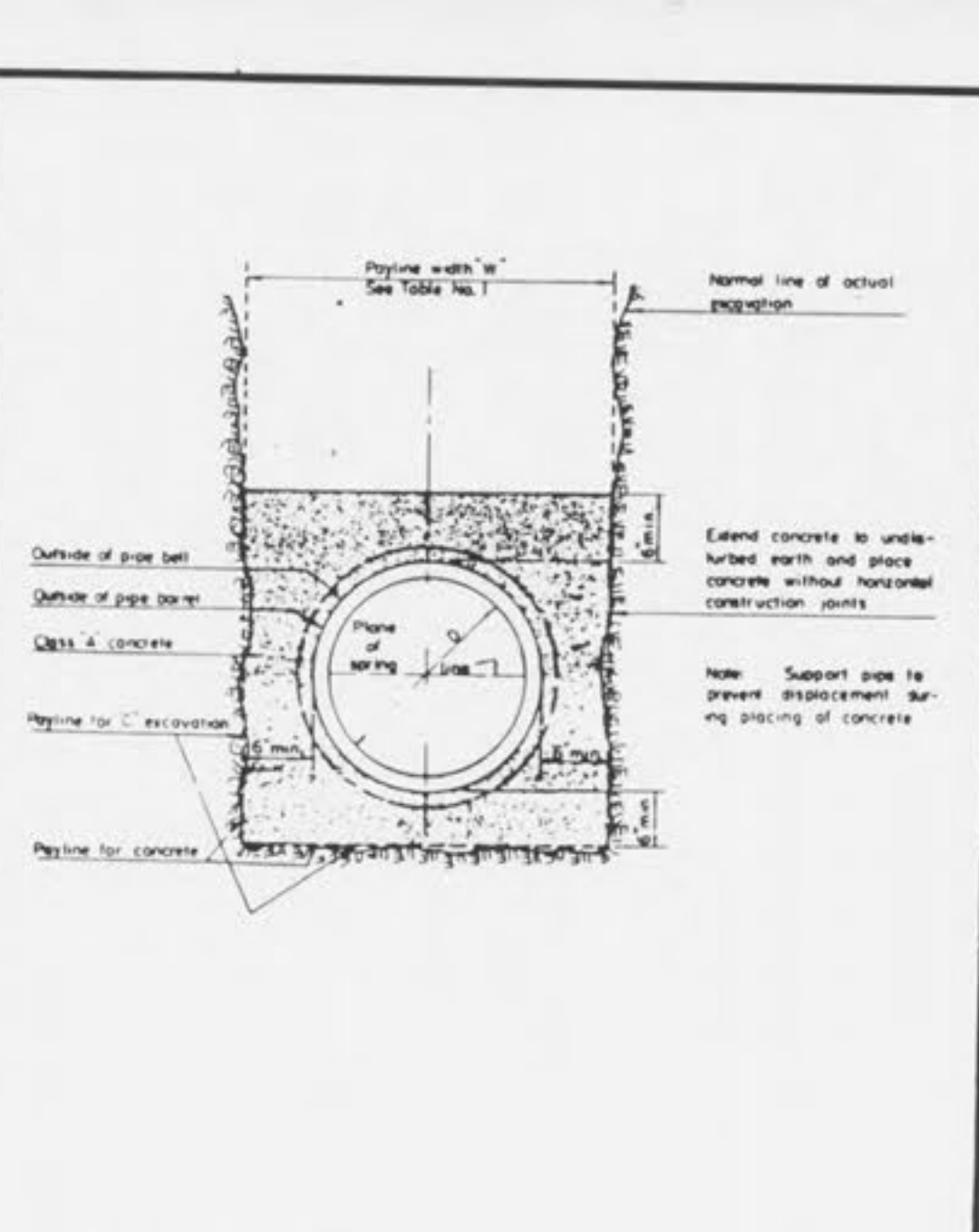
TABLE NO. 1
PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE



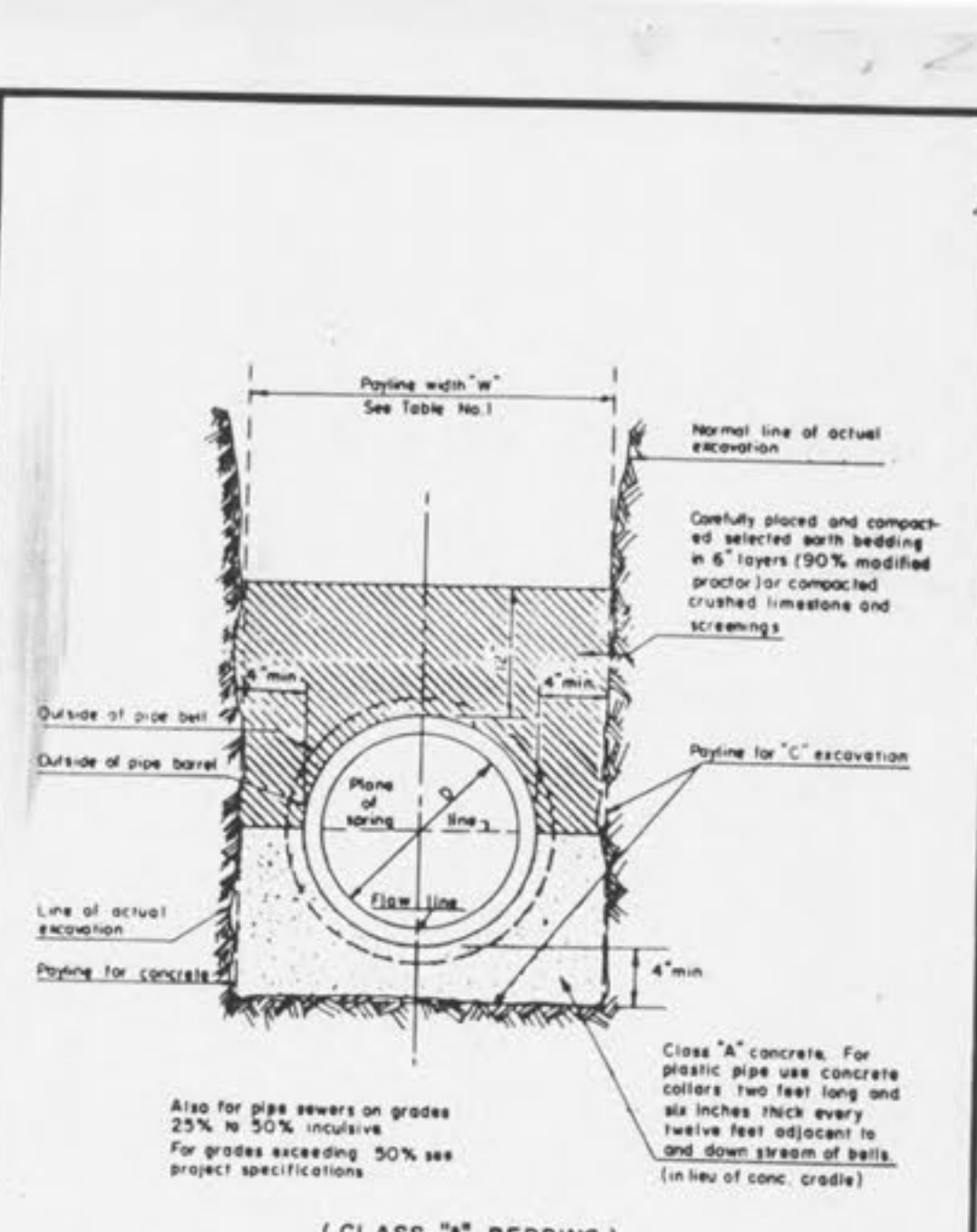
PIPE BEDDING CLASS "C" (FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)



PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)



CONCRETE ENCASEMENT

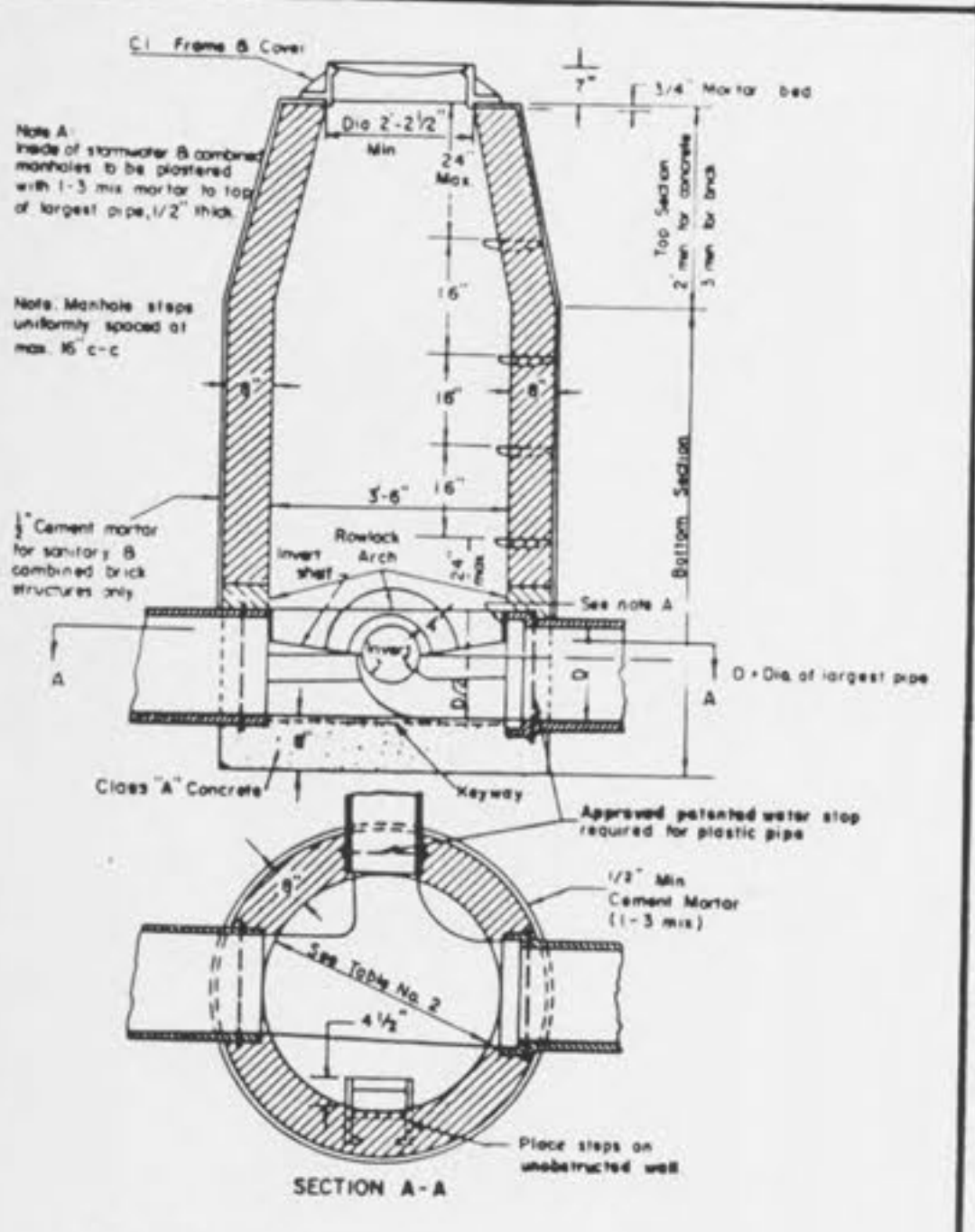


CONCRETE CRADLE (CLASS "A" BEDDING)

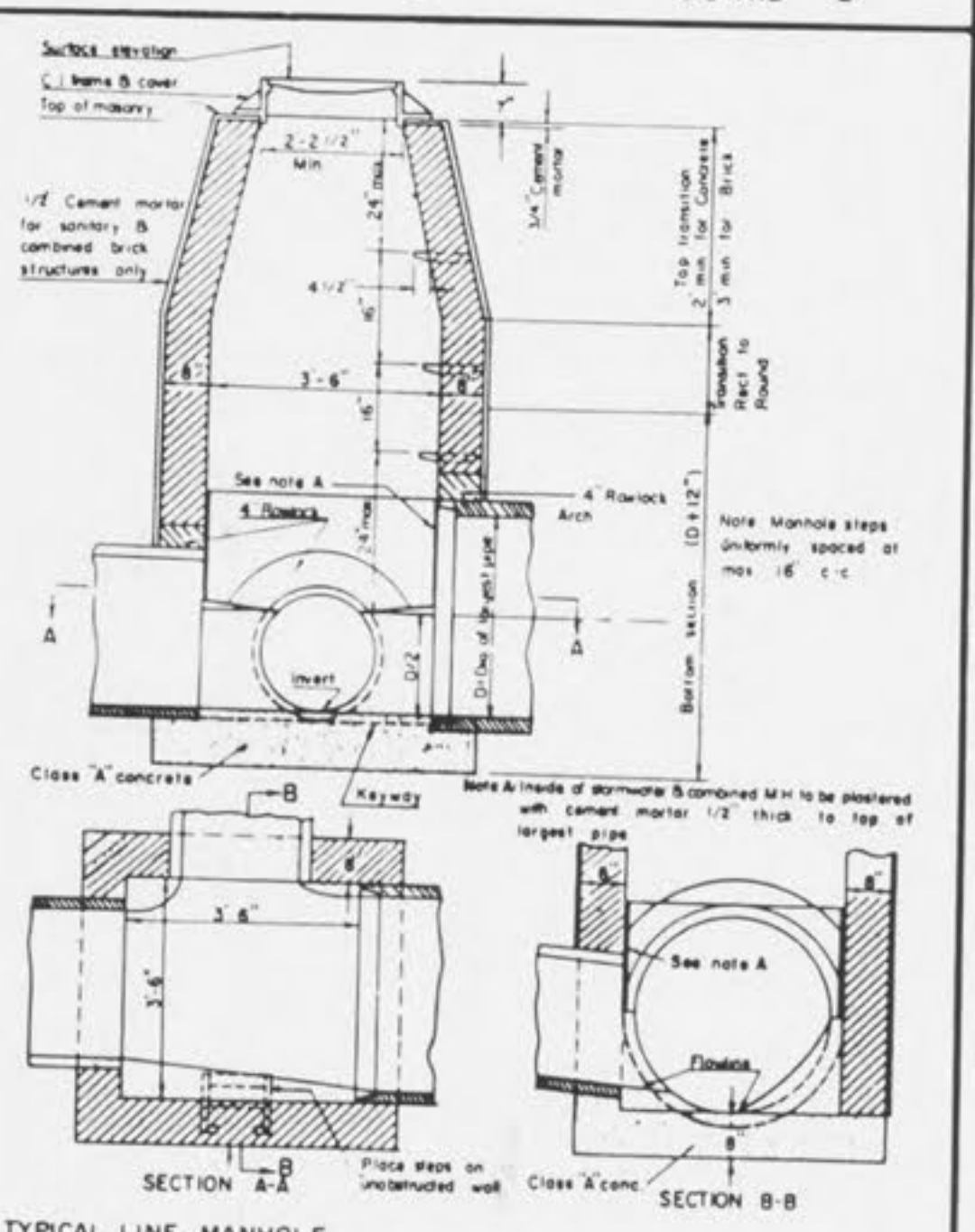
HIGHGROVE PLACE (NORTH PORTION)
CONSTRUCTION DETAILS
REV. 7-16-96 CITY COMMENTS
REV. 8-20-96 CITY COMMENTS
Job No. 95-157

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

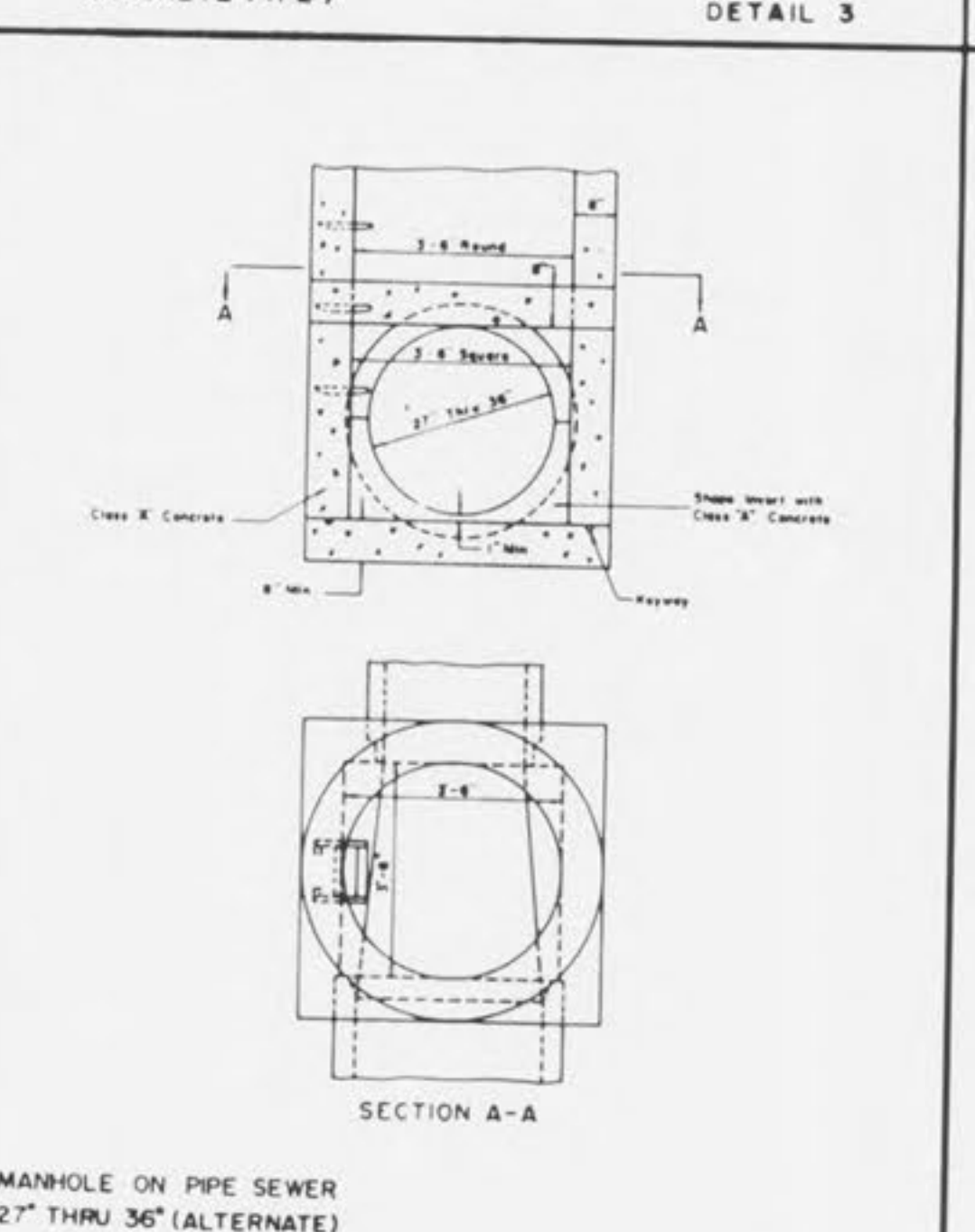
TABLE NO. 2
STANDARD MANHOLE DIMENSIONS



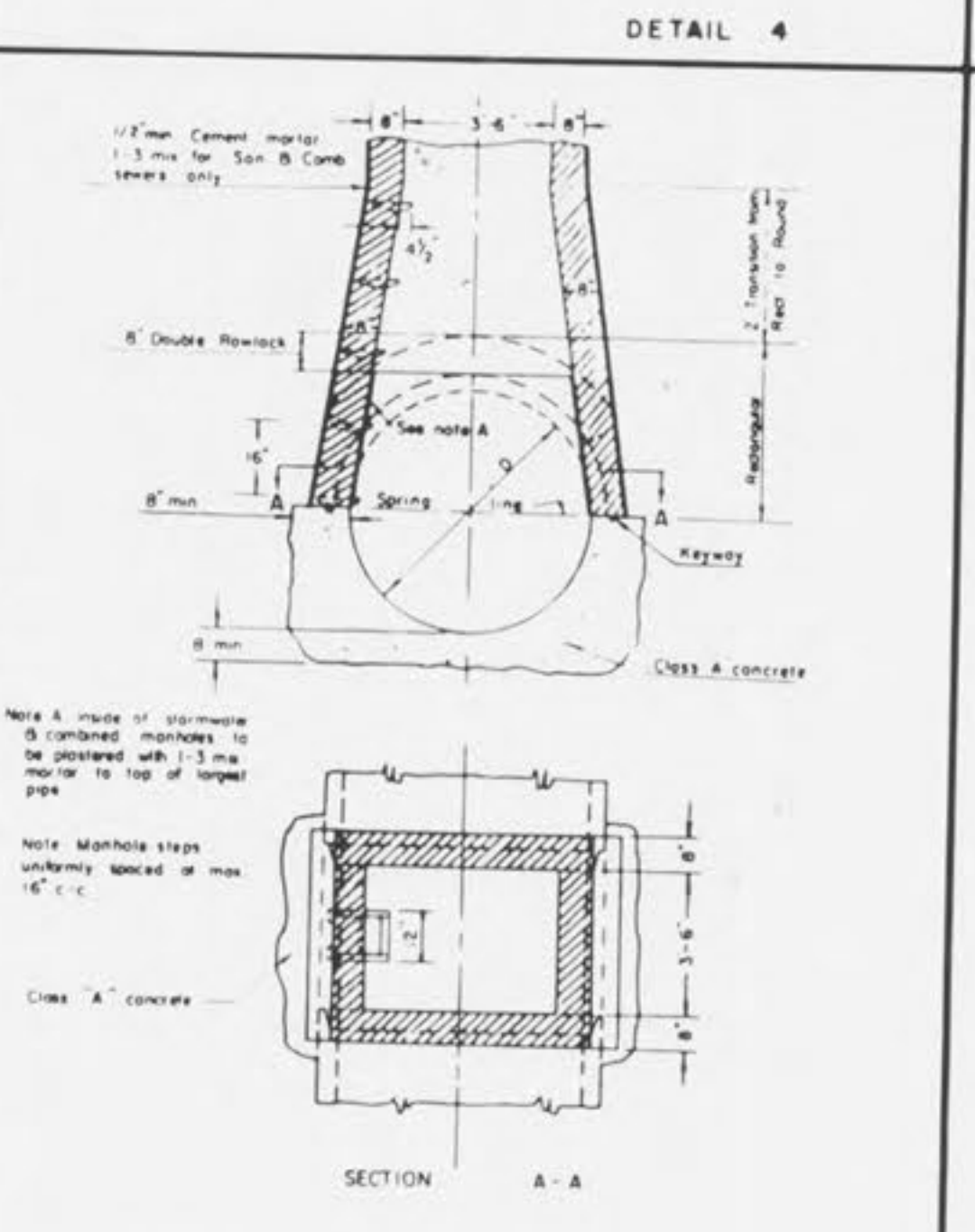
LINE MANHOLE PIPE SEWERS 8" - 24" DIA.



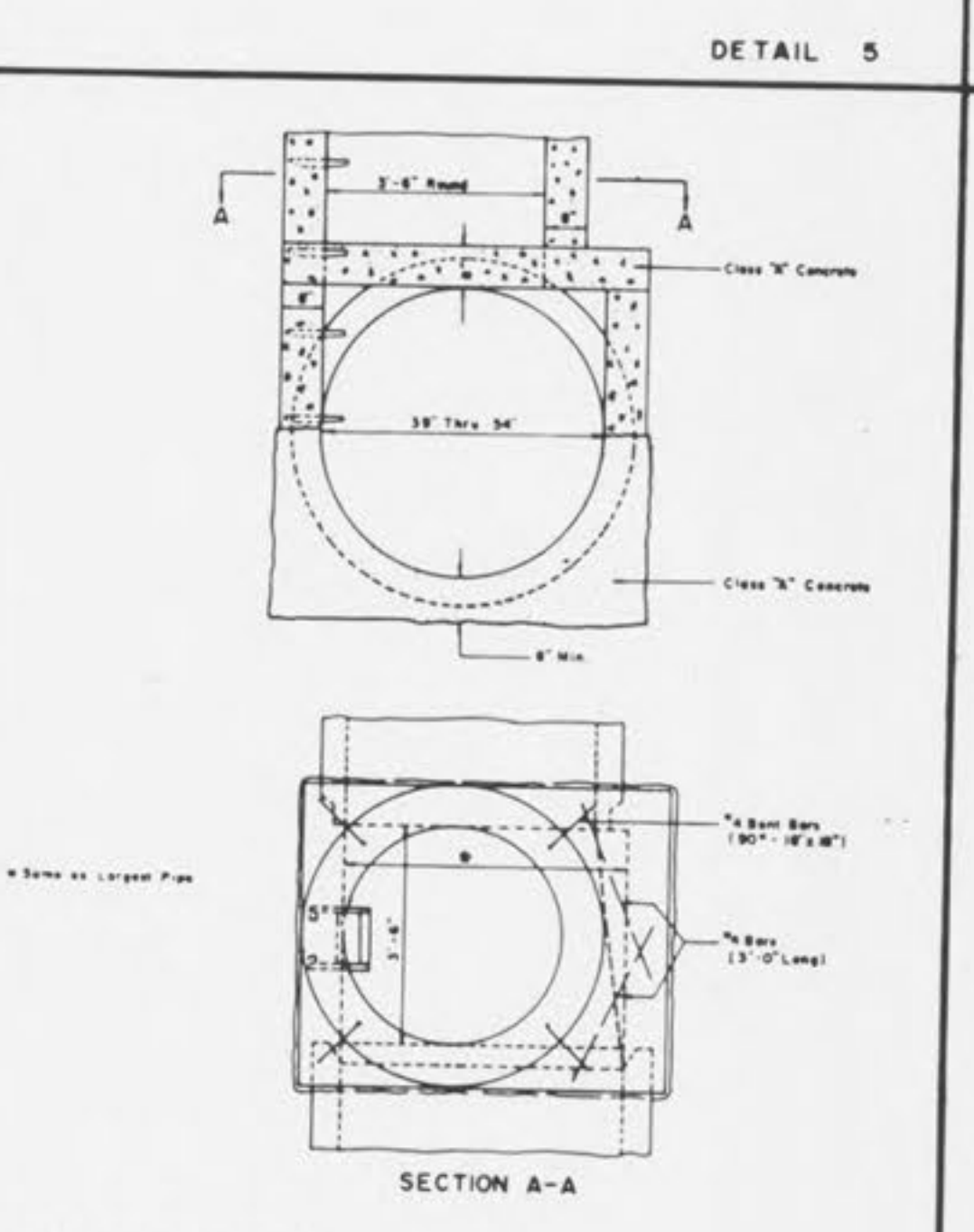
TYPICAL LINE MANHOLE ON PIPE SEWER 27" THRU 36" IN DIAMETER



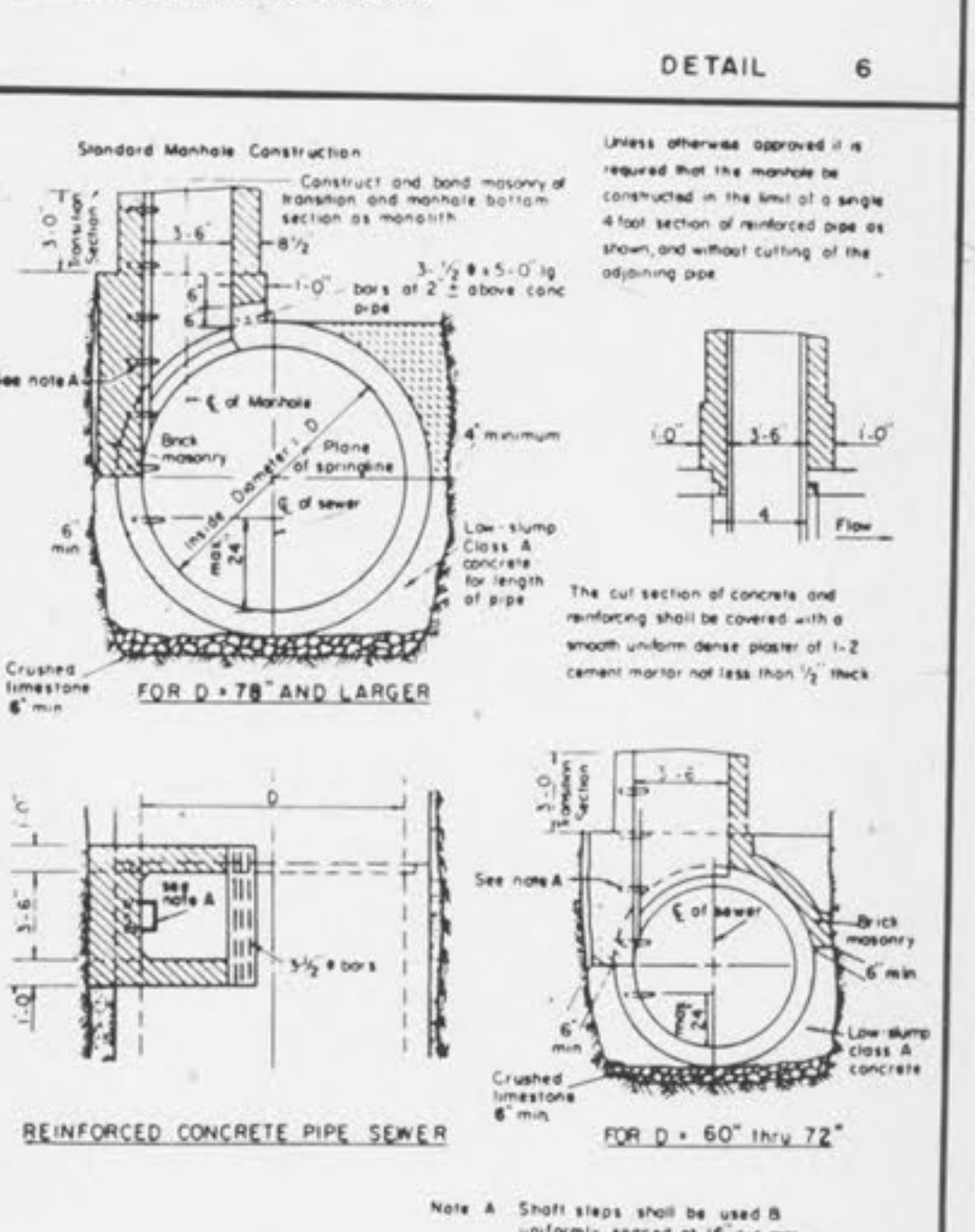
MANHOLE ON PIPE SEWER 27" THRU 36" (ALTERNATE)



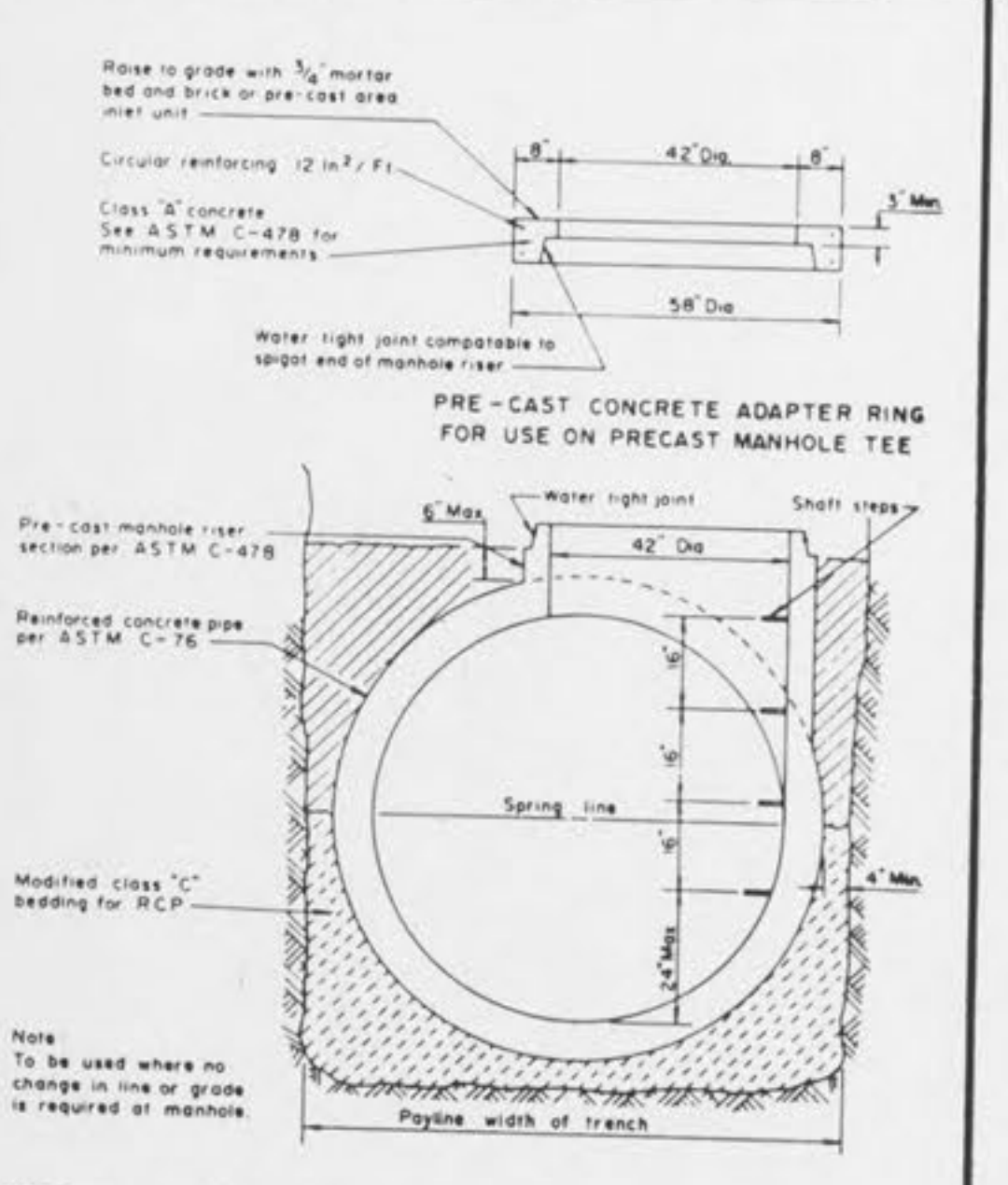
MANHOLE ON CONCRETE PIPE SEWERS 39" THRU 54" DIAMETER



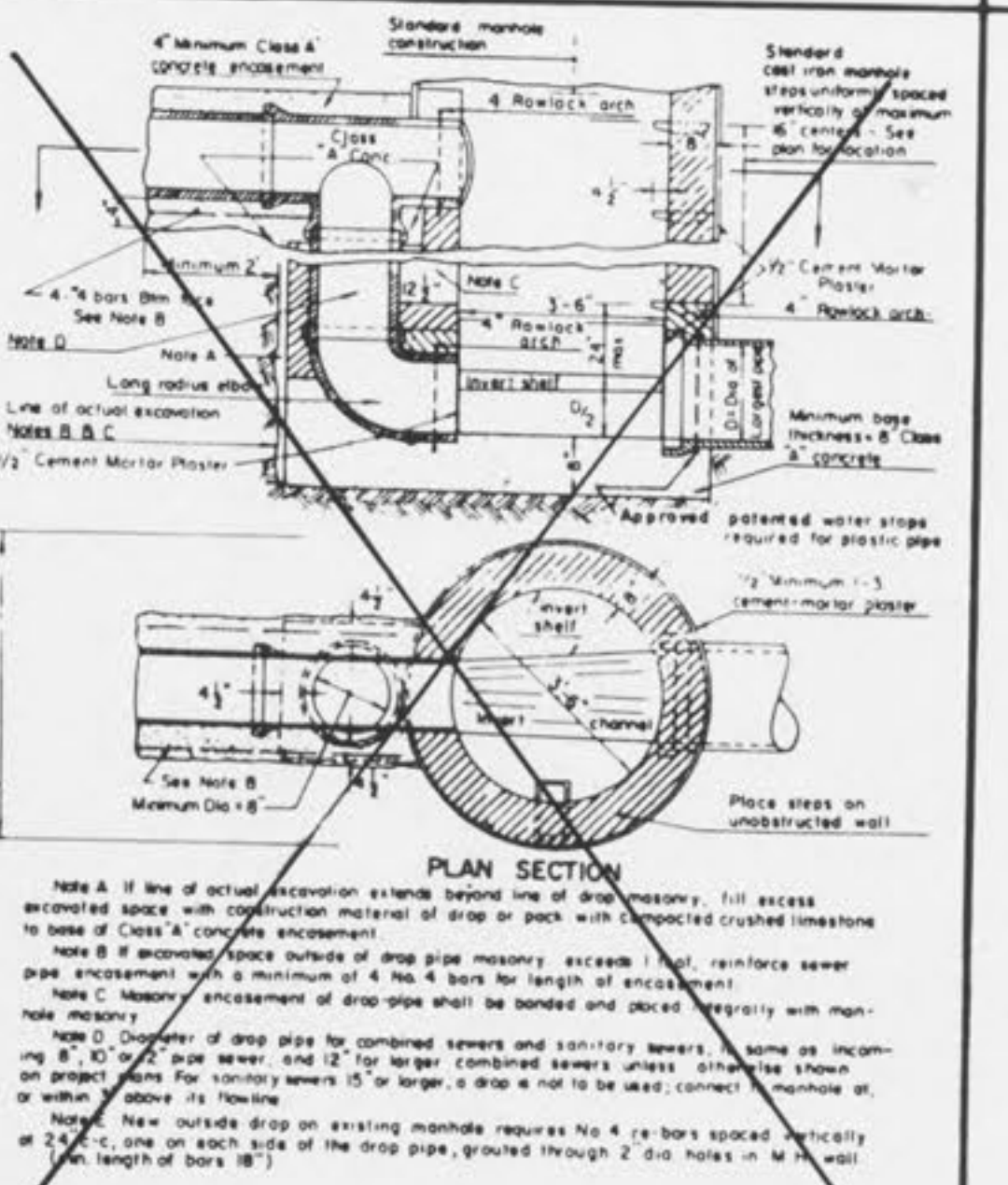
TYPICAL MANHOLE BASE REINFORCED CONCRETE PIPE SEWERS 60" AND LARGER IN DIAMETER



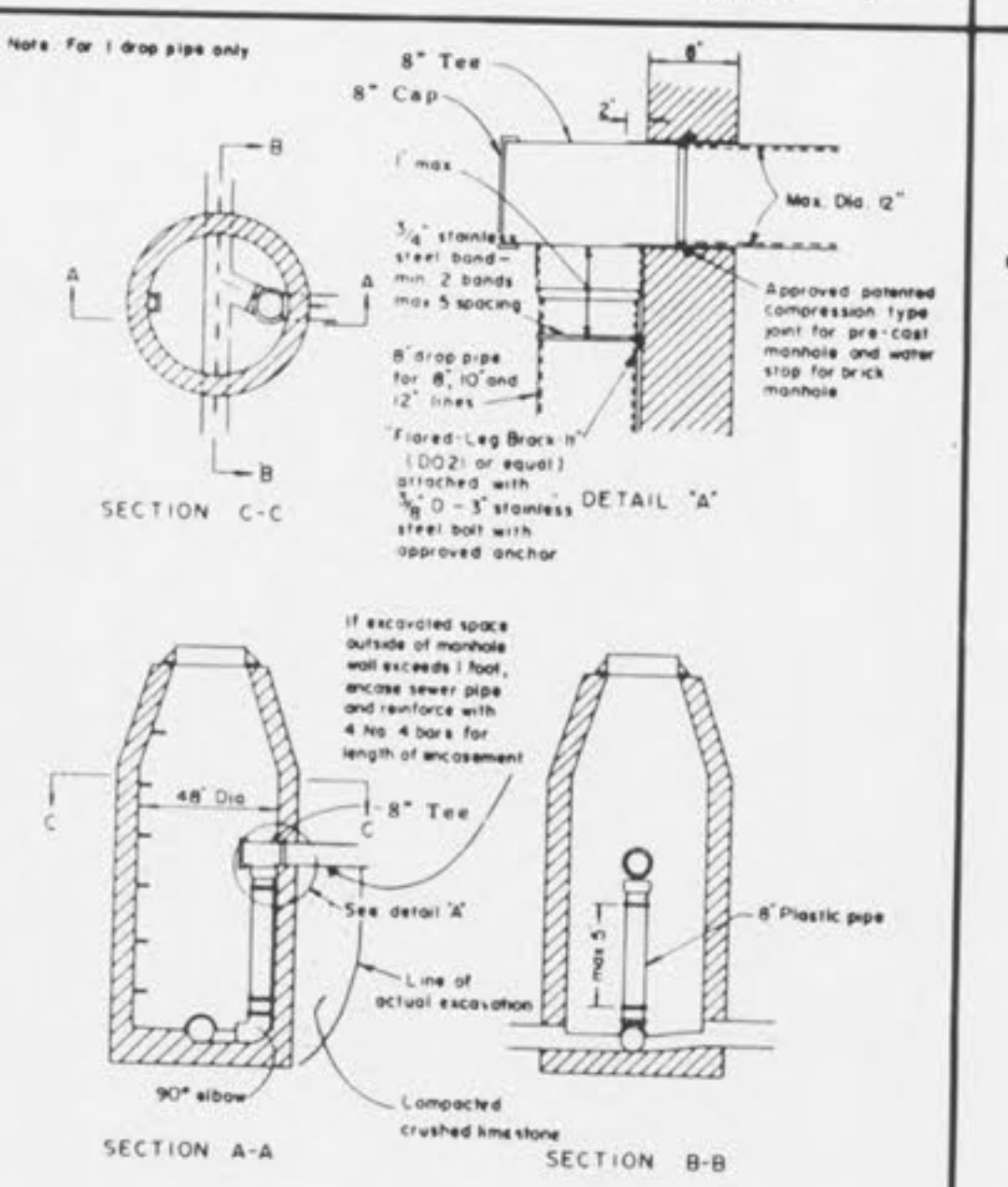
TYPICAL PRE-CAST M.H. TEE FOR REINFORCED CONCRETE PIPE SEWERS 48" AND LARGER IN DIAMETER



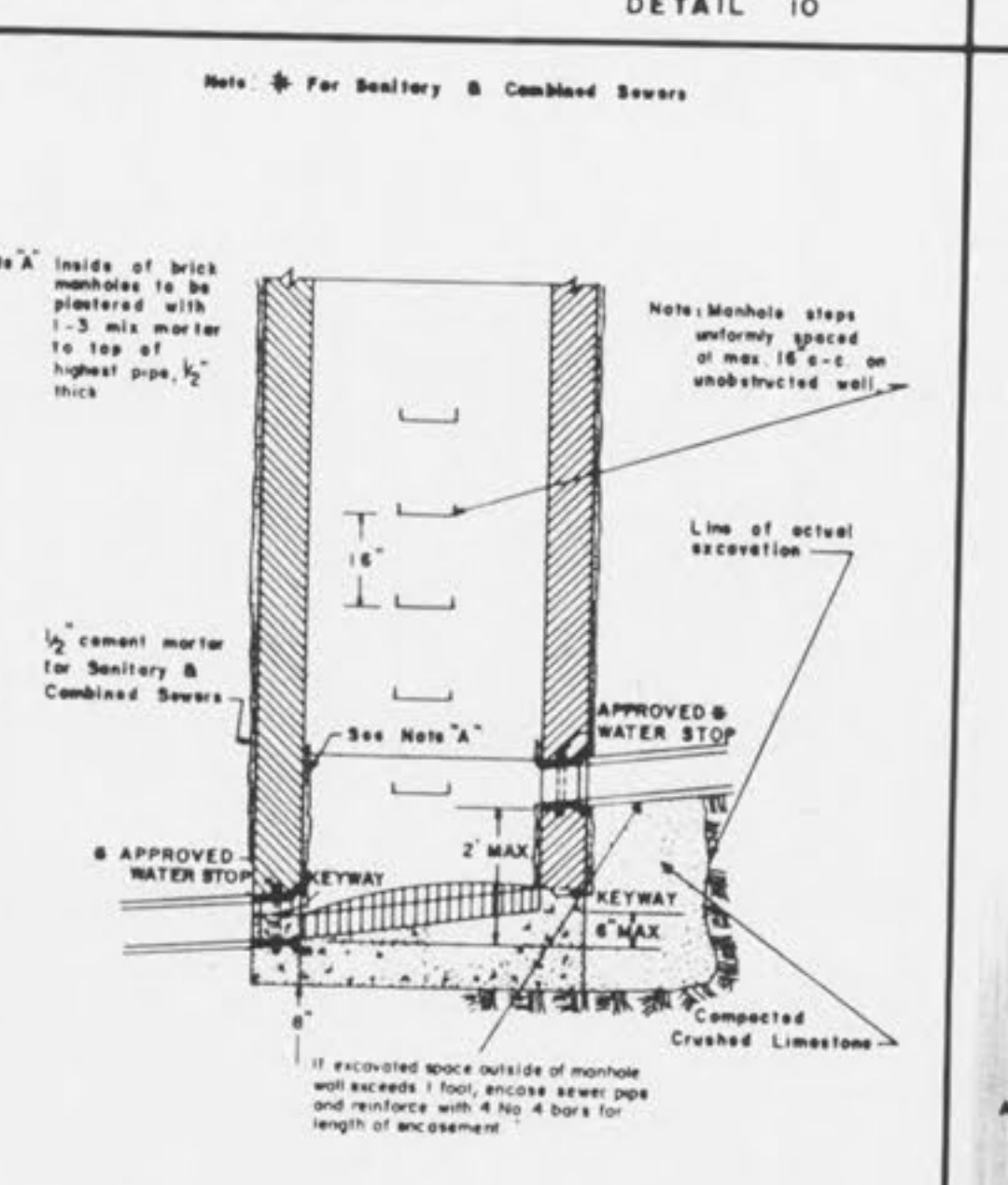
OUTSIDE FOULWATER DROP MANHOLE



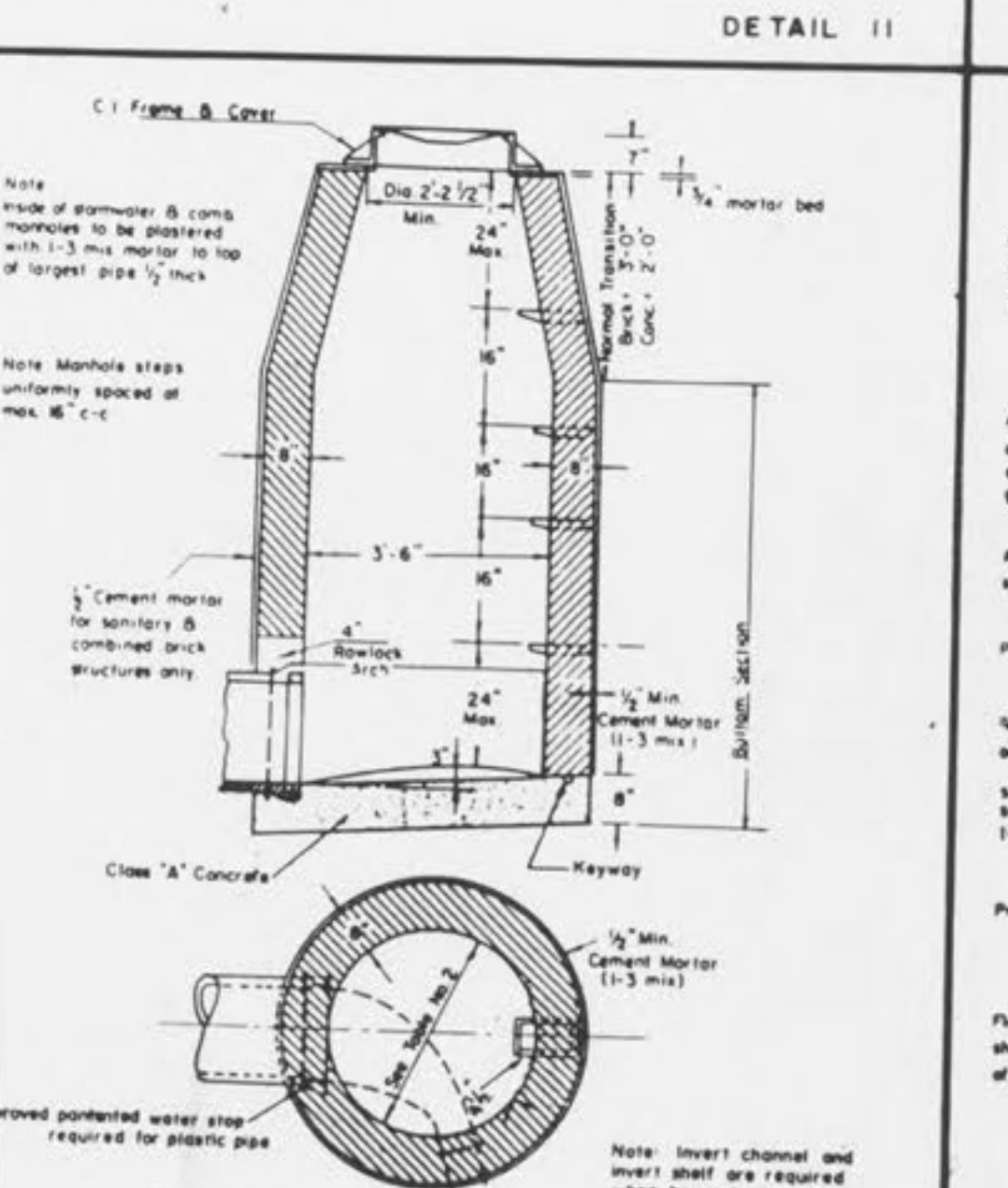
FOULWATER INSIDE DROP MANHOLE FOR PLASTIC PIPE



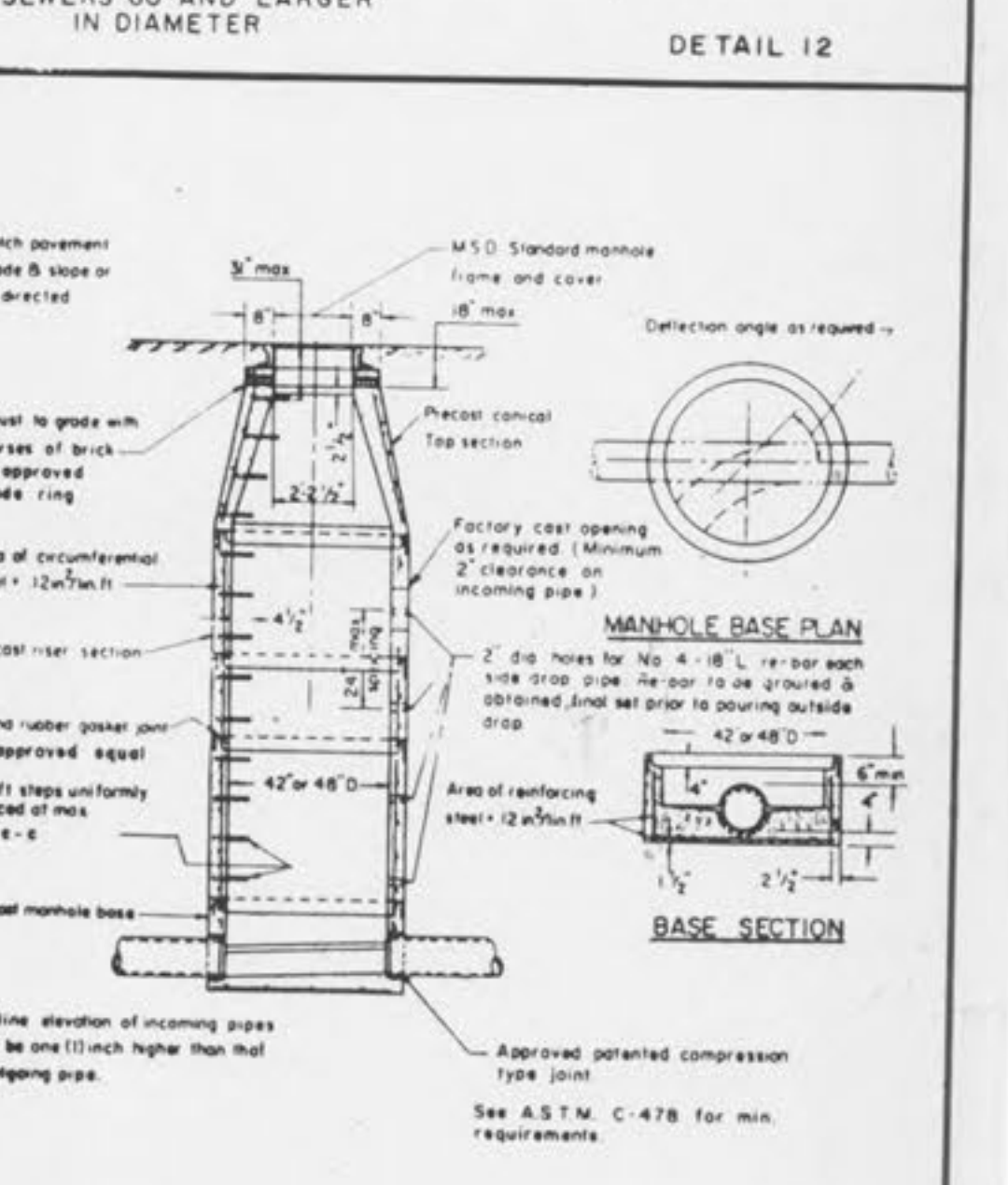
INSIDE DROP (8" THRU 24" Dia Pipe)



TERMINAL MANHOLE



PRE-CAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 12"



MANHOLE BASE PLAN