

PRECAST CONCRETE MANHOLE

MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FOR 8 INCH DIAMETER SANITARY SEWERS AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8 INCH DIAMETER IS 48 INCHES. MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.

1) INSIDE OF BRICK STORMWATER & COMBINED MANHOLES TO BE PLASTERED WITH 1/2" MIN. 1 TO 2 COATS TO SAND MORTAR MIX TO TOP OF LARGEST PIPE.

2) MANHOLE STEPS UNIFORMLY SPACED AT MAX. 18" C-C.

3) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42" FOR 8" DIAMETER SANITARY SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8" DIAMETER IS 48 INCHES.

4) ECCENTRIC CONES SHALL BE USED ON DIAMETERS 60 INCH AND LARGER. STEPS SHALL EXTEND DOWN VERTICAL WALL OF CONE.

5) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL OF MANHOLES ON PIPE DIAMETERS LARGER THAN 24 INCH AND ALSO FOR THOSE STRUCTURES WITH A DROP PIPE CONNECTION.

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TYPICAL LINE MANHOLE ON PIPE SEWER 27" THRU 42" IN DIAMETER

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ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	1" PAYLINE WIDTH OF TRENCH (INCHES)	2" PAYLINE WIDTH OF TRENCH (INCHES)	PAY-VOLUMES (CU. FT. PER FT.)	INSIDE DIMENSIONS (INCHES)	1" PAYLINE WIDTH OF TRENCH (INCHES)	2" PAYLINE WIDTH OF TRENCH (INCHES)	PAY-VOLUMES (CU. FT. PER FT.)
4	30	2.90	3.38				
6	30	2.90	3.38				
8	30	2.90	3.38				
10	30	2.90	3.38				
12	30	2.90	3.38				
15	38	3.60	4.25				
18	38	3.60	4.25	16 x 23	41	3.42	5.04
21	38	3.60	4.25				
24	42	3.90	4.58	18 x 30	49	4.08	7.08
27	42	3.90	4.58	22 x 34	53	4.42	8.01
30	42	3.90	4.58	24 x 38	58	4.83	9.70
33	42	3.90	4.58	27 x 42	62	5.17	10.71
36	42	3.90	4.58	29 x 45	65	5.50	11.72
39	42	3.90	4.58	32 x 49	71	5.92	13.14
42	42	3.90	4.58	34 x 53	75	6.35	14.05
48	48	4.50	5.37	36 x 50	83	6.92	16.18
54	48	4.50	5.37	43 x 60	92	7.87	18.81
60	48	4.50	5.37	48 x 78	101	8.42	21.58
66	48	4.50	5.37	53 x 83	109	9.08	24.35
72	48	4.50	5.37	55 x 91	118	9.83	27.45
78	48	4.50	5.37	58 x 98	129	10.50	30.50
84	48	4.50	5.37	60 x 108	135	11.25	33.69
90	48	4.50	5.37	62 x 113	143	11.92	36.29
96	48	4.50	5.37	64 x 121	152	12.67	39.08
102	48	4.50	5.37	66 x 128	160	13.33	41.85
108	48	4.50	5.37	67 x 138	168	14.00	44.79
114	48	4.50	5.37	68 x 143	178	14.67	47.70
120	48	4.50	5.37	69 x 151	185	15.42	50.61
126	48	4.50	5.37	70 x 158	192	16.17	53.50
132	48	4.50	5.37	71 x 166	202	16.83	56.48
144	48	4.50	5.37	72 x 180	218	18.17	63.50

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LIMITS FOR TRAPEZOIDAL CHANNEL

LIMITS FOR BOX CULVERT

LIMITS FOR VERTICAL WALL

LIMITS FOR PIPE

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

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

Dr. W.S.H.
Ch. J.C.K. 2000 SHEET 5

PRECAST CONCRETE STORMWATER STRUCTURES

MINIMUM DISTANCE FLOWLINE TO TOP OF STONE OR GRATES

PIPE I.D. NOMINAL INCHES	AREA INLET CIRCULAR BASE DIA. INCHES	(2) GRATE INLET CIRCULAR BASE DIA. (MAX.) INCHES	SINGLE-SHEET INLET CIRCULAR BASE DIA. (MAX.) INCHES
12"	48"	36"	36"
15"	48"	42"	36"
18"	48"	48"	36"
21"	48"	48"	36"
24"	48"	48"	36"
27"	48"	48"	36"
30"	48"	48"	36"
33"	48"	48"	36"
36"	48"	48"	36"
39"	48"	48"	36"
42"	48"	48"	36"

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CONCRETE OR CAST IRON COVER

4-WAY CONCRETE UNIT

ADAPTER RING

INLET BASE & INLET MANHOLE BASE

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(2) 30" x 15" GRATES

STANDARD (2) GRATE INLET SEAT

ADAPTER RING OR STANDARD 42" DIAMETER CONE SECTION

SQUARE (2) GRATE INLET

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CAST IRON COVERS MANHOLES AND INLETS

SECTION A-A STANDARD CAST IRON INLET COVER

SECTION B-B TYPE "A" 120+ LBS.

SECTION C-C TYPE "B" 152 LBS.

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GRATE SEAT FOR 2 GRATE WITH SIDE INTAKE

SECTION A-A

SECTION B-B

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DETAILS OF INLET FRAME AND GRATES

SECTION A-A

SECTION N-N

SECTION F-F

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STEEL REQUIREMENTS FOR GRATE INLET SEAT

CALL	USE	Ø	STRAIGHT BARS
G-1	2, 3, OR 4 GRATE	3'-4"	
G-2	6 & 8 GRATE	5'-10"	
H-2	2 GRATE	3'-6"	
H-3	3 & 6 GRATE	4'-9"	
H-4	4 & 8 GRATE	5'-0"	

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CAST IRON SIDE INTAKE UNIT FOR 249 LBS. GRATES

PLAN

ELEVATION

END VIEW

SECTION A-A

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CAST IRON MANHOLE FRAME

PLAN

ELEVATION

SECTION A-A (230 lbs.)

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PSI STEP MANHOLE STEP INTO JOINT

SECTION A-A

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MANHOLE STEP FOR PRECAST & CAST-IN-PLACE MANHOLE

SECTION A-A

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HOUSE CONNECTION TO EXISTING TEE OR WYE

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