

STANDARD BEDDING MATERIAL QUANTITIES (ROUND PIPE)

CORRUGATED STEEL, ALUMINIZED TYPE 2, CORRUGATED ALUMINUM, AND MILL PRECOATED PIPE	ROUND PIPE	PIPE DIAMETER	H STD. BEDDING MAT'L	BEDDING THICKNESS UNDER PIPE	SINGLE PIPE STANDARD TRENCHING		DOUBLE PIPE STANDARD TRENCHING		TRIPLE PIPE STANDARD TRENCHING		SPACING BETWEEN PIPES	SPACING OUTSIDE OF PIPE, EACH SIDE
					W WIDTH	STANDARD BEDDING MATERIAL	W WIDTH	STANDARD BEDDING MATERIAL	W WIDTH	STANDARD BEDDING MATERIAL		
					FT.	CY/LF	FT.	CY/LF	FT.	CY/LF		
		12	2.17	2.00	5.00	0.37	7.00	0.53	9.00	0.69	12	2.00
		15	2.42	2.00	5.25	0.42	7.50	0.63	9.75	0.83	12	2.00
		18	2.67	2.00	5.50	0.48	8.00	0.72	10.50	0.97	12	2.00
		21	2.92	2.00	5.75	0.53	8.50	0.83	11.25	1.13	12	2.00
		24	3.17	2.00	6.00	0.59	9.00	0.94	12.00	1.29	12	2.00
		30	3.67	2.00	6.50	0.70	10.25	1.21	14.00	1.72	15	2.00
		36	4.17	2.00	7.00	0.82	11.50	1.51	16.00	2.21	18	2.00
		42	4.67	2.00	7.50	0.94	12.75	1.85	18.00	2.75	21	2.00
		48	5.17	2.00	8.00	1.07	14.00	2.21	20.00	3.36	24	2.00
		54	5.67	2.00	8.50	1.19	15.25	2.61	22.00	4.03	27	2.00
		60	6.17	2.00	9.00	1.33	16.50	3.04	24.00	4.75	30	2.00
		66	6.67	2.00	9.50	1.47	17.75	3.50	26.00	5.54	33	2.00
		72	7.17	2.00	10.00	1.61	19.00	4.00	28.00	6.38	36	2.00
		78	7.67	2.00	10.50	1.75	20.00	4.45	29.50	7.15	36	2.00
		84	8.17	2.00	11.00	1.90	21.00	4.93	31.00	7.95	36	2.00
		90	8.67	2.00	11.50	2.06	22.00	5.43	32.50	8.80	36	2.00
		96	9.17	2.00	12.00	2.21	23.00	5.95	34.00	9.68	36	2.00
		102	9.73	2.00	12.50	2.40	24.00	6.55	35.50	10.69	36	2.00
		108	10.29	2.00	13.00	2.60	25.00	7.17	37.00	11.75	36	2.00
		114	10.85	2.00	13.50	2.80	26.00	7.83	38.50	12.85	36	2.00
		120	11.42	2.00	14.00	3.01	27.00	8.51	40.00	14.00	36	2.00

MINIMUM COVER FOR CONSTRUCTION LOADS (INCHES)

DIAMETER OR PIPE SPAN INCHES	AXLE FORCE			
	18-50 KIPS	50-75 KIPS	75-110 KIPS	110-150 KIPS
12" - 42"	24"	30"	36"	36"
48" - 72"	36"	36"	42"	48"
78" - 120"	36"	42"	48"	48"
126" - 144"	42"	48"	54"	54"

THE CONTRACTOR SHALL PROVIDE MINIMUM COVER PLUS ANY ADDITIONAL COVER (AS SPECIFIED BY THE ENGINEER) REQUIRED TO AVOID DAMAGE TO THE PIPE. IN UNPAVED SITUATIONS, THE SURFACE MUST BE MAINTAINED TO A LEVEL AND NON-RUTTED CONDITION.

STANDARD BEDDING MATERIAL QUANTITIES (ARCH PIPE)

CORRUGATED STEEL, ALUMINIZED TYPE 2, CORRUGATED ALUMINUM, AND MILL PRECOATED PIPE	ARCH PIPE	SPAN	HEIGHT	EQUIV. ROUND	H STD. BEDDING MAT'L	BEDDING THICKNESS UNDER PIPE	SINGLE PIPE STANDARD TRENCHING		DOUBLE PIPE STANDARD TRENCHING		TRIPLE PIPE STANDARD TRENCHING		SPACING BETWEEN PIPES	SPACING BETWEEN PIPE AND TRENCH WALL
							W WIDTH, USING SPAN	STANDARD BEDDING MATERIAL	W WIDTH, USING SPAN	STANDARD BEDDING MATERIAL	W WIDTH, USING SPAN	STANDARD BEDDING MATERIAL		
							FT.	CY/LF	FT.	CY/LF	FT.	CY/LF		
		17	13	15	2.25	2.00	5.42	0.41	7.83	0.61	10.25	0.81	12.00	2.00
		21	15	18	2.42	2.00	5.75	0.45	8.50	0.70	11.25	0.94	12.00	2.00
		24	18	21	2.67	2.00	6.00	0.50	9.00	0.80	12.00	1.10	12.00	2.00
		28	20	24	2.83	2.00	6.33	0.55	9.67	0.90	13.00	1.25	12.00	2.00
		35	24	30	3.17	2.00	6.92	0.63	10.83	1.09	14.75	1.55	12.00	2.00
		42	29	36	3.58	2.00	7.50	0.73	12.00	1.33	16.50	1.93	12.00	2.00
		49	33	42	3.92	2.00	8.08	0.82	13.53	1.61	18.97	2.40	16.33	2.00
		57	38	48	4.33	2.00	8.75	0.94	15.08	1.96	21.42	2.97	19.00	2.00
		64	43	54	4.75	2.00	9.33	1.05	16.44	2.30	23.56	3.55	21.33	2.00
		71	47	60	5.08	2.00	9.92	1.14	17.81	2.63	25.69	4.11	23.67	2.00
		77	52	66	5.50	2.00	10.42	1.24	18.97	2.98	27.53	4.73	25.67	2.00
		83	57	72	5.92	2.00	10.92	1.35	20.14	3.37	29.36	5.39	27.67	2.00
		40	31	36	3.75	2.00	7.33	0.76	11.67	1.36	16.00	1.96	12.00	2.00
		46	36	42	4.17	2.00	7.83	0.85	12.94	1.64	18.06	2.43	15.33	2.00
		53	41	48	4.58	2.00	8.42	0.96	14.31	1.96	20.19	2.96	17.67	2.00
		60	46	54	5.00	2.00	9.00	1.08	15.67	2.31	22.33	3.55	20.00	2.00
		66	51	60	5.42	2.00	9.50	1.18	16.83	2.65	24.17	4.12	22.00	2.00
		73	55	66	5.75	2.00	10.08	1.27	18.19	2.99	26.31	4.72	24.33	2.00
		81	59	72	6.08	2.00	10.75	1.37	19.75	3.40	28.75	5.43	27.00	2.00
		87	63	78	6.42	2.00	11.25	1.44	20.92	3.74	30.58	6.04	29.00	2.00
		95	67	84	6.75	2.00	11.92	1.55	22.47	4.19	33.03	6.83	31.67	2.00
		103	71	90	7.08	2.00	12.58	1.66	24.03	4.67	35.47	7.67	34.33	2.00
		112	75	96	7.42	2.00	13.33	1.80	25.67	5.19	38.00	8.58	36.00	2.00
		117	79	102	7.75	2.00	13.75	1.85	26.50	5.50	39.25	9.16	36.00	2.00
		128	83	108	8.08	2.00	14.67	2.03	28.33	6.13	42.00	10.22	36.00	2.00
		137	87	114	8.42	2.00	15.42	2.18	29.83	6.67	44.25	11.17	36.00	2.00
		142	91	120	8.75	2.00	15.83	2.22	30.67	7.03	45.50	11.84	36.00	2.00

ALL NOTES, PAY ITEMS AND DRAWINGS RELEVANT TO METAL CULVERTS AND THEIR INSTALLATIONS ARE SHOWN ON ROADWAY STANDARD MCI-1.

■ FOR PIPES UNDER PAVEMENT, THE H DIMENSION AND THE STANDARD BEDDING MATERIAL QUANTITY SHALL BE INCREASED TO GO TO THE PAVEMENT. SEE ROADWAY STANDARD PBB-1.
▲ SEE MULTIPLE PIPE INSTALLATION, ROADWAY STANDARD MCI-1.

APPROVED BY ROADWAY ENGINEER:  DATE: 12/20/2024

ROADWAY DESIGN DIVISION STANDARD

METAL CULVERT INSTALLATION (3 OF 3 SHEETS)



2019 SPECIFICATIONS