FINANCIAL PROJECT ID	STATE PROJ. NO.	SHEET NO.

ROUND PIPE DIMENSIONS

Equiv. Dia. (In.)	Area (Sq. Ft.)	Wall Thickness (In.)* Classes II, III, IV, V		
		A WALL	B WALL	C WALL
12	0.8	1 3/4	2	NA
15	1.2	1 7/8	2 1/4	NA
18	1.8	2	2 1/2	NA
24	3.1	2 1/2	3	3 3/4
30	4.9	2 3/4	3 1/2	4 1/4
36	7.1	3	4	4 3/4
42	9.6	3 1/2	4 1/2	5 1/4
48	12.6	4	5	5 3/4
54	15.9	4 1/2	5 1/2	6 1/4
60	19.6	5	6	6 3/4
66	23.8	5 1/2	6 1/2	7 1/4
72	28.3	6	7	7 3/4
78	33.2	6 1/2	7 1/2	8 1/4
84	38.5	7	8	8 3/4
90	44.4	7 1/2	8 1/2	9 1/4
96	50.3	8	9	9 3/4
102	56.7	8 1/2	9 1/2	10 1/4
108	63.7	9	10	10 3/4
114	70.9	9 1/2	—	—
120	78.5	10	—	—

* For Informational Purposes Only
Do Not Specify Wall Thickness
Option B Wall Is Industry Standard

ELLIPTICAL PIPE DIMENSIONS

Nominal Dimensions				Equiv. Dia. (In.)	Area (Sq.Ft.)	Wall Thickness (In.)
Horiz.		Vert.				
Rise (In.)	Span (In.)	Rise (In.)	Span (In.)			Classes HE II, III, IV VE II, III, IV
NA	NA	NA	NA	12	NA	NA
12	18	18	12	15	1.3	2 1/2
14	23	23	14	18	1.8	2 3/4
19	30	30	19	24	3.3	3 1/4
24	38	38	24	30	5.1	3 3/4
29	45	45	29	36	7.4	4 1/2
34	53	53	34	42	10.2	5
38	60	60	38	48	12.9	5 1/2
43	68	68	43	54	16.6	6
48	76	76	48	60	20.5	6 1/2
53	83	83	53	66	24.8	7
58	91	91	58	72	29.5	7 1/2
63	98	98	63	78	34.6	8
68	106	106	68	84	40.1	8 1/2
72	113	113	72	90	46.1	9
77	121	121	77	96	52.4	9 1/2
82	128	128	82	102	59.2	10
87	136	136	87	108	66.4	10 1/2
92	143	143	92	114	74.0	11
97	151	151	97	120	82.0	11 1/2

For Informational Purposes Only

ROUND PIPE INSTALLATIONS

PIPE DIAMETER	Maximum Height of Fill (ft)					
	Class S	Class I	Class II	Class III	Class IV	Class V
12"-30"	9	13	17	24	36	55
36"-54"	8	12	16	22	34	52
60"-78"	7	11	15	21	33	51
84"-96"	6	10	14	20	32	49

Pipe Class S	D-Load = 600 Lbs/Ft/Ft (.01" Crack) D-Load = 900 Lbs/Ft/Ft (Ultimate)
Pipe Class I	D-Load = 800 Lbs/Ft/Ft (.01" Crack) D-Load = 1200 Lbs/Ft/Ft (Ultimate)
Pipe Class II	D-Load = 1000 Lbs/Ft/Ft (.01" Crack) D-Load = 1500 Lbs/Ft/Ft (Ultimate)
Pipe Class III	D-Load = 1350 Lbs/Ft/Ft (.01" Crack) D-Load = 2000 Lbs/Ft/Ft (Ultimate)
Pipe Class IV	D-Load = 2000 Lbs/Ft/Ft (.01" Crack) D-Load = 3000 Lbs/Ft/Ft (Ultimate)
Pipe Class V	D-Load = 3000 Lbs/Ft/Ft (.01" Crack) D-Load = 3750 Lbs/Ft/Ft (Ultimate)

Note: At the option of the pipe supplier or the contractor, a Pipe Class with greater strength may be substituted for the Pipe Class designated in the plans.

ELLIPTICAL PIPE INSTALLATIONS (All Sizes)

Installation	Maximum Height Of Fill (Ft.)	Pipe Class	Bedding Class
Horizontal	1-6* 7-10 11-16 17+	HE II* HE III HE IV Special Design	C C C Modified
Vertical	1-6* 7-10 11-16 17+	VE II* VE III VE IV Special Design	C C C Modified

Pipe Class HE II And VE II	D-Load = 1000 Lbs/Ft/Ft (.01" Crack) D-Load = 1500 Lbs/Ft/Ft (Ultimate)
Pipe Class HE III And VE III	D-Load = 1350 Lbs/Ft/Ft (.01" Crack) D-Load = 2000 Lbs/Ft/Ft (Ultimate)
Pipe Class HE IV And VE IV	D-Load = 2000 Lbs/Ft/Ft (.01" Crack) D-Load = 3000 Lbs/Ft/Ft (Ultimate)

*Note: HE III and VE III pipe required for depths of cover less than 2' for 15", 18" and 24" equivalent.

PIPE DIMENSIONS
CONCRETE PIPE

MAXIMUM COVER HEIGHTS
CONCRETE PIPE

Note: Height of fill (maximum cover) is measured from top of finished grade to outside top of pipe.

POLYETHYLENE PIPE	
DIAMETER	HEIGHT OF MAXIMUM FILL (Ft)
12"-48"	17'

POLYVINYL CHLORIDE PIPE	
DIAMETER	HEIGHT OF MAXIMUM FILL (Ft)
12"-48"	17'

MAXIMUM COVER FOR PLASTIC PIPE

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN ENGLISH UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

Revised: 12-05-00

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

COVER HEIGHT

INTERIM STANDARD

THIS SHEET IS A REPLACEMENT FOR INDEX NO. 205, (SHEET 2 OF 5) OF THE METRIC ROADWAY AND TRAFFIC DESIGN STANDARDS, BOOKLET DATED JANUARY 2000.

APPROVED BY S. A. McInerney
State Drainage Engineer

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