

Structural Design of Reinforced Concrete Pipe

Reference: OPS 807.010, 807.030 Dwg. Number Municipal design assignment
 Project: Storm and Sanitary Sewers Date: Oct. 07 /2011
 Location: Scott Street, St. Catharines Designed By: _____
 Limits: Lake Street to Geneva Checked By: _____

Manhole Data		Pipe Data		Manhole Data	
MH. No.	16	Flow Type	Storm	MH. No.	17
Rim Elev.	100.58	Diameter (mm)	375	Rim Elev.	100.78
Inv. In	98.73	Wall Thickness (mm)	47	Inv. In	98.96
Inv. Out	98.57	Length (m)	51.8	Inv. Out	98.88
Height of Cover (m)	1.43	% Slope	0.29	Height of Cover (m)	1.48

Pipe Strength Required (CSA A257.2)

Embankment Condition		Narrow Trench Condition	
Class of Pipe	50-D	Class of Pipe	50-D
Type of Bedding	B	Type of Bedding	B
Maximum Allowable Depth (m)	2.7	Maximum Allowable Depth (m)	3

East to West calc	
Inv Calc	98.73
out to in	

West to East calc	
Inv Calc	98.88
in to out	

Slope Calculation	
Slope =	0.29%

Manhole Data		Pipe Data		Manhole Data	
MH. No.	17	Flow Type	Storm	MH. No.	18
Rim Elev.	100.78	Diameter (mm)	300	Rim Elev.	100.97
Inv. In	98.96	Wall Thickness	44	Inv. In	0
Inv. Out	98.88	Length (m)	62.51	Inv. Out	99.15
Height of Cover (m)	1.48	% Slope	0.304	Height of Cover (m)	1.48

Pipe Strength Required (CSA A257.2)

Embankment Condition		Narrow Trench Condition	
Class of Pipe	50-D	Class of Pipe	50-D
Type of Bedding	B	Type of Bedding	B
Maximum Allowable Depth (m)	2.4	Maximum Allowable Depth (m)	2.9

East to West calc	
Inv Calc	98.96
out to in	

West to East calc	
Inv Calc	99.15
in to out	

Slope Calculation	
Slope =	0.304%

I feel that we see similarities in the pipe strength due to the lack of difference in the height of cover tables