

Delta Engineers, PC
 184 Court Street
 Binghamton, NY 13901
 (607)231-6600 Fax (607)231-6650

REINFORCING DESIGN

TECHNICAL DATA

Concrete Strength	5	ksi
Yield Strength	60	ksi
Unit Weight of Concrete	150	pcf
E	4.03E+06	
n	7.2	
k	0.403	
J	0.866	
K	392	

Capacity Reduction Factors:

Phi - Moment	0.9
Phi - Shear	0.85
Load Factors:	
Gamma	1.3
Beta - LL	1.3
Beta - DL	1

References:

1. "Specifications for Highway Bridges, 17th Ed." - AASHTO
2. "Design Manual for Segmental Retaining Walls" - Concrete Masonry Association
3. "Building Code Requirements for Structural Concrete" - ACI 318.

Project:	County of Orleans VT105
	15' x 9' Culvert
Client:	Camp Precast
Job Number:	2007.004.002
File Name:	Cantwall.xls
Entered By:	CJB / SDG
Checked By:	RC
Date:	5/24/2007
Sheet:	10 of 11

$b_1 = 0.8 (.85 - .05(fc-4))$

Rho min	0.003333333 (200/Fy)
Rho max	0.025153061 (.75Rho-b)
Zmax	130 Severe Exposure