Dan Green Engineering. Inc
3230 Triangle Drive SE
Salem, Oregon 97302
dangreen@wvi.com
503-391-2309

Project Title: Portland (ME) Retirement Residence
Engineer: DSG
Project ID:
Project Descr:

CITY OF PORTLAND, MAINE — RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/20/16

Cantilevered Retaining Wall

Lic. # : KW-06002943 — Licensee : DAN GREEN ENGINEERING

Description : Screen wall

Footing Dimensions & Strengths

Toe Width	=	0.75 ft
Heel Width	=	1.42
Total Footing Width	=	2.17
Footing Thickness	=	13.00 in
Key Width	=	0.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	0.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	3,120	0 psf
Mu' : Upward	=	1,035	0 ft-lb
Mu' : Downward	=	300	302 ft-lb
Mu: Design	=	735	302 ft-lb
Actual 1-Way Shear	=	9.38	4.27 psi
Allow 1-Way Shear	=	82.16	82.16 psi
Toe Reinforcing	=	# 5 @ 18.00 in	
Heel Reinforcing	=	# 5 @ 18.00 in	
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: No key defined

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	633.0	1.47	931.2
Surcharge over Heel	=			
Toe Active Pressure	=	-634.0	1.47	-933.4
Surcharge Over Toe	=			
Adjacent Footing Load	=			
Added Lateral Load	=			
Load @ Stem Above Soil	=	135.0	8.41	1,135.5
Total	=	134.0	**O.T.M.** =	1,133.4

Resisting/Overturning Ratio = **1.81**
Vertical Loads used for Soil Pressure = 1,887.5 lbs

		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Soil Over Heel	=	326.1	1.79	584.8
Sloped Soil Over Heel	=			
Surcharge Over Heel	=			
Adjacent Footing Load	=			
Axial Dead Load on Stem	=			
* Axial Live Load on Stem	=			
Soil Over Toe	=	325.0	0.38	121.9
Surcharge Over Toe	=			
Stem Weight(s)	=	883.7	1.08	957.4
Earth @ Stem Transitions	=			
Footing Weight	=	352.6	1.09	382.6
Key Weight	=			
Vert. Component	=			
Total =		1,887.5 lbs	**R.M. =**	2,046.7

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.