

Project :

Location:

By:

TIME: 10:47 AM

Page: 2

DATE: 11-01-2002

WIND LOADS:

	Load W or H	Magnitude (plf, lb)	Distance From Base of Wall (ft)	
			Start	End
1	W	-20.00	0.00	18.00
2				
3				
4				
5				

- Notes: 1. "W" designates a uniform distributed wind load.
 "H" designates a concentrated horizontal wind load.
 2. Horizontal loads are positive to the right.

MASONRY DATA:

Masonry Unit Strength = 1900.00 psi.

Masonry Compressive Strength, f'_m = 1500.00 psi.Allowable Flexural Stress, F_b = 500.00 psi.Allowable Shear Stress, F_v = 38.73 psi.Allowable Tension: No Grout, F_t = 25.00 psi.Solid Grout, F_t = 68.00 psi.Modulus of Elasticity, E_m = 1,350 ksi.Modular Ratio, $E_s/E_m = n$ = 21.48

Single Grouted Cell + Web Width = 8.30 in.

Nominal Length of Masonry Unit = 16.00 in.

Block Face Shell Thickness = 1.25 in.

Nominal Minus Actual Thickness = 0.38 in.

MATERIAL DATA:

Steel Yield Strength, F_y = 60.00 ksi.Allowable Steel Stress, F_s = 24.00 ksi.Modulus of Elasticity, E_s = 29,000 ksi.

REINFORCED WALL DATA:

Minimum Steel Ratio, A_s/bt = 0.0007

Project :

Location:

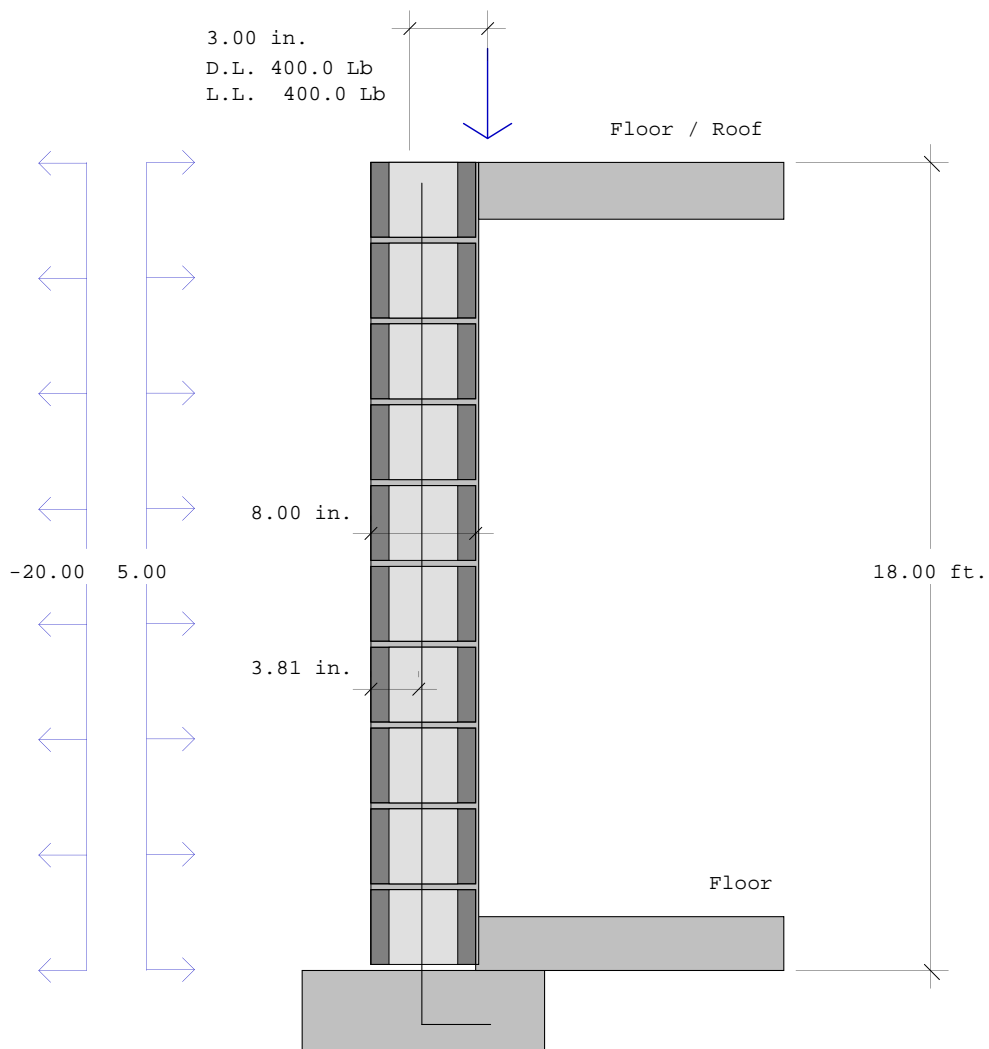
By:

TIME: 10:47 AM

Page: 3

DATE: 11-01-2002

GRAPHIC SUMMARY OF MASONRY WALL DATA



Project :

Location:

By:

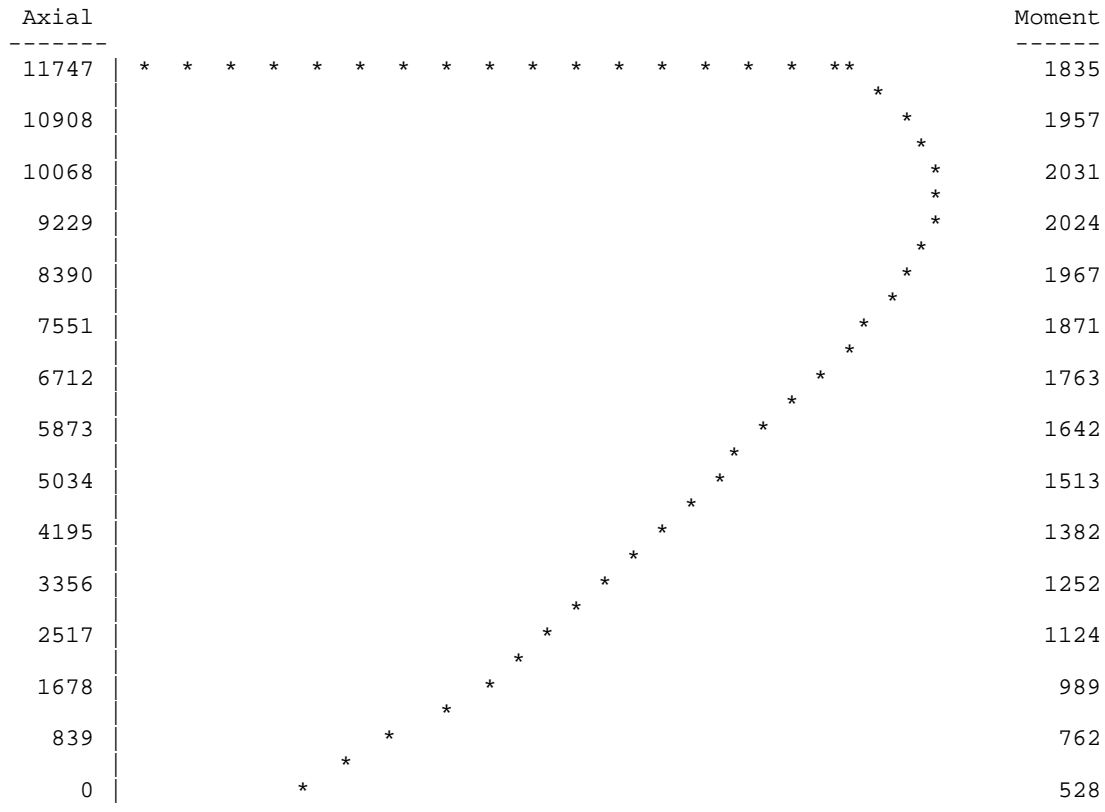
TIME: 10:47 AM

Page: 5

DATE: 11-01-2002

MASONRY WALL INTERACTION DIAGRAM: (DEAD + LIVE LOAD ONLY)

Effective Wall Height = 18.00 ft. All. Axial Stress, Fa = 255.63 psi.
 Actual Wall Thickness = 7.63 in. All. Bending Stress, Fb = 500.00 psi.
 Depth to c.g. Steel = 3.81 in. All. Steel Stress, Fs = 24.00 ksi.
 Design Width = 12.00 in.
 Reinforcing Design = #4 @ 32 in. o.c.



NOTES: Axial Load = Lb, Moment = ft-lb

Positive moment is defined as moment which causes compression on the outside face of wall.

Project :

Location:

By:

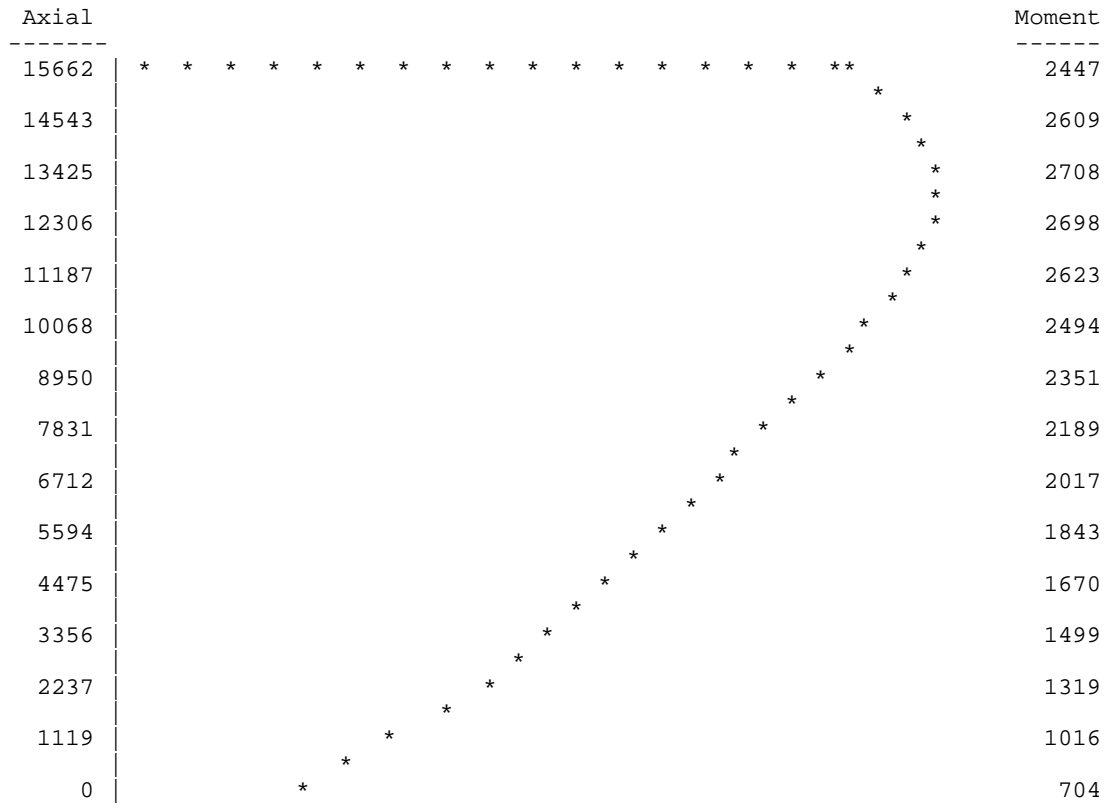
TIME: 10:47 AM

Page: 6

DATE: 11-01-2002

MASONRY WALL INTERACTION DIAGRAM: (WIND / SEISMIC LOADS)

Effective Wall Height = 18.00 ft. All. Axial Stress, Fa = 340.84 psi.
 Actual Wall Thickness = 7.63 in. All. Bending Stress, Fb = 666.67 psi.
 Depth to c.g. Steel = 3.81 in. All. Steel Stress, Fs = 32.00 ksi.
 Design Width = 12.00 in.
 Reinforcing Design = #4 @ 32 in. o.c.



NOTES: Axial Load = Lb, Moment = ft-lb

Positive moment is defined as moment which causes compression on the outside face of wall.

Project :

Location:

By:

TIME: 10:47 AM

Page: 7

DATE: 11-01-2002

DETAILED RESULTS FOR MAIN WALL:

LOAD COMBINATION : 1*DL+1*LL
 REBAR DESIGN : #4 @ 32 in. o.c.
 FURNISHED AREA OF STEEL : 0.075 in² / 12.00 in.
 MINIMUM AREA OF STEEL : 0.064 in² / 12.00 in.

No.	Dist From Bot (ft)	Mom. (ft-lb)	Axial (lbs)	Shear (lbs)
0	18.00	-200.0	800.0	-11.1
1	16.20	-180.0	890.0	-11.1
2	14.40	-160.0	980.0	-11.1
3	12.60	-140.0	1,070.0	-11.1
4	10.80	-120.0	1,160.0	-11.1
5	9.00	-100.0	1,250.0	-11.1
6	7.20	-80.0	1,340.0	-11.1
7	5.40	-60.0	1,430.0	-11.1
8	3.60	-40.0	1,520.0	-11.1
9	1.80	-20.0	1,610.0	-11.1
10	0.00	0.0	1,700.0	-11.1

WALL PROPERTIES:

Effective Flange Width bf = 12.00 in. / 12.00 in.
 Effective Grouted Core Width, b' = 3.11 in. / 12.00 in.

Solid Masonry Area, Ae = 45.95 in.² / 12.00 in.
 Gross Moment of Inertia, Ig = 343.63 in.⁴ / 12.00 in.
 Section Modulus, S = 2*Ig/t = 90.13 in.³ / 12.00 in.
 Radius of Gyration, r = 2.735 in. / 12.00 in.
 Slenderness Factor, h'/r = 78.99

ALLOWABLE STRESSES:

Allowable Axial Stress, Fa = 255.63 psi.
 Allowable Bending Stress, Fb = 500.00 psi.
 Allowable Shear Stress, Fv = 38.73 psi.
 Allowable Steel Stress, Fs = 24000.00 psi.

Project :

Location:

By:

TIME: 10:47 AM

Page: 8

DATE: 11-01-2002

DETAILED RESULTS FOR MAIN WALL:

LOAD COMBINATION : 1*DL+1*LL+1*WL
 REBAR DESIGN : #4 @ 32 in. o.c.
 FURNISHED AREA OF STEEL : 0.075 in² / 12.00 in.
 MINIMUM AREA OF STEEL : 0.064 in² / 12.00 in.

No.	Dist From Bot (ft)	Mom. (ft-lb)	Axial (lbs)	Shear (lbs)
0	18.00	-200.0	800.0	168.9
1	16.20	-471.6	890.0	132.9
2	14.40	-678.4	980.0	96.9
3	12.60	-820.4	1,070.0	60.9
4	10.80	-897.6	1,160.0	24.9
5	9.00	-910.0	1,250.0	-11.1
6	7.20	-857.6	1,340.0	-47.1
7	5.40	-740.4	1,430.0	-83.1
8	3.60	-558.4	1,520.0	-119.1
9	1.80	-311.6	1,610.0	-155.1
10	0.00	0.0	1,700.0	-191.1

WALL PROPERTIES:

Effective Flange Width bf = 12.00 in. / 12.00 in.
 Effective Grouted Core Width, b' = 3.11 in. / 12.00 in.

Solid Masonry Area, Ae = 45.95 in.² / 12.00 in.
 Gross Moment of Inertia, Ig = 343.63 in.⁴ / 12.00 in.
 Section Modulus, S = 2*Ig/t = 90.13 in.³ / 12.00 in.
 Radius of Gyration, r = 2.735 in. / 12.00 in.
 Slenderness Factor, h'/r = 78.99

ALLOWABLE STRESSES:

Allowable Axial Stress, Fa = 340.84 psi.
 Allowable Bending Stress, Fb = 666.67 psi.
 Allowable Shear Stress, Fv = 51.64 psi.
 Allowable Steel Stress, Fs = 32000.00 psi.

Project :

Location:

By:

TIME: 10:47 AM

Page: 9

DATE: 11-01-2002

DETAILED RESULTS FOR MAIN WALL:

LOAD COMBINATION : 1*DL+1*WL
 REBAR DESIGN : #4 @ 32 in. o.c.
 FURNISHED AREA OF STEEL : 0.075 in² / 12.00 in.
 MINIMUM AREA OF STEEL : 0.064 in² / 12.00 in.

No.	Dist From Bot (ft)	Mom. (ft-lb)	Axial (lbs)	Shear (lbs)
0	18.00	-100.0	400.0	174.4
1	16.20	-381.6	490.0	138.4
2	14.40	-598.4	580.0	102.4
3	12.60	-750.4	670.0	66.4
4	10.80	-837.6	760.0	30.4
5	9.00	-860.0	850.0	-5.6
6	7.20	-817.6	940.0	-41.6
7	5.40	-710.4	1,030.0	-77.6
8	3.60	-538.4	1,120.0	-113.6
9	1.80	-301.6	1,210.0	-149.6
10	0.00	0.0	1,300.0	-185.6

WALL PROPERTIES:

Effective Flange Width bf = 12.00 in. / 12.00 in.
 Effective Grouted Core Width, b' = 3.11 in. / 12.00 in.

Solid Masonry Area, Ae = 45.95 in.² / 12.00 in.
 Gross Moment of Inertia, Ig = 343.63 in.⁴ / 12.00 in.
 Section Modulus, S = 2*Ig/t = 90.13 in.³ / 12.00 in.
 Radius of Gyration, r = 2.735 in. / 12.00 in.
 Slenderness Factor, h'/r = 78.99

ALLOWABLE STRESSES:

Allowable Axial Stress, Fa = 340.84 psi.
 Allowable Bending Stress, Fb = 666.67 psi.
 Allowable Shear Stress, Fv = 51.64 psi.
 Allowable Steel Stress, Fs = 32000.00 psi.