

***** OUTPUT *****

Lateral Loads:

SEISMIC Base Shear = 868.0(kips) Moment @ C.G. = 24410.0(k-ft)
 EARTH PRES Base Shear = 281.0(kips) Moment @ C.G. = 3710.0(k-ft)

Checks for Unfactored Load Stresses

	f @ Left (ksi)	f @ Right (ksi)
P/T Only:	0.340	0.340
P/T + Dead Load:	0.475	0.475
P/T + Dead + Live Load:	0.534	0.534

Checks for Ultimate (Design) Moment by Strain Compatability

LC1 Eq 16-5: (1.20 + 0.20Sds)D + 1.00E + 1.00L + 0.70S

Mud @ C.G. =	0.0(k-ft)	Pud = 839.8(k)
Mul @ C.G. =	0.0(k-ft)	Pul = 306.0(k)
Mue @ C.G. =	0.0(k-ft)	Pue = 47.6(k)
Mlat @ C.G. =	24410.0(k-ft)	-----
		Pu =1193.4(k)
Mu @ C.G. =	24410.0(k-ft)	C = 74.0(in)
0.900*Mn @ C.G. =	58900.1(k-ft)	Fconcr =3020.5(k)

LC2 Eq 16-7: (0.90 - 0.20Sds)D + 1.00E + 1.60H

Mud @ C.G. =	0.0(k-ft)	Pud = 629.9(k)
Mue @ C.G. =	0.0(k-ft)	Pue = -47.6(k)
Mlat @ C.G. =	30346.0(k-ft)	-----
		Pu = 582.3(k)
Mu @ C.G. =	30346.0(k-ft)	C = 61.7(in)
0.900*Mn @ C.G. =	51395.6(k-ft)	Fconcr =2516.1(k)

Checks for Ultimate (Design) Shear at Horizontal Joint

LC1 Eq 16-5: (1.20 + 0.20Sds)D + 1.00E + 1.00L + 0.70S

Factored Applied Shear Vu	= 868.0(k)
0.75*As*fy*Friction Factor	= 1365.1(k)
Use:	-----
Req'd horiz. jt. connections capacity	= 0.0(k)

LC2 Eq 16-7: (0.90 - 0.20Sds)D + 1.00E + 1.60H

Factored Applied Shear Vu	= 1317.6(k)
0.75*As*fy*Friction Factor	= 1365.1(k)
Use:	-----
Req'd horiz. jt. connections capacity	= 0.0(k)

Summary of Concrete and Bar Forces at Provided Ultimate

	Load Case 1:			Load Case 2:		
	Force* (kips)	Bar Strain	Location (in)	Force* (kips)	Bar Strain	Location (in)
Compr. block =	-3020.52		402.39	-2516.10		407.33
Bar(1) =	189.60	0.01656	8.00	189.60	0.02000	8.00
Bar(2) =	189.60	0.01623	16.00	189.60	0.01961	16.00
Bar(3) =	189.60	0.01591	24.00	189.60	0.01922	24.00
Bar(4) =	189.60	0.01559	32.00	189.60	0.01884	32.00
Bar(5) =	189.60	0.01526	40.00	189.60	0.01845	40.00
Bar(6) =	189.60	0.01494	48.00	189.60	0.01806	48.00
Bar(7) =	189.60	0.01461	56.00	189.60	0.01767	56.00
Bar(8) =	189.60	0.01429	64.00	189.60	0.01728	64.00
Bar(9) =	91.22	0.00197	368.00	115.29	0.00249	368.00
Bar(10) =	76.21	0.00165	376.00	97.27	0.00210	376.00
Bar(11) =	61.20	0.00132	384.00	79.26	0.00171	384.00
Bar(12) =	46.20	0.00100	392.00	61.24	0.00132	392.00

Bar(13) =	31.19	0.00067	400.00	43.22	0.00093	400.00
Bar(14) =	16.18	0.00035	408.00	25.21	0.00054	408.00
Bar(15) =	1.17	0.00003	416.00	7.19	0.00016	416.00
Bar(16) =	-13.83	-0.00030	424.00	-10.83	-0.00023	424.00

*NOTE: Negative forces indicate compression.
 NOTE: Dry pack/grout must have a strength equal to f'c= 5.000(ksi).

Panel Shear

L.C.	Vu (k)	Mlat (k-ft)	Nu (k)	d (in)	(11-3) (k)	Vc Provided		
						(11-8) (k)	(11-29) (k)	(11-30) (k)
1	868.0	24410.0	1193.4	345.60	586.5	---	1206.4	2158.8
2	1317.6	30346.0	582.3	345.60	586.5	---	1084.2	3465.4

	Vc (k)	Vu/phi (k)	ACI Section	Avt (in ² /ft)	Avl (in ² /ft)
1	1206.4	1157.3	11.10	0.36	0.36
2	1084.2	1756.8	11.10	0.39	0.38

NOTE: Panel shear reinforcing assumes no openings.
 NOTE: Maximum spacing is 18.00 in.

***** LATERAL REVERSAL *****

Lateral Loads:

SEISMIC Base Shear = -868.0(kips) Moment @ C.G. = -24410.0(k-ft)
 EARTH PRES Base Shear = 0.0(kips) Moment @ C.G. = 0.0(k-ft)

Checks for Unfactored Load Stresses

	f @ Left (ksi)	f @ Right (ksi)
P/T Only:	0.340	0.340
P/T + Dead Load:	0.475	0.475
P/T + Dead + Live Load:	0.534	0.534

Checks for Ultimate (Design) Moment by Strain Compatability

LC1 Eq 16-5: (1.20 + 0.20Sds)D + 1.00E + 1.00L + 0.70S	
Mud @ C.G. =	0.0(k-ft) Pud = 839.8(k)
Mul @ C.G. =	0.0(k-ft) Pul = 306.0(k)
Mue @ C.G. =	0.0(k-ft) Pue = 47.6(k)
Mlat @ C.G. =	-24410.0(k-ft)
	----- Pu =1193.4(k)
Mu @ C.G. =	-24410.0(k-ft) C = 74.0(in)
0.900*Mn @ C.G. =	-58900.1(k-ft) Fconcr =3020.5(k)
LC2 Eq 16-7: (0.90 - 0.20Sds)D + 1.00E + 1.60H	
Mud @ C.G. =	0.0(k-ft) Pud = 629.9(k)
Mue @ C.G. =	0.0(k-ft) Pue = -47.6(k)
Mlat @ C.G. =	-24410.0(k-ft)
	----- Pu = 582.3(k)
Mu @ C.G. =	-24410.0(k-ft) C = 61.7(in)
0.900*Mn @ C.G. =	-51395.6(k-ft) Fconcr =2516.1(k)

Checks for Ultimate (Design) Shear at Horizontal Joint

LC1 Eq 16-5: (1.20 + 0.20Sds)D + 1.00E + 1.00L + 0.70S	
Factored Applied Shear Vu	= -868.0(k)
0.75*As*fy*Friction Factor	= -1365.1(k)
Use:	-----
Req'd horiz. jt. connections capacity	= 0.0(k)

LC2 Eq 16-7: (0.90 - 0.20Sds)D + 1.00E + 1.60H

Factored Applied Shear Vu = -868.0(k)
 0.75*As*fy*Friction Factor = -1365.1(k)
 Use: -----
 Req'd horiz. jt. connections capacity = 0.0(k)

Summary of Concrete and Bar Forces at Provided Ultimate

	Load Case 1:			Load Case 2:		
	Force* (kips)	Bar Strain	Location (in)	Force* (kips)	Bar Strain	Location (in)
Compr. block =	-3020.52		29.61	-2516.10		24.67
Bar(1) =	-13.83	-0.00030	8.00	-10.83	-0.00023	8.00
Bar(2) =	1.17	0.00003	16.00	7.19	0.00016	16.00
Bar(3) =	16.18	0.00035	24.00	25.21	0.00054	24.00
Bar(4) =	31.19	0.00067	32.00	43.22	0.00093	32.00
Bar(5) =	46.20	0.00100	40.00	61.24	0.00132	40.00
Bar(6) =	61.20	0.00132	48.00	79.26	0.00171	48.00
Bar(7) =	76.21	0.00165	56.00	97.27	0.00210	56.00
Bar(8) =	91.22	0.00197	64.00	115.29	0.00249	64.00
Bar(9) =	189.60	0.01429	368.00	189.60	0.01728	368.00
Bar(10) =	189.60	0.01461	376.00	189.60	0.01767	376.00
Bar(11) =	189.60	0.01494	384.00	189.60	0.01806	384.00
Bar(12) =	189.60	0.01526	392.00	189.60	0.01845	392.00
Bar(13) =	189.60	0.01559	400.00	189.60	0.01884	400.00
Bar(14) =	189.60	0.01591	408.00	189.60	0.01922	408.00
Bar(15) =	189.60	0.01623	416.00	189.60	0.01961	416.00
Bar(16) =	189.60	0.01656	424.00	189.60	0.02000	424.00

*NOTE: Negative forces indicate compression.
 NOTE: Dry pack/grout must have a strength equal to f'c= 5.000(ksi).

Panel Shear

L.C.	Vu (k)	Mlat (k-ft)	Nu (k)	d (in)	Vc Provided			
					(11-3) (k)	(11-8) (k)	(11-29) (k)	(11-30) (k)
1	-868.0	-24410.0	1193.4	345.60	586.5	---	1206.4	2158.8
2	-868.0	-24410.0	582.3	345.60	586.5	---	1084.2	1811.0
	Vc (k)	Vu/phi (k)	ACI Section	Avt (in^2/ft)	Avl (in^2/ft)			
1	1206.4	-1157.3	11.10	0.36	0.36			
2	1084.2	-1157.3	11.10	0.36	0.36			

NOTE: Panel shear reinforcing assumes no openings.
 NOTE: Maximum spacing is 18.00 in.